



Executive Committee Agenda

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Written Public Comments (before the meeting): Written public comments will be recorded in the public record and will be provided to MTS Board Members in advance of the meeting. Comments must be emailed or mailed to the Clerk of the Board* by 4:00pm the day prior to the meeting.



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In-Person Participation: In-person public comments will be heard first. Following in-person public comments, virtual attendees will be heard in the order in which they raise their hand via the Zoom platform. Speaking time will be limited to two minutes per person, unless specified by the Chairperson. Requests to speak will not be taken after the public comment period ends, unless under the Chair's discretion.

Instructions for providing in-person public comments:

1. Fill out a speaker slip located at the entrance of the Board Room;
2. Submit speaker slip to MTS staff seated at the entrance of the Board Room;
3. When your name is announced, please approach the podium located on the right side of the dais to make your public comments.

Members of the public are permitted to make general public comment at the beginning of the agenda or specific comments referencing items on the agenda during the public comment period. General Public Comment, at the beginning of the Board of Directors meeting only, will be limited to five speakers. Additional speakers with general public comments will be heard at the end of the meeting.



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***Contact Information:** Contact the Clerk of the Board via email at ClerkoftheBoard@sdmts.com, phone at (619) 398-9561 or by mail at 1255 Imperial Ave. Suite 1000, San Diego CA 92101.



Agenda del Comité Ejecutivo

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ID de la reunión
en Zoom

Funciones del Seminario En Línea:

 Levantar la mano	▶	Use la herramienta de levantar la mano cada vez que desee hacer un comentario público.
	▶	Los participantes pueden habilitar el subtítulo haciendo clic en el ícono CC. También puede ver la transcripción completa y cambiar el tamaño de letra haciendo clic en “configuración de subtítulos”. Estas herramientas no están disponibles por teléfono.
	▶	Este símbolo indica que usted se encuentra en silencio , haga clic en este ícono para quitar el silenciador de su micrófono.
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	▶	La herramienta de chat deben usarla los panelistas y asistentes únicamente para asuntos “pertinentes a la reunión”, ya que comentarios realizados a través de esta herramienta no se conservarán como parte del registro de la reunión. Consulte el Comentario público verbal en vivo para obtener instrucciones sobre cómo hacer un comentario público.



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1. Si está participando en la reunión mediante audio de su teléfono y viendo la reunión en un dispositivo, marque el número indicado en la pestaña de llamada telefónica “unirse por audio” en la ventana emergente inicial e ingrese el ID de la reunión (que se encuentra en el enlace).
2. Si está participando solo por teléfono, marque: **+1-669-900-9128** o **+1-253-215-8782** e ingrese el ID de la reunión que se encuentra en el enlace, pulse #. Tendrá acceso al audio de la reunión, **pero NO podrá ver las presentaciones en PowerPoint.**



Comentarios Públicos Verbales en Vivo: Use la herramienta “levantar la mano” cada vez que desee hacer un comentario público sobre alguno de los artículos. Levante la mano una vez que el artículo de la agenda sobre el que desea comentar haya sido convocado. Los comentarios públicos en persona se escucharán primero, se escuchará a los asistentes virtuales en el orden en el que levanten la mano. No se aceptarán solicitudes para hablar después de que termine el periodo para hacer comentarios públicos, a menos de que el presidente determine de otra forma a su discreción. Comentarios públicos generales, únicamente al inicio de la reunión de la Junta de Directores, se limitarán a cinco personas que deseen hablar. Las personas adicionales que deseen aportar comentarios públicos generales podrán hacerlo al final de la reunión. Se otorga dos minutos de tiempo por persona que desee hablar, a menos de que el presidente instruya de otra forma. *(Consulte la página 2 para obtener instrucciones sobre cómo hacer un comentario público.)*

Comentarios Públicos a Través de Zoom

1. Haga clic en el enlace que se encuentra en la parte superior de esta página de instrucciones
2. Haga clic en el ícono de levantar la mano en el centro inferior de la plataforma
3. El secretario anunciará su nombre cuando sea su turno de hablar
4. Desactive el silenciador para que pueda hablar

Comentarios Públicos Realizados Únicamente por Teléfono

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2. Ingrese el ID de la reunión en Zoom que se encuentra en el enlace y pulse #
3. Marque *9 para levantar la mano por teléfono
4. El secretario indicará los últimos 4 dígitos de su número de teléfono para anunciar que usted será el siguiente en hablar
5. Marque *6 para desactivar el silenciador



Comentarios Públicos por Escrito (Antes de la Reunión): Los comentarios públicos por escrito se registrarán en el registro público y se entregarán a los miembros de la Junta de MTS antes de la reunión. Los comentarios deben enviarse por correo electrónico o postal al secretario de la Junta* antes de las 4:00 p.m. el día anterior a la reunión.



Servicios de Traducción: Pueden solicitarse servicios de traducción comunicándose con el secretario de la Junta* por lo menos cuatro días hábiles antes de la reunión.



Participación en Persona: Los comentarios públicos en persona se escucharán primero. Después de los comentarios públicos en persona, se escuchará a los asistentes virtuales en el orden en el que levanten la mano a través de la plataforma de Zoom. El tiempo para hablar se limitará a dos minutos por persona, a menos de que el presidente especifique de otra forma. No se recibirán solicitudes para hablar después de que termine el periodo para hacer comentarios públicos, a menos de que el presidente determine de otra forma a su discreción.

Instrucciones para brindar comentarios públicos en persona:

1. Llene la boleta para personas que desean hablar que se encuentran en la entrada de la Sala de la Junta.
2. Entregue la boleta para personas que desean hablar al personal de MTS que se encuentra sentado en la entrada de la Sala de la Junta.
3. Cuando anuncien su nombre, por favor, acérquese al podio ubicado en el lado derecho de la tarima para hacer sus comentarios públicos.

Los miembros del público pueden hacer comentarios públicos generales al inicio de la agenda o comentarios específicos que hagan referencia a los puntos de la agenda durante el periodo de comentarios públicos. Los comentarios públicos generales únicamente al inicio de la reunión de la Junta de Directores, se limitarán a cinco personas que deseen hablar. Las personas adicionales que deseen aportar comentarios públicos generales podrán hacerlo al final de la reunión.



Dispositivos de Asistencia Auditiva (ALD, por sus siglas en inglés): Los ALD están disponibles con el secretario de la Junta* antes de la reunión y estos deberán ser devueltos al final de la reunión.



Facilidades Razonables: Según lo requerido por la Ley de Estadounidenses con Discapacidades (ADA, por sus siglas en inglés), para presentar solicitudes de información de la agenda en un formato alternativo o solicitar facilidades razonables para facilitar su participación en la reunión, por favor, comuníquese con el secretario de la Junta* por lo menos dos días hábiles antes de la reunión.



***Información de Contacto:** Comuníquese con el secretario de la Junta por correo electrónico en ClerkoftheBoard@sdmts.com, por teléfono al **(619) 398-9561** o por correo postal en **1255 Imperial Ave. Suite 1000, San Diego CA 92101.**



Executive Committee Agenda

March 6, 2025 at 9:00 a.m.

In-Person Participation: James R. Mills Building, 1255 Imperial Avenue, 10th Floor Board Room, San Diego CA 92101

Teleconference Participation: (669) 254-5252; Webinar ID: 161 953 0340, <https://www.zoomgov.com/j/1619530340>

NO.	ITEM SUBJECT AND DESCRIPTION	ACTION
1.	Roll Call	
2.	Public Comments This item has a two minute per speaker time limit. If you have a report to present, please give your copies to the Clerk of the Board.	
3.	Approval of Minutes Action would approve the February 6, 2025 Executive Committee meeting Minutes.	Approve
DISCUSSION ITEMS		
4.	Orange Line Improvement Project Update (Heather Furey; and Consultant T.Y. Lin)	Informational
5.	Fiscal Year (FY) 2026 Capital Improvement Program (CIP) (Mike Thompson) Action would forward a recommendation to the MTS Board of Directors to: 1) Approve the FY 2026 CIP with the estimated federal and non-federal funding levels (Attachments A and B). As the federal appropriation figures are finalized and/or other project funding sources become available, allow the Chief Executive Officer (CEO) to identify and adjust projects for the adjusted funding levels; and 2) Recommend that the San Diego Association of Governments (SANDAG) Board of Directors approve the submittal of Federal Section 5307, 5337, and 5339 applications for the MTS FY 2026 CIP; and 3) Recommend that the SANDAG Board of Directors approve amendment number 5 of the 2025 Regional Transportation Improvement Program (RTIP) in accordance with the FY 2026 CIP recommendations.	Approve



6. **Fiscal Year (FY) 2025 Operating Budget Midyear Amendment (Gordon Meyer)** Approve
Action would forward a recommendation to the MTS Board of Directors to enact Resolution No. 25-01 amending the FY 2025 operating budget for MTS, San Diego Transit Corporation (SDTC), San Diego Trolley, Inc. (SDTI), MTS Contract Services, and the Coronado Ferry.
7. **Comprehensive Operational Analysis (COA) Scope of Work & Selection Process (Brent Boyd)** Informational

OTHER ITEMS

8. **Review of Draft March 13, 2025 MTS Board Agenda**
9. **Staff Communications and Committee Member Communications**
10. **Next Meeting Date: April 10, 2025**
11. **Adjournment**

MINUTES

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM

EXECUTIVE COMMITTEE

February 6, 2025

[Clerk's note: Except where noted, public, staff and Board Member comments are paraphrased. The full comment can be heard by reviewing the recording at the [MTS website](#).]

1. Roll Call

Chair Whitburn called the Executive Committee meeting to order at 9:03 a.m. A roll call sheet listing Executive Committee member attendance is attached as Attachment A.

2. Public Comment

Alex Wong – Provided a verbal statement to the Board during the meeting. Alex expressed concerns that merging existing Green and Blue Line tracks would create a bottleneck, limiting capacity and frequency, and MTS to ensure the airport rail doesn't share tracks to maintain efficient transit.

3. Approval of Minutes

Vice Chair Goble moved to approve August 7, 2024 Budget Development Committee Meeting Minutes and the December 12, 2024, Executive Committee meeting Minutes. Board Member Elo-Rivera seconded the motion, and the vote was 5 to 0 in favor with Board Member Montgomery Steppe and Board Member Vaus absent.

DISCUSSION ITEMS

4. San Diego Transit Corporation (SDTC) Pension Investment Status (Jeremy Miller, with RVK Inc., and Mike Thompson)

Mike Thompson, MTS Deputy Chief Financial Officer and Jeremy Miller, with RVK Inc., presented on SDTC Pension Investment Status. They presented on: investment structure as of 6/30/2024, FY 2024 Performance, long term performance details and the investment summary

Public Comment

There were no Public Comments.

Committee Comment

There was no Committee Comment.

Action Taken

No action taken. Informational item only.

5. San Diego Transit Corporation (SDTC) Employee Retirement Plan's Actuarial Valuation as of July 1, 2024 (Anne Harper and Alice Alsberghe with Cheiron Inc., and Mike Thompson)

Mr. Thompson, Anne Harper and Alice Alsberghe with Cheiron Inc. presented on SDTC Employee Retirement Plan's Actuarial Valuation as of July 1, 2024. They outlined: the background plan contributions for Fiscal Year 2025-2026 (based on 2024 Actuarial Valuation), plan history plan projections, and staff's recommendation.

Public Comment

KC Gupta – A High School student made a verbal statement to the Board during the meeting. KC highlighted the financial struggles of bus riders, criticizing MTS for facing significant losses while planning to cut bus services and urged a reevaluation of how funds are allocated.

Committee Comment

Board Member Elo-Rivera acknowledged past Board discussions about the potential benefits of reopening the pension system. He inquired about the extent to which reopening the plan could provide more certainty for future contributions, recognizing that risks were involved, and asked if increasing contributions by having more members in the system would be beneficial for the agency in the long run. Ms. Harper explained that reopening the plan would allow more people to contribute, but it would not change the overall dollar amount that employers are already paying to cover unfunded liabilities. Contributions from new members would only cover their own benefits under the current setup, which is a closed plan. Ms. Harper clarified that more contributions could only increase the overall payroll for the system, leading to a potential increase in funding, but the structure of the current plan would not change significantly.

Board Member Elo-Rivera then asked if more contributions from new members could help reduce the financial risk associated with the system, and if this would change the contributions required from the agency itself. He sought to understand how the contribution system worked and whether the risk would be mitigated by having more people contributing to the plan. Ms. Harper clarified that while more contributions could help cover the benefits of new members, the contributions would not reduce the overall risk for the system. She explained that the system's current assets were far greater than the contributions coming in, and that adding more members would increase the system's risk over time. The risk comes from the growing complexity and the larger number of benefits to manage, not from the level of contributions alone.

Sharon Cooney, MTS Chief Executive Officer, explained that the insourcing study would be necessary to fully understand the dynamic effects of such changes on the plan's long-term stability. Ms. Harper responded, acknowledging that if new members were added, they would only cover part of their benefits, with the employer covering the remaining portion. Ms. Alsberghe emphasized that the agency would need to adjust its actuarial calculations to account for the new members' contributions and ensure the plan's financial stability. She further clarified the funding policy, noting that the plan's methodology would differ if it were an open plan, with a longer timeframe to pay off annual experience gains and losses. She confirmed that the current policy's focus on reaching full funding by a fixed date creates a more volatile funding situation. Board Member Elo-Rivera highlighted that the system relies on drivers to provide service, as riders cannot access transportation without them. He emphasized that the payments made to drivers were commitments kept for work performed, often at lower wages compared to the private sector. Board Member Elo-Rivera expressed a commitment to ending the practice of blaming public employees for receiving promised benefits, which they believed had harmed public employment in the City of San Diego and nationwide.

Vice Chair Goble asked for clarification on the spike in contributions and the plan's future savings. Ms. Harper clarified that although assets continue to be smoothed over time, any gains or losses must be accounted for within one or two years, as the payment period becomes shorter as the end date approaches. Vice Chair Goble recognized that after 12 to 14 years, the savings from the plan would be less significant, and suggested that ongoing contributions might not be the main solution to reducing the agency's deficit in the long term.

Chair Whitburn asked about how the agency's 6% discount rate compared to other agencies in California. Ms. Harper replied that most plans use a higher rate around 6.75%, though the agency's lower rate was due to its risk profile.

Action Taken

Board Member Elo-Rivera moved to receive the SDTC Employee Retirement Plan's (Plan) Actuarial Valuation as of July 1, 2024 and forward a recommendation to the MTS Board of Board Members to adopt the pension contribution amount of \$21,231,465 for fiscal year 2026. Vice Chair Goble seconded the motion, and the vote was 6 to 0 in favor with Board Member Vaus absent.

6. Comprehensive Operational Analysis (COA) & Potential Ballot Measure (Brent Boyd)

Brent Boyd, MTS Director of Planning and Scheduling, presented on COA & Potential Ballot Measure. He outlined: the background, history, timing, Planning Scenarios of the COA, project management, tasks, timeline, potential ballot measure and recommendations.

Public Comment

Alex Wong – Provided a verbal statement to the Board during the meeting. Alex suggested lowering the voter approval threshold for a transit ballot measure and prioritizing funding for improving existing services over long-term projects.

KC Gupta – Provided a verbal statement to the Board during the meeting. KC urged for an independent audit of MTS operations to find savings and improve public transit services without cutting routes, stressing the importance of efficiency and transparency for the future of San Diego's transit system.

Carolina Martinez – Representing Environmental Health Coalition, made a verbal statement to the Board during the meeting. Carolina expressed support for the MTS ballot measure, emphasized the importance of community involvement in the analysis process, and called for an accelerated timeline to ensure the measure's passage in 2026.

Ansermio Estrada – Representing the Building Construction Trades Council, made a verbal statement to the Board during the meeting. Ansermio expressed support for the ballot measure, highlighting the need for increased investment in public transit services to better support communities and workers, particularly along the Blue Line in Chula Vista and National City.

Carol Kim – Representing the San Diego County building and Construction Trades Council, made a verbal statement to the Board during the meeting. Carol expressed support for a ballot measure to address budget shortfalls, advocating for increased transit services, infrastructure improvements, and expansion, especially in growing areas like South Bay and Chula Vista.

Committee Comment

Board Member Elo-Rivera emphasized the importance of involving a broad coalition of stakeholders, including labor and community-based organizations, in the conversation, similar to previous efforts. He noted that while the timeline was shorter, MTS should strive to maintain public participation and build on the coalition they had sustained through the pandemic. Board Member Elo-Rivera also raised concerns about focusing solely on a sales tax as the solution. He suggested that while it was a common option, other potential revenue sources should be explored, particularly those less impactful to working families. Board Member Elo-Rivera proposed making the recommendation more open-ended by replacing "sales tax" with

"revenue," and emphasized that the decision should be informed by data to ensure the best outcome for the community. Ms. Cooney explained that the reason a sales tax measure was being proposed was due to the lead time required to implement it, as it would necessitate procuring services for polling and focus groups. She noted that to assess its feasibility, MTS would need to have services in place by the upcoming summer.

Ms. Cooney shared that during a recent meeting, part of the Transit Transformation Task Force discussed various revenue options, including the potential to develop and transfer property rights. While these ideas were considered valuable, Ms. Cooney clarified that they were not proposing them at this time.

Karen Landers, MTS General Counsel, clarified that the revenue option within the MTS Board's sole control was a retail and sales tax measure. She emphasized that the motion merely sought authorization for staff to conduct due diligence and gather the necessary information, with any decisions on pursuing the measure deferred until March 2025 at the earliest. She further explained that consultants would be hired for data collection, but no decisions regarding the ballot would occur until the March to May 2026 timeframe. Additionally, while there was potential for discussions on other tax measures with county partners, the immediate goal was to obtain direction from the Board on whether to proceed with hiring a consultant for data collection.

Board Member Montgomery Steppe expressed complete agreement with the necessity to not make decisions in isolation. She emphasized the importance of understanding voter sentiment, evaluating both successful and unsuccessful measures, and ensuring effective communication. Board Member Montgomery Steppe noted the need for MTS to demonstrate its commitment to the public to gain broader support. She also highlighted the urgency of addressing the fiscal cliff while being realistic about the timeline and potential challenges, stressing that options should remain open to increase the likelihood of success. Board Member Montgomery Steppe stressed that without considering all factors, including the potential impacts of federal decisions, MTS risked alienating the public, making it more difficult to pass future measures. She concluded by suggesting that engagement with young adults and creative outreach strategies would be key, while also recommending learning from past measures to improve future efforts.

Vice Chair Goble pointed out that it was impossible to make all the proposed cuts and still maintain a robust transit system, highlighting the need for new revenue sources. Vice Chair Goble then asked about the 7% ridership gain in 2007, seeking clarification on what led to this significant increase following the 2007 study and into 2017. Ms. Cooney explained that the first COA aimed to build a demand-driven system, taking over legacy bus systems that were not designed for maximum ridership. In 2007, MTS implemented a network based on where people were traveling to and from. It was a strategic network. The new system effectively met demand and resulted in increased ridership by focusing on routes people wanted to use. Vice Chair Goble asked if in 2017 there were noticeable changes. Mr. Boyd replied there was an increase and it was then curtailed by the impacts of COVID-19.

Vice Chair Goble asked about a state sales tax initiative. Ms. Cooney mentioned that one recommendation from the Transit Transformation Task Force was to have the state authorize a doubling of the Transportation Development Act (TDA). They also discussed other options, including local measures such as transferring development rights, which would require changes to local initiatives, such as ordinances. This concept involved using air rights over properties, selling them to developers, and generating revenue from that sale. These ideas would be explored further once the task force report was completed in the Fall. Vice Chair Goble emphasized the importance of realistically understanding the challenge of securing voter

approval, particularly for a two-thirds vote. He noted that adding an additional half-cent sales tax would be a significant hurdle for voters to accept. Vice Chair Goble also highlighted the sentiment among some voters who believed that everyone should contribute to the solution. He pointed out that fares hadn't been increased since 2009, despite significant budget growth. Vice Chair Goble suggested that including a fare study and recommendations in the motion could help address voter concerns and improve the chances of achieving the required support for the ballot proposition.

Board Member Elo-Rivera asked to clarify that the fare study would help inform their decisions. Vice Chair Goble confirmed, and he explained that raising fares could lead to losing riders, creating a downward spiral, but if revenue from fares were increased, it could lead to expanded routes and service frequency. Vice Chair Goble requested a separate fare study to understand the impact better. He emphasized the importance of determining the appropriate fare levels to ensure the services needed are provided without negatively affecting ridership.

Board Member Elo-Rivera expressed support for the fare study, noting he was not opposed to it. He suggested that a good polling firm, using data from previous polls, could help understand whether the fare increase would have a positive impact. Israel Maldonado, Director of Fare Technology & Operations explained that the fare study process involves contracting a consultant with SANDAG to develop fare packages in collaboration with regional partners like NCTD and MTS. These packages would include ridership forecasts and revenue estimates. The process, including procurement, development, analysis, and public outreach and would take about 12 months to complete. Ms. Cooney added that the process would require joint San Diego Association of Governments (SANDAG) and North County Transit District (NCTD) Board approvals.

Board Member Fernandez expressed support for exploring various revenue streams, including a potential fare increase and a ballot measure. He raised a question regarding the COA, asking whether it considered increasing routes to support development in specific areas, particularly around the Bayfront, acknowledging a potential personal bias due to the area's ongoing development. Mr. Boyd explained that they would be evaluating two different scenarios: one involving service reduction if additional funding wasn't secured, and the other focusing on service enhancement, with hopes of dramatically increasing service. He clarified that the analysis would also include a comprehensive look at the entire service area, considering factors such as demographic changes, ongoing development, and shifts in travel patterns.

Chair Whitburn expressed support for the idea raised by Board Member Elo-Rivera about exploring alternative revenue sources. He asked if changing a sales tax measure to a revenue measure would affect the ability to explore options for pursuing a sales tax measure. Ms. Cooney confirmed the revised direction to staff would be inclusive enough to do so. Chair Whitburn clarified that the COA was due in November 2026 and would inform decisions regarding potential revenue changes. He asked if an analysis would provide preliminary information to help communicate to the public how additional revenue could be used. Mr. Boyd further explained that as part of the COA, significant public outreach would occur to gather feedback on service enhancements, with the aim of using this feedback for future communication with the public. He mentioned that the Marketing Department was already preparing tools to reach out to the public for their input. Chair Whitburn inquired about the possibility of a 55% ballot measure and how it would be handled alongside other measures on the 2026 ballot, noting that it would pass with either a two-thirds or 55% majority, depending on the adopted threshold.

Chair Whitburn also asked about the financial scenarios being explored, specifically questioning why a revenue increase of up to \$300 million wasn't being considered. Mr. Boyd explained that with a \$300 million ballot measure, the funds would be distributed across various areas, such as fare increases, security, and infrastructure improvements. He clarified that the \$75 million figure currently discussed was an estimate specifically for existing network enhancements, and the \$300 million would cover a broader range of needs. Ms. Cooney added that for the 2020 Ballot measure, allocations were divided up into thirds between three priority topics including network enhancements, capital projects, and other areas like fare programs.

Action Taken

Board Member Elo-Rivera moved to 1) Pursue a COA, to be completed by November 2026; and 2) Begin preliminary efforts on researching the feasibility of placing a transit revenue measure, for the MTS service area only (or parts thereof), on the ballot for the November 2026 general election; and 3) Work with SANDAG and NCTD to conduct a fare study regarding potential impacts of a fare increase. Board Member Montgomery Steppe seconded the motion, and the vote was 6 to 0 in favor with Board Member Vaus absent.

7. Structural Budget Deficit Planning (Gordon Meyer)

Gordon Meyer, MTS Manager of Financial Planning, presented on the Structural Budget Deficit Planning. He presented on: meeting overview, Operating Budget Development Process, total operating: revenues, expenses, activities, FY 25 forecast revenue less expenses, assumptions, 5-year forecast revenue less expenses, upcoming challenges, potential solutions, recommended strategy, 5-year forecast revenues less expenses and staff's recommendation.

Public Comment

Alex Wong – Provided a verbal statement to the Board during the meeting. Alex suggested shifting service from low ridership, subsidized routes to high ridership routes, which would increase ridership and fare revenue without raising costs.

Cori Schumacher – Representing IBW 569 made a verbal statement to the Board during the meeting. Cori encouraged the Board to prioritize funding for the transition to zero-emission buses (ZEB) and expressed support for community partners who were affected by pollution from traditional buses and urged the Board to ask staff for additional options.

KC Gupta – Provided a verbal statement to the Board during the meeting. KC urged the Board to eliminate the deficit through efficiency and savings, advocating for an independent audit to restore trust and improve operations without cutting services, citing examples from Los Angeles and New York.

Ansermio Estrada – Provided a verbal statement to the Board during the meeting. Ansermio urged the executive committee to find additional solutions to the deficit, emphasizing the need to invest in and build out infrastructure to improve services and avoid backsliding.

Manny Rodriguez – Representing City Heights Community Development made a verbal statement to the Board during the meeting. Manny expressed relief that there were no transit cuts, but urged the Board to prioritize transit-dependent communities if cuts were to occur and to work towards lowering the two-thirds ballot measure threshold to 55%.

Committee Comment

Board Member Montgomery Steppe acknowledged the difficult position they were in. She sought clarification about the reasoning behind proposing the Innovative Clean Transit (ICT) off-ramp and the delay of Blue Line service enhancements, asking if they were simply meant to buy time or part of a longer-term strategy to address fiscal challenges. She also questioned if the decisions were made with the understanding of possible future funding from measures on the last ballot or with the recognition of the fiscal cliff. Ms. Cooney replied that this was a temporary tactic to allow staff to pursue long-term, sustainable funding security.

Board Member Montgomery Steppe continued by discussing the possible consequences of moving forward with the ICT offramp and the service enhancement delays, particularly on the Blue Line. She expressed concern that delaying service enhancements could harm the system's long-term growth, especially if a ballot measure was pursued in the next two years. She asked for further details on the estimated annual cost of the proposed service improvements, specifically the reduction in Blue Line wait times. Mr. Meyer estimated the cost for both service changes combined is approximately \$6 million per year, with \$3 million allocated for the recent January change to 15-minute service and another \$3 million for the proposed future enhancement to a 7.5-minute service on the Blue Line. Ms. Cooney cautioned that if the necessary funding to extend to FY 2028 is not found, service reductions would begin, with a public hearing, coinciding with the timing of the ballot initiative, creating a difficult situation given the projected fiscal cliff starting in FY 2027.

Board Member Montgomery Steppe asked about the percentage of the electric bus fleet compared to the entire fleet. Mike Wygant, MTS Chief Operating Officer, responded that only about 5% of the current heavy-duty fleet was electric. He stated that 25 vehicles were currently in service, with another 13 being built, which would be operational by summer. He clarified that the proposed changes would not affect these 13 vehicles. Ms. Cooney asked Mr. Wygant what the proposal would be for the next two Capital Improvement Program (CIP) bus purchases if the ICT credits earned for early adoption were used. He explained that if the Board directed staff to move forward with the changes, they would be completing another order for 28 buses, seven of which would have needed to be battery electric under the ICT regulation. He recommended using our ICT credits instead of purchasing of battery electric vehicles as part of that order.

Board Member Montgomery Steppe requested a briefing on the impact of the Clean Transportation Advancement Campus (CTAC) on the overall infrastructure plan. She expressed concerns about the potential long-term effects on the system if the required investment was delayed and the possibility of altering state-mandated requirements. Ms. Cooney briefly explained that construction of the CTAC project relies on receiving a major federal grant and emphasized the importance of securing such funding.

Board Member Montgomery Steppe concluded by asking about the ongoing Transportation Transformation Task Force and any potential funding ideas that had been discussed, particularly regarding a statewide measure for additional transit funding. Ms. Cooney responded that there had not been much feedback on funding ideas but mentioned that discussions around improving zoning laws and joint development had taken place. She also highlighted a proposal to extend SB 125 as a way to provide additional transit funds.

Board Member Montgomery Steppe confirmed that no services would be taken away at this point, as the decisions were not final, and the community had not yet seen the results of the proposed changes. She clarified that they would not be reversing any previously made decisions but instead delaying further actions.

Board Member Dillard inquired about the security staffing mentioned on page seven, asking whether the 45 referred to 45% of capacity or if it indicated being 45% short. She clarified whether it was a percentage or a number she misunderstood. Mr. Meyer responded that 47 new security positions were authorized in FY24, and most of them had been hired. Tim Curran, MTS Director of Transit Security and Passenger Safety stated they were short by approximately 10 Code Compliance inspectors as of January, with plans to hire the remainder by March 3rd. He stated that attrition might affect the total number over the year, but they were close to full staffing. Board Member Dillard followed up by asking if the structural deficit forecast included the full capacity of 97 positions or just the current number. Mr. Meyer clarified that the wage forecast assumed full staffing, starting in January. The forecast considered the hiring of the last 10 inspectors, and savings from lower staffing early in the year were reflected in the budget. However, the second half of the year would likely align with the original staffing expectations.

Vice Chair Goble asked a question regarding slide 13, specifically the statement that zero-emission buses (ZEBs) cost 40-50% more than compressed natural gas (CNG) buses. He asked whether this referred to the capital cost of the bus purchase or the operating cost. Mr. Thompson clarified that the 40-50% difference was related to the capital cost of the bus purchase itself, not the operating cost. Vice Chair Goble then inquired about the operating costs of ZEBs compared to CNG vehicles. Mr. Wygant explained that, currently, ZEBs showed about a 25-cent improvement in operating costs when including charging versus fuel for CNG vehicles. However, he mentioned that over the life of the vehicle, this advantage might level out, as the battery's performance could degrade and require mid-life replacement. He emphasized that when considering the total cost of ownership, ZEBs and CNG vehicles were not directly comparable.

Vice Chair Goble then asked about the technology of ZEBs, specifically whether they could be considered a one-for-one replacement for CNG buses. Mr. Wygant responded that while ZEBs have infrastructure and range limitations, they could fulfill about 125 to 135 miles per day, making them suitable for around 40-47% of the routes in their system. However, for longer routes, such as the 235 route, CNG vehicles still had a clear advantage, being able to cover 500 miles a day. He explained that ZEBs could not yet replace CNG vehicles on a one-for-one basis, and for every CNG bus replaced, they would need to buy two ZEBs due to these range limitations. Vice Chair Goble acknowledged that even with additional funding, the technology still wasn't fully advanced to make ZEBs a perfect replacement for CNG buses. Mr. Wygant agreed, explaining that this issue had been discussed at the state level when amending urban fleet rules. While the technology for ZEBs was improving, with new buses expected to travel up to 175 miles, he noted that a one-for-one replacement would not be feasible soon. He concluded by stating that this was an issue all transit agencies would face.

Chair Whitburn asked staff whether there were any other alternatives considered and rejected during the process of identifying the three recommendations that staff was bringing forward. Mr. Thompson responded that they always reviewed their capital program to explore flexible dollars, but the funds were already allocated for state of good repair projects, which were not fully funded. He explained that it was difficult to shift money from capital without removing something else from the table. He clarified that they could either use capital funds for state of good repair projects or for ZEBs, but there was not enough money to do both. Mr. Thompson continued, explaining that they also evaluated their capital needs and sought operating revenue opportunities, such as advertising, digital kiosks, and downtown digital billboards. However, he noted that there were not many large revenue opportunities available. Ms. Cooney added that they were working with their concessionaire to secure more funding opportunities related to billboards and digital boards. However, she pointed out that these efforts would likely only bring

in about a million dollars per year. She further emphasized that they wouldn't consider reopening any collective bargaining agreements (CBAs) to reduce costs, as they had just approved these agreements to ensure they could hire staff to operate effectively. Ms. Cooney clarified that cutting management staff was not something they would contemplate yet, as the number of potential savings would not be significant. Mr. Thompson noted that the total personnel cost for management was about \$40 million per year. Ms. Cooney acknowledged that if directed, they could look at management staff cuts, but they would still need the bigger savings measures to make a meaningful impact moving forward.

Board Member Elo-Rivera asked what variables the biggest positive impact could have, especially considering the structural deficit. He wanted to know if there were any looming factors that could impact decisions in a positive way. Mr. Meyer responded that the ballot measure and potential sales tax increase, along with changes to the state budget, could be influential. Ms. Cooney added that if the state expanded the SB125 program, it could add significant funding. She mentioned that an expansion could give them more leeway, possibly adding billions to the program. Ms. Cooney elaborated that if the funding were to flow again, they could adjust their approach, such as not requesting a waiver from the ICT rules and proceeding with battery electric bus purchases as originally planned. She acknowledged that the recommendations being made were based on current numbers, but things could change, leading to potential flexibility in both directions.

Board Member Elo-Rivera clarified that he was trying to understand the sequencing of cuts and restorations, asking whether all the proposed cuts needed to be implemented simultaneously. He emphasized the importance of managing community expectations and wanted to understand the easiest areas to adjust, like service or capital improvement programs, should things trend in a positive direction. Ms. Cooney acknowledged the importance of these questions and stated that any changes would be brought back to the Board for input. She explained that the services proposed for delay had not yet been implemented, so they were easier to adjust. She also noted that these reduced service levels were linked to the lower cost of purchasing buses, and these two aspects could be reconsidered if more funding from the SB125 program became available. Ms. Cooney mentioned that funds from the previous years, such as those in the CIPs, were not being eliminated but delayed. If grants for projects started to flow again, they would pursue them. However, she expressed difficulty in predicting future funding sources and the certainty of actions. Board Member Elo-Rivera concluded by asking whether the revenue would come from the general fund or if it would be restricted for specific uses. He acknowledged the challenges in making predictions, thanked the chair, and stopped his questions.

Chair Whitburn asked about the potential pause of the ICT program. He inquired about the duration of the pause and whether it would be temporary. Ms. Cooney clarified that the pause being discussed would likely last for three fiscal years, with credits applied for two years and a possible waiver request for the third year. Mr. Wygant explained that, under the current ICT, there were two vehicle replacements planned for the year, and they still needed to place the order. He mentioned that the credits would cover 25% of the vehicle purchases for the 40-foot buses but not for the 35-foot or cutaway vehicles. He outlined that the priority would be using the credits to continue vehicle purchases for state of good repair. He further explained that if more purchases were needed, a waiver would be required for the 2026 calendar year.

Ms. Cooney confirmed that the current CNG buses being purchased were cleaner than the older models they were replacing, highlighting the environmental benefits of replacing older CNG vehicles with more efficient ones. She also noted that the ICT's intent was not to force agencies

to cut service to pay for the transition, as that would have negative economic and environmental consequences.

Chair Whitburn asked staff to clarify the three recommendations being proposed and break down the estimated savings for each one. Mr. Thompson explained that the second recommendation depended on the first and involved delaying some of the zero-emission bus purchases and infrastructure projects. This delay would save on bus costs and infrastructure expenditures for a few years. He mentioned that the first phases of some infrastructure projects, such as the KMD and IAD overhead charging projects, would still be completed, but future phases would be delayed. Mr. Meyer added that the third recommendation had a smaller impact, estimating savings of \$3 million annually for the trolley side and \$9 to \$11 million annually for the bus side. Mr. Thompson noted that while the capital savings were significant, they were dependent on the ICT and the potential to continue receiving funding. Staff concluded the financial breakdown by summarizing that, if the service cuts were implemented, they anticipated a total of \$31 million in savings, with \$22 million from service reductions and \$9 million from the bus side. Chair Whitburn acknowledged that this would have a significant impact. He expressed understanding of the sentiment and highlighted the necessity of addressing the structural budget deficit to avoid worse alternatives. He emphasized that if the situation improved, they could quickly adjust and restore cuts, as had happened when state funding had been freed up in the past. Chair Whitburn shared his personal stance, stating that the prudent course of action was to move forward with the staff's recommendation.

Ms. Cooney assured the committee that staff would incorporate elements of today's discussion into the presentation for the Board.

Action Taken

Chair Whitburn moved to take the following actions as part of building future operational and CIP budgets: 1) Exercise Innovative Clean Transit (ICT) Off-Ramp provisions (delay implementation) to provide maximum flexibility of capital funds in the short-term while minimizing impacts to State of Good Repair (SGR) projects; 2) Shift flexible funds from the Capital Improvement Program (CIP) to the operating budget beginning in FY 2026 with the following targets by FY: \$25 million in FY 2026, \$35 million in FY 2027, \$50 million in FY 2028 and; 3) Maintain service levels at January 2025 levels: (i) Delay future Trolley service enhancements (7.5-minute Blue Line service) in FY 2026 and beyond and revise the Senate Bill (SB) 125 funding proposal; and (ii) Delay \$22 million in future planned bus service enhancements in FY 2027 and FY 2028 and revise the SB 125 funding proposal. Board Member Elo-Rivera seconded the motion, and the vote was 6 to 0 in favor with Board Member Vaus absent.

OTHER ITEMS

8. Review of Draft February 13, 2025 Board Agenda

Recommended Consent Items

3. Approval of Minutes

Action would approve the January 16, 2025 Board of Director meeting minutes.

4. CEO Report

- 5. Imperial Avenue Division (IAD) High Pile Storage Construction – Work Order Agreement**
Action would authorize the Chief Executive Officer (CEO) to execute Work Order MTSJOC324-63 under JOC MTS Doc. No. PWG324.0-21 with ABCGC, in the amount of \$408,415.52, for the replacement of high pile storage racks, and improvements to the fire sprinkler system in the IAD RAM building parts storage.
- 6. Orange Line: Hitachi Switch Machines – Sole Source Contract Award**
Action would authorize the Chief Executive Officer (CEO) to execute Contract L1697.0-25 with Hitachi Rail STS USA, Inc. (Hitachi) in the amount of \$542,607.45 for the purchase of switch machines.
- 7. Orange Line Improvement Project: Electrified Electrocodes – Sole Source Contract Award**
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. L1700.0-25, a sole source award to KB Signaling Operation, LLC (KB Signaling), in the amount of \$1,355,932.79 for the purchase of Electrified Electrocodes (specialized track circuit systems).
- 8. Orange Line Improvement Project: Siemens Signal Instrument Components – Sole Source Contract Award**
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. L1698.0-25, a sole source award to Siemens Mobility, Inc. (Siemens), in the amount of \$427,849.39 for the purchase of Siemens signal instrument components.
- 9. Clarifier Waste Services - Contract Award**
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. PWG418.0-25 with Asbury Environmental Services, dba: World Oil (World Oil) for a five (5) year period in the amount of \$381,145.19.
- 10. Iris Rapid Bus Stop Construction Additional Stop at Westbound Imperial Beach Blvd and 13th Street – Change Order**
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. PWB380.2-24, with Hazard Construction Engineering LLC (Hazard Construction), in the amount of \$413,092.00 for the Iris Rapid construction of Rapid 227 bus stop improvements at westbound Imperial Beach Blvd and 13th St.
- 11. Broadway Rail Replacement – Work Order Agreement**
Action would authorize the Chief Executive Officer (CEO) to execute Work Order No. MTSJOC348-17, under MTS Doc. No. PWG348.0-22, with Veterans Engineering Inc. (Veterans), a Disabled Veterans Business Enterprise (DVBE), for the replacement of the outside rail on the westbound track of Broadway and Park Boulevard grade crossing in downtown San Diego in the amount of \$395,747.67
- 12. Operations Budget Status Report for December 2024**
- 13. San Diego Metropolitan Transit System (MTS) Transit Asset Management (TAM) Plan – Fiscal Year (FY) 2025 Update**

14. Uninterruptible Power Supply (UPS) On-Site Repair and Support – Contract Amendment

Action would authorize the Chief Executive Officer (CEO) to: 1) Ratify Amendment No. 7 and 8 to MTS Doc. No. G2009.0-14, with Schneider Electric IT Corporation (Schneider), for the addition of South Bay Bus Rapid Transit (BRT) UPS units under service agreement, end-of-life (EOL) battery replacements and a 4-month contract extension in the amount of \$117,489.66; and 2) Execute Amendment No. 9 to MTS Doc. No. G2009.0-14, with Schneider, for an additional 4-month maintenance service extension in the amount of \$ 62,836.00.

15. Agenda Item Number Reserved

Committee Comment

Board Member Montgomery Steppe asked that the DBE policy changes and the discussion item be consolidated into one discussion item.

9. Other Staff Communications and Business

There was no Other Staff Communications and Business discussion.

10. Committee Member Communications and Other Business

There was no Committee Member Communications and Other Business discussion.

11. Next Meeting Date

The next Executive Committee meeting is scheduled for March 6, 2025, at 9:00 a.m.

12. Adjournment

The meeting was adjourned at 12:05 p.m.

Chairperson
San Diego Metropolitan Transit System

Clerk of the Board
San Diego Metropolitan Transit System

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

ROLL CALL

MEETING OF (DATE): February 6, 2025 CALL TO ORDER (TIME): 9:03 a.m.
 RECESS: _____ RECONVENE: _____
 CLOSED SESSION: _____ RECONVENE: _____
 _____ ADJOURN: 12:05 p.m.

REPRESENTING	MEMBER	EC ALTERNATE	PRESENT (time arrived)	ABSENT (time left)
Chair	Whitburn <input checked="" type="checkbox"/>	No Alternate <input type="checkbox"/>	9:00 a.m.	12:05 p.m.
City of San Diego	Elo-Rivera <input checked="" type="checkbox"/>	Whitburn <input type="checkbox"/>	9:00 a.m.	12:05 p.m.
County of San Diego	Montgomery Steppe <input checked="" type="checkbox"/>	VACANT <input type="checkbox"/>	9:08 a.m.	12:05 p.m.
East County	Vaus <input type="checkbox"/>	Hall <input type="checkbox"/>	ABSENT	ABSENT
SANDAG Transportation Committee	Dillard <input checked="" type="checkbox"/>	Fernandez <input type="checkbox"/>	9:00 a.m.	12:05 p.m.
South Bay	Fernandez <input checked="" type="checkbox"/>	Fleming <input type="checkbox"/>	9:04 a.m.	12:05 p.m.
Vice Chair	Goble <input checked="" type="checkbox"/>	No Alternate <input type="checkbox"/>	9:00 a.m.	12:05 p.m.

SIGNED BY THE CLERK OF THE BOARD: /s/ Lucia Mansour



**Metropolitan
Transit
System**

Agenda Item No. 4

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

March 6, 2025

SUBJECT:

Orange Line Improvement Project Update (Heather Furey; and Consultant T.Y. Lin)

INFORMATIONAL ONLY

Budget Impact

None.

DISCUSSION:

The Orange Line Improvement Project (Project) will make Trolley system improvements at various locations along the 17.6-mile Orange Line, benefitting the riding public and the cities of San Diego, Lemon Grove, La Mesa, and El Cajon. To do so, the project will make track, signal, and grade crossing improvements along the Orange Line. For practical and grant funding reasons, the Project has been divided into two phases. Phase 1 is the work between 32nd/Commercial Station and Massachusetts Avenue Station. Phase 2 is the work between Massachusetts Avenue Station and El Cajon Transit Center. Once completed, the Project will allow Trolleys to safely operate at higher speeds and allow reverse-run on certain sections of the line, improving transit times and operational flexibility.

The San Diego Metropolitan Transit System (MTS) staff and external consultants, T.Y. Lin, will present an update on the Orange Line Improvement Project.

The team provided a presentation to the January 16, 2025 Board of Directors meeting. Today's presentation will include updates to the project over the last two months and information about additional, ongoing projects, on the Orange Line Corridor.

/S/ Sharon Cooney

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

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San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.





Orange Line Improvement Project Update Executive Committee



Agenda

- Project Summary
- Schedule and Project Updates
- Project Funding
- Solicitation Process
- Construction Contract
- Other Orange Line Projects
- Next Steps

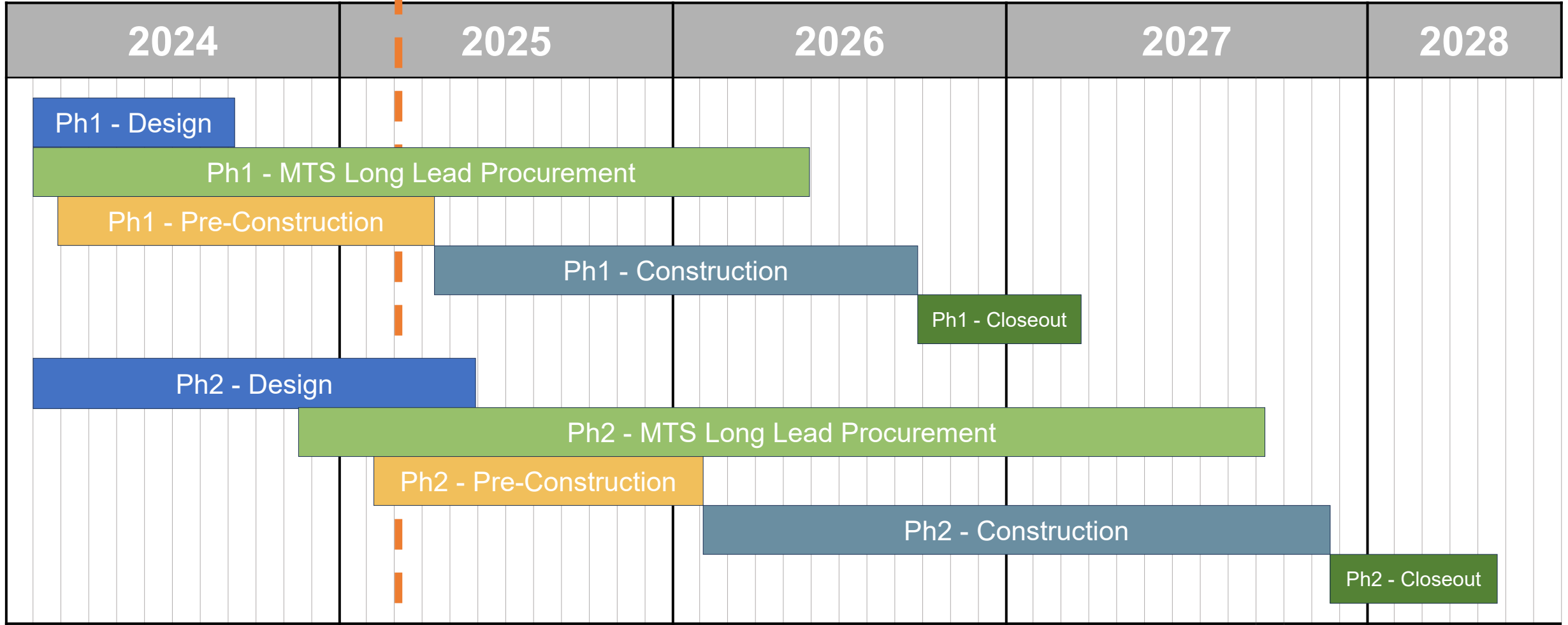
Orange Line Improvement Project

- System improvements along the 17.6-mile Orange Line
- Improvements include upgrades to track, signals, grade crossings, and pedestrian crossings.
- Benefits the riding public and the cities of San Diego, Lemon Grove, La Mesa and El Cajon.
- Improve trolley speeds, on-time performance, and service reliability
- Construction begins the summer of 2025 through fall of 2028
- Constructed in 2 phases



Project Schedule

Current Status



Project Updates

- Phase 1

- Completed procurement for Owner Furnished Equipment
- Received Contractor bids; Contract to Board for Approval on 3/13
- Continued right-of-way coordination

- Phase 2

- Continued procurement of Owner Furnished Equipment
- Continued design advancement
- Continued right-of-way coordination

Owner Furnished Equipment (Phase 2)

No	Item	MTS Board Approval Request	Total	Status
1	Catenary Poles	November 14, 2024	\$167,653.40	Approved; agreement executed
2	Switch Machines	February 13, 2025	\$542,607.45	Approved; agreement in progress
3	Signaling Electrodes	February 13, 2025	\$1,355,932.79	Approved; agreement in progress
4	PSOs	February 13, 2025	\$427,849.39	Approved; agreement in progress
5	Hardened Steel Rail	May 2025		Bids Received 2/20/25
6	Special Track	May 2025		Bidding (due 3/14/25)
7	Signal Houses	August 2025		Bidding (due 3/26/25)
8	Unarmed Signal Cable	January 2026		In Design

Real Estate Updates

Phase 1

No.	Property Encroachments	Ownership	Status
1	R10-R574RC Signal Shelter	Private	In Progress
2	R2-R442RC Signal Shelter	Private	In Progress

Phase 2

No.	Property Encroachments	Ownership	Status
1	R1256 Signal Shelter	Public	In Design
2	R1241 Signal Shelter	Public	In Design
3	R1230 Signal Shelter	Private	In Design
4	R1224 Signal Shelter	Public	In Design

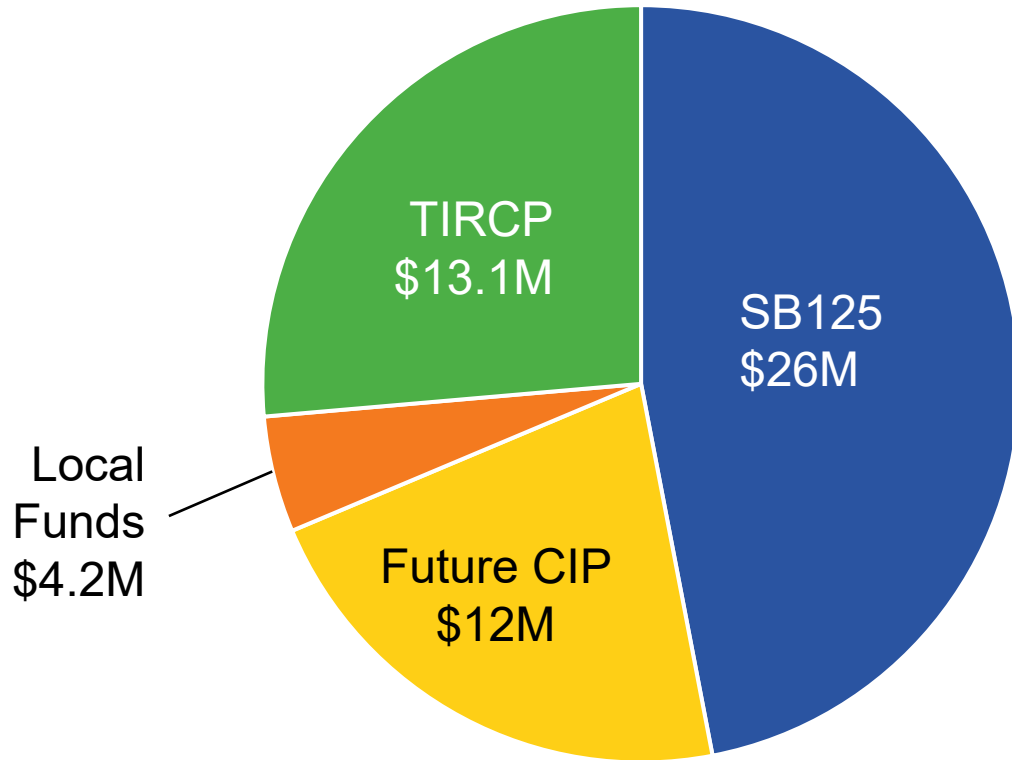
Project Funding

Funding Type	Total (\$M)
TIRCP Cycle 5 Funds	13.1
TIRCP Cycle 6 Funds	48.3
MTS CIP Local Funds	9.8
SB 125 Funds	26.0
Programmed Funds	97.2
Future CIP Local Funds	54.0
Estimated Total Budget	151.2

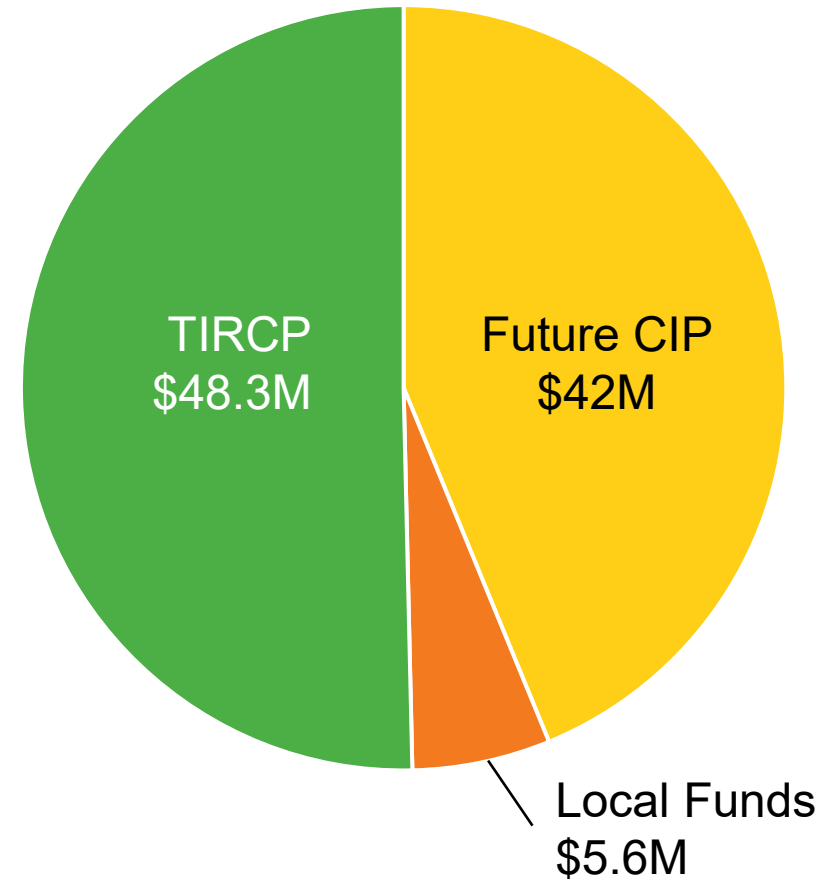


Project Funding by Phase

PHASE 1

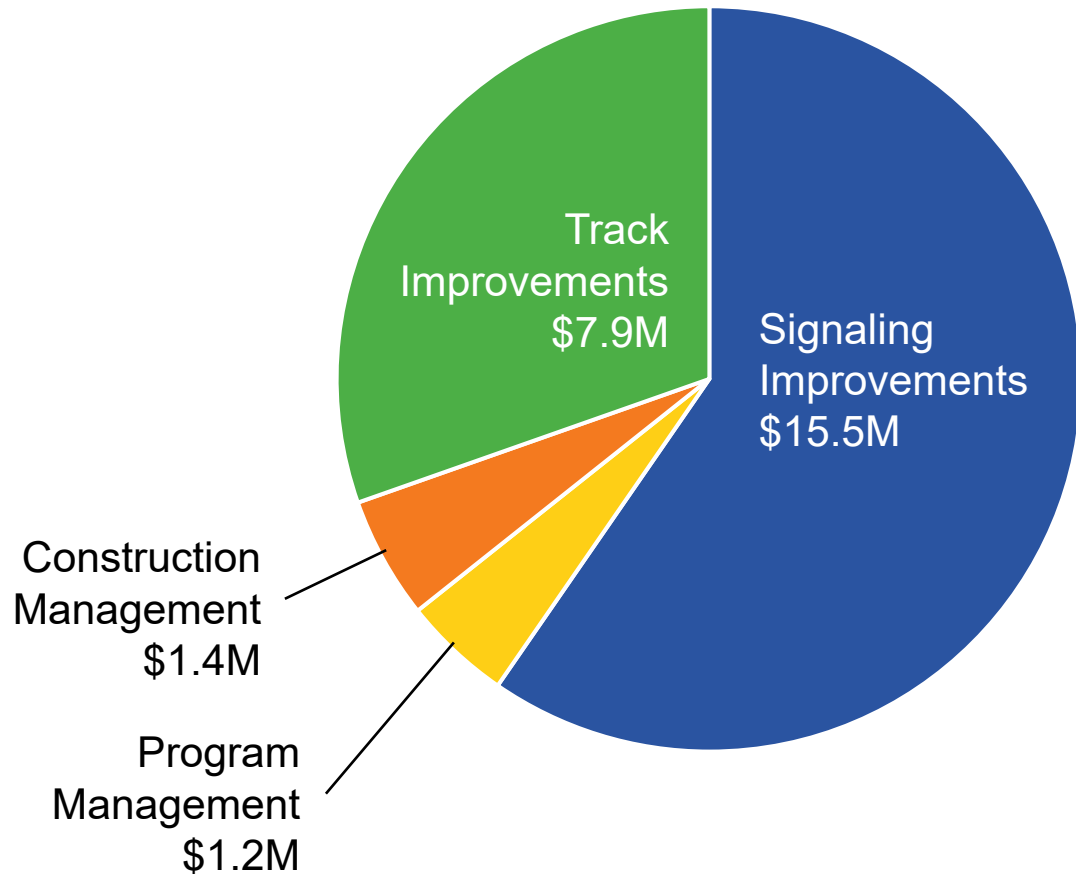


PHASE 2

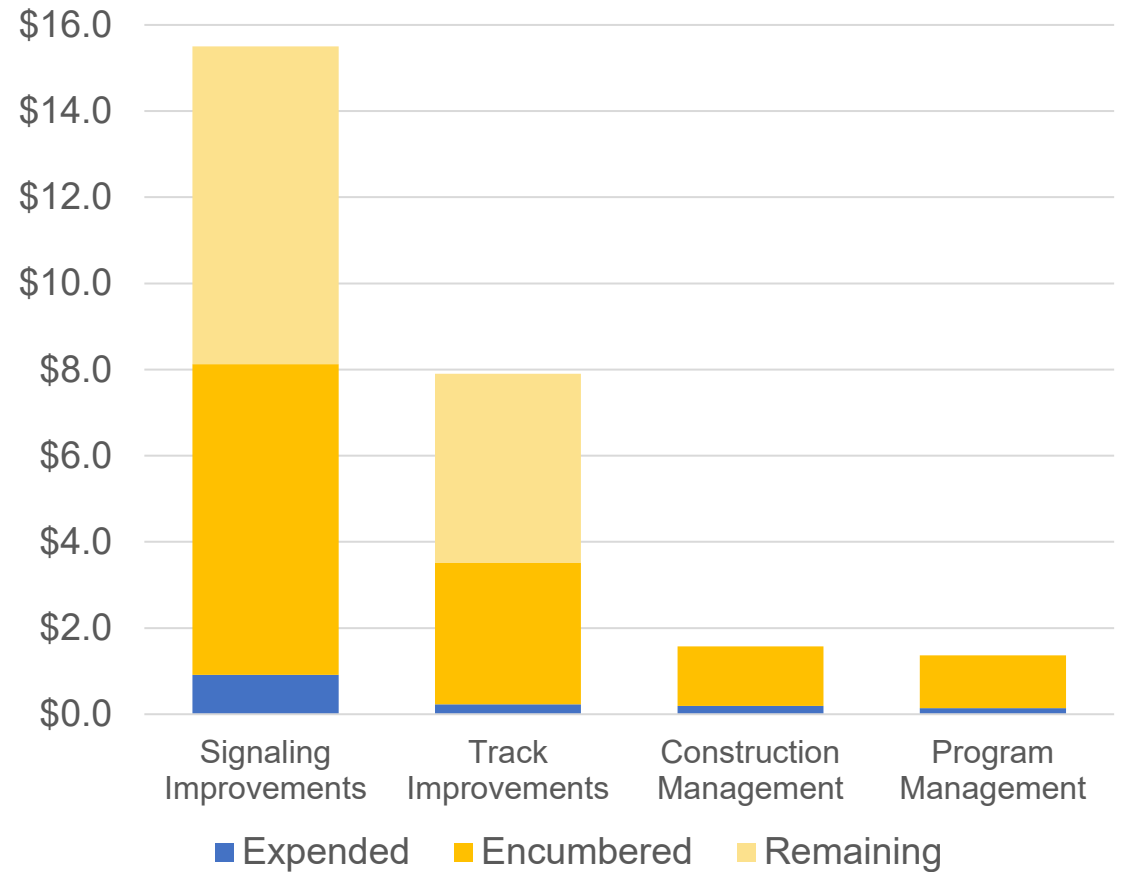


SB125 Funding – \$26M for Phase 1

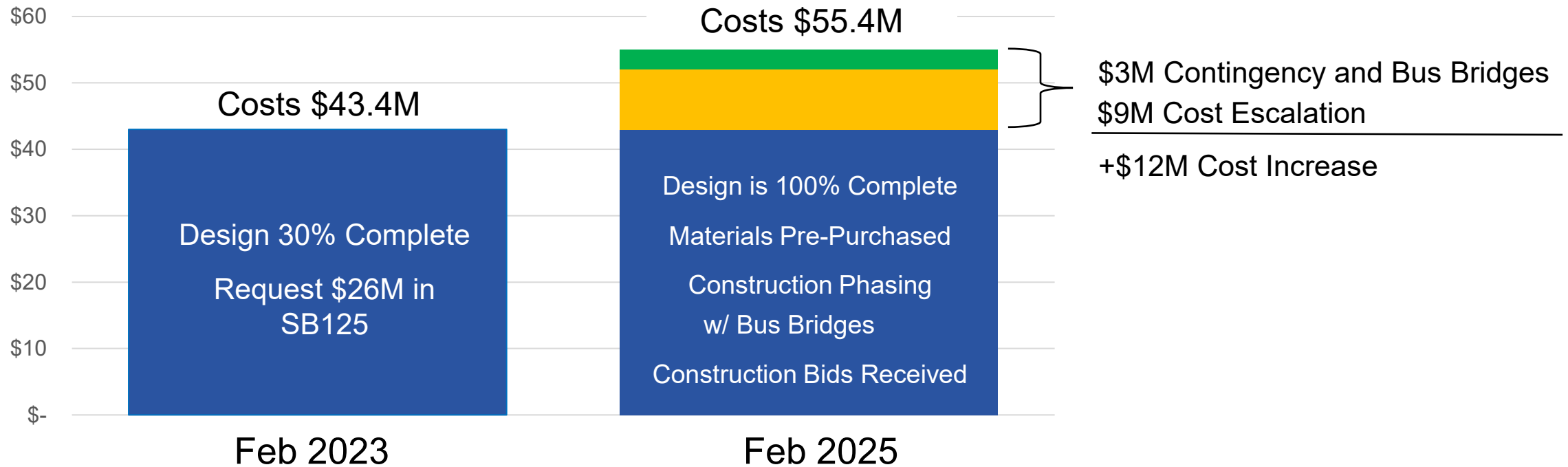
Funding Allocation



Funding Balances

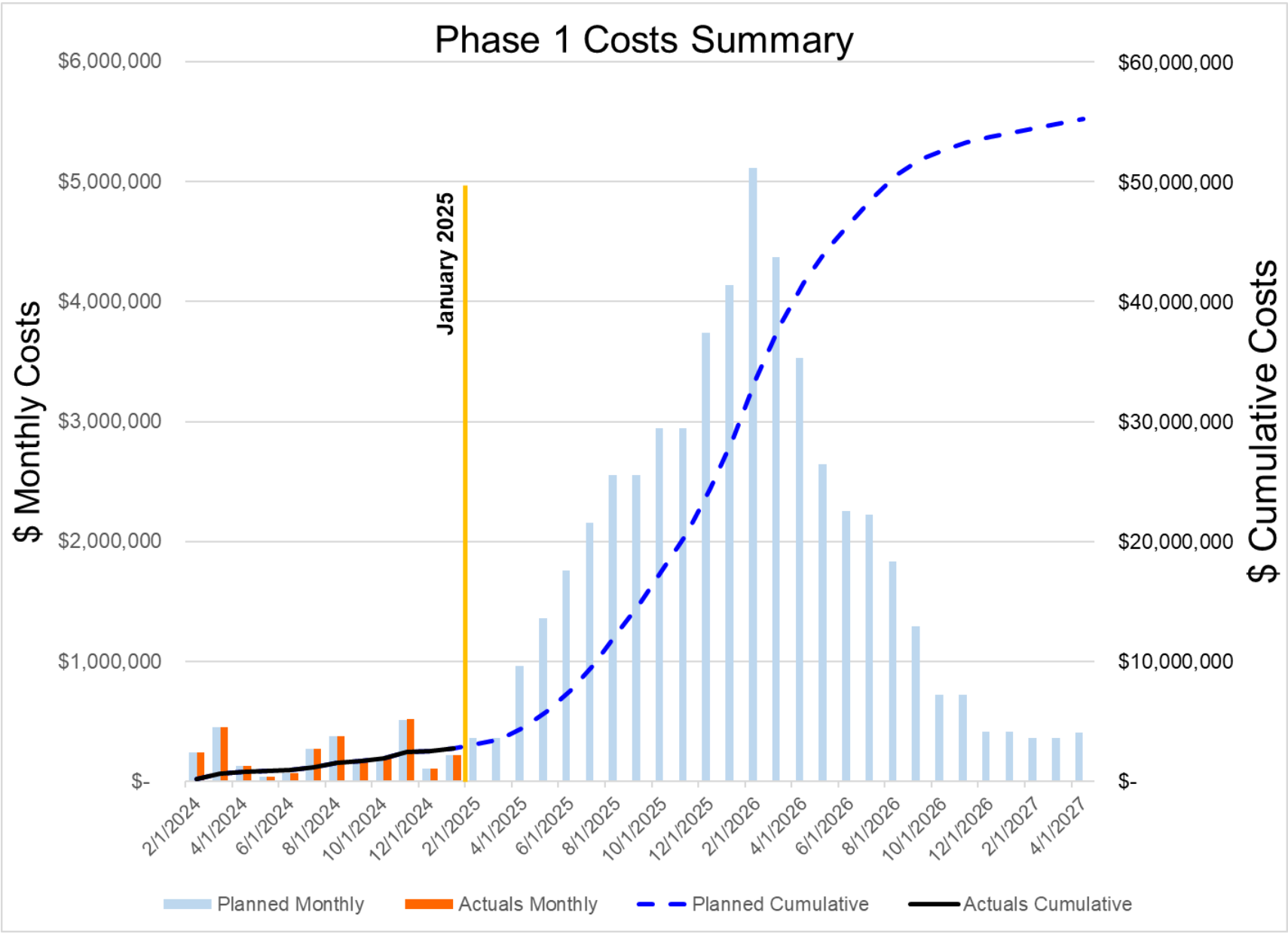


Phase 1 Cost Summary



- FY26 CIP includes request for \$12M Ph1
- \$40M of \$55.4M (73%) funded by State grant programs

Cost Controls Planned vs. Actual Tracking



Construction Solicitation Process

- MTS pre-qualified contractors in 2024 to ensure all proposers have relevant experience in the specialized areas of Railroad Signaling, Overhead Catenary System (OCS), and/or Special Trackwork.
- Construction IFB Documents were posted on Planetbids in October 2024
- After the bid Q&A period, bids were received on 2/6/2025
- Lowest bidder was Stacey and Witbeck, Inc. at \$26,890,732.50
- Contract duration is 758 days from Notice to Proceed (NTP)

Construction Solicitation Process

- On October 30, 2024, staff issued an Invitation for Bids (IFB). A total of five (5) bids were received by the deadline of February 6, 2025, and are summarized as follows:

Firm Name	Firm Certification	Bid Amount
Stacy and Witbeck, Inc.	N/A	\$26,890,732.50
Herzog Technologies, Inc.	N/A	\$30,922,555.00
RailWorks Track Services, LLC	N/A	\$36,349,028.45
Balfour Beatty Infrastructure Inc.	N/A	\$45,645,000.00
Mass. Electric Construction Co.	N/A	\$52,927,533.50

- Based on the bids received, staff determined Stacy and Witbeck, Inc. to be the lowest responsive, and responsible bidder and deemed their price to be fair and reasonable in comparison with MTS' Independent Cost Estimate (ICE) of \$27,974,757.19.
- The Contractor will be using the following subcontractors:

SUBCONTRACTOR NAME	FIRM CERTIFICATIONS
AZ Construction Inc. DBA ACE Fence Company	Disadvantaged Business Enterprise (DBE), Small Business (SB), Minority Owned Business (MBE), Woman Owned Business (WBE)
HMS Construction Inc.	N/A

Construction Contract: Next Steps

MTS Doc. No. PWL409.0-25, to Stacy and Witbeck, Inc., for the Orange Line (OL) Phase 1 Construction in the amount of \$26,890,732.50 plus 10% contingency will be presented to the Board of Directors on consent agenda at the March 13, 2025 meeting.

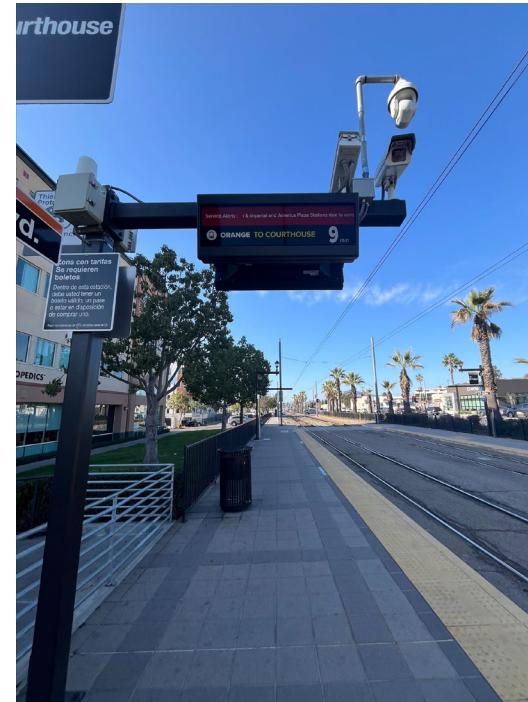
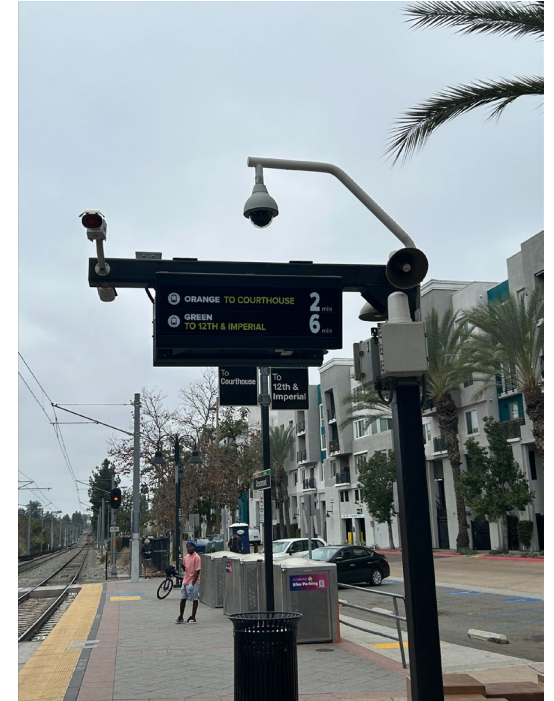
Other MTS Projects

- Adjacent Project Along the Orange Line:
 1. Orange Line Variable Message Sign (VMS) Replacements
 2. Baltimore Junction and Euclid Grade Study
 3. SELT Lighting



Orange Line VMS Replacement

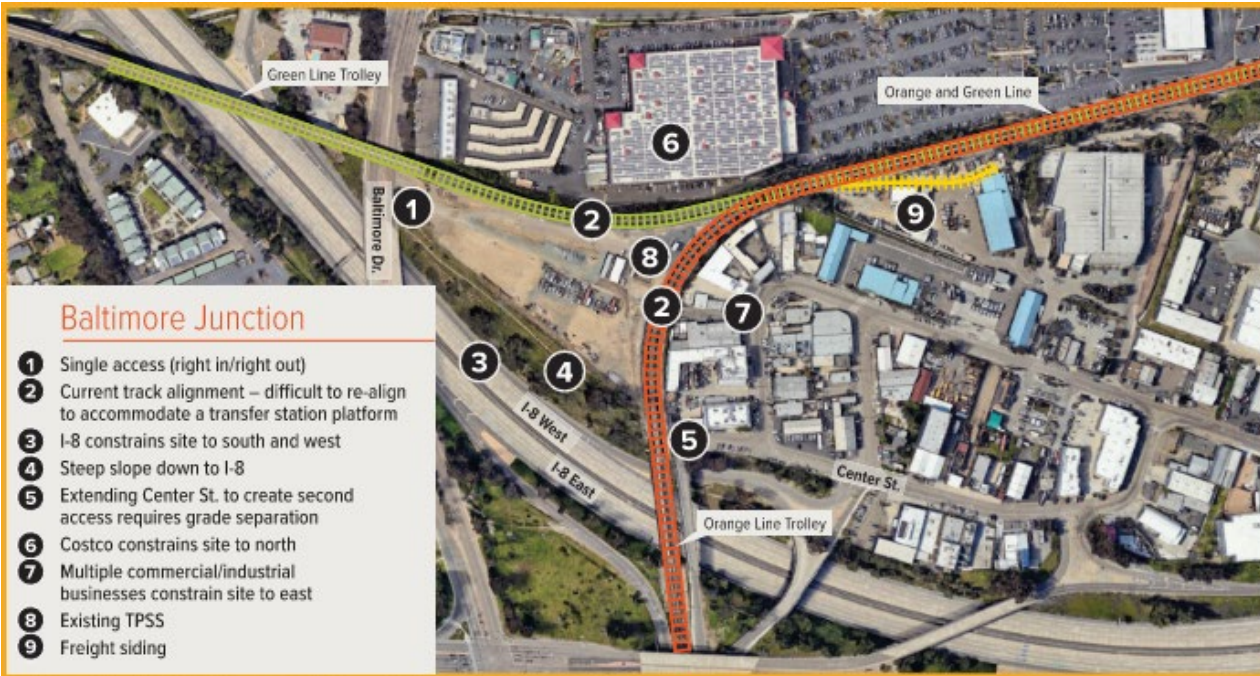
- Scope: Replacement of VMS on the Orange Line between Arnele Ave Courthouse Stations
- Schedule:
 - Start Date: 1/14/25
 - Finish Date: 4/21/25
- Status: 8 of 21 stations completed
- Completed Stations include:
 - Arnele Ave, El Cajon, Amaya Dr, Grossmont, La Mesa Blvd, Lemon Grove, Massachusetts Ave, and Encanto/62nd St
- Issues: Some stations require CCTV cameras to be rewired because they were previously powered through existing VMS along with additional fiber optic cable splicing



Baltimore Junction & Euclid Grade Study

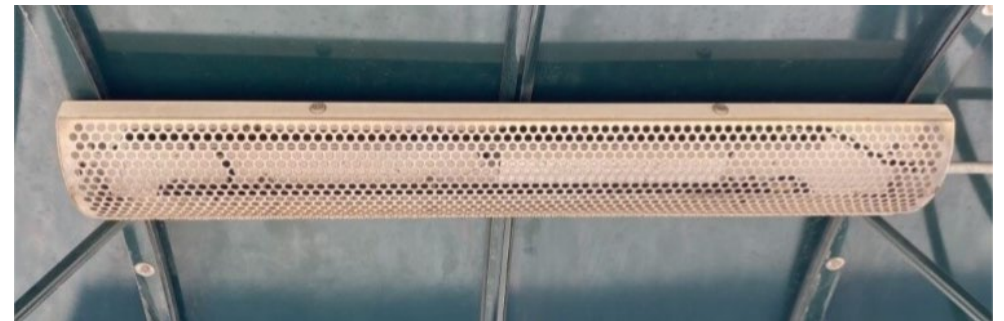
- Scope: Project Study Reports (PSRs) evaluating
 - a) Additional Wye at Baltimore Junction
 - b) A potential grade separation at Euclid Avenue

- Schedule:
 - Start Date: October 2024
 - Finish Date: August 2025
- Status: Data collection and Developing Alternatives
- Coordination Activities: Design workshops with Caltrans, municipalities, and other stakeholders



SELT Lighting

- Scope: Addresses lighting concerns identified during MTS Social Equity Listening Tour (SELT) by upgrading light fixtures at 7 trolley stations to increase safety and visibility for transit users.
 - 25th & Commercial, 32nd & Commercial, 47th St, Euclid Ave, Encanto/62nd St, Massachusetts Ave, and Lemon Grove
- Schedule:
 - Start Date: 3/12/25
 - Finish Date: 5/9/25
- Recent Activities: Submittals have been approved and all testing has been completed
- Safety Note: All replaced lights will be functioning by the end the of workday





Next Steps

- With Board Authorization on 3/13/2025:
 - Execute Phase 1 Construction Contract
 - On-Board Phase 1 Contractor
- Finalize Phase 2 Design
- Continue with Phase 2 Early Procurement
- Continue ROW Coordination
- Continue Schedule Refinements
- Develop Risk Register
- Develop and Implement Communication Plan

Next Project Update Presentation

June 12, 2025 Executive Committee Meeting

Questions/Comments



**Metropolitan
Transit
System**

Agenda Item No. 5

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

March 6, 2025

SUBJECT:

Fiscal Year (FY) 2026 Capital Improvement Program (CIP) (Mike Thompson)

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Executive Committee forward a recommendation to the MTS Board of Directors to:

- 1) Approve the FY 2026 CIP with the estimated federal and non-federal funding levels (Attachments A and B). As the federal appropriation figures are finalized and/or other project funding sources become available, allow the Chief Executive Officer (CEO) to identify and adjust projects for the adjusted funding levels; and
- 2) Recommend that the San Diego Association of Governments (SANDAG) Board of Directors approve the submittal of Federal Section 5307, 5337, and 5339 applications for the MTS FY 2026 CIP (shown in Attachment A); and
- 3) Recommend that the SANDAG Board of Directors approve amendment number 5 of the 2025 Regional Transportation Improvement Program (RTIP) in accordance with the FY 2026 CIP recommendations.

Budget Impact

The total estimated funding for FY 2026 is \$265.0 million (Attachment A). After the utilization of \$70.0 million in preventative maintenance, \$6.4 million for Americans with Disabilities Act (ADA) Operations (funding the FY 2025 operating budget), funding for SANDAG planning studies totaling \$0.3 million and \$25.0 million transferred to the Operating Budget, \$163.3 million is available for capital projects.

DISCUSSION:

The creation of the annual CIP and operating budgets involves a multifaceted decision-making process that impacts the agency's assets and the ability to keep these assets in a State of Good Repair (SGR). This requires a delicate balance between funding capital and operations to effectively and safely provide transit services for the region. In accordance with Board Policy 65 - Transit Asset Management (TAM) Policy, MTS maintains both a TAM plan and a 20-year CIP

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San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.



forecast to facilitate these decision-making processes. On a yearly basis, the CIP is constructed under this framework, subject to the funding that is available in the current year.

Development of the MTS FY 2026 CIP

The CIP process began in September 2024 with the “call for projects”. The recommended CIP assumes funding of \$70.0 million for preventative maintenance, \$6.4 million for ADA Operations, and \$0.3 million in SANDAG planning studies. Available CIP funding was also reduced by \$25.0 million which will be utilized in the Operating Budget per Board direction. The remaining submitted projects compete for the balance of available funding. For FY 2026, there is \$163.3 million in available federal, state, and local funding sources, which are detailed below.

Federal Funding

On November 15, 2021, President Biden signed the Bipartisan Infrastructure Law, reauthorizing surface transportation programs through Federal FY (FFY) 2026. The legislation establishes the legal authority to commence and continue Federal Transit Administration (FTA) programs. Each reauthorization amends the Federal Transit Laws codified in 49 USC Chapter 53.

The reauthorization provides for the following funding streams MTS commonly receives:

- 5307 Urban Area Formula Grants for capital improvements and preventative maintenance
- 5311 Formula Grants for Rural Areas for capital improvements and to supplement operating costs
- 5337 SGR Funding for capital improvements and preventative maintenance
- 5339 Bus and Bus Facilities Funding for capital improvements

The FY 2026 MTS CIP (Attachments A and B) will serve as the basis for the federal formula grant applications. The FTA requires the submission of grant applications to obligate annual appropriations under Sections 5307, 5337, and 5339. The funding levels for each section (as indicated in Attachment A) this year are based on the actual apportionments published for the region.

As the region’s Metropolitan Planning Organization (MPO), SANDAG apportions the 5307, 5337, and 5339 formula funds between MTS and the North County Transit District (NCTD) based on service area populations. Prior to the apportionments, SANDAG deducts funds from Section 5307 for funding the region’s vanpool program. MTS receives approximately 70 percent while NCTD receives approximately 30 percent of these federal formula funds.

Section 5307 Urbanized Area Formula Program is a block grant program in which each urbanized area with over 50,000 in population receives financial assistance to provide public transit. The formula for determining each metropolitan area’s share of funds is based on an urbanized area’s population, population density, levels of existing fixed-guideway service, and levels of existing bus service and ridership. The Section 5307 program is designed to meet routine capital needs and may not be used for operating assistance. However, the Transportation Equity Act for the 21st Century (TEA-21) expanded the definition of capital to include preventative maintenance, thereby, in effect, mitigating the relative lack of federal assistance for operations. In addition to the expanded definition of capital, the Section 5307

Urbanized Area Formula Program also allows for a maximum of 10 percent maximum of the allocation to support operations of ADA complementary paratransit service.

For FFY 2025, the estimated allocation for the MTS Section 5307 program is \$64.0 million, which will be matched with local funds of \$16.0 million. This program would provide an estimated \$80.0 million to fund MTS's FY 2026 CIP.

Section 5337 is a formula-based SGR program dedicated to repairing and upgrading the nation's rail transit systems along with high-intensity motor bus systems that use high-occupancy vehicle lanes, including Bus Rapid Transit (BRT). Section 5337 includes funding previously provided through section 5309 Fixed Guideway Rail Modernization Formula Program. Projects are limited to replacement and rehabilitation, or capital projects required to maintain public transportation systems in a SGR.

Section 5337 SGR funds are allocated on a formula basis to rail systems that have been in operation for at least eight years. For FFY 2025, the Section 5337 funds MTS allocation estimate is \$47.4 million and will be matched with local funds of \$11.8 million. The program will provide an estimated \$59.2 million to fund MTS's FY 2026 CIP.

Section 5339 funding provides capital funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. For FFY 2025, the Section 5339 funds MTS allocation estimate is \$4.3 million and will be matched with local funds of \$1.1 million. The program will provide an estimated \$5.4 million to fund MTS's FY 2026 CIP.

The FTA funding is structured on a reimbursement basis (after expenses are incurred). Local funding (Transportation Development Act (TDA)/ State Transit Assistance (STA) /TransNet) is scheduled at the beginning of each fiscal year and received on a monthly or quarterly basis. In many situations, local funds are received before expenses are incurred.

Local Match

The local match for CIP projects will come from the pooled transit finances for the MTS region. While it is likely that the actual funds used would be TDA funds, final decisions on the matching source would be made during the FY 2026 CIP implementation process to maximize the availability and flexibility of funding.

STA

MTS receives STA funding from the Public Transportation Act, which derives its revenue from the state sales tax on diesel fuels. This funding was augmented by the Road Repair and Accountability Act of 2017, or Senate Bill 1 (SB1), which was signed by the Governor on April 28, 2017. For FY 2026, the estimated STA funding is \$33.5 million, of which \$22.2 million is planned in CIP with the remaining \$11.3 million planned for the operating budget.

MTS also receives a separate STA allocation for SGR program funding from SB1, which is funded from a portion of a new transportation improvement fee on vehicle registration. Receipts for FY 2024-25 will provide \$5.8 million to MTS's FY 2026 CIP.

California Cap-and-Trade Revenue

Since 2014, the State of California Budget has provided \$11.0 billion to the Greenhouse Gas Reduction Fund (GHGRF) from Cap-and-Trade auction proceeds to support existing and pilot programs that will reduce Greenhouse Gas (GHG) emissions and benefit disadvantaged communities. Transit operators are eligible recipients for several of the programs that will be funded by the GHGRF, most of which are competitive.

Senate Bill (SB) 125 amended the Budget Act of 2023 to appropriate \$4 billion of General Funds to the Transit and Intercity Rail Capital Program (TIRCP) over the next two fiscal years. SB125 also establishes a \$1.1 billion Zero-Emission Transit Capital Program (ZETCP) over the next four fiscal years. MTS is estimated to receive approximately \$29 million over the next four fiscal years.

TIRCP also has competitive grant awards every other year. Over the last few years, MTS has received several of these competitive grant awards. In FY 2022, MTS was awarded a total of \$33.5 million for Orange Line Rail Signals, Orange Line Variable Message Sign, Imperial Ave Transit Center, and Kearny Mesa Division Battery Electric Bus (BEB) Charging Infrastructure project. In FY2023, MTS was awarded a total of \$60.4M for Orange Line Track Improvement Part 2 and Electrification of Kearny Mesa Division. In FY 2026 CIP, \$42.0 million is budgeted.

The Low Carbon Transit Operations Program (LCTOP) has \$192 million in total funding that will be distributed by the same formula as STA funding. MTS's allocation for FY 2023-24 was \$8.7 million. Based on the current Zero-Emission Bus (ZEB) rollout plan, the entire amount will be budgeted in MTS's FY 2026 CIP.

Other Revenue

Alternative fuel credits are issued by the IRS to MTS for utilizing compressed natural gas to power its vehicles. This rebate program has expired and then reauthorized multiple times over the years, most recently being extended through the calendar year 2024. MTS has included \$3.6 million in revenues for the calendar year 2023 in the FY 2026 CIP.

\$10.4 million of other one-time funding has also been included in the FY 2026 CIP. This balance includes transfers from older closed capital projects and proceeds from land sales.

\$3.9 million from the Federal EPA Community Change Grant that was awarded to MTS in FY2025 for bus procurement.

Project Selection

A meeting of the Capital Projects Review Committee (CPRC) was held to review the project list and to develop a CIP recommendation for FY 2026. In accordance with the Capital Projects Selection Process, the CPRC is comprised of representatives from MTS Bus, MTS Rail, MTS Administration, and SANDAG. Each CPRC member was responsible for submitting the capital requests for its division or agency. The CPRC reviewed and approved the prioritization of those capital requests.

The capital project list (Attachment B) represents the five-year, unconstrained need for the MTS operators, 98 projects with total requests of \$1.4 billion. Each MTS agency submitted its capital project requests in priority order, and the lists were consolidated for review by the CPRC. The CPRC reviewed the projects in the context of their impact on operations and determined the most critical projects to fund this year. The remaining projects were deferred; however, it is recognized that the continued deferral of some projects could have negative impacts on system infrastructure in future years. The list of projects is also subject to an analysis based on social equity principles (Attachment E). This process assures that the benefits and burdens of transit investment are shared equitably throughout the MTS service area. A series of maps are used to detail the results of this analysis.

FY 2026 CIP Funded Projects

Of the \$163.3 million available after preventative maintenance and SANDAG planning studies, \$53.9 million (or 33 percent) has been dedicated to Revenue Vehicle replacement for the ongoing upkeep of the MTS fleet of service vehicles; \$6.0 million (or 4 percent) has been dedicated to Facility & Construction projects; \$85.4 million (or 52 percent) has been dedicated to Rail Infrastructure projects; \$7.2 million (or 4 percent) has been dedicated to Other Equipment & Installations; and another \$10.8 million (or 17 percent) dedicated to Major Initiatives projects.

The table below is a summary of the CPRC recommendations, the major categories that are proposed to be funded, and the percentage of total available funding.

Capital Project Categories	Funding (\$000s)	% of Total
Bus Revenue Vehicles	\$ 53,906	33%
Facility & Construction Projects	6,026	4%
Rail Infrastructure	85,410	52%
Other Equipment & Installation	7,212	4%
Other Initiatives	10,787	7%
Grand Total	\$ 163,341	

A full listing of projects with respective funding levels is available in Attachment B, and brief descriptions are included in Attachment C. A couple of projects of note:

- Bus Procurement – Funding of \$53.9 million for the replacement of fifty 40' Compressed Natural Gas (CNG) buses in accordance with the MTS Transit Fleet Plan. As discussed with the Board at the February 2025 meeting, per the Innovative Clean Transit regulation, MTS would be required to purchase thirteen 40" BEB, 25% of that order, but MTS will request to use 13 of the 25 early adoption credits MTS has to satisfy the purchasing requirement for this year.
- Orange Line Improvement Project Phases 1 and 2 – A total of \$54.0 million in funding is being allocated to these two projects in this CIP. This major project will upgrade the stations, track, signals, and electrification along the Orange Line of the trolley.

- Zero Emission Bus (ZEB) Overhead Charging Infrastructure – A total of \$9.8 million in funding is being allocated to facilitate the transition to BEB. This includes funding of \$6.1 million for the construction of the Southbay Division backup power system for the recently constructed overhead charging infrastructure.

Five-Year Capital Program Projections

Attachment D summarizes a high-level look at the five-year capital program. The federal 5307 and 5337 funding levels are projected by SANDAG to be flat through FY 2030 resulting in a decrease in recurring revenue projections year by year. Added to that is \$99.3 million in already identified non-recurring revenues, resulting in a total revenue projection for CIP of \$624.1 million. Total project needs over the five-year term are projected to be \$1.4 billion, which exceeds the projected revenue available for CIP. Projected deficits from FY 2026 to FY 2030 total \$748.8 million. The ratio of total funding to total capital needs over the five-year term is projected at 45.5%.

Therefore, the staff recommends that the MTS Executive Committee forward a recommendation to the MTS Board of Directors to:

- 1) Approve the FY 2026 CIP with the estimated federal and non-federal funding levels (Attachments A and B). As the federal appropriation figures are finalized and/or other project funding sources become available, allow the CEO to identify and adjust projects for the adjusted funding levels; and
- 2) Recommend that the SANDAG Board of Directors approve the submittal of Federal Section 5307, 5337, and 5339 applications for the MTS FY 2026 CIP (shown in Attachment A); and
- 3) Recommend that the SANDAG Board of Directors approve amendment number 5 of the 2025 RTIP in accordance with the FY 2026 CIP recommendations.

/S/ Sharon Cooney

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. FY 2026 Funding Sources
B. FY 2026 CIP List
C. FY 2026 Funded Project Descriptions
D. Funding Compared to Capital Needs for FY 2026 – 2030
E. FY 2026 Capital Improvement Program Title VI/Environmental Justice Analysis

**San Diego Metropolitan Transit System
Capital Improvement Program - Funding Sources (\$000s)
Fiscal Year 2026**

Funding Description	Total
Federal FFY25 - 5307 Funding Estimate	\$ 63,996
Federal FFY25 - 5337 Funding Estimate	47,439
Federal FFY25 - 5339 Funding Estimate	4,272
California Transportation Development Act (TDA)	52,726
California State Transit Assistance (STA)	22,200
California State of Good Repair (SGR)	5,816
California Cap and Trade (TIRCP)	42,000
California Cap and Trade (LCTOP)	8,658
Other Funds	17,930
Total Available Funding	\$ 265,037
Preventive Maintenance - Federal 5307	\$ (30,000)
Preventive Maintenance - Federal 5337	(40,000)
ADA Operation - Federal 5307	(6,400)
SANDAG Planning Study - Local Match	(297)
Total Preventative Maintenance/SANDAG Planning	\$ (76,696)
Funding Shift to Operations (TDA)	\$ (25,000)
Total Other Adjustments	\$ (25,000)
Available Funding for Capital Program	\$ 163,341

**San Diego Metropolitan Transit System
Capital Improvement Program – Project List by Category (\$000s)
Fiscal Year 2026 – 2030**

State of Good Repair Projects

Bus Revenue Vehicles

Annual vehicle replacement for a fleet of 40-foot, 60-foot Articulated, ADA Minibus, Fixed Route Minibus, and Commuter Express buses. The fleet replacement plan also incorporates the Zero Emission Bus Transition plan originally approved by the MTS Board of Directors in September 2020.

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Bus Ops - Bus Procurement - FY26	\$ 53,906	\$ -	\$ 70,000	\$ 60,000	\$ 62,000	\$ 70,000	\$ 315,906
Subtotal	\$ 53,906	\$ -	\$ 70,000	\$ 60,000	\$ 62,000	\$ 70,000	\$ 315,906

Rail Revenue Vehicles

Annual vehicle replacement for a fleet of light rail vehicles.

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Rail Ops - SD7 LRV Replacement	\$ -	\$ -	\$ 10,566	\$ 10,566	\$ 10,566	\$ 10,566	\$ 42,264
Rail Ops - SD8 LRV Replacement	-	-	-	-	-	26,000	26,000
Subtotal	\$ -	\$ -	\$ 10,566	\$ 10,566	\$ 10,566	\$ 36,566	\$ 68,264

Facility & Construction Projects

Facilities refer to the structures that enclose or support maintenance, operations, and administrative functions at the Rail division in downtown San Diego and the five bus maintenance facilities throughout San Diego County. Facilities also house specialized equipment that supports the operations and maintenance of the vehicles (for example, fueling and wash facilities).

Facilities also refer to the structures that enclose or support spaces for passengers. Passenger facilities are usually focused around spaces for pedestrian movement or waiting areas. Stations provide shelter for employees and customers, and facilities provide shelter for employees, revenue vehicles, and power systems.

Bus Operations

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Bus Ops - Copley Park Division New Admin Building	\$ 1,824	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,824
Bus Ops - Kearney Mesa & Imperial Avenue Division Roof Hatch Replacements	452	-	-	-	-	-	452
Bus Ops - Kearney Mesa Division Elevator Rehabilitation	-	599	-	-	-	-	599
Bus Ops - Kearney Mesa Division Service Lane and Brake Pit Roof Replacement	-	195	-	-	-	-	195
Bus Ops - Copley Park Division Upgrades	-	-	8,030	250	-	-	8,280
Bus Ops - Imperial Avenue Division Upgrades	-	-	1,400	7,500	5,450	-	14,350
Bus Ops - Kearney Mesa Division Upgrades	-	-	650	750	-	-	1,400
Bus Ops - Southbay Maintenance Facility Upgrades	-	-	300	-	-	-	300
Bus Ops - East County Division Upgrades	-	-	-	150	-	-	150
Subtotal	\$ 2,276	\$ 794	\$ 10,380	\$ 8,650	\$ 5,450	\$ -	\$ 27,550

Rail Operations

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Rail Ops - Yard Tower & Paint Booth Upgrade	\$ -	\$ -	\$ 1,600	\$ 400	\$ -	\$ -	\$ 2,000
Rail Ops - Yard Tower Roof Replacement	-	-	1,200	-	-	-	1,200
Rail Ops - Yard Tower interior upgrades	-	-	400	-	-	-	400
Rail Ops - Building A Roof Replacement	-	-	1,200	-	-	-	1,200
Rail Ops - Building A Rollup Door Replacement	-	-	350	350	-	-	700
Rail Ops - Building C Roof Replacement	-	-	-	2,000	-	-	2,000
Rail Ops - Paint Booth Roof Replacement	-	-	-	400	-	-	400
Rail Ops - Paint Booth Blowers	-	-	-	-	175	-	175
Subtotal	\$ -	\$ -	\$ 4,750	\$ 3,150	\$ 175	\$ -	\$ 8,075

Passenger Facilities

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Rail Ops - Elevator Modernization	\$ 2,500	\$ -	\$ 1,500	\$ 350	\$ 2,500	\$ -	\$ 6,850
Rail Ops - Washington Pedestrian Enhancements	1,250	-	-	-	-	-	1,250
Rail Ops - Second Elevator at Stadium Station	-	2,500	-	-	-	-	2,500
Rail Ops - Stadium Station Platform	-	2,500	-	-	-	-	2,500
Rail Ops - Fashion Valley Elevator Replacement	-	-	-	350	2,500	-	2,850
Rail Ops - Morena Linda Vista Shelter Replacement	-	-	-	-	-	650	650
Rail Ops - SDSU Underground Station	-	-	-	-	-	2,200	2,200
Rail Ops - Rio Vista Platform Construction	-	-	3,000	-	-	-	3,000
Subtotal	\$ 3,750	\$ 5,000	\$ 4,500	\$ 700	\$ 5,000	\$ 2,850	\$ 21,800

Rail Infrastructure

This category refers to the structural elements that allow for the movement of MTS's LRVs. These assets are broadly categorized into track elements, guideway elements comprising the track right-of-way, grade crossings, and the electrical infrastructure.

Track

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Rail Ops - Fence Replacement	\$ 400	\$ -	\$ 350	\$ 350	\$ 350	\$ 350	\$ 1,800
Rail Ops - Grade Crossing Replacement	3,850	-	4,243	4,055	4,028	4,710	20,886
Rail Ops - Special Trackwork Replacement	3,835	-	3,300	-	1,750	1,200	10,085
Rail Ops - Beyer Blvd Track and Slope	1,850	-	-	-	-	-	1,850
Rail Ops - Station Trackway Replacement	1,975	-	1,500	100	1,200	1,300	6,075
Rail Ops - Drainage Improvements	800	-	3,750	5,350	4,500	1,000	15,400
Rail Ops - Street Trackage Pavement Replacement	-	-	3,000	1,500	3,000	6,000	13,500
Rail Ops - Rail Replacement	-	-	-	-	250	800	1,050
Rail Ops - OL Improvement Project Phase 1	12,000	-	-	-	-	-	12,000
Rail Ops - OL Improvement Project Phase 2	42,000	-	42,000	-	-	-	84,000
Rail Ops - 65th Street Retaining Wall	1,600	-	-	-	-	-	1,600
Subtotal	\$ 68,310	\$ -	\$ 58,143	\$ 11,355	\$ 15,078	\$ 15,360	\$ 168,246

Maintenance of Wayside (MOW)

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Rail Ops - Signal Replacement	\$ 500	\$ -	\$ 1,500	\$ 2,000	\$ -	\$ 685	\$ 4,685
Rail Ops - A-yard Catenary Replacement	-	1,000	1,000	2,000	-	-	4,000
Rail Ops - Sicas S7 System Wide Replacement - BL	-	-	3,500	2,000	2,000	2,000	9,500
Rail Ops - Sicas S7 System Wide Replacement	-	-	6,000	6,000	6,000	6,000	24,000
Rail Ops - Grade Crossing Warning System	-	-	-	-	300	2,300	2,600
Rail Ops - Substation Replacement	13,000	-	16,000	16,000	16,000	8,000	69,000
Rail Ops - Downtown Parallel Feeder Cable - Phase 1&2	800	-	5,000	5,000	5,000	5,000	20,800
Rail Ops - AC Switchgear Replacement	500	-	-	-	-	-	500
Rail Ops - Overhead Catenary System (OCS)	300	-	-	-	1,500	10,000	11,800
Rail Ops - Substation Siemens 1st Gen Monitoring Devices	1,500	-	5,000	-	-	-	6,500
Rail Ops - Yard Switch Automation	500	-	-	-	-	-	500
Rail Ops - Substation Replacement Design	-	3,000	500	-	-	-	3,500
Subtotal	\$ 17,100	\$ 4,000	\$ 38,500	\$ 33,000	\$ 30,800	\$ 33,985	\$ 157,385

Other Equipment & Installations

This category includes any equipment replacement, including things such as service vehicles for Bus and Rail Operations, maintenance equipment, cleaning equipment, and major rehabilitation components for light rail vehicles.

This category also includes a diverse set of systems that support core operational functions and have software and hardware that need to be refreshed on a periodic basis. All of these systems are critical to transit operations, providing financial information, communications, network connectivity, revenue collection, security, customer service, and safety controls.

Operations

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Bus Ops - Kearney Mesa & Imperial Avenue Division Vacuum Equipment Replacement	\$ 284	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 284
Bus Ops - All Division ZEB Rolling Scaffold	212	-	-	-	-	-	212
Bus Ops - Southbay Maintenance Facility 3620 Building Exhaust Fan Replacement	-	109	-	-	-	-	109
Bus Ops - RTMS & Hastus Upgrades	-	-	750	2,100	-	300	3,150
Rail Ops - HVAC Replacement	200	-	100	100	100	100	600
Rail Ops - Station Cleaning Equipment	150	-	100	100	100	100	550
Rail Ops - System Wide UPS and Batteries Replacement	-	-	-	-	200	-	200
Rail Ops - On-Track Equipment Replacement	625	-	-	-	-	650	1,275
Rail Ops - C Building Crane Upgrade	500	-	5,000	-	-	-	5,500
Admin - Trolley Station Network Communication Equipment	400	-	600	800	950	950	3,700
Admin - Signal & Track Inspection Solution Implementation	275	-	-	-	-	-	275
Admin - Bus Yard Wireless Network Equipment	-	-	400	400	400	400	1,600
Admin - BRT Station Network Replacement	-	-	300	-	-	300	600
Admin - Rail Yard Management System	-	-	290	-	-	-	290
Admin - Bus Operations Paperless Shop Implementation	-	-	225	-	-	-	225
Admin - Davra System Enhancements	-	-	-	600	-	600	1,200
Admin - Southbay and East County Garage Genfare Lane Refresh	-	-	-	-	-	600	600
Admin - Variable Message System Modernization Project	-	-	-	-	-	2,214	2,214
Admin - Miscellaneous Capital	1,064	781	-	2,000	-	2,000	5,845
Subtotal	\$ 3,710	\$ 890	\$ 7,765	\$ 6,100	\$ 1,750	\$ 8,214	\$ 28,429

Administration

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Admin - PRONTO Mobile App Enhancement	\$ 1,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,100
Admin - ERP System Upgrade	1,000	-	1,000	-	-	-	2,000
Admin - Network Communication Equipment Replacement	500	-	600	600	800	950	3,450
Admin - MTS Data Storage Replacement	300	-	540	170	155	45	1,210
Admin - Operation Control Center UPS Replacement	200	-	-	-	-	-	200
Admin - Security Records Management System & Computer Aided Dispatch	402	-	604	-	-	-	1,006
Admin - Comprehensive Regional Parking Solution	-	-	1,000	1,000	-	-	2,000
Admin - MTS Server Refresh	-	-	800	800	800	800	3,200
Admin - Boardroom and Executive Room Upgrade	-	-	-	-	-	500	500
Admin - Fare System Analysis: Refresh vs Replace	-	-	-	-	763	-	763
Admin - System Sign Upgrades	-	-	3,500	3,500	3,500	3,500	14,000
Admin - Trolley Onboard Monitors - Systemwide	-	-	2,000	2,000	-	-	4,000
Admin - Transit Enforcement Office Expansion	-	-	200	2,000	2,000	2,000	6,200
Admin - Copier Replacement	-	-	-	200	340	140	680
Subtotal	\$ 3,502	\$ -	\$ 10,244	\$ 10,270	\$ 8,358	\$ 7,935	\$ 40,309

Other Initiatives

Innovative Clean Transit

This category includes the necessary infrastructure to enable the fueling of the future Zero Emission Bus (ZEB) fleet. It includes things like overhead charging infrastructure at all existing divisions, backup generators, batteries for storage, and solar panels on the overhead gantry. It also includes the cost of a new division to help facilitate the conversion to ZEBs.

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Bus Ops - Southbay Maintenance Facility BEB Charging Phase II - Construction	\$ -	\$ 16,783	\$ 36,783	\$ 20,000	\$ -	\$ -	\$ 73,566
Bus Ops - Southbay Maintenance Facility Backup Power Charging Infrastructure	6,068	-	-	-	-	-	\$ 6,068
Bus Ops - Imperial Avenue Division BEB Charging Infrastructure	2,110	-	-	-	-	-	\$ 2,110
Bus Ops - East County Division BEB Charging Phase I - Design	1,609	-	-	-	-	-	\$ 1,609
Bus Ops - New Transit Facility (CTAC)	-	50,000	50,000	50,000	50,000	40,000	\$ 240,000
Bus Ops - BEB Infrastructure All Divisions	-	-	35,165	2,505	17,051	68,000	\$ 122,721
Subtotal	\$ 9,787	\$ 66,783	\$ 121,948	\$ 72,505	\$ 67,051	\$ 108,000	\$ 446,074

Other Initiatives

This category includes a variety of projects that do not relate to the state of good repair needs of the existing system. It includes projects necessary to expand or enhance the services that MTS provides to the region.

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total	
Admin - Kearny Mesa Transit Center	\$ -	\$ -	\$ 2,000	\$ 10,000	\$ 10,000	\$ -	\$ 22,000	Other Equipment & Installation - Ops
Admin - Transit Amenity Improvement	1,000	-	1,000	1,000	1,000	1,000	5,000	Other Equipment & Installation - Ops
Admin - Bus Stop Shelters	-	-	1,200	1,200	1,300	1,300	5,000	Other Equipment & Installation - Ops
Admin - ADA Bus Stop Improvements	-	-	500	600	700	-	1,800	Other Equipment & Installation - Ops
Admin - El Cajon Transit Center Bus Improvements	-	-	500	500	12,000	-	13,000	Other Equipment & Installation - Ops
Admin - Social Equity Listening Tour	-	-	-	2,000	-	-	2,000	Other Equipment & Installation - Ops
Admin - San Ysidro Transit Center Planning & Design	-	-	15,000	15,000	-	-	30,000	Other Equipment & Installation - Ops
Admin - Southwestern Rapid	-	-	1,000	5,000	6,000	-	12,000	Other Equipment & Installation - Ops
Subtotal	\$ 1,000	\$ -	\$ 21,200	\$ 35,300	\$ 31,000	\$ 2,300	\$ 90,800	

Five-year summary

State of Good Repair Categories	FY 2026 Funded	FY 2026 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Bus Revenue Vehicles	\$ 53,906	\$ -	\$ 70,000	\$ 60,000	\$ 62,000	\$ 70,000	\$ 315,906
Rail Revenue Vehicles	-	-	10,566	10,566	10,566	36,566	68,264
Facility & Construction Projects - Bus	2,276	794	10,380	8,650	5,450	-	27,550
Facility & Construction Projects - Rail	-	-	4,750	3,150	175	-	8,075
Facility & Construction Projects - Pass.	3,750	5,000	4,500	700	5,000	2,850	21,800
Rail Infrastructure - Track	68,310	-	58,143	11,355	15,078	15,360	168,246
Rail Infrastructure - MOW	17,100	4,000	38,500	33,000	30,800	33,985	157,385
Other Equipment & Installation - Ops	3,710	890	7,765	6,100	1,750	8,214	28,429
Other Equipment & Installation - Admin	3,502	-	10,244	10,270	8,358	7,935	40,309
Subtotal	\$ 152,554	\$ 10,684	\$ 214,848	\$ 143,791	\$ 139,177	\$ 174,910	\$ 835,964
Other Initiatives							
Innovative Clean Transit	9,787	66,783	121,948	72,505	67,051	108,000	446,074
Other Initiatives	1,000	-	21,200	35,300	31,000	2,300	90,800
Subtotal	\$ 10,787	\$ 66,783	\$ 143,148	\$ 107,805	\$ 98,051	\$ 110,300	\$ 536,874
Grand Total	\$ 163,341	\$ 77,467	\$ 357,996	\$ 251,596	\$ 237,228	\$ 285,210	\$1,372,838

Glossary of Acronyms:			
Acronym	Description	Acronym	Description
ABS	Automatic Block Signaling	LRV	Light Rail Vehicle or trolley
AHSC	Affordable Housing and Sustainable Communities	OH	Overhead
ARINC	Aeronautical Radio INC	OL	Orange Line
BEB	Battery Electric Bus	RAM	Revenue and Maintenance Building at IAD
CCTV	Closed Circuit Television	RTMS	Regional Transportation Management System
CNG	Compressed Natural Gas	SAP	Enterprise resource planning system used by MTS
CPC	Centralized Protection and Control	SBMF	South Bay Maintenance Facility (Chula Vista)
CPD	Copley Park Division (Kearny Mesa)	SD100	Light Rail Vehicles (2000 Series)
ECD	East County Division (El Cajon)	SD7	Light Rail Vehicles (3000 Series)
HVAC	Heating, Ventilation, and Air Conditioning	SD8	Light Rail Vehicles (4000 Series)
IAD	Imperial Avenue Division (Downtown)	SDIV	San Diego & Imperial Valley (old rail line)
IMT	Imperial Ave Transit Center	SDTI	San Diego Trolley
IVR	Interactive Voice Response	UPS	Uninterruptible Power Supply
KMD	Kearny Mesa Division	VMS	Variable Message Sign
LIDAR	Light Detection and Ranging	ZEB	Zero Emission Bus

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
CAPITAL BUDGET - INDIVIDUAL PROJECT DESCRIPTION FOR FISCAL YEAR 2026 (in 000's)
ATTACHMENT C

The Capital Improvement Program includes improvements and replacement projects related to MTS, SDTC, and SDTI Capital Assets. The projects below are funded with Federal funds where indicated and are matched with the required amount of local funds. The projects listed are implemented by the project manager of the coinciding agency and monitored by MTS administration.

Form ID	Title	FY26 Budget	Federal	State/Local	Other
1000	<u>Bus Ops - Bus Procurement - FY26</u> Fiscal Year 2026 Bus Procurement	53,906	35,774	3,659	14,473
2377	<u>Bus Ops - Southbay Maintenance Facility Backup Power Charging Infrastructure</u> Southbay Maintenance Facility Backup Power Charging Infrastructure	6,068	-	6,068	-
2375	<u>Bus Ops - Imperial Avenue Division BEB Charging Infrastructure</u> Imperial Avenue Division BEB Charging Infrastructure	2,110	-	2,110	-
2386	<u>Bus Ops - Copley Park Division New Admin Building</u> Copley Park Division New Admin Building	1,824	-	1,824	-
2380	<u>Bus Ops - East County Division BEB Charging Phase I - Design</u> East County Division BEB Charging Phase I - Design	1,609	-	1,609	-
2396	<u>Bus Ops - Kearney Mesa & Imperial Avenue Division Roof Hatch Replacements and Fall Protection</u> Kearney Mesa & Imperial Avenue Division Roof Hatch Replacements and Fall Protection	452	-	452	-
2374	<u>Bus Ops - Kearney Mesa & Imperial Avenue Division Vacuum Equipment Replacement</u> Kearney Mesa & Imperial Avenue Division Vacuum Equipment Replacement	284	-	284	-
2373	<u>Bus Ops - All Division ZEB Rolling Scaffold</u> Procurement of ZEB Rolling Scaffold for All Division	212	-	212	-
2354	<u>Rail Ops - Elevator Modernization</u> Elevator Modernization	2,500	-	2,500	-
2387	<u>Rail Ops - Washington Pedestrian Enhancements</u> Washington Pedestrian Enhancements	1,250	-	1,250	-
2384	<u>Rail Ops - HVAC Replacement</u> HVAC Replacement	200	-	200	-
2356	<u>Rail Ops - Station Cleaning Equipment</u> Station Cleaning Equipment Replacement	150	-	150	-
2352	<u>Rail Ops - Fence Replacement</u> Fence Replacement	400	-	400	-
2342	<u>Rail Ops - Signal Replacement</u> Signal Replacement at 12th/Imperial and Commercial Street	500	-	500	-
2330	<u>Rail Ops - Grade Crossing Replacement</u> Grade Crossing Replacement	3,850	-	3,850	-
2332	<u>Rail Ops - Special Trackwork Replacement</u> Special Trackwork Replacement	3,835	-	3,835	-
2397	<u>Rail Ops - Beyer Blvd Track and Slope</u> Beyer Blvd Track and Slope Improvement	1,850	-	1,850	-
2334	<u>Rail Ops - On-Track Equipment Replacement</u> On-Track Equipment Replacement	625	-	625	-
2331	<u>Rail Ops - Station Trackway Replacement</u> Station Trackway Replacement	1,975	-	1,975	-
2329	<u>Rail Ops - Drainage Improvements</u> Drainage Improvements	800	-	800	-
2337	<u>Rail Ops - Substation Replacement</u>	13,000	7,439	5,561	-

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
CAPITAL BUDGET - INDIVIDUAL PROJECT DESCRIPTION FOR FISCAL YEAR 2026 (in 000's)
ATTACHMENT C

The Capital Improvement Program includes improvements and replacement projects related to MTS, SDTC, and SDTI Capital Assets. The projects below are funded with Federal funds where indicated and are matched with the required amount of local funds. The projects listed are implemented by the project manager of the coinciding agency and monitored by MTS administration.

Form ID	Title	FY26 Budget	Federal	State/Local	Other
2340	Substation Replacement <u>Rail Ops - OL Improvement Project Phase 1</u> Orange Line Improvement Project Phase 1	12,000	-	12,000	-
2341	<u>Rail Ops - OL Improvement Project Phase 2</u> Orange Line Improvement Project Phase 2	42,000	-	-	42,000
2345	<u>Rail Ops - Downtown Parallel Feeder Cable - Phase 1&2</u> Downtown Parallel Feeder Cable Replacement - Phase 1&2	800	-	800	-
1002	<u>Rail Ops - AC Switchgear Replacement</u> AC Switchgear Replacement	500	-	500	-
2346	<u>Rail Ops - Overhead Catenary System (OCS)</u> Overhead Catenary System (OCS) Upgrade	300	-	300	-
2339	<u>Rail Ops - Substation Siemens 1st Gen Monitoring Devices</u> Substation Siemens 1st Gen Monitoring Devices	1,500	-	1,500	-
2351	<u>Rail Ops - Yard Switch Automation</u> Yard Switch Automation	500	-	500	-
2447	<u>Rail Ops - C Building Crane Upgrade</u> C Building Crane Upgrade	500	-	500	-
1003	<u>Rail Ops - 65th Street Retaining Wall</u> 65th Street Retaining Wall Improvement	1,600	-	1,600	-
2327	<u>Admin - PRONTO Mobile App Enhancement</u> PRONTO Mobile App Enhancement	1,100	-	1,100	-
2420	<u>Admin - ERP System Upgrade</u> ERP System Upgrade	1,000	-	1,000	-
2423	<u>Admin - Network Communication Equipment Replacement</u> Network Communication Equipment Replacement	500	-	500	-
2424	<u>Admin - Trolley Station Network Communication Equipment</u> Trolley Station Network Communication Equipment Replacement	400	-	400	-
2411	<u>Admin - MTS Data Storage Replacement</u> MTS Data Storage Replacement	300	-	300	-
2406	<u>Admin - Signal & Track Inspection Solution Implementation</u> Signal & Track Inspection Solution Implementation	275	-	275	-
2422	<u>Admin - Operation Control Center UPS Replacement</u> Operation Control Center UPS Replacement	200	-	200	-
2408	<u>Admin - Security Records Management System & Computer Aided Dispatch</u> Security Records Management System & Computer Aided Dispatch	402	-	402	-
1004	<u>Admin - Transit Amenity Improvement</u> Transit Amenity Improvement	1,000	-	1,000	-
1005	<u>Admin - Miscellaneous Capital</u> Miscellaneous Capital	1,064	-	1,064	-
	Totals	163,341	43,213	63,654	56,473

**San Diego Metropolitan Transit System
Funding Compared to Capital Needs (\$000s)
Fiscal Years 2026-2030**

	Proposed FY26	Projected FY27	Projected FY28	Projected FY29	Projected FY30	Total FY26 to FY30
Total Revenues						
Recurring Dedicated CIP Revenues	\$ 205,107	\$ 204,601	\$ 208,067	\$ 209,533	\$ 210,998	\$ 1,038,305
Other Non Recurring Revenues	59,930	20,000	9,685	9,685	-	99,302
Total Capital Revenues	\$ 265,037	\$ 224,601	\$ 217,752	\$ 219,218	\$ 210,998	\$ 1,137,607
Less: "Off the Top" Expenses						
SANDAG Planning Studies	\$ (297)	\$ (303)	\$ (309)	\$ (316)	\$ (322)	\$ (1,546)
Funding Shift to Operations	(25,000)	(35,000)	(50,000)			(110,000)
ADA Operations	(6,400)	(6,397)	(6,395)	(6,392)	(6,389)	(31,973)
Preventative Maintenance	(70,000)	(72,000)	(74,000)	(76,000)	(78,000)	(370,000)
Total "Off The Top" Expenses	\$ (101,696)	\$ (113,700)	\$ (130,704)	\$ (82,708)	\$ (84,712)	\$ (513,519)
Adjusted Available CIP Revenues	\$ 163,341	\$ 110,901	\$ 87,049	\$ 136,511	\$ 126,286	\$ 624,088
Project Needs						
State of Good Repair	\$ 164,238	\$ 236,048	\$ 179,091	\$ 170,177	\$ 177,210	\$ 926,764
Other Initiatives	76,570	121,948	72,505	67,051	108,000	446,074
Total Project Needs	\$ 240,808	\$ 357,996	\$ 251,596	\$ 237,228	\$ 285,210	\$ 1,372,838
Total Deficit	\$ (77,467)	\$ (247,094)	\$ (164,547)	\$ (100,718)	\$ (158,924)	\$ (748,750)
% of Funding / Needs	67.8%	31.0%	34.6%	57.5%	44.3%	45.5%
Accumulated Deficit	\$ (77,467)	\$ (324,562)	\$ (489,109)	\$ (589,827)	\$ (748,750)	



**Metropolitan
Transit
System**

MEMORANDUM

DATE: February 20, 2025

TO: Eric Cheng, Transit Asset Management (TAM) Program Manager

FROM: Brent Boyd, Director of Planning & Scheduling

SUBJECT: FY 2026 CAPITAL IMPROVEMENT PROGRAM TITLE VI/EJ ANALYSIS

FTA guidance on compliance with Title VI and Environmental Justice requirements was issued in 2012. Given the requirement to analyze projects and proposals for burdens, benefits, and disproportionate impacts for low-income and minority communities, the analysis detailed below was made of the projects proposed for funding in MTS' FY 2026 Capital Improvement Program (CIP). Please keep this information for your files.

ANALYSIS METHODOLOGY

MTS' Title VI analysis for an annual CIP is conducted as a whole to determine if the capital investment strategy introduces a disparate impact or disproportionate burden throughout the MTS service area relative to the average population value for the MTS service area, consistent with the methodology approved by the MTS Board of Directors for service change analyses. Population statistics are drawn from the most recent broad-based federal population survey with relevant data available, in this instance the 2021 American Community Survey (ACS) five-year sample.

A disparate impact is found when there is a difference in adverse effects between minority and non-minority populations such that: the adversely affected population is 10 percent or greater minority by percentage of total population than the total MTS service area average; or, the benefitting population is 10 percent or more non-minority (by percentage of total MTS service area population) than the total MTS service area average. For example, if the total MTS service area average is 55% minority, then a proposed capital improvement program that adversely affects a population that is 65% minority or greater would be defined as a disparate impact. If MTS chooses to implement a capital improvement program despite a finding of a disparate impact, MTS may only do so if there is a substantial justification for the program in its current form, and there are no alternatives that would have a less disparate impact and still accomplish the goals of the program.

A disproportionate burden is found when there is a difference in adverse effects between low-income and non-low-income populations such that: the adversely affected population is 10 percent or more "low-income" (by percentage of total MTS service area population) than the total MTS service area average; or, the benefitting population is 10 percent or greater "non-low-income" by percentage of total population than the total MTS service area average. (For the purpose of Title VI equity analyses, MTS considers a person low-income if they live in a household with income under 200% of the federal



poverty rate.) For example, if the total MTS service area average is 20% “low-income,” then a proposed capital improvement program that benefits a population that is 90% or greater “non-low-income” would be defined as a disproportionate burden. If MTS chooses to implement a capital investment program despite a finding of disproportionate burden, MTS may only do so if steps are taken to avoid or minimize impacts where practicable, and MTS provides a description of alternatives available to affected low-income populations.

REGIONAL BENEFIT/BURDEN PROJECTS

Of all of the projects proposed for funding, those in Table 1 were determined to have a regional impact that would not be specific to any one or few locations in our jurisdiction. These are primarily vehicle replacements or rehabilitation, vehicle equipment, system-wide amenities, fare system, and information technology projects. Since the vehicles are distributed throughout MTS’ service area, and the technology projects are deployed system-wide, there was no further analysis of these projects for the purpose of this Title VI/EJ evaluation. The Transit Amenity Improvement Project is meant to improve transit amenities system-wide.

Table 1. Regional Benefit/Burden Projects

	Form ID	Division	Project Name	Location	FY 2026 Funded
1	1000	SDTC	Bus Procurement - FY26		\$53,905,836
2	1005	MTS Admin	Transit Amenity Improvement		\$1,000,000
3	2327	MTS Admin	PRONTO Mobile App Enhancement		\$1,100,000
4	2332	SDTI	Special Trackwork Replacement		\$3,835,000
5	2334	SDTI	On-Track Equipment Replacement		\$625,000
6	2342	SDTI	Signal Replacement		\$500,000
7	2345	SDTI	Downtown Parallel Feeder Cable - Phase 1&2		\$800,000
8	2356	SDTI	Station Cleaning Equipment		\$150,000
9	2406	MTS Admin	Signal & Track Inspection Solution Implementation		\$275,000
10	2420	MTS Admin	ERP System Upgrade		\$1,000,000
11	2423	MTS Admin	Network Communication Equipment Replacement		\$500,000

Additionally, MTS maintains a Miscellaneous Capital budget for emergency and unforeseen needs that may arise during the year. As details for any projects funded by Miscellaneous Capital are identified, MTS will conduct any required equity analyses, including conducting appropriate inclusive public engagement to ensure the voices of populations protected by Title VI and associated regulations are heard.

Table 1A. Future Projects with No Specific Site Identified

	Form ID	Division	Project Name	Location	FY 2026 Funded
1	1006	MTS Admin	Miscellaneous Capital		\$1,063,659

REPAIR/REPLACE PROJECTS AT EXISTING MTS FACILITIES

The remaining projects are mostly maintenance projects and equipment for MTS facilities, infrastructure, or right-of-way. They repair or replace capital inventory that has reached the end of its useful life. The projects in Table 2 would occur at existing MTS bus or rail operating divisions or facilities, in areas inaccessible to the general public. Therefore, no benefits or burdens for the community or riders were identified.

Table 2. Repair/Replace Projects at Existing MTS Facilities

	Form ID	Division	Project Name	Location	FY 2026 Funded
1	2346	SDTI	Overhead Catenary System (OCS)	SDTI	\$300,000
2	2351	SDTI	Yard Switch Automation	SDTI	\$500,000
3	2373	SDTC	All Division ZEB Rolling Scaffold	All Bus Divisions	\$212,000
4	2374	SDTC	Kearny Mesa & Imperial Avenue Division Vacuum Equipment Replacement	IAD/KMD	\$284,000
5	2375	SDTC	Imperial Avenue Division BEB Charging Infrastructure	IAD	\$2,110,000
6	2377	SDTC	South Bay Maintenance Facility Backup Power Charging Infrastructure	SBD	\$6,068,000
7	2380	SDTC	East County Division BEB Charging Phase I - Design	ECD	\$1,609,000
8	2384	SDTI	HVAC Replacement	SDTI	\$200,000
9	2386	SDTC	Copley Park Division New Admin Building	CPD	\$1,824,000
10	2396	SDTC	Kearny Mesa & Imperial Avenue Division Roof Hatch Replacements and Fall Protection	IAD/KMD	\$452,000
11	2408	MTS Admin	Security Records Management System & Computer Aided Dispatch	MILLS	\$402,400
12	2411	MTS Admin	MTS Data Storage Replacement	MILLS	\$300,000
13	2422	MTS Admin	Operation Control Center UPS Replacement	SDTI	\$200,000
14	2447	SDTI	C Building Crane Upgrade	SDTI	\$500,000

IAD=Imperial Avenue Division; KMD=Kearny Mesa Division; SBD=South Bay Division; ECD=East County Division; CPD=Copley Park Division; SDTI=San Diego Trolley Facilities; MILLS = Administrative Headquarters

EXTERNAL REPAIR/REPLACE PROJECTS WITH NEGLIGIBLE IMPACTS

The projects in Table 3 are repairs or replacements of existing infrastructure or right-of-way, but occur throughout the community beyond our operating division facilities. The completion of these projects will enhance reliability and extend the life of the capital assets, but the projects themselves will have little or no direct impact on the community or riders, other than minor, temporary construction work. These are primarily maintenance-of-way/state-of-good repair projects and information technology upgrades. Therefore, they have also been identified as having no specific and substantive burden or benefit.

Table 3. External Repair/Replace Projects with Negligible Impacts

	Form ID	Division	Project Name	Location	FY 2026 Funded
1	1002	SDTI	AC Switchgear Replacement	43 rd Street TPSS	\$500,000
2	2337	SDTI	Substation Replacement	A Yard, C Yard, Sweetwater, Dairy Mart, and Fletcher Parkway TPSS	\$13,000,000
3	2339	SDTI	Substation Siemens 1st Gen Monitoring Devices	Grantville, SDSU Tunnel, Baltimore Junction TPSS	\$1,500,000
4	2424	MTS Admin	Trolley Station Network Communication Equipment	All Trolley Stations	\$400,000

EXTERNAL REPAIR/REPLACE PROJECTS WITH NET BENEFIT

The proposed FY 2026 CIP projects in Table 4 are determined to be a **net benefit** to the communities in which they are located, as they improve the accessibility, condition, security, and/or aesthetics of facilities or areas commonly used by or accessible to the public. A map of these projects is shown in Attachment A.

RESULTS

An analysis of the projects with a perceived net benefit listed in Table 4 below was conducted using Geographic Information Systems (GIS) and census block group data. All projects were mapped to determine how the percentages and populations of low-income and minority communities affected by the proposed CIP projects compared to percentages and populations of low-income and minority communities in the entire MTS jurisdiction.

Data for the census block groups in which the proposed CIP projects are located was compared to data for the entire MTS jurisdiction. Comparisons were made for both the number of census block groups and the population of those census block groups. The low-income and minority percentages for the affected census block groups were compared to the percentages for the entire MTS jurisdiction. The maps and datasheets for the analyses are attached.

The results showed a benefit for a larger percentage of minority and low-income populations than for the overall MTS jurisdiction. While only 54% of census tracts that benefited had higher minority population than the rest of the service area, compared to 59% overall, the three other statistics showed net positive benefits to low-income and minority populations:

- Minority Population: 68.9% (compared to system-wide average of 57.6%)
- Low-Income Population: 71.4% (compared to system-wide average of 39%)
- Low-Income Census Tracts: 35.3% (compared to system-wide average of 25.1%)

Since all projects were determined to either have no substantive locational impact or to have a net positive impact, there were no burdens found for low-income or minority populations, nor any disproportionate benefit for non-minority or non-low-income populations.

Table 4. External Repair/Replace Projects with a Net Benefit

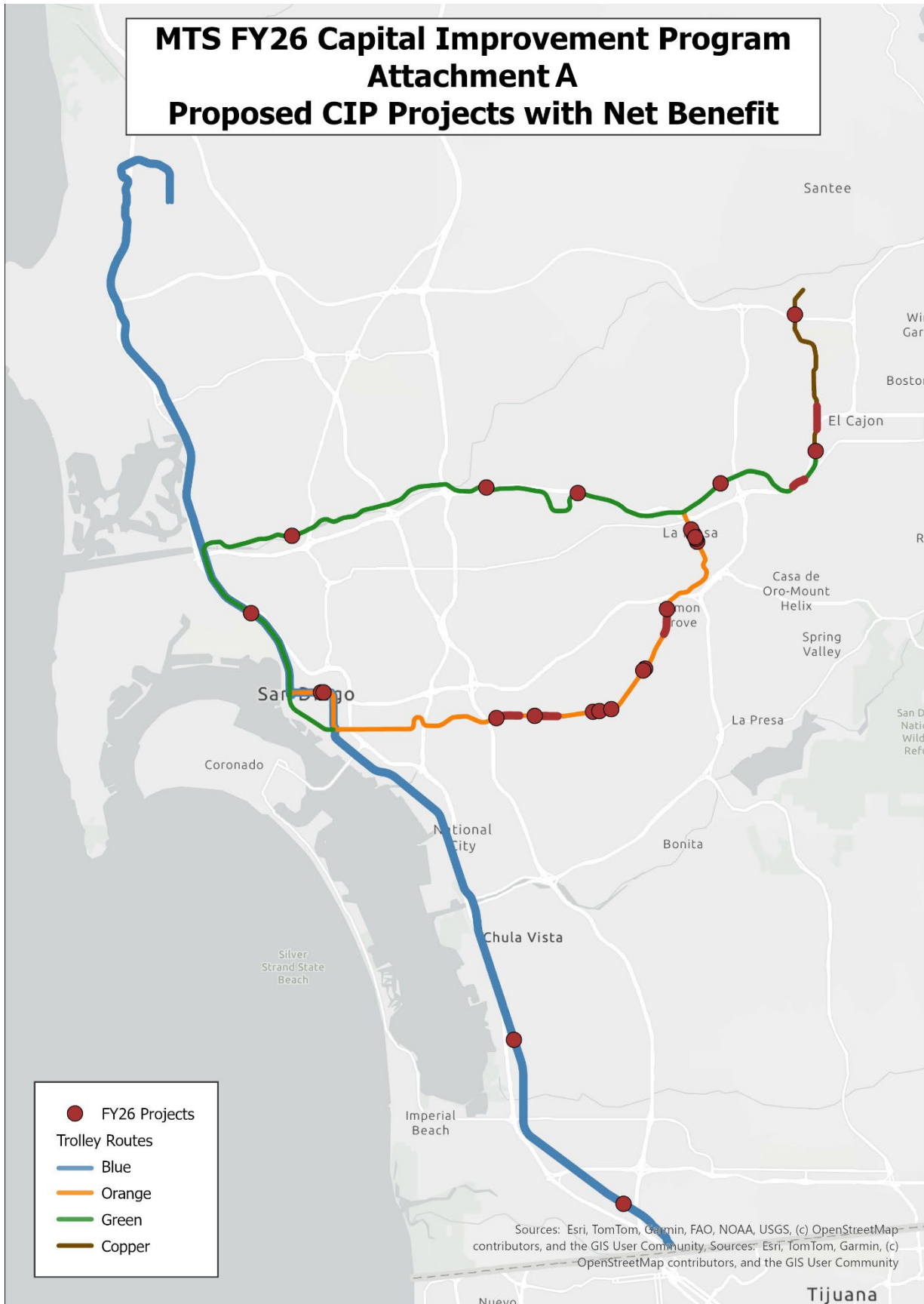
	Form ID	Division	Project Name	Location	FY 2026 Funded
1	1003	SDTI	65th Street Retaining Wall	6500 Imperial Avenue San Diego, CA	\$1,600,000
2	2329	SDTI	Drainage Improvements	Mass Ave @ Orange Line & Alvarado Creek @ Green Line	\$800,000
3	2330	SDTI	Grade Crossing Replacement	Downtown San Diego: 7 th & C, 8 th & C Chula Vista: Naples @ Blue Line El Cajon: Airport Vista @ Copper Line	\$3,850,000
4	2331	SDTI	Station Trackway Replacement	47 th Street Station	\$1,975,000
5	2340	SDTI	OL Improvement Project Phase 1	Orange Line: 54 th Street, 66 th Street, and 68 th Street grade crossings	\$12,000,000
6	2341	SDTI	OL Improvement Project Phase 2	Orange Line: <u>Grade crossing replacements:</u> University Avenue Allison Avenue La Mesa Blvd Lemon Avenue Broadway (LG) <u>Station track replacement with ped crossings:</u> Mass Avenue La Mesa Blvd El Cajon Transit Center	\$42,000,000
7	2352	SDTI	Fence Replacement	Orange Line: 47 th to Euclid, 54 th to Merlin; and Palm to Broadway Orange/Green Lines: Grossmont Summit & along Marshall Avenue	\$400,000
8	2354	SDTI	Elevator Modernization	Fashion Valley, Grossmont, and Grantville Stations	\$2,500,000
9	2387	SDTI	Washington Pedestrian Enhancements	Washington Street Station	\$1,250,000
10	2397	SDTI	Beyer Blvd Track and Slope	South of Beyer Blvd Station; Blue Line	\$1,850,000

Attachments: Analysis of Proposed CIP External Repair/Replace Projects with a Net Benefit

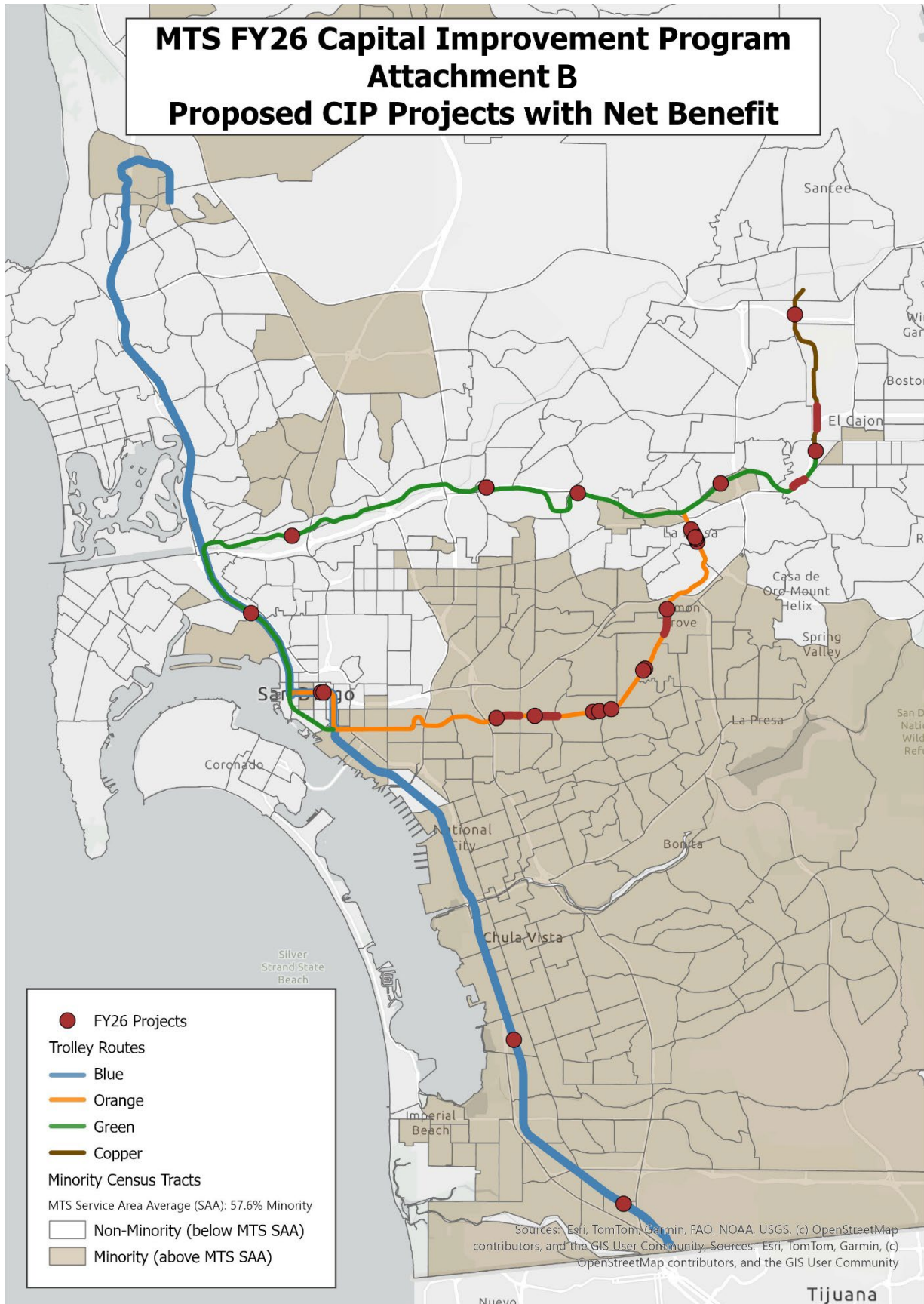
- Attachment A: Map of Projects
- Attachment B: Map of Projects Overlaid with Minority Census Tracts
- Attachment C: Map of Projects Overlaid with Low-Income Census Tracts
- Attachment D: Statistical Analysis for Projects

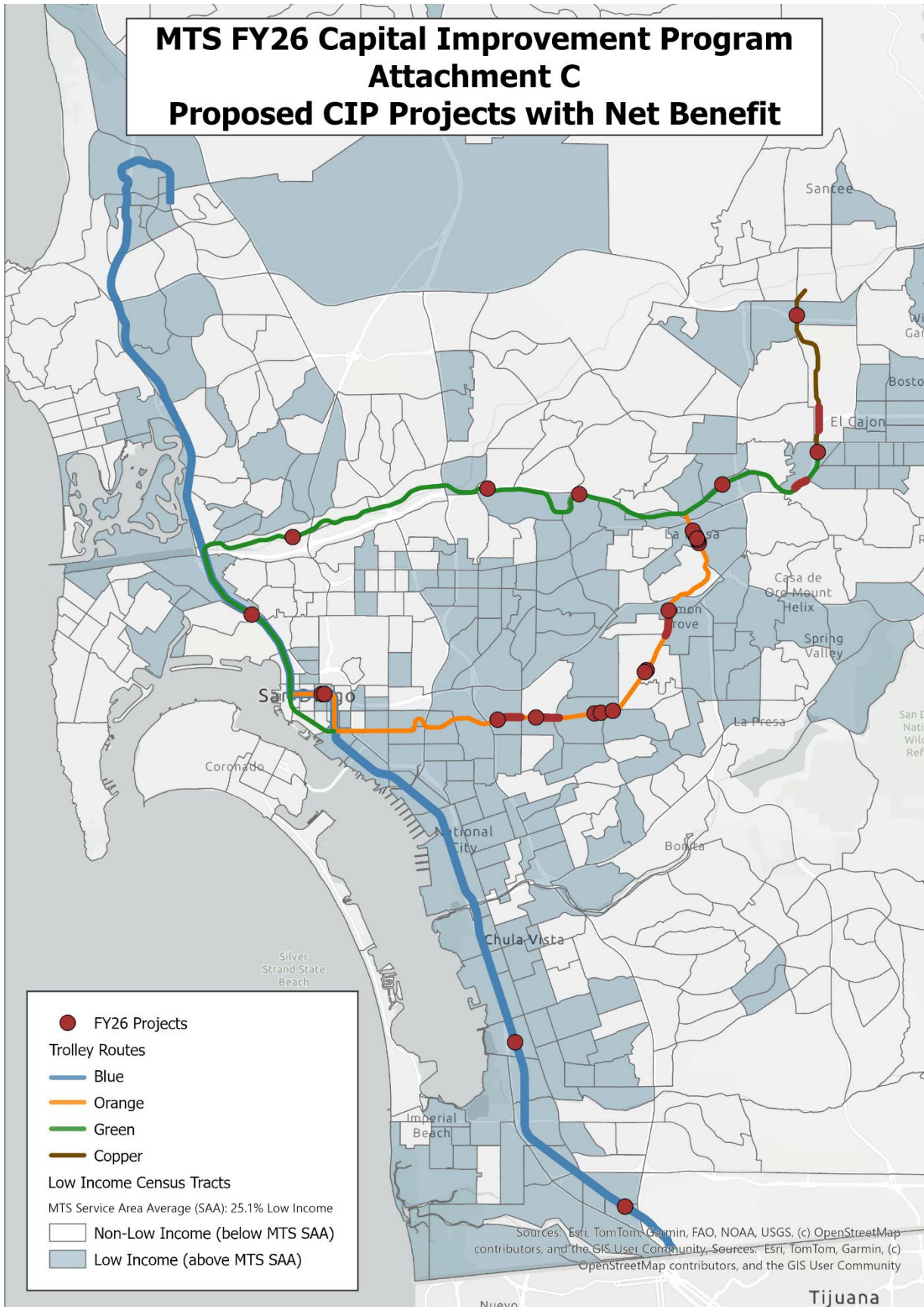
cc: Sharon Cooney, Mike Thompson

MTS FY26 Capital Improvement Program Attachment A Proposed CIP Projects with Net Benefit



MTS FY26 Capital Improvement Program Attachment B Proposed CIP Projects with Net Benefit





Attachment D: Proposed CIP Projects with a Net Benefit

MTS FY 26 Capital Improvement Program

FormID	Project Name	Total Census Tract	Tract Population - Income Surveys	Low-Income Population	% Low Income	# of Tracts with Higher Percentage of Low-Income Than SAA	% of Tracts with Higher Percentage of Low-Income Than SAA	Tract Population - Race & Ethnicity Surveys	Minority Population	% Minority	# of Tracts with Higher Percentage of Minority Than SAA	% of Tracts with Higher Percentage of Minority Than SAA
-	MTS Service Area Average (SAA)	577	2,370,598	594,013	25.1%	217	39.00%	2,431,024	1,399,454	57.60%	341	59.1%
2354	Elevator Modernization	3	9,123	1,978	21.7%	1	33.33%	9,202	4,563	49.59%	1	33.3%
2387	Washington Pedestrian Enhancements	1	3,577	1,476	41.3%	1	100.00%	3,588	1,784	49.72%	0	0.0%
2330	Grade Crossing Replacement	4	13,035	4,287	32.9%	4	100.00%	13,144	6,891	52.43%	1	25.0%
2397	Beyer Blvd Track and Slope	1	5,342	2,899	54.3%	1	100.00%	5,372	5,293	98.53%	1	100.0%
2331	Station Trackway Replacement	2	7,918	4,648	58.7%	2	100.00%	7,918	7,317	92.41%	2	100.0%
2340	OL Improvement Project Phase 1	5	26,256	9,050	34.5%	4	80.00%	26,741	24,555	91.83%	5	100.0%
2341	OL Improvement Project Phase 2	8	34,759	9,736	28.0%	5	62.50%	35,153	20,571	58.52%	3	37.5%
1003	65th Street Retaining Wall	2	9,320	3,560	38.2%	2	100.00%	9,356	8,712	93.12%	2	100.0%
2329	Drainage Improvements	3	17,538	6,883	39.2%	1	33.33%	20,104	11,454	56.97%	2	66.7%
2352	Fence Replacement	9	39,311	14,656	37.3%	6	66.67%	39,862	31,914	80.06%	7	77.8%
FY26 Program Total		28	121,017	42,774	35.3%	20	71.43%	124,606	84,589	67.89%	15	53.6%

FY 2026 Capital Improvement Program (CIP)

Executive Committee

Capital Funding Levels - Proposed FY 2026

- Recurring revenues
 - Revenues shared between capital and operations
 - Federal formula revenues
 - Transportation Development Act (TDA)
 - Funding shifts to Operations: \$25M in FY26, \$35M in FY27, \$50M in FY28
 - State Transit Assistance (STA)
 - Low Carbon Transit Operations Program (LCTOP)
- Nonrecurring revenues
 - Revenues that are one-time in nature, including competitive grant programs
 - Transit Intercity Rail Capital Program (TIRCP)
 - Senate Bill 125 (SB 125)
 - TIRCP formula funding over two years potentially
 - Other one-time funding, prior year carryovers, and transfers from closed projects

Capital Funding Levels – Proposed FY 2026 (\$000s)

Funding Description	Amount
Gross Federal Funding (Sections 5307, 5337, 5339)	\$ 115,707
Preventive Maintenance in Operating Budget	<u>(76,400)</u>
Net Federal Funding in CIP	\$ 39,307
Transportation Development Act (TDA)	\$ 52,726
Funding Shift to Operations	<u>(25,000)</u>
Net TDA Funding in CIP	27,726
California State Transit Assistance (STA)	22,200
California STA State of Good Repair	5,816
California Cap and Trade Formula (LCTOP)	8,658
* California Cap and Trade Discretionary (TIRCP)	42,000
* Other	17,634
Available Funding for Capital Program	\$ 163,341
* Non-recurring funding totals:	\$ 59,634

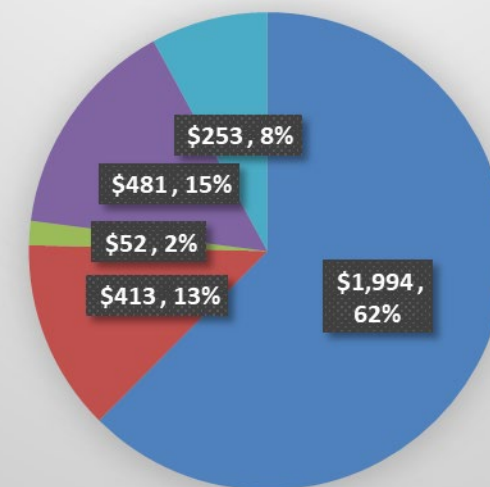
Other funding includes IRS alternative fuel credits, transfers from closed projects, carryovers, and other discretionary grant programs

Development of the FY 2026 CIP: Guiding Principles

- Board Policy 65 - Transit Asset Management
 - MTS is committed to effectively manage its transit assets and maintain its system in a State of Good Repair (SGR) to support safe, efficient, and reliable transit services across the organization
 - MTS required to comply with applicable maintenance regulations of the Federal Transit Administration, Federal Railroad Administration, and the California Public Utilities Commission
 - Base capital project prioritization and other asset management decisions on asset criticality, condition, performance, available funding, safety considerations, and on the evaluation of alternatives that consider full lifecycle benefits, costs, and risks

20 Year SGR need
\$3.2B in total
(Average of \$160M/yr)

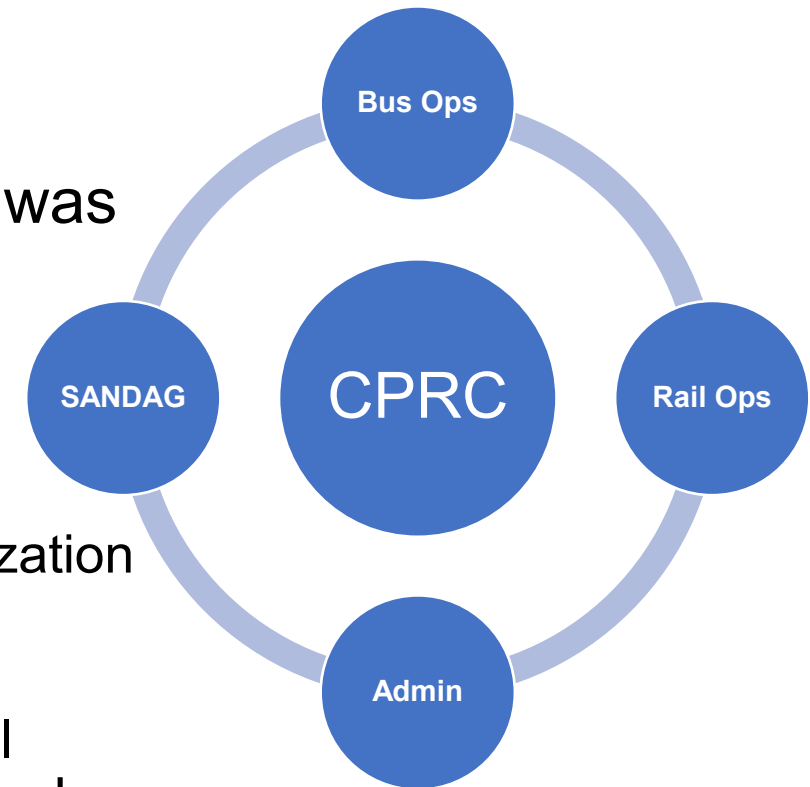
Need by Category (\$M)



- Bus Revenue Vehicles
- Rail Revenue Vehicles
- Facility & Construction Projects
- Rail Infrastructure
- Other Equipment & Installation

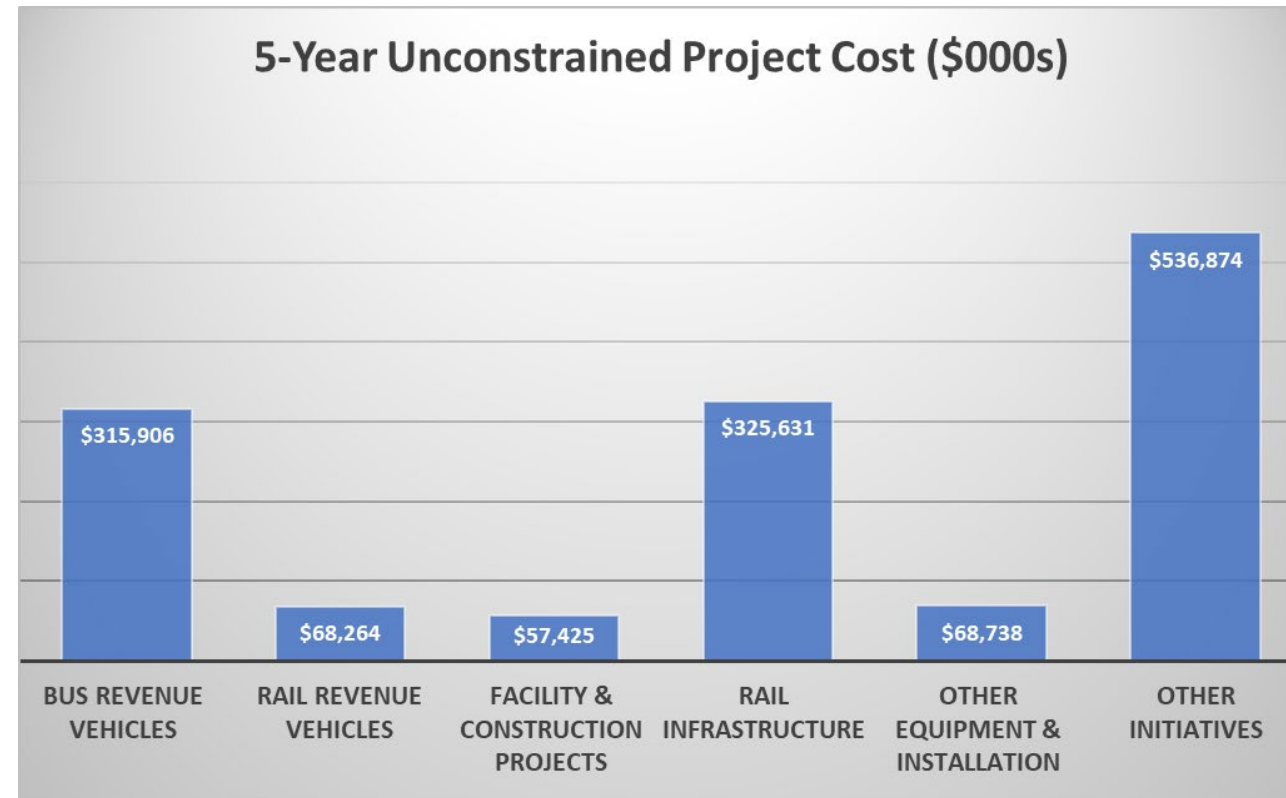
Development of the FY 2026 CIP

- Process began in September 2024 with call for projects
 - Each department submits:
 - Update to their departmental **20-year CIP forecast**
 - Project requests for the next 5 fiscal years
 - Departmental prioritization
 - Consolidated project list is prepared
- Capital Projects Review Committee (CPRC) meeting was held to discuss the priority project list
 - Each Committee member responsible for discussing their prioritized capital requests for the group it serves
 - Projects with safety and/or operational needs are priority 1
 - The Committee reviewed and the CEO approved the prioritization of the capital requests
 - All priority 1 projects were funded
 - The project list is also subject to an analysis based on social equity principles and there was no disproportionate impact on Low Income/Minority populations (Title VI)



FY 2026-30 CIP – Unconstrained Project List (\$000s)

- 5-year unconstrained project list
 - Totals need of \$1.4B
 - Summary by category in the table ->
 - Ongoing state of good repair requirements
 - Makes up \$836M (61%) of overall need
 - \$384M for Revenue Vehicles
 - Including the transition plan to ZEBs
 - Other initiatives of \$537M include:
 - ZEB charging infrastructure at all five bus facilities
 - Clean Transit Advancement Campus - new bus maintenance facility
 - Future Transit Center projects



Capital Project Summary

Proposed Fiscal Year 2026 (\$000s)

- \$240.8M in total requests
 - 49 total projects
- \$163.3M in available funding
 - Able to fund 68% of requests
- Projects funded
 - 93% of funding towards State of Good Repair
 - 40 projects funded
 - Listed in Attachment B
 - Short project descriptions also included in Attachment C

Capital Project Categories	Funding (\$000s)
Bus Revenue Vehicles	\$ 53,906
Facility & Construction Projects	6,026
Rail Infrastructure	85,410
Other Equipment & Installation	7,212
Other Initiatives	10,787
Grand Total	\$ 163,341

FY 2026 CIP Project Highlights – Bus Revenue Vehicles

- Bus Fleet Replacement
 - Fleet Plan for scheduled replacement
 - Importance of fleet replacement to keep operations efficient and cost effective
 - Annual goal = Buses in Fleet by type divided by the useful life
- Vehicles in fleet:

	Buses in Fleet	Useful Life (Years)	Cost per Bus (\$000s)
40 ft.	439	12	\$ 796
40 ft. BEB	26	12	\$ 1,158
60 ft. Artics	130	12	\$ 1,311
60 ft. Artics BEB	13	12	\$ 1,884
Commuter Express	24	12	\$ 1,095
Minibuses	40	7	\$ 342
ADA Minibuses	107	5	\$ 210
Total	779		



FY 2026 CIP Project Highlights – Bus Revenue Vehicles

- Fleet Replacement Funding
 - \$53.9M funded for FY 2026
 - Goal is to fund similar amount each year to smooth out years with larger purchases
 - Plan to purchase:
 - 50 40-ft buses
 - With Board-approved utilization of ZEB credits for FY26, CNG vehicle procurement
- Funding by year (\$000s):

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Bus Ops - Bus Procurement - FY25	\$ 53,906	\$ -	\$ 70,000	\$ 60,000	\$ 62,000	\$ 70,000	\$ 315,906
Subtotal	\$ 53,906	\$ -	\$ 70,000	\$ 60,000	\$ 62,000	\$ 70,000	\$ 315,906

FY 2026 CIP Project Highlights – Rail Revenue Vehicles

- Light Rail Vehicle (LRV) Fleet Replacement
 - 168 vehicles in fleet
 - 25-year useful life
 - Will receive last new SD10s in 2025
 - Replacing the SD100 LRVs



Light Rail Vehicles by Series				
Series	#s	Count	In Service	Replacement
SD7	3000s	11	2004	2029-2034
SD8	4000s	65	2011-2013	2036-2038
SD9	5001-5045	45	2019-2020	2044-2045
SD10	5046-5092	47	2021-2025	2046-2050

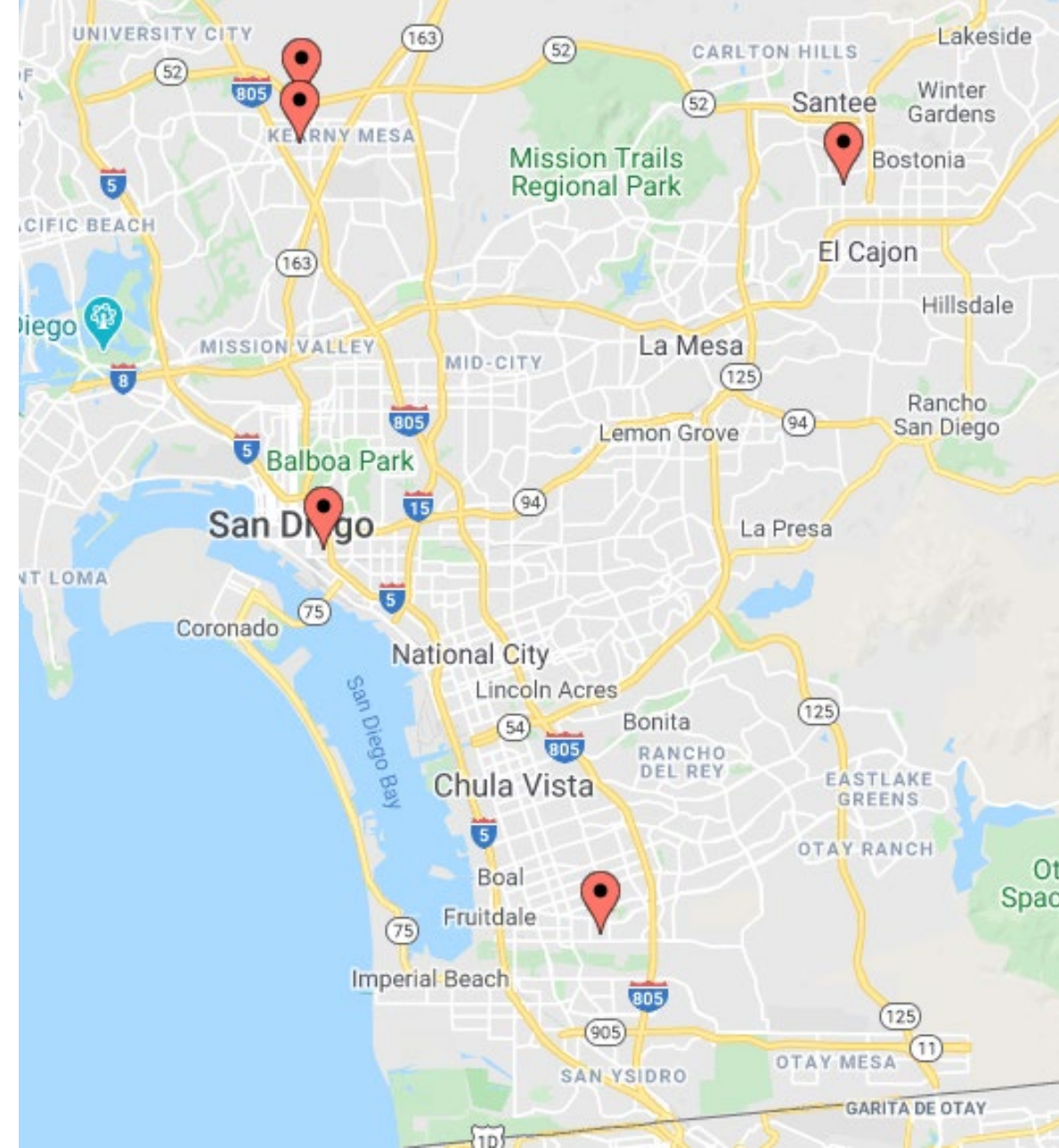
FY 2025 CIP Project Highlights – Rail Revenue Vehicles

- Fleet Replacement Funding
 - Completing SD100 Replacement
 - Funded from 2015-2025
 - \$211M in total, over \$4M per LRV
 - No additional funding required in FY 2026
 - Need to begin saving for SD7 replacements in FY 2027
 - Within 5-year period also need to begin saving for the SD8 replacements
- LRV funding by year (\$000s):

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Rail Ops - SD7 LRV Replacement	\$ -	\$ -	\$ 10,566	\$ 10,566	\$ 10,566	\$ 10,566	\$ 42,264
Rail Ops - SD8 LRV Replacement	-	-	-	-	-	26,000	26,000
Subtotal	\$ -	\$ -	\$ 10,566	\$ 10,566	\$ 10,566	\$ 36,566	\$ 68,264

FY 2026 CIP – Facility & Construction Projects

- Operating Facilities
 - Each facility includes maintenance building, admin building(s), fueling facilities, yard, etc.
 - Trolley yard & Buildings A, B & C
 - Imperial Avenue Division
 - Kearny Mesa Division
 - South Bay Bus Maintenance Facility
 - East County Bus Maintenance Facility
 - Copley Park Division
 - Passenger Facilities
 - 68 major passenger facilities
 - Each Transit Center/Station may include amenities such as shelters, benches, parking lots and elevators



FY 2026 CIP - Facility & Construction Projects

- 8 projects submitted for FY 2026
 - 4 projects funded, 4 not funded
 - \$6.0M funding allocated in total
 - Example pictured: Washington Street Pedestrian Enhancements
- Full project lists in Attachment B



• Funding by year (\$000s):

State of Good Repair Categories	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Facility & Construction Projects - Bus	\$ 2,276	\$ 794	\$ 10,380	\$ 8,650	\$ 5,450	\$ -	\$ 27,550
Facility & Construction Projects - Rail	-	-	4,750	3,150	175	-	8,075
Facility & Construction Projects - Pass.	3,750	5,000	4,500	700	5,000	2,850	21,800
Subtotal	\$ 6,026	\$ 5,794	\$ 19,630	\$ 12,500	\$ 10,625	\$ 2,850	\$ 57,425

FY 2026 CIP - Rail Infrastructure Projects

- Large capital investment in Rail Infrastructure
 - Nearly \$5B in total system assets
 - Requires significant upkeep
- Rail Infrastructure projects
 - Track - directly related to the physical rail
 - Rail and ties
 - Special track work (crossovers, diamonds, frogs, etc.)
 - Grade Crossings (Frances St pictures to the right)
 - Maintenance of Wayside (MOW)
 - Bridges / Elevated track
 - Drainage / Track right of way
 - Electrification - Catenary and Substations
 - Signaling



FY 2026 CIP - Rail Infrastructure Projects

- 18 projects submitted for FY 2026
 - 16 projects funded, 2 not funded
 - \$85.4M total
 - Includes \$64.0M towards the Orange Line Improvement Projects
 - Example pictured: Substation replacement
 - Full project lists in Attachment B

- Funding by year (\$000s):



State of Good Repair Categories	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Rail Infrastructure - Track	\$ 68,310	\$ -	\$ 58,143	\$ 11,355	\$ 15,078	\$ 15,360	\$ 168,246
Rail Infrastructure - MOW	17,100	4,000	38,500	33,000	30,800	33,985	157,385
Subtotal	\$ 85,410	\$ 4,000	\$ 96,643	\$ 44,355	\$ 45,878	\$ 49,345	\$ 325,631

FY 2026 CIP - Other Equipment & Installation Projects

- 10 projects submitted for FY 2026
 - Maintenance/cleaning equipment for Bus and Rail
 - IT infrastructure/systems/network
 - Example pictured: Data Storage Replacements
 - 9 funded, 1 not funded
 - Full project lists in Attachment B
- Totals by year (\$000s):



State of Good Repair Categories	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Other Equipment & Installation - Ops	\$ 3,710	\$ 890	\$ 7,765	\$ 6,100	\$ 1,750	\$ 8,214	\$ 28,429
Other Equipment & Installation - Admin	3,502	-	10,244	10,270	8,358	7,935	40,309
Subtotal	\$ 7,212	\$ 890	\$ 18,009	\$ 16,370	\$ 10,108	\$ 16,149	\$ 68,738

FY 2026 CIP – Five Year Forecast - SGR (\$000s)

State of Good Repair Categories	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Bus Revenue Vehicles	\$ 53,906	\$ -	\$ 70,000	\$ 60,000	\$ 62,000	\$ 70,000	\$ 315,906
Rail Revenue Vehicles	-	-	10,566	10,566	10,566	36,566	68,264
Facility & Construction Projects - Bus	2,276	794	10,380	8,650	5,450	-	27,550
Facility & Construction Projects - Rail	-	-	4,750	3,150	175	-	8,075
Facility & Construction Projects - Pass.	3,750	5,000	4,500	700	5,000	2,850	21,800
Rail Infrastructure - Track	68,310	-	58,143	11,355	15,078	15,360	168,246
Rail Infrastructure - MOW	17,100	4,000	38,500	33,000	30,800	33,985	157,385
Other Equipment & Installation - Ops	3,710	890	7,765	6,100	1,750	8,214	28,429
Other Equipment & Installation - Admin	3,502	-	10,244	10,270	8,358	7,935	40,309
Subtotal	\$ 152,554	\$ 10,684	\$ 214,848	\$ 143,791	\$ 139,177	\$ 174,910	\$ 835,964

- **FY 2026 Funding of \$152.6M for State of Good Repair projects**
 - SGR alone averages over \$167M per year over this five year period
 - \$524M in recurring revenue streams forecasted for the next five years
 - After \$110M shifts from Capital to Operations for FY 2026-2028

FY 2026 CIP – Other Initiatives

- Innovative Clean Transit Infrastructure
 - Ongoing compliance with current CA regulations
 - Includes the proposed Clean Transit Advancement Campus (Division 6)
 - Overhead charging infrastructure at each existing division with incremental phases
 - Totals by year (\$000s):



Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Bus Ops - Southbay Maintenance Facility BEB Charging Phase II	\$ -	\$ 16,783	\$ 36,783	\$ 20,000	\$ -	\$ -	\$ 73,566
Bus Ops - Southbay Maintenance Facility Backup Power Charging Infra.	6,068	-	-	-	-	-	6,068
Bus Ops - Imperial Avenue Division BEB Charging Infrastructure	2,110	-	-	-	-	-	2,110
Bus Ops - East County Division BEB Charging Phase I - Design	1,609	-	-	-	-	-	1,609
Bus Ops - New Transit Facility (CTAC)	-	50,000	50,000	50,000	50,000	40,000	240,000
Bus Ops - BEB Infrastructure All Divisions	-	-	35,165	2,505	17,051	68,000	122,721
Subtotal	\$ 9,787	\$ 66,783	\$ 121,948	\$ 72,505	\$ 67,051	\$ 108,000	\$ 446,074

FY 2026 CIP – Other Initiatives

- 1 project submitted for FY 2026
 - 1 project funded
 - Transit Amenity Improvement project funded in advance of new policy being developed
- Totals by year (\$000s):

Project Name	FY 2026 Funded	FY26 Unfunded	FY 2027	FY 2028	FY 2029	FY 2030	5 Year Total
Admin - Transit Amenity Improvements	\$ 1,000	\$ -	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 5,000
Admin - San Ysidro Transit Center Planning & Design	-	-	15,000	15,000	-	-	30,000
Admin - Southwestern Rapid	-	-	1,000	5,000	6,000	-	12,000
Admin - Bus Stop Shelters	-	-	1,200	1,200	1,300	1,300	5,000
Admin - ADA Bus Stop Improvements	-	-	500	600	700	-	1,800
Admin - El Cajon Transit Center Bus Improvements	-	-	500	500	12,000	-	13,000
Admin - Social Equity Listening Tour	-	-	-	2,000	-	-	2,000
Admin - Kearny Mesa Transit Center	-	-	2,000	10,000	10,000	-	22,000
Subtotal	\$ 1,000	\$ -	\$ 21,200	\$ 35,300	\$ 31,000	\$ 2,300	\$ 90,800

FY 2026 CIP – Five Year Summary (\$000s)

	Proposed FY26	Projected FY27	Projected FY28	Projected FY29	Projected FY30	Total FY26 to FY30
State of Good Repair	\$ 163,238	\$ 214,848	\$ 143,791	\$ 139,177	\$ 174,910	\$ 835,964
Other Initiatives	77,570	143,148	107,805	98,051	110,300	536,874
Total Project Needs	\$ 240,808	\$ 357,996	\$ 251,596	\$ 237,228	\$ 285,210	\$ 1,372,838
Available CIP Revenues	\$ 163,341	\$ 110,901	\$ 87,049	\$ 136,511	\$ 126,286	\$ 624,088
Total Deficit	\$ (77,467)	\$ (247,094)	\$ (164,547)	\$ (100,718)	\$ (158,924)	\$ (748,750)
% of Funding / Needs	67.8%	31.0%	34.6%	57.5%	44.3%	45.5%
Accumulated Deficit	\$ (77,467)	\$ (324,562)	\$ (489,109)	\$ (589,827)	\$ (748,750)	

Staff Recommendation: FY 2026 CIP

Item No. 5, 03/06/2025

That the MTS Executive Committee forward a recommendation to the Board of Directors:

1. Approve the fiscal year 2026 Capital Improvement Program (CIP) with the estimated federal and nonfederal funding levels (Attachments A and B). As the federal appropriation figures are finalized and/or other project funding sources become available, allow the Chief Executive Officer (CEO) to identify and adjust projects for the adjusted funding levels;
2. Recommend that the San Diego Association of Governments (SANDAG) Board of Directors approve the submittal of Federal Section 5307, 5337 and 5339 applications for the MTS fiscal year 2026 CIP (shown in Attachment A);
3. Recommend that the SANDAG Board of Directors approve amendment number 5 of the 2025 Regional Transportation Improvement Program (RTIP) in accordance with the fiscal year 2026 CIP recommendations.



**Metropolitan
Transit
System**

Agenda Item No. 6

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

March 6, 2025

SUBJECT:

Fiscal Year (FY) 2025 Operating Budget Midyear Amendment (Gordon Meyer)

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Executive Committee forward a recommendation to the MTS Board of Directors to enact Resolution No. 25-01 (Attachment B) amending the FY 2025 operating budget for MTS, San Diego Transit Corporation (SDTC), San Diego Trolley, Inc. (SDTI), MTS Contract Services, and the Coronado Ferry.

Budget Impact

The action will amend the FY 2025 operating budget.

DISCUSSION:

The FY 2025 operating budget was approved on June 20, 2024. Based on new information and additional evaluation of expenses and revenues for the year, staff has developed the midyear amendment, which will amend the FY 2025 operating budget for MTS, SDTC, SDTI, MTS Contract Services, and the Coronado Ferry.

Combined MTS FY 2025 Midyear Adjustments

Revenues: In total, consolidated revenues are decreasing by \$35,000 (-0.0%).

Passenger Revenue: Passenger revenues were unfavorable to budget by \$755,000 (-1.9%) over the first six months of the fiscal year, primarily due to a lower average fare versus the original budget. The original budget assumed an average fare of \$0.98 and the average fare through December was \$0.93, representing a -3.2% unfavorable variance. Changes to the fare enforcement policy began on February 1, 2025, and results have been positive so far, with an estimated increase in average fare of \$0.11 based on preliminary data. Due to this trend, the average fare assumed in the FY 2025 amended budget remaining at \$0.98, 5.6% higher than the year-to-date average fare of \$0.93. Ridership is currently trending 1.4% higher versus budget, primarily due to ridership exceeding budgeted levels by an average of 389,000 passengers (14.0%) per month during July through October. However, ridership in November and December missed budget by an average of 502,000 passengers (-7.2%) each month. The revised ridership forecast for FY 2025 is 81.3 million passengers, an increase of 667,000

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San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.



passengers (0.8%) over the original budget. The amended budget ridership projection represents growth of 5.6 million passengers (7.4%) over prior year actual ridership whereas the original budget had assumed 6.5% growth. Year to date ridership has averaged 9.1% over last year so far; however, the passenger levels in the amended budget reflect more conservative growth in the second half of the year due to lower ridership in November and December. Based on the current ridership and average fare trends, passenger revenue is projected to be \$79,851,000 in the FY 2025 amended budget, an increase of \$925,000 (1.2%) versus the original budget.

Other Operating Revenue: Other operating revenue is projected to increase by \$1,894,000 (5.7%) versus the original FY 2025 budget. This is primarily due to projected increases in energy credit revenue, advertising revenue, and interest revenue. Energy credit revenue is expected to increase by \$1.1 million in the amended budget, primarily due to favorable federal Renewable Identification Numbers (RINs) energy credit prices. RINs prices have been trading at an average of \$2.97 per credit, versus the original budget of \$2.50 per credit. The impact of these high prices has more than offset the unfavorable impact of lackluster Low Carbon Fuel Standards (LCFS) prices, which have averaged \$64.43 per credit versus \$70.00 included in the original budget. The amended budget includes price targets of \$2.30 for RINs and \$70.00 for LCFS for the remainder of the year. The amended budget also assumes the sale of 38,000 LCFS credits in the second half of the year at \$70 per credit, which is contributing toward the projected increase as well. Advertising revenue is projected to increase by \$901,000 (16.4%), primarily due to a projected increase of \$862,000 in revenue generated by the Gaslamp Station digital sign. The original budget assumed the Minimum Advertising Guarantee (MAG) of \$653,000 because this was the first year of the contract with no historical data to base assumptions on; however, monthly revenue reports indicate that MTS is on pace to generate over \$1.5 million in this first year of operating the new sign. Interest income is projected to be \$9,613,000 in the amended budget, an increase of \$888,000 over the original budget. Interest rates and cash balances have remained higher than assumptions in the original budget.

Subsidy Revenue: Subsidy revenue, in total, is projected to increase by \$3,662,000 (1.2%).

MTS receives a variety of recurring federal revenues (Federal Transit Administration (FTA) Sections 5307, 5337, 5339, 5311, etc.) for preventive maintenance, paratransit operations, rural operations, and capital projects. Recurring federal revenues are expected to increase by \$4,597,000 (6.3%) from the original budget, primarily due to increasing the allocation of Section 5307 and Section 5337 formula funding for preventive maintenance. These formula funds are shared between the capital budget and operations, and the amount allocated to the operating budget depends on projected allowable preventive maintenance expenses. Preventive maintenance activities are one of the few allowable operating expenses for these formula funds, and MTS historically maximizes the use of preventive maintenance funds in the operating budget. Maximizing the amount for preventive maintenance funding in the operating budget improves cash flow and allows for faster grant close-out since these funds can be drawn at the end of the fiscal year based on eligible operating expenses, versus capital projects which are typically completed over multiple years. The increase in preventive maintenance funds does not reflect an increase in overall federal formula funds, but rather an increase in the amount being allocated to the operating budget. The increase in federal preventive maintenance funds is being partially offset by a reduction of \$491,000 in Section 5311/5311(f) rural operations funding, which was reduced to reflect anticipated reimbursement based on net expenses and available stimulus funds administered through these programs.

On March 27, 2020, President Trump signed the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which provided \$25 billion to the transit industry nationwide. MTS was allocated \$220 million in CARES Act funding over multiple fiscal years to supplement lost revenues and increased expenses related to the pandemic. On March 11, 2021, President Biden signed the American Rescue Plan (ARP) Act into law, providing \$140 million in additional stimulus funding for MTS. In total, MTS has been allocated \$360 million in federal stimulus funds which have been used to fund structural deficits in the operating budget thus far. MTS recently submitted its final drawdown for the remaining stimulus funds based on December expenses, meaning there will be no additional stimulus available going forward. The original FY 2025 budget included \$47.0 million of federal stimulus. The amount in the FY 2025 amended budget is increasing by \$394,000 to reflect then exact balance of stimulus funds available and drawn in FY 2025.

Transportation Development Act (TDA) revenue in the operating budget is decreasing by \$2,616,000 (-2.8%). TDA is one-quarter of a percent of the 7.75% sales tax in the region and is apportioned by the San Diego Association of Governments (SANDAG). TDA funds both the operating and capital budget. SANDAG provided an updated forecast in January 2025 with a projected -1.9% decrease in TDA revenue available for the region versus their original forecast for FY 2025. TDA receipts continue to lag original forecasts, with significant decreases in future fiscal years projected as well. The decrease in available regional TDA amounts to a \$2,616,000 (-1.9%) decrease in TDA available for MTS in FY 2025. This decrease is being reflected solely in the operating budget to avoid reducing TDA in the FY 2025 capital budget which was adopted last year. Therefore, the decrease in TDA reflects a -2.8% reduction in TDA in the amended operating budget.

TransNet revenue is expected to decrease by \$2,660,000 (-3.5%). TransNet is a one-half cent local sales tax revenue distributed to MTS both on a formula basis as well as through direct reimbursement for TransNet funded services such as Bus Rapid Transit (BRT) operations and the Mid-Coast extension. As with TDA, Transnet cash receipts have lagged original forecasts and SANDAG is now projecting a decrease of -2.4% versus their original forecast for FY 2025. Furthermore, the original MTS operating budget used a higher growth assumption based on a third-party forecast provided by Avenu, a consulting group that produces independent sales tax forecasts for SANDAG. The FY 2025 amended budget assumes SANDAG's recent forecast for Transnet formula funds, reflecting a \$2,286,000 (-5.4%) decrease in the amended budget for the formula share of TransNet. TransNet provided as direct reimbursement for BRT services and Mid-Coast is expected to decrease by \$374,000 (-1.1%), based on projected decreases in net subsidy needed to fully fund these services.

State Transit Assistance (STA) is a state sales tax revenue derived from the sales tax on diesel fuel and apportioned by the state. STA is primarily used to fund the capital budget due to its volatile history; however, a portion is used to fund operations. The original FY 2025 budget included an overall projection of \$39.0 million, with \$27.1 million being allocated to the Capital Improvement Program (CIP) and the remaining \$11.3 million to operations. The Governor's January proposed budget includes \$33.9 million in total STA for MTS, a reduction of \$5.1 million (-13.0%) overall. The decrease in total STA funds is being applied solely to the operating budget to keep the capital budget fully funded. Therefore, STA in the operating budget is projected at \$6,247,000 in the FY 2025 amended budget, a decrease of \$5,053,000 (-44.7%).

State revenue is expected to increase by \$9,000,000 in the amended budget. State revenue includes the addition of Senate Bill 125 (SB 125) Transit and Intercity Rail Capital Program (TIRCP) funds. SB 125, approved by the Governor on July 10, 2023, guides the distribution of \$4 billion in General Fund through the TIRCP on a population-based formula to regional transportation planning agencies, which can use the funds for either capital or operations. MTS is expected to receive \$237.3 million in SB 125 TIRCP funds over the next four years, with \$211.3 million planned for the operating budget and the remainder going toward the Orange Line Modernization capital project. The original budget assumed that MTS did not receive any SB 125 funding because the availability of these funds was uncertain as the state faced its own challenges balancing its budget. The initial payment to transit agencies was delayed almost six months past the originally planned disbursement date but was ultimately received in September 2024. The FY 2025 amended budget includes the addition of \$9,000,000 in SB 125 revenue to fund security enhancements, Iris Rapid (Route 227) operations, Route 910 Overnight Express operations, and trolley service enhancements (move to 15-minute service on entire trolley system).

Other local funds are projected to remain at the original budget figure of \$4,310,000. Other local funds include *Fastrak* toll revenue provided by SANDAG, reimbursement from UCSD for operating the Route 201 and 202 shuttle service, and smaller revenue streams provided by the City of San Diego and the North County Transit District through ancillary agreements.

Reserves: For Hire Vehicle Administration (FHVA) and San Diego & Arizona Eastern (SD&AE) are self-funded entities who must balance their operating expenses with operating revenues or their contingency reserve revenue. FHVA is projected to use \$44,000 of its reserve balance in the FY 2025 amended budget, as expenses are expected to exceed revenues. SD&AE is projected to add \$70,000 to its reserve, as revenues are expected to exceed expenses.

In FY 2023, the Board of Directors approved the creation of the operating deficit reserve. This allowed MTS to draw federal stimulus funds based on maximum allowable expenses, versus only drawing the amount needed to cover the annual structural deficit. Excess stimulus funds were then contributed to the operating deficit reserve where they can be used in future fiscal years for addressing structural deficits. The original FY 2025 operating budget included the projected usage of \$31.7 million of operating deficit reserve funds to balance the operating budget. The amended budget projects using \$25.2 million, a reduction of \$6.5 million (-20.6%). The decrease in the projected reserve usage is due projected non-reserve revenues increasing more than expenses in the FY 2025 amended budget.

Expenses: Total consolidated operating expenses are projected to decrease by \$35,000 (-0.0%) from the original budget.

Personnel: Personnel-related expenses are decreasing by \$50,000 (-0.0%). Wages are projected to increase by \$250,000 (0.2%). Wages within Bus Operations are projected to increase \$1,787,000 (3.5%) primarily due to significant pay raises for ATU and IBEW members included in the new collective bargaining agreements that became effective January 2025. These wage increases are being partially offset by decreases in wages within Administration and Trolley operations. Administration wages are decreasing \$630,000 (-2.5%) due to slower than anticipated hiring of the 47 additional security positions that were approved by the Board last year. Trolley operations wages are being reduced to reflect lower flagging wages based on current trends. The original budget included additional flagging wages to reflect new positions

that were approved in FY 2024; however, hiring of those additional employees is not expected to start until the end of FY 2025 in anticipation of the Orange Line Modernization project. The FY 2025 amended budget also reflects a decrease in wages due to elimination of the annual performance incentive payment (PIP) bonus program for management employees. The PIP program has been paused indefinitely as MTS faces a significant structural deficit. Fringe expenses are projected to decrease by \$301,000 (-0.4%) in the amended budget. Within fringe expenses, healthcare costs are decreasing \$1.0 million (-4.7%) and pension costs are decreasing by \$540,000 (-1.6%). These decreases are being partially offset by a reduction in flagging cost reimbursements of \$795,000 (-33.3%) and an increase of \$497,000 (10.4%) in worker's compensation costs.

Outside Services: Total outside services are projected to increase by \$1,970,000 (1.2%). Within outside services, contracted security costs are decreasing by \$221,000 (-1.5%), repair and maintenance services are decreasing \$565,000 (-4.7%), engine and transmission repair costs are increasing \$461,000 (63.9%), and other outside services costs are increasing by \$1,852,000 (7.2%). Other outside services are primarily increasing due to including additional budget for CCTV maintenance and replacements, emergency repair work in the track maintenance department, radio purchases within the security department (budgeted in FY 2024 but paid in FY 2025), and including \$400,000 for the insourcing feasibility study for contracted bus operations. Outside services also include purchased transportation costs, which reflect Transdev contract expenses for both fixed route and paratransit bus services. Overall purchased transportation costs are projected to increase \$443,000 (0.4%) in the amended budget. Fixed route purchased transportation costs are projected to increase \$825,000 (0.9%). This is primarily due to including budget for the new Route 910 Overnight Express which operates out of the South Bay division, as well as increasing budget for East County services, which were under-estimated in the original budget. Overall, contracted fixed route bus service levels are projected to stay flat compared to the original budget with no major changes to service anticipated at this time. Paratransit purchased transportation costs, which fluctuate with demand for the service, are decreasing \$376,000 (-2.0%) overall, based on lower demand versus the original budget.

Materials and Supplies: Staff projects materials and supplies expenses to decrease by \$727,000 (-3.5%) versus the original budget. This is primarily due to removing \$830,000 from the operating budget for upgrading the ticket vending machine credit card modules. This project was originally planned for FY 2025 but has been postponed until FY 2026.

Energy: Energy expenses are projected to decrease by \$1,661,000 (-3.3%) in total. Within energy, CNG expenses are projected to decrease by \$1,513,000 (-10.1%), primarily due to the commodity rate being lower than budget. Commodity rates for electricity have also been favorable in FY 2025, resulting in lower electricity costs in the first half of the year versus budget. However, electricity consumption in the amended budget is increasing to account for the trolley service enhancements that went into effect in January 2025. Traction power electricity costs are projected to increase \$153,000 (0.6%) to account for the additional service, while also reflecting the favorable commodity rates in the first half of the year.

Risk Management: Risk management costs are decreasing by \$697,000 (-6.2%), primarily due to a projected decrease of \$550,000 in liability claim payouts and \$150,000 reduction in risk related legal expenses.

General and Administrative. General and administrative costs are projected to increase by \$643,000 (9.4%). This is primarily due to purchasing handheld fare validators for the security department, increasing the budget for credit card fees related to the fare system based on current trend, and increasing the budget for the Mill's building rent expenses.

Debt Service: There are no debt service costs in the FY 2025 original or amended operating budget as the pension obligation bonds were fully paid off in FY 2024.

Vehicle/Facility Leases. Vehicle/facility leases are expected to increase by \$487,000 (28.5%), primarily due to higher Non-Revenue Vehicle (NRV) lease costs. NRV lease expenses are increasing due to increasing the fleet size, higher leasing costs, and multiple lease vehicles required upfront purchases of after-market equipment. Furthermore, the resale value of used lease vehicles at the end of their leasing term has been lower than prior years, providing a lower offset to lease prices.

Net income: The increase in revenues and expenses results in a balanced budget.

Therefore, staff recommends that the MTS EC forward a recommendation to the Board of Directors to enact Resolution No. 25-01 (Attachment B) amending the FY 2025 operating budget for MTS, SDTC, SDTI, MTS Contract Services, and the Coronado Ferry.

/S/ Sharon Cooney

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. FY 2025 Amended Budget Book
B. Resolution 25-01



Fiscal Year 2025 Amended Budget

Metropolitan Transit System



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**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
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AMENDED BUDGET FISCAL YEAR 2025**

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**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
OPERATING BUDGET SUMMARY
FISCAL YEAR 2025
SECTION 2.01**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	72,403,501	78,925,492	79,850,726	925,234	1.2%
OTHER OPERATING REVENUE	34,505,395	33,203,791	35,098,213	1,894,422	5.7%
TOTAL OPERATING REVENUES	106,908,896	112,129,283	114,948,939	2,819,656	2.5%
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	339,947,127	304,453,658	308,115,777	3,662,119	1.2%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	(30,504,844)	31,642,170	25,125,699	(6,516,471)	-20.6%
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	(30,504,844)	31,642,170	25,125,699	(6,516,471)	-20.6%
TOTAL NON OPERATING REVENUE	309,442,282	336,095,828	333,241,476	(2,854,351)	-0.8%
TOTAL COMBINED REVENUES	416,351,179	448,225,111	448,190,416	(34,695)	0.0%
OPERATING EXPENSES					
LABOR EXPENSES	105,297,103	116,854,175	117,104,634	250,459	0.2%
FRINGE EXPENSES	71,585,490	79,076,225	78,775,506	(300,719)	-0.4%
TOTAL PERSONNEL EXPENSES	176,882,593	195,930,399	195,880,140	(50,259)	0.0%
SECURITY EXPENSES	13,678,073	14,889,236	14,667,881	(221,355)	-1.5%
REPAIR/MAINTENANCE SERVICES	13,119,522	12,075,538	11,510,694	(564,844)	-4.7%
ENGINE AND TRANSMISSION REBUILD	1,223,377	721,500	1,182,750	461,250	63.9%
OTHER OUTSIDE SERVICES	22,163,426	25,851,012	27,703,371	1,852,359	7.2%
PURCHASED TRANSPORTATION	101,919,151	108,266,242	108,709,174	442,932	0.4%
TOTAL OUTSIDE SERVICES	152,103,549	161,803,528	163,773,870	1,970,341	1.2%
LUBRICANTS	435,638	524,020	476,020	(48,000)	-9.2%
TIRES	1,296,191	1,343,700	1,363,500	19,800	1.5%
OTHER MATERIALS AND SUPPLIES	16,877,101	18,713,402	18,014,749	(698,653)	-3.7%
TOTAL MATERIALS AND SUPPLIES	18,608,930	20,581,122	19,854,269	(726,853)	-3.5%
GAS/DIESEL/PROPANE	2,685,693	3,270,964	2,982,755	(288,209)	-8.8%
CNG	13,387,053	14,995,219	13,481,895	(1,513,324)	-10.1%
TRACTION POWER	22,504,905	25,439,902	25,592,612	152,710	0.6%
UTILITIES	5,911,332	6,348,917	6,336,699	(12,218)	-0.2%
TOTAL ENERGY	44,488,982	50,055,002	48,393,961	(1,661,041)	-3.3%
RISK MANAGEMENT	8,122,036	11,335,218	10,637,984	(697,234)	-6.2%
GENERAL AND ADMINISTRATIVE	5,986,321	6,813,088	7,456,581	643,493	9.4%
DEBT SERVICE	36,327	-	-	-	-
VEHICLE / FACILITY LEASE	1,705,779	1,706,754	2,193,611	486,857	28.5%
TOTAL OPERATING EXPENSES	407,934,516	448,225,111	448,190,416	(34,695)	0.0%
NET OPERATING SUBSIDY	(301,025,620)	(336,095,828)	(333,241,476)	(2,854,351)	-0.8%
OVERHEAD ALLOCATION	(0)	(0)	(0)	0	0.0%
ADJUSTED NET OPERATING SUBSIDY	(301,025,620)	(336,095,828)	(333,241,476)	(2,854,351)	-0.8%
TOTAL REVENUES LESS TOTAL EXPENSES	8,416,663	0	0	0	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
OPERATIONS BUDGET
FISCAL YEAR 2025
SECTION 2.02**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	72,403,501	78,925,492	79,850,726	925,234	1.2%
OTHER OPERATING REVENUE	3,000,970	1,113,064	1,108,695	(4,369)	-0.4%
TOTAL OPERATING REVENUES	75,404,471	80,038,556	80,959,421	920,865	1.2%
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	292,506,213	300,340,934	300,872,552	531,618	0.2%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	-	31,686,240	25,151,191	(6,535,048)	-20.6%
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	-	31,686,240	25,151,191	(6,535,048)	-20.6%
TOTAL NON OPERATING REVENUE	292,506,213	332,027,174	326,023,744	(6,003,431)	-1.8%
TOTAL COMBINED REVENUES	367,910,684	412,065,731	406,983,165	(5,082,566)	-1.2%
OPERATING EXPENSES					
LABOR EXPENSES	84,512,654	91,672,392	92,580,875	908,483	1.0%
FRINGE EXPENSES	62,298,488	68,743,126	68,434,593	(308,533)	-0.4%
TOTAL PERSONNEL EXPENSES	146,811,142	160,415,518	161,015,468	599,950	0.4%
SECURITY EXPENSES	1,193,339	1,251,481	1,239,810	(11,671)	-0.9%
REPAIR/MAINTENANCE SERVICES	12,899,037	11,872,538	11,246,294	(626,244)	-5.3%
ENGINE AND TRANSMISSION REBUILD	1,223,377	721,500	1,182,750	461,250	63.9%
OTHER OUTSIDE SERVICES	7,495,020	9,655,685	10,762,942	1,107,257	11.5%
PURCHASED TRANSPORTATION	101,919,151	108,266,242	108,709,174	442,932	0.4%
TOTAL OUTSIDE SERVICES	124,729,923	131,767,446	133,140,970	1,373,524	1.0%
LUBRICANTS	435,638	524,020	476,020	(48,000)	-9.2%
TIRES	1,296,191	1,343,700	1,363,500	19,800	1.5%
OTHER MATERIALS AND SUPPLIES	16,835,323	18,653,270	17,964,426	(688,844)	-3.7%
TOTAL MATERIALS AND SUPPLIES	18,567,152	20,520,990	19,803,946	(717,044)	-3.5%
GAS/DIESEL/PROPANE	2,458,948	2,982,364	2,727,055	(255,309)	-8.6%
CNG	13,387,053	14,995,219	13,481,895	(1,513,324)	-10.1%
TRACTION POWER	22,504,905	25,439,902	25,592,612	152,710	0.6%
UTILITIES	4,890,027	5,310,004	5,274,921	(35,083)	-0.7%
TOTAL ENERGY	43,240,932	48,727,489	47,076,483	(1,651,006)	-3.4%
RISK MANAGEMENT	7,397,817	9,972,326	9,533,443	(438,883)	-4.4%
GENERAL AND ADMINISTRATIVE	1,022,936	1,385,671	1,480,171	94,500	6.8%
DEBT SERVICE	36,327	-	-	-	-
VEHICLE / FACILITY LEASE	1,319,807	1,373,421	1,720,955	347,534	25.3%
TOTAL OPERATING EXPENSES	343,126,035	374,162,861	373,771,436	(391,425)	-0.1%
NET OPERATING SUBSIDY	(267,721,565)	(294,124,304)	(292,812,014)	(1,312,290)	-0.4%
OVERHEAD ALLOCATION	(27,018,000)	(37,902,870)	(33,211,729)	4,691,140	-12.4%
ADJUSTED NET OPERATING SUBSIDY	(294,739,564)	(332,027,174)	(326,023,744)	(6,003,430)	-1.8%
TOTAL REVENUES LESS TOTAL EXPENSES	(2,233,351)	0	-	0	-100.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
ADMINISTRATIVE BUDGET
FISCAL YEAR 2025
SECTION 2.03**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	-	-	-	-	-
OTHER OPERATING REVENUE	30,491,772	31,100,727	32,977,748	1,877,021	6.0%
TOTAL OPERATING REVENUES	30,491,772	31,100,727	32,977,748	1,877,021	6.0%
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	47,440,913	4,112,724	7,243,225	3,130,501	76.1%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	(30,182,046)	-	-	-	-
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	(30,182,046)	-	-	-	-
TOTAL NON OPERATING REVENUE	17,258,868	4,112,724	7,243,225	3,130,501	76.1%
TOTAL COMBINED REVENUES	47,750,639	35,213,451	40,220,973	5,007,522	14.2%
OPERATING EXPENSES					
LABOR EXPENSES	20,424,712	24,736,598	24,106,759	(629,839)	-2.5%
FRINGE EXPENSES	9,079,160	10,097,669	10,115,573	17,904	0.2%
TOTAL PERSONNEL EXPENSES	29,503,872	34,834,267	34,222,332	(611,935)	-1.8%
SECURITY EXPENSES	12,484,734	13,637,755	13,428,071	(209,684)	-1.5%
REPAIR/MAINTENANCE SERVICES	218,335	198,000	259,400	61,400	31.0%
ENGINE AND TRANSMISSION REBUILD	-	-	-	-	-
OTHER OUTSIDE SERVICES	14,656,463	16,138,027	16,811,953	673,926	4.2%
PURCHASED TRANSPORTATION	-	-	-	-	-
TOTAL OUTSIDE SERVICES	27,359,532	29,973,782	30,499,424	525,642	1.8%
LUBRICANTS	-	-	-	-	-
TIRES	-	-	-	-	-
OTHER MATERIALS AND SUPPLIES	41,291	59,632	49,823	(9,809)	-16.4%
TOTAL MATERIALS AND SUPPLIES	41,291	59,632	49,823	(9,809)	-16.4%
GAS/DIESEL/PROPANE	221,917	279,600	249,700	(29,900)	-10.7%
CNG	-	-	-	-	-
TRACTION POWER	-	-	-	-	-
UTILITIES	1,021,305	1,038,913	1,061,778	22,865	2.2%
TOTAL ENERGY	1,243,222	1,318,513	1,311,478	(7,035)	-0.5%
RISK MANAGEMENT	674,374	1,264,292	997,514	(266,778)	-21.1%
GENERAL AND ADMINISTRATIVE	4,905,354	5,355,753	5,899,346	543,593	10.1%
DEBT SERVICE	-	-	-	-	-
VEHICLE / FACILITY LEASE	379,051	327,333	452,052	124,719	38.1%
TOTAL OPERATING EXPENSES	64,106,695	73,133,572	73,431,969	298,397	0.4%
NET OPERATING SUBSIDY	(33,614,924)	(42,032,845)	(40,454,221)	(1,578,624)	-3.8%
OVERHEAD ALLOCATION	27,006,070	37,920,122	33,210,996	(4,709,126)	-12.4%
ADJUSTED NET OPERATING SUBSIDY	(6,608,854)	(4,112,724)	(7,243,225)	3,130,501	76.1%
TOTAL REVENUES LESS TOTAL EXPENSES	10,650,014	(0)	-	(0)	-100.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
OTHER ACTIVITIES BUDGET
FISCAL YEAR 2025
SECTION 2.04**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	-	-	-	-	-
OTHER OPERATING REVENUE	1,012,654	990,000	1,011,770	21,770	2.2%
TOTAL OPERATING REVENUES	1,012,654	990,000	1,011,770	21,770	2.2%
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	-	-	-	-	-
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	(322,799)	(44,070)	(25,492)	18,578	-42.2%
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	(322,799)	(44,070)	(25,492)	18,578	-42.2%
TOTAL NON OPERATING REVENUE	(322,799)	(44,070)	(25,492)	18,578	-42.2%
TOTAL COMBINED REVENUES	689,855	945,930	986,278	40,348	4.3%
OPERATING EXPENSES					
LABOR EXPENSES	359,737	445,185	417,000	(28,185)	-6.3%
FRINGE EXPENSES	207,843	235,429	225,340	(10,089)	-4.3%
TOTAL PERSONNEL EXPENSES	567,580	680,614	642,340	(38,274)	-5.6%
SECURITY EXPENSES	-	-	-	-	-
REPAIR/MAINTENANCE SERVICES	2,150	5,000	5,000	-	0.0%
ENGINE AND TRANSMISSION REBUILD	-	-	-	-	-
OTHER OUTSIDE SERVICES	11,944	57,300	128,476	71,176	124.2%
PURCHASED TRANSPORTATION	-	-	-	-	-
TOTAL OUTSIDE SERVICES	14,094	62,300	133,476	71,176	114.2%
LUBRICANTS	-	-	-	-	-
TIRES	-	-	-	-	-
OTHER MATERIALS AND SUPPLIES	486	500	500	-	0.0%
TOTAL MATERIALS AND SUPPLIES	486	500	500	-	0.0%
GAS/DIESEL/PROPANE	4,828	9,000	6,000	(3,000)	-33.3%
CNG	-	-	-	-	-
TRACTION POWER	-	-	-	-	-
UTILITIES	-	-	-	-	-
TOTAL ENERGY	4,828	9,000	6,000	(3,000)	-33.3%
RISK MANAGEMENT	49,845	98,600	107,027	8,427	8.5%
GENERAL AND ADMINISTRATIVE	58,031	71,664	77,064	5,400	7.5%
DEBT SERVICE	-	-	-	-	-
VEHICLE / FACILITY LEASE	6,921	6,000	20,604	14,604	243.4%
TOTAL OPERATING EXPENSES	701,785	928,678	987,011	58,333	6.3%
NET OPERATING SUBSIDY	310,869	61,322	24,759	36,563	-59.6%
OVERHEAD ALLOCATION	11,930	(17,252)	733		-104.3%
ADJUSTED NET OPERATING SUBSIDY	322,799	44,070	25,492	18,578	-42.2%
TOTAL REVENUES LESS TOTAL EXPENSES	0	0	0	0	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BUS OPERATIONS BUDGET SUMMARY
FISCAL YEAR 2025
SECTION 4.02**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	19,675,153	21,238,954	20,535,179	(703,776)	-3.3%
OTHER OPERATING REVENUE	116,763	50,000	50,000	-	0.0%
TOTAL OPERATING REVENUES	19,791,916	21,288,954	20,585,179	(703,776)	-3.3%
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	93,369,739	93,539,349	97,724,781	4,185,431	4.5%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	-	14,686,240	8,151,191	(6,535,048)	-44.5%
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	-	14,686,240	8,151,191	(6,535,048)	-44.5%
TOTAL NON OPERATING REVENUE	93,369,739	108,225,589	105,875,972	(2,349,617)	-2.2%
TOTAL COMBINED REVENUES	113,161,655	129,514,543	126,461,151	(3,053,393)	-2.4%
OPERATING EXPENSES					
LABOR EXPENSES	47,076,206	50,594,435	52,381,191	1,786,756	3.5%
FRINGE EXPENSES	44,372,252	48,453,243	46,672,805	(1,780,438)	-3.7%
TOTAL PERSONNEL EXPENSES	91,448,457	99,047,679	99,053,996	6,317	0.0%
SECURITY EXPENSES	-	-	-	-	-
REPAIR/MAINTENANCE SERVICES	922,273	1,060,294	952,628	(107,666)	-10.2%
ENGINE AND TRANSMISSION REBUILD	237,602	229,500	260,000	30,500	13.3%
OTHER OUTSIDE SERVICES	1,234,371	1,344,445	1,842,636	498,191	37.1%
PURCHASED TRANSPORTATION	-	-	-	-	-
TOTAL OUTSIDE SERVICES	2,394,246	2,634,239	3,055,264	421,025	16.0%
LUBRICANTS	127,910	145,000	203,000	58,000	40.0%
TIRES	1,280,400	1,321,700	1,341,500	19,800	1.5%
OTHER MATERIALS AND SUPPLIES	6,267,042	6,218,694	6,181,379	(37,315)	-0.6%
TOTAL MATERIALS AND SUPPLIES	7,675,352	7,685,394	7,725,879	40,485	0.5%
GAS/DIESEL/PROPANE	255,113	445,581	251,300	(194,281)	-43.6%
CNG	6,695,259	7,449,189	6,929,112	(520,077)	-7.0%
TRACTION POWER	103,644	120,624	121,000	376	0.3%
UTILITIES	750,053	862,350	862,700	350	0.0%
TOTAL ENERGY	7,804,068	8,877,744	8,164,112	(713,632)	-8.0%
RISK MANAGEMENT	3,222,810	4,186,718	3,654,594	(532,124)	-12.7%
GENERAL AND ADMINISTRATIVE	476,367	826,551	839,302	12,751	1.5%
DEBT SERVICE	36,327	-	-	-	-
VEHICLE / FACILITY LEASE	423,405	407,500	553,747	146,247	35.9%
TOTAL OPERATING EXPENSES	113,481,032	123,665,825	123,046,894	(618,931)	-0.5%
NET OPERATING SUBSIDY	(93,689,116)	(102,376,870)	(102,461,715)	84,845	0.1%
OVERHEAD ALLOCATION	(1,525,621)	(5,848,719)	(3,414,256)	2,434,463	-41.6%
ADJUSTED NET OPERATING SUBSIDY	(95,214,737)	(108,225,589)	(105,875,971)	(2,349,618)	-2.2%
TOTAL REVENUES LESS TOTAL EXPENSES	(1,844,998)	(0)	0	(0)	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
RAIL OPERATIONS BUDGET SUMMARY
FISCAL YEAR 2025
SECTION 4.03**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	29,880,848	32,652,847	33,792,403	1,139,556	3.5%
OTHER OPERATING REVENUE	2,884,206	1,063,064	1,058,695	(4,369)	-0.4%
TOTAL OPERATING REVENUES	32,765,055	33,715,911	34,851,098	1,135,187	3.4%
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	101,490,927	102,193,535	99,222,741	(2,970,794)	-2.9%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	-	17,000,000	17,000,000	-	0.0%
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	-	17,000,000	17,000,000	-	0.0%
TOTAL NON OPERATING REVENUE	101,490,927	119,193,535	116,222,741	(2,970,794)	-2.5%
TOTAL COMBINED REVENUES	134,255,982	152,909,446	151,073,839	(1,835,607)	-1.2%
OPERATING EXPENSES					
LABOR EXPENSES	36,920,907	40,527,957	39,612,484	(915,473)	-2.3%
FRINGE EXPENSES	17,510,349	19,695,419	21,120,573	1,425,154	7.2%
TOTAL PERSONNEL EXPENSES	54,431,256	60,223,376	60,733,057	509,681	0.8%
SECURITY EXPENSES	204,199	217,981	215,000	(2,981)	-1.4%
REPAIR/MAINTENANCE SERVICES	11,908,141	10,737,244	10,229,466	(507,778)	-4.7%
ENGINE AND TRANSMISSION REBUILD	-	-	-	-	-
OTHER OUTSIDE SERVICES	2,986,913	3,975,472	4,675,805	700,333	17.6%
PURCHASED TRANSPORTATION	-	-	-	-	-
TOTAL OUTSIDE SERVICES	15,099,253	14,930,697	15,120,271	189,574	1.3%
LUBRICANTS	307,728	379,020	273,020	(106,000)	-28.0%
TIRES	15,791	22,000	22,000	-	0.0%
OTHER MATERIALS AND SUPPLIES	10,471,451	12,378,884	11,652,067	(726,817)	-5.9%
TOTAL MATERIALS AND SUPPLIES	10,794,971	12,779,904	11,947,087	(832,817)	-6.5%
GAS/DIESEL/PROPANE	508,599	529,000	533,865	4,865	0.9%
CNG	-	-	-	-	-
TRACTION POWER	22,208,926	25,000,649	25,195,612	194,963	0.8%
UTILITIES	3,291,191	3,488,256	3,506,156	17,900	0.5%
TOTAL ENERGY	26,008,716	29,017,905	29,235,633	217,728	0.8%
RISK MANAGEMENT	4,160,007	5,770,558	5,863,849	93,291	1.6%
GENERAL AND ADMINISTRATIVE	506,388	535,246	620,049	84,803	15.8%
DEBT SERVICE	-	-	-	-	-
VEHICLE / FACILITY LEASE	543,121	601,843	734,388	132,545	22.0%
TOTAL OPERATING EXPENSES	111,543,711	123,859,528	124,254,334	394,806	0.3%
NET OPERATING SUBSIDY	(78,778,657)	(90,143,618)	(89,403,236)	(740,381)	-0.8%
OVERHEAD ALLOCATION	(23,108,136)	(29,049,917)	(26,819,506)	2,230,411	-7.7%
ADJUSTED NET OPERATING SUBSIDY	(101,886,792)	(119,193,534)	(116,222,742)	(2,970,793)	-2.5%
TOTAL REVENUES LESS TOTAL EXPENSES	(395,865)	1	(0)	1	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
CONTRACTED BUS OPERATIONS - FIXED ROUTE BUDGET SUMMARY
FISCAL YEAR 2025
SECTION 4.04**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	21,403,676	23,398,149	23,920,158	522,008	2.2%
OTHER OPERATING REVENUE	-	-	-	-	-
TOTAL OPERATING REVENUES	21,403,676	23,398,149	23,920,158	522,008	2.2%
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	79,350,157	83,151,484	82,942,826	(208,658)	-0.3%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	-	-	-	-	-
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	-	-	-	-	-
TOTAL NON OPERATING REVENUE	79,350,157	83,151,484	82,942,826	(208,658)	-0.3%
TOTAL COMBINED REVENUES	100,753,832	106,549,633	106,862,983	313,350	0.3%
OPERATING EXPENSES					
LABOR EXPENSES	416,668	434,000	449,200	15,200	3.5%
FRINGE EXPENSES	381,974	229,627	273,100	43,473	18.9%
TOTAL PERSONNEL EXPENSES	798,643	663,627	722,300	58,673	8.8%
SECURITY EXPENSES	989,140	1,033,500	1,024,810	(8,690)	-0.8%
REPAIR/MAINTENANCE SERVICES	68,623	75,000	64,200	(10,800)	-14.4%
ENGINE AND TRANSMISSION REBUILD	985,774	492,000	922,750	430,750	87.6%
OTHER OUTSIDE SERVICES	2,234,808	2,982,214	2,883,841	(98,373)	-3.3%
PURCHASED TRANSPORTATION	85,030,794	89,257,430	90,082,570	825,140	0.9%
TOTAL OUTSIDE SERVICES	89,309,139	93,840,144	94,978,171	1,138,027	1.2%
LUBRICANTS	-	-	-	-	-
TIRES	-	-	-	-	-
OTHER MATERIALS AND SUPPLIES	96,829	55,692	130,980	75,288	135.2%
TOTAL MATERIALS AND SUPPLIES	96,829	55,692	130,980	75,288	135.2%
GAS/DIESEL/PROPANE	722,041	674,283	711,242	36,959	5.5%
CNG	6,691,794	7,546,030	6,552,783	(993,247)	-13.2%
TRACTION POWER	192,335	318,629	276,000	(42,629)	-13.4%
UTILITIES	848,782	959,398	906,065	(53,333)	-5.6%
TOTAL ENERGY	8,454,953	9,498,340	8,446,090	(1,052,250)	-11.1%
RISK MANAGEMENT	-	-	-	-	-
GENERAL AND ADMINISTRATIVE	5,694	12,300	9,555	(2,745)	-22.3%
DEBT SERVICE	-	-	-	-	-
VEHICLE / FACILITY LEASE	10,757	21,078	89,820	68,742	326.1%
TOTAL OPERATING EXPENSES	98,676,016	104,091,182	104,376,916	285,734	0.3%
NET OPERATING SUBSIDY	(77,272,340)	(80,693,032)	(80,456,758)	(236,274)	-0.3%
OVERHEAD ALLOCATION	(2,070,305)	(2,458,452)	(2,486,067)	(27,615)	1.1%
ADJUSTED NET OPERATING SUBSIDY	(79,342,645)	(83,151,484)	(82,942,826)	(208,659)	-0.3%
TOTAL REVENUES LESS TOTAL EXPENSES	7,511	(0)	(0)	(0)	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
CONTRACTED BUS OPERATIONS - PARA TRANSIT BUDGET SUMMARY
FISCAL YEAR 2025
SECTION 4.05**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	1,443,824	1,635,542	1,602,987	(32,555)	-2.0%
OTHER OPERATING REVENUE	-	-	-	-	-
TOTAL OPERATING REVENUES	1,443,824	1,635,542	1,602,987	(32,555)	-2.0%
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	17,777,370	20,601,707	20,143,540	(458,167)	-2.2%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	-	-	-	-	-
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	-	-	-	-	-
TOTAL NON OPERATING REVENUE	17,777,370	20,601,707	20,143,540	(458,167)	-2.2%
TOTAL COMBINED REVENUES	19,221,194	22,237,249	21,746,527	(490,722)	-2.2%
OPERATING EXPENSES					
LABOR EXPENSES	98,874	116,000	138,000	22,000	19.0%
FRINGE EXPENSES	75,231	71,142	80,000	8,858	12.5%
TOTAL PERSONNEL EXPENSES	174,105	187,142	218,000	30,858	16.5%
SECURITY EXPENSES	-	-	-	-	-
REPAIR/MAINTENANCE SERVICES	-	-	-	-	-
ENGINE AND TRANSMISSION REBUILD	-	-	-	-	-
OTHER OUTSIDE SERVICES	802,901	1,112,500	1,124,186	11,686	1.1%
PURCHASED TRANSPORTATION	16,565,044	18,688,701	18,312,528	(376,173)	-2.0%
TOTAL OUTSIDE SERVICES	17,367,945	19,801,201	19,436,714	(364,487)	-1.8%
LUBRICANTS	-	-	-	-	-
TIRES	-	-	-	-	-
OTHER MATERIALS AND SUPPLIES	-	-	-	-	-
TOTAL MATERIALS AND SUPPLIES	-	-	-	-	-
GAS/DIESEL/PROPANE	973,194	1,333,499	1,230,648	(102,851)	-7.7%
CNG	-	-	-	-	-
TRACTION POWER	-	-	-	-	-
UTILITIES	-	-	-	-	-
TOTAL ENERGY	973,194	1,333,499	1,230,648	(102,851)	-7.7%
RISK MANAGEMENT	15,000	15,050	15,000	(50)	-0.3%
GENERAL AND ADMINISTRATIVE	34,487	11,574	11,265	(309)	-2.7%
DEBT SERVICE	-	-	-	-	-
VEHICLE / FACILITY LEASE	342,524	343,000	343,000	-	0.0%
TOTAL OPERATING EXPENSES	18,907,256	21,691,467	21,254,627	(436,840)	-2.0%
NET OPERATING SUBSIDY	(17,463,431)	(20,055,925)	(19,651,640)	(404,285)	-2.0%
OVERHEAD ALLOCATION	(313,938)	(545,782)	(491,900)	53,882	-9.9%
ADJUSTED NET OPERATING SUBSIDY	(17,777,369)	(20,601,707)	(20,143,540)	(458,167)	-2.2%
TOTAL REVENUES LESS TOTAL EXPENSES	1	(0)	0	(0)	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
CORONADO FERRY BUDGET SUMMARY
FISCAL YEAR 2025
SECTION 4.06**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	-	-	-	-	-
OTHER OPERATING REVENUE	-	-	-	-	-
TOTAL OPERATING REVENUES	-	-	-	-	-
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	323,313	320,110	314,076	(6,035)	-1.9%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	-	-	-	-	-
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	-	-	-	-	-
TOTAL NON OPERATING REVENUE	323,313	320,110	314,076	(6,035)	-1.9%
TOTAL COMBINED REVENUES	323,313	320,110	314,076	(6,035)	-1.9%
OPERATING EXPENSES					
LABOR EXPENSES	-	-	-	-	-
FRINGE EXPENSES	-	-	-	-	-
TOTAL PERSONNEL EXPENSES	-	-	-	-	-
SECURITY EXPENSES	-	-	-	-	-
REPAIR/MAINTENANCE SERVICES	-	-	-	-	-
ENGINE AND TRANSMISSION REBUILD	-	-	-	-	-
OTHER OUTSIDE SERVICES	-	-	-	-	-
PURCHASED TRANSPORTATION	323,313	320,110	314,076	(6,035)	-1.9%
TOTAL OUTSIDE SERVICES	323,313	320,110	314,076	(6,035)	-1.9%
LUBRICANTS	-	-	-	-	-
TIRES	-	-	-	-	-
OTHER MATERIALS AND SUPPLIES	-	-	-	-	-
TOTAL MATERIALS AND SUPPLIES	-	-	-	-	-
GAS/DIESEL/PROPANE	-	-	-	-	-
CNG	-	-	-	-	-
TRACTION POWER	-	-	-	-	-
UTILITIES	-	-	-	-	-
TOTAL ENERGY	-	-	-	-	-
RISK MANAGEMENT	-	-	-	-	-
GENERAL AND ADMINISTRATIVE	-	-	-	-	-
DEBT SERVICE	-	-	-	-	-
VEHICLE / FACILITY LEASE	-	-	-	-	-
TOTAL OPERATING EXPENSES	323,313	320,110	314,076	(6,035)	-1.9%
NET OPERATING SUBSIDY	(323,313)	(320,110)	(314,076)	(6,035)	-1.9%
OVERHEAD ALLOCATION	-	-	-	-	-
ADJUSTED NET OPERATING SUBSIDY	(323,313)	(320,110)	(314,076)	(6,035)	-1.9%
TOTAL REVENUES LESS TOTAL EXPENSES	-	-	-	-	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
ADMINISTRATIVE PASS THROUGH BUDGET SUMMARY
FISCAL YEAR 2025
SECTION 4.07**

	ACTUAL FY24	ORIGINAL BUDGET FY25	AMENDED BUDGET FY25	\$ CHANGE BUDGET/ AMENDED	% CHANGE BUDGET/ AMENDED
OPERATING REVENUE					
PASSENGER REVENUE	-	-	-	-	-
OTHER OPERATING REVENUE	-	-	-	-	-
TOTAL OPERATING REVENUES	-	-	-	-	-
NON OPERATING REVENUE					
TOTAL SUBSIDY REVENUE	194,708	534,749	524,589	(10,160)	-1.9%
OTHER NON OPERATING REVENUE					
RESERVE REVENUE	-	-	-	-	-
OTHER INCOME	-	-	-	-	-
TOTAL OTHER NON OPERATING REVENUE	-	-	-	-	-
TOTAL NON OPERATING REVENUE	194,708	534,749	524,589	(10,160)	-1.9%
TOTAL COMBINED REVENUES	194,708	534,749	524,589	(10,160)	-1.9%
OPERATING EXPENSES					
LABOR EXPENSES	-	-	-	-	-
FRINGE EXPENSES	(41,319)	293,695	288,115	(5,580)	-1.9%
TOTAL PERSONNEL EXPENSES	(41,319)	293,695	288,115	(5,580)	-1.9%
SECURITY EXPENSES	-	-	-	-	-
REPAIR/MAINTENANCE SERVICES	-	-	-	-	-
ENGINE AND TRANSMISSION REBUILD	-	-	-	-	-
OTHER OUTSIDE SERVICES	236,027	241,054	236,474	(4,580)	-1.9%
PURCHASED TRANSPORTATION	-	-	-	-	-
TOTAL OUTSIDE SERVICES	236,027	241,054	236,474	(4,580)	-1.9%
LUBRICANTS	-	-	-	-	-
TIRES	-	-	-	-	-
OTHER MATERIALS AND SUPPLIES	-	-	-	-	-
TOTAL MATERIALS AND SUPPLIES	-	-	-	-	-
GAS/DIESEL/PROPANE	-	-	-	-	-
CNG	-	-	-	-	-
TRACTION POWER	-	-	-	-	-
UTILITIES	-	-	-	-	-
TOTAL ENERGY	-	-	-	-	-
RISK MANAGEMENT	-	-	-	-	-
GENERAL AND ADMINISTRATIVE	-	-	-	-	-
DEBT SERVICE	-	-	-	-	-
VEHICLE / FACILITY LEASE	-	-	-	-	-
TOTAL OPERATING EXPENSES	194,708	534,749	524,589	(10,160)	-1.9%
NET OPERATING SUBSIDY	(194,708)	(534,749)	(524,589)	(10,160)	-1.9%
OVERHEAD ALLOCATION	-	-	-	-	-
ADJUSTED NET OPERATING SUBSIDY	(194,708)	(534,749)	(524,589)	(10,160)	-1.9%
TOTAL REVENUES LESS TOTAL EXPENSES	-	-	-	-	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
REVENUE BUDGET SUMMARY
FISCAL YEAR 2025
SECTION 3.02**

	<u>ACTUAL FY24</u>	<u>ORIGINAL BUDGET FY25</u>	<u>AMENDED BUDGET FY25</u>	<u>\$ CHANGE AMENDED/ ORIGINAL</u>	<u>% CHANGE AMENDED/ ORIGINAL</u>
OPERATING REVENUE					
PASSENGER REVENUE	72,403,501	78,925,492	79,850,726	925,234	1.2%
OTHER INCOME	34,505,395	33,203,791	35,098,213	1,894,422	5.7%
TOTAL OPERATING REVENUE	106,908,896	112,129,283	114,948,939	2,819,656	2.5%
NON OPERATING REVENUE					
SUBSIDY REVENUE					
FEDERAL REVENUE	70,140,685	73,122,820	77,719,613	4,596,792	6.3%
FEDERAL REVENUE - CARES/ARP	85,000,000	47,000,000	47,394,233	394,233	0.8%
TRANSPORTATION DEVELOPMENT ACT (TDA)	92,972,439	92,809,842	90,194,289	(2,615,553)	-2.8%
STATE TRANSIT ASSISTANCE (STA)	10,088,619	11,300,000	6,246,579	(5,053,421)	-44.7%
STATE REVENUE - OTHER	4,521,334	0	9,000,000	9,000,000	-
TRANSNET	72,661,543	75,911,313	73,251,381	(2,659,932)	-3.5%
OTHER LOCAL SUBSIDIES	4,562,507	4,309,683	4,309,683	0	0.0%
TOTAL SUBSIDY REVENUE	339,947,127	304,453,658	308,115,777	3,662,120	1.2%
OTHER REVENUE					
OTHER FUNDS	-	-	-	0	-
RESERVES REVENUE	(30,505,035)	31,642,170	25,125,699	(6,516,471)	-20.6%
TOTAL OTHER REVENUE	(30,505,035)	31,642,170	25,125,699	(6,516,471)	-20.6%
TOTAL NON OPERATING REVENUE	309,442,092	336,095,827	333,241,476	(2,854,351)	-0.8%
GRAND TOTAL REVENUES	416,350,988	448,225,111	448,190,416	(34,695)	0.0%

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
NON OPERATING FUNDING SOURCES BY ACTIVITY
FISCAL YEAR 2025
SECTION 9.01**

	Federal	TDA	STA	State - Other	TransNet	Other Local	Other Non Operating	Reserves/ Carryovers	Total
SBTC	37,310,327	11,435,993	6,246,579	-	39,542,200	3,189,683	-	8,151,191	105,875,972
SDTI	51,776,605	22,584,263	-	679,119	24,182,754	-	-	17,000,000	116,222,741
MCS 801 - South Central	20,803,570	24,151,770	-	333,758	-	-	-	-	45,289,098
MCS 802 - South Bay BRT	-	664,082	-	-	4,776,165	-	-	-	5,440,247
MCS 803 - South Bay Iris Rapid	-	-	-	5,000,000	-	-	-	-	5,000,000
MCS 820 - East County	3,270,468	11,393,581	-	-	-	-	-	-	14,664,050
MCS 825 - Rural	420,000	611,358	-	-	-	-	-	-	1,031,358
MCS 830 - Commuter Express	-	602,524	-	-	-	1,000,000	-	-	1,602,524
MCS 831 - Murphy Canyon	-	-	-	-	-	-	-	-	-
MCS 835 - Central Routes 961-965	1,339,152	4,944,914	-	-	-	-	-	-	6,284,066
MCS 840 - Regional Transit Center Maintenance	-	587,733	-	-	-	-	-	-	587,733
MCS 841 - Iris Rapid Transit Center Maintenance	-	-	-	-	-	-	-	-	-
MCS 845 - BRT Superloop	-	-	-	-	402,488	-	-	-	402,488
MCS 846 - I15 Transit Center Maintenance	-	-	-	-	1,163,132	-	-	-	1,163,132
MCS 847 - Mid City Transit Center Maintenance	-	-	-	-	343,837	-	-	-	343,837
MCS 848 - South Bay BRT Transit Center Maintenance	-	-	-	-	1,134,292	-	-	-	1,134,292
MCS 850 - ADA Access	6,399,613	11,720,923	-	-	1,244,522	120,000	-	-	19,485,057
MCS 856 - ADA Certification	-	658,483	-	-	-	-	-	-	658,483
MCS 875 - Coaster Connection	-	314,076	-	-	-	-	-	-	314,076
Coronado Ferry	-	524,589	-	-	-	-	-	-	524,589
Administrative Pass Thru	-	-	-	-	-	-	-	-	-
Subtotal Operations	121,319,735	90,194,289	6,246,579	6,012,877	72,789,390	4,309,683	-	25,151,191	326,023,744
FHV Administration	-	-	-	-	-	-	-	44,193	44,193
SD&AE	-	-	-	-	-	-	-	(69,685)	(69,685)
Subtotal Other Activities	-	-	-	-	-	-	-	(25,492)	(25,492)
Administrative	3,794,111	-	-	2,987,123	461,991	-	-	-	7,243,225
Grand Total	125,113,846	90,194,289	6,246,579	9,000,000	73,251,381	4,309,683	0	25,125,699	333,241,477

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
NON OPERATING FUNDING SOURCES BY ACTIVITY
FISCAL YEAR 2025
SECTION 9.02**

	FTA 5307 Preventative Maintenance	FTA 5307 CARES/ARP Act	Federal Other	FTA 5311/ 5311(f) Rural	TDA Article 4.0	TDA Article 4.5 ADA
SDTC	21,500,000	15,810,327	-	-	11,435,993	-
SDTI	38,500,000	12,576,605	700,000	-	22,584,263	-
MCS 801 - South Central	10,000,000	10,803,570	-	-	24,151,770	-
MCS 802 - South Bay BRT	-	-	-	-	664,082	-
MCS 803 - South Bay Iris Rapid	-	-	-	-	-	-
MCS 820 - East County	-	3,270,468	-	-	11,393,581	-
MCS 825 - Rural	-	-	-	420,000	611,358	-
MCS 830 - Commuter Express	-	-	-	-	-	-
MCS 835 - Central Routes 961-965	-	1,139,152	-	200,000	4,944,914	-
MCS 840 - Regional Transit Center Maintenance	-	-	-	-	587,733	-
MCS 841 - Iris Rapid Transit Center Maintenance	-	-	-	-	-	-
MCS 845 - BRT Superloop	-	-	-	-	-	-
MCS 846 - I15 Transit Center Maintenance	-	-	-	-	-	-
MCS 847 - Mid City Transit Center Maintenance	-	-	-	-	-	-
MCS 848 - South Bay BRT Transit Center Maintenance	-	-	-	-	-	-
MCS 850 - ADA Access	6,399,613	-	-	-	5,729,357	5,991,566
MCS 856 - ADA Certification	-	-	-	-	-	658,483
MCS 875 - Coaster Connection	-	-	-	-	-	-
Coronado Ferry	-	-	-	-	-	-
Administrative Pass Thru	-	-	-	-	524,589	-
Subtotal Operations	76,399,613	43,600,122	700,000	620,000	82,627,640	6,650,049
FHV Administration	-	-	-	-	-	-
SD&AE	-	-	-	-	-	-
Subtotal Other Activities	-	-	-	-	-	-
Administrative	-	3,794,111	-	-	-	-
Grand Total	76,399,613	47,394,233	700,000	620,000	82,627,640	6,650,049

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
NON OPERATING FUNDING SOURCES BY ACTIVITY
FISCAL YEAR 2025
SECTION 9.02**

	TDA Article 8.0	STA Formula	TIRCP	Medical	TransNet Operating	TransNet Access ADA	TransNet Other
SDTC	-	6,246,579	-	-	24,610,894	-	14,931,305
SDTI	-	-	679,119	-	14,337,726	-	9,845,028
MCS 801 - South Central	-	-	333,758	-	-	-	-
MCS 802 - South Bay BRT	-	-	-	-	-	-	-
MCS 803 - South Bay Iris Rapid	-	-	5,000,000	-	-	-	4,776,165
MCS 820 - East County	-	-	-	-	-	-	-
MCS 825 - Rural	-	-	-	-	-	-	-
MCS 830 - Commuter Express	-	-	-	-	-	-	-
MCS 835 - Central Routes 961-965	602,524	-	-	-	-	-	-
MCS 840 - Regional Transit Center Maintenance	-	-	-	-	-	-	-
MCS 841 - Iris Rapid Transit Center Maintenance	-	-	-	-	-	-	-
MCS 845 - BRT Superloop	-	-	-	-	-	-	402,488
MCS 846 - 115 Transit Center Maintenance	-	-	-	-	-	-	1,163,132
MCS 847 - Mid City Transit Center Maintenance	-	-	-	-	-	-	343,837
MCS 848 - South Bay BRT Transit Center Maintenance	-	-	-	-	-	-	1,134,292
MCS 850 - ADA Access	-	-	-	-	1,180,602	-	63,920
MCS 856 - ADA Certification	-	-	-	-	-	-	-
MCS 875 - Coaster Connection	-	-	-	-	-	-	-
Coronado Ferry	314,076	-	-	-	-	-	-
Administrative Pass Thru	-	-	-	-	-	-	-
Subtotal Operations	916,600	6,246,579	6,012,877	-	38,948,620	1,180,602	32,660,168
FHV Administration	-	-	-	-	-	-	-
SD&AE	-	-	-	-	-	-	-
Subtotal Other Activities	-	-	-	-	-	-	-
Administrative	-	-	2,987,123	-	-	-	461,991
Grand Total	916,600	6,246,579	9,000,000	0	38,948,620	1,180,602	33,122,159

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**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
NON OPERATING FUNDING SOURCES BY ACTIVITY
FISCAL YEAR 2025
SECTION 9.02**

	City of San Diego	SANDAG FasTrak	Other Local	Reserves/ Carryovers	Total
SDTC	-	2,500,000	689,683	8,151,191	105,875,972
SDTI	-	-	-	17,000,000	116,222,741
MCS 801 - South Central	-	-	-	-	45,289,098
MCS 802 - South Bay BRT	-	-	-	-	5,440,247
MCS 803 - South Bay Iris Rapid	-	-	-	-	5,000,000
MCS 820 - East County	-	-	-	-	14,664,050
MCS 825 - Rural	-	-	-	-	1,031,358
MCS 830 - Commuter Express	-	1,000,000	-	-	1,602,524
MCS 835 - Central Routes 961-965	-	-	-	-	6,284,066
MCS 840 - Regional Transit Center Maintenance	-	-	-	-	587,733
MCS 841 - Iris Rapid Transit Center Maintenance	-	-	-	-	-
MCS 845 - BRT Superloop	-	-	-	-	402,488
MCS 846 - 115 Transit Center Maintenance	-	-	-	-	1,163,132
MCS 847 - Mid City Transit Center Maintenance	-	-	-	-	343,837
MCS 848 - South Bay BRT Transit Center Maintenance	-	-	-	-	1,134,292
MCS 850 - ADA Access	120,000	-	-	-	19,485,057
MCS 856 - ADA Certification	-	-	-	-	658,483
MCS 875 - Coaster Connection	-	-	-	-	-
Coronado Ferry	-	-	-	-	314,076
Administrative Pass Thru	-	-	-	-	524,589
Subtotal Operations	120,000	3,500,000	689,683	25,151,191	326,023,744
FHV Administration	-	-	-	44,193	44,193
SD&AE	-	-	-	(69,685)	(69,685)
Subtotal Other Activities	-	-	-	(25,492)	(25,492)
Administrative	-	-	-	-	7,243,225
Grand Total	120,000	3,500,000	689,683	25,125,699	333,241,477

**SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (SUMMARY FORMAT)
FISCAL YEAR 2025 AMENDED BUDGET
SECTION 10.03**

Att.A, Item 6, 03/06/25

	Original Budget	Position	Net Positons	Amended	Frozen
	FY 2025	Shifts	Requiring	FY 2025	Positions
	FTE's	FTE's	Funding Adjs	FTE's	FTE's
<u>MTS Administration</u>					
BOD ADMINISTRATION	2.0	0.0	0.0	2.0	0.0
CAPITAL PROJECTS	10.0	0.5	0.0	10.5	0.0
COMPASS CARD	0.0	0.0	0.0	0.0	0.0
EXECUTIVE	5.0	0.0	0.0	5.0	0.0
FARE SYSTEM	14.5	0.0	0.0	14.5	0.0
FINANCE	23.5	0.0	2.0	25.5	0.0
HUMAN RESOURCES	19.0	0.0	0.0	19.0	0.0
INFORMATION SECURITY	3.0	0.0	0.0	3.0	0.0
INFORMATION TECHNOLOGY	32.0	0.0	0.0	32.0	0.0
LEGAL	3.0	1.5	0.0	4.5	0.0
MARKETING	11.0	0.0	0.0	11.0	0.0
PLANNING	9.5	0.0	0.0	9.5	0.0
PROCUREMENT	16.0	0.0	0.0	16.0	0.0
RIGHT OF WAY	2.0	0.0	0.0	2.0	0.0
RISK	4.0	0.0	0.0	4.0	0.0
SECURITY	139.0	0.0	0.0	139.0	0.0
STORES (ADMIN)	2.0	0.0	0.0	2.0	0.0
STORES (BUS)	13.0	0.0	0.0	13.0	0.0
STORES (RAIL)	7.0	0.0	0.0	7.0	0.0
TELEPHONE INFORMATION SERVICES	17.0	0.0	0.0	17.0	0.0
TRANSIT STORES	8.0	0.0	0.0	8.0	0.0
Subtotal MTS Administration	340.5	2.0	2.0	344.5	0.0
<u>Bus Operations</u>					
CONTRACT SERVICES	8.5	0.0	0.0	8.5	0.0
EXECUTIVE (BUS)	3.5	-1.5	0.0	2.0	0.0
MAINTENANCE	189.0	0.0	0.0	189.0	0.0
MAINTENANCE-FACILITY	5.0	0.0	0.0	5.0	0.0
PASSENGER SERVICES	8.0	1.0	0.0	9.0	0.0
REVENUE (BUS)	6.0	0.0	0.0	6.0	0.0
SAFETY	2.0	0.0	0.0	2.0	0.0
TRAINING	11.0	0.0	0.0	11.0	0.0
TRANSPORTATION (BUS)	609.0	0.0	-28.0	581.0	0.0
Subtotal Bus Operations	842.0	-0.5	-28.0	813.5	0.0
<u>Rail Operations</u>					
EXECUTIVE (RAIL)	4.5	-0.5	0.0	4.0	0.0
FACILITIES	81.0	0.0	0.0	81.0	0.0
LIGHT RAIL VEHICLES	107.0	0.0	0.0	107.0	0.0
MAINTENANCE OF WAYSIDE	46.0	0.0	0.0	46.0	0.0
PASSENGER SUPPORT (RAIL)	23.5	-1.0	0.0	22.5	0.0
REVENUE (RAIL)	20.0	0.0	0.0	20.0	0.0
REVENUE OPERATIONS (RAIL)	13.0	0.0	0.0	13.0	0.0
TRACK	22.0	0.0	0.0	22.0	0.0
TRANSPORTATION (RAIL)	282.2	0.0	0.0	282.2	0.0
Subtotal Rail Operations	599.2	-1.5	0.0	597.7	0.0
<u>Other MTS Operations</u>					
FHV ADMINISTRATION	7.0	0.0	0.0	7.0	0.0
Subtotal Other MTS Operations	7.0	0.0	0.0	7.0	0.0
Grand Total	1,788.7	0.0	-26.0	1,762.7	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (DETAILED POSITION FORMAT) Att.A, Item 6, 03/06/25
FISCAL YEAR 2025 AMENDED BUDGET
SECTION 10.04

	Salary Grade	Original Budget FY 2025 (FTE's)	Position Shifts (FTE's)	Net Positons Requiring Funding Adjs (FTE's)	Amended FY 2025 (FTE's)	Frozen Positions (FTE's)
<u>MTS Administration</u>						
<u>BOD ADMINISTRATION</u>						
Exec Asst GC/Asst Board Clrk	8	1.0	0.0	0.0	1.0	0.0
Internal Auditor	12	1.0	0.0	0.0	1.0	0.0
BOD ADMINISTRATION TOTAL		2.0	0.0	0.0	2.0	0.0
<u>CAPITAL PROJECTS</u>						
Administrative Assistant	2	1.0	-1.0	0.0	0.0	0.0
Director of Capital Projects	17	1.0	0.0	0.0	1.0	0.0
Engineering Intern	0	0.0	0.5	0.0	0.5	0.0
Project Engineer	12	2.0	0.0	0.0	2.0	0.0
Project Manager	13	2.0	0.0	0.0	2.0	0.0
Regulatory Liaison&Permit Asst	7	0.0	1.0	0.0	1.0	0.0
Senior Project Manager	14	3.0	0.0	0.0	3.0	0.0
Sr. Project Manager - Rail Sys	14	1.0	0.0	0.0	1.0	0.0
CAPITAL PROJECTS TOTAL		10.0	0.5	0.0	10.5	0.0
<u>COMPASS CARD</u>						
COMPASS CARD TOTAL		0.0	0.0	0.0	0.0	0.0
<u>EXECUTIVE</u>						
Chief Executive Officer		1.0	0.0	0.0	1.0	0.0
Exec Asst/Clerk of the Board	9	1.0	0.0	0.0	1.0	0.0
Grants Administrator	9	1.0	0.0	0.0	1.0	0.0
Grants Analyst	8	1.0	0.0	0.0	1.0	0.0
Manager of Government Affairs	13	1.0	0.0	0.0	1.0	0.0
EXECUTIVE TOTAL		5.0	0.0	0.0	5.0	0.0
<u>FARE SYSTEM</u>						
Call/Service Center Rep (FT)	1	4.0	0.0	0.0	4.0	0.0
Call/Service Center Rep (PT)	1	1.5	0.0	0.0	1.5	0.0
Director of Fare Technology &	14	1.0	0.0	0.0	1.0	0.0
Fare Systems Administrator	9	1.0	0.0	0.0	1.0	0.0
Mgr of PRONTO & Passenger Supp	9	1.0	0.0	0.0	1.0	0.0
Service Center Specialist (FT)	2	5.0	0.0	0.0	5.0	0.0
Supervisor of Pronto Support	7	1.0	0.0	0.0	1.0	0.0
FARE SYSTEM TOTAL		14.5	0.0	0.0	14.5	0.0
<u>FINANCE</u>						
Chief Financial Officer	20	1.0	0.0	0.0	1.0	0.0
Accounting Assistant	3	3.0	0.0	0.0	3.0	0.0
Accounting Manager	12	1.0	0.0	0.0	1.0	0.0
Accounting Supervisor	9	0.0	0.0	1.0	1.0	0.0
Assistant Controller	13	0.0	1.0	0.0	1.0	0.0
Controller	17	1.0	0.0	0.0	1.0	0.0
Deputy Chief Financial Officer	18	1.0	0.0	0.0	1.0	0.0
Executive Assistant (CFO)	8	1.0	0.0	0.0	1.0	0.0
Finance Intern	1	0.5	0.0	0.0	0.5	0.0
Financial Analyst	9	2.0	-1.0	0.0	1.0	0.0
Manager of Financial Planning	13	1.0	0.0	0.0	1.0	0.0
Payroll Coordinator	7	3.0	0.0	0.0	3.0	0.0
Payroll Manager	12	1.0	0.0	0.0	1.0	0.0
Payroll Supervisor	10	1.0	0.0	0.0	1.0	0.0
Senior Accountant	10	2.0	-2.0	0.0	0.0	0.0
Senior Financial Analyst	10	0.0	1.0	0.0	1.0	0.0
Staff Accountant I	7	2.0	0.0	0.0	2.0	0.0
Staff Accountant II	8	2.0	1.0	1.0	4.0	0.0
Transit Asset Mgmt Program Mgr	11	1.0	0.0	0.0	1.0	0.0
FINANCE TOTAL		23.5	0.0	2.0	25.5	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (DETAILED POSITION FORMAT) Att.A, Item 6, 03/06/25
FISCAL YEAR 2025 AMENDED BUDGET
SECTION 10.04

	Salary Grade	Original Budget	Position	Net Positons	Amended	Frozen
		FY 2025	Shifts	Requiring	FY 2025	Positions
		(FTE's)	(FTE's)	Funding Adjs	(FTE's)	(FTE's)
<u>HUMAN RESOURCES</u>						
Benefits & Comp Analyst	10	3.0	0.0	0.0	3.0	0.0
Chief Human Resources Officer	19	1.0	0.0	0.0	1.0	0.0
Director of Human Resources	16	1.0	0.0	0.0	1.0	0.0
Human Resources Assistant	3	3.0	-1.0	0.0	2.0	0.0
Human Resources Specialist	6	1.0	2.0	0.0	3.0	0.0
Leadership Dev Specialist	12	1.0	0.0	0.0	1.0	0.0
Manager of Benefits & Comp	13	1.0	0.0	0.0	1.0	0.0
Manager of Talent Acquisition	13	1.0	0.0	0.0	1.0	0.0
Office Support Coordinator	2	1.0	0.0	0.0	1.0	0.0
Senior Human Resources Analyst	11	1.0	0.0	0.0	1.0	0.0
Talent Acquisition Specialist	10	5.0	-1.0	0.0	4.0	0.0
HUMAN RESOURCES TOTAL		19.0	0.0	0.0	19.0	0.0
<u>INFORMATION SECURITY</u>						
Info Security & Intel Eng	12	2.0	0.0	0.0	2.0	0.0
Information Security Manager	14	1.0	0.0	0.0	1.0	0.0
INFORMATION SECURITY TOTAL		3.0	0.0	0.0	3.0	0.0
<u>INFORMATION TECHNOLOGY</u>						
Business Systems Analyst (SAP)	13	1.0	0.0	0.0	1.0	0.0
Chief Information Officer	19	1.0	0.0	0.0	1.0	0.0
Database Administrator	13	1.0	-1.0	0.0	0.0	0.0
ETL Developer	13	1.0	-1.0	0.0	0.0	0.0
Executive Assistant (CIO)	8	1.0	0.0	0.0	1.0	0.0
IT Development Manager	14	1.0	0.0	0.0	1.0	0.0
IT Enterprise Architect (IoT)	13	1.0	0.0	0.0	1.0	0.0
IT Operations Manager	14	1.0	0.0	0.0	1.0	0.0
IT Support Specialist	7	4.0	0.0	0.0	4.0	0.0
Network Engineer I	10	2.0	0.0	0.0	2.0	0.0
Network Engineer II	11	2.0	0.0	0.0	2.0	0.0
Network Engineer III	12	1.0	0.0	0.0	1.0	0.0
Network Operations Manager	14	1.0	0.0	0.0	1.0	0.0
Project Administrator	8	1.0	0.0	0.0	1.0	0.0
Report Development Analyst	10	1.0	0.0	0.0	1.0	0.0
SAP Software Developer	13	0.0	1.0	0.0	1.0	0.0
Senior Systems Administrator	12	3.0	0.0	0.0	3.0	0.0
Service Desk Supervisor	10	1.0	0.0	0.0	1.0	0.0
Software Developer	13	3.0	0.0	0.0	3.0	0.0
Sr Data Warehouse Engineer	13	0.0	1.0	0.0	1.0	0.0
Systems Administrator	11	4.0	0.0	0.0	4.0	0.0
Technical Project Manager	13	1.0	0.0	0.0	1.0	0.0
INFORMATION TECHNOLOGY TOTAL		32.0	0.0	0.0	32.0	0.0
<u>LEGAL</u>						
General Counsel	19	1.0	0.0	0.0	1.0	0.0
Deputy General Counsel	15	1.0	0.0	0.0	1.0	0.0
Env Health & Safety Manager	13	0.0	1.0	0.0	1.0	0.0
Envi Health & Safety Intern	1	0.0	0.5	0.0	0.5	0.0
Staff Attorney	13	1.0	0.0	0.0	1.0	0.0
LEGAL TOTAL		3.0	1.5	0.0	4.5	0.0
<u>MARKETING</u>						
Dir Marketing & Communications	16	1.0	0.0	0.0	1.0	0.0
Community Engagement Specialist	8	1.0	0.0	0.0	1.0	0.0
Creative Design Manager	11	1.0	0.0	0.0	1.0	0.0
Digital Content Developer	8	1.0	0.0	0.0	1.0	0.0
Graphic Designer	7	2.0	0.0	0.0	2.0	0.0
Marketing Assistant	2	1.0	-1.0	0.0	0.0	0.0
Marketing Coordinator	OLD	0.0	1.0	0.0	1.0	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (DETAILED POSITION FORMAT) Att.A, Item 6, 03/06/25
FISCAL YEAR 2025 AMENDED BUDGET
SECTION 10.04

	Salary Grade	Original Budget	Position	Net Positons	Amended	Frozen
		FY 2025	Shifts	Requiring	FY 2025	Positions
		(FTE's)	(FTE's)	Funding Adjs	(FTE's)	(FTE's)
Mgr of Marketing & Communicati	12	1.0	0.0	0.0	1.0	0.0
Multimedia Designer	8	1.0	0.0	0.0	1.0	0.0
Public Relations Specialist	10	1.0	0.0	0.0	1.0	0.0
Social Media Coordinator	3	1.0	0.0	0.0	1.0	0.0
MARKETING TOTAL		11.0	0.0	0.0	11.0	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (DETAILED POSITION FORMAT) Att.A, Item 6, 03/06/25
FISCAL YEAR 2025 AMENDED BUDGET
SECTION 10.04

	Salary Grade	Original Budget	Position	Net Positons	Amended	Frozen
		FY 2025	Shifts	Requiring	FY 2025	Positions
		(FTE's)	(FTE's)	Funding Adj's	(FTE's)	(FTE's)
<u>PLANNING</u>						
Assoc Transportation Planner	8	3.0	-2.0	0.0	1.0	0.0
Dir of Planning & Scheduling	15	1.0	0.0	0.0	1.0	0.0
Manager of Scheduling	13	1.0	0.0	0.0	1.0	0.0
Planning Intern	1	0.5	0.0	0.0	0.5	0.0
Senior Scheduler	8	2.0	0.0	0.0	2.0	0.0
Senior Transportation Planner	10	1.0	1.0	0.0	2.0	0.0
Transit Services Data Analyst	8	1.0	1.0	0.0	2.0	0.0
PLANNING TOTAL		9.5	0.0	0.0	9.5	0.0
<u>PROCUREMENT</u>						
Manager of Procurement	13	1.0	0.0	0.0	1.0	0.0
Buyer	7	1.0	0.0	0.0	1.0	0.0
Contract Specialist	7	1.0	0.0	0.0	1.0	0.0
Contracts Administrator	9	1.0	0.0	0.0	1.0	0.0
Director of Supply Chain & Ops	15	1.0	0.0	0.0	1.0	0.0
Principal Contract Admin	11	1.0	0.0	0.0	1.0	0.0
Procurement Specialist	10	9.0	0.0	0.0	9.0	0.0
Senior Procurement Specialist	11	1.0	0.0	0.0	1.0	0.0
PROCUREMENT TOTAL		16.0	0.0	0.0	16.0	0.0
<u>RIGHT OF WAY</u>						
Manager of Real Estate Assets	14	1.0	0.0	0.0	1.0	0.0
Right of Way Permit Coord	9	1.0	0.0	0.0	1.0	0.0
RIGHT OF WAY TOTAL		2.0	0.0	0.0	2.0	0.0
<u>RISK</u>						
Claims Specialist	7	1.0	0.0	0.0	1.0	0.0
Liability Claims Supervisor	10	1.0	0.0	0.0	1.0	0.0
Manager of Risk and Claims	13	1.0	0.0	0.0	1.0	0.0
Workers' Compensation Analyst	8	1.0	0.0	0.0	1.0	0.0
RISK TOTAL		4.0	0.0	0.0	4.0	0.0
<u>SECURITY</u>						
Asst Mgr of Field Operations	10	2.0	-1.0	0.0	1.0	0.0
Clerk Typist/Data Entry TSS	BU	3.0	-1.0	0.0	2.0	0.0
Code Compl Insp-Canine Handler	BU	3.0	0.0	0.0	3.0	0.0
Code Compliance Inspector	BU	95.0	0.0	0.0	95.0	0.0
Code Compliance Investigator	10	0.0	1.0	0.0	1.0	0.0
Code Compliance Supervisor	8	20.0	0.0	0.0	20.0	0.0
Code Compliance Train Sup (MC)	9	1.0	0.0	0.0	1.0	0.0
Dep Dir of Transit Sec & Pass	13	1.0	0.0	0.0	1.0	0.0
Dir of Transit Security & Pass	17	1.0	0.0	0.0	1.0	0.0
Dispatch Sup - Transit Enf	8	2.0	0.0	0.0	2.0	0.0
Dispatcher - Transit Enf	BU	5.0	0.0	0.0	5.0	0.0
Mgr of Ops-Transit Sec & Pass	11	1.0	0.0	0.0	1.0	0.0
Operational and Crime Data Ana	8	1.0	0.0	0.0	1.0	0.0
Professional Standards Manager	10	1.0	0.0	0.0	1.0	0.0
Records Manager	10	1.0	0.0	0.0	1.0	0.0
Records Specialist	7	1.0	1.0	0.0	2.0	0.0
Security Systems Administrator	9	1.0	0.0	0.0	1.0	0.0
SECURITY TOTAL		139.0	0.0	0.0	139.0	0.0
<u>STORES (ADMIN)</u>						
Inventory Planning and Forecas	9	1.0	0.0	0.0	1.0	0.0
Manager of Inventory Ops	12	1.0	0.0	0.0	1.0	0.0
STORES (ADMIN) TOTAL		2.0	0.0	0.0	2.0	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (DETAILED POSITION FORMAT) Att.A, Item 6, 03/06/25
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	Salary Grade	Original Budget	Position	Net Positons	Amended	Frozen
		FY 2025 (FTE's)	Shifts (FTE's)	Requiring Funding Adjs (FTE's)	FY 2025 (FTE's)	Positions (FTE's)
<u>STORES (BUS)</u>						
Storeroom Clerks - IAD	BU	5.0	0.0	0.0	5.0	0.0
Storeroom Clerks - KMD	BU	6.0	0.0	0.0	6.0	0.0
Supervisor of Warehouse Ops	8	2.0	0.0	0.0	2.0	0.0
STORES (BUS) TOTAL		13.0	0.0	0.0	13.0	0.0
<u>STORES (RAIL)</u>						
Storekeeper	BU	6.0	0.0	0.0	6.0	0.0
Supervisor of Warehouse Ops	8	1.0	0.0	0.0	1.0	0.0
STORES (RAIL) TOTAL		7.0	0.0	0.0	7.0	0.0
<u>TELEPHONE INFORMATION SERVICES</u>						
Asst Supvr of Info & Trip Plan	7	1.0	0.0	0.0	1.0	0.0
Info & Trip Planning Supvr	8	1.0	0.0	0.0	1.0	0.0
Info and Trip Planning Clerk	BU	15.0	0.0	0.0	15.0	0.0
TELEPHONE INFORMATION SERVICES TO		17.0	0.0	0.0	17.0	0.0
<u>TRANSIT STORES</u>						
Transit Store Supervisor	7	1.0	0.0	0.0	1.0	0.0
Asst Transit Store Supervisor	7	1.0	0.0	0.0	1.0	0.0
Senior Transit Store Clerk	BU	1.0	0.0	0.0	1.0	0.0
Transit Store Clerk	BU	5.0	0.0	0.0	5.0	0.0
TRANSIT STORES TOTAL		8.0	0.0	0.0	8.0	0.0
Subtotal MTS Administration		340.5	2.0	2.0	344.5	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (DETAILED POSITION FORMAT) Att.A, Item 6, 03/06/25
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	Salary Grade	Original Budget	Position	Net Positons	Amended	Frozen
		FY 2025	Shifts	Requiring	FY 2025	Positions
		(FTE's)	(FTE's)	Funding Adjs	(FTE's)	(FTE's)
Bus Operations						
CONTRACT SERVICES						
Director of Contract Services	15	1.0	0.0	0.0	1.0	0.0
Contract Operations Administra	6	1.0	0.0	0.0	1.0	0.0
Intern - Transit Services	0	0.5	0.0	0.0	0.5	0.0
Mgr of Paratransit & Mini Bus	13	1.0	0.0	0.0	1.0	0.0
Passenger Facilities Coord.	2	2.0	0.0	0.0	2.0	0.0
Sr Contract Operations Adminis	9	1.0	0.0	0.0	1.0	0.0
Supervisor of Para-Transit	7	1.0	0.0	0.0	1.0	0.0
Supvr of Passenger Facilities	10	1.0	0.0	0.0	1.0	0.0
CONTRACT SERVICES TOTAL		8.5	0.0	0.0	8.5	0.0
EXECUTIVE (BUS)						
Chief Op Officer-Transit Servs	20	1.0	0.0	0.0	1.0	0.0
Env Health & Safety Manager	13	1.0	-1.0	0.0	0.0	0.0
Envi Health & Safety Intern	1	0.5	-0.5	0.0	0.0	0.0
Executive Assistant (COO Bus)	8	1.0	0.0	0.0	1.0	0.0
EXECUTIVE (BUS) TOTAL		3.5	-1.5	0.0	2.0	0.0
MAINTENANCE						
Admin Asst II - Maintenance	3	1.0	0.0	0.0	1.0	0.0
Administrative Assistant - Mai	2	1.0	0.0	0.0	1.0	0.0
Body Shop Apprentice I - KMD	BU	1.0	0.0	0.0	1.0	0.0
Body Shop Apprentice II - KMD	BU	2.0	0.0	0.0	2.0	0.0
Bus Maintenance Trainer	11	1.0	0.0	0.0	1.0	0.0
Communications Tech - IAD	BU	2.0	0.0	0.0	2.0	0.0
Dir of Fleet & Facility Maint	16	1.0	0.0	0.0	1.0	0.0
Division Manager (Maint) - IAD	13	1.0	0.0	0.0	1.0	0.0
Division Manager (Maint) - KMD	13	1.0	0.0	0.0	1.0	0.0
Electronics Apprentice I - IAD	BU	0.0	2.0	0.0	2.0	0.0
Foreman - IAD	11	9.0	0.0	0.0	9.0	0.0
Foreman - KMD	11	7.0	0.0	0.0	7.0	0.0
Maintenance Analyst	7	1.0	0.0	0.0	1.0	0.0
Mechanic A - IAD	BU	20.0	0.0	0.0	20.0	0.0
Mechanic A - KMD	BU	26.0	0.0	0.0	26.0	0.0
Mechanic Apprentice I - IAD	BU	8.0	0.0	0.0	8.0	0.0
Mechanic Apprentice I - KMD	BU	11.0	-2.0	0.0	9.0	0.0
Mechanic Apprentice II - IAD	BU	3.0	0.0	0.0	3.0	0.0
Mechanic Apprentice II - KMD	BU	2.0	0.0	0.0	2.0	0.0
Mechanic C - IAD	BU	17.0	0.0	0.0	17.0	0.0
Mechanic C - KMD	BU	9.0	0.0	0.0	9.0	0.0
Quality Assurance Inspector	10	1.0	0.0	0.0	1.0	0.0
Quality Assurance Supervisor	11	1.0	0.0	0.0	1.0	0.0
Servicer A - IAD	BU	48.0	0.0	0.0	48.0	0.0
Servicer A - KMD	BU	12.0	0.0	0.0	12.0	0.0
Sign Truck Operator	BU	1.0	0.0	0.0	1.0	0.0
Sup of Maintenance Training	12	1.0	0.0	0.0	1.0	0.0
ZEV and Sustainability Manager	13	1.0	0.0	0.0	1.0	0.0
MAINTENANCE TOTAL		189.0	0.0	0.0	189.0	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (DETAILED POSITION FORMAT) Att.A, Item 6, 03/06/25
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	Salary Grade	Original Budget	Position	Net Positons	Amended	Frozen
		FY 2025	Shifts	Requiring	FY 2025	Positions
		(FTE's)	(FTE's)	Funding Adjs	(FTE's)	(FTE's)
<u>MAINTENANCE-FACILITY</u>						
Bldng Maint Apprentice - IAD	BU	2.0	0.0	0.0	2.0	0.0
Facilities Supervisor - Bus	7	1.0	0.0	0.0	1.0	0.0
Mechanic A - Facilities - IAD	BU	2.0	0.0	0.0	2.0	0.0
MAINTENANCE-FACILITY TOTAL		5.0	0.0	0.0	5.0	0.0
<u>PASSENGER SERVICES</u>						
Customer Service Supervisor	6	2.0	0.0	0.0	2.0	0.0
Asst Passenger Support Sup	5	0.0	1.0	0.0	1.0	0.0
Director of Support Services	14	1.0	0.0	0.0	1.0	0.0
Operations Asst - Ride Checker	0	1.0	0.0	0.0	1.0	0.0
Passenger Support Supervisor	7	1.0	0.0	0.0	1.0	0.0
Support Services Analyst	6	1.0	0.0	0.0	1.0	0.0
Support Services Coordinator	2	2.0	0.0	0.0	2.0	0.0
PASSENGER SERVICES TOTAL		8.0	1.0	0.0	9.0	0.0
<u>REVENUE (BUS)</u>						
Asst Rev Technicians - IAD	BU	2.0	0.0	0.0	2.0	0.0
Asst Rev Technicians - KMD	BU	1.0	0.0	0.0	1.0	0.0
Revenue Technicians - IAD	BU	2.0	0.0	0.0	2.0	0.0
Revenue Technicians - KMD	BU	1.0	0.0	0.0	1.0	0.0
REVENUE (BUS) TOTAL		6.0	0.0	0.0	6.0	0.0
<u>SAFETY</u>						
Manager of Safety (Bus)	13	1.0	0.0	0.0	1.0	0.0
Transit Safety Specialist	9	1.0	0.0	0.0	1.0	0.0
SAFETY TOTAL		2.0	0.0	0.0	2.0	0.0
<u>TRAINING</u>						
Bus Op Training Instructor	8	8.0	0.0	0.0	8.0	0.0
Manager of Training (Transp)	11	1.0	0.0	0.0	1.0	0.0
Training Administrator	5	1.0	0.0	0.0	1.0	0.0
Training Development Specialis	8	1.0	0.0	0.0	1.0	0.0
TRAINING TOTAL		11.0	0.0	0.0	11.0	0.0
<u>TRANSPORTATION (BUS)</u>						
Director of Transportation	17	1.0	0.0	0.0	1.0	0.0
Admin Asst II - Operations	3	1.0	0.0	0.0	1.0	0.0
Bus Operators - F/T	BU	565.0	0.0	-28.0	537.0	0.0
Comm/Ops Supv-Dispatch IAD	10	8.0	0.0	0.0	8.0	0.0
Comm/Ops Supv-Radio	10	8.0	0.0	0.0	8.0	0.0
Dispatch Clerk	BU	4.0	0.0	0.0	4.0	0.0
Dispatch Clerk - KMD	BU	2.0	0.0	0.0	2.0	0.0
Manager of Service Operations	12	1.0	0.0	0.0	1.0	0.0
Manager of Transp Comm & Tech	12	1.0	0.0	0.0	1.0	0.0
Service Operations Supervisor	10	14.0	0.0	0.0	14.0	0.0
Trans Div Manager - IAD	13	1.0	0.0	0.0	1.0	0.0
Trans Div Manager - KMD	13	1.0	0.0	0.0	1.0	0.0
Transp Comm & Technology Supvr	11	1.0	0.0	0.0	1.0	0.0
Transp Service Quality Spec	7	1.0	0.0	0.0	1.0	0.0
TRANSPORTATION (BUS) TOTAL		609.0	0.0	-28.0	581.0	0.0
Subtotal Bus Operations		842.0	-0.5	-28.0	813.5	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
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	Original Budget	Position	Net Positons	Amended	Frozen	
Salary	FY 2025	Shifts	Requiring	FY 2025	Positions	
Grade	(FTE's)	(FTE's)	Funding Adjs	(FTE's)	(FTE's)	
			(FTE's)			
<u>Rail Operations</u>						
<u>EXECUTIVE (RAIL)</u>						
Chief Operating Officer (Rail)	20	1.0	0.0	0.0	1.0	0.0
Engineering Intern	0	0.5	-0.5	0.0	0.0	0.0
Manager of Special Operations	12	1.0	0.0	0.0	1.0	0.0
System Safety Manager (Rail)	13	1.0	0.0	0.0	1.0	0.0
System Safety Specialist	10	1.0	0.0	0.0	1.0	0.0
EXECUTIVE (RAIL) TOTAL		4.5	-0.5	0.0	4.0	0.0
<u>FACILITIES</u>						
Admin Asst II - Facilities	3	1.0	0.0	0.0	1.0	0.0
Director of Rail Facilities	16	1.0	0.0	0.0	1.0	0.0
Facilities Supervisor	7	6.0	0.0	0.0	6.0	0.0
Manager of Rail Facilities	11	1.0	0.0	0.0	1.0	0.0
Serviceperson	BU	72.0	0.0	0.0	72.0	0.0
FACILITIES TOTAL		81.0	0.0	0.0	81.0	0.0
<u>LIGHT RAIL VEHICLES</u>						
Assistant Training Sup - LRV	11	1.0	0.0	0.0	1.0	0.0
Clerk Typist/Data Entry LRV	BU	2.0	0.0	0.0	2.0	0.0
Director of LRV Maintenance	16	1.0	0.0	0.0	1.0	0.0
LRV Asst Lineman	BU	23.0	4.0	0.0	27.0	0.0
LRV Electromechanic	BU	47.0	1.0	0.0	48.0	0.0
LRV Lineman	BU	19.0	-5.0	0.0	14.0	0.0
LRV Maint Supervisor	11	10.0	0.0	0.0	10.0	0.0
LRV Project Cordinator/Analyst	10	1.0	0.0	0.0	1.0	0.0
Maintenance Analyst (LRV)	6	1.0	0.0	0.0	1.0	0.0
Manager of LRV Maintenance	13	1.0	0.0	0.0	1.0	0.0
Training Supervisor - LRV	12	1.0	0.0	0.0	1.0	0.0
LIGHT RAIL VEHICLES TOTAL		107.0	0.0	0.0	107.0	0.0
<u>MAINTENANCE OF WAYSIDE</u>						
Asst Training Supervisor - MOW	11	1.0	0.0	0.0	1.0	0.0
Director of MOW	16	1.0	0.0	0.0	1.0	0.0
Manager of MOW	13	1.0	0.0	0.0	1.0	0.0
MOW Contracts & Budget Analyst	9	1.0	0.0	0.0	1.0	0.0
Training Supervisor - MOW	12	1.0	0.0	0.0	1.0	0.0
Wayside Assistant Lineman	BU	11.0	2.0	0.0	13.0	0.0
Wayside Electromechanic	BU	17.0	-2.0	0.0	15.0	0.0
Wayside Lineman	BU	8.0	0.0	0.0	8.0	0.0
Wayside Maintenance Supervisor	11	5.0	0.0	0.0	5.0	0.0
MAINTENANCE OF WAYSIDE TOTAL		46.0	0.0	0.0	46.0	0.0
<u>PASSENGER SUPPORT (RAIL)</u>						
Lead Passenger Support Rep	2	2.0	-0.5	0.0	1.5	0.0
Passenger Support Rep	1	21.5	-0.5	0.0	21.0	0.0
PASSENGER SUPPORT (RAIL) TOTAL		23.5	-1.0	0.0	22.5	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
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	Salary Grade	Original Budget	Position	Net Positons	Amended	Frozen
		FY 2025	Shifts	Requiring	FY 2025	Positions
		(FTE's)	(FTE's)	Funding Adjs	(FTE's)	(FTE's)
<u>REVENUE (RAIL)</u>						
Lead Revenue Maint Supervisor	12	1.0	0.0	0.0	1.0	0.0
Revenue Maintainer I	BU	4.0	-1.0	0.0	3.0	0.0
Revenue Maintainer II	BU	5.0	-2.0	0.0	3.0	0.0
Revenue Maintainer III	BU	9.0	3.0	0.0	12.0	0.0
Revenue Maintenance Supervisor	11	1.0	0.0	0.0	1.0	0.0
REVENUE (RAIL) TOTAL		20.0	0.0	0.0	20.0	0.0
<u>REVENUE OPERATIONS (RAIL)</u>						
Collector / Processor	BU	8.0	0.0	0.0	8.0	0.0
Revenue Analyst (Rail)	7	1.0	0.0	0.0	1.0	0.0
Revenue Operations Assistant	1	1.0	0.0	0.0	1.0	0.0
Revenue Operations Manager	10	1.0	0.0	0.0	1.0	0.0
Ridership Surveyor	BU	2.0	0.0	0.0	2.0	0.0
REVENUE OPERATIONS (RAIL) TOTAL		13.0	0.0	0.0	13.0	0.0
<u>TRACK</u>						
Manager of Track and Structure	12	1.0	0.0	0.0	1.0	0.0
Track Supervisor	11	2.0	0.0	0.0	2.0	0.0
Trackperson	BU	14.0	2.0	0.0	16.0	0.0
Trackperson Equip Op	BU	5.0	-2.0	0.0	3.0	0.0
TRACK TOTAL		22.0	0.0	0.0	22.0	0.0
<u>TRANSPORTATION (RAIL)</u>						
Assignments Supervisor	10	5.0	0.0	0.0	5.0	0.0
Central Control Info Rep	7	1.0	0.0	0.0	1.0	0.0
Central Control Supervisor	11	2.0	0.0	0.0	2.0	0.0
Construction Safety Flagperson	PT	42.5	0.0	0.0	42.5	0.0
Construction Safety Supervisor	7	4.0	0.0	0.0	4.0	0.0
Dir of Rail Transportation	17	1.0	0.0	0.0	1.0	0.0
Lead Transportation Sup	11	1.0	0.0	0.0	1.0	0.0
Manager of Rail Transportation	13	1.0	0.0	0.0	1.0	0.0
Train Operator	BU	137.0	0.0	0.0	137.0	0.0
Train Operator - PT	BU	52.7	0.0	0.0	52.7	0.0
Training Supervisor - Trans	11	3.0	0.0	0.0	3.0	0.0
Transportation Controller	10	16.0	0.0	0.0	16.0	0.0
Transportation Supervisor	10	16.0	0.0	0.0	16.0	0.0
TRANSPORTATION (RAIL) TOTAL		282.2	0.0	0.0	282.2	0.0
Subtotal Rail Operations		599.2	-1.5	0.0	597.7	0.0

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
POSITION INFORMATION (DETAILED POSITION FORMAT) Att.A, Item 6, 03/06/25
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	Original Budget	Position	Net Positons	Amended	Frozen	
Salary	FY 2025	Shifts	Requiring	FY 2025	Positions	
Grade	(FTE's)	(FTE's)	Funding Adjs	(FTE's)	(FTE's)	
			(FTE's)			
<u>Other MTS Operations</u>						
<u>FHV ADMINISTRATION</u>						
For-Hire Vehicle Administratio	11	1.0	0.0	0.0	1.0	0.0
Regulatory Analyst	7	1.0	0.0	0.0	1.0	0.0
Regulatory Assistant	7	1.0	0.0	0.0	1.0	0.0
Regulatory Inspector	3	3.0	0.0	0.0	3.0	0.0
Regulatory Supervisor	8	1.0	0.0	0.0	1.0	0.0
FHV ADMINISTRATION TOTAL	7.0	0.0	0.0	7.0	0.0	
Subtotal Other MTS Operations	7.0	0.0	0.0	7.0	0.0	
Grand Total	1,788.7	0.0	-26.0	1,762.7	0.0	

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

Resolution No. 25-01

Resolution Approving Amendments to FY 2025 Budget

WHEREAS, the San Diego Metropolitan Transit System (MTS) Board of Directors adopted Resolution No. 24-6 on June 20, 2024, approving the fiscal year (FY) 2025 budgets for MTS, San Diego Transit Corporation, San Diego Trolley, Inc., MTS Contract Services, and Coronado Ferry;

NOW THEREFORE, BE IT RESOLVED, by the MTS Board of Directors, hereinafter "Board," as follows:

1. That the changes to the FY 2025 Operating Budget, per the proposed attached Budget Amendments are approved.

PASSED AND ADOPTED, by the Board of Directors this 13TH day of March, 2025 by the following vote:

AYES:

NAYS:

ABSENT:

ABSTAINING:

Chairperson
San Diego Metropolitan Transit System

Filed by:

Approved as to form:

Clerk of the Board
San Diego Metropolitan Transit System

General Counsel
San Diego Metropolitan Transit System



**Metropolitan
Transit
System**

Item No. 6, 03/06/2025

FY 2025 Operating Budget Amendment

Executive Committee

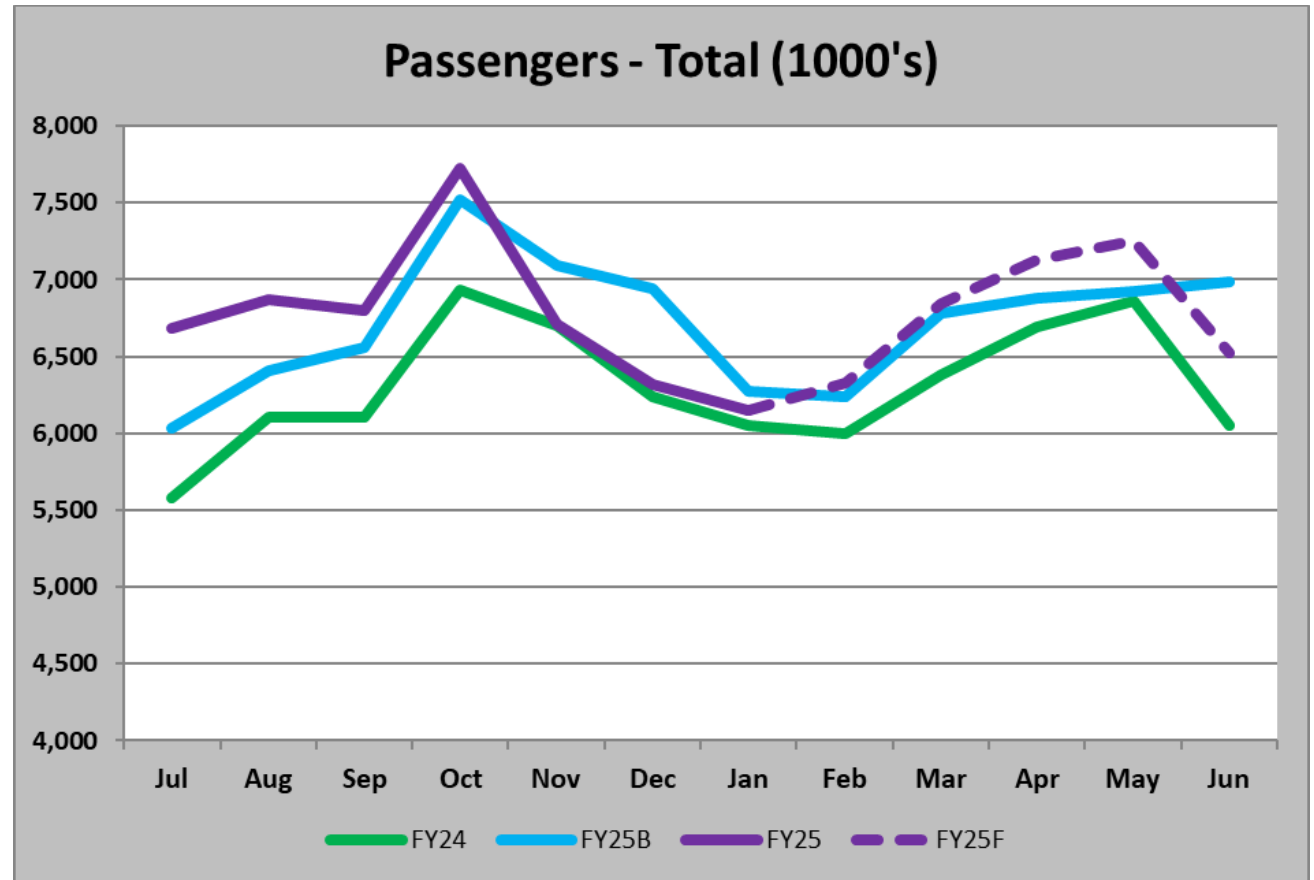


Fiscal Year 2025 Operating Budget

Revenue Assumptions - Passenger Levels

Ridership update

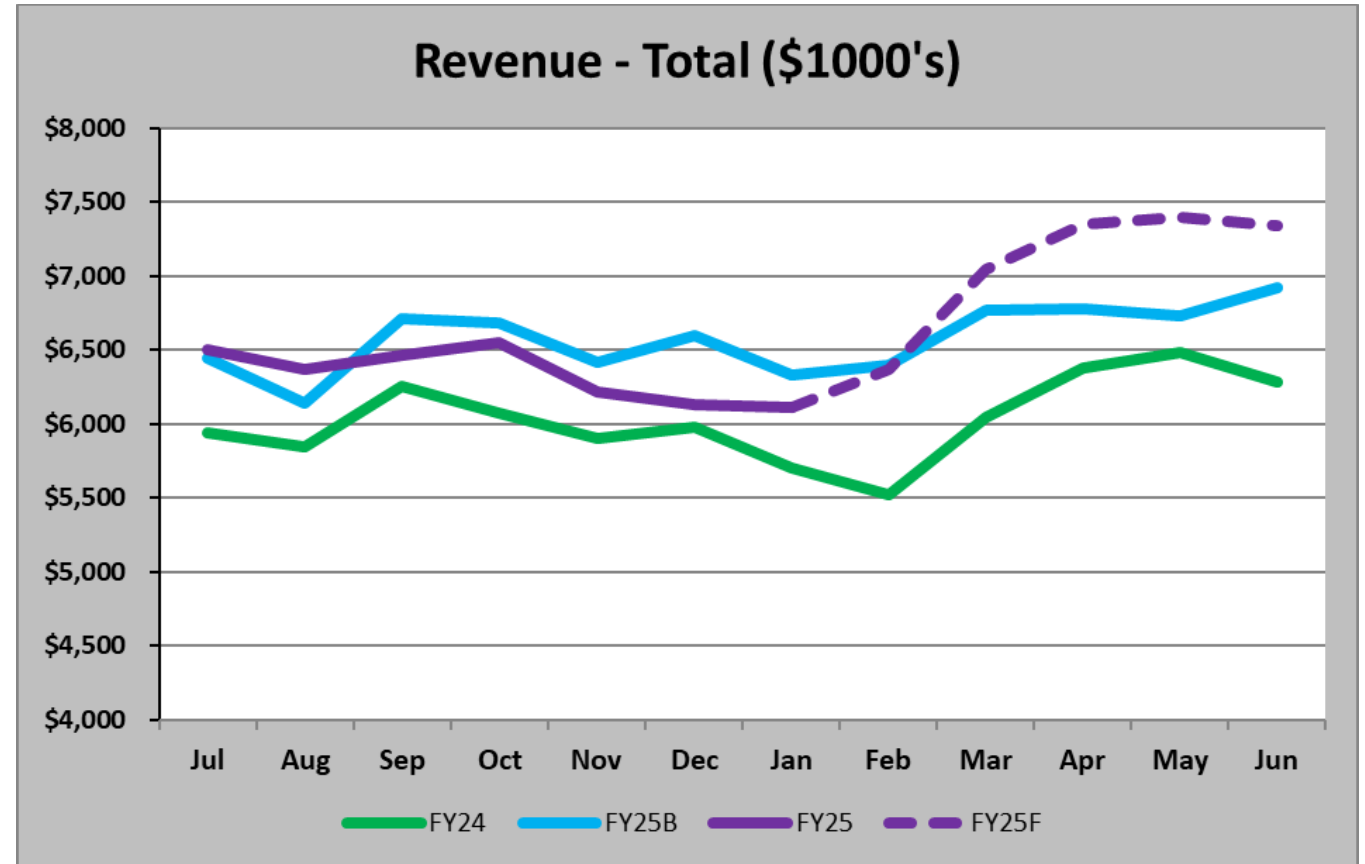
- 80.6M passengers projected in original budget
- Budget target was 6.5% over prior year actual ridership
 - Actual ridership 9.1% YoY through December
 - Strong July through October
 - November/December only 1.5% growth over last year
- Now projecting 81.3M passengers
 - 667K (0.8%) increase in ridership
 - Represents 7.4% YoY growth



Fiscal Year 2025 Operating Budget

Revenue Assumptions - Passenger Revenue

- Passenger Revenue
 - Original budget of \$78.9M
 - 9.0% over prior year actual
 - \$755K (-1.9%) unfavorable to budget through December
 - Average fare -3.2% below budget (\$0.93 vs. \$0.98)
 - Fare enforcement began Feb. 1st
 - Strong results so far
 - Assuming \$0.98 average fare in new forecast
 - Amended budget: \$79.9M
 - Increase of \$925K (1.2%) versus original budget
 - Represents 10.3% YoY growth



Fiscal Year 2025 Operating Budget

Revenue Assumptions – Other Revenue

- Energy Credits

- LCFS and RINs programs

- Generate credits based on consumption of RNG, electricity, and propane
 - Credits sold in market – generate \$8M annual revenue on average

- LCFS credit price

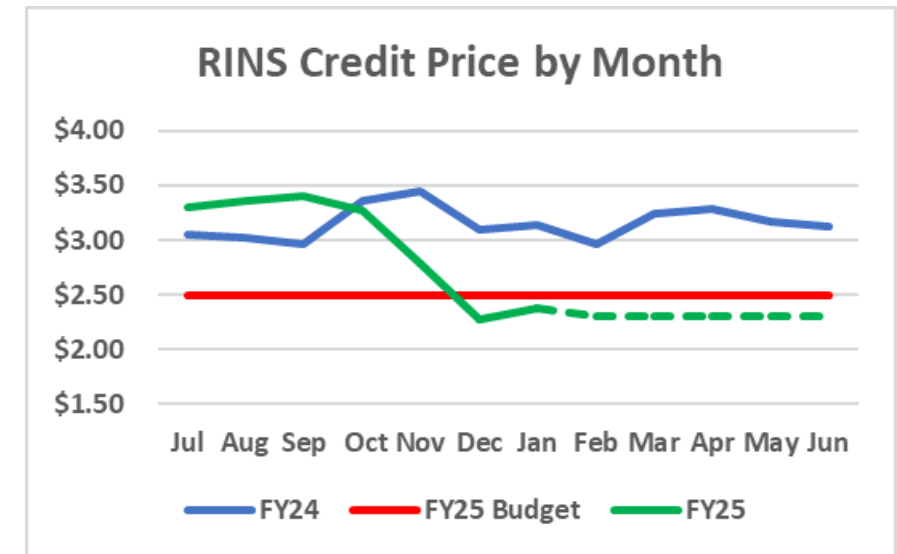
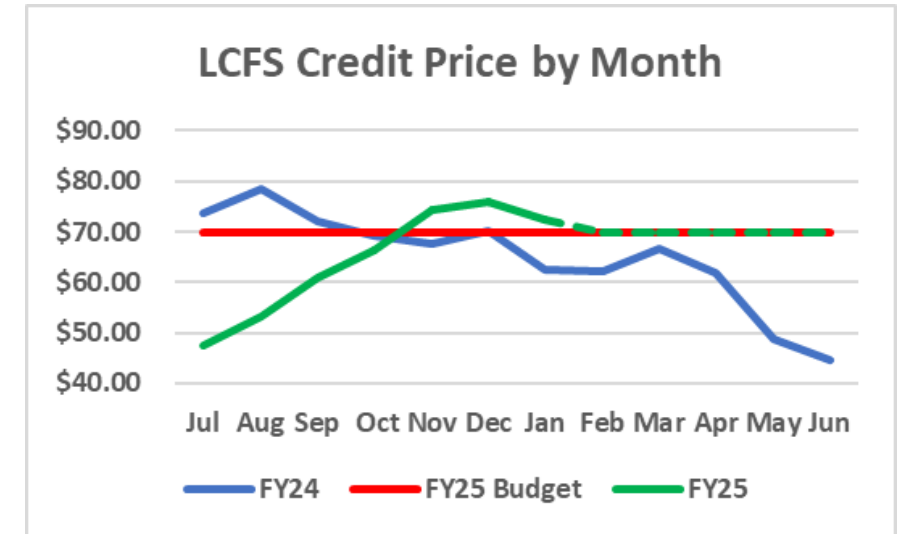
- Budget: \$70.00
 - YTD: \$64.43
 - Amended Budget: \$66.75 (\$70 for remaining months)

- RINs price

- Budget: \$2.50
 - YTD: \$2.97
 - Amended Budget: \$2.69 (\$2.30 for remaining months)

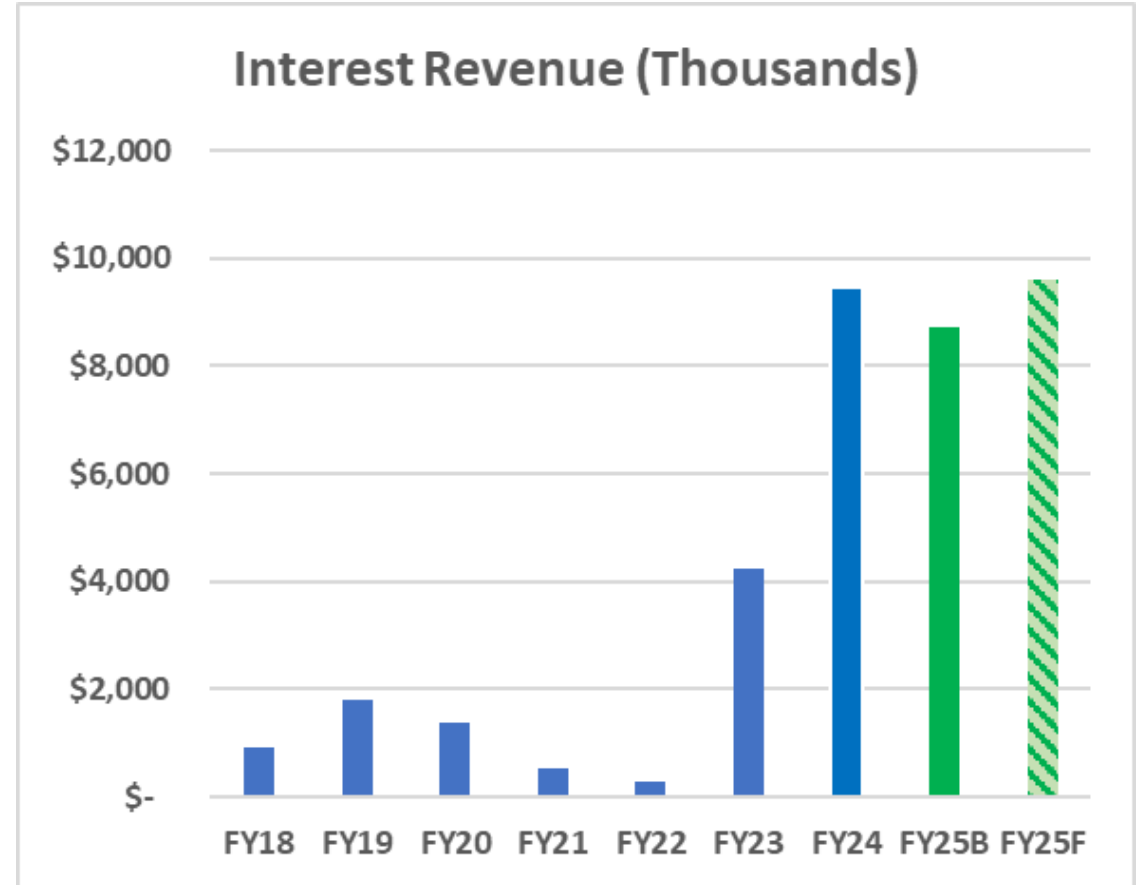
- Amended budget: Increasing \$1.1M (12.5%)

- Also reflects planned sale of 38,000 LCFS credits



Fiscal Year 2025 Operating Budget Revenue Assumptions – Other Revenue

- Interest Revenue
 - Original budget of \$8.7M
 - Average cash balance: \$60-70M
 - FY23: \$144M
 - FY24: \$218M
 - FY25: \$214M projected
 - Stimulus draws
 - Higher FTA formula funds
 - Stored value (fare system)
 - Fed interest rate still high at 4.25%-4.50%
 - Amended budget of \$9.6M, increase of \$888K (10.2%)
 - Will decline over time as interest rates decrease and reserve funds are used



Fiscal Year 2025 Operating Budget Revenue Assumptions – Other Revenue

- Advertising
 - Vehicles - decreasing \$591K
 - Digital kiosks - increasing \$656K
 - Gaslamp Sign - increasing \$862K
 - **Increasing \$901K (16.4%) in total**

- Real Estate Related Revenues
 - Grantville lease revenue decrease due to declining occupancy
 - CTAC parcel lessees declining
 - **Decreasing \$540K (-10.5%)**

- **Other Revenue increasing \$1.9 million in total (5.7%)**

Other Operating Revenue						
Category (\$000s)	FY 2025 Adopted	FY 2025 Amended	Var.	Var. %		
Energy Credits	\$ 8,838	\$ 9,945	\$ 1,107	12.5%		
Advertising	5,484	6,385	901	16.4%		
Real Estate Related Revenues	5,125	4,585	(540)	-10.5%		
Interest	8,725	9,613	888	10.2%		
Other	5,032	4,570	(462)	-9.2%		
Total	\$ 33,204	\$ 35,098	\$ 1,894	5.7%		

Fiscal Year 2025 Operating Budget

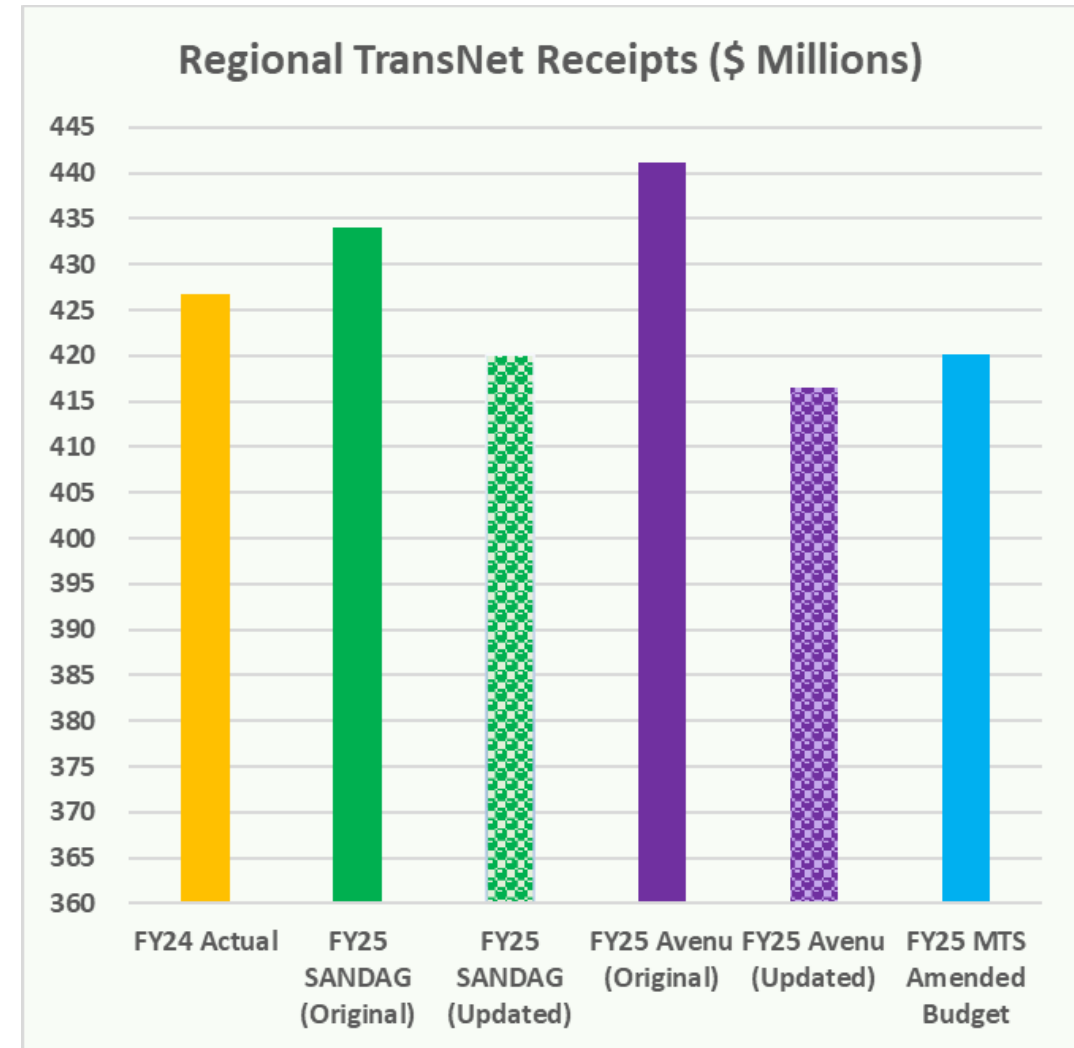
Revenue Assumptions – Federal Revenues

- Federal Formula Funding
 - MTS receives variety of revenues from Federal Transit Administration (FTA)
 - Legislation in place through 9/30/2026
 - 5307: Urban Area Formula funding
 - 5337: State of Good Repair funding
 - 5339: Bus and Bus Facilities funding
 - Funding can be used for Capital or Operating Budgets for Preventive Maintenance (PM)
 - Funding received on a reimbursement basis, after costs are incurred
 - MTS seeks to maximize the amount for PM for cash flow and grant administration benefits
 - Swap with TDA to preserve Capital share
- Increasing PM in amended budget by \$5.0M (\$70.0M in total)

Fiscal Year 2025 Operating Budget

Revenue Assumptions - Sales Tax Revenues

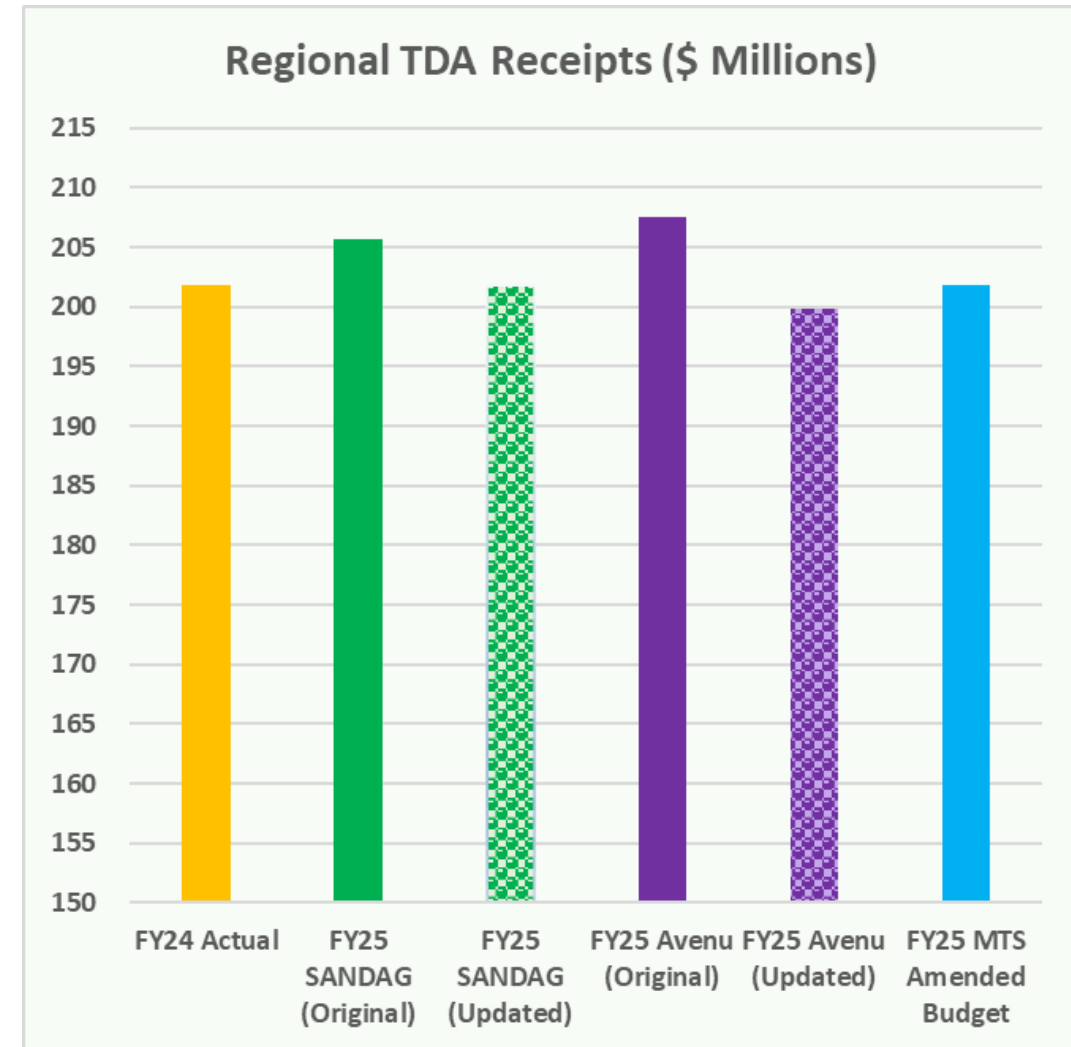
- TransNet formula funding
 - Used Avenu forecast of \$441.1M for original budget
 - MTS share of \$47.9M
 - Cash receipts have lagged original forecasts
 - Updated forecasts (January):
 - SANDAG: \$420.1M (-4.8% below original budget)
 - Avenu: \$416.5M (-5.6% below original budget)
 - Amended budget based on SANDAG forecast
 - MTS share of \$45.6M
 - **TransNet formula revenue decreasing \$2.3M (-5.4%)**
- TransNet Operating Reimbursement
 - TransNet funds net cost of BRT and Mid-Coast
 - **Decrease of \$374K (-1.1%) in amended budget**



Fiscal Year 2025 Operating Budget

Revenue Assumptions - Sales Tax Revenues

- Transportation Development Act (TDA)
 - Claim process determines MTS revenue
 - MTS submits a claim based on the SANDAG budget
 - County receives the cash, reserve balances over/under amounts from budget to actual
 - Used Avenu forecast of \$207.5M for original budget
 - MTS share of \$134.5M
 - \$92.8M to operating budget, remainder to capital
 - Updated forecasts (January):
 - SANDAG: \$201.8M (-2.8% below original budget)
 - Avenu: \$199.9M (-3.7% below original budget)
 - Amended budget based on SANDAG forecast
 - MTS share of \$131.9M
 - \$90.2M to operating budget, capital unchanged
 - **TDA in amended budget decreasing \$2.6M (-2.8%)**
 - Requires amendment to claim



Fiscal Year 2025 Operating Budget

Revenue Assumptions - State Transit Assistance (STA)

- State Transit Assistance (STA)
 - State sales tax on diesel fuel
 - Distributed based on population and agency revenue formulas
 - Two distributions, regular STA and State of Good Repair
 - FY 2025 budget based off State Controllers Office January 2024 projection of MTS apportionment: \$39.0M
 - Funding included in both Capital and Operating Budgets
 - **Updated forecast: \$33.9 million, decrease of \$5.1 million**
 - Based on January 2025 Governor's budget proposal
 - The actual amount will be determined by the State budget amendment
 - Decreasing amount in operating budget by \$5.1M to keep capital budget whole

Fiscal Year 2025 Operating Budget

Revenue Assumptions – Senate Bill (SB) 125

- Senate Bill (SB) 125 Funding
 - \$4 billion in state funding distributed to transit agencies through TIRCP program
 - Distribution based on population
 - Funds operations or capital, but must meet criteria for increasing service, preventing service reductions, reducing GHGs, serving disadvantaged communities, etc.
 - \$237.3 million planned for MTS over multiple fiscal years
 - Original budget assumed we did not receive any SB125 funding after initial payment was delayed (1st payment received in September 2024)
 - **Including \$9.0 million in FY25 amended budget:**
 - \$3.0M for security enhancements
 - \$5.0M for Iris Rapid (Route 227) operations
 - \$334K for Overnight Express (Route 910) operations
 - \$679K for Trolley service enhancements (15-minute service across entire system)

Fiscal Year 2025 Operating Budget Revenue Summary (\$000s)

	FY 2025 Budget	FY 2025 Amended	Var.	Var. %
Passenger Revenue	\$ 78,925	\$ 79,851	\$ 925	1.2%
Other Operating Revenue	33,204	35,098	1,894	5.7%
Total Operating Revenue	\$ 112,129	\$ 114,949	\$ 2,820	2.5%
Federal	\$ 73,123	\$ 77,720	\$ 4,597	6.3%
Federal Stimulus Funds	\$ 47,000	\$ 47,394		
TDA	92,810	90,194	(2,616)	-2.8%
TransNet Formula	42,415	40,129	(2,285)	-5.4%
TransNet Operating	33,497	33,122	(374)	-1.1%
STA	11,300	6,247	(5,053)	-44.7%
SB 125 TIRCP	-	9,000	9,000	0.0%
Other	4,310	4,310	-	0.0%
Total Subsidy	\$ 304,454	\$ 308,116	\$ 3,662	1.2%
Reserves	\$ 31,642	\$ 25,126	\$ (6,516)	-
Total Revenue	\$ 448,225	\$ 448,190	\$ (35)	0.0%

Reserves include Operating Deficit Reserve as well as reserves for SD&AE and FHV Administration

Fiscal Year 2025 Operating Budget Expense Assumptions - Personnel

- Wages
 - Admin wages decreasing \$630K (-2.5%)
 - 47 new security positions approved in FY 2024
 - 34 Code Compliance Inspectors (CCIs) added to budget (95 CCIs in total)
 - Hiring has been slower than anticipated in original budget
 - 86 active CCIs in January 2025
 - \$532K reduction in Security wages due to slower hiring
 - Eliminated PIP bonus program for management employees indefinitely
 - 1.0% bonus pool assumed in original budget
 - \$400K reduction across agency
 - Bus Ops wages increasing \$1.8M (3.5%)
 - New collective bargaining agreements with ATU/IBEW effective January 1, 2025
 - Wage increases range from 7.0% to 12.6% for covered employees (operators/maintenance)
 - Position table updated to reflect 537 operators (inclusive of 20 training FTEs)
 - Hiring target is 28 less than previous target, based on service levels
 - Actively recruiting bus operators, as current level is below target

Fiscal Year 2025 Operating Budget Expense Assumptions - Personnel

• Wages

- Trolley Operations wages decreasing \$915K (-2.3%)
 - Added 15 Construction Safety Flagpersons to budget last year (7.5 FTEs)
 - Won't hire until end of year in preparation for Orange Line Modernization project
 - \$755K reduction to flagging wages
 - \$119K decrease from elimination of PIP bonuses for Trolley management

• Wages increasing \$250K (0.2%) in total

Wages				
Category	FY 2025 Adopted	FY 2025 Amended	Var.	Var. %
Administration	\$ 24,737	\$ 24,107	\$ (630)	-2.5%
Bus Operations	50,594	52,381	\$ 1,787	3.5%
Trolley Operations	40,528	39,612	\$ (915)	-2.3%
Contracted Services	550	587	\$ 37	6.8%
Other Activities	445	417	\$ (28)	-6.3%
Total	\$ 116,854	\$ 117,105	\$ 250	0.2%

Position Table Changes			
Position	Positions	FTEs	Board Approved?
Administration			
Staff Accountant II	1	1.0	Y
Accounting Supervisor	1	1.0	Y
Bus Operations			
Bus Operators - F/T	-28	-28.0	NA
Total Changes			
FY25 Amendment	-26	-26.0	

Fiscal Year 2025 Operating Budget Expense Assumptions - Personnel

- Fringe

- Pension

- SDTC defined contribution plan costs

- Healthcare

- Employee share increasing \$1.0M
 - Reflects new CBAs

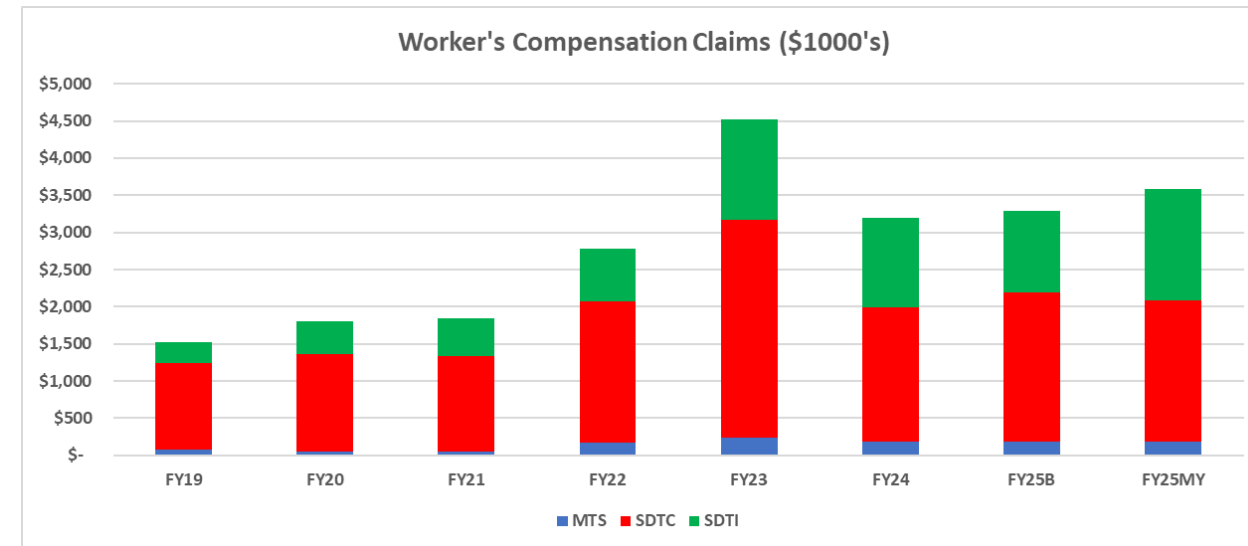
- Worker's Compensation

- Claim payments increasing \$300K
 - Outside services increasing \$290K

- Other

- Cost recovery decreasing \$795K

Fringe Expenses				
Category (\$000s)	FY 2025 Adopted	FY 2025 Amended	Var.	Var. %
Pension	\$ 32,901	\$ 32,362	\$ (540)	-1.6%
Healthcare	21,439	20,423	\$ (1,016)	-4.7%
Paid Absences	15,104	14,774	\$ (331)	-2.2%
Worker's Compensation	4,757	5,254	\$ 497	10.4%
Other	4,874	5,963	\$ 1,089	22.3%
Total	\$ 79,076	\$ 78,776	\$ (301)	-0.4%



Fiscal Year 2025 Operating Budget Expense Assumptions - Outside Services

- Outside Services

- Repair & Maintenance
 - Tie replacement and bridge repairs
- Engines/Transmissions
 - Unfavorable experience in first half of year
- Other Services
 - CCTV maintenance/replacement (\$458K)
 - KMD Stucco Replacement (\$307K)
 - Emergency track repairs (\$425K)
 - Radio purchases for security (\$266K)
 - Insourcing study (\$400K)
- Purchased Transportation
 - Adding Route 910 Overnight Express
 - Remainder of service levels staying flat

Outside Services				
Category (\$000s)	FY 2025 Adopted	FY 2025 Amended	Var.	Var. %
Security	\$ 14,889	\$ 14,668	\$ (221)	-1.5%
Repair & Maint.	\$ 12,076	\$ 11,511	\$ (565)	-4.7%
Engines/Trans.	\$ 722	\$ 1,183	\$ 461	63.9%
Other Services	\$ 25,851	\$ 27,703	\$ 1,852	7.2%
Purchased Trans.	107,946	108,395	\$ 449	0.4%
Total	\$ 161,483	\$ 163,460	\$ 1,976	1.2%

Purchased Transportation				
Category (\$000s)	FY 2025 Adopted	FY 2025 Amended	Var.	Var. %
Transdev - Fixed	\$ 89,257	\$ 90,083	\$ 825	0.9%
Transdev - Para	18,689	18,313	\$ (376)	-2.0%
Total	\$ 107,946	\$ 108,395	\$ 449	0.4%

Fiscal Year 2025 Operating Budget Expense Assumptions - Energy

- Energy

- Compressed Natural Gas (CNG)

- Continue to see favorable commodity rates
 - Rate per therm forecasts:
 - Original budget: \$1.52
 - Amended budget: \$1.30 (-14.6% decrease)
 - Consumption increasing 5.5% from original
 - **CNG expenses decreasing \$1.5M (-10.1%)**

- Electricity

- Favorable commodity rates
 - Rate per kWh:
 - Original budget: \$0.403
 - Amended budget: \$0.377 (-6.5% decrease)
 - Consumption increasing 7.7% (trolley service)
 - **Electricity expenses increasing \$101K (0.3%)**

Energy				
Category (\$000s)	FY 2025 Adopted	FY 2025 Amended	Var.	Var. %
Electricity	\$ 30,237	\$ 30,338	\$ 101	0.3%
CNG	14,995	13,482	\$ (1,513)	-10.1%
Gas/Propane	3,091	2,780	\$ (311)	-10.1%
Other	1,732	1,794	\$ 62	3.6%
Total	\$ 50,055	\$ 48,394	\$ (1,661)	-3.3%

Fiscal Year 2025 Operating Budget Expense Assumptions – Other

- Other

- Materials & Supplies

- TVM credit card module upgrade project moved to FY 2026

- Risk Management

- Liability claim payouts decreasing \$550K
 - Risk-related legal expenses decreasing \$150K

- General & Administrative

- Handheld fare validators for open payment (\$222K)
 - Credit card fees for fare system increasing \$235K
 - Mill's Building Rent increasing \$231K

- Vehicle/Facility Leases

- Non-revenue vehicle (NRV) leases

Other Expenses				
Category (\$000s)	FY 2025 Adopted	FY 2025 Amended	Var.	Var. %
Materials & Supplies	\$ 20,581	\$ 19,854	\$ (727)	-3.5%
Risk Management	11,335	10,638	\$ (697)	-6.2%
General & Administration	6,813	7,457	\$ 643	9.4%
Vehicle/Facility Leases	1,707	2,194	\$ 487	28.5%
Total	\$ 40,436	\$ 40,142	\$ (294)	-0.7%

Fiscal Year 2025 Operating Budget Expenses Summary (\$000s)

	FY 2025 Budget	FY 2025 Amended	Var.	Var. %
Personnel Expenses	\$ 195,930	\$ 195,880	\$ (50)	0.0%
Purchased Transportation	108,266	108,709	443	0.4%
Outside Services	53,537	55,065	1,527	2.9%
Materials and Supplies	20,581	19,854	(727)	-3.5%
Energy	50,055	48,394	(1,661)	-3.3%
Risk Management	11,335	10,638	(697)	-6.2%
Other	8,520	9,650	1,130	13.3%
Total Expenses	\$ 448,225	\$ 448,190	\$ (35)	0.0%

Fiscal Year 2025 Operating Budget

Consolidated Revenues less Expenses (\$000s)

	FY 2025 Budget	FY 2025 Amended	Var.	Var. %
Operating Revenues	\$ 112,129	\$ 114,949	\$ 2,820	2.5%
Recurring Subsidy	257,454	251,722	(5,732)	-2.2%
Total Recurring Revenues	\$ 369,583	\$ 366,670	\$ (2,912)	-0.8%
Total Expenses	448,225	448,190	\$ (35)	0.0%
Structural Deficit	\$ (78,642)	\$ (81,520)	\$ (2,878)	-3.7%
Reserves	31,642	25,126	(6,516)	20.6%
Federal Stimulus	47,000	47,394	394	-0.8%
SB-125 Funding	-	9,000	9,000	
Revenues Less Expenses	\$ -	\$ -	\$ -	

- Structural deficit of \$81.5M
- Balanced with non-recurring stimulus funds, reserves and SB-125
- Fiscal cliff still projected in early FY 2029 (with shifts from capital approved in prior meeting)

Fiscal Year 2025-2026 Operating Budget Budget Development Calendar

Date	Meeting	Review Points
3/6/2025	Executive Committee	FY25 Operating Midyear Amendment, FY26 Capital Improvement Program (CIP)
3/13/2025	Board of Directors	FY25 Operating Midyear Amendment, FY26 CIP
4/10/2025	Executive Committee	Initial FY26 Operating Forecast (Revenues, Expenses, Policy Issues, Operational Issues)
4/17/2025	Board of Directors	Initial FY26 Operating Forecast (Revenues, Expenses, Policy Issues, Operational Issues)
5/8/2025	Executive Committee	FY26 Draft Operating Budget: Updates to Revenues and Expenses, Budget Closure, Five Year Forecast
5/15/2025	Public Hearing	FY26 Operating Budget Public Hearing and Board Adoption

Staff Recommendation

That the San Diego Metropolitan Transit System (MTS) Executive Committee forward a recommendation to the MTS Board of Directors to enact Resolution No. 25-01 (Attachment B) amending the FY 2025 operating budget for MTS, San Diego Transit Corporation (SDTC), San Diego Trolley, Inc. (SDTI), MTS Contract Services, and the Coronado Ferry



**Metropolitan
Transit
System**

Agenda Item No. 7

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

March 6, 2025

SUBJECT:

Comprehensive Operational Analysis (COA) Scope of Work & Selection Process (Brent Boyd)

INFORMATIONAL ONLY:

Budget Impact

Any contracts and their budget impacts associated with the comprehensive operational analysis will be presented to the Board of Directors for approval.

DISCUSSION:

A COA is a project that includes an examination and evaluation of a transit system to determine what improvements could be made to make a transit network more effective and efficient. This is a common type of project for transit agencies to implement when a fresh look at their transit networks would be beneficial.

Staff is proposing a new COA that would analyze current and potential ridership, travel patterns, demographics, land use, operating costs, and system/segment performance (as guided by Board Policy 42), and would ultimately lead to the development of two service plans for two distinct scenarios:

- Scenario 1 – Funding for Existing Needs Secured¹ PLUS Additional Funding for Service Improvements:
 - Up to \$75 million in additional annual revenues obtained to increase frequencies and spans (or realign services) on the existing transit network.
- Scenario 2 - No Increase in Regional Transit Funding Secured:
 - Budget shortfall of \$100-plus million annually, with an estimated \$30-\$50 million in savings required to come from service reductions/changes.

¹ A separate COA plan for a scenario where MTS secures sufficient funding to preserve existing services, but does not secure additional funding for expanded services, is not deemed necessary at this time since the existing services plan is already in place.



The COA was originally discussed at the MTS Executive Committee on February 6, 2025 (Agenda Item (AI) 6). The Executive Committee voted 6 in favor to 0 with Board Member Vaus absent, to recommend that the Board of Directors take action to pursue a COA (to be completed by November 2026) in addition to (a) begin preliminary efforts on researching the feasibility of placing a transit revenue measure on the ballot for the November 2026 general election, and (b) work with SANDAG and NCTD to conduct a fare study regarding potential impacts of a fare increase.

On February 13, 2025 (AI 18), the MTS Board of Directors voted 11 in favor to 0 with Board Members McCann, Montgomery Steppe, Vaus, and Moreno absent to pursue the above recommendations, but requested additional information regarding the scope of work for the project, as well as the consultant selection process.

Given the need to accelerate the project, the Request for Proposals (RFP) was posted on PlanetBids on February 6, 2025. Included in the RFP (MTS Doc. No. G3042.0-25) was the scope of work, evaluation criteria, and the evaluation process. (See Attachment A.)² Changes can still be made to the RFP through an addendum. Depending on the number and significance of the changes, the proposal submittal date of March 17, 2025 may need to be delayed to give proposers sufficient time to respond.

EVALUATION CRITERIA (Page 23 of RFP)

The RFP informs proposers of the evaluation criteria that will be applied by the MTS evaluation panel in order to determine the proposal that provides the best value to MTS. As stated in the RFP, MTS staff shall evaluate each proposal based on the following pass/fail criteria:

A. Pass/Fail Criteria:

1. Proposer has demonstrated the ability to meet the insurance requirements described in the Agreement. Proof of ability should be attached to proposal. (P/F)
2. Proposer has demonstrated previous experience working for or with public agencies, transit entities, or corporations on a similar project as stated in the Scope of Work. (P/F)

After the pass/fail criteria, award will be based upon the criteria listed below and may not necessarily be made to the Proposer offering the lowest price.

B. *Qualifications of the Firm or Individual* 25%

- Technical experience in performing work on services of a similar nature
- Experience working with public agencies
- Strength, stability, and experience of the firm or management personnel and subcontractors
- Demonstrated success in providing similar services.

C. *Staffing, Organization, and Management Plan* 25%

² The RFP proposal and related documents are posted on the MTS Planet Bids website here: <https://vendors.planetbids.com/portal/14771/bo/bo-detail/125686>

- Qualifications of proposed staff, particularly key personnel and the responsible management
- Key personnel's level of involvement in performing related work
- Logic of firm organization and adequacy of labor commitment

D. Work Plan 30%

- Understanding of MTS' requirements
- Overall quality of work plan: logic, clarity, and specificity of work plan

E. Cost and Price 20%

- Overall cost and reasonableness of cost estimates

Total: 100%

EVALUATION PROCESS (Page 24 of RFP)

MTS uses an evaluation and selection process in which proposals contain both price and qualitative components, and the award is based upon a combination of both to determine the offer deemed most advantageous to MTS.

An evaluation committee will be appointed to review all proposals. The committee will be comprised of MTS staff from the Planning & Scheduling, Finance, Operations, and Marketing Departments.

On the completion of the initial Pass/Fail review indicated above, the evaluation committee will evaluate proposals using a two-step process. Technical proposals will be reviewed and scored first without consideration for price. The committee will then open the cost and price proposals and evaluate and score them accordingly. During the technical evaluation, the evaluation committee, at its sole discretion, may contact any or all of the proposers with specific questions or requests for clarification.

After both the technical and cost/price proposals have been evaluated and scored, the evaluation committee will arrive at a "comprehensive proposal score" for each proposal. A list of top-ranked proposals within a competitive range will be developed based upon the total comprehensive scores provided by committee members.

At this time, the committee may decide that the evaluation process is complete and submit a final recommendation to the CEO. However, it is likely, that interviews will be conducted with short-listed proposers.

The interview(s) may consist of a short presentation by the proposer after which MTS may ask questions and/or request clarification related to any element of a proposal and its qualifications. MTS may also enter into negotiations with the proposer.

At the conclusion of interviews and negotiations, the evaluation committee may choose to proceed using one of the following processes:

- The evaluation committee may find it necessary to re-score the proposals in light of information gained during the interviews and negotiations process. The proposals would then be scored in the same manner as the original proposals.

- The evaluation committee may ask the proposers to consider the dialog of negotiations and revise their proposals. A deadline will be set for submission of the revised proposals. If a Proposer is unable to meet the deadline or chooses not to revise its proposal, its existing proposal will be rescored along with revised proposals in the same manner as the original proposals.
- The evaluation committee may also elect to bypass both of those options and move forward to Best and Final Offers (BAFO).

After the BAFOs are evaluated and scored, the evaluation committee may recommend, to the MTS CEO, a proposal with the highest final ranking or a short list of top-ranked proposals within the competitive range whose offers(s) are the most advantageous to MTS. The MTS CEO will review the evaluation committee's recommendation and may enter into further negotiations with the Proposer(s) or forward its decision to the full Board of Directors for final action.

At the conclusion of evaluation, the evaluation committee will submit (with concurrence of the MTS CEO) a recommendation for award to the Board of Directors for consideration and approval. MTS may also negotiate contract terms with the selected proposer prior to award and expressly reserves the right to negotiate with several proposers simultaneously, and to award contracts to multiple proposers offering the most favorable terms to MTS.

MTS reserves the right to award its total requirements to one proposer or to apportion those requirements among several proposers as MTS may deem to be in its best interest.

The current RFP solicitation schedule is as follows:

- **Proposal Due Date:** March 17, 2025
- **Initial Evaluations:** April 3, 2025
- **Interviews:** Week of April 14, 2025
- **BAFO:** April 21, 2025
- **Notice of Intent:** April 25, 2025
- **Board Discussion and Potential Approval:** May 15, 2025
- **Contract Execution:** May 30, 2025

SCOPE OF WORK (Page 27 of RFP)

The scope of work contains five distinct tasks:

Task 1 – Data Collection and Review of Existing Conditions

Task 1 will focus on reviewing data, reports, documents, and other information pertinent to the COA, including (but not limited to) regional transportation plans, MTS documents, ridership and operational statistics, survey data, and travel patterns. The consultant will also propose additional data collection efforts.

Additionally, the consultant will divide the MTS jurisdiction into subregional areas based on common travel characteristics and demand and identify travel markets within each subregional area with the greatest potential for capturing transit ridership.

The consultant will also identify and evaluate opportunities and challenges facing transit service provision in the region over the next five years.

Ultimately, the consultant will provide support materials and assistance to MTS staff including two MTS Board of Directors or Executive Committee meetings and development of materials for public outreach events that will be conducted by MTS staff.

Estimated timeframe: June-July, 2025

Task 2 – System and Service Evaluation

The consultant will evaluate how well the transit system is addressing the travel markets identified in Task 1, including (but not limited to) analysis of schedules, routes, stops, transfers, service gaps and efficiencies, excess service, and if the transit service is equitable according to federal and state-defined disadvantaged areas.

The consultant will evaluate existing services and schedules based on the service guidelines of MTS Policy 42: Transit Service Evaluation and Adjustment. Policy 42 was last updated in 2016 and some revisions may occur prior to the project start date. Services will be evaluated based on segments (geographic, time of day, day of week, and season).

Throughout Task 2, the consultant will provide support materials and assistance to MTS staff including two MTS Board of Directors or Executive Committee meetings and development of materials for public outreach events that will be conducted by MTS staff.

Estimated timeframe: July-September, 2025

Task 3 – Evaluation of Recommendations from Elevate SD 2020

In 2019-2020, MTS studied the feasibility of placing a sales-tax measure on the ballot. The effort, known as Elevate SD 2020, included the development of a draft expenditure plan. That plan included the following service enhancements:

- Improved frequencies and spans on all Trolley lines
- Local bus route frequency and span improvements
- Establishment of 21 Rapid bus routes
- First/last mile connections
- Mobility-on-demand services

The consultant will analyze the recommendations of service enhancements and adjustments from the Elevate 2020 project to determine if the recommendations are as relevant in 2025 as they were in 2019 (pre-COVID). The analysis will be focused on projected changes in ridership and operating costs.

No updates to the Board of Directors or Executive Committee are planned as part of this task, but rather, a technical report would be issued summarizing the efforts and recommendations.

Estimated timeframe: August-September, 2025

Tasks 4 & 5 – Develop Service Plans for Increased Service (Task 4) and Service Reductions (Task 5)

Tasks 4 and 5 will be similar efforts with two different scenarios, described earlier:

- Scenario 1 (Task 4) – Funding for Existing Needs Secured PLUS Additional Funding for Service Improvements:
 - Up to \$75 million in additional annual revenues obtained to increase frequencies and spans (or realign services) on the existing transit network.
- Scenario 2 (Task 5) - No Increase in Regional Transit Funding Secured:
 - Budget shortfall of \$100-plus million annually, with an estimated \$30-\$50 million in savings required to come from service reductions/changes.

The additional funding and budget shortfall/service cut amounts listed above are ballpark estimates and may be revised as new information is learned prior to the start of each of these tasks.

The consultant will develop the plans/strategies for addressing service gaps and opportunities, based on the analysis in Tasks 1-3.

The service concepts should consider the current financial and operating constraints within the MTS area and propose an appropriate balance between productivity and coverage (geographic and temporal).

The consultant will evaluate the benefits and costs of the proposed service strategies and any differences compared to the existing transit network structure. This evaluation should provide a general comparison to the existing transit system, including, but not limited to, ridership, capital and operating resource requirements, effectiveness and productivity, quality of service, and operational efficiency. Any anticipated challenges to implementation will also be identified.

The consultant will identify transit-supportive facilities and programs that either exist, could, or will be developed within the next five (5) years that would complement and enhance the proposed service concepts, including:

- Advanced technology
- Transportation demand management
- Stop/station enhancements
- Zero-emission vehicle requirements

The consultant will evaluate the restructured services with quantitative performance standards established in MTS Board Policy 42 (productivity, cost-effectiveness, schedule adherence,

overcrowding, financial, etc.), and qualitative service parameters (headways/service span, streamline vs. better access, number of transfers, service duplications on major corridors, coordination with other services, etc.).

Each service adjustment will be described with the following information, at minimum:

- Description of service, including rationale for service
- Route map showing routing, exact layover locations, and stops (consideration of stop spacing)
- Service span
- Headways / frequencies per hour per direction (and by day)
- Estimated ridership and greenhouse gas reductions
- Financial, operating, and performance statistics
- Vehicle requirements

Ultimately the final plans will be presented to the MTS Board of Directors (as part of a public hearing), with three presentations to the Board of Directors or Executive Committee for each task (six total among Tasks 4 and 5). The presentations will be led by MTS staff with assistance from the consultant.

Estimated timeframe:

- *Task 4 (Service Enhancements): October 2024-January 2025*
- *Task 5 (Service Reductions): January 2026-November 2026*

Task 4 (Service Enhancements) is scheduled to coincide with key decision points regarding a potential revenue measure; while Task 5 (Service Reductions) is scheduled to coincide with key decision points regarding the expected budget shortfall in FY 27-28.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachment: A. Request for Proposals: Comprehensive Operational Analysis (MTS Doc. N.. G3042.0-25)



**Metropolitan
Transit
System**

REQUEST FOR PROPOSALS
COMPREHENSIVE OPERATIONAL ANALYSIS
MTS DOC. NO. G3042.0-25



San Diego Metropolitan Transit System
1255 Imperial Avenue, Suite 1000, San Diego, CA 92101



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1. INTRODUCTION

The San Diego Metropolitan Transit System (MTS) is seeking offers for COMPREHENSIVE OPERATIONAL ANALYSIS for a contract term of two (2) years.

MTS is a California public agency established under Section 120000 et seq. of the California Public Utilities Code. MTS and its subsidiaries are subject to the California Tort Claims Act as codified in California Public Utilities Code § 120202.

MTS strongly encourages proposers to register to become a vendor on [PlanetBids](#). Vendors can receive information about proposal notices, addenda, bid awards, submit proposals online (when applicable), and view and update in their portal. Proposers are advised that the MTS website link above is the only true source of information for MTS procurements. MTS shall not be held responsible for other third-party websites that may post some or all of MTS's solicitation documents.

This document, together with its attachments, comprises the formal Request for Proposals (RFP). Responses to this RFP should be submitted in accordance with the instructions provided.

1.1. CALENDAR OF EVENTS

The schedule of events leading from the issuance of the RFP to award of a contract is as follows:

Event	Date
MTS Issues Request for Proposals	February 6, 2025
Pre-Proposal Meeting and/or Site Visit	11:00 A.M., Prevailing Local Time, on February 19, 2025
Deadline for Submitting Written Questions/ Clarifications or Request for Approved Equals (RFAs)	5:00 P.M., Prevailing Local Time, on February 24, 2025
<i>Proposal Due Date</i>	<i>4:00 P.M., Prevailing Local Time March 17, 2025</i>
Proposal Presentations, Demonstrations, Interviews	Week of April 14, 2025
Anticipated Contract Award (MTS Board)	May 15, 2025

*These dates are tentative and subject to change by MTS.

Submissions arriving later than the Proposal Due date and time listed above, Prevailing Local Time (PST), or at a different location, will not be considered.

1.2. MTS POINT OF CONTACT

Brianda Diaz, Procurement Specialist is the sole point of contact for this solicitation. She can be reached via telephone at (619)557-4580 or via email at Brianda.Diaz@sdmts.com Proposers are directed to not contact other MTS staff, or MTS Board members in connection with this RFP. Failure to follow this instruction will result in disqualification of any potential Proposer.

1.3. ENCOURAGEMENT OF DISADVANTAGED BUSINESS ENTERPRISES AND OTHER SMALL BUSINESSES

MTS encourages the participation of DBEs, minority owned businesses (MBEs), women owned businesses (WBEs), disabled veteran business enterprises (DVBEs), lesbian gay bisexual transgender owned businesses (LGBTBEs) persons with disabilities business enterprises (PDDBE) and small businesses (SB) in the performance of all of its contracts. MTS encourages the Contractor to outreach to DBEs and other small business enterprises for any potential subcontracting opportunities on this project. If interested in learning about bonding or financial assistance that may be available for small businesses, visit www.sba.gov. If interested in learning about the eligibility requirements to become certified as a DBE, MBE, WBE, DVBE, LGBTBE, PDDBE or SB or how to view a list of certified firms, please contact MTS's DBE Liaison Officer, Samantha Leslie, at Samantha.Leslie@sdmts.com for more information.

2. PROPOSER INSTRUCTIONS

2.1. MTS'S RIGHTS UNDER THIS SOLICITATION

In soliciting proposals under this Request for Proposals, MTS reserves the rights to exclusively:

- 1) Reject any and all Offers;
- 2) Reject conditional Offers;
- 3) Issue a subsequent solicitation;
- 4) Cancel the entire solicitation;
- 5) Remedy technical errors in the solicitation process;
- 6) Appoint evaluation committee members;
- 7) Reassign evaluation committee members;
- 8) Seek the assistance of outside technical experts in evaluation of Proposals;
- 9) Approve or disapprove the use of particular subcontractors;
- 10) Establish a short list of eligible Proposers after review of Proposals;
- 11) Negotiate with any, all or none of the Proposers;
- 12) Solicit best and final offers from all or some of the Proposers;
- 13) Award contract (s) for all or part of the Specifications or Scope of Work
- 14) Award a contract to one or more Proposers;
- 15) Award other than the lowest cost offer;
- 16) Waive minor informalities and irregularities in Proposals.

2.2. PRE-PROPOSAL MEETING

A Non-mandatory Pre-Proposal meeting will be held on the date listed on the Calendar of Events, and will be held virtually While attendance at this meeting is not mandatory, prospective bidders are encouraged to attend.

2.3. INTERVIEWS

During the evaluation period, MTS may interview some or all proposers. MTS has identified the week listed on the Calendar of Events for interviews. Proposers will be asked to keep this date available. As no other interview dates will be available Proposers who are unable to attend their interviews as scheduled may be eliminated from further participation in this competitive procurement. The interview may consist of a short presentation by the Proposer after which the Evaluation Committee may solicit information relative to the Proposer's proposal and qualification. The committee will use pre-established criteria during the interview to score and develop a final recommendation.

2.4. EXAMINATION OF PROPOSAL DOCUMENTS

By submitting a proposal, Proposer represents that it has thoroughly examined and become familiar with the requirements of this RFP, especially the Instructions to Proposers and the Scope of Work, and that it is capable of performing the quality of work necessary for the MTS to achieve its objectives as described in this Solicitation.

2.5. ADDENDA

MTS reserves the right to amend the RFP at any time. Any amendments to or interpretations of any content of this RFP shall be via written addenda. MTS shall provide copies of Addenda to all

prospective Proposers officially known to have received the RFP through MTS' online bid portal on [PlanetBids](#). Failure of any prospective Proposer to receive the notification or addendum shall not relieve the Proposer from any obligation under its proposal as submitted under the RFP. All addenda issued shall become part of the RFP. Prospective Proposers shall acknowledge the receipt of each individual addendum and all prior addenda in their proposals, using the Addenda tab through MTS' online bid portal on [PlanetBids](#). Proposers who fail to follow this instruction may be disqualified from further participation in this competitive procurement.

If MTS determines that the addenda may require significant additional time for the preparation of proposals, the deadline for submittal may be postponed by a number of days that MTS determines will allow Proposers adequate time to revise their proposals. Any new due date shall be included in the addenda.

2.6. CLARIFICATIONS

2.6.1. EXAMINATION OF DOCUMENTS

Should a Proposer require clarifications of this RFP, the Proposer shall notify MTS in writing via the Q&A tab through MTS' online bid portal on [PlanetBids](#). Should it be found that the point in question is not clearly expressed in the Solicitation, MTS will publish an addendum of clarification.

2.6.2. SUBMITTING REQUESTS

- A. Questions, including those that could not be specifically answered at the pre-proposal meeting, clarifications, or comments must be submitted in writing through MTS' online bid portal on [PlanetBids](#) and, must be received by MTS no later than the date and time listed on the Calendar of Events.
- B. All requests must provide a sufficient amount of information, such that MTS is able to craft an appropriate response, based upon the initial submittals. Any information considered by Proposers to be Proprietary, Trade Secret, or otherwise Confidential shall also be clearly identified. MTS will develop its response from its interpretation of the content of the request. Thus, inadequate or irrelevant information may cause MTS to decline the request.

2.6.3. MTS RESPONSES

MTS' responses will be provided in writing to all prospective Proposers via MTS' online bid portal on [PlanetBids](#). To the extent possible, MTS will not disclose such proprietary information to other Proposers or "interested parties."

2.7. SUBMISSION OF PROPOSALS

2.7.1. DUE DATE AND TIME

Proposals must be submitted by no later than the date and time listed on the Calendar of Events. Proposals received after the above-specified date and time will be returned to the Proposer unopened.

2.7.2. SUBMITTAL FORMAT

Electronic Copies:

Proposers are to upload an electronic copy of their proposal to MTS' online bid portal on [PlanetBids](#). The proposal and the cost proposal shall be submitted as separate documents. The cost proposal shall be submitted in Excel file format and the Proposal shall be submitted in PDF file format.

Proposers shall be entirely responsible for any consequences of inadvertent opening of unsealed or improperly identified packages. It is the Proposer's sole responsibility to see that its proposal is received as required. Proposals arriving late due to a delay in delivery will not be accepted.

2.7.3. ACCEPTANCE OF PROPOSALS

- A. MTS reserves the right to accept or reject any and all proposals, or any item or part thereof, or to waive any informalities or irregularities in proposals.
- B. MTS reserves the right to withdraw this RFP at any time without prior notice, and MTS makes no representations that any contract will be awarded to any Proposer responding to this RFP.
- C. MTS reserves the right to postpone proposal openings for its own convenience.
- D. MTS reserves the right to require confirmation of information furnished by Proposer, or to ask the Proposer for additional evidence of qualifications to perform the work, or to obtain information from any source that has the potential to improve the understanding and evaluation of the proposals.
- E. Proposals received by MTS are public information, and will be made available to the public upon request after award.
- F. Proposals submitted are not to be copyrighted.

2.8. PRE-CONTRACTUAL EXPENSES

Pre-contractual expenses are defined as expenses incurred by Proposer in:

- A. Preparing its proposal in response to this RFP;
- B. Submitting that proposal to MTS;
- C. Negotiating with MTS any matter related to its proposal; or
- D. Any other expenses incurred by Proposer prior to award of the Contract.

MTS shall not, in any event, be liable for any pre-contractual expenses incurred by Proposer in the preparation of its proposal. Proposer shall not include any such expenses in its proposal.

2.9. PRE-AWARD AUDIT

Prior to award of a Contract, short-listed Proposers may be required to undergo an audit of their proposed costs and prices. MTS, at its sole discretion and expense, will conduct the audit to determine if such Proposers' prospective prices are fair and reasonable.

2.10. JOINT OFFERS

Where two (2) or more Proposers intend to submit a single proposal to this RFP, they shall do so on a prime-subcontractor basis rather than as a joint venture. MTS intends to contract with a single Proposer and not with joint ventures.

2.11. SINGLE PROPOSAL RESPONSE

If only one (1) proposal is received in response to this RFP, and it is found by MTS to be responsive and responsible, a detailed cost/price proposal may be requested of the single Proposer. A price or cost analysis, or both, possibly including an audit, may be performed by or for MTS of the detailed cost/price proposal to determine if the price is fair and reasonable. The Proposer has agreed to such analysis by submitting a proposal in response to this RFP.

A price analysis is an evaluation of a proposed price that does not involve an in-depth evaluation of all the separate cost elements, and the profit factors that comprise a Proposer's price proposal. It should be recognized that a price analysis through comparison to other similar procurements, must be based on an established or competitive price of the elements used in the comparison. The comparison must be made to a purchase of similar quantity, involving similar specifications and in a similar timeframe. Where a difference exists, a detailed analysis must be made of this difference and costs attached thereto. Where it is impossible to obtain a valid price analysis, it may be necessary to conduct a cost analysis of the proposed price.

A cost analysis is a more detailed evaluation of the cost elements in the Proposer's Offer to Perform. It is conducted to form an opinion as to the degree to which the proposed costs represent what the Proposer's performance should cost. A cost analysis is generally conducted to determine whether the Proposer is applying sound management in proposing the application of resources to the contracted effort, and whether costs are allowable, allocable, and reasonable. Any such analyses and the results there from, shall not obligate MTS to accept such a single proposal; and MTS may reject such proposal at its sole discretion.

2.12. [NOT APPLICABLE] CALIFORNIA AIR RESOURCES BOARD (CARB)**2.13. TAXES**

Price proposals are subject to state and local sales taxes. However, MTS is exempt from the payment of federal excise and transportation taxes.

2.14. CONTRACT TYPE

MTS intends to award a firm-fixed price contract to the successful Proposer whose Proposal presents the most advantageous terms to the Agency, price, and scope of work/technical elements having been considered.

2.15. PROPOSED AGREEMENT

As a condition of award, the successful Proposer agrees that it will sign MTS's Standard Agreement and not insist upon the Agency signing any other agreement document.

The successful Proposer will be subject to the provisions contained in the Sample Standard Agreement, Standard Conditions, and this includes any changes that may be made to reflect the terms of the successful Proposer's proposal. The final Agreement shall also incorporate other pertinent terms and conditions set forth in this RFP.

The Proposer's attention is directed to the Insurance section which specifies the minimum insurance requirements that must be met by the successful Proposer. The Proposer is required to provide evidence of its ability to acquire the required insurance with its proposal. Should the Proposer be unable to provide evidence of insurance within fourteen (14) days after notification of award by MTS, award may be made to an alternative Proposer.

The Proposers inability or unwillingness to meet any requirements set forth in herein, as a condition of contract award, must be stated as an exception in the proposal.

Any exceptions to or deviations from the requirements of this RFP must be submitted on or before the proposal submission deadline or proposal may be deemed non-responsive.

2.16. PROTESTS

Any protests by an interested party regarding this procurement shall be made in accordance with the protest procedures of MTS:

2.16.1. PROTESTS BASED ON CONTENT OF PROCUREMENT SOLICITATION

Protests based on the content of the procurement solicitation, must be in writing, and received by MTS within ten (10) calendar days after the first advertisement of the RFP. The Chief Executive Officer (CEO) or designee, will notify all Proposers that a protest has been filed, and will issue a written decision on the protest prior to the due date. A protest may be renewed by refileing the protest with MTS within fifteen (15) calendar days from the postmark date of the Notice of Intent to Award. The protest must be received by MTS no later than 4:00 p.m. PST on the due date.

2.16.2. PROTESTS RECEIVED AFTER PROPOSAL DUE DATE

MTS will evaluate all proposals and determine the best-qualified proposers. A Notice of Intent to Award will be emailed to all proposers. Any protest to the notice must be in writing and received by MTS within fifteen (15) calendar days from the postmark date of the notice. The protest must be received by MTS no later than 4:00 p.m. PST on the due date.

2.16.3. CONTENTS OF PROTESTS

The protestor must demonstrate or establish a clear violation of a specific law or regulation, e.g., a violation of the prohibition against exclusionary or unduly restrictive specifications. The protest must contain a full and complete written statement of the grounds for protest and all supporting documentation. MTS may, but is not obligated to, request additional information concerning the grounds for protest.

2.16.4. REPLIES TO PROTESTS

MTS will review all protests as soon as possible. All material submitted by the protestor will be considered. Such material will not be withheld from any interested party outside of MTS or any agency, which may be involved with the procurement except to the extent that the withholding of information is permitted or required by law or regulation. If the protestor considers that the protest contains proprietary material, which should be withheld, a statement advising of this fact may be affixed to the front page of the protest document and alleged proprietary information shall be so identified wherever it appears.

The MTS Procurement Manager will reply to all protests in writing with its determination.

2.16.5. REQUEST FOR RECONSIDERATION OF PROTESTS

Upon receipt of the decision by the MTS Procurement Manager, the protestor may file a Request for Protest Reconsideration. A Request for Protest Reconsideration must be directed to the MTS CEO in writing and received within five (5) full working days from the postmark date of the reply from MTS. The MTS CEO shall respond to the protest in writing with his or her determination. The protest must be received by MTS no later than 4:00 p.m. PST on the due date.

All protests shall contain a full and complete written statement specifying in detail the grounds of the protest and the facts supporting the protest.

2.16.6. ADMINISTRATIVE APPEAL HEARING

Protestors shall have an opportunity to appear and be heard before the Board prior to the opening of the proposals, in the case of protests based on the content of the procurement solicitation or prior to final award, in the case of protests based on other grounds or the renewal of protests based on the content of the solicitation. A request for an Administrative Hearing regarding a protest shall be in writing and directed to the General Counsel. A request for an Administrative Hearing shall be received within five (5) business days of the MTS CEO's written decision. The protest must be received by MTS no later than 4:00 p.m. PST on the due date.

The decision on the protest by the Board shall be in writing, and constitutes a final administrative decision for purposes of judicial review pursuant to Section 1094.6 of the Code of Civil Procedure.

2.17. CHANGES

2.17.1. PRE-AWARD

A. Requests for Clarification and Addenda

Prior to award of a contract, the Scope of Work/Technical Specifications, Addenda, Sample Standard Agreement, Standard Conditions, Forms, and all certification documents of this RFP constitute the potential contract. Any inquiry regarding this solicitation must be in writing except that MTS will entertain oral inquiries at the Pre-Proposal meeting, if one is held. To be considered, inquiries must be addressed to the Procurement Officer. Any requests to change these documents after the Pre-Proposal meeting must be submitted in writing to MTS via the Q&A tab on MTS' online bid portal on [PlanetBids](#) and all changes to this RFP will be made by written addendum. ***There will be no oral changes - oral communications are not binding.*** Proposers are advised that MTS is not able to ensure that it will be able to respond to inquiries received later than fifteen (15) business days prior to proposal due date. MTS shall issue responses to inquiries and any other corrections, amendments, etc., which it deems necessary in written Addenda issued at least seven (7) days prior to the proposal due date.

B. [NOT APPLICABLE] Request for Approved Equals (RFA)

2.17.2. POST-AWARD

Upon contract award, the RFP in its entirety, all addenda, MTS' response to questions/clarifications, the final proposal determined to be the most advantageous to MTS, the conformed Scope of Work/Technical Specifications, Sample Standard Agreement, Standard Conditions, Forms and constitute the contract. Changes to the contract shall be conducted as follows:

A. Changes by Proposer(s):

Proposed changes must be submitted in writing to the Contracting Officer for prior approval. The request must state the reason, any possible changes to the project schedule, and any impacts to the cost of the project.

The Contract Officer shall respond in writing to the proposed change. All approved changes shall be confirmed by written addendum or change order. Oral changes are not permitted or binding. The Proposer shall be liable for all costs resulting from and/or for satisfactorily correcting any specification change not properly ordered or approved by written modification to the contract. Disagreements that cannot be resolved within negotiations shall be resolved in accordance with the contract dispute clause herein.

B. Changes by MTS:

In the event that work, materials, or equipment shall be required that are not specified, indicated, or otherwise provided for herein, the Proposer shall, if ordered in writing by the MTS CEO or his designee, perform such work and furnish such materials or equipment at the Contractor's normal prices, less discounts ordinarily allowed to users of such materials or equipment or at regular labor charges less customary discount, or both.

If any work, materials, or equipment specified, indicated or otherwise provided for in the contract or in the specifications forming a part of the contract, is required to be omitted from, in, or about the work, the Proposer shall, if ordered by the MTS CEO or designee, omit the performance of such work and the furnishing of such materials or equipment. There shall be deducted from the amount to be paid to the Proposer an amount, which the MTS CEO or designee, and the Proposer shall determine and mutually agree to be the reasonable value of such work, materials or equipment, and such determination and agreement shall be final and conclusive upon the Proposer.

It is understood, however, that the amount of work, materials, or equipment required by the contract shall not, in accordance with above provisions referring to additions or omissions, be so increased or diminished as to substantially alter the general character or extent of the contract.

2.18. DUTY TO CLARIFY OBVIOUS AMBIGUITY

The Proposer is required to seek clarification of any obvious ambiguity contained in the Solicitation. Failure to do so will result in an interpretation of the ambiguous provision favorable to MTS should a dispute later arise concerning that provision.

2.19. CONFIDENTIALITY, THE CALIFORNIA PUBLIC RECORDS ACT (PRA), AND THE FREEDOM OF INFORMATION ACT

2.19.1. EXCLUSIVE PROPERTY

Responses to this RFP shall become the exclusive property of MTS and are subject to disclosure under the PRA.

Those elements of each bid that are trade secrets, as the term is defined in Civil Code Section 3426.1(d) or otherwise exempt by law from disclosure and which are prominently marked as Trade Secret, Confidential or Proprietary may not be subject to disclosure. This may include private financial information about a bidder but does not include the proposed price submitted as part of the Proposal.

The California Public Contract Code section 20216 provides that other than proprietary information, the content of any request for proposal, any proposal received, and any other communications between a transportation agency and a potential Proposer on a contract that is subject to subdivision (a) shall be made available to the public no later than the same time that a recommendation for awarding a contract is made to the governing board or persons responsible for approving the award of a contract to a Proposer, except that the price proposed in any proposer's initial proposal shall be available upon the opening of the proposal by the agency requesting the proposal.

2.19.2. DISCLOSURE OF RECORDS

- A. Unless a State or Federal law or regulation requires that information or a document is exempt from disclosure to third parties, MTS does not consent to withhold information, merely because it is accompanied by a routine confidentiality statement.
- B. As provided by State and Federal laws, regulations, and guidance, MTS will review information and documents that are the subject of each confidentiality request to determine the extent to which MTS must withhold the information or those documents.
- C. Any genuinely confidential or privileged information should be:
 - i. Marked clearly and specifically as Trade Secret, Confidential or Proprietary; and
 - ii. Accompanied by a statement detailing why the information is exempt from public disclosure under State and Federal law. Simply restating the Civil Code definition of a Trade Secret is not sufficient. The statement must include a factual and legal analysis supporting the Bidder's conclusion that the specific document marked is exempt from disclosure.
 - iii. Proposer shall identify and provide a list of all the sections/page numbers marked as "confidential" and/or "proprietary" in its submittal.

2.19.3. EXEMPTION FROM DISCLOSURE MAY BE DEEMED UNRESPONSIVE

MTS will take into consideration, documents that the Proposer deems exempt from disclosure, which must be marked Trade Secret, Confidential or Proprietary.

Proposers who indiscriminately identify all or most of their Proposals as exempt from disclosure without justification may be deemed unresponsive and disqualified from further participation in this competitive procurement.

2.19.4. INDEMNIFICATION OF MTS BY CONTRACTOR

The Proposer agrees to defend and indemnify MTS in any action on a PRA request for any of the contents of a Proposal marked Trade Secret, Confidential or Proprietary.

Proposer agrees to absorb all costs and expenses, including attorneys' fees, in any action or liability arising from Proposer's claim that its documents are exempt from disclosure under the PRA.

2.19.5. PUBLIC INTEREST

The public interest exemption of the California PRA provides that an agency may withhold the disclosure of a record by showing that the public interest served by not making the record public clearly outweighs the public interest served by disclosure of the record.

Proposers must sign the attached California PRA acknowledgement form and submit with the proposal.

2.20. NO PUBLIC OPENING OF PROPOSALS

There will be no public opening of the proposals. Proposals will be treated as confidential until the contract is approved by the MTS Board of Directors for award.

3. PROPOSAL CONTENT, REQUIREMENTS AND FORMAT

3.1. PRESENTATION

Proposals shall not include any unnecessarily elaborate graphics, art work or promotional materials. Lengthy narratives are discouraged. The proposal should be brief and concise. Appendices should provide information directly relevant to the needs of the solicitation and not consist of the Proposer's general marketing materials.

3.2. LETTER OF TRANSMITTAL

The Letter of Transmittal shall be addressed to the MTS Point of Contact as described above.

Identification of Proposer, including name, address, and telephone number.

1. Proposed working relationship between Proposer and subcontractors, if applicable.
2. Name, title, address, and telephone number of contact person during period of proposal evaluation.
3. A statement to the effect that the proposal shall remain valid for a period of not less than one hundred and twenty (120) days from the date of submittal.
4. Signature of a person authorized to bind Proposer to the terms of the proposal.

3.3. TECHNICAL PROPOSAL

3.3.1. QUALIFICATIONS, RELATED EXPERIENCE, AND REFERENCES OF PROPOSER

This section of the proposal should establish the ability of the Proposer to satisfactorily perform the services by presenting evidence of:

- Experience in performing work of a similar nature;
- Demonstrated competence in the services to be provided;
- Proposer's financial strength and stability;
- Staffing capability;
- Workload concurrent with the performance period under this Solicitation;
- Record of meeting performance standards on similar agreements; and
- Supportive client references.

Particular attention should be given to the requirements of the Scope of Work, to ensure the Proposer's ability to fulfill all requirements is demonstrated in its submittal.

Qualifications are demonstrated by the following:

Proposer shall:

- A. Provide a brief profile of the Proposer (individual or firm), identify the types of services offered as described in each category outlined in the scope of work; the year the business was founded; form of the organization (corporation, partnership, sole proprietorship); number, size, and location of offices; and number of employees. The

Proposer must provide the number of years of experience for each service area identified.

- B. Proposer shall provide a general description of the individual or firm's financial condition in the *Financial Questionnaire Form* located the Forms section of this RFP. Proposers shall identify any conditions; e.g., bankruptcy, pending litigation, planned office closures, impending merger, which may impede Proposer's ability to provide services.

Provide Proposer's latest Audited Financial Statements (to be submitted with the proposal as **Appendix A**) and financial references to allow MTS to determine firm's financial capacity and stability.

- C. Describe the firm's experience in performing like services of a similar nature for public transportation agencies, municipalities, or other government agencies. Include, at a minimum, the name of the contracting agency, type of services provided, the contract period, and the name, address, email, and telephone number of a contact person. Highlight the participation in such work by the key personnel proposed for assignment to the services described in this RFP. Describe your experience in working with the various government agencies identified in this RFP.
- D. Identify subcontractors by name, address, contact person, telephone number, email and project function. Describe Proposer's experience working with each subcontractor. Describe role of proposed subcontractor.
- E. "Status of Current and Past Contracts Form," Proposer shall provide as a minimum three (3) references of current and past contracts where the firm has either provided services as a prime contractor or a subcontractor during the past five (5) years, for projects cited as related experience. A separate form must be completed for each contract. All fields on the form must be filled in. Proposer shall ensure it is providing an accurate contact name, telephone number and email of the person(s) at the organization most knowledgeable about the services performed. Inaccurate references may be a factor in the overall evaluation of the proposal. Each reference must specifically address start/end dates of the project and services provided that should be correlated with the requirements of this RFP. If Proposer is no longer providing the service, Proposer is to identify if a new contract was awarded to a different firm through the procurement process, or if the contract was terminated by either procuring agency or by the contractor for cause or convenience. If the contract was terminated, list the reason for termination. Proposer must identify and state the status of any litigation, claims or settlement agreements related to any of the contracts. Each form must be signed by the Proposer confirming that the information provided is true and accurate. Any requests for a conflicts waiver must be submitted with your proposal. MTS reserves the right to contact any and all clients listed as part of the reference verification.

3.3.2. PROPOSED STAFFING, ORGANIZATION, AND MANAGEMENT PLAN

This section of the proposal should establish the method that will be used by the Proposer to manage the proposed services offered as well as to identify key project personnel.

Proposer shall:

- A. Provide education, experience, course work, training, special qualifications, and applicable professional credentials of proposed staff.
- B. Furnish brief resumes (not more than two (2) pages each) for the proposed responsible management team and key staff or personnel that will be assigned to the Work. The ability of the management team to respond immediately to issues relating to the service proposed. The Proposer should demonstrate how this requirement will be fulfilled and should indicate the percentage of time each individual will be dedicated to MTS projects (to be submitted with the proposal as **Appendix B**).
- C. Identify key personnel proposed to perform each category of services selected from the Scope of Work and include areas of subcontracted services.
- D. Include an organizational chart, which clearly depicts communication/ reporting relationships among the proposed staff, the subcontractors, and their assigned tasks in relation to MTS' requirements (to be submitted with the proposal as **Appendix C**).
- E. Include a statement that key personnel proposed will be available to perform the proposed services for the duration of the contract acknowledging that no person designated as "key" to the proposed service shall be removed or replaced without the prior written concurrence of MTS.
- F. Describe the process to be used to attract qualified personnel and office staff (to be submitted with the proposal as **Appendix D**). Describe the firm's participation in their staff's continued education and training. Also describe the firm's drug and alcohol testing procedures and policy.

3.3.3. WORK PLAN

Proposer shall:

- A. Fully describe its plan on how to achieve the MTS' objectives as detailed in this Solicitation through a narrative. The narrative must be able to illustrate the Proposer's understanding of MTS' needs. On key points, Proposer may wish to include verifiable references that will serve to highlight Proposer's level of experience and knowledge relative to each.
- B. Records Retention: Proposer shall discuss the process used to establish and maintain MTS' data collected or generated while performing the services. The processes used to ensure confidentiality and the storage terms, where applicable.

3.3.4. INSURANCE

Submit a statement in the cover letter or provide proof that the required insurance coverage contained in the Sample Agreement can be obtained by the Proposer (to be submitted with the proposal as **Appendix E**). Should Proposer be unable to provide evidence of insurability, MTS may remove that Proposer's proposal from consideration.

3.3.5. EXCEPTIONS/DEVIATIONS

Proposer shall state any exceptions to or recommended deviations from the requirements of this RFP, segregating "technical" exceptions from "contractual" exceptions and including RFP sections and page numbers. Where Proposer wishes to submit alternative approaches to meeting MTS' technical or contractual requirements, these should be thoroughly explained (to be submitted with the proposal as **Appendix F**).

Proposer may also propose procedural or technical enhancements/innovations to the Scope of Work which do not materially deviate from the objectives of the project.

3.4. COST AND PRICE PROPOSAL – A PRICING/COST FORM IS PROVIDED IN THIS RFP

Proposer shall provide pricing using the form(s) attached as Cost Pricing Form in Section 8. In preparing a cost proposal, Proposers are requested to provide a total all-inclusive cost for each task. As part of supporting document, Proposer shall provide a supplemental cost breakdown for each task.

3.5. APPENDICES

Information considered by Proposer to be pertinent to this project, and which has not been specifically solicited in any of the previous sections, may be submitted as a separate attachment. Proposers are cautioned, however, that this does not constitute an invitation to submit large amounts of extraneous materials. Appendices should be relevant and brief. Such additional suggestions will only be considered acceptable to the MTS if they are included in the resultant Agreement.

3.6. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS – PRIMARY PARTICIPANT AND LOWER-TIER PARTICIPANTS

Each awarded contract may be a covered transaction for purposes of 2 C.F.R. Part 180 and Part 1200 in the event that federal funding is utilized for payment by MTS. As such, the successful Proposer or Proposers is required to verify that the successful Proposer or Proposers, its principals, as defined at 2 C.F.R. 180.995, or affiliates, as defined at 2 C.F.R. 180.905, are not excluded or disqualified as defined at 2 C.F.R. 180.940 and 180.935.

The successful Proposer or Proposers is required to comply with 2 C.F.R. 180, Subpart C, and must include the requirement to comply with 2 C.F.R. 180, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its proposal, the successful Proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by MTS. If it is later determined that the successful Proposer knowingly rendered an erroneous certification, in addition to remedies available to MTS, the Federal Government may pursue available remedies, including, but not limited to, suspension and/or debarment. The successful Proposer agrees to comply with the requirements of 2 C.F.R. 180, Subpart C, while this offer is valid and throughout the period of any contract that may arise from this offer. The successful Proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

- Submission Requirements

Each Proposer and its proposed subcontractor consultants shall complete the certification form, *Certification of Primary Participant Regarding Debarment, Suspension, and other Responsibility Matters*, included in this RFP for itself and its principals and submit this certification with its proposal. Failure to do so may result in rejection of the proposal.

3.7. RESTRICTIONS ON LOBBYING AND CAMPAIGN CONTRIBUTIONS

3.7.1 STATE RESTRICTIONS ON CAMPAIGN CONTRIBUTIONS

California Government Code section 84308 (also known as the “Levine Act”) requires (a) disclosure of certain campaign contributions from Proposer or its agents to MTS Board Members; and (b) disqualification of those Board Members from participating in an MTS decision related to this RFP if the campaign contribution(s) meets the criteria set forth in the Levine Act. This RFP includes a CAMPAIGN CONTRIBUTION DISCLOSURE FORM that must be completed and submitted with the proposal. MTS reserves the right to request an update of the form during the applicable Levine Act compliance periods.

3.8. COMPLIANCE WITH EQUAL EMPLOYMENT OPPORTUNITY PROGRAM

The MTS Equal Employment Opportunity (EEO) Program will be a part of this agreement (The policies are located here: <https://www.sdmts.com/about-mts-reports-records-and-policies/policies-and-procedures>)

A Workforce Report form signed by the Proposer is a condition for the award of this contract.

1. Prior to the award of this contract, a Proposer must complete and submit a Workforce Report (Equal Opportunity Workforce Report Form included in the Forms Section of the RFP).
2. If MTS determines that there is underutilization of women and minorities in a Proposer's workforce, the Proposer shall be required to submit to MTS for its review and approval a written EEO Plan.
3. The Proposer's EEO Plan is to include goals and timetables for employment on a line-by-line (job title) basis. Goals and timetables must be designed to correct any identifiable deficiencies. Where deficiencies exist, the Proposer shall establish and set forth specific goals and timetables separately.
4. No Proposer will be required to discharge members of its workforce in order to increase the number of minority or female workers employed.

4. EVALUATION AND AWARD

4.1. EVALUATION CRITERIA

MTS will evaluate the offers based on the following criteria:

A. Pass/Fail Criteria

1. Proposer has demonstrated the ability to meet the insurance requirements described in the Agreement. Proof of ability should be attached to proposal. (P/F)
2. Proposer has demonstrated previous experience working for or with public agencies, transit entities, or corporations on a similar project as stated in the Scope of Work. (P/F)

If the Proposer does not meet any of the criteria mentioned above, their proposal may not be considered for evaluation.

The following sections will be scored, based on the totality of the proposal and its ability to best meet MTS's needs. Each of the individual factors listed in the descriptions below are example of the items that will be evaluated or scored.

The weight for each item is subject to the discretion of the evaluation team, based on the relevance to MTS's overall needs.

Award will be based upon criteria listed below, and may not necessarily be made to the Proposer offering the lowest price

B. Qualifications of the Firm or Individual 25%

Technical experience in performing work on services of a similar nature; experience working with public agencies; strength and stability of the firm or management personnel; strength, stability, experience, and technical competence of subcontractors; assessment by client references; references with demonstrated success in providing similar services.

C. Staffing, Organization, and Management Plan 25%

Qualifications of proposed staff, particularly key personnel and the responsible management; key personnel's level of involvement in performing related work cited in "Qualifications of the Firm" section; logic of firm organization; adequacy of labor commitment. Response should also include procedures for delegating work and the types of work given to support staff and associates in order to provide cost effective services to MTS.

D. Work Plan 30%

Depth of Proposer's understanding of MTS' requirements as set forth in the Scope of Work Section, and within this RFP; overall quality of work plan; logic, clarity, and specificity of work plan; appropriateness of labor distribution among the activities; ability to meet services proposed; reasonableness of the services proposed; methods or processes used for data retention and confidentiality; evidence of insurability.

E. Cost and Price**20%**

The reasonableness of the total cost proposal and the competitiveness of the proposed price in comparison with other offers received; adequacy of market data that in support of proposed costs and prices; reasonableness of unit prices and labor rates; logical market basis of proposed prices. Mathematically calculated based upon the reasonableness of the cost or price proposed for the services; competitiveness of the price in comparison with other proposals, and least amount of risk. Completeness and adequacy of data provided in support of the proposed prices.

4.2. PROPOSAL EVALUATION

MTS uses a selection process in which proposals contain both price and qualitative components, and award is based upon a combination of price and qualitative considerations. Qualitative considerations may include experience and qualifications, technical approach, quality of proposed personnel, and/or management plan. The award selection is based upon consideration of a combination of technical and price factors to determine the offer deemed most advantageous to MTS.

An evaluation committee will be appointed to review all proposals. The committee will be comprised of MTS staff and may include outside personnel. Committee members will initially evaluate each proposal using the pass or fail criteria identified in this RFP. Proposers who pass this first stage of testing will progress to the next step in the evaluation.

On the completion of the initial Pass/Fail review, the committee will evaluate proposals using the two-step process. Technical proposals will be reviewed and scored first without consideration for price. The committee will then open the cost and price proposals and evaluate and score them accordingly. During the technical evaluation, the committee, at its sole discretion may contact any or all of the Proposers with specific questions or requests for clarification. After both the technical and cost/price proposals have been evaluated and scored, the committee will arrive at a "comprehensive proposal score" for each proposal. A list of top ranked proposals within a competitive range will be developed based upon the total comprehensive scores provided by committee members. At this time, the committee may decide that the evaluation process is complete and submit a final recommendation to the CEO.

If the committee determined it to be necessary, it may then conduct interviews and negotiations with short-listed Proposers. MTS has established the dates listed in the Calendar of Events for interviews and negotiations if needed. Proposers are asked to keep these date(s) available. As no other interview dates are available. Proposers who are unable to attend their interview as scheduled may be eliminated from further participation. The interview may consist of a short presentation by the Proposer after which MTS may ask questions and/or request clarification related to any element of a proposal and its qualifications. MTS may also enter into negotiations with the Proposer.

At the conclusion of interviews and negotiations, the evaluation committee may choose to proceed using one of the following processes:

1. The committee may find it necessary to re-score the proposals in light of information gained during the interviews and negotiations process. The proposals will be scored in the same manner as the original proposals.

2. The committee may ask the Proposers to consider the dialog of negotiations and revise their proposals. A deadline will be set for submission of the revised proposals. If a Proposer is unable to meet the deadline or chooses not to revise its proposal, its existing proposal will be rescored along with revised proposals in the same manner as the original proposals. (Both Options A and B may result in a new ranking and competitive range.)
3. The committee may also elect to bypass both Options A and B, and move forward to Best and Final Offers (BAFO).

Proposers remaining within the competitive range may be asked to submit a BAFO. In the BAFO request, the Proposers may be asked to provide additional information, confirm or clarify issues and submit a final cost/price offer. A deadline for submission will be stipulated. The BAFO's will be scored in the same manner as the original proposals.

After the BAFO's are evaluated and scored, the evaluation committee may recommend to the MTS CEO, a proposal with the highest final ranking or a short list of top ranked proposals within the competitive range whose offers(s) are the most advantageous to MTS. The MTS CEO will review the evaluation committee's recommendation and may enter into further negotiations with the Proposer(s) or forward its decision to the full Board of Directors for final action.

4.3. AWARD AND EXECUTION

At the conclusion of evaluation, the evaluation committee will submit (with concurrence of the MTS CEO) a recommendation for award to the MTS' Board of Directors for consideration and approval. MTS may also negotiate contract terms with the selected Proposer prior to award and expressly reserves the right to negotiate with several Proposers simultaneously, and to award contracts to multiple Proposers offering the most favorable terms to MTS.

MTS reserves the right to award its total requirements to one Proposer or to apportion those requirements among several Proposers as MTS may deem to be in its best interest. In addition, negotiations may or may not be conducted with Proposers; Proposals should contain the Proposer's most favorable terms and conditions. Prior to award of the contract, the selected Proposer may be required to submit a pre-award audit of their financial records to confirm claims of financial stability and to ascertain the capacity of the Proposer's accounting system to properly administer the Agreement.

4.4. W-9 FORMS

Prior to award, all Contractors must have a W9 on file with MTS. Completed forms must be submitted to vendors@sdmts.com upon request by the Contract Officer.

4.5. CALIFORNIA WITHHOLDING FORMS

Prior to award, all Contractors must complete the Form 590 Withholding Exemption Certificate if they have a permanent place of business in California, or Form 587 Non-Resident Withholding Allocation Worksheet if they do not have a place of business in California. Completed forms must be submitted to vendors@sdmts.com upon request by the Contract Officer.

4.6. NOTIFICATION OF INTENT TO AWARD (NIA) AND DEBRIEFING

Proposers who submit a proposal in response to this RFP will be notified of MTS' intent to award a Contract. Any protest with this notice must comply with the protest requirements shown in the RFP. Proposers who were not awarded the contract may obtain a prompt explanation concerning the strengths and weaknesses of their proposal. Unsuccessful Proposers who wish to be debriefed must request the debriefing in writing, and MTS must receive it no later than three (3) days after the NIA is issued.

5. SCOPE OF WORK/TECHNICAL SPECIFICATIONS

5.1. INTRODUCTION

San Diego Metropolitan Transit System (MTS) is requesting proposals from qualified and responsible transit planning firms to complete a Comprehensive Operational Analysis (COA), including its bus, light rail, and paratransit services. The goal of this update is to evaluate MTS' current performance, and restructure transit services as necessary to more efficiently and effectively serve the region's travel needs within the projected financial and operating constraints.

Starting in FY28, MTS is anticipating an operating budget shortfall of roughly \$100 million (on a current \$448 million budget). Consequently, MTS is assessing the feasibility of placing an agency-sponsored sales tax measure on the ballot in Fall 2026. While discussions of the sales tax measure are preliminary, it is estimated that the half-cent sales tax would generate about an additional \$75 million annually to improve current transit services. It is expected that more than \$75 million annually would be generated as part of the sales tax measure, but an estimated \$75 million annually would be focused on service enhancements to the current network.

The purpose of this contract is to assist MTS with developing a regional service concept to address current travel demands and plan for two distinct scenarios:

- 1) **Passing of ballot measure:** An estimated \$75 million in additional revenues expected to increase frequencies and spans (or realigning services) on the existing transit network.
- 2) **No increase in regional transit funding:** This would result in a budget shortfall of \$100 million, with an estimated \$30-\$50 million in savings required to come from service reductions/changes (a specific target will be provided to consultant upon project award).

A separate simultaneous process will analyze other efforts that would help ensure a successful sales tax measure. A ballot measure was also considered in 2020, before being canceled due to COVID (Elevate 2020). The resultant consultant will have the benefit of using the Elevate 2020 efforts in its development of the second scenario.

STUDY GOALS

The goals of this study are to evaluate and restructure MTS services as necessary to meet future budget constraints as described above.

Objectives:

- Develop strategies to address current travel demand with projected funding levels
- Integration with the region's current and future multimodal transportation system
- Realign existing services and operational frequency and span of services based on proposed service strategies
- Develop phasing plans and financial programs to support implementation of the service plans
- Ensure that community input is considered throughout the study

5.2. PROJECT AREA

MTS is governed by a 15-member Board of Directors, and operates fixed-route and paratransit bus service, as well as light rail services within the central, south, and eastern parts of San Diego County. Transit services within the MTS jurisdiction are provided by MTS's operating entities, San Diego Transit Corporation (SDTC), San Diego Trolley, Inc. (SDTI), and MTS Contract Services (MCS). MTS provides service to over 75 million passengers with an operating budget over \$400 million.

The project area for this study is the MTS area of jurisdiction. The study is inclusive of all bus, light rail, and paratransit service within the study area. To ensure regional coordination and consistency between services, the consultant should consider North County Transit District (NCTD) services and facilities when developing the service concepts and proposed transit networks.

5.3. TIMELINE

The bulk of the project shall be completed by September 30, 2026, with assistance provided for November 2026 MTS Board of Directors meeting.

Critically, Task 4 (develop service plan for increased service) should be completed by January 31, 2026 in order to prepare materials for a public hearing in March 2026 for a potential measure (MTS staff will lead the public hearing presentation).

Task 5 (develop service reduction plan) shall be completed by September 30, 2026 in order to prepare for a potential public hearing as soon as November 2026, if additional funding is not approved by November 2026. MTS staff will lead the public hearing presentation.

Task List	2025							2026												
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Project Award/Kick-Off																				
Task 1 – Data Collection/Review of Existing Conditions																				
Task 2 - System and Service Evaluation																				
Task 3 - Evaluation of Recommendations from Elevate 2020																				
Task 4 – Develop Service Implementation Plan for Increased Service																				
Task 5 – Develop Service Reduction Plan																				

5.4. PROJECT STAFFING

MTS will be the lead for this project. Consultant staff will collaborate with MTS staff throughout this effort. Proposer shall submit the staff, hours and other direct costs for each task.

MTS staff will manage the public outreach portion of the project, with assistance from the consultant in developing material for those efforts.

5.5. SCOPE OF WORK

Below is a draft list of tasks to be completed by the consultant. Although sequentially ordered to reflect a standard planning process, MTS may request that some tasks be completed in tandem or in advance of other tasks. All deliverables will be reviewed and accepted by MTS staff. Consultants are encouraged to propose alternatives and revisions to the tasks in order to improve the quality or deliverability of the work products. This shall be done via the written Questions and Answers phase of the RFP so that MTS can respond via an addendum to add/revise/delete task/s accordingly prior to receipt of proposals.

Ownership of Data

All data, including but not limited to demographic information, transit service statistics, and files created specifically for MTS as part of this project, shall remain the property of MTS in perpetuity.

Task 1 – Data Collection and Review of Existing Conditions

Collect and review data, reports, documents, and other information pertinent to the COA, including, but not limited to, the following:

Reports:

- SANDAG 2050 Regional Transportation Plan (San Diego Forward)
- SANDAG Coordinated Plan
- Relevant Community Plans, Community Plan Updates, and Mobility Plans
- MTS Annual Budgets
- 2018 MTS Transit Optimization Plan
- Elevate 2020 (previous effort at developing sales tax measure)
- Others as determined

Data:

- Demographic and socioeconomic data (census and SANDAG forecasts)
- Federal and state-defined disadvantaged communities
- MTS rider outreach and survey results
- Employment and land-use data (SANDAG)
- Transit passenger counts
- PRONTO fare data
- Operating statistics and performance
- Average daily trips on highways and major arterials
- Level of service on highways and major arterials
- SANDAG 2018 Commute Behavior Survey
- SANDAG 2023 Onboard Passenger Survey (available early 2025)
- MTS 2022 Customer Satisfaction Survey
- MTS 2024 Customer Satisfaction Survey (available in spring 2025)
- Other market research and comments from drivers, riders, and nonriders collected by MTS

Propose additional data collection efforts necessary for the project.

Divide the MTS jurisdiction into subregional areas based on common travel characteristics and demand. Identify travel markets within each subregional area with the greatest potential for capturing transit ridership (e.g., basic mobility, school, peak commute, tourist, seniors, etc.). Assess existing and future transit demand and travel patterns for each market by subregional area, based on, but not limited to:

- Population density by demographic variables (e.g., age, income, and auto ownership)
- Federal and state-defined disadvantaged communities
- Employment: including density, major employment centers, employment size, business/operation hours, shift schedules, etc.
- Location of other major trip generators: including schools, retail centers, medical centers, recreation and tourism hot spots, regional destinations, etc.
- Regional travel demand for each travel market to and from each subregional area by time of day: a.m. peak, mid-day, p.m. peak, and evening; and, day of week (weekday/Saturday/Sunday)
- Local travel demand for each travel market within each subregional area by time of day and day of week
- Existing transit ridership by route, segment, and/or stop by time of day, day of week
- Transit origin and destination travel pairs based on most recent SANDAG onboard survey

Identify and briefly evaluate opportunities and challenges facing transit service provision in the region over the next five years, including, but not limited to:

- Traffic congestion
- New transportation facilities
- Financial constraints / opportunities
- Land-use densities/orientation
- Public perceptions of transit
- Changing demographics (age, income)
- New transportation modes
- New federal/state/local requirements
- Zero-emission bus requirements

Inclusion of feedback from MTS passengers and the general public is essential to the success of the COA. MTS staff will lead the public participation process, including an extensive marketing and public information component to support the development and implementation of the COA.

The consultant will provide support materials and assistance to MTS staff including, but not limited to:

- Presentation at up to two (2) MTS Board or Executive Committee Meetings
- Development of digital art for displays, presentations, and public information (printing/production to be done by MTS)

Task 1 Deliverables:

(1) Technical report on review of relevant information and existing conditions.

(2) Additional data collection, as necessary, dependent on MTS approval.

(3) Prepare materials to present to up to two (2) MTS Board of Directors or Executive Committee meetings.

Task 2 - System and Service Evaluation

Evaluate how well the transit system is addressing the travel markets identified in Task 1. How well do schedules, routes, and stops meet the needs of passengers? Where and when are passengers transferring through the system, and how efficient are these transfers? Where and when are there redundancies, duplications, or deficiencies in routing, stops, and schedules? Is stop spacing adequate? Where and when are there service gaps and deficiencies? Where and when is there excess service given the demand? Is the transit service equitable according to federal and state-defined disadvantaged areas?

Evaluate existing services and schedules based on the service guidelines of MTS Policy 42: Transit Service Evaluation and Adjustment (Attachment 1). Policy 42 was last updated in 2016 and some revisions may occur prior to the project start date. Services should be evaluated based on segments (geographic, time of day, day of week, and season). Services that are inconsistent with MTS Policy 42's vision of a largely productivity-based system, should be identified for reduction, discontinuation, or restructuring. Services that have potential for exceeding existing performance should be identified for possible enhancements.

The consultant will provide support materials and assistance to MTS staff including, but not limited to:

- Presentation at up to two (2) MTS Board or Executive Committee Meetings

- Development of digital art for displays, presentations, and public information (printing/production to be done by MTS)

Task 2 Deliverables:

- (1) *Technical report evaluating the existing system and services, identifying trips, segments, and routes that do not meet or have the potential to exceed performance expectations.*
- (2) *Prioritized list of service gaps, deficiencies, and opportunities.*
- (3) *Prepare materials to present to up to two (2) MTS Board of Directors or Executive Committee meetings.*

Task 3 – Evaluation of Recommendations from Elevate 2020

The consultant should analyze the recommendations of service enhancements and adjustments from the Elevate 2020 project to determine if the recommendations are as relevant in 2025 as they were in 2019 (pre-COVID).

These recommendations include frequency enhancements on all Trolley lines, 21 new Rapid bus lines, and general frequency enhancements to fixed-route bus service. The recommendations can be found as part of **Attachment 2** (Draft Elevate 2020 Expenditure Plan). The analysis should be focused on projected changes in ridership and operating costs.

Task 3 Deliverables:

- (1) *Technical report evaluating the proposed service enhancements in Elevate 2020 with assessments of projected changes in ridership and operating costs.*

Task 4 - Develop Service Implementation Plan for Increased Services

MTS is considering a ballot measure with an estimated \$75 million annually to increase frequencies and spans (or realigning services) on the existing transit network. While more than \$75 million is expected to be generated by a sales tax measure, the \$75 million is the estimated portion that would be allocated to network enhancements. MTS may revise that estimated figure before the start of Task 4.

The consultant will develop a plan for addressing service gaps and opportunities, based on the analysis in Tasks 1-3, with this increased funding of approximately \$75 million annually.

The consultant should include services in the transit component of SANDAG's 2050 Regional Transportation Plan (currently in draft form) and the adopted 2021 Regional Plan (San Diego Forward) that are applicable in the near-to-mid-term, as well as the service enhancements identified in Elevate 2020 that were analyzed as part of Task 3.

The strategy should build upon the “core-network” service concept developed during the previous COA/TOP efforts and offer appropriate service strategies for fixed-route bus (local, express, Rapid, limited stop), light rail, demand response, and other flexible services, for each geographic area based on its travel markets. It should promote seamless, efficient, and effective travel. The service concepts should consider the current financial and operating constraints within the MTS area and propose an appropriate balance between productivity and coverage (geographic and temporal).

Evaluate the benefits and costs of the proposed service strategy and any differences compared to the existing transit network structure. This evaluation should provide a general comparison to

the existing transit system, including, but not limited to, ridership, capital and operating resource requirements, effectiveness and productivity, quality of service, and operational efficiency. Any anticipated challenges to implementation should also be identified.

Identify transit-supportive facilities and programs that either exist, could, or will be developed within the next five (5) years that would complement and enhance the proposed service concepts, including:

- Advanced technology
- Transportation demand management (employer-sponsored shuttles, carpools/vanpools, etc.)
- Stop/station enhancements (bicycle facilities at transit centers, mobility centers, way finding and public information, security and lighting, etc.)
- Zero-emission vehicle requirements

Briefly evaluate the effectiveness of each support facility and program in enhancing transit use, including a general discussion of costs, benefits, implementation steps, and challenges.

Evaluate the restructured services with quantitative performance standards established in MTS Board Policy 42 (productivity, cost-effectiveness, schedule adherence, overcrowding, financial, etc.), and qualitative service parameters (headways/service span, streamline vs. better access, number of transfers, service duplications on major corridors, coordination with other services, etc.).

Each service adjustment proposed should be described with the following information, at minimum:

- Description of service, including rationale for service
- Route map showing routing, exact layover locations, and stops (consideration of stop spacing)
- Service span
- Headways / frequencies per hour per direction (and by day)
- Estimated ridership and greenhouse gas reductions
- Financial, operating, and performance statistics
- Vehicle requirements

Describe any supporting facilities and programs recommended as part of the service restructuring. Evaluate the restructuring plan, focusing on impacts to ridership, costs, productivity, cost-effectiveness, and quality of service (e.g. on-time performance and travel time), vehicle requirements, staffing requirements, and operational efficiencies.

Ultimately the final plan will be presented to the MTS Board of Directors (as part of a public hearing). The presentation will be led by MTS staff with assistance from the consultant.

No scheduling efforts are expected as part of this task. Scheduling will be the responsibility of MTS staff.

Task 4 Deliverables:

(1) Technical report outlining the proposed transit service strategy and implementation plan for increased service, including supportive facilities and programs, explaining the benefits and costs associated with the concept relative to the MTS operating environment.

- (2) Detailed service restructuring plan which will include one-page factsheets for each proposed and existing route*
- (3) Prepare materials to present to up to three (3) MTS Board of Directors or Executive Committee meetings.*

Task 5 - Develop Service Implementation Plan for Service Reductions

While Task 4 will look at the possibility of service enhancements due to a successful ballot measure, MTS must also consider the possibility that no additional funding is forthcoming, resulting in the aforementioned budget shortfall of \$100 million. An estimated \$30-\$50 million worth of service reductions is anticipated to help bridge the funding gap (a specific target will be provided prior to the start of Task 5).

Using similar strategies as Task 4, the consultant will develop strategies for these service cuts that will minimize impacts to the regional transit service as much as feasible.

The consultant should include services in the transit component of SANDAG's 2050 Regional Transportation Plan (currently in draft form) and the adopted 2021 Regional Plan (San Diego Forward) that are applicable in the near-to-mid-term, as well as the service enhancements identified in Elevate 2020 that were analyzed as part of Task 3.

The strategy should build upon the “core-network” service concept developed during the previous COA/TOP efforts and offer appropriate service strategies for fixed-route bus (local, express, Rapid, limited stop), light rail, demand response, and other flexible services, for each geographic area based on its travel markets. It should promote seamless, efficient, and effective travel. The service concepts should consider the current financial and operating constraints within the MTS area and propose an appropriate balance between productivity and coverage (geographic and temporal).

Evaluate the benefits and costs of the proposed service strategy and any differences compared to the existing transit network structure. This evaluation should provide a general comparison to the existing transit system, including, but not limited to, ridership, capital and operating resource requirements, effectiveness and productivity, quality of service, and operational efficiency. Any anticipated challenges to implementation should also be identified.

Identify transit-supportive facilities and programs that either exist, could, or will be developed within the next five years that would complement and enhance the proposed service concepts, including:

- Advanced technology
- Transportation demand management (employer-sponsored shuttles, carpools/vanpools, etc.)
- Stop/station enhancements (bicycle facilities at transit centers, mobility centers, way finding and public information, security and lighting, etc.)
- Zero-emission vehicle requirements

Briefly evaluate the effectiveness of each support facility and program in enhancing transit use, including a general discussion of costs, benefits, implementation steps, and challenges.

Evaluate the restructured services with quantitative performance standards established in MTS Board Policy 42 (productivity, cost-effectiveness, schedule adherence, overcrowding, financial, etc.), and qualitative service parameters (headways/service span, streamline vs. better access, number of transfers, service duplications on major corridors, coordination with other services, etc.).

Each service adjustment proposed should be described with the following information, at minimum:

- Description of service, including rationale for service
- Route map showing routing, exact layover locations, and stops (consideration of stop spacing)
- Service span
- Headways / frequencies per hour per direction (and by day)
- Estimated ridership and greenhouse gas reductions
- Financial, operating, and performance statistics
- Vehicle requirements

Describe any supporting facilities and programs recommended as part of the service restructuring. Evaluate the restructuring plan, focusing on impacts to ridership, costs, productivity, cost-effectiveness, and quality of service (e.g. on-time performance and travel time), vehicle requirements, staffing requirements, and operational efficiencies.

Ultimately the final plan will be presented to the MTS Board of Directors (as part of a public hearing). The presentation will be led by MTS staff with assistance from the consultant.

No scheduling efforts are expected as part of this task. Scheduling will be the responsibility of MTS staff.

Task 5 Deliverables:

(1) Technical report outlining the proposed transit service strategies and implementation plans for budget constrained \$30-\$50 million reduction (with exact figure to be determined prior to beginning of Task 5), including supportive facilities and programs, explaining the benefits and costs associated with the concepts relative to the MTS operating environment

(2) Detailed service restructuring plan which will include one-page factsheets for each proposed and existing route

(3) Prepare materials to present to up to three (3) MTS Board of Directors or Executive Committee meetings.

5.6. PAYMENT MILESTONES

TASK	ALL DELIVERABLES	1 ST PAYMENT	FINAL PAYMENT
Task 1: Data Collection/Review of Existing Conditions	<p>(1) Technical report on review of relevant information and existing conditions.</p> <p>(2) Additional data collection, as necessary, dependent on MTS approval.</p> <p>(3) Prepare materials to present to up to two (2) MTS Board of Directors or Executive Committee meetings.</p>	Upon 50% completion of deliverables	Upon 50% completion of deliverables
Task 2: System and Service Evaluation	<p>(1) Technical report evaluating the existing system and services, identifying trips, segments, and routes that do not meet or have the potential to exceed performance expectations.</p> <p>(2) Prioritized list of service gaps, deficiencies, and opportunities.</p> <p>(3) Prepare materials to present to up to two (2) MTS Board of Directors or Executive Committee meetings.</p>	Upon 50% completion of deliverables	Upon 50% completion of deliverables
Task 3: Evaluation of Recommendations from Elevate 2020	<p>(1) Technical report evaluating the proposed service enhancements in Elevate 2020 with assessments of projected changes in ridership and operating costs.</p>	Upon 50% completion of deliverables	Upon 50% completion of deliverables
Task 4: Develop Service Implementation Plan for Increased Service	<p>(1) Technical report outlining the proposed transit service strategy and implementation plan for increased service, including supportive facilities and programs, explaining the benefits and costs associated with the concept relative to the MTS operating environment.</p> <p>(2) Detailed service restructuring plan which will include one-page factsheets for each proposed and existing route</p> <p>(3) Prepare materials to present to up to three (3) MTS Board of Directors or Executive Committee meetings.</p>	Upon 50% completion of deliverables	Upon 50% completion of deliverables

<p>Task 5: Develop Service Reduction Plan</p>	<p><i>(1) Technical report outlining the proposed transit service strategies and implementation plans for budget constrained \$30-\$50 million reduction (with exact figure to be determined prior to beginning of Task 5), including supportive facilities and programs, explaining the benefits and costs associated with the concepts relative to the MTS operating environment</i></p> <p><i>(2) Detailed service restructuring plan which will include one-page factsheets for each proposed and existing route</i></p> <p><i>(3) Prepare materials to present to up to three (3) MTS Board of Directors or Executive Committee meetings.</i></p>	<p>Upon 50% completion of deliverables</p>	<p>Upon 50% completion of deliverables</p>
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5.7. INVOICES

Invoices must be sent to the MTS Accounting Department, via email, at ap@sdmts.com. All invoices must have the Purchase Order and contract number clearly displayed to ensure timely payment. MTS will not pay on packing slips, receiving documents, delivery documents, or other similar documents. Invoices must be submitted for payment.

Payment terms shall be net 30 days from invoice date.

Contractors must also indicate if any of the invoiced amount(s) is for service or work provided by a subcontractor and indicate the amount that will be paid to the subcontractor. Contractors must also comply with the prompt payment requirements in the *Prompt Progress Payments* section of the Standard Conditions.

6. ATTACHMENTS

ATT 1 MTS Board Policy 42 (Transit Service Evaluation and Adjustment) (See Attached on [PlanetBids](#))

ATT 2 Draft Elevate 2020 Expenditure Plan (See Attached on [PlanetBids](#))

ATT 3 MTS Regional Map (See Attached on [PlanetBids](#))



7. SAMPLE STANDARD AGREEMENT, STANDARD CONDITIONS

STANDARD AGREEMENT

FOR

MTS DOC. NO. G3042.0-25

COMPREHENSIVE OPERATIONAL ANALYSIS

THIS AGREEMENT is entered into this _____ day of _____, 2025 in the State of California by and between San Diego Metropolitan Transit System ("MTS"), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: _____ Address: _____

Form of Business: _____ (Corporation, Partnership, Sole Proprietor, etc.) City State Zip

Telephone: _____ Email: _____

Authorized person to sign contracts _____ Name Title

The Contractor agrees to provide services as specified in the conformed Scope of Work/Technical Specification (Exhibit A), Contractor's Cost/Pricing Form (Exhibit B), and in accordance with the Standard Agreement, including Standard Conditions (Exhibit C), Forms (Exhibit D).

The contract term is for a two (2) year period effective June 1, 2025 through May 31, 2027.

Payment terms shall be net 30 days from invoice date. The total cost of this contract shall not exceed \$ _____ without the express written consent of MTS.

Table with 2 columns: SAN DIEGO METROPOLITAN TRANSIT SYSTEM and CONTRACTOR NAME. Includes signature lines for Sharon Cooney and Contractor.



Karen Landers, General Counsel

STANDARD CONDITIONS

7.1. COMPLETE AGREEMENT

This Agreement, including all applicable terms, conditions, and specifications, is the entire agreement of the parties and no attempted modification shall be binding unless in writing and signed by MTS and the Contractor.

MTS reserves the right to use alternative vendors/contractors at any time for any reason.

7.2. COUNTERPARTS

This Agreement may be executed in any number of counterparts. All such counterparts shall be deemed to constitute one and the same instrument, and each of said counterparts shall be deemed an original thereof.

7.3. SURVIVAL

Notwithstanding MTS's acceptance of the services and payment therefore, Contractor shall remain obligated under all clauses of this Agreement which expressly, or by their nature, extend beyond and survive such acceptance and payment.

7.4. DUTY TO CLARIFY OBVIOUS AMBIGUITY

The Contractor is required to seek clarification of any obvious ambiguity contained in the contract documents. Failure to do so will result in an interpretation of the ambiguous provision favorable to MTS should a dispute later arise concerning that provision.

7.5. NOTICES

All notices or other communications to either party by the other shall be deemed given when made in writing and deposited in the United States Post Office, addressed as follows:

To MTS:

San Diego Metropolitan Transit System (MTS)
Attention: Chief Executive Officer
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

To Contractor:

As shown on front page.

7.6. CHANGES IN WORK

No payment for changed or additional work shall be made unless the changed or additional work has first been approved in writing by the MTS Project Manager and the parties have agreed upon the appropriate adjustment, if any, to the payment schedule and maximum payment amount for the changed or additional work. The written notice of potential change in work be given to MTS prior to the time Contractor shall have performed the work within fifteen (15) days after the happening of the event, thing, occurrence, or other cause, giving rise to the potential change in work.

The MTS Project Manager may order changes or additions to the scope of work. Whether a change or addition to the scope of work is proposed by the Contractor or ordered by the MTS Project Manager, the parties shall in good faith negotiate an appropriate adjustment, if any, to the payment schedule and maximum payment for the changed or additional work. An approved change or addition, along with the payment adjustment, if any, will be effective upon an amendment to this contract executed by both parties. The amendment shall not render ineffective or invalidate unaffected portions of this contract.

7.7. SEVERABILITY

If any term, provision, or condition of this Agreement is held to be invalid, void or otherwise unenforceable, to any extent, by any court of competent jurisdiction, the remainder of this Agreement shall not be affected thereby, and each term, provision, or condition of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

7.8. TERMINATION OF AGREEMENT

7.8.1. TERMINATION FOR CONVENIENCE

Performance under this agreement may be terminated by MTS in accordance with this clause in whole or, from time-to-time, in part, whenever MTS shall elect. Any such termination shall be affected by delivery to Contractor of a Notice of Termination specifying the extent to which performance under this agreement is terminated, and the date upon which such termination becomes effective. Upon receipt of any such notice, Contractor shall, unless the notice requires otherwise:

- A. immediately discontinue performance on the date and to the extent specified in the notice;
- B. place no further orders for materials other than as may be necessarily required for completion of such portion of the agreement that is not terminated;
- C. promptly make every reasonable effort to either obtain cancellation on terms satisfactory to MTS of all orders to Contractor's suppliers to the extent they relate to the performance of that portion terminated, or upon MTS concurrence assign to MTS those orders; and
- D. assist MTS, upon request, in the maintenance, protection and disposition of property acquired by MTS under this agreement.

If claimed in writing within 30 calendar days after Notice of Termination, MTS will pay to Contractor an equitable adjustment to include (without duplication of any item):

- A. all amounts due and not previously paid to Contractor for goods completed in accordance with this agreement prior to such notice;
- B. a reasonable amount for any goods and materials then in production; provided that no such adjustment be made in favor of Contractor with respect to any goods which are Contractor's standard stock;
- C. costs of settling and paying supplier's claim arising out of the canceled orders; and
- D. a reasonable profit for costs incurred in the performance of that portion terminated; provided, however, that if it appears that Contractor would have sustained a loss on the entire agreement had it been completed, no profit shall be included.

The total sum to be paid to Contractor under this clause, shall not exceed the total order price as reduced by the amount of payments otherwise made, and as further reduced by the order price of that portion not terminated, and will not include any consideration for loss of anticipated profits on the terminated portion all claims for which seller agrees to waive.

7.8.2. TERMINATION FOR DEFAULT

In case of Contractor breach or failure to perform, MTS reserves the right to terminate the contract for default. MTS may award the contract to the next lowest responsive, responsible Proposer, solicit new bids, or pursue any other remedy authorized by law.

In addition to any remedy authorized by law, money due to the Contractor under and by virtue of contract, as shall be considered necessary by MTS, may be retained by MTS until disposition has been made of such suits or claims for damages. The retention of money due to the Contractor shall be subject to the following:

- A. MTS will give the Contractor ten (10) days' notice of its intention to retain funds from any partial payment, which may become due to the Contractor prior to acceptance by MTS of the contract. Retention of funds from any payment made after acceptance may be made without such prior notice to the Contractor.
- B. No retention of additional amounts out of partial payments will be made if the amount to be retained does not exceed the amount being withheld from partial payments.
- C. If MTS has retained funds, and it is subsequently determined that MTS is not entitled to be indemnified and saved harmless by the Contractor in connection with the matter for which such retention was made, MTS shall be liable for interest earned on the amount retained for the period of such retention.

MTS may terminate the contract by serving a notice of termination on the Contractor. Notice shall set forth the manner in which the Contractor is in default, and provide the Contractor with ten (10) days' time to cure the default to the satisfaction of MTS. This cure period may be adjusted if the parties so agree in writing. If MTS determines after the cure period that the default is not cured, MTS will issue a "show cause" letter to the Contractor requesting from the Contractor reasons why this contract should not be terminated. If MTS does not find that the Contractor has demonstrated sufficient reason for its failure to cure, the contract shall be deemed terminated. The Contractor shall only be paid the contract price for supplies received and accepted, or services performed in accordance with the manner set forth in the contract. If MTS determines that the Contractor had an excusable reason for not performing such as a strike, fire, flood, or other events, which are not the fault of, or beyond the control of the Contractor, MTS may allow the Contractor to continue work or terminate the contract for convenience.

7.9. ASSIGNABILITY

- A. By MTS. This contract is assignable, in whole or in part, to any other government agency, including the North County Transit District and/or the San Diego Association of Governments and/or the Metropolitan Transit System. The party wishing to exercise the assignment (also known as a "piggyback") shall perform an independent cost estimate to determine fair and reasonable pricing, and shall enter into its own contract with the vendor based upon the terms and conditions of this Request for Proposal. Any assignment or

piggyback shall comply with Federal Transit Administration (FTA) requirements if applicable. MTS shall have no responsibility or liability for any such assignment or piggyback.

- B. By Contractor. Any attempt by Contractor to assign, subcontract, or transfer all or part of this Agreement shall be void and unenforceable without MTS' prior written consent; which consent shall not be unreasonably withheld. Any such consent shall not relieve Contractor from full and direct responsibility for all services performed prior to the date of assigning, subcontracting, or transferring this Agreement. In the event of an authorized assignment by MTS or applicable law, all terms, conditions, and provisions of this contract shall apply to and bind the respective heirs, executors, administrators, successors, and assigns of the parties.

Any assignment of this Agreement or of any rights hereunder of hypothecation thereof in any manner, in whole or in part, without the prior written consent of MTS shall be null and void. Notwithstanding the foregoing, Contractor may assign monies due or to become due under this Agreement, and such assignments will be recognized by MTS, provided that written notice thereof is given to MTS at least ten (10) calendar days before payment is due. Any assignment of monies shall be subject to proper setoffs in favor of MTS to all deductions provided for in this Agreement. All money withheld, whether assigned or not, shall be subject to being used by MTS for the completion of the Agreement, in the event Contractor should be in default therein.

In the event of an authorized assignment by MTS or applicable law, all terms, conditions, and provisions hereof shall inure to and bind hereto their and each of their respective heirs, executors, administrators, successors, and assigns.

7.10. STANDARD OF PERFORMANCE

Contractor's services shall be performed in accordance with generally accepted professional practices and principles and in a manner consistent with the level of care and skill ordinarily exercised by members of Contractor's profession currently practicing under similar conditions. By delivery of completed work, Contractor certifies that the work conforms to the requirements of this contract and all applicable federal, state and local laws. If Contractor is retained to perform services requiring a license, certification, registration or other similar requirement under California law, Contractor shall maintain that license, certification, registration or other similar requirement throughout the term of this Contract.

7.11. TIME

The Contractor acknowledges that timely performance is an important element of this Agreement. Accordingly, the Contractor shall put forth its best professional effort to complete its services in accordance with the agreed-upon schedule.

7.12. EXCUSABLE DELAYS / FORCE MAJEURE

Timely performance and deliveries are essential to this Agreement. However, Contractor will not be liable for delays in performing its obligations to the extent the delay is caused by an unforeseeable condition, which is beyond Contractor's reasonable control, without Contractor's fault or negligence. Acts of God, such as storms or floods, as well as government priorities, acts of civil or military authorities, fires, strikes, epidemics, war or riot, are examples of events which

will be excusable for being beyond Contractor's reasonable control only upon fulfillment of the following conditions: (a) within seven (7) calendar days of the commencement of any excusable delay, Contractor shall provide MTS with written notice of the cause and extent thereof, as well as request for a schedule extension for the estimated duration thereof; and (b) within seven (7) calendar days of the cessation of the event causing delay, Contractor shall provide MTS with written notice of the actual delay incurred, upon receipt of which the date of promised delivery shall be extended for the time actually lost by reason of an excusable delay.

7.13. SUSPENSION OF WORK

MTS may at any time and for any reason within its sole discretion issue a written order to the Contractor suspending, delaying or interrupting all or any part of the Work for a specified period of time. The Contractor shall comply immediately with any such written order and take all reasonable steps to minimize costs allocable to the Work covered by the suspension during the period of work stoppage. Contractor shall continue the Work that is not included in the suspension and shall continue such ancillary activities as are not suspended. The Contractor shall resume performance of the suspended Work upon expiration of the notice of suspension, or upon direction from MTS. The Contractor shall be allowed an equitable adjustment in the Contract price and/or an extension of the Contract time, to the extent that cost or delays are shown by the Contractor to be directly attributable to any suspension. However, no adjustment shall be made under this section for any suspension, delay or interruption due to the fault or negligence of the Contractor, or for which an equitable adjustment is provided for, or excluded under any other term or condition of the Contract. As soon as reasonably possible but no later than forty-five (45) calendar days, or any other period of time agreed to by the parties, after receipt of the written suspension of work notice, the Contractor shall submit to the Contracting Officer a detailed price and schedule Proposal for the suspension, delay or interruption.

7.14. INSPECTION AND TESTING

Except as otherwise expressly provided herein, Contractor shall be responsible for all inspection and testing, and agrees to strictly follow the standards of quality specified by MTS in addition to those customary in the industry. MTS shall be afforded free access to plants of Contractor and its suppliers in order to make surveillance inspections to monitor compliance with contractual quality requirements, and MTS's right to inspect, examine, and test the goods shall extend through the manufacturing process, the time and shipment, and a reasonable time after arrival at the ultimate destination. Contractor's failure to adhere to the standards of quality required under this Agreement shall be deemed to be reasonable grounds for insecurity justifying a written demand from MTS that Contractor provide adequate assurance of Contractor's ability to meet said standards.

Goods shall not be deemed accepted until finally inspected and examined at final destination.

The making or failure to make any surveillance inspection or examination of, payment for, or acceptance of the goods shall in no way impair MTS's right to reject nonconforming goods, or to avail itself of any other remedies to which MTS may be entitled, notwithstanding MTS's knowledge of the nonconformity, its substantiality, or the ease of its discovery.

7.15. INDEPENDENT CONTRACTOR

Contractor hereby declares that it is engaged in an independent business and agrees that in the performance of this Agreement it shall act as an independent contractor and not as an employee of MTS. Contractor has and hereby retains full control of all the employment, compensation, and discharge of all employees of Contractor assisting in its performance hereunder. Contractor shall be fully responsible for all matters relating to payment of its employees, including compliance with Social Security, withholding tax, and all other laws and regulations governing such matters. Contractor shall be responsible for its own acts and those of its agents and employees during the term of this Agreement. MTS shall be responsible for its own acts and those of its agents and employees during the term of this Agreement. Except as otherwise specifically provided, as an independent contractor, Contractor is solely responsible for determining the means and methods of performing the services described in the scope of work. Contractor shall perform the work contemplated with resources available within its own organization.

7.16. THIRD PARTY BENEFICIARIES

No provisions of the Contract shall in any way inure to the benefit of any third party, including the public at large, so as to constitute such person a third-party beneficiary of the Contract or of any one or more of the terms and conditions of the Contract or otherwise give rise to any cause of action in any person not a party to the Contract, except as expressly provided elsewhere in the Contract

7.17. SUBCONTRACTORS

Contractor agrees to bind every subcontractor to the terms of the Agreement as far as such terms are applicable to subcontractor's portion of the Work. Contractor shall be as fully responsible to MTS for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by its subcontractors, as Contractor is for acts and omissions of persons directly employed by Contractor. Nothing contained in this Agreement shall create any contractual relationship between any subcontractor and MTS. MTS reserves the right to approve all subcontractors. MTS's approval of any subcontractor under this Agreement shall not in any way relieve Contractor of its obligations under this Agreement.

7.18. INDEMNITY

As between MTS and Contractor, Contractor is deemed to assume responsibility and liability for, and Contractor shall defend, indemnify and hold harmless, MTS, SDTI, SDTC, SD&AE, SD&IV and any and all of its directors, officers, agents or employees from and against any and all claims, loss, damage, charge, or expense, whether direct or indirect, which MTS, SDTI, SDTC, SD&AE, SD&IV or such directors, officers, agents or employees may be put or subjected, by reason of any damage, loss, or injury of any kind or nature whatever to persons or property caused by or resulting from or in connection with any negligent act or action, or any neglect, omission, or failure to act when under a duty to act on the part of Contractor or any of its officers, agents, servants, employees or subcontractors in its or their performance under this Agreement. In addition to any other remedy authorized by law, so much of the money due Contractor under this Agreement as shall be considered necessary by MTS may be retained until disposition has been made of any claim for damages.

7.19. DISPUTES, CLAIMS, AND RESOLUTION

MTS and the Contractor agree that every effort shall be made to resolve any dispute arising under this Agreement informally through their designated representatives. If the informal efforts are unsuccessful, then either party may request mediation by submitting a written request signed by an officer with the authority to bind the Contractor or MTS. Within five (5) business days of the request of any party, the parties shall mutually agree on the person or alternative dispute resolution agency to conduct the mediation. If the parties are unable to agree on the person or alternative dispute resolution agency to conduct the mediation, the initiating party may arrange for the office of the American Arbitration Association in downtown San Diego, California, to perform the mediation. The initiating party shall then schedule the mediation so that it is conducted within fifteen (15) business days of the mediator's appointment. The costs of the mediation and fees of the mediator, if any, shall be borne by the requesting party. Any dispute not resolved through the mediation may proceed to litigation in a court of competent jurisdiction in the County of San Diego, State of California, unless the parties agree in writing to submit the dispute to binding arbitration.

Should the Contractor suffer any injury or damage to person or property because of any alleged act or omission of MTS, or if any of Contractor's employees, agents, or others for whose acts the Contractor is legally liable suffers any injury or damages to person or property because of any alleged act or omission of MTS, a written claim for damages shall be filed with the MTS Office of General Counsel in accordance with the provisions of California Government Code section 900 et seq.

The duties and obligations imposed by this Agreement and the rights and remedies available hereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law. No action or failure to act by MTS or Contractor shall constitute a waiver of any right or duty afforded any of them under this Agreement, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder except as may be specifically agreed to in writing.

7.20. NONWAIVER

Failure of MTS to insist upon strict performance of any of the terms and conditions hereof, or failure or delay to exercise any rights or remedies provided herein, or by law, or to properly notify Contractor in the event of breach, or the acceptance of payment for any goods hereunder, or review of design, shall not release Contractor from any of the warranties or obligations of this agreement, and shall not be deemed a waiver of any right of MTS to insist regardless when shipped, received, or accepted or as to any prior or subsequent default hereunder, nor shall any revision of this agreement by MTS operate as a waiver of any of the terms hereof. A requirement that a Contractor's document be submitted for or subject to "authorization to proceed," "approval," "acceptance," "review," "comment," or combinations of such words or words of like import shall mean, unless the context clearly indicates otherwise, that Contractor shall, before implementing the information in the document, submit the document, obtain resolution of any comments, and obtain written authorization from MTS to proceed, and shall mean that a complete check will be performed. Authorization to proceed shall not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by Contractor and shall not relieve Contractor from full compliance with contractual obligations.

7.21. GOVERNING LAW AND CHOICE OF FORUM

The definition of terms used, interpretation of this Agreement, and rights of all parties hereunder shall be determined in accordance with the laws of the State of California.

Any action or proceeding to enforce or relating to this Agreement shall be brought exclusively in the federal or state courts located in San Diego County, California, and the Contractor and MTS hereto consent to the exercise of personal jurisdiction over them by any such courts for purposes of any such action or proceeding.

7.22. LITIGATION EXPENSES

Should litigation be necessary to enforce any term or provision of this Agreement, or to collect any portion of the amount payable under this Agreement, then all litigation and collection expenses, witness fees, court costs, and attorney's fees shall be paid to the prevailing party.

7.23. INSURANCE

Contractor will include the contract number on all insurance-related correspondence, i.e., the insurance certificate itself.

All policies required shall be issued by companies who are licensed or approved to do business in the State of California and hold a current policyholder's alphabetic and financial-size category rating of not less than A-VI, in accordance with A.M. Best.

MTS utilizes the services of a third-party insurance monitoring company. As a condition of contract award, Contractor shall submit any required insurance policies to the third-party monitoring company of MTS' choosing.

7.23.1. COVERAGE REQUIRED - ALL CONTRACTS

A. Liability

1) Commercial General Liability

At all times during this contract and, with respect to Products and Completed Operations Liability, for twelve (12) months following the acceptance of the work by MTS, Contractor agrees to maintain Commercial General Liability Insurance utilizing Insurance Services Office (ISO) coverage form CG0001, edition date 10/01 or later, or an equivalent form and with insurance companies acceptable to MTS. The coverage shall contain no restricting or exclusionary endorsements with respect to the performing of services described in the scope of work.

All such policies shall name in the endorsement San Diego Metropolitan Transit System (MTS), San Diego Trolley, Inc. (SDTI), San Diego and Arizona Eastern Railway (SD&AE), San Diego and Imperial Valley Railroad (SD&IV), and San Diego Transit Corporation (SDTC), their directors, officers, agents, and employees as additional insureds as their interests may appear. Furthermore, an endorsement will be required demonstrating that the standard railroad exclusionary language has been removed as applicable.

2) Automobile Liability

At all times during this contract, Contractor agrees to maintain Automobile Liability Insurance for bodily injury and property damage including coverage for all owned, non owned, and hired vehicles.

3) Workers' Compensation/Employer Liability

At all times during this contract, Contractor agrees to maintain Workers' Compensation and Employers' Liability Insurance in compliance with the applicable statutory requirements. Contractor waives any rights of subrogation against MTS, SDTI, SD&AE, SD&IV, and SDTC, and the policy form must permit and accept such waiver.

7.23.2. ADDITIONAL COVERAGES REQUIRED (AS INDICATED. WHERE THERE IS A CHECKMARK, THE COVERAGE IS REQUIRED)

(1) Primary and Non-Contributory Insurance

Contractor agrees that all general liability coverages required under this insurance section are PRIMARY and that any insurance of MTS, SDTI, SD&AE, SD&IV, and SDTC shall be excess and noncontributory (endorsement required).

(2) Owner-Provided Builder's Risk

MTS will provide Builder's Risk Insurance on a special form basis, excluding the perils of earthquake and flood, at a limit of not less than the full replacement value of the work and covering the work and all materials and equipment to be incorporated therein, including property in transit elsewhere, and insuring the interests of the Contractor, subcontractors, materialmen, and MTS, SDTI, SD&AE, SD&IV, SDTC, MTS's contractor for design, and MTS's contractor for construction management. However, Contractor is responsible for the portion of any loss that is within the deductible amount of this Builder's Risk Insurance, which is currently at \$50,000 but is subject to change.

(3) Railroad Protective Liability and CG 24 17 Endorsement for CGL Policy - Required

The CGL policy must contain the following endorsement: Contractual Liability Railroads ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage). Furthermore, Contractor shall maintain a Railroad Protective Liability coverage with limits of not less than \$X each occurrence and \$X annual aggregate, naming MTS as the named insured on the policy.

(4) Professional Liability

At all times during this contract, and for twelve (12) months following acceptance of work by owner, Contractor agrees to maintain Professional Liability Insurance with respect to services or operations under this Agreement.

(5) Pollution Legal Liability

At all times during this contract, and for twenty-four (24) months following, Contractor agrees to maintain Pollution Legal Liability Insurance with respect to services or operations under this Agreement. The extended discovery period must be no less than twenty-four (24) months.

(6) Contractor Equipment

At all times during this contract, Contractor agrees to maintain Contractor's Equipment Insurance on a special form basis covering equipment owned, leased, or used by Contractor. Contractor waives any rights of subrogation against MTS, SDTI, SD&AE, SD&IV, and SDTC, and the policy form must permit and accept such waiver. Contractor hereby releases and holds harmless MTS for any loss or damage to its equipment.

(7) Installation Floater

At all times during this contract, Contractor agrees to maintain Installation Floater Insurance on a special form basis covering property owned or provided by Contractor. Contractor waives any rights of subrogation against MTS, SDTI, SD&AE, SD&IV, and SDTC, and the policy form must permit and accept such waiver. Contractor hereby releases and holds harmless these entities for any loss or damage to its property.

(8) Garage Keeper's Legal Liability & Automobile Portion

At all times during this contract, Contractor agrees to maintain Garage Keeper's Legal Liability as well Automobile Portion which covers the risk of loss or damage to MTS vehicles while in the care, custody or control of Contractor. Automobile portion shall cover the Contractor in the event of a vehicle accident while they are driving an MTS vehicle, which results in a third party claim of physical damage or bodily injury.

(9) Crime Fidelity Insurance

At all times during this contract, Contractor agrees to maintain Crime Fidelity Insurance with respect to services or operations under this agreement. The coverage should include the following:

- Employee dishonesty/theft
- Theft, disappearance and destruction on the premises
- Theft, disappearance and destruction while in transit
- Forgery/alteration

(10) Umbrella or Excess Liability (if required to meet liability limits above)

Contractor agrees that any Umbrella or Excess Liability Policy utilized to provide the required limits of liability shall contain coverage at least as broad as that provided by the General Liability Policy, and be written for a term concurrent with the General Liability Policy.

(11) Property Insurance

Contractor is responsible to insure physical damage coverage at replacement cost value on the rolling stock (i.e., revenue and non-revenue vehicles) it operates. [Note: MTS insures the buildings in which the fixed route contract operates.]

(12) Cyber and Privacy Liability, including Technology Errors and Omissions

Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by Contractor in this agreement and shall include, but not be limited to, claims involving security breach, system failure, data recovery, business interruption, cyber extortion, social engineering, infringement of intellectual property, including but not limited to infringement of copyright, trademark, trade dress, invasion of privacy violations, information theft, damage to or destruction of electronic information, release of private information, and alteration of electronic information. The policy shall provide coverage for breach response costs, regulatory fines and penalties as well as credit monitoring expenses. Coverage shall also include Technology Professional Liability Errors & Omissions appropriate to the Consultant’s profession and work hereunder

7.23.3. MINIMUM POLICY LIMITS REQUIRED

	Combined Single Limit (CSL)
Commercial General Liability (Per Occurrence):	\$2,000,000
(General Aggregate)	\$4,000,000
(Completed Operations & Products Aggregate)	\$2,000,000
Automobile Liability: (Combined Single Limit)	\$2,000,000
Worker’s Compensation:	Statutory Limits
Employer’s Liability per Accident /or Disease:	\$1,000,000

2. Additional Coverages (as indicated under Additional Coverages Required Section):

<input checked="" type="checkbox"/> B (1) Primary and Non-Contributory Insurance	_____
<input type="checkbox"/> B (2) Owner Provided Builder’s Risk	Replacement Cost
<input type="checkbox"/> B (3) Railroad Protective (Per Occurrence)	\$
Railroad Protective (General Aggregate)	\$
<input checked="" type="checkbox"/> B (4) Professional Liability	\$2,000,000
<input type="checkbox"/> B (5) Pollution and Legal Liability	\$
<input type="checkbox"/> B (6) Contractor Equipment	Replacement Cost
<input type="checkbox"/> B (7) Installation Floater	Replacement Cost
<input type="checkbox"/> B (8) Garage Keeper’s Legal Liability & Automobile Portion	_____
(Combined Single Limit (CSL))	(Per Occurrence)
<input type="checkbox"/> B (9) Crime Fidelity Insurance	\$
<input type="checkbox"/> B (10) Umbrella or Excess Liability (if required to meet liability limits above)	\$
<input type="checkbox"/> B (11) Property Insurance	\$
<input type="checkbox"/> B (12) Cyber Security Liability Insurance (per occurrence or claim)	\$
(Aggregate)	\$

7.23.4. NOTICE OF POLICY CHANGES

Contractor shall not amend or cancel the insurance policy and coverage required by this Agreement without providing MTS with at least thirty (30) days prior written notice. Contractor shall notify MTS within ten (10) days of insurer-initiated material amendments or cancellations to the insurance coverage required by this Agreement. Under no

circumstances shall these notice provisions be deemed a waiver of the insurance requirements set for herein. Any material changes in or cancellation of the insurance policy on file with MTS pursuant to the insurance requirements will result in an immediate stop work order until proof of substitute coverage meeting the requirements of this Agreement is provided to MTS. In the alternative, in MTS' sole discretion, MTS retains the right to declare Contractor in default and immediately terminate this Agreement if the insurance coverage required is cancelled, otherwise lapses or fails to meet the coverage limits at any time, and for any duration, during the term of this Agreement.

7.23.5. EVIDENCE REQUIRED

Within ten (10) working days following receipt of notice that a contract has been awarded, Contractor shall have provided the MTS Contracts Specialist with satisfactory certification by a qualified representative of the Insurer(s) that Contractor's insurance complies with all provisions in this insurance section.

7.23.6. SPECIAL PROVISIONS

The foregoing requirements as to the types and limits of insurance coverage to be maintained by Contractor, and any approval of said insurance by MTS, SDTI, SD&AE, SD&IV, and SDTC, or their insurance Contractor(s) are not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by Contractor pursuant to this Agreement, including but not limited to the provisions concerning indemnification.

MTS reserves the right to withhold payments to Contractor in the event of material noncompliance with the insurance requirements outlined above.

7.24. [NOT APPLICABLE] LIQUIDATED DAMAGES

7.25. PRICE AND PAYMENT

The total price herein specified, unless otherwise expressly stated, shall include all taxes of any kind which either party is required to pay with respect to the sale of the goods covered by this Agreement, including sales and use taxes, and shall include all charges and expenses for customs duties, freight charges, inspection, testing, packaging and loading unless specifically excluded.

Payment will be made as set forth in this Agreement; however, payments may be withheld or portions thereof may be deducted or setoffs may be made against Contractor if Contractor is not performing work in accordance with the applicable provisions of this Agreement. The time for payment of invoices or for accepting any discounts offered shall run only from the date of receipt of correct invoices with required certification documents by MTS.

ADVANCE PAYMENT IS NOT ALLOWABLE.

7.26. CONSIDERATION PAID

Fees and all other charges will be billed monthly as the work progresses, and the net amount shall be due at the time of billing.

Total expenditures made under this contract, including the fixed fee, shall not exceed the sum of \$_____.

Payment will be made as set forth in this Agreement; however, payments may be withheld or portions thereof may be deducted or setoffs may be made against Contractor if Contractor is not performing work in accordance with the applicable provisions of this Agreement. The time for payment of invoices or for accepting any discounts offered shall run only from the date of receipt of correct invoices with required certification documents by MTS.

MTS does not reimburse travel expenses unless expressly permitted within the scope.

7.27. COST PRINCIPLES

Contractor and any subcontractors agrees that the Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31, et seq., shall be used to determine the allowability of individual project cost items.

Contractor and its subcontractors shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

Contractor and its subcontractors shall establish and maintain an accounting system and records that properly accumulate and segregate incurred project costs and matching funds by line item for the project. The accounting system of Contractor and its subcontractors shall conform to Generally Accepted Accounting Principles (GAAP) and enable the determination of incurred costs at interim points of completion.

Any costs for which payment has been made that are determined by a subsequent audit to be unallowable under the provisions above are subject to repayment by the Contractor to MTS.

7.28. PROMPT PROGRESS PAYMENT AND RETENTION

Contractor or Subcontractor shall pay any Subcontractor no later than seven (7) business days from the receipt of each progress payment from MTS. No retainage will be held by MTS from progress payments due to the Contractor. Any retainage kept by the Contractor or by a Subcontractor must be paid in full to the Subcontractor in seven (7) business days after the Subcontractor's work is satisfactorily completed. Any delay or postponement of a progress payment or retainage to the Subcontractor over 30 calendar days may take place only for good cause and with MTS's prior written approval. Failure to comply with this provision will constitute noncompliance, which may result in the application of legal and contract remedies, including, but not limited to, prime contractor not being reimbursed for work performed by subcontractors unless and until the prime contractor ensures that the subcontractors are promptly paid for the work they have performed. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies otherwise available to the Contractor or Subcontractor in the event of a dispute involving late or nonpayment by the Contractor, deficient Subcontractor performance or noncompliance by a Subcontractor.

Prime Contractor must submit the MTS Prompt Payment Certification Form to the MTS Contracts Administrator if any Subcontractors. The form is available for download at <https://www.sdmts.com/business-center/procurement>. The form certifies that all Subcontractors were paid within seven (7) business days of receiving payment from MTS for work performed during the previous month. The prime contractor must submit the completed certification, as required on the form, and the month following final acceptance of the project. In addition, seven

(7) business day prompt payment requirement prevails over contract language between a Prime Contractor and a Subcontractor.

7.29. RECORDS RETENTION AND ACCESS TO SITES OF PERFORMANCE (APPLICABLE TO ALL CONTRACTS AND SUBCONTRACTS)

- A. Types of Records. Contractor and any Subcontractor shall retain, complete and make readily accessible records related in whole or in part to the performance of the Contract, including, but not limited to, data, documents, reports, statistics, subagreements, leases, third party contracts, arrangements, other third party agreements of any type, and supporting materials related to those records.
- B. Retention Period. The Contractor and any Subcontractor shall maintain all books, records, accounts and reports required under this Contract for a period of at not less than three (3) years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case records shall be maintained until the disposition of all such litigation, appeals, claims or exceptions related thereto.
- C. Access to Records and Sites of Performance. Contractor and any Subcontractor shall:
 - i. Provide sufficient access to inspect, copy and audit records and information, related to the performance of the Contract, upon receipt of a request made by the U.S. Secretary of Transportation or the Secretary's duly authorized representatives, to the Comptroller General of the United States, the Comptroller General's duly authorized representatives, State of California or its duly authorized representatives, the California State Auditor, and/or MTS;
 - ii. Permit those individuals listed above access to all records of employment, employment advertisements, employment application forms, and other pertinent data related to the performance of the Contract;
 - iii. Permit those individuals listed above to have access to the sites of performance of the Contract and to make site visits as needed in compliance with the U.S. DOT Common Rules, as applicable.
 - iv. Otherwise comply with 49 U.S.C. § 5325(g), and federal access to records requirements as set forth in the U.S. DOT Common Rules, as applicable.

7.30. [NOT APPLICABLE] WARRANTIES-GUARANTEES

7.31. [NOT APPLICABLE] INTELLECTUAL PROPERTY WARRANTY

7.32. [NOT APPLICABLE] DATA RIGHTS

7.33. EXCLUSIVE USE

The services hereunder are provided for the exclusive use of MTS and such services, data, recommendations, proposals, reports, design criteria, and similar information provided by Contractor, are not to be used or relied upon by other parties except as authorized by MTS.

7.34. OWNERSHIP OF DOCUMENTS

Tracings, plans, specifications, and maps prepared or obtained under the terms of this Agreement shall be delivered to and become the property of MTS. Basic survey notes and sketches, charts, computations, and other data prepared or obtained under this Agreement shall be made available, upon request, to MTS without restriction or limitation on its use.

7.35. LANGUAGE AND MEASURE UNITS

Unless specified otherwise, manuals, specifications, drawings, plans, purchase orders, subcontract documents, and invoices submitted in accordance with this Agreement shall be in metric ("Systems International d' Units," or "SI units") with the United States equivalents clearly shown.

7.36. [NOT APPLICABLE] STANDARDS AND CODES**7.37. DISADVANTAGED BUSINESS ENTERPRISE (DBE) AND OTHER SMALL BUSINESS PARTICIPATION**

MTS encourages the participation of DBEs, minority owned businesses (MBEs), women owned businesses (WBEs), disabled veteran business enterprises (DVBEs), lesbian gay bisexual transgender owned businesses (LGBTBEs) persons with disabilities business enterprises (PDBE) and small businesses (SB) in the performance of all of its contracts. MTS encourages the Contractor to outreach to DBEs and other small business enterprises for any potential subcontracting opportunities on this project. MTS tracks DBE, MBE, WBE, DVBE, PDBE, LGBT and SB participation and therefore requires all successful proposers to report whether the prime contractor and any subcontractors are a DBE or other small business enterprise. Contractor must complete MTS's Designation of Subcontractors and DBE Program - Information for MTS's Bidder List. If interested in learning about bonding or financial assistance that may be available for small businesses, visit www.sba.gov. If interested in learning about the eligibility requirements to become certified as a DBE, MBE, WBE, DVBE, LGBTBE, PDBE or SB or how to view a list of certified firms, please contact MTS's DBE Liaison Officer, Samantha Leslie, at Samantha.Leslie@sdmts.com for more information.

7.38. AMERICANS WITH DISABILITIES ACT

The Contractor shall comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA), 42 U.S.C. §§ 12101 et seq.; section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; as well as all applicable regulations and guidelines issued pursuant to the ADA

7.39. SUBSTANCE ABUSE

Pursuant to the rules and regulations of the Department of Transportation to the extent applicable to this Contract, Contractor will be required to comply with all applicable drug and alcohol testing requirements, including the amendments to 49 C.F.R. parts 655.

As a condition of this Contract, the following are the Contractor's Drug and Alcohol Testing Obligations:

7.39.1. CONTRACTORS CERTIFICATION:

Contractor certifies that it will comply with all applicable drug and alcohol testing requirements provided by law, including, but not limited to, the drug and alcohol testing requirements set forth in the Department of Transportation's regulations.

7.39.2. INDEMNIFICATION OF MTS:

Contractor agrees to indemnify, defend and hold harmless MTS, SDTI and SDTC, and their directors, employees and agents from and against any loss, damage, expense and liability that MTS, SDTI or SDTC, may incur as a result of Contractor's failure to comply with any applicable drug and alcohol testing obligations.

7.39.3. SURVIVAL OF MTS' INDEMNIFICATION RIGHTS:

The rights and obligations contained in "B" (Indemnification of MTS) will survive any termination or expiration of this Agreement.

7.39.4. FAILURE TO COMPLY WITH DRUG AND ALCOHOL TESTING OBLIGATIONS MAY RESULT IN TERMINATION OF CONTRACT:

If, at any time during the period of this Agreement, Contractor fails to comply with any applicable drug and alcohol testing requirements, MTS will consider such failure a material breach of this Agreement, and MTS may terminate this Agreement immediately.

7.40. EQUAL EMPLOYMENT OPPORTUNITY PROGRAM

7.40.1. MTS'S EQUAL EMPLOYMENT OPPORTUNITY PROGRAM:

MTS is an Equal Opportunity Employer. As such, MTS agrees to comply with all applicable Federal civil rights laws and implementing regulations. Apart from inconsistent requirements imposed by Federal laws or regulations, MTS agrees to comply with the requirements of 49 U.S.C. § 5323(h) (3) by not using any Federal assistance awarded by FTA to support procurements using exclusionary or discriminatory specifications. MTS' Equal Employment Opportunity Program for Contractors, MTS Policy No. 25, is part of this Agreement (a copy can be obtained from MTS' Clerk of the Board).

7.40.2. CONTRACTOR'S EQUAL EMPLOYMENT OPPORTUNITY PLAN:

Each Contractor who provides MTS labor, equipment, materials and services of \$50,000 or more per year with fifty (50) or more employees shall have, maintain, and submit an Equal Employment Opportunity Plan to the Director of Human Resources and Labor Relations for MTS each year of the contract, and a Workforce Utilization Report on or before January 1 and July 1 for each year of the contract. The objective of this plan is to assure that the Contractor will not discriminate against any employee or applicant for employment because of race, color, national origin, sex, sexual orientation, gender identity, religion, disability, age or status as a parent. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

7.40.3. COMPLIANCE WITH REGULATIONS:

Contractor shall comply with Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e et seq.; Facilitate compliance with Executive Order No. 11246, "Equal Employment Opportunity" September 24, 1965, 42 U.S.C. § 2000e note, as amended by any later Executive Order that amends or supersedes it in part and is applicable to federal assistance programs; Comply with federal transit law, specifically 49 U.S.C. § 5332; FTA

Circular 4704.1 “Equal Employment Opportunity (EEO) Requirements and Guidelines for Federal Transit Administration Recipients,”; and Follow any other federal guidance pertaining to EEO laws, regulations, and requirements, and prohibitions against discrimination.

7.41. [NOT APPLICABLE] PUBLIC WORKS

7.42. [NOT APPLICABLE] CALIFORNIA AIR RESOURCES BOARD (“CARB”)

7.43. [NOT APPLICABLE] IDENTIFICATION OF PERSONNEL/SECURITY

7.44. [NOT APPLICABLE] FLAGGING

7.45. [NOT APPLICABLE] SIGNALING

7.46. COVENANT AGAINST CONTINGENT FEES

Contractor warrants that it has not employed or retained any company or person, other than a bona fide employee working for the Contractor, to solicit or secure this Agreement, and that she or he has not agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or formation of this Agreement. For breach or violation of this warranty, MTS shall have the right to annul this Agreement without liability or, at its discretion, to deduct from the Agreement a price or consideration, or otherwise recover the full amount of such fee, percentage, brokerage fee, gift, or contingent fee.

7.47. CALIFORNIA POLITICAL REFORM ACT

Contractor acknowledges that the California Political Reform Act (“Act”), Government Code section 81000 et seq., provides that Contractors hired by a public agency, such as MTS, may be deemed to be a “public official” subject to the Act if the Contractor advises MTS on decisions or actions to be taken by MTS. The Act requires such public officials to disqualify themselves from participating in any way in such decisions if they have any one of several specified “conflicts of interest” relating to the decision. To the extent the Act applies to Contractor, Contractor shall abide by the Act and the conflict of interest restrictions imposed on public officials by Government Code section 1090 et seq.

7.48. [NOT APPLICABLE] WATER QUALITY MANAGEMENT AND COMPLIANCE

7.49. CONFLICT OF INTEREST LAWS FOR MTS CONSULTANT

A. Background & Applicability to Consultants

These procedures are intended to assist MTS consultants with complying with conflict of interest language in their contract with MTS. Pursuant to state regulations enforced by the California Fair Political Practices Commission (FPPC), the MTS Standard Agreement/Standard Conditions requires consultant employees to file a disclosure of financial interests known as a Form 700 if required by the MTS Conflict of Interest Code. The relevant Standard Agreement/Standard Conditions language. Additional information on Form 700s can be found on the [FPPC website](#).

B. Definitions and Persons Covered by the MTS Conflict of Interest Code

MTS has adopted a Conflict of Interest Code for its officers, employees and consultants pursuant to Government Code § 87300 et seq. According to the law, an agency's Conflict of Interest Code must list those employees, officers or consultants who are required to file a Form 700. The persons identified in the Conflict of Interest Code are designated as "Conflict Code Filers" because they "participate in the making of governmental decisions" that foreseeably could have a material financial effect on any of their economic interests. (2 Cal. Code of Regulations Section 18730.) MTS's Conflict of Interest Code can be found on the MTS website. In general, a Form 700 discloses the types of interests in real property, investments, business positions, and sources of income and gifts that could potentially affect the Conflict Code Filer. The Form 700 serves as a reminder to the Conflict Code Filer and the public of the financial interest decision-makers need to consider as they could cause an actual, potential or perceived conflict of interest.

"Participating in making a governmental decision" includes negotiating, providing advice by way of research, investigation, or preparation of reports or analyses for the MTS decision-maker, if these functions are performed without significant intervening review. MTS consultants who, pursuant to a contract with MTS, perform the same functions that would otherwise be performed by MTS employees by carrying out functions such as project management and oversight decisions (including recommendations that are likely to be approved by a MTS employee without significant intervening review); preparing contract scopes of work, specifications, cost estimates or contract negotiations; crafting evaluation factors to be used in a procurement, or deciding whether the policies, standards, or guidelines for MTS have been met, are considered to have "project manager responsibilities" that would otherwise be carried out by a MTS employee and are therefore required to fill out and submit a Form 700.

A consultant's employee participates in making a governmental decision for MTS when, s/he negotiates without significant and substantive intervening review, with a third party (someone other than their employer or MTS) regarding a governmental or contract decision; or advises or makes recommendations to the MTS decision maker either directly or without significant and substantive intervening review. "Significant and substantive intervening review" means a review of someone else's work during which the reviewer independently verifies the information, recommendation, advice, etc. that constitutes project manager responsibilities that lead to a governmental decision.

Form 700s are public records.

C. Steps for Compliance

Step 1: Identify who on your team will need to fill out a Form 700

The prime consultant will need to identify its own employees and the employees of its subconsultants (the consultant team) who have project manager responsibilities. Keep in mind, however, that even if a person has project manager responsibilities, if someone above that person in the decision-making process, whether a MTS employee or another consultant employee, is a Conflict Code Filer and that person conducts significant and substantive intervening reviews of the decision, recommendation or work in question, then not everyone prior to the Conflict Code Filer in the decision process needs to fill out a Form 700. If a consultant believes a member of its team with project management responsibilities for MTS is going to have his/her work undergo a significant and substantive intervening review by an MTS employee, the consultant must first check with the MTS

Clerk of the Board ClerkoftheBoard@sdmts.com to confirm that MTS agrees with this allocation of responsibility.

Step 2: Notify MTS of Consultant's Conflict Code Filers

It is up to the consultant to notify MTS of the names of the individuals on its team (whether prime or subconsultant) who should be Conflict Code Filers based on the parameters provided by MTS above in Section B. Designated persons must file statements of economic interests with MTS when assuming or leaving their position and annually while holding the position. It is important that the consultant maintains a list of its Conflict Code Filers and notify the MTS Clerk of the Board as soon as possible when the Consultant's employees who are performing project management responsibilities for MTS change. Filers must submit their assuming and leaving office form within 30 days and an annual form before April 1st of each year. Consultant employees who have been designated as Conflict Code Filers may not work on MTS projects if they do not have an updated Form 700 on file with MTS.

New Filers/Assuming Office

The consultant will need to notify MTS of its new Conflict Code Filers to the MTS Clerk of the Board by email at ClerkoftheBoard@sdmts.com. As a reminder, the consultant will need to update the filer list of employees throughout the life of the contract as new individuals are identified as Conflict Code Filers for MTS, use the designated *consultant form 700 filer contact information* form to submit the information for each applicable employee.

B. For Existing Filers:

It is important that the consultant notify MTS when those individuals previously identified as Conflict Code Filers are no longer performing project management responsibilities for MTS. Once an individual is identified as a Conflict Code Filer and completes a Form 700 in the eDisclosure system, they are required by law to continue to complete a Form 700 each year or be subject to fines and penalties by the FPPC. In order to remove a Conflict Code Filer, the consultant must notify MTS of the date the individual stopped performing project management responsibilities for MTS so the individual can complete a Leaving Office Statement. Until a Leaving Office Statement is filed, the individual is still considered a Conflict Code Filer and must continue to file annual statements.

Step 3: Notification by MTS & Establishment of Account with eDisclosure System

Once MTS receives notification by a consultant of a new Conflict Code Filer, the Clerk of the Board will send an email to the individual notifying them of their obligation to complete a Form 700 and what to expect. The Clerk will create an account with the [eDisclosure](#) system and the individual will receive instructions about how to complete registration from email MTSClerkoftheBoard@southtechhosting.com (please whitelist this email). Once the account is established, the individual can complete and file their Form 700.

Step 4: Instructions for Completing the Form 700

General instructions for completing a Form 700 can be found on the FPPC website, and clicking on the Form 700 itself. When filling out the Form 700, the financial interests that consultant employees need to report are only those which are listed in disclosure category 1 and 2 of the MTS Conflict of Interest Code.

Questions regarding how to fill out the forms can be answered by calling the FPPC's toll free advice hotline 1-866-ASK-FPPC (1-866-275-3772*1), Monday-Thursday, 9-11:30 a.m.

A. Assuming Office Statement

The first time a consultant employee is asked to complete a Form 700, s/he will complete an Assuming Office Statement. The assuming office statement must be completed no later than 30 days after the date the employee first started performing project management responsibilities for MTS. The reporting period will be the 12 months prior to the date the office was assumed. For example, if a consultant assumed office on 5/1/2019, they will complete the statement disclosing information for the period 5/1/2018-4/30/2019.

B. Annual Statement

Once an individual completes an assuming office statement, they are required to complete an annual statement no later than April 1 of each year. Individuals that do not complete a Form 700 by the deadline may be subject to a fine up to \$5,000 by the FPPC. Typically, reminder notices are sent by email from MTS and the eDisclosure system in January each year.

C. Leaving Office Statement

Once an individual is no longer performing project management responsibilities for MTS, they must complete a Leaving Office Statement within 30 days. To do this, the consultant or individual needs to notify the MTS Clerk of the Board that the individual is no longer performing project management responsibilities for MTS and therefore should no longer be a Conflict Code Filer. The date the employee stopped performing project management responsibilities for MTS will become the leaving office date. When completing a leaving office statement, the individual will disclose its interest for the calendar period leading up to the leaving office date. For example, if an individual leaves office on 5/15/2019, they will complete the statement disclosing information for the period 1/1/2019-5/15/2019. An active email will be provided to the Clerk in order to assure proper filer access.

Step 5: Review of Form 700s

Consultant employees are strongly cautioned not to simply mark the box indicating they have no disclosures to report on the form. Consultant employees always have their own employment income to report and many times have spousal income to report as well. The FPPC has prosecuted and fined persons who have failed to disclose income and gifts.

Form 700s should be used by the consultant to ensure its employees do not have prohibited conflicts. MTS also will use the forms to check whether the assignments given to consultant employees conflict with reported financial interests. If a conflict is found, the individual will not be permitted to work on the project in a project manager role.

Consultants will need to provide training to their employees who are identified as Conflict Code Filers on how to avoid prohibited conflicts of interest. Information regarding prohibited conflicts can be found [here](#) in Sections I, II, III, VII and XIII of the California Attorney General's handbook entitled Conflicts of Interest.

8. FORMS

The following forms/information are required to be submitted with your proposal as a matter of responsiveness. All proposals (and accompanying information) must be received by MTS' Procurement Department prior to the scheduled time and date as specified in the Calendar of Events.

Submit the proposal following instructions as specified in Submission Requirements section.

1. Contact Information Form
2. Cost/Pricing Forms
3. Designation of Subcontractors
4. MTS DBE PROGRAM – Information for Bidder List and Commercial Useful Function
5. Certification Regarding Debarment, Suspension and Other Ineligible and Voluntary Exclusions Lower-Tier Covered Transactions Contractor and Subcontractor's Statement of Eligibility Form and Questionnaire
6. Equal Opportunity Program Workforce Report
7. Equal Opportunity Program Workforce Report Continued
8. Status of Current and Past Contracts Form
9. Financial Questionnaire Form
10. California Public Records Act Acknowledgement Form
11. Non-collusion Declaration Form
12. Iran Contracting Act Certification Form
13. MTS Consultant Form 700 Filler Contact Information
14. Certification of Restrictions on Lobbying Form
15. Campaign Contribution Disclosure Form and Information Sheet

CONTACT INFORMATION

Read attached General Provisions carefully. They are a part of your proposal. Unit prices will prevail regardless of extensions submitted by the Proposer.

Company Information:

The Official, Legal Name of Proposing Firm:

Doing Business As:

Legal Structure (Corp./Partner/Proprietor):

Company Mailing Address:

Street

City

State

Zip

Person Authorized to sign:

Point of Contact:

Title:

E-Mail Address:

Phone Number:

Accounts Receivable

Point of Contact:

Title:

E-Mail Address:

Phone Number:

COST/PRICING FORM

Firm Name: _____

TASK #	ESTIMATED OF HOURS	FIXED FEE AMOUNT
Task #1: Data Collection/Review of Existing Conditions	660	
Task #2: System and Service Evaluation	1150	
Task #3: Evaluate Elevate 2020	360	
Task #4: Develop Service Enhancement Plan	1500	
Task #5: Develop Service Reduction Plan	1500	
TOTAL CONTRACT AMOUNT		

Proposer shall submit pricing for all the work described in the Scope of Work section. In preparing a cost proposal, Proposers are requested to provide a total all-inclusive cost for each task. As part of supporting document, Proposer shall provide a supplemental cost breakdown for each task.

Read attached General Provisions carefully. They are a part of your proposal. Unit prices will prevail regardless of extensions submitted by the Proposer.

All proposers must complete proposal forms as provided, failure to do so will deem the proposal non-responsive.

Proposer accepts responsibility for accuracy and presentation of the numbers included in the cost/price form.

Submit the proposal following instructions as specified in Submission Requirements section.

DESIGNATION OF SUBCONTRACTORS

List Subcontractor participants below. If 100% of item is not to be performed or furnished by subcontractor, describe exact portion of item to be performed or furnished by subcontractor. The successful bidder must execute and return this form even if no subcontractor participation will be reported.

Subcontractor 1

Company Name:

Contractor License or Certificate Number

DBE, PDBE, DVBE, LGBTBE, MBE, SB, WBE:

% of Work:

Department of Industrial Relations (DIR) Number:

Point of Contact

Email:

Phone Number:

Address:

Street

City

State

Zip

Description of Work:

Multiple horizontal lines for describing the work.

COPY THIS FORM IF NEEDED FOR ADDITIONAL SUBCONTRACTORS.

Subcontractor

Company Name:

Contractor License or Certificate Number

DBE, PDBE, DVBE, LGBTBE, MBE, SB,
WBE:

% of Work:

Department of Industrial Relations (DIR)
Number:

Point of Contact

Email:

Phone Number:

Address:

Street

City

State

Zip

Description of Work:

Multiple horizontal lines for describing the work.

MTS DBE PROGRAM - INFORMATION FOR BIDDER LIST AND COMMERCIAL USEFUL FUNCTION

MTS is required by Disadvantaged Business Enterprise (DBE) Regulations at 49 CFR Part 26 to collect and report data about DBE and non-DBE contractors and subcontractors who seek to work on MTS's projects. MTS may also use this data to set MTS's overall DBE goals and to assist in monitoring commercial useful function in order to count DBE participation toward meeting MTS's overall DBE goals.

INSTRUCTIONS: Each prime contractor and each subcontractor bidding/submitting a proposal is **required** to complete this form as part of their bid or proposal. If multiple subcontractors, copy this form.

1. Firm Name:	
2. Firm's Full Address (street, city, state, and zip code):	
3. NAICS code for work seeking to perform:	
4. If applicable, please check any certification that your firm currently maintains:	<input type="checkbox"/> DBE <input type="checkbox"/> SB – Small Business <input type="checkbox"/> DVBE – Disabled Veteran Owned Business <input type="checkbox"/> LGBTBE – LGBT Owned Business <input type="checkbox"/> MBE – Minority Owned Business <input type="checkbox"/> PDDBE – Persons with Disability Owned Business <input type="checkbox"/> WBE – Woman Owned Business
5. Only if DBE certified firm, please check one (1) type of work your firm is seeking to perform on this bid/proposal (as defined at enclosed MTS DBE Program: Commercial Useful Function – Guidance for DBE Contractors):	<input type="checkbox"/> Construction/Maintenance Services <input type="checkbox"/> Professional Services <input type="checkbox"/> Other Services – e.g. broker <input type="checkbox"/> Manufacturer of Materials/Supplies <input type="checkbox"/> Regular Dealer of Materials/Supplies <input type="checkbox"/> Distributer of Materials/Supplies <input type="checkbox"/> Other (not listed above) Material Supplier <input type="checkbox"/> Trucking
6. Race of majority owner of firm:	
7. Gender of majority owner of firm:	
8. Year firm was established:	
9. Please check your firm's applicable annual gross receipt range:	<input type="checkbox"/> Less than \$1,000,000 <input type="checkbox"/> \$1,000,001 - \$15,000,000 <input type="checkbox"/> \$15,000,001 - \$30,720,000 <input type="checkbox"/> \$30,720,001 - \$50,000,000 <input type="checkbox"/> Greater than \$50,000,000

SIGNATURE ACKNOWLEDGES AND AFFIRMS ACCURACY OF COMPLETED FORM

SUBCONTRACTOR

PRIME CONTRACTOR

Signature: _____

Signature: _____

Date: _____

Date: _____

MTS DBE PROGRAM

Commercial Useful Function (CUF) – Guidance for DBE Contractors

Per FTA DBE Regulations at 49 CFR Part 26, to meet Commercial Useful Function requirements in order for MTS to count the participation of a DBE prime or DBE subcontractor towards its DBE Overall Goal, the **DBE prime or DBE subcontractor must:**

- 1) Be responsible for execution of the work of the contract and is carrying out its responsibilities by performing, managing, and supervising the work involved;
- 2) Not be an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation;
- 3) Perform or exercise responsibility for at least 30% of the total cost of its contract with its own work force; and
- 4) Depending on the type of work being performed, meet the definitions of the Table below.

Type of Work Performed	Definitions	Counting Rules of DBE Prime or DBE Subcontract Dollar Value
1a. <u>Construction /Maintenance Services</u> – Supplies purchased or leased equipment from a third-party	Responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (if applicable) and paying for the material itself	Count 100%
1b. <u>Construction /Maintenance Services</u> – Supplies purchased or leased equipment from a prime contractor		Count only labor costs (exclude cost of material, supplies, equipment purchased/leased from prime or its affiliates)
2a. <u>Professional Services</u> – Bona Fide Services	E.g. professional, technical, architectural and engineering, managerial, providing bonds, or insurance	Count 100%
2b. <u>Services</u> – Other	E.g. brokers, packagers, manufacturer's reps., (arrange or expedite the procurement of goods and services)	Count fees or commissions related to assistance only (exclude cost of service itself)
3a. <u>Materials and Supplies</u>	Owns (or leases) and operates a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required	Count 100%

Type of Work Performed	Definitions	Counting Rules of DBE Prime or DBE Subcontract Dollar Value
– Manufacturer	under the contract and of the general character described by the specifications. Manufacturing includes blending or modifying raw materials or assembling components to create the product to meet contract specifications. Not a manufacturer if only does minor modifications to materials.	
3b. <u>Materials and Supplies</u> – Regular Dealer	<p>Owns (or leases) and operates, a store, warehouse or other establishment in which materials, supplies, articles or equipment of the “general character” required under the contract are bought, kept in sufficient quantities, and regularly sold or leased to the public in the usual course of business. Items kept and regularly sold by the DBE are of the “general character” when they share the same material characteristics and application as the items specified by the contract.</p> <p>Engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. At least 51% of the items on the contract are provided from its inventory, and when necessary, any minor quantities delivered from and by other sources are of the “general character” as those provided from the DBE’s inventory.</p> <p>Both owns and operates distribution equipment used to deliver the products for bulk items (e.g. as petroleum products, steel, concrete or concrete products, gravel, stone, or asphalt) without owning, operating, or maintaining a place of business. Any supplementing of own distribution equipment must be by a long-term operating lease.</p> <p>Includes a supplier of items that are not typically stocked due to their unique characteristics (e.g. limited shelf life or items ordered to specification)</p>	Count 60% of cost of materials or supplies (including transportation costs)
3c. <u>Materials and Supplies</u> – Distributor	Neither maintains sufficient inventory nor uses its own distribution equipment for the products in question. Engages in the regular sale or lease of items specified by the contract. Assumes responsibility for the items it purchases once they leave the point of origin (e.g. a manufacturer’s facility) making it liable for any loss or damage not covered by the carrier’s insurance	Count 40% of the cost of materials or supplies (including transportation costs)
3d. <u>Materials and Supplies</u> – Other	Packagers, brokers, manufacturers’ representatives, or other persons who arrange or expedite transactions	Count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or

Type of Work Performed	Definitions	Counting Rules of DBE Prime or DBE Subcontract Dollar Value
		supplies required on a job site (exclude cost of the materials and supplies themselves)
4a. <u>Trucking</u> = Owned and Operated	Responsible for management and supervision of entire trucking operation on the contract. Owns and operate at least 1 fully licensed, insured, and operational truck used on the contract, using drivers it employs.	Count credit for the total value of the transportation services provided on the contract.
4b. <u>Trucking</u> = Leased Trucks from another DBE firm	Owned and operates leased trucks from another DBE firm, including an owner-operator who is a DBE. Lease must indicate that the DBE has exclusive use of and control over the truck. Does not preclude the leased truck from working for others during the lease with the consent of the DBE, so long as lease gives the DBE absolute priority	Count credit for the total value of the transportation services the lessee provided on the contract.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER INELIGIBLE AND VOLUNTARY EXCLUSIONS LOWER THAN TIER COVERED TRANSACTIONS

CONTRACTOR AND SUBCONTRACTOR'S STATEMENT OF ELIGIBILITY

(Provide one completed Form for the Prime Contractor and any Subcontractors)

The prime/subcontractor certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification.

QUESTIONNAIRE

Has the Contractor, or any officer, principal, affiliates or employee of the Contractor ever been debarred, suspended, proposed for debarment, declared ineligible or otherwise prevented from bidding on, or completing a federal, state, or local government project? Yes

No

If the answer is yes, or where the prime/subcontractor is unable to certify any of the statements in the above certifications, such prime/subcontractor shall attach an explanation (i.e. date, background, resolution) with this form.

Note: Failure to provide this form at the time of Bid/Proposal will not result in a finding of a non-responsive bid/proposal. Submittal of this form for The Prime Contractor and all Subcontractors is required for a Proposer to be deemed "Responsible." MTS encourages Proposers to complete and submit all forms at the time of bid/proposal.

SUBCONTRACTOR

(Copy this form if needed for additional subcontractors)

Business Name: _____

License No. _____

(if applicable): _____

DUNS No.: _____

PRIME CONTRACTOR

Business Name: _____

License No. _____

(if applicable): _____

DUNS No.: _____

ACKNOWLEDGED AND AGREED

Print Name: _____

Title: _____

Signature: _____

Date: _____

Print Name: _____

Title: _____

Signature: _____

Date: _____

EQUAL OPPORTUNITY PROGRAM WORKFORCE REPORT

Metropolitan Transit System (MTS) enforces an Equal Opportunity (EEO) program established under MTS policies and procedures No. 25. This program prohibits discrimination in employment and requires MTS Contractors to be equal opportunity employers. You may submit a copy of the Employer Information Report, EEO-1, in lieu of the **Equal Opportunity Program Workforce Report Continued Form**. The undersigned hereby certifies that the foregoing data contained herein is true and correct:

COMPLETE ALL SECTIONS OF THIS FORM:

1. The Official, Legal Name of Proposing Firm: _____
2. Doing Business As: _____
3. Legal Structure (Corp./Partner/Proprietor): _____
4. Address of Establishment in San Diego County:

Street

City State Zip
5. If there is no office in San Diego County, or if there are less than 15 employees in that office, include an address for your regional office that will oversee the work under MTS' contract:

Street

City State Zip

Employment Data - Include the employees located in San Diego County only, unless your firm employs fewer than fifteen (15) people locally. In the event, you should list the workforce of the regional office that will oversee the work under MTS' contract. Report all permanent full-time and part-time employees including apprentices and on-the-job trainees. Blank spaces will be considered as zeros

ACKNOWLEDGED AND AGREED

6. Name, Address, and Phone Number of Person to Contact Regarding this Report:

- Name of Signee: _____
Title: _____
Phone Number: _____
Address: _____
Street

City State Zip
- Name of Signee: _____
Authorized Signature: _____
Date: _____

EQUAL OPPORTUNITY PROGRAM WORKFORCE REPORT CONTINUED

OCCUPATIONAL CATEGORY	African American		Hispanic		Asian or Pacific Islander		Native American		Other		Overall Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Executive/Managerial												
Engineers/Architects/ Surveyors												
Professionals (N.E.C.)												
Technicians												
Sales												
Administrative Support												
Protective Services												
Services (N.E.C.)												
Craft Workers (Skilled)												
Machine Operators, Assemblers & Inspectors												
Transportation and Material Moving												
Laborers (Unskilled)												
TOTALS FOR EACH COLUMN												

Indicate by gender and ethnic code the number of the above workforce, which are persons with disabilities:

DISABLED												
----------	--	--	--	--	--	--	--	--	--	--	--	--

ETHNIC IDENTIFICATION

African American: (NOT OF HISPANIC ORIGIN): All persons having origins in any of the black racial groups of Africa.

Hispanic: All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

Asian or Pacific Islander: Persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area, includes, China, Japan, Korea, the Philippine Islands, and Samoa.

Native American: All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition

Other: Caucasian and others not falling into one of the designated categories.

DISABLED DEFINITION

Any person who 1) has a physical or mental condition which limits one or more of such person's major life activities, 2) has a history of such a condition, or 3) is regarded as having such a condition. For purposes of this definition, "major life activity" means any mental or physical function or activity, which if impaired, creates a substantial barrier to employment.

OCCUPATIONAL CATEGORY LIST

Executive/Managerial

Executive, Management Related

Engineers/Architects/Surveyors

Professionals (N.E.C.)*

Mathematical and Computer Scientists

Natural Scientists

Health Diagnosing

Health Assessment and Treating

Teachers, Postsecondary

Teachers, except Postsecondary

Counselors, Educational and Vocational

Librarians, Archivists, Curators

Social Scientists and Urban Planners

Social, Recreation and Religious Workers

Lawyers and Judges

Writers, Artists Entertainers & Athletes

Technicians

Health Technologists and Technicians

Engineering and Related Technologists and Technicians

Science Technicians

Technicians, Except Health, Engineering, and Service

Sales

Supervisors and Proprietors

Sales Representatives, Finance, and Business

Services

Sales Representatives, Commodities except Retail

Sales Workers, Retail, and Personal Services

Other Sales Related

Administrative Support

Supervisors of Administrative Support

Computer Equipment Operators

Secretaries, Stenographers, Typists

Information Clerks

Records Processing, Except Financial

Financial Records Processing

Duplicating and Other Office Machine Operators

Communications Equipment Operators

Mail and Message Distributing

Material Recording and Distributing Clerks

Adjusters and Investigators

Other Office/Clerical

*N.E.C.: Not Elsewhere Classified

Protective Services

Supervisors of Protective Services

Firefighting and Fire Prevention

Police and Detectives

Guards & Other Protective Services

Services (N.E.C.)*

Private Households

Food Preparation and Services

Health Services

Cleaning and Building Services

Personal Services

Craft Workers (Skilled)

Supervisors of Mechanics and Repairers

Vehicle and Mobile Equipment Mechanics and Repairers

Heating, Air Conditioning, Refrigeration, Mechanics

Other Mechanics and Repairers

Supervisors of Construction Trades

Construction Trades, Except Supervisors

Extractive Occupations

Precision Production Occupations

Machine Operators, Assemblers & Inspectors

Metalworking and Plastic Working Machine Operator

Metal and Plastic Processing Machine Operators

Woodworking Machine Operators

Printing Machine operators

Textile, Apparel, and furnishing Machine Operators

Machine Operators, Assorted Materials

Fabricators, Assembler and Hand Working Occupations

Production Inspector, Tester, Sampler, Weigher

Transportation and Material Moving

Motor Vehicle Operators

Rail Transportation Occupations

Water Transportation Occupations

Material Moving Equipment Operators

Laborers (Unskilled)

Handlers

Equipment Cleaners

Helpers & Laborers

RETURN THIS FORM WITH YOUR PROPOSAL

STATUS OF CURRENT AND PAST CONTRACTS

Proposers shall list the status of **at least three (3)** current and past contracts where the subject scope of work has been performed within the past five years.

Proposer shall provide an accurate contact name, telephone number, and email for each contract, the terms and scope of the contract, the original contract value and if the contract has been completed or is still in progress. The Proposer must also indicate if the contract was terminated by either the procuring agency or by the Contractor for cause or convenience. If the contract was terminated, list the reason for termination. Identify and state the status of any litigation, claims, or settlement agreements related to any of the contracts.

REFERENCE NO.1

Company Name:

Point of Contact:

Phone:

Email:

Project Award Date:

Original Contract Value:

Status of Contract:

A. Terms and Scope of Contract

B. Identify Claims / Litigation or Settlements Associated with each Contract:

RETURN THIS FORM WITH YOUR PROPOSAL

REFERENCE NO.2

Company Name:

Point of Contact:

Phone:

Email:

Project Award Date:

Original Contract Value:

Status of Contract:

A. Terms and Scope of Contract

B. Identify Claims / Litigation or Settlements Associated with each Contract:

RETURN THIS FORM WITH YOUR PROPOSAL

REFERENCE NO.3

Company Name: _____

Point of Contact: _____

Phone: _____

Email: _____

Project Award Date: _____

Original Contract Value: _____

Status of Contract: _____

A. Terms and Scope of Contract

B. Identify Claims / Litigation or Settlements Associated with each Contract:

RETURN THIS FORM WITH YOUR PROPOSAL

FINANCIAL QUESTIONNAIRE FORM

1. This organization is organized under the laws of the State of: _____

2. Principal Financial institution. The information bellow will be used to assess financial responsibility.

Name of Bank: _____

Address: _____

Street

City, State, Zip

Telephone: _____

Officer Familiar with Proposer's Account: _____

3. Business License

NOTE: The representations regarding the Proposer's license are made under penalty of perjury.

Proposer's Business License No.: _____

Original Date Issued: _____

Expiration Date: _____

Proposer's DUNS No.: _____

Expiration Date: _____

Proposer's System for Award Management (SAM) No.: _____

Expiration Date: _____

RETURN THIS FORM WITH YOUR PROPOSAL

4. The date of any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal are as follows:

5. All current and prior DBAs, alias, and/or fictitious business names for any principal having an interest in this proposal are as follows:

6. Has Proposer ever failed to complete any work awarded to it? If so, when, where, and why?

7. Identify any conditions bankruptcy, pending litigation, planned office closures, impending merger:

8. Provide a general description of the individual or firm's financial condition:

RETURN THIS FORM WITH YOUR PROPOSAL

CALIFORNIA PUBLIC RECORD ACT (PRA) ACKNOWLEDGEMENT

I/We hereby represent, acknowledge, and agree as follows:

1. MTS is a California public agency established by California Public Utilities Code, Section 120000. et. seq., and is subject to the California PRA (Government Code sec. 6250 et seq.) which provides generally that all records relating to a public agency's business are open to public inspection unless exempted from disclosure by law.
2. The bid I/we have submitted to MTS is open to public inspection under PRA unless it is exempted from disclosure by law.
3. To the extent the bid includes materials that I/we believe are exempt from disclosure under PRA, **I/we understand that I/we must provide a letter identifying the materials that I/we believe are exempt from disclosure and explaining the basis for exemption.**
4. Any materials not identified as exempt from disclosure are open to public inspection, and I/we waive any right to subsequently claim exemption from disclosure for such materials.
5. MTS at all times retains the right to make the final determination regarding what, if any, portion of a bid is subject to disclosure under PRA.
6. Use of headers/footers bearing designations such as "confidential", "proprietary", or "trade secret" on all or nearly all of a bid which would prohibit or limit public inspection is not acceptable and may deem the bid non-responsive and may be rejected; labeling a page as such does not prohibit MTS from disclosing the page in response to a PRA response or in the ordinary course of business if MTS concludes it is obligated to so by applicable law.
7. To defend and indemnify MTS in any action on a PRA request for any of the contents of a Bid marked Trade Secret, Confidential or Proprietary.
8. Marking a document as "trade secret", "confidential" or "proprietary" without the express written permission of MTS does not exempt a document from disclosure to third parties under state or federal law, or in the normal course of MTS's business operations. MTS has no obligation to get a respondent's permission before producing such documents.
9. The bid I/we have submitted (*check one of the following*) materials that we believe are exempt from disclosure under PRA.

INCLUDES	<input type="checkbox"/>
DOES NOT INCLUDE	<input type="checkbox"/>

ACKNOWLEDGED AND AGREED

Company Name: _____

Title: _____

Signature: _____

Date: _____

RETURN THIS FORM WITH YOUR PROPOSAL

NONCOLLUSION DECLARATION

TO BE EXECUTED BY PROPOSER AND SUBMITTED WITH OFFER

(23 U.S.C. § 112(c) and California Public Contract Code § 7106)

The undersigned declares:

I am the _____ of _____, the party making the foregoing offer.

The offer is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The offer is genuine and not collusive or sham. The proposer has not directly or indirectly induced or solicited any other proposer to put in a false or sham offer. The proposer has not directly or indirectly colluded, conspired, connived, or agreed with any proposer or anyone else to put in a sham offer, or to refrain from submitting an offer. The proposer has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the offer price of the proposer or any other proposer, or to fix any overhead, profit, or cost element of the offer price, or of that of any other proposer. All statements contained in the offer are true. The proposer has not, directly or indirectly, submitted his or her offer price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, offer depository, or to any member or agent thereof, to effectuate a collusive or sham offer, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of the proposer that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the proposer.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____(date), at _____(city), _____(state).

ACKNOWLEDGED AND AGREED

Name of Contractor: _____

Signature: _____

Date: _____

RETURN THIS FORM WITH YOUR PROPOSAL

IRAN CONTRACTING ACT CERTIFICATION

(Public Contract Code Section 2200 et seq.)

As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 et seq.) is true and correct:

- 1. The Contractor is not:
 - a. identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or
 - b. a financial institution that extends, for 45 days or more, credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.
- 2. MTS has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, MTS will be unable to obtain the goods and/or services to be provided pursuant to the Contract.
- 3. The amount of the Contract payable to the Contractor for the Project does not exceed \$1,000,000.

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of \$250,000 or twice the Contract amount, termination of the Contract and/or ineligibility to bid on contracts for three years.

ACKNOWLEDGED AND AGREED

Company Name: _____

Title: _____

Signature: _____

Date: _____

RETURN THIS FORM WITH YOUR PROPOSAL

MTS CONSULTANT FORM 700 FILER CONTACT INFORMATION

Include contractor and subcontractor contact information along with the date the individual began or ended performing project management responsibilities. Refer to the *conflict of interest laws for MTS consultant* clause for additional information. Return this form clerkoftheboard@sdmts.com.

COPY THIS FORM IF NEEDED FOR ADDITIONAL ENTRIES.

Contract No.: _____ Contract Name: _____

700 FORM FILER	
Filer's Full Legal Name:	
Title:	
E-Mail Address:	
Phone Number:	
Address:	
Company Name:	
Assuming Office Effective Date: <small>(contract start date)</small>	
<input type="checkbox"/> Prime Contractor <input type="checkbox"/> Subconsultant	

700 FORM FILER	
Filer's Full Legal Name:	
Title:	
E-Mail Address:	
Phone Number:	
Address:	
Company Name:	
Assuming Office Effective Date: <small>(contract start date)</small>	
<input type="checkbox"/> Prime Contractor <input type="checkbox"/> Subconsultant	

CAMPAIGN CONTRIBUTION DISCLOSURE FORM AND INFORMATION SHEET

This form pertaining to campaign contributions must be completed by individuals and firms who may be awarded a license, permit, or other entitlement for use by the San Diego Metropolitan Transit System ("MTS") Board of Directors. License, permit or other entitlement for use is defined in Government Code Section 84308(a)(5). Section 84308 reads as follows:

- A. The definitions set forth in this subdivision will govern the interpretation of this section.
- (1) "Party" means any person who files an application for, or is the subject of, a proceeding involving a license, permit, or other entitlement for use.
 - (2) "Participant" means any person who is not a party but who actively supports or opposes a particular decision in a proceeding involving a license, permit, or other entitlement for use and who has a financial interest in the decision, as described in Article 1 (commencing with Section 87100) of Chapter 7. A person actively supports or opposes a particular decision in a proceeding if he or she lobbies in person the officers or employees of the agency, testifies in person before the agency, or otherwise acts to influence officers of the agency.
 - (3) "Agency" means an agency as defined in Section 82003 except that it does not include the courts or any agency in the judicial branch of government, local governmental agencies whose members are directly elected by the voters, the Legislature, the Board of Equalization, or constitutional officers. However, this section applies to any person who is a member of an exempted agency but is acting as a voting member of another agency.
 - (4) "Officer" means any elected or appointed officer of an agency, any alternate to an elected or appointed officer of an agency, and any candidate for elective office in an agency.
 - (5) "License, permit, or other entitlement for use" means all business, professional, trade and land use licenses and permits and all other entitlements for use, including all entitlements for land use, all contracts (other than competitively bid,¹ labor, or personal employment contracts), and all franchises.
 - (6) "Contribution" includes contributions to candidates and committees in federal, state, or local elections.
- B. No officer of an agency will accept, solicit, or direct a contribution of more than \$250 from any party, or his or her agent, or from any participant, or his or her agent, while a proceeding involving a license, permit, or other entitlement for use is pending before the agency and for three months following the date a final decision is rendered in the proceeding if the officer knows or has reason to know that the participant has a financial interest, as that term is used in Article 1 (commencing with Section 87100) of Chapter 7. This prohibition will apply regardless of whether the officer

¹ Note that the FPPC has limited the "competitively bid" exception to low-bid contracts. Negotiated requests for proposals do not qualify as a "competitively bid" contract under this provision.

RETURN THIS FORM WITH YOUR PROPOSAL

accepts, solicits, or directs the contribution for himself or herself, or on behalf of any other officer, or on behalf of any candidate for office or on behalf of any committee.

- C. Prior to rendering any decision in a proceeding involving a license, permit or other entitlement for use pending before an agency, each officer of the agency who received a contribution within the preceding 12 months in an amount of more than \$250 from a party or from any participant must disclose that fact on the record of the proceeding. No officer of an agency will make, participate in making, or in any way attempt to use his or her official position to influence the decision in a proceeding involving a license, permit, or other entitlement for use pending before the agency if the officer has willfully or knowingly received a contribution in an amount of more than \$250 within the preceding 12 months from a party or his or her agent, or from any participant, or his or her agent if the officer knows or has reason to know that the participant has a financial interest in the decision, as that term is described with respect to public officials in Article 1 (commencing with Section 87100) of Chapter 7. If an officer receives a contribution which would otherwise require disqualification under this section, returns the contribution within 30 days from the time he or she knows, or should have known, about the contribution and the proceeding involving a license, permit, or other entitlement for use, he or she will be permitted to participate in the proceeding.
- D. A party to a proceeding before an agency involving a license, permit, or other entitlement for use must disclose on the record of the proceeding any contribution in an amount of more than \$250 made within the preceding 12 months by the party, or his or her agent, to any officer of the agency. No party, or his or her agent, to a proceeding involving a license, permit, or other entitlement for use pending before any agency and no participant, or his or her agent, in the proceeding will make a contribution of more than \$250 to any officer of that agency during the proceeding and for three months following the date a final decision is rendered by the agency in the proceeding. When a closed corporation is a party to, or a participant in, a proceeding involving a license, permit, or other entitlement for use pending before an agency, the majority shareholder is subject to the disclosure and prohibition requirements specified in subdivisions (b), (c), and this subdivision.
- E. Nothing in this section will be construed to imply that any contribution subject to being reported under this title will not be so reported." (See also Title 2, California Code of Regulations Sections 18438.1 - 18438.8)

The current [MTS Board members are listed HERE](#).

For more information, contact the Fair Political Practices Commission, 428 J Street, Suite 800, Sacramento, California, 95814, (916) 322-5660.

RETURN THIS FORM WITH YOUR PROPOSAL

Name of Contributor:	_____
Date(s):	_____
Amount:	_____

By signing below, I acknowledge that no contribution(s) aggregating more than \$250 were made by the Consultant or its agents to an MTS Board Member or Officer within the time period specified in Government Code Section 84308(b) or (c).

ACKNOWLEDGED AND AGREED

Signature of Party and/or Party's Agent: _____
Date: _____

SAMPLE PROMPT PAYMENT CERTIFICATION FORM

SAN DIEGO METROPOLITAN TRANSIT SYSTEM PROMPT PAYMENT CERTIFICATION FORM

PURPOSE: This certification is used to monitor compliance by prime contractors to promptly pay its subcontractors. In accordance with DOT's DBE Regulations and MTS's DBE Program, prime contractors must pay its subcontractors for satisfactory performance of their contracts no later than seven (7) days from receipt of payment from MTS. Any delay or postponement of payment over thirty (30) days must be for good cause and after receipt of prior written approval from a MTS Project Manager.

INSTRUCTIONS: Please complete the below Prompt Payment Certification Form and return to MTS within 14 days after receipt of payment from MTS at the following email address: ContractAdmin@sdmts.com. If there is more than one subcontractor on the contract, please complete a separate Prompt Payment Certification Form for each subcontractor.

1. CONTRACTOR INFORMATION

Contractor Name: _____ Contract No. _____ Work Order No. _____
 Telephone No. _____ Email Address _____

2. PAYMENT INFORMATION

- a) Name of Subcontractor: _____
- b) Type of Services or Materials Provided by Subcontractor (state NAICS code if known?): _____
- c) Date Last Payment Received from MTS?: _____
- d) Was any of that payment for services/materials provided by the subcontractor? _____
 * If YES, please answer questions e-h. If NO, proceed to Part 3 Certification.
- e) Payment Amount: _____
- f) Payment Date: _____
 * Prime contractors must pay their subcontractors for satisfactory performance of their contracts no later than seven (7) days from receipt of payment from MTS
- g) If payment was delayed or postponed over thirty (30) days, who at MTS pre-authorized the delay or postponement and when was such pre-authorization given?: _____
- h) If payment was delayed or postponed over thirty (30) days, was the reason for good cause? (Explain): _____

3. CERTIFICATION

The contractor hereby certifies that the foregoing Prompt Payment Certification Form is true and correct.

Signature _____ Title _____ Date _____

*** FOR MTS USE ONLY ***

Date Certification Received _____ Contractor Compliant _____

Comprehensive Operational Analysis Scope and Evaluation

Executive Committee

What is a COA?

A comprehensive operational analysis (COA) is a project that features an examination and evaluation of a transit system to determine where improvements could be made to make transit service more effective and efficient.



What is a COA?

Analysis of:

- Current and potential ridership
- Travel patterns
- Demographics
- Current and future land use
- Operating Costs
- Performance in relation to Board Policy 42

Recommendations for:

- Changes to transit network to improve transit productivity and availability with realistic funding scenarios

COA Project Management

- The COA will be managed by the MTS Planning and Scheduling Department
- MTS Marketing and Communications Department will guide outreach efforts
- A consultant will be selected to analyze existing conditions, and to work with MTS staff in crafting planning scenarios, similar to past efforts

February Exec Committee and Board of Directors

- **Executive Committee (February 6, 2025) (AI 6)**
 - Presented summary and potential schedule for COA
 - EC voted to recommend to Board of Directors to take action to:
 - Pursue a COA to be completed by November 2026
 - Begin preliminary efforts on researching the feasibility of placing a transit revenue measure on the ballot for the November 2026 general election, and
 - Work with SANDAG and NCTD to conduct a fare study regarding potential impacts of a fare increase.
- **Board of Directors (February 13, 2025) (AI 18)**
 - Voted to pursue the above recommendations; requested additional information regarding the scope of work for the project, as well as the consultant selection process.

Scope of Work

- Task 1: Data Collection & Review of Existing Conditions
- Task 2: System and Service Evaluation
- Task 3: Evaluation of Recommendations from Elevate 2020
- Task 4: Develop Service and Implementation Plan for Increased Service (Ballot measure or other funding)
- Task 5: Develop Service Reduction Plan (for no increase in funding)

Task 1

Data Collection & Review of Existing Conditions

- Collect and review data, reports, documents, and other information pertinent to the COA, including but not limited to the items listed in the RFP (regional plan, MTS budgets, demographic data, MTS/SANDAG surveys, ridership data, operating statistics etc).
- Divide the MTS jurisdiction into subregional areas based on common travel characteristics and demand. Identify travel markets within each subregional area with the greatest potential for capturing transit ridership (e.g., basic mobility, school, peak commute, tourist, seniors, etc.). Assess existing and future transit demand and travel patterns for each market by subregional area based on factors listed in the RFP.
- Identify and briefly evaluate opportunities and challenges facing transit service provision in the region over the next five years, including, but not limited to the items listed in the RFP.

Deliverables:

- (1) Technical report on review of relevant information and existing conditions.***
- (2) Additional data collection, as necessary, dependent on MTS approval.***
- (3) Prepare materials to present to up to two MTS Board of Directors or Executive Committee meetings.***

Task 2

System and Service Evaluation

- Evaluate how well the transit system is addressing the travel markets identified in Task 1, including (but not limited to) analysis of schedules, routes, stops, transfers, service gaps and efficiencies, excess service, and if the transit service is equitable according to federal and state-defined disadvantaged areas.
- Evaluate existing services and schedules based on the service guidelines of MTS Policy 42. Services will be evaluated based on segments (geographic, time of day, day of week, and season).
- Services that are inconsistent with MTS Policy 42's vision of a largely productivity-based system, should be identified for reduction, discontinuation, or restructuring. Services that have potential for exceeding existing performance should be identified for possible enhancements.

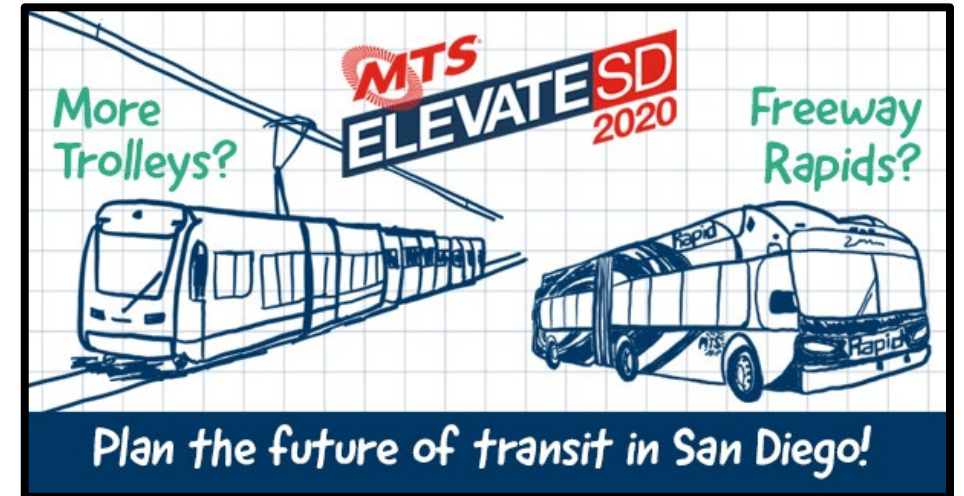
Deliverables:

- (1) Technical report evaluating the existing system and services, identifying trips, segments, and routes that do not meet or have the potential to exceed performance expectations.***
- (2) Prioritized list of service gaps, deficiencies, and opportunities.***
- (3) Prepare materials to present to up to two (2) MTS Board of Directors or Executive Committee meetings.***

Task 3

Evaluation of Recommendations from Elevate SD 2020

- The consultant should analyze the recommendations of service enhancements and adjustments from the Elevate SD 2020 project to determine if the recommendations are as relevant in 2025 as they were in 2019 (pre-COVID).
- These recommendations include frequency enhancements on all Trolley lines, 21 new Rapid bus lines, general frequency enhancements to fixed-route bus service, first/last mile connections and mobility-on-demand services.
- The analysis should be focused on projected changes in ridership and operating costs.



Deliverables:

- 1) Technical report evaluating the proposed service enhancements in Elevate SD 2020 with assessments of projected changes in ridership and operating costs.***

Tasks 4 & 5

Develop Service Plans

- Tasks 4 & 5 will be similar efforts; developing service plans with two different scenarios:

Task 4 (Scenario 1)

Additional transit funding

Approximately \$75 million in additional revenues expected to increase frequencies and spans (or realigning services) on the existing transit network.

Task 5 (Scenario 2)

No increase in transit funding

Budget shortfall of approximately \$100-plus million annually, with an estimated \$30-\$50 million in savings required to come from service reductions/changes.

- Plans should be developed for addressing service gaps and opportunities, identified in Tasks 1-3.
- \$\$ amounts are ballpark estimates that may be revised prior to the start of each of these tasks.

Tasks 4 & 5

Develop Service Plans

- The plans should build upon the “core-network” service concept developed during the previous COA/TOP efforts and offer appropriate service strategies for fixed-route bus (local, express, Rapid, limited stop), light rail, demand response, and other flexible services, for each geographic area based on its travel markets.
- The plans should promote seamless, efficient, and effective travel
- The plans should consider the current financial and operating constraints within the MTS area and propose an appropriate balance between productivity and coverage (geographic and temporal).
- The consultant will evaluate the benefits and costs of the proposed service strategy and any differences compared to the existing transit network structure. This evaluation should provide a general comparison to the existing transit system, including, but not limited to, ridership, capital and operating resource requirements, effectiveness and productivity, quality of service, and operational efficiency. Any anticipated challenges to implementation will also be identified.

Tasks 4 & 5

Develop Service Plans

- The consultant will evaluate the restructured services with quantitative performance standards established in MTS Board Policy 42 (productivity, cost-effectiveness, schedule adherence, overcrowding, financial, etc.), and qualitative service parameters (headways/service span, streamline vs. better access, number of transfers, service duplications on major corridors, coordination with other services, etc.).
- Each service adjustment will be described with the following information, at minimum:
 - Description of service, including rationale for service
 - Route map showing routing, exact layover locations, and stops (consideration of stop spacing)
 - Service span
 - Headways / frequencies per hour per direction (and by day)
 - Estimated ridership and greenhouse gas reductions
 - Financial, operating, and performance statistics
 - Vehicle requirements

Tasks 4 & 5

Develop Service Plans

- Each plan will be presented to the MTS Board of Directors (as part of a public hearing), with three presentations to the Board of Directors or Executive Committee for each task (six total among Tasks 4 and 5).

Deliverables for Tasks 4 & 5:

(1) Technical reports outlining the proposed transit service strategy and implementation plans, including supportive facilities and programs, explaining the benefits and costs associated with the concept relative to the MTS operating environment.

(2) Detailed service restructuring plans which will include one-page factsheets for each proposed and existing route

(3) Prepare materials to present to up to three (3) MTS Board of Directors or Executive Committee meetings.

- Task 4 (Service Enhancements) is scheduled to coincide with key decision points regarding a potential revenue measure
- Task 5 (Service Reductions) is scheduled to coincide with key decision points regarding the expected budget shortfall in FY 27-28.

Consultant Selection Process

- **RFP was posted in early February**
 - RFP (MTS Doc. No. G3042.0-25) includes an outline of the scope of work, evaluation criteria, and the evaluation process.
 - Changes can still be made to the RFP through an addendum.
 - Depending on the significance of the changes, the proposal submittal date of March 17, 2025 may need to be delayed to give proposers sufficient time to respond.

Consultant Selection Process

- Proposers must meet pass/fail criteria based on the ability to meet the insurance requirements and demonstrated previous experience working for or with public agencies, transit entities, or corporations on a similar project as stated in the scope of work.
- An evaluation committee is appointed to review all proposals.
 - Evaluation Committee will be comprised of senior MTS staff from the Planning & Scheduling, Finance, Operations, and Marketing Departments
- MTS uses an evaluation and selection process in which proposals contain both price and qualitative components, and the award is based upon a combination of both to determine the offer deemed most advantageous to MTS.

Consultant Selection Process

- Proposals will be evaluated with following criteria & weights:
 - **Qualifications of the Firm or Individual (25%)**
 - Technical experience in performing work on services of a similar nature
 - Experience working with public agencies
 - Strength, stability, and experience of the firm or management personnel and subcontractors
 - Demonstrated success in providing similar services.
 - **Staffing, Organization, and Management Plan (25%)**
 - Qualifications of proposed staff, particularly key personnel and the responsible management
 - Key personnel's level of involvement in performing related work
 - Logic of firm organization and adequacy of labor commitment
 - **Work Plan (30%)**
 - Understanding of MTS's requirements
 - Overall quality of work plan: logic, clarity, and specificity of work plan
 - **Cost and Price (20%)**
 - Overall cost and reasonableness of cost estimates

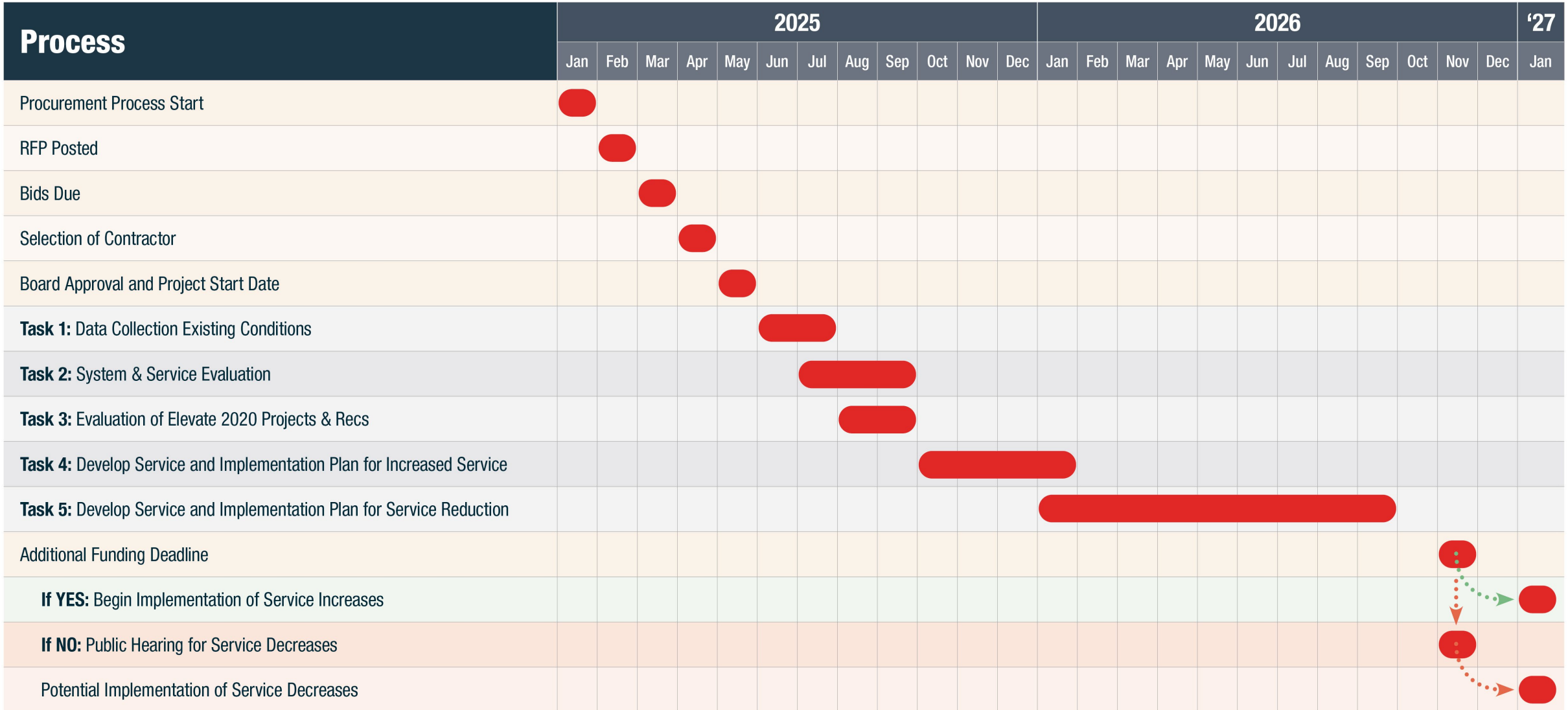
Consultant Selection Process

- Committee will arrive at a “comprehensive proposal score” for each proposal and list of top-ranked proposals within a competitive range will be developed
- Committee may decide to forward final recommendation to CEO, but it is likely that interview would occur
- Interviews can include a short presentation and then Q&A
- Committee has opportunity to re-score proposals and request best and final offers
- Final recommendation will be sent to CEO and then Board of Directors for approval

Consultant Selection Schedule

- **Proposal Due Date:** March 17, 2025
- **Initial Evaluations:** Week of April 3, 2025
- **Interviews:** Week of April 14, 2025
- **Notice of Intent:** April 25, 2025
- **Board Discussion and Potential Approval:** May 15, 2025
- **Contract Execution:** May 30, 2025

Overall COA Timeline



Questions/Comments



Board of Directors
Agenda

March 13, 2025 at 9:00 a.m.

In-Person Participation: James R. Mills Building, 1255 Imperial Avenue, 10th Floor Board Room, San Diego CA 92101

Teleconference Participation: (669) 254-5252; Webinar ID: 160 280 5839, https://www.zoomgov.com/j/1602805839

Table with 3 columns: NO., ITEM SUBJECT AND DESCRIPTION, ACTION. Contains 7 items including Roll Call, Public Comments, and various approval items like Minutes, CEO Report, and Construction Award.



- 8. Pyramid Building Improvements – Work Order Agreement** Approve
Action would authorize the Chief Executive Officer (CEO) to execute Work Order No. WOA352-AE-27 to MTS Doc No. PWL352.0-22, with HDR Engineering, Inc. (HDR), in the amount of \$329,608.51 for the Pyramid Building Improvements design project.
- 9. Board Policy No. 59, “Natural Gas and Energy Commodity Hedge Policy” – Policy Revisions** Approve
Action would approve the proposed revisions to MTS Board Policy No. 59, “Natural Gas and Energy Commodity Hedge Policy”.
- 10. Purchase of Class A, B, and Z1 Paratransit Vehicles – Contract Award** Approve
Action would authorize the Chief Executive Officer (CEO) to execute: 1) MTS Doc. B0775.0-25, with Model 1 Commercial Vehicles, Inc. for the purchase of two (2) battery powered Class Z1 Paratransit Vehicles in the amount of \$291,539.60. 2) MTS Doc. B0776.0-25, with Model 1 Commercial Vehicles, Inc. for the purchase of ten (10) propane powered Class B Paratransit Vehicles in the amount of \$2,112,034.50. 3) MTS Doc. B0777.0-25, with Model 1 Commercial Vehicles, Inc. for the purchase of twenty (20) gas powered Class A Paratransit Vehicles in the amount of \$3,167,236.35.
- 11. Investment Report – Quarter Ending December 31, 2024** Informational
- 12. 12th and Imperial Transit Center Rehabilitation Design Amendment 1 – Work Order Amendment** Approve
Action would authorize the Chief Executive Officer (CEO) to execute Work Order WOA353-AE-08.01 under MTS Doc No. PWL353.0-22, with Dokken Engineering (Dokken), in the amount of \$435,963.92, to provide 30% engineering design services for the 12th and Imperial Transit Center Rehabilitation Design (Amendment 1 to Work Order).
- 13. Fire Extinguisher Maintenance and As-Needed Repairs – Contract Award** Approve
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. PWG428.0-25, to Fire Technology and Solutions, for the provision of fire extinguisher maintenance and as needed repair services for a period of five (5) years in the amount of \$156,485.24.
- 14. On-Call Job Order Contracting (JOC) Railroad Construction Services – Contract Amendment** Approve
Action would authorize the Chief Executive Officer (CEO) to execute Amendment No. 4 MTS Doc. No. PWG348.4-22 with Veterans Engineering Services, Inc., (Veterans) for an increase in capacity to the Railroad Construction Services JOC in the amount of \$4,800,000.00.

- 15. Broadway & C Street Wheel Counter and Signal Replacement – Contract Award** Approve

Action would authorize the Chief Executive Officer (CEO) to execute contract MTS Doc No. PWL394.0-24, with Modern Railway Systems, Inc., in the amount of \$673,396.00 for the replacement of the existing wheel counters and signaling systems located at Broadway and C Street.
- 16. Modernization of Stadium Trolley Station Elevator – Change Order** Approve

Action would 1) Ratify Contract Change Order (CCO) 01 under MTS Doc No. PWG347.0-22 to Work Order MTSJOC347-21.01, with ABC General Contracting Inc. (ABCGC), in the amount of \$149,867.29 for the additional cost to install a Sapphire Novec Fire Suppression System in the elevator control room at the Stadium Trolley Station; and 2) Authorize the Chief Executive Officer (CEO) to approve CCO 02 under MTS Doc No. PWG347.0-22, to Work Order MTSJOC347-21.02, with ABCGC, in the amount of \$144,022.59 to provide additional elevator revisions and smoke dampers as required by the State Fire Marshal.
- 17. Light Rail Vehicle (LRV) Accident Repair Services - Contract Award** Approve

Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. L1693.0-25 with Carlos Guzman, Inc. (CG, Inc.), a Disadvantaged Business Enterprise (DBE), for the provision of LRV accident repair services, for five (5) years, in the amount of \$28,998,544.20.
- 18. Purchase of 24 Class C Propane Powered Medium Duty Mini Buses – Contract Amendment** Approve

Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. B0744.1-22 with Model 1 Commercial Vehicles, Inc. (Model 1) in the amount of \$153,763.20 to change the seating on twenty-four (24) Class C Propane Powered Medium Duty Mini Buses.
- 19. Elevator Maintenance at San Diego State University Transit Center – Operations and Maintenance Agreement Amendment** Approve

Action would authorize the Chief Executive Officer (CEO) to execute Amendment No. 2 to the Operation and Maintenance Agreement with San Diego State University (SDSU), MTS Doc. No. M6644.2-06, regarding elevator maintenance at the SDSU Transit Center.
- 20. Property Insurance Renewal** Approve

Agenda Item will be provided prior to Board Meeting.
- 21. Excess General Liability (Liability) And Excess Workers' Compensation (Workers' Compensation) Insurance Renewals** Approve

Agenda Item will be provided prior to Board Meeting.

DISCUSSION ITEMS

22. **Overview of Disadvantaged Business Enterprise (DBE) Program and Revisions to Board Policy No. 26 “DBE Program” (Karen Landers)** Approve
Agenda Item will be provided prior to Board Meeting.
23. **Annual Safety Performance Review and Approval of Updated Agency Safety Plan (Fabeann Soberg and Jared Garcia)** Approve
Agenda Item will be provided prior to Board Meeting.
24. **Fiscal Year (FY) 2026 Capital Improvement Program (CIP) (Mike Thompson)** Approve
Agenda Item will be provided prior to Board Meeting.
25. **Fiscal Year (FY) 2025 Operating Budget Midyear Amendment (Gordon Meyer)** Approve
Agenda Item will be provided prior to Board Meeting.
26. **Transit Operations Insourcing Feasibility Study – Existing Conditions Report (James Gerken and Russ Chisholm with Transportation Management and Design, Inc. and Mike Daney)** Informational
Agenda Item will be provided prior to Board Meeting.
27. **Fiscal Year (FY) 2025 Mid-Year Performance Monitoring Report (Brent Boyd)** Informational
Agenda Item will be provided prior to Board Meeting.

OTHER ITEMS

28. **Chair, Board Member and Chief Executive Officer’s (CEO’s) Communications**
29. **Remainder of Public Comments Not on The Agenda**
This item is a continuation of item No. 2 (Public Comment), in the event all speakers who request to comment on item No. 2 are not called. If all Public Comment is accepted during item No. 2, no additional public comment will be accepted under this item.

ADJOURNMENT

30. **Next Meeting Date**
The next Board of Director’s meeting is scheduled for April 17, 2025 at 9:00am.
31. **Adjournment**



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 4

**MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS**

March 13, 2025

SUBJECT:

Chief Executive Officer's (CEO) Report

**AGENDA ITEM WILL
BE PROVIDED
BEFORE BOARD
MEETING**

1255 Imperial Avenue, Suite 1000, San Diego, CA 92101-7490 • (619) 231-1466 • sdmts.com

San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.





**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 5

**MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS**

March 13, 2025

SUBJECT:

Kearny Mesa Transit Center – Property Purchase

**AGENDA ITEM WILL
BE PROVIDED
BEFORE BOARD
MEETING**

1255 Imperial Avenue, Suite 1000, San Diego, CA 92101-7490 • (619) 231-1466 • sdmts.com

San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.





**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 6

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Orange Line Variable Message Signs (VMS) Replacements – Contract Amendment

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to:

- 1) Approve up to \$150,000 contingency for future contract change orders to ensure construction progresses to completion without delay, under MTS Doc. No. PWL393.0-24, with Balfour Beatty Infrastructure, Inc. (Balfour Beatty), for Orange Line VMS replacements; and
- 2) Ratify PWL393.1-24, with Balfour Beatty, for Orange Line VMS replacements in the amount of \$54,006.73 to add a 1 double sided VMS for the new Copper Line, add a media converter to each VMS sign, and include VMS signs for the Green Line Platform at the 12th and Imperial Transit Center (Attachment A); and
- 3) Ratify PWL393.2-24, with Balfour Beatty, for Orange Line VMS replacements in the amount of \$87,089.87 to rewire power and data for Closed Circuit Television (CCTV) systems located on existing VMS poles. The change order provides funding for modifications to up to 30 CCTV installations (Attachment B).

Budget Impact

The total costs of these amendments are estimated to be \$141,096.60 and the total contract cost of the services is estimated to be \$378,296.60 (inclusive of the total costs for these amendments). The project will be funded by the Capital Improvement Program account 2005119601 – Orange Line – VMS Replacement.

DISCUSSION:

The Orange Line VMS Replacement project includes removing and replacing the existing 88 signs along the 21 Orange Line Trolley stations and installing MTS provided media converters.

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The original contract included 78 signs. Amendment 1 increased the number to 88 by adding 1 sign for the Copper Line and including the Green Line Station at 12th and Imperial to provide a consistent look at the 12th and Imperial Transit Center.

Construction work started at the Arnele Station. While working at Arnele, the contractor discovered that the existing CCTV cameras were receiving power and data from the Daktronics signs. The new signs from Global Displays Solutions (GDS), MTS Doc. No. G2687.0-23 are smaller and connecting the new signs to the CCTV system would void the GDS sign warranty.

To resolve this issue, the CCTV cameras need to be rewired for power and data and relocated to the mast arms on the VMS sign poles. This ensures that both systems operate independently—VMS and CCTV—so if the VMS fails, the CCTV monitoring system remains operational. This additional work requires extra labor hours and materials, including weatherproof boxes and additional wiring for power and data. Amendment 2 provided funding to rewire up to 30 CCTV cameras at a cost of approximately \$2,900 per camera.

At the time of drafting this agenda item, the contractor has completed VMS sign installation at 6 of the 21 stations included in the contract. Through the first six stations, 5 cameras were re-wired. Each station has 4 VMS signs and may have up to 4 CCTV cameras that require re-wiring.

The original contract value was \$237,000.00 with no contingency. MTS staff relied on the CEO authority of up to \$150,000.00 to address any items discovered during construction. The change orders issued under the CEO authority total \$141,096.60 and are summarized below:

Item	Purpose	CCO	Contract Total	Remaining CEO Authority
Base Bid	Orange Line VMS Installations		237,200.00	\$150,000.00
Amendment 1	Add Copper Line VMS sign, media converters, and 12 th and Imperial Green Line station	\$54,006.73	291,206.73	\$95,993.27
Amendment 2	Rewire power and data to CCTV Cameras at up to 30 locations	\$87,089.87	378,296.60	\$8,903.40
	Total	\$141,096.60	378,296.60	\$8,903.40

Working through the remaining stations, the contractor could encounter up to 60 additional cameras to be re-wired, 35 of which would require an additional \$101,500 change order to the contractor. The request for additional contract contingency will cover camera re-wiring, beyond the first 30 cameras, new unforeseen items, if encountered, and will allow the contractor to continue work in the field without stopping to wait for board authority for additional contract capacity.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to:

- 1) Approve up to \$150,000 contingency for future contract change orders to ensure construction progresses to completion without delay, under MTS Doc. No. PWL393.0-24, with Balfour Beatty Infrastructure, Inc. (Balfour Beatty), for Orange Line VMS replacements; and
- 2) Ratify PWL393.1-24, with Balfour Beatty, for Orange Line VMS replacements in the amount of \$54,006.73 to add a 1 double sided VMS for the new Copper Line, add a media converter to each VMS sign, and include VMS signs for the Green Line Platform at the 12th and Imperial Transit Center (Attachment A); and
- 3) Ratify PWL393.2-24, with Balfour Beatty, for Orange Line VMS replacements in the amount of \$87,089.87 to rewire power and data for Closed Circuit Television (CCTV) systems located on existing VMS poles. The change order provides funding for modifications to up to 30 CCTV installations (Attachment B).

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. Ratify MTS Doc No. PWL393.1-24
B. Ratify MTS Doc No. PWL393.2-24



CONSTRUCTION CHANGE ORDER

Project Name: VMS Installations for Orange Line and Copper Line
To: San Diego Metropolitan Transit System
From (Contractor): Balfour Beatty

Contract Number: PWL393.0-24

Date: 12/10/2024
Amendment Number: 1
MTS CCO Number: 1

SUBCONTRACTORS AND OTHER THIRD PARTY CONTRACTORS

Any time there is a change to a Subcontractor or Other Third Party Contractors resubmit Attachment: SUBCONTRACTORS and THIRD PARTY CONTRACTORS. Any change to these forms after bid submittal must be made in accordance with Public Contract Code sections 4100 et seq., as applicable, and as permitted by MTS.

OVERALL DESCRIPTION OF WORK

This CCO is prepared in accordance with and incorporates Section Changes and Extra Work Payment of the Contract Documents and consists of the following:

A. FOR UNIT PRICE CCOS ONLY (AS APPLICABLE)

Contractor REF#	Description	Bid Item	Quantity	QTY Change	Amount
Subtotal A:					\$ -

B. FOR LUMP SUM CCOS ONLY (AS APPLICABLE)

Contractor REF#	Description	Amount
CCO 1	Installation of an additional sign for the Copper Line	\$ 54,006.73
Subtotal B:		\$ 54,006.73

C. FOR TIME & MATERIALS CCOS ONLY (AS APPLICABLE)


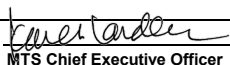
Contractor REF#	Description	Bid Item	Amount
		Payroll Costs:	
		Equipment Costs	
		Materials Costs	
		Consultant Costs	
		Supplemental Costs	
		Consultant Costs	
		Other - Describe Services	
		Bonds & Insurance total:	
		Contractor Overhead & Profit on Subcontractors:	
		Contractor Overhead & Profit total:	
Subtotal C:			\$ -

Total = (A+B+C) \$ 54,006.73

Original Contract value:	\$ 237,200.00
Adjustment by Previous Amendment(s)	\$ -
Adjustment by this Change Order	\$ 54,006.73
New Contract Amount	\$ 291,206.73

The Contract Time due to this Change Order will be (Increased or Unchanged):	Increased	by	30	days
Original Completion Date:				4/7/2025
Adjustment to Completion Date by Previous Change Order(s) [Number of Calendar Days]:				0
New Completion Date adjusted by this Change Order:				5/7/2025

Contractor accepts the terms and conditions stated above as full and final settlement of any and all claims arising out of or related to the subject of this Change Order and acknowledges that the compensation (time and cost) set forth herein comprises the total compensation due for the work or change defined in the Change Order, including all impact on any unchanged work. By signing this Change Order, the Contractor acknowledges and agrees that the stipulated compensation includes payment for all Work contained in the Change Order, plus all payment for any acceleration or interruption of schedules, extended overhead costs, delay, and all impact or cumulative impact on all Work under this Contract. The signing of this Change Order acknowledges full mutual accord and satisfaction for the change and that the stated time and/or cost constitute the total equitable adjustment owed the Contractor as a result of the change. The Contractor hereby releases and agrees to waive all rights, without exception or reservation of any kind whatsoever, to file any further claim or request for equitable adjustment of any type, for any reasonably foreseeable cause that shall arise out of, or as a result of, this Change Order and/or its impact on the remainder of the Work under the Contract.

 _____ **Date:** 1/3/2025
 _____ for _____ **Date:** 12-30-2024
C _____ **Date:** _____ **MTS Chief Executive Officer** _____ **Date:** _____

Follow all applicable procedures and provide all appropriate documentation as required by the Contract Documents.

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I. PROJECT DESCRIPTION

The amendment outlines an expanded scope of work in addition to the original VMS sign replacement project for the Orange Line. This updated scope includes the installation of an additional sign for the Copper Line, which became operational on 9/27/2024. Currently, the El Cajon Station has one double-sided sign, with one side serving the Orange Line and the opposite side accommodating the newly added Copper Line. Under the new plan, an additional double-sided sign will be installed exclusively for the Copper Line.

At each station where contractor is installing new VMS signs, the contractor will also install a media converter within the communication boxes. The amendment also requires the installation of Green Line VMS signs at the 12th & Imperial Station as part of the Orange Line system, thereby creating a unified signage system across the entire station rather than multiple separate fixtures for displaying information.

II. SCOPE OF WORK

2.1 Copper Line – Additional Sign:

The objective is to incorporate an additional Variable Message Sign (VMS) into the existing infrastructure of the Orange Line at El Cajon Station. This VMS will be exclusively dedicated to displaying information for the Copper Line. The installation must integrate seamlessly with the current design and infrastructure, meeting all relevant construction standards and ensuring clear, accessible information for passengers. Only one double-sided VMS sign is required for this added scope.

Scope of Work:

2.1.1 – rewire all existing cables to make room for adding a new sign and a new mast arm for the new signs.

2.1.2 – Install a new HSS steel tube (mast arm) according to the approved plans and specifications to support the additional sign.

2.1.3 – Install the new double sided VMS sign (with media converter) and complete power and data connections.

2.2 Media Convertors:

- a. The contractor will be responsible for installing the media converters before mounting the VMS signs. The media converters will be procured and provided by MTS, and it will be the contractor's responsibility to collect them from the MTS yard. Each sign in this project—totaling 88 signs (inclusive of copper and green additions)—will require one media converter.
- b. After the bid, MTS identified that the communication box at each trolley station with new VMS signs must include a media converter. Since each media converter at the VMS signs will require a corresponding media converter in the communication box, the total number of media converters to be installed will be 88.

2.3 Green Line VMS Signs at 12th & Imperial:

Install Green Line VMS signs at an additional four specified locations within the 12th & Imperial Station, incorporating a total of four double-sided signs. The 8 new signs at this location will be installed on existing poles, using existing power and data, and existing mast arms. These signs are being added now to eliminate the need for multiple mobilizations at the 12th and Imperial location and ensure a consistent or unified image for all passengers at the busiest transit center in the MTS network.

III. PERIOD OF PERFORMANCE

This additional scope of work will extend the period of performance by one month, revising the original agreement from NTP + 6 months to NTP + 7 months.



640 E. Arrow Hwy.
La Verne, CA. 91750

Ahmed Al-Janabi
Senior Project Manager - Capital Projects

San Diego Metropolitan Transit System

1255 Imperial Ave., Ste. 1000
San Diego, CA 92101

11-19-2024

Re: VMS Amendment 1

Dear Ahmed,

On behalf of Balfour Beatty Rail, we are pleased to provide herein our proposal in response to the request for a quote for the scope of work as laid out in Amendment 1.

Our proposal is conditioned upon the successful negotiation and agreement to mutually acceptable contract terms and conditions, schedule, and proposal pricing. To the extent that the facts, inclusions, exclusions, and assumptions upon which this proposal is based are not exactly as desired by Client, Contractor reserves the right to revisit/revise as appropriate.

The price for the work, as fully described below is **\$54,006.73. The period of performance will be increased by 1 month.**

Breakdown

Labor: \$36,982.81

- *Copper Line Sign*
- *Install Media Converters (88 each) (15 minutes per media converter (22 Crew hours))*
- *Green Line*
- *Install Mock Up Sign*

Equipment: \$14,141.67

- *Crew Vehicles, Scissor Lifts, Flatbed*

Materials: \$1,713.75

- *Brackets*

Other direct costs: \$1,168.50

- *Subsistence, Bond*

Scope of work:

2.1 Copper Line – Additional Sign:

1. The objective to incorporate an additional Variable Message Sign (VMS) into the existing infrastructure of the Orange Line at El Cajon Station. This VMS will be exclusively dedicated to displaying information for the Copper Line. The installation must integrate seamlessly with the

current design and infrastructure, meeting all relevant construction standards and ensuring clear, accessible information for passengers. Only one double-sided VMS sign is required for this added scope.

2.1.1 – rewire all existing cables to make room for adding a new sign and a new mast arm for the new signs.

2.1.2 – Install a new HSS steel tube (mast arm) according to the approved plans and specifications to support the additional sign.

2.1.3 – Install the new double sided VMS sign (with media converter) and complete power and data connections.

2.2 Media Convertors:

- a. The contractor will be responsible for installing the media converters before mounting the VMS signs. The media converters will be procured and provided by MTS, and it will be the contractor's responsibility to collect them from the MTS yard. Each sign in this project—totaling 88 signs (inclusive of copper and green additions) —will require one media converter.
- b. After the bid, MTS identified that the communication box at each trolley station with new VMS signs must include a media converter. Since each media converter at the VMS signs will require a corresponding media converter in the communication box, the total number of media converters to be installed will be 88.

2.3 Green Line VMS Signs at 12th & Imperial:

Install Green Line VMS signs at an additional four specified locations within the 12th & Imperial Station, incorporating a total of four double-sided signs. The 8 new signs at this location will be installed on existing poles, using existing power and data, and existing mast arms. These signs are being added now to eliminate the need for multiple mobilizations at the 12th and Imperial location and ensure a consistent or unified image for all passengers at the busiest transit center in the MTS network.

Invoice Schedule

- The invoice will be sent out in full if the work is done within 30 days. If the work exceeds the 30 days, the invoices will be sent based on percent of work completed.

General Assumptions

General Assumptions

1. Proposal is furnished subject to mutually agreeable terms and conditions, which will include caps on overall liability and delay liability, and as applicable, compliance with Balfour Beatty's Corporate 3rd Party Due Diligence process and procedure
2. This proposal must be accepted in entirety. Generally, individual scope prices do not stand alone.
3. This proposal is valid for 30 days, but we require notification of selected contractor within 7 days of submittal.

4. Client to provide (at no cost to Contractor) adequate compound areas in mutually agreeable locations, adjacent to the project site(s) for Contractors efficient ingress/egress (including access roads), material laydown, office trailers/facilities and parking for Contractor's project equipment and employees.
5. No office will be required for or by client or contractor for this project.
6. Client to provide unimpeded access to the project/right of way, at locations specified in the RFP, including any necessary construction access ramps at differing grade elevations.
7. Hi-rail access pads, if required, to be provided and removed by Client.
8. Client to provide field employee parking throughout the project site, within ¼ mile of the access locations.
9. deleted
10. All submittals to be electronic with one hard copy to follow.
11. This price proposal is subject to a mutually agreeable schedule. Contractor to provide input into the Client's schedule as required.
12. Price is based on receiving a 10% mobilization payment (of contract value) upon mobilization commencement (four equal payments over four consecutive months).
13. deleted
14. deleted
15. Contractor assumes that Client to be responsible for winter/cold weather mitigation, including but not limited to: keeping sub-grade from freezing, thawing sub-grade as required to meet schedule, snow removal, ground heaters, and winter temperature/weather protection (except concrete blankets for Contractor's work).
16. Client to provide hydrant type water supply within the right of way at no cost to the Contractor.
17. Client to provide sufficient time for administrative paperwork, material lead times, etc. Dates shown currently in Client schedule may not be attainable with normal lead times.
18. The specified warranty begins at substantial completion of Contractor's work. Substantial completion will be progressively issued by segment/location, and work type.
19. deleted
20. Any existing structures used to support work must be structurally adequate. Client to provide calculations when necessary.
21. deleted
22. Contractor reserves the right to re-price any bid items that change in quantity more than 15% (up or down).
23. deleted
24. deleted
25. deleted
26. Client will pay invoicing for stored materials.

General Inclusions

1. Final cleanup for Contractor works only.
2. Site specific work plans.
3. Material sales tax
4. Survey for layout
5. deleted
6. Constructability reviews for Contractor's scope to support preconstruction process for

7. Basic BMP

General Exclusions

1. Utility Potholing
2. As-Built Survey
3. Temporary or construction power and water (service installation or usage charges).
4. deleted
5. deleted
6. deleted
7. Access development. Contractor will work with Client on project access.
8. Maintenance of traffic, including police support, road plates, flagging, etc.
9. deleted
10. Track coordination efforts for track outages, work requests, etc.
11. Material expediting due to initially compressed schedule.
12. Any systems or signal work.
13. Stand-by/idle time due to delays by others and/or out of Contractor's control.
14. Hazardous material/substance work. Contractor will not assume generator status for any hazardous materials uncovered and discovered at the project site.
15. Systems safety and security manager.
16. Permits and fees.
17. Dewatering.
19. Rail road flagging and maintenance and protection of pedestrian and vehicular traffic.
20. Repairs of work damaged by other trades.
21. Utility relocations whether known or unknown.
22. Over-excavation for utility conflicts.
23. Pavement or other surface saw-cutting, breaking, demolition.
24. Temporary and permanent signage.
25. Pavement markings.
26. Dust Control (except as required for Contractor's operations).
28. Noise or vibration mitigation (permanent or construction phase).
29. Testing, auditing, inspection fees, water fees, water costs, meters, and electrical utility connections.
30. Traffic control, coring, boring, jacking and hydraulic drilling, drainage, concrete, masonry, asphalt, saw cutting and removal, patching of asphalt and concrete, curb/header, rebar/steel, site furniture, tree well grates and frames, and any removals.
31. Relocations, modifications, repair, restoration, or maintenance of existing Site condition
32. Railroad Flagger
33. EIC

General Exclusions


1. Temporary or construction power and water (service installation or usage charges).
2. Access development. Contractor will work with Client on project access.

3. Maintenance of traffic, including police support, road plates, flagging, etc.
4. Costs associated with parking for field employees throughout the project.
5. Material expediting due to initially compressed schedule.
6. Stand-by/idle time due to delays by others and/or out of Contractor's control.
7. Hazardous material/substance work. Contractor will not assume generator status for any hazardous materials uncovered and discovered at the project site.
8. Permits and fees.
9. Surety bonds. These can be provided, on request, at an additional cost.
10. SWPP creation, implementation or maintenance for any scope.
11. Survey.
12. Trench shoring.
13. Dewatering.
14. Abnormal or extraordinary site and soil conditions, including rock excavation.
15. Railroad flagging and maintenance and protection of pedestrian and vehicular traffic.
16. Repairs of work damaged by other trades.
17. Utility relocations whether known or unknown.
18. Over-excavation for utility conflicts.
19. Pavement or other surface saw-cutting, breaking, demolition, or restoration.
20. Temporary and permanent signage.
21. Pavement markings.
22. Street sweeping.
23. Weed abatement and mowing.
24. Dust Control (except as required for Contractor's operations).

Any work needed outside this scope will be tracked as T&M.

Thank you again for the opportunity to provide you with this proposal. Should you have any questions regarding this please do not hesitate to contact me.

Regards,

> 
Balfour Beatty

Type text here
x 

MTS



Will Pfeffer
Area Operations Manager
Balfour Beatty Rail
760-475-1401
wpfeffer@balfourbeattyus.com

NAME OF CONTRACTOR: Balfour Beatty Infrastructure
 OR SUBCONTRACTOR:
 PROJECT NAME: San Diego MTS VMS Installation
 WORK SITE / LOCATION: San Diego Orange Line/Green Line/Copper Line

ADDRESS: 640 East Arrow Highway
 La Verne, CA 91750
 PROJECT LOCATION: San Diego

LABOR RATES: 2023-2024
 CHANGE ORDER #: 1
 DATE: 12/7/2024

Labor Tracker by Employee						Hours			Rate			Subtotals			Subtotals
Date	Employee Number	Shift	Per Diem	Employee	Craft	REG	OT	DT	Regular \$/HR	Overtime \$/HR	Double \$/HR	Regular	Overtime	Double	Subtotals
	100	D		Laborer Group 1	LB JM				\$ 67.40	\$ 87.96	\$ 108.51				\$ -
	150	D		Laborer Group 5	LB JM				\$ 71.88	\$ 94.66	\$ 117.47				\$ -
	300	D		Laborer Foreman	LB FM				\$ 75.47	\$ 99.39	\$ 123.34				\$ -
	400	D		Operator	OP JM				\$ 91.72	\$ 121.18	\$ 150.63				\$ -
	500	D		Operator Foreman	OP FM				\$ 96.31	\$ 127.24	\$ 158.16				\$ -
	600	D		Track Superintendent	GF				\$ 121.03	\$ 165.03	\$ 219.03				\$ -
	700	D	\$ 480.00	Electrician	IW JM	108			\$ 97.94	\$ 126.26	\$ 158.54	\$ 10,577.52			\$ 10,577.52
	800	D	\$ 240.00	Electrician Foreman	IW FM	50	10		\$ 110.30	\$ 142.17	\$ 178.52	\$ 5,514.91	\$ 1,421.69		\$ 6,936.60
	900	D	\$ 240.00	Electrician Superintendent/GF	IF GF	60			\$ 122.82	\$ 158.08	\$ 198.49	\$ 7,369.01			\$ 7,369.01
	200			Operator	OP JM				\$ 138.09	\$ 178.00	\$ 223.50				\$ -
Labor Grand Total															\$ 24,883.12

Subsistence Tracker		Subsistence Grand Total
		\$ 960.00

Equipment Tracker							Hours		Rate			Subtotals
Date	Equipment / Vehicle ID	Employee	Equipment Description	Class	Make	Code	REG	OT	REG Rate	Delay Rate	OT Rate	Subtotals
12/7/24			Pick Up Truck 3/4 Ton, with Hy Rail / Utility Body	TRUCK	T&TT	20-28	108.0		\$ 42.49	\$ 0.12	\$ 0.89	\$ 4,588.92
12/7/24			Pick Up Truck 3/4 Ton, with Hy Rail / Utility Body	TRUCK	T&TT	20-28	120.0		\$ 47.91	\$ 0.12	\$ 0.89	\$ 5,749.20
12/7/24			Scissor Lift				48.0		\$ 40.81	\$ 0.10	\$ 0.89	\$ 1,958.98
Equipment Grand Total												\$ 12,297.10

Material Tracker						Subtotals
No.	Vendor	Material Description	Units	Unit Price		Subtotals
1	TBD	Misc. Bracket Allowance	1.0	\$ 1,351.66		\$ 1,351.66
2						\$ -
						\$ -
Material Subtotal						\$ 1,351.66
10.25% Tax						\$ 138.55
Material Grand Total						\$ 1,490.21

Subcontractor Tracker						Subtotals
No	Subcontractor	Description	Units	Unit Price		Subtotals
1						\$ -
Subcontractor's Grand Total						\$ -

Total Equipment (A)	\$ 12,297.10
Total Material (B)	\$ 1,490.21
15.00% Standard Mark-Up Equipment	\$ 1,844.57
15.00% Standard Mark-Up Material	\$ 223.54
Total Equipment + Mark-Up	\$ 14,141.67
Total Material + Mark-Up	\$ 1,713.75
Total Regular Labor (C)	\$ 23,461.43
29.2% Regular Labor Surcharge	\$ 6,860.13
Total Premium Labor (D)	\$ 1,421.69
29.2% Premium Labor Surcharge	\$ 415.71
Subtotal Regular Labor (C) + Premium Labor (D)	\$ 24,883.12
Subtotal (C) + (D) + Regular + Premium Surcharges	\$ 32,158.96
Total Subsistence (E)	\$ 960.00

Total Other Expense (F):	
Subtotal (C) + (D) + Regular + Premium Surcharges	\$ 32,158.96
15.00% Standard Mark-Up	\$ 4,823.84
Total Labor (C) + (D) + Surcharge + (E) + (F) + M/U	\$ 37,942.81
Total Equipment	\$ 14,141.67
Total Material	\$ 1,713.75
Total Equipment + Materials + Labor	\$ 53,798.22
Total Subcontractor Costs	\$ -
5.00% Mark-Up on Subcontractors	\$ -
Total Subcontractors	\$ -
1.01% Bond & Insurance	\$ 208.50
Grand Total	\$ 54,006.73



640 E. Arrow Hwy.
La Verne, CA. 91750

Ahmed Al-Janabi
Senior Project Manager - Capital Projects

San Diego Metropolitan Transit System

1255 Imperial Ave., Ste. 1000
San Diego, CA 92101

1-23-2025

Re: VMS Potential CCO #2

Dear Ahmed,

On behalf of Balfour Beatty Rail, we are pleased to provide herein our proposal in response to the request for a quote for the scope of work as laid out herein.

Our proposal is conditioned upon the successful negotiation and agreement to mutually acceptable contract terms and conditions, schedule, and proposal pricing. To the extent that the facts, inclusions, exclusions, and assumptions upon which this proposal is based are not exactly as desired by Client, Contractor reserves the right to revisit/revise as appropriate.

The price for the work, as fully described below is **\$87,089.87. The period of performance will be increased by 30 Working Days (43 Calendar Days). This is under the assumption that 30 out of the 78 poles will need to be modified.**

Labor: \$33,847.13
Equipment: \$11,584.76
Material: \$9,205.38
Subcontractor: \$31,878.00
Bonds/Insurance: \$574.59

Total Price per Sign Modification: **\$2,903.00**

Background

- The original scope of work for this project was a basic R&R (Remove & Replace), of 78 Double Sided Signs and put back 2 Single-Faced back to back signs on brackets provided by MTS. All cables were to be re-used, with the exception of a couple locations. The drawings provided by MTS also indicated that the poles did not have any external hardware on them (cameras, speakers, audio, etc). During the kick off meetings and pre-job discussion, it was brought up by the Balfour Beatty team that it appeared that some of the cameras might be in conflict with the sign installation. We were told that the camera equipment did not run through the signs, and that it was all external. We were also told that we would not have to move the cameras, and that if we ran into an issue, we should call MTS.
- On the first sign installation we encountered, we discovered that the camera controls ran through

the sign, requiring that this equipment be disconnected and moved out of the sign, and due to the size of the new signs, the existing camera equipment could not fit in the new sign, therefore, external equipment needed to be procured and installed on the existing pole in order to properly relocate all the camera equipment.



- Another impact of this required that the fiber cables be cut and pulled back and respliced inside the sign for the sign and the camera. This required a fiber subcontractor to be brought on board to handle this effort. Incidentally, it was not anticipated that any fiber splicing would be required on this project, since the plans indicated that all fiber cable should be re-used as is. In some cases, even when a sign does not have camera equipment in it, or equipment on it, the fiber still needed to be cut and re-spliced. Therefore, this revision includes splicing for signs which have fiber in them regardless.

General Assumptions

General Assumptions

1. Proposal is furnished subject to mutually agreeable terms and conditions, which will include caps on overall liability and delay liability, and as applicable, compliance with Balfour Beatty's Corporate 3rd Party Due Diligence process and procedure
2. This proposal must be accepted in entirety. Generally, individual scope prices do not stand alone.
3. This proposal is valid for 30 days.

4. Client to provide (at no cost to Contractor) adequate compound areas in mutually agreeable locations, adjacent to the project site(s) for Contractors efficient ingress/egress (including access roads), material laydown, office trailers/facilities and parking for Contractor's project equipment and employees.
5. No office will be required for or by client or contractor for this project.
6. Client to provide unimpeded access to the project/right of way, at locations specified in the RFP, including any necessary construction access ramps at differing grade elevations.
7. Hi-rail access pads, if required, to be provided and removed by Client.
8. Client to provide field employee parking throughout the project site, within ¼ mile of the access locations.
9. deleted
10. All submittals to be electronic with one hard copy to follow.
11. This price proposal is subject to a mutually agreeable schedule. Contractor to provide input into the Client's schedule as required.

General Exclusions

1. Temporary or construction power and water (service installation or usage charges).
2. Access development. Contractor will work with Client on project access.
3. Maintenance of traffic, including police support, road plates, flagging, etc.
4. Costs associated with parking for field employees throughout the project.
5. Material expediting due to initially compressed schedule.
6. Stand-by/idle time due to delays by others and/or out of Contractor's control.
7. Hazardous material/substance work. Contractor will not assume generator status for any hazardous materials uncovered and discovered at the project site.
8. Permits and fees.
9. Surety bonds. These can be provided, on request, at an additional cost.
10. SWPP creation, implementation or maintenance for any scope.
11. Survey.
12. Trench shoring.
13. Dewatering.
14. Abnormal or extraordinary site and soil conditions, including rock excavation.
15. Railroad flagging and maintenance and protection of pedestrian and vehicular traffic.
16. Repairs of work damaged by other trades.
17. Utility relocations whether known or unknown.
18. Over-excavation for utility conflicts.
19. Pavement or other surface saw-cutting, breaking, demolition, or restoration.
20. Temporary and permanent signage.

- 21. Pavement markings.
- 22. Street sweeping.
- 23. Weed abatement and mowing.
- 24. Dust Control (except as required for Contractor's operations).

Any work needed outside this scope will be tracked as T&M.

Thank you again for the opportunity to provide you with this proposal. Should you have any questions regarding this please do not hesitate to contact me.

Regards,


Balfour Beatty

X _____
MTS

Will Pfeffer
Area Operations Manager
Balfour Beatty Rail
760-475-1401
wpfeffer@balfourbeattyus.com

NAME OF CONTRACTOR: Balfour Beatty Infrastructure
 OR SUBCONTRACTOR:
 PROJECT NAME: San Diego MTS VMS Installation
 WORK SITE / LOCATION: San Diego Orange Line/Copper Line
 Camera Modifications

ADDRESS: 640 East Arrow Highway
 La Verne, CA 91750
 PROJECT LOCATION: San Diego

LABOR RATES: 2024-2025
 CHANGE ORDER #: 2
 DATE: 1/23/2025

Labor Tracker by Employee					Hours			Rate			Subtotals			Subtotals	
Date	Employee Number	Shift	Per Diem	Employee	Craft	REG	OT	DT	Regular \$/HR	Overtime \$/HR	Double \$/HR	Regular	Overtime	Double	Subtotals
	100	D		Laborer Group 1	LB JM				\$ 67.40	\$ 87.96	\$ 108.51				\$ -
	150	D		Laborer Group 5	LB JM				\$ 71.88	\$ 94.66	\$ 117.47				\$ -
	300	D		Laborer Foreman	LB FM				\$ 75.47	\$ 99.39	\$ 123.34				\$ -
	400	D		Operator	OP JM				\$ 91.72	\$ 121.18	\$ 150.63				\$ -
	500	D		Operator Foreman	OP FM				\$ 96.31	\$ 127.24	\$ 158.16				\$ -
	600	D		Track Superintendent	GF				\$ 121.03	\$ 165.03	\$ 219.03				\$ -
	650	D		Electrician Apprentice	IW APP	130			\$ 73.46	\$ 110.18	\$ 146.91	\$ 9,549.15			\$ 9,549.15
	700	D	\$ 731.25	Electrician	IW JM	130			\$ 97.94	\$ 126.26	\$ 158.54	\$ 12,732.20			\$ 12,732.20
	800	D		Electrician Foreman	IW FM	0			\$ 110.30	\$ 142.17	\$ 178.52	\$ -			\$ -
	900	D		Electrician Superintendent/GF	IF GF	0			\$ 122.82	\$ 158.08	\$ 198.49	\$ -			\$ -
	200			Operator	OP JM				\$ 138.09	\$ 178.00	\$ 223.50				\$ -
Labor Grand Total															\$ 22,281.35

Subsistence Tracker															
Subsistence Grand Total															\$ 731.25

Equipment Tracker							Hours		Rate			Subtotals
Date	Equipment / Vehicle ID	Employee	Equipment Description	Class	Make	Code	REG	OT	REG Rate	Delay Rate	OT Rate	Subtotals
1/23/25			Pick Up Truck 3/4 Ton, with Hy Rail / Utility Body	TRUCK	T&TT	20-28	130.0		\$ 42.49	\$ 0.12	\$ 0.89	\$ 5,523.70
1/23/25			Scissor Lift				130.0		\$ 35.00	\$ 0.10	\$ 0.89	\$ 4,550.00
Equipment Grand Total												\$ 10,073.70

Material Tracker					Subtotals
No.	Vendor	Material Description	Units	Unit Price	Subtotals
1		Cantex Junction Box	30.0	\$ 87.00	\$ 2,610.00
2		#4-40 Thread Size, 1/4 in Lg, Steel,	120.0	\$ 0.75	\$ 90.00
3		Roll of 1" liquidite conduit	1.0	\$ 1,191.37	\$ 1,191.37
4		Liquid-Tight Conduit Fitting: Steel/Iron, 1 in	90.0	\$ 9.49	\$ 854.10
5		Mag Drill & Bits	1.0	\$ 2,015.00	\$ 2,015.00
6		Misc. Patch cables, connectors, etc.	1.0	\$ 500.00	\$ 500.00
Material Subtotal					\$ 7,260.47
10.25% Tax					\$ 744.20
Material Grand Total					\$ 8,004.67

Subcontractor Tracker					
No	Subcontractor	Description	Units	Unit Price	Subtotals
1	Datel	Fiber Splicing	33.0	\$ 920.00	\$ 30,360.00
Subcontractor's Grand Total					\$ 30,360.00

Total Equipment (A)	\$ 10,073.70
Total Material (B)	\$ 8,004.67
15.00% Standard Mark-Up Equipment	\$ 1,511.06
15.00% Standard Mark-Up Material	\$ 1,200.71
Total Equipment + Mark-Up	\$ 11,584.76
Total Material + Mark-Up	\$ 9,205.38
Total Regular Labor (C)	\$ 22,281.35
29.2% Regular Labor Surcharge	\$ 6,515.07
Total Premium Labor (D)	\$ -
29.2% Premium Labor Surcharge	\$ -
Subtotal Regular Labor (C) + Premium Labor (D)	\$ 22,281.35
Subtotal (C) + (D) + Regular + Premium Surcharges	\$ 28,796.42
Total Subsistence (E)	\$ 731.25

Total Other Expense (F):	
Subtotal (C) + (D) + Regular + Premium Surcharges	\$ 28,796.42
15.00% Standard Mark-Up	\$ 4,319.46
Total Labor (C) + (D) + Surcharge + (E) + (F) + M/U	\$ 33,847.13
Total Equipment	\$ 11,584.76
Total Material	\$ 9,205.38
Total Equipment + Materials + Labor	\$ 54,637.27
Total Subcontractor Costs	\$ 30,360.00
5.00% Mark-Up on Subcontractors	\$ 1,518.00
Total Subcontractors	\$ 31,878.00
1.01% Bond & Insurance	\$ 574.59
Grand Total	\$ 87,089.87



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 7

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Orange Line (OL) Phase 1 Construction – Contract Award

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. PWL409.0-25 (in substantially the same format as Attachment A), to Stacy and Witbeck, Inc. (Stacy and Witbeck), for the OL Phase 1 Construction in the amount of \$26,890,732.50 plus 10% contingency.

Budget Impact

The total contract cost of this contract is estimated to be \$26,890,732.50 (plus a 10% contingency of \$2,689,073.25 for a total of \$29,579,805.75). The project will be funded by the Capital Improvement Program (CIP) account 2005119501 Orange Line Rail Signals – Phase 1.

DISCUSSION:

The Orange Line Phase 1 construction project will upgrade the signaling system between 32nd Commercial Station and Massachusetts Avenue station to the MTS standard signaling system, consistent with the system installed on the Mid-Coast extension. The project will allow the trolleys to operate at higher speeds, travel on the opposite track, reverse run, improve on-time performance, and provide more dependable services. The contractor will install materials that MTS has pre-purchased over the last 11 months.

On October 30, 2024, staff issued an Invitation for Bids (IFB). A total of five (5) bids were received by the deadline of February 6, 2025, and are summarized as follows:

Firm Name	Firm Certification	Bid Amount
Stacy and Witbeck	N/A	\$26,890,732.50
Herzog Technologies, Inc.	N/A	\$30,922,555.00
RailWorks Track Services, LLC	N/A	\$36,349,028.45
Balfour Beatty Infrastructure Inc.	N/A	\$45,645,000.00
Mass. Electric Construction Co.	N/A	\$52,927,533.50



Based on the bids received, staff determined Stacy and Witbeck to be the lowest responsive, and responsible bidder and deemed their price to be fair and reasonable in comparison with MTS' Independent Cost Estimate (ICE) of \$27,974,757.19.

The Contractor will be using the following subcontractors:

SUBCONTRACTOR NAME	FIRM CERTIFICATIONS
AZ Construction Inc. DBA ACE Fence Company	Disadvantaged Business Enterprise (DBE), Small Business (SB), Minority Owned Business (MBE), Woman Owned Business (WBE)
HMS Construction Inc.	N/A

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute Doc. No. PWL409.0-25 (in substantially the same format as Attachment A), to Stacy and Witbeck, for the OL Phase 1 Construction in the amount of \$26,890,732.50 plus 10% contingency.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olsen, 619.557.4588, mark.olsen@sdmts.com

Attachments: A. Draft Agreement MTS Doc. No. PWL409.0-25
B. Scope of Work/Technical Specifications
C. Bid Form

CONTRACT TIME.

Time is of the essence in the performance of the Work. The Work shall be commenced by the date stated in MTS's Notice to Proceed. The Contractor shall complete all Work required by the Contract Documents within **758 calendar days** from the commencement date stated in the Notice to Proceed. By its signature hereunder, Contractor agrees the Contract Time is adequate and reasonable to complete the Work.

CONTRACT PRICE.

MTS shall pay the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of twenty-six million, eight hundred ninety thousand, seven hundred thirty-two dollars and fifty cents (\$26,890,732.50). Payment shall be made as set forth in the General Conditions.

PROVISIONS REQUIRED BY LAW.

Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of the California Labor Code applicable to this Project.

INDEMNIFICATION.

Contractor shall provide indemnification as set forth in the General Conditions.

PREVAILING WAGES.

Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates shall be made available at MTS's Administrative Office or may be obtained online at <http://www.dir.ca.gov> and which must be posted at the job site.

SAN DIEGO METROPOLITAN TRANSIT SYSTEM	STACY AND WITBECK, INC.
By: _____ Sharon Cooney, Chief Executive Officer	By _____
Approved as to form:	
By: _____ Karen Landers, General Counsel	Title: _____

SECTION 01 00 00
GENERAL REQUIREMENTS

PART 1 – GENERAL

1.01 REFERENCES

- A. References to Articles herein are with respect to the MTS Procurement Document for the Project, including:
 - 1. Information and Instructions of Bidders
 - 2. Standard Construction Agreement and General Conditions
 - 3. Special Conditions
 - 4. Standard Specifications & Special Provisions (Water Pollution and Erosion Control)

- B. The latest revisions of the following documents shall be incorporated as reference.
 - 1. Caltrans Standard Specifications (Standard Specifications, Current Edition)
 - 2. Standard Specifications for Public Works Construction (SSPWC, Current Edition)
 - 3. City of San Diego Whitebook (City Standard Specifications, Supplement to SSPWC Current Edition)
 - 4. San Diego Regional Standard Drawings (SDRSD), Current Edition
 - 5. AREMA Manual for Railway Engineering (AREMA Manual), Current Edition
 - 6. AREMA Communications & Signals Manual (C&S Manual), Current Edition
 - 7. AREMA Portfolio of Trackwork Plans, Current Edition
 - 8. Caltrans' California Trenching and Shoring Manual, Current Edition
 - 9. Precast/Prestressed Concrete Institute (PCI) Design Handbook, Current Edition
 - 10. LOSSAN Corridor Engineering Standard Drawings
 - 11. California Public Utilities Commission (CPUC) General Order 164-E

- C. Where the SSPWC is referenced, the Contractor shall be responsible for the inclusion of the City Standard Specifications (Whitebook) along with that reference.

1.02 SUMMARY OF WORK

- A. A high-level summary of work is provided here. Refer to the technical specifications for additional details.

- B. Prequalification
 - 1. This Project required the prequalification of all Contractors and Subcontractors that will perform work in the specialized areas of Railroad Signaling, Overhead Catenary System (OCS), and/or Special Trackwork for the Construction of Orange

Line Train Control Improvements – Phase 1. All Contractors performing Work in these areas shall be on the following lists;

- a. Approved Prime Bidders List – Construction of the Orange Line Train Control Improvements – Phase 1.
 - b. Approved Railroad Signaling Specialty Contractors List – Construction of the Orange Line Train Control Improvements – Phase 1.
 - c. Approved Overhead Catenary System Specialty Contractors List – Construction of the Orange Line Train Control Improvements – Phase 1
 - d. Approved Special Trackwork Specialty Contractors List – Construction of the Orange Line Train Control Improvements – Phase 1.
2. As part of prequalification, bidders were required to submit proposed candidates for the following key personnel:
- a. Project Manager
 - b. Construction Superintendent
 - c. Safety Manager
 - d. Quality Manager
 - e. Signal Engineer
 - f. Superintendent of Overhead Catenary Systems
 - g. Superintendent of Track
3. Within 14 calendar days of NTP, Contractors shall be required to formally submit key personnel meeting the experience requirements defined in the prequalification document, to MTS for approval. MTS review of the proposed candidate for each position may include an interview by a panel chosen by MTS. Candidates not deemed qualified shall be replaced by the Contractor with alternate candidates, until an acceptable candidate is chosen.
- C. The Work to be done includes furnishing all necessary labor, equipment, and materials for:
1. Civil Improvements
 - a. Modification of 54th Street Pedestrian Crossing per CPUC GO88-B application approval.
 - b. Modification of 66th Street Pedestrian Crossing per CPUC GO88-B application approval.
 - c. Modification of 68th Street Pedestrian Crossing per CPUC GO88-B application approval.
 2. Special Trackwork
 - a. Installation of three (3) MTS furnished #11 single crossovers.

- b. Conversion of two (2) existing manual #10 crossovers to MTS furnished power operated turnouts. (Existing E304WL and E315WL; Future R2 and R10)

Existing manually operated turnouts are equipped with Switch Circuit Controllers (SWCC) and Electric Switch Locks. The Owner provided Track Switch Conversion Packages consist of new maintenance length stock rails, switch points, bolted heel-block assemblies, pre-plated ties #0 through #12, chairs & anchors and #1 (w/basket), #2 & #3 insulated gauge rods & transit clips. Crossover shall be removed from service, existing switch lock and SWCC retired, switch points, bolted heel-blocks and stock rails removed and #0 through #12 ties & plates removed. Remove ballast 6"-9" below the tie, compact sub-ballast/hard pack, install geotextile fabric and new ballast. Install new ties/plates, stock rails, switch points, chairs & anchors and gauge rods.

25 each, 9' #1 treated hardwood ties are being provided for each turnout to "spot" replace ties deemed necessary by the Engineer.

Special note: *Contractor is required to provide and install 25 each, 9' #1 treated hardwood ties for each of the two switches at 315A & 315B (Future R10) (50 total). These ties were not ordered by the Owner.*

- c. Replacement of six (6) M23 power switch machines and associated special track work with MTS provided material. (Existing E6, E8, and E10; Future R6, R14, and R18)

Existing power operated #10 turnouts at E6 interlocking are equipped with M-23-A switch machines mounted on nonstandard head-block ties and switch plates. The Owner provided Track Switch Upgrade Packages for #10 turnouts consist of new ties and plates #0 through #12, tie/plate, chairs and anchors, #1 (w/basket), #2 & #3 insulated gauge rods & transit clips. Existing power switch machines and associated track materials shall be retired and replaced with new M-23-A machines and associated track materials. Existing #0 through #12 ties and plates shall be removed and replaced with new ties, plates and ballast.

Existing power operated #20 turnouts at E8 and E10 interlockings are equipped with M-23-A switch machines mounted on nonstandard head-block ties and switch plates and push/pull helper rod assemblies. The Owner provided Track Switch Upgrade Packages for #20 turnouts consist of new ties and plates #0 through #13, #1 (w/ basket), #5 (w/ basket), #2, through #4 insulated gauge rod & transit clips. New 10' #1 treated hardwood ties and plates #3 through #13. Existing power switch machines and associated track materials shall be retired and replaced with new M-23-A machines and associated track materials. Existing #0 through #13 ties and plates shall be removed and replaced with new ties, plates, and ballast.

25 each, 9' #1 treated hardwood ties are being provided for each turnout to "spot" replace ties deemed necessary by the Engineer.

- d. Installation of MTS furnished shop bonded insulated joint plugs on tangent and curved track.

- e. Removal of existing insulated joints and replacement with rail plugs.
3. Overhead Catenary System (OCS)
- a. OCS installation to support three (3) new #11 single crossovers.
 - b. Modifications to Sectionalization.
4. Railroad Signal and Communications
- a. Interlocking and Automatic Block System (ABS) replacement of existing relay logic locations, install and commission vital microprocessor control systems to support bidirectional running.
 - b. Crossing warning device, train detection system and crossing warning system replacement.
 - c. CPUC GO-88B improvements at three (3) pedestrian crossings.
 - d. Installation of twenty-two (22) Owner Furnished train control/crossing instrument enclosures along the right-of-way.
 - e. Installation of underground infrastructure, vaults and pull boxes.
 - f. Installation of impedance bonds, associated wiring, and track connections.
 - g. Modification of existing overhead aerial or underground fiber optic cable to support vital and non-vital applications.
 - h. Establishment of new or conversion of existing commercial power meter services.
5. Construction Phasing and Handoff Activities
- a. Inspection, receipt, handling, transport, storage, installation, testing and commissioning of Owner Furnished Materials. This material is listed in Part 2 herein and is referenced in the Technical Specifications.
 - b. Participation in Factory Acceptance Testing (FAT) of Owner Furnished Signal Instrument Enclosures for release and delivery of enclosures to Contractor for field installation. Receipt, handling, storage, field installation, testing and commissioning of Signal Instrument Enclosures.
 - c. Participation in FAT to observe demonstration and testing of Owner Furnished Vital Application Software for release and transmittal of software to Contractor for each Segment signal cutover.
 - d. Coordination with MTS to finalize Temporary Interface Case #1 and #2 configurations to support phasing of the project in four (4) successive Segments. The division of the work for the Temporary Interface Cases are as follows:
 - 1) During construction, MTS will provide the Contractor with Temporary Interface Case (TIC) Wiring Diagrams that are compatible with the MTS Owner Furnished Software.
 - 2) Contractor shall wire the TICs and connect field wiring.

- a) TICs #1 and #2 will not be prewired for their first use. The Contractor shall perform initial wiring and all successive wiring modifications of these cases.
 - b) Contractor shall provide wire, tags, connectors and consumable materials.
 - 3) Contractor shall install, test and commission the TICs.
 - a) TICs shall be installed on foundations.
 - 4) Contractor shall remove, salvage and rewire TICs for the next location designated in the construction phasing plan.
 - a) TIC temporary foundations shall be removed when they are relocated.
 - 5) At the end of this Phase 1 project, temporary Interface Case #2 will remain in service until the Phase 2 project is completed (by Others). Final turnover of temporary Interface Case #1 to MTS shall be delivered with the last wiring and configuration used, with all equipment installed.
 - e. Construction and cutover of the project in four (4) successive Construction Segments as defined herein.
6. System Signage
- a. The following new signage shall be furnished and installed by the Contractor in coordination with and approval of MTS:
 - 1) Begin ABS and End of Block Signs as shown in the Signal Contract Drawings near 32nd and Commercial Station/R311RC and detailed in Drawing GEN_23A.
 - 2) Approach Interlocking Signs (4 total signs per Interlocking as detailed in Drawing GEN_23A) shall be added and/or replaced at the following Interlockings:
 - a) R2
 - b) R6
 - c) R10
 - d) R12
 - e) R14
 - f) R18
 - b. The following existing signage shall be removed by the Contractor in coordination with and approval of MTS.
 - 1) Near 65th Street, the existing 40 MPH speed sign on normal running Westbound OCS pole at approximately 322+90.

2) Near 68th Street, the existing temporary “R” and “40” MPH speed signs on normal running Westbound OCS pole at approximately 345+40.

c. New sign placements shall be proposed by the Contractor and approved by MTS Operations staff prior to installing any signage in the field.

D. CPUC General Order 164-E and Construction Segments

1. 49 CFR 674 requires a Safety Certification Program to be in place for this Project with the CPUC designated as State oversight. The Orange Line Phase 1 Project has been classified as a Major Project due to its replacement of the existing train control system with more modern technology.

2. A Safety Certification Plan has been submitted to the CPUC which defines the following Segments for construction, testing, and the requirement to receive safety certification for each prior to beginning revenue service. Each Segment transition occurs at an Interlocking location, where an interface can be arranged to accommodate both the existing and new train control technology.

a. Segment 1

- 1) R311RC – Begin ABS
- 2) R358RC – Francis Street
- 3) R396RC – Horton Street
- 4) R442RC – R2 Interlocking
- 5) R467RC – R2 Interlocking/ 43rd Street
- 6) Temporary Interface Case #1

b. Segment 2

- 1) R480RC – Cut Section
- 2) R507RC – Intermediate Signal
- 3) R537RC – Cut Section
- 4) R552RC – R6 Interlocking
- 5) R572RC – Existing case modifications (Euclid Avenue)
- 6) R574RC – R10 Interlocking
- 7) Temporary Interface Case #2
- 8) Removal of Temporary Interface Case #1, Segment 1

c. Segment 3

- 1) R602RC – 54th Street Pedestrian Crossing
- 2) R617RC – Cut Section
- 3) R650RC – Merlin Drive

- 4) R671RC – 60th Street
 - 5) R697RC – R12 Interlocking
 - 6) R719RC – R14 Interlocking
 - 7) Temporary Interface Case #1
 - 8) Removal of Temporary Interface Case #2, Segment 2
- d. Segment 4
- 1) R729RC – 65th Street
 - 2) R738RC – 66th Pedestrian Crossing
 - 3) R769RC – 68th Pedestrian Crossing
 - 4) R782RC – 69th Street
 - 5) R820RC – Cut Section
 - 6) R847RC – R18 Interlocking
 - 7) Temporary Interface Case #2 (Final Condition, Phase 1)
 - 8) Removal of Temporary Interface Case #1, Segment 3
 - 9) Minor modifications to existing cases
3. The Contractor shall support MTS to complete, document and verify Safety Certification Tasks that shall require timely delivery of Contractor led items, including but not limited to integration testing and associated test documentation, dynamic testing, operations/maintenance manual submission, and asbuilt documentation.
 4. Each Segment shall receive separate certification and cannot be placed into service without CPUC approval.

1.03 ORDER OF WORK

- A. Order of work shall be in accordance with Article 5.7, Construction Sequence, of the Special Conditions and these Technical Specifications. In general, the work shall be constructed in the following order as defined in Article 1.02, Summary of Work, of these Technical Specifications:
 1. Segment 1
 2. Segment 2
 3. Segment 3
 4. Segment 4
- B. Non-conflicting work in subsequent stages may proceed concurrently with work in preceding stages, provided satisfactory progress is maintained in the preceding stages of construction.

C. Pre-Construction Requirements

1. Water Pollution Control Plan (WPCP)

- a. A WPCP shall be developed by the Contractor in accordance with the Standard Specifications & Special Provisions (Water Pollution and Erosion Control) and submitted to MTS for approval.

2. Drug and Alcohol Compliance

- a. The Contractor, its employees, subcontractors, and their employees shall comply 49 CFR, Part 655, Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations and 49 CFR Part 40, Procedures for Transportation Workplace Drug and Alcohol Testing Programs.
- b. Compliant Drug and Alcohol Plans shall be submitted by the Contractor and each subcontractor for MTS review.

3. Roadway Worker Protection Training

- a. Refer to Article 5.10, Roadway Workers Protection, of the Special Conditions for training requirements. Prior to the start of construction and at the Contractor's expense, all personnel entering the MTS Right-Of-Way (ROW), including subcontractors and third parties shall complete MTS Roadway Worker Protection (RWP) training course. Visit the website for information: <https://www.sdmts.com/business-center-permits/safety-training>. Annual renewals are required for Roadway Worker Protection Safety training should duration of construction exceed the one-year expiration date of any worker continuing to work within the railroad right-of-way. Any new worker, including subcontractors, arriving after start of work and expected to enter the railroad right-of-way shall complete training.

4. Flagging

- a. Work performed within 15-feet of the outside rail of a track will require appropriate notification and flagging. All light rail transit flagging shall be provided in accordance with Article 5.11, Flagging, of the Special Conditions. If the Contractor changes the work plans, they shall notify the Engineer and MTS Flagging Coordinator not less than 24 hours prior to the pre-scheduled operation. If the Contractor neglects to notify the MTS Flagging Coordinator within this time frame, all costs for railroad flagmen shall be charged to the Contractor. The Contractor will not be assessed railroad flagging expenses when planned work is not performed due to conditions beyond their control.

5. Site Assessment by Segment

- a. Prior to beginning Construction in any Segment, Contractor shall assess site with Engineer during the on-site meetings described under Article 3.02, Site Conditions and Access of these Technical Specifications.

6. Quality Control Plan (QCP)
 - a. No later than 10 calendar days after Notice to Proceed, the Contractor shall submit a QCP for review and approval by MTS. The QCP shall identify personnel, procedures, control, instructions, tests, testing frequencies, records, and forms to be used. Construction will be permitted to begin only after acceptance of the QCP. Refer to Article 1.10, Quality Control Plan, herein for requirements.
 7. Safety Plan
 - a. No later than 10 calendar days after Notice to Proceed, the Contractor shall submit a Safety Plan for review and approval by MTS. Refer to Article 1.11, Safety Plan, herein for requirements.
- D. Schedule and Work Plan Requirements
1. This project requires Work over an extended geographic area within the MTS Orange Line Right of Way. It is essential that the Progress Schedule remain updated and be integrated with specific Work Plan submittals identifying locations and Segments as defined in the Contract Documents and Article 1.02, Summary of Work in these Technical Specifications.
 2. Refer to Article 1.07, Progress Schedule, in these Technical Specifications for schedule requirements.
 3. Refer to Article 1.08, Work Plans, in these Technical Specifications for Work Plan requirements.
- E. Work Time Restrictions During Construction and Penalties for Trolley Service Disruption
1. At the end of each MTS approved work period, all railroad infrastructure shall be placed back into service without delaying normal trolley operations. Delay to trolley operations due to railroad infrastructure not being ready for service are subject to Liquidated Damages as described in Article 3.33, Time for Completion and Liquidated Damages, of the General Conditions and Article 5.1, Liquidated Damages, of the Special Conditions.
 - a. Liquidated Damage amounts specific to trolley service disruption shall be as follows:
 - 1) Weekday interruption, \$2100 for each increment of delay at 30-minute increments, or any part thereof.
 - 2) Weekend interruption, \$1200 for each increment of delay at 30-minute increments, or any part thereof.
 2. All trackwork, excavation between main tracks, Overhead Catenary System (OCS) wirework, aerial fiber installation/modification, and signal related trackwork shall be allowed only during non-revenue periods and weekend Absolute Work Windows (AWW)'s.
 3. All Work that fouls or has the potential to foul both tracks shall occur outside of revenue service (during non-revenue service). Weekday non-revenue service on the Westbound and Eastbound tracks are generally as described below:

Station	East Track Clear	Approx. Window in hours(h), minutes(m)	West Track Clear	Approx. Window in hours(h), minutes(m)	Both Tracks Clear	Approx. Window in hours(h), minutes(m)
32nd & Commercial	12:01AM – 4:02AM	4h	1:13AM – 5:06AM	3h50m	1:13AM – 4:00AM	2h45m
47th	12:07AM – 4:04AM	4h	1:10AM – 5:00AM	3h50m	1:10AM – 4:04AM	2h55m
Euclid	12:09AM – 4:06AM	4h	1:08AM – 4:58AM	3h50m	1:08AM – 4:06AM	3h
Encanto/62nd	12:12AM – 4:09AM	4h	1:06AM – 4:55AM	3h50m	1:06AM – 4:09AM	3h
Massachusetts	12:15AM – 4:12AM	4h	1:02AM – 4:52AM	3h50m	1:03AM – 4:12AM	3h10m

4. Work that fouls or has the potential to foul only one track may be performed during single-track operations (where available with the project limits) or during non-revenue service.
 - a. Within the project limits, the only section of track that the Contractor may request single track operations to work exclusively on is the westbound track between E6LA and E8RB, while trains operate exclusively on the eastbound track. E6 and E8 interlocking shall be in service as a condition to grant single track operations. Multiple work crews are allowed, but work crews are not permitted to foul the in-service track during single-track operations, as restrictions will not be approved on the in-service track. On-track equipment cannot be used during single track operations.
 - b. Single-track operations may be requested only during revenue service periods of operation with 30-minute headways. Single-track operations will not be approved during revenue service periods of operation with 15-minute headways. Refer to MTS' existing Orange Line Schedule (MTS website).
 - c. Existing Orange Line 30-minute headways go into effect at the approximate times:
 - 1) Massachusetts Station – 8:37PM
 - 2) Encanto/62ND Station – 8:40PM

- 3) Euclid Station – 8:43PM
 - 4) 47TH Station - 8:45PM
 - 5) 32nd & Commercial Station – 8:49PM
 5. San Diego and Imperial Valley (SD&IV) freight movement typically occurs Sunday night, but movement can occur any night of the week. Contractor shall recognize that Work performed shall periodically be interrupted by freight movement.
 - a. Typically, freight makes a round trip one night per week. If unable to make return trip within the window, the return trip occurs the following night.
 6. During AWW track outages, the OCS shall be powered down beginning 1:45 AM Saturday until 4:00 AM on Monday. All other OCS outages may occur from 1:45 AM to 4:00 AM.
 - a. For specific locations, MTS deenergize/reenergize procedures will be complete within 30 minutes after/before the “Both Tracks Clear” time listed within the table in Part 1.03 E3. The Contractor can occupy the track after the last train but before the power has gone down during an AWW with proper clearance from OCS and opposite track.
 7. The Contractor shall conform to additional requirements specified in Article 3.19, Maintaining Rail Traffic, of these Technical Specifications.
- F. Weekend Absolute Work Windows (AWWs)
1. The Contract Documents outline potential construction phasing utilizing the 11 AWW's for bidding purposes. Contractor's schedule and work plans shall propose phasing to complete construction with no more than 11 AWW.
 - a. Incentive Payment
 - 1) Should the Contractor implement a construction approach that reduces the number AWWs while maintaining the schedule milestones, MTS shall issue via Change Order an incentive payment of \$50,000 for each eliminated AWW at the time of Substantial Completion.
 2. Weekend AWW's shall be requested a minimum of thirty (30) calendar days in advance of the work requiring the AWW's. The request shall include the Contractor's work plan clearly demonstrating, including but not limited to, a detailed schedule, plans showing the work, staging areas, number of personnel and each person's duties, proof of roadway worker safety training for each person for MTS, plans to protect-in-place existing infrastructure not affected by the Contract Documents, third-party suppliers that may be entering the right-of-way, approval of all related submittals, traffic control plans approved by the City of San Diego, equipment types, and contingency plans to ensure restoration of normal trolley operations at the end of the AWW. The advance notice is no guarantee that a weekend AWW will be granted on the dates requested. If the Contractor cancels an AWW request, MTS shall be notified a minimum of five (5) calendar days prior to the scheduled AWW.

3. The following AWW weekend timeframes have been proposed on a preliminary basis to MTS Operations Staff and found to be acceptable for this Work. NTP + Calendar days are provided to the Contractor as potential timeframes for each AWW to demonstrate a path to complete the work within the Substantial Completion and Contract Completion deadlines defined in Part 1.05. The Contractor shall be responsible to formally propose each AWW weekend with complete work plan documentation to gain MTS formal approval, with or without deviations from what is described herein. The Contractor's delivery of the project shall be closely tracked and monitored through the Project Schedule in Part 1.07. For bidding purposes, the 11 AWW to support construction phasing are as follows:
- a. AWW 1
 - 1) Timeframe
 - a) NTP + 183 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: 12th & Imperial Station
 - b) End Bridge: Euclid Station
 - 3) Major Activities
 - a) Installation of new R2 #11 crossover
 - b) Installation of new R2 power switch machines and switch point protection
 - b. AWW 2
 - 1) Timeframe
 - a) NTP + 213 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: 12th & Imperial Station
 - b) End Bridge: Euclid Station
 - 3) Major Activities
 - a) Conversion of hand throw switch machines with electric locks to power switch machines, existing E304 emergency crossover
 - b) Installation of switch point protection
 - c) Installation of OCS poles at R2
 - c. AWW 3
 - 1) Timeframe
 - a) NTP + 243 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: 12th & Imperial Station
 - b) End Bridge: Massachusetts Station

- 3) Major Activities
 - a) Installation/Replacement of double crossover OCS wire at R2
 - b) Replacement of existing switch machines at E6/R6 Interlocking
 - c) Replacement of head block ties at E6/R6 Interlocking
 - d) Conversion of hand throw switch machines with electric locks to power switch machines, E315 crossover/R10 Interlocking
 - e) Installation of new switch points and stock rail, E315 crossover/R10
 - f) Demolition/Construction of civil improvements within track area at 54th Pedestrian Crossing, alerting public to period of closure, between AWW 3 through AWW 9.
- d. AWW 4
 - 1) Timeframe
 - a) NTP + 274 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: 12th & Imperial Station
 - b) End Bridge: Euclid Station
 - 3) Major Activities
 - a) Signal and Communications Segment 1 cutover
 - b) Relocation of Begin ABS to 32nd & Commercial Station
 - c) R2 Interlocking placed in operation
 - d) Upgraded crossings at Francis, Horton and 43rd Street
 - e) Bidirectional operation between 32nd & Commercial Station and 43rd Street
 - f) Interface Case #1 bridges controls between R467RC ElectroLogIXS and E481RC
- e. AWW 5
 - 1) Timeframe
 - a) NTP + 335 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: Euclid Station
 - b) End Bridge: Massachusetts Station
 - 3) Major Activities
 - a) Installation of new R12 #11 crossover

- b) Installation of new R12 power switch machines and switch point protection
- f. AWW 6
- 1) Timeframe
 - a) NTP + 365 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: 12th & Imperial Station
 - b) End Bridge: Massachusetts Station
 - 3) Major Activities
 - a) Signal and Communications Segment 2 cutover
 - b) Removal of Interface Case #1
 - c) R6 Interlocking placed in operation
 - d) R10 Interlocking placed in operation
 - e) Bidirectional operation between 32nd & Commercial Station and Euclid Station
 - f) Interface Case #2 bridges controls between R574RC ElectroLogIXS and E604RC
- g. AWW 7
- 1) Timeframe
 - a) NTP + 395 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: Euclid Station
 - b) End Bridge: Lemon Grove Station
 - 3) Major Activities
 - a) Installation of crossover OCS wire at R12
 - b) Remove switch machines, cut head block ties and long helper assembly ties and install temporary point protection at E8/R14 Interlocking
 - c) Bond Insulated Joints at E8RA & E8RB.
 - d) Removal of E716RC/A cases to allow room for new signal enclosure installation
 - e) Interface Case #1 supports interim crossing functions and switch point protection
 - f) Demolition/Construction of civil improvements within track areas at 66th Pedestrian Crossing, alerting public to period of closure, AWW 7 through AWW 9.
 - g) Early conduit installation at R18.

- h. AWW 8
 - 1) Timeframe
 - a) NTP + 426 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: Euclid Station
 - b) End Bridge: Lemon Grove Station
 - 3) Major Activities
 - a) Installation of new R18 #11 crossover
 - b) Installation of new R18 power switch machines and switch point protection
 - c) Upgrade power switch machines, switch layouts and rotary help rod assemblies on existing E10 crossover
 - d) Installation of new headblock ties, existing E10 crossover

- i. AWW 9
 - 1) Timeframe
 - a) NTP + 456 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: Euclid Station
 - b) End Bridge: Lemon Grove Station
 - 3) Major Activities
 - a) Installation of crossover OCS wire at R18
 - b) Place 66th Pedestrian crossing into service and reopen for public use
 - c) Demolition/Construction of civil improvements within track areas at 68th Pedestrian Crossing, alerting public to period of closure, AWW 9 through AWW 11.

- j. AWW 10
 - 1) Timeframe
 - a) NTP + 487 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: Euclid Station
 - b) End Bridge: Lemon Grove
 - 3) Major Activities
 - a) Signal and Communications Segment 3 cutover
 - b) Removal of Interface Case #2

- c) R12 Interlocking placed in operation
 - d) R14 Interlocking placed in operation
 - e) Place 54th Pedestrian crossing into service and reopen for public use
 - f) Upgraded crossings at Merlin, 60th and 62nd streets
 - g) Bidirectional operation between 32nd & Commercial Station and Encanto/62nd Station
 - h) Interface Case #1 bridges controls between R719RC ElectroLogIXS and E730RC
- k. AWW 11
- 1) Timeframe
 - a) NTP + 548 calendar days
 - 2) Orange Line Bus Bridge Limits
 - a) Begin Bridge: Euclid Station
 - b) End Bridge: Lemon Grove Station
 - 3) Major Activities
 - a) Signal and Communications Segment 4 cutover
 - b) Removal of Interface Case #1
 - c) R18 Interlocking placed in operation
 - d) Place 68th Pedestrian crossing into service and reopen for public use
 - e) Upgraded crossings at 65th and 69th streets
 - f) Bidirectional operation between 32nd & Commercial Station and Massachusetts Station
 - g) Interface Case #2 bridges controls between R847RC ElectroLogIXS and E884RC
4. The following weekends will not be available for weekend AWW's: Easter, Memorial Day, July 4th, Labor Day, Thanksgiving, Christmas, and New Year's. The Contractor shall also take into consideration that Contractor AWW requests during other events including, but not limited to, ComicCon, Rock N Roll Marathon, Padre Games, and other major events that impact MTS' rail operations may not be granted. The Contractor is advised to check the City of San Diego and San Diego Convention Center websites along with MTS' website for downtown special events that may impact their ability to get an approved AWW or street closure.
- a. These weekends are also not available for single tracking.
 - b. AWWs proposed during Padres home games and ComicCon will not be approved.
 - c. Work after non-revenue service is acceptable during these weekends, but Contractor shall note that extended service is provided on New Year's Eve and Petco park events when the Padres are out of town.

- G. During construction, the Contractor shall provide and install suitable safeguards to protect the underground facilities, including but not limited to, utilities, structures, and system such as storm drains. Safeguards shall conform to Article 3.4, Preservation of Property, of these Technical Specifications. The location, type, size, use, and condition of all underground facilities is unknown. It shall be the Contractor's responsibility to identify and protect all these facilities prior to the work or portion thereof.
- H. Application of Best Management Practices (BMPs) shall be required throughout the duration of this project. Attention is directed to Standard Specifications and Special Provisions for Water Pollution and Erosion Control.

1.04 CONTRACTOR FURNISHED WAREHOUSE

- A. All material shall be stored in accordance with Article 3.11, Material, of the General Conditions.
- B. There is one laydown yard area within the project limits on the MTS right of way that is suitable for the Contractor's use during the project: The upper parking lot at the Massachusetts Avenue Trolley station. The Contractor shall be responsible for security and shall comply with local noise ordinance. The Contractor shall also note that this area will also be where the Owner Furnished Special Trackwork will be stored.
 - 1. The upper parking lot at Massachusetts Avenue Station will be available for the Contractor's use at Notice to Proceed. The Contractor shall assume coordination with MTS will be required to divide the space to also support storage of the Owner Furnished Special Trackwork as received.
 - 2. The upper parking lot at Massachusetts Avenue Station shall be returned to MTS no later than the Project's Substantial Completion date.
- C. The Contractor shall lease a warehouse with laydown yard space for the following minimum purposes:
 - 1. Storage of Contractor furnished material and equipment for the project.
 - 2. Receiving and storage of all Segments of Owner Furnished Signal Instrument Enclosures simultaneously.
 - 3. Receiving and storage of all other Owner Furnished Materials.
- D. The warehouse shall be located within a twenty-five mile radius of 1255 Imperial Ave; San Diego, CA 92101.
- E. If the Contractor does not make the warehouse available at least 30 days after Notice to Proceed, the proposed warehouse availability date shall be shown in the project schedule to demonstrate how all Owner Furnished Material will be supported and cause no delay to the project.

1.05 CONTRACT COMPLETION AND SUBSTANTIAL COMPLETION

- A. Contract duration shall be defined as described in Article 3.33, Time for Completion and Liquidated Damages, of the General Conditions.

- B. Substantial Completion of all work shall be achieved by NTP + 578 calendar days. The Work covered by Substantial Completion is inclusive of all Work described in the 11 Absolute Work Windows (AWWs) outlined herein.
- C. Liquidated damages shall be the amount shown in Article 5.1, Liquidated Damages, of the Special Conditions.
- D. Contract close-out shall be completed within six (6) months of Substantial Completion.
- E. The Contractor shall complete all Work required by the Contract Documents within **758 calendar days** from the commencement date stated in the Notice to Proceed. This period shall include the time required for completion of the work and all closeout activities.

1.06 SUBMITTAL PROCEDURES

- A. All submittals shall conform to the requirements specified herein.
- B. Cloud-based Construction Management Software Platform
 - 1. Contractor shall furnish cloud-based Construction Management Software Platform, Procore, or approved equivalent, for management of submittals and project document storage over the life cycle of the Project.
 - a. Contractor shall furnish 25 licenses for MTS or MTS representatives use, in addition to the licenses necessary for the Contractor's staff.
 - 2. Submittals shall be provided as PDF electronic files and transmitted through the Construction Management Software Platform. MTS will return a response through the same Platform.
 - 3. At the end of the project and prior to final closeout, the Contractor shall provide a complete electronic backup of all project documents contained within the cloud-based Construction Management Software Platform and submit to MTS.
- C. MTS reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- D. Any Work performed without an approved submittal will be done at the Contractor's own risk.
- E. Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on the first full working day after MTS receives the submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 21 calendar days for review of each original submittal.
 - 2. Resubmittal Review: Allow 7 calendar days for review of each resubmittal.
 - 3. Submittals received after 2 PM Pacific Standard Time will not be processed until the following working day which will be recorded as the receipt of submittal date.

- F. Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using transmittal form. MTS will return, without review, any submittals received from sources other than the Contractor.
1. Transmittal Form: Provide the following information on the transmittal form:
 - a. Project name
 - b. Date
 - c. Source (From:)
 - d. Names of Subcontractor, manufacturer, and supplier
 - e. Name of Submittal
 - f. Submittal purpose and description
 - g. Specification Section number and title, reference to required submittal part
 - h. Drawing number and detail references, as appropriate. Absence of drawing number will be cause for rejection of submittal.
 - i. Transmittal number, unique and numbered consecutively
 - j. Submittal and transmittal distribution record
 - k. Remarks
 - l. Signature of Contractor, confirming that the submittal has been reviewed internally for completeness prior to submission to MTS.
 2. On an attached separate sheet, prepared on the Contractor's letterhead, record as necessary relevant information, requests for data, revisions other than those requested by MTS on previous submittals, and deviations from requirements in the Contract Documents.
 3. Provide an action sheet with identified areas to permanently record the Contractor's submittal identification, the preparer, and actions taken by MTS.
 - a. The identification information shall include:
 - 1) Project name
 - 2) Submittal Number
 - 3) Specification Section title and number
 - 4) Name of submittal preparer
 - 5) Date submitted
 - b. Upon receipt, MTS will note the following information:
 - 1) Date received
 - 2) Name of the MTS reviewer
 - 3) Date reviewed and returned
 - 4) Action Designation

- a) Submittals reviewed by MTS and returned to the Contractor will be marked with one of the following designations:
 - i) Approved
 - ii) Approved as Noted
 - iii) Revise and Resubmit
 - iv) Rejected
 - v) No Action Taken
- 4. Assemble the complete submittal package into a single file. Name the file with its submittal number or another unique identifier, including revision identifier. The file name shall use a project identifier and the Specification Section number, followed by a decimal point and a sequential number for the item, and another decimal point and zero for the initial submittal (e.g., OLIPC1-344201.001.0). Resubmittals shall increment to represent revision 1, 2, etc. (e.g., OLIPC1-344201.001.1).
- 5. MTS will review each submittal, make marks to indicate corrections or modifications required, and return it. MTS will complete the action sheet to indicate the action required.
- G. Make resubmittals in the same format as the initial submittal.
 - 1. Note the date and content of the previous submittal.
 - 2. Note the date and content of the revision in the label or title block, and clearly indicate the extent of revision on the documents submitted.
 - 3. Resubmit submittals until they are stamped "Approved" or "Approved as Noted" by reviewer.
 - 4. Direct specific attention in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals to revisions other than those requested by MTS on previous submittals.
- H. The Contractor is responsible for conformance of all submittals prepared by the Contractor, with all requirements of the Contract Documents.
- I. The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by MTS' review of Shop Drawings, Product Data, Samples, or similar submittals unless the Contractor has specifically informed MTS in writing of such deviation at the time of the submittal and given written acceptance to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by MTS' review thereof.
- J. Contractor shall review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions.
- K. MTS review is not conducted for the purpose of determining the accuracy and completeness of other details, such as dimensions and quantities, or for substantiating instructions for installation which remain the responsibility of the Contractor.
- L. Review of a separate item shall not indicate approval of the assembly of which the item is a part.

- M. Approval of submittals with deviations shall not relieve the Contractor from responsibility for additional costs of changes required to accommodate such deviations. Deviations included in submittals without prior approval are excepted from review of submittals, whether noted or not on returned copy.
- N. Notations by MTS which increase Contract Cost or Contract Time shall be brought to MTS' attention, in writing as a Request for Change, before proceeding with Work.
- O. When professional certification of performance criteria of materials, systems, or equipment is required by the Contract Documents, MTS shall be entitled to rely on the accuracy and completeness of such calculations and certifications.
- P. Incomplete submittals are not acceptable; they will be considered nonresponsive and will be returned without review.
- Q. The Contractor shall not proceed with procurement, manufacture or fabrication of items submitted for review, until such submittals have been designated by MTS as "Approved" or "Approved as Noted." Until submittal items receive such designation by MTS, any costs associated with procurement for these items shall be at the Contractor's risk.

1.07 PROJECT SCHEDULE

- A. The Contractor shall submit to the Engineer an initial project schedule conforming to Article 3.8, Schedule, of the General Conditions and the additional requirement defined herein.
- B. The Engineer may adjust contract working days for ordered changes that affect the scheduled completion date, in conformance with the provisions in Article 3.35 Changes and Extra Work Payment, of the General Conditions.
- C. The Contractor shall submit to the Engineer in an electronic format critical path method (CPM) progress schedules in conformance with these General Requirements.

1. Definitions

- a. Activity – A task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.
- b. Baseline schedule – The initial schedule representing the Contractor's work plan on the first working day of the project.
- c. Contract Completion Date – The current extended date for completion of the Contract shown on the weekly statement of working days furnished by the Engineer and in conformance with Article 1.05 herein.
- d. Critical Path – The longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path will extend the scheduled completion date.

- e. Critical Path Method – A network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.
- f. Data Date – The day after the date through which a schedule is current. Everything occurring earlier than the data date is “as-built” and everything on or after the data date is “planned”.
- g. Early Completion Time – The difference in time between an early scheduled completion date and the Contract completion date. This can be an exclusive resource for the Contractor.
- h. Float – The difference between the earliest and latest allowable start or finish times for an activity.
- i. Milestone – Event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.
- j. Narrative Report – A document submitted with each schedule that discusses topic related to project progress and scheduling.
- k. Near Critical Path – A chain of activities with total float exceeding that of the critical path but having no more than 10 working days of total float.
- l. Schedule Completion Date – The planned project finish date shown on the current accepted schedule.
- m. MTS Owned Float Activity – The activity documenting time saved on the critical path by actions of MTS. It is the last activity prior to the scheduled completion date. This is for the exclusive use of MTS. The Engineer may use MTS-Owner float to mitigate past, present or future MTS delays by offsetting potential time extensions for contract change orders.
- n. Time Impact Analysis – A schedule and narrative report developed specifically to demonstrate what effect a proposed change or delay has on the current scheduled completion date.
- o. Total Float – The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.
- p. Update Schedule – A current schedule developed from the baseline of subsequent schedule through regular monthly review to incorporate as-built progress and any planned changes.

2. General Requirements

- a. The Contractor shall submit to the Engineer baseline, monthly update and final update schedules, each consistent in all respects with the time and order of work requirements of the Contract. The project work shall be executed in the sequence indicated on the current accepted schedule.

- b. Schedules shall show the order in which the Contractor proposes to carry out the work with logical links between time-scaled work activities, and calculations made using the critical path method to determine the controlling operation or operations. The Contractor is responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the Work.
- c. The Contractor shall produce schedules using Primavera 6.0. The Contractor shall furnish network diagrams, narrative reports, tabular reports, and schedule data as parts of each schedule submittal.
- d. The schedule shall include the following project detail:
 - 1) Project characteristics or interfaces including those outside entities that could effect time of completion.
 - a) Required delivery of Owner Furnished Materials
 - b) CPUC Safety Certification Approval for Operation
 - 2) Project start date, scheduled completion date, and other milestones
 - a) Mobilization
 - b) Construction Segments (begin and end dates)
 - c) Absolute Work Windows
 - d) Substantial Completion
 - 3) Work performed by the Contractor, subcontractors and suppliers broken down by Segment.
 - 4) Submittal development, delivery, review, and approval, include those from the Contractor, subcontractors and suppliers.
 - 5) Procurement, delivery, installation and testing of materials, plants, and equipment.
 - 6) Testing and settlement periods
 - 7) Utility notification and relocation
 - 8) Erection and removal of falsework and shorting.
 - 9) Acquisition of permits
 - 10) MTS Owned float as the predecessor activity to the scheduled completion date.
 - 11) Demobilization, punchlist and close out activities

- e. The number of activities shall be sufficient to assure adequate planning of the project, to permit monitoring and evaluation of progress, and to do an analysis of time impacts.
 - f. Schedule activities shall include the following:
 - 1) A clear and legible description.
 - 2) Start and finish dates
 - 3) A defined duration
 - 4) One minimum predecessor activity and one successor activity, except for project start and finish milestones.
 - 5) Required constraints
 - 6) Codes for responsibility, stage, work shifts, location and contract pay item numbers.
 - g. The Engineer may adjust contract working days for ordered changes that affect the schedule completion date. The Contractor shall prepare a time impact analysis to determine the effect of the change and shall include the impacts acceptable to the Engineer in the next updated schedule. Changes that do not affect the controlling operation on the critical path will not be considered as the basis for a time adjustment. Changes that do affect the controlling operation on the critical path will be considered by the Engineer in decreasing time or granting an extension of time for completion of the Contract. Time extensions will only be granted if the total float is absorbed and the schedule completion date is delayed one or more working days because of the ordered change.
 - h. The Engineer's review and acceptance of schedules shall not waive any contract requirements and shall not relieve the Contractor of any obligation or responsibility for submitting complete and accurate information. Schedules that are rejected shall be corrected by the Contractor and resubmitted to the Engineer within 5 working days of notification by the Engineer. Errors or omissions in schedules shall not relieve the Contractor from finishing all work within the time limit specified for completion of the Contract.
3. Schedule submittal
- a. PDF of time scaled network diagrams
 - b. PDF of a supporting narrative report
 - c. PDF of CPM software generated tabular report
 - d. All PDF in 11x17 landscape format

- e. Include a title block and timeline on each page
- f. Show a continuous flow of information from left to right

4. Narrative Report Contents

- a. Work completed during the period
- b. Identification of unusual conditions or restrictions regarding labor, equipment, or material;
- c. Identification of current critical path, changes to critical path and completion date since the last schedule submittal
- d. Description of problem/risk areas
- e. Current and anticipated delays
 - 1) Cause of delay
 - 2) Impact of delay on other activities, milestones, and completion dates
 - 3) Corrective action and schedule adjustments to correct the delay
- f. Pending Items and status
 - 1) Permits
 - 2) Change orders
 - 3) Time adjustments
 - 4) Noncompliance notices
- g. Reasons for an early or late scheduled completion date in comparison to the Contract completion date.

D. Tabular reports shall include the following:

- 1. Data date
- 2. Activity number and description
- 3. Predecessor and successor activity numbers and descriptions
- 4. Activity codes
- 5. Scheduled, or actual and remaining durations (work days) for each activity

6. Earliest start (calendar) date
 7. Earliest finish (calendar) date
 8. Actual start (calendar) date
 9. Actual finish (calendar) date
 10. Latest start (calendar) date
 11. Latest finish (calendar) date
 12. Free float (work days)
 13. Total float (work days)
 14. Percentage of activity complete and remaining duration for incomplete activities.
 15. Lags
 16. Required constraints
- E. Schedule submittals will only be complete when all documents and data have been provided as described herein.
- F. Schedule Submittal Frequency
1. Pre-Construction conference shall be held with Contractor's scheduler 10 days after NTP. A draft schedule will be presented at this time.
 2. Baseline schedule – submit weekly after the Pre-Construction conference until the Engineer approves the baseline schedule.
 3. Updated schedule – submit each month beginning one month after the baseline schedule is accepted.
 4. Final Update schedule – submit a final asbuilt schedule within 30 days of the completion of the contract with actual start and finish dates.
 5. Time Impact Analysis – submit within 15 working days of receiving written request from the Engineer.
- G. Time Impact Analysis
1. The Contractor shall submit a written Time Impact Analysis (TIA) to the Engineer with each request for adjustment of contract time, or when the Contractor or Engineer consider that an approved or anticipated change may impact the critical path or contract progress.

2. The TIA shall illustrate the impacts of each change or delay on the current scheduled completion date or internal milestone, as appropriate. The analysis shall use the accepted schedule that has a data date closest to and prior to the event. If the Engineer determines that the accepted schedule used does not appropriately represent the conditions prior to the event, the accepted schedule shall be updated to the day before the event being analyzed. The TIA shall include an impact schedule developed from incorporating the event into the accepted schedule by adding or deleting activities, or by changing durations or logic of existing activities. If the impact schedule show that incorporating the event modifies the critical path and scheduled completion date of the accepted schedule, the difference between schedule completion dates of the two schedules shall be equal to the adjustment of contract time.

1.08 WORK PLANS

- A. Work plans shall be submitted for MTS approval prior to beginning the construction related Work. Submit Work Plans in accordance with Article 1.06, Submittal Procedures of these Technical Specifications. Work plans submittals shall be sequenced and tied to the Contractor's Progress Schedule, allowing for MTS review time of 21 calendar days.
- B. Work Plans shall include proposed phasing and laydown area requirements for equipment, material, company vehicles, and personnel vehicles. The work plan shall address all work activity including overhead contact wire, special trackwork, civil improvements, railroad signal and communication improvements, and maintaining rail operations.
- C. The work plan shall include, but is not limited to, the following:
 3. Location and Segment identification
 4. A detailed schedule.
 5. Written description and Plans showing the work to be performed.
 6. Limits of the work to be performed.
 7. Work, testing, and commissioning activities to be performed hour by hour.
 8. Planned start and finish times.
 9. MTS Operations and Maintenance of Way (MOW) specific requests (OCS power down, single track operation, planned slow orders)
 10. MTS Flagging support requested.
 11. Staging areas.
 12. The number of personnel and each person's duties.
 13. Proof of roadway work safety training for each person assigned to work.
 14. Name and contact information for those responsible for the work being performed.
 15. Name and contact information for the person responsible for the Signal Testing and Documentation.
 16. Plans to protect-in-place existing infrastructure not affected by the Contract Documents.

17. Third-party suppliers that may be entering the right-of-way.
18. Approval of all related submittals.
19. Alternate methods of crossing warning whenever an existing automatic crossing warning device is deactivated, altered, or modified to accommodate construction work.
20. Traffic control plans approved by the City of San Diego.
21. List of equipment to be used and standby equipment.
22. Excavation plans for work including foundations, retaining wall construction and conduit trenching detailing depth of excavation.
23. Contingency plans to ensure restoration of normal trolley operations at the end of the shift.

1.09 PERMITS

- A. Contractor shall obtain traffic control permit(s) for project traffic control during construction including traffic detours. Contractor shall prepare any traffic control plans required by the City of San Diego based on Contractor's construction scheduling and phasing in accordance with Article 3.11, Temporary Traffic Control, of these Technical Specifications.
- B.

1.10 QUALITY CONTROL PLAN (QCP)

- A. Purpose
 1. The Contractor is responsible for Quality Control (QC) throughout the construction of the project. The QC system shall consist of plans, procedures, and organization necessary to produce a product that complies with the Contract requirements. The system shall cover construction and procurement operations, both onsite and offsite, and shall be keyed to the proposed construction sequence.
- B. Content of the QCP
 1. The QCP shall include the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers and purchasing agents.
 - a. The purpose of the QCP as well as the Contractor's company policy statement regarding QC.
 - b. A description of the QC organization including a chart showing lines of authority and acknowledgement that the QC staff shall implement the QCP for all aspects of the Work specified. The Quality Manager on site staffing level shall be proposed as part of the plan for MTS review and approval.
 - c. The names, qualifications, duties, responsibilities and authorities of each person assigned a QC function.

- d. Procurement control procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents.
 - e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requirement test, feature of work to be tested, test frequency and person responsible for each test.
 - f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests, including documentation.
 - g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.
 - h. Reporting procedures, including proposed reporting formats.
 - i. Contractor's plan identifying QC activities and testing requirements for all definable features of work. A definable feature of work is a task that is separate and distinct from other tasks and has separate control requirements. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there is frequently more than one definable feature under a particular section.
2. Acceptance of the QCP
- a. Acceptance of the QCP by MTS is required prior to the start of construction. Final acceptance is conditional and will be predicated on satisfactory performance during construction. MTS reserves the right to require the Contractor to make changes to the QCP, including the removal or addition of personnel, or increasing the time for the Quality Manager to be on site, as necessary, to obtain the quality specified.
3. Notification of Changes to the QCP
- a. After acceptance of the QCP, the Contractor shall notify MTS, in writing, prior to any proposed change. Proposed changes shall be approved by MTS.
4. Inspection and QC Testing
- a. The Contractor shall perform inspection and QC testing to verify that control measures are adequate to provide a product which conforms to contract requirements. A list of all tests to be performed shall be furnished to the Engineer prior to any work beginning. The list shall identify the test name, specification paragraph containing the test requirements, and the personnel responsible for each type of test. The Contractor shall notify the Engineer at least 24 hours in advance of testing.

- b. Testing includes but is not limited to: qualification tests, factory tests, installation verification tests, construction material tests, demonstration tests, and pre-operation tests. Contractor's QC testing shall be performed and documented by qualified persons other than those responsible for accomplishing the work being inspected.
- c. Procedures shall be developed and implemented by the Contactor covering performance inspection and test activities, including personnel qualification, measuring equipment control, and calibration and status control. Deficiencies during testing and inspection shall be noted on the Contractor's Daily Report and shall be corrected prior to acceptance. Logs of testing and inspection shall be kept by the Contractor and are subject to review by MTS.
- d. All tests taken, both passing and failing tests, shall be recorded on the Contractor's Daily Report. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test will be given. Items of nonconformance shall be identified and work shall not proceed for that feature of work until corrective action have been approved by MTS.
- e. MTS may perform quality assurance (QA) testing with the aid of an independent testing laboratory to verify compliance. QA testing results by MTS, or their representative, shall govern and may require retesting for that feature of work at the Contractor's expense.
- f. In-process inspection shall be utilized, in addition to receiving inspection, first article inspection, installation inspection, and final inspection, to evaluate project attributes (such as performance, reliability, etc) and to verify that the project is built in accordance with the project requirements.
- g. Source inspection shall be utilized for Contractor procured material.
- h. Final acceptance of the project provides for a review of all pertinent records and documents impacting quality, and is performed after all required inspections and testing are completed with acceptable results.
- i. Records shall be maintained in the Contractor's project files for the various inspections and tests. Records provide evidence that the product has passed inspection and/or test with defined acceptance criteria. Records shall be submitted to MTS at the completion of the project.

1.11 SAFETY PLAN

- A. The Contractor shall comply with all Occupational Safety and Health Administration (OSHA) and Cal/OSHA requirements that apply to the Contactor's operations/applicable work activities for the Project. The Safety Plan shall address at a minimum the following work components:

1. Administrative Requirements
 - a. Documents on site
 - b. On Site Hazard Warnings and Postings
 - c. Recordkeeping
 - d. Reports and Notifications
 - e. Certifications
2. Aerial Devices and Elevating Work Platform
3. Demolition
4. Injury and Illness Prevention Program
5. Electrical
6. Emergency Medical Services
7. Excavation, Trenches and Earthwork
8. Fall Protection
9. Fire Protection and Prevention
10. First Aid
11. Hazard Communication
12. Heat Illness Prevention
13. Heavy Construction Equipment
14. Housekeeping/Site Cleaning
15. Injury and Illness Prevention Program
16. Laser Equipment
17. Lighting
18. Lock-out/Tag-out Procedures
19. Noise
20. Personal Protective Equipment
21. Qualified Personnel

22. Traffic Control
 23. Toilets/Washing Facilities/Sanitation
 24. Welding, Cutting or Other Hot Work
 25. Work Over or Near Water
 26. Workplace Violence Prevention
- B. Contractor's Safety Program
1. The Contractor's safety program shall define the Contractor's safety practices and procedures. The Safety Manager on site staffing level shall be proposed for MTS review and approval.
 2. The Contractor shall conduct weekly safety meetings (15 minutes minimum)
 - a. Discuss observed accident trends and causes.
 - b. Plan safety into the work activities.
 - c. Identify, discuss and take action to correct workers' safety concerns.
 - d. Review emergency procedures with employees.
 3. Contains a disciplinary program
 4. Contains a policy that prohibits rough or boisterous play and activity, gambling, the use of alcohol or drugs, and the possession of weapons on the construction site.
 5. Monitors roadway worker safety, including employee adherence to MTS requirements and training that is current (not expired).
- C. Emergency procedures
1. Procedures shall be developed for the following categories:
 - a. Fire
 - b. Employee injury
 - c. Property damage and damage to various utilities
 - d. Earthquake
 - e. Public demonstrations
 - f. Bomb threats

- g. Hazardous materials encountered
 - h. Toxic spills
 - i. Explosions
 - j. Vehicular accidents
2. Procedures shall include but are not limited to:
- a. Identification of the person responsible for handling an emergency.
 - b. Establishment of teams for handling each type of emergency.
 - c. Identification of the person responsible for making emergency calls.
 - d. Posting a list of emergency numbers, along with information to be transmitted.
3. Update emergency procedures as necessary
4. Following an emergency, the Contractor shall:
- a. Stop work
 - b. Evacuate the area as necessary
 - c. Notify the Engineer as expediently as possible
 - d. Secure the area as expediently as possible
 - e. Provide only those authorized representatives of MTS and specific governmental agencies with an account of the nature of the emergency. Questions from media personnel shall be referred to the Engineer.

PART 2 – PRODUCTS

2.01 OWNER FURNISHED SPECIAL TRACKWORK

- A. The following special trackwork is owner furnished (manufactured by Progress Rail). Trackwork will be in loose packages. Rail ends will be left blank (without drilling) for field fitting and field welding. Any additional rail and rail components required to complete the Work as shown on the Contract Documents shall be provided by the Contractor.
- 1. #11 Left-Hand 115 RE Crossover – Quantity 2
 - 2. #11 Right-Hand 115 RE Crossover – Quantity 1
 - 3. #10 RH 115 RE Solid Heel-Block Track Switch Conversion Package (maintenance length stock rails (39'+), switch points (19' 6"), bolted heel block assemblies, pre-

plated ties #0 through #12 tie/plate, chairs & anchors, #1 with basket, #2 & #3 insulated gauge rods & transit clips) – Quantity 2

4. #10 LH 115 RE Solid Heel-Block Track Switch Conversion Package (maintenance length stock rails (39'+), switch points (19' 6"), bolted heel block assemblies, pre-plated ties #0 through #12 tie/plate, chairs & anchors, #1 with basket, #2 & #3 insulated gauge rods & transit clips) – Quantity 2
 5. #10 RH 115 RE Track Switch Upgrade Package (new ties and plates #0 through #12, tie/plate, chairs & anchors, #1 w/basket, #2, & #3 insulated gauge rod and transit clips) – Quantity 2
 6. #20 LH 115 RE Track Switch Upgrade Package (new ties and plates #0 through #13, #1 & #5 w/basket and #2 through #4 insulated gauge rod and transit clips. – Quantity 2
 7. #20 RH 115 RE Track Switch Upgrade Package (new ties and plates #0 through #13, chairs & anchors, #1 & #5 w/basket and #2 through #4 insulated gauge rod and transit clips. – Quantity 2
 8. 9' #1 Treated Hardwood Ties – Quantity 200
 9. 19' – 6" 115 RE Shop Bonded Insulated Joint Plugs – Quantity 30
 10. 39' – 0" 115 RE Shop Bonded Insulated Joint Plugs – Quantity 4
- B. Any Owner Furnished Special Track Material that is not utilized by the Contractor for the project shall be returned to MTS at their designated location.
- C. Special Track Joint Inspection/Required Testing Upon Receipt
1. The Contractor shall coordinate with MTS to arrange a joint visual inspection at the time of material handoff. At time of handoff, both MTS and the Contractor shall complete a visual inspection and take complete photographs of the Track Material. If damage is found, it shall be documented and photographed by the Contractor and submitted to MTS within one calendar day.
 - a. The inspection of the Owner Furnished Special Trackwork will occur at the upper parking lot at Massachusetts Station. There will be shared use with the laydown space if Contractor utilizes this area.
 - b. The joint inspection of the special trackwork shall be performed on the material in the condition as shipped from the track manufacturer. MTS will not lay out the material. Contractor shall provide any necessary equipment to complete the inspection to their satisfaction as part of the Owner Furnished Track Material Handoff bid item.
 2. Even if the joint inspection takes place for all of the material at one time, a separate Track Material Receipt Acknowledgement Form shall be submitted for each Track location of Work.
 3. The Contractor shall complete and submit a Track Material Receipt Acknowledgement Form to take responsibility for the material until project closeout or MTS acceptance.
 - a. The Track Material Receipt Acknowledgement Form shall include:

- 1) Segment/Track Location
 - 2) Date/Time of Joint Inspection
 - 3) Names of joint inspectors (Contractor/MTS)
 - 4) Itemized List of all Track Material Inspected
 - 5) Documentation, including photographs, of any/all exceptions and a proposal of how each open item can be remedied by the Contractor. If there are no exceptions taken, this shall be indicated on the form, stating "No exceptions taken".
 - 6) Signature of Contractor's Inspector & Contractor's Superintendent of Track.
- b. The Track Material Receipt Acknowledgement Form shall be submitted to MTS no later than 7 calendar days after the joint inspection is completed.
- D. Each insulated joint shall be tested with an insulated joint tester, either S&C Distribution Company Model 344 or an equivalent tester approved by the Engineer. Record test results for each insulated on the respective Track Material Receipt Acknowledgement Form.

2.02 OWNER FURNISHED OVERHEAD CATENARY SYSTEM (OCS) MATERIAL

- A. The following OCS material is owner furnished. Any additional OCS components and related components required to complete the Work as shown on the Contract Documents shall be provided by the Contractor.
1. Anchor Bolts and Down Guy
 - a. Anchor Bolts Type 4 – Quantity 32
 - b. Anchor Bolts Type 7 – Quantity 16
 - c. Bearing Plates Type 4 – Quantity 8
 - d. Bearing Plates Type 7 – Quantity 4
 - e. Down Guy Anchor – Quantity 6
 2. 2000A Pole Mounted Disconnect Switch – Quantity 9
 3. 2 inch Cantilever Pipe / Schedule 40 Seamless – HDG – Quantity 50
 4. OCS Poles
 - a. Pole Assembly 203-3, 30ft height, ½ gauge – Quantity 4
 - b. Pole Assembly 203-2, 30ft height, 3 gauge – Quantity 8
 5. OCS Wire and Guy Strand
 - a. 350 kcmil Contact Wire Conductor
 - 1) Reel 1 – 730ft
 - 2) Reel 2 – 500ft
 - 3) Reel 3 – 1142ft

- b. 500 Messenger Wire Conductor
 - 1) Reel 1 – 730ft
 - 2) Reel 2 – 500ft
 - 3) Reel 3 – 1142ft
- c. 1 Conductor 500 kcmil insulated 2kV type RHH/RHW-2 Cable
 - 1) Reel 1 – 1500ft
 - 2) Reel 2 – 1500ft
- d. 1/2 inch EHS 1x7 Guy Strand
 - 1) Reel 1 – 1500ft
 - 2) Reel 2 – 1500ft
- e. 500 MCM Soft Drawn Bare Class-H Rope Lay Super Flex
 - 1) Reel 1 - 1000ft
- f. 4/0 Bare Copper Wire 7 Strand Hard Draw (OCS Ground)
 - 1) Reel 250ft
- 6. Stainless Steel Wire Rope (SSWR)
 - a. 3/16 inch SSWR Type 316 7x19 – Quantity 900ft
 - b. ¼ inch SSWR Type 316 7x19 – Quantity 400ft
 - c. 3/8 inch SSWR Type 302 - 304 7x19 – Quantity 300ft
 - d. ½ inch SSWR Type 302 – 304 6x25 – Quantity 400ft
- 7. Strandwise
 - a. Eye Type Universal Strandwise – Quantity 80
 - b. Insulator Type Universal Strandwise – Quantity 80
 - c. Eye Type Universal Strandwise – Quantity 20
- 8. OCS Assemblies
 - a. Assembly 201-1 Cantilever Light Push Off – Quantity 8
 - b. Assembly 201-5 Cantilever Light Pull Off – Quantity 10
 - c. Assembly 201-8 Cantilever Out of Running Pull Off – Quantity 11
 - d. Assembly 205-2B Down Guy Anchor – Quantity 6
 - e. Assembly 207-1 Balance Weight Anchor – Quantity 2
 - f. Assembly 208-1 Fixed Termination Anchor – Quantity 3
 - g. Assembly 209-1A Flexible Hanger – Quantity 200
 - h. Assembly 209-1B Flexible Hanger – Quantity 90
 - i. Assembly 209-4 Wire Cross – Quantity 10
 - j. Assembly 211-3 Full Feeding Jumper – Quantity 10
 - k. Assembly 212-1 Single Disconnect Switch – Quantity 9

- I. Assembly 216 -1 Section Insulator – Quantity 14
 - m. Assembly 218-1 Head Guy Bracket – Quantity 4
 - n. Assembly 218-2 Spreader Bracket – Quantity 3
 - o. Assembly 218-3 Signal Power Support – Quantity 5
- B. OCS Material Deployment Plan
 - 1. The Contractor shall submit a spreadsheet for each location indicating how the Owner Furnished OCS material will be used in the project. Indicate quantities of material for each Segment/OCS Location. This submittal shall be used to determine the Itemized list of materials in preparation for joint inspection requirements of Part C.
- C. OCS Material Joint Inspection Upon Receipt
 - 1. The Contractor shall coordinate with MTS to arrange a joint visual inspection at the time of material handoff. At time of handoff, both MTS and the Contractor shall complete a visual inspection and take complete photographs of the OCS Material. If damage is found, it shall be documented and photographed by the Contractor and submitted to MTS within one calendar day.
 - 2. Even if the joint inspection takes place for all of the material at one time, a separate OCS Material Receipt Acknowledgement Form shall be submitted for each OCS location of Work.
 - 3. The Contractor shall complete and submit an OCS Material Receipt Acknowledgement Form to take responsibility for the material until project closeout or MTS acceptance.
 - a. The OCS Material Receipt Acknowledgement Form shall include:
 - 1) Segment/OCS Location
 - 2) Date/Time of Joint Inspection
 - 3) Names of joint inspectors (Contractor/MTS)
 - 4) Itemized List of all OCS Material inspected and received
 - 5) Exceptions noted (if any, shall include documentation, including photographs of any/all exceptions and a proposal of how each open item can be remedied by the Contractor). If there are no exceptions, state on the form “No Exceptions Noted for all Listed Material”.
 - 6) Signature of Contractor’s Inspector & Contractor’s Superintendent of OCS.
 - b. The OCS Material Receipt Acknowledgement Form shall be submitted to MTS no later than 7 calendar days after the joint inspection is completed.
- D. Any Owner Furnished OCS Material that is not utilized by the Contractor for the project shall be returned to MTS at their designated location.

2.03 OWNER FURNISHED SIGNAL EQUIPMENT

- A. The following signal equipment is owner furnished. Any additional components required to complete the Work as shown on the Contract Documents shall be provided by the Contractor.
1. Pre-wired Instrument Enclosures – Quantity 22 (additional detail in Article 2.04 herein)
 2. Temporary Interface Cases – Quantity 2 (additional detail in Article 2.04 herein)
 3. M-23A Right Hand Switch Machines, Part Number N451600535– Quantity 8
 4. M-23A Left Hand Switch Machines, Part Number N451600536 – Quantity 8
 5. Switch Junction Boxes, Part Number N349656 – Quantity 16
 6. Impedance Bonds, Part Number 000-1667-1-0 – Quantity 40
- B. Signal Equipment Joint Inspection Upon Receipt (Article 2.03 Part A Items 3-6 herein)
1. The Contractor shall coordinate with MTS to arrange a joint visual inspection at the time of material handoff. At time of handoff, both MTS and the Contractor shall complete a visual inspection and take complete photographs of the Signal Equipment. If damage is found, it shall be documented and photographed by the Contractor and submitted to MTS within one calendar day.
 2. Even if the joint inspection takes place for all of the material at one time, a separate Signal Equipment Receipt Acknowledgement Form shall be submitted for each Signal location of Work.
 3. The Contractor shall complete and submit Signal Equipment Material Receipt Acknowledgement Form to take responsibility for the material until project closeout or MTS acceptance.
 - a. The Signal Equipment Material Receipt Acknowledgement Form shall include:
 - 1) Segment/Signal Location
 - 2) Date/Time of Joint Inspection
 - 3) Names of joint inspectors (Contractor/MTS)
 - 4) Itemized List of all Signal Equipment inspected and received
 - 5) Exceptions noted (if any, shall include documentation, including photographs of any/all exceptions and a proposal of how each open item can be remedied by the Contractor). If there are no exceptions, state on the form “No Exceptions Noted for all Listed Material”.
 - 6) Signature of Contractor’s Inspector & Contractor’s Signal Engineer.
- C. The Signal Equipment Material Receipt Acknowledgement Form shall be submitted to MTS no later than 7 calendar days after the joint inspection is completed.

2.04 OWNER FURNISHED SIGNAL INSTRUMENT ENCLOSURES

- A. The following signal instrument enclosures are owner furnished. Each Segment's signal instrument enclosures shall be delivered to the Contractor's warehouse no later than (and possibly prior to) the following dates:
1. Segment 1 – 8/25/25
 - a. R311RC – 6'x8' signal enclosure
 - b. R358RC – 6'x10' signal enclosure
 - c. R396RC – 6'x10' signal enclosure
 - d. R442RC - 6'x12' signal enclosure
 - e. R467RC - 6'x12' signal enclosure
 - f. Temporary Interface Case #1 – 2 door case
 2. Segment 2 – 11/24/25
 - a. R480RC – 6'x8' signal enclosure
 - b. R507RC – 6'x8' signal enclosure
 - c. R537RC – 6'x8' signal enclosure
 - d. R552RC – 6'x12' signal enclosure
 - e. R574RC – 6'x12' signal enclosure
 - f. Temporary Interface Case #2 – 2 door case
 3. Segment 3 – 2/24/26
 - a. R602RC - 4 door case
 - b. R617RC – 6'x8' signal enclosure
 - c. R650RC – 6'x10' signal enclosure
 - d. R671RC – 6'x10' signal enclosure
 - e. R697RC – 6'x12' signal enclosure
 - f. R719RC – 6'x12' signal enclosure
 4. Segment 4 – 5/27/26
 - a. R729RC – 6'x10' signal enclosure
 - b. R738RC – 6'x10' signal enclosure
 - c. R769RC – 6'x10' signal enclosure
 - d. R782RC – 6'x10' signal enclosure
 - e. R820RC – 6'x8' signal enclosure
 - f. R847RC – 6'x12' signal enclosure
- B. Joint inspection procedures required for handoff are defined in Section 34 42 13.18 Instrument Enclosures.

2.05 OWNER FURNISHED SIGNAL CABLE

- A. The following signal cable is Owner Furnished. Any additional components required shall

be provided by the Contractor.

1. The following cable is Owner Furnished for use in Segments 1 and 2. The cable ordered is sufficient for cable installation in accordance with the Site Specific Layout for each Rail Case Location.
 2. Should the Contractor propose alternate conduit installation plans within Segments 1 and 2 that require additional cable beyond what is Owner Furnished, the Contractor shall furnish and install this cable at no additional cost to MTS.
 3. After completion of cable installation in Segments 1 and 2, the Contractor shall return any remaining Owner Furnished cable to MTS. When possible this cable shall be returned on the original reels.
 4. The Owner Furnished Signal Cable for Segments 1 and 2 are as follows:
 - a. 3C#6 Solid Direct Burial/Duct Railroad Signal Cable – Quantity 2 reels, 2000 ft each (4000 ft total)
 - b. 5C#6 Solid Direct Burial/Duct Railroad Signal Cable – Quantity 7 reels, 2000 ft each (14000 ft total)
 - c. 7C#6 Solid Direct Burial/Duct Railroad Signal Cable – Quantity 4 reels, 2000 ft each (8000 ft total)
 - d. 7C#14 Solid Direct Burial/Duct Railroad Signal Cable – Quantity 6 reels, 2000 ft each (12000 ft total)
 - e. 12C#14 Solid Direct Burial/Duct Railroad Signal Cable – Quantity 3 reels, 2000 ft each (6000 ft total)
- B. Joint inspection procedures required for handoff are defined in Section 34 42 16 Train Control Wire and Cable.

PART 3 – EXECUTION

3.01 MOBILIZATION

- A. Mobilization shall, as defined in Article 3.34, Payment, of the General Conditions and conform to Section 10104 of the Public Contract Code.

3.02 SITE CONDITIONS AND ACCESS

- A. A baseline conditions assessment shall be made in accordance with Article 5.8, Documentation of Existing Conditions, of the Special Conditions.
- B. Prior to beginning Construction in any Segment, Contractor shall arrange a meeting on-site with the Engineer a minimum of one calendar week in advance of the start of construction within that Segment and examine the job-site areas and conditions under which work will be performed. The Contractor shall notify the Engineer in writing, within 48 hours following the on-site meeting, of all discrepancies between the existing site conditions and those shown on the plans. Contractor's failure to provide written notification to the Engineer will indicate that no discrepancies exist.

- C. The project site is accessible through public right of way. Where access is limited through public right of way, the Contractor shall make all necessary arrangements, agreements and provide compensation to private property owners if necessary to access the area.
- D. Contractor is to maintain access to adjacent properties at all times. Disruption to their business activities shall be kept to a minimum. The Contractor shall communicate in advance with each property owner/tenant affected by its operations prior to the start of work. In addition, the Contractor shall maintain a proactive relationship with the area merchants and inform them weekly of the construction schedule to assure that impacts to their businesses are kept at a minimum throughout the contract period.

3.03 OBSTRUCTIONS

- A. Attention is directed to Article 3.6, Existence of Utilities at the Work Site, of the General Conditions.
- B. The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions to be taken by the Contractor to protect the health, safety and welfare of workers and of the public. Facilities requiring special precautions include, but are not limited to: overhead electrical wires; conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipelines greater than 6 inches in diameter or pipelines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables either directly buried or in duct or conduit that do not have concentric neutral conductors or other effectively grounded metal shields or sheaths; and underground electrical grounded metal shields or sheaths; underground electrical conductors with potential to ground more than 300 volts; and shallow water laterals.
- C. The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to performing any excavation. Regional notification centers include, but are not limited to, the following.

Notification Center	Telephone Number
Underground Service Alert-Southern California (USA)	811 1-800-422-4133
Cable, Pipe & Leak Detection (CPL) (For MTS Facilities)	1-619-873-1530

As MTS facilities are excluded from USA markouts, Contractor shall have all MTS facilities located and marked out by CPL or other approved utility locating subcontractor familiar with MTS facilities.

- D. Contractor to verify location and elevation of all exiting utilities by potholing and mark out prior to excavation as necessary. Notifications shall be performed as necessary to complete the improvements without damage to existing facilities. Any work on the underground facilities shall be coordinated with the Engineer. The Contractor shall schedule a utility coordination meeting and contact all attendees a minimum of 48 hours in advance of the meeting date. Meeting attendees shall include the Engineer or Project Manager, the Contractor's representative, the utility representative (as necessary), and the approved utility locating subcontractor.

3.04 PRESERVATION OF PROPERTY

- A. Due care shall be taken to avoid damage or injury to improvements of project facility or adjacent facilities, their utilities, and landscaping features that are not designated for removal as indicated on the plans or in the Technical Specifications. Any damage to the property or adjacent properties incurred due to the operations of the Contractor shall be repaired, replaced, or restored at the Contractor's expense. Repair, replacement, or restoration shall be performed such that facilities damaged will be at the same condition as when the Contractor had entered the site, or as good as required by the specifications accompanying the contract. Additional requirements shall be in compliance with Article 3.29, Protection of Work and Property, of the General Conditions.

3.05 JOB SITE COOPERATION

- A. Attention is directed to Article 3.43, Separate Contracts, of the General Conditions.
- B. Where required, Contractor shall coordinate efforts with utility agencies for adjustment or relocation of utilities that will affect Contractor's work.

3.06 CONSTRUCTION STAGING AREA

- A. No MTS right-of-way or LRT stations shall be used for staging, storage, or laydown areas during the construction period except as shown on the approved Construction Area Work Plan. The Contractor shall be responsible for procuring any onsite or offsite construction staging and laydown area, and shall be responsible for any property rental, permits, security, lighting, fencing, utilities or other temporary measures required to properly utilize the site as a construction staging and laydown area. The Contractor shall accept full responsibility and liability for use of the site during the construction period, and MTS shall not be liable for any claims resulting from Contractor's use of an offsite construction staging and laydown area.

3.07 DEVELOP WATER SUPPLY

- A. Developing a water supply and applying watering shall conform to Article 3.21, Compliance with General Construction Permit for Construction Activity Schedule, and Article 3.22, Cleaning Up, of the General Conditions. Existing LRT station water supply system shall not be used for construction purposes.

3.08 DUST CONTROL

- A. Dust control shall conform to the requirements of Article 3.29, Protection of Work and Property, in the General Conditions. Control dust resulting from work, inside and outside of work limits. Inside work limits Contractor may use water application, dust palliative, or both. Water usage for dust control shall be such that runoff from work area is minimized and sediment is prevented from entering storm drain systems. Dust control for outside work limits includes preventing buildup of dirt on adjoining travelled ways and covering of material producing dust when hauled. However, the Contractor shall endeavor, whenever possible, to restrict the use of water to control dust due to the current need to conserve water.

3.09 PROJECT APPEARANCE

- A. Project Appearance shall conform to the provisions in Article 3.22, Cleaning Up, of the General Conditions. The Contractor shall maintain a neat appearance to the work at all times. Rail, wood ties, fencing, vegetation, concrete and asphalt rubble, and other debris developed during construction operations shall be disposed of concurrently with its removal. No stockpiling of demolition materials or debris will be permitted within the MTS or Public right-of-way. Materials to be relocated shall be neatly stored in a secure area.

3.10 SOUND CONTROL

- A. Sound control shall conform to the provisions in Article 3.24, Excessive Noise, of the General Conditions. This requirement in no way relieves the Contractor from responsibility for complying with local ordinances regulating noise levels. For any night work, the Contractor will be required to obtain a Noise Permit from the City of San Diego or other authority with jurisdiction.

3.11 TEMPORARY TRAFFIC CONTROL

A. GENERAL

1. Temporary Traffic Control, consisting of flagging, maintaining vehicular and pedestrian traffic, supplying, placing, and removing of temporary traffic control devices, application and removal of any temporary traffic striping and pavement markings required, and the replacement of any permanent traffic striping and pavement markings damaged or removed during construction at the locations as shown on the Plans or where designated by the Engineer, shall comply with the provisions in Article 3.16, Traffic Control, of the General Conditions.
2. Roadway flagging as required by City of San Diego traffic control permits to be obtained by the Contractor shall conform to Section 12, Temporary Traffic Control of the Caltrans Standard Specifications. However, payment shall be as specified within these Technical Specifications. All roadway flagging shall be described in detail within the Contractor's related Work Plan.
3. All furnishings shall be reinstalled before the construction of a phase is considered complete and the next construction phase at another area may begin.
4. Any existing permanent striping that is damaged during construction shall be replaced to its original state and layout. The work performed in connection with replacing the striping shall conform to the provisions in Section 32 17 23, Pavement Markings, of the Technical Specifications.

3.12 MAINTAINING VEHICULAR TRAFFIC

A. General

1. The Contractor shall notify all emergency services, transportation companies, or others identified on the plans in compliance with the City of San Diego Street Closure Permits in advance of implementing any construction detour.
2. The Contractor shall maintain all temporary vehicular access facilities in a safe and neat condition from time of installation to time of removal.

B. Parking

1. If parking is to be restricted during construction, the Contractor shall post "tow-away/no parking" signs 24 hours in advance after receiving approval from the Engineer and the City of San Diego Police Department. The sign shall contain "days/hours" information and be posted so as to be visible by the public.
2. Personal vehicles of the Contractor's employees shall not be parked within the railway right-of-way including any section closed to public traffic, except personal vehicles used in lieu of the Contractor's equipment. Said vehicles shall be included in the daily activity report and shall be marked with permanent or temporary name plates identifying contracting firm engaged in the work.

C. Lane/Street Closures

1. A street or lane shall not be closed until the Contractor is ready to prosecute the work with diligence, unless approved otherwise by the City of San Diego. Should the Engineer determine that the work, within a closed street or lane, is not proceeding in a timely manner, the Engineer may order a suspension of work.
2. When lane closures are made for work periods only, at the end of each work period all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall be removed from the traveled way and shoulder.
3. Whenever traffic lanes or streets are to be closed to public traffic, the Contractor shall close lanes and streets as shown in the current California MUTCD.
4. It shall be the responsibility of the Contractor performing work on a public street, that involves a lane or street closure, to follow the local agency approved traffic control plans. If there is not a local agency approved traffic control plan for work to be performed, the Contractor shall prepare traffic control plans, obtain permits from the local agency, install and maintain the traffic control devices per the approved plan, as may be required to ensure the safe movement of vehicular traffic and bicyclists through and around the work area and provide maximum protection and safety to construction workers.

D. Traffic Lane Widths and Clearances

1. When traffic cones or portable delineators are used to delineate a temporary edge of the traffic lane, the line of cones or portable delineators shall be considered to be the edge of traffic lane; however, the Contractor shall not reduce the width of an existing lane to less than 12 feet without written approval from the governing agencies Traffic Engineering Department.
2. Notifications
 - a. The Contractor shall notify the following at least five (5) working days in advance of any work on a public street:

City of San Diego Police	619-531-2000
Fire Department	619-533-4300
Traffic Signals	619-527-7500
Trash Pickup	858-694-7000
San Diego Transit	619-238-0100
Underground Service Alert	1-800-422-4133

E. Construction Area Work Plan

1. The Contractor's Work Plan, in accordance with Article 1.08, Work Plans, of these Technical Specifications, shall indicate proposed staging, construction sequencing, laydown areas, detours, lane closures, barricades, traffic control devices, temporary fencing, signage, traffic and pedestrian handling on both public streets and transit properties, and shall include traffic control plans approved by the City of San Diego for any work within the public streets or right of way.

F. Deviations

1. Minor deviations from the requirements of this section which do not significantly change the cost of the work may be permitted upon the written request of the Contractor if, in the opinion of the Engineer, public vehicular traffic will be better served and the work expedited. Such deviations shall not be executed until the Engineer has approved them in writing. All other modifications shall be made by Contract Change Order.

3.13 MAINTAINING PEDESTRIAN TRAFFIC

A. General

1. The Contractor shall provide and maintain safe pedestrian access to all sidewalks adjacent to the construction area. Work areas, including temporary walkways, shall be delineated with barriers consisting of a top and bottom rail constructed of $\frac{3}{4}$ " pipe and Occupational Safety and Health Administration (OSHA)-type plastic mesh, or equal. Yellow caution tape will not be permitted.
2. The Contractor shall develop a Construction Area Work Plan in accordance with Article 3.12 Maintaining Vehicular Traffic, of these Technical Specifications. The Construction Area Work Plan shall be submitted to the Engineer for review and prepared in accordance with Article 1.08, Work Plans of these Technical Specifications. The Construction Area Work Plan for each phase of work shall show the layout of pedestrian circulation control devices.
3. The Contractor shall maintain all temporary pedestrian access facilities in a safe and neat condition from time of installation to time of removal.

B. Sidewalk Closures and Local Business Impact

1. Where local businesses are impacted by construction activities the Contractor shall be responsible for maintaining pedestrian access to those businesses. "Impact" shall mean: where construction activities impede, redirect, or otherwise cause pedestrian traffic flow to deviate from current or intended flow patterns used to gain access to businesses.
2. The Contractor is required to meet with existing businesses in the area to keep the public fully informed as to the impact to their property and/or business. The Contractor shall communicate with each property owner/tenant impacted by its operations prior to the start of work. In addition, the Contractor shall maintain a proactive relationship with the area merchants and inform them weekly of the construction schedule to assure that impacts to their businesses are kept at a minimum throughout the contract period.

3. Contractor shall construct painted white 4' x 6' plywood signs with black lettering indicating 'Open for Business' for each business impacted by traffic control. The signs shall be clearly visible and maintained for the duration of construction activities impacting each business. Each business impacted shall receive an individual sign.
4. The Contractor shall coordinate the pedestrian access needs with the construction staging as well as with any adjacent areas that are currently or scheduled for construction by others. The Contractor shall submit, to the Engineer, an initial pedestrian traffic control plan along with the vehicular traffic control plan, and construction area plan.
5. At least one walkway shall be available at all times. If the Contractor's operations require the closure of one walkway, then another walkway shall be provided nearby, off the traveled roadway. For sidewalk closures or work in direct contact with an existing sidewalk, the Contractor shall construct a 6' chain link fence to protect the limits of the work area with all required hardware, including kick boards. Walkways shall be kept clear of obstructions. Closure signs shall be placed to provide pedestrians clear warning of closure ahead and shall provide clear direction to adjacent routes.

C. Deviations

1. Minor deviations from the requirements of this section which do not significantly change the cost of the work may be permitted upon the written request of the Contractor if, in the opinion of the Engineer, public pedestrian traffic will be better served and the work expedited. Such deviations shall not be executed until the Engineer has approved them in writing. All other modifications shall be made by Contract Change Order.

3.14 TEMPORARY TRAFFIC CONTROL DEVICES

A. General

1. All temporary traffic control devices shall be furnished by the Contractor.
2. It shall be the responsibility of the Contractor performing work on a public street to install and maintain the temporary traffic control devices as shown on the Plans and as specified, as required to ensure the safe movement of traffic, pedestrians and bicyclists through and around the work area and provide maximum protection and safety to construction workers.
3. The Contractor shall maintain all temporary traffic control devices in a safe and neat condition from the time of installation to the time of removal. If any component of the temporary traffic control devices is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and restore the component to its original location.
4. Equipment, material, or debris shall not be stored or remain in the public right of way without prior acceptance by the Engineer.

B. Signs

1. The Contractor shall erect advance warning signs per the traffic control plans as approved by the governing agency informing the public of the intent to close any street at least five (5) working days in advance of the proposed closure.
2. The Contractor shall provide detour signing to direct traffic along alternate routes during the closure(s) in accordance with the traffic control plans as approved and permitted by the governing agency.
3. No signing is shown on the Plans. All construction area signs shall conform to the signing shown in the latest "California Manual on Uniform Traffic Control Devices."

C. Barricades

1. Pedestrian and vehicular barricades shall be furnished, placed, and maintained at the locations shown on the approved traffic control plans, specified in these Technical Specifications or where designated by the Engineer.
2. Temporary traffic control sign and marker panels shall be installed on barricades in a manner determined by the Engineer at the locations shown on the approved traffic control plans.

D. Steel Plates

1. Whenever traffic is permitted over or adjacent to trenches or other depressions, the Contractor shall furnish and maintain steel plating unless other means of protecting the public and the work are expressly approved by the Engineer.
2. Steel plates used for bridging shall extend 12 in. beyond the edges of trenches.
3. Steel plates shall conform to the following minimum thickness:

a.	Trench Width	Minimum Plate
	Thickness 300 mm (12 in.)	13 mm (1/2 in.)
b.	450 mm (18 in.)	19 mm (3/4 in.)
c.	600 mm (2 ft)	22 mm (7/8 in.)
d.	900 mm (3 ft)	25 mm (1 in.)
e.	1.2 m (4 ft)	38 mm (1 1/2 in.)
4. Note: For spans greater than 4 ft prepare and submit a structural design to the Engineer for review and made in accordance with Article 1.06, Submittals, of the these Technical Specifications.
5. Trenches shall be adequately shored to support bridging the traffic loads.
6. For speeds of 45 mph or less, temporary paving with cold asphalt concrete shall be used to feather the edges of the plates. A "Rough Road" sign (W33), with black lettering on an orange background shall be used in advance of steel plate bridging in addition with any other required construction signing.

E. Temporary Traffic Striping and Pavement Markings

1. During temporary traffic striping and pavement marking operations, traffic shall be controlled with lane closures, as provided for under these Technical Specifications, or by use of an alternate traffic control plan proposed by the Contractor. The Contractor shall not start traffic striping and pavement marking operations using an alternate plan until they have submitted their plan to the Engineer and have received written approval of said plan.

3.15 CONSTRUCTION AREA LIGHTING

- A. All working areas utilized by the Contractor to perform work during the hours of darkness, shall be lighted to conform to the minimum illumination intensities established by the California Division of Industrial Safety Construction Safety Orders.
- B. All lighting fixtures shall be mounted and directed in a manner precluding glare to adjacent residences, businesses, approaching traffic, and shall not be directed parallel to the track to avoid interfering with the vision of the train operators and crews. In addition, lighting fixtures shall not obscure any railroad signals.

3.16 TEMPORARY FENCING

- A. Where applicable and in accordance with these Technical Specifications, temporary fencing shall be securely anchored and shall only be placed within MTS ROW except where temporary fencing is used for pedestrian traffic control. The Contractor shall submit a temporary fencing as part of their Work Plan for MTS approval prior to the installation of any temporary fencing.

3.17 CONSTRUCTION SURVEYING

- A. Construction staking shall be in conformance with Chapter 12 of the Caltrans Surveys Manual, dated November 2012. Legible copies of all construction operations staking sheets shall be provided to Engineer as part of the related Work Plan.
- B. All field construction surveying required for accurate location and the construction of the various items of work under the Contract shall be performed and furnished by the Contractor.
- C. The Contractor shall be responsible for performing a site verification survey to confirm the existing grades and conditions at the site prior to any grading or construction operations. Any variations shall be brought to the attention of the Engineer.
- D. The Contractor shall replace any existing property corner markers, monuments, and local agencies' well monuments disturbed during construction operations in accordance with Article 3.29, Protection of Work and Property, of the General Conditions. These new markers, monuments, and well monuments shall be documented by a record of survey map or corner record prepared in accordance with Section 8771 of the Business and Professions Code and all applicable laws and regulations and filed in the Office of the County Recorder of San Diego County at the Contractor's expense.
- E. The Contractor shall be responsible for preparing and filing with the San Diego County surveyor a Corner Record of the references to existing monuments within the area of each street or highway to be reconstructed under this Contract, prior to any reconstruction, as required by Section 8771 of the Business and Professions Code.

3.18 TRACTION POWER SAFETY AND CONVENIENCE OF TROLLEY OPERATIONS

- A. Trolley operations utilize overhead 650-volt DC power lines. Except as noted in Article 1.03, Order of Work, of these Technical Specifications, these wires will be energized at all times. Extreme caution shall be exercised when working in the vicinity of these wires. The Contractor shall maintain 10 foot clearance from energized overhead wires when working with equipment.
- B. The Contractor shall not allow metal equipment or other items to contact the railroad tracks except when power has been shut off. These tracks act as the negative return for the 650 VDC propulsion current in the overhead wires. Hi-rail vehicles will be allowed if 10 foot clearance from the overhead wires is maintained when energized in the MTS authorized work locations. All Contractor equipment shall be proposed for MTS approval as part of the Contractor's site specific Work Plan.
- C. The Contractor shall not shunt (ground) between the rails except when operating equipment necessary for the work with an approved Work Plan. A shunt activates the signaling system, including railroad crossing protection and gates at nearby cross streets.

3.19 MAINTAINING RAIL TRAFFIC

- A. General
 - 1. All Contractor work shall be performed with an approved Work Plan and not interfere with normal rail operations.
 - 2. All work involving crossing or work inside the MTS railroad right of way shall be under the control of SDTI.
 - 3. The SDTI dispatcher can be reached at (619) 595-4960
 - 4. Contractor shall not operate construction equipment that will encroach within 15 feet of any track that is being used by LRT vehicles during the respective operating hours without appropriate notification and flagging. Contractor shall not store equipment, tools, and materials within fifteen feet from any operable track.
 - 5. Contractor shall be liable for Liquidated Damages, in the event that transit vehicles are unable to operate normally as a result of the Contractor's operations.
 - 6. A planned "slow order" in a Contractor's approved Work Plan shall not be interpreted as affecting normal trolley operations.
 - 7. MTS Operations Definitions
 - a. Slow order: A temporary reduction in the track's speed limit due to a condition left behind by a work crew. The maximum duration for a slow order to remain in place is 48 hours. Contractor shall propose and MTS will evaluate planned slow orders with the goal of limiting revenue service delays to no more than 5 minutes from the publicly posted schedule.
 - b. Work zone restriction: A crew working within 10' of the nearest rail. This requires a 10 MPH speed restriction and on-track protection provided by SDTI flag persons. For the purposes of this contract, work zone restrictions are limited to 1500' within the project limits. MTS will allow up to 3 concurrent restrictions, however the cumulative distance of restrictions is limited to 1500' total.

- c. Work zone advisory: A crew working within 10-15' of the nearest rail. This requires no speed restriction, but the crew is accompanied by an SDTI watchperson.

B. Trackwork

1. All work shall take special care to maintain the integrity of operational track sections during other nearby track section construction and/or adjacent non-track elements.
2. It will be required to establish a planned "slow order" when the track is in a condition that prevents normal operating speeds of scheduled transit vehicles or freight trains or when light rail transit vehicles are required to temporarily operate through hand-operated switches.
 - a. At the conclusion of an AWW, MTS will allow track to be placed back into revenue service without being distressed, resulting in a slow order. This is limited to one continuous mile and shall be resolved within 48 hours.
 - b. At the conclusion of an AWW, MTS will allow a portion of the rail joints to remain as temporary bolted joint connections until remaining thermite welds can be completed , resulting in a slow order. This is limited to one continuous mile and shall be resolved within 48 hours.

C. Traction Power System Work

1. When requested, MTS will de-energize the traction power system between the hours of 1:45 AM and 4:00 AM. It will take MTS 30 minutes to de-energize and 30 minutes to re-energize the system within the above time. De-energizing the system shall conform to the procedures of MTS (known as the "Red Tag Clearance Procedure").
2. It will be required to establish a planned "slow order" when the catenary is in a condition that prevents normal operating speeds of scheduled transit vehicles or freight trains.
3. MTS will provide access to adjacent substations when performing testing for the OCS system during AWWs. Contractor shall request substation access as part of the Contractor's submitted Work Plan for MTS review and approval.

D. Signal System Work

1. The signaling system, including any interfaces, shall be fully tested and placed in service by the end of each work window.
2. All preparatory work shall be done prior to each Segment cutover and shall include, but not be limited to:
 - a. Installation of all signal block foundations, enclosures, conduit, and block signals (installed and bagged), complete and in-place with cables terminated and gold nuts backed off. Signals that will interfere with the line of sight of existing signals shall not be installed until the "Railway Block Signaling Cut-over" in which the signal will be located.
 - b. Installation of new insulated joints and impedance bonds complete in-place with temporary bypass bonds where needed to maintain the existing signaling system functioning properly.

- c. Installation of, and adjustment of, switch machines on ties, complete with all conduit and cables terminated and gold nuts backed off.
 - d. Track circuit's "track lead" cabling tested and terminated to rails and terminals with gold nuts backed off inside new signal enclosure.
 - e. Crossing warning devices and new control system shall be complete in-place, and operational.
 - f. Fiber optic network communications for the railroad signal system shall be complete in-place and be operational for a consecutive 72 hours.
 - g. New electrical service complete in-place and energized.
- E. Segment Cutover
- 1. Any cut-over from construction to revenue operation of track, signal, traction power, and catenary work shall be done during an AWW. If extensions to the above times are required to construct the project, Contractor shall submit the request to MTS for such extensions(s) as part of the work plan and schedule submittals. The request shall thoroughly document the activity required, the duration of the extension, the reason for the extension and why it could not otherwise be accommodated. MTS will attempt to honor all such requests; however, MTS reserves the right to reject any or all such requests based upon its evaluation. No adjustment to the Contract Bid prices will be made if any or all requests are rejected.
 - 2. A detailed cutover plan requesting exact dates and times shall be submitted for approval at least thirty (30) working days prior to the requested date. Contractor shall be available to discuss the details of the cutover with MTS and SDTI staff.

3.20 RAILROAD COORDINATION

- A. The Contractor must understand the Contractor's right to enter Railroad's right of way is subject to the absolute right of Railroad to cause the Contractor's work on Railroad's right of way to cease if, in the opinion of Railroad, Contractor's activities create a hazard to Railroad's right of way, employees, and operations.
- B. Contractor employees are prohibited from positioning themselves, placing material, or positioning machinery on the railroad right-of-way unless under control of railroad flagman at each work location. All workers, equipment, and materials shall be cleared from the track and all equipment shall be held at idle until the train has passed and the flagman has authorized the resumption of work. The minimum clearance distance for workers, material, and equipment shall be at the discretion of the flag person.

3.21 RECORD DRAWINGS

- A. Record accurately on one complete set of full size black and white prints denoting variation in work from original drawings. All recorded variations shall be done in red and yellow. Electronic submittal of record drawings shall be subject to MTS approval.

- B. During construction, a copy of the plans shall be located in the signal enclosures that accurately depicts the work and existing conditions. Markups shall be shown on record drawings daily or as work is performed. These drawings are subject to inspection at any time.
- C. Dimensioning shall be from two permanent points of reference (sidewalks, pavement, curbs, street lights, buildings, centerline of track, etc.). All drafting shall be clearly legible and dimensions shall be no smaller than 0.25 inches in size. Delineation between lines (edge of curb, irrigation line, edge of asphalt, etc.) shall be clearly made by note or line type.
- D. Upon acceptance of work of each Segment, Contractor shall submit the complete and final set of record drawings to the Engineer.

PART 4 – MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. No separate measurement shall be made for the requirements of this Section unless otherwise provided for.
- B. Mobilization
 - 1. Mobilization shall be measured for payment as a lump sum.
- C. Progress Schedule
 - 1. No separate measurement shall be made for Progress Schedule.
- D. Work Plans
 - 1. No separate measurement shall be made for Work Plans.
- E. Temporary Traffic Control
 - 1. No separate measurement shall be made for Temporary Traffic Control
- F. Quality Control Plan
 - 1. No separate measurement shall be made for the Quality Control Plan.
- G. Safety Plan
 - 1. No separate measurement shall be made for the Safety Plan.

4.02 PAYMENT

- A. No separate payment shall be made for the requirements of this Section unless specifically noted for separate payment as stated herein. Full compensation for complying with the requirements of this section, not otherwise provided for, shall be considered as included in contract prices paid for the various items of work involved, and no additional compensation will be allowed therefore.
- B. Mobilization
 - 1. The contract lump sum price paid for "Mobilization" shall be in accordance with Article 3.34, Payment, of the General Conditions.
- C. Project Schedule
 - 1. Full compensation for Project Schedule shall be considered included in the contract prices paid for the various related items of work and no separate payment will be made.
- D. Temporary Traffic Control
 - 1. Full compensation for Temporary Traffic Control shall be included in the contract price paid per Signal Location Complete, therefore no separate payment will be made.
- E. Quality Control Plan
 - 1. Full compensation for the Quality Control Plan shall be included in the contract prices paid for the various related items of work and no separate payment will be made.
- F. Safety Plan
 - 1. Full compensation for the Safety Plan shall be included in the contract prices paid for the various related items of work and no separate payment will be made.

END OF SECTION

BID PRICE FORM Rev. 2



ORANGE LINE IMPROVEMENT PROJECT PHASE 1
IFB, MTS DOC. NO. PWL409.0-25

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<i>MOBILIZATION/DEMobilIZATION</i>					
1.	Mobilization (not to exceed 5% total bid)	1	EA	\$ 1,344,000.00	\$ 1,344,000.00
2.	Demobilization (not to exceed 5% total bid)	1	EA	\$ 445,000.00	\$ 445,000.00
SUBTOTAL - Mobilization/Demobilization					\$ 1,789,000.00
<i>CIVIL</i>					
3.	Storm Water Management - Water Pollution and Erosion Control	1	LS	\$ 95,000.00	\$ 95,000.00
3A	Hauling and disposal of hazardous soil (CAL hazardous with manifest) ALLOWANCE UP TO	500	CY	\$ 80.00	\$ 40,000.00
3B	Hauling and disposal of hazardous soil (hazardous with manifest) ALLOWANCE UP TO	500	CY	\$ 63.00	\$ 31,500.00
3C	Import and placement of clean fill to replace exported soils ALLOWANCE UP TO	500	CY	\$ 68.00	\$ 34,000.00
<i>54th Street Civil & Pedestrian Crossing Improvements</i>					
4.	Construction Staking and Surveying	1	LS	\$ 20,000.00	\$ 20,000.00
5.	Permits	1	LS	\$ 2,500.00	\$ 2,500.00
6.	Traffic and Pedestrian Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
7.	Saw Cut	35	LF	\$ 14.00	\$ 490.00
8.	Clear and Grub	1	LS	\$ 10,000.00	\$ 10,000.00
9.	NOT USED				
10.	Remove Chain Link Fence	30	LF	\$ 25.00	\$ 750.00
11.	Remove AC Paving and Ramps	800	SF	\$ 11.00	\$ 8,800.00
12.	Remove Miscellaneous Concrete	250	SF	\$ 15.50	\$ 3,875.00
13.	Concrete Walkways	225	SF	\$ 48.50	\$ 10,912.50
14.	42" Chain Link Fence (mounted in soil)	60	LF	\$ 315.00	\$ 18,900.00
15.	42" Chain Link Fence (mounted on concrete)	65	LF	\$ 490.00	\$ 31,850.00
16.	8' Chain Link Fence	52	LF	\$ 325.00	\$ 16,900.00
17.	8' Chain Link Gate	1	EA	\$ 22,000.00	\$ 22,000.00
18.	Custom Warning Device Foundation (south side of crossing)	1	LS	\$ 4,600.00	\$ 4,600.00
19.	4" Bollards	9	EA	\$ 1,125.00	\$ 10,125.00
20.	42" Chain Link Gate	1	EA	\$ 1,250.00	\$ 1,250.00
21.	Signal Case Chain Link Gate	1	EA	\$ 1,050.00	\$ 1,050.00
22.	Swing Gate	1	EA	\$ 11,500.00	\$ 11,500.00

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
23.	Swing Gate with Flanged Bases (south side of crossing)	1	EA	\$ 7,600.00	\$ 7,600.00
24.	3' Wide x 5' Long Detectable Warning Panel	2	EA	\$ 1,300.00	\$ 2,600.00
25.	Concrete Crossing Panels	16.25	TF	\$ 850.00	\$ 13,812.50
26.	AC Crossing Panel Ramps	263	SF	\$ 50.00	\$ 13,150.00
27.	Signage	1	LS	\$ 2,900.00	\$ 2,900.00
28.	Walkway Ballast (around warning devices and signal house)	3	CY	\$ 3,000.00	\$ 9,000.00
54th Street Civil & Pedestrian Crossing Improvements (TOTAL)					\$ 229,565.00
66th Street Civil & Pedestrian Crossing Improvements					
29.	Construction Staking and Surveying	1	LS	\$ 20,000.00	\$ 20,000.00
30.	Permits	1	LS	\$ 2,500.00	\$ 2,500.00
31.	Traffic and Pedestrian Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
32.	Saw Cut	34	LF	\$ 30.00	\$ 1,020.00
33.	Clear and Grub	1	LS	\$ 10,000.00	\$ 10,000.00
34.	Fill (Import)	10	CY	\$ 950.00	\$ 9,500.00
35.	Remove Concrete Crossing Walkways	320	SF	\$ 28.00	\$ 8,960.00
36.	Remove Ties, Ballast and OTM	98	TF	\$ 670.00	\$ 65,660.00
37.	CMU Retaining Wall (20'x2.67')	53.4	SF	\$ 730.00	\$ 38,982.00
38.	Concrete Walkways	492	SF	\$ 80.00	\$ 39,360.00
39.	Concrete Curb	6	LF	\$ 550.00	\$ 3,300.00
40.	Concrete Curb and Gutter	16	LF	\$ 470.00	\$ 7,520.00
41.	42" Chain Link Fence	31	LF	\$ 300.00	\$ 9,300.00
42.	8' Chain Link Fence	57	LF	\$ 325.00	\$ 18,525.00
43.	8' Chain Link Gate	1	EA	\$ 18,750.00	\$ 18,750.00
44.	Walkway Ballast (around warning devices and signal house)	3	CY	\$ 3,000.00	\$ 9,000.00
45.	36" x 42" Chain Link Gate	1	EA	\$ 1,250.00	\$ 1,250.00
46.	Tubular Hand Rail	20	LF	\$ 550.00	\$ 11,000.00
47.	Swing Gate	2	EA	\$ 11,500.00	\$ 23,000.00
48.	3' Wide x 5' Long Detectable Warning Panel	2	EA	\$ 1,300.00	\$ 2,600.00
49.	Concrete Crossing Panels	16.25	LF	\$ 760.00	\$ 12,350.00
50.	AC Crossing Ramps	249	SF	\$ 31.00	\$ 7,719.00
51.	Signage	1	LS	\$ 3,250.00	\$ 3,250.00
52.	Recompact Track Subgrade (36'x1'x98')	131	CY	\$ 23.00	\$ 3,013.00
53.	Ballast	50	CY	\$ 255.00	\$ 12,750.00
54.	Surface and Line Track	400	TF	\$ 135.00	\$ 54,000.00
55.	Subballast (36'x6"x98')	66	CY	\$ 215.00	\$ 14,190.00
56.	Ties 10' (for crossing panels)	20	EA	\$ 800.00	\$ 16,000.00

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
57.	Ties 9'	40	EA	\$ 1,125.00	\$ 45,000.00
66th Street Civil & Pedestrian Crossing Improvements (TOTAL)					\$ 473,499.00
68th Street Civil & Pedestrian Crossing Improvements					
58.	Construction Staking and Surveying	1	LS	\$ 20,000.00	\$ 20,000.00
59.	Permits	1	LS	\$ 2,500.00	\$ 2,500.00
60.	Traffic and Pedestrian Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
61.	Saw Cut	6	LF	\$ 230.00	\$ 1,380.00
62.	Clear and Grub	1	LS	\$ 10,000.00	\$ 10,000.00
63.	Fill (Import)	3	CY	\$ 1,500.00	\$ 4,500.00
64.	Remove Concrete Crossing Walkways	313	SF	\$ 20.00	\$ 6,260.00
65.	Remove Ties, Ballast and OTM	98	TF	\$ 415.00	\$ 40,670.00
66.	Remove Timber Retaining Wall	70	SF	\$ 24.00	\$ 1,680.00
67.	CMU Retaining Wall (20'x2.8')	56	SF	\$ 540.00	\$ 30,240.00
67A	8" Retaining Wall, Cast-in-place Concrete	6	CY	\$ 15,500.00	\$ 93,000.00
68.	Concrete Walkways	322	SF	\$ 85.00	\$ 27,370.00
69.	42" Chain Link Fence	36	LF	\$ 280.00	\$ 10,080.00
70.	8' Chain Link Fence	47	LF	\$ 330.00	\$ 15,510.00
71.	8' Chain Link Gate	1	EA	\$ 19,000.00	\$ 19,000.00
71A	Walkway Ballast (around warning devices and signal house)	3	CY	\$ 2,900.00	\$ 8,700.00
72.	Tubular Hand Rail	75	LF	\$ 530.00	\$ 39,750.00
73.	Modified Tubular Hand Rail	4	LF	\$ 1,000.00	\$ 4,000.00
74.	Swing Gate	2	EA	\$ 11,500.00	\$ 23,000.00
75.	Swing Gate with Flanged Bases (south side of crossing)	1	EA	\$ 7,500.00	\$ 7,500.00
76.	3' Wide x 5' Long Detectable Warning Panel	2	EA	\$ 1,300.00	\$ 2,600.00
77.	Concrete Crossing Panels	16.25	LF	\$ 750.00	\$ 12,187.50
78.	AC Crossing Ramps	260	SF	\$ 28.00	\$ 7,280.00
79.	Signage	1	LS	\$ 2,900.00	\$ 2,900.00
80.	Recompact Track Subgrade (36'x1'x98')	131	CY	\$ 26.00	\$ 3,406.00
81.	Ballast	50	CY	\$ 245.00	\$ 12,250.00
82.	Surface and Line Track	400	TF	\$ 110.00	\$ 44,000.00
83.	Subballast (36'x6" x98')	66	CY	\$ 175.00	\$ 11,550.00
84.	Ties 10' (for crossing panels)	20	EA	\$ 595.00	\$ 11,900.00
85.	Ties 9'	40	EA	\$ 720.00	\$ 28,800.00
68th Street Civil & Pedestrian Crossing Improvements (TOTAL)					\$ 507,013.50
SUBTOTAL - CIVIL					\$ 1,410,577.50
TRACKWORK					

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
86.	Owner Furnished Track Material Handoff	1	LS	\$ 35,000.00	\$ 35,000.00
<i>R2 Crossover</i>					
87.	Construction Staking and Surveying	1	LS	\$ 25,000.00	\$ 25,000.00
88.	D-75 Ditch	300	LF	\$ 145.00	\$ 43,500.00
89.	Turnout Assembly and Installation (constrained work-space and access)	1	LS	\$ 215,000.00	\$ 215,000.00
90.	Remove Track and Ballast	330	TF	\$ 360.00	\$ 118,800.00
91.	Scarify and Recompact Subgrade 12"	220	CY	\$ 23.00	\$ 5,060.00
92.	Walkway ballast per General Order 118A	17	CY	\$ 1,600.00	\$ 27,200.00
93.	Subballast (9' either side of CL, 12" below ballast)	40	CY	\$ 300.00	\$ 12,000.00
94.	Thermite Welds	12	EA	\$ 2,500.00	\$ 30,000.00
95.	Resurface Approaches to and through Crossovers	2000	TF	\$ 22.00	\$ 44,000.00
96.	Destress Track	4000	TF	\$ 9.00	\$ 36,000.00
97.	Ballast	350	CY	\$ 235.00	\$ 82,250.00
<i>R2 Crossover (TOTAL)</i>					\$ 638,810.00
<i>R12 Crossover</i>					
98.	Construction Staking and Surveying	1	LS	\$ 25,000.00	\$ 25,000.00
99.	Turnout Assembly (constrained work-space and access)	1	LS	\$ 200,000.00	\$ 200,000.00
100.	Remove Track and Ballast	330	TF	\$ 350.00	\$ 115,500.00
101.	Scarify and Recompact Subgrade 12"	220	CY	\$ 23.00	\$ 5,060.00
102.	Walkway ballast per General Order 118A	18	CY	\$ 1,500.00	\$ 27,000.00
103.	Subballast (9' either side of CL, 12" below ballast)	40	CY	\$ 330.00	\$ 13,200.00
104.	Thermite Welds	12	EA	\$ 2,700.00	\$ 32,400.00
105.	Resurface Approaches to and through Crossovers	2000	TF	\$ 22.00	\$ 44,000.00
106.	Destress Track	4000	TF	\$ 18.00	\$ 72,000.00
106A	Ballast	350	CY	\$ 235.00	\$ 82,250.00
<i>R12 Crossover (TOTAL)</i>					\$ 616,410.00
<i>R18 Crossover</i>					
107.	Construction Staking and Surveying	1	LS	\$ 25,000.00	\$ 25,000.00
108.	Turnout Assembly (constrained work-space and access)	1	LS	\$ 215,000.00	\$ 215,000.00
109.	Remove Track and Ballast	330	TF	\$ 350.00	\$ 115,500.00
110.	Scarify and Recompact Subgrade 12"	220	CY	\$ 23.00	\$ 5,060.00
111.	Walkway ballast per General Order 118	20	CY	\$ 1,300.00	\$ 26,000.00
112.	Subballast (9' either side of CL, 12" below ballast)	40	CY	\$ 320.00	\$ 12,800.00
113.	Thermite Welds	12	EA	\$ 3,200.00	\$ 38,400.00
114.	Resurface Approaches to Crossover Turnouts	2000	TF	\$ 22.00	\$ 44,000.00
115.	Destress Track	4000	TF	\$ 18.00	\$ 72,000.00

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
116.	Ballast	350	CY	\$ 235.00	\$ 82,250.00
<i>R18 Crossover (TOTAL)</i>					\$ 636,010.00
<i>Insulated Joint (New and Removed)</i>					
117.	Insulated Joint (Removal and replacement of track rail, assume 46' replacement)	22	EA	\$ 9,000.00	\$ 198,000.00
118.	Insulated Joint (19' 6")	30	EA	\$ 3,300.00	\$ 99,000.00
119.	Insulated Joint (39')	4	EA	\$ 4,600.00	\$ 18,400.00
119A	Thermite Weld for Insulated Joint	112	EA	\$ 2,500.00	\$ 280,000.00
<i>Insulated Joint (New and Removed) (TOTAL)</i>					\$ 595,400.00
<i>Trackwork Associated Switch Machine Conversion or Upgrade</i>					
119B	Trackwork associated w/ conversion of electric lock to power switch machine (R2/E304WL)	2	EA	\$ 40,000.00	\$ 80,000.00
119C	Walkway ballast per General Order 118 (R2/E304WL)	18	CY	\$ 1,400.00	\$ 25,200.00
120.	Trackwork associated w/ conversion of electric lock to power switch machine (R10/E315WL)	2	EA	\$ 45,000.00	\$ 90,000.00
120A	Walkway ballast per General Order 118 (R10/E315WL)	17	CY	\$ 1,400.00	\$ 23,800.00
121.	Trackwork associated with power switch machine upgrade #10 turnout (R6/E6)	2	EA	\$ 40,000.00	\$ 80,000.00
121A	Walkway ballast per General Order 118 (R6)	17	CY	\$ 1,400.00	\$ 23,800.00
122.	Trackwork associated with power switch machine upgrade #20 turnout (R14/E8)	2	EA	\$ 40,000.00	\$ 80,000.00
122A	Walkway ballast per General Order 118 (R14)	25	CY	\$ 1,400.00	\$ 35,000.00
122B	Trackwork associated with power switch machine upgrade #20 turnout (R18/E10)	2	EA	\$ 57,000.00	\$ 114,000.00
122C	Walkway ballast per General Order 118 (R18)	28	CY	\$ 1,400.00	\$ 39,200.00
<i>Trackwork Associated Switch Machine Conversion or Upgrade (TOTAL)</i>					\$ 591,000.00
SUBTOTAL - TRACKWORK					\$ 3,112,630.00
<i>OVERHEAD CATENARY SYSTEM (OCS)</i>					
123.	Owner Furnished OCS Material Handoff	1	LS	\$ 50,000.00	\$ 50,000.00
124.	OCS Pole Foundations (R2, R12, R18)	12	EA	\$ 27,000.00	\$ 324,000.00
125.	Down Guy Foundations (R2, R12, R18)	6	EA	\$ 27,000.00	\$ 162,000.00
126.	OCS Poles	12	EA	\$ 9,625.00	\$ 115,500.00
127.	OCS Modifications R2	1	LS	\$ 770,000.00	\$ 770,000.00
128.	OCS Modifications R12	1	LS	\$ 340,000.00	\$ 340,000.00
129.	OCS Modifications 62nd Street Encanto Station	1	LS	\$ 265,000.00	\$ 265,000.00
130.	OCS Modifications R18	1	LS	\$ 705,000.00	\$ 705,000.00
SUBTOTAL - OVERHEAD CATENARY SYSTEM (OCS)					\$ 2,731,500.00
<i>RAIL SIGNALING</i>					
131.	Owner Furnished Signal Material Handoff	1	LS	\$ 30,000.00	\$ 30,000.00
<i>Legacy Rail Case and Pole Junction Box Removals (MOVED TO ALTERNATE 6)</i>					

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
132.	NOT USED				
133.	NOT USED				
134.	NOT USED				
135.	NOT USED				
136.	NOT USED				
137.	NOT USED				
138.	NOT USED				
139.	NOT USED				
140.	NOT USED				
141.	NOT USED				
142.	NOT USED				
143.	NOT USED				
144.	NOT USED				
145.	NOT USED				
146.	NOT USED				
147.	NOT USED				
148.	NOT USED				
149.	NOT USED				
150.	NOT USED				
151.	NOT USED				
152.	NOT USED				
153.	NOT USED				
154.	NOT USED				
155.	NOT USED				
156.	NOT USED				
157.	NOT USED				
158.	NOT USED				
159.	NOT USED				
160.	NOT USED				
161.	NOT USED				
162.	NOT USED				
163.	NOT USED				
164.	NOT USED				
165.	NOT USED				
Legacy Rail Case and Pole Junction Box Removals (TOTAL) (MOVED TO ALTERNATE 6)					
Signal Locations, New or Modified					

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
166.	R311RC Signal Location Complete - 32nd St. Start of ABS	1	LS	\$ 520,000.00	\$ 520,000.00
167.	R358RC Signal Location Complete- Francis St. Crossing	1	LS	\$ 500,000.00	\$ 500,000.00
168.	R396RC Signal Location Complete - Horton St. Crossing	1	LS	\$ 595,000.00	\$ 595,000.00
169.	R442RC Signal Location Complete - R2 Interlocking	1	LS	\$ 940,000.00	\$ 940,000.00
170.	R467RC Signal Location Complete - 43rd St. Crossing	1	LS	\$ 900,000.00	\$ 900,000.00
171.	R480RC Signal Location Complete - Cut Section	1	LS	\$ 220,000.00	\$ 220,000.00
172.	R507RC Signal Location Complete - Cut Section w/ Int. Sig	1	LS	\$ 290,000.00	\$ 290,000.00
173.	R537RC Signal Location Complete - Cut Section	1	LS	\$ 332,000.00	\$ 332,000.00
174.	R552RC Signal Location Complete (R6 interlocking)	1	LS	\$ 1,100,000.00	\$ 1,100,000.00
175.	R572RC Signal Location Complete (Euclid) Modifications	1	LS	\$ 13,000.00	\$ 13,000.00
176.	R574RC Signal Location Complete (R10 Interlocking)	1	LS	\$ 1,050,000.00	\$ 1,050,000.00
177.	R602RC Signal Location Complete - 54th St. Xing	1	LS	\$ 470,000.00	\$ 470,000.00
178.	R617RC Signal Location Complete - Cut Section	1	LS	\$ 235,000.00	\$ 235,000.00
179.	R650RC Signal Location Complete - Merlin Dr. Xing	1	LS	\$ 570,000.00	\$ 570,000.00
180.	R671RC Signal Location Complete 60th St. Xing	1	LS	\$ 560,000.00	\$ 560,000.00
181.	R697RC Signal Location Complete - (R12 Interlocking) 62nd St. Xing	1	LS	\$ 1,600,000.00	\$ 1,600,000.00
182.	R719RC Signal Location Complete (R14 Interlocking)	1	LS	\$ 900,000.00	\$ 900,000.00
183.	R729RC Signal Location Complete - 65th St Xing	1	LS	\$ 530,000.00	\$ 530,000.00
184.	R738RC Signal Location Complete - 66th St. Xing	1	LS	\$ 510,000.00	\$ 510,000.00
185.	R769RC Signal Location Complete - 68th St. Xing	1	LS	\$ 510,000.00	\$ 510,000.00
186.	R782RC Signal Location Complete - 69th St. Xing	1	LS	\$ 510,000.00	\$ 510,000.00
187.	R820RC Signal Location Complete - Cut Section	1	LS	\$ 275,000.00	\$ 275,000.00
188.	R847RC Signal Location Complete (R18 Interlocking)	1	LS	\$ 1,875,000.00	\$ 1,875,000.00
189.	E884RC Case Modifications	1	LS	\$ 850.00	\$ 850.00
190.	E924RC Case Modifications	1	LS	\$ 850.00	\$ 850.00
191.	Interface Case (#1 and #2) Installation/Wiring/Removal/Relocation for Segment Phasing	1	LS	\$ 340,000.00	\$ 340,000.00
Signal Locations, New or Modified (TOTAL)					\$ 15,346,700.00
Station Communications Case Modifications for CTC					
192.	32nd Street Station Comm Case Modifications for CTC	1	LS	\$ 750.00	\$ 750.00
193.	47th Street Station Comm Case Modifications for CTC	1	LS	\$ 225.00	\$ 225.00
194.	Euclid Avenue Station Comm Case Modifications for CTC	1	LS	\$ 750.00	\$ 750.00
195.	62nd Street Station Comm Case Modifications for CTC	1	LS	\$ 750.00	\$ 750.00
196.	Massachusetts Avenue Station Comm Case Modifications for CTC	1	LS	\$ 240.00	\$ 240.00
Station Communications Case Modifications for CTC (TOTAL)					\$ 2,715.00
SUBTOTAL - RAIL SIGNALING					\$ 15,379,415.00

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
FIBER OUTSIDE PLANT MODIFICATIONS & TESTING					
197.	R311RC Fiber Lateral Complete (24 & 144 Backbone)	1	LS	\$ 64,000.00	\$ 64,000.00
198.	R358RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 50,000.00	\$ 50,000.00
199.	R396RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 59,000.00	\$ 59,000.00
200.	R442RC (R2) Interlocking Fiber Lateral Complete (24 & 144 Backbone)	1	LS	\$ 68,000.00	\$ 68,000.00
201.	R467RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 64,000.00	\$ 64,000.00
202.	R480RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 64,000.00	\$ 64,000.00
203.	R507RC Fiber Lateral Complete (24 Backbone, 144 Resplice)	1	LS	\$ 64,000.00	\$ 64,000.00
204.	R537RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 64,000.00	\$ 64,000.00
205.	R552RC (R6) Interlocking Fiber Lateral Complete (24 & 144 Backbone)	1	LS	\$ 85,000.00	\$ 85,000.00
206.	R574RC (R10) Interlocking Fiber Lateral Complete (24 & 144 Backbone)	1	LS	\$ 85,000.00	\$ 85,000.00
207.	R602RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 68,000.00	\$ 68,000.00
208.	R617RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 75,000.00	\$ 75,000.00
209.	R650RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 75,000.00	\$ 75,000.00
210.	R671RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 64,000.00	\$ 64,000.00
211.	R697RC (R12) Interlocking Fiber Lateral Complete (24 & 144 Backbone)	1	LS	\$ 66,000.00	\$ 66,000.00
212.	R719RC (R14) Interlocking Fiber Lateral Complete (24 & 144 Backbone)	1	LS	\$ 75,000.00	\$ 75,000.00
213.	R729RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 66,000.00	\$ 66,000.00
214.	R738RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 69,000.00	\$ 69,000.00
215.	R769RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 69,000.00	\$ 69,000.00
216.	R782RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 60,000.00	\$ 60,000.00
217.	R820RC Fiber Lateral Complete (24 Backbone)	1	LS	\$ 55,000.00	\$ 55,000.00
218.	R847RC (R18) Interlocking Fiber Lateral Complete & Fiber Replacement (24 & 144 Backbone)	1	LS	\$ 115,000.00	\$ 115,000.00
SUBTOTAL - FIBER OUTSIDE PLANT MODIFICATIONS & TESTING					\$ 1,524,000.00
CONTRACT ALTERNATES					
ALTERNATE 1 - REMOVAL OF ABANDONED AERIAL CABLES SEGMENT 1					
219.	Removal of Abandoned Aerial Cables Segment 1	1	LS	\$ 51,500.00	\$ 51,500.00
SUBTOTAL ALTERNATE 1 - REMOVAL OF ABANDONED AERIAL CABLES SEGMENT 1					\$ 51,500.00
ALTERNATE 2 - REMOVAL OF ABANDONED AERIAL CABLES SEGMENT 2					
220.	Removal of Abandoned Aerial Cables Segment 2	1	LS	\$ 69,000.00	\$ 69,000.00
SUBTOTAL ALTERNATE 2 - REMOVAL OF ABANDONED AERIAL CABLES SEGMENT 2					\$ 69,000.00
ALTERNATE 3- REMOVAL OF ABANDONED AERIAL CABLES SEGMENT 3					
221.	Removal of Abandoned Aerial Cables Segment 3	1	LS	\$ 60,500.00	\$ 60,500.00

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
SUBTOTAL ALTERNATE 3 - REMOVAL OF ABANDONED AERIAL CABLES SEGMENT 3					\$ 60,500.00
<i>ALTERNATE 4- REMOVAL OF ABANDONED AERIAL CABLES SEGMENT 4</i>					
222.	Removal of Abandoned Aerial Cables Segment 3	1	LS	\$ 60,500.00	\$ 60,500.00
SUBTOTAL ALTERNATE 4 - REMOVAL OF ABANDONED AERIAL CABLES SEGMENT 4					\$ 60,500.00
<i>ALTERNATE 5 -RAIL SIGNAL SPARE PARTS</i>					
223.	Western Cullen Hayes Model 3597 Gate Mechanisms	1	EA	\$ 6,900.00	\$ 6,900.00
224.	12-inch Flashing Light Signal LED lamp units	6	EA	\$ 390.00	\$ 2,340.00
225.	LED lamp units – RED	10	EA	\$ 500.00	\$ 5,000.00
226.	LED lamp units – YELLOW	10	EA	\$ 500.00	\$ 5,000.00
227.	LED lamp units – GREEN	10	EA	\$ 500.00	\$ 5,000.00
228.	LED lamp units – LUNAR	5	EA	\$ 510.00	\$ 2,550.00
229.	ElectroLogIXS VLC 9-Slot Chassis	3	EA	\$ 7,350.00	\$ 22,050.00
230.	ElectroLogIXS Central Display Units (CDU-2)	3	EA	\$ 1,700.00	\$ 5,100.00
231.	ElectroLogIXS Central Power Supply (CPS-3) Modules	5	EA	\$ 1,425.00	\$ 7,125.00
232.	ElectroLogIXS Vital Peripheral Master (VPM-3) Modules	5	EA	\$ 6,500.00	\$ 32,500.00
233.	ElectroLogIXS Communication Input/Output (CIO-1A) Modules	5	EA	\$ 1,200.00	\$ 6,000.00
234.	ElectroLogIXS Communication Input/Output (CIO-2A) Modules	5	EA	\$ 1,200.00	\$ 6,000.00
235.	ElectroLogIXS Vital Input/Output (VIO-86S) Modules	15	EA	\$ 5,775.00	\$ 86,625.00
236.	ElectroLogIXS Vital Lamp Driver (VLD-R16S) Modules	10	EA	\$ 4,520.00	\$ 45,200.00
237.	ElectroLogIXS Vital Track Interface (VTI-2S) Modules	10	EA	\$ 4,175.00	\$ 41,750.00
238.	ElectroLogIXS Integrated Crossing Controller (IXC-20S+) w/ Personality Modules	5	EA	\$ 5,425.00	\$ 27,125.00
239.	Ethernet Switch (RS900)	5	EA	\$ 2,075.00	\$ 10,375.00
240.	Ethernet Switch (RS910)	3	EA	\$ 2,200.00	\$ 6,600.00
241.	Electrified Electrocodse (EC ²) E2CODE Configuration A Units Complete with Modules	3	EA	\$ 19,000.00	\$ 57,000.00
242.	HF-MAX 12V 60AMP Charger	1	EA	\$ 2,200.00	\$ 2,200.00
243.	HF-MAX 12V 40AMP Charger	1	EA	\$ 1,800.00	\$ 1,800.00
244.	Wilmore Model 1675-12-24-8 DC/DC 12/24 Converter	3	EA	\$ 475.00	\$ 1,425.00
245.	Style ST-400-1 Transformer	1	EA	\$ 2,350.00	\$ 2,350.00
246.	PSO 4000 Crossing Assembly (Siemens PN7A474)	2	EA	\$ 10,000.00	\$ 20,000.00
247.	PSO 4000 Transmitter Assembly (Siemens PN7A471)	2	EA	\$ 3,300.00	\$ 6,600.00
248.	PSO 4000 Transceiver Assembly (Siemens PN7A475)	2	EA	\$ 5,200.00	\$ 10,400.00
249.	20 Amp Crossing Interface Panel (XIP-20B)	5	EA	\$ 820.00	\$ 4,100.00
250.	Hitachi Rail STS M23-A (N4511600535) right-hand dual control switch machines complete with mounting plates, layouts and associated hardware.	1	EA	\$ 42,750.00	\$ 42,750.00

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
251.	Hitachi Rail STS M23-A (N4511600536) left-hand dual control switch machines complete with mounting plates, layouts and associated hardware.	1	EA	\$ 42,500.00	\$ 42,500.00
252.	Relay - Track PV-250 (2F-2B, 60/100 Hz)	2	EA	\$ 6,550.00	\$ 13,100.00
253.	PV-250 Base	2	EA	\$ 350.00	\$ 700.00
254.	Relay - Biased Neutral 6FB 500 ohm B-1 (A62-125)	10	EA	\$ 2,150.00	\$ 21,500.00
255.	B-1 relay base complete with installation kit, gold test nut, posts, and hardware.	10	EA	\$ 170.00	\$ 1,700.00
256.	Quest Local Control Panel	2	EA	\$ 4,075.00	\$ 8,150.00
257.	Vartech Monitors	2	EA	\$ 8,425.00	\$ 16,850.00
SUBTOTAL ALTERNATE 5 - RAIL SIGNAL SPARE PARTS					\$ 576,365.00
ALTERNATE 6 - LEGACY SIGNAL CASE AND LEGACY POLE JUNCTION BOX REMOVAL					
258.	Removal of Pole Junction Boxes	18	EA	\$ 340.00	\$ 6,120.00
259.	E342RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
260.	E360RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
261.	E392RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
262.	E427RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
263.	E438RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
264.	E468RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
265.	E481RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
266.	E509RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
267.	E536RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
268.	E5RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
269.	E574RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
270.	E590RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
271.	E604RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
272.	E613RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
273.	E643RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
274.	E654RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
275.	E674RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
276.	E683RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
277.	E698RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
278.	E698TWC Removal (330+00)	1	LS	\$ 3,625.00	\$ 3,625.00
279.	E705RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
280.	E730RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
281.	E742RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
282.	E757RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00

LINE NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
283.	E761RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
284.	E770RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
285.	E772RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
286.	E780RC/RCA Removal	1	LS	\$ 3,625.00	\$ 3,625.00
287.	E808RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
288.	E819RC Removal	1	LS	\$ 3,625.00	\$ 3,625.00
289.	E838RC (E10) Removal	1	LS	\$ 3,625.00	\$ 3,625.00
290.	E854RC - 884RCX Removal	1	LS	\$ 7,250.00	\$ 7,250.00
SUBTOTAL ALTERNATE 6 - LEGACY SIGNAL CASE AND LEGACY POLE JUNCTION BOX REMOVAL					\$ 125,745.00
<i>Grand Total Basis of Award (Base Plus All Alternates)</i>					\$ 26,890,732.50
<p>This all-inclusive pricing must include the costs for the bid bond, performance & payment bonds, and insurance. MTS will not pay additional costs, or separate costs for these.</p>					



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 8

**MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS**

March 13, 2025

SUBJECT:

Pyramid Building Improvements – Work Order Agreement

RECOMMENDATION:

That the San Diego Metropolitan System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute Work Order No. WOA352-AE-27 to MTS Doc No. PWL352.0-22 (in substantially the same format as Attachment A), with HDR Engineering, Inc. (HDR), in the amount of \$329,608.51 for the Pyramid Building Improvements design project.

Budget Impact

The total cost of this contract is estimated to be \$329,608.51. The project will be funded by the Capital Improvement Program (CIP) account 2006109401-Pyramid Building Improvements

DISCUSSION:

The MTS owned “Pyramid Building” is located at 1699 Main Street in San Diego and is used for overflow storage, including bus shelters and benches. The building was constructed in the 1960s and needs seismic and structural repairs, fire rated wall repair, fire sprinkler review and improvements, and other minor upgrades to restore to a state of good repair.

In 2019, a survey of the Pyramid Building was conducted by HNTB Corporation, Josephson Werdowatz & Associates, and J.R. Bardin Company. The survey included suggested and necessary structural and fire/life safety improvements. The proposed Pyramid Building Improvements design services in today’s Proposed Action generally consists of developing plans, specifications and estimates to allow for the construction of all necessary structural and fire/life safety improvements.

Procurement for Design Services

On September 15, 2021, MTS issued a solicitation for On-Call Architectural and Engineering (A&E) Design Services by Requesting Statements of Qualifications (RFSQ) from firms with expertise in a variety of A&E design and related consulting services separated into the following three (3) categories:

1255 Imperial Avenue, Suite 1000, San Diego, CA 92101-7490 • (619) 231-1466 • sdmts.com

San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.



- Category A: Comprehensive/Full Service - Five (5) prime contracts
- Category B: Small Business (SB) Set Aside - Three (3) prime contracts awarded to a certified SB or a Disadvantage Business Enterprise (DBE) certified firm, (which is also considered to be a SB)
- Category C: Specialty Prime – Up to Five (5) specialty service contracts

As a result of the RFSQ, seven (7) firms were selected to perform various A&E services. For projects requiring A&E Services, work orders are issued to these firms.

On October 3, 2024, MTS issued a Request for Proposals (RFP) to all firms in Categories A and B. On November 8, 2024, MTS received only one (1) proposal from the following A&E firm:

Firm Name	Firm Certification
HDR	None

On November 12, 2024, MTS issued a post-bid survey to ascertain the reasons other firms did not submit a proposal in response to the solicitation. No firms responded to the survey. Thus, staff believed that the scope of services did not contain prohibitive language.

An evaluation panel was comprised of MTS representatives, and the proposals were evaluated based on the following criteria.

Criteria	Points
Project Team	25
Project Team's Capabilities	20
Project Understanding and Approach	40
Schedule	15
Total Possible Score	100

On November 26, 2024, the selection committee evaluated the initial proposals and scored as follows:

Ranking	Proposer Name	Total Score
1	HDR	74.67

Furthermore, staff requested clarifications from HDR concerning their technical proposal.

On December 31, 2024, following the receipt of the clarifications from HDR, staff reconvened, and rescored HDR's proposal as follows:

Ranking	Proposer Name	Total Score
1	HDR	78.00

As a result of the evaluations, HDR was deemed to be the most qualified firm to perform the services. HDR's initial proposed amount for the services was \$362,010.71. Through negotiations, staff was able to reduce the cost by \$32,402.20, an 8.95% savings to MTS. MTS's Independent Cost Estimate (ICE) for the services was \$460,456.79. Based on the level of effort

and proposed classifications, HDR final cost proposal in the amount of \$329,608.51 was determined to be fair and reasonable.

For this project HDR will utilize the following subconsultant(s):

Subconsultant Name	Subconsultant Certification	Subconsultant Amount
Aguirre & Associates	DBE, MBE, and SB	\$12,121.18

Therefore, staff recommends that the San Diego Metropolitan System (MTS) Board of Directors authorize the CEO to execute Work Order No. WOA352-AE-27 to MTS Doc No. PWL352.0-22 (in substantially the same format as Attachment A), with HDR, in the amount of \$329,608.51 for the Pyramid Building Improvements design project.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachment: A. Draft Work Order WOA352-AE-27



**Metropolitan
Transit
System**

March 13, 2024

MTS DOC No. PWL352.0-22
Work Order WOA352-AE-27

Mr. Thomas K. Kim
Senior Vice President
HDR Engineering, Inc.
401 B Street, Suite 110
San Diego, CA 92101

Dear Mr. Kim:

Subject: WORK ORDER WOA352-AE-27 TO MTS DOC. NO. PWL352.0-22 FOR DESIGN SERVICES FOR PYRAMID BUILDING IMPROVEMENTS

This letter shall serve as our agreement for professional services, Work Order WOA352-AE-27, under the General Engineering Consultant Agreement, MTS Doc. No. PWL352.0-22, as further described below.

SCOPE OF SERVICES

This Work Order shall provide design services for the Pyramid Building for all proposed structural upgrades, fire/life safety upgrades, and any other upgrades in order to bring building into code compliance. Work provided under this Work Order shall be performed in accordance with the attached Scope of Services (Attachment A and A1)

SCHEDULE

The Schedule shall remain in effect for a period of twelve (12) months from the date of the Notice to Proceed (NTP).

PAYMENT

Payment shall be based on actual costs in the amount not to exceed \$329,608.51 without prior authorization of MTS.



Please sign below, and return the document to the Contracts Specialist at MTS. All other terms and conditions shall remain the same and in effect.

Sincerely,

Accepted:

Sharon Cooney
Chief Executive Officer

Thomas K. Kim
HDR Engineering, Inc.

Date:_____

Attachments: Attachment A, Scope of Services
Attachment A1, Consultant's Proposal
Attachment B, Negotiated Fee Proposal

DRAFT

ATTACHMENT A
SCOPE OF SERVICES

DRAFT

TITLE: PYRAMID BUILDING IMPROVEMENTS - DESIGN **WOA #:** WOAXXX-AE-27

I. PROJECT DESCRIPTION

The MTS owned "Pyramid Building" is an existing masonry building located at 1699 Main Street in San Diego that MTS currently uses for storage. The structure requires design services including seismic and structural repairs, fire rated wall revisions, fire sprinkler revisions and other minor upgrades in order to be acceptable and compliant with both the San Diego Fire Marshall, as well as the City of San Diego. The building currently has a "S" Occupancy Classification and there is no desire to change it, but due to recent inspections, and reports, it has been determined that there are several elements of the building that require upgrading. Some of these elements that require design include, but aren't limited to general structural repairs & seismic upgrades (i.e. bracing and masonry ties), repairs and/or replacements to damaged columns, masonry repairs to spalling blocks, fire rated wall revisions between bays 1 & 2, 2 & 3, fire sprinkler revisions, code compliant pedestrian emergency ingress and egress, as well as potential other repairs necessary.

The intent of this Work Order is to provide engineering services to conduct a complete design for all purposed structural upgrades, fire/life safety upgrades, and any other upgrades in order to bring building into code compliance. The Consultant shall provide a full design package including plans, specifications, and estimate. The Consultant shall submit the design package to the City of San Diego Development Services Department (DSD) in order to have a construction permit ready for issuance.

II. SCOPE OF WORK

The scope of work shall consist of the following tasks and deliverables:

Task 1 – Project Management and Coordination

- 1.1 Provide project management services including the requirements for invoicing, scheduling, monthly project progress reports, and administration of the Consultant's team.
- 1.2 Provide project coordination with MTS as well as coordination with other project stakeholders as necessary.
- 1.3 Arrange and facilitate Project Development Team (PDT) meetings, interagency meetings, field reviews, and other project-related meetings. Consultant shall prepare meeting agendas, meeting minutes, necessary supplemental materials, and meeting sign-in sheets for all meetings.
- 1.4 Provide coordination and oversight of subconsultant(s) and integration of plans and specifications into submittal packages.
- 1.5 Provide QA/QC which will be performed on all deliverables. To ensure quality of work and compliance with the Scope of Work, the Consultant shall perform a systematic in-house review of all documents produced prior to submittal. All reviewed documents will have a check box or signature page indicating review has been performed.
- 1.6 Develop and implement a project schedule to complete the Scope of Work and manage the project to eliminate or minimize supplemental agreements.

Task 2 – Site Visit, Study Reviews and Design

As a follow up to an incident that occurred in November of 2017, MTS has received correspondence from the City, performed a preliminary planning study, performed a building structural comprehensive review, and performed a fire sprinkler pipe calculation survey (Exhibit A, Pyramid Building Analysis.) The intent is for the consultant to review these previously completed reports and studies, perform a site visit of the building in order to support the design process. The Consultant shall conduct a site visit to observe and understand all necessary seismic, structural, and fire/life safety repairs required relating to the following:

2.1 Structural Columns

2.1.1 Consultant shall perform a review of all interior columns within the building. A number of the structural columns supporting the roof are showing signs of cracking, warping, and damage. Some columns require repairs and some require complete demo and replacement. Consultant shall provide comprehensive assessment and design for column repair, bracing, or full replacement as needed for all columns within the building.

2.2 Fire Rated Separation Walls

2.2.1 Existing fire rated walls between Bays 1 & 2 and 2 & 3, have been penetrated and/or are severely damaged. These fire rated walls need to be patched, repaired, or replaced in order to meet code compliance for fire rated wall separations.

2.3 Fire Sprinkler System

2.3.1 Per the previously conducted site survey, the existing fire sprinkler system was found to be adequate, however; the Fire Marshal at the time of the incident was not convinced the fire sprinkler system was fully functional, adequate, and accurately sized to meet the need of the total building square footage and individual bay square footage. In response, the Fire Marshal opted to take a defensive position in the event of a fire at the building. Consultant shall perform a complete survey of the fire sprinkler system, MTS will provide previous fire sprinkler reports, and provide a design for getting the complete fire sprinkler system up to a level of code compliance. Consultant shall meet with the Fire Marshal, obtain approval on the new fire sprinkler design, and get the building removed from the defensive position.

2.4 Ingress/Egress

2.4.1 Per the previously conducted site survey, some alterations may be necessary to existing pedestrian doors. Consultant shall provide a survey of all ingress and egress and provide a design for all necessary alterations to all building access doors in order to bring them into compliance.

2.5 Seismic Upgrades

2.5.1 Consultant shall analyze existing provided structural/seismic survey to accurately and fully design all repairs necessary to the existing structural and seismic deficiencies present in the structure as listed above in order to get the building up to seismic code compliance for.

2.6 Report Review

2.6.1 Consultant shall analyze the provided letter from the City of San Diego(Exhibit B), ensuring all issues are corrected as part of this design. Consultant shall analyze the provided planning studies, ensuring all issues are corrected as part of the design.

2.7 Consultant shall provide all necessary coordination with outside agencies and key stakeholders as required for the design. This includes, but is not limited to, the City of San Diego and the San Diego Fire Marshal.

2.8 Consultant shall provide all necessary coordination, submissions, and approvals of the design with the City of San Diego to obtain plan approval for the Contractor to obtain the necessary construction building permit.

2.9 Consultant shall provide all necessary structural and fire surveying for use in the design and permitting of site improvements. Consultant shall review and evaluate information for the proposed work area, including all available information and MTS design guidelines, local jurisdiction requirements.

2.10 Consultant shall conduct a review of all documentation and former structural reports provided by MTS (Exhibit C). Prior reports are to be used as a basis of necessary repairs to bring structure into full compliance or state of reasonable compliance. No additional design or improvements are desired beyond those necessary to reach compliance.

Task 3 – Design Submittal

3.1 Consultant shall prepare a complete specification and design package consisting of, but not limited to the following and as stated above:

3.1.1 Structural improvements to the structural supports and roof of the building including repairs to spalling and damaged CMU blocks.

3.1.2 Fire/ life safety survey and design to improve the structure’s standing with San Diego Fire Department.

3.1.3 Potential facility operations and impacts (if any) of various facets of design, i.e. loss of storage space or impacts to operations.

3.1.4 Full design and of the necessary improvements to bring building up to code.

3.1.5 Consultant shall review previous un-permitted construction components in order to determine if they need to be demolished in order to get into code compliance and agreement with the City of San Diego DSD.

3.2 Consultant shall prepare a cost estimate for construction/repairs of design being presented.

3.2.1 Estimate should not only include new construction; it should also include cost to demo/repair of any existing structural or fire services, cap/abandon existing utilities, and patching/repair of concrete/masonry as necessary.

- 3.3 Consultant shall prepare a complete set of drawings consisting of, but not limited to the following:
- 3.3.1 Site plans and details based on any as-built plans, survey and field information gathered.
 - 3.3.2 Demolition plans and details showing the limits and depth of all pavement removals, concrete removals, and any other necessary demolition work with preferred material staging areas. Items to be protected, relocated, or salvaged shall also be clearly identified.
 - 3.3.3 Fire/Life safety plans showing and demo/improvements necessary to existing system to meet code compliance.
 - 3.3.4 Any demolition/improvements to be made to non-load bearing structures and drywall partition walls to achieve code compliance.
 - 3.3.5 Structural plans showing installation and location of all necessary structural repairs or improvements necessary to achieve seismic stability and code compliance.
- 3.4 Consultant shall prepare technical specifications for the proposed work. The specifications will be submitted to MTS for review at each milestone. Specifications shall be prepared in CSI format. For any standard reference the Caltrans Standard Specifications (current version), San Diego Standard Specifications for Public Works Construction (current version), or San Diego Regional Standard Drawings can be referenced in order to adhere to the City of San Diego requirements as necessary for permitting approval.
- 3.5 Prepare construction cost estimate. The Consultant will develop a construction cost estimate for the 60%, 90% and 100% CD plan level and submit it to MTS. Current available cost data will be used to develop the Engineer's Estimate.

III. PERIOD OF PERFORMANCE

The period of performance for required services shall be (12) months from the date of the Notice to Proceed.

IV. DELIVERABLES

1. Plans, specifications, and estimates at the 60%, 90% and 100% levels.
2. Construction cost estimate for design being presented.
3. (1) Full size physical set of plans for each milestone (up to 4 total: 60%, 90% and 100%/CD)

V. SCHEDULE OF SERVICES/MILESTONES/DELIVERABLES

A. Tasks Schedule

Task	Begin/End Dates
1. Project Management & Coordination	NTP / Project Completion
2. Initial submittal at 60%	NTP / + 4 months
3. Submittal at 90%	NTP / + 7 months
4. Final 100% submittal and acceptance of plans, estimates, and memos by MTS	NTP / + 10 months

B. Milestones/Deliverables Schedule

Milestone/Deliverable	Due Date
1. Submittal at 60%	NTP + 3 months
2. Submittal at 90%	NTP + 7 months
3. Final plans, estimate, and summary memos	NTP + 10 months

VI. MATERIALS TO BE PROVIDED BY MTS AND/OR THE OTHER AGENCY

MTS to provide any relevant As-builts and all previous structural reports/reviews.

VII. SPECIAL CONDITIONS

Any condition listed below applies solely to this Work Order and does not otherwise alter the Agreement or other Work Orders.

The San Diego Fire Department has placed the Pyramid Building on a defense list, meaning they will currently make no efforts to save the structure, but that they will defend against the spread of fire to other buildings. Part of this design should also include a full fire/life safety design to bring the building up to code, to get the structure off of the defense only list.

VIII. MTS ACCEPTANCE OF SERVICES:

Contractor shall not be compensated at any time for unauthorized work outside of this Work Order. Contractor shall provide notice to MTS' Project Manager upon 100% completion of this Work Order. Within five (5) business days from receipt of notice of Work Order completion, MTS' Project Manager shall review, for acceptance, the 100% completion notice. If Contractor provides final service(s) or final work product(s) which are found to be unacceptable due to Contractors and/or Contractors subcontractors negligence and thus not 100% complete by MTS' Project Manager, Contractor shall be required to make revisions to said service(s) and/or work product(s) within the Not to Exceed (NTE) Budget. MTS reserves the right to withhold payment associated with this Work Order until the Project Manager provides written acceptance for the 100% final completion notice. Moreover, 100% acceptance and final completion will be based on resolution of comments received to the draft documents and delivery of final documentation which shall incorporate all MTS revisions and comments.

Monthly progress payments shall be based on hours performed for each person/classification identified in the attached Fee Schedule and shall at no time exceed the NTE. Contractor shall only be compensated for actual performance of services and at no time shall be compensated for services for which MTS does not have an accepted deliverable or written proof and MTS acceptance of services performed.

IX. DEFICIENT WORK PRODUCT

Throughout the construction management and/or implementation phases associated with the services rendered by the Contractor, if MTS finds any work product provided by Contractor to be deficient and the deficiently delays any portion of the project, Contractor shall bear the full burden of their deficient work and shall be responsible for taking all corrective actions to remedy their deficient work product including but not limited to the following:

- Revising provided documents,

At no time will MTS be required to correct any portion of the Contractors deficient work product and shall bear no costs or burden associated with Contractors deficient performance and/or work product.

X. DELIVERABLE REQUIREMENTS

Contractor will be required to submit any and all documentation required by the Scope of Work. The deliverables furnished shall be of a quality acceptable to MTS. The criteria for acceptance shall be a product of neat appearance, well-organized, and procedurally, technically and grammatically correct. MTS reserves the right to request a change in the format if it doesn't satisfy MTS's needs. All work products will become the property of MTS. MTS reserves the right to disclose any reports or material provided by the Contractor to any third party.

Contractor shall provide with each task, a work plan showing the deliverables schedule as well as other relevant date needed for Contractor's work control, when and as requested by MTS.

Contractor's computer data processing and work processing capabilities and data storage should be compatible with Windows compatible PC's, text files readable in Microsoft Word, and standard and customary electronic storage. Contractor shall maintain backup copies of all data conveyed to MTS.

Contractor shall provide MTS with hard copy or electronic versions of reports and/or other material as requested by MTS.

XI. PRICING

Except where otherwise noted herein, pricing shall be firm and fixed for the duration of the Work Order and any subsequent Change Orders/Amendments to the Work Order. There shall be no escalation of rates or fees allowed.

XII. ADDITIONAL INFORMATION

Recent structural and seismic survey results will be provided.

XIII. PREVAILING WAGE

Prevailing wage rates apply to certain personnel for these services? Yes No

Exhibits: A, Pyramid Building Analysis

B, Letter from the City of San Diego

C, Pyramid Building Documentation and Former Structural Reports

EXHIBIT A
PYRAMID BUILDING ANALYSIS

DRAFT

PYRAMID BUILDING

BUILDING ANALYSIS Existing Conditions, Applicable Code Requirements Required/ Recommended Repairs and Preliminary Cost Estimate

**For the Metropolitan Transit System
San Diego, CA**

Prepared by:

J.R. Bardin Company
4275 Executive Square, Suite 200
San Diego, CA 9037
858-458-5944

November 18, 2020

Pyramid Building

1695 Main St.
San Diego, CA

Building Analysis, including Required/ Recommended Repairs

November 23, 2020

1.0 INTRODUCTION/ SUMMARY

1.1 Overview of the Project/Goals for This Report

The Pyramid Building is currently being used by the Metropolitan Transit System as a warehouse for various equipment and supplies.

The building site is located at 1695 Main Street, San Diego, California
(See Attachment 1.0-A).

As a building which was originally constructed in 1962, and used through the years for perhaps various purposes, e.g., warehousing, the building has aged, with minimal upgrades and marginal maintenance.

While the immediate area surrounding the project site has generally remained in its present condition for years, i.e., primarily light industrial/ commercial, the area to the north and east of the site is currently undergoing a transition from older light industrial/ commercial buildings to low and mid-rise residential buildings/ projects. This transition is a continuation of the transformation of the areas generally south of the main portion of the City of San Diego, starting with the Gaslamp District, during the 1970's.

Since 1962, there has been numerous code changes relative to structural and fire protection requirements. It is our understanding that the San Diego fire department has recently taken the position that they will not fully defend the building against fire, due to certain deficiencies. Previously, a report was prepared by HNTB for an alternative use of the site, i.e., removing and replacing the building with a new metal building, e.g., a Butler Building. That alternative is very expensive and is subject to current regulations by the City of San Diego and the Coastal Commission. The HNTB report did a good job of describing those standards and requirements. This report, and the accompanying structural report by Josephson Werdownatz & Associates, Inc. and recent fire sprinkler inspections and recommendations by Schmidt Fire Protection, are primarily intended to address questions as to:

- a. What is the present condition of the building, in terms of its overall conditions and the conditions of its various assemblies and components.
- b. What repairs would be necessary to: a) bring the building into reasonable, current code compliance in terms of the building's fire and structural assemblies/ components.
- c. What additional repairs are recommended to address other conditions, in terms of providing a more functional building and increasing the building's serviceability over time.

1.2 Overall Evaluation of the Existing Building and Required/ Recommended Repairs

Overall, while the Pyramid Building is old it is still in adequate shape where necessary repairs can be performed at a cost which is significantly less than would be the case, if the building is removed and replaced.

From a safety perspective, the two most significant areas of repair are the structural and fire protection repairs.

1.3 Alternative Options

During our work on this matter, a number of potential uses have been discussed, including:

a) removing and replacing the building with a new metal building, b) removing a portion of the building, using the space available for parking, etc.

Obviously, those, or other options, are always available to the MTS.

Several key considerations regarding optional building alternatives and use of the site include:

- a. The cost of replacing the building is significantly higher than repairing the existing building.
- b. Based on the previously referred to HNTB report, any alternative that includes excavations into the existing soils, will probably involve additional costs for the investigation of, and removal of, contaminated soils.
- c. As an existing building, the present structure will be treated by the City of San Diego differently than if a new building is proposed, e.g., meeting current codes and requirements for the building's footprint and appearance.

1.4 Report Limitations

While mentioned, in conjunction with the evaluations of the building, this report is not intended as a complete evaluation of the entire MTS site, e.g., use of the remaining site for parking, overall site drainage, which has been a problem in the past, condition of the A.C. pavement, extension of the various utility lines onto the site, through the site and into the building.

Our firm has reviewed the previously prepared report by HNTB Corporation, entitled Alternatives Analysis Memo, MTS Pyramid Building Concept Layout, dated August 8, 2019 and believe that this report adequately described, on a preliminary basis various site conditions.

2.0 GENERAL DESCRIPTION OF THE SITE AND BUILDING

2.1 General Description of the Building and Its Location

In approximately 2012-2015, the Metropolitan Transit System, hereinafter referred to as the "MTS", purchased a warehouse building, and surrounding site, in the area known as the Barrio Logan Neighborhood, which is south of the San Diego downtown area and San Diego's baseball stadium known as Petco Park. See Exhibit 2.0-A , Site Location Map.

The warehouse building, which was originally constructed in approximately 1962, is a one story, rectangular building, approximately 90,000 square feet in size. Presently, it is divided into 4 spaces, by full height walls, extending in an east-west direction across the interior floor slab. Openings in those walls provide both personnel and small equipment movement between the spaces.

2.2 Site Description

The site is located at 1695 Main Street, at the corner of Main Street and Sigsbee Street. Key features of the site and areas adjacent to the building are as follows:

- a. South Side of Building: Small property set-back area presently covered with crushed rock.
- b. East Side of Building: Largely open, A.C. paved lot, primarily providing parking and access to the overhead doors on the east side of the warehouse building.
- c. North Side of Building: A.C. paved lot, currently used as a storage area for MTS equipment and materials.
- d. West Side of the Building: Essentially a property set-back area, primarily covered by crushed rock. Abandoned rail tracks, presumably used at one time to deliver materials to the warehouse, via large overhead doors along the west side of the building.

See Exhibit 2.0-B, Site Plan

2.3 Building Description

At present, the southern portion of the building is being used for the storage of primarily heavy and "bulky" storage. The northern portion of the building is primarily not being used by MTS. The primary structural systems within the building are original, i.e., reinforced masonry walls and a heavy wood supported roof. The concrete slab interior improvements within the building are a combination of original construction and various renovations within the building. The building does have a fire sprinkler system, which was installed at some point in time. See Exhibit 2.0-C, Building Floor Plan and 2.0-D, Overall Photographs of the Building.

2.4 Alternative Approaches to the Use of the Project

In the past, the MTS has considered various options for the building and building site, including: a) upgrading the building to today's standards for warehouse space, b) demolishing at least a portion of the building and replacing at least a portion of the building with a metal building and c) demolishing at least a portion of the building, and then using at least a portion of the resulting land space for parking.

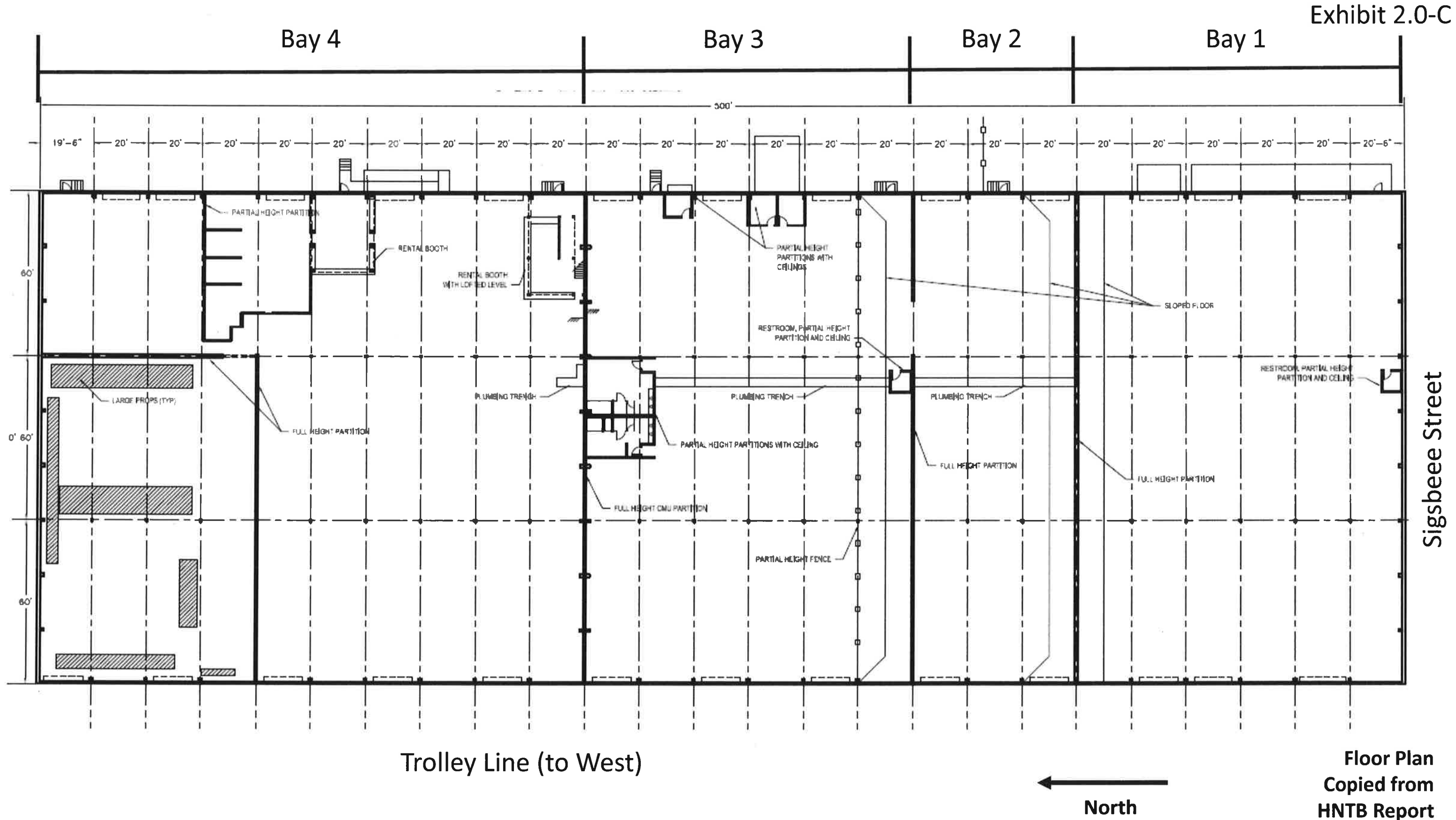
2.5 EXHIBITS

- 2.0-A Project Location - Aerial View
- 2.0-B Site Plan
- 2.0-C Building Floor Plan
- 2.0-D Overall Photographs of the Building





Copied from HNTB Report



Trolley Line (to West)



North

Floor Plan Copied from HNTB Report



2.0-a Overall Aerial View of Building from Main Street and Sigsbee Street



2.0-b Overall Aerial View of Building from Northeast



2.0-c Building – From Corner of Sigsbee Street and Main Street – East Elevation



2.0-d Building – From Corner of Sigsbee Street and Main Street – South Elevation



2.0-e North Elevation of Building



2.0-f West Elevation of Building

3.0 CODES AND PERMITS

3.1 Zoning

The current zoning classification for the site is as a "CCDC-AWAITS-CCC-APPR". That classification allows Mixed Commercial zoning, including Warehouse and Wholesale

3.2 Jurisdictional Review/ Permitting

If the building were to be removed and a new building constructed on the site, the project would probably be subject to the review process of the City of San Diego Development Services Department, and potentially the Center City Development Corporation.

As stated in the HNTB report, dated August 8, 2019, the projects on MTS property "may be exempt from permitting by the City of San Diego."

However, as discussed in this report, one of the objectives in making repairs to the existing building is to bring the building into reasonable compliance with current codes and standards for structural integrity and fire protection, and to ensure that the San Diego Fire Department will actively respond to a fire within the building.

Accordingly, the latter will probably require both a review of the construction documents for the repairs and inspection of those repairs. The normal procedure for City plan review and inspection would be the submittal of the project for permitting purposes.

3.3 Applicable Building Code

Obviously, the Pyramid Building was constructed, subject to the applicable building code in the 1962 time period.

The current applicable code, e.g., under which the currently recommended repairs would be performed is the 2019 California Building Code, hereinafter also referred to as the 2019 CBC.

While the intent of the repair recommendations will be to conform to the current, applicable code, there may be some items where it may be advantageous to request that the existing construction be "grandfathered in", based on the applicable codes at the time of construction. This is commonly done, particularly where bringing the building components into conformance with current code requirements is either not possible, or not feasible, in terms of the cost of the required work.

3.4 Building Classification, As to Use

For purposes of establishing certain requirements, the present code, and all previous codes since the Pyramid Building was constructed, classify buildings by type and use.

The Pyramid Building will be classified as an S-Occupancy, either an S-1 or S-2. A copy of those classifications is included as Exhibit 3.0-A. The significance of these code designations is further discussed in Section 4.0 of this report.

The significance between the S-1 and S-2 occupancy classifications is primarily related to what can be stored in the building. S-2 designations are more restrictive than S-1 designations. See Exhibit 3.0 - A Storage Group S

Our recommendation is to assume that the building will be classified as a S-1 occupancy, which is not as restrictive, rather than classifying the occupancy as an S-2 occupancy and then having to monitor what items are stored in the building.

3.5 Building Classification, as to Type of Construction

The 2019 CBC, and all other general building codes since the building was constructed, classify buildings according to the type of construction/ materials used in that construction. In particular, these classifications are used to determine specific fire protection requirements. The classifications include Type I, II, III, IV and V. For a general understanding of the classifications, high rise construction is typically Type I and wood framed construction is Type V.

Because the roof framing at the Pyramid Building is wood construction, as discussed in the separately provided report by Josephson Werdowatz, and Associates, Inc., the Pyramid Building will be classified as a Type V construction.

Type V construction is further broken down between:

Type V-A (One Hour)

Type V-B (All Other)

To be classified as a Type V - A construction, materials used in the construction for certain purposes, e.g., structural framing, exit doors, etc. have to be non combustible (as would be the case with the CMU walls), heavy timber (as would be the case with the structural columns) or protected by a fire rated material, e.g., gypsum board.

The ceiling/ roof framing, which is principally wood construction, except for metal connectors, is not protected by a fire rated material, e.g., gypsum board, as confirmed by Josephson Werdowatz and Associates, Inc. From a structural point of view, it would not be possible to add a layer of gypsum board to the underside of the existing ceiling/ roof framing, due to the weight of the added materials.

Accordingly, the Pyramid Building will be classified as a Type V-B (Non Rated) structure. See Exhibit 3.0 - B Fire-Resistance Rating Requirements

3.6 Exhibits

3.0 - A 2019 CBC, Section 311 Description of Uses - Storage Group S

3.0 - B 2019 CBC, Table 601, Fire-Resistance Rating Requirements for Building Elements

3.0 - C 2019 CBC, Table 506.2, Allowable Area Factor

- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linoleum
- Lumber
- Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8)
- Photo engravings
- Resilient flooring
- Self-service storage facility (mini storage)
- Silks
- Soaps
- Sugar
- Tires, bulk storage of
- Tobacco, cigars, cigarettes and snuff
- Upholstery and mattresses
- Wax candles

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312.1 General occupancy conform to the fire and shall include:
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311.3 Low-hazard storage, Group S-2. Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following:

- Asbestos
- Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers
- Cement in bags
- Chalk and crayons
- Dairy products in nonwaxed coated paper containers
- Dry cell batteries
- Electrical coils
- Electrical motors
- Empty cans
- Food products
- Foods in noncombustible containers
- Fresh fruits and vegetables in nonplastic trays or containers
- Frozen foods
- Glass
- Glass bottles, empty or filled with noncombustible liquids
- Gypsum board

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- Silks
- Soaps
- Sugar
- Tires, bulk storage of
- Tobacco, cigars, cigarettes and snuff
- Upholstery and mattresses
- Wax candles

**SECTION 311
 STORAGE GROUP S**

311.1 Storage Group S. Storage Group S occupancy includes, among others, the use of a building or structure, or a portion thereof, for storage that is not classified as a hazardous occupancy.

311.1.1 Accessory storage spaces. A room or space used for storage purposes that is accessory to another occupancy shall be classified as part of that occupancy.

311.2 Moderate-hazard storage, Group S-1. Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

- Aerosol products, Levels 2 and 3
- Aircraft hangar (storage and repair)
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)

local housing standards to such facilities if the standards are applicable to residential occupancies and are not based on the use of the structure as a facility for ambulatory children. For the purpose of this exception, ambulatory children do not include relatives of the licensee or the licensee's spouse.
310.4.2 Lodging houses. Owner-occupied lodging houses with five or fewer guest rooms and 10 or fewer total occupants shall be permitted to be constructed in accordance with the California Residential Code.
310.5 Residential Group R-4. Residential Group R-4 occupancy shall include buildings, structures or portions thereof for more than six ambulatory clients, but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. This group shall include, but not be limited to, the following:
 Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code. This occupancy classification may include a maximum six nonambulatory or bedridden clients (see Section 435, Special Provisions for Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1 or R-4). Group R-4 occupancies shall meet the requirements in Section 420.
310.6 Large family day care homes. See Section 455.

**SECTION 311
 STORAGE GROUP S**
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 Buttons, including cloth covered, pearl or bone
 Cardboard and cardboard boxes
 Clothing, woolen wearing apparel
 Cordage
 Dry boat storage (indoor)

OCCUPANCY CLASSIFICATION AND USE

- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linooleum
- Lumber
- Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8)
- Photo engravings
- Resilient flooring
- Self-service storage facility (mini-storage)
- Silks
- Soaps
- Sugar
- Tires, bulk storage of
- Tobacco, cigars, cigarettes and snuff
- Upholstery and mattresses
- Wool

311.3 Low-hazard storage, Group S-2. Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following:

- Asbestos
- Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers
- Cement in bags
- Chalk and crayons
- Dairy products in nonwaxed coated paper containers
- Dry cell batteries
- Electrical coils
- Electrical motors
- Empty cans
- Food products
- Foods in noncombustible containers
- Fresh fruits and vegetables in nonplastic trays or containers
- Frozen foods
- Glass
- Glass bottles, empty or filled with noncombustible liquids
- Gypsum board
- Inert pigments
- Ivory
- Meats
- Metal cabinets
- Metal desks with plastic tops and trim
- Metal parts
- Metals
- Mirrors
- Oil-filled and other types of distribution transformers
- Parking garages, open or enclosed
- Porcelain and pottery
- Stoves
- Talc and soapstones
- Washers and dryers

**SECTION 312
UTILITY AND MISCELLANEOUS GROUP U**
312.1 General. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

- Agricultural buildings
- Aircraft hangars, accessory to a one- or two-family residence (see Section 412.4)

311.3 Low-hazard storage, Group S-2. Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following:

- Asbestos
- Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers
- Cement in bags
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- Empty cans
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- Foods in noncombustible containers
- Fresh fruits and vegetables in nonplastic trays or containers
- Frozen foods
- Glass
- Glass bottles, empty or filled with noncombustible liquids
- Gypsum board
- Inert pigments
- Ivory
- Meats
- Metal cabinets
- Metal desks with plastic tops and trim
- Metal parts
- Metals
- Mirrors
- Oil-filled and other types of distribution transformers
- Parking garages, open or enclosed
- Porcelain and pottery
- Stoves
- Talc and soapstones
- Washers and dryers

2019 CALIFORNIA BUILDING CODE

INTERNATIONAL CODE COUNCIL

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**CHAPTER 6
 TYPES OF CONSTRUCTION**

User note:

About this chapter: Chapter 6 establishes five types of construction in which each building must be categorized. This chapter looks at the building elements such as building frame, roof, wall and floor element and its proximity to a lot line, fire resistance of 1

**CHAPTER 6
 TYPES OF CONSTRUCTION**

Pyramid Building is a Type V-B construction, due to the lack of one-hour fire resistance ratings at the roofs.

erected, altered or extended in height or area shall be classified in one of the five construction types defined in Sections 602.2 through 602.5. The building elements shall have a fire-resistance rating not less than that specified in Table 601 and exterior walls shall have a fire-resistance rating not less than that specified in Table 602. Where required to have a fire-

ce rating by Table 601, building elements shall conform to the applicable provisions of Section 703.2. The provisions for openings, ducts and air transfer openings in building elements shall not be required unless required by the provisions of this code.

Exception: Noncombustible structural members supporting solar photovoltaic panels are not required to meet the fire-resistance rating for the following:

1. Photovoltaic panel supported by a structure and having no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.

2. Solar photovoltaic (PV) panels supported by noncombustible framing that have sufficient uniformly distributed

**TABLE 601
 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A	B	A	B	HT	A	B
Primary structural frame ^a (see Section 202)	3 ^{b,c}	2 ^{b,c}	1 ^b	0	1 ^b	0	HT	1 ^b	0
Bearing walls									
Exterior ^{e,f}	3	2	1	0	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	1/HT	1	0
Nonbearing walls and partitions	See Table 602								
Exterior									
Nonbearing walls and partitions							See Section 2304.11	0	0
Interior ^d	0	0	0	0	0	0		0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	1 1/2	1 ^{b,c}	1 ^{b,c}	0 ^a	1 ^{b,c}	0	HT	1 ^{b,c}	0

For SI: 1 foot = 304.8 mm.

FIRE-RESISTANCE RATING

BUILDING ELEMENT	TYPE V	
	A	B
Primary structural frame ^f (see Section 202)	1 ^b	0
Bearing walls		
Exterior ^{e,f}	1	0
Interior	1	0
Nonbearing walls and partitions		
Exterior		
Nonbearing walls and partitions		
Interior ^d	2	0
Floor construction and associated secondary members (see Section 202)	1	0
Roof construction and associated secondary members (see Section 202)	1 ^{b,c}	0

GENERAL BUILDING HEIGHTS AND AREAS

Pyramid Building is Classified as Type V-B construction. The allowable areas for Type B construction without fire sprinklers are as indicated.

TABLE 506.2—continued
ALLOWABLE AREA FACTOR (A, = NS, S1, S13R, S13D or SM, as applicable) IN SQUARE FEET^(a)

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION									
		TYPE I		TYPE II		TYPE III		TYPE IV		TYPE V	
		A	B	A	B	A	B	A	B	A	B
R-2 ¹	NS ²	UL	55,000	19,000	NP	16,500	NP	NP	NP	10,500	NP
	S13R	UL	55,000	19,000	NP	16,500	NP	NP	NP	10,500	NP
	S1	UL	220,000	76,000	NP	66,000	NP	72,000	42,000	NP	NP
	SM (without height increase)	UL	105,000	57,000	NP	49,500	NP	54,000	31,500	NP	NP
	SM (with height increase)	UL	55,000	19,000	NP	16,500	NP	NP	10,500	NP	NP
R-2 ²	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000	28,000
	SM (without height increase)	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000	21,000
	SM (with height increase)	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000	7,000
R-3, R-3 ¹	NS ²										
	S13D										
	S13R	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1										
	SM										
R-4 ¹	NS ²										
	S13D	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000	7,000
	S13R										
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000	28,000
	SM (without height increase)	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	102,000	56,000	36,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	76,500	42,000	27,000	27,000
	NS	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500	13,500
S-2	S1	UL	316,000	156,000	104,000	156,000	104,000	154,000	84,000	54,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	115,500	63,000	40,500	40,500
	NS ²	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500	5,500
U	S1	UL	142,000	76,000	34,000	56,000	34,000	72,000	36,000	22,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	54,000	27,000	16,500	16,500

For SI: 1 square foot = 0.0929 m²
 UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.
 a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
 b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
 c. New Group H and all Group I occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
 d. The NS value is only for use in evaluation of existing building area in accordance with the California Existing Building Code.
 e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.

ALLOWABLE AREA FACTOR		TYPE V	
OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	A	B
S-1	NS	14,000	9,000
	S1	56,000	36,000
	SM	42,000	27,000
S-2	NS	21,000	13,500
	S1	84,000	54,000
	SM	63,000	40,500

4.0 FIRE PROTECTION

4.1 Overview of the Fire Protection Issues

Our current understanding is that the City of San Diego Fire Department has currently taken the position that they will not enter the Pyramid Building, should a fire start within the building, due to the danger that entry into the building might represent.

The biggest concerns, should a fire start within the building are the following:

- a. The wood ceiling/ roof supporting system, which is fully exposed, with no gypsum board ceiling materials on the underside of the wood framing.
- b. The currently inadequate area separation walls, between various bays within the building.
- c. Certain, specific defective conditions and documentation regarding the fire sprinkler system.

In addition to the above, an additional concern, particularly relative to obtaining a permit for the fire protection repair work described below is the provision of code compliant exits from the building in case of a fire.

4.2 Designations for the Four Distinctive Building Areas

As shown on the Building Floor Plan, Exhibit 4.0-A, there are four (4) distinctive areas within the building. The four areas are presently divided by walls that extend full height from the concrete floors to the underside of the roof structures.

For the purposes of this report, we have included the following designations:

- Bay 1: The most southerly area, which fronts onto Sigsbee Street to the south.
Bay 2: Next to, and north of Bay 1. This is the smallest of the bays.
Bay 3: Next to, and north of Bay 2
Bay 4: The most northerly area, at one time occupied by a paint ball operation.
This is the largest bay.

4.3 Fire Sprinkler System

Separately, Schmidt Fire Protection has been retained by MTS to: a) perform a five year inspection of the existing fire sprinkler systems, b) update all required fire system documentation/ cards, and c) perform maintenance and repairs to ensure that the fire sprinkler system properly operates and meets the requirements of the City of San Diego.

For the purposes of our report, we have assumed that the above described work has been done and will be acceptable to the City of San Diego.

Seismic Brackets:

An issue brought to our attention by Josephson Werdowatz and Associates, Inc., Structural Engineers, is the lack of, and/or inadequate seismic bracing at the fire sprinkler systems. Obviously, the concerns for seismic bracing relate to the potential that the system could fail to operate properly during, and after, a seismic event.

Repair Recommendation

Our firm recommends that this issue be discussed with Schmidt Fire Protection.

4.4 **Summary of the Feasibility of Other Fire Related Repairs**

As described below, repairs to the building can be performed, at a reasonable cost to bring the building into reasonable compliance with current fire protection requirements, as stated in the related codes, and adopted by the City of San Diego.

As discussed below, there are a couple of issues, where it would be appropriate to request that the City of San Diego waive certain requirements, based on the fact that the building was constructed in 1962, subject to codes which were adopted at that time.

4.5 **Applicable Codes**

The primary applicable current codes include the following:

- a. 2019 California Building Code (CBC)
- b. 2018 NFPA 1: Fire Code (National Fire Protection Association)

4.6 **Overview of the 2019 CBC Requirements Regarding Fire Protection**

As an overview, the 2019 CBC has specific requirements based on the type of occupancy, type of building construction, building sizes, etc. It also has specific requirements regarding exiting from a building, e.g., as a result of a fire.

In addition, City Building Departments and Fire Departments rely on the NFPA 1: Fire Code, produced by the National Fire Protection Association. This document and others issued by the NFPA essentially represent national standards for fire protection.

4.7 **Occupancy/ Use**

For purposes of determining certain fire protection requirements, as well as other requirements, the code provides a number of categories for the occupancy/ use of building areas.

The category most appropriate for the Pyramid Building is one of the following:

S-1: Moderate Hazard Storage, e.g., cardboard and cardboard boxes, furniture, lumber, bulk storage of tires, etc.

S-2: Low-Hazard Storage, e.g., electrical motors, metal cabinets, metal parts, etc.

Recommendation: Use of the S-1 category, which is less restrictive. Use of the S-2 category would effectively place greater restrictions regarding what could be stored in the building.

See Exhibit 3.0-A, Section 311 of the 2019 CBC. (In Section 3.0)

4.8 **Type of Construction**

Because the ceiling/ roof support systems are wood, and not considered as "heavy timber", and because those ceiling/ roof systems are not currently protected by fire rated, gypsum board systems, the existing building has to be categorized as Type V-B construction, aka Type V Non-Rated construction.

4.9 Allowable Areas

The 2019 CBC then provides a table (Table 506.2), which states allowable areas for certain occupancies/ uses, based on the type of construction, as follows:

S-1	A: (One Hour)	14,000 sq. ft.	B: (Non-Rated)	9,000 sq. ft.
S-2:	A: (One Hour)	21,000 sq. ft.	B: (Non-Rated)	13,500 sq. ft.

4.10 Existing Areas (Approximate)

Bay 1 (most southerly)	21,200 sq. ft.
Bay 2	10,500 sq. ft.
Bay 3	19,800 sq. ft.
Bay 4 (most northerly)	35,000 sq. ft.

These areas are approximate, taken off previously provided plans. The actual areas would be field verified, and subject to adjustments based on permissible deductions for items such as the widths of exterior walls and shared interior walls.

Conclusion Based on the Above Two Sections: Bays 1, 3 and 4 are larger than allowed for Type V-B construction, based solely on Table 506.2.

4.11 Fire Sprinklers - Code Approved Waiving or Modification of Certain Fire Protection Requirements

Fortunately, the code allows the waiving or modification of certain code requirements if an approved fire sprinkler system exists or is installed.

One of the options is the ability to increase the allowable areas by 300%, if an approved fire sprinkler option is installed in each bay. Another allowable substitution is related to non-rated and rated construction, as discussed in Section 4.8. Related to the allowable area increases, when a qualified fire sprinkler system is installed, the adjusted, allowable area of each bay increases to the following:

Using this increase, the revised allowable areas would be:

Bay 1	27,000 sq. ft.
Bay 2	27,000 sq. ft.
Bay 3	27,000 sq. ft.
Bay 4	27,000 sq. ft.

4.12 Potential, but not Practical Option Based on Making Repairs to Converting Bay 4 From a Type V-B to a Type V-A Construction

Another option would have been to install gypsum board on the underside of the ceiling/ roof structure, which would allow Bay 4 to be classified as a Type V-A (One Hour) construction. However, Dan Werdowatz, Structural Engineer, has informed our firm that from a structural point of view, the existing structure cannot accept the additional weight of the gypsum board, without significant modifications.

Related to this, the fact that fire sprinklers are installed in Bay 4 could have been used as a means to change the construction type from a Type V- B (non-rated) to Type V-A (one hour rated), except for the fact that sprinklers can only be used as a substitution for one element, e.g., area increase or change of construction type. Since we really need the existence of fire sprinklers to increase the allowable area of Bay 4, we can't use it to change the type of

4.13 Conclusion Regarding the above, Sections 4.11 and 4.12.

With fire sprinklers, Bays 1, 2 and 3 are okay, in terms of areas.

Regarding Bay 4, there are two options:

- a. Request that the City of San Diego grant an area exception, based on the age of the structure.
- b. Alternatively, it would be possible to install additional walls, effectively increasing the size of Bay 3, and decreasing the size of Bay 4.

Recommendation: First, would be to pursue option (a) with the City of San Diego. Should the City not agree to option (a), pursue option (b).

4.14 Area Separation Walls

4.14.1 General Description and Requirements

Area separation walls are fire rated walls which separate areas within a single structure. Once installed in accordance with specific requirements the areas formed by the area separation walls are technically considered as "separate buildings" with respect to the allowable areas discussed in Sections 4.9 and 4.10 above.

The basic requirements for area separation walls are as follows:

- a. They must be two (2 hr.) construction, which can be met with wood studs, two layers of gypsum board and extension of the 2 hr. rated walls at the roof line with either:
 1. An extension of the 2 hr. fire rated wall above the roofline by a min. of 2 ft., or
 2. Installation of one layer of gypsum board, horizontally on the underside of the roof structure for a distance of 5 ft.

4.14.2 Existing Two Hour Wall Conditions/ Recommendations

4.14.2.1 Gypsum Board

There are three existing shear walls.

The area separations between Bay 1 and Bay 2, and between Bay 2 and 3 are wood framed walls, with gypsum board installed on both sides of the walls. The gypsum board has numerous deficiencies including numerous holes and gaps, incorrect, or missing attachments, several areas where 2 layers may have been installed, and incomplete gypsum board assemblies at the rooflines.

The area separation wall between Bays 3 and 4 are constructed with CMU blocks, which easily meets the 2 hour fire requirement.

Repair Recommendation:

Perform the necessary gypsum board repairs to meet the current requirements for two hour wall construction.

4.14.2.2 Two Hour Extension of the Two Hour Walls

Based on a drone flight over the roof area, it appears that there is an extension of the two hour wall between Bays 3 and 4 above the roofline. That extension has not been inspected to confirm its conformance to the current code requirements.

There are no 2 hr. wall extensions, either vertically or horizontally at the Bay 1 to 2 and Bay 3 to 4 walls.

Recommendation:

We would recommend requesting an exception from the City of San Diego on this issue, approving the two hour wall without the extensions.

If not approved, we would recommend installing gypsum board horizontally on the underside of the ceiling/ roof structures, for distances of 5 ft., subject to structural verification that the existing roof can, as is, or with relatively minor modifications "carry" the additional load, both for dead load and seismic purposes.

As a "fall-back" alternative, two hour wall extensions could be constructed above the roof, subject to verification as to additional drainage modifications at the roof surfaces.

4.14.3 **Door Openings in the Two Hour Walls**

While door openings are allowed in fire rated wall construction, they have to be fire rated. In two hour rated wall construction, those doors should be 1.5 hour rated. They would also have to have automatic closures.

4.14.4 **Other Penetrations in the Two Hour Walls**

Similarly, any penetration through the Two Hour Walls will have to be fire rated flashings and/or caulking/ sealants.

4.15 **Exiting From the Building**

4.15.1 Exit Doors

Integral to fire protection are the exiting requirements from the interior of the building in case of a fire.

In a similar manner as the "Allowable Areas" the 2019 CBC, and prior codes dating back to before 1962, establish the number of "qualified/ legal exits" in case of a fire.

Considerations for the number of exits includes the occupancy/ use type, the total areas, corridor distances, etc.

For this project, the primary considerations are: a) the use, i.e., Type S-1, and the areas of each space.

By our firm's analysis/ calculations, one exit is required in Bays 1, 2 and 3, while 2 exits would be required in Bay 4, because of increased area of that space. The placement of the second exit is also guided by the code requirements for separation between the exits.

Finally, the doors themselves have to conform to code requirements, including panic hardware, and approved closures. In essence, the doors have to be openable, from the inside, e.g., by panic hardware, without having to use a key, or operate a conventional door handle/ knob, and then the door has to automatically close, after being opened.

Repair Recommendation - Exit Door:

In consideration for the above, as well as their general condition, our firm recommends replacing the existing four doors and frames with the current fire exiting requirement. For security, those doors can be hooked up to the existing and/ or new security system. Additionally, as will probably be required to meet the current exiting requirements, install a new exit door in either the north or west wall of the building, near the NW corner of the building. Structurally, the new steel lintel will be necessary above the new doorway.

4.15.2 Exit Landings and Stairs

The current door to Bay 1 exits directly onto the adjacent A.C. pavement, and therefore does not need any additional modifications, in terms of the exiting requirements.

Because of the slope of the property to the north, Bays 2, 3, and 4 currently have stairs and landings to their entry doors.

Repair Recommendations:

A further review of the existing landings and rails will be required to determine the extent of modifications required to the landings and stairs.

The above described work should incorporate certain ADA requirements, as also discussed in Section 11.0.

4.16 **Exit Signage**

Repair Recommendations:

To be in conformance with current standards, it is recommended that required exit signs be added, including illuminated signs within the building.

4.17 **Smoke and Fire Detectors**

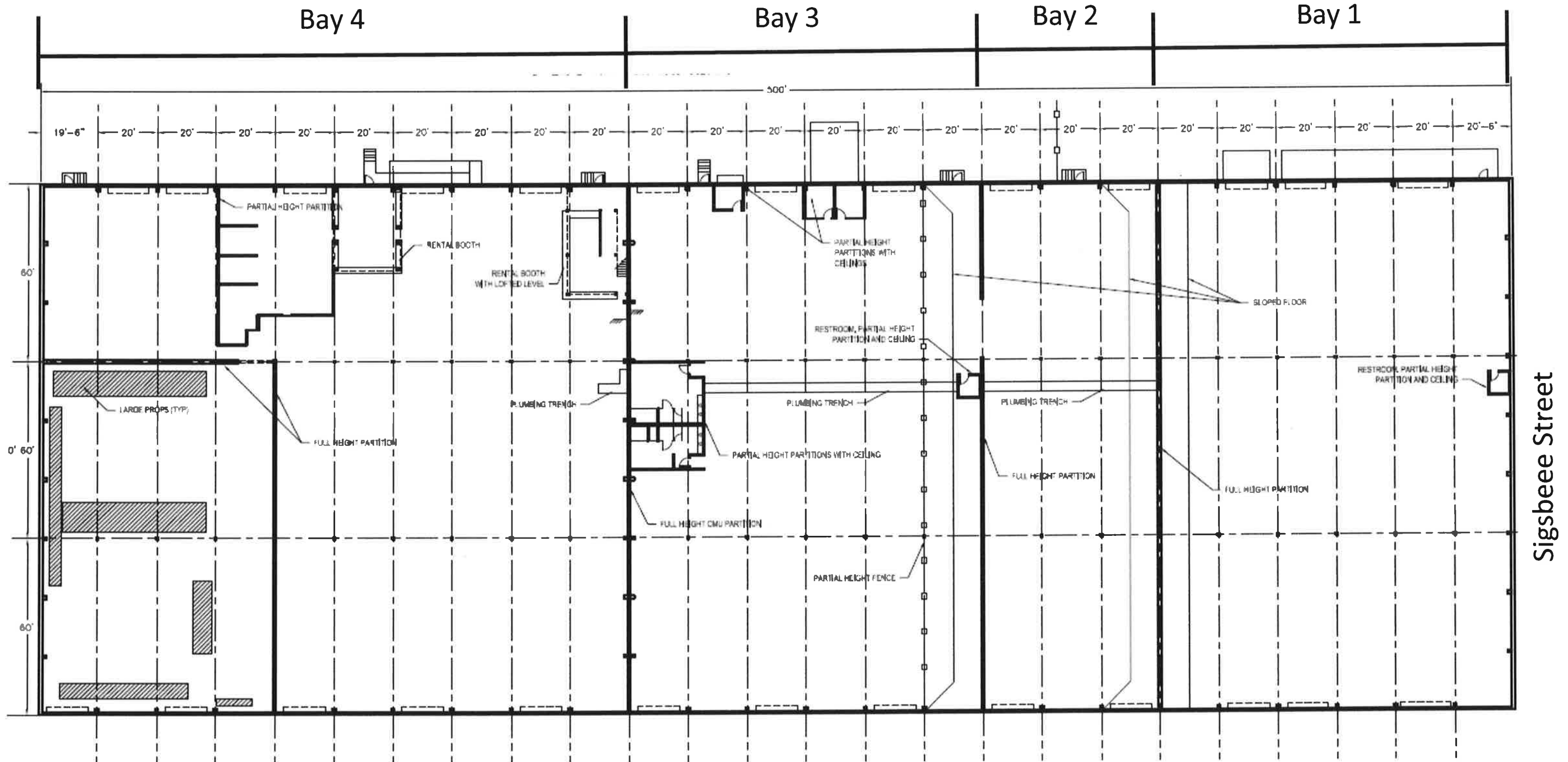
Repair Recommendation:

If not already installed, smoke and fire detection devices, preferably directly wired to an electrical source, should be connected to the existing and/or new security systems.

4.18 **Exhibits**

- 3.0 - A Description of "S-1 and S-2" Storage Use Classifications (In Section 3.0)
- 4.0 - A Building Floor Plan
- 4.0 - B Photographs of the Existing Conditions

Exhibit 4.0-A



Trolley Line (to West)



Floor Plan Copied from HNTB Report



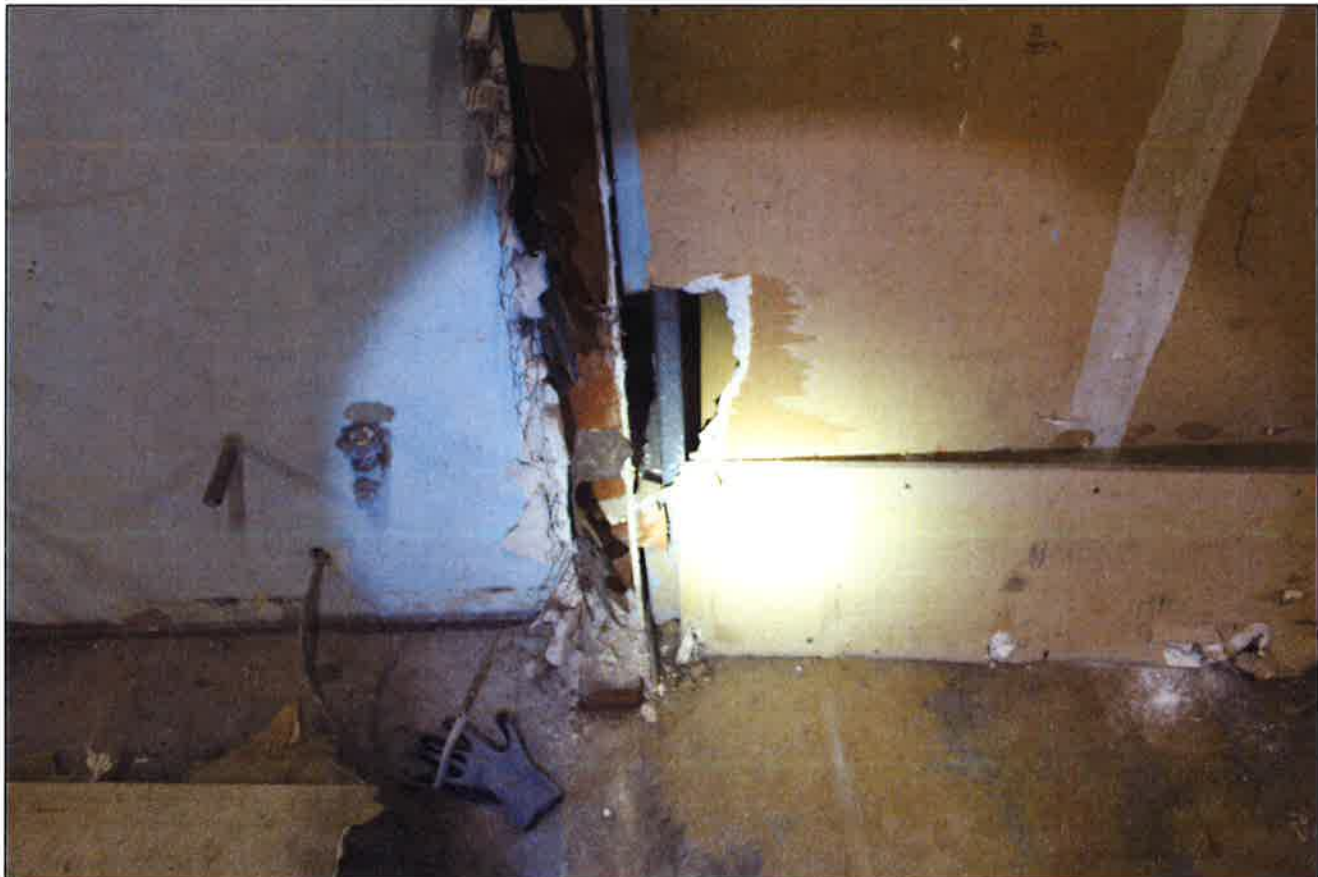
4.0-a Area Separation Wall – Bay 1 and 2



4.0-b Area Separation Wall – Bay 1 and 2



4.0-c Area Separation Wall – Bays 2 and 3



4.0-d Area Separation Wall – Bays 2 and 3



4.0-e Partially Completed Area Separation Wall – Bays 2 and 3



4.0-f CMU Area Separation Wall – Bays 3 and 4



4.0-g Low Curb Between Bays 3 and 4

5.0 ANALYSIS OF THE EXISTING BUILDING SYSTEMS/ COMPONENTS AND RECOMMENDED REPAIRS

The following analysis of the existing building and recommended repairs assumes that the building will continue to be used by MTS for general warehousing and potentially other "low occupancy, operational uses" in the future.

1.0 STRUCTURAL

A separately provided report by Josephson Werdowatz and Associates, Inc., Structural Engineers, dated October 28, 2020, addresses the structural systems associated with the Pyramid Building, including their adequacy and need for repairs.

1.1 Additional Comments Regarding the Structural Report:

Section 3: Masonry Cracking/ Spalling

Particularly at the northwest corner of the building, the discharging of rain water from a roof downspout is contributing to the soils problems beneath the CMU walls at that corner.

Repair Recommendation:

Fill in the existing "hole" created by discharging water from the downspout termination and potential other causes. Modify the A.C. slopes to the north of the structure and/or add horizontal gutter extension that will take rainwater to a point where the slopes of the A.C. pavement will direct the water to the north of the building, away from the foundation.

2.0 INTERIOR CONCRETE SLABS

2.1 Overall Analysis of the Existing Concrete Slabs

The condition of the existing concrete slabs within the structure vary from being in a relatively good condition to being in a relatively poor condition. Given the anticipated usage of the building, i.e., primarily for the warehousing of equipment and supplies, the goal of the interior concrete slab repairs will be to ensure that they are serviceable for their intended purpose, although not aesthetically attractive.

Existing problems relative to the interior concrete slabs include the following:

2.2 Sloping of the Concrete Slabs

- a. Subsidence of the concrete slabs at the northern portion of the building, i.e., Bay 4.
This condition probably resulted from inadequate compaction of the underlying soils in this area, prior to the construction/ installation of the concrete slabs. It is likely that the majority of the subsidence of the slabs occurred within the first five years after the original installation of the concrete and that the continued subsidence of the slab will be at most minimal.

Repair Recommendation:

Since a majority of the slab subsidence has already occurred, an acceptable repair would be to install a cementitious underlayment over the existing concrete slab to reasonably

level out the interior concrete slab. Because of the variable nature of the elevations and slope in the slab, "completely level slab areas" are not possible, without extending the new underlayments further than required for a modest correction of the worst areas of

2.3 Cracks, Within the Concrete Slabs

- b. General cracking of the concrete slabs throughout the building. Those cracks vary in size, i.e., from hairline up to approx. 3/8" in width, with varying lengths and frequencies, i.e., areas where the concrete slabs have numerous cracks.

Based on the extent of the cracking, it is apparent that: 1) the slab thicknesses are probably typical of "standard" interior slabs, i.e., not exceeding 5" in thickness, 2) the slabs are at most lightly reinforced with steel, and may, at least in part, be un-reinforced, 3) the slabs were probably placed over substrate soils which were not compacted in a similar manner as is typical for slab construction over the last 20+ years, and 4) the concrete was placed at higher water-to-cement ratios than acceptable today.

See Photographs No's 2.3-a and b.

Repair Recommendations:

- a. Epoxy inject slab cracks that exceed 3/32" in width and cracks in areas of obvious moisture migration through cracks.
- b. Fill other cracks, less than 3/32" in width, with a durable sealant.
- c. At a couple of locations, i.e., locations with numerous cracks, including cracks extending in numerous directions, sawcut out, and remove a portion of the existing concrete slabs. Replace those sections of concrete slabs with new steel reinforced concrete slabs over 4" crushed rock or new non-expansive base materials.

2.4 Moisture Intrusion Through the Concrete Slabs

- a. At some locations, particularly in Bay 3, it is obvious that considerable moisture is coming through the slabs, including cracks in those slabs. The evidence includes white efflorescence, indicative of salts, remaining after water/ moisture has evaporated.
- b. Key considerations regarding the concrete slabs include the intended use of the building, in terms of storage.

If the building is being used for general storage of equipment and MTS related supplies, the existence of the moisture probably does not represent a significant restriction relative to those usages. Conversely if at some point of time, those uses change to other uses, e.g., storage of smaller items, including items in boxes, and warehouse related offices, at least some of the above described conditions should be repaired.

See Photograph No's 2.4-a and b

Repair Recommendations:

At locations where desired, e.g., at locations where moisture coming up through the concrete slabs could damage the items being stored, perform the following repairs:

- a. Scrape the floors to remove paint, drywall mud and other deleterious materials to the below described sealing.
- b. Lightly sandblast/ media blast the existing concrete surfaces, as required to achieve a surface which can be penetrated by a penetrating traffic sealant.
- c. Apply penetrating sealant over the concrete surfaces.
- d. Apply a traffic coating over the concrete surfaces.

3.0 EXTERIOR WALLS

3.1 Description of the Existing Exterior Wall System

The exterior walls of the structure are predominantly, except for roll-up steel doors and individual man-doors, reddish, nominal 8" concrete masonry units, with mortarless head joints.

- a. Concrete masonry blocks, generally installed as follows:
The walls are steel reinforced, and solid grouted, as discussed in a separate report by Josephson Werdowatz and Associates, Inc.
- b. Concrete Masonry Pilasters, at least generally at 20 ft. on center.
- c. Except for some "painting over" of graffiti, the exterior surfaces of the concrete masonry walls at Bay's 1, 2 and 3 remain their originally installed natural condition, i.e., a reddish color. The exterior surfaces of the concrete masonry walls at Bay 4 have generally been painted grey.
- d. On the inside surfaces, there is considerable evidence of the passage of water through the concrete masonry, exterior walls, as evidenced by white efflorescence.

Specific conditions/ problems relative to the exterior concrete masonry walls are as follows:

See Photograph No's 3.1-a through c.

See also, the Structural Report by Josephson Werdowatz and Associates, Inc.

3.2 CMU Walls - Deterioration/ Cracking

See Photograph No's 3.2-a through c.

See the separately provided report by Josephson Werdowatz and Associations, Inc.

3.3 CMU Walls - Water. Moisture Intrusion Through the Walls, Into the Structure

There is considerable evidence of water/ intrusion through the exterior walls, as evidenced by white efflorescence and other water stains on the inside surfaces of the walls.

At some locations, portions of the walls have been painted, with unknown materials, presumably to: a) improve the appearance of the walls, and/or b) as an attempt to stop or minimize the passage of water into the interior of the spaces, or at least the interior surfaces of the exterior walls.

Related to the Issue of Water - Moisture Intrusion:

- a. The lack of mortar at the head joints will always allow water to enter into the interior portion of the exterior CMU walls. Stopping the water intrusion into, and through the CMU walls would require the application of an expensive coating over the exterior CMU walls.

- b. Once water has entered into the walls, it is preferable that the water/ moisture have a means of evaporation, on both the interior and exterior surfaces of those walls.
- c. Particularly on the inside, use of non-breathable paints can "trap" water/ moisture in the exterior CMU walls, which, in turn, can contribute to CMU wall deterioration and further corrosion of the steel reinforcement.
- d. At this point, sandblasting or media blasting the exterior CMU wall surfaces, e.g., to remove the existing paint, or graffiti probably does more damage/ harm than good, e.g., the removal of the already damaged, hard surfaces of the CMU blocks, making the CMU blocks more vulnerable to water intrusion.

See Photograph No's 3.3-a through e.

3.4 Exterior Doors

a. Man-Doors, currently located along the eastern wall line

At the eastern side of the building, there are seven (7) existing "man-doors", i.e., doors intended for individuals. The only man-door with "at grade" access is the most southerly door in Bay 1. The other six doors have stairways to the man-doors.

While these doors are functional, they do not meet the current requirements for exiting purposes, as discussed in Section 4.0 Fire Protection. In particular, the doors do not

Repair Recommendation:

Remove and replace the doors, including their frames with doors that meet the code requirements for exiting the structures. Install sensors at the doors, tied into the existing or new security system.

b. Roll-Up Doors

At present, there are 26 roll-up, steel doors, with 13 roll-up doors along the eastern wall line and 13 along the western wall line.

Our firm did not operate the doors to verify their proper operation.

Essentially, the steel doors on the west side of the building serve no other purpose other than filling in what would otherwise be open spaces in the walls. As previously mentioned, at one time, those doors were next to an active rail line. While still in place, the rail line appears to be entirely abandoned.

Repair Recommendation:

Inspect all roll-up doors for proper operation and desired security, e.g., locks. Assume only minor repairs will be necessary.

4.0 ROOFS

4.1 Roofing Membrane

On October 15, 2020, our firm had a drone operator document the existing conditions of the roof, with a drone. Our firm did not perform an actual "roof-top" inspection.

Our firm has not been provided with any documents, describing when the last, obvious re-roofing was performed.

The roofing framing is a "flat" roof, with at least minimal slopes to the surface mounted roof drains. As illustrated in the photographs, there is some localized ponding, which is not unusual for a roof of this size.

The roofing membrane appears to be a tri-ply BUR or APP granular cap sheet membrane. These types of roofing membranes are susceptible to damage, when subjected to long-term water ponding.

As shown in the photographs, the roofing membranes show considerable evidence of deterioration, in terms of their loss of the granular finishes. Over time, this loss of the protective coating will result in premature deterioration of the roofing membranes.

At the four sides of the roof, short roofing parapets extend above the roof. At the division wall between Internal Spaces 3 and 4, there appears to be an extension of the CMU wall, above the adjacent roof surfaces. This would be consistent with a normal expectation of such an extension, in accordance with the requirements for fire rated area separation walls, as discussed in Section 4.0, Fire Protection.

As observed during their investigation, at least five (5) locations were observed where there is apparent water intrusion through the roofing membrane assemblies.

Repair Recommendations:

After reviewing the locations of apparent water intrusion through the roofing membranes, perform an inspection of the roof, identifying locations and probable causes for the water leakage. Perform appropriate repairs to correct the existing water leakage.

Concurrent with the above, perform additional, localized repairs at existing, or problematic conditions.

See Photograph No's 4.1-a through i.

4.2 Roof Drainage

In general, the primary roof slopes appear, based on the drone photograph images, to be adequate.

Water ponding does occur at the secondary drainage locations, e.g., crickets between surface drains.

Based on the drone photograph images, our firm is not able to comment on the adequacy of the surface versus overflow drains.

5.0 FIRE PROTECTION

See Section 4.0 of this report.

6.0 INTERIOR WALLS, BOTH RATED AND NON-RATED AND FLOORS AND CEILINGS

6.1 Non-Rated Wood Framed Walls, Guardrails and Floors

Within the building, there are a number of partial height wood framed improvements that should, or can, be demolished/ removed. By far the greatest number of locations and scope of work, in terms of the removals, occurs within Bay 4, i.e., the bay previously occupied by the Paint Ball operators.

In particular, stairs and any supported floors above the concrete slab should be considered as very un-safe.

In the other bays, framed walls, e.g., at bathrooms or storage rooms could be removed, if desired to open up the bays for other uses, or left in place, with possible usage for other purposes.

6.2 Removal of the Paint "Balls" from the Walls and Floors

Many of the walls and floors in the former Paint Ball space are moderately to severely covered with paint balls. Many of the affected surfaces will be taken care of when wood framed walls are removed from the space. The following repair recommendation will at least reasonably restore the affected surfaces to a point, where they could be painted, if desired.

6.3 Other "Cosmetic" Improvements

There are numerous other "clean-up" repairs that could be performed, including the removal of abandoned electrical and signal wires and conduits, painting of various surfaces and a general "clean-up".

See Photographs No's 6.3-a through e, related to the above.

Repair Recommendation, Related to the Above:

1. As discussed above, remove and dispose of most of the wood framed structures, cabinets, counters, etc. in Bay 4, i.e., related to the Paint Ball operations.
2. Similarly, if desired to "free-up" additional space, other partial height improvements could be removed.
3. CMU Walls: Scrape off the existing paint balls, to a reasonable degree, i.e., so that the walls are smoother. Apply a coat of "breathing" paint over the affected wall surfaces. Note: A breathing paint is recommended, allowing moisture within the walls to pass through the surfaces.
4. Gypsum Board Surfaces: Scraping is not practical, with gypsum board surfaces. As a reasonable repair, apply a coat of paint over those surfaces.
5. Concrete Floors: Scrape paint balls currently on the floors. While the floors could be coated with a traffic coating, given the current, anticipated use of the space, that is probably not warranted.

7.0 PLUMBING

7.1 Water and Waste Systems to Building

In their report entitled "Pyramid Building Concept", dated August 8, 2020, HNTB discussed the existing water and sewer systems coming into and being delivered to the building. It is beyond the scope of this report to discuss these systems, except to note the HNTB report expressed the opinion that both the incoming water and sewer systems were adequate.

7.2 Bathrooms and Showers

As indicated on Exhibit 2.0-C, Building Floor Plan, there are several existing bathrooms in the building, including one that at one time probably had functioning showers.

- a. Bathroom in Bay 1 of the Building (Southernmost section of the building)
This bathroom is large enough to reasonably comply with ADA requirement s.

- b. Small bathrooms in Bay 3.
- c. Bathroom/ Showers in Bay 3.

At some point in time, it is apparent that the building's use included the need for both a men's and women's locker room/ showers, restrooms. At present, the spaces are only in fair condition. They have probably not been used for some time.

If the building is only going to be used for warehouse purposes, there is no real purpose for such a large space commitment to these locker rooms. Conversely, if the space is not really needed, at this time, it may be advisable to retain this shower space, with relatively minor modifications, with the intent that at some time, if desired, these locker rooms will already exist.

See Photographs No's 7.2-a through d, related to the above.

Repair Recommendation:

As also discussed in Section 11.0 - Handicap Requirements, although our firm does not believe that the building would be subject to ADA requirements, particularly if it remains as a storage facility, out of which no public related services are being performed, it may be prudent to provide one or two ADA compliant bathrooms.

Additionally, it is recommended that a plumber perform an inspection of all of the plumbing and either: a) make repairs to correct code or operational problems, or b) cap off/ or close valves to plumbing fixtures not in service.

7.3 Paint Ball - Partially Completed Plumbing

At some point in time, obviously before they closed, the paint ball tenant started to install plumbing fixtures within their space, including removal of concrete, trenching and installing some piping. The excavations are still open.

Although not known for sure, it is probable that the work described above was done without a permit.

Repair Recommendation:

Remove the piping. Cap off any piping extended into the Paint Ball Space. Fill in the previous excavation with soil or crushed rock, followed by a min. 4.5" concrete slab with steel reinforcement and steel dowels into the existing slab.

8.0 ELECTRICAL/ LIGHTING

The electrical/ lighting systems reflect systems that, at least in part, have probably been installed without permits, and modified a number of times through the years. Within the scope of our work, our firm has not undertaken a methodical review of the electrical/ lighting systems. However, based on our experience with older buildings, we believe that the electrical/ lighting systems include a number of deficiencies, at least in terms of the current electrical codes and standards.

Six conditions that are easily recognized, and identifiable when entering into the 4 bays, and should be corrected as follows:

- a. Switches for the Lights
At present, the switches for the overhead lighting systems are not necessarily adjacent to the entry doors to the 4 bays, or openings in the area separation walls, separating the bays.
It either takes previous knowledge or "searching" to locate the various switches.
- b. Main Service Panels, Disconnects, Power Supply Switches, etc.
Similarly, given the obvious modifications that the electrical system has undergone over the years, the purpose of various electrical boxes and locations of main service panels, disconnects and power supply switches is not quickly determined, when entering into the various bays.
- c. Electrical System Signage
Related to the above, the identification of various electrical components is inadequate.
- d. Code Violations
As discussed above, it is likely that certain code violations presently exist in the electrical systems, including some which could represent significant safety issues.
- e. Abandoned Systems
To "clean-up" the electrical systems, electrical components related to abandoned systems should be removed.
- f. Signage

Repair Recommendations:

- a. Perform an investigation of the existing electrical systems, preparing a report of the findings and a plan view layout of where main panels, disconnects and power switches exist. Make recommendations for various repairs.
- b. Where located within the interior areas of the bays, extend conduits and electrical wires to new switches, located next to the entries into the bays and openings between the bays.
- c. Correct code violations in the existing electrical systems.
- d. Remove and/or cap off abandoned electrical systems.
- e. Install new signage regarding the electrical systems, e.g. the function/ purpose of various items and signage re: safety, e.g., high voltage.

See Photograph No's 8.0-a and b, related to the above.

9.0 AIR CIRCULATION/ VENTILATION

The existing building does not have any air conditioning system, or an overall air circulation system, e.g., regularly placed ceiling fans. When desired, the primary source of air circulation occurs when individual access doors, located on the exterior of the building, are opened. For the present and anticipated continued use of the building for warehousing of equipment and supply, the present lack of an HVAC or ventilation system is probably adequate.

Should the usage change, e.g., turning a portion of the structure into a distribution center, it would be possible to install localized ventilation or HVAC systems.

Repair Recommendations: None recommended at this time.

10.0 EXTERIOR SITE CONDITIONS

10.1 General

The existing site conditions on all four sides of the building have been described in Section 2.2. An overall analysis of these site conditions is generally beyond the scope of this report. Nonetheless, the following observations and recommendations are being provided, where those conditions have a direct impact on the structure.

10.2 Site Drainage

The existing site drainage conditions are discussed in a prior issued report by HNTB, entitled "Pyramid Building Concept Layout", dated August 8, 2019.

Based on personal observation during a rainstorm, there are several conditions which have direct impacts on the building and the use of the building. These are as follows:

- a. The natural slope of the property goes from south to north across the primarily A.C. pavement, to the east of the building. At the east side of the building, there are significant slopes of the pavement away from the building, creating a "drainage swale", in a south to north direction, running the entire length of the building. During a moderate to heavy rainstorm, for cars parked against the eastern side of the building, individuals step out of their cars directly into the drainage swale. On the occasion that I observed this condition, the water was several inches deep, and the width of the water was too great to "jump over".
- b. Similarly, during a moderate to heavy rainstorm, getting from the parking lot area, to the east of building, to the building entrances requires walking through several inches of water in the above mentioned drainage swale.

See Photograph No 10.2-a, related to the above.

Repair Recommendation:

- a. On a preliminary basis, subject to further investigations, modify some of the existing A.C. pavement grades and install several small, steel bridges over the existing drainage swale.
- b. Along the east side of the building, there is one truck loading dock. To serve as a loading dock, there is a concrete surfaced ramp which slopes downward from the parking lot to a roll-up door in the east wall, i.e., providing a sufficient elevation difference so that the level of a truck bed will typically be at about the same elevation as the interior warehouse slab.

See Photograph No 10.2-b, related to the above.

Repair Recommendation:

Subject to further investigations, e.g., location of a storm drain line that is low enough, install a surface drain at the lowest point in the truck access ramp, and extend a drainage line from that drain to a suitable discharge location.

10.3 East Side

a. General Clean-Up/ Repairs

Largely to improve the appearance of the building, there are a number of "clean-up" items that could be performed along the east side of the building, including the following:

Repair Recommendations:

1. The removal of abandoned items, including wiring, conduits, wood elements, etc.
2. "Boxing" around, and over, various items mounted on the walls.

b. Exterior Access Doors and Access to the Doors/ Door Hardware

Repair Recommendations:

In conjunction with the fire protection repair recommendations, the exterior access doors for personnel (man-doors) would likely be replaced. Similarly, the access ramps and stairs would likely be replaced, or at least modified.

c. Painting

Repair Recommendations:

Particularly along the east and south sides of the building, painting would immediately improve the building's appearance, including areas of graffiti, wood surfaces in need of painting, exterior metal doors (if they remain), etc.

See Photograph No's 10.3-a and b, related to the above.

10.4 North Side

To the north of the building is a triangular area, most of which is covered by A. C. pavement. This area is presently being used as an outdoor storage area. Some A.C. pavement damage has occurred in this area.

Repair Recommendation:

In addition to some general clean-up, repair damaged areas of A.C. pavement, particularly next to the northern building wall, some of which has resulted from the exiting of rainwater from downspouts placed along the northern building wall.

10.5 West Side (Next to Railroad Lines)

The area to the west of the MTS building is, at least generally covered with crushed rock. Starting approx. 5 ft. from the west building wall, a set of steel railroad tracks has been abandoned. These tracks were obviously used at one time for the delivery of materials/ equipment to the roll-up steel doors located along the building's west wall.

Repair Recommendation:

None, except for some clean-up, e.g., items/ debris left along the building wall and re-painting over areas of graffiti.

10.6 South Side (Main Street)

A relatively narrow strip of property exists between the south wall of the building and Sigsbee Street. The soil in this area has been covered with crushed rock.

To the east of the MTS site, along Sigsbee St., a concrete sidewalk has been installed. Potentially, that sidewalk might be extended, to the south of the MTS building, connecting to concrete flatwork/ sidewalk related to the Trolley line, to the west of the MTS site.

Repair Recommendation:

None, except for some clean-up, e.g., items/ debris left along the building wall.

11.0 HANDICAP REQUIREMENTS AND PROVISIONS

The current handicap requirements are based on the American Disabilities document, titled Americans with Disabilities Act of 1990 and the Department of Justice document, 2010 Standards for Accessible Design.

These documents outline the requirements for everything from access to buildings, access to restrooms, provisions for the use of restrooms, signage, etc.

It is beyond the scope of this report to discuss, in detail, MTS's requirements for ADA compliance.

However, we will point out several key aspects relative to ADA compliance.

- a. Based on its present use, the Pyramid Building is not being used to provide services to the public.
- b. The recommended repairs do not represent new construction or an alteration, that is a significant change in the building's floor plan, interior layout of the interior space, or the building's appearance.
- c. Certain ADA compliance costs would be disproportional to the overall repair costs, modification of bathrooms that otherwise would only be "cleaned up"

See Photograph No's 11.0-a and b, related to the above.

Overall Recommendations:

Our firm's overall recommendation is to, if requested, request a waiver from the overall ADA requirements.

Specific Repair Recommendations:

Notwithstanding the above, and in consideration of the overall goals of the ADA requirements, at a minimum, our firm recommends the following:

- a. Provide ADA compliant access, via direct access at Bay 1 and ramp access to Bays 3 and 4.
- b. As required, modify the existing bathrooms in Bays 1 and 3, in accordance with ADA requirements.



2.3-a Cracks in Concrete Slab



2.3-b Close-up of Previous Photo



2.4-a Passage of Water Through Concrete Slab - White Efflorescence



2.4-b Passage of Water Through Concrete Slab – White Efflorescence



3.1-a Exterior CMU Wall – Open Bead Joints



3.1-b Exterior CMU Wall – Open Bead Joints



3.1-c Exterior CMU Wall – Open Bead Joints



3.2-a Damaged CMU Blocks – Northwest Corner of Building



3.2-b Close-up of Previous



3.2-c Deteriorated/ Patched CMU Blocks – East Elevation



3.3-a Water Stained Exterior Wall



3.3-b Water Stained Exterior Wall



3.3-c Water Stained Exterior Wall



3.3-d Water Stained Exterior Wall



3.3-e Water Stained Exterior Wall – Through Painted Surfaces



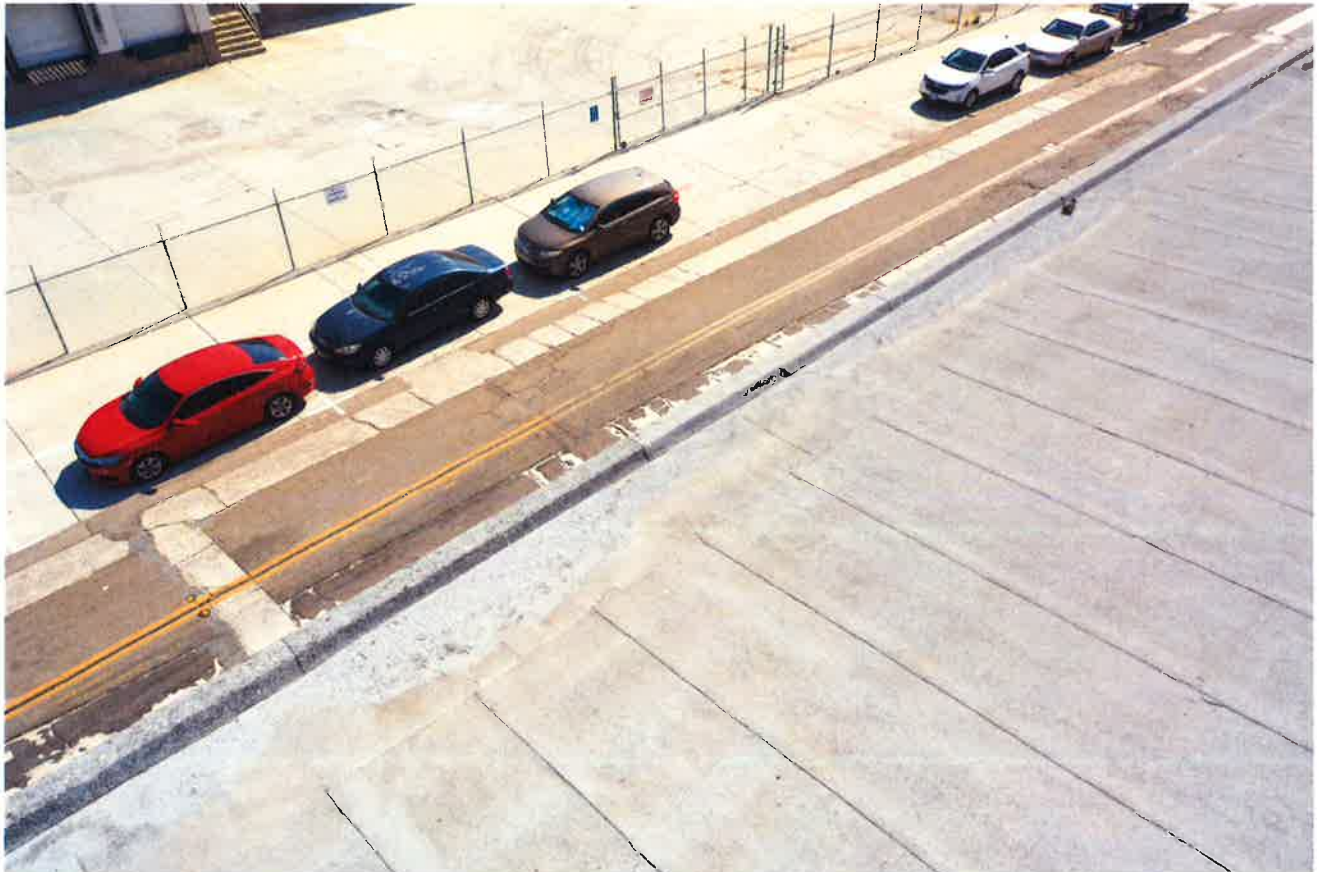
4.1-a Condition of Composition Roof – Missing Granules



4.1-b Condition of Roof at Southern Edge – Loose Roofing Granules



4.1-c Typical Edge Condition – Granular Finish Deposited at Roof Edge/ Drainage Swale



4.1-d Close-up Along Roof Edge – Granular Finish Deposited at Roof Edge/ Drainage Swale



4.1-e Water Ponding on Roof – Northwestern Corner at Roof



4.1-f Water Ponding on Roof – Eastern Edge of Roof



4.1-g Water Ponding at Low Curb/ Roofing Scupper



4.1-h Overview of Roof, Low Curb and Scupper



4.1-l Close-up – Low Curb, Vents and Drain



6.3-a Concession Area – Bay 4



6.3-b Wood Framed Wall – Bay 4



6.3-c Wood Framed Wall – Bay 4



6.3-d Bay 4 – Former Paint Ball Operation



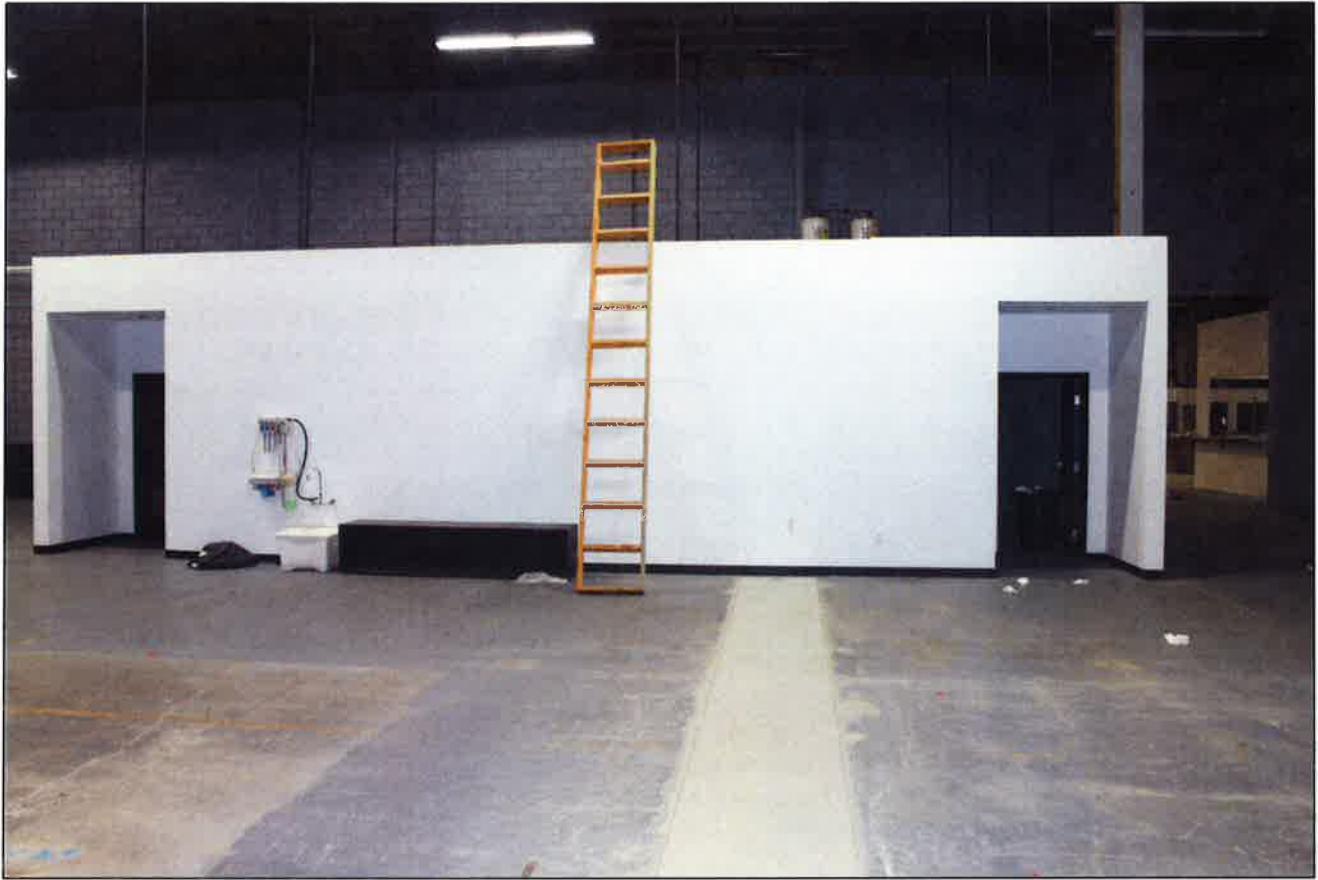
6.3-e Bay 4 – Former Paint Ball Operation



7.2-a Bathroom – Bay 1



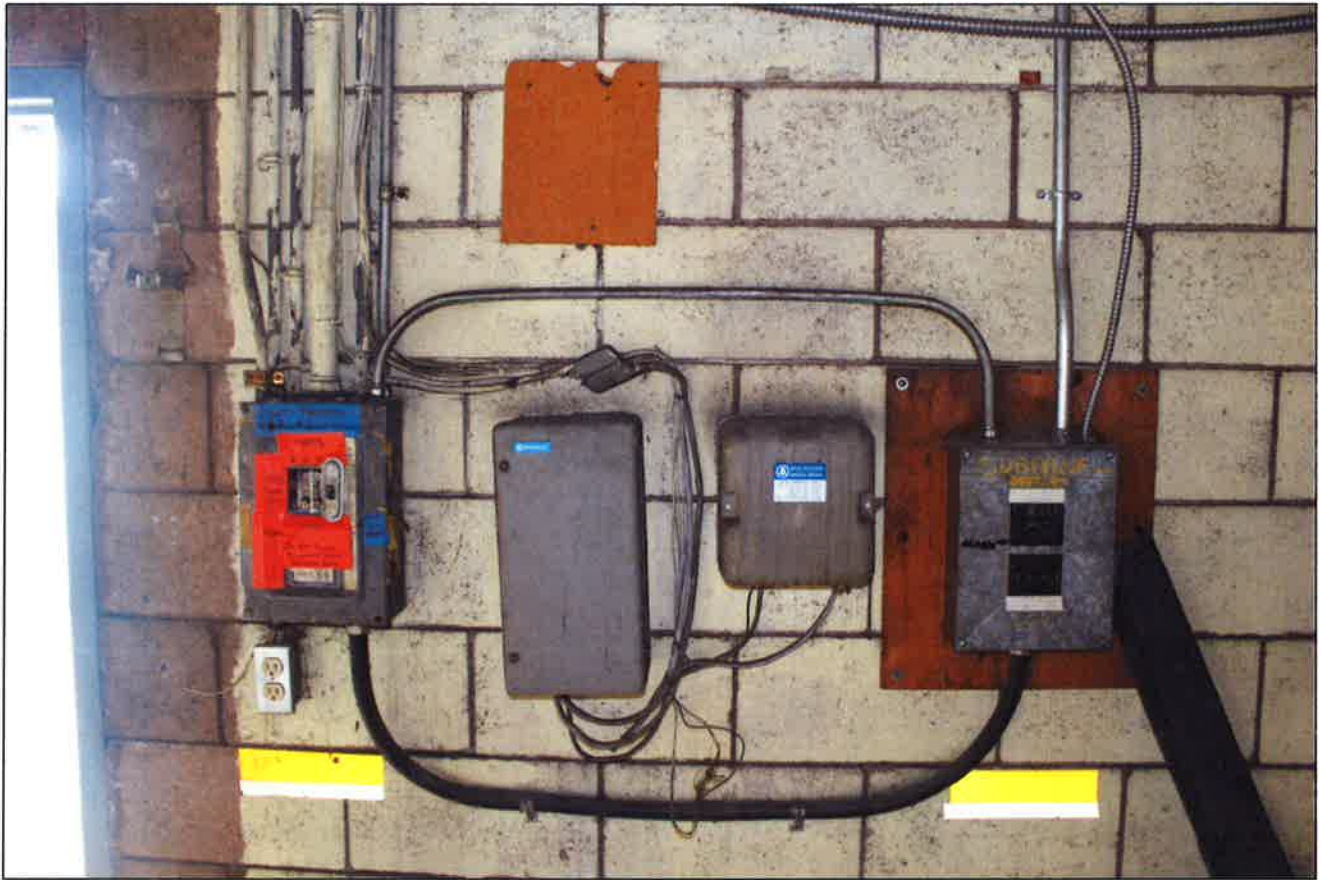
7.2-b Bathroom – Bay 1



7.2-c Bathroom/ Shower – Bay 3



7.2-d Bathroom/ Shower – Bay 3



8.0-a Typical Electrical Boxes and Conduits



8.0-b Unsealed Electrical Penetrations at Fire Rated Gypsum Board Wall



10.2-a Drainage Swale for Parking Lot – Rainwater Fills Truck Ramp and then Continues North in the Swale



10.2-b Truck Access Ramp



10.3-a East Elevation – Bays 3 and 4



10.3-b East Elevation – Stairs and Ramp – Bay 4



11.0-a Ramp to Entry Door – Bay 2



11.0-b Stair to Bay 3

6.0 PRELIMINARY "CONCEPTUAL" COST ESTIMATE

Following is a Preliminary Cost Estimate for certain recommended repairs.

At this stage in the analysis, we are only providing very preliminary cost estimates, recognizing that actual repair recommendations have not been developed which would be necessary for the preparation of a more detailed cost estimate.

Obviously, the MTS may prefer to perform certain repairs, but not others. However, during the review/ permitting process, the City of San Diego may request/ require that certain repairs be performed, including items that have not been included in this report.

No.	Description	Cost Estimate
1.0	<p>Structural Based on Josephson Werdownatz's itemization of repairs, including high and medium repairs:</p> <ol style="list-style-type: none"> 1. Seismic wall anchorage 2. Columns 3. Cracked/ broken CMU 4. Undermined footings 	\$150,000 - \$200,000
2.0	<p>Interior Concrete Slabs Subsidence, crack and moisture mitigation repairs. General clean-up of the concrete slabs, e.g., removing paint balls, efflorescence, etc.</p>	\$30,000 - \$40,000
3.0	<p>Exterior Walls Additional repairs/ clean-up, particularly along the east wall, e.g., repairing areas where the surfaces of the CMU walls have deteriorated/ "popped off". Removal of abandoned signage and other items attached to the exterior walls. Cosmetic "boxing" in" certain items, e.g., utilities attached to the exterior walls, to improve the appearance of the building. Exterior painting - partial. Removal of white efflorescence on the inside faces of the exterior CMU walls.</p>	\$50,000 - \$80,000
4.0	<p>Roofs Repairs related to the repair of active leaks through the roofing membrane assemblies.</p>	\$10,000 - \$15,000

Roofing tune-up repairs, e.g., open, unsealed laps, potential areas of roofing leaks in the next two years, etc.

Based on the existing conditions of the roof membranes, the need for significant repairs or replacement likely within the next 5-8 years.

- 5.0 Fire Protection** \$125,000 - \$175,000
Repairs related to the area separation walls, including fire rated doors. Replacement/ modifications to the existing entry doors. Addition of one additional exit door.
Addition of two hour wall extensions above the rooflines and/or addition of 5 ft. sections of gypsum board to the undersides of the existing, wood framed roof structures.
Repairs/ modifications to the existing, exterior landings, stairs and ramp.
- 6.0 Interior, Non-Rated, Wood Walls, Floors, Ceilings and Stairways** \$50,000 - \$75,000
Removal and clean-up of interior wood framed structures, particularly in Bay 4, the previous Paint Ball operation. Patching walls and floors after the removals.
Clean-up at the interior and exterior CMU walls, e.g., removing and/or covering over the paint balls.
Partial interior painting.
- 7.0 Plumbing** \$10,000 - \$20,000
Remove partially completed plumbing work in Bay 4. Install a new concrete slab over the partially completed trenches.
Inspect all of the existing plumbing fixtures. Where operational, correct any code or operational deficiencies. Prepare report re:
If the use of plumbing fixtures is not anticipated in the near future, close valves and/ or cap off the water supply systems.
- 8.0 Electrical** \$25,000 - \$35,000
Perform an investigation of the existing electrical systems, preparing a report of the findings and a plan view layout of where main panels, disconnects and power switches exist. Make recommendations for various repairs.
Where located within the interior areas of the bays, extend conduits and electrical wires to new switches, located next to the entries into the bays and openings between the bays.
Correct code violations in the existing electrical systems.
Remove and/or cap off abandoned electrical systems.

Install new signage regarding the electrical systems, e.g. the function/purpose of various items and signage re: safety, e.g., high voltage.

9.0 Air Circulation

No repairs included at this time.

10.0 Exterior Site Conditions

\$25,000 - \$35,000

Perform site drainage related repairs at the eastern side of the building to improve the access to the building, e.g., steel walkways over the existing drainage swale.

Install a direct pipe system or exterior sump pump system in the one loading dock ramp.

Correct deficiencies at the existing roof downspout terminations, e.g., filling in eroded A.C. pavement and soil and installing shallow concrete swales to take rainwater away from the exterior building

Perform general site clean-up and patching.

11.0 ADA Related Repairs

\$20,000 - \$35,000

Partial ADA related upgrades, at the bathrooms in Bay No. 1 and 3, and handicap ramp access at Bays 3 and 4.

TOTAL (Average, between cost ranges)

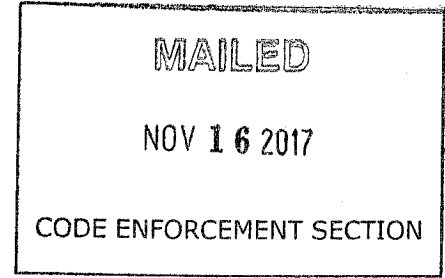
\$605,000

Notes:

1. The above costs include contractor mark-ups, but do not include Architectural and Engineering costs, permit and inspection costs, content moving and relocation costs and a cost for an MTS contingency.
2. As indicated in prior sections, there are numerous variables, which could have a significant impact on the eventual repair costs.

EXHIBIT B
LETTER FROM THE CITY OF SAN DIEGO

DRAFT



November 16, 2017

NOTICE OF VIOLATION

VIA POSTING, REGULAR MAIL, AND CERTIFIED MAIL RETURN RECEIPT

Location: 1699 Main Street, 1677 Main Street &
1202 Sigsbee Street

Assessor's Parcel No.: 538-210-25-00

Owner: San Diego Metropolitan Transit System
Attn: Timothy E. Allison, P.E.
Manager, Real Estate Assets
Address: 1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Owner: San Diego Metropolitan Transit System
Address: 1643 Newton Ave
San Diego, CA 92113

Zone: Center City Planned District-Mixed Commercial; Coastal
Overlay Zone

A representative of the Code Enforcement Division, Development Services Department conducted an inspection of the above referenced premises on November 13, 2017.

Parcel History:

This property was developed in 1962 with a permit (A54176) to construct a 90,000 square foot "shell" warehouse. Shortly after in 1965, a permit (A15879) was obtained to add "partitions" to the interior of the shell structure. Both permits were satisfied with approvals and inspections by the City of San Diego.

The property remained in that permitted configuration as a warehouse and in 2001 a permit (A102088-01) was obtained to "upgrade existing Storage racks". This permit was obtained by National Steel & Shipbuilding Company (NASSCO) who was the current tenant at the time. The next recorded building permit (22136) was obtained in 2004 by the same tenant to "remove and add partition walls, demo existing restroom rebuild to ADA, Elec, HVAC." Both permits obtained by NASSCO were satisfied with approvals and inspections.

Page 2

Notice of Violation

1699 Main Street, 1677 Main Street & 1202 Sigsbee Street

November 16, 2017

Since then there have been no Building Permits obtained or issued to change the Use or allow the improvements and modifications observed on the **November 13, 2017** inspection by the City of San Diego.

The specific elements in violation include, but may not be limited to, the following:

- The unpermitted change of occupancy from an “S” (Storage) to an A-3 (Assembly-Amusement). Unpermitted uses include a Parkour Gymnasium, Paintball Facility, Mixed Martial Arts facility, Arcade/Gaming center and Cross-Fit facility. The property was not designed or permitted for assembly and entertainment use and lacks the required egress, number of exits, exit door hardware, exit signs, restrooms, fire sprinkler and alarm system, required for these particular occupancies. (SDMC Sec. §129.0113)
- Lack of required emergency egress exits throughout the structure (all Suites). (CBC Sec. 1001.2, 1001.3 and 1007.1.1)
- Lack of adequate exit door hardware and exit signs. (CBC Sec. 1013.1 and 1010.1.10)
- Lack of maintenance and damage to required fire rated separation walls. (CBC Sec. 708.4)
- A structural column has been severely damaged and has compromised the integrity or structural support strength which supports the roof structure. (SDMC Sec. 129.0202 and CBC Sec. 101.4.4)
- Unpermitted areas/locations that impede or do not receive coverage of the fire sprinkler system. (CBC Sec. 901.2 and 903.2)
- Lack of maintenance to the Fire Sprinkler Riser and Fire Alarm System which has resulted in an inoperable Fire Suppression Sprinkler System. (CBC Sec. 901.2)
- Unpermitted construction of a disabled access ramp and elimination of a disabled access lift located at the exterior of the structure. (SDMC SEC. 129.0202)
- Interior improvements and modifications without the benefit of a Building Permit. Unpermitted work includes but is not limited to; The addition of improperly constructed walls, mezzanines, stairs, partitions, restrooms, locker rooms, offices which includes electrical, plumbing and mechanical installations throughout the entire structure. (SDMC Sec. 129.0202, 129.0302, 129.0402(a) and 129.0402(b))
- Illicit discharge of contaminants contributing to storm water pollution. Illicit discharge appears to be coming from the rear of the unpermitted indoor paintball facility. (SDMC Sec. 43.0304)
- Operating a paintball field outdoors without obtaining the necessary permits. Assembly and Entertainment with an Outdoor Use Area requires a Neighborhood Use Permit in this zone. (SDMC Sec. §126.0203 and §156.0308)
- Unpermitted signage (SDMC Sec. §129.0802 and §142.1206)
- Several non-permitted banners are displayed at the property. Banners would not be allowed as permanent signs and cannot be permitted. All banners on the exterior of the building and all banners attached to the chain link fencing must be removed. (SDMC Sec. §142.1206 and §142.1255)

Page 3
 Notice of Violation
 1699 Main Street, 1677 Main Street & 1202 Sigsbee Street
 November 16, 2017

In accordance with the San Diego Municipal Code (SDMC) and the California Building Code (CBC), this is to notify you that the following violation(s) were observed and must be corrected as follows:

Immediately (includes obtaining all required permits):

- Cease unpermitted use and occupancy.
- Replace or repair damaged areas of required fire rated separation walls.
- Repair or replace column which has been severely damaged and has compromised the integrity or structural support strength which supports the roof structure.
- Service and restore Fire Suppression Sprinkler System ensuring full functionality in all parts of the entire building.

By December 20, 2017, you shall:

Obtain required permit(s) to establish legal occupancy and use of the building. Upon issuance of permit(s), Red-Tagged status may be modified to allow entry of construction personnel to perform the work under the permit(s).

OR

Remove all unpermitted improvements and uses to conform with previously-approved configuration and use(s).

The building is currently “Red-Tagged” and will remain so until violations are corrected.

The specific code sections in violation include, but may not be limited to, the following:

<u>SDMC Sec.</u>	<u>Violation Description</u>
121.0202-121.0203	Provides the authority regarding enforcement of the Land Development Code.
121.0302	Requires compliance with the Land Development Code, specifies these violations are not permitted, and provides authority for the abatement of public nuisances.
43.0304	Illicit Discharges (a) Except as provided in San Diego Municipal Code section 43.0305, it is unlawful for any person to cause a <i>non-storm water discharge</i> to the MS4.

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Notice of Violation
1699 Main Street, 1677 Main Street & 1202 Sigsbee Street
November 16, 2017

(b) It is unlawful for any person to cause either individually or jointly any discharge into or from the *MS4* that results in or contributes to a violation of the *MS4 permit*.

129.0113

When a Certificate of Occupancy Is Required

(a) No *structure* or portion of a *structure* shall be used or occupied, and no change in the existing use or occupancy classification of a *structure* or portion of a *structure* shall be made until the Building Official has issued a Certificate of Occupancy approving the use or occupancy. A Certificate of Occupancy is not required for existing or new detached one and two family dwellings or townhouses as defined in the California Residential Code, and their *accessory structures*.

129.0202

When a Building Permit Is Required

(a) No *structure* regulated by Land Development Code shall be erected, constructed, enlarged, altered, repaired, improved, converted, permanently relocated or partially demolished unless a separate Building Permit for each *structure* has first been obtained from the Building Official, except as exempted in Sections 129.0202(b) and 129.0203.

129.0302

When an Electrical Permit Is Required

No electrical wiring, device, appliance, or equipment shall be installed within or on any *structure* or *premises* nor shall any alteration, addition, or replacement be made in any existing wiring, device, appliance, or equipment unless an Electrical Permit has been obtained for the work, except as exempted in Section 129.0303..

129.0402(a)(b)

When a Plumbing/Mechanical Permit Is Required

(a) No plumbing system, or portion of a plumbing system, shall be installed within or on any *structure* or *premises*, nor shall any alteration, addition, or replacement be made in any existing plumbing system unless a Plumbing/Mechanical Permit has been obtained for the work except as exempted in Section

156.0308

Base District Use Regulations

(a) Permitted Land Uses

The uses allowed and level of review required in the Centre City Planned District base districts and overlay districts are shown in Table 156-0308-A, below. The "Additional Regulations" column references additional regulations applicable to certain uses, which are found in this Article or in the Land Development Code.

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 Notice of Violation
 1699 Main Street, 1677 Main Street & 1202 Sigsbee Street
 November 16, 2017

- 126.0203** **When a Neighborhood Use Permit Is Required**
- 129.0802** **When a Sign Permit Is Required**
 A Sign Permit is required for the installation or alteration of any *sign*, except for those *signs* specifically exempted in Section 129.0803.
- 142.1206** **Violations of Sign Regulations**
 (a) It is unlawful to do the following:
 (3) Erect any *sign* on any *premises* contrary to the provisions of this Division.
 (b) Violations of any provisions of this division shall be subject to the enforcement provisions of Chapter 12, Article 1. Violations of this division shall be treated as strict liability offenses regardless of intent.
- 142.1255** **Temporary Secondary Signs in Commercial and Industrial Zones**
 (b) Temporary *signs* shall not be permanently installed or affixed to any *sign structure* or building.
 (k) Banners, Pennants, Flags, and Streamers
 (1) Banners, pennants, flags, streamers, flares, wind-propelled and noise-making devices, and other similar devices shall not be permitted, unless they qualify as one of the following:
 (A) Corporate or Institutional Flags Corporate and institutional flags shall be displayed from either freestanding or wall-mounted flagpoles. The flags may not exceed one *sign* for every 100 feet of *street frontage* and may not exceed five flags per *premise*.
 (B) Holiday Decorations Holiday decorations shall be removed within 20 calendar days of the passing of the holiday.
 (C) Grand Opening Streamers, Temporary Banners, and Pennants Streamers, temporary banners, and pennants identifying the grand opening of a completely new establishment shall be permitted for no more than 60 consecutive calendar days. They shall not be placed within 50 feet of a residentially zoned *premises*. Two temporary banner *signs* shall not exceed one-half of the maximum permitted *sign copy area* for allowable *wall signs*.

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 Notice of Violation
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 November 16, 2017

<u>CBC Sec.</u>	<u>Violation Description</u>
1001.2	Minimum requirements (Egress)
1001.3	Maintenance (Egress)
1006.2.2	Egress based on use
1013.1	Where Required (exit signs)
1010.1.10	Panic and Fire Exit Hardware
708.4	Continuity (Fire Partitions)
101.4.4	Property Maintenance
901.2	Fire Protection Systems
903.2	Where Required (fire sprinklers)

THIS NOTICE MUST BE SUBMITTED WHEN APPLYING FOR APPROVAL TO DEVELOP AND/OR APPLYING FOR REQUIRED PERMITS.

Engineering and building permits may be applied for at the Development Services Department, 1222 First Avenue, Third floor. Please telephone (619) 446-5000 for general information about getting the required permits.

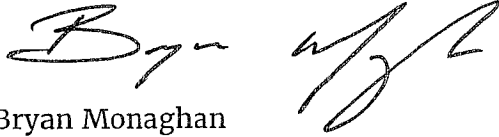
FAILURE TO COMPLY WITH THIS NOTICE

Failure to comply with this Notice may result in enforcement actions, including but not limited to: administrative abatement, civil penalties, appointment of a receiver, revocation of permits, withholding of future municipal permits, civil injunction, criminal prosecution or referral to the City Attorney's Office.

Be advised that there is a reinspection fee (\$264.00 or \$295.00) to recover costs for additional inspection services in accordance with San Diego Municipal Code, Section 13.0103. A bill for this service will be mailed to you immediately following the third (3rd) scheduled inspection.

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Notice of Violation
1699 Main Street, 1677 Main Street & 1202 Sigsbee Street
November 16, 2017

If you have any questions regarding this Notice, please contact **Nick Ferracone, Program Manager**, at nferracone@sandiego.gov or (619) 557-7992. For specific questions about steps toward compliance, you can call me at (619) 619-533-6134.



Bryan Monaghan
Senior Combination Inspector

NF/BM/mb

cc: File

CED# 239627

This information will be made available in alternative formats upon request.

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EXHIBIT C
PYRAMID BUILDING DOCUMENTATION AND FORMER STRUCTURAL REPORTS

DRAFT

October 28, 2020

Elias Belknap
San Diego Metropolitan Transit System
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101

Subject: Structural Findings at Pyramid Building, 1695 Main Street, San Diego, CA 92113

Mr. Belknap,

We are pleased to provide the following report, which presents the results of our investigation to date of the above-mentioned building. The purpose of this investigation was to render a professional opinion regarding any significant structural deficiencies in the structure.

This report was prepared based upon the work performed to date and information available to us at the time. The findings of this report are subject to change should more information become available.

We appreciate the opportunity to be of service. Please feel free to call us if you have any questions or require any clarification regarding items that were discussed in this report.

Sincerely,

JOSEPHSON-WERDOWATZ & ASSOCIATES, INC.



Dan R. Werdowatz, S.E.
Principal Structural Engineer



10-28-20

Background

The building is believed to be built in the early 1960's. It is a large single-story warehouse building. It is constructed with masonry exterior walls and wood framed roof. The gross dimensions are 180 feet x 500 feet (images 1 and 2). There is single masonry partition that divides the building at the 40% mark (200 feet on one side and 300 feet on the other). There are non-structural wood framed walls that further divide the spaces.

Our office visited the site on multiple days in September and October 2020. During one of those visits we used a lift to observe the roof-to-wall connections up close. We also used metal detectors to determine the quantity of reinforcing within the walls and pilasters. The results of our field work is the belief that the wall/pilasters are constructed as follows:

- Walls are 8" nominal concrete masonry units (CMU) with mortarless head joints
- Wall vertical reinforcing is #5 at 48" on center
- Wall horizontal reinforcing is 2#4 at 48" on center
- Pilasters are present at all walls at 20 feet on center
- Pilasters on the long sides support the main beams (see below)
- Pilaster on the short sides do not align with nor directly support roof loading
- Pilasters are typically 12" x 16" (not counting wall itself)
- Pilasters vertical reinforcing is 4#6
- Pilasters horizontal is #2 smooth bar at 24" on center

The roof system is panelized wood-framed constructed as follows:

- Roof plywood is 1/2" standard grade sheathing
- Roof plywood nailing varies but is typically at 6" on center
- Subpurlins are 2x4 (often select structural grade) at 24" on center
- Purlins are typically 3x14 at 8'-2 1/4" on center
- Main beams are glued-laminated timbers (glulam) at 20 feet on center
- The glulams are 5 1/4" x 27" at building edges and the 5 1/4" x 20 1/4" at the center span
- The columns are 9" x 9 3/4" glulams, are 25' tall, and are at a 20' x 64' spacing
- The ledgers are 4x14 (at building short sides) with 5/8" ledger bolts at 48" on center
- The ledgers are 4x6 (at building long sides) with 5/8" ledger bolts at 48" on center

Findings

Based upon our visual observation and the above field determinations, we conducted our work. That work was a multi-stage process where we first performed an evaluation per ASCE 41-17 Seismic Evaluation and Retrofit of Existing Buildings. The primary purpose of that evaluation was to identify key items that would require a more detailed analysis. The deficiencies of this type of building are well-known to experienced engineers but ASCE 41-17 provide a uniform evaluation basis. More detailed seismic analysis was performed in accordance with the 2019 California Building Code and California Existing Building Code.

The result of all the above site observations and seismic evaluations is the following list of structural deficiencies. The following list is ranked in order of most critical to least critical:

<u>ITEM</u>	<u>PRIORITY</u>
1. Seismic Wall Anchorage	High
2. Column Repair	High to Medium (varies by location)
3. Cracked/Broken CMU	Medium to Low (varies by location)
4. Undermined Footing	Medium
5. Water Transmission Through Walls	Low
6. Water Damage at Roof	Low
7. Settled/Cracked Slab	Low

Background

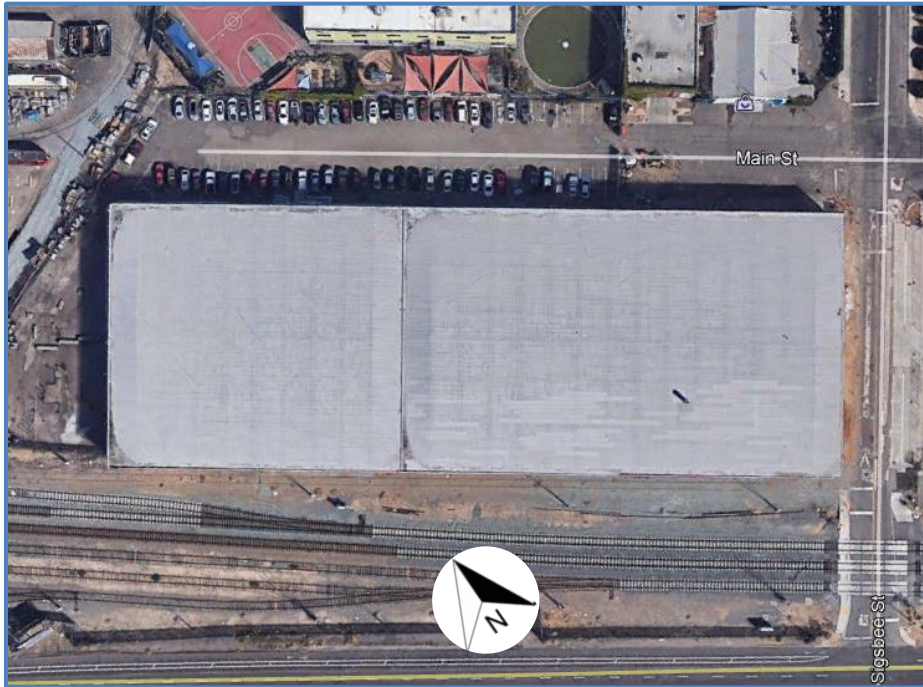


Image 1 – Roof Layout



Image 2 – Exterior View

1. Seismic Wall Anchorage

Discussion:

Seismic wall anchorage addresses the need to prevent separation of the wood roof system from the masonry walls. Past earthquakes have shown catastrophically that poor connections at the walls can allow the walls and roof to separate, causing collapse. This occurs when the earthquake forces “pull” the heavy walls away from the roof structure. Since the time this building was built the understanding of this phenomenon has grown, and each major earthquake has led to tighter restrictions. No seismic anchors or strapping of any kind was observed and the ledger bolts are spaced farther apart than needed. See existing conditions in images 3 and 4 at the building short sides and images 5 and 6 at the long sides.

Recommendation:

It is our recommendation that a series of new hardware connectors be installed as a high priority repair. To provide adequate wall anchorage, hardware is needed that falls into three subcategories:

1.1 Wall Anchorage: Hardware that is attached to threaded rods that pass through the masonry walls with bearing plates. This will include anchors on all exterior walls and also at the interior masonry wall. These anchors will be attached to the existing sub-purlins, purlins, and glulams through the use of what is typically called a “holdown”. This will provide a direct wall to roof attachment. Examples of repair hardware can be seen in images 7 and 8.

1.2 Ledger Bolts: Partial depth (not through wall) ledger bolts that are drilled and installed through the existing ledgers at the short sides of the building. This hardware provides added attachment from the existing ledgers to the masonry walls. These bolts might be expansion anchors or epoxied in place.

1.3 Cross Ties: Hardware that provides connection between existing framing (glulams and purlins). This hardware is required to provide cross-building (wall to wall) interconnection. Examples of this are shown in images 9 and 10.

The details of the exact hardware, spacing, and attachment methods can only be made during the final design in preparation of repair drawings. That design work is beyond the scope of this report. Approximate hardware locations are depicted with small red lines on the Conceptual Anchorage Plan (image 11).

1. Seismic Wall Anchorage



Image 3 – Existing Condition at Short Sides



Image 4 – Existing Condition at Short Sides

1. Seismic Wall Anchorage



Image 5 – Existing Condition at Long Sides



Image 6 – Existing Condition at Long Sides

1. Seismic Wall Anchorage

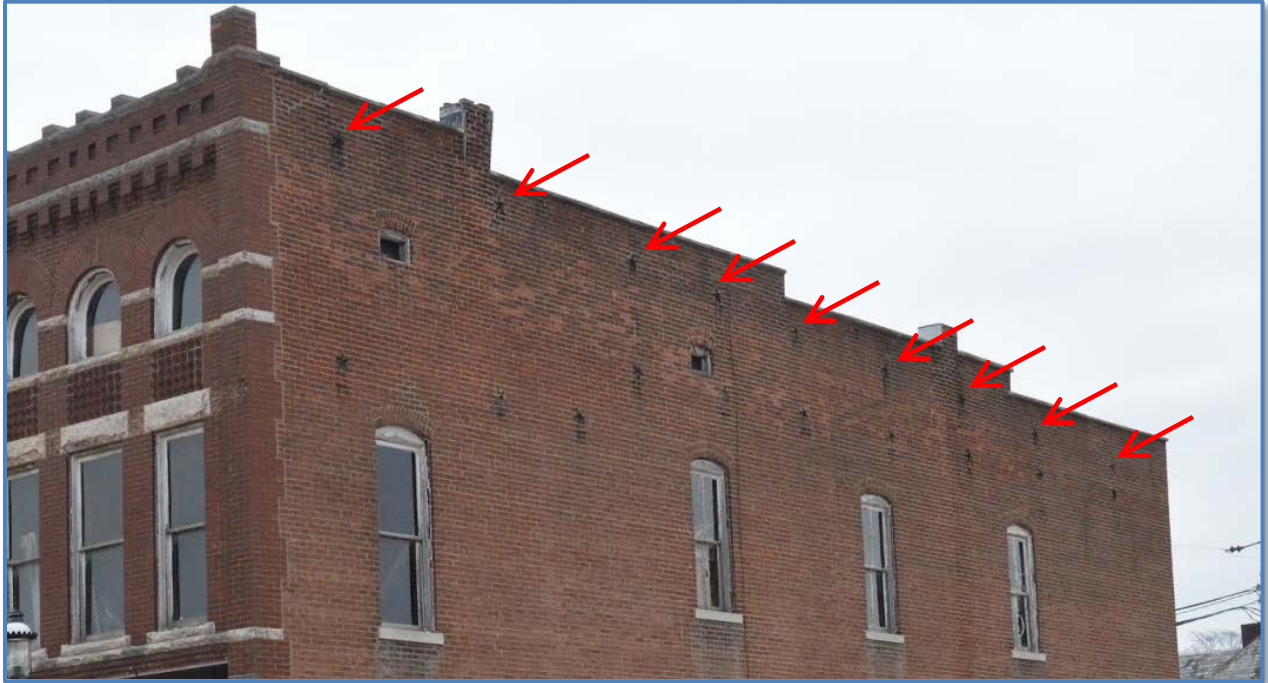


Image 7 – Example of Exposed Wall Anchors

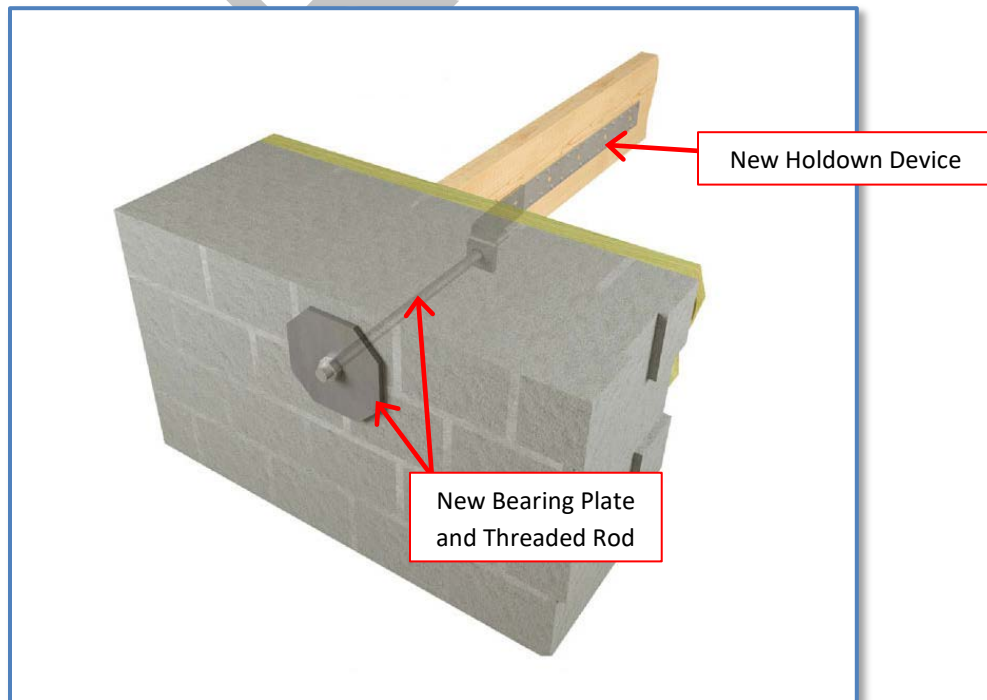


Image 8 - Wall Anchor Schematic

1. Seismic Wall Anchorage

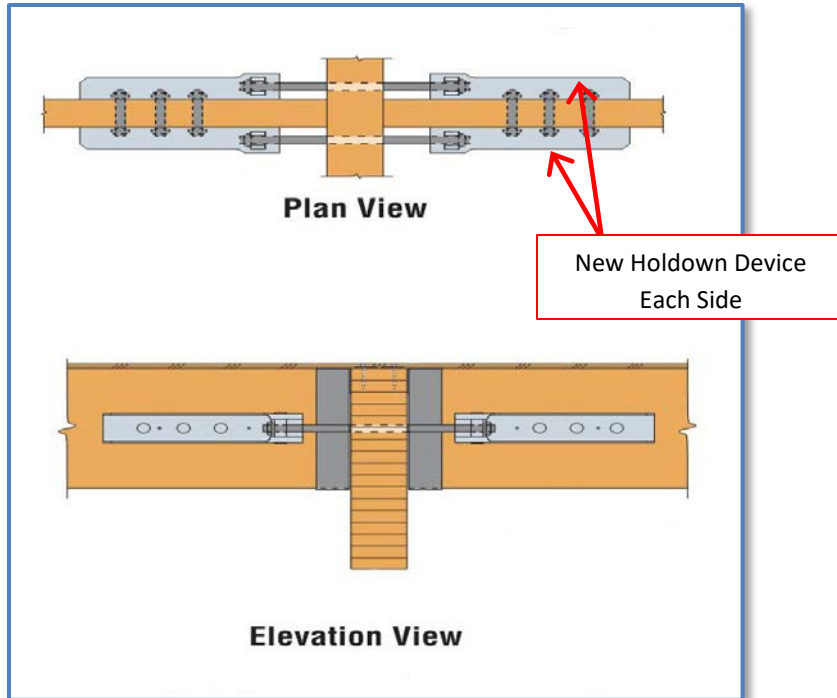


Image 9 – Purlin-to-Purlin Cross Tie Schematic

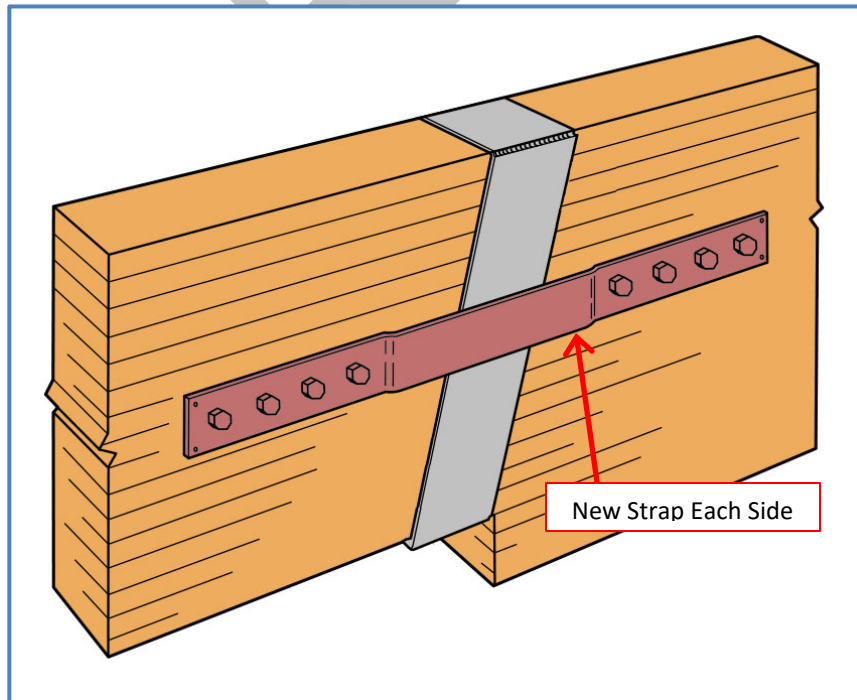


Image 10 – Glulam Beam Cross Tie Schematic

1. Seismic Wall Anchorage



Image 11 – Conceptual Anchorage Plan

2. Damaged Columns

Discussion:

All of the columns in this building are wood glulams and are approximately 25' tall (image 12). The base of each column is anchored to the foundation with a steel column base that was cast into the concrete (image 13).

It is very apparent that the columns have suffered damage in varying amounts from physical impact (presumably forklifts).

2.1 Severe damage (High Priority): The damage at some columns is severe where the column is entirely split apart many feet high (images 14 and 15).

2.2 Broken steel plates/dislocated columns (High Priority): At some locations the column itself is in fair condition but has been driven off the bearing plate which also severed the steel side plates – images 16 and 17).

2.3 Moderate damage (Medium Priority): At some columns there is minor splitting limited to near the base (images 18 and 19).

One column had been scorched by fire but the damage was determined to be shallow (roughly 1/8") and not of structural consequence (images 20 and 21). Over time, there have been various repairs: steel packing straps at image 22 and new foundation anchors at images 23. Many columns suffered some "rounding" of the corners due to abrasion. We have analyzed the stresses in the columns and this rounding is not a structural concern (images 24 and 25).

It should be noted that the bases of 6 columns could be not be fully inspected due to a thick layer of paint-ball material or other obstructions (walls, foam pit, etc images 26 and 27).

Recommendation:

It is our recommendation that a series of repairs be implemented on a column-by-column basis based on the current conditions. The general methodologies are as follows:

2.1 The worst columns should be replaced with new steel columns. See image 28 for repair concept.

2. Damaged Columns

2.2 Some columns may be repositioned back onto the bearing plate and then re-anchored to the foundation. The re-anchoring would be similar to the existing retrofit at one column (image 29).

2.3 Some columns may be strengthened with steel jackets at the base. See image 30 for repair concept. Some columns need both the jacket and foundation anchor. Note that replacement with a steel column is always an option for an increased cost.

In addition to the above structural repairs, it would be advisable to install column protectors in the spaces that will have forklift and vehicle traffic (image 31). As mentioned above, not all column bases could be inspected. During the overall repair process those column bases should be cleared and then observed by our office to determine what, if any, repair may be needed.

DRAFT

2. Damaged Columns



Image 12 - Typical Glulam Column

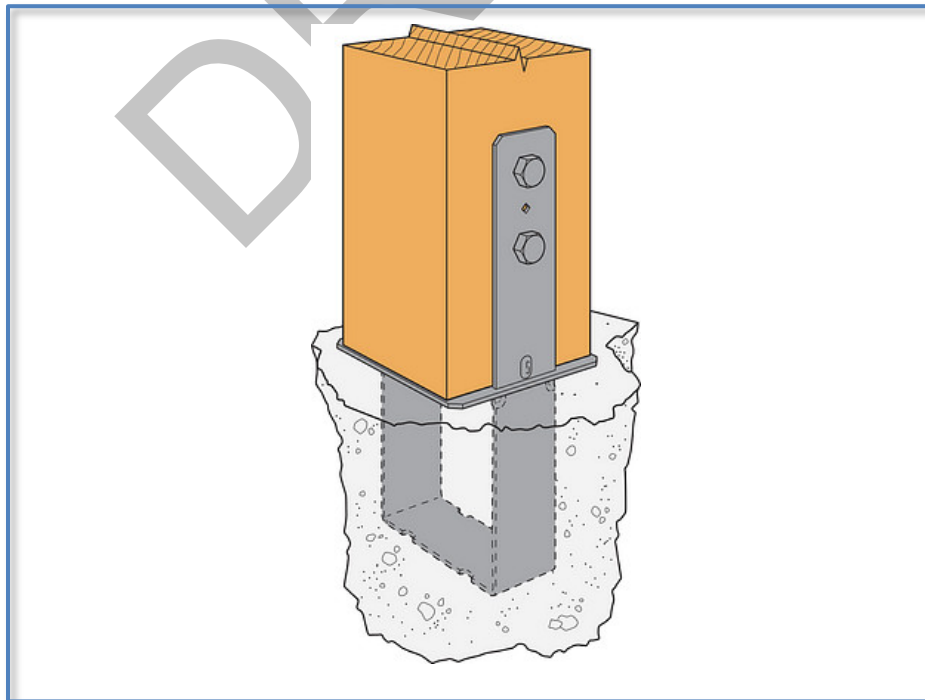


Image 13 – Schematic of Existing Post Bases

2. Damaged Column



Image 14 – Severe Column Damage



Image 15 – Severe Column Damage

2. Damaged Column



Image 16 – Severed Steel Plate



Image 17 – Dislocated Column with Severed Plate

2. Damaged Column



Image 18 – Minor Column Splitting

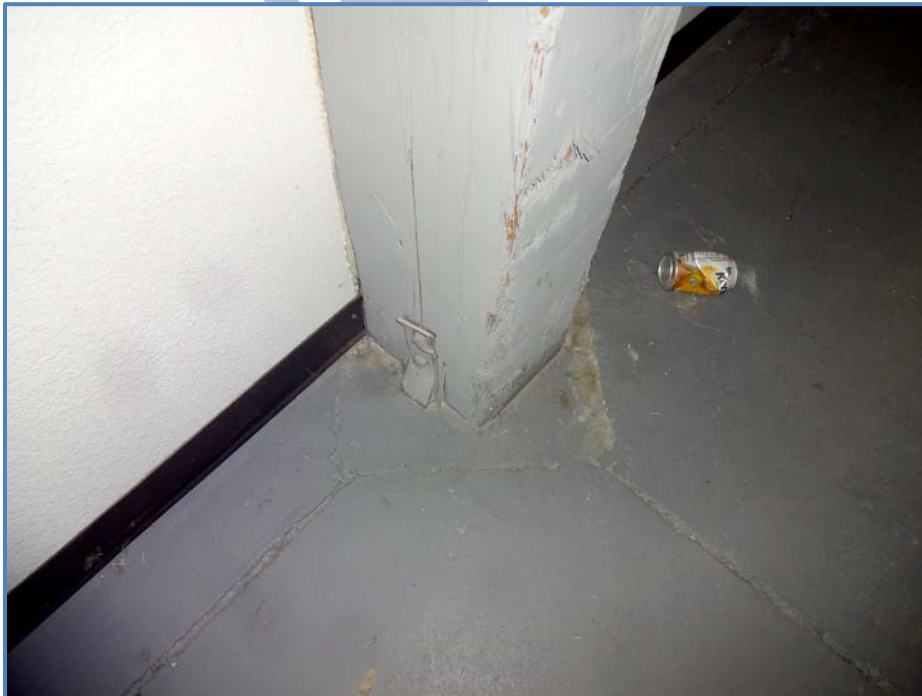


Image 19 – Minor Column Splitting

2. Damaged Column



Image 20 – Charred Column



Image 21 – Shallow Char Depth

2. Damaged Column



Image 22 – Packing Strap “Repair”



Image 23 – Retrofit Foundation Anchorage

2. Damaged Column



Image 24 – Column Rounding



Image 25 – Column Rounding

2. Damaged Column



Image 26 – Layer of Material at Column Base

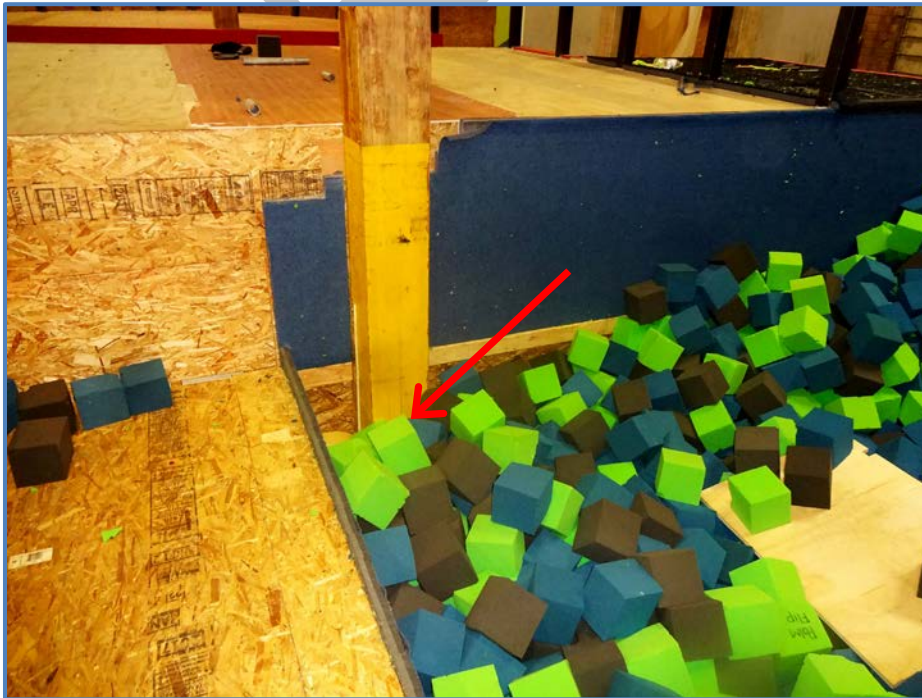


Image 27 – Obstruction

2. Damaged Column

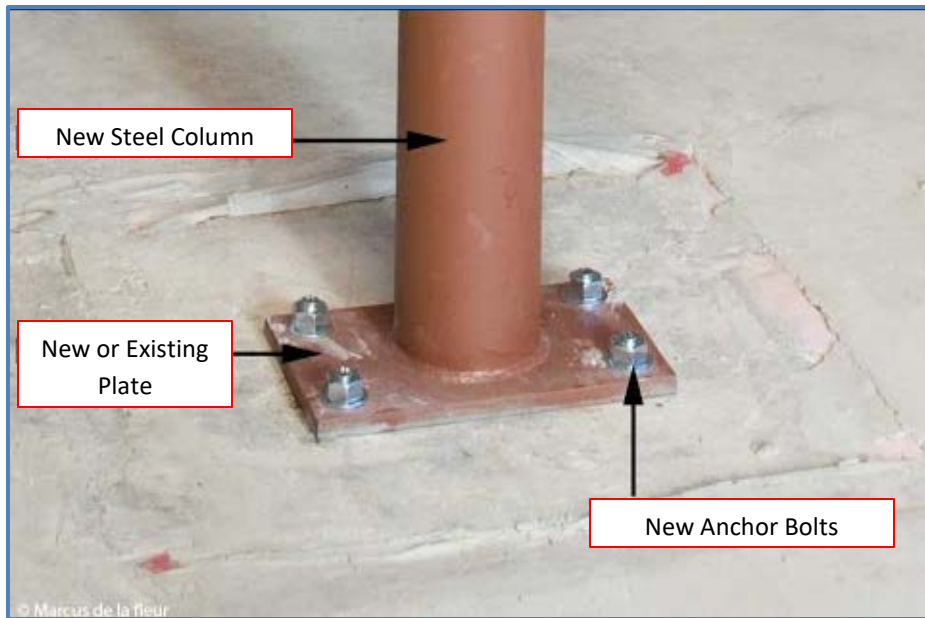


Image 28 – Steel Column Replacement



Image 29 – Retrofit Foundation Anchorage

2. Damaged Column



Image 30 – Column Jacketing



Image 31 – Column Protection

3. Masonry Cracking/Spalling

Discussion:

There are numerous locations with various forms of masonry cracking, spalling, or splitting. At this time, none of these locations have rendered that affected portions of the building to be unsafe. Most of these are maintenance issues and can be addressed now or at some time in the future.

The various locations where the various masonry distress features occur is as follows:

3.1 Spalling/Cracking west corner (Medium Priority). At this single location the corner vertical rebar has significant rusting. This rusting has caused the block shell to spall which further exposes the bar to moisture (images 32 and 33). If unrepaired, this condition will not lead to a building collapse, but it will lead to further deterioration and spalling.

3.2 Spalling of face shell at roll-up door lintels (Medium/Low Priority): The lintel reinforcing is experiencing minor rusting and has caused the block face to detach (images 34 and 35). This detaching in itself is of no consequence but it allows the reinforcing to come into more contact with the weather. While the rusting of the lintel bars currently appears to be minor, long term continued rusting could be harmful.

3.3 Spalling of face shell at loading docks (Low Priority): This was most likely caused by physical abuse from the use of the loading dock. The exposed reinforcing is not structurally critical and this issue is considered primarily cosmetic (images 36 and 37).

3.4 Cracking of the block units within the body of a solid wall (Low Priority): We are uncertain what would cause this condition but it also was not observed in enough quantity to cause structural concern (image 38).

3.5 Spalling of a shallow layer of the block face itself (Low Priority): This is likely due to water intrusion but was not observed in enough quantity to cause structural concern (image 39). Note that this only appear to occur high on the walls and only limited areas where observed from a lift.

3. Masonry Cracking/Spalling

Recommendation:

As mention above, none of these locations have rendered the affected portions of the building to be unsafe. If left unrepaired, items 3.1 and 3.2 will slowly worsen but may take many years to become structurally unsound. There is the possibility, remote as it might be, that the dislocation of additional pieces of masonry could pose a falling risk to any persons nearby.

At this time, we would recommend that item 3.1 be repaired. We also recommend that item 3.2 be repaired within 5 to 10 years. The repair for 3.1 would include the removal of loose/damaged masonry segments, the cleaning of rusted reinforcing, and then use of high-quality bonding agents and structural mortar to build the masonry back.

The other items (3.3 to 3.5) may also be repaired if desired.

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3. Masonry Cracking/Spalling



Image 32 – Damaged West Corner



Image 33 – Damaged West Corner

3. Masonry Cracking/Spalling



Image 34 – Damaged Lintel



Image 35 – Damaged Lintel

3. Masonry Cracking/Spalling



Image 36 – Damage at Loading Dock



Image 37 – Damage at Loading Dock

3. Masonry Cracking/Spalling



Image 38 – Cracked Block



Image 39 – Spalling Block Face

4. Undermined Footing

Description:

At two locations the soil under to exterior footing has been undermined due to erosion. These locations are on the train side (image 40) and west parking lot side (image 41).

Recommendation:

In order to prevent further undermining, we recommend that the locations be backfilled using as much compactive effort as is practical. At the west downspout location, asphalt should be filled in and a concrete splash block be used.

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4. Undermined Footing



Image 40 – Train Side Undermining



Image 41 – West Parking Lot Undermining

5. Water Transmission Through Walls

Description:

The exterior walls are constructed with concrete masonry units (CMU) with mortarless head joints. Block units themselves are typically porous and allow water transmission. The use of mortarless head joints contributes to the ease with which water can pass through the walls. The evidence of this transmission is the large amount of efflorescence on many of the interior wall surfaces (image 42 and 43). Efflorescence is the minerals left behind as moisture evaporates. Efflorescence is not harmful itself but is simply a sign of water transmission.

The question that exists is has this water transmission caused any harm to the reinforcing steel. Without conducting intrusive testing, it is not possible to know with certainty if harm has been done. It is important to note that when reinforcing steel corrodes, it expands dramatically and typically does damage to surrounding concrete and masonry. While localized damage exists at one corner (item 3.1) and at lintels (item 3.2), there is no evidence of widespread corrosion due to water intrusion.

Recommendation:

While we cannot rule out the possibility that some corrosion is taking place, we feel it is unlikely that widespread significant corrosion is occurring. With this in mind, we believe that the efflorescence is simply an eyesore rather than a structural issue.

Although there does not appear to be a structural need to stop water transmission, the building can only benefit from being made more “watertight.” Therefore, if painting of the building exterior is planned, we recommend that the selection of the product(s) be made in consideration of the existence of the mortarless head joints. We do not recommend painting or coating the interior wall surfaces. See the report of John Bardin for more discussion on this topic.

5. Water Transmission Through Walls

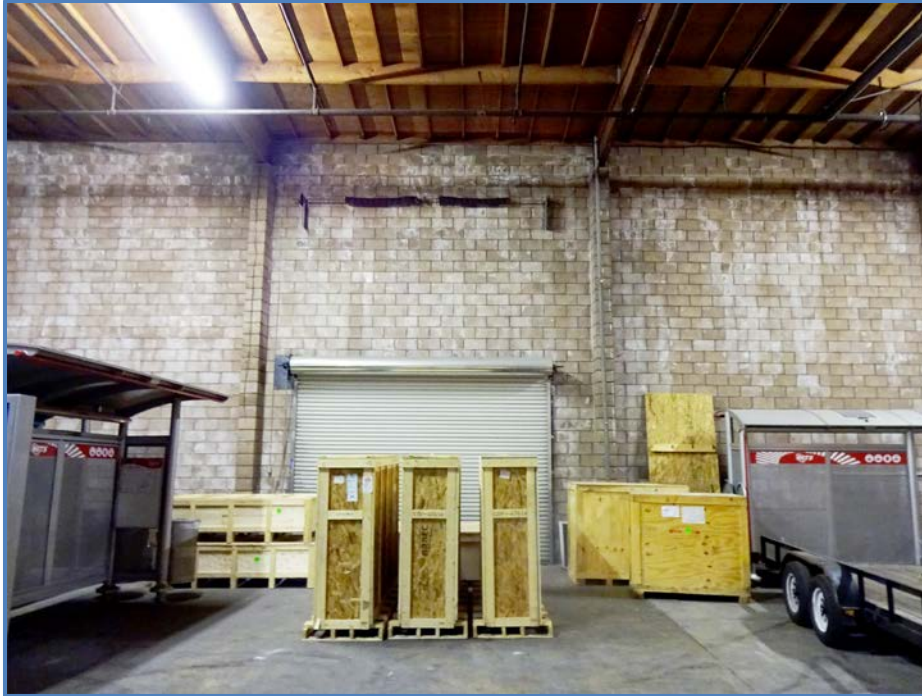


Image 42 – Efflorescence on Walls



Image 43 – Efflorescence on Walls

6. Water Damaged Roof Framing

Description:

Water damaged framing was observed at very limited locations. Since our visit was during a dry summer period, we are unable to comment on whether these locations have active leaks. Further discussion on the function of the roofing will be left to John Bardin.

The water damage is localized and appears to be limited to small quantities of the roof plywood. It does not appear to have affected the framing members themselves (images 44 and 45).

Recommendation:

At this time we do not feel there is a need for any framing repairs. Should the building get re-roofed in the future, we recommend that the roofer be notified of this condition and minor repairs be implemented as needed (such as localized replacing of plywood)

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6. Water Damaged Roof Framing



Image 44 – Past Water Damage



Image 45 – Past Water Damage

7. Settled/Cracked Slab

Description:

At the west end of the building, the slab is cracked and the soil under the slab has settled causing the slab to slope downhill toward the exterior wall (image 46). At these locations, the exterior grade is lower than the interior grade. This fact required backfill to have been placed to support the elevated interior slab. The settling is indicative of poorly compacted backfill under the slab. While this settled/cracked slab is undesirable, there is no structural harm in the present condition.

In addition to the condition above, there are slab cracks at multiple other locations (image 47). While unsightly, a cracked slab-on-grade does not represent a structural deficiency.

Recommendation:

From a structural engineering perspective, there is no harm in the observed conditions. The settled/cracked slab has likely been that way for decades and it is not likely to progress any further. We can, nonetheless, develop repair recommendations if desired.

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7. Settled/Cracked Slab



Image 46 – Settled/Cracked Slab at West End



Image 47 – Typical Slab Crack

ATTACHMENT A1
CONSULTANT'S PROPOSAL

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○ PROPOSAL



Metropolitan Transit System

Pyramid Building Improvements - Design
WOAXX-AE-27

December 2024





December 11, 2024

Steve Augustyn, Contract Officer
Metropolitan Transit System (MTS)
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101

RE: Pyramid Building Improvements - Design - WOAXXX-AE-27

Dear Steve Augustyn and Members of the Selection Panel:

The HDR Engineering, Inc. (HDR) Team, led by Ryan Boley as Contract Manager and Mark Harper as Work Order Manager, is committed to partnering with MTS to deliver responsive, efficient design solutions that meet project requirements while accommodating the dynamic needs of the Pyramid Building Improvements project. We recognize the necessity of balancing seismic, structural, and fire/life safety upgrades with MTS' goals for continuity and code compliance, and we are uniquely qualified to meet these requirements. Our team offers several key advantages:

Trusted Partner to MTS. Since 2016, HDR has collaborated with MTS on a variety of projects, developing a strong understanding of your system's operational needs and challenges. Ryan and Mark, both deeply connected to San Diego's engineering community, bring invaluable local insight and extensive experience with MTS projects, enabling us to make timely, effective recommendations grounded in practical knowledge of your processes, requirements, and expectations.

Integrated Team with a Depth of In-house Resources. HDR's in-house expertise across critical disciplines, including structural engineering, architecture, seismic analysis, and fire/life safety, ensures streamlined communication and coordination within our team, yielding high-quality, constructible solutions. Our integrated approach gives MTS a local, resource-rich team prepared to deliver cost-effective designs and practical, buildable solutions tailored to your request to address fire/life safety issues meeting minimum code compliance.

Extensive Experience with Seismic Retrofit and Rehabilitation. HDR brings proven expertise in seismic rehabilitation and retrofit across a wide array of sectors, including hospitals, central plants, U.S. Department of Veterans Affairs and Department of Defense facilities, parking structures, and pharmaceutical industry sites. We have conducted peer reviews for seismic retrofit projects on behalf of the U.S. Army Corps of Engineers and the Department of Veterans Affairs. Our experience ranges from targeted retrofits, like those required for the Pyramid Building, to comprehensive seismic upgrades across entire facilities.

Architectural and Code Compliance Expertise. HDR's project portfolio—spanning a variety of sectors—equips our team with extensive experience in code evaluations for architectural compliance, fire/life safety systems, egress, fire separation requirements, and hardware conformance. Our expertise in architectural design and code evaluation, combined with the extensive experience of our internal Fire and Life Safety team—which includes licensed Fire Protection Engineers in the State of California and former California Deputy State Fire Marshals—fosters strong, established relationships with Authorities Having Jurisdiction (AHJ). This enables us to provide essential oversight for fire/life safety systems, along with comprehensive architectural design reviews to deliver high-quality deliverables. Our commitment to design excellence will enhance both regulatory compliance and the building's operational safety and functionality for MTS.

The HDR Team is committed to supporting this project and delivering a design that aligns with MTS' standards for quality and durability. We confirm this proposal shall remain valid for a period of not less than 90 days from the proposal due date and acknowledge receipt of all RFP documents and Q&A distributed via PlanetBids. We welcome the opportunity to discuss our qualifications and approach further. Please feel free to contact Mark Harper at 213.395.7206 or Mark.Harper@hdrinc.com with any questions.

Sincerely,
HDR Engineering, Inc.

Thomas T. Kim, PE (CA, #57374)
Senior Vice President

Ryan Boley, PE (CA, #64880)
Contract Manager

Mark Harper, PE (CA, #54178), SE (CA, #4387)
Work Order Manager

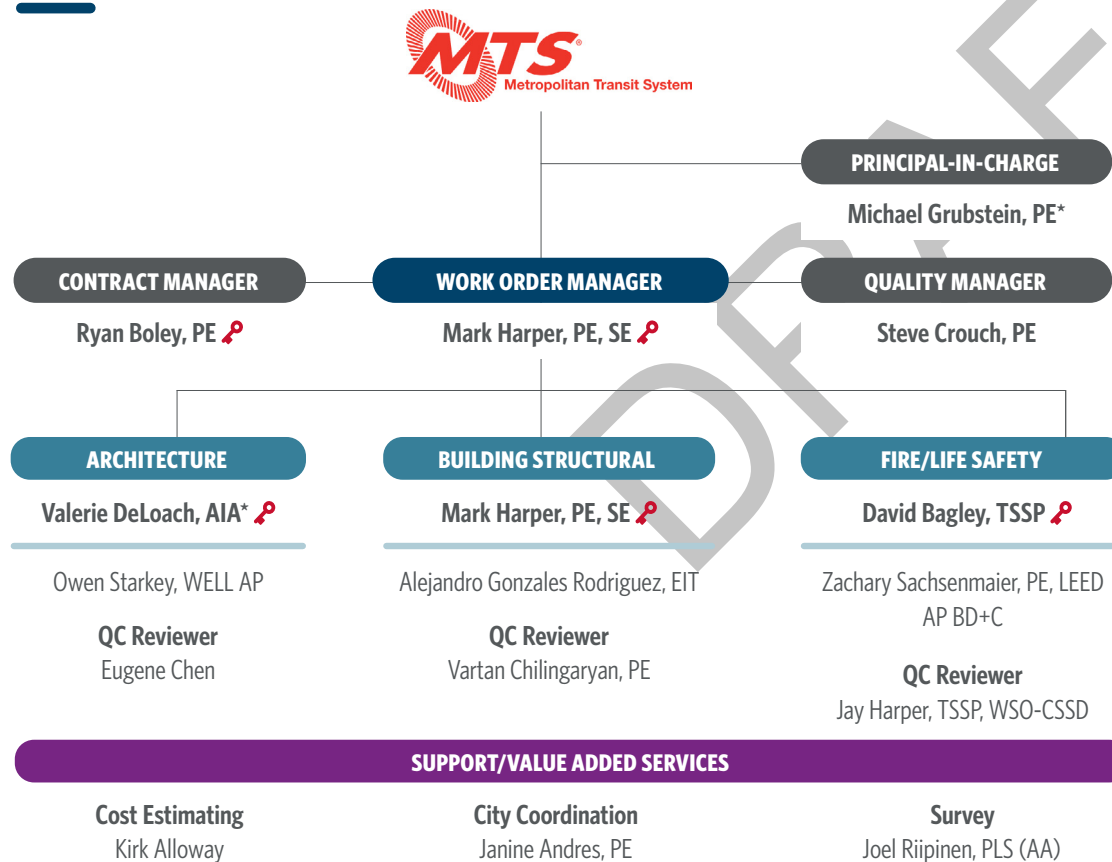


1. Project Team

A. Qualifications and Relevant Individual Experience

This project requires a dedicated team with management and technical experience in delivering projects for MTS, providing design services in support of seismic and structural repairs to address necessary upgrades for structural integrity and fire/life safety compliance for the MTS Pyramid Building. Our proposed team, shown below in **Figure 1: Organization Chart**, has the depth of knowledge and resources necessary to efficiently deliver this project, with proven expertise in delivering similar projects locally and nationally.

Figure 1: Organization Chart



DEDICATED, QUALIFIED, AND AVAILABLE TEAM

Contract Manager, Ryan Boley, and Work Order Manager, Mark Harper, are ideally suited for this assignment and will be supported by key leads Valerie DeLoach and David Bagley. These key leads as well as the entire project delivery team have been hand-selected due to their specific expertise and direct, relevant experience delivering similar projects. On the following page, we highlight the qualifications and relevant experience of our key personnel. Resumes of key personnel and brief qualifications of support staff are provided as an exhibit at the end of this proposal.

» Project Leadership Team Highlights



Ryan Boley, PE | Contract Manager

Brings 25 years of experience with the MTS system to provide invaluable guidance and leadership, focusing on delivery and collaboration



Mark Harper, PE, SE | Work Order Manager

Brings over 30 years of expertise in resilient structural design and seismic analysis for complex transit and institutional projects



Valerie DeLoach, AIA* | Architecture Lead

Leverages 26 years of architectural leadership to drive innovative, cohesive designs that meet project goals on time and within budget



David Bagley, TSSP | Fire/Life Safety Lead

Provides expertise in transit safety compliance and regulatory coordination to ensure the highest standards in safety and security for MTS

Key Personnel
AA: Aguirre & Associates (DBE)
*Registered in state other than CA



B. Unique Qualifications of Key Personnel

We have assembled a team combining the expertise and availability to successfully deliver your Scope of Work on schedule and within budget. Our key personnel bring extensive experience, specialized qualifications, and a strong record of success on similar projects, demonstrating our capacity to meet MTS' goals efficiently and effectively. Below, we provide a snapshot of our key personnel qualifications, including years of experience and similar project experience. Resumes for key personnel are included in the Exhibits section of this proposal, with additional team member resumes available upon request. Starting on the following page, we showcase relevant project highlights underscoring our team's proven performance and commitment.



Ryan Boley, PE | Contract Manager
Years of Experience: 25

Ryan brings significant MTS experience, expertise in project management, and technical oversight on transit projects. **He will leverage his successful partnerships with MTS staff over the past 25 years to provide invaluable guidance and leadership to our team.** His experience includes track and special trackwork design, light rail transit (LRT) and commuter rail station design, street improvements, grade crossings, coordination of bridge design, pavement rehabilitation, traffic control design, bicycle trails, parking lots, retaining walls, storm drains, utility design, and relocations.

SIMILAR PROJECT EXPERIENCE

- MTS, Yard A Ladder Turnouts - Contract Manager/Technical Advisor
- MTS, Yard C Expansion and Feasibility Study - Contract Manager/Technical Advisor
- MTS, KMD Shop Hoists Replacement - Contract Manager
- MTS, Orange Line Track Improvements - Design Project Manager



Valerie DeLoach, AIA | Architecture Lead
Years of Experience: 26

Valerie is a champion for design excellence, working closely with the project designers and engineering team to push boundaries to develop the best outcomes for each project while ensuring all aspects of the planning and design process are successfully achieved. **With her 26 years of industry experience, she directs multidisciplinary design teams to complete complex building projects on time within strict budgetary constraints.** She is responsible for adherence to project goals, budget and schedule, and will be committed from project conception through project completion.

SIMILAR PROJECT EXPERIENCE

- SANDAG, Otay Mesa Port of Entry Commercial Vehicle Enforcement Facility (CVF) - Senior Project Manager
- Orange County Sanitation District, Headquarters Complex - Senior Project Manager
- Cedars-Sinai Medical Center, Biomanufacturing Center - Senior Project Manager



Mark Harper, PE, SE | Work Order Manager/Building Structural Lead
Years of Experience: 33

For over three decades, Mark has been responsible for developing structural systems to meet the architectural design needs of a variety of structures. **He has designed and/or served as the Engineer of Record (EOR) for more than 100 hospitals, schools, and institutional transit and commercial buildings, including multiple O&M facilities.** Mark has experience in seismic analysis/retrofit of existing structures, seismic safety reporting, field observation and investigation, blast design, progressive collapse analysis, client contact/relations, and construction administration.

SIMILAR PROJECT EXPERIENCE

- MTS, KMD Shop Hoists Replacement - Structural EOR/Quality Control Reviewer
- LA Metro, Southeast Gateway Line Maintenance and Storage Facility - Structural Lead
- LOSSAN, Central Coast Layover Facility - Structural EOR
- City of Kansas City, Kansas City Streetcar Maintenance Facility - Structural EOR



David Bagley, TSSP | Fire/Life Safety Lead
Years of Experience: 41

David, a recognized leader in transit safety and security, brings extensive experience in managing MTS rail programs to ensure compliance with local, state, and federal codes. As the 2022 Chair of the California Transit Association's Rail Operations and Regulatory Committee, he facilitated information exchange on regulatory matters between California rail transit agencies and the California Public Utilities Commission (CPUC). He is skilled in developing and administering safety and security management plans and holds certifications as a World Safety Organization Certified Safety & Security Director, a Transit Safety & Security Professional, and a Public Transportation Safety for Rail through USDOT Transportation Safety Institute.

SIMILAR PROJECT EXPERIENCE

- SANDAG/MTS, Mid-Coast Extension - Safety and Security Manager
- SANDAG, San Dieguito to Sorrento Valley Double Track (SDSVDT) Project - Safety and Security Lead
- NCTD, COASTER Convention Center Passenger Platform Project - Safety and Security Specialist

SIMILAR PERFORMANCE HIGHLIGHTS

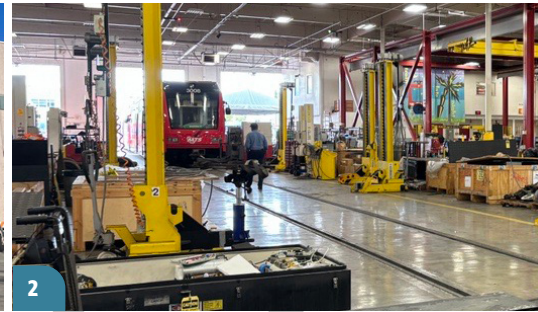
MTS, On-Call A&E Design Consulting Services

STAFF INVOLVED

Michael Grubstein
Ryan Boley
Mark Harper
Steve Crouch
Alejandro Gonzales Rodriguez
Janine Andres

KEY ELEMENTS

- ✓ MTS on-call work orders
- ✓ Facility retrofits and improvements
- ✓ Foundation analysis and modifications (KMD)
- ✓ Phased improvement plans
- ✓ Design that minimizes impacts to active maintenance operations
- ✓ Collaboration with MTS Engineering and Maintenance of Way (MOW) staffs



HDR is helping MTS achieve its vision of a more accessible and sustainable comprehensive regional system with a team of experts familiar with the current and future needs of MTS' bus and rail system. HDR has successfully delivered or initiated 12 work orders, including building design, facility design, light rail rehabilitation, right-of-way (ROW) management support, and bus electric charging facilities. Specific work orders relevant to this project include:

1. KMD Shop Hoists Replacement: HDR prepared plans, specifications, and construction cost estimates for the phased removal and replacement of 12 existing in-ground vehicle hoists, and provided full-service industrial equipment design and engineering to support this modernization task. The existing shop consists of various multi-hoist lifts that are used for the maintenance of MTS buses. An important component of the design included working with maintenance staff to develop a phasing plan that would minimize impacts to active maintenance operation, while also providing for efficient construction of underground/overhead infrastructure to support existing and future equipment needs.

2. Yard C Expansion and Feasibility Study: HDR provided facility programming, conceptual design, and alternatives analysis for the expansion of Yard C to service and maintain additional light rail vehicles (LRVs). While the original scope only looked to provide storage for new LRVs and to better utilize the newly annexed property adjacent to site, we took a more holistic look at operations across both Yard A and Yard C. We interviewed seven MTS departments to document existing deficiencies and areas of opportunities, all of which necessitated improvements in both administrative and shop spaces.

Due to HDR's efforts in identifying phasing considerations, MTS is now better positioned to prioritize and sequence the phasing components based on the ability to gradually secure funds for construction. Overall, this allows MTS to implement their long-term vision and methodically prepare for the eventual procurement of additional LRVs.

3. Zero-Emissions Bus (ZEB) Electric Chargers - Phase I/II: HDR developed plans, specifications, and construction cost estimates for the installation of 12 owner-furnished, contractor-installed electric vehicle supply equipment (EVSE) chargers at four MTS maintenance facilities, under two construction projects. HDR also performed the geotechnical engineering required for the underground work and concrete paving, including testing subgrade compaction, compressive strength, and constituents of concern. HDR collaborated with San Diego Gas & Electric (SDG&E) to provide the necessary upgrades to the electrical service or verify that existing service accommodates the new charging units to support this pilot program. As the implementation of charging infrastructure was a relatively new relationship between MTS and SDG&E, HDR worked closely with the parties to maintain the Phase I implementation schedule to accommodate the initial bus delivery for the Imperial Avenue Division.

In order to verify the chargers were ready and fully functional when MTS' six buses arrived, HDR presented 30 percent (preliminary design), 100 percent (final design), and Issue For Bid (IFB) packages to accelerate the process and complete the design under the originally requested schedule. The combination of our local engineering resources, civil and electrical engineering skills, and experience in heavy-duty electrification projects enabled us to readily understand what was required to meet the needs of MTS.



Los Angeles County Metropolitan Transportation Authority (LA Metro)
Southeast Gateway Line (SGL) Transit Corridor Advanced Engineering

LA Metro contracted HDR to perform advanced engineering and design for the Initial Operating Segment (IOS) of the Southeast Gateway Line (SGL), a 14.8-mile alignment that proposes to connect a new station in the City of Artesia to a new station platform adjacent to the existing A-Line Slauson Station in the unincorporated community of Florence in Los Angeles County. As part of this IOS, HDR is performing advanced engineering and design for freight relocation, utility adjustments, geotechnical investigations, grade crossings, and light rail transit (LRT) design, among another elements.

The project also includes detailed seismic studies and retrofit concepts of the existing platform A to not only meet current seismic standards but to also seismically resist the new loads from the proposed new pedestrian bridge.

KEY ELEMENTS

- Seismic retrofit
- Exiting and egress compliance
- New construction

STAFF INVOLVED

- Mark Harper
- Steve Crouch
- David Bagley
- Alejandro Gonzales Rodriguez
- Vartan Chilingaryan
- Janine Andres



LA Metro
SGL Maintenance and Storage Facility (MSF)

Traversing through 11 cities and 41 at-grade crossings, the SGL includes nine new LRT stations, a new "infill" transfer station on the existing C Line, 17 new bridges, and a MSF for 80 light rail vehicles. The 160,000 sf MSF building complex includes a three-story office and storage space along with approximately 80,000 sf of LRT service area. The LRT service area includes several maintenance bays that contain below-grade pits, retaining walls, a wheel truing bay, a blowdown bay, and a general service and inspection bay. The service area also includes bays for painting and washing the light rail trains. The pits are designed with cantilevered steel posts to support the train rails. HDR's design provides flexibility to accommodate future operational changes and maintenance needs. The entire complex is designed to meet the 2022 California building code seismic requirements for Risk category II & III buildings.

KEY ELEMENTS

- Seismic design
- Fire/life safety
- Emergency egress

STAFF INVOLVED

- Mark Harper
- Steve Crouch
- Alejandro Gonzales Rodriguez
- Vartan Chilingaryan



U.S. Army Corps of Engineers (USACE)
MT Veteran's Affairs Health Care System Medical Center Seismic Upgrade

This project includes seismic upgrade of an existing medical center 261,000 Building Gross Square Feet (BGSF). Both structural seismic retrofit and MEP seismic bracing are required as part of the upgrades. Building 154 requires the most upgrade work, including both structural reinforcement and MEP stabilization as well as architectural components such as suspended ceiling grid. The team will modify or reconstruct approximately 126,000 BGSF in the main hospital buildings (154, 154A, and 150) as necessary. The project will also include construction of a new 80,000-BGSF Acute Inpatient Care Facility as well as a new 480-space parking garage. Upgrades to the Fort Harrison Campus will meet VA Physical Security requirements.

KEY ELEMENTS

- Seismic retrofit
- Fire/life safety upgrades
- Emergency egress

STAFF INVOLVED

- Mark Harper



San Diego Association of Governments (SANDAG)
Mid-Coast Corridor Transit Project

HDR served as a key partner for the Program Management Support Consultant team on SANDAG's \$2.2B Light Rail Transit (LRT) Project. The project extended 3.5 miles from Santa Fe Depot, adding 11.4 miles of new double track from south of the San Diego River to the UTC Transit Center. It included eight bridge crossings, 6.9 miles of at-grade alignment, 4.5 miles of aerial structure, and nine LRT stations. Our team co-located with SANDAG in downtown San Diego to provide support in project management, engineering, safety, project controls, and documentation.

KEY ELEMENTS

- Fire/life safety
- Collaboration with MTS Engineering and Operations staff
- City of San Diego coordination

STAFF INVOLVED

- Ryan Boley
- David Bagley
- Janine Andres



C. Key Personnel Time Commitment

Selecting the HDR Team provides MTS with an experienced leadership team, local knowledge and expertise, and a depth of resources backed by regional and national subject-matter experts. Each of our proposed team members will be dedicated to the project, with staff at HDR's Downtown San Diego office available to MTS staff, as needed. In **Figure 2: Key Personnel Commitment to MTS** below, we quantify the availability of each key team member at NTP. More information on each individual's current project commitments is provided in **Table 1: Current Assignments and Availability** on page 09. Our proposed team is committed to providing the level of support needed for successful project completion.

Figure 2: Key Personnel Commitment to MTS



>> THE HDR TEAM



Thorough understanding of MTS design requirements through successful partnership on **12 MTS work orders**



Dedicated, integrated, and full-service team with direct experience in seismic, fire/life safety, and architectural services



300+ Transportation staff in Southern California for a **depth of local resources** to draw upon, if needed



Knowledgeable Work Order Manager that brings extensive experience with seismic analysis/retrofit and safety reporting



Experts in **fire/life safety and architecture code compliance**



Extensive experience with **seismic retrofit and rehabilitation**

2. Project Team Capabilities

A. Management, Coordination, and Scheduling Abilities

On-call contracts and associated work orders require extensive coordination, and MTS will benefit from our well-balanced team capable of managing multiple assignments simultaneously. Our Work Order Management Plan (WOMP), shown in the figure to the right, has facilitated the successful delivery of concurrent work orders for many of our clients, including MTS.

WORK ORDER MANAGEMENT PLAN

HDR has demonstrated its ability to work with MTS, local agencies, and critical stakeholders on several successful projects. We strive to avoid surprises by proactively communicating project goals, expectations, scope, schedule, and budget. Our approach to project management is collaborative and seeks to build consensus among stakeholders. For the subject work order, we will develop a WOMP, similar to those used in successful delivery of other MTS projects, but customized to the specific needs and size of this work order request. **Figure 3: Work Order Management Plan** illustrates our four-part WOMP, which includes operations, communication, quality management, and production.

Our proven WOMP provides seamless coordination and project execution to deliver work products on time and within budget. We developed this unique management tool as a company standard on all our projects, including each work order we have delivered for MTS, and have made specific adjustments to focus on MTS practices and requirements. The WOMP is a living internal document used as a communication tool among our Contract Manager, Work Order Manager, and the project team, so that clear expectations and goals are established throughout the project. It is critical that scopes are clearly defined and that both the MTS Project Manager and our HDR Work Order Manager have the same understanding and expectations at the start of the project.

The WOMP will incorporate the following four key plans:

Operations Plan

The Operations Plan will assign the appropriate staff and confirm a clear direction, well-defined deliverables, and full understanding of the scope, process, schedule, budget, and priorities. Project document control and subconsultant management guidelines will be defined. For certain projects, a Risk Assessment Plan will also be developed. This is a living document in the form of a risk register that will identify potential risk items for each phase of the project or task, their probability of occurrence, and mitigation measures to minimize those risks.

Communication Plan

The Communication Plan will establish the internal communication protocol to promptly and efficiently handle project concerns, issues, and direction, resulting in minimized delays and revisions. Our core leadership team will meet on a weekly basis to verify your expectations are met, key action items are addressed, and new action items are assigned a champion and due date. The Communication Plan will be distributed to the entire team and define the roles and responsibilities of each team member.

Quality Management Plan

The Quality Management Plan (QMP) will verify that the project deliverables meet HDR and MTS standards. The QMP will list mandatory management reviews, deliverable reviews, and interdisciplinary technical reviews with dates and identified reviewers.

Production Plan

The Production Plan will outline each team member's responsibilities, procedures for initiating and advancing the work, and timing of preparation of products. Design criteria and CADD standards will be defined.

Figure 3: Work Order Management Plan





B. Ongoing Projects

The HDR Team is committed to this project. The project’s time commitment is not long term in nature, and through work planning efforts between our offices, we will successfully maintain the appropriate workload for our staff, bringing in support from other offices as required for additional depth or expertise.

As shown in **Figure 2: Key Personnel Commitment to MTS** on page 05 and **Table 1: Current Assignments and Availability** on page 09, we have proposed staff with an appropriate level of availability throughout the life of the project. HDR is well positioned to support this project from beginning to end, and the proposed team is committed to providing the level of support needed for successful project completion.

C. Quality Assurance and Quality Control

HDR’s QMP is designed to verify that project deliverables meet both HDR and MTS standards and expectations. The Quality Management System at HDR, as illustrated below in **Figure 4: HDR’s Quality Process**, is among the highest priorities for all our projects and is implemented through multiple levels of the organization. HDR’s Quality Manager, Steve Crouch, will oversee preparation of the overall QMP framework and will monitor and track execution of quality assurance (QA) and quality control (QC) activities. He will make sure our quality procedures are applied and followed on all aspects of project work. Specific QC activities will be assigned to discipline QC reviewers with expertise in the particular project component being checked.

QA and QC are not synonymous: QA is an auditing function, whereas QC is a checking function. Our planned QA and QC procedures for projects will be documented in a worker order-specific QMP that establishes a process for QC checking, correcting, and back-checking all documents, reports, and designs. Our Quality Management Plan also includes extensive use of standard “checklists” for reviews at each project milestone.

QA REVIEW

As the Quality Manager, Steve is also responsible for implementing an overall QA process that produces high-quality products. This process is continuous throughout each project and is prevention-oriented. Steve verifies that we clearly understand project expectations and goals and confirms that we have performed a detailed QC review. This process helps us deliver a quality product that exceeds project expectations.

DETAILED CHECKING REVIEW

Detail checking confirms the accuracy and completeness of information, including calculations, drawings, and spreadsheets, with corrections and changes documented. We conduct CADD work in a shared ProjectWise environment among each discipline and teaming partner, facilitating real-time collaboration. This approach reduces conflicts between disciplines, enhances schedule performance, and prevents late surprises, ultimately keeping the project on track.

QC REVIEW

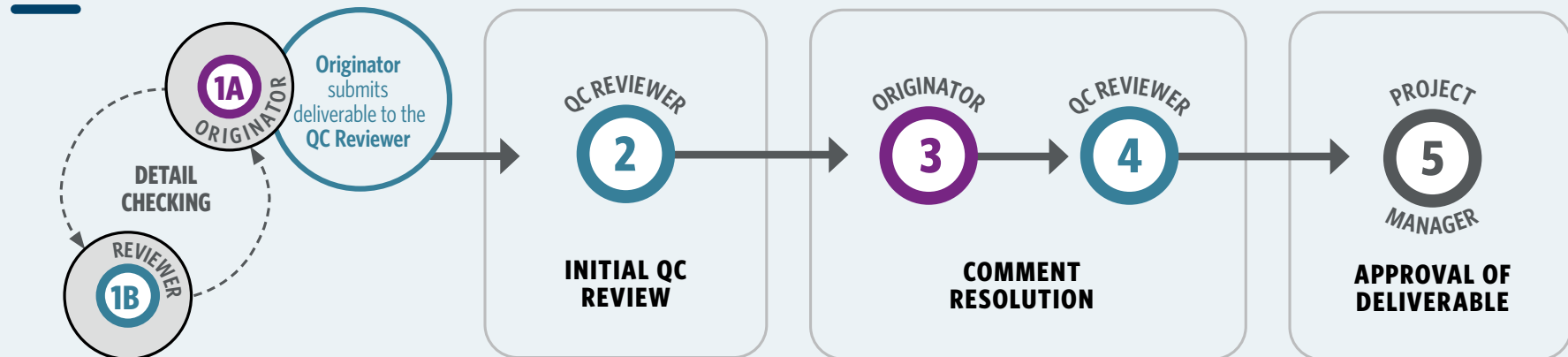
Independent of the day-to-day team, senior staff members conduct QC reviews to reduce risks by verifying that project deliverables address your requirements. These reviews confirm design compatibility, and drafting services are scrutinized for compliance with CADD requirements.

INDEPENDENT DESIGN REVIEW

A designated, qualified HDR staff member not involved in project execution will perform and document independent reviews at agreed-upon project milestones to identify issues and recommend alternatives related to design criteria, use of standard plans, constructability issues, and potential sources of errors and omissions.

Annotated or highlighted originals of MTS’ design milestone comments will be returned to MTS with the disposition of all comments in a response/comment matrix.

Figure 4: HDR’s Quality Process





D. Cost Management

Upon Notice to Proceed (NTP), we will implement a process to monitor project budget and schedule within the Operations Plan. Weekly cost sheets, including subconsultant charges, will show labor and indirect costs by task. This information, and a detailed estimate of progress made during each reporting period, will be used to monitor status. We will conduct planned independent management reviews at each submittal milestone to track project progress.

Through weekly internal meetings, our team will constantly reassess project progress to determine if we are within the approved budget and whether the approved schedule is being met. If we find that either one of those indicators is compromised, Mark Harper and our discipline leads will determine the corrective measures and resources necessary to maintain project schedule and deliver the project within the approved budget. If there is a change in scope, we will closely communicate any potential issues with the MTS Project Manager and work together to mitigate impacts.

PROJECT CONTROLS

HDR implements several strategies and tools to help execute the WOMP and track, control, and report cost and percentage completion on a task-by-task basis for all of our projects. These include:

Scheduling

We understand the importance of project schedules and timely delivery and are well versed in both Oracle Primavera software and Microsoft Project to develop resource-loaded Critical Path Method (CPM) schedules. Project schedules adhere to the work order scope, depicting the major milestones and steps necessary to complete each task. Schedules are maintained on a biweekly basis.

Budget and Schedule Control/Reporting

From the beginning of a work order, we work with the MTS Project Manager to develop financial metrics. Weekly cost sheets show direct and indirect costs for each task. This information and a detailed estimate of physical progress during each reporting period will be used to monitor status. A budget management spreadsheet, monthly progress report, and invoice will also be submitted to the MTS Project Manager. If there is a need for an amendment, it will first be discussed with the MTS Project Manager and then communicated appropriately with the team to support the implementation of the needed change. HDR will utilize project management dashboards as outlined in **Figure 5: Project Management Dashboard** to the right.

Earned Value

Earned Value Management (EVM) objectively measures project performance and progress. EVM can combine measurements of scope, schedule, and cost in a single integrated system and is notable for its ability to provide accurate forecasts of project performance issues. We have applied this methodology internally on our MTS work orders. This tool assists the Work Order Manager in determining a project's variance of schedule and budget so recovery plans can be developed, if needed.

Scope Control

At times, scope change can be inevitable throughout the course of a project. Reasons may include revisions to the purpose and need, exploring new technologies, a shift in organizational priorities, new legislation and/or regulations, and the impacts of nearby projects. Change management is critical to scope control, and our approach is founded upon proper team communication and documenting updates in the WOMP. In addition, our project management review meetings cover scope evolution and identify ways for our team to mitigate scope changes. Our plan focuses on evaluating the original scope and identifying potential fees that can be redirected to address required scope items without adversely impacting project delivery.

Figure 5: Project Management Dashboard



Powered by Microsoft BI, our PM dashboard is an innovative tool that provides the greatest value to our project managers. Whether starting at the client, contract, or project level, financial information is summarized to provide a useful tool for managing the financial progress of the project. It also accounts for the management and technical reviews performed to track quality assurance and control.



Invoicing

On a monthly basis, HDR will submit an invoice to reflect actual cost on the work orders and will provide MTS the following to substantiate the validity of the invoice: an invoice coversheet; work order breakdown; budget management spreadsheet; and a progress report. HDR will also ensure that other direct costs (ODC) and subconsultants are in compliance with the master contract.

Risk Assessment

At the start of the work order, we will assess risks by developing a risk register where each item is assessed independently. Subsequently, we analyze the probability versus impact (threat or opportunity) this might have on the project via a standard Excel-based approach with mitigation measures to minimize those risks. We will review the risk register on a monthly basis so appropriate actions are taken to avoid or minimize schedule delays and control budget.

Document Control

We will use ProjectWise for internal document storage. This file-sharing system allows access control and collaboration for the entire project team. Document control procedures are included in HDR's WOMP, which contains the breakdown of subfolders and provides direction regarding where each document should be properly filed. Our entire information technology system is backed up every day so that information is not lost. ProjectWise also handles version control, which becomes critical in the development of reports and specifications.

E. Staff Availability and Commitment

The HDR Team has been strategically organized to provide a depth of resources to support the areas outlined in the RFP's Scope of Work. Key HDR personnel were selected not only on their specialized expertise and relevant experience, but also their availability to mobilize and start work quickly.

Each of our proposed team members will be dedicated to the project, with staff at HDR's Downtown San Diego office available to MTS staff, as needed. As shown previously in **Figure 2: Key Personnel Commitment to MTS** (page 05), and in **Table 1: Current Assignments and Availability** to the right, HDR is well positioned to support this project from beginning to end. The current commitments of all project team members (outlined in the table to the right) were assessed before their selection to serve on the team. These commitments will not hinder their availability to successfully deliver this work orders and provide the responsive communication necessary for project success. Our proposed team is committed to providing the level of support required to successfully deliver the project.

Table 1: Current Assignments and Availability

NAME/ROLE	CURRENT PROJECT ASSIGNMENTS/COMMITMENT	% AVAIL. AT NTP
Ryan Boley, PE Contract Manager	SANDAG, San Dieguito to Sorrento Valley Double Track (75%) NCTD, SPRINTER Zero Emissions Program Fleet Strategy (10%)	10%
Mark Harper, PE, SE Work Order Manager/Building Structural Lead	Cedars-Sinai, Marina del Rey Replacement Hospital (25%) LA Metro, SGL Maintenance and Storage Facility (25%)	50%
Valerie DeLoach, AIA Architecture Lead	SANDAG, Otay Mesa East Port of Entry CVEF (40%) San Diego Zoo Wildlife Alliance, Data Collection and Analysis (10%) Orange County Sanitation District, Headquarters Complex (10%)	40%
David Bagley, TSSP Fire/Life Safety Lead	SANDAG/MTS, Mid-Coast Corridor Transit Project (25%) OCTA, OC Streetcar Program Management Consultant (10%) SANDAG, Del Mar Tunnel (10%)	55%
Michael Grubstein, PE* Principal-in-Charge	LA Metro, Link Union Station (30%) SANDAG, Central Mobility Hub (20%)	10%
Steve Crouch, PE Quality Manager	Port of Long Beach, Pier B On-Dock Rail Support Facility (30%) LA Metro, Link Union Station (30%)	25%
Owen Starkey, WELL AP Architecture Support	SANDAG, Otay Mesa East Port of Entry CVEF (60%)	40%
Eugene Chen Architecture QC Review	BART, Elevator Replacement (20%) Cedars Sinai Medical Center, Research Labs (25%) LA Metro, Union Station Platform and Track Reconfiguration (25%)	30%
Alejandro Gonzales Rodriguez, EIT Building Structural Support	LA Metro, SGL Maintenance and Storage Facility (20%) SANDAG, Otay Mesa East Port of Entry CVEF (30%)	40%
Vartan Chilingaryan, PE Building Structural QC Review	LA Metro, SGL Maintenance and Storage Facility (5%) CalEthos, Data Center Design (10%)	10%
Zachary Sachsenmaier, PE, LEED AP BD+C Fire/Life Safety Support	LA Metro, SGL Transit Corridor Advanced Engineering (20%) LA Metro, Link Union Station (10%) Bay Area Rapid Transit (BART), Downtown SF Elevator Project (10%)	60%
Jay Harper, TSSP, WSO-CSSD Fire/Life Safety QC Review	Infrastructure Ontario, Ontario Line (20%) LA Metro, SGL Transit Corridor Advanced Engineering (20%) Omaha Streetcar Authority, Omaha Streetcar (20%)	40%
Kirk Alloway Support Services: Cost Estimating	Metro Transit (MN), Green Line LRT Maintenance Facility (20%) BCDCOG, Lowcountry Rapid Transit O&M Facility (20%)	20%
Janine Andres, PE Support Services: City Coordination	MTS, Broadway Wye Special Track Improvements (40%) SANDAG, San Dieguito to Sorrento Valley Double Track (10%)	50%
Joel Riipinen, PLS (AA) Support Services: Survey	MTS, 12th and Imperial Transit Center Rehabilitation (25%) MTS, Broadway Wye Special Track Improvements (25%)	30%



3. Project Understanding and Approach



Column Damage



Unpermitted Restroom



Evaluation of Fire Wall and Sprinkler System



Fire Sprinkler System Evaluation and Egress Requirements

A. Demonstrated Knowledge and Staff Abilities to Meet the Scope of Work

The HDR Team is equipped with the expertise and specialized skills to fully address the MTS Pyramid Building Improvements project, leveraging a deep understanding of both MTS' operational needs and the technical challenges involved in bringing this structure into full code compliance. Our team combines seasoned professionals with extensive backgrounds in project management, structural engineering, fire/life safety, and architectural design, each bringing a nuanced understanding of transit facilities and municipal building codes.

Leading our team is Ryan Boley, PE, who draws on over 25 years of successful partnerships with MTS, ensuring seamless coordination and adherence to MTS standards. Mark Harper, PE, SE, our Work Order Manager and Building Structural Lead, brings more than three decades of experience with structural analysis and seismic retrofits. Valerie DeLoach, AIA, guides architectural planning with her commitment to functional, high-quality design. David Bagley, TSSP, our Fire/Life Safety Lead, has a robust record in transit safety management to confirm proposed fire/life safety modifications are compliant.

With a comprehensive approach that includes proactive coordination with the City of San Diego and the AHJs, we are committed to timely, effective communication and collaborative problem-solving. Our team's broad experience in managing and executing similar projects positions us as a capable, reliable partner to MTS, prepared to deliver the necessary engineering services to bring the Pyramid Building into compliance while meeting project requirements.

OUR UNDERSTANDING OF THE PROJECT

The HDR Team understands the history of the Pyramid Building since MTS acquired the property. Based on our previous collaboration with MTS on the planned expansion of Yard C, we recognize that the building's future remains uncertain. The ultimate goal is to support Yard C's expansion, which may involve repurposing or even removing the Pyramid Building to optimize the site for expanded operations. Our team is prepared to align with MTS' evolving needs and objectives, ensuring that any improvements or modifications to the building footprint are strategically planned to accommodate Yard C's expansion.

The MTS Pyramid Building Improvements project involves providing engineering services to evaluate, provide recommendations, and develop modifications to an existing masonry building in San Diego currently used for storage. The modifications are necessary to bring the building into compliance with the minimum San Diego city codes and the San Diego Fire Marshal's requirements. The scope includes seismic and structural repairs, such as reinforcing columns, out-of-plane wall ties and addressing spalling masonry, along with fire/life safety enhancements like fire-rated wall and sprinkler system evaluation and modifications, if needed, and ensuring code-compliant emergency egress and access. HDR will review existing studies, conduct site visits, and provide a full design package, including plans, specifications, and cost estimates. The goal is to prepare the necessary design documents to address current deficiencies, leading to a permit project through the City of San Diego, including identified structural upgrades, fire/life safety requirements, and fire sprinkler requirements for life safety compliance. Depending on City requirements and MTS' desire to keep unpermitted work, it is likely that the majority, if not all, unpermitted work will be demolished and removed from the building.

B. Project Approach

The breadth and depth of the HDR Team's capabilities encompass each of the tasks outlined in the RFP. Our project approach, starting on the following page, is based on committing a proven team you know and trust with the demonstrated ability to deliver your most challenging projects. A key component of our approach is focusing on regular communication with MTS in a manner that fosters teamwork, collaboration, and timely execution. We look forward to carrying our past project experiences with MTS forward, continuing to successfully deliver and improve our process.

TASK 1: PROJECT MANAGEMENT AND COORDINATION

A successful project requires a strategic approach. At HDR, our approach is built on trust, clearly defined goals, and a shared understanding of the steps needed to achieve them. We have assembled a team tailored to this project, with experts selected to provide precise, effective solutions. During initial negotiations, we will work closely with the MTS Project Manager to confirm the scope and expectations and maintain close collaboration throughout the project to allow for flexibility and accommodate changes.

Through monthly coordination meetings, the HDR Team will work closely with MTS at each stage of the project to review design, schedule, and budget. As the project evolves through each milestone, we will meet with MTS to confirm project direction and address any concerns, making adjustments as needed. Additionally, the HDR Team will hold weekly internal meetings to review project progress, resolve conflicts, and ensure alignment on next steps as detailed in Section 2.D.

At HDR, we hold ourselves accountable. A vital aspect of smart design is quality of work. HDR has a rigorous and robust QMP that is carried out on deliverables prior to each submittal. A detailed check will be performed on all submittals for consistency and accuracy. A quality review by a senior level engineer with expertise in their given field performed prior to each submittal is crucial to identify critical issues. All HDR-reviewed documents will have a signature page indicating a review has been performed. Once a submittal is reviewed by the quality reviewer, our design team will meet to discuss any concerns and, if necessary, coordinate potential solutions with MTS at a subsequent coordination meeting.

TASK 2: SITE VISIT AND STUDY REVIEWS

Site Visits

HDR will conduct site visits as needed to verify existing conditions. The fire sprinkler system presents the greatest unknown regarding documentation requirements. Access to the roof via a man lift or tall ladder will be necessary for our initial site visit.

- **Structural site visits** will be limited to observing and documenting glulam column conditions, base connections, and structural masonry spalling deficiencies, and verifying roof framing as documented in the Josephson Werdotz & Associates Pyramid Building Report provided in the RFP.
- **Architectural site visits** will document fire separation walls, exiting signage, emergency egress requirements and conditions, and door hardware assessment and condition. We will also assess and document unpermitted bathrooms, as well as other unpermitted building elements to be considered for demolition.
- **Fire sprinkler and fire alarm site visits** will be limited to observing and documenting the basic fire sprinkler system layout and alarm system components and developing recommendations. The initial effort will involve reviewing and identifying the code requirements for the facility based on its occupancy type and determining the necessary fire sprinkler system components according to the facility's square footage. Based on this review, up to two alternatives would be developed to address deficiencies or potential improvements. This process would be completed before meeting with the Fire Marshal. Given the uncertainty of the existing fire sprinkler system requirements needed to satisfy the Fire Marshal and remove the facility from the defense list, we recommend adding an additional separate task. This additional task would be initiated with a separate NTP upon notification from the City of San Diego that a full design would be required.

Study Reviews

Based on our field observation and documentation and review of past studies, reports, and correspondence, HDR will conduct a code review for Type S occupancy to determine the requirements for fire separation walls, exit signage, emergency egress requirements, and door hardware. We will also evaluate the fire sprinkler system and fire alarm system for code compliance.

Fire Marshal Coordination

Once the code review is complete, HDR will meet with City building officials and the City of San Diego Fire Marshal to address unpermitted construction, obtain consensus on code compliance, and outline the path forward to resolve and clear any outstanding violations.

TASK 3: DESIGN SUBMITTAL

Drawing on past experience with the City of San Diego Development Services Department (DSD), the HDR team is well-versed in navigating the submittal process and has developed best practices to limit plan review comments and reduce review time. Meeting with the City at the start of the project will be essential to developing a high-quality submittal that meets DSD standards. This meeting will clarify permit requirements with the City to develop a baseline procedure, determine the cost of our submittal and, most importantly, establish a communication line with the City of San Diego DSD Project Manager.

Our team will also schedule additional site visits as we develop and refine proposed modifications using the provided building analysis report and notice of violation document as our reference. This effort will build from the review of the existing facilities conditions and expectations of the City of San Diego, from the initial meeting noted with the Fire Marshal. This will allow HDR to address the comments with City and obtain their buy-in, thus reducing plan review comments and decreasing the plan review time frame.

Design Elements

HDR will prepare the necessary contract documents and calculations to obtain the required building permit(s) and approvals for the outlined Scope of Work.

- **Structural.** Structural drawings will be prepared showing column locations, roof framing plan, wall elevations documenting damaged CMU, general notes, and structural details for column repairs, masonry repairs, and out-of-plane wall ties.
- **Architectural.** Architectural drawings and details will be prepared showing floor plans with fire separation walls, path of travel, and emergency egress/signage. We will also develop a cover sheet, fire/life safety requirements, and demolition plans for other miscellaneous unpermitted structures. Based on requirements to bring unpermitted bathrooms into compliance, and MTS' preference, HDR will document the anticipated improvements necessary for compliance. If MTS decides not to permit these bathrooms, demolition drawings will be prepared instead.
- **Fire Sprinkler and Fire Alarm.** The fire sprinkler design will be initially limited to a high-level layout of the existing features, as defined in Task 2, to be used for coordination with the San Diego Fire Marshal. If required by the Fire Marshal, HDR will prepare final design for the fire sprinkler system for permit approval. Development of a complete fire sprinkler package, including drawings, calculations, and specifications, as necessary to meet code compliance for this work will be provided under a separate NTP, if required.



C. Innovative Approaches and Internal Measures for Timely Project Completion

Our team is united by a commitment to act as a true partner to MTS, delivering high-quality work on schedule and adapting flexibly to any unforeseen challenges. We prioritize transparency and communication through weekly internal coordination meetings, biweekly coordination meetings with MTS, and the use of advanced digital communication tools. These tools integrate scope, schedule, resources, and budget details, enabling us to establish a baseline schedule, provide weekly updates, and highlight any variances from the baseline. Our team will monitor progress closely, tracking percent complete, percent expended, and remaining duration on all tasks to keep the project on schedule.

We recognize the importance of early coordination with AHJs, such as the San Diego Fire Marshal and the City of San Diego, to address the Notice of Violation. Given the recent retirement of the previous Fire Marshal, it will be important for our team to meet with the current Fire Marshal to review the document and clarify expectations. We will hold as-needed, documented meetings with the AHJ throughout the project to review fire/life safety requirements and gain consensus on proposed designs. These sessions will ensure continuity and alignment, even if new agency representatives join the project, by providing timely updates. Ultimately, our goal is to address all AHJ comments and questions ahead of City Plan reviews, reducing review cycles and supporting efficient project progression. This collaborative approach includes the stakeholders, including MTS' facilities manager(s), to actively address comments and concerns in an efficient and effective manner.

David Bagley, our Fire/Life Safety Lead, brings extensive experience in coordinating and overseeing similar projects, including the Mid-Coast Corridor Transit Project. David plans to apply these proven strategies on a smaller scale by identifying stakeholders early, establishing a clear understanding of project goals, and facilitating AHJ input and approvals prior to implementation. Having worked with both the City of San Diego and the San Diego Fire Department, David emphasizes the value of engaging AHJs in the review process to extending an opportunity to review, provide input, and provide buy-in on design plans prior to implementation. This collaborative approach has proven successful on previous projects such as the Mid-Coast Corridor Transit Project, the San Dieguito to Sorrento Valley Double Track Project, and the Southeast Gateway Line Projects.

Moreover, meeting with the City of San Diego DSD prior to beginning sheet production for the initial submittal will be critical in anticipating and mitigating schedule impacts. During our preliminary meeting with DSD, we will clarify permit requirements, identify necessary departmental reviews of our deliverables, and determine required documentation. Based on past experience, we anticipate DSD expedited reviews will take 3-4 weeks, so it is important for our team to understand the submittal processes and requirements to limit the number of review cycles while also minimizing the review cost.

Lastly, our team understands that MTS will ultimately be maintaining the Pyramid Building post project completion and is cognizant of the documents and information that MTS will need to have on hand such as dimensioned building plans, fire/life safety plans, and seismic upgrade drawings. Keeping these documents in mind while preparing our deliverables will provide MTS with baseline documents to support future planning of Yard C expansion and modifications.

4. Schedule

A. Demonstrated Ability to Meet MTS' Schedule

Upon receiving Notice to Proceed (NTP), our team will draft and finalize the project schedule in collaboration with MTS. This process will include setting up biweekly coordination meetings, setting key milestone dates, and identifying any critical items that HDR needs to be aware of to support MTS' internal deadlines (such as funding deadlines, procurement schedules, etc.). Concurrently, our design team will begin reviewing the building analysis report and notice of violation documents provided by MTS, as well as available building as-builts in preparation for our first site visit and evaluation.

Once the team has reviewed this information, we will schedule a site visit with MTS to discuss the notice of violation comments and clarify the requirements necessary to comply with the City of San Diego building codes. The HDR Team will be present to take notes, photographs, and measurements required to develop our documents. Subsequent to that meeting, the team will work diligently to establish meetings with City of San Diego staff, including the Fire Marshal, to understand expectations in addressing current deficiencies to meet minimum code requirements to support the anticipated use of the building.

Based on past experience, the City of San Diego Development Services Department (DSD) expedited reviews typically take 3-4 weeks upon receipt of our submittal package. As such, it will be imperative that we meet with the City of San Diego DSD early to discuss the permit requirements, understand the expected procedure for our submittals, determine the cost of reviews and meet our designated City of San Diego DSD project manager. Identifying the departments that will need to review our documents and meeting the key decision makers will allow us to develop a plan to limit the number of review cycles and minimize potential schedule impacts to the overall project.

In coordination with our City of San Diego submittals, our team will also be submitting 60 percent, 90 percent, and 100 percent plans to MTS, including specs and estimate for MTS review. During the development of each of these deliverables, HDR will meet with MTS in a workshop setting to discuss questions, comments, and concerns. A dedicated MTS review and comment period will be scheduled upon submittal of these deliverables to capture any outstanding comments from MTS.

Once MTS and City of San Diego comments have been received, the HDR Team will address each comment and continue to advance the plans, specifications, and estimate in preparation for a bid-ready package to be delivered at project conclusion. Our team will evaluate all feedback to determine whether the plans can progress or if it is more efficient to pause until all comments are received from the City. Some items such as the structural repairs and seismic upgrades, travel paths and hardware may be advanced with little risk. Others, such as the fire sprinkler system and unpermitted construction, are dependent on the City's comments.

B. Local Resources

HDR is committed to providing MTS with a complete, comprehensive, and locally based team. Our deep bench of local resources and nationwide experts means MTS will always have the right resources to address the needs of each project task. Ryan Boley (Contract Manager), Valerie DeLoach (Architecture Lead), and David Bagley (Fire/Life Safety Lead) are based in our Downtown San Diego office. Mark Harper will be MTS' main point-of-contact, leading this Southern California team ready to deliver efficient, responsive service to MTS. We also have the ability to draw upon additional expertise from other Southern California and national offices to provide specific specialized service needs.

Having the right set of expertise for the job is foremost. Our team has a long history of effective collaboration with national colleagues through virtual collaboration tools, allowing us to seamlessly communicate on project status and design updates. With our proven track record of supporting MTS work orders and our unique expertise and specialized knowledge, the HDR Team brings the expert knowledge and skillset to deliver this project successfully.

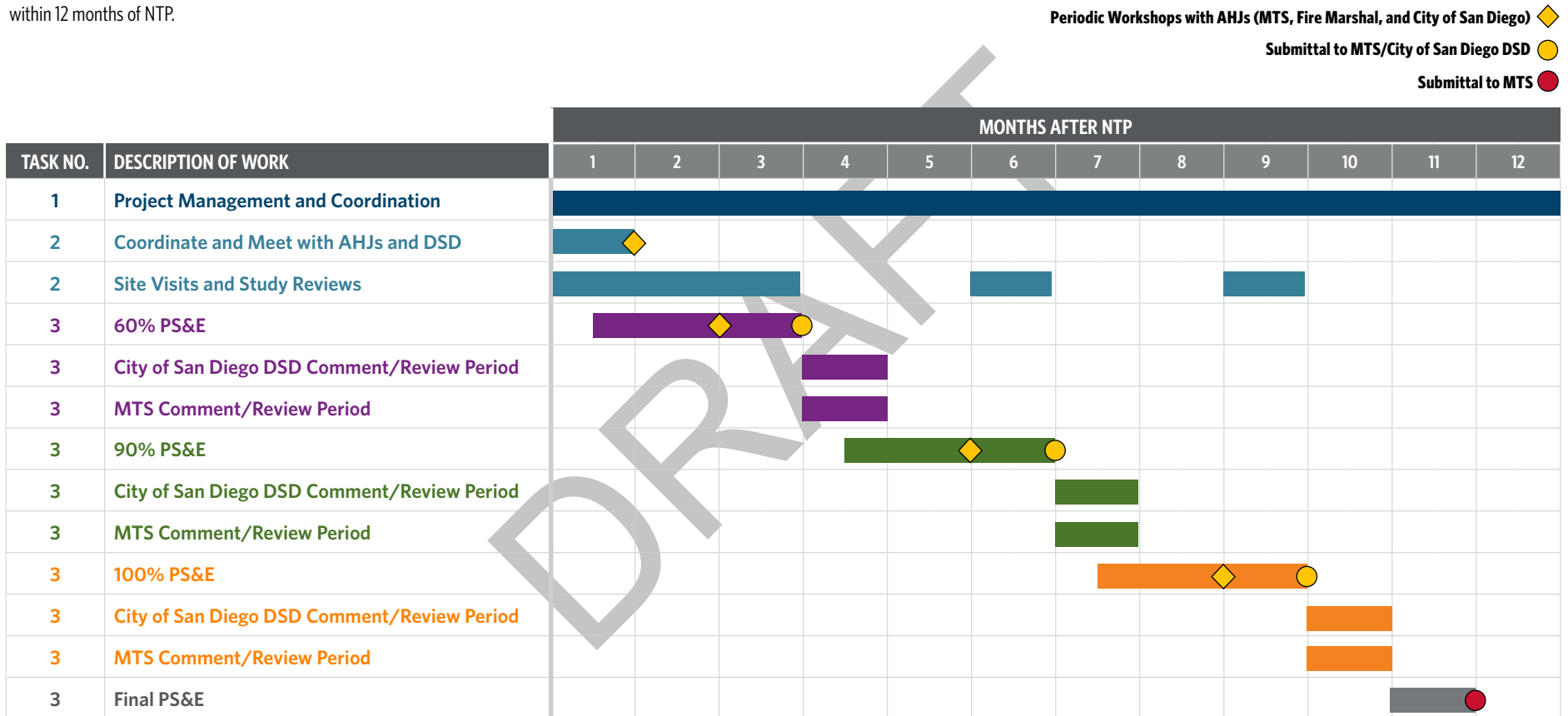


Ryan Boley (Contract Manager), Valerie DeLoach (Architecture Lead), and David Bagley (Fire/Life Safety Lead) are located in HDR's Downtown San Diego office. They will work with Mark Harper (Work Order Manager) to lead our Southern California-based team and tap into additional local and national resources as necessary to keep the project on schedule.



Figure 6: Project Schedule

HDR has reviewed the schedule provided with the RFP. Our proposed schedule, provided below, incorporates minor modifications that we discussed during the pre-proposal conference, that we believe will best serve the needs of MTS and keep the project on schedule for final delivery within 12 months of NTP.





5. DBE Subcontractor Utilization Plan

A. DBE Utilization

Although the MTS Disadvantaged Business Enterprise (DBE) program is wholly race-neutral and there are no DBE goals set for this project, HDR understands the importance of engaging and partnering with qualified DBEs that bring value and expertise to MTS and the needs of the contract, in conformance with funding regulations. Through an aggressive outreach program and by tailoring work packages to match the capability and capacity of potential DBE/SB (small business) firms, we work hard to provide opportunities to these business partners.

It takes a well-rounded team to solve local issues and create beneficial solutions. Our approach to DBE utilization includes development, mentoring, outreach, and comprehensive reporting, which enables us to meaningfully contribute to projects and their DBE/SB goals. Our National Small Business and Supplier Diversity Program has been in place for 20 years, and our commitment to DBE/SB participation is demonstrated by many local and national awards.

HDR has included **DBE subcontractor Aguirre & Associates** to provide survey support services on this project. Aguirre & Associates has been successfully delivering land surveying, mapping, and ROW engineering services for projects throughout San Diego County since its founding in 1986. HDR and Aguirre & Associates have collaborated together on many projects, including several for MTS, and have established a great working relationship. We look forward to their support on this project.



HDR's Laura Grams and Lara Paulino published an article detailing opportunities to strengthen local DBE/SBE communities, improve the overall community's economic health, and implement equitable solutions.

MENTORING, TRAINING, & SPECIALIZED OUTSOURCING

In addition to our mentoring under the Caltrans Calmentor Program in Southern California, HDR has taken an active role in setting the pace for a more efficient and structured Mentor-Protégé Program (MPP). This internal initiative has received commendations from our local clients, including SANDAG, LA Metro, City of Los Angeles for LAWA, and Metrolink, to name a few. The goal is to help small and disadvantaged businesses develop their skills in business core competencies, grow their capacity to take on more business, compete more effectively, and develop relationships with other firms for future teaming. We design custom programs for protégés that are tailored to address their core needs for growth. The MPP is also designed to pave the way for our DBE/SB partners to be exposed to some of the latest industry tools and proven processes and techniques, as applicable.

STRONG TRACK RECORD OF MENTORSHIP PROGRAM

Table 2 below highlights a small sampling of our successful MPP initiatives, demonstrating HDR's capability to mentor subconsultants with varying backgrounds. We take pride in the trust and strong relationships we have built with these valued teaming partners.

Table 2: MPP Highlights

SUBCONSULTANT	PERIOD	FORMAT	TRAINING MODULES	LEAD MENTOR
ASLPM	2022-2023	Calmentor	Proposal Management Business Development Marketing Materials	Lorenzo Garrido
Kettler Leweck Engineering	2019	Calmentor	Strategic Planning Proposal Management	Michael Grubstein
CR Associates, Inc.	2015-2016	Calmentor	QA/QC Project Controls Technical Sessions	Ryan Boley
Geo-Advantec, Inc.	2019-2020	City of Los Angeles/ LAWA	Strategic Planning Business Development Marketing Materials	Lara Paulino
Valle & Associates	2019-2020	City of Los Angeles/ LAWA	QA/QC Project Controls Technical Training – BIM	Lara Paulino
Redman Consulting, LLC	2020- Ongoing	Metrolink MPP	QA/QC Technology Updates / GIS Time Management	Robert Yates

6. Cost Proposal

Per the RFP instructions, MTS will issue a request for a detailed cost proposal to the highest ranked firm following proposal evaluations.

Key Personnel Resumes



FIRM
HDR

EDUCATION
BS, Civil Engineering, Utah State University

REGISTRATIONS
PE - Civil, CA #64880

INDUSTRY TENURE
25 years

FIRM TENURE
9 years

AVAILABILITY AT NTP
10%

KEY STRENGTHS

- ✓ Experienced Contract Management and Project Leadership
- ✓ Established MTS Partnerships
- ✓ Depth of Regional Standards Knowledge

Ryan Boley, PE

Contract Manager

Ryan has expertise in managing teams responsible for preparing preliminary design alternatives, final design, and construction management of major projects, including rail, highway, and public works. He is well versed in MTS, Caltrans, AREMA, Southern California Regional Rail Authority (SCRRA)/Metrolink, American Public Works Association (APWA), "Greenbook," SANDAG, and local jurisdiction standards. His experience includes track and special trackwork design, LRT, commuter rail corridor, station design, street improvements, grade crossings, and coordination of bridge design.

As Contract Manager for MTS' On-Call A&E Design Consulting Services, Ryan works with MTS Project Managers and HDR Work Order Managers to support the delivery of high-quality, successful projects. He will leverage his successful partnerships with MTS staff over the past 25 years to provide invaluable guidance and leadership to our team. Ryan is excited for the opportunity to continue working with MTS in support of delivering transformational transportation solutions to the region.

RELEVANT PROJECT EXPERIENCE

MTS, Yard A Ladder Turnouts, San Diego, CA. Contract Manager/ Technical Advisor. Ryan managed the overall contract and provided technical expertise as necessary to support the success of the project. The project is the culmination of several necessary improvements to the existing Blue Line and associated trackwork connections to Yard A to facilitate improved operations and to maintain a state of good repair.

MTS, Yard C Expansion and Feasibility Study, San Diego, CA. Contract Manager/Technical Advisor. Ryan managed the overall contract and provided technical expertise as necessary to support the success of the project. The project identified a need to evaluate the current facilities, in and adjacent to Yard C, in support of the expanded equipment and material to operate and maintain, while also providing for future expansion and LRV procurement.

MTS, KMD Shop Hoists Replacement, San Diego, CA. Contract Manager. Ryan managed the overall contract, ensuring adequate staffing and project support to MTS. HDR provided engineering services to prepare design plans, specifications, and construction cost estimates for the phased removal and replacement of the existing lift systems.

MTS, Orange Line Track Improvements, San Diego, CA. Design Project Manager. Ryan was responsible for project management, coordination with subconsultants, oversight of track and civil design (including PS&E), and third-party coordination. The project includes two grade crossing improvements, special trackwork design at two locations, OCS design in support of new special trackwork, and various civil improvements. HDR also provided design support during construction.

MTS, ZEB Electric Chargers - Phase I/II, San Diego, CA. Contract Manager. Ryan provided oversight of the design development team providing final design services for the multi-phase pilot program in support of MTS' implementation of a zero-emission program for its bus operations. HDR developed plans, specifications, and construction cost estimates for the installation of 12 owner-furnished, contractor-installed Electric Vehicle Supply Equipment (EVSE) chargers at four MTS maintenance facilities, under two construction projects. As the implementation of charging infrastructure was a relatively new relationship between MTS and SDG&E, HDR worked closely with the parties to maintain the Phase I implementation schedule to accommodate the initial bus delivery for the Imperial Avenue Division.

MTS, Middletown Double Crossover, San Diego, CA. Design Project Manager. Ryan was responsible for oversight of track and civil design, including drawings, specifications, and estimates to support the implementation of a new double crossover adjacent to the existing Middletown LRT station to improve operational flexibility and maintenance capacity. The project includes the design of a new No. 10 double crossover and track realignment in order to provide more operation flexibility to accommodate special events, maintenance, and unforeseen track outages along the existing Green Line.



Mark Harper, PE, SE

Work Order Manager/Building Structural Lead

For over three decades, Mark has been responsible for developing structural systems to meet the architectural design needs of a variety of structures. He has designed and/or served Engineer of Record for more than 100 hospitals, schools, and institutional transit and commercial buildings, including multiple O&M facilities. His extensive experience working with a large variety of clients includes seismic analysis/retrofit of existing structures, seismic safety reporting, field observation and investigation, blast design, progressive collapse analysis, client contact/relations, and construction administration. From 1991 - 2021, Mark served as the structural lead for the Huntington Hospital campus, which sits atop the Raymond Fault and generates some of the largest spectral accelerations in California. During that time, he worked on major campus projects, including the Phase II East Tower vertical addition, Phase III West Tower, an emergency department expansion, and multiple other projects.

RELEVANT PROJECT EXPERIENCE

FIRM

HDR

EDUCATION

BS, Civil Engineering, California State University, Los Angeles

REGISTRATIONS

PE - Civil, CA #54178
PE - Structural, CA #4387

INDUSTRY TENURE

33 years

FIRM TENURE

25 years

AVAILABILITY AT NTP

50%

KEY STRENGTHS

- ✓ Extensive Structural Engineering Experience
- ✓ Proven Seismic and Safety Expertise
- ✓ Client-Focused Leadership

MTS, KMD Shop Hoists Replacement, San Diego, CA. Structural EOR/Quality Control Reviewer. Mark served as the structural EOR and conducted quality reviews for structural design elements. HDR provided engineering services to prepare design plans, specifications, and construction cost estimates for the phased removal and replacement of the existing lift systems.

LA Metro, Southeast Gateway Line (SGL) Maintenance and Storage Facility (MSF), Los Angeles, CA. Structural Lead. Mark is the lead structural engineer for the MSF, which includes an LRT service area with several maintenance bays, below-grade pits, retaining walls, a wheel truing bay, a blowdown bay, and a general service and inspection bay. The pits are designed with cantilevered steel posts to support the train rails. The SGL traverses through 11 cities and includes 41 at-grade crossings, nine new stations, a new station on the existing C Line, and 17 bridges, including three river crossings. The project includes a maintenance and storage facility for 80 light rail vehicles.

City of Kansas City, Kansas City Streetcar Maintenance Facility, Kansas City, MO. Structural EOR. Mark helped in the design of this expansion that adds approximately 6,400 sf to the maintenance facility and includes one repair position, one service and inspection (S&I) position, and an in-ground wheel truing machine. The structure utilizes steel, CMU, precast concrete, structural slab at-grade, and a deep pier foundation system. This fast-paced project moved from Alternatives Analysis to final design in less than 2 years, propelled forward by an active partnership team in the community and HDR's streetcar planners designers and trusted advisers.

LOSSAN, Central Coast Layover Facility, San Luis Obispo Corridor, CA. Structural EOR. Mark is the structural EOR for the new Central Coast Layover Facility. The project will facilitate the maintenance of equipment at the northern

terminus of the LOSSAN Rail Corridor. It will allow additional passenger trains to hold overnight, with no impact to operations, and provide the opportunity to hold and service additional train sets.

LA Access Services, Access Services O&M Facility, Lancaster, CA. Structural EOR/Quality Control Reviewer. Mark served as the structural EOR and conducted quality reviews for structural design elements. The project involves the design and construction of a transportation operations and maintenance facility on undeveloped land in the City of Lancaster to serve this on-demand transit provider.

SCRRA/Metrolink, Van Nuys Station, Van Nuys, CA. Structural EOR. Mark helped redesign the existing Metrolink/Amtrak platform from a single track to dual track center platform station. The project consisted of a new platform, new underpass, new canopies, new com house, retaining walls, ramps and stairs.

SBCTA, Redlands Passenger Rail Project (RPRP), San Bernardino County, CA. Structural EOR. Mark was responsible for the design of new canopy structures for multiple stations. This included a vibration mitigation program for historic structures. RPRP implements the combined rail services on the Redlands Subdivision from the Santa Fe Depot to the current end of the rail at the University of Redlands. RPRP will extend the reach of the area's passenger rail options from Los Angeles east to San Bernardino and Redlands.

Cedars-Sinai Medical Center, Marina del Rey Replacement Hospital, Los Angeles, CA. Structural Engineer. This 160-bed replacement acute care hospital provides efficient, flexible, and conversion-ready patient room floor plans to further enhance patient and staff experience. The project also included site and utility upgrades.



Valerie DeLoach, AIA

Architecture Lead

Valerie is a champion for design excellence, working closely with the project designers and engineering team to push boundaries to develop the best outcomes for each project while ensuring all aspects of the planning and design process are successfully achieved. With her 26 years of industry experience, she directs multidisciplinary design teams to complete complex building projects on time within strict budgetary constraints. She is responsible for adherence to project goals, budget and schedule, and will be committed from project conception through project completion.

RELEVANT PROJECT EXPERIENCE

FIRM
HDR

EDUCATION

Bachelors, Architecture (Architecture and Urban Design), Auburn University

REGISTRATIONS

Architect -TN #102508

INDUSTRY TENURE

26 years

FIRM TENURE

7 years

AVAILABILITY AT NTP

40%

KEY STRENGTHS

- ✓ Architecture Expertise
- ✓ Multidisciplinary Team Leadership and Collaboration
- ✓ Complex Building Design

SANDAG, Design Services for the Otay Mesa East Port of Entry (OME POE) Commercial Vehicle Enforcement Facility (CVEF) and Intelligent Transportation System (ITS), San Diego, CA. Senior Project Manager.

SANDAG and the California Department of Transportation (Caltrans) are leading the planning and design efforts for the construction of a new SR 11/OME POE that will bring modern and innovative infrastructure, enhance bi-national mobility, and fuel economic growth on both sides of the border within the San Diego-Tijuana region. HDR has been selected as part of the team to begin the initial phase which will advance the project to the schematic design, up to the 30 percent design completion milestone.

Orange County Sanitation District, Headquarters Complex, Fountain Valley, CA. Senior Project Manager.

A 109,000-square-foot facility designed to illustrate OCSD's core values of "honesty, integrity and respect for interactions between employees, the greater public and community." Working closely with OCSD, the design solution engages the public through educational experiences, prioritizes employee well-being and returns value for public investment, all while focusing on precedent-setting, but cost conscious, sustainability goals. The project is on target to achieve LEED Gold and Net Zero Energy Certification. Hybrid mass timber construction combined with expressed steel-braced frames reduces the overall weight of the structure and allows for faster and safer on-site construction.

Cedars-Sinai Medical Center, Biomanufacturing Center, Los Angeles, CA. Senior Project Manager.

From showroom to showcasing the latest advances in medicine, the 23,300-square-foot BMC infuses the existing building with new activity and purpose. The project brings new laboratories, clean rooms, and offices into the space.

Confidential Aerospace Client, Existing Office to Lab Building Modernization, El Segundo, CA. Senior Project Manager.

Valerie and the HDR team developed programming and design criteria documents to modernize and maximize the occupancy and efficiency of the existing 1960s 90,000-square-foot building nearing the end of its useful life. The renovation of the building will provide state-of-the-art research environments to support the cutting-edge research.

Salk Institute, Joan and Irwin Jacobs Science and Technology Center, East Torrey Pines, CA. Senior Project Manager.

This new research building partners with the original Louis Kahn building to reinvigorate the entire campus. The two-story building contains science bisected by a public forum that retains the width of the courtyard of the original Salk Institute. Designed as a linear structure, it integrates scientific research areas with a public forum space mirroring the original courtyard's dimensions, respecting the Salk Institute's iconic geometry while presenting a modern face to the community. This project was a collaboration between WRNS Studio and HDR.

Orange County Sanitation District, PS19-03 Lab Rehabilitation Feasibility Study. Senior Project Manager.

HDR provided a comprehensive evaluation of the OCSD Plant No. 1 Laboratory's operational needs which assessed the feasibility of rehabilitating the existing laboratory building vs. replacement. The study results included appropriately detailed cost estimates and life cycle cost analyses for rehabilitation and summarized programmatic level costs for replacement.



David Bagley, TSSP

Fire/Life Safety Lead

As a recognized leader in transit safety and security, David brings valuable experience to the team from serving as a safety and security professional in the transit and rail industry. During his career, he managed San Diego MTS rail programs to verify compliance with applicable local, state, and federal codes and regulations. He served as the 2022 Chair of California Transit Association's Rail Operations and Regulatory Committee which provides a forum for California rail transit agencies and the CPUC to exchange information concerning rail systems regulatory matters. David is well-versed in planning, developing, and administering comprehensive and effective, safety and security management plans, and agency safety plans.

David is a World Safety Organization Certified Safety & Security Director (WSP-CSSD), a certified Transit Safety & Security Professional (TSSP) through the USDOT Transportation Safety Institute (TSI) and trained in Public Transportation Safety for Rail (PTSCTP) through USDOT TSI. He has also received APTA Rail Safety & Security Excellence Gold Awards in 2018 and 2021.

FIRM HDR

EDUCATION

Texas A&M National Emergency Response and Recovery Training Center

Rutgers State University National Training Institute

U.S. Department of Homeland Security Emergency Management Institute

REGISTRATIONS

World Safety Organization Certified Safety & Security Director (WSO-CSSD)

Transit Safety & Security Program (TSSP)

INDUSTRY TENURE

41 years

FIRM TENURE

1 year

AVAILABILITY AT NTP

55%

KEY STRENGTHS

- ✓ Regulatory Compliance Expertise
- ✓ Proven Leadership in Rail Safety
- ✓ High-Level Safety Certifications

RELEVANT PROJECT EXPERIENCE

San Diego Association of Governments (SANDAG), San Dieguito to Sorrento Valley Double Track (SDSVDT) Project Design Services and Phase I - Environmental Clearance and Advanced Conceptual Engineering Plans. San Diego, CA. Safety and Security Lead. As part of SANDAG's preliminary engineering and environmental process for the San Diego LOSSAN Rail Realignment Project to address the vulnerability of the rail corridor along the Del Mar Bluffs within the Cities of Del Mar and San Diego, the design team is investigating a series of alignment alternatives, several of which include a tunnel. In order to further refine the potential tunnel alternatives, the project team is considering the emergency egress provisions. To identify the tunnel emergency egress provisions, David is coordinating a series of workshops with stakeholders and local/state fire services/law enforcement with the objective of developing an emergency egress plan for the tunnel alternative and am slated to coordinate with CPUC in relationship to safety and security activities.

SANDAG/MTS, Mid-Coast Extension, San Diego County, CA. Safety and Security Manager. David chaired the FLSSC and the Safety and Security Certification Review Committee. He oversaw and coordinated safety and security certification activities with the California Public Utilities Commission (CPUC)/Federal Transit Administration (FTA). Construction for the project began in fall 2016, and the Trolley extension opened for revenue service on November 21, 2021, on time and on budget. The 11-mile addition to the existing Metropolitan Transit System connects corridor residents with other Trolley lines serving Mission Valley, East County, and South County.

OCTA, Santa Ana/Garden Grove Fixed Guideway (OC Streetcar) Program Management Consultant (PMC) Services, Orange County, CA. Safety and Security Specialist. David is providing technical support in the development and implementation of project-specific Safety and Security Management Plans and certification activities. The OC Streetcar will close a transit gap between Santa Ana and Garden Grove. The 4.1-mile line completes a contiguous transit system through OC, creating vital connections to employment, healthcare and recreation. With plans to connect directly to 18 OCTA bus routes, the streetcar will give users access to high-quality, low-cost transportation that complements existing travel infrastructure.












North County Transit District (NCTD), Coaster Convention Center Passenger Platform Project, San Diego, CA. Safety and Security Specialist. David is providing technical support in safety and security design criteria. HDR will provide final design engineering services and provide pre-construction support services on the BNSF/ NCTD Coaster Convention Center Passenger Platform Project. Project design engineering services includes track and civil engineering, traffic signal design and coordination, city/agency/CPUC coordination, geotechnical engineering, drainage design, architectural and landscape design, structural engineering, construction cost estimating, environmental coordination, storm water pollution prevention plan (SWPPP) development, real estate and right-of-way (ROW) coordination, utility coordination, and overall project management.



Support Staff Resume Highlights

The HDR Team provides MTS with a depth of experts and technical resources to efficiently deliver this project. Resumes for our support staff members are available upon request; below, we include qualification highlights from their resumes, organized alphabetically by last name.

Table 3: Support Staff Resume Highlights

NAME & ROLE	TENURE (INDUSTRY/FIRM)	EDUCATION	PROFESSIONAL CREDENTIALS	RELEVANT EXPERIENCE
 Kirk Alloway Support Services: Cost Estimating	24 years 10 years	BS, Construction Management	-	<ul style="list-style-type: none"> NCTD, Maintenance of Way (MOW) Site Assessment LA Metro, Division 20 Existing Conditions/Technical Studies LA Metro, Link Union Station
 Janine Andres, PE Support Services: City Coordination	10 years 9 years	BS, Civil/Structural Engineering	PE - Civil, CA #94612	<ul style="list-style-type: none"> MTS, Broadway Wye Special Track Improvements MTS, Yard A Ladder Turnouts MTS, America Plaza Rail Replacement
 Eugene Chen Architecture QC Reviewer	28 years 2 years	BA, Architecture	-	<ul style="list-style-type: none"> LA Metro, Link Union Station Cedars-Sinai Medical Center, Pacific Design Center Expansion Port of Long Beach, Pier B On-Dock Rail Support Facility Program
 Vartan Chilingaryan, PE Building Structural QC Reviewer	20 years 20 years	BS, Civil Engineering	PE - Civil, CA, #75639	<ul style="list-style-type: none"> LA Metro, SGL Maintenance and Storage Facility NCTD/BNSF, COASTER Convention Center Platform City of Kansas City, Kansas City Streetcar Maintenance Facility
 Steve Crouch, PE Quality Manager	39 years 12 years	College Coursework, Civil/Structural Engineering	PE - Civil, CA, #59969	<ul style="list-style-type: none"> LA Metro, Supplemental Engineering Services for Bus and Rail Facilities LA Metro, Link Union Station City of Long Beach, Shoemaker Bridge Replacement
 Michael Grubstein, PE Principal-in-Charge	26 years 21 years	BS, Civil Engineering	PE - Civil, NY, #082037-1	<ul style="list-style-type: none"> LA Metro, Link Union Station SANDAG, OME POE Commercial Vehicle Enforcement Facility & ITS SANDAG, Central Mobility Hub
 Alejandro Gonzales Rodriguez, EIT Building Structural Support	6 years 4 years	MS, Structural Engineering BS, Civil Engineering	EIT, CA, #166366	<ul style="list-style-type: none"> MTS, KMD Shop Hoists Replacement LA Metro, SGL Maintenance and Storage Facility NCTD/BNSF, COASTER Convention Center Platform
 Jay Harper, TSSP, WSO-CSSD Fire/Life Safety QC Reviewer	28 years 3 years	BS, Communication Science	Transit Safety and Security Program (TSSP), US CSSD (Transit Rail), WSO, US	<ul style="list-style-type: none"> LA Metro, SGL Metropolitan Transportation Authority, Enhanced Stations Initiatives TransLink, Safety and Security
 Joel Riipinen, PLS (AA) Support Services: Survey	37 years 23 years	Survey Technical Certificate	PLS, CA, #7942	<ul style="list-style-type: none"> MTS, Broadway Wye Special Track Improvements MTS, 12th and Imperial Transit Center Rehabilitation SANDAG, North Park Mid-City Bike Corridors
 Zachary Sachsenmaier, PE, LEED AP BD+C Fire/Life Safety QC Support	23 years 20 years	BS, Mechanical Engineering	LEED AP Building Design + Construction, , US, #10229218 PE - Fire Protection, CA, #1822	<ul style="list-style-type: none"> LA Metro, Link Union Station LA Metro, SGL Transit Corridor Advanced Engineering Massachusetts Dept. of Transportation, CANA Electrical System Upgrades
 Owen Starkey, WELL AP Architecture Support	6 years <1 year	MA, Architecture	WELL Accredited Professional 147	<ul style="list-style-type: none"> SLAC National Accelerator Laboratory, Arrillaga Science Center Guam Public Health, Training and Laboratory Facility SANDAG, Otay Mesa POE Commercial Vehicle Enforcement Facility

ATTACHMENT B
NEGOTIATED FEE PROPOSAL

DRAFT



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 9

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Board Policy No. 59, "Natural Gas and Energy Commodity Hedge Policy" – Policy Revisions

RECOMMENDATION:

That the MTS Board of Directors approve the proposed revisions to MTS Board Policy No. 59, "Natural Gas and Energy Commodity Hedge Policy" (Attachment A).

Budget Impact

None.

DISCUSSION:

MTS Board Policy No. 59 governs MTS's Natural Gas and Energy Commodity Hedge Policy. This policy allows MTS to purchase energy commodities on the direct market, allowing MTS to better manage its energy costs. It also covers the use of fixed price financial instruments as well as the sale of state and federal energy credits related to the energy commodities that are purchased.

Periodically staff reviews existing board policies to ensure the underlying procedures are compliant with the policy. Staff is proposing clarifications to the policy around the costs that are pass-through from the energy service providers and the ability to use fixed prices on those pass-through costs. Staff also is proposing to remove the section on hedge timing that was causing confusion with the hedge term limits included in the policy.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachment: A. Proposed Revisions to MTS Board Policy No. 59

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San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.





Policies and Procedures No. 59

Board Approval: ~~11/10/2016~~ 03/13/25

SUBJECT:

NATURAL GAS AND ENERGY COMMODITY HEDGE POLICY

PURPOSE

The purpose of this policy (the "Policy") is to establish guidelines for the execution and management of the Metropolitan Transit System's ("MTS") use of hedging instruments and related transactions in connection with the purchase of natural gas and electrical energy for MTS's transit operations.

Specific objectives of the Policy are as follows:

1. Achieve a high degree of budget certainty in the purchase of natural gas and energy commodities.
2. Maintain a high degree of fuel and energy supply reliability.
3. Ensure no adverse operational impacts.
4. Ensure no adverse impacts on MTS's credit rating.
5. Ensure that all hedging instruments are acquired through competitive bidding with credit-worthy counterparties.

This policy confirms the commitment of MTS management to adhere to sound financial and risk management practices. The Policy shall govern the execution and management of all hedging instruments and activities carried out in connection with natural gas and energy purchases for MTS's transit operations.

59.1 AUTHORIZATIONS AND APPROVALS

The Chief Executive Officer (CEO) and Chief Financial Officer are the designated administrators of the Policy ("Hedge Administrators") and are authorized to execute hedges in accordance with this Policy without further approval of the Board.

59.2 CONDITIONS FOR THE USE OF HEDGING PRODUCTS



59.2.1 General Usage

Financial commodity swaps may be used to lock in a fixed price for natural gas and energy commodities in accordance with the conditions and restrictions set forth below. Should MTS elect to purchase gas or electricity from a qualified energy services provider (“ESP”), MTS may accomplish its commodity hedging objectives by converting the price of an ESP_-provided energy supply from a variable market price to a fixed price so long as the competitive bidding and other provisions of this Policy are met.

- (a) The ESP will also pass through all other local utility charges or California Independent System Operator (CAISO) related changes associated with energy delivery, including, but not limited to: transportation charges; interzonal congestion uplift; intrazonal congestion changes; renewable portfolio standards (RPS) requirements; resource adequacy (RA) requirements; or any other requirement imposed by the CAISO or the California Public Utilities Commission (CPUC). These are not included in any fixed commodity prices.
- (b) The ESP can also provide fixed prices for RPS and RA pass through charges, which can be approved at the CEO’s discretion.

59.2.2 Maximum Transaction Volume

The maximum aggregate transaction volume for all financial commodity swaps entered into for any budget year shall be equal to the volume of natural gas or energy forecast to be used in connection with the transit fleet during that year. If, at any time prior to or during the fiscal year being hedged, the projected volumes change by more than 10% below or above the amount hedged, additional hedges may be entered into, or termination of existing hedges may be executed in order to account for the change in projected volume.

59.2.3 Hedge Frequency

The number of hedge transactions for any fiscal year shall be no greater than four as determined by the Hedge Administrators except as may be required in response to a change in the volume of fuel or energy projected as provided in Section 59.1 above.

~~59.2.4 Hedge Timing~~

~~Hedging instruments shall be entered into no sooner than 30 months in advance of the first business day of the fiscal year being hedged. All hedges for any fiscal year will be in place in advance of the annual budget submission to the Board of Directors for that fiscal year.~~

59.2.54 Hedge Termination

The Hedge Administrators may terminate any and all hedges in whole or in part in response to changes in the projected volume of fuel or energy in

any fiscal year as provided in Section 59.1 above or if required due to any action by the California Public Utilities Commission or the San Diego Gas and Electric Company, which impacts the effectiveness of the hedge. Under no circumstance will hedges be terminated for the sole purpose of generating a profit.

59.2.65 Hedge Term

All hedging instruments will be limited in term to 24 months.

59.2.76 Prohibited Commodity Swap Features

The MTS will not use commodity swaps that: (i) involve any purpose other than hedging natural gas or energy commodity prices as set forth in this Policy; (ii) lack adequate liquidity to terminate without incurring a significant bid/ask spread; (iii) provide insufficient price transparency to allow reasonable valuation; or (iv) are used as investments.

59.3 HEDGE INSTRUMENT FEATURES

59.3.1 Hedge Agreement

The International Swap and Derivatives Association, Inc. (“ISDA”) Master Agreement shall be used as the basis for the documentation of commodity swaps. The swap agreement between the MTS and each counterparty shall include payment, term, security, collateral, default, remedy, termination, and other terms, conditions, provisions and safeguards as MTS, in consultation with its legal counsel, and/or hedge advisor deems necessary or desirable.

If MTS takes part in SDG&E’s CAT Program for natural gas purchases, or becomes a Direct Access customer for electric energy purchases, the hedging objectives of this policy may be met by execution of an appropriate amendment to the relevant Purchase and Sale Agreement entered into with a qualified ESP.

59.3.2 Commodity Swap Counterparty Credit Criteria

Qualified commodity swap counterparties will be those having, at the time of execution, a general credit rating not lower than “A3” or “A-” by at least two of the nationally recognized rating agencies, unless such party provides a guaranty from a parent or other guarantor rated “A3” or “A-”. The nationally recognized rating agencies are Moody’s Investors Services, Inc., Standard and Poor’s, and Fitch Ratings.

59.3.3 Collateral Requirements

Threshold collateral amounts shall generally be established in accordance with the guidelines set forth below.

Counterparty Credit Rating	Threshold
Aa3/AA- or better	Unlimited
A3/A- to A1/A+	\$25 million

Baa1/BBB+	\$15 million
Baa2/BBB	\$10 million
Baa3/BBB-	\$2.5 million

Collateral shall be deposited with a third-party custodian or as mutually agreed upon between MTS and the counterparty. A list of acceptable securities that may be posted as collateral and the valuation of such collateral will be determined and mutually agreed upon during negotiation of the swap agreement with each swap counterparty. Once collateral has been posted, the market value of the collateral shall be determined at least weekly.

59.3.4 Security and Source of Repayment

Commodity swaps will be payable from any lawfully available funds of MTS. Whenever possible, language will be included in the swap agreement specifying that with respect to farebox revenues, swap obligations of the MTS are payable on a basis subordinate to the payment of MTS taxable pension obligation bonds, certificates of participation, or any other obligation secured on a parity therewith.

59.4 SELECTING AND PROCURING COMMODITY SWAPS

59.4.1 Counterparty Selection

Commodity swap counterparties will be selected by the Hedge Administrators consistent with the credit and performance criteria set forth in this Policy.

59.4.2 Competitive Bidding

All hedge instruments will be procured through a competitive bidding process that will provide the lowest commodity price. The nature and timing of the bidding process will be determined by the Hedge Administrators.

59.5 SALE OF ENERGY CREDITS

59.5.1 Energy Credit Sales on Open Market

MTS's use of energy sometimes results in the generation of energy credits such as California Air Resources Board (CARB) Low Carbon Fuel Standard (LCFS) credits, federal Renewable Fuel Standards credits and other existing or future credit programs. The disposition and sale of such credits is often the subject of a formal contract for the purchase of energy commodities (e.g., electric, diesel, gas). However, from time to time, MTS may be in possession of credits that are not the subject of an existing agreement. The market for energy credits fluctuates substantially on a day-to-day, month-to-month and year-to-year basis.

In order to capture the best price in a fluctuating market, the CEO has the authority and discretion to sell unallocated energy credits on the open market.

59.6 MONITORING, REPORTING, AND DISCLOSURE

59.6.1 Quarterly Reporting

The hedge program will be monitored to ensure consistency with this Policy. Annual and quarterly reports will be provided to the MTS Board of Directors in written form which shall include, but not be limited to, the following:

- (a) A description of all outstanding commodity swaps, including terms, rates paid and received, and current termination value.
- (b) Current counterparty credit ratings.
- (c) Collateral required and posted by MTS and each commodity swap counterparty, if any.
- (d) Any material event involving outstanding swap agreements, including a default by a commodity swap counterparty, counterparty downgrade, or termination.
- (e) Updated projection of the volume of fuel or energy expected to be required for operational purposes and compared to the volume hedged.
- (f) Description of any regulatory changes, including changes in the energy-pricing methodology of the ~~California Independent Systems Operator (CAISO)~~ or changes to San Diego Gas and Electric's hedging practices, which may impact the hedge program.

59.6.2 Disclosure and Financial Reporting

Steps will be taken to ensure that there is full and complete disclosure of all commodity swaps to the Board. With respect to its financial statements, MTS adheres to the guidelines for the financial reporting of commodity swaps as set forth by the Government Accounting Standards Board.

59.6.3 Disclosure of Energy Credit Sales

Any sale of energy credits by the CEO under the authority granted in Section 59.5 shall be reported as part of the monthly Operations Budget Status Report at the next applicable Board of Directors meeting.

The Original Policy Adopted on: ADOPTED: 2/18/2010
Policy Revised on: REVISED: 11/10/2016
Policy Revised on: 03/13/25.



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 10

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Purchase of Class A, B, and Z1 Paratransit Vehicles – Contract Award

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute:

- 1) MTS Doc. B0775.0-25 (in substantially the same format as Attachment A), with Model 1 Commercial Vehicles, Inc. for the purchase of two (2) battery powered Class Z1 Paratransit Vehicles in the amount of \$291,539.60.
- 2) MTS Doc. B0776.0-25 (in substantially the same format as Attachment B), with Model 1 Commercial Vehicles, Inc. for the purchase of ten (10) propane powered Class B Paratransit Vehicles in the amount of \$2,112,034.50.
- 3) MTS Doc. B0777.0-25 (in substantially the same format as Attachment C), with Model 1 Commercial Vehicles, Inc. for the purchase of twenty (20) gas powered Class A Paratransit Vehicles in the amount of \$3,167,236.35.

Budget Impact

The total cost of all three contracts is estimated to be \$5,570,810.45, inclusive of all applicable taxes and fees. This project will be funded by the Capital Improvement Project (CIP) 1001110101- ADA Bus Procurement.

DISCUSSION:

MTS operates Complementary Paratransit Service required by the Americans with Disabilities Act (ADA) for individuals with disabilities who are unable to use fixed route transportation systems. The current fleet of vehicles consists of one hundred and twenty-one (121) Ford E-450 Cutaways, with thirty-two (32) vehicles reaching the end of their useful life. These vehicles will be replaced as part of the Fiscal Year (FY) 2025 Fleet Replacement Plan. This new purchase is for ten (10) propane-powered Class B Paratransit Vehicles, twenty (20) gasoline-powered Class A Paratransit Vehicles, and two (2) battery-powered Class Z1 Paratransit Vehicles. Propane

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San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.



and gasoline powered vehicles will replace current vehicles at the end of their useful life with vehicles equally matched to our ridership and range demands. Additionally, MTS will be purchasing and piloting two (2) battery-powered Class Z1 vehicles. Through the pilot program, MTS will be analyzing the feasibility and application of the zero emission vehicles for our service needs. Data and performance reviews will assess the advantages, disadvantages, range limitations, reliability and operating cost impacts compared to the current service environment. This information will be used to inform MTS' transition to 100% Zero Emission vehicles in this portion of the fleet.

FTA Circular 4220.1G, Chapter V, Section 4, encourages federal grant recipients to use state and local intergovernmental agreements for procurements of property and services. MTS staff identified an intergovernmental agreement that provides Paratransit vehicles that meet MTS specifications through a California State government purchasing schedule administered by the California Association of Coordinated Transportation (CalACT), RFP No. #20-01. This Purchasing Cooperative allows MTS to select vehicles from a pre-competed menu of choices from different vendors and manufacturers.

CalACT negotiates the purchasing collective on behalf of multiple agencies and is able to obtain pricing that cannot be obtained through single-agency procurements. This pricing is in line with prior proposals from previous procurements for Paratransit vehicles. Therefore, staff deem the costs to be fair and reasonable.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute:

- 1) MTS Doc. B0775.0-25 (in substantially the same format as Attachment A), with Model 1 Commercial Vehicles, Inc. for the purchase of two (2) battery powered Class Z1 Paratransit Vehicles in the amount of \$291,539.60.
- 2) MTS Doc. B0776.0-25 (in substantially the same format as Attachment B), with Model 1 Commercial Vehicles, Inc. for the purchase of ten (10) propane powered Class B Paratransit Vehicles in the amount of \$2,112,034.50.
- 3) MTS Doc. B0777.0-25 (in substantially the same format as Attachment C), with Model 1 Commercial Vehicles, Inc. for the purchase of twenty (20) gas powered Class A Paratransit Vehicles in the amount of \$3,167,236.35.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. MTS Draft Agreement No. B0775.0-25
B. Cost Proposal B0775.0-25
C. MTS Draft Agreement No. B0776.0-25

- D. Cost Proposal B0776.0-25
- E. MTS Draft Agreement No. B0777.0-25
- F. Cost Proposal B0777.0-25



Metropolitan Transit System

STANDARD AGREEMENT FOR MTS DOC. NO. B0775.0-25

PURCHASE OF TWO (2) CLASS Z1 BATTERY POWERED PARATRANSIT VEHICLES

THIS AGREEMENT is entered into this _____ day of _____, 2025 in the State of California by and between San Diego Metropolitan Transit System ("MTS"), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: Model 1 Commercial Vehicles, Inc. Address: 9225 Priority Way West Drive Ste. 300
Indianapolis IN 46240
City State Zip
Form of Business: Corporation Email: jspore@model1.com
(Corporation, Partnership, Sole Proprietor, etc.)
Telephone: 425-293-9495

Authorized person to sign contracts Jason Spore Transit Bid Manager
Name Title

Provide up to two (2) Class Z1 Battery Powered Paratransit Vehicles as specified in the proposal dated February 3, 2025 (attached as Exhibit A), and in accordance with the Standard Agreement, including Standard Conditions (Exhibit B), Signed Forms (Exhibit C).

The contract term is for one (1) year effective April 1, 2025 through March 31, 2026.

MTS and Contractor shall agree to production and delivery schedules in writing upon execution of the Contract.

Vehicle shall be delivered to: Metropolitan Transit System (MTS) c/o First Transit
7490 Copley Park Place
San Diego, CA 92111

The registered owner will be San Diego Metropolitan Transit System (MTS)
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101

Payment terms shall be net 30 days from invoice date. The total cost of this contract shall not exceed \$291,539.60, which includes tax, delivery, registration, and California tire fee.



SAN DIEGO METROPOLITAN TRANSIT SYSTEM	MODEL 1 COMMERCIAL VEHICLES, INC.
<p>By: _____ Sharon Cooney, Chief Executive Officer</p> <p>Approved as to form:</p> <p>By: _____ Karen Landers, General Counsel</p>	<p>By _____</p> <p>Title: _____</p>



CalACT MBTA RFP #20-01 - Class Z - Quote Sheet (Rev 2025)

Vehicle Type:	Class Z1 - Z-1 E-Transit	Date:	2/3/2025
Contact:	Charles Posejpal	Type of Lift:	<input checked="" type="checkbox"/> Braun <input checked="" type="checkbox"/> Side <input type="checkbox"/> Rear
Agency:	San Diego MTS	Seat Material Level:	Level 4
Address:	100 16th Street	Seat Color:	Grey
City, State, Zip:	San Diego, CA 92101	Floor Color :	Grey
Phone:	619.235.2648	Salesperson Cell:	909.549.9398
E-Mail:	charles.posejpal@sdmts.com	Salesperson:	Steve Chung

NOTE: PER THE PURCHASING COOPERATIVE, PRICING SUBJECT TO CHANGE DUE TO PPI (PRODUCER PRICE INDEX) ESCALATION AND/OR MANUFACTURER PRICE INCREASES. PLEASE CONTACT YOUR SALES REPRESENTATIVE TO CONFIRM QUOTED PRICING IS STILL VALID PRIOR TO ISSUANCE OF PURCHASE ORDER.

Quantity:	Description	Price	Ext. Price	ADA
1	Class Z1 - Z-1 E-Transit (Basic) 109" Hiroof EL W3X 148" WB 6+copilot, driver and WC	\$101,767.48	\$101,767.48	\$9,800.00
3	14 - Go-ES Double Foldaway Seat	1,848.60	5,545.80	5,545.80
3	25 - Qstraint Deluxe (8100) credit per set of 4 (In Lieu of specified 360)	Std	Std	
1	27 - Delivery Zone 1	821.60	821.60	821.60
1	72 - Second mobility position (Inc restraints)	677.82	677.82	677.82
1	77 - Front passenger seat delete+ add equipment tower	1,848.60	1,848.60	1,848.60
1	84 - WC Lift installed behind curbside rear axle (Pending Altoona test or concurrence testing is not necessary)	9,756.50	9,756.50	9,756.50
Non-Published Options				
1	San Diego MTS Decals (Estimated)	\$3,000.00	3,000.00	3,000.00
1	Amerex EV AVTPLUS5V	\$9,995.00	9,995.00	9,995.00
1	Luminator RoadRunner Pro MDVR Per Attached Specifications	\$13,733.00	13,733.00	13,733.00
1	68 kwh Ford Battery Pack	-\$10,000.00	(10,000.00)	

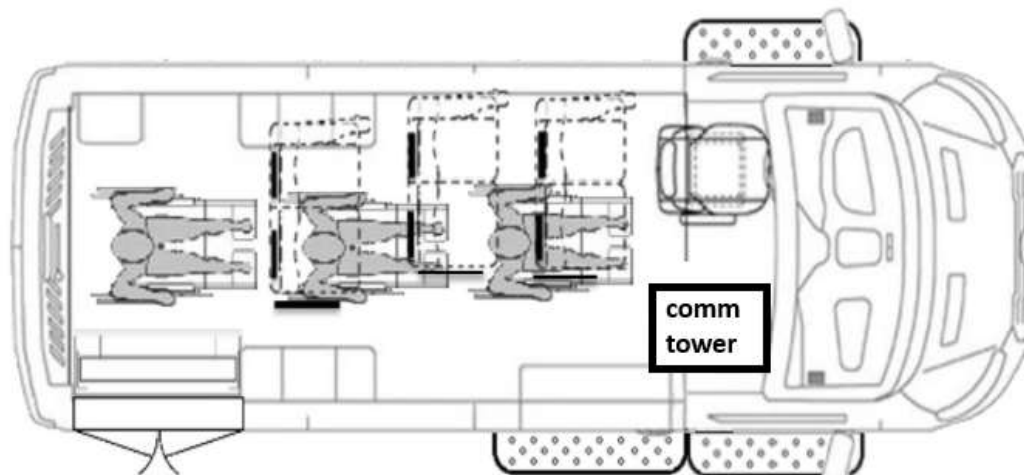
Class Z - Base Price	\$101,767.48	
Published Options	\$18,650.32	
Non-Published Options	\$16,728.00	
Total	\$137,145.80	\$28,450.32
Doc Prep Fee	\$85.00	
The Non-Taxable Amount is the ADA Equipment in the Base and Added as Options	Non-Taxable	\$55,178.32
The Taxable Amount Includes the Mobility Rebate of \$1,000.00 For Ford Chassis	Taxable Amount	\$83,052.48
San Diego* 1400	Tax Total	\$6,436.57 7.750%
	Sub-Total	\$143,667.37
	CalACT Fee	\$2,057.19
	DMV E-File Fee:	\$33.00
	DMV Fee	\$0.00 <i>(Estimated)</i>
	Tire Fee	\$12.25
	Local Delivery	\$0.00
	Total	\$145,769.80
	Number of Units	2
	Final Total	\$291,539.60

Purchasing of vehicles requires a CALACT membership, letter of assignment, and payment of procurement fee. If you have any questions, please contact CALACT direct at 916-920-8018

MobilityTRANS



1	1 Wheelchair On 148"-EL Wheel Base - High Roof Cargo Van		
1	AMF Bruns Smartfloor System		
3	2 Passenger GO-ES Forward Facing Fold Away Seat With 3 Point Shoulder Belt - 35" Wide	# CRS Option	
6	Upgrade To Freedman Level 3 Seats, Per Seating Position	Enter Color: jorden Blue	Link
6	Seat Top Mounted Grab Handle	Choose Color: Black	
3	US Armrest, Black Molded, Available For Aisle Side Seat Only		
2	Add Additional QRT Deluxe Tiedowns, Lap & Shoulder Belt		
3	Retractable Shoulder Harness With Height Adjustment (Each)	Add Ret. Lap Belts <input checked="" type="checkbox"/>	Removeable <input type="checkbox"/>
1	Tiedown Storage Box, Holds 4 Sets Of M-Series Tiedowns Or 2 Sets Of Retractable		
1	Game Changer - Rear Curb Side Lift Doors		
1	Stainless Steel Assist Pole At Right Entry	Options:	
1	Stainless Steel Assist Pole At Left Entry	Options:	
1	ADA Sign Package - Emergency Exit, No Smoking, Low Clearance, Preferred Seating		
1	Insulate Headliner		
1	Insulate Walls		
1	Insulate Doors		
1	Front End Alignment		
1	Driver Door 8" Stainless Steel Board		
1	Co-Pilot Door 8" Stainless Steel Board		
1	Sliding Door 8" Stainless Steel Board		
1	Safety Kit Includes: 5lb Fire Extinguisher, First Aid Kit, Triangle Reflectors		
1	E-Transit Twin Air Tie-In Heat/Cool Floor Mount - 28K BTU Heat/31K BTU Cool		
3	AMF foldaway mounting.		



LUMINATOR CAMERA SPECIFICATIONS FOR SAN DIEGO MTS

Line	Qty	Model	Description
Mobile Video Equipment			
Recorder			
1	1	RRP-MDVR-24	RoadRunner Pro MDVR 12-channel AHD + 12-channel IPC (PON power supply)
2	1	RRP-MDVRSSD4S	RoadRunner Pro Solid State Drive, 4TB
3	1	RRP-Event	ROADRUNNER PRO PANIC ALARM BUTTON
4	1	009-0544-020	ROADRUNNER PRO RS485 CABLE 20 FT
5	1	009-0541-020	ROADRUNNER PRO GPIO CABLE 20 FT
6	1	RRP-MDVRGPS	RoadRunner Pro GPS Antenna
7	1	RR-UPS-B2	Uninterruptible Power Supply with Battery
8	1	009-0336-003	UPS-B2 Power Cable to RR-PRO
Cameras			
9	1	RRP-IPC-FFC-4.0	IPC Forward Facing Camera, 4.0mm
10	4	RRP-AHD-IDC-2.1	AHD Internal Dome Camera, 2.1mm
11	2	RRP-AHD-CSC-2.8	AHD Curb Side Camera, 2.8mm
12	1	RRP-AHD-BUC-2.2	AHD Backup Camera, 2.2mm
Camera Cabling			
13	1	009-0553-010	AHD AHSL CAMERA CABLE, 10 FT
14	4	009-0553-025	AHD AHSL CAMERA CABLE, 25 FT
15	1	009-0553-035	AHD AHSL CAMERA CABLE, 35 FT
16	1	009-0552-020	IPC AHSL CAMERA CABLE, 20 FT
17	1	009-0600-035	AHD Rear Camera Cabling

AMEREX FIRE SUPPRESSION SYSTEM SPECIFICATIONS FOR SAN DIEGO MTS

Amerex EV AVTPlus 5V SafetyNet Fire Det/Sup Sys & Gas Det 3-Sensors & 3-Nozzles			
Part No.	Description	Qty.	
28096	AVTPlus5V Cyl w/Press Switch	1	
10180	V25 Cylinder Bracket Assembly	1	
27227	EV Display Panel - SafetyNet	1	
16390	Driver Panel - SafetyNet	1	
10199	Discharge Fitting Kit	1	
10250	Cone Nozzles	3	
10780	Nozzle Brackets	3	
26620-25	25 FT. Power Connector	1	
14088	Thermostat 350 Deg.	3	
13983	Hazard/Detection Cable - 10'	1	
13982	Hazard/Detection Cable - 6'	1	
13981	Hazard/Detection Cable - 3'	1	
10178	Distributor, 1-4 Nozzle System	1	
14032	Electric Control Head	1	
22579	Electric Actuator	1	
14053	Manual Actuator Switch	1	
14124	Electric Actuator, 20 ft. lead	1	
27241	Sensor, Gas EV	1	
26619-20	Sensor Cable - 20'	1	

Warranty	Miles	Years
Complete Bus	See below	See below
Body Structure	150,000	5
Chassis	36,000	3
Drive Motor	100,000	8
Transmission	N/A	N/A
Air conditioner	36000	3
Lift/Ramp	Unlimited	5
EV Battery	100,000	8
EV Conversion/Installation	N/A - Ford OEM	N/A - Ford OEM
Battery Degradation Warranty	100,000	8
Propulsion Control System	100,000	8
Axles	60,000	5



Metropolitan Transit System

STANDARD AGREEMENT FOR MTS DOC. NO. B0776.0-25

PURCHASE OF TEN (10) CLASS B PROPANE POWERED PARATRANIST VEHICLES

THIS AGREEMENT is entered into this _____ day of _____, 2025 in the State of California by and between San Diego Metropolitan Transit System ("MTS"), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: Model 1 Commercial Vehicles, Inc. Address: 9225 Priority Way West Drive Ste. 300

Indianapolis IN 46240
City State Zip

Form of Business: Corporation
(Corporation, Partnership, Sole Proprietor, etc.)

Email: jspore@model1.com

Telephone: 425-293-9495

Authorized person to sign contracts	<u>Jason Spore</u>	<u>Transit Bid Manager</u>
	Name	Title

Provide up to ten (10) Class B Propane Powered Paratransit Vehicles as specified in the proposal dated February 3, 2025 (attached as Exhibit A), and in accordance with the Standard Agreement, including Standard Conditions (Exhibit B), Signed Forms (Exhibit C).

The contract term is for one (1) year effective April 1, 2025 through March 31, 2026.

MTS and Contractor shall agree to production and delivery schedules in writing upon execution of the Contract.

Vehicle shall be delivered to: Metropolitan Transit System (MTS) c/o First Transit
7490 Copley Park Place
San Diego, CA 92111

The registered owner will be San Diego Metropolitan Transit System (MTS)
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101

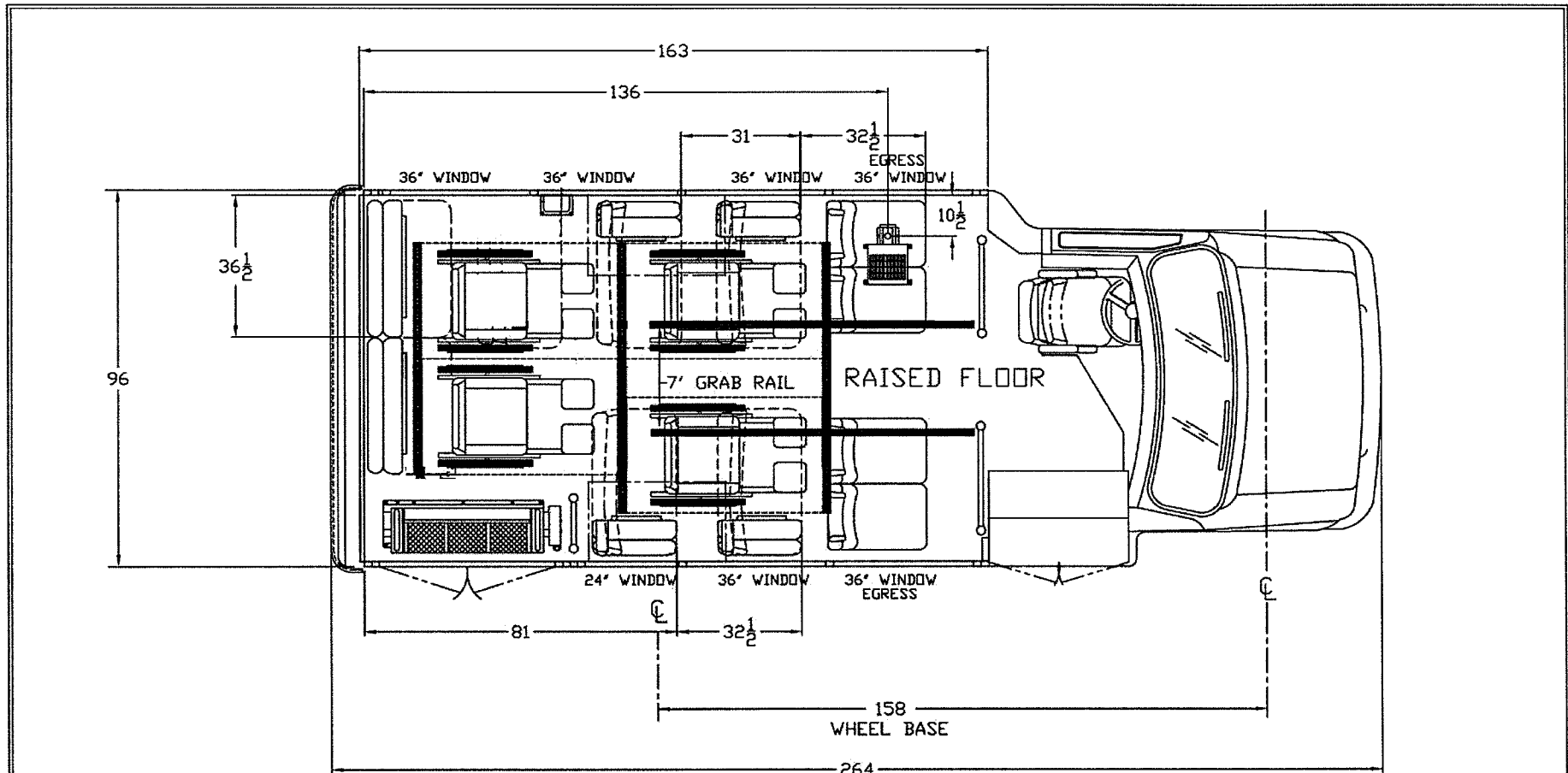
Payment terms shall be net 30 days from invoice date. The total cost of this contract shall not exceed \$2,112,034.50, which includes tax, delivery, registration, and California tire fee.



SAN DIEGO METROPOLITAN TRANSIT SYSTEM	MODEL 1 COMMERCIAL VEHICLES, INC.
<p>By: _____ Sharon Cooney, Chief Executive Officer</p> <p>Approved as to form:</p> <p>By: _____ Karen Landers, General Counsel</p>	<p>By _____</p> <p>Title: _____</p>



CalACT MBTA RFP #20-01 - Class B - Quote Sheet (Rev 2022)				
Vehicle Type:	Class B - Starcraft Bus (Allstar)	Date:	2/3/2025	
Contact:	Charles Posejpal	Lift Info:	<input checked="" type="checkbox"/> Braun <input type="checkbox"/> Front <input checked="" type="checkbox"/> Rear	
Agency:	San Diego MTS	Seat Material Level:	Level 5	
Address:	100 16th Street	Seat Color:	Docket 90 Wine	
City, State, Zip:	San Diego, CA 92101	Flooring and Color:	Altro Chroma TFCR27MTS	
Phone:	619.235.2648	Salesperson:	Steve Chung	
E-Mail:	charles.posejpal@sdmts.com	Salesperson Cell:	909.549.9398	
Delivery:	150 to 180-days from receipt of order (subject to change depending upon CARB certification date of Roush propane system)	Salesperson E-Mail:	schung@model1.com	
NOTE:	PER THE PURCHASING COOPERATIVE, PRICING SUBJECT TO CHANGE DUE TO PPI (PRODUCER PRICE INDEX) ESCALATION AND/OR MANUFACTURER PRICE INCREASES. PLEASE CONTACT YOUR SALES REPRESENTATIVE TO CONFIRM QUOTED PRICING IS STILL VALID PRIOR TO ISSUANCE OF PURCHASE ORDER.			
Quantity:	Description	Price	Ext. Price	ADA
1	Starcraft Bus - Class B - (Ford E450 Propane 64G) *Subject to CARB certification*	\$139,589.00	\$139,589.00	\$11,790.00
Published Options				
4	1 - Freedman Foldaway Seat (double)	\$2,256.00	\$9,024.00	\$9,024.00
2	2 - 34"-36" Freedman Flip Seat (featherweight)	\$1,820.00	\$3,640.00	\$3,640.00
8	9 - Credit for seat delete	-\$131.00	-\$1,048.00	
1	10 - Recaro SHS Drivers Seat (If not standard) BlackVinyl 77850L	\$1,292.00	\$1,292.00	
1	25 - Raised Flat Floor - (3 Step Entry)	\$578.00	\$578.00	\$578.00
2	28 - Additional Mobility Aid position 8100's (w/tie downs)	\$768.00	\$1,536.00	\$1,536.00
4	31 - Qstraint Deluxe (8100) credit per set of 4	-\$109.00	-\$436.00	-\$436.00
1	42 - Lift Pad Cover	\$327.00	\$327.00	\$327.00
1	64 - Telma Driveline Brake Retarder	\$10,197.00	\$10,197.00	
1	84 - Roof Vent (Safefleet)	\$338.00	\$338.00	
1	99 - Amerex Fire Suppression w/Methane Detection	\$7,799.00	\$7,799.00	
1	102 - Rear Backup Camera and Monitor	Standard	Standard	Standard
1	123 - Delivery Zone 1	\$872.00	\$872.00	
Non-Published Options				
1	Chassis Keyed Alike (ignition and driver's door)	\$420.00	\$420.00	
3	Altro T36T Aluminum step edging w/yellow insert (Each)	\$50.00	\$150.00	
1	Wheelchair loop compartment under flip seats on rear wall	\$695.00	\$695.00	
1	Storage Compartment (Front bulkhead carpeted and vented)	\$375.00	\$375.00	
1	"Tower" Hot Water Heater 60K BTU	\$510.00	\$510.00	
1	Luminator RoadRunner Pro MDVR Per Attached Specifications	\$14,044.00	\$14,044.00	
1	Slanted Driver's Modesty Panel for Additional Driver Space	\$300.00	\$300.00	
1	No tool box / first aid kit / blood borne kit credit	-\$200.00	-\$200.00	
1	Paint and Decals	\$5,000.00	\$5,000.00	
NOTE :		Class B - Base Price	\$139,589.00	
PER THE PURCHASING COOPERATIVE, PRICING SUBJECT TO CHANGE DUE TO PPI (PRODUCER PRICE INDEX) ESCALATION AND/OR MANUFACTURER PRICE INCREASES. PLEASE CONTACT YOUR SALES REPRESENTATIVE TO CONFIRM QUOTED PRICING IS STILL VALID PRIOR TO ISSUANCE OF PURCHASE ORDER.		Published Options	\$34,119.00	
		Non-Published Options	\$21,294.00	
		Total	\$195,002.00	\$26,459.00
		Doc Prep Fee	\$85.00	
The Non-Taxable Amount is the ADA Equipment in the Base and Added as Options		Non-Taxable	\$26,459.00	
The Taxable Amount Includes the Mobility Rebate of \$1,000.00 For Ford Chassis		Taxable Amount	\$169,628.00	
San Diego*		Tax Total	\$13,146.17	7.750%
		Sub-Total	\$208,233.17	
CalACT Fee is capped at \$30,000 per purchase order.		CalACT Fee	\$2,925.03	
		DMV E-File Fee:	\$33.00	
		DMV Fee	\$0.00	(Estimated)
		Tire Fee	\$12.25	
		Total	\$211,203.45	
		Number of Units	10	
		Final Total	\$2,112,034.50	
Purchasing of vehicles requires a CALACT membership, letter of assignment, and payment of procurement fee. If you have any questions, please contact CALACT direct at 916-920-8018				



ENGINEERING APPROVAL

ORDER #:

DRAFTSMAN:

ENGINEER:

DATE APPROVED:

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REV. LET.	DESCRIPTION OF CHANGE	BY	CHK	DATE	ECN No.	TOLERANCE UNLESS OTHERWISE SPECIFIED	DATE: 08/15/06	STARCRAFT AUTOMOTIVE INC. TRANSIT BUS DIVISION		
						WOOD	OTHER		CHKR:	TITLE 10/2 W/C PASS. 158' WB FORD
						± 1/8"	± 1/16"		APRVD:	SCALE
						± 1"	± 1/2"	CL CODE:	DISK No.	SHEET 1 OF 1

LUMINATOR CAMERA SPECIFICATIONS FOR SAN DIEGO MTS

Line	Qty	Model	Description
Mobile Video Equipment			
Recorder			
1	1	RRP-MDVR-24	RoadRunner Pro MDVR 12-channel AHD + 12-channel IPC (PON power supply)
2	1	RRP-MDVRSSD4S	RoadRunner Pro Solid State Drive, 4TB
3	1	RRP-Event	ROADRUNNER PRO PANIC ALARM BUTTON
4	1	009-0544-020	ROADRUNNER PRO RS485 CABLE 20 FT
5	1	009-0541-020	ROADRUNNER PRO GPIO CABLE 20 FT
6	1	RRP-MDVRGPS	RoadRunner Pro GPS Antenna
7	1	RR-UPS-B2	Uninterruptible Power Supply with Battery
8	1	009-0336-003	UPS-B2 Power Cable to RR-PRO
Cameras			
9	1	RRP-IPC-FFC-4.0	IPC Forward Facing Camera, 4.0mm
10	4	RRP-AHD-IDC-2.1	AHD Internal Dome Camera, 2.1mm
11	3	RRP-AHD-CSC-2.8	AHD Curb Side Camera, 2.8mm
12	1	RRP-AHD-BUC-2.2	AHD Backup Camera, 2.2mm
Camera Cabling			
13	1	009-0553-010	AHD AHSL CAMERA CABLE, 10 FT
14	2	009-0553-025	AHD AHSL CAMERA CABLE, 25 FT
15	3	009-0553-035	AHD AHSL CAMERA CABLE, 35 FT
16	1	009-0552-020	IPC AHSL CAMERA CABLE, 20 FT
17	1	009-0600-035	AHD Rear Camera Cabling
18	1	009-0553-045	AHD AHSL CAMERA CABLE, 45 FT

AMEREX FIRE SUPPRESSION SYSTEM SPECIFICATIONS FOR SAN DIEGO MTS

Amerex SafetyNet Fire Detection/Suppression & Propane Gas Detection System			
Part No.	Description	Qty.	
15591	V25ABC Agent Cyl w/Press Swt	1	
10180	V25 Cylinder Bracket Assembly	1	
16389	Display Panel - SafetyNet	1	
16390	Driver Panel - SafetyNet	1	
10199	Discharge Fitting Kit	1	
10250	Cone Nozzles	4	
10780	Nozzle Brackets	4	
26620-25	Lead Power Assembly - 25'	1	
14088	Thermostat 350 Deg.	3	
13982	Hazard/Detection Cable - 6'	2	
13981	Hazard/Detection Cable - 3'	1	
10178	Distributor	1	
14032	Electric Control Head	1	
22579	Electric Actuator	1	
14053	Manual Actuator Switch	1	
14124	Actuator Lead Assembly - 20'	1	
14198	Sensor, GAS AMGaDS III	4	
26619-20	Sensor, Cable - 20'	2	
26619-35	Sensor, Cable - 35'	2	



*Bus photo is not to exact specifications

Class B Standard Build Options

Allstar 22 158" WB E-450 7.3L Premium Gas Engine W/240 Amp Ford Alt	ST	93109	1
SPECIAL INSTRUCTIONS OR NOTES			1
SEE BOTTOM OF ORDER FOR WARRANTY		NOTE	1
Dealer to Perform 4-Wheel Alignment in California		NOTE	1
Dealer to Weigh Each Bus on California Certified Scale		NOTE	1
No Tow Vehicle Allowed During Delivery		NOTE	1
Ship 4-Corner Weight Sheet with Every Vehicle		NOTE	1
Use 250 lbs Per Wheelchair Position		NOTE	1
Parts Manual with As-built Electrical Schematics		NOTE	1
All Excessories Except Lights, WC Lift & Mobile Radio (If Equipped) Are		NOTE	1
Wiring Harnesses Supported Every 24" Maximum		NOTE	1
No Butt Connectors Allowed		NOTE	1
If Driver Switch Panel is on Engine Cover, Then a Quick Disconnect is Required		NOTE	1
Fast Idle: 1500 RPM on Gas - Fast Idle to Engage if Voltage Drops Below 12.5		NOTE	1
Install Dome Light With Every Row of Seats, Including WC Position, Must		NOTE	1
Ground Engine to Chassis Frame, Body to Chassis Frame, Lift Pump Housing		NOTE	1
Hip-To-Knee Spacing 27" Minimum		NOTE	1
Seat Track Not Extend More than 6" Past Seats		NOTE	1
Undercoat Metal Skirts		NOTE	1
Ground to First Step Height Shall Not Exceed 12.5" Unloaded		NOTE	1
304SS Required for Entry Grabs and Ceiling Grabs		NOTE	1
Ceiling Grab Rails Require Formed Elbows - No End Caps		NOTE	1
AC & Heater Hoses Supported Every 24" Minimum		NOTE	1
Build Front Driver Storage Compartment as Large as Possible, For Storage of		NOTE	1
Install Toolbox Next to Lift if Space Allows		NOTE	1
Convex Mirror Must Avoid Sun Visor and Overhead Door		NOTE	1
Headlight Aiming Certificate - Ship with Bus		NOTE	1
Water Test Certificate - Ship with Bus		NOTE	1
Driveline Metal Guards for Each Section of Shaft		NOTE	1
All Harnesses Secured to Frame at Maximum of 24"		NOTE	1
P-Clamps Added as Deemed Necessary by MBTA Inspector		NOTE	1
Batteries Must Be Same Type (No Mismatch) (1 In Tray - 1 Underhood)		NOTE	1
Continuous Run Battery Cables		NOTE	1
Slide Blocks To Hold Batteries In Place		NOTE	1
Floor Track Will Not Be Installed in Any Area not Covered by a Fixed Seat		NOTE	1
Operations Manual - Covering Conversion Features as Listed		NOTE	1
Parts Book, Operating Instructions, Troubleshooting Guide, Inspection &		NOTE	1
SPECIAL BUILD OPTIONS			1
Driver Entry Grab Steel Reinforced Plastic - Nutsert Install	ST	99	1
(3) GROUND WIRES TO BE ZERO OUGHT GAUGE, TO BE CONTINUOUS	ST	99	1
Interlock on Entry Door - Must Be in Park to Operate	ST	99	1
ENTRY DOOR HEADER ACCESS PANEL DOOR MUST BE HINGED WITH 2	ST	99	1
Battery Tray: SS Tray & Slides Per Standard Options Below. Must Extend at	ST	99	1
Install Battery Cable Wiring Diagram Inside Battery Access Door	ST	99	1
Decal: Battery Disconnect, Emergency Use Only	ST	99	1
Stainless Steel Battery Hold-Down Hardware	ST	99	1
Add 2nd Heater Line Brass 1/4 Turn Valve	ST	99	1
Decal: "Heater Shut Off Valve" - Install On Street Side Near Valves	ST	99	1
KEYED LOCK ILO THUMB LATCH FOR ELECTRICAL CENTER DOOR	ST	99	1
5/8", 7 Ply AC Marine Grade APA Plywood Floor	ST	99	1
Upgrade Driver Plexi Barrier: Extend to Within 6" of Ceiling	ST	99	1
14 Gauge Galvanized Steel Wheelwells	ST	99	1
Dual Handles on WC Lift Doors	ST	99	1
Flame Block on Bottom of Driver Seat Cushion (N/A on USSC & Recaro)	ST	99	1
Laminated Modesty Panel, Grey Melamine, Each	ST	99	2
Intermotive Break Out Box	ST	99	1
GENERIC PARTS MANUAL ON FLASH DRIVE	ST	99	1
ELECTRICAL SYSTEM			
Intermotive Flex Tech Electrical System	05	STD	1
SIDEWALL / REARWALL / CEILING			



Sidewall: Grey FRP	05	STD		1
Rearwall: Grey Seaspray Fabric	05	STD		1
Driver Area: Grey Padded Vinyl	05	STD		1
FRP on Ceiling, Grey	05	2289		1
Cove Colored Flooring on Sidewall to Seat Track	05	2238		1
FLOORING - WHITE NOSING IS STANDARD				
Altro Meta Storm	05	2248		1
Yellow Step Nosing - Per Step	05	8820		3
CHASSIS				
Front Mud Flap (1), Passenger Side Only (to be used with Running Board) - NOT AVAILABLE ON FORD TRANSIT	05	2340		1
Heavy Duty Anti-Slip Aluminum Running Board on Driver Side (Large) (NOT AVAILABLE ON FORD TRANSIT)	05	2623		1
Exterior Mirror Set Remote/Heated w/External LED Strip Turn Signal Ford	05	2825		1
Romeo Rim Rear Bumper w/HawkEye RAS Installed	05	2670		1
Valve Stem Extender Inner Dual Rear Wheel, pair	05	8606		1
ENVIRONMENTAL CONTROL				
TRANS/AIR AIR CONDITIONING SYSTEMS				
				1
TRANS AIR TA733 SUPER 75,000 BTU, TA73 EVAP, SMC3L COND, 13 CID COMP 7.3L GAS	ST	99		1
USE #16 SUCTION HOSE IN A/C SYSTEM	ST	99		1
HEATERS				
				1
Hot Water Heater, 35K BTU 3 Speed Low Profile	05	8044		1
MISCELLANEOUS				
				1
Silicone Heater Hose (for rear unit) w/full ring clamps	05	20090		1
ELECTRICAL				
Stainless Batt. Tray w/Std Batt.Box <i>IS 304 REQUIRED?</i> YES	05	2784		1
Stainless Steel Battery Tray Slides ILO Zinc Plated Slides - Extra Charge	05	2869		1
Rotary Disconnect Switch	05	8790		1
Laminated Wiring Schematic ***AS BUILT*** ON ELECTRICAL PANEL DOOR	05	22101		1
Wiring Diagram "AS BUILT" ON USB Flash Drive		STD		1
EXTERIOR LIGHTS				
Surface Mount LED Entry Door Exterior Light - STD Choose Optional Below or Special builds	05	STD		1
LED Rear Center Mount Brake Light, Rectangular	05	20136		1
LED Mid-Ship Turn / Marker Lights	05	20138		1
Independent RED Brake & AMBER Turn Signal Lights	05	20139		1
INTERIOR LIGHTS				
				1
Additional Interior LED Dome Lamp - Each	05	8041		2
AUDIO / VISUAL				
				1
Jensen JHD36AB AM/FM/CD/Clock Blue Tooth/USB Enabled / 4 SPEAKERS PA Ready	05	8830		1
DOORS / HATCH / WINDOWS				
Electric Entry Door is Standard. Add Option #2056 if Manual is Desired				
Passenger Door Electric (standard)	05	20163		1
Passenger Door 36" ROUGH OPENING (STANDARD)	05	2063		1
Exterior Passenger Entrance Door Key	05	8133		1
Solid Window(s) EACH Replace T-Slide(s) Enter Specific Instructions in Row Below	05	20187		1
STREET SIDE REAR		NOTE		1
INTERIOR				
				1
Driver Coat Hook	05	8769		1
LUGGAGE RACK / STORAGE				
				1
Driver Storage in Cab Overhead with Lock	05	20192		1
PARATRANSIT OPTIONS				
				1
Double W/C Doors w/ Windows, LED Interior Light, Leaf Spring, LED Exterior Lighting	05	20206		1
IS THE LIFT IN THE FRONT OR REAR OF THE UNIT?				1
BRAUN LIFTS				
				1
Braun Century NCL917-2 800# Lift (33"x51")	05	8744		1
LIFT FAST IDLE WITH 403 INTERLOCK				
				1
Intermotive Gateway 508-F Ford E or 517-F Transit Fast Idle with Lift Interlock	05	99		1
Q Straint W.C. Securement Kits, Accessories				
				1
Q10007 - 4 QRT 360 Retractor Tie Down L track & Q8-6326-A1 Comb-Lap/Shldr	05	8826		2



Q5-7580-4 18" Blue Webbing Loop (each)	05	20250		8
Q5-6327 84" Postural Belt with Padding - Black Webbing	05	20251		1
Q-Straint Belt Cutter (ship loose)	05	8179		1
Miscellaneous Accessories				1
Priority Seating Sign **Required for ADA Compliance**	05	8104		1
Tool Box Wheelchair Belt Storage	05	20257		1
SAFETY OPTIONS				
5 Lb Fire Extinguisher	05	8089		1
16 Unit First Aid Kit	05	8090		1
Body Fluid Kit	05	20264		1
Emergency Triangle Kit	05	8091		1
Back-Up Alarm SAE Type B 107 db(A) Ecco 575	05	2880		1
STANDARD ROSCO STSK4750 BACK-UP CAMERA SYSTEM W/ 7" REARVIEW MONITOR / MIRROR COMBO	05	STD		1
Interior Convex Mirror 6"x9"	05	20276		1
Red Light Over Emergency Exit Ea: ON:		SIDE & REAR EGRESS WINDOWS	05	8155
Yellow "Standee" Line	05	8802		1
GRAB RAIL / STANCHION / PANELS				
Ceiling Grab Rail - Install on Both Sides	05	99		1
Left Hand Entry Vertical Grab Rail - 1 1/4"		STD		1
1 1/4" Dual Entry Grab Rails Parallel to Entrance Steps (both sides)	05	8130		1
Stanchion and Modesty Panel at Entry Door		STD		1
SEATING - DRIVER				1
SHIELD Sport 2.0 Recliner RH Adjustable LeMans Arm, 2 Way Adjustable Lumbar	05	99		1
FREEDMAN SHIELD DRIVER SEAT FABRICS				1
Driver Seat Cover - Level 4 Ice Pinstripe; Mor-Care; Leathermate	05	2043		1
SEATING - PASSENGER				1
STD RIGID SEATS				1
Mid High Double Seat	05	8067		6
PASSENGER SEAT FABRICS				1
Seat Cover - Level 4 Ice Pinstripe; Mor-Care; Leathermate	05	2074		12
SEAT OPTIONS				1
Anti-Vandal Grab Handle, Black Ea on:		ALL SEAT EXCEPT AGAINST REAR WALL	05	2311
Black US Armrest - Each - on:			05	2077
Flame Block Material on Underside of Seat (each)	05	2884		12
SEAT BELTS				1
Seat Belt, Freedman USR Retractable (Per Person)	05	2282		12
Seat Belt Extension, 12" (P/N 56410) FOR USR SEAT BELTS	05	8771		2

The Allstar



Safety. Performance. Durability.

Engineered for safety and designed for comfort, the Starcraft Allstar continues to be one the best-selling shuttle buses in the market. Standard equipment that includes a backup camera for safety and 4-inch low standard floor wheel wells for passenger seating comfort makes the Allstar a great addition to your fleet.



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THE NATION'S LARGEST BUS DEALER SINCE 1980

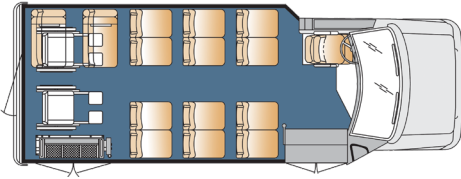
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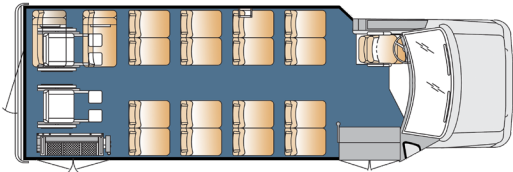
STARCRAFT BUS

Meeting America's Transportation Needs
One Customer at a Time

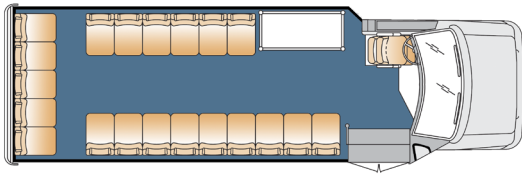
The Allstar



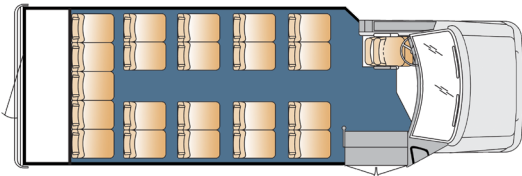
12 Passenger 2 Wheelchair with Foldaway Seats Plus Driver



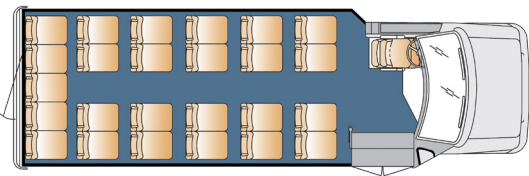
16 Passenger 2 Wheelchair with Foldaway Seats Plus Driver



20 Passenger with Interior Luggage Plus Driver



21 Passenger with Rear Luggage Plus Driver



25 Passenger Plus Driver



Industry Leading 5-Year/100K
Comprehensive Warranty

Standard Exterior Feature Highlights

- Fully welded steel cage construction meeting all applicable FMVSS requirements
- “Starview” drivers visibility window in front of entry door
- Electric actuated passenger entry door with full length glass
- 36" wide x 36" high upper double T-Slider tempered safety glass windows with climate control tint
- Black powder coated steel rear bumper
- Rear mud flaps
- Pre-painted white aluminum sidewall and skirts
- Fiberglass front and rear caps
- One-piece seamless FRP (fiberglass reinforced plastic) roof
- Breakaway rearview mirrors with built-in convex
- Sealed LED stop, tail, and turn signal lights with LED back-up lights
- LED front and rear marker lights
- Exterior graphics package available in three colors (blue, green or burgundy)

Standard Interior Feature Highlights

- 93" interior width
- 80" interior floor to ceiling height with standard floor (raised floor is 75")
- Floor and wall seat track for flexible seating
- Black slip resistant floor covering
- 5/8" exterior grade plywood flooring
- Ceiling and rear wall fabric for sound abatement
- FRP (fiberglass reinforced plastic) sidewalls for ease of cleaning
- White step nosing
- 1.25" left hand vertical passenger assist rail at entry door
- Intermotive FlexTech Electrical System
- LED entry door step well lights
- LED driver and passenger area lighting
- Non-retractable seat belts

Popular Option Highlights

- Stainless steel wheel inserts
- Luggage Storage areas (overhead luggage racks with reading lights, interior luggage racks, rear luggage area)
- Rear emergency door with window(s)
- Passenger area rear heat and air conditioning
- Complete rubber flooring
- Passenger grab rails
- Padded vinyl or cloth walls and ceiling
- Audio and video systems
- Mid back or high back seating
- ADA and FMVSS compliant wheel chair lifts and securement systems
- Fiberglass side walls and skirts



STARCRAFT BUS



Creative Bus Sales

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SUMMARY OF STANDARD WARRANTIES

(Provide complete warranty information and parchment with proposal)

Warranty	Miles	Years	Warranty Details
Body Structure	100,000	5	See attached Warranty Info
Chassis	36,000	3	See attached Warranty Info
Engine	60,000	5	See attached Warranty Info
Transmission	60,000	5	See attached Warranty Info
Air conditioner	Unlimited	2	See attached Warranty Info
Lift/Ramp	Unlimited	5	See attached Warranty Info
EV Battery	N/A	N/A	N/A
EV Conversion/Installation	N/A	N/A	N/A
CNG Warranty (Install and tanks)	N/A	N/A	N/A



Metropolitan Transit System

**STANDARD AGREEMENT
FOR
MTS DOC. NO. B0777.0-25**

PURCHASE OF TWENTY (20) CLASS A GAS POWERED PARATRANSIT VEHICLES

THIS AGREEMENT is entered into this _____ day of _____, 2025 in the State of California by and between San Diego Metropolitan Transit System (“MTS”), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: Model 1 Commercial Vehicles, Inc. Address: 9225 Priority Way West Drive Ste. 300
Indianapolis IN 46240
 City State Zip
 Form of Business: Corporation Email: jspore@model1.com
 (Corporation, Partnership, Sole Proprietor, etc.)
 Telephone: 425-293-9495

Authorized person to sign contracts Jason Spore Transit Bid Manager
 Name Title

Provide up to twenty (20) Class A Gas Powered Paratransit Vehicles as specified in the proposal dated February 3, 2025 (attached as Exhibit A), and in accordance with the Standard Agreement, including Standard Conditions (Exhibit B), Signed Forms (Exhibit C).

The contract term is for one (1) year effective April 1, 2025 through March 31, 2026.

MTS and Contractor shall agree to production and delivery schedules in writing upon execution of the Contract.

Vehicle shall be delivered to: Metropolitan Transit System (MTS) c/o First Transit
 7490 Copley Park Place
 San Diego, CA 92111

The registered owner will be San Diego Metropolitan Transit System (MTS)
 1255 Imperial Avenue, Suite 1000
 San Diego, CA 92101

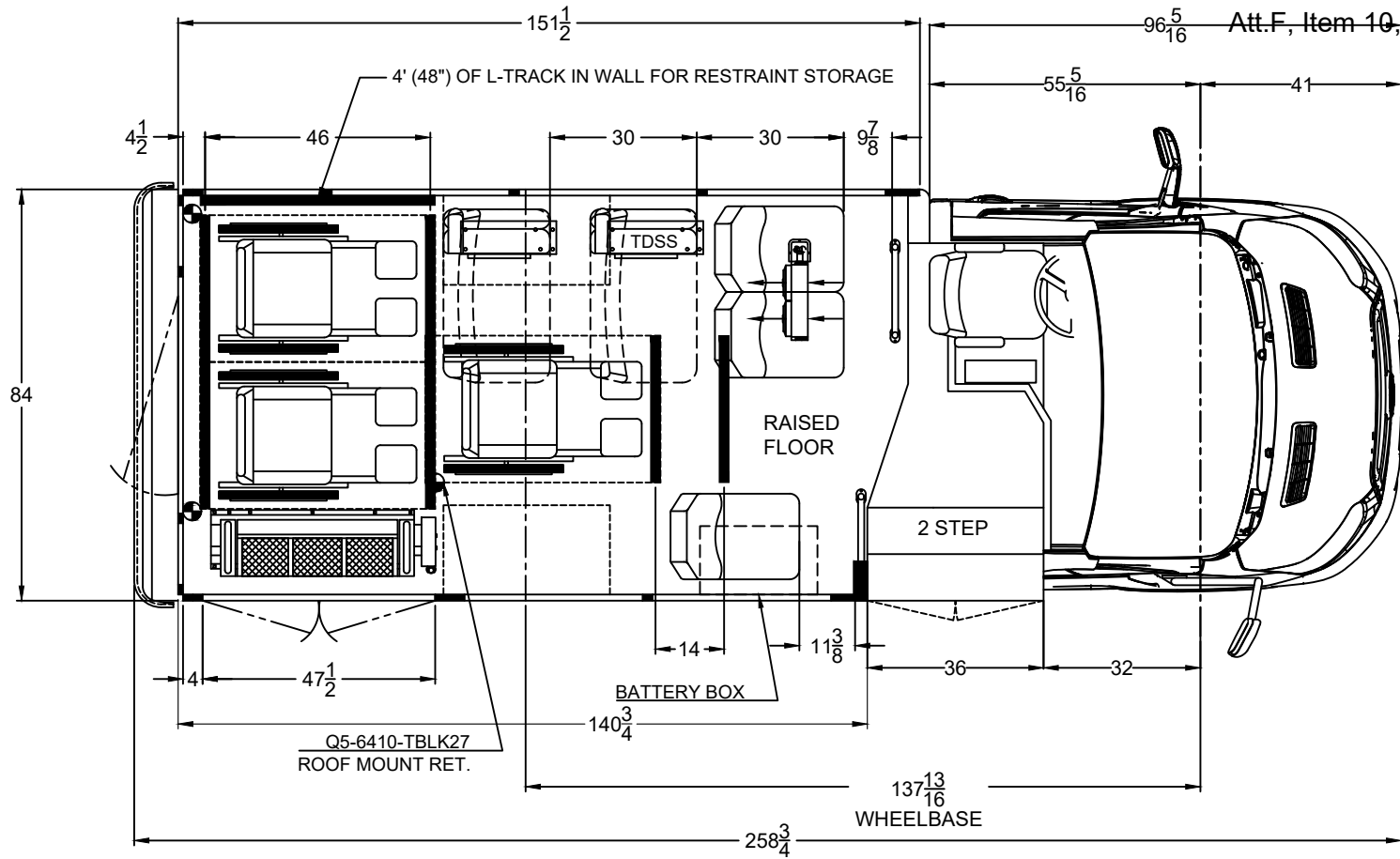
Payment terms shall be net 30 days from invoice date. The total cost of this contract shall not exceed \$3,167,236.35, which includes tax, delivery, registration, and California tire fee.



SAN DIEGO METROPOLITAN TRANSIT SYSTEM	MODEL 1 COMMERCIAL VEHICLES, INC.
<p>By: _____ Sharon Cooney, Chief Executive Officer</p> <p>Approved as to form:</p> <p>By: _____ Karen Landers, General Counsel</p>	<p>By _____</p> <p>Title: _____</p>



CalACT MBTA RFP #20-01 - Class A - Quote Sheet (Rev 2024)				
Vehicle Type:	Class A - Starcraft Bus (Starlite)	Date:	2/3/2025	
Contact:	Charles Posejpal	Lift Info:	<input checked="" type="checkbox"/> Braun <input type="checkbox"/> Front <input checked="" type="checkbox"/> Rear	
Agency:	San Diego MTS	Seat Material Level:	Level 5	
Address:	100 16th Street	Seat Color:	Docket 90 Wine	
City, State, Zip:	San Diego, CA 92101	Flooring and Color:	Altro Chroma TFCR27MTS	
Phone:	619.235.2648	Salesperson:	909.549.9398	
E-Mail:	charles.posejpal@sdmts.com	Salesperson Cell:	Steve Chung	
Delivery:	150 to 180-days from receipt of order	Salesperson E-Mail:	schung@model1.com	
NOTE:	PER THE PURCHASING COOPERATIVE, PRICING SUBJECT TO CHANGE DUE TO PPI (PRODUCER PRICE INDEX) ESCALATION AND/OR MANUFACTURER PRICE INCREASES. PLEASE CONTACT YOUR SALES REPRESENTATIVE TO CONFIRM QUOTED PRICING IS STILL VALID PRIOR TO ISSUANCE OF PURCHASE ORDER.			
Quantity:	Description	Price	Ext. Price	ADA
1	Starcraft Bus - Class A - (Ford Transit T350)	\$114,321.00	\$114,321.00	\$11,790.00
Published Options				
2	1 - Freedman Foldaway Seat (double)	\$2,256.00	\$4,512.00	\$4,512.00
5	9 - Credit for seat delete	-\$131.00	-\$655.00	
1	10 - Recaro SHS Drivers Seat - Black Vinyl 77850L	\$1,292.00	\$1,292.00	
1	26 - Raised Flat Floor - (West Coast Style) 1/2 Step Behind Driver	\$578.00	\$578.00	\$578.00
1	28 - Additional Mobility Aid position 8100's (w/tie downs)	\$768.00	\$768.00	\$768.00
4	37 - Full Length Track (Floor) (Per Foot)	\$33.00	\$132.00	\$132.00
4	38 - Full Length Track (Sidewall) (Per Foot)	\$33.00	\$132.00	\$132.00
1	47 - 2-Way radio prep	\$185.00	\$185.00	
1	87 - Locking rear door w/alarm (one window)	\$529.00	\$529.00	
1	98 - Amerex Fire Suppression	\$3,439.00	\$3,439.00	
1	102 - Rear Backup Camera and Monitor		Standard	Standard
1	123 - Delivery Zone 1	\$872.00	\$872.00	
Non-Published Options				
1	Chassis Keyed Alike	\$420.00	\$420.00	
3	Altro T36T Aluminum step edging w/yellow insert (Each)	\$50.00	\$150.00	
1	Bus Bars mounted in front bulkhead (3 bars w/15amp circuit each)	\$450.00	\$450.00	
1	Storage Compartment (Front Bulkhead - Full Width)	\$375.00	\$375.00	
1	Luminator RoadRunner Pro MDVR Per Attached Specifications	\$14,044.00	\$14,044.00	
1	Lift - Pad Cover (Full Cover - Braun)	\$350.00	\$350.00	\$350.00
1	Paint and Decals (Estimated Cost)	\$5,000.00	\$5,000.00	
1	No tool box / first aid kit / blood borne kit	-\$200.00	-\$200.00	
NOTE:		Class A - Base Price	\$114,321.00	
PER THE PURCHASING COOPERATIVE, PRICING SUBJECT TO CHANGE DUE TO PPI (PRODUCER PRICE INDEX) ESCALATION AND/OR MANUFACTURER PRICE INCREASE. PLEASE CONTACT YOUR SALES REPRESENTATIVE TO CONFIRM QUOTED PRICING IS STILL VALID PRIOR TO ISSUANCE OF PURCHASE ORDER.		Published Options	\$11,784.00	
		Non-Published Options	\$20,589.00	
		Total	\$146,694.00	\$18,262.00
		Doc Prep Fee	\$85.00	
The Non-Taxable Amount is the ADA Equipment in the Base and Added as Options		Non-Taxable	\$18,262.00	
The Taxable Amount Includes the Mobility Rebate of \$1,000.00 For Ford Chassis		Taxable Amount	\$129,517.00	
San Diego*		Tax Total	\$10,037.57	7.750%
		Sub-Total	\$156,816.57	
CalACT Fee is capped at \$30,000 per purchase order.		CalACT Fee	\$1,500.00	
		DMV E-File Fee:	\$33.00	
		DMV Fee	\$0.00	(Estimated)
		Tire Fee	\$12.25	
		Total	\$158,361.82	
		Number of Units	20	
		Final Total	\$3,167,236.35	
Purchasing of vehicles requires a CALACT membership, letter of assignment, and payment of procurement fee. If you have any questions, please contact CALACT direct at 916-920-8018				



● -RETRACTOR LOCATIONS

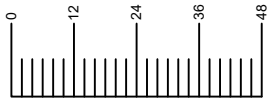
NOTE: SHOWN WITH MID HI FREEDMAN SEATS
 FORD TRANSIT 11,000 GVWR
 THIS FLOOR PLAN IS FOR ILLUSTRATION PURPOSES ONLY.
 A WEIGHT ANALYSIS HAS NOT YET BEEN PERFORMED.
 FINAL APPROVAL WITH A WEIGHT ANALYSIS IS REQUIRED UPON RECEIPT OF A
 COMPLETED ORDER WITH ALL OPTIONS SHOWN.
 OPTIONAL EQUIPMENT MAY BE SHOWN.
 THE SALES ORDER PLACED DICTATES ACTUAL OPTION CONTENT.

DEALER APPROVAL

APPROVED

 CUSTOMER SIGNATURE

SCALE
 IN INCHES



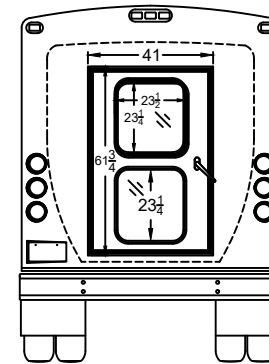
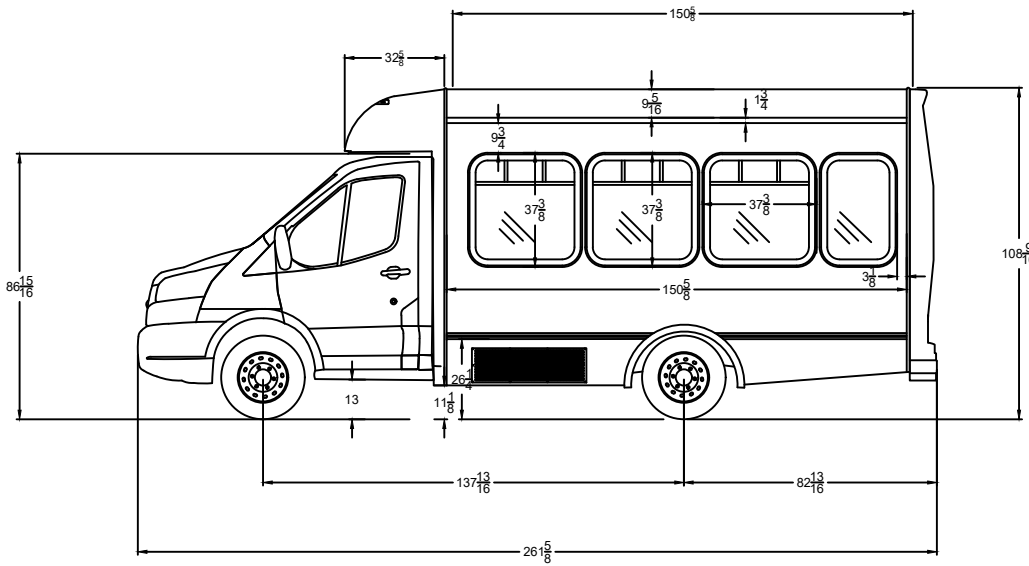
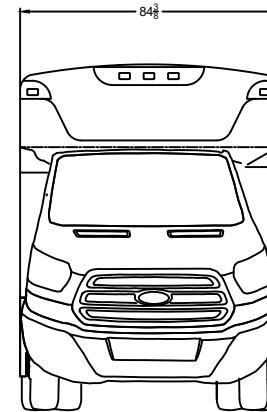
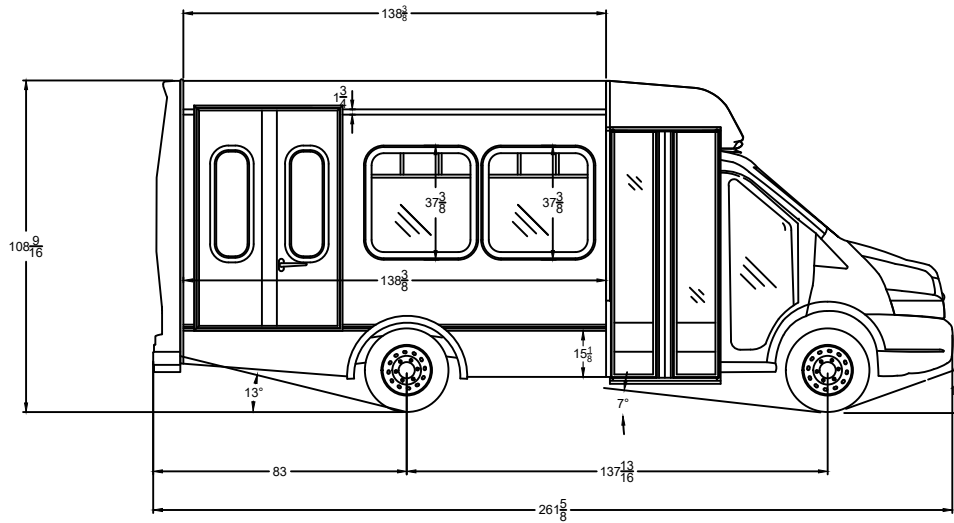
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REV. LET.	DESCRIPTION OF CHANGE	BY	CHK	DATE	ECN No.

TOLERANCE UNLESS OTHERWISE SPECIFIED	
WOOD	OTHER
+ 1/8"	+ 1/16"
+ 1"	+ 1/2"



TITLE:
 3 3 WC 138" WB
 MODEL 20
 FOREST RIVER BUS NAME: TOM GERICH DATE: 01/14/25
 DWG. No. 3 3 WC 2 DB FOLDS 138 150-1 FRB



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REV. LET.	DESCRIPTION OF CHANGE	BY	CHK	DATE	ECN No.

TOLERANCE UNLESS OTHERWISE SPECIFIED			
WOOD	± 1/8"	OTHER	± 1/16"
	± 1"		± 1/2"



TITLE:		138" WB MODEL 20 TRANSIT ELEVATION	
FOREST RIVER BUS	NAME: F-33	DATE:	01/13/25

DWG: 138 MODEL 20 REAR LIFT

LUMINATOR CAMERA SPECIFICATIONS FOR SAN DIEGO MTS

Line	Qty	Model	Description
Mobile Video Equipment Recorder			
1	1	RRP-MDVR-24	RoadRunner Pro MDVR 12-channel AHD + 12-channel IPC (PON power supply)
2	1	RRP-MDVRSSD4S	RoadRunner Pro Solid State Drive, 4TB
3	1	RRP-Event	ROADRUNNER PRO PANIC ALARM BUTTON
4	1	009-0544-020	ROADRUNNER PRO RS485 CABLE 20 FT
5	1	009-0541-020	ROADRUNNER PRO GPIO CABLE 20 FT
6	1	RRP-MDVRGPS	RoadRunner Pro GPS Antenna
7	1	RR-UPS-B2	Uninterruptible Power Supply with Battery
8	1	009-0336-003	UPS-B2 Power Cable to RR-PRO
Cameras			
9	1	RRP-IPC-FFC-4.0	IPC Forward Facing Camera, 4.0mm
10	4	RRP-AHD-IDC-2.1	AHD Internal Dome Camera, 2.1mm
11	3	RRP-AHD-CSC-2.8	AHD Curb Side Camera, 2.8mm
12	1	RRP-AHD-BUC-2.2	AHD Backup Camera, 2.2mm
Camera Cabling			
13	1	009-0553-010	AHD AHSL CAMERA CABLE, 10 FT
14	2	009-0553-025	AHD AHSL CAMERA CABLE, 25 FT
15	3	009-0553-035	AHD AHSL CAMERA CABLE, 35 FT
16	1	009-0552-020	IPC AHSL CAMERA CABLE, 20 FT
17	1	009-0600-035	AHD Rear Camera Cabling
18	1	009-0553-045	AHD AHSL CAMERA CABLE, 45 FT

AMEREX FIRE SUPPRESSION SYSTEM SPECIFICATIONS FOR SAN DIEGO MTS

Amerex V25ABC Amerex Fire Detection/Suppression System 3-Sensors & 3-Nozzles			
Part No.	Description	Qty.	
15591	V25ABC Agent Cyl w/Press Swt	1	
10180	V25 Cylinder Bracket Assembly	1	
17311	Panel, Control III Leads Exit Back	1	
10199	Discharge Fitting Kit	1	
10250	Cone Nozzles	3	
10780	Nozzle Brackets	3	
26620-25	25 FT. Power Connector	1	
14088	Thermostat 350 Deg.	3	
13983	Hazard/Detection Cable - 10'	1	
13982	Hazard/Detection Cable - 6'	1	
13981	Hazard/Detection Cable - 3'	1	
10178	Distributor, 1-4 Nozzle System	1	
14032	Electric Control Head	1	
22579	Electric Actuator	1	
14053	Manual Actuator Switch	1	
14124	Electric Actuator, 20 ft. lead	1	



*Bus photo is not to exact specifications

Class A Standard Build Options

Starlite 20 138" WB Transit350 3.5L EcoBoost Gas Engine W/250 Amp Ford Alt	ST	93108		1
SPECIAL INSTRUCTIONS OR NOTES				1
SEE BOTTOM OF ORDER FOR WARRANTY		NOTE		1
Dealer to Perform 4-Wheel Alignment in California		NOTE		1
Dealer to Weigh Each Bus on California Certified Scale		NOTE		1
No Tow Vehicle Allowed During Delivery		NOTE		1
Ship 4-Corner Weight Sheet with Every Vehicle		NOTE		1
Use 250 lbs Per Wheelchair Position		NOTE		1
Parts Manual with As-built Electrical Schematics		NOTE		1
All Excessories Except Lights, WC Lift & Mobile Radio (If Equipped) Are Ignition		NOTE		1
Wiring Harnesses Supported Every 24" Maximum		NOTE		1
No Butt Connectors Allowed		NOTE		1
If Driver Switch Panel is on Engine Cover, Then a Quick Disconnect is Required		NOTE		1
Fast Idle: 1500 RPM on Gas - Fast Idle to Engage if Voltage Drops Below 12.5		NOTE		1
Install Dome Light With Every Row of Seats, Including WC Position, Must		NOTE		1
Ground Engine to Chassis Frame, Body to Chassis Frame, Lift Pump Housing to		NOTE		1
Hip-To-Knee Spacing 27" Minimum		NOTE		1
Seat Track Not Extend More than 6" Past Seats		NOTE		1
Undercoat Metal Skirts		NOTE		1
Ground to First Step Height Shall Not Exceed 12.5" Unloaded		NOTE		1
304SS Required for Entry Grabs and Ceiling Grabs		NOTE		1
Ceiling Grab Rails Require Formed Elbows - No End Caps		NOTE		1
AC & Heater Hoses Supported Every 24" Minimum		NOTE		1
Build Front Driver Storage Compartment as Large as Possible, For Storage of		NOTE		1
Install Toolbox Next to Lift if Space Allows		NOTE		1
Convex Mirror Must Avoid Sun Visor and Overhead Door		NOTE		1
Headlight Aiming Certificate - Ship with Bus		NOTE		1
Water Test Certificate - Ship with Bus		NOTE		1
Driveline Metal Guards for Each Section of Shaft		NOTE		1
All Harnesses Secured to Frame at Maximum of 24"		NOTE		1
P-Clamps Added as Deemed Necessary by MBTA Inspector		NOTE		1
Batteries Must Be Same Type (No Mismatch) (1 In Tray - 1 Underhood)		NOTE		1
Continuous Run Battery Cables		NOTE		1
Slide Blocks To Hold Batteries In Place		NOTE		1
Floor Track Will Not Be Installed in Any Area not Covered by a Fixed Seat		NOTE		1
Operations Manual - Covering Conversion Features as Listed		NOTE		1
Parts Book, Operating Instructions, Troubleshooting Guide, Inspection &		NOTE		1
SPECIAL BUILD OPTIONS				1
Driver Entry Grab Steel Reinforced Plastic - Nutsert Install	ST	99		1
(3) GROUND WIRES TO BE ZERO OUGHT GAUGE, TO BE CONTINUOUS	ST	99		1
Interlock on Entry Door - Must Be in Park to Operate	ST	99		1
ENTRY DOOR HEADER ACCESS PANEL DOOR MUST BE HINGED WITH 2	ST	99		1
Battery Tray: SS Tray & Slides Per Standard Options Below. Must Extend at	ST	99		1
Install Battery Cable Wiring Diagram Inside Battery Access Door	ST	99		1
Decal: Battery Disconnect, Emergency Use Only	ST	99		1
Add 2nd Heater Line Brass 1/4 Turn Valve	ST	99		1
Decal: "Heater Shut Off Valve" - Install On Street Side Near Valves	ST	99		1
KEYED LOCK ILO THUMB LATCH FOR ELECTRICAL CENTER DOOR	ST	99		1
5/8", 7 Ply AC Marine Grade APA Plywood Floor	ST	99		1
Upgrade Driver Plexi Barrier: Extend to Within 6" of Ceiling	ST	99		1
14 Gauge Galvanized Steel Wheelwells	ST	99		1
Dual Handles on WC Lift Doors	ST	99		1
Flame Block on Bottom of Driver Seat Cushion (N/A on USSC & Recaro)	ST	99		1
Laminated Modesty Panel, Grey Melamine, Each	ST	99		2
Intermotive Break Out Box	ST	99		1
GENERIC PARTS MANUAL ON FLASH DRIVE	ST	99		1
USE #16 SUCTION HOSE IN A/C SYSTEM	ST	99		1
ELECTRICAL SYSTEM				
Intermotive Flex Tech Electrical System	05	STD		1
SIDEWALL / REARWALL / CEILING				



Sidewall: Grey FRP	05	STD		1
Rearwall: Grey Seaspray Fabric	05	STD		1
Driver Area: Grey Padded Vinyl	05	STD		1
FRP on Ceiling, Grey	05	2289		1
Cove Colored Flooring on Sidewall to Seat Track	05	2238		1
FLOORING - WHITE NOSING IS STANDARD				
Altro Meta Storm	05	2248		1
Yellow Step Nosing - Per Step	05	8820		3
CHASSIS				
Ford Transit Heavy Duty Anti-Slip Aluminum Running Board on Driver Side (Large)	05	2015-7		1
Exterior Mirror Set Remote/Heated w/External LED Strip Turn Signal Ford	05	2825		1
Romeo Rim Rear Bumper w/HawkEye RAS Installed	05	2670		1
Valve Stem Extender Inner Dual Rear Wheel, pair	05	8606		1
ENVIRONMENTAL CONTROL				
TRANS/AIR AIR CONDITIONING SYSTEMS				
				1
DUAL COMPRESSOR SYSTEMS CEILING MOUNT EVAPORATOR				
				1
TA712 SUPER 60K - TA71 EVAP - SMC2S COND - 10 C.I.D. COMP				
				1
TA712 SUPER 10	TRANSIT 3.5 LITRE EcoBoost GAS ENGINE	05	104311	1
HEATERS				
				1
Hot Water Heater, 35K BTU 3 Speed Low Profile	05	8044		1
MISCELLANEOUS				
				1
Silicone Heater Hose (for rear unit) w/full ring clamps	05	20090		1
ELECTRICAL				
Rotary Disconnect Switch	05	8790		1
Laminated Wiring Schematic ***AS BUILT*** ON ELECTRICAL PANEL DOOR	05	22101		1
Wiring Diagram "AS BUILT" ON USB Flash Drive		STD		1
EXTERIOR LIGHTS				
Surface Mount LED Entry Door Exterior Light - STD Choose Optional Below or Special builds	05	STD		1
LED Rear Center Mount Brake Light, Rectangular	05	20136		1
LED Mid-Ship Turn / Marker Lights	05	20138		1
Independent RED Brake & AMBER Turn Signal Lights	05	20139		1
INTERIOR LIGHTS				
				1
Additional Interior LED Dome Lamp - Each	05	8041		2
AUDIO / VISUAL				
				1
4 Speakers with Wire to Chassis OEM Radio (if supplied)	05	8822		1
DOORS / HATCH / WINDOWS				
Electric Entry Door is Standard. Add Option #2056 if Manual is Desired				
Passenger Door Electric (standard)	05	20163		1
Passenger Door 36" ROUGH OPENING (STANDARD)	05	2063		1
Exterior Passenger Entrance Door Key	05	8133		1
Solid Window(s) EACH Replace T-Slide(s) Enter Specific Instructions in Row Below	05	20187		1
STREET SIDE REAR		NOTE		1
INTERIOR				
				1
Driver Coat Hook	05	8769		1
LUGGAGE RACK / STORAGE				
				1
Driver Storage in Cab Overhead with Lock	05	20192		1
PARATRANSIT OPTIONS				
				1
Double W/C Doors w/ Windows, LED Interior Light, Leaf Spring, LED Exterior Lighting	05	20206		1
IS THE LIFT IN THE FRONT OR REAR OF THE UNIT?				1
BRAUN LIFTS				
				1
Braun Century NCL917-2 800# Lift (33"x51")	05	8744		1
LIFT FAST IDLE WITH 403 INTERLOCK				
				1
Intermotive Gateway 508-F Ford E or 517-F Transit Fast Idle with Lift Interlock	05	99		1
Q Straint W.C. Securement Kits, Accessories				
				1
Q10007 - 4 QRT 360 Retractable Tie Down L track & Q8-6326-A1 Comb-Lap/Shldr	05	8826		2
Q5-7580-4 18" Blue Webbing Loop (each)	05	20250		8
Q5-6327 84" Postural Belt with Padding - Black Webbing	05	20251		1
Q-Straint Belt Cutter (ship loose)	05	8179		1
Miscellaneous Accessories				
				1



Priority Seating Sign **Required for ADA Compliance**	05	8104		1
Tool Box Wheelchair Belt Storage	05	20257		1
SAFETY OPTIONS				
5 Lb Fire Extinguisher	05	8089		1
16 Unit First Aid Kit	05	8090		1
Body Fluid Kit	05	20264		1
Emergency Triangle Kit	05	8091		1
Back-Up Alarm SAE Type B 107 db(A) Ecco 575	05	2880		1
DO NOT INSTALL STANDARD BACK-UP CAMERA SYSTEM - INSTALL FORD OEM BACK-UP CAMERA SYSTEM INLUCED ON FORD TRANSIT CHASSIS		NOTE		1
Interior Convex Mirror 6"x9"	05	20276		1
Red Light Over Emergency Exit Ea: ON: SIDE & REAR EGRESS WINDOWS	05	8155		3
Yellow "Standee" Line	05	8802		1
GRAB RAIL / STANCHION / PANELS				
Ceiling Grab Rail - Install on Both Sides	05	99		1
Left Hand Entry Vertical Grab Rail - 1 1/4"		STD		1
1 1/4" Dual Entry Grab Rails Parallel to Entrance Steps (both sides)	05	8130		1
Stanchion and Modesty Panel at Entry Door		STD		1
SEATING - DRIVER				
1				
OEM DRIVER'S SEAT ORDERED ON CHASSIS		NOTE		1
FREEDMAN SHIELD DRIVER SEAT FABRICS				
1				
Re-Upholster OEM Driver or Co-Pilot (Each)* Fabric Level is Additional To This	06	2373		1
Driver Seat Cover - Level 4 Ice Pinstripe; Mor-Care; Leathermate	05	2043		1
SEATING - PASSENGER				
1				
STD RIGID SEATS				
1				
Mid High Double Seat	05	8067		3
Mid High Single Seat	05	8068		2
PASSENGER SEAT FABRICS				
1				
Seat Cover - Level 4 Ice Pinstripe; Mor-Care; Leathermate	05	2074		8
SEAT OPTIONS				
1				
Anti-Vandal Grab Handle, Black Ea on: ALL SEAT EXCEPT AGAINST REAR WALL	05	2311		8
Black US Armrest - Each - on:	05	2077		5
Flame Block Material on Underside of Seat (each)	05	2884		8
SEAT BELTS				
1				
Seat Belt, Freedman USR Retractable (Per Person)	05	2282		8
Seat Belt Extension, 12" (P/N 56410) FOR USR SEAT BELTS	05	8771		2

SUMMARY OF STANDARD WARRANTIES

(Provide complete warranty information and parchment with proposal)

Warranty	Miles	Years	Warranty Details
Body Structure	100,000	5	See attached Warranty Info
Chassis	36,000	3	See attached Warranty Info
Engine	60,000	5	See attached Warranty Info
Transmission	60,000	5	See attached Warranty Info
Air conditioner	Unlimited	2	See attached Warranty Info
Lift/Ramp	Unlimited	5	See attached Warranty Info
EV Battery	N/A	N/A	N/A
EV Conversion/Installation	N/A	N/A	N/A
CNG Warranty (Install and tanks)	N/A	N/A	N/A



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/25

Agenda Item No. 11

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Investment Report – Quarter Ending December 31, 2024

INFORMATIONAL ONLY

Budget Impact

None.

DISCUSSION:

Attachment A comprises a report of the San Diego Metropolitan Transit System (MTS) investments as of December 31, 2024. The combined total of all investments has increased quarter to quarter from \$459.8M to \$460.4M. This \$600K increase is primarily attributable to \$34.4M in Coronavirus Aid, Relief, and Economic Security Act (CARES) revenue, partially offset by \$23.6 million in capital expenditures, as well as normal timing differences between other payments and receipts for both capital and operations.

The first column provides details about investments restricted for Capital Improvement Projects (CIP), SB125 funded operations and PRONTO Stored Value.

The second column, unrestricted investments, reports the working capital for MTS operations allowing payments for employee payroll and vendors' goods and services.

MTS remains in compliance with Board Policy 30 and is able to meet expenditure requirements for a minimum of the next six months as required.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, Mark.Olson@sdmts.com

Attachment: A. Investment Report for the Quarter Ending December 31, 2024

1255 Imperial Avenue, Suite 1000, San Diego, CA 92101-7490 • (619) 231-1466 • sdmts.com

San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.



**San Diego Metropolitan Transit System
Investment Report
December 31, 2024**

Institution / Issuer	Function	Investment Type	Restricted	Unrestricted	Total	Avg. Rate of Return	Benchmark
J.P. Morgan Chase	Operating Funds	Depository Bank	1,217,580	35,476,828	36,694,408	2.13%	* 0.400% WSJ Money Market
U.S. Bank - Retention Trust Account	Restricted for Capital Support	Depository Bank	1,894,956	-	1,894,956	N/A	** -
Local Agency Investment Fund (LAIF)	Restricted (Stored Value)	Investment Pool	9,644,447	-	9,644,447	4.434%	4.864% S&P US T-Bill 0-3 Mth Index
San Diego County Treasurer's Office	State Grant Funds	Investment Pool	162,858,168	10,239,597	173,097,765	3.830%	4.864% S&P US T-Bill 0-3 Mth Index
Subtotal: Restricted for Capital Support / Stored Value			174,397,571	10,239,597	184,637,168		
Local Agency Investment Fund (LAIF)	Investment of Surplus Funds	Investment Pool	-	73,936,992	73,936,992	4.434%	4.864% S&P US T-Bill 0-3 Mth Index
San Diego County Treasurer's Office	Investment of Surplus Funds	Investment Pool	-	165,128,210	165,128,210	3.830%	4.864% S&P US T-Bill 0-3 Mth Index
Subtotal: Investment Surplus Funds			-	239,065,202	239,065,202		
Grand Total Cash and Investments			\$ 175,615,151	\$ 284,781,627	\$ 460,396,778		

*-The 2.13% is an annual percentage yield on the average daily balance that exceeds \$3.5 million

** - Per trust agreements, interest earned on retention accounts are allocated to trust beneficiaries (contractors)



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 12

**MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS**

March 13, 2025

SUBJECT:

12th and Imperial Transit Center Rehabilitation Design Amendment 1 – Work Order Amendment

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute Work Order WOA353-AE-08.01 under MTS Doc No. PWL353.0-22 (in substantially the same format as Attachment A), with Dokken Engineering (Dokken), in the amount of \$435,963.92, to provide 30% engineering design services for the 12th and Imperial Transit Center Rehabilitation Design (Amendment 1 to Work Order).

Budget Impact

The total cost of this amendment is estimated to be \$435,963.92, and the total cost of the work order is \$906,809.26 (inclusive of this amendment). The project will be funded by the Capital Improvement Project (CIP) account 3006119801 – 12th and Imperial Transit Center Project.

DISCUSSION:

The 12th and Imperial Transit Center Project will expand the bus transit center at 1255 Imperial Avenue, San Diego into the adjacent “triangle lots” and the street right of way at 13th Street and National Avenue. The project will increase the number of bus bays at MTS’s busiest transit center, incorporate multi-modal hub components, and improve passenger amenities. After construction of the Project, the remainder parcels will be available for a Transit Oriented Development (TOD) project.

On July 18, 2024 (Agenda Items (AI)’s 11 and 25) the MTS Board of Directors approved a design work order to Dokken, WOA353-AE-08, to begin the preliminary design work for the transit center project and authorized the CEO to proceed with negotiations with the San Diego Foundation (SDF) and their lead developer, Cypress Equity Investments (CEI). The design team’s scope of work included defining the geometry and footprint of the transit center, coordination with the development teams of SDF and CEI, defining parcel boundaries for the proposed TOD, creating existing conditions and utility mapping, conduct geotechnical explorations, conduct an existing drainage assessment, and develop and outline for the traffic scoping agreement memo with the City of San Diego.

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San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.



In January 2025, after consultation with the development team partners, MTS and Dokken finalized the footprint for the transit center rehabilitation project and the parcel boundaries for the proposed remainder parcel. Finalization of the project footprint allows MTS to proceed to the next phase of design for the transit center project.

Work Order and amendments are summarized below:

Work Order No.	Purpose	Amount	Approval Date
WOA353-AE-08	Original Work Order – Preliminary Design	\$470,845.34	Board approval on July 18, 2024, AI 11
WOA353-AE-08.01	30% Design	\$435,963.92	Today's proposed action
	Total	\$906,809.26	

Today's proposed action would issue an amendment to the work order agreement to allow Dokken to progress the design to 30% and prepare documents for a preliminary submittal to the City of San Diego. Furthermore, this amendment reallocates \$95,232.98 in unspent funds from Tasks 1 and 2 of the original Work Order to Task 4 through 7 in the amendment.

Dokken's proposal is less than MTS' Independent Cost Estimate (ICE) of \$542,996.50 and was determined to be fair and reasonable.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO execute Work Order WOA353-AE-08.01 under MTS Doc No. PWL353.0-22 (in substantially the same format as Attachment A), with Dokken, in the amount of \$435,963.92. to provide 30% engineering design services for the 12th and Imperial Transit Center Rehabilitation Design Amendment 1.

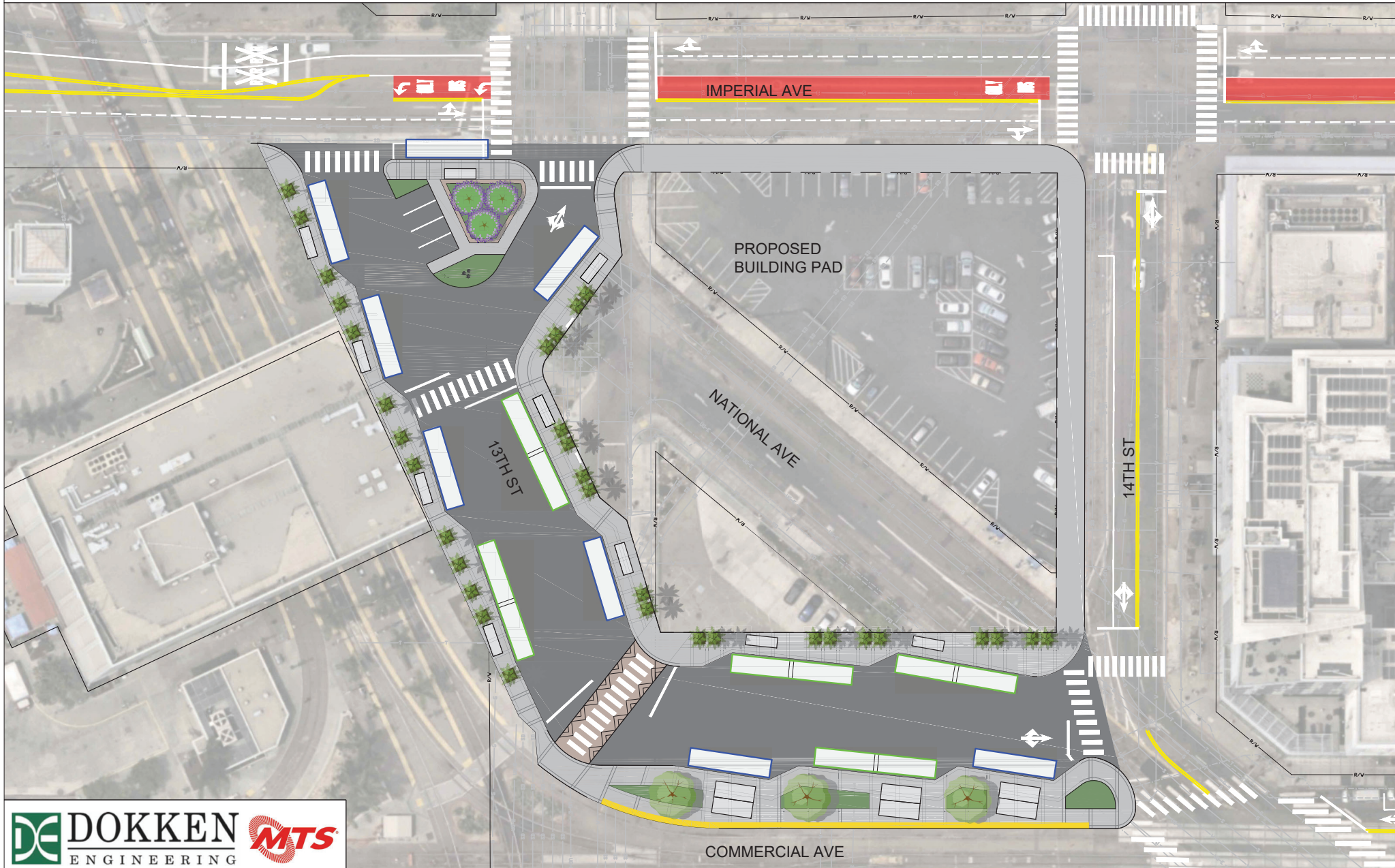
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. Draft Work Order Amendment MTS Doc No. WOA353-AE-08.01
B. Expanded 12th & Imperial Transit Center Footprint (as of 2/6/25)

12TH AND IMPERIAL TRANSIT CENTER

02/6/2025





**Metropolitan
Transit
System**

March 13, 2025

MTS Doc. No. PWL353.0-22
WOA353-AE-08.01

Mr. John Klemunes, PE
Regional Manager
Dokken Engineering
1450 Frazee Road, Suite 100
San Diego, CA 92108

Dear Mr. Klemunes:

Subject: AMENDMENT NO. 1 TO WORK ORDER WOA353-AE-08, TO MTS DOC. NO. PWL353.0-22, ENGINEERING SERVICES FOR 12TH AND IMPERIAL TRANSIT CENTER REHABILITATION

This letter shall serve as Amendment No. 1 to Work Order WOA353-AE-08, under the General Engineering Consultant Agreement, MTS Doc. No. PWL353.0-22, as further described below.

SCOPE OF SERVICES

This Amendment shall add thirty percent design services to the Scope of Services for the 12th and Imperial Transit Center Rehabilitation project (Attachment A). Furthermore, this Amendment reallocates \$95,232.98 in unspent funds from Tasks 1 and 2 of the original Work Order to Task 4 through 7.

SCHEDULE

As a result of this Amendment, the Schedule shall be extended for ninety (90) days from the date of the Amendment execution.

PAYMENT

As a result of this Amendment, payment shall be increased by \$435,963.92 (Attachment B). The revised payment amount shall be \$906,809.26. Payment shall be based on actual costs, and shall not be exceeded without prior authorization of MTS.



Please sign below, and return the document to the Contracts Specialist at MTS. All other terms and conditions shall remain the same and in effect.

Sincerely,

Accepted:

Sharon Cooney
Chief Executive Officer

John Klemunes, PE
Regional Manager, Dokken Engineering

Date: _____

Attachments: Attachment A, Scope of Services
Attachment B, Negotiated Fee Proposal

ATTACHMENT A
SCOPE OF SERVICES

TITLE: 12th and Imperial Transit Center Rehabilitation **WOA #:** WOA353-AE-08.01

I. PROJECT DESCRIPTION

This scope of work for this Amendment describes the next phase of design and includes development of a Preliminary Review set of plans to submit to the City of San Diego, equal to approximately 30% design. The Consultant shall incorporate comments from the City review into the final 30% package submittal to MTS.

Based on various meeting with MTS, and the developer team, it is assumed that the approved concept to advance incorporates the phase 1 and phase 2 housing developments on one developable pad, located in the northwest corner of the site.

II. SCOPE OF WORK

The scope of work for this Amendment shall consist of the following tasks and deliverables:

Task 1 Project Management

1.1 Project Management

- 1) Staffing
 - a) Consult regularly with MTS management to monitor the consultant team's performance and make adjustments as needed; and
 - b) Make staff assignments to meet the needs of the project; and,
 - c) Provide, coordinate, and oversee consultant staff assignments;
- 2) Design Cost Management
 - a) Monthly Invoicing - Provide monthly invoicing and a progress report to document the deliverables and level of effort of services reflected in the invoice;
 - b) Monitor rate of expenditures to ensure work completion within agreed cost
 - c) identify any new or out of scope requests immediately work with MTS project manager to determine appropriate level of effort and path to incorporate, if approved
- 3) Concept Design Schedule
 - a) develop a detailed progress schedule, for MTS concurrence, and manage the design progress in accordance with the schedule
 - b) monitor rate of design progress to ensure work completion per the agreed upon schedule
 - c) identify schedule changes as issues are identified and work with MTS project manager to determine best path forward
 - d) Update schedule as needed

1.2 Stakeholder Coordination

1. MTS Stakeholders: Facilitate and lead bi-weekly meetings with design team and MTS staff from Design NTP through completion of this scope of work, including preparation of agenda and meeting minutes.
2. Site Development Team: Participate in weekly meetings with TOD development team and their designers to ensure the transit rehabilitation project and the TOD project can work together and neither project will adversely affect the other. Review developer prepared meeting minutes to ensure proper documentation of decisions affecting both projects.

Task 4 Additional Studies/Reports

4.1 Plat/Legal Support for Street Vacations

Consultant will prepare new plats and legals to address City of San Diego comments on the 3-street vacation plat/legals, submitted to the City by MTS. Multiple rounds of comment are assumed to be required to obtain City approval.

4.2 Traffic Counts/Analysis

Consultant shall review vendor-provided traffic counts and conduct the following activities to support project traffic analyses:

1. Count Validation and Adjustments: Due to known tampering of equipment during the data collection process, provide quality review of vendor-provided traffic counts to ensure the validity of data for all analysis periods specified in the Traffic Scoping Agreement Memo (Task 2.4).
2. Traffic Signal Warrant Analysis at 14th/Imperial: Complete a traffic signal warrant analysis memo based on Warrants 1, 2, 3, 4 and 8 from the California Manual on Uniform Traffic Control Devices Rev 8 for the intersection of 14th Street and Imperial Avenue.
3. Preliminary CPUC Engagement: Lead up to two preliminary virtual meetings with the California Public Utilities Commission (CPUC) to discuss design constraints and potential approval pathways for rail crossings at Imperial Avenue and 14th Street/National Avenue.

Task 4.2 Deliverables:

1. Draft memo assessing the validity of vendor-provided traffic counts and any recommendations for corrections, including up to two rounds of revision
2. Draft memo summarizing traffic signal warrant analysis for the intersection of 14th Street/Imperial Avenue, including up to two rounds of revision
3. Up to two meetings with CPUC on approval of rail crossings at Imperial Avenue and 14th Street/National Avenue

4.3 Hydraulic Analysis and Studies

Using the existing drainage assessment as the baseline, consultant will develop the following:

1. Hydraulic modeling of storm events
2. Identification of options to mitigate or reduce impacts of storm events
3. Provide recommendations to be shown on the 30% plans and ultimately incorporated into the final design for the project

Task 4.3 Deliverables:

1. Drainage Report
2. Preliminary Post Construction Stormwater Management Plan

4.4 Traffic Scoping Agreement Memo

The transit center rehabilitation project involves combing two MTS owned parcels into one, rerouting National Avenue, modifying two signalized intersections (National and Imperial & 14th, Commercial, National), and converting 14th Street to bi-directional traffic. Due to the large number of changes to the streets and intersections surrounding the project site, extensive coordination with the City of San Diego will be required to obtain permits to proceed with this type of realignment.

Using the outline from the initial scope, the consultant will develop the traffic scoping agreement memo. The traffic scoping agreement memo shall be developed to define the following:

1. Transportation modes to be evaluated with the study
2. Project study area
3. Traffic Count Data (from task 2.2)
4. Study Periods
5. Study Scenarios (existing conditions, opening year, future years)
6. Vehicle Miles Travelled
7. Completed PIF per Appendix A of the City's TSM
8. Conceptual Layout (from task 4)

The traffic scoping agreement memo shall be submitted to the City and the design team shall meet with City Staff to review and confirm requirements for a future LMA report and VMT memo. The future traffic reports and VMT memo are intended to be included in the scope for final design and construction documents for this project.

Task 4.4 Deliverables:

- Traffic Scoping Agreement Memo

4.5 Bus Operations Conceptual Planning

Consultant shall support MTS in evaluating potential bus operations to inform the conceptual design process and the identification of long-term programmatic needs for the transit center. This includes evaluation of two expected operational scenarios for planned bus service: a near-term scenario (opening day) and a long-term scenario (full implementation of SANDAG Regional Plan) across the following elements:

1. Bus Bay Needs: Evaluate bus bay needs considering all planned service in the near-term and long-term scenarios, including total number of bays, bay size, and assignment in the transit center for optimal circulation.
2. Bus Circulation: Develop bus circulation routes in, out, and within the transit center considering all planned service in the near-term and long-term scenarios, including integration with off-site traffic operations concepts being developed in Tasks 4.2 and 4.1.

Task 2.5 Deliverables:

1. Up to 2 meetings with MTS bus operations staff to understand the needs and technical considerations for bus bays and bus circulation.
2. Brief technical memo, tables and/or simple diagrams summarizing proposed bus bay needs, sizes, and assignments in the near- and long-term scenarios

3. Brief technical memo, tables and/or simple diagrams summarizing proposed bus circulation in, out, and within the transit center in the near- and long-term scenarios

4.6 Active Transportation Conceptual Planning

Consultant shall support the conceptual design process for on-site and off-site active transportation needs to include pedestrian, bicycle, and personal electric mobility. This includes evaluation of two expected operational scenarios: a near-term scenario (opening day) and a long-term scenario (full implementation of SANDAG Regional Plan) across the following elements:

1. On-Site Pedestrian Circulation: Support the development and review of optimal pedestrian circulation routes within the transit center, including consideration of bus bay assignments identified in Task 2.5, crossings of driveways and other vehicular conflict points, and connections to off-site active transportation facilities.
2. Off-Site Active Transportation: Provide recommendations for the seamless integration of on-site and off-site active transportation facilities. This includes review and coordination with MTS, City of San Diego, and/or SANDAG staff to understand the latest plans and projects that may affect connectivity.

Task 2.6 Deliverables:

1. Up to 2 meetings with MTS, City of San Diego, and/or SANDAG staff to understand the latest active transportation plans and projects that may affect connectivity to the transit center
2. Brief technical memo, tables and/or simple diagrams summarizing proposed on-site pedestrian circulation routes in the near- and long-term scenarios

Task 5 Preliminary Review Package

5.1 Preliminary Review Package

The City of San Diego has established a preliminary review process to obtain City input on questions which may affect the feasibility of the project. As this project includes changes to traffic flow on adjacent city streets, modifications to the traffic signaling system, and vacation of an existing city street, it is anticipated the project will require a multi-discipline preliminary review following City Information Bulletin 513.

Documents anticipated to be completed and submitted include:

1. Completed Preliminary Review Questionnaire (Form DS-375), including identifying the requested review disciplines, such as DSD Downtown, DSD Drainage and Grades, DSD Engineering, DSD Map Check (if not already completed as part of the street vacation process), DSD Landscape, DSD Planning, DSD Transportation Development, City Fire

To ensure this review package provides sufficient detail for an effective collaboration with the City of San Diego, the content provided shall be at a draft 30 percent level of completion. Only 10 questions are permitted as part of the process. Consultant will rank specific questions and discuss with MTS to prioritize City input.

City fees associated with the review process shall be paid by the design team and reimbursed by MTS.

This task assumes one meeting with the City project manager (on a multi-discipline submittal) to discuss/clarify the results of the preliminary review.

Task 6 Transit Center Geometry and Basis of Design (30%)

The Scope of work for this task includes advancing the transit center transit center geometry to a 30% design level for City of San Diego Review Package submittal. Following the submittal to City of San Diego, the design team will meet with MTS and incorporate input from the City's preliminary review process in the final 30% Submittal to MTS.

6.1 30% Design/Plans

Consultant shall prepare designs/plans to roughly a 30% level to support the City of San Digo Submittal. Anticipated disciplines and sheets include:

- 1) Existing Conditions/Demolition
- 2) Civil Improvements/Geometry/Paving
 - a) Bus platform
 - b) Trolley platform
- 3) Fire Access Plan
- 4) Preliminary Grading and Drainage
- 5) Hardscape/Wayfinding/Amenities
- 6) Landscape
- 7) Lighting/Security/Communications
- 8) OH Bus Charging – preliminary equipment layout/locations
- 9) Off-Site Improvements
 - a) Signal modifications
 - b) Street Improvements
- 10) Misc. Details (as needed).

6.2 Basis of Design

As part of the 30% design submittal, a basis of design document will be prepared to document MTS requirements of the transit center, decisions made during the City process, and document design standards used.

Task 6 Deliverables:

- 1) 30% Plans
- 2) Basis of Design Document

Task 7 Engineers Opinion of Probable Cost

Consultant shall prepare an engineer's opinion of probable cost based on the 30% Design developed in task 4. One estimate is anticipated.

7.1 30% Opinion of Probable Construction Cost

Consultant shall prepare civil, traffic and drainage quantities for a preliminary opinion of probable construction cost based on the conceptual scope of work described in Task 4.

Task 5.1 Deliverables:

- 1) 30% Level Estimate

III. DELIVERABLES

All deliverables will be provided in electronic PDF format. Some hard copy meeting materials may be required; however, the majority of the work product is expected to be in electronic format transmitted digitally.

IV. SCHEDULE OF SERVICES/MILESTONES/DELIVERABLES

<u>Task</u>	<u>Begin/End Dates</u>
1. Project Management	Amendment execution – Completion
2. Additional Studies/Reports	Amendment execution + 90 days
3. COSD Preliminary Review	Amendment execution + 30 days
4. 30% Plans/BOD	Amendment execution + 90 days
5. 30% Engineers Estimate	Amendment execution + 90 days

B. Milestones/Deliverables Schedule

<u>Milestone/Deliverable</u>	<u>Due Date</u>
Weekly coordination meetings with TOD	Ongoing through completion
Submit to COSD	Amendment execution + 30 days
30% Plans and Estimates	Amendment execution + 90 days

ATTACHMENT B
NEGOTIATED FEE PROPOSAL

Work Order Estimate Summary

Total Hours =	936
Total Costs =	\$195,536.01

Consultant/Subconsultant: **Dokken Engineering**

Work Order Title: **12th and Imperial Transit Center Rehabilitation**

Attachment: B

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Contract Manager	Project Manager	Task Manager	Engineer - Principal	Engineer - Senior	Engineer - 3	Engineer - 2	Engineer - 1	Total Hours	Totals
				\$ 325.90	\$ 315.31	\$ 231.06	\$ 439.95	\$ 220.66	\$ 185.07	\$ 163.60	\$ 121.06		
1	Task 1	Project Management											
1.1	Project Management												
1.1.1	Staffing (weekly team meetings)			2		8						10	\$2,500.28
1.1.2	Staff Assignments/resource allocation			4		16						20	\$5,000.56
1.1.3	Design Cost Management (Monthly invoices, monitor spending, scope compliance)			4		16						20	\$5,000.56
1.1.4	Schedule					8						8	\$1,848.48
1.2	Stakeholder coordination												
1.2.1	Meeting with MTS bi-weekly			2	8	8			8			26	\$6,503.32
1.2.2	Meeting with TOD development team (weekly)				8	8			4			20	\$5,111.24
Total ODCs for Task 1													
Subtotals (Hours) =			N/A	12	16	64			12			104	\$25,964.44
Subtotals (Costs) =				\$3,910.80	\$5,044.96	\$14,787.84			\$2,220.84			104	\$25,964.44
2	Task 2	Concept Refinement and Optimization											
2.1	Project Kick-Off Meeting												
2.2	Concept Alternative Layouts (2 layout alternatives)												
2.3	Workshop with MTS (in-person)												
2.4	Development of 30% level plan & Conceptual Estimate based on MTS comments												
Total ODCs for Task 2													
Subtotals (Hours) =			N/A										
Subtotals (Costs) =													
3	Task 3	Initiate Preliminary Design											
3.1	Survey (basemap creation, field & aerial topography, utility mapping)												
3.2	Geotechnical Evaluation												
3.3	Hydraulic Analysis and Studies												
3.3.1	Existing Drainage Assessment												
3.3.2	Preliminary Stormwater recommendations (peak flow and stormwater BMP requirements per COSD requirements)												
3.4	Traffic Scoping Agreement Memo												
3.4.1	Traffic Scoping Agreement Memo OUTLINE												
3.5	Preliminary Review Package												
3.5.1	Preliminary Review Package OUTLINE												
Total ODCs for Task 3													
Subtotals (Hours) =			N/A										
Subtotals (Costs) =													
4	Task 4	Additional Studies/Reports											
4.1	Plat/Legal Support for Street Vacations			1		4				8		13	\$2,558.94
4.2	Traffic Counts/Analysis					2				4		6	\$1,116.52
4.3	Hydraulic Analysis and Studies			2		8		50		100	124	284	\$44,904.72
4.4	Traffic Scoping Agreement Memo					8						8	\$1,848.48
4.5	Bus Operations Conceptual Planning					4		2		12		18	\$3,328.76
4.6	Active Transportation Conceptual Planning					4		2		12		18	\$3,328.76
Total ODCs for Task 4													
Subtotals (Hours) =			N/A	3	30	54		136	124			347	\$57,086.18
Subtotals (Costs) =				\$977.70	\$6,931.80	\$11,915.64		\$22,249.60	\$15,011.44			347	\$57,086.18
5	Task 5	Preliminary Review Package											
5.1	COSD Preliminary Review Package			4	18	20	10	4.5	16	22		95	\$19,920.72
Total ODCs for Task 5													
Subtotals (Hours) =			N/A	4	18	20	10	4.5	16	22		95	\$38,635.85
Subtotals (Costs) =				\$18,715.13	\$1,303.60	\$5,675.58	\$4,621.20	\$2,206.60	\$832.82	\$2,617.60	\$2,663.32	95	\$38,635.85
6	Task 6	Transit Center Geometry and Basis of Design (30%)											
6.1	30% Design/Plans			4	40	24		12	40	40	120	280	\$50,583.36
6.2	Basis of Design			2	20	8		4	30			64	\$15,241.22
Total ODCs for Task 6													
Subtotals (Hours) =			N/A	6	60	32	16	70	40	120		344	\$65,824.58
Subtotals (Costs) =				\$1,955.40	\$18,918.60	\$7,393.92	\$3,530.56	\$12,954.90	\$6,544.00	\$14,527.20		344	\$65,824.58
7	Task 7	Estimate											
7.1	30% Estimates			2		8	4	12			20	46	\$8,024.96
Total ODCs for Task 7													
Subtotals (Hours) =			N/A	2	8	4	12			20		46	\$8,024.96
Subtotals (Costs) =				\$651.80	\$1,848.48	\$882.64	\$2,220.84			\$2,421.20		46	\$8,024.96
Totals (Summary) =												936	\$195,536.01
Total (Hours) =			N/A	27	94	154	84	99	192	286		936	\$195,536.01
Total (Costs) =				\$18,715.13	\$8,799.30	\$29,639.14	\$35,583.24	\$18,535.44	\$18,229.40	\$31,411.20	\$34,623.16		
Percentage of Total (Hours) =			N/A	3%	10%	16%	9%	11%	21%	31%			
Percentage of Total (Costs) =				10%	5%	15%	18%	9%	9%	16%	18%		

Work Order Estimate Summary

Att.A, Item 12, 03/13/25

Consultant/ Subconsultant: Dokken Engineering

Work Order Title: 12th and Imperial Transit Center Rehabilitation

Attachment: B

ODC Item	Description	Unit	Unit Cost	TASKS/WBS (1-5)														Totals	
				Task 1		Task 2		Task 3		Task 4		Task 5		Task 6		Task 7		Quantity	Total
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total		
1	City of SD Multiple Discipline Review Fee		\$6,770.25									1	\$6,770.25					1	\$6,770.25
2	Planning Department Hourly Fee		\$138.11									8	\$1,104.88					8	\$1,104.88
3	Preliminary Review Meeting		\$140.00									6	\$840.00					6	\$840.00
4	Additional City Fees		\$10,000.00									1	\$10,000.00					1	\$10,000.00
5																			
6																			
7																			
8																			
9																			
10																			
11																			
				Subtotal =	 	Subtotal =	 	Subtotal =	 	Subtotal =	 	Subtotal =	\$18,715.13	Subtotal =	 	Subtotal =	 	Totals =	\$18,715.13

Work Order Estimate Summary

Consultant/Subconsultant: Aguirre & Associates

Total Hours = 98

Total Costs = \$13,865.36

Work Order Title: 12th and Imperial Transit Center Rehabilitation

Attachment: B

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Surveyor - Senior	Surveyor - 3	Party Chief	Chainman	Total Hours	Totals
				\$ 177.48	\$ 122.36	\$ 247.22	\$ 242.98		
1	Task 1	Project Management							
1.1	Project Management								
1.1.1	Staffing (weekly team meetings)								
1.1.2	Staff Assignments/resource allocation								
1.1.3	Design Cost Management (Monthly invoices, monitor spending, scope compliance)								
1.1.4	Schedule								
1.2	Stakeholder coordination								
1.2.1	Meeting with MTS bi-weekly								
1.2.2	Meeting with TOD development team (weekly)								
	Total ODCs for Task 1								
		Subtotals (Hours) =	N/A						
		Subtotals (Costs) =							
2	Task 2	Concept Refinement and Optimization							
2.1	Project Kick-Off Meeting								
2.2	Concept Alternative Layouts (2 layout alternatives)								
2.3	Workshop with MTS (in-person)								
2.4	Development of 30% level plan & Conceptual Estimate based on MTS comments								
	Total ODCs for Task 2								
		Subtotals (Hours) =	N/A						
		Subtotals (Costs) =							
3	Task 3	Initiate Preliminary Design							
3.1	Survey (basemap creation, field & aerial topography, utility mapping)								
3.2	Geotechnical Evaluation								
3.3	Hydraulic Analysis and Studies								
3.3.1	Existing Drainage Assessment								
3.3.2	Preliminary Stormwater recommendations (peak flow and stormwater BMP requirements per COSD requirements)								
3.4	Traffic Scoping Agreement Memo								
3.4.1	Traffic Scoping Agreement Memo OUTLINE								
3.5	Preliminary Review Package								
3.5.1	Preliminary Review Package OUTLINE								
	Total ODCs for Task 3								
		Subtotals (Hours) =	N/A						
		Subtotals (Costs) =							
4	Task 4	Additional Studies/Reports							
4.1	Plat/Legal Support for Street Vacations		34	64				98	\$13,865.36
4.2	Traffic Counts/Analysis								
4.3	Hydraulic Analysis and Studies								
4.4	Traffic Scoping Agreement Memo								
4.5	Bus Operations Conceptual Planning								
4.6	Active Transportation Conceptual Planning								
	Total ODCs for Task 4								
		Subtotals (Hours) =	N/A	34	64			98	\$13,865.36
		Subtotals (Costs) =	\$6,034.32	\$7,831.04				98	\$13,865.36
5	Task 5	Preliminary Review Package							
5.1	COSD Preliminary Review Package								
	Total ODCs for Task 5								
		Subtotals (Hours) =	N/A						
		Subtotals (Costs) =							
6	Task 6	Transit Center Geometry and Basis of Design (30%)							
6.1	30% Design/Plans								
6.2	Basis of Design								
	Total ODCs for Task 6								
		Subtotals (Hours) =	N/A						
		Subtotals (Costs) =							
7	Task 7	Estimate							
7.1	30% Estimates								
	Total ODCs for Task 7								
		Subtotals (Hours) =	N/A						
		Subtotals (Costs) =							
Totals (Summary) =								98	\$13,865.36
		Total (Hours) =	N/A	34	64			98	\$13,865.36

Work Order Estimate Summary

Total Hours =	98	Consultant/Subconsultant:	Aguirre & Associates	
Total Costs =	\$13,865.36	Work Order Title:	12th and Imperial Transit Center Rehabilitation	Attachment: B

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Surveyor - Senior	Surveyor - 3	Party Chief	Chainman			Total Hours	Totals
				\$ 177.48	\$ 122.36	\$ 247.22	\$ 242.98				

Total (Costs) = \$6,034.32 \$7,831.04

Percentage of Total (Hours) = N/A 35% 65%

Percentage of Total (Costs) = 44% 56%

Work Order Estimate Summary

Att.A, Item 12, 03/13/25

Consultant/ Subconsultant:

Work Order Title:

Attachment: **B**

ODC Item	Description	Unit	Unit Cost	TASKS/WBS (1-5)														Totals	
				Task 1		Task 2		Task 3		Task 4		Task 5		Task 6		Task 7		Quantity	Total
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total		
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
				Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Totals =	<input type="text"/>

Work Order Estimate Summary

Consultant/Subconsultant: **KTU&A** Attachment: **B**
 Total Hours = **232**
 Total Costs = **\$26,724.41**
 Work Order Title: **12th and Imperial Transit Center Rehabilitation**

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Designer - Senior	Designer - 3	Designer - 2	Designer - 1	Admin - 2	Total Hours	Totals
				\$ 203.33	\$ 148.58	\$ 101.11	\$ 85.59	\$ 60.12		
1	Task 1	Project Management								
1.1	Project Management									
1.1.1	Staffing (weekly team meetings)			1	1				2	\$351.91
1.1.2	Staff Assignments/resource allocation			1	1				2	\$351.91
1.1.3	Design Cost Management (Monthly invoices, monitor spending, scope compliance)				2				2	\$297.16
1.1.4	Schedule									
1.2	Stakeholder coordination									
1.2.1	Meeting with MTS bi-weekly				4				4	\$594.32
1.2.2	Meeting with TOD development team (weekly)									
	Total ODCs for Task 1									
	Subtotals (Hours) =	N/A		2	8				10	\$1,595.30
	Subtotals (Costs) =		\$406.66	\$1,188.64					10	\$1,595.30
2	Task 2	Concept Refinement and Optimization								
2.1	Project Kick-Off Meeting									
2.2	Concept Alternative Layouts (2 layout alternatives)									
2.3	Workshop with MTS (in-person)									
2.4	Development of 30% level plan & Conceptual Estimate based on MTS comments									
	Total ODCs for Task 2									
	Subtotals (Hours) =	N/A								
	Subtotals (Costs) =									
3	Task 3	Initiate Preliminary Design								
3.1	Survey (basemap creation, field & aerial topography, utility mapping)									
3.2	Geotechnical Evaluation									
3.3	Hydraulic Analysis and Studies									
3.3.1	Existing Drainage Assessment									
3.3.2	Preliminary Stormwater recommendations (peak flow and stormwater BMP requirements per COSD requirements)									
3.4	Traffic Scoping Agreement Memo									
3.4.1	Traffic Scoping Agreement Memo OUTLINE									
3.5	Preliminary Review Package									
3.5.1	Preliminary Review Package OUTLINE									
	Total ODCs for Task 3									
	Subtotals (Hours) =	N/A								
	Subtotals (Costs) =									
4	Task 4	Additional Studies/Reports								
4.1	Plat/Legal Support for Street Vacations									
4.2	Traffic Counts/Analysis									
4.3	Hydraulic Analysis and Studies									
4.4	Traffic Scoping Agreement Memo									
4.5	Bus Operations Conceptual Planning									
4.6	Active Transportation Conceptual Planning									
	Total ODCs for Task 4									
	Subtotals (Hours) =	N/A								
	Subtotals (Costs) =									
5	Task 5	Preliminary Review Package								
5.1	COSD Preliminary Review Package			4	18	31	9		62	\$7,392.48
	Total ODCs for Task 5									
	Subtotals (Hours) =	N/A		4	18	31	9		62	\$7,392.48
	Subtotals (Costs) =		\$813.32	\$2,674.44	\$3,134.41	\$770.31			62	\$7,392.48
6	Task 6	Transit Center Geometry and Basis of Design (30%)								
6.1	30% Design/Plans			5	28	73	36		142	\$15,639.16
6.2	Basis of Design									
	Total ODCs for Task 6									
	Subtotals (Hours) =	N/A		5	28	73	36		142	\$15,639.16
	Subtotals (Costs) =		\$1,016.65	\$4,160.24	\$7,381.03	\$3,081.24			142	\$15,639.16
7	Task 7	Estimate								
7.1	30% Estimates			1	5	8	4		18	\$2,097.47
	Total ODCs for Task 7									
	Subtotals (Hours) =	N/A		1	5	8	4		18	\$2,097.47
	Subtotals (Costs) =		\$203.33	\$742.90	\$808.88	\$342.36			18	\$2,097.47
									232	\$26,724.41
	Totals (Summary) =								232	\$26,724.41
	Total (Hours) =	N/A		12	59	112	49		232	\$26,724.41

Work Order Estimate Summary

Total Hours = <table border="1" style="display: inline-table; text-align: center;"><tr><td>232</td></tr></table> Total Costs = <table border="1" style="display: inline-table; text-align: center;"><tr><td>\$26,724.41</td></tr></table>	232	\$26,724.41	Consultant/Subconsultant: <table border="1" style="display: inline-table;"><tr><td>KTU&A</td></tr></table>	KTU&A	<table border="1" style="display: inline-table; width: 80px; height: 20px;"></table> <table border="1" style="display: inline-table; width: 80px; height: 20px;"></table>
232					
\$26,724.41					
KTU&A					
Work Order Title: <table border="1" style="display: inline-table;"><tr><td>12th and Imperial Transit Center Rehabilitation</td></tr></table>		12th and Imperial Transit Center Rehabilitation	Attachment: B		
12th and Imperial Transit Center Rehabilitation					

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Designer - Senior	Designer - 3	Designer - 2	Designer - 1	Admin - 2	Total Hours	Totals
			\$	203.33	\$ 148.58	\$ 101.11	\$ 85.59	\$ 60.12		
Total (Costs) =				\$2,439.96	\$8,766.22	\$11,324.32	\$4,193.91			
Percentage of Total (Hours) = N/A				5%	25%	48%	21%			
Percentage of Total (Costs) =				9%	33%	42%	16%			

Work Order Estimate Summary

Att.A, Item 12, 03/13/25

Consultant/ Subconsultant:

Work Order Title:

Attachment:

ODC Item	Description	Unit	Unit Cost	TASKS/WBS (1-5)														Totals	
				Task 1		Task 2		Task 3		Task 4		Task 5		Task 6		Task 7		Quantity	Total
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total		
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
				Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Totals =	<input type="text"/>

Work Order Estimate Summary

Consultant/Subconsultant: **Parametrix**

Total Hours = **562**
 Total Costs = **\$119,833.24**

Work Order Title: **12th and Imperial Transit Center Rehabilitation**

Attachment: **B**

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Contract Manager	Project Manager	Project Controls - 3	Planner - Senior	Planner - 2	Engineer - 3	Designer - Senior	Admin - 3	Total Hours	Totals	
				\$ 392.27	\$ 287.23	\$ 134.10	\$ 205.71	\$ 128.38	\$ 148.44	\$ 219.83	\$ 141.65			
1	Task 1	Project Management												
1.1	Project Management													
1.1.1	Staffing (weekly team meetings)													
1.1.2	Staff Assignments/resource allocation													
1.1.3	Design Cost Management (Monthly invoices, monitor spending, scope compliance)				2	2					2	6	\$1,125.98	
1.1.4	Schedule													
1.2	Stakeholder coordination													
1.2.1	Meeting with MTS bi-weekly				12		2					14	\$3,858.18	
1.2.2	Meeting with TOD development team (weekly)													
	Total ODCs for Task 1		\$402.00										\$402.00	
	Subtotals (Hours) =	N/A			14	2	2				2	20	\$5,386.14	
	Subtotals (Costs) =	\$402.00		\$4,021.22	\$268.20	\$411.42				\$283.30		20	\$5,386.14	
2	Task 2	Concept Refinement and Optimization												
2.1	Project Kick-Off Meeting													
2.2	Concept Alternative Layouts (2 layout alternatives)													
2.3	Workshop with MTS (in-person)													
2.4	Development of 30% level plan & Conceptual Estimate based on MTS comments													
	Total ODCs for Task 2													
	Subtotals (Hours) =	N/A												
	Subtotals (Costs) =													
3	Task 3	Initiate Preliminary Design												
3.1	Survey (basemap creation, field & aerial topography, utility mapping)													
3.2	Geotechnical Evaluation													
3.3	Hydraulic Analysis and Studies													
3.3.1	Existing Drainage Assessment													
3.3.2	Preliminary Stormwater recommendations (peak flow and stormwater BMP requirements per COSD requirements)													
3.4	Traffic Scoping Agreement Memo													
3.4.1	Traffic Scoping Agreement Memo OUTLINE													
3.5	Preliminary Review Package													
3.5.1	Preliminary Review Package OUTLINE													
	Total ODCs for Task 3													
	Subtotals (Hours) =	N/A												
	Subtotals (Costs) =													
4	Task 4	Additional Studies/Reports												
4.1	Plat/Legal Support for Street Vacations													
4.2	Traffic Counts/Analysis				20		38					58	\$13,561.58	
4.3	Hydraulic Analysis and Studies													
4.4	Traffic Scoping Agreement Memo				8							8	\$2,297.84	
4.5	Bus Operations Conceptual Planning				48		12	32				92	\$20,363.72	
4.6	Active Transportation Conceptual Planning				44			72		8		124	\$23,640.12	
	Total ODCs for Task 4													
	Subtotals (Hours) =	N/A			120		50	104		8		282	\$59,863.26	
	Subtotals (Costs) =			\$34,467.60	\$10,285.50	\$13,351.52		\$1,758.64				282	\$59,863.26	
5	Task 5	Preliminary Review Package												
5.1	COSD Preliminary Review Package				1		8					9	\$2,690.11	
	Total ODCs for Task 5													
	Subtotals (Hours) =	N/A			1		8					9	\$2,690.11	
	Subtotals (Costs) =			\$392.27	\$2,297.84							9	\$2,690.11	
6	Task 6	Transit Center Geometry and Basis of Design (30%)												
6.1	30% Design/Plans				2	50			88	72		212	\$44,036.52	
6.2	Basis of Design													
	Total ODCs for Task 6													
	Subtotals (Hours) =	N/A			2	50			88	72		212	\$44,036.52	
	Subtotals (Costs) =			\$784.54	\$14,361.50			\$13,062.72	\$15,827.76			212	\$44,036.52	
7	Task 7	Estimate												
7.1	30% Estimates				1	8			20	10		39	\$7,857.21	
	Total ODCs for Task 7													
	Subtotals (Hours) =	N/A			1	8			20	10		39	\$7,857.21	
	Subtotals (Costs) =			\$392.27	\$2,297.84			\$2,968.80	\$2,198.30			39	\$7,857.21	
	Totals (Summary) =											562	\$119,833.24	
	Total (Hours) =	N/A			4	200	2	52	104	108	90	2	562	\$119,833.24
	Total (Costs) =	\$402.00	\$1,569.08	\$57,446.00	\$268.20	\$10,696.92	\$13,351.52	\$16,031.52	\$19,784.70	\$283.30				
	Percentage of Total (Hours) =	N/A			1%	36%	0%	9%	19%	19%	16%	0%		
	Percentage of Total (Costs) =	0%	1%	48%	0%	9%	11%	13%	17%	0%				

Work Order Estimate Summary

Att.A, Item 12, 03/13/25

Consultant/ Subconsultant: Parametrix

Work Order Title: 12th and Imperial Transit Center Rehabilitation

Attachment: B

ODC Item	Description	Unit	Unit Cost	TASKS/WBS (1-5)														Totals	
				Task 1		Task 2		Task 3		Task 4		Task 5		Task 6		Task 7		Quantity	Total
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
1	Mileage	Miles	\$0.67	600	\$402.00													600	\$402.00
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
				Subtotal =	\$402.00	Subtotal =		Subtotal =		Subtotal =		Subtotal =		Subtotal =		Subtotal =		Totals =	\$402.00

Work Order Estimate Summary

Consultant/Subconsultant: VRPA Technologies, Inc.

Total Hours = 90
 Total Costs = \$15,358.60

Work Order Title: 12th and Imperial Transit Center Rehabilitation

Attachment: B

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Contract Manager	Project Manager	Project Controls - Senior	Planner - Senior	Planner 3	Engineer - 1	Technician - Senior	Total Hours	Totals
				\$ 216.78	\$ 221.51	\$ 146.05	\$ 214.69	\$ 144.89	\$ 109.04	\$ 88.68		
1	Task 1	Project Management										
	1.1	Project Management										
	1.1.1	Staffing (weekly team meetings)										
	1.1.2	Staff Assignments/resource allocation										
	1.1.3	Design Cost Management (Monthly invoices, monitor spending, scope compliance)										
	1.1.4	Schedule										
	1.2	Stakeholder coordination										
	1.2.1	Meeting with MTS bi-weekly										
	1.2.2	Meeting with TOD development team (weekly)										
		Total ODCs for Task 1										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
2	Task 2	Concept Refinement and Optimization										
	2.1	Project Kick-Off Meeting										
	2.2	Concept Alternative Layouts (2 layout alternatives)										
	2.3	Workshop with MTS (in-person)										
	2.4	Development of 30% level plan & Conceptual Estimate based on MTS comments										
		Total ODCs for Task 2										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
3	Task 3	Initiate Preliminary Design										
	3.1	Survey (basemap creation, field & aerial topography, utility mapping)										
	3.2	Geotechnical Evaluation										
	3.3	Hydraulic Analysis and Studies										
	3.3.1	Existing Drainage Assessment										
	3.3.2	Preliminary Stormwater recommendations (peak flow and stormwater BMP requirements per COSD requirements)										
	3.4	Traffic Scoping Agreement Memo										
	3.4.1	Traffic Scoping Agreement Memo OUTLINE										
	3.5	Preliminary Review Package										
	3.5.1	Preliminary Review Package OUTLINE										
		Total ODCs for Task 3										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
4	Task 4	Additional Studies/Reports										
	4.1	Plat/Legal Support for Street Vacations										
	4.2	Traffic Counts/Analysis										
	4.3	Hydraulic Analysis and Studies										
	4.4	Traffic Scoping Agreement Memo		2	40	8		24		16	90	\$15,358.60
	4.5	Bus Operations Conceptual Planning										
	4.6	Active Transportation Conceptual Planning										
		Total ODCs for Task 4										
		Subtotals (Hours) =	N/A	2	40	8		24		16	90	\$15,358.60
		Subtotals (Costs) =	\$433.56	\$8,860.40	\$1,168.40		\$3,477.36		\$1,418.88		90	\$15,358.60
5	Task 5	Preliminary Review Package										
	5.1	COSD Preliminary Review Package										
		Total ODCs for Task 5										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
6	Task 6	Transit Center Geometry and Basis of Design (30%)										
	6.1	30% Design/Plans										
	6.2	Basis of Design										
		Total ODCs for Task 6										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
7	Task 7	Estimate										
	7.1	30% Estimates										
		Total ODCs for Task 7										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
Totals (Summary) =												
		Total (Hours) = N/A		2	40	8		24		16	90	\$15,358.60

Work Order Estimate Summary

Consultant/Subconsultant: VRPA Technologies, Inc.

Total Hours = 90

Total Costs = \$15,358.60

Work Order Title: 12th and Imperial Transit Center Rehabilitation

Attachment: **B**

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Contract Manager	Project Manager	Project Controls - Senior	Planner - Senior	Planner 3	Engineer - 1	Technician - Senior	Total Hours	Totals
		Total (Costs) =		\$ 216.78	\$ 221.51	\$ 146.05	\$ 214.69	\$ 144.89	\$ 109.04	\$ 88.68		
				\$433.56	\$8,860.40	\$1,168.40		\$3,477.36		\$1,418.88		
		Percentage of Total (Hours) = N/A		2%	44%	9%		27%		18%		
		Percentage of Total (Costs) =		3%	58%	8%		23%		9%		

Work Order Estimate Summary

Att.A, Item 12, 03/13/25

Consultant/ Subconsultant: VRPA Technologies, Inc.

Work Order Title: 12th and Imperial Transit Center Rehabilitation

Attachment: B

ODC Item	TASKS/WBS (1-5)																		
	Description	Unit	Unit Cost	Task 1		Task 2		Task 3		Task 4		Task 5		Task 6		Task 7		Totals	
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
				Subtotal =		Subtotal =		Subtotal =		Subtotal =		Subtotal =		Subtotal =		Subtotal =		Totals =	

Work Order Estimate Summary

Total Hours =	606	WSP	
Total Costs =	\$159,879.28	12th and Imperial Transit Center Rehabilitation	Attachment: B

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Project Manager	Task Manager	Technical Expert	Engineer - Principal	Engineer - 3	Engineer - 2	Project Controls - 2	Total Hours	Totals
	1	Task 1	Project Management									
1.1	Project Management											
1.1.1	Staffing (weekly team meetings)			4							4	\$1,336.08
1.1.2	Staff Assignments/resource allocation											
1.1.3	Design Cost Management (Monthly invoices, monitor spending, scope compliance)			4						6	10	\$2,358.30
1.1.4	Schedule											
1.2	Stakeholder coordination											
1.2.1	Meeting with MTS bi-weekly			4			6				10	\$3,288.48
1.2.2	Meeting with TOD development team (weekly)											
		Total ODCs for Task 1										
		Subtotals (Hours) =	N/A	12			6			6	24	\$6,982.86
		Subtotals (Costs) =		\$4,008.24			\$1,952.40			\$1,022.22	24	\$6,982.86
	2	Task 2	Concept Refinement and Optimization									
2.1	Project Kick-Off Meeting											
2.2	Concept Alternative Layouts (2 layout alternatives)											
2.3	Workshop with MTS (in-person)											
2.4	Development of 30% level plan & Conceptual Estimate based on MTS comments											
		Total ODCs for Task 2										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
	3	Task 3	Initiate Preliminary Design									
3.1	Survey (basemap creation, field & aerial topography, utility mapping)											
3.2	Geotechnical Evaluation											
3.3	Hydraulic Analysis and Studies											
3.3.1	Existing Drainage Assessment											
3.3.2	Preliminary Stormwater recommendations (peak flow and stormwater BMP requirements per COSD requirements)											
3.4	Traffic Scoping Agreement Memo											
3.4.1	Traffic Scoping Agreement Memo OUTLINE											
3.5	Preliminary Review Package											
3.5.1	Preliminary Review Package OUTLINE											
		Total ODCs for Task 3										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
	4	Task 4	Additional Studies/Reports									
4.1	Plat/Legal Support for Street Vacations											
4.2	Traffic Counts/Analysis											
4.3	Hydraulic Analysis and Studies											
4.4	Traffic Scoping Agreement Memo											
4.5	Bus Operations Conceptual Planning											
4.6	Active Transportation Conceptual Planning											
		Total ODCs for Task 4										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
	5	Task 5	Preliminary Review Package									
5.1	COSD Preliminary Review Package											
		Total ODCs for Task 5										
		Subtotals (Hours) =	N/A									
		Subtotals (Costs) =										
	6	Task 6	Transit Center Geometry and Basis of Design (30%)									
6.1	30% Design/Plans			26			240	148	98		512	\$130,459.34
6.2	Basis of Design											
		Total ODCs for Task 6	\$2,167.00									\$2,167.00
		Subtotals (Hours) =	N/A	26			240	148	98		512	\$132,626.34
		Subtotals (Costs) =	\$2,167.00	\$8,684.52			\$78,096.00	\$27,862.68	\$16,016.14		512	\$132,626.34
	7	Task 7	Estimate									
7.1	30% Estimates			12	12	30	16				70	\$20,270.08
		Total ODCs for Task 7										
		Subtotals (Hours) =	N/A	12	12	30	16				70	\$20,270.08
		Subtotals (Costs) =		\$2,932.68	\$4,584.84	\$9,782.00	\$2,990.56				70	\$20,270.08
		Totals (Summary) =									606	\$159,879.28
		Total (Hours) = N/A		38	12	12	276	164	98	6	606	\$159,879.28
		Total (Costs) =	\$2,167.00	\$12,892.76	\$2,932.68	\$4,584.84	\$89,810.40	\$30,653.24	\$16,016.14	\$1,022.22		
		Percentage of Total (Hours) = N/A		6%	2%	2%	46%	27%	16%	1%		
		Percentage of Total (Costs) =	1%	8%	2%	3%	56%	19%	10%	1%		

**Work Order Estimate
Summary**

Att.A, Item 12, 03/13/25

Consultant/ Subconsultant: **WSP**

Contract No:

Task Order No:

Work Order Title: **12th and Imperial Transit Center Rehabilitation**

Attachment: **B**

ODC Item	Description	Unit	Unit Cost	TASKS/WBS (1-5)														Totals	
				Task 1		Task 2		Task 3		Task 4		Task 5		Task 6		Task 7		Quantity	Total
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total		
1	Airfare	Actual	\$700.00											1	\$700.00			1	\$700.00
2	Car Rental	Actual	\$75.00											2	\$150.00			2	\$150.00
3	Hotel	Actual	\$350.00											1	\$350.00			1	\$350.00
4	Meals & Incidentals	Actual	\$80.00											2	\$160.00			2	\$160.00
5	Parking	Actual	\$20.00											2	\$40.00			2	\$40.00
6	Printing/Reprographics	Actual	\$3.50											200	\$700.00			200	\$700.00
7	Milage	Miles	\$0.67											100	\$67.00			100	\$67.00
8																			
9																			
10																			
11																			
				Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	<input type="text"/>	Subtotal =	\$2,167.00	Subtotal =	<input type="text"/>	Totals =	\$2,167.00



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 13

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Fire Extinguisher Maintenance and As-Needed Repairs – Contract Award

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. PWG428.0-25 (in substantially the same format as Attachment A), to Fire Technology and Solutions, for the provision of fire extinguisher maintenance and as needed repair services for a period of five (5) years in the amount of \$156,485.24.

Budget Impact

The total contract cost is estimated to be \$156,485.24. The project will be funded by the Operating Budget accounts as follows:

Description	Operating Budget	Total Budget Amount
San Diego Trolley, Inc. (SDTI)	380016/536500	\$109,539.67
San Diego Transit Corporation (SDTC)	331014/536600	\$21,907.93
Bus Rapid Transit (BRT)	846012/571140	\$25,037.64
Total Amount		\$156,485.24

DISCUSSION:

MTS collectively has approximately 1,600 rechargeable fire extinguishers ranging from 5 to 20 lbs., distributed at various locations including Bus Maintenance facilities, administrative and operating facilities, substations, and various stations within the service area. The fire extinguishers require testing, maintenance, and as-needed replacement.

This contract will provide full provision of labor, equipment, materials and supplies for a comprehensive multi-period fire extinguisher maintenance and repair program, including monthly and annual testing, hydrostatic testing, and as-needed recharging, replacement and repair services.

The resulting effects of fire extinguisher maintenance and repair activities will be to

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San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.



ensure all equipment functions properly and is maintained in accordance with California State Fire Marshal (CSFM) and the National Fire Protection Association (NFPA) regulations. The existing contract for these services is due to expire on March 30, 2025.

On January 6, 2025, MTS issued an Invitation for Bids (IFB) for Fire Extinguisher Maintenance and As-Needed Repairs. MTS staff advertised on the San Diego Daily Transcript and posted the IFB on PlanetBids.

A total of four (4) bids were received by February 7th, 2025, from the following firms:

Company Name	Certification	Bid Amount
Fire Technology & Solutions	N/A	\$156,485.24
Desert Fire Extinguisher	Small Business (SB)	\$172,505.10
First Response Fire Protection Services	Disabled Veteran Business Enterprise (DVBE), Persons with Disabilities Business Enterprise (PDBE)	\$239,589.00
REEP Fire Protection	N/A	\$347,669.94

Based on the bids received, FireTechnology Solutions was deemed the lowest responsive and responsible bidder. In comparison to the bids received and with MTS's Independent Cost Estimate (ICE) at \$226,274.18, MTS staff determined Fire Technology & Solutions bid price to be fair and reasonable.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute MTS Doc. No. PWG428.0-25 (in substantially the same format as Attachment A), to Fire Technology & Solutions, for the provision of fire extinguisher maintenance and as needed repair services for a period of five (5) years in the amount of \$156,485.24.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. Draft Agreement MTS Doc. No. PWG428.0-25
B. Scope of Work
C. Bid Form



Metropolitan Transit System

STANDARD CONSTRUCTION AGREEMENT

FOR

MTS DOC. NO. PWG428.0-25

FIRE EXTINGUISHER MAINTENANCE AND AS-NEEDED REPAIRS

THIS AGREEMENT is entered into this _____ day of _____, 2025 in the State of California by and between San Diego Metropolitan Transit System (“MTS”), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: Fire Technology & Solutions Address: 2100 E. McFadden
 Santa Ana CA 92705
 City State Zip
 Form of Business: Corporation Email: Annie.wilson@firetechsolution.com
 (Corporation, Partnership, Sole Proprietor, etc.)
 Telephone: 949-294-5467

Authorized person to sign contracts	<u>Annie Wilson</u>	<u>Owner</u>
	Name	Title

The specified Contract Documents are part of this Agreement. The Contractor agrees to furnish to MTS services and materials, as follows:

Contractor shall furnish all necessary management, supervision, labor, materials, tools, supplies, equipment, plant, services, engineering, testing and/or any other act or thing required to diligently and fully perform and complete the Project as specified in accordance with the Standard Agreement and General Conditions (Exhibit A), Scope of Work, Special Conditions and Attachments (Exhibit B), Bid Price Form (Exhibit C), and Federal Requirements (Exhibit D) and Forms (Exhibit E).

SCOPE OF WORK.

Contractor, for and in consideration of the payment to be made to Contractor as hereinafter provided, shall furnish all plant, labor, technical and professional services, supervision, materials and equipment, other than such materials and equipment as may be specified to be furnished by MTS, and perform all operations necessary to complete the Work in strict conformance with the Contract Documents (defined below) for the following public work of improvement:

FIRE EXTINGUISHER MAINTENANCE AND AS-NEEDED REPAIRS



Contractor is an independent contractor and not an agent of MTS. The Contractor and its surety shall be liable to MTS for any damages arising as a result of the Contractor's failure to comply with this obligation.

CONTRACT TIME.

The contract term is for up to (5) years effective April 1, 2025 through March 31, 2030.

CONTRACT PRICE.

MTS shall pay the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of One Hundred and Fifty-Six Thousand Four Hundred Eighty Five Dollars and Twenty Four Cents (\$156,485.24). Payment shall be made as set forth in the General Conditions.

PROVISIONS REQUIRED BY LAW.

Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of the California Labor Code applicable to this Project.

INDEMNIFICATION.

Contractor shall provide indemnification as set forth in the General Conditions.

PREVAILING WAGES.

Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates shall be made available at MTS's Administrative Office or may be obtained online at <http://www.dir.ca.gov> and which must be posted at the job site.

<p>SAN DIEGO METROPOLITAN TRANSIT SYSTEM</p>	<p>FIRE TECHNOLOGY & SOLUTIONS</p>
<p>By: _____ Sharon Cooney, Chief Executive Officer</p> <p>Approved as to form:</p> <p>By: _____ Karen Landers, General Counsel</p>	<p>By _____</p> <p>Title: _____</p>

MTS FIRE EXTINGUISHER SERVICES

2.1. INTRODUCTION

The San Diego Metropolitan Transit System (MTS) is seeking a qualified and licensed firm for testing and maintenance of rechargeable fire extinguishers and the purchase of new extinguishers as required at San Diego Transit Corporation (SDTC), San Diego Trolley, Inc. (SDTI), Land Management (LM), and Bus Rapid Transit (BRT) locations provided herein. All MTS owned rechargeable fire extinguishers must be inspected, serviced, and repaired in accordance with California State Fire Marshal (CSFM) and the National Fire Protection Association (NFPA) regulations.

2.2. DURATION OF AGREEMENT

The base contract term shall be for a period five (5) years.

2.3. MINIMUM QUALIFICATIONS

1. Contractor must be licensed by the Office of the State Fire Marshall (OFSM).
2. Contractor must possess a Type A, or Type B, C, or D license to service MTS fire extinguishers.
3. Bidders shall provide a minimum of three (3) references for which Bidder has performed similar work within the past five (5) years on the "Bidder's Financial Questionnaire Form" included in this solicitation.

2.4. EQUIPMENT LOCATIONS AND MTS CONTACTS

Locations of extinguishers are provided in the Bid Form (ATT1) attached separately in this solicitation. During the term of this agreement, MTS reserves the right to add or remove equipment locations.

Program	Contact Information
<u>SDTC</u>	Steve Shoemaker Maintenance Manager KMD MTS Bus Operations 4630 Ruffner Street San Diego Ca. 92111 (619) 238-0100 X6502 Email: Steve.Shoemaker@SDMTS.com
<u>SDTI</u>	Rolando Montes Director of Facilities - Rail Division San Diego Trolley Inc. Office: 619-595-4927 Cell: 619-454-7207 Email: Rolando.Montes@sdmts.com
<u>BRT</u>	J. Clarke Peters Supervisor of Passenger Facilities 100 16th St., San Diego, CA 92101 619.595.7037 clarke.peters@sdmts.com

2.5. REGULAR SERVICE HOURS

Monday through Friday, 8:00 a.m. to 5:00 p.m. (excluding holidays) MTS Holidays (Subject to change during contract)

1. New Year's Day	6. Independence Day
2. Martin Luther King Day	7. Labor Day
3. President's Day	8. Veterans Day
4. Cesar Chavez Day	9. Thanksgiving Day
5. Memorial Day	10. Christmas Day

Att. B, Item 13, 03/13/25

Contractor shall notify the appropriate MTS contact four (4) hours before coming on-site to perform any work.

2.6. GENERAL REQUIREMENTS

1. Quantities may be increased or decreased depending on actual need during the contract term; however, no price adjustments shall be allowed as a result of a reduction in the quantity.
2. Contractor shall provide all labor, supplies, parts, supervision, tools, equipment, transportation, and all effort necessary to perform extinguisher servicing.
3. Contractor shall perform only those services specified in the Scope of Work/Technical Specifications. All work performed must be accepted by MTS, SDTI, SDTC staff.
4. Contractor shall assign a trained technician(s) to provide any service. This technician(s) shall be trained in providing fire extinguisher maintenance, servicing, testing, and recharging.
5. A Service Tag conforming to CSFM regulations must be securely attached to each fire extinguisher at the time of service.

2.7. SCOPE OF SERVICES

Contractor shall perform fire extinguisher services in accordance with the locations provided in ATT1, service requirements and schedules listed herein. All equipment shall be serviced as directed by NFPA and CSFM regulations. The latest edition of regulations or, where applicable, the edition as adopted by the local authority having jurisdiction shall apply. Contractor shall furnish all repair and replacement parts at no additional cost; this includes, but is not limited to, lock pins, nozzles, valves, seals, o-rings, nitrogen cylinders, extinguishing agents, hoses, and adapters. Those parts furnished shall be matched to the manufacturer's published requirements. Routine maintenance inspections shall be made during normal business hours.

2.7.1 Scheduled Service of Portable Fire Extinguishers

2.7.1.1 Monthly Testing and Maintenance

Each rechargeable fire extinguisher shall be externally inspected, serviced, tested, and/or repaired in accordance with NFPA, CSFM, and Occupational Safety and Health Administration (OSHA) regulations.

2.7.1.2 Annual Testing and Maintenance

Each rechargeable fire extinguisher shall be externally inspected, serviced, tested, and/or repaired in accordance with NFPA, CSFM, and Occupational Safety and Health Administration (OSHA) regulations.

2.7.1.3 Bus and Trolley Fleet Services

MTS shall be responsible for the removal of the fire extinguisher on bus and trolley vehicles the night before. Contractor shall service the fire

extinguisher the next morning until the entire fleet is done. These services shall be done from 8am to 5pm. Annual service must be completed on a weekend for the SDTC locations. Att. B, Item 13, 03/13/25

2.7.2 As Needed Services

2.7.2.1 Hydrostatic Testing

Hydrostatic testing shall occur every five (5) years for extinguishers located on vehicles, and every six (6), or twelve (12) years for extinguishers not located on vehicles. Contractor shall have the ability to perform the hydrostatic -testing service to avoid delays of the extinguisher servicing.

2.7.2.2 As-Needed Recharging

Contractor shall respond within one (1) business day from MTS request for recharging. Recharging service shall include the following:

1. The extinguishing agent shall be completely discharged,
2. Valve assembly removed,
3. O-ring replaced or lubricated,
4. Threads and sealing surfaces cleaned,
5. Container emptied and filled with proper (free-flowing) agent, pressurized, sealed, and locked. Recharge date shall be marked on tag.

Testing shall be in accordance with ANSI/UL 77, SNSI/UL 299, and the latest revision of the NFPA 10.

A work order, inspection report, invoice, or other appropriate document shall be required.

2.7.3 Replacement of Fire Extinguishers

Contractor shall notify MTS when any unit needs total replacement; however, and as determined by MTS, it may also be requested that the Contractor provide total replacement of any units (e.g. if units are no longer serviceable or to supplement existing units where needed, etc.). All replacement extinguishers shall be new and unused and approved by the CSFM. Contractor must indicate new extinguisher costs on the bid sheet. Per unit pricing shall include all costs including delivery and mounting brackets.

Any deliveries of new extinguishers shall be Freight On board (F.O.B.) to MTS, SDTI, SDTC.

MTS shall have the right to purchase their own replacement units from any provider of their choosing at the project managers' discretion.

2.7.4 As Needed Repair Services

As-needed repair services are defined as services required due to vandalism or intentional misuse by anyone other than Contractor's employees, agents, or subcontractors.

Such repairs shall be responded to within twenty-four (24) hours of notification by MTS and shall be required to complete these services within three (3) business days. This includes, but is not limited to, picking up equipment requiring off-site service within forty- eight (48) hours. Equipment must be serviced and returned within three (3) business days of pick up.

- a. Contractor shall supply all labor materials necessary to provide as needed repair services on a Time and Materials basis. PWS DOC NO. PWG308. B-20

- b. Contractor shall be responsible for replacing fire extinguisher tags with vandal resistant / tamper resistant sealed tags on an as needed basis.

2.7.4.1 General Requirements

- a. Contractor shall comply with all City, County, State, or Federal building laws, regulations, and code requirements in the performance of their work.
- b. Contractor shall be responsible for diagnosing the problem and making the necessary repairs.
- c. Contractor shall only perform work that is approved by MTS. Approval by the MTS Project Manager is required prior to any work being performed.
 - o Prior to performing any repair services, Contractor shall provide a quote for the services to be performed. The quote shall include at minimum the following information:
 - Estimated hour(s) and hourly rate
 - At cost part(s) amount
 - Part percentage mark up
 - Date the service is to be performed and completed
 - o Any work in excess of \$5,000 requires approval from MTS Procurement prior to commencement of services.
- d. Contractor shall perform and complete each work order in the agreed upon manner and time period.
- e. In the event of accidental site damage by the Contractor, Contractor shall be responsible to return the site to its original condition at no cost to MTS.
- f. Contractor shall remove all debris generated while making repairs, replacement, or installation and leave the work area clean, "broom swept" state.
- g. Unless otherwise stated, Contractor shall remove all equipment, materials, etc. as directed by MTS.
- h. Contractor is responsible for clarifying with the MTS Project Manager any questions regarding the work that is to be performed.
- i. Contractor will be responsible for disposing any outdated or obsolete extinguishers that do not pass testing.

2.7.4.2 Hourly Rates:

- i. As-Needed Repair Services shall be billed at the labor rates as set forth in ATT1.
 - a. Single Man Crew - Straight Time Hourly Rate
 - b. Single Man Crew - Outside of MTS Normal Business Hours (evenings, weekends and holidays) Hourly Rate.
- ii. All estimated travel time to and from MTS property, and travel subsistence costs (i.e. mileage, fuel surcharge, etc.)

projected to be utilized by the Contractor during the term of performance of any resultant Contract are to be absorbed, amortized, and incorporated into the Proposer's fully burdened unit per hour rates as set forth in the Cost Proposal Form.

Att. B, Item 13, 03/13/25

2.8. REPLACEMENT PARTS

In the event that the Contractor needs to purchase replacement parts (not covered in the scope of the contract), materials and supplies shall be reimbursed by MTS based on actual cost plus the percent provided in the bidder's proposal. The maximum mark-up allowed is five (5) percent. No additional mark-ups will be allowed.

Contractor must attach supporting documentation that proves actual purchase price of parts with the invoice to show actual cost paid/final sale for parts or materials obtained from its suppliers.

2.9. LOANER EQUIPMENT

If, for whatever reason, loaner equipment is required, the Contractor shall leave a loaner of the same size and type. Loaner extinguishers supplied to the MTS, SDTI, and SDTC shall be at no charge. Should the MTS, SDTI, SDTC discharge the loaner, the cost of recharging shall be paid by MTS, SDTI, and SDTC.

Contractor shall be responsible for keeping fifty (50) five (5) pound loaner fire extinguishers on retainer for MTS' use from April 1st to June 1st of each year of the contract to support the annual bus service.

2.10. TRAINING

Contractor shall provide annual training "if requested" by MTS for MTS employees on proper use of portable fire extinguishers. The cost of this training shall be included in the annual service charge for equipment.

2.11. LICENSE REQUIREMENTS

During the entire contract term, Contractor must possess a Type A class of license to service any or all types of fire extinguishers.

2.12. GUARANTEE

Upon notice from MTS, SDTI, SDTC the Contractor shall, at his/her own expense, promptly and properly replace any and all improper work and material that may become apparent within a one (1) year period from the date of acceptance by MTS, SDTI, SDTC.

2.13. PRICING

Contractors per unit pricing shall include all costs incidental to fire extinguisher service. This shall include, but shall not be limited to: labor, supplies, parts, supervision, tools, equipment, transportation, and all effort necessary to perform fire extinguisher servicing. Prices shall be firm and fixed during the term of the Agreement.

2.14. INVOICES

Invoices must be sent to the MTS Accounting Department, via email at ap@sdmts.com. All invoices must have the Purchase Order and contract number clearly displayed to ensure timely payment. MTS will not pay on packing slips, receiving documents, delivery documents, or other similar documents. Invoices must be submitted for payment.

Contractors must also indicate if any of the invoiced amount is for service or work provided by a subcontractor and indicate the amount that will be paid to the

subcontractor. Contractors must also comply with the prompt payment requirements in Section 16 Prompt Progress Payments of the Standard Conditions. Att.B, Item 13, 03/13/25

2.15. DELIVERY AND ACCEPTANCE

Equipment or any deliverable provided under this contract, shall be delivered F.O.B. to MTS, 100 16th Street, San Diego, California 92101 or MTS, 4630 Ruffner Street, San Diego, California 92111 or SDTI, 1341 Commercial Street, San Diego, California 92113, unless otherwise specified, in first class condition, complete and ready for operation, and the Contractor shall assume all responsibility and risk of loss incident to said delivery.

Contractor shall state delivery on the Bid Form unless already specified, in which case, shall be made within the time set forth. Delivery is part of the consideration and must be adhered to as specified.

Contractor will not be held liable for failure to make delivery because of strikes, construction of property, governmental regulations, acts of God or any other causes beyond his control, provided a written extension of time is obtained from MTS.

Upon delivery, MTS will acknowledge receipt of said items or products. Delivery shall not constitute acceptance. Upon inspection and testing (if necessary) by MTS, a determination will be made whether said items or products are in conformance with contract requirements. If found in conformance, MTS shall immediately approve the Contractor's invoice for payment; thereby constituting acceptance. Payment terms begin from this point. If the delivered items or products are found not in compliance, MTS will immediately notify the Contractor and furnish all details of deficiencies. Contractor shall correct the deficiencies or supply new items or products (at the discretion of MTS) and resubmit for inspection and testing (if necessary).

BID FORM - Fire Extinguisher Maintenance and As-Needed Repair Services

Instructions: In Table I, please enter the unit price for each location in the "Unit Price" column. To determine the Item Total for each location and year, please multiply the columns labeled "Estimated Quantity" by "Frequency" then by "Unit Price." For Table II, please enter the hourly rate for each type of as-needed repair in the column labeled "Unit Price." Please multiply the Unit Price by the corresponding estimated Quantity to determine the Item Totals for each Item for each year. Please sum Item Totals for each Year to determine the Subtotals for Tables I & II. For Table III, please enter the mark up percentage between 0 and 5 percent (rounding to the nearest hundredth) in the % Mark Up field for each year. Please multiply the mark up percentage by the

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026	
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total	
SDTI	1	Building A, 12 S. 13th Street, San Diego, CA 92113						
		Annual Testing & Maintenance	5	40	1	\$ 8.00	\$ 320.00	
	2	Building B, 1341 Commercial Street, San Diego, CA 92113						
			Annual Testing & Maintenance	5	25	1	\$ 8.00	\$ 200.00
			Annual Testing & Maintenance	10	10	1	\$ 9.00	\$ 90.00
	3	Building C, 1341 Commercial Street, San Diego, CA 92113						
			Annual Testing & Maintenance	20	5	1	\$ 10.50	\$ 52.50
	4	Yard Tower, 1341 Commercial Street, San Diego, CA 92113						
			Annual Testing & Maintenance	5	4	1	\$ 8.00	\$ 32.00
	5	Paint Booth, 1341 Commercial Street, San Diego, CA 92113						
			Annual Testing & Maintenance	10	16	1	\$ 9.00	\$ 144.00
	6	Sub Stations						
			Annual Testing & Maintenance	10	80	1	\$ 9.00	\$ 720.00
			Annual Testing & Maintenance	15	40	1	\$ 9.75	\$ 390.00
	7	Fashion Valley Station, 1205 Fashion Valley Rd., San Diego, CA 92108						
			Annual Testing & Maintenance	20	5	1	\$ 10.50	\$ 52.50
	8	Qualcomm Stadium, 9449 Friars Rd., San Diego, CA 92108						
			Annual Testing & Maintenance	20	5	1	\$ 10.50	\$ 52.50
	9	SDSU Station Platform, 5260 Campanille, San Diego, CA 92182						
			Annual Testing & Maintenance	5	12	1	\$ 8.00	\$ 96.00
	10	SDSU Station Room, 5260 Campanille, San Diego, CA 92182						
			Annual Testing & Maintenance	5	6	1	\$ 8.00	\$ 48.00
			Annual Testing & Maintenance	10	40	1	\$ 9.00	\$ 360.00
	11	LRV Non-Revenue Vehicles						
			Annual Testing & Maintenance	20	6	1	\$ 10.50	\$ 63.00
	12	MOW Non-Revenue Vehicles						
			Annual Testing & Maintenance	5	10	1	\$ 8.00	\$ 80.00
			Annual Testing & Maintenance	10	6	1	\$ 9.00	\$ 54.00
13	Track Non-Revenue Vehicles							
		Annual Testing & Maintenance	5	24	1	\$ 8.00	\$ 192.00	
		Annual Testing & Maintenance	10	6	1	\$ 9.00	\$ 54.00	
14	Facilities Non Revenue Vehicles							
		Annual Testing & Maintenance	5	15	1	\$ 8.00	\$ 120.00	
		Annual Testing & Maintenance	10	10	1	\$ 9.00	\$ 90.00	
14	Facilities Non Revenue Vehicles							
		Annual Testing & Maintenance	5	28	1	\$ 8.00	\$ 224.00	
		Annual Testing & Maintenance	10	10	1	\$ 9.00	\$ 90.00	

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026	
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total	
	15	Revenue Non-Revenue Vehicles						
		Annual Testing & Maintenance	5	14	1	\$ 8.00	\$ 112.00	
		Annual Testing & Maintenance	10	10	1	\$ 9.00	\$ 90.00	
	16	Transportation Non-Revenue Vehicles						
		Annual Testing & Maintenance	5	12	1	\$ 5.50	\$ 66.00	
		Annual Testing & Maintenance	10	6	1	\$ 9.00	\$ 54.00	
	17	SD100 Vehicles						
		Annual Testing & Maintenance	10	340	1	\$ 9.00	\$ 3,060.00	
	18	Spare Units						
		Annual Testing & Maintenance	5	75	1	\$ 8.00	\$ 600.00	
		Annual Testing & Maintenance	10	50	1	\$ 9.00	\$ 450.00	
	19	Bogie Garage 1601 Newton Ave., San Diego, CA 92113						
		Annual Testing and Maintenance	10	4	1	\$ 9.00	\$ 36.00	
	20	MidCoast Elevated Stations						
Annual Testing and Maintenance		5	36	1	\$ 8.00	\$ 288.00		
SDTC	20	Imperial Avenue Division (IAD) 100 16th St., San Diego, CA. 92101						
		Annual Testing and Maintenance buses	5	170	1	\$ 8.00	\$ 1,360.00	
	Annual Testing and Maintenance facility	10	96	1	\$ 9.00	\$ 864.00		
	21	Kearny Mesa Division (KMD), 4630 Ruffner St., San Diego, CA. 92111						
Annual Testing and Maintenance buses		5	130	1	\$ 8.00	\$ 1,040.00		
BRT	23	Sabre Springs, 13538 Sabre Springs Pkwy., San Diego, CA 92128						
		Monthly Testing and Maintenance	10	26	12	\$ 9.00	\$ 2,808.00	
		Monthly Testing and Maintenance	15	1	12	\$ 9.75	\$ 117.00	
		Annual Testing and Maintenance	10	26	1	\$ 9.00	\$ 234.00	
	Annual Testing and Maintenance	15	1	1	\$ 9.75	\$ 9.75		
	24	UTC Station, 8615 Genesee Ave, San Diego, CA 92122 ¹						
		Monthly Testing and Maintenance	10	2	12	\$ 9.00	\$ 216.00	
	Annual Testing and Maintenance	10	2	1	\$ 9.00	\$ 18.00		
	Table I Subtotals							\$ 16,128.25

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year Two	4/1/2026 - 3/30/2027
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
	1	Building A, 12 S. 13th Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	40	1	\$ 8.80	\$ 352.00
	2	Building B, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	25	1	\$ 8.80	\$ 220.00
		Annual Testing & Maintenance	10	10	1	\$ 9.90	\$ 99.00
	Annual Testing & Maintenance	20	5	1	\$ 11.55	\$ 57.75	
	3	Building C, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	40	1	\$ 8.80	\$ 352.00
	4	Yard Tower, 1341 Commercial Street, San Diego, CA 92113					

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
SDTI	4	Annual Testing & Maintenance	5	4	1	\$ 8.80	\$ 35.20
	5	Paint Booth, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	10	16	1	\$ 9.90	\$ 158.40
	6	Sub Stations					
		Annual Testing & Maintenance	10	80	1	\$ 8.02	\$ 641.60
	7	Annual Testing & Maintenance	15	40	1	\$ 10.73	\$ 429.00
		Fashion Valley Station, 1205 Fashion Valley Rd., San Diego, CA 92108					
	8	Annual Testing & Maintenance	20	5	1	\$ 11.55	\$ 57.75
		Qualcomm Stadium, 9449 Friars Rd., San Diego, CA 92108					
	9	Annual Testing & Maintenance	20	5	1	\$ 11.55	\$ 57.75
		SDSU Station Platform, 5260 Campanille, San Diego, CA 92182					
	10	Annual Testing & Maintenance	5	12	1	\$ 8.80	\$ 105.60
		SDSU Station Room, 5260 Campanille, San Diego, CA 92182					
		Annual Testing & Maintenance	5	6	1	\$ 8.80	\$ 52.80
		Annual Testing & Maintenance	10	40	1	\$ 9.90	\$ 360.00
	11	Annual Testing & Maintenance	20	6	1	\$ 11.55	\$ 69.30
		LRV Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	10	1	\$ 8.80	\$ 88.00
		Annual Testing & Maintenance	10	6	1	\$ 9.09	\$ 54.54
	12	MOW Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	24	1	\$ 8.80	\$ 211.20
		Annual Testing & Maintenance	10	6	1	\$ 9.90	\$ 59.40
	13	Track Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	15	1	\$ 8.80	\$ 132.00
		Annual Testing & Maintenance	10	10	1	\$ 9.90	\$ 99.00
	14	Facilities Non Revenue Vehicles					
		Annual Testing & Maintenance	5	28	1	\$ 8.80	\$ 246.40
		Annual Testing & Maintenance	10	10	1	\$ 9.90	\$ 99.00
	15	Revenue Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	14	1	\$ 8.80	\$ 123.20
		Annual Testing & Maintenance	10	10	1	\$ 9.90	\$ 99.00
	16	Transportation Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	12	1	\$ 6.05	\$ 72.60
		Annual Testing & Maintenance	10	6	1	\$ 9.90	\$ 59.40
	17	SD100 Vehicles					
		Annual Testing & Maintenance	10	340	1	\$ 9.90	\$ 3,366.00
	18	Spare Units					
		Annual Testing & Maintenance	5	75	1	\$ 8.80	\$ 660.00
		Annual Testing & Maintenance	10	50	1	\$ 9.90	\$ 495.00
		Annual Testing & Maintenance	20	10	1	\$ 11.55	\$ 115.50
19	Bogie Garage 1601 Newton Ave., San Diego, CA 92113						
	Annual Testing and Maintenance	10	4	1	\$ 9.90	\$ 39.60	
20	MidCoast Elevated Stations						
	Annual Testing and Maintenance	5	36	1	\$ 8.80	\$ 316.80	

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
SDTC	20	Imperial Avenue Division (IAD) 100 16th St., San Diego, CA. 92101					
		Annual Testing and Maintenance buses	5	170	1	\$ 8.80	\$ 1,496.00
		Annual Testing and Maintenance facility	10	96	1	\$ 9.90	\$ 950.40
	21	Kearny Mesa Division (KMD), 4630 Ruffner St., San Diego, CA. 92111					
		Annual Testing and Maintenance buses	5	130	1	\$ 8.80	\$ 1,144.00
		Annual Testing and Maintenance facility	10	84	1	\$ 9.90	\$ 831.60
BRT	23	Sabre Springs, 13538 Sabre Springs Pkwy., San Diego, CA 92128					
		Monthly Testing and Maintenance	10	26	12	\$ 9.90	\$ 3,088.80
		Monthly Testing and Maintenance	15	1	12	\$ 10.73	\$ 128.70
		Annual Testing and Maintenance	10	26	1	\$ 9.90	\$ 257.40
		Annual Testing and Maintenance	15	1	1	\$ 10.73	\$ 10.73
	24	UTC Station, 8615 Genesee Ave, San Diego, CA 92122 ¹					
		Monthly Testing and Maintenance	10	2	12	\$ 9.90	\$ 237.60
		Annual Testing and Maintenance	10	2	1	\$ 9.90	\$ 19.80
Table I Subtotals							\$ 17,549.82

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year Three	4/1/2027 - 3/30/2028
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
SDTI	1	Building A, 12 S. 13th Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	40	1	\$ 9.68	\$ 387.20
	2	Building B, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	25	1	\$ 9.68	\$ 242.00
		Annual Testing & Maintenance	10	10	1	\$ 10.89	\$ 108.90
		Annual Testing & Maintenance	20	5	1	\$ 12.71	\$ 63.53
	3	Building C, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	40	1	\$ 9.68	\$ 387.20
	4	Yard Tower, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	4	1	\$ 9.68	\$ 38.72
	5	Paint Booth, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	10	16	1	\$ 159.39	\$ 2,550.24
	6	Sub Stations					
		Annual Testing & Maintenance	10	80	1	\$ 8.82	\$ 705.76
		Annual Testing & Maintenance	15	40	1	\$ 11.80	\$ 471.90
	7	Fashion Valley Station, 1205 Fashion Valley Rd., San Diego, CA 92108					
		Annual Testing & Maintenance	20	5	1	\$ 12.71	\$ 63.53
	8	Qualcomm Stadium, 9449 Friars Rd., San Diego, CA 92108					
		Annual Testing & Maintenance	20	5	1	\$ 12.71	\$ 63.53
	9	SDSU Station Platform, 5260 Campanille, San Diego, CA 92182					
		Annual Testing & Maintenance	5	12	1	\$ 9.68	\$ 116.16
	10	SDSU Station Room, 5260 Campanille, San Diego, CA 92182					
		Annual Testing & Maintenance	5	6	1	\$ 9.68	\$ 58.08
		Annual Testing & Maintenance	10	40	1	\$ 10.89	\$ 435.60
Annual Testing & Maintenance		20	6	1	\$ 12.71	\$ 76.23	

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
S	11	LRV Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	10	1	\$ 9.68	\$ 96.80
		Annual Testing & Maintenance	10	6	1	\$ 10.00	\$ 59.99
	12	MOW Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	24	1	\$ 9.68	\$ 232.32
		Annual Testing & Maintenance	10	6	1	\$ 10.89	\$ 65.34
	13	Track Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	15	1	\$ 9.68	\$ 145.20
		Annual Testing & Maintenance	10	10	1	\$ 10.89	\$ 108.90
	14	Facilities Non Revenue Vehicles					
		Annual Testing & Maintenance	5	28	1	\$ 9.68	\$ 271.04
		Annual Testing & Maintenance	10	10	1	\$ 10.89	\$ 108.90
	15	Revenue Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	14	1	\$ 9.68	\$ 135.52
		Annual Testing & Maintenance	10	10	1	\$ 10.89	\$ 108.90
	16	Transportation Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	12	1	\$ 6.66	\$ 79.86
		Annual Testing & Maintenance	10	6	1	\$ 10.89	\$ 65.34
	17	SD100 Vehicles					
		Annual Testing & Maintenance	10	340	1	\$ 10.89	\$ 3,702.60
18	Spare Units						
	Annual Testing & Maintenance	5	75	1	\$ 9.68	\$ 726.00	
	Annual Testing & Maintenance	10	50	1	\$ 10.89	\$ 544.50	
	Annual Testing & Maintenance	20	10	1	\$ 12.71	\$ 127.05	
19	Bogie Garage 1601 Newton Ave., San Diego, CA 92113						
	Annual Testing and Maintenance	10	4	1	\$ 10.89	\$ 43.56	
20	MidCoast Elevated Stations						
	Annual Testing and Maintenance	5	36	1	\$ 9.68	\$ 348.48	
SDTC	20	Imperial Avenue Division (IAD) 100 16th St., San Diego, CA. 92101					
		Annual Testing and Maintenance buses	5	170	1	\$ 9.68	\$ 1,645.60
		Annual Testing and Maintenance facility	10	96	1	\$ 10.89	\$ 1,045.44
	21	Kearny Mesa Division (KMD), 4630 Ruffner St., San Diego, CA. 92111					
	Annual Testing and Maintenance buses	5	130	1	\$ 9.68	\$ 1,258.40	
	Annual Testing and Maintenance facility	10	84	1	\$ 10.89	\$ 914.76	
BRT	23	Sabre Springs, 13538 Sabre Springs Pkwy., San Diego, CA 92128					
		Monthly Testing and Maintenance	10	26	12	\$ 10.89	\$ 3,397.68
		Monthly Testing and Maintenance	15	1	12	\$ 11.80	\$ 141.57
		Annual Testing and Maintenance	10	26	1	\$ 10.89	\$ 283.14
		Annual Testing and Maintenance	15	1	1	\$ 12.68	\$ 12.68
	24	UTC Station, 8615 Genesee Ave, San Diego, CA 92122 ¹					
	Monthly Testing and Maintenance	10	2	12	\$ 10.89	\$ 261.36	
	Annual Testing and Maintenance	10	2	1	\$ 10.89	\$ 21.78	
Table I Subtotals							\$ 21,721.28

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year Four	4/1/2028 - 3/30/2029
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
SDTI	1	Building A, 12 S. 13th Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	40	1	\$ 10.65	\$ 425.92
	2	Building B, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	25	1	\$ 10.65	\$ 266.20
		Annual Testing & Maintenance	10	10	1	\$ 11.98	\$ 119.79
		Annual Testing & Maintenance	20	5	1	\$ 13.98	\$ 69.88
	3	Building C, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	40	1	\$ 10.65	\$ 425.92
	4	Yard Tower, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	4	1	\$ 10.65	\$ 42.59
	5	Paint Booth, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	10	16	1	\$ 175.33	\$ 2,805.26
	6	Sub Stations					
		Annual Testing & Maintenance	10	80	1	\$ 9.70	\$ 776.34
		Annual Testing & Maintenance	15	40	1	\$ 12.98	\$ 519.09
	7	Fashion Valley Station, 1205 Fashion Valley Rd., San Diego, CA 92108					
		Annual Testing & Maintenance	20	5	1	\$ 13.98	\$ 69.88
	8	Qualcomm Stadium, 9449 Friars Rd., San Diego, CA 92108					
		Annual Testing & Maintenance	20	5	1	\$ 13.98	\$ 69.88
	9	SDSU Station Platform, 5260 Campanille, San Diego, CA 92182					
		Annual Testing & Maintenance	5	12	1	\$ 10.65	\$ 127.78
	10	SDSU Station Room, 5260 Campanille, San Diego, CA 92182					
		Annual Testing & Maintenance	5	6	1	\$ 10.65	\$ 63.89
		Annual Testing & Maintenance	10	40	1	\$ 11.98	\$ 479.16
		Annual Testing & Maintenance	20	6	1	\$ 13.98	\$ 83.85
	11	LRV Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	10	1	\$ 10.65	\$ 106.48
		Annual Testing & Maintenance	10	6	1	\$ 11.00	\$ 65.99
	12	MOW Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	24	1	\$ 10.65	\$ 255.55
	Annual Testing & Maintenance	10	6	1	\$ 11.98	\$ 71.87	
13	Track Non-Revenue Vehicles						
	Annual Testing & Maintenance	5	15	1	\$ 10.65	\$ 159.72	
	Annual Testing & Maintenance	10	10	1	\$ 11.98	\$ 119.79	
14	Facilities Non Revenue Vehicles						
	Annual Testing & Maintenance	5	28	1	\$ 10.65	\$ 298.14	
	Annual Testing & Maintenance	10	10	1	\$ 11.98	\$ 119.79	
15	Revenue Non-Revenue Vehicles						
	Annual Testing & Maintenance	5	14	1	\$ 10.65	\$ 149.07	
	Annual Testing & Maintenance	10	10	1	\$ 11.98	\$ 119.79	
	Transportation Non-Revenue Vehicles						

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026	
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total	
	16	Annual Testing & Maintenance	5	12	1	\$ 7.32	\$ 87.85	
		Annual Testing & Maintenance	10	6	1	\$ 11.98	\$ 71.87	
	17	SD100 Vehicles						
		Annual Testing & Maintenance	10	340	1	\$ 11.98	\$ 4,072.86	
	18	Spare Units						
		Annual Testing & Maintenance	5	75	1	\$ 10.65	\$ 798.60	
		Annual Testing & Maintenance	10	50	1	\$ 11.98	\$ 598.95	
	19	Annual Testing & Maintenance	20	10	1	\$ 13.98	\$ 139.76	
		Bogie Garage 1601 Newton Ave., San Diego, CA 92113						
		Annual Testing and Maintenance	10	4	1	\$ 11.98	\$ 47.92	
20	MidCoast Elevated Stations							
	Annual Testing and Maintenance	5	36	1	\$ 10.65	\$ 383.33		
SDTC	20	Imperial Avenue Division (IAD) 100 16th St., San Diego, CA. 92101						
		Annual Testing and Maintenance buses	5	170	1	\$ 10.65	\$ 1,810.16	
		Annual Testing and Maintenance facility	10	96	1	\$ 11.98	\$ 1,149.98	
	21	Kearny Mesa Division (KMD), 4630 Ruffner St., San Diego, CA. 92111						
Annual Testing and Maintenance buses		5	130	1	\$ 10.65	\$ 1,384.24		
BRT	23	Sabre Springs, 13538 Sabre Springs Pkwy., San Diego, CA 92128						
		Monthly Testing and Maintenance	10	26	12	\$ 11.98	\$ 3,737.45	
		Monthly Testing and Maintenance	15	1	12	\$ 12.98	\$ 155.73	
		Annual Testing and Maintenance	10	26	1	\$ 11.98	\$ 311.45	
		Annual Testing and Maintenance	15	1	1	\$ 13.95	\$ 13.95	
	24	UTC Station, 8615 Genesee Ave, San Diego, CA 92122 ¹						
		Monthly Testing and Maintenance	10	2	12	\$ 11.98	\$ 287.50	
		Annual Testing and Maintenance	10	2	1	\$ 11.98	\$ 23.96	
	Table I Subtotals							\$ 23,893.41

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year Five	4/1/2029 - 3/30-2030
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
	1	Building A, 12 S. 13th Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	40	1	\$ 1.06	\$ 42.59
	2	Building B, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	5	25	1	\$ 11.71	\$ 292.82
		Annual Testing & Maintenance	10	10	1	\$ 13.18	\$ 131.77
	3	Annual Testing & Maintenance	20	5	1	\$ 15.37	\$ 76.87
		Building C, 1341 Commercial Street, San Diego, CA 92113					
	4	Annual Testing & Maintenance	5	40	1	\$ 11.71	\$ 468.51
		Yard Tower, 1341 Commercial Street, San Diego, CA 92113					
	5	Annual Testing & Maintenance	5	4	1	\$ 11.71	\$ 46.85
		Paint Booth, 1341 Commercial Street, San Diego, CA 92113					
		Annual Testing & Maintenance	10	16	1	\$ 192.86	\$ 3,085.79
Sub Stations							

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026	
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total	
SDTI	6	Annual Testing & Maintenance	10	80	1	\$ 10.67	\$ 853.97	
		Annual Testing & Maintenance	15	40	1	\$ 14.27	\$ 571.00	
	7	Fashion Valley Station, 1205 Fashion Valley Rd., San Diego, CA 92108						
		Annual Testing & Maintenance		20	5	1	\$ 15.37	\$ 76.87
	8	Qualcomm Stadium, 9449 Friars Rd., San Diego, CA 92108						
		Annual Testing & Maintenance		20	5	1	\$ 15.37	\$ 76.87
	9	SDSU Station Platform, 5260 Campanille, San Diego, CA 92182						
		Annual Testing & Maintenance		5	12	1	\$ 11.71	\$ 140.55
	10	SDSU Station Room, 5260 Campanille, San Diego, CA 92182						
		Annual Testing & Maintenance		5	6	1	\$ 11.71	\$ 70.28
		Annual Testing & Maintenance		10	40	1	\$ 13.18	\$ 527.08
		Annual Testing & Maintenance		20	6	1	\$ 15.37	\$ 92.24

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
S	11	LRV Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	10	1	\$ 11.71	\$ 117.13
		Annual Testing & Maintenance	10	6	1	\$ 12.10	\$ 72.59
	12	MOW Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	24	1	\$ 11.71	\$ 281.11
		Annual Testing & Maintenance	10	6	1	\$ 13.18	\$ 79.06
	13	Track Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	15	1	\$ 11.71	\$ 175.69
		Annual Testing & Maintenance	10	10	1	\$ 13.18	\$ 131.77
	14	Facilities Non Revenue Vehicles					
		Annual Testing & Maintenance	5	28	1	\$ 11.71	\$ 327.96
		Annual Testing & Maintenance	10	10	1	\$ 13.18	\$ 131.77
	15	Revenue Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	14	1	\$ 11.71	\$ 163.98
		Annual Testing & Maintenance	10	10	1	\$ 13.18	\$ 131.77
	16	Transportation Non-Revenue Vehicles					
		Annual Testing & Maintenance	5	12	1	\$ 8.05	\$ 96.63
		Annual Testing & Maintenance	10	6	1	\$ 13.18	\$ 79.06
	17	SD100 Vehicles					
		Annual Testing & Maintenance	10	340	1	\$ 13.18	\$ 4,480.15
18	Spare Units						
	Annual Testing & Maintenance	5	75	1	\$ 11.71	\$ 878.46	
	Annual Testing & Maintenance	10	50	1	\$ 13.18	\$ 658.85	
	Annual Testing & Maintenance	20	10	1	\$ 15.37	\$ 153.73	
19	Bogie Garage 1601 Newton Ave., San Diego, CA 92113						
	Annual Testing and Maintenance	10	4	1	\$ 13.18	\$ 52.71	
20	MidCoast Elevated Stations						
	Annual Testing and Maintenance	5	36	1	\$ 11.71	\$ 421.66	
SDTC	20	Imperial Avenue Division (IAD) 100 16th St., San Diego, CA. 92101					
		Annual Testing and Maintenance buses	5	170	1	\$ 11.71	\$ 1,991.18
		Annual Testing and Maintenance facility	10	96	1	\$ 13.18	\$ 1,264.98
	21	Kearny Mesa Division (KMD), 4630 Ruffner St., San Diego, CA. 92111					
	Annual Testing and Maintenance buses	5	130	1	\$ 11.71	\$ 1,522.66	
	Annual Testing and Maintenance facility	10	84	1	\$ 13.18	\$ 1,106.86	
BRT	23	Sabre Springs, 13538 Sabre Springs Pkwy., San Diego, CA 92128					
		Monthly Testing and Maintenance	10	26	12	\$ 13.18	\$ 4,111.19
		Monthly Testing and Maintenance	15	1	12	\$ 14.27	\$ 171.30
		Annual Testing and Maintenance	10	26	1	\$ 13.18	\$ 342.60
		Annual Testing and Maintenance	15	1	1	\$ 15.34	\$ 15.34
	24	UTC Station, 8615 Genesee Ave, San Diego, CA 92122¹					
	Monthly Testing and Maintenance	10	2	12	\$ 13.18	\$ 316.25	
	Annual Testing and Maintenance	10	2	1	\$ 13.18	\$ 26.35	
Table I Subtotals							\$ 25,856.83

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
Table II: AS-NEEDED SERVICES						Year One	4/1/2025 - 3/30/2026
	Item	Description	LBS	Est. Qty/Annual No. of Hours	Unit Price	Item Total	
	1	5 year Hydrostatic Testing	n/a	4	\$ 25.00	\$ 100.00	
	5	Recharge Dry Chemical Fire Extinguisher	10	80	\$ 22.50	\$ 1,800.00	
	6	Recharge Dry Chemical Fire Extinguisher	15	21	\$ 22.50	\$ 472.50	
	7	Recharge Dry Chemical Fire Extinguisher	20	10	\$ 22.50	\$ 225.00	
	8	Replace Dry Chemical Fire Extinguisher	5	20	\$ 22.50	\$ 450.00	
	9	Replace Dry Chemical Fire Extinguisher	10	25	\$ 22.50	\$ 562.50	
	10	Replace Dry Chemical Fire Extinguisher	15	21	\$ 22.50	\$ 472.50	
	11	Replace Dry Chemical Fire Extinguisher	20	10	\$ 22.50	\$ 225.00	
	12	Replace Halotron Fire Extinguisher	11	7	\$ 22.50	\$ 157.50	
	13	Single Man Crew - Straight Time Hourly Rate	n/a	55	\$ 22.50	\$ 1,237.50	
	14	Single Man Crew - Outside of MTS Normal Business Hours Hourly Rate.	n/a	12	\$ 35.00	\$ 420.00	
Table II Subtotals:							\$ 6,122.50

Table II: AS-NEEDED SERVICES						Year Two	4/1/2026 - 3/30/2027
	Item	Description	LBS	Est. Qty/Annual No. of Hours	Unit Price	Item Total	
	1	5 year Hydrostatic Testing	n/a	4	\$ 27.50	\$ 110.00	
	5	Recharge Dry Chemical Fire Extinguisher	10	80	\$ 24.75	\$ 1,980.00	
	6	Recharge Dry Chemical Fire Extinguisher	15	21	\$ 24.75	\$ 519.75	
	7	Recharge Dry Chemical Fire Extinguisher	20	10	\$ 24.75	\$ 247.50	
	8	Replace Dry Chemical Fire Extinguisher	5	20	\$ 24.75	\$ 495.00	
	9	Replace Dry Chemical Fire Extinguisher	10	25	\$ 24.75	\$ 618.75	
	10	Replace Dry Chemical Fire Extinguisher	15	21	\$ 24.75	\$ 519.75	
	11	Replace Dry Chemical Fire Extinguisher	20	10	\$ 24.75	\$ 247.50	
	12	Replace Halotron Fire Extinguisher	11	7	\$ 24.75	\$ 173.25	
	13	Single Man Crew - Straight Time Hourly Rate	n/a	55	\$ 24.75	\$ 1,361.25	
	14	Single Man Crew - Outside of MTS Normal Business Hours Hourly Rate.	n/a	12	\$ 38.50	\$ 462.00	
Table II Subtotals:							\$ 6,734.75

Table II: AS-NEEDED SERVICES						Year Three	4/1/2027 - 3/30/2028
	Item	Description	LBS	Est. Qty/Annual No. of Hours	Unit Price	Item Total	
	1	5 year Hydrostatic Testing	n/a	4	\$ 30.25	\$ 121.00	
	5	Recharge Dry Chemical Fire Extinguisher	10	80	\$ 27.23	\$ 2,178.40	
	6	Recharge Dry Chemical Fire Extinguisher	15	21	\$ 27.23	\$ 571.83	
	7	Recharge Dry Chemical Fire Extinguisher	20	10	\$ 27.23	\$ 272.30	
	8	Replace Dry Chemical Fire Extinguisher	5	20	\$ 27.23	\$ 544.60	
	9	Replace Dry Chemical Fire Extinguisher	10	25	\$ 27.23	\$ 680.75	
	10	Replace Dry Chemical Fire Extinguisher	15	21	\$ 27.23	\$ 571.83	
	11	Replace Dry Chemical Fire Extinguisher	20	10	\$ 27.23	\$ 272.30	

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
	12	Replace Halotron Fire Extinguisher	11	7		\$ 27.23	\$ 190.61
	13	Single Man Crew - Straight Time Hourly Rate	n/a	55		\$ 27.23	\$ 1,497.65
	14	Single Man Crew - Outside of MTS Normal Business Hours Hourly Rate.	n/a	12		\$ 42.35	\$ 508.20
Table II Subtotals:							\$ 7,409.47

Table II: AS-NEEDED SERVICES					Year Four	4/1/2028 - 3/30/2029
Item	Description	LBS	Est. Qty/Annual No. of Hours	Unit Price	Item Total	
1	5 year Hydrostatic Testing	n/a	4	\$ 33.28	\$ 133.12	
5	Recharge Dry Chemical Fire Extinguisher	10	80	\$ 29.95	\$ 2,396.00	
6	Recharge Dry Chemical Fire Extinguisher	15	21	\$ 29.95	\$ 628.95	
7	Recharge Dry Chemical Fire Extinguisher	20	10	\$ 29.95	\$ 299.50	
8	Replace Dry Chemical Fire Extinguisher	5	20	\$ 29.95	\$ 599.00	
9	Replace Dry Chemical Fire Extinguisher	10	25	\$ 29.95	\$ 748.75	
10	Replace Dry Chemical Fire Extinguisher	15	21	\$ 29.95	\$ 628.95	
11	Replace Dry Chemical Fire Extinguisher	20	10	\$ 29.95	\$ 299.50	
12	Replace Halotron Fire Extinguisher	11	7	\$ 29.95	\$ 209.65	
13	Single Man Crew - Straight Time Hourly Rate	n/a	55	\$ 29.95	\$ 1,647.25	
14	Single Man Crew - Outside of MTS Normal Business Hours Hourly Rate.	n/a	12	\$ 46.59	\$ 559.08	
Table II Subtotals:						\$ 8,149.75

Table II: AS-NEEDED SERVICES					Year Five	4/1/2029 - 3/30/2030
Item	Description	LBS	Est. Qty/Annual No. of Hours	Unit Price	Item Total	
1	5 year Hydrostatic Testing	n/a	4	\$ 36.61	\$ 146.44	
5	Recharge Dry Chemical Fire Extinguisher	10	80	\$ 32.95	\$ 2,636.00	
6	Recharge Dry Chemical Fire Extinguisher	15	21	\$ 32.95	\$ 691.95	
7	Recharge Dry Chemical Fire Extinguisher	20	10	\$ 32.95	\$ 329.50	
8	Replace Dry Chemical Fire Extinguisher	5	20	\$ 32.95	\$ 659.00	
9	Replace Dry Chemical Fire Extinguisher	10	25	\$ 32.95	\$ 823.75	
10	Replace Dry Chemical Fire Extinguisher	15	21	\$ 32.95	\$ 691.95	
11	Replace Dry Chemical Fire Extinguisher	20	10	\$ 32.95	\$ 329.50	
12	Replace Halotron Fire Extinguisher	11	7	\$ 32.95	\$ 230.65	
13	Single Man Crew - Straight Time Hourly Rate	n/a	55	\$ 32.95	\$ 1,812.25	
14	Single Man Crew - Outside of MTS Normal Business Hours Hourly Rate.	n/a	12	\$ 51.25	\$ 615.00	
Table II Subtotals:						\$ 8,965.99

Table III: AS-NEEDED REPLACEMENT PARTS			Year One	4/1/2025 - 3/30/2026
Item	Description	% Mark Up	Item Total	
1	Annual Materials/Parts Allowance	1%	\$ 22,250.75	
2	Materials markup		\$ 2,225.08	

Table I: FIRE EXTINGUISHER TESTING AND MAINTENANCE						Year One	4/1/2025 - 3/30/2026
Group	Item	Location & Service	LBS	Estimated Quantity	Frequency	Unit Price	Item Total
Table III Subtotals:							\$ 24,475.83

Table III: AS-NEEDED REPLACEMENT PARTS				Year Two	4/1/2026 - 3/30/2027
Item	Description	% Mark Up	Item Total		
1	Annual Materials/Parts Allowance	1%	\$ 24,284.57		
2	Materials markup		\$ 2,428.46		
Table III Subtotals:					\$ 26,713.02

Table III: AS-NEEDED REPLACEMENT PARTS				Year Three	4/1/2027 - 3/30/2028
Item	Description	% Mark Up	Item Total		
1	Annual Materials/Parts Allowance	1%	\$ 29,130.75		
2	Materials markup		\$ 2,913.07		
Table III Subtotals:					\$ 32,043.82

Table III: AS-NEEDED REPLACEMENT PARTS				Year Four	4/1/2028 - 3/30/2029
Item	Description	% Mark Up	Item Total		
1	Annual Materials/Parts Allowance	1%	\$ 32,043.16		
2	Materials markup		\$ 3,204.32		
Table III Subtotals:					\$ 35,247.47

Table III: AS-NEEDED REPLACEMENT PARTS				Year Five	4/1/2029 - 3/31/2030
Item	Description	% Mark Up	Item Total		
1	Annual Materials/Parts Allowance	5%	\$ 34,822.82		
2	Materials markup		\$ 3,482.28		
Table III Subtotals:					\$ 38,305.10

Grand Total (BASIS OF AWARD)		\$ 156,785.24
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**Metropolitan
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DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 14

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

On-Call Job Order Contracting (JOC) Railroad Construction Services – Contract Amendment

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute Amendment No. 4 MTS Doc. No. PWG348.4-22 (in substantially the same format as Attachment A) with Veterans Engineering Services, Inc., (Veterans), a Disabled Veterans Business Enterprise (DVBE), for an increase in capacity to the Railroad Construction Services JOC in the amount of \$4,800,000.00.

Budget Impact

The total cost of this amendment is estimated to be \$4,800,000.00, and the total contract cost of the services is estimated to be \$12,800,000.00 (inclusive of this amendment). The contract will be funded by various MTS accounts. Funding will be included in the budget of each project for which a work order will be issued under this agreement.

DISCUSSION:

Job Order Contracting Method (Background)

JOC is a procurement method under which public agencies may accomplish frequently encountered repairs, maintenance, and construction projects through a single, competitively procured long-term agreement.

The JOC program includes a catalog of pricing for a variety of potential tasks to be performed under the contract that have been pre-priced by the contractor, the Gordian Group. All potential contractors are subject to the pricing within this catalog. Each contractor then includes an adjustment factor, escalating their proposed price from the catalog price, to determine the total cost of the task order. The adjustment factor represents an average percentage increase over the catalog price (i.e. 1.25 adjustment factor represents 25% above the catalog price) for that respective task within the project. In order to select the lowest responsive and responsible bidder, MTS staff compares each contractor's proposed adjustment factor.



MTS's enabling legislation at Public Utilities Code Section 120222 authorizes MTS to use any procurement method authorized for state or local agencies under state or federal law. Certain public entities in California are expressly authorized to use the JOC process within limited parameters. MTS's ability to utilize the JOC contracting process is premised upon the statutory allowance granted to such entities. MTS shares in the same general limitations imposed on the JOC process by this statutory framework. Public Contract Code Section 20128.5 allows the board of supervisors of a county to utilize JOCs up to \$3,000,000 annually, adjusted annually to reflect the percent change in the California Consumer Index. Calculations to December 2024 are \$6,372,000 annually. MTS maintains internal contract administration guidelines to ensure compliance with the annual maximum in JOC work orders for any given year.

Railroad Construction Services JOC

The JOC contract under consideration includes repair, remodeling or other repetitive work involving railroad construction improvements. This includes, but is not limited to, main Continuous Welded Rail (CWR) track rehabilitation/replacement, grade crossings (pre-cast concrete panels, rubber panels, paved with rubber rail interface) special track work, direct fixation, signal systems, overhead catenary, traction power, and related civil construction improvements work; and all required incidental professional and technical services required for quality control monitoring and testing, shop drawings, safety, environmental, scheduling, traffic control, storm water pollution prevention, geotechnical, surveying, biological, and hazardous/contaminated materials.

On June 16, 2022 (Agenda Item (AI) 12), after a competitive Invitation for Bids (IFB) process, the MTS Board of Directors approved MTS Doc. No. PWG348.0-22 with Veterans to provide job order contracting for railroad construction services with a contract capacity of \$4,000,000 and a four year term, including option years (the "Railroad Construction Services JOC").

On March 14, 2024 (AI 12), the MTS Board approved a \$4,000,000.00 increase to the Railroad Construction Services JOC to cover anticipated additional construction under this JOC category.

Today's proposed action would authorize an additional \$4,800,000 in capacity to the Railroad Construction Services JOC; however, no specific project or spending is authorized. Individual projects/task orders will be processed according to the signature authority set forth in MTS Board Policy No. 41 "Signature Authority" (e.g. task orders under \$150,000.00 will be approved by the CEO; task orders over \$150,000.00 will require Board approval).

The additional funding is needed because the Railroad Construction Services JOC is nearing its \$8,000,000 contract capacity and will not continue to have enough funding to get through the current year and the final option year that expires June 30, 2026. Currently executed work orders total \$6,444,640.54 (See Attachment B).

The proposed \$4,800,000.00 in additional contract capacity was calculated based on planned MTS Capital Improvement Projects (CIP) projects already allocated to this JOC (\$950,000), plus an assessment of the amount of unplanned Railroad Construction JOC category work in 2024 and 2025 (multiple repair projects required because of the January 2024 flood, impacts from City of San Diego water line construction projects, and other emergency repairs). Emergency JOC work orders issued over the previous year included \$1.9M on grade crossings, \$1.3M in trolley station safety upgrades, and \$1.4M on track repairs. This caused MTS to spend more of the contract funds in 2024 than anticipated when the contract total was first established. Based

on these experiences, staff estimates that an additional \$3,850,000 in contract capacity should be obtained to allow MTS to expeditiously respond to any unplanned or unforeseen repairs and maintenance needs that arise in 2025 and 2026. If such emergencies or unforeseen work do not arise, then the additional funding would not be spent.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute Amendment No. 4 MTS Doc. No. PWG348.4-22 (in substantially the same format as Attachment A) with Veterans, a DVBE, for an increase in capacity to the JOC Railroad Construction Services Contract in the amount of \$4,800,000.00.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olsen, 619.557.4588, mark.olsen@sdmts.com

Attachments: A. Draft Amendment PWG348.4-22
B. JOC Work Order History



Metropolitan Transit System

Amendment 4

Effective Date: March 13, 2025

MTS Doc No. PWG348.4-22

On-Call Railroad Construction Services

Veterans Engineering Services
Paul Marshall
Chief Operating Officer
2300 N. Batavia St.
Orange, CA, 92865

This shall serve as Amendment No.4 to the original agreement PWG348.0-22 as further described below.

SCOPE

As a result of this Amendment, there shall be no change to the Scope of Work.

SCHEDULE

There shall be no change to the Schedule as a result of this Amendment. The Schedule shall remain in effect from June 30, 2025 to June 30, 2026.

PAYMENT

The total value of this contract, including this amendment, shall be in the amount of \$12,800,000.00 (\$4,000,000.00 for the original contract value, plus \$4,000,000.00 for amendment 2, and \$4,800,000.00 for this amendment 4). This amount shall not be exceeded without prior written approval from MTS.

Please sign and return the copy to the Contract Specialist at MTS. All other terms and conditions shall remain the same and in effect. Retain the other copies for your records.

Sincerely,

Agreed:

Sharon Cooney, Chief Executive Officer

Paul Marshall, COO
Veterans Engineering Services

Date: _____



JOC RAILROAD CONSTRUCTION SERVICES - VETERANS ENGINEERING SERVICE, INC.				\$ 8,000,000.00
WORK ORDER #	WORK EXECUTED? (Y/N)	WORK ORDER TITLE	WORK ORDER AMOUNT	CONTRACT REMAINING BALANCE
MTSJOC348-01	Y	S85 Slope on Blue Line	\$ 1,241,292.37	\$ 6,758,707.63
MTSJOC348-01.01	Y	No Cost Time Extension	\$ -	\$ 6,758,707.63
MTSJOC348-01.02	Y	CCO 02 - Retaining Wall	\$ 865,530.74	\$ 5,893,176.89
MTSJOC348-01.03	Y	CCO 03	\$ 308,522.52	\$ 5,584,654.37
MTSJOC348-02	Y	Friars Napa Grade Crossing	\$ 24,843.09	\$ 5,559,811.28
MTSJOC348-03	Y	Main St Bridge DF Assembly Replaceme	\$ 54,355.81	\$ 5,505,455.47
MTSJOC348-04	Y	Taylor St IJ Replacement	\$ 14,684.69	\$ 5,490,770.78
MTSJOC348-05	Y	Rail Welding	\$ 146,673.39	\$ 5,344,097.39
MTSJOC348-06	N	Main St Bridge DF Replacement II	\$ 300,000.00	\$ 5,044,097.39
MTSJOC348-07	Y	Mission San Diego Fence Repair	\$ 228,001.06	\$ 4,816,096.33
MTSJOC348-08	Y	Hollister Slope Repair	\$ 34,910.23	\$ 4,781,186.10
MTSJOC348-09	Y	Washington St Wall Modification	\$ 610,819.97	\$ 4,170,366.13
MTSJOC348-10	Y	Fletcher Bridge Connolly Joint Repair	\$ 116,177.90	\$ 4,054,188.23
MTSJOC348-11	Y	Beyer Slope Repair	\$ 123,363.15	\$ 3,930,825.08
MTSJOC348-12	Y	4th and C Grade Crossing	\$ 924,427.12	\$ 3,006,397.96
MTSJOC348-13	Y	El Cajon Platform Replacement	\$ 645,778.77	\$ 2,360,619.19
MTSJOC348-13.01	Y	CCO 01	\$ 78,398.69	\$ 2,282,220.50
MTSJOC348-13.02	Y	CCO 02	\$ 70,929.55	\$ 2,211,290.95
MTSJOC348-14	N	MP 11.25 Sun Kink	\$ 26,000.00	\$ 2,185,290.95
MTSJOC348-15	Y	66th St. Track Repair	\$ 955,931.49	\$ 1,229,359.46
MTSJOC348-16	N	East Beyer Blvd Slope Repair	\$ 75,000.00	\$ 1,154,359.46
MTSJOC348-17	N	Broaway Rail Replacement	\$ 395,747.67	\$ 758,611.79
MTSJOC348-18	N	7th & C St. Crossing Replacement	\$ 925,000.00	\$ (166,388.21)
			\$ 8,166,388.21	\$ (166,388.21)

EXECUTED WORK ORDER TOTALS	\$ 6,444,640.54
Non-Executed Work Order Totals - Pending Final Scope of Work - Estimated Value Only	\$ 1,154,359.46



**Metropolitan
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DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 15

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Broadway & C Street Wheel Counter and Signal Replacement – Contract Award

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute contract MTS Doc No. PWL394.0-24 (in substantially the same format as Attachment A), with Modern Railway Systems, Inc., in the amount of \$673,396.00 for the replacement of the existing wheel counters and signaling systems located at Broadway and C Street.

Budget Impact

The total cost of this contact is estimated to be \$673,396.00 (Attachment C). This project will be funded by the MTS Capital Improvement Program (CIP) account 2005114501 – Signal Replacement.

DISCUSSION:

This project involves replacing the existing axle counter system provided by Siemens with a new system provided by Frauscher FAdC and replacing the existing Siemens Sicas S7 Vital Logic Controller with an Alstom ElectrologIXS Controller. The project is necessary to ensure safe and efficient movement of trains through the C street interlocking and Broadway Wye.

Due to their limited adoption within the railroad industry, Siemens stopped production on the wheel counter and Sicas S7 Vital Logic Controller that are currently in service at the project location. This equipment has become obsolete and there is no support from Siemens or an alternate supplier for repair parts. The planned replacement Frauscher FAdC Axle Counter System and Alstom ElectrologIXS Controller are both well-known and widely used in the heavy railroad and light rail industries, so there is little concern regarding lack of future support or availability of repair parts, like there was with the previously installed Siemens systems. In addition, the ElectroLogIXS is now the current MTS standard for Vital Signal Processors and has been installed along the 11-mile Blue Line Mid-Coast Extension and is planning for future replacements on other parts of the system.



On November 25, 2024, MTS issued an Invitation for Bids (IFB) seeking a contractor to provide track signaling replacement services (Attachment B).

Three (3) bids were received on January 13, 2025, from the following firms:

Firm	Firm Certification	Grand Total
MTS – Independent Cost Estimate (ICE)		\$1,176,903.49
Modern Railway Systems, Inc.	N/A	\$673,396.00
HMS Construction, Inc.	N/A	\$1,075,000.00
Balfour Beatty Infrastructure Inc.	N/A	\$1,170,420.00

Modern Railway Systems, Inc. has designated subcontractor Bariom, Inc. to perform a portion of the work:

Subcontractor	Firm Certification
Bariom, Inc.	Small Business (Micro)

Based on the bids received, and in comparison, to MTS's ICE at \$1,176,903.49, MTS staff determined Modern Railway Systems Inc.'s bid to be fair and reasonable.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute Contract No. PWL394.0-24 (in substantially the same format as Attachment A), with Modern Railway Systems, Inc., in the amount of \$673,396.00 for the replacement of the existing wheel counters and signaling systems located at Broadway and C Street.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. Draft Agreement PWL394.0-24
B. Scope of Work
C. Bid Costs



Metropolitan Transit System

STANDARD CONSTRUCTION AGREEMENT FOR MTS DOC. NO. PWL394.0-24

BROADWAY & C STREET WHEEL COUNTER AND SIGNAL REPLACEMENT

THIS AGREEMENT is entered into this _____ day of _____ 2025, in the State of California by and between San Diego Metropolitan Transit System ("MTS"), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: Modern Railway Systems Address: 8201 Southpark Lane, Suite 200
Littleton, CO 81020

Form of Business: Corporation
(Corporation, Partnership, Sole Proprietor, etc.) Email: bmartinez@modrailsystems.com

Telephone: (720) 542-3325

Authorized person to sign contracts	<u>Ben Martinez</u>	<u>Director of Business Development</u>
	Name	Title

The specified Contract Documents are part of this Agreement. The Contractor agrees to furnish to MTS services and materials, as follows:

Contractor shall furnish all necessary management, supervision, labor, materials, tools, supplies, equipment, plant, services, engineering, testing and/or any other act or thing required to diligently and fully perform and complete the Project as specified in accordance with the Standard Agreement and General Conditions (Exhibit A), Scope of Work, Special Conditions and Attachments (Exhibit B), Bid Price Form (Exhibit C) and Forms (Exhibit D).

SCOPE OF WORK.

Contractor, for and in consideration of the payment to be made to Contractor as hereinafter provided, shall furnish all plant, labor, technical and professional services, supervision, materials, and equipment, other than such materials and equipment as may be specified to be furnished by MTS, and perform all operations necessary to complete the Work in strict conformance with the Contract Documents (defined below) for the following public work of improvement:

BROADWAY & C STREET WHEEL COUNTER AND SIGNAL REPLACEMENT

Contractor is an independent contractor and not an agent of MTS. The Contractor and its surety shall be liable to MTS for any damages arising as a result of the Contractor's failure to comply with this obligation.



CONTRACT TIME.

Time is of the essence in the performance of the Work. The Work shall be commenced by the date stated in MTS's Notice to Proceed. The Contractor shall complete all Work required by the Contract Documents within **60 calendar days from the commencement date stated in the Notice to Proceed.** By its signature hereunder, Contractor agrees the Contract Time is adequate and reasonable to complete the Work.

CONTRACT PRICE.

MTS shall pay the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of six hundred seventy-three thousand, three hundred ninety-six dollars (\$673,396.00). Payment shall be made as set forth in the General Conditions.

PROVISIONS REQUIRED BY LAW.

Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of the California Labor Code applicable to this Project.

INDEMNIFICATION.

Contractor shall provide indemnification as set forth in the General Conditions.

PREVAILING WAGES.

Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates shall be made available at MTS's Administrative Office or may be obtained online at <http://www.dir.ca.gov> and which must be posted at the job site.

SAN DIEGO METROPOLITAN TRANSIT SYSTEM	MODERN RAILWAY SYSTEMS
<p>By: _____ Sharon Cooney, Chief Executive Officer</p> <p>Approved as to form:</p> <p>By: _____ Karen Landers, General Counsel</p>	<p>By: _____</p> <p>Title: _____</p>



**C Street & Broadway Wye Design
1255 Imperial Avenue
San Diego, California 92101
MTS Doc. No. PWL394.0-24**

SPECIFICATIONS

**Issued for
Construction**

March 2024

METROPOLITAN TRANSIT SYSTEM



C Street & Broadway Wye Design

San Diego, California

Specifications Issued for Construction

March, 2024

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Site and Infrastructure Subgroup

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SECTION 260543

UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including MTS C Street & Broadway Wye Design apply to this Section.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. UNDERGROUND GROUND SYSTEM

- 1. Basis of Measurement: Lump Sum Power/Lighting Cable and Underground Conduit System.
- 2. Basis of Payment: Include handhole, ducts and accessories required and installation.

1.3 SUMMARY

A. Section Includes:

- 1. Rigid nonmetallic duct.
- 2. Duct accessories.
- 3. Precast concrete handholes.

1.4 DEFINITIONS

- A. Direct Buried: Duct or a duct bank that is buried in the ground, without any additional casing materials such as concrete.
- B. Duct: A single duct or multiple ducts. Duct may be either installed singly or as component of a duct bank.
- C. Duct Bank:
 - 1. Two or more ducts installed in parallel, with or without additional casing materials.
 - 2. Multiple duct banks.
- D. GRC: Galvanized rigid (steel) conduit.

- E. Trafficways: Locations where vehicular or pedestrian traffic is a normal course of events.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include duct-bank materials, including spacers and miscellaneous components.
 - 2. Include duct, conduits, and their accessories, including elbows, end bells, bends, fittings, and solvent cement.
 - 3. Include accessories for manholes, handholes, boxes.
 - 4. Include underground-line warning tape.
 - 5. Include warning planks.
- B. Shop Drawings:
 - 1. Factory-Fabricated Handholes and Boxes Other Than Precast Concrete:
 - a. Include dimensioned plans, sections, and elevations, and fabrication and installation details.
 - b. Include duct entry provisions, including locations and duct sizes.
 - c. Include cover design.
 - d. Include grounding details.
 - e. Include dimensioned locations of cable rack inserts, and pulling-in and lifting irons.

1.6 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: For duct and duct bank. Show duct profiles and coordination with other utilities and underground structures.
 - 1. Include plans and sections, drawn to scale, and show bends and locations of expansion fittings.
 - 2. Drawings shall be signed and sealed by a qualified professional engineer.
- B. Qualification Data: For professional engineer and testing agency responsible for testing nonconcrete handholes and boxes.
- C. Product Certificates: For concrete and steel used in precast concrete handholes, as required by ASTM C858.
- D. Source quality-control reports.
- E. Field quality-control reports.

1.7 MAINTENANCE MATERIALS SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
- B. Furnish cable-support stanchions, arms, insulators, and associated fasteners in quantities equal to 5 percent of quantity of each item installed.

1.8 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.

1.9 FIELD CONDITIONS

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions, and then only after arranging to provide temporary electrical service according to requirements indicated:
 - 1. Notify Construction Manager no fewer than seven days in advance of proposed interruption of electrical service.
 - 2. Do not proceed with interruption of electrical service without Construction Manager's written permission.
- B. Ground Water: Assume ground-water level is at grade level unless a lower water table is noted on Drawings.
- C. Ground Water: Assume ground-water level is 36 inches below ground surface unless a higher water table is noted on Drawings.

PART 2 - PRODUCTS

2.1 RIGID NONMETALLIC DUCT

- A. Underground Plastic Utilities Duct: Type EPC-40-PVC RNC, complying with NEMA TC 2 and UL 651, with matching fittings complying with NEMA TC 3 by same manufacturer as duct.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ARNCO Corp.
 - 2. Beck Manufacturing.
 - 3. Cantex Inc.
 - 4. CertainTeed Corporation.
 - 5. Condux International, Inc.

6. Crown Line Plastics.
7. ElecSys, Inc.
8. Electri-Flex Company.
9. Endot Industries Inc.
10. IPEX USA LLC.
11. Lamson & Sessions.
12. Manhattan/CDT.
13. National Pipe & Plastics.
14. Opti-Com Manufacturing Network, Inc (OMNI).
15. Spiraduct/AFC Cable Systems, Inc.

- C. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.
- D. Solvents and Adhesives: As recommended by conduit manufacturer.

2.2 DUCT ACCESSORIES

- A. Duct Spacers: Factory-fabricated, rigid, PVC interlocking spacers; sized for type and size of duct with which used and selected to provide minimum duct spacing indicated while supporting duct during concreting or backfilling.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Atkore International (Allied Tube & Conduit).
 - b. Cantex Inc.
 - c. Carlon; a brand of Thomas & Betts Corporation.
 - d. IPEX USA LLC.
 - e. PenCell Plastics.
 - f. Underground Devices, Inc.
- B. Underground-Line Warning Tape: Comply with requirements for underground-line warning tape specified in Section 260553 "Identification for Electrical Systems."
- C. Concrete Warning Planks: Nominal 12 by 24 by 3 inches in size, manufactured from 6000-psi concrete.
 1. Color: Red dye added to concrete during batching.
 2. Mark each plank with "ELECTRIC" in 2-inch-high, 3/8-inch-deep letters.

2.3 PRECAST CONCRETE HANDHOLES AND BOXES

- A. Description: Factory-fabricated, reinforced-concrete, monolithically poured walls and bottom unless open-bottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or box.

- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Christy Concrete Products.
 2. Elmhurst-Chicago Stone Co.
 3. Oldcastle Precast, Inc.
 4. Rinker Group, Ltd.
 5. Riverton Concrete Products.
 6. Utility Concrete Products, LLC.
 7. Utility Vault Co.
 8. Wausau Tile Inc.
- C. Comply with ASTM C858 for design and manufacturing processes.
- D. Frame and Cover: Weatherproof cast-iron frame, with cast-iron cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.
- E. Frame and Cover: Weatherproof steel frame, with steel cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.
- F. Frame and Cover: Weatherproof steel frame, with hinged steel access door assembly with tamper-resistant, captive, cover-securing bolts.
1. Cover Hinges: Concealed, with hold-open ratchet assembly.
 2. Cover Handle: Recessed.
- G. Frame and Cover: Weatherproof aluminum frame with hinged aluminum access door assembly with tamper-resistant, captive, cover-securing bolts.
1. Cover Hinges: Concealed, with hold-open ratchet assembly.
 2. Cover Handle: Recessed.
- H. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
- I. Cover Legend: Molded lettering, "ELECTRIC."
- J. Configuration: Units shall be designed for flush burial and have closed bottom unless otherwise indicated.
- K. Joint Sealant: Asphaltic-butyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation location with the ground-water level at grade.
- L. Knockout Panels: Precast openings in walls, arranged to match dimensions and elevations of approaching duct, plus an additional 12 inches vertically and horizontally to accommodate alignment variations.
1. Center window location.

2. Knockout panels shall be located no less than 6 inches from interior surfaces of walls, floors, or frames and covers of handholes, but close enough to corners to facilitate racking of cables on walls.
 3. Knockout panel opening shall have cast-in-place, welded-wire fabric reinforcement for field cutting and bending to tie in to concrete envelopes of duct.
 4. Knockout panels shall be framed with at least two additional No. 3 steel reinforcing bars in concrete around each opening.
 5. Knockout panels shall be 1-1/2 to 2 inches thick.
- M. Duct Entrances in Handhole Walls: Cast end-bell or duct-terminating fitting in wall for each entering duct.
1. Type and size shall match fittings to duct to be terminated.
 2. Fittings shall align with elevations of approaching duct and be located near interior corners of handholes to facilitate racking of cable.
- N. Handholes 12 inches wide by 24 inches long and larger shall have inserts for cable racks and pulling-in irons installed before concrete is poured.

2.4 SOURCE QUALITY CONTROL

- A. Test and inspect precast concrete utility structures according to ASTM C1037.
- B. Nonconcrete Handhole and Pull-Box Prototype Test: Test prototypes of manholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.
1. Tests of materials shall be performed by an independent testing agency.
 2. Strength tests of complete boxes and covers shall be by an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
 3. Testing machine pressure gages shall have current calibration certification, complying with ISO 9000 and ISO 10012, and traceable to NIST standards.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate layout and installation of duct, duct bank, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Notify Architect if there is a conflict between areas of excavation and existing structures or archaeological sites to remain.
- B. Coordinate elevations of duct and duct-bank entrances into manholes, handholes, and boxes with final locations and profiles of duct and duct banks, as determined by coordination with other utilities, underground obstructions, and surface features. Revise

locations and elevations as required to suit field conditions and to ensure that duct and duct bank will drain to manholes and handholes, and as approved by Architect.

3.2 UNDERGROUND DUCT APPLICATION

- A. Duct for Electrical Cables More Than 600 V: Type EPC-40-PVC RNC, concrete-encased unless otherwise indicated.
- B. Duct for Electrical Feeders 600 V and Less: Type EPC-40-PVC RNC, concrete-encased unless otherwise indicated.
- C. Duct for Electrical Feeders 600 V and Less: Type EPC-40-PVC RNC, direct-buried unless otherwise indicated.
- D. Duct for Electrical Branch Circuits: Type EPC-40-PVC RNC, direct-buried unless otherwise indicated.
- E. Underground Ducts Crossing Paved Paths, Roadways and Railroads: Type EPC-40 PVC RNC, encased in reinforced concrete.
- F. Stub-ups: Concrete-encased RNC.

3.3 UNDERGROUND ENCLOSURE APPLICATION

- A. Handholes and Boxes for 600 V and Less:
 - 1. Units in Roadways and Other Deliberate Traffic Paths: Precast concrete, AASHTO HB 17, H-20 structural load rating.
 - 2. Units in Sidewalk and Similar Applications with a Safety Factor for Nondeliberate Loading by Vehicles: Precast concrete, AASHTO HB 17, H-10 structural load rating.
 - 3. Cover design load shall not exceed the design load of the handhole or box.

3.4 EARTHWORK

- A. Restoration: Replace area after construction vehicle traffic in immediate area is complete.

- B. Restore surface features at areas disturbed by excavation and re-establish original grades unless otherwise indicated. Replace removed sod immediately after backfilling is completed.
- C. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoiling, fertilizing, liming, seeding, sodding, sprigging, and mulching.
- D. Cut and patch existing pavement in the path of underground duct, duct bank, and underground structures.

3.5 DUCT AND DUCT-BANK INSTALLATION

- A. Where indicated on Drawings, install duct, spacers, and accessories into the duct-bank configuration shown. Duct installation requirements in this Section also apply to duct bank.
- B. Install duct according to NEMA TCB 2.
- C. Slope: Pitch duct a minimum slope of 1:300 down toward manholes and handholes and away from buildings and equipment. Slope duct from a high point between two manholes, to drain in both directions.
- D. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 48 inches, both horizontally and vertically, at other locations unless otherwise indicated.
 - 1. Duct shall have maximum of two 90 degree bends or the total of all bends shall be no more 180 degrees between pull points.
- E. Joints: Use solvent-cemented joints in duct and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent duct do not lie in same plane.
- F. Installation Adjacent to High-Temperature Steam Lines: Where duct is installed parallel to underground steam lines, perform calculations showing the duct will not be subject to environmental temperatures above 40 deg C. Where environmental temperatures are calculated to rise above 40 deg C, and anywhere the duct crosses above an underground steam line, install insulation blankets listed for direct burial to isolate the duct bank from the steam line.
- G. End Bell Entrances to Manholes and Concrete and Polymer Concrete Handholes: Use end bells, spaced approximately 10 inches o.c. for 5-inch duct, and vary proportionately for other duct sizes.
 - 1. Begin change from regular spacing to end-bell spacing 10 feet from the end bell, without reducing duct slope and without forming a trap in the line.
 - 2. Expansion and Deflection Fittings: Install an expansion and deflection fitting in each duct in the area of disturbed earth adjacent to manhole or handhole. Install

- an expansion fitting near the center of all straight line direct-buried duct with calculated expansion of more than 3/4 inch.
3. Grout end bells into structure walls from both sides to provide watertight entrances.
- H. Terminator Entrances to Manholes and Concrete and Polymer Concrete Handholes: Use manufactured, cast-in-place duct terminators, with entrances into structure spaced approximately 6 inches o.c. for 4-inch duct, and vary proportionately for other duct sizes.
1. Begin change from regular spacing to terminator spacing 10 feet from the terminator, without reducing duct line slope and without forming a trap in the line.
 2. Expansion and Deflection Fittings: Install an expansion and deflection fitting in each duct in the area of disturbed earth adjacent to manhole or handhole. Install an expansion fitting near the center of all straight line duct with calculated expansion of more than 3/4 inch.
- I. Building Wall Penetrations: Make a transition from underground duct to GRC at least 10 feet outside the building wall, without reducing duct line slope away from the building and without forming a trap in the line. Use fittings manufactured for RNC-to-GRC transition. Install GRC penetrations of building walls.
- J. Sealing: Provide temporary closure at terminations of duct with pulled cables. Seal spare duct at terminations. Use sealing compound and plugs to withstand at least 15-psig hydrostatic pressure.
- K. Pulling Cord: Install 200-lbf-test nylon cord in empty ducts.
- L. Direct-Buried Duct and Duct Bank:
1. Width: Excavate trench 12 inches wider than duct on each side.
 2. Width: Excavate trench 3 inches wider than duct on each side.
 3. Depth: Install top of duct at least 36 inches below finished grade unless otherwise indicated.
 4. Set elevation of bottom of duct bank below frost line.
 5. Support ducts on duct spacers coordinated with duct size, duct spacing, and outdoor temperature.
 6. Spacer Installation: Place spacers close enough to prevent sagging and deforming of duct, with not less than four spacers per 20 feet of duct. Place spacers within 24 inches of duct ends. Stagger spacers approximately 6 inches between tiers. Secure spacers to earth and to ducts to prevent floating during concreting. Tie entire assembly together using fabric straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
 7. Install duct with a minimum of 3 inches between ducts for like services and 6 inches between power and communications duct.

10. Elbows: Install manufactured duct elbows for stub-ups, at building entrances, and at changes of direction in duct direction unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
 11. Install manufactured GRC elbows for stub-ups, at building entrances, and at changes of direction in duct.
 - a. Couple RNC duct to GRC with adapters designed for this purpose and encase coupling with 3 inches of concrete.
 - b. Stub-ups to Outdoor Equipment: Extend concrete-encased GRC horizontally a minimum of 60 inches from edge of base. Install insulated grounding bushings on terminations at equipment.
 - 1) Stub-ups shall be minimum 4 inches above finished floor and minimum 3 inches from conduit side to edge of slab.
- M. Warning Planks: Bury warning planks approximately 12 inches above direct-buried duct, placing them 24 inches o.c. Align planks along the width and along the centerline of duct or duct bank. Provide an additional plank for each 12-inch increment of duct-bank width over a nominal 18 inches. Space additional planks 12 inches apart, horizontally.
- N. Underground-Line Warning Tape: Bury conducting underground line specified in Section 260553 "Identification for Electrical Systems" no less than 12 inches above all concrete-encased duct and duct banks and approximately 12 inches below grade. Align tape parallel to and within 3 inches of centerline of duct bank. Provide an additional warning tape for each 12-inch increment of duct-bank width over a nominal 18 inches. Space additional tapes 12 inches apart, horizontally.
- 3.6 INSTALLATION OF CONCRETE MANHOLES, HANDHOLES, AND BOXES
- A. Cast-in-Place Manhole Installation: **Section Omitted**
- ~~1. Finish interior surfaces with a smooth-troweled finish.~~

- ~~2. Knockouts for Future Duct Connections: Form and pour concrete knockout panels 1 1/2 to 2 inches thick, arranged as indicated.~~
- ~~3. Comply with requirements in Section 033000 "Cast in Place Concrete" for cast in place concrete, formwork, and reinforcement.~~

B. Precast Concrete Handhole and Manhole Installation:

1. Comply with ASTM C891 unless otherwise indicated.
2. Install units level and plumb and with orientation and depth coordinated with connecting duct, to minimize bends and deflections required for proper entrances.
3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

C. Elevations:

1. Manhole Roof: Install with rooftop at least 15 inches below finished grade.
2. Manhole Frame: In paved areas and trafficways, set frames flush with finished grade. Set other manhole frames 1 inch above finished grade.
3. Install handholes with bottom below frost line, below grade.
4. Handhole Covers: In paved areas and trafficways, set surface flush with finished grade. Set covers of other handholes 1 inch above finished grade.
5. Where indicated, cast handhole cover frame integrally with handhole structure.

D. Hardware: Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators as required for installation and support of cables and conductors and as indicated.

E. Field-Installed Bolting Anchors in Manholes and Concrete Handholes: Do not drill deeper than 3-7/8 inches for manholes and 2 inches for handholes, for anchor bolts installed in the field. Use a minimum of two anchors for each cable stanchion.

3.7 INSTALLATION OF HANDHOLES AND BOXES OTHER THAN PRECAST CONCRETE

A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting duct, to minimize bends and deflections required for proper entrances. Use box extension if required to match depths of duct, and seal joint between box and extension as recommended by manufacturer.

B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

C. Elevation: In paved areas and trafficways, set cover flush with finished grade. Set covers of other handholes 1 inch above finished grade.

D. Install handholes and boxes with bottom below frost line, below grade.

- E. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in enclosure.
- F. Field cut openings for duct according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.8 GROUNDING **Section Omitted**

- ~~A. Ground underground ducts and utility structures according to Section 260526 "Grounding and Bonding for Electrical Systems."~~

3.9 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
 - 1. Demonstrate capability and compliance with requirements on completion of installation of underground duct, duct bank, and utility structures.
 - 2. Pull solid aluminum or wood test mandrel through duct to prove joint integrity and adequate bend radii, and test for out-of-round duct. Provide a minimum 12-inch-long mandrel equal to duct size minus 1/4 inch. If obstructions are indicated, remove obstructions and retest.
 - 3. Test handhole grounding to ensure electrical continuity of grounding and bonding connections. Measure and report ground resistance as specified in Section 260526 "Grounding and Bonding for Electrical Systems."
- B. Correct deficiencies and retest as specified above to demonstrate compliance.
- C. Prepare test and inspection reports.

3.10 CLEANING

- A. Pull leather-washer-type duct cleaner, with graduated washer sizes, through full length of duct until duct cleaner indicates that duct is clear of dirt and debris. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.
- B. Clean internal surfaces of manholes, including sump.
 - 1. Sweep floor, removing dirt and debris.
 - 2. Remove foreign material.

END OF SECTION 260543

SECTION 260553

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including MTS C Street & Broadway Wye Design, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Labels.
 - 2. Bands and tubes.
 - 3. Tapes and stencils.
 - 4. Tags.
 - 5. Signs.
 - 6. Cable ties.
 - 7. Miscellaneous identification products.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for electrical identification products.
- B. Samples: For each type of label and sign to illustrate composition, size, colors, lettering style, mounting provisions, and graphic features of identification products.
- C. Identification Schedule: For each piece of electrical equipment and electrical system components to be an index of nomenclature for electrical equipment and system components used in identification signs and labels. Use same designations indicated on Drawings.
- D. Delegated-Design Submittal: For arc-flash hazard study.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A13.1 and IEEE C2.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Comply with NFPA 70E requirements for arc-flash warning labels.
- F. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.
- G. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 COLOR AND LEGEND REQUIREMENTS

- A. Raceways and Cables Carrying Circuits at 600 V or Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage.
- B. Color-Coding for Phase- and Voltage-Level Identification, 600 V or Less: Use colors listed below for ungrounded feeder and branch-circuit conductors.
 - 1. Color shall be factory applied.
 - 2. Colors for 208/120-V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - 3. Colors for 240-V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - 4. Colors for 480/277-V Circuits:
 - a. Phase A: Brown.
 - b. Phase B: Orange.
 - c. Phase C: Yellow.

5. Color for Neutral: White.
6. Color for Equipment Grounds: Green.
7. Colors for Isolated Grounds: Green with two or more yellow stripes.

C. Raceways and Cables Carrying Circuits at More Than 600 V:

1. Black letters on an orange field.
2. Legend: "DANGER - CONCEALED HIGH VOLTAGE WIRING."

D. Warning Label Colors:

1. Identify system voltage with black letters on an orange background.

E. Warning labels and signs shall include, but are not limited to, the following legends:

1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."

F. Equipment Identification Labels:

1. Black letters on a white field.

2.3 LABELS

A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Champion America.
 - c. emedco.
 - d. Grafoplast Wire Markers.
 - e. HellermannTyton.
 - f. LEM Products Inc.
 - g. Marking Services, Inc.
 - h. Panduit Corp.
 - i. Seton Identification Products; a Brady Corporation company.

B. Snap-around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameters and that stay in place by gripping action.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. HellermannTyton.
 - c. Marking Services, Inc.
 - d. Panduit Corp.
 - e. Seton Identification Products; a Brady Corporation company.

- C. Self-Adhesive Wraparound Labels: Preprinted, 3-mil-thick, vinyl flexible label with acrylic pressure-sensitive adhesive.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. A'n D Cable Products.
 - b. Brady Corporation.
 - c. Brother International Corporation.
 - d. emedco.
 - e. Grafoplast Wire Markers.
 - f. Ideal Industries, Inc.
 - g. LEM Products Inc.
 - h. Marking Services, Inc.
 - i. Panduit Corp.
 - j. Seton Identification Products; a Brady Corporation company.

 2. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over the legend. Labels sized such that the clear shield overlaps the entire printed legend.

 3. Marker for Labels:
 - a. Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - b. Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.

- D. Self-Adhesive Labels: Vinyl, thermal, transfer-printed, 3-mil-thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. A'n D Cable Products.
 - b. Brady Corporation.
 - c. Brother International Corporation.
 - d. emedco.
 - e. Grafoplast Wire Markers.
 - f. HellermannTyton.

- g. Ideal Industries, Inc.
- h. LEM Products Inc.
- i. Marking Services, Inc.
- j. Panduit Corp.
- k. Seton Identification Products; a Brady Corporation company.

2. Minimum Nominal Size:

- a. 1-1/2 by 6 inches for raceway and conductors.
- b. 3-1/2 by 5 inches for equipment.
- c. As required by authorities having jurisdiction.

2.4 BANDS AND TUBES

- A. Snap-around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inches long, with diameters sized to suit diameters and that stay in place by gripping action.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Brady Corporation.
- b. HellermannTyton.
- c. Marking Services, Inc.
- d. Panduit Corp.

- B. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tubes with machine-printed identification labels, sized to suit diameter and shrunk to fit firmly. Full shrink recovery occurs at a maximum of 200 deg F. Comply with UL 224.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Brady Corporation.
- b. Panduit Corp.

2.5 TAPES AND STENCILS

- A. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Carlton Industries, LP.
- b. Champion America.
- c. HellermannTyton.
- d. Ideal Industries, Inc.
- e. Marking Services, Inc.

- f. Panduit Corp.
- B. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mils thick by 1 to 2 inches wide; compounded for outdoor use.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. emedco.
 - d. Marking Services, Inc.
- C. Tape and Stencil: 4-inch-wide black stripes on 10-inch centers placed diagonally over orange background and are 12 inches wide. Stop stripes at legends.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brimar Industries, Inc.
 - b. HellermannTyton.
 - c. LEM Products Inc.
 - d. Marking Services, Inc.
 - e. Seton Identification Products; a Brady Corporation company.
- D. Underground-Line Warning Tape:
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Brimar Industries, Inc.
 - c. Ideal Industries, Inc.
 - d. LEM Products Inc.
 - e. Marking Services, Inc.
 - f. Reef Industries, Inc.
 - g. Seton Identification Products; a Brady Corporation company.
 - 2. Tape:
 - a. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical utility lines.
 - b. Printing on tape shall be permanent and shall not be damaged by burial operations.
 - c. Tape material and ink shall be chemically inert and not subject to degradation when exposed to acids, alkalis, and other destructive substances commonly found in soils.
 - 3. Color and Printing:

- a. Comply with ANSI Z535.1, ANSI Z535.2, ANSI Z535.3, ANSI Z535.4, and ANSI Z535.5.
 - b. Inscriptions for Red-Colored Tapes: "ELECTRIC LINE, HIGH VOLTAGE".
 - c. Inscriptions for Orange-Colored Tapes: "TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE".
4. Tape Type ID:
- a. Detectable three-layer laminate, consisting of a printed pigmented polyolefin film, a solid aluminum-foil core, and a clear protective film that allows inspection of the continuity of the conductive core; bright colored, continuous-printed on one side with the inscription of the utility compounded for direct-burial service.
 - b. Width: 3 inches.
 - c. Overall Thickness: 5 mils.
 - d. Foil Core Thickness: 0.35 mil.
 - e. Weight: 28 lb/1000 sq. ft.
 - f. Tensile according to ASTM D882: 70 lbf and 4600 psi.
- E. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch.

2.6 TAGS

- A. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch, with stamped legend, punched for use with self-locking cable tie fastener.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. emedco.
 - d. Marking Services, Inc.
 - e. Seton Identification Products; a Brady Corporation company.
- B. Nonmetallic Preprinted Tags: Polyethylene tags, 0.015 inch thick, color-coded for phase and voltage level, with factory printed permanent designations; punched for use with self-locking cable tie fastener.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. emedco.
 - d. Grafoplast Wire Markers.
 - e. LEM Products Inc.
 - f. Marking Services, Inc.
 - g. Panduit Corp.

h. Seton Identification Products; a Brady Corporation company.

C. Write-on Tags:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brimar Industries, Inc.
 - b. Carlton Industries, LP.
 - c. LEM Products Inc.
 - d. Seton Identification Products; a Brady Corporation company.
2. Polyester Tags: 0.015 inch thick, with corrosion-resistant grommet and cable tie for attachment.
3. Marker for Tags:
 - a. Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - b. Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

2.7 SIGNS

A. Baked-Enamel Signs:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlton Industries, LP.
 - b. Champion America.
 - c. emedco.
 - d. Marking Services, Inc.
2. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.
3. 1/4-inch grommets in corners for mounting.
4. Nominal Size: 7 by 10 inches.

B. Metal-Backed Butyrate Signs:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Champion America.
 - c. emedco.
 - d. Marking Services, Inc.

2. Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs, with 0.0396-inch galvanized-steel backing, punched and drilled for fasteners, and with colors, legend, and size required for application.
3. 1/4-inch grommets in corners for mounting.
4. Nominal Size: 10 by 14 inches.

C. Laminated Acrylic or Melamine Plastic Signs:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. emedco.
 - d. Marking Services, Inc.
2. Engraved legend.
3. Thickness:
 - a. For signs up to 20 sq. in., minimum 1/16 inch thick.
 - b. For signs larger than 20 sq. in., 1/8 inch thick.
 - c. Engraved legend with white letters on a dark gray background.
 - d. Punched or drilled for mechanical fasteners with 1/4-inch grommets in corners for mounting.
 - e. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.8 CABLE TIES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. HellermannTyton.
 2. Ideal Industries, Inc.
 3. Marking Services, Inc.
 4. Panduit Corp.
- B. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
 1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 Deg F according to ASTM D638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black, except where used for color-coding.
- C. UV-Stabilized Cable Ties: Fungus inert, designed for continuous exposure to exterior sunlight, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
 1. Minimum Width: 3/16 inch.

2. Tensile Strength at 73 Deg F according to ASTM D638: 12,000 psi.
3. Temperature Range: Minus 40 to plus 185 deg F.
4. Color: Black.

2.9 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- B. Install identifying devices before installing acoustical ceilings and similar concealment.
- C. Verify identity of each item before installing identification products.
- D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- E. Apply identification devices to surfaces that require finish after completing finish work.
- F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.
- G. System Identification for Raceways and Cables under 600 V: Identification shall completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.
 1. Secure tight to surface of conductor, cable, or raceway.

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- H. System Identification for Raceways and Cables over 600 V: Identification shall completely encircle cable or conduit. Place adjacent identification of two-color markings in contact, side by side.
1. Secure tight to surface of conductor, cable, or raceway.
- I. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
- J. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from the floor.
- K. Vinyl Wraparound Labels:
1. Secure tight to surface of raceway or cable at a location with high visibility and accessibility.
 2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to the location and substrate.
- L. Snap-around Labels: Secure tight to surface at a location with high visibility and accessibility.
- M. Self-Adhesive Wraparound Labels: Secure tight to surface at a location with high visibility and accessibility.
- N. Self-Adhesive Labels:
1. On each item, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
 2. Unless otherwise indicated, provide a single line of text with 1/2-inch-high letters on 1-1/2-inch-high label; where two lines of text are required, use labels 2 inches high.
- O. Snap-around Color-Coding Bands: Secure tight to surface at a location with high visibility and accessibility.
- P. Heat-Shrink, Preprinted Tubes: Secure tight to surface at a location with high visibility and accessibility.
- Q. Marker Tapes: Secure tight to surface at a location with high visibility and accessibility.
- R. Self-Adhesive Vinyl Tape: Secure tight to surface at a location with high visibility and accessibility.
1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.
- S. Tape and Stencil: Comply with requirements in painting Sections for surface preparation and paint application.

- T. Underground Line Warning Tape:
1. During backfilling of trenches, install continuous underground-line warning tape directly above cable or raceway at 6 to 8 inches below finished grade. Use multiple tapes where width of multiple lines installed in a common trench exceeds 16 inches overall.
 2. Limit use of underground-line warning tape to direct-buried cables.
 3. Install underground-line warning tape for direct-buried cables and cables in raceways.
- U. Laminated Acrylic or Melamine Plastic Signs:
1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
 2. Unless otherwise indicated, provide a single line of text with 1/2-inch-high letters on 1-1/2-inch-high sign; where two lines of text are required, use labels 2 inches high.
- V. Cable Ties: General purpose, for attaching tags, except as listed below:
1. Outdoors: UV-stabilized nylon.
 2. In Spaces Handling Environmental Air: Plenum rated.

3.3 IDENTIFICATION SCHEDULE

- A. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.
- B. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations of high visibility. Identify by system and circuit designation.
- C. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use self-adhesive wraparound labels to identify the phase.
1. Locate identification at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
- D. Power-Circuit Conductor Identification, More Than 600 V: For conductors in vaults, pull and junction boxes, manholes, and handholes, use nonmetallic preprinted tags colored and marked to indicate phase, and a separate tag with the circuit designation.
- E. Control-Circuit Conductor Identification: For conductors and cables in pull and junction boxes, manholes, and handholes, use self-adhesive labels with the conductor or cable designation, origin, and destination.
- F. Auxiliary Electrical Systems Conductor Identification: Self-adhesive vinyl tape that is uniform and consistent with system used by manufacturer for factory-installed connections.

1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
- G. Locations of Underground Lines: Underground-line warning tape for power, lighting, communication, and control wiring and optical-fiber cable.
- H. Concealed Raceways and Duct Banks, More Than 600 V, within Buildings: Apply floor marking tape to the following finished surfaces:
1. Floor surface directly above conduits running beneath and within 12 inches of a floor that is in contact with earth or is framed above unexcavated space.
 2. Wall surfaces directly external to raceways concealed within wall.
 3. Accessible surfaces of concrete envelope around raceways in vertical shafts, exposed in the building, or concealed above suspended ceilings.
- I. Instructional Signs: Self-adhesive labels, including the color code for grounded and ungrounded conductors.
- J. Equipment Identification Labels:
1. Outdoor Equipment: Laminated acrylic or melamine sign.
 2. Equipment to Be Labeled:
 - a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be in the form of a self-adhesive, engraved, laminated acrylic or melamine label.
 - b. Enclosures and electrical cabinets.
 - c. Switchboards.
 - d. Transformers: Label that includes tag designation indicated on Drawings for the transformer, feeder, and panelboards or equipment supplied by the secondary.

END OF SECTION 260553

SECTION 262816

ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including MTS C Street & Broadway Wye Design, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Fusible switches.
 - 2. Enclosures.

1.3 DEFINITIONS

- A. NC: Normally closed.
- B. NO: Normally open.
- C. SPDT: Single pole, double throw.
- D. DPDT: Double pole, double throw.

1.4 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Enclosed switches and circuit breakers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

1. Enclosure types and details for types other than NEMA 250, Type 1.
2. Current and voltage ratings.
3. Short-circuit current ratings (interrupting and withstand, as appropriate).
4. Include evidence of NRTL listing for series rating of installed devices.
5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Field quality-control reports.
 1. Test procedures used.
 2. Test results that comply with requirements.
 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
- C. Manufacturer's field service report.

1.7 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member company of NETA or an NRTL.
 1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.
- B. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single source from single manufacturer.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Comply with NFPA 70.

1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:
 1. Ambient Temperature: Not less than minus 22 deg F and not exceeding 104 deg F.
 2. Altitude: Not exceeding 6600 feet (2010 m).

1.9 COORDINATION

- A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

PART 2 - PRODUCTS

2.1 FUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Eaton.
 - 2. General Electric Company.
 - 3. Siemens Industry, Inc.
 - 4. Or Equal.
- B. Type HD, Heavy Duty, Single Throw, 600-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, with clip or bolt pads to accommodate fuses, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- C. Accessories:
 - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 - 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 - 3. Lugs: Mechanical type, suitable for number, size, and conductor material.
 - 4. Class R Fuse Kit: Provides rejection of other fuses when Class R fuses are specified.

2.2 ENCLOSURES

- A. Enclosed Switches and Circuit Breakers: NEMA AB 1, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
 - 1. Hazardous Areas Indicated on Drawings: NEMA 250.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
- B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- C. Comply with NECA 1.

3.3 IDENTIFICATION

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
 - 1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
 - 2. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.4 FIELD QUALITY CONTROL

- A. Acceptance Testing Preparation:
 - 1. Test insulation resistance for each enclosed switch and circuit breaker, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- B. Tests and Inspections:
 - 1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 - 3. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

- C. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports, including a certified report that identifies enclosed switches and circuit breakers and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.5 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly and lubricate as recommended by manufacturer.

END OF SECTION 262816

SECTION 344201

TRANSPORTATION SIGNALING AND CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Description: This Section consists of a general description of the Work, procedures and requirements necessary to the planning, designing, manufacturing, installing, removal, relocation, modification, testing, placing in service and documenting as-built conditions, and warranty support for various signaling, communications and highway-rail grade crossing systems to be provided or altered by the Contractor. The Work shall consist of, but is not limited to:

- i. B0016RC: Contractor shall make wiring changes for the changeover to new processor-based interlocking as depicted in the contract drawings.
- ii. CSRC: Contractor shall provide and install single width case, cables wheel sensors and equipment as depicted in the contract drawings.

1. The Contract Plans represent a detailed design utilizing systems, components and materials that meet the specifications. The Contractor may provide equivalent systems, components and materials subject to the approval of the Engineer and as specified herein. Any modifications made to meet the functional and safety requirements of this Specification are the Contractor's responsibility and therefore, no additional compensation shall be paid for this Work.
2. The manufacture, delivery, installation, testing and operations of the crossover systems as shown on the Contract Plans and specified in these Specifications.
3. The Contractor supplies all new components for the above systems and completes all work necessary to provide satisfactory performance of a complete, safe and operable signaling system.

B. Section Includes:

1. Transportation Signaling and Control

C. Related Sections:

1. Submittals, MTS C Street & Broadway Wye Design.
2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCES

A. Abbreviations and Acronyms

1. AFO – Audio Frequency Overlay
2. AREMA – American Railway Engineering and Maintenance-of-Way Association
3. C&S – Communications and Signals
4. CA MUTCD – California Manual of Uniform Traffic Control Devices
5. CFR – Code of Federal Regulations
6. CPUC – California Public Utility Commission
7. FRA – Federal Railroad Administration
8. G.O. – General Order
9. GRS – ALSTOM Transportation Inc. (formerly known as General Railway Signal Co.)
10. GETS – GE Transportation Systems – Global Signaling
11. MTS – San Diego Metropolitan Transit System
12. NCTD – North County Transit District
13. NEC – National Electrical Code
14. NEMA – National Electrical Manufacturers Association
15. NFPA – National Fire Protection Association
16. SANDAG – San Diego Association of Governments
17. SDTI – San Diego Trolley, Inc.
18. TWC – Train-to-Wayside Communications
19. US&S – Ansaldo STS (formerly known as Union, Switch & Signal)

B. Reference Standards

1. In addition to the Regulations and Code requirements specified in this Section, materials and equipment for the block signaling system and the highway crossing warning shall conform to the latest recommendations of the AREMA Communications and Signals (C&S) Manual and applicable MTS standard circuit plans. The compatibility shall include form, fit and function of block signaling and highway crossing warning systems. Existing circuits, equipment and material shall serve as the basis of design for signal design circuits, equipment and material.
2. California Public Utilities Commission (CPUC), General Orders (G.O.):
 - a. G.O. 26-D – Clearances on Railroads and Street Railroads as to Side and Overhead Structures, Parallel Tracks and Crossings
 - b. G.O. 52 – Construction and Operation of Power and Communication Lines for the Prevention or Mitigation of Inductive Interference
 - c. G.O. 75-D – Regulations Governing Standards for Warning Devices for At-Grade Highway-Rail Crossings
 - d. G.O. 88B – Rules for Altering Public Highway-Grade Crossings
 - e. G.O. 95 – Overhead Electric Line Construction G.O. 118: Construction, Reconstruction and Maintenance of Walkways and Control of Vegetation
 - f. G.O. 118-A – Construction, Reconstruction and Maintenance of Walkways and Control of Vegetation Adjacent to Railroad Tracks
 - g. G.O. 128 – Construction of Underground Electric Supply and Communication Systems
 - h. G.O. 143-B – Design, Construction and Operation of Light-Rail Transit Systems
 - i. G.O. 164-D – Rules and Regulations Governing State Safety Oversight of Rail Fixed Guideway Systems
3. Code of Federal Regulations (CFR), Title 49, Transportation:
 - a. 49 CFR Part 212 – State Safety Participation Regulations
 - b. 49 CFR Part 214 – Railroad Workplace Safety
 - c. 49 CFR Part 218 – Railroad Operating Practices
 - d. 49 CFR Part 219 – Control of Alcohol and Drug Use
 - e. 49 CFR Part 228 – Hours of Service of Railroad Employees
 - f. 49 CFR Part 234 – Grade Crossing Safety
 - g. 49 CFR Part 236 – Rules, Standards, and Instructions Governing the Installation, Maintenance, and Repair of Signal and Train Control Systems, Devices, and Appliances
 - h. The Contractor shall be responsible for adherence to all of the above rules and reporting requirements, including those regulations which require pre-employment drug testing, random drug testing and reporting and tracking hours of service of employees engaged in the installation and testing of signal facilities and the reporting and tracking of employees injured in the performance of work on a railroad.

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4. California Department of Transportation (Caltrans):
 - a. California Manual on Uniform Traffic Control Devices (CA MUTCD) – California Supplement, Part VIII, Traffic Controls for Highway-Rail Grade Crossings
 5. National Fire Protection Association (NFPA)
 - a. NFPA 70 – National Electrical Code.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. SDTI systems shall be fully operational at all times unless approved by the Engineer.
- B. The Contractor shall be represented at all meetings held with the Engineer where construction work may affect signal systems or where signal systems shall be discussed by a Signal Engineer qualified in the design and application of the signal equipment the Contractor proposes for use on this project.

1.4 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein and other Sections within the Specification group 34 42, Transportation Signaling and Control and shall include the following:
 1. Plans, procedures, data sheets of proposed material, vital and non-vital application logic, installation details, shop drawings, mechanical drawings, conduit layout drawings, proofs of compliance with applicable standards and any other pertinent data required to fully demonstrate the Contractor's proposed plan for the manufacture, installation, testing and maintenance of the various systems. The Contractor shall provide submittals as indicated in the applicable technical specification section and any proposed design changes.
 2. The Contractor shall submit detailed circuit drawings for all modifications to existing systems and temporary interfaces between existing systems and new systems. Separate submittals shall be provided for approval for each phase of the work.
 3. The Contractor shall submit detailed Test Plan for all systems a minimum of 60 calendar days in advance of testing. Test Procedures for factory testing or placing any system or subsystem in service, shall be submitted a minimum of 45 calendar days in advance. These Test Procedures shall reflect the latest revisions and changes approved by the Engineer and made as a result of field checks and conditions. The Contractor shall not proceed with the factory or in-service testing until the Test Procedures are approved by the Engineer.

4. The Contractor shall prepare and submit a Systems Construction Sequencing Plan for each location where a system is to be modified, installed, or removed. The Plan shall be submitted 30 calendar days in advance and, as a minimum, contain the following:
 - a. A narrative description of the work to be undertaken at the designated location.
 - b. A step-by-step sequence of work description which identifies those steps during which the existing system will be disabled and a description of what steps will be taken to assure that the signal system will be tested and returned to full operation without causing a delay to any train movement.
 - c. An estimate of time to complete the critical steps in the sequence specified in 1.04A.4b.
 5. The Contractor shall submit revisions to existing circuit plans using the "Red In" / "Yellow Out" convention to show changes. "Deletions" shall be identified by highlighting the modification with Yellow and "Additions" shall be identified by use of red-colored symbols and text.
 6. The Contractor shall submit application logic software reports to the Engineer for approval. Software logic reports for each location shall be submitted in 3-ring binders. Binders shall be clearly marked with crossover, ABS signal, or crossing name and instrument shelter designation.
 7. Manufacturers' warranties, instruction sheets and parts list furnished for materials used in the work, shall be delivered to the Engineer prior to acceptance of the project. All equipment, and material warranties and guarantees shall cover parts and labor for two years from the date the equipment is "placed in service."
 8. After a location is placed in service and before Contract acceptance of the C Street & Broadway Wye Design Project, the Contractor shall submit as-built documentation as follows:
 - a. Red line detailed circuit drawings within 3 working days.
 - b. Final application logic documentation within 3 working days.
 - c. The Contractor shall submit 8 sets of as-built (red line) corrections to the Engineer. In addition, a set shall be placed in each enclosure affected.
 9. The Contractor shall submit certified test results for all phases of testing in conjunction with factory and in-service tests.
- B. All submittals required within Transportation Signaling and Control shall be signed by the Contractor's Signal Engineer.

1.5 QUALITY ASSURANCE

- A. The Contractor shall be responsible for adherence to all referenced 49 CFR rules and reporting requirements, including those regulations which require pre-employment drug testing, random drug testing and reporting and tracking hours of service of employees engaged in the installation and testing of signal facilities and the reporting and tracking of employees injured in the performance of work on the railroad.
- B. The Contractor shall perform and document all tests and inspections in accordance with 49 CFR regulations, the AREMA C&S Manual and these Specifications.
- C. All submittals, programming, materials, equipment, manufacturing methods, system installation, testing and construction workmanship specified in the Specifications group Transportation Signaling and Control shall conform to the requirements specified in: Article 1.04 of this Section; Section 344213.28, Block Signaling and Highway Grade Crossing Warning Systems Testing; and various other related Sections contained herein.
- D. No circuit or system is considered to have met the requirement of these Specifications for function and safety until it has been properly tested and verified in the field. Any circuit modifications made to meet the functional and safety requirements of this Specification shall be considered as a part of the Contractor's responsibility and therefore no additional compensation will be paid for this Work.
- E. Signal Personnel Qualifications:
 - 1. The Contractor shall assign experienced and qualified staff as key Signaling personnel for this Work. The Contractor shall not replace key staff members without prior approval from the Engineer. Key employees of the Contractor engaged in the installation, adjustment and testing of the various systems shall be qualified and have had experience on an operating transit system in the type and level of systems installation and testing work as required herein. At a minimum "key employees" shall include the Contractor's Signal Engineers, Application Software Engineer(s), Signal Supervisor, Construction Foreman and Lead Wire person. Additional experienced personnel shall be provided by the contractor for testing and placing systems in operation. The Contractor shall submit resumes for the "key employees" to the Engineer. The Engineer's decision concerning the candidate's qualifications shall be final. The Contractor shall propose alternate personnel if the original candidate(s) is found to be unacceptable. No signaling related work shall begin prior to the Contractor's "key employees" having been approved by the Engineer.
 - 2. The Contractor's systems construction forces shall work under the supervision and direction of an approved Signal Supervisor. The Contractor's Signal Supervisor shall oversee the installation, adjustment, and testing and commissioning of signal related work. The Contractor's Signal Supervisor shall be within the project limits whenever signal related work or whenever roadway or track construction work is in progress in the vicinity of existing wayside signaling equipment, highway-rail grade crossings and/or cabling.

3. The Contractor's Signal Engineers shall direct and certify the successful completion of all tests on equipment and systems prior to releasing the systems for operation. The Contractor's Signal Engineers are responsible to ensure that all applicable test documentation is completed prior to, or immediately after, in-service testing is completed.
4. The Contractor's proposed Signal Engineers shall demonstrate experience in the philosophy, application and testing requirements of the various systems, including vital railroad signal systems. The Contractor's proposed Signal Engineers shall have at least 5 years of experience in signal testing and commissioning of signal systems. The Contractor's proposed Signal Engineers shall have a minimum of 10 years signal supervisory or management experience on a major transit or commuter system in the United States. The proposed Signal Engineers shall also demonstrate knowledge of the governing CPUC and FRA rules and regulations. This demonstration shall be by interview of the proposed Signal Engineers by the Engineer prior to commencement of any signal related work. The Engineer's decision concerning the candidate's qualifications shall be final. The Contractor shall propose alternate personnel if the original candidate is found to be unacceptable. No signaling related work shall begin prior to the Contractor's Signal Engineer having been approved by the Engineer.
5. The Contractor's proposed Signal Supervisor(s) shall demonstrate knowledge and experience in the installation and maintenance of the various systems to be installed. The proposed Signal Supervisor shall have a minimum of 5 years signal supervisory experience on a major transit or commuter system in the United States. The Contractor's Signal Supervisor shall demonstrate the proper methods and procedures required to adjust, inspect and test the signaling and highway warning systems and subsystems. This demonstration shall be by interview of the proposed Signal Supervisor by the Engineer prior to commencement of any signal related work. The Engineer's decision concerning the candidate's qualifications shall be final. The Contractor shall propose alternate personnel if the original candidate is found to be unacceptable. No signaling related work shall begin prior to the Contractor's Signal Supervisor having been approved by the Engineer.
6. The Contractor's proposed Application Software Engineer(s) shall demonstrate knowledge and experience in the development of safety-critical software on a rail system with the same or greater level of complexity as that being constructed on this project and specified herein. The Contractor shall submit resumes and contact information for a reference(s) that can attest to the applicant's abilities and knowledge. Each reference shall be a signal manager or agency person responsible for signal systems on which the applicant produced safety-critical software for the signaling system. Furthermore, the system for which the software was provided shall have been in revenue service a minimum of 12 months prior to advertisement of this Contract. In addition, the proposed applicant shall:
 - a. Have been officially trained by the manufacturer on the solid-state controller systems and the application software to be furnished by the Contractor for this project;
 - b. Possess a certificate of completion of software training issued by the manufacturers of the controllers to be used;
 - c. Demonstrate past experience programming the logic controller to be furnished by the Contractor as part of the contract and have provided

- safety-critical software of the same or greater level of complexity that is required for this project;
- d. Demonstrate extensive experience in railroad signaling including design and programming of safety critical applications in conformance with AREMA C&S Manual of Recommended Practices and FRA and CA MUTCD regulatory requirements; and demonstrate a complete understanding of the logic controller hardware to be furnished by the Contractor as part of this contract.
 - e. This demonstration shall be by interview of the proposed Application Software Engineer(s) by the Engineer prior to commencement of any software development. The Engineer's decision concerning the candidate's qualifications shall be final. The Contractor shall propose alternate personnel if the original candidate(s) is found to be unacceptable.
7. The Contractor shall provide a Field Engineer. The Field Engineer shall maintain signal drawings and test documents. The Field Engineer shall be proficient with CADD and coordinate work with the Contractor's Signal Engineer and Signal Supervisor. SDTI may choose to interview the Field Engineer to verify qualifications and experience. The Field Engineer shall be responsible for the following:
 - a. Maintaining up-to-date and current "redline" drawings in the instrument enclosures.
 - b. Updating and distributing design files to the Engineer, the Contractor's Signal Engineer and Signal Supervisor within 7 working days of any revision made to the system.
 - c. Maintaining and distributing test result documentation for all systems placed in operation.
 - d. Coordinating with civil, structural, traction power and communication disciplines to ensure all data shown on signal drawings and incorporated into the CADD files are correct and accurate.
 8. All Contractor field personnel must receive safety training that shall include a thorough briefing in the rules of conduct in work areas where moving trains may be present. No work shall be performed on operating systems or appliances without a SDTI representative being present.
 9. Any Contractor personnel found to be acting in violation of safety or operating rules and regulations will be barred from the work site.

1.6 SIGNAL CONTRACT PLANS

- A. Signal Contract Plans represent a detailed design utilizing systems, components and materials that meet specification requirements. The Contractor may provide equivalent systems, components and materials subject to the approval of the Engineer. The Contractor's written request for changes shall include catalog cuts, specification sheets, operating and maintenance manuals, logic development and compiling software (if applicable), a record of in-service dates and references and other data supporting the Contractor's contention that the system, component or material is equal to the equipment shown on the Contract Plans.
- B. The Contractor shall modify the Contract Plans as necessary to provide a complete and operating system as specified in these Specifications and as approved by the Engineer. The Contractor's design shall utilize the symbology, nomenclature and CADD standards depicted in the Contract Plans.

- C. The Engineer shall render a decision concerning the alternate systems, components or materials within 15 working days of receiving the Contractor's alternate design submittal. No additional payment shall be made to the Contractor for the alternate design. Construction schedules and contract milestones shall not be modified to offset any delays incurred by the Contractor in conjunction with the alternate design effort. The Contractor shall be responsible to provide calculations for Mean Time Between Failures (MTBF) and Mean Time to Repair (MTTR) for all alternative devices.

1.7 MODIFICATION TO EXISTING DRAWINGS

- A. Regardless of accuracy of MTS drawings, the Contractor shall be solely responsible for the correctness of all circuits designed by him/her. The Contractor shall compare actual field condition with drawings provided and make any correction necessary to the drawings prior to designing required interfaces.

1.8 FIELD CONDITIONS

- A. Existing signaling systems shall be fully operational at all times unless otherwise approved by the Engineer. The Contractor's work shall not interfere with revenue service operations and maintenance activities. The Contractor shall plan and schedule the Work accordingly and get approval from the Engineer.
- B. The Contractor shall be responsible for providing continuous train control (also referred to as Signaling or Signals within these Specifications) and highway-rail grade crossing warning during all phases of construction. At no time shall the work of the Contractor cause delays to train operation, cause an unsafe condition to exist, or reduce the effectiveness or quality of the existing crossing warning systems. The Contractor shall submit, for approval by the Engineer, its proposed plan for providing alternate methods of crossing warning whenever an existing automatic crossing warning device is deactivated, altered, or modified in order to accommodate construction work. Alternate methods shall conform to 49 CFR, Part 234 and all Federal, State, and local ordinances.
- C. The Contractor shall protect existing SDTI cabling and, where necessary, relocate existing cabling in order to prevent damage to the cabling during all phases of Work. All relocation shall be approved by the Engineer in advance.
- D. The Contractor shall be responsible for the detailed design of temporary interfaces required to support full operation of new and existing systems until such time as the final systems are placed in full and final operation.
- E. At no time shall the Contractor take the existing block signaling or highway grade crossing warning system out of service without detailed work plan and prior approval from the Engineer.

1.9 DELIVERY, STORAGE AND HANDLING

- A. All material delivery, storage and handling shall conform to the requirements specified herein and in related sections.

PART 2 - PRODUCTS

2.1 LABELING

- A. All signaling system components, assemblies and subassemblies shall be appropriately labeled so they may be readily identified as specified herein.

2.2 ENVIRONMENTAL CONDITIONS

- A. All materials, equipment, product design, manufacturing methods, system installation, testing and construction workmanship shall conform to the requirements specified in Section 344223, Railway Control Equipment, Part 2.01 Equipment – Environmental Parameters and as recommended in the AREMA C&S Manual.

2.3 APPLICATION LOGIC SOFTWARE, LOGIC CONFIGURATION DEVELOPMENT AND LICENSING

- A. The Contractor shall install, test and commission application software for programmable logic controllers,
- B. Software shall be provided to the Contractor, any discrepancies or modifications required to the application logic, the contractor shall modify accordingly.
- C. Logic configuration shall incorporate the signaling principles referenced in these Specifications and the Contract Plans. Logic configuration shall be streamlined and simple as possible to achieve the desired system performance. Similar locations shall utilize the same base logic configuration, nomenclature and performance criteria. The software shall be user friendly and the control logic shall be configured to enable SDTI signal personnel to modify application logic with ease.
- D. The Contractor's team shall cooperatively work together to provide all services required to develop safety-critical software that fulfills all contract requirements including requirements to ensure that the development, installation, implementation, inspection, testing and commissioning of those products will achieve and maintain an acceptable level of safety in conformance with all AREMA Standards and Regulatory Requirements, including but not limited to, Title 49, Part 236 Subpart H "Standards for Processor-Based Signal and Train Control Systems."
- E. The Contractor shall demonstrate and factory test application logic prior to field deployment. Application logic shall be tested on actual programmable controllers, linked as necessary to other controllers, to clearly simulate each possible movement and resulting reaction. Where temporary interfaces will be required to accommodate construction staging both the permanent application logic software and the temporary interim application logic software tested at the factory and demonstrate proper functionality prior to shipping the application logic software.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall remove and dispose of instrument enclosures, enclosure contents, TWC equipment, nearside indicators, switch machines, switch rods, and associated equipment hardware as shown on the Contract Plans.
- B. The Contractor shall protect in place all existing rail bonding and impedance bonds to ensure proper operation of the signaling and traction power systems.
- C. The Contractor shall be responsible for relocation, removal and salvage of existing signal equipment and associated accessories.
- D. The Contractor shall be responsible for conduit layout designs for each location. The conduit shall be of such size that the sum of the cross-sectional area of the individual cables shall meet requirements of the latest version of the National Electrical Code (NFPA 70).
- E. The Contractor shall perform all work and provide all documentation required to support MTS' certification that the systems furnished and installed are ready for public use in accordance with CPUC and FRA Requirements.
- F. The Contractor shall furnish, install and test all items, including cables and interfaces necessary to ensure proper operation of the block signaling and highway grade crossing warning systems.

3.2 CLOSEOUT ACTIVITIES

- A. The Contractor shall record the final as-built conditions of the signal and communication systems for each location.
- B. Record Drawings
 - 1. Record drawings shall conform to the provisions of Section 3.10 – Shop Drawings, MTS C Street & Broadway Wye Design. The final record drawings (Final Design “AS IN SERVICE” Signal Plans) submitted shall include:
 - a. An index.
 - b. Location plans.
 - c. Detailed wiring diagrams of equipment.
 - d. Detailed and complete circuit drawings including fiber connections
 - e. Case layout plans.
 - f. Cable plans.
 - g. Conduit installation plans.
 - h. Shop drawings of equipment.
 - i. Material list.
 - 1) The materials list shall include details such as equipment supplier’s names, physical and website addresses, phone numbers, and email addresses for contacts.
 - j. GPS coordinates of key equipment/locations as determined by the Engineer.
 - 2. The Contractor shall prepare and submit documentation of as-built software logic for vital processor controllers. Documentation shall include validations made to the software during in service testing and difference reports illustrating changes made.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Transportation and Signaling and Control.

4.2 PAYMENT

- A. Full compensation for Transportation and Signal and Control shall be included in the contract price paid per each for various items, therefore no separate payment will be made.

END OF SECTION 344201

SECTION 344213.13

GENERAL RAILWAY SIGNAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This section includes furnishing interim and final designs as required for complete and operating train control and highway grade crossing warning systems.
- B. Section Includes:
 - 1. General railway signal requirements
- C. Related Sections:
 - 1. Submittal, MTS C Street & Broadway Wye Design.
 - 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment
 - 3. Section 344201 – Transportation Signaling and Control.

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
 - 1. Communications & Signals (C&S) Manual of Recommended Practice
- B. California Public Utilities Commission (CPUC), General Orders (G.O.):
 - 1. G.O. 75-D – Regulations Governing Standards for Warning Devices for At-Grade Highway-Rail Crossings
- C. Code of Federal Regulations (CFR), Title 49, Transportation:
 - 1. 49 CFR Part 234 – Grade Crossing Safety

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein and other Sections within Section 34 42, Transportation Signaling and Control.

1.4 QUALITY ASSURANCE

- A. The signal system design shall be functionally consistent to what is currently installed on the San Diego Trolley Inc. (SDTI) system and shall conform to the requirements contained in this contract. It is the Contractor's responsibility to review existing designs and conditions in preparing the bid. San Diego Trolley Inc. will not compensate the Contractor for correcting omissions or errors in the Contractor's design, which are found during the design submittal review or during installation of permanent or temporary signaling system configurations at any stage of the project.
- B. The Contractor's design shall be compatible with the existing signaling equipment and properly interface with the existing light rail vehicles system.
- C. The Contract Plans shall serve as the standard to be used for the engineering, layouts and the Contractor's interface designs. Any deviations from these requirements shall be submitted to the Engineer for approval.

PART 2 - PRODUCTS

2.1 FAIL-SAFE DESIGN PRINCIPLE

- A. As used in these technical specifications, the fail-safe principle shall mean that whenever an equipment failure, human error or failure to act, or adverse environmental condition affects the specified operation of a system involved with the safety of life or property, that system shall revert to a state known to be safe.

- B. Failure of a circuit or equipment that results in an indication of a dangerous or restrictive condition, whether or not there is in fact actual danger, shall have met the fail-safe requirements. Conversely, a failure that results in an indication of safe or nonrestrictive condition when, in fact, a dangerous condition may exist, shall not have met the fail-safe requirements.
- C. Vital applications, such as detector locking of switches, shall be based on the following principles that permit the attainment of fail-safe operation in all known or discovered failure modes:
1. Closed Loops: Fail-safe circuits shall employ the closed loop principle and shall protect against open circuits, shorts, or any combination thereof.
 2. Vital Relays: Relays used in vital circuits.
 3. Vital Circuits: All line circuits that energize a vital relay shall be two-wire, double-break circuits and shall be energized from an ungrounded direct current (DC) power supply. Failure of any circuit component or any combination thereof shall not result in unsafe condition.
 4. Grounds: Components or wires becoming grounded shall not cause an unsafe condition.
 5. Spurious Oscillations: Any amplifier, generator, or device element, active or passive, breaking into spurious oscillations shall not cause an unsafe condition.
 6. Filters: Filters used in fail-safe circuits shall be designed to prevent undesired signals from appearing at the filter output at levels that could cause an unsafe condition.
- D. Equipment failures and conditions that shall be considered in producing a fail-safe design shall include, but not be limited to:
1. Relays (non-vital): Open coil, fused contacts, high contact resistance, shorted coil, armature sticking, contacts sticking, or broken spring.
 2. Relay (vital or safety as defined by the AREMA): Open coil, shorted coil, or high contact resistance.
 3. Transformers: Open primary, open secondary, shorted turns, primary-to-secondary shorts, or combinations thereof.
 4. Capacitors: Short, open, or leakage.
 5. Resistors: Increase or decrease in resistance.
 6. Transistors: Short, open, leakage, or loss of Beta.
 7. Diodes: Short, open, or reverse leakage.
 8. Coils: Open or shorted turns.
 9. Loss or degradation of power sources.
 10. Appearance of abnormal signal levels, electrical noise levels, frequencies and delays.
 11. Effects of electrical interference.
 12. Absent or abnormal input signals.
 13. Opens or shorts in internal circuitry at inputs and at outputs.
 14. Mechanical vibration or shock.
 15. Drift or instability of amplifiers, receivers, transmitters, oscillators, switching circuits and power supplies.

16. Deterioration of contacts, connectors, terminals, solder connections, printed circuits, circuit adjusting devices and mechanical devices.

- E. Fail-safe equipment proposed for vital signaling applications under this Contract shall have been proven safe with 3 years of successful railroad or transit service operation in the United States of America.

PART 3 - EXECUTION

3.1 GENERAL BLOCK SIGNALING SYSTEM FUNCTIONS

- A. The Contractor's design shall satisfy the following block signaling system functional requirements
1. Prevent unsafe switch operation and prevent clearing of signals for opposing or conflicting routes.
 2. Provide safe train separation.
 3. Assure and maintain safe train operation.
 4. Design of circuits and equipment shall be fail-safe.

3.2 AUTOMATIC ROUTE CONTROL

- A. The system shall automatically and safely align and lock routes through a signal crossover and control the aspects of signals to indicate that a safe route has been established for train movement through absolute block protection. Absolute signals shall remain normally red until a route has been requested and assigned.
- B. Automatic routing shall primarily be accomplished using track occupancy but in special circumstances the Train-to-Wayside Communications (TWC) system shall be utilized.
- C. The signaling system shall, at a minimum, satisfy the following sequence of events in establishment and occupancy of a route:
1. Detection of approaching train.
 2. Request for clearance through blocks in advance of train.
 3. Check that downstream blocks are clear.
 4. Check that no opposing or conflicting traffic or Signal Block is in effect.
 5. Move, lock and detect switches.
 6. Establish traffic locking.
 7. Clear signal.
 - a. Upon occupancy of the block establish route locking.
 - b. Upon clearance of the block by the train, cancel route and traffic locking.
 - c. Return crossovers and turnouts to the NORMAL position.

3.3 SIGNAL INDICATORS

- A. The signal indicators shall be displayed as follow:
1. RULE - 4.6.4 ASPECT- Horizontal Red INDICATION- Stop. Improper switch alignment or train ahead
 2. RULE – 4.6.3 ASPECT- Diagonal Lunar/Diagonal Lunar INDICATION-Proceed, Diverging (Reverse) switch alignment through two adjacent crossovers
 3. RULE – 4.6.2 ASPECT- Diagonal Lunar INDICATION-Proceed, Diverging (Reverse) switch alignment
 4. RULE – 4.6.1 ASPECT- Vertical Lunar INDICATION-Proceed, Straight (Normal) switch alignment

3.4 ROUTE REQUEST AND CANCEL

- A. The signaling system shall allow a Light Rail Vehicle (LRV) operator to cancel and align all routes at the signals from an LRV TWC control console.
- B. The signaling system shall incorporate back-up wayside pushbutton control at each signal, which will operate in parallel with the TWC output contacts. Each pushbutton control location shall include an indication light; to indicate the routes are unlocked and available for realignment. The RED LED indication light shall be plainly visible to the operator from the cab when the car is over the TWC loop.
- C. Route requests shall be initiated by the means of TWC loops, track occupancy, route request via a push-button control cabinet located in the vicinity of the crossover signal, or Central Control. TWC loops with associated interrogators and output cards shall provide information to crossovers for LRV route selection. Route selection shall be accomplished as follows:
1. The Train-to-Wayside loops shall be located as shown on the Contract Plans.
 2. The signal system shall align and lock switches for the route selected if a route has not already been established for the opposing traffic. The stored route shall be processed when opposing traffic clears the crossover.

3.5 SCADA INTERFACE

- A. The signaling system shall support remote monitoring of all crossovers and remote route requests through each crossover from Central Control.

3.6 EVENT RECORDER

- A. Systems shall record events as determined in the software development session. Event recorders shall be furnished and installed in accordance with Part 3.1.29 of the AREMA C&S Manual.

3.7 TRAIN TO WAYSIDE COMMUNICATIONS EQUIPMENT DESIGN

- A. The TWC equipment shall be compatible with the existing car-carried and wayside TWC system. The Contractor shall demonstrate by test that the new TWC equipment is compatible with the existing system. Wayside interrogators transmit a 100 KHz interrogation signal through a loop antenna installed between the rails. On receipt of the interrogation signal, while the car antenna is over a loop, the vehicle-borne transponder responds with a low power signal encoded with a 19-bit message. On validation by the interrogator, the message is passed on to specific electronic application cards in the interrogator, which energize selected output relays or transmits a digital signal to the crossover controller.

3.8 TWC LOOP ANTENNA

- A. The TWC loop antenna shall be constructed in a figure "8" pattern, with a support structure affixed directly to the track work in open right-of-way and beneath pavement in paved areas, as shown on the Contract Plans and specified in these Specifications. Each loop antenna shall be connected to:
1. A loop connecting unit, or
 2. A tuned filter unit adjacent to the loop as required and via shielded twisted 2 pair #12 AWG conductor to the loop scanner or interrogator. Loop connecting unit or tuned filter unit shall be installed and sealed in accordance with the manufacturer's recommended installation

3.9 INTERROGATORS

- A. Interrogators shall provide the functional information, as required.
1. Interrogators shall be configured with a loop scanner card that is located in an interrogator card slot to avoid cross-talk problems. Interrogators shall not be configured for operation with a stand-alone loop scanner unit. The Contractor shall provide power supplies and slots for 9 application cards.
 2. The Contractor's design shall include serial (RS-232/RS-485) or Ethernet (RJ-45) communication cards where shown on the Contract Plans and programmable decoder cards containing eight programmable outputs for control of desired functions where shown on the Contract Plans. Connect the relay outputs to perform the functions as indicated.

3.10 MANUAL ROUTE REQUEST AND CANCEL SYSTEM FOR CROSSOVERS

- A. TWC loops with associated equipment, adjacent to each crossover signal as shown on the Contract Plans, shall allow the operator to cancel and align routes at the signals from the LRV TWC control console. TWC shall initiate an automatic route request based on the TWC input from the light rail vehicle's TWC signal.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for General Railway Signal Requirements.

4.2 PAYMENT

- A. Full compensation for General Railway Signal Requirements shall be considered included in the contract price paid per each various items, therefore no separate payment will be made.

END OF SECTION 344213.13

SECTION 344213.14

ROUTE CONTROL EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Description: This section includes furnishing and installing Train-to-Wayside-Communication (TWC) Equipment and Route Selectors as shown on the Contract Plans.

B. Section Includes:

1. TWC Equipment and Route

Selectors. C. Related Sections:

1. Submittal, MTS C Street & Broadway Wye Design.
2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

A. American Railway Engineering and Maintenance of Way Association (AREMA):

1. Communications & Signals Manual of Recommended Practice.

B. National Fire Protection Association (NFPA)

1. NFPA 70 – National Electrical Code

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.

1.4 QUALITY ASSURANCE

- A. The TWC equipment shall be compatible with the existing car-carried and wayside TWC system. The Contractor shall demonstrate by test that the new TWC equipment is compatible with the existing system and the Rockwell Collin's ARINC AIMS platform used in the San Diego Trolley Inc. (SDTI) Operation Control Center (OCC).

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Wayside interrogator is currently installed and operational and is to be relocated as part of this project.
- B. The loop antenna junction box shall be a Hanning & Kahl HCS-R-FI, Part No. 44 335 006.
- C. Each loop antenna shall consist of one turn of insulated, stranded, copper wire suitable for a 30-year life in direct burial wet and dry applications, with a conductor size minimum of #12 AWG. The wire shall meet the requirements of Article 310 of the National Electrical Code. Insulation shall be type RHW, RHH, USE, or XHHW with a thickness of 45 mils.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Loop antennas shall be attached to the ties as shown on the Contract Plans.
- B. The Contractor shall setup, configure and test interrogators in accordance with the manufacturer's recommendations.
- C. SDTI shall provide coding information for each interrogator.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Route Control Equipment.

4.2 PAYMENT

- A. No separate payment will be made for the Work described in this Section, and the compensation for its performance will be incidental to the payment for all associated items of Work with separate pay items that require the Work covered by this section.

END OF SECTION 344213.1

SECTION 344213.17

TRACK CIRCUITS

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This section includes furnishing and installing Axle Counters/Wheel Sensors as shown on the Contract Plans.
- B. Section Includes:
 - 1. Axle Counters (Wheel Sensors)
- C. Related Sections:
 - 1. Submittal, MTS C Street & Broadway Wye Design.
 - 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
 - 1. Communications & Signals (C&S) Manual of Recommended Practice

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.
- B. Product data sheets and Operation and Maintenance manuals for each type of track circuit provided. The Contractor shall place an operation and maintenance manual in each instrument shelter where the track circuit is installed.

1.4 QUALITY ASSURANCE

- A. Track circuits shall meet the requirements established by AREMA Communications & Signals (C&S) Manual where the requirements of the AREMA Specifications do not conflict with any requirements of this Section.

1.5 DELIVERY, STORAGE and HANDLING

- A. Track circuit component shall be protected against damage during handling and shipment and shall be secured against loss during storage.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Axle Counter/Wheel Sensor Requirements
 1. Axle Counter/Wheel Sensor shall be provided for train detection where shown on the contract plans.
 2. Axle Counter/Wheel Sensor shall be Frauscher FAdC Axle Counter system including the necessary card modules (AEB, RP COM), RSR180 (wheel sensors), BSI001 (surge protection) meeting manufacturers safety requirements by Frauscher or approved equal.
 3. Wheel sensors shall be installed within the existing axle counter rail box or manufacturer recommended boxes
 4. The contractor shall coordinate with the manufacturers on the software requirements for the Frauscher FAdC Axle Counter System
 5. The Contractor shall make adjustments to the circuit design and hardware components as necessary to adhere to the manufacturer's specifications restrictions to include.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Track circuitry components shall be installed, adjusted and tested in accordance with the manufacturer's recommendations.
- B. Cable conductor size shall meet or exceed the recommendations of the equipment manufacturer.
- C. Cable Splicing shall be watertight in accordance with the manufacturer's recommendations.

3.2 FIELD TESTS

- A. Tests for proper operation and setting of Axle Counter system shall be made in accordance with the manufacturer's specification and manuals.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Frauscher FAdC Axle Counter System.

4.2 PAYMENT

- A. Payment for procurement of Frauscher FAdC Axle Counter System and Manufacturer Support shall be included in the contract price paid for "Signal House/Case Complete", therefore no separate payment will be made.

END OF SECTION 344213.17

SECTION 344213.18

INSTRUMENT SHELTERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This section includes furnishing and installing factory wired equipment shelters as specified herein and as shown on the Contract Plans.
- B. Section Includes:
1. Factory wired equipment shelters
- C. Related Sections:
1. Submittal, MTS C Street & Broadway Wye Design.
 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
1. Communications & Signals (C&S) Manual of Recommended Practice
- B. Code of Federal Regulations (CFR) Title 49, Transportation:
1. 49 CFR Part 236 – Rules, Standards, and Instructions Governing the Installation, Maintenance, and Repair of Signal and Train Control Systems, Devices, and Appliances

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.
- B. Shop Drawings showing the proposed size and equipment layout including rack, lighting and convenience outlet arrangement.
- C. Shop Drawings of the complete grounding arrangement.
- D. Shop Drawings of each instrument and entrance rack, showing the arrangement and description of the mounted equipment and wiring if different from those shown on Contract Plans.
- E. Sizes and types of internal wire proposed if different from those shown on Contract Plans.
- F. Factory Test Procedures proposed.
- G. Installation Test Procedures proposed.
- H. Load calculations, indicating sizes of load center panel, voltage drops and all other 240/120 VAC equipment if different than the equipment shown on Contract Plans.

1.4 QUALITY ASSURANCE

- A. The factory test of the shelters and the functioning of the equipment contained within each, shall be conducted in accordance with the Contractor's approved Factory Test Procedure.
- B. Each shelter will be inspected after it has been installed and any deficiencies shall be corrected by the Contractor. This inspection will be conducted in conformance with the requirements of the Contractor's approved Installation Inspection Procedure.
- C. The Contractor shall verify the instrument shelters can be mounted and secured on the structure foundations as shown on the Contract Plans structure sheets. All instrument shelters and installed equipment within shall comply with the earthquake requirements in the San Diego, CA region

1.5 DELIVERY, STORAGE and HANDLING

- A. Equipment shipped within shelters shall be properly fastened and braced to prevent damage during transit. Any equipment damaged during transit or prior to in-service operation shall be replaced at no additional cost to MTS.
- B. All vital relays, batteries and electronic plug-in modules shall be packaged in separate containers for shipment and not installed until the shelter is set at its final location.

PART 2 - PRODUCTS

2.1 MATERIAL - GENERAL

- A. The Contractor shall supply factory wired equipment shelters, as described herein and as shown on the Contract Plans. Shelters shall be complete with all the equipment shown on the Contract Plans. Wiring shall conform to the requirements of the AREMA C&S Manual.
- B. Equipment shelters shall be manufactured by P.T.M.W., Siemens Systems, or approved equal.
- C. Equipment shelters shall be the same size and layout as shown on the Contract Plans. Unless otherwise shown on the Contract Plans, the minimum signal case equipment shelter depth shall be 24 inches.
- D. Houses shall be equipped with an appropriately sized ventilation unit. Cases shall be vented utilizing ventilation openings in the doors unless otherwise approved by the Engineer. The Contractor shall evaluate each case and house for adequate ventilation and modify the design as necessary to ensure inside shelter temperature levels will not exceed 85 percent of the maximum operating temperature level specified for the equipment housed in the shelter.
- E. Equipment shelters shall be rain-tight and dust/tight, designed to conform to National Electrical Manufacturers Association (NEMA) 4 specifications, ventilated and shall have hinged doors with three point catch and handle.
- F. Equipment shelters shall be constructed of 12-gauge Type 316 stainless steel.. If the Contractor would prefer to use an alternative equivalent AWS welding method to weld the instrument shelters, then the Contractor shall submit the equivalent welding method to the Engineer in writing for approval. In order to be considered to be an equivalent process the alternative AWS welding methods shall: a) conform to an American Welding Society (AWS) standard process, b) result in a quality weld and c) shall result in a weld that will not rust. The Engineer shall be the sole judge as to the quality and suitability of the alternative welding method and the Engineer's decision shall be final.
- G. The instrument shelters shall be complete with moveable shelves and backboard.

- H. The equipment shelters shall provide access to underground and aerial cable entrance behind the main terminal rack. Roof and side ventilation openings shall be provided as required for the size of the shelter proposed. Lift rings shall be provided to facilitate the movement of the shelter.
- I. In each door, there shall be ventilation openings. The exterior of the ventilation openings shall be hooded to minimize the entrance of precipitation. The doors shall be hinged and equipped with gaskets so that they will provide a dustproof and weatherproof seal. Doors shall be provided with a two-position retaining device to secure the door when open. House doors shall be a minimum width of 32 inches. Doors shall be equipped with a three-point latching system that will allow opening from the inside when lock is applied on the outside.
- J. Hinges shall be separate castings, securely fastened to the shelter and door with anti-theft layout. The hinges shall be equipped with stainless steel hinge pins, shall be lubricated by the manufacturer before the case is shipped and shall have grease fittings for later lubrication.
- K. Equipment shelters shall be furnished with interior lighting and duplex 120 volt alternating current (AC) power receptacle. Receptacle loads shall be fed from a ground fault interrupt circuit breaker used exclusively for these loads. Signaling logic and appliance power loads shall be fed from separate circuit breakers. Circuit breakers and wiring shall be the size as shown on the Contract Plans unless otherwise approved by the Engineer.
- L. Shelters shall be furnished complete with a 120/240 VAC power distribution panel, circuit protective devices and all appurtenances necessary to supply the AC power required at each site.

2.2 EQUIPMENT MOUNTING

- A. Equipment shall be mounted in a “logical” arrangement with focus on access needs and “ease of maintenance.”
- B. Relay plugboards shall be designed for insertion of removable type contacts. The method of attaching the wires to the removable contacts shall be solderless connections. The plugboard shall be designed so that the removable contact will have a direct connection with the contact and coil prongs. The plugboards shall be in accordance with the applicable sections of AREMA C&S Manual, Part 6.2.2.
- C. All wires shall be of sufficient length to permit them to be moved to any contact on the same relay plugboard.
- D. The relay plugboards for vital relays shall be equipped with a registration plate to prevent relays of the wrong type, contact arrangement, or operating characteristics from being inserted.

2.3 IDENTIFICATION

- A. A white identification number shall be stenciled at the top of the front and rear frames of each rack or panel.
- B. There shall be an identifying nameplate for each relay, or other instrument mounted on the rack or panel.
- C. The back and front of the relay plugboards shall be equipped with a tag, as specified in Section 344213.20, Relays. This tag shall indicate the nomenclature of the relay.
- D. Terminals and both ends of all internal wires shall be identified with a sleeve tag printed with the circuit nomenclatures and terminal designations as shown on the Contract Plans. The information shown on each tag shall be the nomenclature, the near location of wire and the far location of the wire.

2.4 CABLE ENTRANCE TERMINAL BOARDS

- A. Furnishing and installing factory wired equipment shelters as described herein and as shown on the Contract Plans.
- B. Cable Entrance Terminal Boards shall be made of 3/4 inch, 2-sided, MDO paneling, securely mounted to the shelter and painted with a fire retardant paint.
- C. Multiple-unit terminal blocks for wire and cable conductors shall be in accordance with AREMA Signal Drawing 14.1.6. Each binding post shall be furnished with two binding nuts, one clamp nut and three washers.
- D. Siemens test terminals shall be provided on all conductors entering shelters.
- E. Lightning arrestors shall be provided as shown on the Contract Plans.
- F. Binding posts and exposed terminals of other apparatus for circuits exceeding 50 volts or greater (AC or DC) shall be equipped with insulating nuts and sleeves.
- G. Cable entrance facilities shall be located as shown on the Contract Plans.

2.5 CABLE ENTRANCE PIPES

- A. Cable entrance pipes shall be supplied by the Contractor as specified herein.

2.6 GROUNDING

- A. Signal houses shall be fitted with four 48 inch long #6 copper ground wires exothermically welded to the underside of the house at each corner, using Erico CADWELD or approved equivalent. House terminal boards shall be fitted with two 12 ft. long #6 copper ground wires exothermically welded on the rear of frame

approximately 18 inches above the floor. Signal cases shall be fitted with two 48 inch long #6 copper ground wires exothermically welded to underside of the case on each side of the case. Ground wires shall be coiled and secured to enclosure in a manner that prevents damage during shipment.

- B. Grounding material shall be supplied by the Contractor and installed as specified herein.

2.7 INTERNAL WIRING

- A. Internal wiring shall be in accordance with AREMA C&S Manual Parts 10.4.1 and 10.4.30, unless otherwise specified herein.
- B. Minimum wire conductor sizes shall be as shown on the Contract Plans unless otherwise approved by the Engineer.
- C. Adhering to minimum wire size specifications does not relieve the Contractor's responsibility of using wire sized large enough to safely and effectively provide power to the circuit it serves.
- D. Solderless terminals, for stranded wire, shall be used.
- E. Solid terminal strap connectors shall be used for all short terminal jumpers.

2.8 PAINTING

- A. The interior including the ceiling, walls, terminal boards and shelves shall be finished with a primer and two coats of white latex enamel paint.
- B. All paint shall be fire retardant type.

2.9 OTHER EQUIPMENT

- A. Panel Board: Furnish a single-phase, three-wire 120/240 VAC, 60 Hz panel board for each shelter furnished under this Contract. The panel board shall be sized as shown on the Contract Plans.

2.10 SHELTER FOUNDATIONS

- A. Shelter foundations shall be pre-cast concrete foundations designed and constructed in accordance with AREMA C&S Manual and the shelter's manufacturer recommendations.
- B. The Shelter Foundations shall be designed, stamped and signed by a registered professional California civil or structural engineer. Relay Case foundations shall conform to Part 14.4.11 of the AREMA C&S Manual recommendations. The Contractor's Engineer shall determine the height of the foundation.

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- C. Where existing improvements such as sidewalks, curbs, gutters, pavement, underlying material, lawns, plants and other improvements are removed, broken, or damaged by the Contractor's operation of installing a new foundation, the contractor shall replace or reconstruct the improvements.

 - D. All surplus excavation, from whatever source, shall be disposed of in accordance with Section 4.20, "Cleaning Up" of the General Conditions.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. The shelters shall be mounted level, plumb and secured on concrete footings as approved by the Engineer. Shims, spacers, or other filler devices shall not be used to level and plumb the shelters.

- B. Cable entrance pipes shall be installed through the cable knockout holes provided in the floor of the shelter behind the terminal board. Pipes shall be 4-inch Sch. 40 PVC extending through the knockout holes to a minimum of 18 inches below final grade. Pipes and knockout hole edges shall be filled with a substance designed to prevent entrance of debris, rodents and other pests.

- C. The Contractor shall construct an earth pad for each instrument shelter. Pad shall be constructed to facilitate drainage away from the track and the shelter. Refer to Contract Plans for special installations requiring retaining wall or unique conditions. If conditions do not allow placement at the location shown on the Contract Plans then the Contractor shall submit alternate placement for approval of the Engineer.

- D. The Contractor shall coordinate all shelter placements with the Engineer. Shelters and associated appurtenances shall be located at the stationing shown on the Contract Plans train control sheets. The Contractor shall refer to the civil drawings of the Contract Plans for exact equipment location information. Shelters shall be identified with 4" letters/numbers per locations shown on the Contract Plans.

- E. Shelters shall be grounded as specified herein.

- F. Relays shall be installed on the relay plugboards corresponding to the relay nomenclature and identification plate and securely fastened in place with the hardware provided by the relay manufacturer.

- G. Batteries shall be installed on battery trays. Battery posts shall be coated with an approved grease and battery connectors shall be securely fastened to the battery posts.

3.2 AC POWER

- A. House load center shall be located within the house and sized as shown on the Contract Plans.

3.3 CABLING TO EXISTING EQUIPMENT AND RAILS

- A. Existing equipment not specifically shown to be removed or taken “out” in yellow shall be protected in place. The Contractor shall install new conduit, signal cabling and pull boxes from the new Instrument Shelter to the existing equipment and that is to be protected in place. Signal cabling shall conform to the requirements of section 344216, Train Control Wire and Cable.

3.4 TESTING

- A. Tests for proper operation shall be made in accordance with Section 344213.28, Block Signaling and Highway Grade Crossing Warning Systems Testing.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. The quantity for Signal House/Case Complete shall be measured for payment for each, completed in place, as shown on the plans.

4.2 PAYMENT

- A. The Contract priced paid per each Signal House/Case Complete shall include full compensation for furnishing all labor, materials, tools, equipment, and all incidentals: and for all the work involved in installing the Instrument Shelters, complete in place, including testing, in accordance with the Plans and as directed by the Engineer.

END OF SECTION 344213.18

SECTION 344213.19
SIGNAL SYSTEM GROUNDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes furnishing and installing a grounding system for the equipment shelter and all other wayside equipment apparatus, as specified herein and shown on the Contract Plans.
- B. Section Includes:
1. Grounding system for the equipment shelter
 2. Grounding system for the other wayside equipment apparatus
- C. Related Sections:
1. Submittal, MTS C Street & Broadway Wye Design.
 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
1. Communications & Signals (C&S) Manual of Recommended Practice
- B. ASTM International (ASTM):
1. ASTM B8 – Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft

- C. National Fire Protection Association (NFPA)
 - 1. NFPA 70 – National Electrical Code

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.
- B. Schematic Drawings showing the design and detail of the proposed grounding system for the signal equipment proposed to be furnished and installed.
- C. Catalog cuts or drawings showing the type of components to be used for the proposed grounding system(s).
- D. Installation and Test Procedure proposed for all equipment grounding.
- E. Submit test reports to the Engineer upon completion of ground tests that completely describe ground resistance test procedures and test results. Test reports shall be signed by a technician and witnessed by a representative of the Engineer.

1.4 QUALITY ASSURANCE

- A. Materials and equipment furnished and installed under this Section shall conform to all applicable state and local ordinances pertaining to electrical power installations and the latest edition of the National Electrical Code (NEC).

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cadweld exothermic connections - Manufactured by Erico Corp.
- B. Ground rods shall be manufactured by Copperweld Corp. and shall be copper-clad stainless steel. The rod shall be at least 10 feet in length and at least 3/4 inch diameter.

- C. Ground rod clamps shall be manufactured by Copperweld Corp. and shall be made of a cast bronze clamp body, with non-ferrous set screws.
- D. Internal ground wire, from the equipment to the ground bus, shall be insulated No. 6 AWG standard copper wire, as specified within Section 344216, Train Control Wire and Cable. Insulated ground wire shall be colored green.
- E. A grounding bus of nickel plated hard drawn pure copper shall be provided in the equipment shelters.
- F. Bare Ground Wire: Soft drawn copper, Class A or Class B stranded, shall meet the requirements of ASTM B8. Sizing of ground wire shall be in accordance with the NEC, except where sizes specified herein or shown on the Contract Plans are larger than those required by NEC; UL listed, Label A for lightning protection conductors. Grounding cable shall be continuous without joints or splices throughout its length.
- G. Bolted Grounding Connectors: Use connectors made of high strength electrical bronze, with silicon bronze clamping bolts and hardware; designed such that bolts, nuts, lock washers and similar hardware which might nick or otherwise damage the ground wire, shall not make direct contact with the ground wire.
- H. Ground Leakage Detector as shown on the Contract Plans.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Service equipment, motor frames, switchgear and equipment enclosures, lighting and power panelboards, transformers, raceways, fences and gates, building or structure steel frames, lighting standards, floodlight poles, power/light pull boxes/maintenance holes, shall be grounded as described herein and in accordance with the applicable requirements of the NEC and local codes.
- B. The grounding system shall preclude any closed loop grounding arrangements.
- C. Ground connection(s) to the track rails or use of the neutral conductors of the AC Power Supply shall not be permitted.
- D. Grounding under these specifications will conform to AREMA C&S Manual, Section 11. In cases where these instructions differ, the Engineer will make final decision.
- E. Ground wire/cable runs shall be as short and straight as possible and shall not be interrupted by any device.
- F. At equipment shelters, four ground rods shall be driven into the ground, at the corners of the structure. The ground rods shall be a minimum of 6 feet apart and shall be driven below ground level. A trench, 12 inches deep, shall be dug between the ground rods. Each of the ground rods shall be electrically connected to the others, using a #6 AWG

bare solid copper wire, exothermically welded, using Erico CADWELD or approved equivalent. Exothermically welded connections shall be coated with epoxy resin. The ground wires shall be placed in the bottom of the trench. The trench shall be backfilled, returning the soils removed during construction of the trench.

- G. The shelter's copper ground cables shall be exothermically welded to the ground rods.
- H. Ground resistance, as measured by the "Fall-of-Potential" method, shall not exceed 5 ohms.
- I. Where flexible conduit is used, a bonding jumper shall be provided.
- J. Interior: Equipment Grounding
 - 1. All shelters shall be equipped with a prime ground terminal securely attached electrically to the shelter structure and to the made ground network.
 - 2. Ground connections from lightning arrestors and equipment chassis shall run separately to ground buses in the shelters, as shown on Contract Plans. Ground busses shall be connected to the prime ground with green insulated No. 6 AWG stranded wire.
 - 3. All equipment that is powered by, or switches voltages greater than 35 volts AC or DC shall be properly grounded.
 - 4. All equipment that has conductors that leave the shelter shall be properly grounded.
 - 5. Set up ground leakage detector as described by manufacturer recommended procedures.

3.2 TESTING

- A. Ground Resistance Testing:
 - 1. Verify that resistance between ground buses and absolute earth, as measured by the "Fall-Of Potential" or "Clamp-on" test method, does not exceed 5 ohms without benefit of chemical treatment or other artificial means.
 - 2. The Contractor shall submit the test equipment and test procedure to the Engineer prior to conducting the first test.
 - 3. In the presence of the Engineer, test the grounding system by the "Fall-of-Potential" or "Clamp-on" test method to demonstrate that the total ground resistance does not exceed 5 ohms.
 - 4. To meet this resistance requirement, if necessary, bury additional ground rods and Cad-weld the ground rods to the ground wire or cable.
 - 5. Test grounding systems connected to Instrument Shelters, Catenary poles, Sub-panels, Instrument Shelters, Signals, Flashing Light Signals (all types), pull box grounding and all other grounds shown on the Contract Plans.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Signal System Grounding.

4.2 PAYMENT

- A. Payment for procurement of Signal System Grounding shall be included in the contract price paid for "Signal House/Case Complete", therefore no separate payment will be made.

END OF SECTION 344213.19

SECTION 344213.20

RELAYS

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes furnishing and installing all required relays and associated relay plugboards. Unless otherwise shown on the Contract Plans, relays shall be the plug-in type. Relays of each type shall be uniform in design and contact assembly.
- B. Section Includes:
1. Relays
 2. Relay plugboards
- C. Related Sections:
1. Submittal, MTS C Street & Broadway Wye Design.
 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
1. Communications & Signals (C&S) Manual of Recommended Practice

- A. Submittals shall be in accordance with the requirements of MTS Construction IMT Double Trac, except as modified herein.
- B. Relay specifications, any special mounting or supporting arrangements and contact stacking arrangements, for all relay types to be furnished under this Contract. Include any arc suppression where arc suppression is required.
- C. Contract Plans show acceptable relays in use. If the Contractor proposes use of alternate relays not shown and the alternate relays have been approved by the Engineer, the Contractor shall submit manuals with comprehensive descriptions and illustrations of each type of alternate relay provided. The Contractor shall provide four relay manuals, four copies of relay specifications and calibration sheets for each type of alternate relay furnished.
- D. Test forms provided by the manufacturer of each vital relay shall be completed for each vital relay furnished under this Contract. Test forms shall conform to all FRA requirements. The use of type written characters shall be used to fill in all information requested on the form.
- E. Sample relay identification tag, including method of mounting proposed.

1.4 QUALITY ASSURANCE

- A. Vital relays shall meet the requirements of AREMA C&S Manual Part 6.2.1, where the requirements of the AREMA Specifications do not conflict with any requirements specified herein.
- B. Factory testing of each relay shall be the manufacturer's standard. Relays removed from existing facilities shall be tested prior to returning to service.
- C. Before any relay is used, the Engineer's written acceptance shall be obtained. Acceptance will be based on the test results and the proper completion of the MTS test form.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Vital relays shall be shipped separately from the wired racks in which they are to be used. Relays shall be packaged individually, each in a sturdy corrugated cardboard carton with the drawing number of the relay printed on the outside of the carton. Relays shall be stored in a protected area until tested and installed.

2.1 PRODUCTS - GENERAL

- A. Relays and equipment specified shall be capable of rated performance through an operating temperature range of minus 40 degrees Fahrenheit to plus 160 degrees Fahrenheit.
- B. Relays shall be in dustproof enclosures, except a provision shall be made for ventilation where required, for heat dissipation.

2.2 SIGNALING RELAYS

A. DC Relays:

1. Vital relays shall be plug-in biased neutral type manufactured by Alstom, Ansaldo STS, or Siemens. The Contractor shall use the specific relay type and configuration shown on the Contract Plans, unless approved otherwise by the Engineer.
2. Vital DC relays, unless otherwise shown on the Contract Plans, shall be of the plug-in type and rack-mounted. Relays shall have a transparent dust cover made of a nonflammable composition that will not support combustion.
3. Vital relays, with a nominal operating voltage of 10 to 16 volts, shall be capable of operating continuously without resultant damage, with a minimum voltage range of 7 to 21 volts inclusive, applied to their operating coils.
4. Vital relays shall have a front testing facility to permit de-energizing.
5. Biased neutral vital relays shall be designed so that gravity alone will prevent the armature from picking up if the permanent magnet is de-energized or if no current is applied to the coil, due to interruption of the normal magnetic circuit.
6. All front contacts shall be silver-to-metalized carbon, meeting the requirements of the AREMA C&S Manual Part 6.2.1.
7. When three DC vital relays, suppressed as specified herein, are connected in parallel and operated as a test load from normal working voltage, a vital relay front or back contact that breaks this load shall be capable of at least five million operations at this load without the contact resistance, measured with ten milliamp current, exceeding five ohms.
8. Arc suppression for vital relays shall be built into the relay or into its plugboard.
9. Vital plug-in relays, except vital time-element relays and special application relays shall be equipped with front current testing facilities. Where required by the Engineer and as shown on the Contract Plans, facilities shall be provided to enable the testing of voltage from the front of the relay, without having to remove the relay or remove adjacent relays.
10. Vital relays shall be equipped with a registration plate to prevent relays of the wrong style, contact arrangement, or operating characteristics, from being inserted into the plugboard.

1. Vital switch operating relays used for control of switch-and-lock movements related to non-embedded switch machines shall meet the same requirements as specified for vital biased neutral relays, except that a minimum of two front-back dependent contacts shall be supplied and contacts shall be heavy-duty metal-to-metal construction.
2. Each contact shall be equipped with a magnetic blow-out feature to effectively interrupt high currents and minimize contact wear. Switch operating relays shall be identical. One normal and one reverse switch operating relay shall be provided for each switch-and-lock movement. Switch operating relays shall be ALSTOM Type B, USS Model PN150BM, or approved equal.
3. Vital switch operating relays used for control of switch-and-lock movements related to the embedded switch machines shall be rated for 208 3-Phase motor control as shown in the contract documents.

C. AC VANE Relays

1. Vital AC relays shall be plug-in type, two element, 60 or 100 Hz, as applicable, vane-type induction relays. Vital AC relays shall be capable of operating continuously and successfully without resultant damage with a minimum voltage range of 100 volts to 135 volts, inclusive, applied to the local winding and with a minimum voltage range of 0.75 volt to 5.0 volts, inclusive, applied to the control winding.
2. Each vital AC relay shall have a minimum of two dependent front-back contacts. Each front contact shall be of the silver-to-metalized carbon type.
3. Vital AC relays shall meet the recommendations established by AREMA Signal Section Specification (part 6.1.35), unless otherwise specified herein, with the exception that these relays shall be plug-in type and therefore shall not have a screened breather and shall not be equipped with binding posts.
4. If power frequency track circuits using matching transformers are supplied, the vital AC relays supplied shall meet the requirements herein above, except that a voltage range of at least 8 volts to 50 volts, inclusive, shall be required for application to the control winding.
5. Vital AC relays shall be manufactured by Ansaldo STS, Alstom, or approved equal.

D. Non-vital Relays

1. Non-vital relays shall be used for indication or non-vital functions only. The Contractor shall use the specific relays shown on the Contract Plans.
2. Non-vital relays shall be DC or AC operated as shown on the Contract Plans.
3. Non-vital relay bases shall contain an octal socket, screw type terminals and be capable of being mounted on DIN rail or screw mounted to a backboard.

E. Identification

1. Facilities shall be included for mounting an approved typed or printed relay name tag for each relay, either on the relay cover or on the relay cabinet front plate, as applicable. The name tag shall be easily replaceable but shall not come off during normal service.

3.1 INSTALLATION

- A. The Contractor shall ensure that the relay operating characteristics have not been altered due to damage during shipping procedures.
- B. The Contractor shall ensure that all AC and DC power busses are open while installing relays. Busses shall not be reconnected until all relays have been installed.
- C. The Contractor shall install and wire the relays as shown on the Contract Plans.

3.2 TESTING

- A. All vital relays shall be factory tested and inspected in accordance with AREMA C&S Manual Part 6.4.1 and Part 6.4.5.
- B. Test measurements shall be recorded on SDTI prescribed forms.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Relays.

4.2 PAYMENT

- A. Payment for procurement of Relays shall be included in the contract price paid for "Signal House/Case Complete", therefore no separate payment will be made.

END OF SECTION 344213.20

SECTION 344213.21

MISCELLANEOUS SIGNAL SYSTEM PRODUCTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes furnishing miscellaneous components and products to be used on this Contract and shown on the Contract Plans.
- B. Section Includes:
 - 1. Miscellaneous signal system components
 - 2. Miscellaneous signal system products
- C. Related Sections:
 - 1. Submittal, MTS C Street & Broadway Wye Design.
 - 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
 - 1. Communications & Signals (C&S) Manual of Recommended Practice

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.
- B. Product Data: Manufacturer's catalog cuts, material descriptions, specifications and other data pertinent to the miscellaneous products required.
- C. Samples of solderless terminals conforming to paragraph 2.1 G of this section.

1.4 QUALITY ASSURANCE

- A. All miscellaneous components and products used on this Contract shall be:
 - 1. New and free of manufacturing defects.
 - 2. Clearly and permanently labeled with value or type identification.
- B. All electrical components shall be rated to operate at power, voltage, current and temperature levels exceeding by 20 percent those that the components will be subject to in service, unless otherwise specified herein.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Signal system terminal blocks shall be in accordance with the applicable requirements of AREMA C&S Manual Part 14.1.5.
- B. Signal system terminal binding posts shall be in accordance with the applicable requirements of AREMA C&S Manual Part 14.1.10.
- C. Terminal binding posts for communications grade wires shall be in accordance with the AREMA C&S Manual, Part 14.1.2.
- D. All terminal posts, located on terminal boards in the wayside cases, signal instrument shelters used to terminate 50V, or greater, AC or DC circuits shall be provided with a protective insulator. The type of insulator shall be individual for each terminal post and shall be fire-resistant.
- E. Type 024620-1X insulated test link as manufactured by Siemens, Inc., or approved equal.

- F. Lightning arrestors, line filters and equalizers shall conform to the manufacturer's recommendations for the equipment being protected. Lightning arrestors and equalizers shall be mounted on accepted type base and shall be in accordance with AREMA C&S Manual Part 11.3.1.
- G. Terminals for wire and cables:
1. All solderless terminals shall be in accordance with the AREMA C&S Manual, Part 14.1.1, unless otherwise specified herein.
 2. Terminals shall be of the solderless crimp-on type. Samples of all solderless terminals shall be submitted for approval.
 3. All stranded copper wire shall be fitted with an approved type of terminal at all points where the wires are to be terminated on terminal binding posts.
 4. The terminating means shall be of four types:
 - a. A lug for terminating heavy wires or signal power wires.
 - b. A solderless type of terminal as manufactured by Tyco Electronics AMP, under the trade name of "Pre-Insulated Flags" with translucent insulation similar to Catalog No. 322313, or approved equal, for terminating No. 16 and No. 14, American Wire Gauge (AWG) stranded wires.
 - c. An AMP Solistrand "Ring Tongue-Flat" terminal, similar to that shown on the AMP Drawing P64044, together with slip-on nylon post insulator, similar to that shown on AMP Drawing P64-0264, or approved equal, for terminating wires larger than No. 14 AWG to a maximum diameter over the insulation of 0.40 inch.
 - d. An AMP pre-insulated, diamond grip ring nylon insulated wire terminal shall be used for terminating other stranded wires, No. 20 and No. 18 AWG, having maximum diameter of 0.125 inch. AMP Catalog No. 320554, or approved equal, shall be furnished for No. 8 studs and AMP Catalog No. 320571, or approved equal, shall be furnished for 1/4-inch studs.
 5. The terminals shall be attached to the ends of the conductor in such a manner that the flexibility of the conductor will not be destroyed and the possibility of breakage at the terminal will be reduced to a minimum.
 6. Terminals shall be attached to the wire with a tool made by the manufacturer of the terminal and recommended by the manufacturer for the terminals being furnished.
 7. The tool shall be equipped with a ratchet device to ensure proper compression of the terminal, which will not release until proper compression is complete.
- H. Tagging for cables, wires and equipment:
1. Except as otherwise specified in this Section, both ends of each cable, each cable wire and all single wires that terminate in the junction boxes, switch mechanisms, signal instrument shelters, on entrance racks, shelter and any equipment of the signal system outside of such locations shall be permanently identified with a tag. Tags shall be installed so that they may be read with a minimum of disturbance of the tags. Each conductor of the cable shall be rung out and identified before applying the tag. The circuit nomenclature, as shown on the Contract Plans or approved shop drawing, shall be placed on the tag along with the "location" or "terminal" designation.

2. Tags for wire and cable identification and for identification of transformers, resistors, reactors and other components shall meet the following requirements and shall be subject to the Engineer's acceptance:

- a. Sleeve Type Tags:

- 1) Tags for identifying individual cable conductors and wires within the signal instrument shelters, wayside cases, switch mechanisms, switch layout junction boxes, base of signal junction boxes and similar applications, shall be the sleeve type as manufactured by Raychem Corporation, Thermofit Marker System (TMS), or approved equal. The application of the conductor nomenclature shall be in accordance with the manufacturer's instructions and shall result in a permanently bonded and legible identification.

- b. Flat Plastic Tags:

- 1) Tags for identification of vital relay plug boards, individual transformers, resistors, reactors, terminals and other miscellaneous components within the signal instrument shelters, wayside cases and outside terminal cases, shall be the flat plastic laminated type.
- 2) These tags shall be 1-1/2 inches long by 1/2-inch-wide. The untreated tag shall be milk white "vinylite," or approved equal.
- 3) The identifying nomenclature space shall allow for two rows of lettering and the tag material shall be capable of receiving typed-on characters by conventional means. The height of the lettering shall not be less than 1/8 inch.
- 4) After lettering, both the face and back side of the tag shall be covered with a clear plastic coating, "vinylite," or approved equal.

- I. Hardware:

1. Mounting hardware exposed to the elements and used for signal equipment, cases, conduit, hangers, brackets, clamps, etc., shall be hot-dip galvanized, except as otherwise noted to use Stainless Steel or approved by the Engineer.

- a. Galvanizing:

- 1) The hot-dip process of galvanizing shall be used. All parts shall be picked so that all scale and adhering impurities are removed. The zinc coating shall be of commercially pure zinc and shall be continuous and thorough. It shall not scale, blister, or be removable by any of the processes of handling or installation. The finished surface shall be free from fine line cracks, holes, or other indications of faulty galvanizing. It shall be smooth and free from adhering flux and other impurities. The edges and ends of parts shall be free from lumps and globules. Parts shall be coated with at least two ounces of zinc per square foot of galvanized surface, after all bending, cutting, drilling and final fabrication.
- 2) In order to avoid destruction of resilience encountered in the hot-dip process of galvanizing, all lock-washers shall be cadmium plated.

- J. Conduit, Pull boxes and Fittings:
1. Conduit shall conform to the requirements of the Contract Drawings
 2. Pull boxes shall conform to the requirements of Caltrans Standard Specifications Section 86-2.03.
 3. Fittings:
 - a. Approved fittings for PVC conduit shall be used.
 - b. Fittings for rigid steel conduit shall be of cast malleable iron and shall be protected by hot-dip galvanizing.
 - c. Fittings used in conjunction with flexible liquid-tight conduit shall be design for use with such conduit. Fittings shall be galvanized, made of stainless steel, or otherwise constructed to resist rust or corrosion from exposure to salt air.
- K. SDTI will provide switch padlocks and signal padlocks. The Contractor shall provide temporary padlocks until such time the equipment is placed in-service.
- L. Sealing compound for use in sealing cable entrances shall be in accordance with AREMA C&S Manual Part 15.2.15.
- M Omitted.
- N. Environmental protection, as hereinafter specified for machine-finished surfaces, threaded rods, nuts and other parts that are susceptible to rusting or corroding, shall be a corrosion preventive compound, NO-OX-IDE No. 90918, or approved equal. The product must have sufficient body to resist weather and rusting for at least 6 months. Two gallons or equivalent weight shall be furnished by the Contractor.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Material and apparatus specified herein shall be installed in accordance with the details of respective technical Sections of these Specifications, manufacturer's recommendations and in accordance with the Contractor's approved installation drawings.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Miscellaneous Signal System Products.

4.2 PAYMENT

- A. Payment for procurement of Miscellaneous Signal System Products shall be included in the contract price paid for "Signal House/Case Complete", therefore no separate payment will be made.

END OF SECTION 344213.21

SECTION 344213.27

PAINTING AND GALVANIZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes the painting and galvanizing equipment, hardware and apparatus as specified within these Specifications and as shown on the Contract Plans.
- B. Section Includes:
 - 1. Painting
 - 2. Galvanizing
- C. Related Sections:
 - 1. Section 344201 – Transportation Signaling and Control
 - 2. Section 344213.18 – Instrument Shelters

1.2 REFERENCE STANDARDS

- A. ASTM International (ASTM):
 - 1. ASTM A123 – Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
 - 2. ASTM A143 –Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement
 - 3. ASTM A153 – Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 - 4. ASTM A384 – Safeguarding Against Warpage and Distortion During Hot-Dip Galvanizing of Steel Assemblies
 - 5. ASTM A780 – Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
 - 6. ASTM D6386 – Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting
- B. California Department of Transportation (Caltrans):
 - 1. California Manual on Uniform Traffic Control Devices (CA MUTCD)
- C. Society for Protective Coatings (SSPC)

1. SSPC PA 1 – Shop, Field and Maintenance Painting of Steel
2. SSPC PS Guide 12.00 – Guide to Zinc-Rich Systems
3. SSPC Paint 20 – Zinc Rich Primers IO and O

1.3 QUALITY ASSURANCE

A. Painting:

1. All equipment shall be inspected prior to shipment and upon receipt at the Contractor's storage facility to ensure surfaces are properly painted and galvanized as specified herein.
2. The Contractor shall make repairs or replace items as approved by the Engineer if any surfaces are damaged prior to or during installation with no additional cost to MTS.
3. Comply with the applicable provisions and recommendations of SSPC and AISC for shop painting of structural steel.

B. Galvanizing:

1. Steel and ferrous metal items exposed to moisture, gratings and items as shown on the Contract Plans, shall be galvanized after fabrication by the hot-dip process in accordance with ASTM A123. Weight of the zinc coating shall conform to the requirements specified under "Weight of Coating" in ASTM A123.
2. Safeguarding against steel embrittlement shall conform to the applicable requirements of ASTM A143.
3. Safeguarding against contortion and distortion of steel members shall conform to the applicable requirements of ASTM A384.
4. Shop galvanized metalwork, requiring field welding, which in any manner removes original galvanizing shall be restored by field galvanizing repair in accordance with ASTM A780.
5. Bolts and screws for attachment of galvanized items shall be galvanized in accordance with ASTM A153.
6. Prepare galvanized metal surfaces, to be painted, in accordance with ASTM D6386.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 PAINTING

- A. Shop paint miscellaneous metalwork, except for those members or portions of members to be embedded in concrete or masonry, surfaces and edges to be field welded and galvanized surfaces, unless otherwise indicated.

- B. Prepare and clean substrates in accordance with the paint manufacturer's written instructions and as specified, for each particular substrate condition:
1. Projections and irregular surfaces shall be ground smooth or removed. Weld accumulations, spatter and slag shall be removed.
 2. Remove accessories, cover plates and similar items in place and not to be painted or provide suitable protection from surface preparation and painting operations. Remove such items, if necessary, for the complete painting of the items and adjacent surfaces. Following completion of painting of each space or area, re-install the removed items using workers skilled in the trades involved.
 3. Surfaces to be painted shall be cleaned to remove all oil and grease prior to mechanical cleaning. Neutralize welds with a chemical solvent that is compatible with the specified painting systems.
 4. Mechanically clean and abrade all prepared surfaces. Abrasive type and size shall be selected to provide the required level of cleanliness while establishing a surface profile recommended by the paint manufacturer. Abrasive material shall be new material, free of contaminants that would interfere with adhesion of the paint. Abraded surfaces shall be vacuumed immediately prior to primer application to remove residual dust. All mechanically cleaned surfaces shall receive a coating of paint within eight hours or before flash rusting can occur. If flash rusting occurs, the surface shall be re-cleaned prior to paint application.

C. Exterior Applications:

1. After fabrication and immediately before shop painting, clean and prepare surfaces as described above.
2. Abrasive blast all steel surfaces to be painted.
3. Re-wipe as necessary and vacuum all surfaces to remove dust immediately prior to paint application.
4. Apply one coat of solvent based, inorganic zinc primer, at 2.5-3.0 mils DFT, in accordance with the applicable sections of SSPC-PA 1 and SSPC-PS Guide 12.00. Materials shall conform to SSPC-Paint 20, Zinc-Rich Primers.

D. Inaccessible Surfaces:

1. For surfaces that shall be inaccessible after assembly or erection, apply a second coat of water based acrylic primer, at 2.0-3.0 mils DFT.

3.2 GALVANIZING

- A. Galvanized surfaces that have become damaged from welding, handling, or installation shall be repaired immediately after installation with galvanizing repair material in accordance with, ASTM A780.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Painting and Galvanizing.

4.2 PAYMENT

- A. Full compensation for Painting and Galvanizing shall be considered included in the contract price paid per each various item, therefore no separate payment will be made.

END OF SECTION 344213.27

SECTION 344213.28

BLOCK SIGNAL AND HIGHWAY GRADE CROSSING WARNING SYSTEMS

TESTING PART 1 - GENERAL

1.1 SUMMARY

- A. Description: The Contractor shall test the block signal and highway crossing warning systems in accordance with the test plan and procedures developed by the Contractor and submitted to and approved by the Engineer.
- B. Section Includes:
1. Block Signal and Highway Grade Crossing Warning Systems Testing
- C. Related Sections:
1. Submittal, MTS C Street & Broadway Wye Design.
 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
1. Communications & Signals (C&S) Manual of Recommended Practice
- B. California Public Utilities Commission (CPUC) General Orders (G.O.):
1. G.O. 75-D – Regulations Governing Standards for Warning Devices for At-Grade Highway-Rail Crossings

C. Code of Federal Regulations (CFR), Title 49, Transportation:

1. 49 CFR Part 234 – Grade Crossing Safety

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.
- B. The Contractor shall submit a draft Field Test Procedures for all equipment, systems and subsystems installed, modified, and/or adjusted as a result of the Contractor work a minimum of 120 calendar days prior to the proposed date of the Field Test for Engineer's approval. The Contractor shall submit a final Field Test Procedures a minimum of 60 calendar days prior to the proposed date of the Field Test for Engineer's approval.
- C. The Contractor shall submit a Field Test Plan a minimum of 30 calendar days prior to the proposed date of testing for Engineer's approval. A Field Test Plan shall be submitted for each phase of a system or subsystem cutover and placing the system or subsystem in operation.

1.4 QUALITY ASSURANCE

- A. Test plan and procedures shall conform with Parts 8.6.1, 8.6.10, 11.1.1, 10.4.30, 12.5.1, 12.5.5, 6.2.1, 6.1.5, 3.3.1, 2.4.1, 2.4.5 and 3.3.5 of the AREMA C&S Manual and the requirements specified herein.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 CALIBRATION OF TEST INSTRUMENTS

- A. All instruments or recorders employed in these test programs shall bear a record of calibration against certified standards by the National Institute of Standards and Technology. Such calibrations shall be made at least each 180 calendar days and at such other periods as may be directed by the Engineer. Each test record shall identify the specific instrument employed in the test and the latest date on which it was calibrated, and the calibration expiration date.

3.2 FACTORY ACCEPTANCE TESTS AND INSPECTIONS

- A. All systems, subsystems and components forming an integral part of a fail-safe circuit or subsystem shall be completely inspected and tested at the wiring and assembly facility.
- B. All components or units, other than those related to fail-safe circuits, may be tested on a sampling basis. An approved number of randomly selected components or units from the manufacturing process shall be tested by the Contractor, beyond the manufacturer's testing process. The Engineer and/or a designated representative may witness such tests to ascertain the adequacy and acceptability of all components and units produced.
- C. Each component and unit shall be inspected at its point of manufacture and evidence of this inspection and acceptability shall be indicated on the item where practical.
- D. The Contractor shall notify the Engineer in writing, a minimum of 30 working days in advance of each test. When tests are to be conducted continuously as a production line routine, the Engineer shall be notified in writing at least 30 working days in advance of the date of commencing the tests and the expected duration. No testing shall be scheduled until the Engineer has approved the Contractor's proposed FAT Procedures and FAT Plan.
- E. All vital relays shall be factory-tested in accordance with the AREMA C&S Manual, Parts 6.2.1 and 6.1.5 and the provisions of these Specifications.
- F. Breakdown tests shall be performed in accordance with the requirements as specified herein.
- G. All factory installed rack wiring shall be tested as completely as possible before shipment to provide for the continuity of each circuit and the connection of each conductor to the proper terminating point.
- H. All wayside signal equipment shall be inspected and tested prior to shipment. All wire, terminal, equipment, cable, relay and rack tagging shall be inspected prior to shipment to insure they agree with the Contractor's design submittals.
- I. All signal equipment shall be operationally tested and inspected as a complete functional assembly prior to shipment. The Contractor shall test each function by simulating operating conditions. Where equipment is related to a safety function, each component or subassembly shall be separately inspected and tested.

3.3 FIELD TESTS AND INSPECTIONS

- A. The Contractor shall perform pretests in advance of actual testing.
- B. The Contractor shall perform all tests required to provide for the proper and safe operation of all signal equipment and to prove the adequacy and acceptability of the total installation.
- C. The tests to be performed shall cause each system and subsystem to be sequenced through all required operations and shall include simulated conditions to prove that the installation is in compliance with fail-safe requirements.
- D. Prior to operational testing, the Contractor shall check the quality of the installation by visual inspection and by tests of continuity, insulation resistance, resistance of ground connections, vital circuit breakdown and other tests as required.
- E. During field testing if any jumpers or special wiring is temporarily added for any reason, it shall be recorded on a log sheet indicating the circuit involved, the placement of the jumper or special wiring, the purpose for the change and when jumpers or special wiring are added and removed. Log sheet entries shall be signed by the Contractor's Signal Engineer and a copy furnished to the Engineer. All jumpers and temporary wiring shall be removed after the completion of the test and the removal noted on the log sheet. Temporary wiring shall be marked so as to be clearly distinguishable from permanent wiring.
- F. The Engineer shall receive written notification at least 72 hours prior to each test.
- G. No testing shall begin until the Engineer has approved the Contractor proposed Field Test Procedure and Field Test Plan.

3.4 TEST PROCEDURES, TEST PLANS AND TEST RESULTS

- A. Test Procedures:
 - 1. Test Procedures shall provide a narrative description of the adjustments, equipment setup and testing requirements for each sub-system and system to be tested.
 - 2. The Test Procedure submittal package shall include drawings, checklists and test forms for recording the results.
 - 3. Test Procedure packages shall be bound individually by location. For example, a separate package shall be submitted for each crossing case and or house where modifications were completed by contractor.

4. If additional tests are required because submitted test results do not comply with the requirements of the specifications, or do not provide adequate information the Contractor shall be required to retest, at no expense to MTS and the retesting is to be documented and submitted to the Engineer for approval as part of the work.
5. Each Test Procedure package submitted shall be signed by the Signal Engineer(s) responsible for directing the test. If the test schedule requires shifts in which multiple Signal Engineers direct testing, each Signal Engineer shall sign the Test Procedure package submitted.

B. Test Plan:

1. The Contractor's Test Plan shall include, but not limited to:
 - a. A comprehensive description of the work to be completed prior to beginning in-service testing.
 - b. A description of the track limits needed to complete the testing.
 - c. Emergency phone numbers.
 - d. Location of emergency medical facilities in the immediate area.
 - e. Method of Roadway Worker Protection being provided.
 - f. Location of job briefing for each shift.
 - g. A detailed cutover schedule that includes the activities to be completed and the time allotted for each activity.
 - h. Resources, tool and test equipment requirements.
 - i. Listing of personnel with duty assignments with respect to duties during cutover and location assignment during testing.
 - j. Contingency plan if work is not completed within specified time.
 - k. Method of communications (i.e. radio channel to be used, etc.)
 - l. Any special considerations.
 - m. Rollback procedures due to installation failure.
 - n. The Engineer reserves right to request additional information to supplement the data provided by the Contractor if the Engineer does not believe the information submitted is sufficient.

C. Certified Test Reports:

1. Certified Test Reports shall consist of, but not limited to the following forms and checklists as required:
 - a. Signal Shelter Inspection Checklist
 - b. Local Control Panel Checklist
 - c. Test Equipment Calibration form
 - d. Battery Voltage Record form
 - e. Battery Charger Settings form
 - f. Grounds Test form
 - g. Insulation Resistance Test form
 - h. Vital Relay Test form
 - i. Switch Indication Test form
 - j. Axle Counter System Test form
 - k. TWC Interrogator Settings form
 - l. Time Settings Test form
 - m. Time Locking Test form
 - n. Route Locking Test form
 - o. Indication Locking test form
 - p. CTC Control & Indication Bit form

D. The appropriate forms and checklists listed above shall be populated with the location, circuit/device designation, acceptable parameters, etc. and submitted in the Test Procedure package as described in 3.4 A. above.

E. Based upon the results of the first items tested, the Contractor may initiate revisions to the test procedures if approved by the Engineer. Modified test procedures shall be resubmitted to the Engineer for review and shall meet the same submittal requirements indicated unless waived in writing by the Engineer.

F. The test forms and inspection checklist shall include, but shall not be limited to the following information:

1. Title of test.
2. Equipment to be tested, including model and serial numbers.
3. Location and date of test.
4. Step-by-step test procedure to describe how test should be conducted.
5. Acceptable parameters.
6. Test Results with quantified results such as, voltage and/or current readings, time duration, Pass/Fail results and equipment settings. Non-quantified Pass/Fail results shall not be acceptable.
7. Signature of the Signal Engineer directing and witnessing the test.

G. Test required by 49 CFR Part 234 shall be recorded on a form compliant with that Part. Test forms shall be signed and dated by the responsible individual directing/completing the test. Individuals performing the tests shall be qualified and experienced. The Engineer may at any time request a retest, at no additional cost to MTS, if the Engineer deems the individual that completed the test was not qualified or experienced.

3.5 WIRE AND CABLE TESTS

- A. Ground Verification Test. This test shall verify that the ground resistance at each location is less than 5 ohms.
- B. Cable Verification Test. This test shall ensure that each exterior cable conductor is correctly installed, has correct nomenclature and is continuous from end to end.
- C. Cable Insulation Resistance Test. This test shall ensure that each exterior cable conductor meets the minimum conductor-to-conductor and conductor-to-ground resistance.
- D. The Contractor shall test all signal bonds and power bonds, to verify that the resistance across the rail connection is not greater than that specified herein.

3.6 GENERAL LOCATION Tests

- A. The Contractor shall perform circuit breakdown tests to ensure all instrument enclosures and connections to field devices are as shown on circuit plans.
- B. All metallic wiring shall be tested after installation to ascertain continuity and proper connection according to the circuit plans.
- C. Where parallel circuits exist, the Contractor shall test each parallel path independently to verify the continuity of each path.
- D. Each function shall be tested as a complete system or subsystem for the correct operation in response to circuit element or contact closure.
- E. Equipment operating conditions shall be simulated to verify that circuits operate as designed.
- F. Power Verification
 - 1. All fuses shall be removed and all circuit breakers opened to ensure energy is removed from equipment and circuits supplied by the power source.
 - 2. The Contractor shall verify that circuit breaker size and specification compares to that of approved circuit drawings.
 - 3. All energy distribution shall be checked using resistance test instrument approved by the Engineer.
 - 4. The Contractor shall verify that all wire gauges are as called for on approved circuit drawings and that the number of wires on each termination compares with the approved circuit drawings.
 - 5. Check AC power for correct voltage levels and phasing where required.
 - 6. Check all DC power for correct voltage levels.
 - 7. Check and adjust transformer taps where required.
 - 8. Each energy bus shall be tested to all other energy buses to ensure that no shorts, grounds or crosses exist.

9. Check circuit power failure alarms for proper indication to the local control panel, the code system, control office and event recorder.

G. The Contractor shall verify tags for proper nomenclature and terminal location.

H. The Contractor shall ensure all equipment is installed correctly at the location shown on the Contractor's submittals.

3.7 CROSSOVER LOCATION TESTS - Omitted

3.8 AUDIO FREQUENCY OVERLAY (AFO) TRACK CIRCUITS

A. The Contractor shall perform the following tests and verify the indicated test results:

1. For each track circuit, determine the effectiveness of the filtering. With the transmitter disabled, measure any harmonic noise or crosstalk interference at the receiver to verify compliance with maximum crosstalk level requirements.
2. After adjustment ensure the track circuit is de-energized when shunted with a 0.2 ohm shunt at the receiving end. With the 0.2 ohm shunt removed, the track circuit shall operate normally. Perform the same test with the shunt at the center of the track circuit and again with the shunt placed at the transmitter end.

B. All tests and normal operating parameters shall be recorded for each track circuit and submitted to the Engineer.

3.9 AUDIO FREQUENCY (AF) TRACK CIRCUITS

A. The Contractor shall perform the following tests and verify the indicated test results:

1. For each track circuit, determine the effectiveness of the filtering. With the transmitter disabled, measure any harmonic noise or crosstalk interference at the receiver to verify compliance with the maximum crosstalk level requirements.
2. After adjustment, test track circuits as follows:
 - a. With a 5 ohm per thousand feet simulate ballast leakage, the track circuit shall de-energize when shunted with a 0.2 ohm shunt at the receiver end. With the 0.2 ohm shunt removed, the track circuit shall operate normally. Perform the same test with the shunt at the center of the track circuit and again with the shunt placed at the transmitter end.
 - b. After adjustment for proper operation, all track circuits shall be tested with a 0.2 ohm shunt to verify proper operation. Additional manufactures recommended testing shall be adhered to.
3. All test and normal operating parameters shall be recorded for each track circuit and submitted to the Engineer.

3.10 POWER FREQUENCY (AC) TRACK CIRCUITS

A. The Contractor shall preform the following tests and verify the indicated test results:

1. With a three ohm per thousand feet simulated ballast leakage, the track circuit shall de-energize when shunted with a 0.2 ohm shunt at the center of the circuit as well as at the feed and relay ends. With the 0.2 ohm shunt removed, the track circuit shall operate normally.
2. The track circuit shall de-energize when any one of the insulated joints defining the track circuit boundaries is shunted.
3. The track circuit relay shall be de-energized when the feed end or relay end of the circuit is disconnected. The track circuit relay shall also be de-energized when the local reference voltage is de-energized.
4. The normal operating parameters and track circuit leakage shall be recorded and submitted to the Engineer.

3.11 INSULATED JOINTS

- Omitted

3.12 SWITCH APPURTENANCES INSULATION TEST

- Omitted

3.13 SWITCH FOULING CIRCUITS

- Omitted

3.14 EVENT RECORDER

- Omitted

3.15 SIGNAL SYSTEM DEMONSTRATION TESTS

- A. Failure of a component, of the signaling system, to successfully complete a test shall be cause for rejection and the Contractor shall adjust the component and repeat the test where possible. Should the equipment fail to perform properly on the re-test, or the equipment is not adjustable, the equipment shall be replaced. The Contractor shall reimburse SDTI for its cost associated with retesting.
- B. This test shall be performed by simulating train movements using manual track occupancies to test the overall functioning and safety of the signaling and highway crossing warning systems. The Contractor shall include simulated unusual conditions to determine that the crossover equipment will respond in a safe manner. All of the functions of the complete signaling system shall be exercised, including as a minimum:
 - 1. Detection of all revenue vehicles on signaled mainline tracks.
 - 2. Automatic, local control panels, route selectors, and TWC operations.
 - 3. The elimination of conflict arising from two vehicles simultaneously requesting routing through a particular crossover.
 - 4. Determining that all wayside hardware will be safe for the vehicle prior to permitting any route to be traversed.
 - 5. Automatic or train-to-wayside (TWC) device routing for all routes at terminals.
 - 6. The Contractor shall perform tests required to demonstrate compliance with electromagnetic compatibility criteria.

3.16 DYNAMIC OPERATIONAL TESTS

- A. The same functions as specified in Article 3.16 of this Section shall be tested using actual vehicles, including safe braking for only the shortest effective braking distance. SDTI will provide LRVs and the operators, the Contractor shall provide all equipment, wiring and interface for this test.

3.17 REQUIRED CONTRACTOR SUPPORT

- A. The Contractor's Signal Engineer and Application Software Engineer shall be on site for the duration of the testing specified in Article 3.16 of this Section. The Contractor shall also make available, on site, a qualified representative of the signaling system hardware manufacturer, within 48 hours of an initial request by the Engineer, prior to Engineer acceptance of the signaling system. These services shall be at no additional cost to MTS.
- B. The Contractor shall make available to the Engineer all staging equipment and material during testing to facilitate replacement of defective equipment.
- C. To ensure the time required, to cutover signal systems handling revenue operation, is as short as possible the Contractor shall:
 - 1. Have personnel mobilized not less than one hour prior to the scheduled start of the cutover.
 - 2. Have the Signal Engineer and Application Software Engineer in attendance at the cutover control point.
 - 3. Make allowance for rotating personnel during shift changes.

4. Provide qualified manpower to each location involved in the cutover testing, as required, to adequately complete all required testing and to make adjustments, changes or corrections to the installation to successfully complete the testing.
5. Provide enough qualified personnel to provide replacement personnel on a 12 hour shift basis for the entire length of the cutover. This also applies to the Contractor's Signal Engineer, Application Software Engineer, as required.
6. The Contractor's personnel shall be prepared to make any changes or adjustments to equipment, apparatus or wiring as deemed necessary.
7. The Contractor shall equip personnel with two-way radio units at each location.
8. The Contractor's personnel shall undergo SDTI safety training at the Contractor's expense and observe SDTI Safety Rules while on MTS Property.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Block Signal and Highway Grade Crossing Warning Systems Testing.

4.2 PAYMENT

- A. Full compensation for Block Signals and Highway Grade Crossing Warning Systems shall be considered as included in the contract price paid per each various items, therefore no separate payment will be made.

END OF SECTION 344213.28

SECTION 344213.29

ABANDONMENT, DEMOLITION, REMOVAL AND DISPOSAL OF
 EXISTING SIGNAL SYSTEM FACILITIES

PART 1 - GENERAL

1.1 SUMMARY

A. Description:

1. All facilities identified in yellow "out" on the Contract Plans Train Control plan sheets and described in this Section shall be removed and disposed of by the Contractor as described herein, and in compliance with applicable standards unless directed otherwise by the Engineer.
2. All facilities not identified on the Contract Plans or described in this Section to be removed, shall be protected in place.

B. Section Includes:

1. Abandonment
2. Demolition
3. Removal and Disposal of Existing Signal System Facilities

1. Related Sections:

1. Submittal, MTS C Street & Broadway Wye Design.
2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 SUBMITTALS

- A. The Contractor shall submit an Abandonment, Demolition, Removal and Disposal of Existing Signal System Facilities Plan related to the existing signal system. The Plan shall be submitted at least 60 calendar days prior to beginning the Work identified in this section of Specifications, work shall not begin until the Engineer has approved the Plan.

1.3 QUALITY ASSURANCE

- A. Salvaged equipment and materials shall be protected from theft and damage until such time the materials are delivered and unloaded at the MTS yard.
- B. The Contractor shall not damage or destroy this material and shall protect all salvaged material during the demolition and removal work. The Contractor shall not reuse any removed material without the Engineer's written approval.
- C. Existing facilities to be salvaged shall be immediately loaded onto trucks and removed to their predetermined salvage location. No stockpiling of said materials shall occur on MTS property without the expressed approval of the Engineer.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

3.1 EQUIPMENT TO BE REMOVED AND SALVAGED

- A. All equipment identified to be salvaged shall be removed and delivered to MTS for storage and reuse, unless otherwise directed by the Engineer. The Contractor shall contact MTS Assistant Superintendent of Wayside Maintenance to arrange for delivery to a San Diego Trolley Maintenance Facility in San Diego, CA. The Contractor shall contact MTS Assistant Superintendent of Wayside Maintenance a minimum of 5 working days prior to delivering and unloading the materials at the MTS storage facility. The Contractor shall provide a complete log of materials delivered. The Contractor is responsible for providing all necessary equipment to safely unload salvaged materials at the MTS storage facility.
- B. The equipment listed below shall be salvaged and delivered to the MTS at a point within 10 miles of the project limits. Material salvaged shall be carefully removed and properly packaged for shipment and storage. All other materials shall become the property of the Contractor and disposed of in accordance with federal, state and local ordinances and as specified in these Specifications.
1. S7 Modules (Including CPUs, I/O Modules, COMs)
 2. ACM100 Modules
 3. ACM100 Wheel Sensors

- C. Items to be protected in place that are damaged during demolition shall be repaired or replaced as directed by the Engineer at no cost to the MTS. Items to be salvaged that are damaged during removal shall be repaired or replaced as directed by the Engineer at no cost to the MTS.

3.2 REMOVE AND DISPOSE OF EXISTING FOUNDATIONS

- Omitted

3.3 EXISTING CASES (RETIRED)

- Omitted

3.4 EXISTING RAIL CONNECTIONS (RETIRED)

- A. The Contractor shall remove existing rail connections not required in the final layout in a manner as described below.
1. Where rail connections consist of welded connection to the rail, the Contractor shall grind off the connection completely and grind the weld level with rail surface.

3.5 EXISTING SIGNAL WIRE AND CABLE (RETIRED)

- A. Except as may be otherwise shown on the Contract Plans or specified in these Specifications, the Contractor shall remove and dispose of all existing aerial and underground signal wire and cable not required in the temporary or final layout. The Contractor shall remove the wire and cable complete, including all brackets, supporting galvanizing strand wire and fastenings. All existing underground direct buried cable and cable that cannot be pulled out of existing conduit shall be cut at a minimum of 6 inches below the finish grade.
- B. All materials removed shall be disposed of by the Contractor as described in this section.
- C. To facilitate the work of the final changeover at certain existing pieces of equipment where new cable is to be installed to replace the existing cable, the Contractor shall remove existing cable from the equipment housing and pull it into the equipment housing again, through the door or handhole rather than the regular cable entrance and temporarily reconnect it to the equipment. During this period, which shall be kept to a minimum, the Contractor shall provide ample protection to the material and equipment so as to prevent the entrance of rain, snow, foreign materials of any kind, or anything, which may cause or tend to cause signal interruptions or interferences, or create or tend to create fire hazards. At the time of the final change-over the new cable installed shall be connected to the equipment and the existing cable disconnected and removed.

- D. Where cable or wire in duct or conduit is to be removed from service, it shall be removed completely from the conduit or duct and the duct or conduit entrances shall be sealed, all as approved by the Engineer. If the actual movement for withdrawal of the cable cannot be initiated within thirty (30) minutes, after a Coffin Safety-Pull Ratchet Lever Hoist (“come along”) exerting a force of up to three thousand (3,000) pounds has been applied and the cable shall not move, the Contractor shall notify the Engineer and request permission to abandon the cable in the conduit or duct. If permission is granted, three (3) feet of cable shall be left protruding from each end of the conduit or duct and the conduit or duct entrances around the abandoned cable shall be sealed. The work described in this paragraph shall be performed only in the presence of the Engineer’s representative.

3.6 EXISTING MESSENGER WIRE (RETIRED)

- A. The Contractor shall remove all existing messenger wire, except those portions of messenger wire supporting existing cable, which is retained in the temporary or final layout. The Contractor shall remove the messenger wire, including supporting brackets, deadends, insulators, century brackets, hooks, clamps, bolts and other appurtenances.

3.7 EXISTING CONDUIT (RETIRED)

- A. The Contractor shall remove existing exposed conduit and pole mounted junction boxes containing cabling related to the existing signaling system that will not be used as part of the final signaling system configuration. The Contractor shall remove the conduit, junction boxes, including all conduit fittings, mounting assemblies and hardware, fastening materials, banding, special brackets and all other appurtenances associated with the signaling system conduit system to a minimum depth of 6 inches below finish grade.
- B. Where it may be necessary to remove conduit that is buried in concrete that is to remain in place, the conduit shall be removed to a point below the top of the concrete. The hole shall be filled with concrete and neatly grouted.
- C. Where conduits are buried in earth, the conduit shall be removed two feet down from top of grade. The conduits under tracks shall be abandoned.

3.8 EXISTING CONCRETE FOUNDATIONS (RETIRED)

- Omitted

3.9 EXISTING INSULATED JOINTS (RETIRED)

- Omitted

3.10 EXISTING MATERIAL AND EQUIPMENT (RETIRED)

- A. The Contractor shall remove no longer used material and equipment from the cases. All relays including bases and other equipment specified for salvage shall be removed, properly packaged and shipped for storage. All other equipment shall be disposed of as specified in these Specifications.
- B. The Contractor shall plug all holes left in structures and rail ties resulting from the removal of equipment fasteners and shall paint all steel exposed when equipment is removed.
- C. At locations where track cases are to be removed, the Contractor shall remove the rail connections and track leads and abandon the conduit in place unless it interferes with final signal layout or structure, in which case the conduit shall be removed. Where the cases are mounted on the concrete floor by means of expansion bolts, the bolts shall be extracted and the concrete finished to conform with the rest of the structure in a manner approved by the Engineer.
- D. Rail connections consisting of steel pins driven into the rail shall be removed by driving the bond pins from the rail. Where rail connections consist of clamps, the Contractor shall remove the clamps.
- E. Rail connections connected to a solderless connector, which is fastened by means of nuts to a threaded tapered pin driven into the rail, shall be removed by backing off the nuts on the tapered pin and driving the pin from the rail by using a rail connector starting tool and a three pounds hammer.
- F. Welded rail connections shall be removed by grinding off the connection, for 6 AWG and larger cable, otherwise the connection can be removed without grinding. The Contractor shall remove the rail connections completely including wire, conduit, fittings, cast-iron bootleg riser and junction boxes, all as approved by the Engineer.
- G. Where existing cable or wire is buried in the ground it shall be cut 6 inches below finish grade and the remaining buried cable shall be abandoned in place unless it interferes with final signal layout or structure. The Contractor shall not leave any portions of the cable above ground.
- H. The Contractor shall remove all supporting brackets, dead-ends, insulators, century brackets, hooks, clamps, bolts, unnecessary downguy assemblies and other appurtenances when wire or cable is removed.
- I. The Contractor shall remove existing exposed conduit not required in the temporary or final layout, including all conduit fittings, all mounting, banding and fastening materials and special brackets. The Contractor shall fill all holes and paint all surfaces exposed by the removal of the conduit.
- J. Where equipment has been removed and conduit stub-up(s) are no longer required and the Engineer determines the existing pavement shall be protected in place, the conduit shall be removed to a point one inch (1 inch) below the top of the concrete. The hole shall be filled with concrete and neatly grouted.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities.

4.2 PAYMENT

- A. Full compensation for Abandonment, Demolition, Removal and Disposal of Existing Signal System Facilities shall be considered included in the contract price paid per each various items; therefore no separate payment will be made.

END OF SECTION 344213.29

SECTION
344216

TRAIN CONTROL WIRE AND CABLE

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes furnishing and installing all cable and wire required for signal and signal power system wiring to wayside signals, junction boxes and factory wired mechanisms. Cables shall be furnished and installed as specified herein and as shown on the Contract Plans.
- B. Section Includes:
1. Train Control Wire and Cable
- C. Related Sections:
1. Submittal, MTS C Street & Broadway Wye Design.
 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
 - 1. Communications & Signals (C&S) Manual of Recommended Practice
- B. ASTM International (ASTM):
 - 1. ASTM B3 – Soft or Annealed Copper Wire
 - 2. ASTM B8 – Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
 - 3. ASTM B33 – Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
 - 4. ASTM D3159 – Modified ETFE-Fluoropolymer Molding and Extrusion Materials

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.
- B. Product Data: Manufacturer's catalog cuts, material descriptions and specifications for each type of wire and cable the Contractor proposes for use.
- C. Submit the results following tests conducted during manufacturing of all applicable wires and cable:
 - 1. Conductor size and physical characteristics.
 - 2. Insulation HV and IR tests.
 - 3. Physical dimension tests.
 - 4. Special tests on materials in coverings.
 - 5. Final HV, IR and conductor resistance tests on shipping reels.

1.4 QUALITY ASSURANCE

- A. Material and workmanship shall be of the highest quality, assuring durability for minimum life expectancy of 40 years. Cables to be furnished and installed shall be suitable for use in the environment to be encountered on a railroad signal system and shall be certified for continuous operation at 75 degrees Celsius, in wet or dry locations, with no conductor failing in continuity or with loss of insulation to cross or ground less than one meg-ohm.
- B. Cable manufacturer's qualifications shall be as follows:
 - 1. Past Performance and Experience: Demonstrated previous successful experience in supplying cable to the railway or transit industry for use as vital signal control cables. A list of such installations shall be provided for each cable manufacturer to be considered.
 - 2. Quality Control Program: The manufacture of cables in accordance with the requirements of this Specification shall be accomplished in compliance with a

Quality Control Program that meets the intent of the American National Standard Institute (ANSI)/American Society for Quality (ASQ) Standard C1; general reinstatement provided for in this subparagraph shall apply only to the first replacement or repair of any such item and, in the case of failure of major importance, to the first extension of the said warranty to said affected items.

3. The Engineer shall have the right to make inspections and tests, as necessary, to determine if the cable meets the requirements of this Specification. The Engineer shall have the right to reject cable that is defective in any respect.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Shipping, storage and handling shall be in accordance with AREMA C&S Manual, Part 10.4.1 and 10.3.17.
- B. During storage and handling, prior to final conductor termination, cable ends shall be sealed to prevent the entrance of moisture.
- C. Any instance of damaged cable observed at any time, whether prior to installation, occurring during construction, or discovered by test observation subsequent to installation, shall be immediately called to the Engineer's attention in writing by the Contractor. The method of correction shall be in accordance with the Engineer's written instruction. The Contractor shall promptly repair such damage and re-test the cable per approved procedures and re-submit the results for Engineer's review.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Internal Wire and Cable:
 1. Individual cable makeup and conductor sizes shall be as shown on the Contract Plans.
 2. Internal wire shall be Okozel type Z manufactured by Okonite Co. or approved equal.
 3. Unless otherwise specified herein, internal wire and cable shall conform to AREMA C&S Manual, Part 10.3.14.
 4. Conductors shall be soft and annealed copper per ASTM B3 and tin coated in accordance with ASTM B33.
 5. Stranded conductors shall be in accordance with ASTM B8, Class B.
 6. Signal instrument shelter and case internal wire and cable insulation shall conform to AREMA C&S Manual Part 10.3.24, unless otherwise specified herein and the following requirements:
 - a. Insulation shall be modified ethylene tetrafluoroethylene (ETFE) conforming to ASTM D3159, unless otherwise specified.
 - b. The minimum insulation rating shall be 600 volts.

7. Wiring within an instrument shelter shall be neatly arranged and laced or enclosed in plastic tubing or raceway; be properly tagged and labeled; and shall have sufficient slack as described in Part 10.4.1 of the AREMA C&S Manual. Stranded conductors shall be terminated with compression type eyelet terminals and installed using compression crimping tool which prevents opening of the handles until the crimp is completed. Solid wire shall be formed in eyelets using a proper eyelet forming tool. In forming the eyes or applying terminals to the ends of wires, the wires shall not be nicked or twisted.

B. External Wire and Cable:

1. General

- a. Individual cable makeup and conductor sizes shall be as shown on the Contract Plans.
- b. Conductors shall be soft or annealed copper per ASTM B3 and tin coated in accordance with ASTM B33.
- c. Stranded conductors shall be in accordance with ASTM B8, Class B.

2. Track Wire

- a. Track wire shall be two single conductor No. 6 AWG solid jacketed wires twisted two turns per foot. Track wire shall be Okonite-Okolene manufactured by Okonite Co. or approved equal.
- b. Where not otherwise specified herein, track wire shall be underground type that meets the requirements of AREMA C&S Manual, Part 10.3.16. Track wire jacket shall be polyethylene and the insulation shall be ethylene-propylene. Jacket and insulation average thickness shall not be less than the following minimums:
 - 1) Jacket = 60 mil.
 - 2) Insulation = 90 mil.
- c. Fauscher Axle Counter cables shall be as specified in Contract Drawings.

3. Cable in Conduit

- a. Cable to signals, switches, highway warning devices and express cable between instrument shelters shall be Underground Signal Cable manufactured by Okonite Co. or approved equal. All cable between the shelter and the equipment, including direct burial cable, shall be installed in conduit and pull boxes, except at rail connection points shown on the Contract Plans.
- b. Conductors number 6 AWG and greater shall be solid. Conductors number 4 AWG and lessor shall be stranded.
- c. Unless otherwise specified herein, direct burial cable shall meet the requirements of AREMA C&S Manual, Part 10.3.17. Cable conductors shall be printed with a number for easy identification of the conductor. Conductor insulation shall be ethylene-propylene rubber and cable jacket shall be made of polyethylene. Jacket and insulation average thickness shall not be less than the following minimums:

Metropolitan Transit System
 C Street & Broadway Wye Design
 Issued for Construction

Project No. PWL394.0-24
 Rev. A
 March, 2024

i.	3 Conductor No. 6 AWG	Jacket = 95 mil	Insulation = 80mil
ii.	5 Conductor No. 6 AWG	Jacket = 95 mil	Insulation = 80mil
iii.	7 Conductor No. 6 AWG	Jacket = 95 mil	Insulation = 80mil
iv.	7 Conductor No. 9 AWG	Jacket = 80 mil	Insulation = 60mil
v.	7 Conductor No. 14 AWG	Jacket = 95 mil	Insulation = 60mil
vi.	12 Conductor No. 14 AWG	Jacket = 95 mil	Insulation = 60mil

d. Power Cable:

- 1) Power cable shall be three (3) Conductor No. 2 AWG Armored Underground Signal Cable as manufactured by Okonite CO., Catalog No. 206-11-6130 or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION – CABLES ENTERING INSTRUMENT SHELTERS

- A. Exterior cable entering instrument shelters and junction boxes shall have sufficient length to extend to within 6 inches of the top of the instrument shelter and then run down to the applicable terminal post at which it is terminated. Cables shall be neatly arranged and laced or enclosed in plastic tubing or raceway; be properly tagged and labeled; and shall have sufficient slack as described in Part 10.4.1 of the AREMA C&S Manual. Stranded conductors shall be terminated with compression type eyelet terminals and installed using compression crimping tool which prevents opening of the handles until the crimp is completed. Solid wire shall be formed in eyelets using a proper eyelet forming tool. In forming the eyes or applying terminals to the ends of wires, the wires shall not be nicked or twisted.

3.2 UNDERGROUND CABLE INSTALLATION

A. General

1. The installation of wire and cable shall conform to AREMA C&S Manual Parts 10.4.1 and 10.4.30, except as specified herein.
2. Underground cable and track wire shall be routed through conduit and pull boxes between equipment shelters and from equipment shelters to switch apparatus, signal junction boxes, warning device junction boxes, pole junction boxes, track hand holes, meter services and other apparatus. Provide sufficient cable slack in pull boxes for relocation of apparatus up to 5 feet.
3. The Contractor shall provide 48 hours (or two working days) notice to the Engineer prior to installing any cables.
4. Provide sufficient slack in cable conductors at all terminating posts to enable three re-terminations of the conductor, due to broken eyelets without resurfacing or re-pot heading the cable.
5. In certain types of installation, the cable cannot be constrained; therefore, ample cable slack shall be provided for additional flexibility due to vibration of such equipment.
6. Cables shall not be bent to a radius less than manufacturer's recommendation. Sheaves shall be used where necessary during installation to maintain minimum bending radius.
7. Distribution cable runs shall be continuous without splices between cable terminating locations. Express cable runs longer than cable lengths shall be terminated in a junction box, instrument case, or other acceptable shelter.
8. Individual cable conductors shall be identified at each cable termination with plastic tags, as specified in these Specifications. All spare conductors in each cable shall be identified and terminated.
9. Cable entrance openings in equipment enclosures and junction boxes shall be sealed with either compression type fitting or pliable sealing compound after the cable is in place. Sealing compound shall be used to seal the area around cable where the cable emerges from the end of a conduit or pipe. All spare conduits shall be sealed or plugged.
10. Wherever multiple conductor cables are terminated, the outer sheath of the cable shall be carefully removed to a minimum point of 3 inches from the cable entrance. At the end of the cable sheath or covering, two layers of plastic electrical tape shall be applied.
11. All cable conductors shall be terminated in conductor sequence from top to bottom.
12. The pot heading of buried cables shall be applied whenever cable is terminated in signal equipment and such termination is within two feet of the grade level. This neoprene and seal pothead shall be installed in accordance with the manufacturer's instructions.
13. Cables shall not cross one another when they are pulled into a conduit or pipe and care shall be taken not to have the conductors pulled tight or kinked in conduit fittings or boxes. All cables to be installed in a conduit or pipe shall be pulled and installed simultaneously.

B. Special Protection

1. Provide appropriate special protection for cables in areas where the cables are unavoidably exposed to hazardous conditions, such as vibration or sharp corners on equipment. The Contractor shall be responsible for replacing, at no additional cost to MTS, any cable that is installed but subsequently damaged prior to acceptance as a result of the Contractor's failure to provide such special protection.

C. Aerial Installations

1. Aerial cables used in conjunction with contract plans shall so be rated and shall be installed as shown in contract drawings. Aerial Cables shall be lashed to existing messenger wire, if necessary existing cables shall be unlashd and re-lashed with the new cable(s).

3.3 TESTING

- A. All installed external cable shall be tested in accordance with the requirements of Section 344213.28, Block Signaling and Highway Grade Crossing Warning Systems Testing and AREMA C&S Manual, Part 10.4.30.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. The quantity for Train Control Wire and Cable shall be measured by each, complete in place, as shown on the plans.

4.2 PAYMENT

- A. The contract price paid per each Train Control Wire and Cable shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved to furnish and install train control wire and cable, complete in place, including testing, in accordance with the Plans and as directly by the Engineer.

END OF SECTION 344216

SECTION 344219.01
VITAL LOGIC CONTROLLER

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes furnishing, programming, installing, testing and documenting a vital microprocessor-based controller that provides the functionality as shown on the Contract Plans.
- B. Section Includes:
1. Vital Logic Controller
- C. Related Sections:
1. Submittal, MTS C Street & Broadway Wye Design.
 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
 - 1. Communications & Signals (C&S) Manual of Recommended Practice
- B. The following parts of the Code of Federal Regulations (CFR), Title 49, Transportation shall apply:
 - 1. 49 CFR Part 234 – Grade Crossing Safety
 - 2. 49 CFR Part 236 – Rules, Standards, and Instructions Governing the Installation, Maintenance, and Repair of Signal and Train Control Systems, Devices, and Appliances

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.
- B. The Contractor shall provide 5 copies of software development instruction and maintenance manuals required to create or modify vital and non-vital application logic for the proposed controller system. The Contractor shall provide 5 copies of the latest version of development, validation, compiler and LCP graphics development software.
- C. The Contractor shall submit application logic software reports to the Engineer for approval.
- D. The Contractor shall submit detailed factory test procedures to the Engineer a minimum of 60 calendar days prior to factory testing.

1.4 QUALITY ASSURANCE

- A. The controller shall be programmed and tested in accordance with all applicable requirements of 49 CFR, Part 234, Part 236 and AREMA C&S Manual. The Contractor shall perform operational testing of the equipment in accordance with the requirements specified herein.

1.5 DELIVERY, STORAGE and HANDLING

- A. Solid-state modules shall be shipped separately from the wired card cages. Modules shall be packaged individually in a sturdy carton with the type of module printed on the outside of the carton. All materials shall be stored in a protected area until installed.

PART 2 - PRODUCTS

2.1 LOGIC CONTROLLER

- A. New logic controllers shall be an ElectroLogIXS Vital Logic Controller as manufactured by ALSTOM or approved equal.
- B. The logic controller shall be capable of operating 12/24 VDC vital and non-vital relays. Vital input/output modules shall accommodate a minimum of 8 inputs and 6 outputs from a single module.
- C. The software associated with assuring the vitality of the system shall be an inherent part of the basic controller system and shall not be accessible for modification by the user. Changes to the application logic installed in the system shall not require re-verification of the software associated with assuring system vitality. The application logic shall be protected so that it is user modifiable by authorized personnel only.
- D. The program compiler used in developing the site-specific application logic software shall be designed to allow the user to construct individual logic equations utilizing "ladder-logic" display elements. Reports generated by the compiler shall provide the user with a complete and detailed description of the system configuration including, but not limited to, module location assignments, internal timer settings, auxiliary input/output assignments, vital lamp output assignments, CTC control and indication bit assignments, electronic track code circuit assignments, data recorder equation selection, remote input/output assignments, and module plug-connector pin assignments.
- E. The logic controller shall provide event recording. The event recording shall be designed so that the correct time is maintained when the vital logic and/or code system equipment is reset or powered down. The event recording equipment shall have sufficient storage capacity to store a minimum of 100 train movements, recording user selected status changes along with diagnostically important internal status changes.
- F. The logic controller shall interface with Frauscher FAdC Axle Counter System via RP COM card with a serial interface.
- G. The failure of an output shall not cause loss of functions not associated with those of the failed module.
- H. The logic controller shall operate from a standard 12 VDC signal battery supply. Any special power supply filtering devices required for reliable operation shall be provided as a part of the system.
- I. The logic controller shall be furnished with the latest version of the manufacturer's executive software at the date on which it is placed in service.

2.2 LOCAL CONTROL PANEL

- A. The Local Control Panel shall be composed of two components, a local control panel board and a local control panel computer.
- B. Local Control Panel Board
1. The local control panel shall be the QLCP-NET with Ethernet port manufactured by QuEST Rail, LLC or approved equal.
 2. The local control panel board shall have the ability to communicate via RS-232, RS-485, 2000 Vrms isolated Current Loop and Ethernet, with support for Ansaldo PEER protocol and Alstom LCP protocol.
 3. The local control panel board shall contain an integrated power supply compliant with AREMA Wayside Class C requirements.
 4. The local control board shall be capable of being configured via a USB port.
 5. The local control panel board shall provide 128 physical inputs and 128 physical outputs.
 6. The local control panel board shall be capable to be configured as a soft local control panel. The software for building and operating the soft local control panel shall be opened sourced, allowing the client or end user to make modify LCP designs. The software shall not require licensing. The software shall have the ability to program passcodes to protect soft controls.
 7. The local control panel board shall be housed in an aluminum enclosure that is rack mountable.
- C. Local Control Pan Computer
1. The local control panel computer shall be part number VTPC190R NEMA 4 9U rack mount all-in-one LCD computer manufactured by Vartech Systems, Inc. or approved equal.
 2. The local control panel computer shall have a 19" ARMOR touch resistive screen or approved equal where a stylus, finger or glove may be used for operation. The touch shall be waterproof, chemical and scratch resistant, have a hardness of 6.5 Mohs, and allow for over 200 million touches.
 3. The local control panel computer shall have a reliability rating of 100,000 MTBF.
 4. The local control panel computer shall be equipped with an Intel Celeron 2.0 GHz Quad Core Processor, 2 GB DDR3L-1333 system Memory, 512 Solid State Hard Drive, Window 10 Professional operating system, 12 volts DC isolated power input, an On/Off Button mounted on the front panel and conformal coating of internal electrical boards.

2.2 SIGNAL NETWORKS

- A. The following Signal Networks shall be provided with the system:
1. Two dedicated signaling networks shall be provided: a vital signal network and a signal maintenance network. Additionally, a connection to the central control office shall be available at all interlockings.
 2. The vital network shall be a closed, protected network for the transmission of vital signal information between signal locations. This shall be a 2-fiber single mode (2SM) fiber optic transmission system. The signal supplier shall provide hardened, industrial communication switches, which provide the interface between the fiber system and the signaling equipment. The interface to the signaling equipment shall be Ethernet. An additional port shall be provided in each signal room, which provides for the ability to access the CPUs and programs in other locations.
 3. The maintenance network shall provide for remote access to the VLCs. The signal supplier shall provide hardened, industrial communication switches, which provide the interface between the fiber system and the equipment. The interface to the equipment shall be Ethernet.
 4. The interface to the central control office shall be either an RS232 or Ethernet connection provided by the signal equipment. Protocol shall be Genisys.
 5. The Contractor shall review the Contract Plans and make any equipment additions, modifications, or adjustments to the networks to ensure efficient and reliable service.

2.3 APPLICATION LOGIC

- A. The application logic has been developed outside of this project; modifications required upon testing will be required shall be undertaken by the contractor.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The logic controllers shall be wired and installed as shown on the Contract Plans.
- B. Each item shall be protected from damage or loss during handling and shipment. All test and diagnostic equipment shall be provided at least 30 calendar days prior to installation.
- C. Each controller unit shall be clearly identified on the packing crate, referencing its intended location.
- D. The Contractor shall provide warranty from defects arising from defective parts and workmanship for 1 year from the first date of service.

3.2 TESTING

- A. The Contractor shall install and perform all applicable tests in accordance with Section 344213.28, Block Signaling and Highway Grade Crossing Warning Systems Testing to ensure that the logic controller software has been installed and made operational as part of the operating signal system. Verification of such tests made shall be provided to the Engineer.
- B. The Contractor shall conduct tests as specified in AREMA C&S Manual Parts 2.4.1 and 7.4.1, to ensure proper operation of the signal system.
- C. The Contractor shall conduct tests to ensure that the grade crossing system conforms to 49CFR, Part 234.

3.3 SOFTWARE CONTROL REQUIREMENTS

- A. The Contract Documents require the Contractor's Application Software Engineer to conform to all requirements of the MTS Software Control Requirements document and submit all required documentation described in the MTS Software Control Requirements: including but not limited to:
 - 1. At existing Processor Based Signaling locations where software will be updated, a request for all existing locations shall be submitted to the MTS Software Configuration Manager.
 - 2. List of locations where the software will be installed.
 - 3. Not less than 40 working days prior to a system cutover or commissioning of a new line segment, the Contractor's Application Software Engineer shall:
 - a. Submit to MTS Software Configuration Control Manager (SCCM) via the Engineer, difference reports that show both the original logic equation(s) and the modified equation(s) for all locations that will contain modified software. Each difference report must include the CRC of the original program and the CRC of the new program;
 - b. Submit to MTS SCCM and the Engineer software, difference reports, and logic/hardware printouts files on a DVD clearly marked with the line segment and date;
 - c. Submit to MTS SCCM and the Engineer a list of the new locations and/or existing locations where software has been modified with all required submissions to the SCCM;
 - d. Submit to MTS SCCM and the Engineer copy of the software that has successfully passed Factory Acceptance Testing (FAT) on a DVD, hard drive, or approved equivalent;
 - e. Submit to MTS SCCM and the Engineer logic/hardware printouts of the new and revised programs;
 - 4. A minimum of 5 working days prior to a system cutover or commissioning of a new line segment, the Contractor's Application Software Engineer shall confirm that the SCCB has approved or is expected to approve the SCR prior to the cutover or commissioning of a new line segment.

5. Should the SCCB not take action prior to the planned system cutover or commissioning of a new line segment, then a minimum of 5 working days prior to the planned system cutover or commissioning of a new line segment, the Contractor's Application Software Engineer shall notify the Contractor's management, the Contractor's Signal Engineer, the MTS Systems Engineer, and the Engineer informing them that the planned system cutover or commissioning of a new line segment must be rescheduled since the SCR would not be approved in advance of the cutover or commissioning of the new line segment.
 6. The Contractor's Application Software Engineer shall submit difference reports to the SCCM and the Engineer if any modifications are made to the software during or after in-service testing; and
 7. Software, logic/hardware printouts, and difference reports shall be submitted to the SCCM on a DVD within 5 working days of placing any software in-service.
- B. The Contractor shall follow the Mid-Coast Systems Safety Certification Plan. The MidCoast systems Safety Certification Plan includes Certificates of Conformance to be signed by MTS's SCCB members prior to a system cutover or commissioning of a new line segment.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Vital Logic Controller.

4.2 PAYMENT

- A. Payment for procurement of Vital Logic Controller shall be included in the contract price.

END OF SECTION 344219.01

SECTION 344223

RAILWAY CONTROL EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes requirements for Contractor furnished equipment related to all Sections within 34 as required for a complete and operating train control and highway grade crossing warning system.
- B. Section Includes:
 - 1. Railway Control Equipment
- C. Related Sections:
 - 1. Submittal, MTS C Street & Broadway Wye Design.
 - 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
 - 1. Communications & Signals (C&S) Manual of Recommended Practice

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein and other sections within Section 34 42, Transportation Signaling and Control.

1.4 QUALITY ASSURANCE

- A. All materials and equipment for installation and for interconnection of the various systems shall be fabricated, furnished and installed as shown on the Contract Plans and specified herein. Signaling materials and equipment shall be the products of manufacturers regularly engaged in the production of such material and equipment and shall be the manufacturer's latest design. All "or equal" equipment or materials, not shown on the Contract Plans but proposed by the Contractor, shall have shown proven performance in the United States of America for a minimum of 3 years. Materials and equipment shall be delivered to the jobsite in unbroken packages, reels, or other forms of containers.
- B. All materials and equipment provided by the Contractor shall be new. All materials and equipment shall conform to the recommendations of AREMA C&S Manual, except as modified in the Specifications and Contract Plans.
- C. Reference to specific equipment and/or manufacturers is intended to establish quality, overall design and fit, subject to compliance with all criteria specifications. Certain equipment shown on the Contract Plans and indicated in the Specification shall be required to ensure compatibility with the existing system. Equipment equal to or exceeding the Specifications and requirements may be used subject to the Engineer's written acceptance. Should alternate equipment be approved, the Contractor shall perform all necessary work to fit the alternate equipment to these Specifications and to revise the Contract Plans at no additional cost to MTS.

PART 2 - PRODUCTS

2.1 EQUIPMENT - ENVIRONMENTAL PARAMETERS

- A. All Contractor provided material and equipment shall be fully operable with no impairment resulting from the effect of the environment throughout the range of worst values indicated below. The general operating environment shall be considered to be in coastal atmosphere and in generally sunny weather.
1. Ambient outdoor temperature range: from negative 40 degrees Celsius to plus 70 degrees Celsius.
 2. Relative humidity range: from 0 to 100 percent.
 3. Maximum rainfall: 4 inches in 24 hours and 1.5 inches in 1 hour.
 4. Maximum wind velocity: 100 miles per hour.
 5. The project is in Seismic Zone 4 earthquake region (earthquake requirements in San Diego, CA region).
 6. Provisions shall be made to assure equipment within the instrument shelters and relay cases is securely anchored or otherwise fastened after the enclosure has been delivered to the job site and installed by the Contractor.
 7. Securing equipment shall not negate the requirements to maintain isolation between ground systems as otherwise called for in these Specifications.
 8. Isokeraunic level: five per year.

2.2 ELECTRICAL AND ELECTRONIC COMPONENTS

- A. This Section specifies the requirements for the various electrical and electronic components to be incorporated within the signaling systems.
- B. The Contractor shall design fusing of all DC power supplies and circuitry according to the following requirements:
1. Circuit breakers and fuses shall be the correct sideband rating for circuit current interruption and shall protect the electrical equipment and circuits from short-term and long-term overloads.
 2. Fuses shall be sized to protect electronics and wire.
 3. Fuses shall be in the positive leg of the power supply.
 4. Fuses shall be of the nonrenewable indicating type.
 5. All branch feeds for a circuit shall be from the same fuse so as to prevent fuse cascading due to branch fusing carrying loads for other circuits.
 6. Fuses shall be no smaller than 5 amperes unless otherwise shown on the Contract Plans.
 7. Loads shall be divided so that no normal operating current is more than 75 percent of the fuse rating.
 8. Fusing shall be functionally oriented to minimize the equipment affected by a blown fuse (i.e., per track, switch control circuits, etc.)
 9. Fuse clips shall be constructed to retain their resilience under all installation and service conditions and to ensure a positive contact between the clips and the fuse.
- C. Printed Circuit (PC) Cards and Connectors shall be as specified in the following:
1. The PC cards shall be mounted in 19 inch Electronic Industries Alliance (EIA) standard racks unless otherwise specified for in the Specifications or approved by the Engineer.
 2. The PC wiring shall be organized so that wires serving the same function shall be connected to the same terminal of PC cards. PC cards containing the same circuitry and programming, where applicable, shall be interchangeable between subsystems.
 3. The design and construction of PC cards of the same subsystems shall be the same. Cards of different subsystems shall be of the same design and construction wherever practicable.
 4. PC cards shall be of glass epoxy construction. Card material shall meet the requirements of NEMA, Type FR-4. Cards shall have sufficient thickness to permit easy insertion and removal and shall be physically keyed to protect against incorrect interchange. Circuits shall be formed by etching. Conductor material shall be copper and shall be protected from exposure to air.
 5. PC cards containing components that may be damaged if a plug connector or plug-in unit is removed while the equipment is energized shall be clearly identified in the equipment maintenance manual. PC Addendum No. 2 cards shall be marked or labeled with a warning note on the individual board, be conspicuously located on the module, or by an alternate means as approved by the Engineer. A means shall be provided to remove power from the module or card file.
 6. Components mounted on the PC card, weighing more than 1/2 ounce or with a displacement of more-than 1/2 cubic inch, shall have a mechanical supporting attachment to the card separate from all electrical connections.

7. Stacking or piggybacking of PC sections in order to accomplish changes or modifications to wiring or components on printed circuit cards shall not be allowed.
8. Connectors shall have plating with a minimum thickness of 0.00005 inch.

D. Printed Circuit card files shall be as specified in the following:

1. There shall be not more than one type of card file for each size of PC card. The card file plugboards shall be registered to agree with the registry of the associated PC card. PC cards shall not project beyond the front of the equipment rack when mounted in the card file.
2. Card files shall be installed in dustproof cabinets and protected with dust covers.
3. Insulated cable clamping devices shall be located on the back of the file in such a way that wires terminating in the files shall be installed in a neat and secure bundle, rigidly supported and protected to prevent chafing of insulation. Cabling provision on the file shall permit wires to enter or leave the file from both the right and left sides. Such cabling shall not restrict access to the card file when the rear covers of the card files are removed.

PART 3 - EXECUTION

NOT USED

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Railway Control Equipment.

4.2 PAYMENT

- A. Payment for procurement of Railway Control Equipment shall be included in the contract price.

END OF SECTION 344223

SECTION 344223.1

RAILWAY AXLE COUNTER REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes requirements for Contractor furnished equipment related to all Axle Counter installations as required for a complete and operating train control and highway grade crossing warning system.
- B. The Frauscher railroad axle counter system shall be designed and installed to accurately count and detect the passage of trains on the specified railway tracks. The system shall meet all necessary standards and regulatory requirements and provide reliable data for train detection and occupancy monitoring.
- B. Section Includes:
 - 1. Railway Axle Counters
- C. Related Sections:
 - 1. Submittal, MTS C Street & Broadway Wye Design.
 - 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
 - 1. Communications & Signals (C&S) Manual of Recommended Practice

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein and other sections within Section 34 42, Transportation Signaling and Control.
- B. As-built drawings and schematics of the installed system shall be submitted upon project completion.
- C. The contractor shall furnish proof of compliance with safety and regulatory standards, including certification and test reports.

1.4 QUALITY ASSURANCE

- A. All materials and equipment for installation and for interconnection of the various systems shall be fabricated, furnished and installed as shown on the Contract Plans and specified herein. Axle Counter Signaling materials and equipment shall be the products of Frauscher manufacturer and shall be the manufacturer's latest design as per contract drawings.
- B. All Frauscher Railway Axle Counters shall be installed, calibrated, and tested under the direct supervision of certified/qualified Frauscher technician(s). All materials and equipment shall conform to the recommendations of AREMA C&S Manual, except as modified in the Specifications and Contract Plans.
- C. Reference to specific equipment and/or manufacturers is intended to establish quality, overall design and fit, subject to compliance with all criteria specifications. Certain equipment shown on the Contract Plans and indicated in the Specification shall be required to ensure compatibility with the existing system. Equipment equal to or exceeding the Specifications and requirements may be used subject to the Engineer's written acceptance. Should alternate equipment be approved, the Contractor shall perform all necessary work to fit the alternate equipment to these Specifications and to revise the Contract Plans at no additional cost to MTS.

PART 2 - PRODUCTS

2.1 EQUIPMENT - ENVIRONMENTAL PARAMETERS

- A. All Contractor provided material and equipment shall be fully operable with no impairment resulting from the effect of the environment throughout the range of worst values indicated below. The general operating environment shall be considered to be in coastal atmosphere and in generally sunny weather.
 - 1. Ambient outdoor temperature range: from negative 40 degrees Celsius to plus 70 degrees Celsius.
 - 2. Relative humidity range: from 0 to 100 percent.
 - 3. Maximum rainfall: 4 inches in 24 hours and 1.5 inches in 1 hour.
 - 4. Maximum wind velocity: 100 miles per hour.
 - 5. The project is in Seismic Zone 4 earthquake region (earthquake requirements in San Diego, CA region).

6. Provisions shall be made to assure equipment within the instrument shelters and relay cases is securely anchored or otherwise fastened after the enclosure has been delivered to the job site and installed by the Contractor as per Frauscher documented specifications when applicable. See Frauscher document D1414-6 and associated Frauscher manufacturer documents for mounting, commissioning, and maintenance needs for all axle counter equipment.
7. Securing equipment shall not negate the requirements to maintain isolation between ground systems as otherwise called for in these Specifications.
8. Isokeraunic level: five per year.

2.2 ELECTRICAL AND ELECTRONIC COMPONENTS

- A. This Section specifies the requirements for the various electrical and electronic components to be incorporated within the signaling systems.
- B. The Contractor shall design fusing of all DC power supplies and circuitry according to the following requirements:
 1. Circuit breakers and fuses shall be the correct sideband rating for circuit current interruption and shall protect the electrical equipment and circuits from short-term and long-term overloads.
 2. Fuses shall be sized to protect electronics and wire.
 3. Fuses shall be in the positive leg of the power supply.
 4. Fuses shall be of the nonrenewable indicating type.
 5. All branch feeds for a circuit shall be from the same fuse so as to prevent fuse cascading due to branch fusing carrying loads for other circuits.
 6. Fuses shall be no smaller than 5 amperes unless otherwise shown on the Contract Plans.
 7. Loads shall be divided so that no normal operating current is more than 75 percent of the fuse rating.
 8. Fusing shall be functionally oriented to minimize the equipment affected by a blown fuse (i.e., per track, switch control circuits, etc.)
 9. Fuse clips shall be constructed to retain their resilience under all installation and service conditions and to ensure a positive contact between the clips and the fuse.
- C. Printed Circuit (PC) Cards and Connectors shall be as specified in the following:
 1. The PC cards shall be mounted in 19 inch Electronic Industries Alliance (EIA) standard racks unless otherwise specified for in the Specifications or approved by the Engineer.
 2. The PC wiring shall be organized so that wires serving the same function shall be connected to the same terminal of PC cards. PC cards containing the same circuitry and programming, where applicable, shall be interchangeable between subsystems.
 3. The design and construction of PC cards of the same subsystems shall be the same. Cards of different subsystems shall be of the same design and construction wherever practicable.
 4. PC cards shall be of glass epoxy construction. Card material shall meet the requirements of NEMA, Type FR-4. Cards shall have sufficient thickness to permit easy insertion and removal and shall be physically keyed to protect

- against incorrect interchange. Circuits shall be formed by etching. Conductor material shall be copper and shall be protected from exposure to air.
5. PC cards containing components that may be damaged if a plug connector or plug-in unit is removed while the equipment is energized shall be clearly identified in the equipment maintenance manual. PC Addendum No. 2 cards shall be marked or labeled with a warning note on the individual board, be conspicuously located on the module, or by an alternate means as approved by the Engineer. A means shall be provided to remove power from the module or card file.
 6. Components mounted on the PC card, weighing more than 1/2 ounce or with a displacement of more-than 1/2 cubic inch, shall have a mechanical supporting attachment to the card separate from all electrical connections.
 7. Stacking or piggybacking of PC sections in order to accomplish changes or modifications to wiring or components on printed circuit cards shall not be allowed.
 8. Connectors shall have plating with a minimum thickness of 0.00005 inch.
- D. Printed Circuit card files shall be as specified in the following:
1. There shall be not more than one type of card file for each size of PC card. The card file plugboards shall be registered to agree with the registry of the associated PC card. PC cards shall not project beyond the front of the equipment rack when mounted in the card file.
 2. Card files shall be installed in dustproof cabinets and protected with dust covers.
 3. Insulated cable clamping devices shall be located on the back of the file in such a way that wires terminating in the files shall be installed in a neat and secure bundle, rigidly supported and protected to prevent chafing of insulation. Cabling provision on the file shall permit wires to enter or leave the file from both the right and left sides. Such cabling shall not restrict access to the card file when the rear covers of the card files are removed.

PART 3 - EXECUTION

NOT USED

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. No separate measure will be made for Railway Control Equipment.

4.2 PAYMENT

- A. Payment for procurement of Railway Control Equipment shall be included in the contract price.

SECTION 344226.13

SIGNAL SYSTEM FIBER OPTIC NETWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: This Section includes installing, splicing, testing and commissioning signal system fiber optic network as described herein and as shown on the Contract Plans.
- B. Section Work Includes:
 - 1. Signal System Fiber Optic Network as herein described and shown on the Contract Plans
 - a. Connect Single mode fiber optic cable connectors at CSRC and B016RC to the new switches creating the new communication network.
- C. Related Sections:
 - 1. Section 3.9 – Submittals, MTS C Street & Broadway Wye Design.
 - 2. Additional Transportation Signaling and Control Specifications below, as applicable:
 - a. Section 344213.13 – General Railway Signal Requirements
 - b. Section 344213.14 – Route Control Equipment
 - c. Section 344213.17 – Track Circuits
 - d. Section 344213.18 – Instrument Shelters
 - e. Section 344213.19 – Signal System Grounding
 - f. Section 344213.20 – Relays
 - g. Section 344213.21 – Miscellaneous Signal System Products
 - h. Section 344213.27 – Painting and Galvanizing
 - i. Section 344213.28 – Block Signaling and Highway Grade Crossing Warning Systems Testing
 - j. Section 344213.29 – Abandonment, Demolition, Removal and Disposal of Existing Signal Systems Facilities
 - k. Section 344216 – Train Control Wire and Cable
 - l. Section 344219.01 – Vital Logic Controller
 - m. Section 344223 – Railway Control Equipment

1.2 REFERENCE STANDARDS

A. Telecommunications Industry Association/Electronic Industries Alliance (TIA/EIA)

1. TIA/EIA 455-181, FOTP-181 – Lighting Damage Susceptibility Test for Optic Cables with Metallic Components.
2. TIA-526-7 – OFSTP-7 Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant.
3. TIA-568-B.1-2 – Commercial Building Telecommunications Cabling Standard.
4. TIA-598-C – Color Coding of Fiber Optic Cables.
5. TIA/EIA-606 – Administration Standard for Telecommunications Infrastructure.
6. TIA/EIA 455-B – Standard Test Procedure for Fiber Optic Fiber Cables, Transducers, Sensors. Connecting and Terminating Devices and other Fiber Optic Components.
7. EIA 455-60A – Measurement of Fiber or Cable Length Using an OTDR.
8. EIA 455-61 A, FOTP-61 – Measurement of Fiber or Cable Attenuation Using an OTDR.
9. EIA/TIA 455-3, FOTP-3 – Procedure to Measure Temperature Cycling Effects on Optical Fibers, Optical Cable, and Other Passive Fiber Optic Components.
10. TIA 455-33, FOTP-33-B – Fiber Optic Cable Tensile Loading and Bending Test.
11. TIA/EIA 455-37A, FOTP-37 – Low or High Temperature Bend Test for Fiber Optic Cable EIA 455-60A, FOTP-60 - Measurement of Fiber or Cable Attenuation Using an OTDR.
12. TIA/EIA 455-41 A, FOTP-41 – Compressive Loading Resistance of Fiber Optic Cables.
13. TIA/EIA 455-47B, FOTP-47 – Output Far-Field Radiation Pattern Measurement.
14. TIA 455-78B, FOTP-78B – Optical Fibers: Measurement and Test Procedures – Attenuation.
15. TIA/EIA 455-81 B, FOTP-81 – Compound Flow (Drip) Test for Filled Fiber Optic Cable.
16. TIA 455-82B, FOTP-82 – Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable.
17. TIA/EIA 455-85A, FOTP-85A – Fiber Optic Cable Twist Test.
18. TIA/EIA 455-88, FOTP-88 – Fiber Optic Cable Bend Test
19. TIA 455-91, FOTP-91 – Fiber Optic Cable Twist-Bend Test.
20. TIA 455-104A, FOTP-104 – Fiber Optic Cable Cyclic Flexing Test.
21. TIA/EIA 455-171 A, FOTP-171 – Attenuation by Substitution Measurement – for Short-Length Multimode Graded-Index and Single-Mode Optical Fiber Cable Assemblies.
22. TIA/EIA TSB72 – Centralized Optical cabling Guidelines.

B. American National Standards Institute (ANSI)

1. ANSI/EIA-472 – Generic Specification of Fiber Optic Cables.
2. ANSI/TIA/EIA-455 – Standard Test Procedure for Fiber Optic Fibers, Cables, Transducers and Other Fiber Optic Components.

C. ASTM International (ASTM):

1. ASTM D2239 – Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
2. ASTM D3035 – Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter

1.3 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of MTS C Street & Broadway Wye Design, except as modified herein.
- B. The Contractor shall submit for approval the following:
 - 1. Catalog data and manufacturer's data sheets.
 - 2. Samples of cables to be installed by the Contractor.
 - 3. Installation and operational instructions.
 - a. Develop a written cable installation plan, procedure and a checkoff list for approval at least 60 calendar days prior for plan and 30 calendar days prior (for procedures) to cable installation. These documents shall be prepared based on the Contractor's review of the conduit plans and field site survey and shall include pulling and installation information for each cable pull. The documents shall include proper approach and step-by-step procedures for feeding cable into conduit, to maintain proper bend radii and to minimize friction. Installation of data and communication cable shall conform to all applicable RUS and TIA/EIA standards.
 - 4. Complete bill of material.
 - 5. Test plan, test procedures and test reports.
 - 6. Documentation about corrective action taken on installed equipment post testing.
 - 7. Warranties, guarantees and instruction sheets.

1.4 QUALITY ASSURANCE

- A. All wire and cable manufacturers must be approved by the Engineer. The Contractor shall provide all data required for evaluation and shall make the arrangements for any required demonstrations and tests.

1.5 DELIVERY, STORAGE and HANDLING

- A. All cable barrels shall be not less than twenty (20) times the finished cable nominal diameter and shall in no case be less than the minimum bending radius or as recommended by the manufacturer. The following particulars shall be stenciled or painted in a permanent manner on the outside of the flange of each drum. Wherever necessary, the whole of the outside of the flange of the drum shall be painted over to cover all marks having no reference to this Contract.
 - 1. The manufacturer's identification of the cable type and date of manufacture.
 - 2. Gross weight of Reel and Cable.
 - 3. Full description of the cable.
 - 4. Cable identification number that is referenced to the test sheet.
 - 5. Length of Cable.
 - 6. An arrow showing the direction in which the drum should be rolled to gain access to the cable.
- B. All ends of the cable shall be sealed to prevent entrance of moisture.

- C. Handling – Cable drums shall be complete with close fitting wooden battens to prevent damage to the cable during transit and storage.
- D. Cable reels shall be stored with flanges upright, Cable on drums with batten in place shall be stored indoors.
- E. Fiber optic cable shall be handled carefully and protected from damage until it is installed in place. Cable shall be delivered on spools or reels and shall be removed by unreeling and not by uncoiling or twisting over the edge of the reel. Cable with dents, flat spots, or other sheath distortions shall not be installed. Two meters of cable at both ends of the cable shall be accessible for testing. Attach permanent label on each reel showing length, cable identification number, cable size, cable type, attenuation, bandwidth and date of manufacture.
- F. The Contractor shall inspect cables at time of delivery to the construction site to assure that no damage was done in shipping and that the specified cable was received. Every reel shall be inspected by the Contractor for physical damage such as nails driven into reels to secure shipping blocks, lagging, or reel covering missing and cable and seals missing or damaged. The Contractor shall replace all damaged or rejected cable promptly at no cost.
- G. Wires and cables shall be stored at the construction site on solid surfaces that shall adequately support the cable reels, but which shall be well drained and not allow accumulation of liquids, oils, or chemicals.
- H. The cable reels shall be aligned and protection provided so as not to allow the reel flanges to damage other reels. Adequate aisles and barricades shall provide accessibility but prevent construction equipment from damaging the cable reels
- I. Cable ends shall be resealed promptly when a length is cut from the reel. Cable reels shall be properly handled, i.e., by using a sling and spreader attached to a shaft through the reel hubs, or by cradling both flanges between lift truck forks. The reels shall not be lifted by the top reel flange or dropped from any height. Lift truck forks shall not touch cable surfaces on the reel. Reels shall always be rolled in the direction opposite the cable wind on the reel. Reels shall not be laid flat.

PART 2 - PRODUCTS**2.1 MATERIALS****A. Fiber Optic Cable**

1. Cable shall be an all-dielectric, single mode, gel-free fiber optic cable in a loose buffer design, which meets or exceeds the following specifications and conforms to ANSI/EIA-472. Cable shall be designed for direct burial, conduits, ducts and aerial installation and rodent proof. Each fiber shall be distinguishable by means of color-coding in accordance TIA/EIA-598-A. Loose tube design, with 24 individual fibers shall be evenly distributed among the buffer tubes. Fiber optic materials and equipment shall be equal in quality and performance to that manufactured by Corning, Siecor, Lucent, General Cable, Belden, or approved equal.
2. Fiber optic cable shall consist of optical fibers, strength members and jacketing. Materials used within a given cable shall be compatible with all other materials used in the same cable when such materials come into intimate contact. All cable components used shall have no adverse effect on optical transmission or on the mechanical integrity characteristics of the fiber placed in the cable. All materials used shall be non-toxic, non-corrosive and shall present no dermal hazard. Cable shall be manufactured continuous with no factory splices in the fiber. All cable used on this project shall be from one manufacturer.
3. A strength member constructed of Kevlar or glass-reinforced plastic shall be included in the cable. The cable shall contain at least one ripcord.
4. Cable outer jacket shall be polyethylene insulated, low smoke and polyolefin. Cable jacket shall be marked with manufacturer's name, sequential meter or foot markings, date of manufacture and a telecommunication handset symbol, as required by Section 350G of the National Electrical Safety Code (NESC).
5. Optical Specifications
 - a. Operational Wavelength: 1,310 nm and 1,550 nm
 - b. Optical Attenuation: @ 1,310 nm: 0.4 dB/km
 - c. @ 1,550 nm: 0.3 dB/km
6. Mechanical Specifications:
 - a. Crush Resistance: 10,000 nm (6.78 pounds/feet)
 - b. Minimum Bending Radius: 15 times the cable outside diameter under tension and 10 times the cable outside diameter installed.
 - c. Temperature:
 - 1) Operational: 0 to +70 degrees Celsius
 - 2) Storage: 0 to +70 degrees Celsius
 - d. Humidity: 0 to 100 percent
 - e. Tensile Strength:
 - 1) Installation: 2,700 N (600 lbf)
 - 2) Static: 600 N (135 lbf)

-
- a) Optical Fibers:
- 1) Optical fibers shall be single-mode (SM) step index optical glass waveguides with a nominal core diameter of 8 to 9 microns. The fiber shall have a transmission window centered at 1310 nanometer (nm) wavelength. The attenuation at 1310 nanometers shall be 0.5 dB/Km or less. Optical fiber shall be Corning, Lucent or approved equal.
 - 2) Cladding diameter shall be 125 microns plus or minus 3 microns. Core cladding offset shall be less than 1 micron. Minimum tensile strength of the fiber after primary protective coating shall be greater than 50,000 psi. Softening point of the clad material of the optical fiber shall be 1630 degrees Celsius plus or minus 50 degrees Celsius.
 - 3) Optical fiber shall be coated with suitable material to preserve the intrinsic high tensile strength of the glass fiber. Outside diameter of the coated optical fiber shall be 250 plus or minus 15 microns. Coating material shall be readily removable, mechanically or chemically, without damaging the optical fibers when the removal is desired.
 - 4) Optical fibers shall be surrounded with a loose tube buffering for protection from external mechanical and environmental influences. Loose tube buffering shall be color coded for the tube identification. Material of the buffering tube shall be the manufacturer's standard for the particular cable application.
- b) Color Coding
- 1) Primary protective coated SM fibers shall be coated with a color-code coating for individual fiber identification. Maximum outside diameter of color-code coated fiber shall be less than 300 microns.
 - 2) Color coding of optical fibers and loose buffer tube shall conform to EIA/TIA-598, Optical Fiber Cable Color Coding.
 - 3) Color concentrates or inks used to color code the optical fibers and the loose buffer tube shall not be susceptible to migration and chemical reaction with gel filling compound.
- c) Strength Members:
- 1) Strength members shall be integral part of the cable construction. Combined strength of the members shall be sufficient to support the stress of installation and protect the cable in service. Strength members shall be nonmetallic.
 - 2) Cables shall withstand an installation tensile load of not less than 600 pounds force and not less than 200 foot-pounds of continuous tensile load.

d) Cable Jacketing:

- 1) Cable jacketing for outdoor and aerial installations shall be medium density polyethylene material containing at least 2.6 percent carbon black with only black pigment added for additional coloring. Cable jacketing shall be UV resistant.
- 2) The cables shall withstand an impact of 1.5 pounds/inch as a minimum and shall have a crush resistance of 300 pounds per square inch as a minimum.

B. Innerduct

1. HDPE innerduct shall comply with ASTM D2447, schedule 80, 2.375" O.D., black with an orange stripe in color, ribbed interior and smooth exterior. Ribbed interior wall shall be lubricated to reduce friction when installing fiber cable.
2. Equivalent material shall meet the minimum requirements of SDR 11 – ASTM D3035 or SDR 9 – ASTM D2239.
3. HDPE innerduct shall be an extruded coilable tube supplied on reels at a minimum of 5000 feet lengths.
4. HDPE innerduct shall be capped at both ends to prevent any undesirable contaminants from entering conduit.
5. HDPE innerduct shall be supplied with factory installed pull lines.

C. Galvanized Rigid Steel (GRS) Conduit and Accessories

1. GRS conduit shall be steel. Contractor shall provide conduit, couplings, elbows, bends, sealing fittings and nipples conforming to ANSI C80.1 and UL 6, with each length bearing the manufacturer's stamp and UL label.
2. Conduit shall be hot-dip galvanized zinc coating inside and out to provide galvanic corrosion protection.
3. Conduit shall be threaded on both ends, with a threaded coupler attached on one end to allow joining of multiple conduits and a color coded thread protector on the other end to protect threads during handling.
4. All fittings shall be galvanized rigid. This includes but is not limited to couplings, elbows, sweeps, bends and nipples.

D. PVC Conduit and Fittings for electrical application

1. For underground conduit installation parallel to track structure, Contractor shall provide heavy wall, high impact strength, rigid PVC conforming to the requirements of EPC-40-PVC conduit of NEMA TC 2 and fittings for EPC-40-PVC conduit of NEMA TC 3.
2. Conduit and fittings shall be UL 651 listed.

E. Fiber Optic Connectors

1. Single mode fiber optic cable connectors shall be Type SC unless otherwise approved by the Engineer. FO connectors shall match the fiber core and cladding diameters. Product literature on the single-mode FO connectors shall be submitted to the Engineer for approval. The connector housing shall be composite and the alignment ferrule shall be ceramic. FO equipment and cable shall use the same type connectors. Connector insertion loss shall be nominally 0.3 dB and less than 0.5 db.

- I. Wire Pulling Lubricant
 - 1. Wire pulling lubricant that is polymer based shall be utilized for fiber cable installation and be compatible with all cable types. The lubricant coefficient of friction shall not cause damage the cable.

- J. Serial to Fiber Converter
 - 1. The serial to Fiber converter is required for RS232 CTC information to be transmitted to Central Control. The serial to Fiber convertor shall be a hardened device at crossover signal shelters. A fiber to electrical (copper) Ethernet converter should be installed in the communication cabinets. The serial device shall be the Siemens RS910 or approved equal. The fiber connection in the signal shelter shall be single mode using SC connectors.

- K. Fiber to Ethernet Switch
 - 1. The fiber to Ethernet Switch is required for vital and maintenance information to be passed on segregated networks. The fiber to Ethernet switch shall be the Siemens RS900 or approved equal. The switch shall be a hardened device installed in signal shelters.

PART 3 - EXECUTION

3.1 INSTALLATION – GENERAL

- A. Underground fiber optic cables shall be installed in flexible, nonmetallic inner duct within the underground ducts. The inner duct may be pulled into underground ducts with the fiber optic cable pre-installed in the inner duct.

- B. After conductors have been installed, the ends of conduits terminating in pull boxes, junction boxes, controller cabinets and equipment cases shall be sealed with an approved type of sealing compound.

- C. The Contractor shall:
 - 1. Install individual conductors and multiple conductor sheathed cables in conduits, raceways, cable trays, ducts and trenches as indicated to complete the wiring systems.
 - 2. Train cables into final position while observing minimum bending radii. Slack shall be provided at all terminals in an amount sufficient for two re-terminations.
 - 3. Secure and neatly bundle cables inside panel boards, control cabinets and pull boxes with nylon straps.

3.2 CABLE AND INNERDUCT PULLING

- A. All requirements apply to both cable and innerduct installation.
- B. Cable shall be pulled in strict accordance with manufacturer's recommendations. The Contractor shall submit the manufacturer's installation recommendations to the Engineer for approval a minimum of 30 working days in advance of cable pulling. Before installation of cables in raceway, a suitable wire brush, swab and mandrel shall be pulled through the conduit to remove extraneous matter and to verify that the raceway system is free of obstructions. Wire rope shall not be used to pull cable in non-metallic raceways. Pulling tensions shall be kept below values recommended by manufacturers for both longitudinal tensions and side pressures.
- C. The cable pull line tension shall be continuously monitored using dynamometers or load-cell instruments and shall not exceed the maximum tension specified by the cable manufacturer. The mechanical stress placed upon the cable during installation shall be such that the cable is not twisted or stretched.
- D. When necessary, the Contractor shall pump out any water that may have accumulated in the pull boxes and manholes and shall provide ventilation to disperse collections of noxious gases. The Contractor shall pull the cables in the presence of the Engineer and shall notify him at least 48 hours in advance of each scheduled pull. If the Contractor observes manufacturing defects in cable being pulled, such cable shall not be pulled.
- E. Pulling winches and associated equipment shall be of adequate capacity to assure a steady continuous pull on the cable.
- F. Unless ends of pull are within voice or visual range, two-way radios or portable phones shall be used to maintain contact between teams.
- G. Cable feeder tubes and nozzles shall be used on all pulls to protect cables and reduce pulling tensions. Cable reels shall be setup in tandem so that cable may be fed into the raceways without changing direction of bend. Supply reels shall be turned while pulling cable to assist in reducing tension. As the cable is unspooled from the reel, it shall be inspected for jacket defects or damage. The cable shall not be kinked or crushed and the minimum bend radius of the cable shall not be exceeded during installation.
- H. Cable shall not be pulled unless contaminants and moisture can be sealed out of the cable. Where pulling grips are used, damaged ends shall be removed as soon as cable has been installed. Cable ends shall be sealed with caps at conclusion of pulling. Temporary cable tags shall be attached to the cable as soon as it is pulled.
- I. Whenever a cable is cut, the ends shall be sealed by caps and tape to prevent entrance of dirt and moisture before permanent connections are made. Cut ends of cable, whether on reels or in raceways, shall not be allowed to remain exposed.
- J. The method may require the cable to be pulled in successive pulls. If the cable is pulled out of a junction box or pull box the cable shall be protected from dirt and moisture by laying the cable on a ground covering.

3.3 SPLICING AND TERMINATION

- A. All fiber-optic cable splices shall be by fusion. Splices shall be housed in a splice enclosure and shall be encapsulated with an epoxy, ultraviolet light cured splice encapsulate, or otherwise protected against infiltration of moisture or contaminants. Fiber-optic splices shall be field tested at the time of splicing. Fusion splices shall have less than 0.2 dB loss.
- B. All SM optical fibers shall be terminated with Type ST connectors. Such terminations shall be made with "pigtailed," not less than 3 feet in length, cut from factory fabricated and tested cable assemblies having connectors at both ends. The mated pair loss, without rotational optimization, shall not exceed 0.75 dB per mated pair. The pull strength between the connector and the attached fiber shall not be less than 50 pounds force.
- C. Termination enclosures shall be sized to accommodate the fiber optic terminations to be made. Sizing shall include sufficient space for service loops to be provided and to accommodate a neat, workmanlike layout of equipment and the bend radii of fibers and cables terminated inside the enclosure. Termination enclosures shall be located as shown in the Contract Plans.
- D. In all train control enclosures a 50 foot slack loop shall be provided.

3.4 VERIFICATION

- A. The Contractor shall verify that the installation design is correct and adequate for the cables installed. The Contractor shall assure that conduit size, conduit fill, conduit bend radii, manhole spacing, manhole size, raceways, ducts and associated hardware are proper for the intended installation.

3.5 MECHANICAL PROTECTION

- A. Where cables leave conduits, the end of the conduit shall be fitted with end bells to prevent damage to the cable.
- B. The Contractor shall provide appropriate special protection for cables in areas where the cables are unavoidably exposed to hazardous conditions such vibration or sharp corners on equipment.

3.6 TESTING

A. Fiber Optic Cable:

1. Optical time domain reflectometer (OTDR) tests shall be performed using the FO test procedures of EIA 455-59. An optical time domain reflectometer test shall be performed on all fibers of the fiber optic cable on the reel prior to installation. The OTDR shall be calibrated before conducting any official tests and the Contractor shall submit proof of calibration with test results. Photographs of the traces shall be furnished to the Engineer. An OTDR test shall be performed on all fibers of the fiber optic cable while cables are on the reel before installation and after it is installed. If the OTDR test results show anomalies greater than 1 dB, the fiber optic cable segment will be rejected by the Engineer. The unsatisfactory segments of cable shall be replaced with a new segment of cable. The new segment of cable shall then be tested to demonstrate acceptability. Photographs of the traces as well as charts shall be furnished to the Engineer for each link.
2. Power attenuation test shall be performed at the light wavelength of the transmitter to be used on the circuit being tested. The flux shall be measured at the fiber optic receiver end and shall be compared to the flux injected at the transmitter end. There shall be a jumper added at each end of the circuit under test so that end connector loss shall be validated. Rotational optimization of the connectors will not be permitted. If the circuit loss exceeds the calculated circuit loss by more than 2 dB, the circuit is unsatisfactory and shall be examined to determine the problem. The Engineer shall be notified of the problem and what procedures the Contractor proposes to eliminate the problem. The Contractor shall prepare and submit a report documenting the results of the test for Engineer's approval.
3. Flux Budget/Gain Margin Test. The Contractor shall test and verify that each circuit has a gain margin which exceeds the circuit loss by at least 6 dB. The flux budget is the difference between the transmitter output power and the receiver input power required for signal discrimination when both are expressed in dBm. The flux budget shall be equal to the sum of losses (such as insertion losses, connector and splice losses and transmission losses) plus the gain margin. When a repeater or other signal regenerating device is inserted to extend the length of a fiber optic circuit, both the circuit between the transmitter and the repeater-receiver and the circuit between the repeater-transmitter and the receiver are considered independent fiber optic links for gain margin calculations. The Contractor shall submit all Flux Budget/Gain Margin results for Engineer's approval.
4. The Contractor shall prepare complete documentation of the fiber optic plant as installed. Plant documentation shall include the following information for every fiber, connection and test:
 - a. Cable: manufacturer, type, length installed
 - b. Fiber: fiber type and size, splice and connection data, losses
 - c. Splice and termination points
 - d. Connections: types (splice or mechanical), fibers connected, losses
 - e. Paths: where the link path goes in every cable
5. The Contractor shall submit electronic copies of the test traces/charts on CDs in the native file format of the software. The Contractor shall also submit one copy of the software used to create traces/charts to enable the Engineer to review the traces/charts. Additionally, the Contractor shall also submit paper copies of all traces/charts for the Engineer's records.

6. Test Equipment

- a. OTDR shall conform to the following minimum requirements:
 - 1) Operating wavelengths: 1,300 plus or minus 20 nanometers
 - 2) Attenuation Range (one way): minimum 15dB at 1,300 nm
 - 3) Attenuation Resolution: 0.01 dB
 - 4) Accuracy: 0.5 dB or better
- b. OTDRs shall have digital readout capability and shall have a means of providing a permanent record in the form of a strip chart and electronic files for recording on flash-memory, CDs or DVDs.
- c. Attenuation Measurement Test Set shall consist of an optical power meter and an optical power source. Attenuation measurement test set shall be in accordance with the applicable National Bureau of Standards (NBS) standards for a stable optical source. Meter may be analog or digital. Measurement test set shall conform to the following minimum requirements:
 - 1) Operating wavelengths: 1,300 plus or minus 20 nanometers
 - 2) Attenuation Range: at least 30 dB at 1,300 nm
 - 3) Attenuation Resolution: 0.01 dB
 - 4) Accuracy: shall be plus or minus 5 percent
 - 5) The optical source shall be capable of coupling sufficient power into the fiber so that the light received at the meter is within the meter detectability limits.
- d. Bandwidth Measurement Equipment shall conform to the following minimum requirements:
 - 1) Operating wavelengths: 1,300 plus or minus 20 nanometers
 - 2) Bandwidth range: Minimum 1000 megahertz
 - 3) Bandwidth Resolution: 1 megahertz
 - 4) Accuracy: Plus or minus 0.5 megahertz
 - 5) Measurement Method: Swept Frequency

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. The quantity for Fiber Modifications shall be measured as a lump sum, complete in place, as shown on the plans.

4.2 PAYMENT

- A. The contract price paid for Fiber Modifications shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved to furnish and install the Fiber Modifications, complete in place, including testing, in accordance with the Plans and as directed by the Engineer.

END OF SECTION 344226.13

Broadway & C St Wheel Counter & Signal Replacement PWL394.0-24		Modern Railway Systems			
No.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	General Conditions and Requirements	1	LS	\$ 7,161.00	\$ 7,161.00
2	01 71 23 - Mobilization	1	LS	\$ 67,003.00	\$ 67,003.00
3	01 71 23 - Construction Staking and Survey	1	LS	\$ -	\$ -
4	01 57 23 - Temporary Storm Water Pollution Control	1	LS	\$ 1,512.00	\$ 1,512.00
26.1	26 05 43 - Underground Ducts and Raceways for Electrical Systems	1	LS	\$ -	\$ -
26.2	26 05 53 - Identification for Electrical Systems	1	LS	\$ -	\$ -
26.3	26 28 16 - Enclosed Switches and Circuit Breakers	1	LS	\$ -	\$ -
34.01	34 42 01 - Transportation and Signaling Control	1	LS	\$ -	\$ -
34.02	34 42 13.13 - General Railway Signal Requirements	1	LS	\$ -	\$ -
34.03	34 42 13.14 - Route Control Equipment	1	LS	\$ -	\$ -
34.04	34 42 13.15 - Battery and Charging Equipment	1	LS	\$ -	\$ -
34.05	34 42 13.17 - Track Circuits	8	EA	\$ 16,416.00	\$ 131,328.00
34.06	34 42 13.18 - Instrument Shelters	1	EA	\$ 59,965.00	\$ 59,965.00
34.07	34 42 13.19 - Signal System Grounding	1	LS	\$ 452.00	\$ 452.00
34.08	34 42 13.20 - Relays	1	EA	\$ 2,957.00	\$ 2,957.00
34.09	34 42 13.27 - Painting and Galvanizing	1	LS	\$ -	\$ -
34.10	34 42 13.28 - Block Signal and Highway Grade Crossing Warning Systems Testing	1	LS	\$ 52,257.00	\$ 52,257.00
34.11	34 42 13.29 - Abandonment, Demo, Removal, and Disposal of Existing Signal System	1	LS	\$ 26,898.00	\$ 26,898.00
34.12	34 42 16 - Train Control Wire and Cable	1	LS	\$ 50,409.00	\$ 50,409.00
34.13	34 42 19.01 - Virtual Logic Controller	2	EA	\$ 103,613.00	\$ 207,226.00
34.14	34 42 23 - Railway Control Equipment	1	LS	\$ 44,252.00	\$ 44,252.00
34.15	34 42 23.1 - Railway Axle Counter Requirements	1	LS	\$ -	\$ -
34.16	34 422 26.13 - Signal System Fiber Optic Network	1	ls	\$ 21,976.00	\$ 21,976.00

Overall total **\$ 673,396.00**



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 16

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Modernization of Stadium Trolley Station Elevator – Change Order

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors:

- 1) Ratify Contract Change Order (CCO) 01 under MTS Doc No. PWG347.0-22 to Work Order MTSJOC347-21.01 (Attachment A), with ABC General Contracting Inc. (ABCGC), in the amount of \$149,867.29 for the additional cost to install a Sapphire Novec Fire Suppression System in the elevator control room at the Stadium Trolley Station; and
- 2) Authorize the Chief Executive Officer (CEO) to approve CCO 02 under MTS Doc No. PWG347.0-22, to Work Order MTSJOC347-21.02 (in substantially the same format as Attachment B), with ABCGC, in the amount of \$144,022.59 to provide additional elevator revisions and smoke dampers as required by the State Fire Marshal.

Budget Impact

The total cost of these CCOs is estimated to be \$293,889.88. The total cost of this contract is estimated to be \$590,452.41 (inclusive of the total cost for CCO 1 and CCO 2). Under separate MTS Doc No. L1282.0-16, with The Gordian Group, MTS will pay a 1.76% JOC software license fee for CCO 02 in the amount of \$2,534.80. This project is funded by San Diego Trolley Inc. (SDTI) Facilities Operating Budget account 380016 - 536500.

DISCUSSION:

On July 27, 2023 (Agenda Item (AI) 16), the MTS Board of Directors authorized an agreement with ABCGC for the modernization of the elevator at the Stadium Trolley Station. The elevator was beyond its life expectancy and the operating equipment required replacement. During the course of construction, it was determined by the State Fire Marshal that a fire suppression system was required in the elevator machine room and elevator pits due to lack of an existing system and was not anticipated in the original contract.



CCO 1

A dry chemical Sapphire Novec Fire Suppression system was the only viable option as there are no water supply lines near the station. ABCGC was able to install this dry chemical system under MTSJOC347-21.01 for a total cost of \$149,867.29.

CCO 2

Upon completion of the installation of the dry chemical system, the State Fire Marshal had further concerns, and required the equipment room door to be replaced, new disconnect and wiring, new electrical distribution, new pit lighting, new electrical GFIs, new smoke dampers, exhaust fans, and fire alarm relays. This miscellaneous work was done under MTSJOC347-21.02 for a total cost of \$144,022.59.

CCO 02 includes the cost to install the additional miscellaneous equipment required by the State Fire Marshal.

Today's Proposed Action:

Total Work Order Costs	Amount	Date
Original Work Order	\$296,562.53	7/27/23 (AI 16)
CCO 01	\$149,867.29	Approved Under CEO's Authority; Ratify under Today's Proposed Action
CCO 02	\$144,022.59	3/13/25 (Today's Proposed Action)
TOTALS	\$590,452.41	

Therefore, the staff recommends that the MTS Board of Directors:

- 1) Ratify CCO 01 under MTS Doc No. PWG347.0-22 to Work Order MTSJOC347-21.01 (Attachment A), with ABCGC, in the amount of \$149,867.29 for the additional cost to install a Sapphire Novec Fire Suppression System in the elevator control room at the Stadium Trolley Station; and
- 2) Authorize the CEO to approve CCO 02 under MTS Doc No. PWG347.0-22 to Work Order MTSJOC347-21.02 (in substantially the same format as Attachment B) with ABCGC, in the amount of \$144,022.59 to provide additional elevator revisions and smoke dampers as required by the State Fire Marshal.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olsen, 619.557.4588, mark.olsen@sdmts.com

Attachments: A. CCO 1 MTS Doc. No. MTSJOC347-21-01
B. Draft CCO 2 MTS Doc. No. MTSJOC347-21.02

CONSTRUCTION CHANGE ORDER

Project Name: Sapphire Novec 1230 Fire Suppression System

Date: 10/31/23

To: MTS
 From (Contractor): ABC General Contractor, Inc.

Contract Number: MTSJOC347-21
 CCO Number: 01

Description of Work **Fieldwork Directive Issued:**

This CCO is prepared in accordance with and incorporates Section Changes and Extra Work of the Contract Documents and consists of: as part of the Elevator Modernization Project at the MTS Stadium Trolley Station, installation and testing of the Ansul Sapphire Novec 1230 Fire Suppression System for the electrical and communications/server rooms connected to the elevator is necessary to ensure compliance with fire code and Fire Marshall requirements for the safe operation and monitoring of the elevator as there is no fire suppression system in the electrical and communications/server room currently. There will be no additional time added to the Work Order as a result of this Change Order. However, this Change Order corrects the period of performance provided in the original Scope of Work from 60 calendar days to 184 calendar days to align with the Limited Notice to Proceed issued on September 22, 2023. The project completion date of February 14, 2024 remains the same.

A. Contractor Cost Proposal

CCO 01	\$ 149,867.29	
_____	\$ 149,867.29	Subtotal A: \$ 149,867.29

B. Subcontractors Costs

_____		Subtotal B: \$ -

C. Contractor Credits

_____		Subtotal C: \$ -
Total = (A + B + C)		Total: \$ 149,867.29

Original Contract value:	\$ 296,562.53
Adjustment by Change Order No. X through Change Order X (if applicable)	\$ -
Adjustment by this Change Order	\$ 149,867.29
New Contract Amount Total:	\$ 446,429.82

The Contract Time due to this Change Order will be: <input checked="" type="checkbox"/> Increased <input type="checkbox"/> Decreased <input type="checkbox"/> Unchanged	by 124 days
Original Completion Date:	10/13/23
Adjustment by Change Order No. X through Change Order X (if applicable)	0
Adjustment by this Change Order	124
New Completion Date	2/14/24

Milestones Affected: None.

	
11/30/2023	11/29/2023
Contractor Date:	MTS Chief Executive Officer Date:

EXHIBIT A
(Scope of Work)



Detailed Scope of Work

Job Order Contract

Date: 6/20/2023

To: Dave Czubernat
Project Manager
ABC Construction, Inc.
3120 National Ave
San Diego, Ca 92113
Phone: (619) 239-3428
Fax: (619) 239-6614

From: Thang Nguyen
Sr. Project Manager
San Diego Metropolitan Transit System
1255 Imperial Ave, Suite 900
San Diego, CA 92101
Phone: (619) 557-4560

Project: MTSJOC347-21

MTS Work Order Number: TBD

Title: Modernization of Stadium Elevator

Location: Stadium Elevator

Railroad Protective: Yes No

Detailed Scope of Work

The Contractor shall complete the construction of this project in its entirety and shall provide all labor, materials, equipment, and traffic control, procuring all materials and performing all other work necessary to complete the work in accordance with the Detailed Scope of Work.

This work consists of the followings:

Johnson Controls Fire Protection will provide the following:

1. Provide and install (2) Ansul Sapphire Clean Agent Systems.
2. Provide and install releasing capacity for (2) NOVEC 1230 systems in the spaces listed above. The systems will be monitored and controlled by (1) Simplex suppression releasing control system. The panel will be networked to the existing MTS fire alarm network, via single-mode fibers provided by MTS. Each system includes the following:
 - a. one (1) horn/strobe
 - b. one (1) strobe
 - c. two (2) smoke detectors
 - d. one (1) manual pull station
 - e. one (1) abort station
 - f. one (1) monitor/reset modules
 - g. one (1) suppression release device
 - h. one (1) manual release station
3. Acceptance testing with AHJ.
4. Provide a control module at each of the two-existing supply/exhaust fans.
5. Install boxes, wire and installation of devices.
6. Dedicated 120VAC circuit from existing spare circuit breaker.
7. Termination of all devices.
8. 12-month warranty on all parts and labor.
9. Programming of Sapphire Releasing Panel.
10. Provide Design and CAD resources to create a submittal to the California State Fire Marshal.
11. Training.

Traffic Control:

It is the Contractor's responsibility to barricade the work area and to prevent pedestrians from entering the job site.

Submittals:

Work Schedule, materials submittal

Work Windows:

Monday-Friday from 6 AM to 4 PM

Durations:

60 calendar days

EXHIBIT B (Cost Breakdown)



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Job Order: MTSJOC347-21.01

Proposal Value: \$149,867.29

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Approved Date: October 30, 2023

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Division		Install Total	NPP Total	Demo Total	Division Total
01	General Requirements	\$17,197.58	\$0.00	\$0.00	\$17,197.58
21	Fire Suppression	\$61,915.81	\$0.00	\$0.00	\$61,915.81
23	Heating, Ventilating, And Air-Conditioning (HVAC)	\$26,695.78	\$0.00	\$0.00	\$26,695.78
26	Electrical	\$20,193.25	\$0.00	\$0.00	\$20,193.25
28	Electronic Safety And Security	\$23,864.87	\$0.00	\$0.00	\$23,864.87
Line Count: 43				Proposal Total:	\$149,867.29

The Percentage of Non Pre-Priced on this Proposal:

0.0%

* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Job Order: MTSJOC347-21.01

Proposal Value: \$149,867.29

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Approved Date: October 30, 2023

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

01 General Requirements	\$17,197.58
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
1	012220000082	Project Manager	Installation	107.00	\$150.00	HR	1.0715	\$17,197.58
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Modified, 2.0 Accepted</i>	Demo:	0.000000	\$0.00	HR	1.0715	\$0.00
Includes Labor Yes Includes Equipment No Includes Materials No								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Provide Design and CAD resources to create a submittal to the California State Fire Mar-shall. New fire alarm devices to meet current code

Item Note:

	Total: \$17,197.58
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21 Fire Suppression	\$61,915.81
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
2	210130910006	Inspection, WC, Wet Chemical	Installation	14.00	\$105.78	EA	1.0715	\$1,586.81
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$0.00	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials No								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

	Total: \$1,586.81
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
3	210130910010	Hydrostatic Testing, All Sizes, All Agents	Installation	24.00	\$32.55	EA	1.0715	\$837.06
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$0.00	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials No								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note: See CSI section 23 05 93 00 0046 for testing existing piping systems.

	Total: \$837.06
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Job Order: MTSJOC347-21.01

Proposal Value: \$149,867.29

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Approved Date: October 30, 2023

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

4	210130910011	Disarm/Arm System	Installation	3.00	\$56.96	EA	1.0715	\$183.10
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>		Demo: 0.000000	\$0.00	EA	1.0715	\$0.00

Includes Labor Yes Includes Equipment Yes Includes Materials No

Owner Comments: V:1.2-why are there 3 tanks instead of 2?

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$183.10
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5	212216000006	80 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570637)	Installation	3.00	\$1,687.56	EA	1.0715	\$5,424.66
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>		Demo: 0.000000	\$66.78	EA	1.0715	\$0.00

Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note: 41 to 80 LB tank capacity. Excludes Sapphire agent.

								Total:	\$5,424.66
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6	212216000012	Sapphire Agent. Fire Protection Fluid, Factory Filled (Novec 1230)	Installation	720.00	\$36.78	LB	1.0715	\$28,375.03
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>		Demo: 0.000000	\$133.54	LB	1.0715	\$0.00

Includes Labor No Includes Equipment No Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note: Add to empty tank cost.

								Total:	\$28,375.03
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7	212216000016	1" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570517)	Installation	8.00	\$150.50	EA	1.0715	\$1,290.09
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>		Demo: 0.000000	\$11.13	EA	1.0715	\$0.00

Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$1,290.09
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$149,867.29

Approved Date: October 30, 2023

Job Order: MTSJOC347-21.01

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

8	212216000023	1-1/4" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570605)	Installation	14.00	\$156.65	EA	1.0715	\$2,349.91
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$11.13	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$2,349.91
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9	212216000027	7/16-20 To 1/4" NPT, Male Actuation Elbow, Sapphire® Fire Suppression System (Ansul 31810)	Installation	22.00	\$12.10	EA	1.0715	\$285.23
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$3.34	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$285.23
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10	212216000030	16" Actuation Hose, Sapphire® Fire Suppression System (Ansul 73597)	Installation	3.00	\$43.80	EA	1.0715	\$140.80
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$9.97	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

Owner Comments: V:1.2-why are there 3 tank instead of 2?

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$140.80
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$149,867.29

Approved Date: October 30, 2023

Job Order: MTSJOC347-21.01

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

11	212216000034	Pneumatic Actuator Shipping Assembly, Sapphire® Fire Suppression System (Ansul 570537)	Installation	3.00	\$266.77	EA	1.0715	\$857.53
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$89.03	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

Owner Comments: V:1.2-why are there 3 tank instead of 2?

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$857.53
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12	212216000039	Warning Plate for Use Inside Room, Sapphire® Fire Suppression Systems (Ansul 570581)	Installation	3.00	\$47.30	EA	1.0715	\$152.05
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$11.13	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

Owner Comments: V:1.2-why are there 3 tank instead of 2?

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$152.05
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13	212216000043	Tank Bracket Assembly For 850 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570336)	Installation	3.00	\$151.54	EA	1.0715	\$487.13
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$33.38	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$487.13
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Job Order: MTSJOC347-21.01

Proposal Value: \$149,867.29

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Approved Date: October 30, 2023

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

14	212216000046	2" Manifold Check Valve, Sapphire® Fire Suppression Systems (Ansul 570568)	Installation	3.00	\$519.31	EA	1.0715	\$1,669.32
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$60.81	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$1,669.32
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15	212216000049	2" Flexible Discharge Hose, Sapphire® Fire Suppression Systems (Ansul 570538)	Installation	3.00	\$437.13	EA	1.0715	\$1,405.15
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$22.26	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$1,405.15
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16	212216000054	2" Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 570558)	Installation	3.00	\$73.20	EA	1.0715	\$235.30
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$15.58	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$235.30
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17	212216000058	Cylinder Low Pressure Switch, Sapphire® Fire Suppression Systems (Ansul 570585)	Installation	3.00	\$147.44	EA	1.0715	\$473.95
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$44.51	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$473.95
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$149,867.29

Approved Date: October 30, 2023

Job Order: MTSJOC347-21.01

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

18	212216000063	Liquid Level Indicator For 390 LB And 850 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570278)	Installation	2.00	\$582.75	EA	1.0715	\$1,248.83
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Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$15.58	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$1,248.83
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19	212216000071	3" Recharge Fill Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 69891)	Installation	2.00	\$304.81	EA	1.0715	\$653.21
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Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$66.78	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$653.21
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20	212216000076	Bonnet Assembly, Sapphire® Fire Suppression Systems (Ansul 570543)	Installation	2.00	\$285.22	EA	1.0715	\$611.23
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Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$89.03	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$611.23
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Job Order: MTSJOC347-21.01

Proposal Value: \$149,867.29

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Approved Date: October 30, 2023

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

21	212216000078	1" Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570535)	Installation	2.00	\$1,516.61	EA	1.0715	\$3,250.10
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$89.03	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$3,250.10
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22	212316000066	3" NPT Mechanical Cable Operated Gas Shut-off Valve	Installation	2.00	\$830.91	EA	1.0715	\$1,780.64
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$68.82	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$1,780.64
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23	212316000067	Pneumatic Release (Single Unit)	Installation	2.00	\$342.02	EA	1.0715	\$732.95
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$21.72	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$732.95
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24	212316000077	Manual Reset Relay	Installation	2.00	\$446.03	EA	1.0715	\$955.84
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$89.47	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$955.84
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Job Order: MTSJOC347-21.01

Proposal Value: \$149,867.29

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Approved Date: October 30, 2023

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

25	212316000133	3" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 17643)	Installation	2.00	\$1,166.32	EA	1.0715	\$2,499.42
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Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$68.73	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$2,499.42
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26	212316000143	24 Volt DC, System Circuit Monitor/Gas Valve Reset Relay, Kitchen Fire Suppression Systems (Pyro-Chem 550303)	Installation	1.00	\$423.53	EA	1.0715	\$453.81
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$54.75	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$453.81
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27	212316000193	Relay Control Panel For AC Solenoid Valves (Asco 108D90C)	Installation	1.00	\$1,572.27	EA	1.0715	\$1,684.69
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$195.86	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$1,684.69
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$149,867.29

Approved Date: October 30, 2023

Job Order: MTSJOC347-21.01

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

28	212316000194	Relay Control Panel For DC Solenoid Valves (Asco 108D10C)	Installation	1.00	\$1,621.28	EA	1.0715	\$1,737.20
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$195.86	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$1,737.20
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29	212316000195	Master Control Station For Relay Control Panel For DC Solenoid Valves (Asco 216C89)	Installation	1.00	\$517.75	EA	1.0715	\$554.77
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$44.51	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$554.77
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23 Heating, Ventilating, And Air-Conditioning (HVAC)								\$26,695.78
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
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30	230923530006	EMCS System Software Programming And Graphics Programming	Installation	120.00	\$207.62	HR	1.0715	\$26,695.78
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Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Modified, 2.0 Accepted</i>	Demo:	0.000000	\$0.00	HR	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials No

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

								Total:	\$26,695.78
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26 Electrical								\$20,193.25
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$149,867.29

Approved Date: October 30, 2023

Job Order: MTSJOC347-21.01

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

31	260126000005	Primary Injection Breaker NETA Electrical Testing	Installation	4.00	\$525.00	EA	1.0715	\$2,250.15
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$0.00	EA	1.0715	\$0.00
			Includes Labor Yes	Includes Equipment No	Includes Materials No			

Total:	\$2,250.15
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32	260126000006	Primary Injection Breaker NETA Electrical Testing	Installation	4.00	\$700.00	EA	1.0715	\$3,000.20
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$0.00	EA	1.0715	\$0.00
			Includes Labor Yes	Includes Equipment No	Includes Materials No			

Total:	\$3,000.20
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33	260126000007	Primary And Secondary Injection Low Voltage Air Circuit Breaker NETA Electrical Testing	Installation	7.00	\$1,050.00	EA	1.0715	\$7,875.53
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$0.00	EA	1.0715	\$0.00
			Includes Labor Yes	Includes Equipment No	Includes Materials No			

Total:	\$7,875.53
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34	260126000007	Primary And Secondary Injection Low Voltage Air Circuit Breaker NETA Electrical Testing	Installation	4.00	\$1,050.00	EA	1.0715	\$4,500.30
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$0.00	EA	1.0715	\$0.00
			Includes Labor Yes	Includes Equipment No	Includes Materials No			

Total:	\$4,500.30
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Job Order: MTSJOC347-21.01

Proposal Value: \$149,867.29

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Approved Date: October 30, 2023

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

35	260519160014	#14 AWG, Type THHN-THWN, 600 Volt, Copper, Single Solid Cable, Installed In Conduit	Installation	3.00	\$427.59	MLF	1.0715	\$1,374.49
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$174.99	MLF	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

Total:	\$1,374.49
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36	260533130595	1/2" Electrical Metallic Tubing (EMT) Conduit	Installation	300.00	\$3.71	LF	1.0715	\$1,192.58
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$1.29	LF	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

Total:	\$1,192.58
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28 Electronic Safety And Security								\$23,864.87
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
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37	284621170412	4100ES NDU With VCC Includes The First Bay Equipment Described For The NDU And A Second Bay Assembly With Separate: Master Controller For Voice Functions, Network Interface (Select Media Card Separately), And A Standard SPS With 250 Point IDNet Channel; And 3, 3 A Class A/B NACs Capable Of SmartSync Two-Wire Operation, 120 V Input (Simplex 4100-9142)	Installation	1.00	\$6,428.01	EA	1.0715	\$6,887.61
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Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$394.79	EA	1.0715	\$0.00
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Includes Labor Yes Includes Equipment Yes Includes Materials Yes

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

Total:	\$6,887.61
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$149,867.29

Approved Date: October 30, 2023

Job Order: MTSJOC347-21.01

Job Order Name: Stadium Modernization - Sapphire Novac 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

38	284621170413	Up To 127 Points, IDNet Module, (Simplex 4100-3104)	Installation	1.00	\$2,698.36	EA	1.0715	\$2,891.29
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>		Demo: 0.000000	\$394.79	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note: Add-on module.

								Total:	\$2,891.29
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39	284621170415	Expansion Power Supply, 3 NACs, 120 Volt AC (Simplex 4100-5101)	Installation	1.00	\$1,295.23	EA	1.0715	\$1,387.84
Accepted		<i>History: 1.1 Added, 1.2 Accepted, 1.3 Accepted, 2.0 Accepted</i>		Demo: 0.000000	\$98.69	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note: Add-on module.

								Total:	\$1,387.84
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40	284621170420	3 Bay Backbox With Glass Door And Dress Panel (Simplex 2975-9443)	Installation	2.00	\$1,889.12	EA	1.0715	\$4,048.38
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>		Demo: 0.000000	\$78.96	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note: 24" x 56" beige backbox.

								Total:	\$4,048.38
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$149,867.29

Approved Date: October 30, 2023

Job Order: MTSJOC347-21.01

Job Order Name: Stadium Modernization - Sapphire Novoc 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

41	284621170425	240 Volt AC Fire Alarm Control Panel With Door, Cabinet, Power Supply/Battery Charger, IDNet Interface, 4 NACs, 2 Programmable Auxiliary Relays, And External N2 Communications Interface (Simplex 4010-9201)	Installation	2.00	\$3,803.43	EA	1.0715	\$8,150.75
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$394.79	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

Total:								\$8,150.75
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42	284621170486	Red With White "FIRE" Lettering, TrueAlert Addressable Electronic Horn (Simplex 4901-9850)	Installation	2.00	\$98.08	EA	1.0715	\$210.19
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$29.61	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

Total:								\$210.19
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43	284621170490	110Cd, Wall Mounted Horn Strobe, Red (Simplex 4903-9427)	Installation	2.00	\$134.77	EA	1.0715	\$288.81
Accepted		<i>History: 1.1 Added, 1.2 Modified, 1.3 Accepted, 2.0 Accepted</i>	Demo:	0.000000	\$29.61	EA	1.0715	\$0.00
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Item Note:

Total:								\$288.81
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Proposal Total:								\$149,867.29
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Div	The Percentage of Non Pre-Priced on this Proposal:							0.0%
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* Includes Price Changes due to Construction Task Catalog update

EXHIBIT C
(Subcontractor Listing)

San Diego Metropolitan Transit System

1255 Imperial Ave
 San Diego, CA 92101

Subcontractor Report

Date: 10/31/2023

Job Order Contracting

Contract #: PWG324.0-21
Job Order #: MTSJOC347-21.01
Job Order Title: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System
Job Order Value: \$149,867.29
Location: Qualcomm
Contractor: ABC General Inc.
Subcontractor: JOHNSON CONTROLS FIRE PROTECTION LP

Subcontractor Name	License Number	Describe Nature of Work (Trade)	Certifications	Subcontractor Total	%
JOHNSON CONTROLS FIRE PROTECTION LP 3568 RUFFIN ROAD SOUTH, SAN DIEGO, CA 92123		Mechanical		\$133,567.00	89.12%

Summary

Certification Name	Value	%
	\$133,567.00	89.12%
Total	\$133,567.00	89.12%

CONSTRUCTION CHANGE ORDER

Project Name: **Modernization of Stadium Elevator**

Date: **2/13/25**

To: San Diego Metropolitan Transit System
 From (Contractor): ABG General Contractor

Contract Number: **MTSJOC347-21**
 CCO Number: **02**

Description of Work	Fieldwork Directive Issued:	6/17/2024
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This CCO is prepared in accordance with and incorporates Section Changes and Extra Work of the Contract Documents and consists of:
 Equipment room door to replacment, new disconnect and wiring, new electrical distribution, new pit lighting, new electrical GFIs, new smoke dampers, exhaust fans, and fire alarm relays.

A. Contractor Cost Proposal

CCO 01	\$ 149,867.29	
CCO 02	\$ 144,022.59	
	\$ 293,889.88	Subtotal A: \$ 293,889.88

B. Subcontractors Costs

	\$ -	
		Subtotal B: \$ -

C. Contractor Credits

		Subtotal C: \$ -
Total = (A + B + C)		Total: \$ 293,889.88

Original Contract value:	\$	296,562.53
Adjustment by Change Order No. 0 through Change Order 1 <u>(if applicable)</u>	\$	149,867.29
Adjustment by this Change Order	\$	144,022.59
New Contract Amount	Total:	\$ 590,452.41

The Contract Time due to this Change Order will be:	<input checked="" type="checkbox"/> Increased	<input type="checkbox"/> Decreased	<input type="checkbox"/> Unchanged		
				by	349
					days
Original Completion Date:	10/13/23				
Adjustment by Change Order No. 0 through Change Order 1 <u>(if applicable)</u>	124				
Adjustment by this Change Order	349				
New Completion Date	1/28/25				

Milestones Affected: None

Contractor	Date:	MTS Chief Executive Officer	Date:
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EXHIBIT A
(Scope of Work)



San Diego Metropolitan Transit System

1255 Imperial Ave
San Diego, California 92101

Final Scope of Work

Date: 2/12/2025

Job Order Contracting

To:

From:

Contract No: PWG347.0-21
Job Order No: MTSJOC347-21.02
Job Order Title: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System
Location: Qualcomm
 9449 Friars Road
 San Diego, CA 92108

Brief Scope of Work:

The following items detail the scope of work as discussed at the site. All requirements necessary to accomplish the items set forth below shall be considered part of this scope of work.

Provide materials and labor to replace door leading into mechanical room from the MTS Storage room.

Provide materials and labor for electrical repairs at elevator machine room

1. New disconnect, conduit, wire, fuses (Main feed)
2. New auxiliary contact, contact wire
3. New disconnect, conduit wire, fuses (Cab light)
4. New machine room GFI's
5. New conduit and junction boxes for low voltage/cat6
6. New machine room lighting
7. New pit lighting and conduit
8. New pit GFI

Provide materials and labor for 2 Smoke Fire Dampers

1. Safe off and remove existing exhaust fans.
2. Provide and install new 16x16 and 8x8 smoke fire dampers.
3. Provide angle and fire caulking around new fire dampers.
4. Reconnect existing exhaust fans to new fire dampers.
5. Install Exhaust Fan
6. Provide materials and labor for new dedicated circuits to Smoke Fire Damper at elevator machine room.
7. Damper at elevator machine room.
8. New disconnect switch and conduit to each SFD
9. New wire and circuit from (E) panel board
10. Centrally located J box for fire alarm relay interconnection

Provide as needed supervision for Kone during Modernization of Elevator

All job orders include the labor, equipment, and material costs for a complete and in-place installation, unless otherwise noted.

EXHIBIT B
(Cost Breakdown)



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Division		Install Total	NPP Total	Demo Total	Division Total
01	General Requirements	\$63,060.26	\$0.00	\$0.00	\$63,060.26
05	Metals	\$577.32	\$0.00	\$0.00	\$577.32
07	Thermal And Moisture Protection	\$401.88	\$0.00	\$0.00	\$401.88
21	Fire Suppression	\$14,145.70	\$0.00	\$0.00	\$14,145.70
23	Heating, Ventilating, And Air-Conditioning (HVAC)	\$7,775.12	\$0.00	\$364.67	\$8,139.79
26	Electrical	\$51,103.55	\$0.00	\$6,594.09	\$57,697.64
Total:		\$137,063.83	\$0.00	\$6,958.76	\$144,022.59
Line Count: 31				Proposal Total:	\$144,022.59

The Percentage of Non Pre-Priced on this Proposal: **0.0%**

* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

01 General Requirements	\$63,060.26
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
1	012220000010	Electrician	Install	16.00	\$78.27	HR	1.0715	\$1,341.86

Accepted *History: 1.1 Added, 2.0 Accepted*

Includes Labor Yes Includes Equipment No Includes Materials No

User Note: Investigate existing non working exhaust fans for new Dampeners

Item Note: For tasks not included in the Construction Task Catalog® and as directed by owner only.

Total:	\$1,341.86
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Division 01 General Requirements Total:	\$1,341.86
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
2	012220000082	Project Manager	Install	384.00	\$150.00	HR	1.0715	\$61,718.40

Accepted *History: 1.1 Added, 2.0 Accepted*

Includes Labor Yes Includes Equipment No Includes Materials No

Total:	\$61,718.40
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Division 01 General Requirements Total:	\$61,718.40
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05 Metals	\$577.32
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
3	050519000086	1/2" Diameter x 5-1/2" Length, Hot Dipped Galvanized Steel, Wedge Anchor Expansion Bolt	Install	24.00	\$22.45	EA	1.0715	\$577.32

Accepted *History: 1.1 Added, 2.0 Accepted*

Includes Labor Yes Includes Equipment Yes Includes Materials Yes

Total:	\$577.32
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Division 05 Metals Total:	\$577.32
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07 Thermal And Moisture Protection	\$401.88
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
4	078413190002	1" Diameter Hole With 1/2" Pipe, Sealed With Intumescent Firestop Sealant (3M CP 25WB +)	Install	21.00	\$17.86	EA	1.0715	\$401.88
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

Total:	\$401.88
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Division 07 Thermal And Moisture Protection Total: \$401.88

21 Fire Suppression \$14,145.70

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
5	212216000023	1-1/4" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570605)	Install	14.00	\$156.65	EA	1.0715	\$2,349.91
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Total:	\$2,349.91
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Division 21 Fire Suppression Total: \$2,349.91

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
6	212216000027	7/16-20 To 1/4" NPT, Male Actuation Elbow, Sapphire® Fire Suppression System (Ansul 31810)	Install	22.00	\$12.10	EA	1.0715	\$285.23
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Total:	\$285.23
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Division 21 Fire Suppression Total: \$285.23

* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
7	212216000076	Bonnet Assembly, Sapphire® Fire Suppression Systems (Ansul 570543)	Install	6.00	\$285.22	EA	1.0715	\$1,833.68
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Total:	\$1,833.68
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Division 21 Fire Suppression Total:	\$1,833.68
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
8	212216000078	1" Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570535)	Install	4.00	\$1,516.61	EA	1.0715	\$6,500.19
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Total:	\$6,500.19
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Division 21 Fire Suppression Total:	\$6,500.19
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
9	212316000143	24 Volt DC, System Circuit Monitor/Gas Valve Reset Relay, Kitchen Fire Suppression Systems (Pyro-Chem 550303)	Install	7.00	\$423.53	EA	1.0715	\$3,176.69
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: Per Johnson Controls Fire Protection LP Quote Dated October 18, 2023

Total:	\$3,176.69
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Division 21 Fire Suppression Total:	\$3,176.69
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23 Heating, Ventilating, And Air-Conditioning (HVAC)	\$8,139.79
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
10	233423000036	3/4 HP, 3,646 CFM At 1/4" Static Pressure, Belt Drive, Aluminum, Centrifugal Sidewall Exhauster	Install	2.00	\$2,224.23	EA	1.0715	\$4,766.52
Accepted		History: 1.1 Added, 2.0 Accepted	Demo:	2.00	\$116.78	EA	1.0715	\$250.26
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						
User Note: 1 16x16 1 8x8								Total: \$5,016.78

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
11	233423000036	For Solid State Speed Control, Add MOD: 0545		2.00	\$119.77		1.0715	\$256.67
Accepted		History: 1.1 Added, 2.0 Accepted						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						
								Total: \$256.67

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
12	233423000036	For Backdraft Damper, Add MOD: 0575		2.00	\$185.41		1.0715	\$397.33
Accepted		History: 1.1 Added, 2.0 Accepted						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						
								Total: \$397.33

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
13	233423000036	For Damper Motor, Add MOD: 0576		2.00	\$276.30		1.0715	\$592.11
Accepted		History: 1.1 Added, 2.0 Accepted						
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						
								Total: \$592.11

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

14	233423000036	For Interior Wall Grill, Add	MOD: 0581	2.00	\$224.75		1.0715	\$481.64
Accepted								
<i>History: 1.1 Added, 2.0 Accepted</i>								
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

Total:	\$481.64
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Division 23 Heating, Ventilating, And Air-Conditioning (HVAC) Total: \$6,744.53

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
15	235113160007	8" Round Flue Shutter Draft Control Damper	Install	1.00	\$492.94	EA	1.0715	\$528.19
Accepted								
<i>History: 1.1 Added, 2.0 Accepted</i>								
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

Total:	\$577.91
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Division 23 Heating, Ventilating, And Air-Conditioning (HVAC) Total: \$577.91

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
16	235113160011	16" Round Flue Shutter Draft Control Damper	Install	1.00	\$702.44	EA	1.0715	\$752.66
Accepted								
<i>History: 1.1 Added, 2.0 Accepted</i>								
Includes Labor Yes Includes Equipment Yes Includes Materials Yes								

Total:	\$817.35
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Division 23 Heating, Ventilating, And Air-Conditioning (HVAC) Total: \$817.35

26 Electrical	\$57,697.64
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* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
17	260519160270	#12 AWG, Type THHN-THWN, 600 Volt, Copper, Single Stranded Cable, Installed In Conduit	Install	0.45	\$530.05	MLF	1.0715	\$255.58
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	0.45	\$137.86	MLF	1.0715	\$66.47
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						
		User Note: 150' 12 250' 12 50' of 18						
Total:								\$322.05

Division 26 Electrical Total: **\$322.05**

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
18	260529000167	1/2", One Hole Steel Conduit Strap	Install	12.00	\$2.90	EA	1.0715	\$37.29
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	12.00	\$0.00	EA	1.0715	\$0.00
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						
Total:								\$37.29

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
19	260529000167	For Installation On Concrete (Includes Drilling And Fastener), Add	MOD: 0109	12.00	\$0.73		1.0715	\$9.39
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor Yes Includes Equipment No Includes Materials Yes						
Total:								\$9.39

Division 26 Electrical Total: **\$46.68**

* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
20	260533130005	1/2" Electrical Metallic Tubing (EMT) Conduit Assembly With 4 #12 Copper THHN And 1 #12 Copper Insulated Grounding Conductor	Install	12.00	\$691.08	CLF	1.0715	\$8,885.91
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	12.00	\$206.50	CLF	1.0715	\$2,655.18
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: #12THHN

Item Note: Includes conduit, set screw connectors, set screw couplings, straps, wire as indicated. Not for use where detail is available.

Total:	\$11,541.09
Division 26 Electrical Total: \$11,541.09	

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
21	260533130037	1/2" Rigid Galvanized Steel (RGS) Conduit Assembly With 2 #8 Copper THHN And 1 #10 Copper Insulated Grounding Conductor	Install	6.00	\$875.04	CLF	1.0715	\$5,625.63
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	6.00	\$223.29	CLF	1.0715	\$1,435.53
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: #18THHN 1 1/2"

Item Note: Includes conduit, terminations, straps, wire as indicated. Not for use where detail is available.

Total:	\$7,061.16
Division 26 Electrical Total: \$7,061.16	

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
22	260533130595	1/2" Electrical Metallic Tubing (EMT) Conduit	Install	250.00	\$3.71	LF	1.0715	\$993.82
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	250.00	\$1.29	LF	1.0715	\$345.56
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

Total:	\$1,339.38
Division 26 Electrical Total: \$1,339.38	

* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
23	260533130711	1-1/2" Intermediate Metal Conduit (IMC) 90 Degree Elbow	Install	3.00	\$55.21	EA	1.0715	\$177.47
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	3.00	\$14.49	EA	1.0715	\$46.58
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: 1.5"EMT 90

Total:	\$224.05
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Division 26 Electrical Total: \$224.05

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
24	262419000622	600 Amp, Fusible Main Disconnect Section	Install	2.00	\$14,220.68	EA	1.0715	\$30,474.92
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	2.00	\$765.09	EA	1.0715	\$1,639.59
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: New Disconnect switch and conduit to each SFD

Total:	\$32,114.51
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
25	262419000622	For 800 Amperes, Tin Plated Copper Bus, Add	MOD: 0224	2.00	\$182.00		1.0715	\$390.03
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor No Includes Equipment No Includes Materials Yes						

Total:	\$390.03
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Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
26	262419000622	For NEMA 12, Add	MOD: 0227	2.00	\$245.00		1.0715	\$525.04
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>						
		Includes Labor No Includes Equipment No Includes Materials Yes						

Total:	\$525.04
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Division 26 Electrical Total: \$33,029.58

* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
27	26272600009	20 Amperes, 1 Gang, GFI, Duplex Receptacle Assembly	Install	3.00	\$82.17	EA	1.0715	\$264.14
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	3.00	\$30.00	EA	1.0715	\$96.44
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: 20A WP/TR GFI

Total:	\$360.58
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Division 26 Electrical Total: \$360.58

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
28	262813000095	15 Amp, 600 Volt AC, 200 kAmp I.R., Class J Bolted Fuse	Install	1.00	\$37.20	EA	1.0715	\$39.86
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	1.00	\$5.92	EA	1.0715	\$6.34
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: 15A RK fuse

Total:	\$46.20
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Division 26 Electrical Total: \$46.20

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
29	262813000105	80 Amp, 600 Volt AC, 200 kAmp I.R., Class J Bolted Fuse	Install	6.00	\$95.84	EA	1.0715	\$616.16
Accepted		<i>History: 1.1 Added, 2.0 Accepted</i>	Demo:	6.00	\$11.85	EA	1.0715	\$76.18
		Includes Labor Yes Includes Equipment Yes Includes Materials Yes						

User Note: 600v80A fuse

Total:	\$692.34
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Division 26 Electrical Total: \$692.34

* Includes Price Changes due to Construction Task Catalog update



Price Proposal Detail Report

By Division

Version: 2.0

Approved

Proposal Value: \$144,022.59

Approved Date: February 12, 2025

Job Order: MTSJOC347-21.02

Job Order Name: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System

Location: Qualcomm 9449 Friars Road San Diego, CA 92108

Contractor: ABC General Inc.

Contract Number: PWG324.0-21

Contract Name: JOC Building and Facilities Construction Services. - Option 2

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
30	262913130384	Auxiliary Interlock, Factory Modification Reduced Voltage Auto Transformer Starter, 240 - 600 Volt, 3 Phase, Pilot Device	Install	2.00	\$84.02	EA	1.0715	\$180.05
Accepted		History: 1.1 Added, 2.0 Accepted	Demo:	2.00	\$0.00	EA	1.0715	\$0.00
		Includes Labor No	Includes Equipment No	Includes Materials Yes				

User Note: Interlock Auxiliary kit

Total:	\$180.05
Division 26 Electrical Total:	\$180.05

Record #	CSI Number	Description	Type	Quantity	Unit Price	UOM	Factor	Line Total
31	265619000245	4' Long, 5,200 Lumens, 40 Watt, Vapor Tight Dimmable LED Fixture (Sylvania VAPOR1B/040UNVD840/48EC/GR/D)	Install	8.00	\$306.61	EA	1.0715	\$2,628.26
Accepted		History: 1.1 Added, 2.0 Accepted	Demo:	8.00	\$26.39	EA	1.0715	\$226.22
		Includes Labor Yes	Includes Equipment Yes	Includes Materials Yes				

User Note: Vapor tight 4' LED strip light (NEMA4)

Total:	\$2,854.48
Division 26 Electrical Total:	\$2,854.48

Proposal Total:	\$144,022.59
Div	The Percentage of Non Pre-Priced on this Proposal: 0.0%

* Includes Price Changes due to Construction Task Catalog update

EXHIBIT C
(Subcontractor Listing)

San Diego Metropolitan Transit System

1255 Imperial Ave
San Diego, CA 92101

Subcontractor Report

Date: 2/12/2025
Job Order Contracting

Contract #: PWG324.0-21
Job Order #: MTSJOC347-21.02
Job Order Title: Stadium Modernization - Sapphire Novec 1230 Fire Suppression System
Job Order Value: \$144,022.59
Location: Qualcomm
Contractor: ABC General Inc.
Subcontractor:

Subcontractor Name	License Number	Describe Nature of Work (Trade)	Certifications	Subcontractor Total	Participation %
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Summary

Certification Name	Value	% Subcontracted
Total		0.00%



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/25

Agenda Item No. 17

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Light Rail Vehicle (LRV) Accident Repair Services - Contract Award

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. L1693.0-25 (in substantially the same format as Attachment A) with Carlos Guzman, Inc. (CG, Inc.), a Disadvantaged Business Enterprise (DBE), for the provision of LRV accident repair services, for five (5) years, in the amount of \$28,998,544.20.

Budget Impact

The total value of this contract is estimated to be \$28,998,544.20. This will be funded by the San Diego Trolley, Inc. (SDTI) - LRV Maintenance Operating Budget Account 350016-536100. The table below reflects the estimated annual costs:

Contract Term	Total Amount
Year 1 (April 22, 2025, to April 21, 2026)	\$5,277,051.60
Year 2 (April 22, 2026, to April 21, 2027)	\$5,540,156.76
Year 3 (April 22, 2027, to April 21, 2028)	\$5,800,452.36
Year 4 (April 22, 2028, to April 21, 2029)	\$6,057,073.44
Year 5 (April 22, 2029, to April 21, 2030)	\$6,323,810.04
Grand Total	\$28,998,544.20

DISCUSSION:

MTS operates a fleet of one hundred sixty-nine (169) LRVs and two (2) Historic Streetcars to provide public transportation throughout San Diego County. Occasionally, vehicles are involved in accidents which result in damage to the LRV side body panels or the aluminum passenger doors. On some occasions, major damage occurs to the frame of the vehicle requiring more extensive metal work. The fleet is also regularly subjected to damages resulting from acts of vandalism, environmental conditions, road damages, age and wear and tear.



In order to maintain the LRV fleet in a state of good repair. MTS is seeking the services of an experienced and qualified firm that will provide ongoing accident, vandalism repair and body refurbishment services to its fleet of LRVs and Historic Streetcars. The Contractor, at a minimum, must have ten (10) years of experience applying DuPont/Axalta IMRON products, or approved equal, in the rail, aviation or heavy equipment refinishing industry. A multi-year contract will reduce the time vehicles are out-of-service and streamline the vehicle repair process resulting from an accident. The contract is based on a firm-fixed labor rate and material costs which will be valid throughout the term of the contract.

MTS Policy No. 52 *Procurement of Goods and Services* requires a formal competitive process for procurements and service contracts over \$150,000.00. On December 15, 2024, MTS notified 73 prospective proposers with a Request for Proposal (RFP).

On January 14, 2025, a single proposal from CG, Inc. was received in response to the RFP. A post bid survey was issued on January 23, 2025, via PlanetBids to all prospective proposers who downloaded the RFP but didn't submit a proposal. MTS did not receive any responses from the post bid survey. Therefore, MTS determined that competition was adequate and that neither the RFP nor MTS' procurement processes played a role in their decision not to propose. Staff proceeded with CG Inc.'s proposal and deemed them to be a responsive and responsible proposer.

An evaluation committee consisting of representatives from Finance, LRV Maintenance, and Facilities departments met on February 5, 2025, and scored the proposal based on the following evaluation criteria:

Evaluation Criteria	Total Possible Points
Qualifications of the Firm	30
Staffing, Organization, and Management Plan	20
Work Plan	25
Cost and Price	25
Total	100

The table below represents the initial score and ranking:

Proposer Name	Initial Cost	Technical Score	Cost Score	Total Score (Maximum total score: 100)	Ranking
CG, Inc.	\$28,988,544.20	64.00	25.00	89.00	1

After the initial evaluations, the committee requested a Best and Final Offer (BAFO) from CG, Inc. on February 6, 2025. In response, the Proposer remained with their initial cost proposal.

In addition, the MTS evaluation panel was satisfied with the past performance and quality of work that CG, Inc. provided to MTS under the previous and current MTS contracts. Based on the MTS Independent Cost Estimate (ICE) (\$30,844,944.00), past purchase history and a cost/price analysis, CG, Inc.'s offer was determined to be fair and reasonable.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute MTS Doc. No. L1693.0-25 (in substantially the same format as Attachments A) with CG, Inc. a DBE, for the provision of LRV accident repair services, for five (5) years in the amount of \$28,998,544.20.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. Draft Agreement, MTS Doc. No. L1693.0-25
B. Scope of Work
C. Cost Proposal Form



Metropolitan Transit System

STANDARD AGREEMENT

FOR

MTS DOC. NO. L1693.0-25

LIGHT RAIL VEHICLES (LRV) ACCIDENT REPAIR SERVICES

THIS AGREEMENT is entered into this _____ day of _____, 2025 in the State of California by and between San Diego Metropolitan Transit System ("MTS"), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: <u>Carlos Guzman, Inc. dba CG, Inc.</u>	Address: <u>1619 E. Creston Ave.</u>
	<u>Signal Hill CA 90755</u>
Form of Business: <u>Corporation</u> (Corporation, Partnership, Sole Proprietor, etc.)	<u>City State Zip</u>
Telephone: <u>(702) 401-2996</u>	Email: <u>johndg@cginc-usa.com</u>
Authorized person to sign contracts <u>John Guzman</u>	<u>Chief Operating Officer</u>
Name	Title

The Contractor agrees to provide services as specified in the conformed Scope of Work/Technical Specification (Exhibit A), Contractor's Cost/Pricing Form (Exhibit B), and in accordance with the Standard Agreement, including Standard Conditions (Exhibit C), Federal Requirements (Exhibit D), and Forms (Exhibit E).

The contract term is for five (5) years effective April 22, 2025 through April 21, 2030.

Payment terms shall be net 30 days from invoice date. The total cost of this contract shall not exceed \$28,998,544.20 without the express written consent of MTS.

SAN DIEGO METROPOLITAN TRANSIT SYSTEM	CARLOS GUZMAN, INC. dba CG, INC.
By: _____ Sharon Cooney, Chief Executive Officer	By _____
Approved as to form:	
By: _____ Karen Landers, General Counsel	Title: _____



SCOPE OF WORK/TECHNICAL SPECIFICATIONS

5.1 GENERAL

Contractor shall provide accident, vandalism repair and body refurbishment services to San Diego Trolley Inc., (SDTI's) fleet of Light Rail Vehicles (LRVs) and Historic Streetcars.

MTS is seeking to award a five (5) year accident, vandalism repair and body refurbishment services contract to a qualified firm.

- i. SDTI operates a fleet of one hundred sixty-nine (169) LRVs and two (2) Historic Streetcars to provide public transportation throughout San Diego County.
- ii. Occasionally, some of these vehicles are involved in accidents. Most accidents result in minor damage to the LRV side body or to the cab front comprised mostly of FRP (Fiberglass Reinforced Plastic) panels or the aluminum passenger doors. On some occasions, major damage occurs to the frame of the vehicle requiring more extensive metal work.
- iii. In addition to accident damage, these vehicles also encounter road damage and vandalism related damage inside and outside of the vehicle. The types of road damage and vandalism include damage from rock strikes causing dents and/or chipped paint, spray painted graffiti inside and out of the car body and scratched and/or etched graffiti on the painted surfaces of the car body. Interior surfaces such as flooring, seat frames and paneling may also be damaged.
- iv. Decal or vehicle wrap installation is also periodically required on newly received rolling stock or to replace worn or damaged decals, for special events or for special marketing campaigns. Application and removal of these SDTI furnished decals will be part of the scope of work for this project.
- v. Detailing and finish maintenance may be required. This work to include finish detail work to maintain the finish and to preparation for special events.
- vi. SDTI has over one hundred sixty-nine (169) LRVs and two (2) Historic Streetcars that have been painted with the Axalta Imron Elite (EB Quality) paint system. The SDTI fleet must be consistent in finish quality and have no deviations in the color or to the glossy finishes. SDTI requires using Axalta Imron Elite (EB Quality), or an approved equal, for all its paint and coating materials to insure a consistent product and appearance of the fleet. Contractor shall provide all materials and supplies to complete repair work. This material shall include all Primer, Paints, Clear Coats, and other finishing products as well as all consumable items such as masking materials and preparatory products. These materials costs shall be included in the proposer's fixed monthly cost.

5.2 CONTRACTOR EXPERIENCE AND QUALIFICATIONS

The MTS fleet requires very specific application techniques to ensure finish quality is of the best standard and is cohesive throughout the fleet. The successful contractor shall have a minimum of ten (10) years of experience applying DuPont / Axalta IMRON products or approved equal in the rail, aviation or heavy equipment refinishing industry and has provided documentation substantiating that experience. Employees of Contractor involved in the actual painting process shall maintain certifications of completion of a Commercial Fleet Training course or other trade school courses that are superior or equal to the DuPont / Axalta course.

Contractor must also have a minimum 10 years of experience providing accident and structural repair in the Rail, Aviation or Heavy Equipment industries and provide documentation substantiating that experience.

5.3 DEFINITIONS

APCD	San Diego County Air Pollution Control District
ASTM	American Standard Test Method
CAL OSHA	California Occupational Safety and Health Administration
CARB	California Air Resources Board
CPUC	California Public Utilities Commission
OFT	Dry Film Thickness
EPA	Federal Environmental Protection Agency
GPM	Gallons per Minute
HazMat	Hazardous Materials
HVAC	Heating, Ventilation, Air Conditioning
LRV	Light Rail Vehicle
MSDS	Material Safety Data Sheet
MTS	San Diego Metropolitan Transit System
OSHA	Occupational and Health Administration
PSI	Pounds per Square Inch
QA	Quality Assurance
SDFD	San Diego Fire Department
SMC	Spun-Melt-Spun
WFT	Wet Film Thickness

5.4 SCOPE OF SERVICES

The LRVs and Streetcars to be maintained under this contract shall include up to 171 rail vehicles during the term of this agreement consisting of the following models:

- i. Fleet
 - A. Eleven (11) Siemens Model S70, 90 foot (Built 2004/2005)
 - B. Sixty-Five (65) Siemens Model S70 Ultra Short, 80 foot (Built 2012-2014)
 - C. Ninety-Two (92) Siemens Model S700, 80 foot (Built 2018-2024)
 - D. One (1) Siemens Model U2, 80 foot (Built 1980)
 - E. Two (2) Historic Streetcars, St. Louis Car Co. (Built 1946-1948)

- ii. Description of Services

Contractor shall provide paint, body, and structural repair services to the SDTI rail vehicle fleet as defined above at the SDTI Paint and Body Shop Facility located at 1535 Newton Ave in San Diego, CA. Damage to the fleet as a result of accident, vandalism, road damage, abuse, environmental factors, age and general wear and tear shall be repaired or refurbished under the scope of this agreement.

Contractor shall be required to complete full body and interior and exterior finish restoration of two complete vehicles monthly (average 2-week project duration). All damages and defects to the interior and exterior of the vehicle body due to vandalism, wear, collision, and environmental factors shall be repaired and refinished. 24 such refinishes required annually.

Work shall consist of all necessary activities and processes required to restore the vehicle interior and exterior body finish to “like new” condition.

Additionally, MTS may schedule smaller spot repair jobs due to vandalism or damage incurred or finish detail services as needed. Historically these projects average 2-4 monthly. (1-3 day project duration)

Contractor shall also repair LRVs that are involved in accidents or collisions. These will be scheduled as needed. These vehicles may also be scheduled in place of a finish restoration project, if so, warranted due to the condition of the rest of the vehicle. Most of these accidents consist of fiberglass, paint and metalwork, bracketry, and minor frame repairs. These repairs are within the scope of this agreement and average 8-10 LRVs annually. Contractor shall also provide all needed engineering review and services as needed to complete a job.

In the rare occurrence that an LRV sustains MAJOR structural damages wherein the structural integrity of the vehicle frame is suspect or in the case that Vintage rolling stock with Major Structural refurbishment is needed would not be a part of this base contract scope. Project may either be bid separately or negotiated cost with the contractor at the discretion of the MTS project manager.

Special Requirements

If any roof repair is necessary, the Contractor and an LRV management representative will inspect the rooftop for any indications of metal corrosion or rust under the equipment. If corrosion or rust is present, the MTS will remove the equipment so the contractor may complete repairs. Contractor will inform LRV management if any rooftop repair requires the cutting and welding of the rooftop panels. MTS employees will remove any interior panels or wiring behind or below the areas of repair before any rooftop repairs have begun.

Rusted areas will require removal of rust by grinding bubbled metal and visible holes. Weld new metal (Corten steel) where needed and grind welded area. An industry-certified licensed welder shall complete all welding with Corten metal. Welder credentials to be approved by the MTS PM prior to start of repair. Remove all debris and clean. Follow the recommended Axalta procedure for surfacing and priming.

Refinishing operations will require that the contractor remove all existing paint and the existing primer down to the body filler level on steel and aluminum surfaces or to the substrate level on FRP (Fiberglass Reinforced Plastic and Fiberglass surfaces. If visible cracks are observed in the body filler or the substrate, consult with Project Manager for direction. Further removal of body filler may be necessary until all cracks are removed.

If welding is required an industry-certified, licensed welder shall complete all welding with Corten Steel. Remove all dents, cracks, and surface irregularities. Dents deeper than maximum body filler thickness recommended by Axalta should be pulled or the metal section around it must be cut out and a new section welded in its place.

Contractor must have an excellent understanding of industry standards pertaining to the repair of rail vehicles.

- a. Axalta OEM/Fleet Finishes Procedure

MTS does not maintain to be an expert in refinishing operations. As such MTS requires the Contractor to have expertise and knowledge of Axalta Fleet Finishes Product Application procedures for the various products specified by the MTS for this project. The resulting finish must meet MTS standards set forth for this contract with the expectation of minimum 10-year service life.

A detailed work plan and application procedure for each of the following products shall be provided by the bidder along with their proposal for application to Corten Steel and Fiberglass Reinforced Plastic Substrates. NOTE: this is a list of common coatings used on the MTS fleets. This is not a comprehensive list and is subject to change. This list is provided to evaluate Contractor's understanding and experience level with these coating materials.

b. Imron Elite EB Quality

Red	L6049 EB
Black	L0001 EB
Grey	L1908 EB
Imron voe Clearcoat	8821S
Primer Sealer Corlar	921S / 923S

iii. Acceptance Standard for Paint Finish Quality

MTS maintains the following acceptance standards of finish:

a. Orange Peel

The MTS standard acceptable level of 'orange peel' on a finished LRV is eight (8) or higher on a scale of one (1) to ten (10) as defined by ACT Laboratories, Inc. (273 Industrial Drive, Hillsdale, MI 49242). A finished LRV containing orange peel level of less than eight (8) will be rejected. ACT provides sets of panels with graduated degrees of orange peel (flow) from rough to smooth. These panels are prepared at the request of several major automotive manufacturers for use by their suppliers in evaluating the appearance of painted parts using a consistent, known standard. Master Sets are held as standards for reproducing new sets. The Master Sets are reviewed by representatives of the auto companies, and the orange peel rating verified as appropriate. All panels are painted in black color. THESE PANELS ARE VISUAL STANDARDS ONLY.) Successful contractor shall maintain a set of these panels at the work site for use in evaluating work performed.

b. Gloss Requirements

The MTS standard acceptable level of gloss on a finished surface is eighty-five (85) or better measured at a sixty (60) degree angle (ASTM D523 Standard). A finished LRV with a gloss level of less than eighty-five (85) will be rejected.

c. Gloss Definitions

- Gloss ASTM D523

- Specular Gloss ASTM D523

iv. Quality Inspections

- a. Shall be conducted at random on all jobs.
- b. Inspection criteria as follows may be used for all high visibility exterior body panels. Failure to meet these requirements may prohibit acceptance.
- c. Hardness ASTM D 3363 2H or according to coating manufacturer requirement.
- d. Adhesion (Scratch Test) ASTM D3359 >3A / 3B Classification using Intertape LA-26 or PA-280630 (51596) adhesion tape. Equivalents with adhesion greater than or equal to PA-280630 can be used.
- e. Adhesion (Knife Peel) ASTM D 6677 Rating greater than eight.
- f. Solvent Resistance ASTM D 5402 50 Double rubs.
- g. Adhesion (Pull Test) ASTM D 4541 400 psi.
- h. Other Notes

Axalta's recommended DFT of these products is 1.8-2.2 mils. The required WFT gauge measurements of this material shall range from 3.6-4.4 mils. The LRV shall be inspected using a wet film gauge in inconspicuous areas to the required wet film thickness. The MTS QA Inspector will determine the ideal inconspicuous locations that allow for measurement but DO NOT impact the visible exterior surface.

NOTE: This clearcoat product may require polishing to obtain a smooth finish. The clearcoat film must achieve a DFT of 1.8-2.2 mils after any sanding or polishing is completed. If sanding or polishing is expected, then additional millage may be required at the time of clearcoat application.

v. SDS Requirements

Some items used in this contract may be considered hazardous. The Contractor shall provide SDS for each item used in the performance of services, where applicable, to the MTS Environmental Health and Safety Manager. Said SDS sheets shall be provided prior to commencement of services. The MTS Environmental Health and Safety Manager PM shall approve prior to their use under this Agreement.

Upon award Contractor shall provide PDFs of SDS with each submittal, for chemicals that MTS employees may be exposed to. Contractor shall ensure all available SDS are provided to MTS and kept up to date throughout the duration of the contract.

All products used by the Contractor on MTS premises, and their application, shall be guaranteed for safe use around humans.

Contractor shall be responsible for the applications of all materials, equipment and/or chemicals as to ensure said items in no way contaminate the facilities, structures, environment, agriculture, water ways, or pose real or perceived harm to personnel, food and equipment, buildings, and MTS operations.

The services shall be performed by Contractor in a manner which does not impact the use or performance of any of the facilities, structures, and/or LRV fleet.

It is the Contractor's responsibility to ensure that its employees are trained and adhere to all MTS policies and procedures. These procedures are not intended to replace or modify any existing requirements of any local, state, or federal agency. The Contractor remains responsible for all adherence to MTS, Local, State, and Federal safety requirements, as applicable, while performing all services described herein.

vi. Hazardous Waste Disposal

All hazardous material/paper/cans/paint mixing cups/etc. shall be put into a HazMat container and disposed of by a qualified EPA/HazMat approved disposal company selected by MTS. The contractor shall notify the MTS project manager or their designee when Hazardous material is ready for disposal with information describing types and quantities of waste. The MTS will arrange for pick up and disposal. Storage of hazardous waste shall be done in accordance with all local regulations. Disposal numbers and backlog documents for a period of three (3) years are required. Daily Log Sheets of material, as outlined by the EPA/APCD, shall be present at the proposed facility for instant inspection and an updated SDS shall be provided upon request.

Filters must be changed periodically by the contractor based on airflow allowances and paint facility usage. All filters for the paint booth shall be supplied by MTS.

vii. Equipment Cleaning

Spray guns shall be cleaned as needed per usage. Cleaning solution shall be reused and strained for maximum efficiency. All solids shall be emptied into a separate container supplied by the Contractor and disposed of by a qualified hazardous waste facility selected by the Contractor. Record of disposal must be kept on site for three (3) years. Copies of all disposal records shall be forwarded to LRV management. The Contractor will be responsible for the cost of disposal of the cleaning solution.

viii. Supervisor/LRV Coordination

A daily work log must be kept in order to update the MTS PM or LRV Supervisor upon any inspection. All LRV placements and facility transfers must be coordinated with LRV Shift Supervisor for maximum work efficiency. LRV department requires at least two (2) hours' notice of LRV movement in and out of the facility. LRV movement within the paint facility requires at least two (2) hours' notice.

5.5 FACILITY WORK LOCATION

MTS has a 190-foot-long Paint and Body preparation facility in the rail maintenance yard located at 1535 Newton Avenue, San Diego, CA 92113. The Contractor will be required to use this facility for the painting and bodywork associated with this project. The paint and body preparation

facility houses all required filtering and exhaust mechanisms and is equipped with compressed air and temperature control equipment. The Contractor shall supply additional spraying equipment such as paint guns, air hoses, body refinishing tools, scaffolding, fall protection, etc. as required for car body refinishing and repairs.

5.6 CONTRACTOR RESPONSIBILITIES AT THE MTS FACILITY

The Contractor shall be responsible for replacing all facility filters, (provided by MTS) both inside and outside of the facility as needed. Routine cleaning of the spraying equipment and the paint facility will be Contractor's responsibility. The Contractor will not be charged for normal wear and tear of MTS equipment used on this project; however, any breakdown or damage of MTS equipment due to contractor misuse (such as bypassing, modifying or overloading electrical circuits, compressed air supply, facility space heaters, etc.) or neglect (failure to replace air filters) will be repaired by MTS at the Contractor's cost.

Contractor will keep abreast of any changes in environmental regulations pertaining to the operation of the paint and body preparation facility. Contractor will notify the MTS Project Manager or designee (MTS PM) in writing of any regulatory changes with a detailed summary of necessary equipment, supplies or procedures and their associated costs that must be implemented with the change.

Contractor will not use the paint and body preparation facility for work on non-MTS owned or sponsored material or equipment. Contractor will not store any material such as automotive parts or other equipment, paint, or paint preparation products unrelated to MTS owned or sponsored equipment in the facility.

Contractor will not sub-contract out any work; all work must be completed by the prime contractor, and only subcontractors included in the approved proposal and contract.

All employees of the Contractor shall comply with MTS regulations and California Public Utilities Commission (CPUC) rail safety rules and regulations as contained in CPUC General Order 172 for the duration of this contract. A training session outlining rail safety rules and regulations will be given by MTS at no charge to the Contractor and its employees before work any work begins.

Contractor employees are also subject to CPUC rules and regulations pertaining to the use of portable electronic devices while in or on SDTI yards, grounds and stations (<http://www.cpuc.ca.gov/>).

Contractor is solely responsible for the provision of painting equipment, tools, or personal protective equipment for use by its employees during the contract; MTS will not be held liable for any missing tools or equipment.

5.7 LABOR AND SUPERVISION

The Contractor shall always provide sufficient labor to carry out the service properly and shall ensure that competent workers who are skilled in the type of work required are employed.

The Contractor shall ensure that supervision is always provided while any work under this contract is being performed. If, in the judgment of MTS, any person is incompetent, disorderly, or found to be violating CPUC or MTS safety rules and regulations, the Contractor shall promptly remove and replace such person from the work for the duration of the contract.

5.8 LRV AVAILABILITY AND CONTRACTOR RESPONSE

All LRVs are inspected daily by the LRV Maintenance Department. When accident or vandalism damage is discovered, internal reports are generated. The open report will prompt a call from the MTS PM to the Contractor to initiate a repair action. The sequence of events leading to the completion of the repair work is listed below:

- i. Call initiation to the Contractor for inspection of the damaged vehicle. The maximum response time by the Contractor to meet and inspect damaged vehicle is twenty-four (24) hours from the time the initial report call was placed.
- ii. The time to complete the repair will be dependent on the extent of the damage and should be provided as an estimate for approval by the MTS PM prior to starting work.
- iii. The size of the MTS fleet and the standards to which the vehicle finishes are maintained require daily scheduling of work. Expected scheduling of work shall include at a minimum two full finish restoration project vehicles monthly to repair all wear, vandalism road damages and finish defects. Of these restoration jobs only, a single vehicle will be provided at a given time. Additionally, MTS may schedule smaller spot repair jobs as needed, detail jobs. Historically these smaller jobs average 2-4 monthly. Accident repairs will be scheduled on an as needed basis and repair efforts often varies based on the severity of the damage incurred. In most cases an accident may replace one of the restoration jobs.

5.9 ENVIRONMENTAL AND SAFETY REGULATIONS

MTS or government regulatory agencies will inspect the facility for proper operation and compliance with environmental and safety regulations regularly. These inspections may be held without any prior notification to Contractor. As part of the inspection, the Contractor's compliance with Federal Environmental Protection Agency (EPA), California Air Resources Board (CARB), San Diego Air Pollution Control District (APCD), San Diego Fire Department (SDFD) and MTS regulations will be monitored.

Any issues found will be addressed with the Contractor for immediate resolution within the time period mandated by the regulatory agency. Any violation of OSHA, CAL OSHA, SDFD or MTS safety and fire regulations may cause an immediate cessation of work until resolved by the Contractor and cleared by the appropriate agency. Contractor will bear the sole responsibility for keeping itself informed of any changes to environmental laws or regulations. The Contractor will be thoroughly familiar with APCD regulations as they pertain to refinishing operations, as well as all local, state, and federal regulations relative to hazardous waste, storm water runoff, fire safety, and air pollution. The Contractor is expected to comply with all regulatory requirements. If MTS is cited and/or fined due to Contractor's non-compliance with any regulation or failure to comply to written violations, the amount of fine will be deducted from the next payment due to the Contractor. At its sole determination MTS may consider such non-compliance of any rule or written violation a material breach of this agreement and all other agreements relative to the use of the paint facility by the Contractor and may immediately terminate these agreements.

MTS will provide disposal service for hazardous waste generated by refinishing operations apart from equipment cleaning waste. The Contractor will collect the material and deposit in Hazardous Material (HazMat) containers provided by MTS and inform LRV management when

the material is ready for pick-up by a hazardous waste disposal service. Equipment cleaning waste shall be disposed of by the Contractor in accordance with local and state requirements.

The paints and products provided by MTS meet the requirements of APCD rule 67.20.1. In the event that any existing or future Federal, California State or San Diego City and County environmental regulations preclude the use of the MTS supplied Axalta products or other Imron Paint System products, Contractor will consult with Imron for a suitable substitute and advise the MTS PM in writing of any possible substitute products. All replacement products must be fully documented by Contractor.

5.10 WARRANTY AND SUPPORT

The Contractor shall provide a written ten (10) year warranty from the date of acceptance on any repairs and its application from fading, peeling, or cracking under normal use.

Rust repair or body repairs by Contractor shall be warranted for five (5) years against the reoccurrence of rust or cracking of body filler in the repaired areas.

Fabricated parts shall be warrantied for two (2) years from the date of installation against manufacturing defects and faulty installation if such installation is performed by the Contractor.

5.11 PAYMENT TERMS

Unless otherwise stated in the specifications or bid forms, one hundred (100%) of the contract price for each unit or units of material or equipment furnished and delivered under these specifications, will be paid to the Contractor within thirty (30) days after delivery to and acceptance by MTS, as herein provided, and after the statements covering the unit or units have been presented to MTS by the Contractor. Payment terms less than ten (10) days from acceptance will not be considered. ***Advanced Payment is Not Allowable.***

5.12 INVOICING AND LABOR DOCUMENTATION

Invoices must be sent to the MTS Accounting Department, via email at ap@sdmts.com. All invoices must have the Purchase Order and contract number clearly displayed to ensure timely payment. MTS will not pay on packing slips, receiving documents, delivery documents, or other similar documents. Invoices must be submitted for payment.

In addition to other MTS invoice documentation requirements that may be discussed elsewhere in the Contract, invoices to MTS for payment of services must also include the following items, either documented on the invoice itself or as attachments thereto:

- i. Work order authorization from MTS showing approval to begin work.
- ii. Complete documentation of all labor hours used on the project, by job title and time expended for each project.

At invoicing, materials/supplies cost shall be a fixed monthly cost.

Failure to submit all required documentation with the relevant invoices will result in rejection of such invoices by MTS and delay payment.

5.13 MTS USAGE HISTORY

See ATT 2

5.14 INVOICES

Invoices must be sent to the MTS Accounting Department, via email, at ap@sdmts.com. All invoices must have the Purchase Order and contract number clearly displayed to ensure timely payment. MTS will not pay on packing slips, receiving documents, delivery documents, or other similar documents. Invoices must be submitted for payment.

Payment terms shall be net 30 days from invoice date.

Contractors must also indicate if any of the invoiced amount(s) is for service or work provided by a subcontractor and indicate the amount that will be paid to the subcontractor. Contractors must also comply with the prompt payment requirements in the *Prompt Progress Payments* section of the Standard Conditions.

5.15 [NOT APPLICABLE] CONTRACTOR'S INFORMATION SECURITY RESPONSIBILITIES**5.16 BUY AMERICA**

This scope of work may trigger Buy America and/or Build America Buy America requirements, which apply to construction materials, manufactured products, rolling stock, iron and steel. The below list of definitions and examples is not exhaustive and is only to be used as illustrative and a guidance tool for Contractor compliance.

5.16.1 CONSTRUCTION MATERIALS

- A. Per Infrastructure Investment and Jobs Act (IIJA) Sec. 70912 (2)(C), all construction materials must be manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.
- B. "Construction materials" **includes** an article, material, or supply that is or consists primarily of:
 - i. non-ferrous metals;
 - ii. plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
 - iii. glass (including optic glass);
 - iv. lumber; or
 - v. drywall.
 - Exception: "Construction Materials" **does not include** an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives.
- C. According to the Office of Management and Budget (OMB) Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure M-22-11, April 18, 2022, a Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or

affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computers.

5.16.2 MANUFACTURED PRODUCT

Per IJJA Section 70912 (2)(B), all manufactured products used in the project must be produced in the United States. Examples for manufactured products provided per Appendix A to 49 CFR 661.3 include: Infrastructure projects not made primarily of steel or iron, including structures (terminals, depots, garages, and bus shelters), ties and ballast; contact rail not made primarily of steel or iron; fare collection systems; computers; information systems; security systems; data processing systems; and mobile lifts, hoists, and elevators.

5.16.3 [NOT APPLICABLE] ROLLING STOCK

5.16.4 IRON OR STEEL

Per IJJA Section 70912 (2)(A), all iron and steel used in the project must be produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. Examples of iron and steel provided per Appendix A to 49 CFR 661.3 include: Items made primarily of steel or iron such as structures, bridges, and track work, including running rail, contact rail, and turnouts.

5.17 SAFETY DATA SHEETS (SDS)

Upon award, Contractors shall email the SDS for materials/ chemicals that will be used or stored at the construction site during the duration of the project, attention Ngan Nguyen, MTS Environmental Health and Safety Specialist at Ngan.Nguyen@sdmts.com for review or comment if needed. The Contractor shall notify the MTS Environmental Health and Safety Specialist if there are changes or updates to the SDS during the term of the contract to ensure the MTS recordkeeping is kept updated throughout the contract.

5.18 NO RIGHT TO POST SIGNS

The Contractor shall not post or otherwise affix signs, decals or other media on MTS property or equipment, except as required to maintain safety during the course of repair or maintenance work. No permanent signs, decals, or other media may be installed without MTS's express written permission.

5.19 [NOT APPLICABLE] REPLACEMENT PARTS

5.20 [NOT APPLICABLE] DELIVERY AND ACCEPTANCE

5.21 [NOT APPLICABLE] EXPEDITING

5.22 [NOT APPLICABLE] ACQUISITION OF ROLLING STOCK

L1693.0-25 Cost Form

Year	Description	Labor Monthly Cost	Monthly Cost Materials	Total Monthly Costs
Year 1	Contractor shall provide a fixed monthly rate to adequately staff and operate the MTS LRV Paint and Body Facility as detailed in this scope of work. This fixed monthly rate shall be inclusive of all costs required to operate, to include but not limited to the cost of labor, equipment, travel/transportation, insurance, overhead, profit and all other related costs including preparation and refinishing materials necessary to meet the work requirements described.	\$ 392,534.00	\$ 47,220.30	\$ 439,754.30
Year 2	Contractor shall provide a fixed monthly rate to adequately staff and operate the MTS LRV Paint and Body Facility as detailed in this scope of work. This fixed monthly rate shall be inclusive of all costs required to operate, to include but not limited to the cost of labor, equipment, travel/transportation, insurance, overhead, profit and all other related costs including preparation and refinishing materials necessary to meet the work requirements described.	\$ 410,784.00	\$ 50,895.73	\$ 461,679.73
Year 3	Contractor shall provide a fixed monthly rate to adequately staff and operate the MTS LRV Paint and Body Facility as detailed in this scope of work. This fixed monthly rate shall be inclusive of all costs required to operate, to include but not limited to the cost of labor, equipment, travel/transportation, insurance, overhead, profit and all other related costs including preparation and refinishing materials necessary to meet the work requirements described.	\$ 428,584.00	\$ 54,787.03	\$ 483,371.03
Year 4	Contractor shall provide a fixed monthly rate to adequately staff and operate the MTS LRV Paint and Body Facility as detailed in this scope of work. This fixed monthly rate shall be inclusive of all costs required to operate, to include but not limited to the cost of labor, equipment, travel/transportation, insurance, overhead, profit and all other related costs including preparation and refinishing materials necessary to meet the work requirements described.	\$ 445,784.00	\$ 58,972.12	\$ 504,756.12
Year 5	Contractor shall provide a fixed monthly rate to adequately staff and operate the MTS LRV Paint and Body Facility as detailed in this scope of work. This fixed monthly rate shall be inclusive of all costs required to operate, to include but not limited to the cost of labor, equipment, travel/transportation, insurance, overhead, profit and all other related costs including preparation and refinishing materials necessary to meet the work requirements described.	\$ 463,534.00	\$ 63,450.17	\$ 526,984.17

YEAR 1: \$439,754.30 x 12 = \$5,277,051.60

YEAR 2: \$461,679.73 x 12 = \$5,540,156.76

YEAR 3: \$483,371.03 x 12 = \$5,800,452.36

YEAR 4: \$504,756.12 x 12 = \$6,057,073.44

YEAR 5: \$526,984.17 x 12 = \$6,323,810.04

GRAND TOTAL: \$28,998,544.20



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 18

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Purchase of 24 Class C Propane Powered Medium Duty Mini Buses – Contract Amendment

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. B0744.1-22 (in substantially the same format as Attachment A) with Model 1 Commercial Vehicles, Inc. (Model 1) in the amount of \$153,763.20 to change the seating on twenty-four (24) Class C Propane Powered Medium Duty Mini Buses.

Budget Impact

The total cost of this amendment is estimated to be \$153,763.20 (inclusive of 7.75% CA sales tax), and the total cost of the contract is estimated to be \$5,182,123.44 (inclusive this amendment). This project is funded by the Capital Improvement Project (CIP) account 1001111601-Mini Bus Replacement.

DISCUSSION:

On April 14, 2022 (Agenda Item (AI) 16), the MTS Board approved MTS Doc. No. B0744.0-22 with Model 1 for the purchase of up to eighteen (18) propane powered Class E Mini Buses in the amount of \$4,465,915.38; and the transfer of \$2.6 million from project 1001110101- FY20 American with Disabilities Act (ADA) Bus Procurement to project 1001111601 - FY22 Mini Bus Replacement to support the procurement of these Mini Buses.

On February 16, 2023 (AI 6), the MTS Board approved the revision to MTS Doc. No. B0744.0-22 with Model 1 Commercial and instead purchased up to twenty-four (24) Class C Propane Powered Medium Duty Mini Buses in the total amount of \$5,028,360.24.

The fleet of twenty-four (24) buses was delivered and accepted by MTS in Fall 2024. However, to perform proper mobility device securement, MTS is requesting changes to the fleet. The last row of street-side passenger seats will need to be removed, and foldaway seats will be installed to give the operators a more accessible path to the securement tracks.

1255 Imperial Avenue, Suite 1000, San Diego, CA 92101-7490 • (619) 231-1466 • sdmts.com

San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.



Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute MTS Doc. No. B0744.1-22 (in substantially the same format as Attachment A) with Model 1 in the amount of \$153,763.20 to change the seating on twenty-four (24) Class C Propane Powered Medium Duty Mini Buses.

Sharon Cooney
Chief Executive Officer

Key Staff Contact: Mark Olson, 619.557.4588, mark.olson@sdmts.com

Attachments: A. Draft Amendment B0744.1-22
B. Cost Proposal



Amendment 1

March 13, 2025

MTS Doc No. B0744.1-22

PURCHASE OF 24 CLASS C PROPANE POWERED MEDIUM DUTY MINI BUSES

Model 1 Commercial Vehicles, Inc.
Jason Spore
Transit Bid Manager
14740 Ramona Avenue
Chino, CA 91710

This shall serve as Amendment No.1 to the original agreement B0744.0-22 as further described below.

SCOPE

This amendment shall authorize the removal of the last row of street-side passenger seats and installation of foldaway seats on bus fleet 3401-3424 in accordance with Attachment A, Cost Proposal; and exercise Option Year 1.

SCHEDULE

Option Year 1 shall be effective from March 1, 2025 through February 28, 2026.

PAYMENT

This contract amendment shall authorize additional costs not to exceed \$153,763.20 (\$6,406.80 per bus x 24 buses). The total value of this contract including this amendment shall be in the amount of \$5,182,123.44. This amount shall not be exceeded without prior written approval from MTS.

Please sign and return the copy to the Contract Specialist at MTS. All other terms and conditions shall remain the same and in effect. Retain the other copies for your records.

Sincerely,

Agreed:

Sharon Cooney, Chief Executive Officer

Jason Spore, Transit Bid Manager
Model 1 Commercial Vehicles, Inc.

Date: _____

Attachment: A: Cost Proposal





MODEL 1 COMMERCIAL VEHICLES

14740 Ramona Ave.
Chino, CA, 91710

February 19, 2025

Mr. Charles Posejpal
Manager of Paratransit and Minibus
San Diego Metropolitan Transit System
100 16th St.
San Diego, CA 92101-7490

Re: Cost proposal from Model 1 / Creative Bus Sales for Foldaway Seat Installation

Charles,

Please see our cost proposal below for the installation of seats on your buses.

- (1) Double Foldaway Seat: \$2256.00
- (1) Double Foldaway Seat: \$2256.00
- Labor to remove current seats and install double foldaway seats: \$1500.00
- Sales Tax @ 8.75% for parts only (\$4512): \$394.80
- Total Cost per Bus: \$6,406.80

Foldaway seats will be covered in Docket 90 to match MTS current fleet:
Seats will also be equipped with USR Seat Belts, Grab Handles, and TDSS for restraint storage.

Seats will be installed at Model 1 / Creative Bus Sales facility in Chino, California.
We ask that MTS provide transportation of the vehicles to our facility for the installation of the seats.

Lead time for seats is 10 to 12-weeks from receipt of purchase order.
Installation will be scheduled based upon MTS availability of vehicles.

Thank you.

Steve Chung
Regional Vice President of Sales
Cell 909.549.9394
schung@model1.com



**Metropolitan
Transit
System**

Agenda Item No. 19

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 13, 2025

SUBJECT:

Elevator Maintenance at San Diego State University Transit Center – Operations and Maintenance Agreement Amendment

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute Amendment No. 2 to the Operation and Maintenance Agreement with San Diego State University (SDSU), MTS Doc. No. M6644.2-06 (in substantially the same format as Attachment A), regarding elevator maintenance at the SDSU Transit Center.

Budget Impact

The budget impact is anticipated to be approximately \$520 per month for regular maintenance activities (\$6,240 annually), with costs escalating approximately 4% each year.

DISCUSSION:

On June 30, 2006, San Diego Metropolitan Transit System (MTS) and San Diego State University (SDSU) executed an Operations and Maintenance Agreement (O&M Agreement) related to the operation and maintenance for the Mission Valley East light rail transit extension's new transit center on the SDSU campus.

As part of the Mission Valley East project, four elevators were constructed to provide Americans with Disabilities Act (ADA) access between the underground trolley station and the SDSU campus. MTS and SDSU have worked collaboratively to safely and efficiently operate the trolley station at the center of SDSU's campus. Because SDSU has elevators throughout the campus, and because many of the users of the trolley station elevators are SDSU students, employees, or visitors, SDSU and MTS agreed that SDSU would be the lead for elevator maintenance and emergency service calls at the trolley station. This allowed MTS to benefit from SDSU's existing elevator maintenance agreement and the proximity of elevator maintenance personnel who are already on campus. This arrangement has worked well for MTS and SDSU.

As part of recent discussions with SDSU, the responsibility of the elevator maintenance has been re-examined. Since 2006, in addition to being responsible for elevator maintenance



services and emergency responses, SDSU has paid the full costs of this maintenance (approximately \$1,040 per month or \$12,480 per year) and incidental repair costs that arise.

In staff discussions between MTS and SDSU, it was determined that the intent of the O&M Agreement provisions assigning trolley station elevator maintenance responsibility to SDSU was to facilitate prompt and cost-effective elevator maintenance and emergency responses. It was not intended to shift the full cost and burden of the station elevators to SDSU. SDSU has requested that the O&M Agreement be modified to specify that while SDSU will be responsible for completing any elevator maintenance, MTS will reimburse SDSU for 50% of such costs. Staff believes this is a fair and equitable resolution to this cost sharing/burden issue.

Sharon Cooney
Chief Executive Officer

Key Staff Contact:

Attachment. A. Draft Amendment M6644.2-06 to SDSU Operating and Maintenance Agreement

Amendment No. 2 to
OPERATION AND MAINTENANCE AGREEMENT
FOR THE MISSION VALLEY EAST LIGHT RAIL TRANSIT EXTENSION,
LIGHT RAIL TRANSIT STATION AND BUS CENTER AT SAN DIEGO STATE UNIVERSITY

This Amendment No. 2 (Amendment 2) to the Operation and Maintenance Agreement for the Mission Valley East Light Rail Transit Extension, Light Rail Transit (LRT) Station and Bus Center at San Diego State University (SDSU LRT O&M Agreement) is entered into as of _____, _____ between The Trustees of the California State University, by and through San Diego State University (SDSU), and the San Diego Metropolitan Transit Development Board, also known as the San Diego Metropolitan Transit System (MTS) (collectively referred to herein as the "Parties").

RECITALS

A. Between 1999 and 2005, MTS constructed the Mission Valley East LRT Extension Project (Project), which included a 5.6-mile extension of the MTS Green Line from the Mission San Diego Station to Grossmont Center. The Project constructed four new trolley stations: Grantville, SDSU, Alvarado Medical Center, and 70th Street and connected this east-west trolley route from Old Town Transit Center to Santee.

B. The Parties entered into the SDSU LRT O&M Agreement on June 30, 2006 to establish each party's respective rights and duties related to the operation, maintenance and security for the LRT Extension, LRT Station and Bus Transit Center at SDSU, and SDSU's utilization of MTS's prior bus transit center.

C. As part of the Project, MTS constructed four elevators to provide Americans with Disabilities Act (ADA) access to the LRT Station at SDSU.

D. Article 6(a) and (b) of the SDSU LRT O&M Agreement govern the respective maintenance obligations of MTS and SDSU as it related to the LRT Station and Bus Transit Center at SDSU.

E. By this Amendment 2, the Parties desire to clarify and amend the responsibilities under the SDSU LRT O&M Agreement as it relates to the LRT Station Elevators defined below.

AGREEMENT

Notwithstanding anything in the SDSU LRT O&M Agreement to the contrary, the Parties agree as follows:

1. LRT Station Elevators.

a. Pursuant to Article 6(a), MTS has the sole and exclusive responsibility to maintain, clean, and keep in good condition various improvements, including the glass walls of the elevator structures at the LRT Station. Nothing in this Amendment 2 is intended to modify MTS's obligations under Article 6(a).

b. Pursuant to Article 6(b), SDSU has the sole and exclusive responsibility to clean, maintain, and keep in good operating condition the elevator mechanical structures at the LRT Station (LRT Station Elevators). The parties agree that that SDSU agreed to assume this

obligation to improve service response times and benefit SDSU campus visitors and MTS LRT Station patrons because of the proximity of SDSU's on-campus elevator maintenance employees and contractors to the LRT Station. By this Amendment 2, MTS acknowledges the benefit provided by SDSU maintenance of the LRT Station Elevators and agrees to reimburse SDSU for certain LRT Station Elevator maintenance costs as set forth in Paragraph 1(c) below.

c. Effective January 1, 2025, MTS agrees to reimburse SDSU for fifty percent (50%) of the reasonable costs to maintain the LRT Station Elevators pursuant to Article 6(b). For example, as of the date of this Amendment 2, the estimated third-party maintenance contract cost for the LRT Station Elevators is \$1,040/month. Under this Paragraph 1(c), MTS's cost share would be \$520/month. On an annual basis, MTS and SDSU shall mutually agree to an estimated budget for the costs subject to reimbursement under this Paragraph 1(c). Any costs shared under this Amendment 2 shall be based on SDSU's competitively bid contract for campus-wide elevator maintenance, unless otherwise agreed in writing by MTS. SDSU shall invoice MTS, in arrears, for its share of the LRT Station Elevator maintenance costs every 6 months. Invoices shall be accompanied by supporting documentation showing expenses paid by SDSU and the 50% cost share allocation to MTS under this Amendment 2. All undisputed invoices shall be paid by MTS within thirty (30) days of receipt.

2. Term. This Amendment shall be coterminous with the SDSU LRT O&M Agreement; provided, however, that either party may terminate this Amendment and the obligations set forth in Paragraph 1, by providing the other party with at least 90 days written notice.

3. All other terms of the SDSU LRT O&M Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, The Trustees of the California State University, by and through San Diego State University (SDSU), and the San Diego Metropolitan Transit Development Board have executed this Amendment No. 2 to the SDSU LRT O&M Agreement

SAN DIEGO STATE UNIVERSITY

SAN DIEGO METROPOLITAN TRANSIT DEVELOPMENT BOARD

By: _____
Eric Hansen
AVP - Business Operations

By: _____
Sharon Cooney
Chief Executive Officer

Date: _____

Date: _____

Approved as to form:

Approved as to form:

By: _____
Office of the General Counsel for the
California State University

By: _____
Karen Landers
MTS General Counsel



**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 20

**MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS**

March 13, 2025

SUBJECT:

Property Insurance Renewal

**AGENDA ITEM WILL
BE PROVIDED
BEFORE BOARD
MEETING**

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San Diego Metropolitan Transit System (MTS) is a California public agency comprised of San Diego Transit Corp., San Diego Trolley, Inc. and San Diego and Arizona Eastern Railway Company (nonprofit public benefit corporations). MTS member agencies include the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, San Diego, Santee, and the County of San Diego. MTS is also the For-Hire Vehicle administrator for multiple cities in San Diego County.





**Metropolitan
Transit
System**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/6/2025

Agenda Item No. 21

**MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS**

March 13, 2025

SUBJECT:

Excess General Liability (Liability) And Excess Workers' Compensation (Workers' Compensation) Insurance Renewals

**AGENDA ITEM WILL
BE PROVIDED
BEFORE BOARD
MEETING**

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