

**The Metropolitan Transportation Authority
Acting By
The MTA Capital Construction Company**



MTA CONTRACT #6240

**DESIGN-BUILD SERVICES
FOR
LIRR EXPANSION PROJECT
FROM FLORAL PARK TO HICKSVILLE**

CONFORMED DOCUMENTS

**VOLUME 1 – DESIGN-BUILD AGREEMENT
EXHIBIT C – PART 2 (Book 4 of 9)**

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A handwritten signature in black ink, appearing to be "DME".

VOLUME 2: TECHNICAL PACKAGE 1: MANAGEMENT APPROACH



LIRR CONTRACT #6240
**Design-Build Services for
LIRR Expansion Project
from Floral Park to
Hicksville**



July 20th, 2017

Mr. Gerald M. Turchetto
Long Island Rail Road – Department of Procurement & Logistics
One Penn Plaza, 250 W 34th Street
New York, NY 10119

RE: LIRR Expansion Project from Floral Park to Hicksville (LIRR Contract #6240)

Dear Mr. Turchetto,

3rd Track Constructors Joint Venture (3TC or Team) is pleased to submit its Legal/Administrative Proposal and Technical Proposal to the Long Island Rail Road (the Rail Road) for the design and construction of LIRR Expansion Project from Floral Park to Hicksville (Third Track Project). A Design-Build Joint Venture of John P. Picone, Inc.; Dragados USA, Inc.; CCA Civil, Inc.; and Halmar International LLC will be the Lead Contractor for this Project. Stantec Consulting Services, Inc. will be the Lead Designer with the support of local renowned Design Subconsultants (many of which are M/WBEs and SDVOBs).

Our Team offers the right combination of nationally recognized industry leaders with local knowledge, dedicated resources ready to address critical project elements, and successful local and international design-build experience in railroad projects similar to the Third Track Project. Combined, our Team offers over 320 years of outstanding experience as premier railroad design-builders in the United States and overseas, and has built over 100 design-build projects globally.

We thrive on the design and construction of railroad projects and we look forward to working in partnership with the Rail Road to deliver a high quality, durable, reliable, and safe facility that will be an outstanding success to all the stakeholders and communities in Long Island.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jose M. Ibanez", with a horizontal line underneath.

Jose M. Ibanez – Authorized Representative
Third Track Constructors Joint Venture

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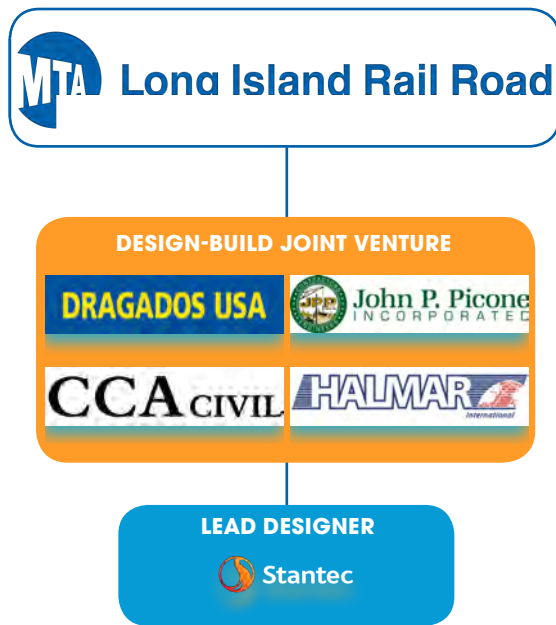
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Executive Summary

Introduction

Since its inception in 1834, the Long Island Rail Road (Rail Road) has been instrumental in the development of Long Island and the New York Metropolitan area. As the demands placed upon the Rail Road’s system continue to evolve, the Rail Road is meeting those needs with a series of capital projects designed to create a twenty-first century commuter rail system. The Mainline is the backbone of the Rail Road’s system and the LIRR Expansion from Floral Park to Hicksville (Third Track Project) is a regionally significant and transformative addition to that system.

3rd Track Constructors (3TC or Team) appreciates the opportunity to provide you with our Proposal. 3TC’s experts from systems, track, civil, structural design-build delivery have all worked closely together during this Procurement Phase and we look forward to fulfilling the Third Track’s promise of a Modern Long Island Rail Road through collaboration and innovation on this design-build project.



Why 3TC?

3TC is a design-build joint venture (DBJV) of John P. Picone, Inc. (Picone); Dragados USA, Inc. (Dragados); CCA Civil, Inc. (CCA Civil); and Halmar International LLC (Halmar). Together with our Lead Designer, Stantec Consulting Services, Inc. (Stantec) , we bring the **proven performance, capability, and knowledge** to deliver a long-awaited commuter rail expansion that will set a new benchmark for United States public works projects in terms of value to the public, design, and construction.

The **proven financial strength** of our Team with two JV members included in the top 10 of the Engineering News Record’s (ENR) magazine Top 250 Global Contractor List, gives us an unparalleled capacity to undertake all Project requirements in real time and is committed to building the highest quality improvement at the fairest possible cost.

Our Lead Designer, Stantec, is ranked No.10 on ENR’s Top 500 Design Firms and has more than 65 years of experience in the design of rail, bridge, and highway projects both nationally and in the NY Metro area, and critically, has led grade crossing eliminations at Herricks Road, Mineola Boulevard, and Roslyn Road. Stantec’s team of engineers designed and produced the 24 wired locations for all the current Nassau locations along the Project corridor, as well as the Harold Interlocking Signalization project that included redundant processor control of eight interlockings. This makes Stantec the leader in critical Rail Road Mainline upgrade projects. Stantec will be assisted by Cameron Engineering, TY Lin, LTK and a full complement of M/WBE/SDVOB organizations.

3TC’s staff has prior experience working together on multiple projects; we have completed work on the interlockings Nassau 1 (N1) through Nassau 4 (N4) and grade crossing eliminations in Mineola, NY. This is a significant qualification unique to 3TC, and will be one of the reasons 3TC will be able to progress the railroad systems through commissioning to complete the Third Track Project on-time and within budget. In addition to our experience in Mineola, our train control subcontractor, E-J Electric has recently completed on time the [REDACTED] extension for NYC Transit on the No. 7 train as well as work on the Rail Road’s Harold interlocking.

3TC has assembled a team of exceptionally qualified and experienced professionals to provide those services and context-sensitive solutions required for this important Project. 3TC subcontractors, subconsultant firms, and key professionals **have worked together in recent years, completing various complex, high profile Rail Road and NYSDOT projects** in Long Island and the NYC Metropolitan Area. Several firms have local offices located in the Project area and Nassau and Suffolk Counties.

The members of the 3TC Team have collaborated on many rail projects with similar size and complexity to the Third Track Project, from the [REDACTED] Eglinton Crosstown Light Rail Train in Toronto to the [REDACTED] LIRR Johnson Avenue Yard Reconfiguration and the [REDACTED] MTA South Ferry Terminal in New York.

3TC has staff readily available to begin working on the Project immediately after Limited Notice to Proceed (LNTF). We plan to co-locate the DBJV Members, design engineers, construction professionals, and community outreach consultants, along with Rail Road Project personnel, in our Project Office in Mineola, NY. We **already started the co-location effort at Stantec's Manhattan office during the Procurement Phase** of this Project and the working relationships that have been built during this period will give us a head start upon Project award.

Design and Construction with Community at the Forefront

3TC has incorporated the community outreach requirements of the RFP with the practical hands-on experience it gained from its work on LIRR Double Track and its 30+ years of working within the complex Long Island media/geopolitical environment that will determine the success of any public affairs program.

Led by Rubenstein Strategic Communications, our community outreach effort will eliminate the traditional silos that isolate infrastructure project teams. **Community outreach will be viewed as an equal partner among the construction and engineering disciplines** required to successfully build the Third Track Project.

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The plan introduces technology that is modeled after the Rail Road's Movement Bureau, one that creates a central information clearing house or Project Information Coordinating Center (PICC) that combines all aspects of construction and community affairs while placing emphasis on addressing the unique needs of each community along the right of way (ROW) from Floral Park to Hicksville.

Equally important, to meet the Governor's directive that this be an unprecedented level of community outreach, team members will be tasked with creating specific stakeholder relationships while our Project Ambassadors will be personally responsible to those residents and businesses along the ROW. The PICC and the Project Ambassadors will be integral parts of our Design-Build Task Forces. That way the concerns of the **Project stakeholders will have a seat at the design and construction table.**

Our Communications and Public Outreach Plan will feature a bespoke Public Education Program to engage the youth of the corridor and promote their interest in Science, Technology, Engineering, Arts and Mathematics (STEAM) careers.

Throughout the length of the Project, **3TC will be guided by the Governor's motto, "Performance, Integrity, Pride – We Work for the People".**

Mitigating Impacts to Station Parking

With respect to the critical issue of station parking, 3TC recognizes the need to maintain the availability of station parking during construction and we will do so through efficiency, technology and ingenuity. We are in negotiations for well over 1,000 temporary parking spaces that will be served by a free shuttle service. In addition, we are proposing to augment these temporary spaces with shared autonomous vehicles, rideshare services subsidies (Uber, Lift and Via) and temporary measures at the existing station parking areas.

Managing Risk

Adding a third track adjacent to a live railroad line is an inherently risky undertaking. 3TC's extensive background in risk assessment techniques has led us to appreciate the inherent uncertainties in our profession. Risk, however, can be managed and the first steps have taken place during the Procurement Phase of this Project.

During the Procurement Phase, the Team held multiple workshops to consider the complexities of the Third Track Project and inherent risks. These workshops identified a list of potential risks to major components of the Project and determined the risk mitigation measure applicable to each. A Preliminary Risk Register has been seeded with risks identified by the Team. The time and costs impacts derived from this Register were duly considered with this Proposal.

Moving forward, we will assign a Risk Management Committee (RMC) to investigate risks, identify their potential impacts, and develop avoidance and mitigation measures, according to our well-proven risk tracking system following standardized principles and Best Industry Practices incorporated in 3TC's Project Management Plan. The RMC will be responsible for assessing the identified risks and determine how they may impact these five critical areas:

- Public Safety and Mobility
- Rail Road Operation
- Project Cost
- Project Schedule
- Environmental/Community Impacts

Systems Approach to Design

3TC has presented a talented Design Team to perform the tasks required to complete this very complex Project. But it takes more than great designers, it takes a process to integrate all those designs into an overall functional Third Track System. Many multi-discipline projects succeed or fail based on the processes and personnel in place to coordinate the design teams and develop the interfaces between each of the design elements whether they be electrical, mechanical, structural, environmental, or civil. For this reason, our Team's design approach to systems integration is to adopt a proven framework based on the systems engineering process developed using the guidelines established in

the INCOSE Systems Handbook v 3.2.2 and/or ISO/ [REDACTED]. This approach will enable the success of the rail systems integration no matter the individuals assigned to the Project.

3TC's systems integration approach to the Project is devised to develop and track the attainment of requirements and manage the diverse multi-disciplinary interfaces so that safety, sustainability, durability, accessibility and resiliency are part of our design.

The Systems Engineering Process will encompass the entire Project life cycle starting with the allocation of design requirements by discipline, developing the interfaces between disciplines, implementing those designs during construction and finally testing or validating that the Contract requirements have been met.

Track Geometrics/ATC #27

The proposed track design's goal is to provide the Rail Road with an alignment and profile that creates sufficient flexibility, high operational reliability, and a comfortable ride for passengers. Additionally, **our track design and construction will minimize the number of required outages, maximize efficiency of operations and retain the use of existing interlockings until the new ones are in service.**

The RFP design includes three cut-and-throw locations where the proposed track switches between the north and south sides of the ROW east of the Nassau-3 (N3) interlocking and required Force Account (FA) to shift more than 25,000 linear feet of track as much as 13-feet. These shifts would have required extensive coordination with 3TC and would have been constrained to very short time periods. In addition, the RFP track alignment requires approximately 200 new steel-concrete hybrid utility poles.

3TC has optimized the proposed third track alignment to allow continuous construction of this track on the south side of the ROW from Floral Park to Urban Avenue before tying into Divide-1 (D1) Interlocking on the north side of the ROW. This alignment revision reflects the concept presented in **ATC #27**, and requires minor adjustments to existing track

EXECUTIVE SUMMARY

alignment, a revision to the Meadowbrook Parkway overpass and the modification of the existing N3 signal location.

This **“game-changing” improvement** to the RFP’s alignment results in the following:

- Minimizes FA’s responsibility and reduces the amount of shifted track to under 15,000 feet
- Facilitates third-track construction and interlocking installation and will allow the Rail Road to retain the functionality of the existing N1 and N3 interlockings while construction is ongoing without temporary houses or equipment being installed
- Allows two-track revenue service during third-track construction with use of the existing interlockings
- Eliminates two major cut-and-throws and the relocation of the cut-and-throw at the D1 Interlocking (instead of at Westbury Station)
- Reduces the amount of temporary signal and tie-in work required to maintain operation on the mainline during the Project
- Minimizes track outages, and results in more efficient testing and commissioning processes
- Reduces the need to approximately [REDACTED] new hybrid poles
- Simplifies and reduces the number of revisions necessary for Positive Train Control Application to the Third Track area.

Systems/Communications/ Signals/Power/Security Systems/SCADA

The signals, Positive Train Control, traction power, communications and security system designs are elements of the entire Third Track Project as they are essential to support the operations of the Rail Road and **provide for the safety and security of commuters and Rail Road employees alike.** In addition, we must not compromise our reliability principles or we will not attain our design goals. Finally, our goal is to **reduce the amount of work that the Rail Road FA will have to perform on systems and remove FA from the critical path.**

3TC has looked for ways that these systems can play to support the construction of the Project. The early installation of the communications fiber backbone with

the signal SCADA, allows the Rail Road uninterrupted control of rail operations from the Jamaica Control Center while existing signal locations are retired and frees construction forces to proceed with demolition when it is needed for track construction. The delivery of the new N1 location will be partially commissioned to provide a clear construction path for the retaining wall and track construction on the corridor from Floral Park to west of Mineola Station. However, the biggest factor in unlocking the design of the signal system was [REDACTED], the southerly track alignment. As noted previously, this ATC has many far reaching positive impacts on the Third Track Project, but for systems it unlocked a door to tackle a critical issue, the signal system. **The improvements to the signal installation and testing phases include simplifying cutovers, limiting temporary work, logically organizing interlocking testing and commissioning and most importantly a better project schedule.**

Bridges

The under-grade bridge design details developed for this Project are designed to minimize the impacts to the community and the Rail Road service. 3TC will achieve this goal by minimizing the structural depth of the superstructures such that the roadway profile can be set as high as possible. The result is less impacts to the surrounding properties and adjacent intersections from regrading as well as increased safety. Additionally, to the fullest extent possible, prefabricated bridge elements will be used to expedite construction.

3TC will employ an innovative approach for constructing the under-grade bridges at Covert Avenue, New Hyde Park Road, Urban Avenue, School Street, and Willis Avenue (Mainline and Oyster Bay Branch). A U-shaped reinforced concrete substructure will be constructed adjacent to the proposed crossing, in an open excavation at the proposed final elevation. Constructing the entire bridge adjacent to the railroad crossing allows 3TC to avoid costly temporary works. The structure will be constructed on a concrete launching slab and the steel superstructure will be set in place in advance of moving the bridge into place. During **ONE double track outage**, the tracks will be removed, the track bed will be excavated to below the bottom of the superstructure, and the entire structure will be jacked into place while the remaining excavation is completed. Once the structure

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is in place, the precast approach slabs, ballast, and tracks will be installed, and service will be restored. This construction method will **save two months for each location** from the traditional top-down method and will exceed expectations for minimizing the impacts to the Rail Road's service, especially since the Rail Road's alignment will be more easily maintained.

Long-term Parking Garage Solutions

The Project's five parking structures have been designed to be classified as open parking structures to the greatest extent possible. This approach allows for the control of construction costs and long-term maintenance costs through the elimination of sprinkler and ventilation systems that would otherwise be required as part of an underground parking area.

In addition, 3TC is offering two other strategies for the Project's proposed parking structures.

Under the first option, 3TC will partner with RXR Realty, the preeminent developer on Long Island, and will seek the approval of the local governments having jurisdiction to convert all or some of the proposed parking structures into multi-use facilities to incorporate other uses including commercial (office, retail, etc.), residential (optimal commuter locations) and recreational (soccer, lacrosse fields, etc.). Beyond making the Rail Road a more robust transportation option for Long Islanders by implementing this progressive transit oriented development approach of incorporating multi-use garage structures into the downtowns, the Rail Road can more fully realize its stated goal of catalyzing significant economic development along the Third Track corridor and beyond.

Option two is proposed as the garages are coming online when more and more Rail Road users are accessing the system through the use of alternative methods as opposed to the conventional means of driving a private vehicle to the station and parking the car. These alternative methods will have an adverse effect on the demand for parking in the next generation. This reduction in demand would create numerous operational and financial issues for the garage operators, and will lead those operators to seek alternative ways of obtaining revenue from the parking garage. This could result in repurposing the garage to encompass parking on the

lower floors and residential or commercial uses on the upper floors. Our designs can provide for this future adaptability by optimizing floor to floor height ratios, column spacing, floor slopes, etc., that will readily accommodate these transformations.

3TC looks forward to engaging the Rail Road in a discussion of these options, and with their approval and that of the local jurisdictions, we will integrate this philosophy into our parking garage design/construction so that the garages will not only be affordable now, but provide for some cost recovery in the future.

Multidisciplinary Task Forces

Multidisciplinary task force groups will be established to facilitate communication between design and construction disciplines, and assist in the coordination efforts of the organization with the Rail Road. **3TC's customized multidisciplinary task forces bring together design and construction experts** who work together to set out the requirements for consistent quality standards with respect to materials, procedures, and processes to meet the core objectives of the Project and optimize life cycle durability and maintainability. Every effort will be made to evaluate how the Project elements and system can become more resilient and less vulnerable to the safety issues of the day.

Environmental and Permitting

Environmental and permitting issues will be identified early in the process and tracked via a matrix/database, and will be modified over time through regular monitoring and communication with the agencies/municipalities, elected officials and the community. Our Environmental Compliance Team (ECT) is comprised of seven firms that were chosen for their respective areas of environmental assessment, environmental mitigation, regulatory permitting project experience and local knowledge. Our community outreach activities will be an integral part of the ECT's monitoring actions.

Drainage

3TC will deploy a range of methods to address the Project's stormwater management. These drainage methods include the following targeted solutions:

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submersible pumping stations to reduce the depth of the conveyance pipes as well as the depth of the underground detention systems and recharge basins; collecting runoff into nearby proposed detention systems where it will be detained and later released, at a reduced flow rate, into a nearby existing storm sewer system; decreasing the stormwater tributary area near the new underpasses to reduce the runoff volume developed at each grade crossing through the installation of new catch basins/leaching basins along the outer, higher-elevated perimeter of the underpass; discharging the stormwater runoff at School Street into a new, nearby recharge basin; and for track drainage, storing runoff within the stone ballast under the existing tracks, proposed third track, and within the crushed stone along the adjacent side slope.

Stations and Aesthetics

While most of the effort on the Project is engineering-focused, across the project corridor, 3TC has looked for opportunities to **create sustainable and inspiring spaces** – plazas, landscapes, and community gathering areas, and, where possible, to create architectural and landscape details that enhance the beauty of the stations and provide real neighborhood amenities. Where the Rail Road has the most substantial architectural presence, at the stations, the station structures will be detailed with a unique terra-cotta screen to filter light and views at the shelters and overpass structures. The warmth of the terra cotta will offer a friendly facade to the surrounding neighborhood, while standing as modern and forward-looking threshold to the improved Rail Road system. Where possible, areas around the stations have been conceived as accessible community spaces – whether shady plazas, gardens, seating areas, farmer’s markets or parks – that are flexible to accommodate a range of uses. Changing uses will keep make these spaces a continual source of interest for passersby, commuters, and neighbors.

Cost Effective Design and Construction with Software Tools

The Project will be **designed using AutoCAD Civil 3D modeling software**. By designing in 3D, the

Design Team will be able not only to deliver a higher quality set of plans resulting in reduced contractor RFIs and construction delays, but also to identify conflicts between various design elements such as drainage pipe, utility lines, structural footings, pole foundations, etc. In addition, Bentley ProjectWise will serve as our overall document management system, SharePoint will be utilized for collaborative document production, Primavera P6 is our Planning/Scheduling tool, Oracle Unifier will be used for design delivery and workflow, and IBM Doors will be used for requirements management.

Optimized Construction/Minimized Footprint

3TC’s **construction approach** on the Project is **based on overcoming the challenges to meet Rail Road’s Operation requirements and constraints**, and with the goal of **minimizing impacts to the adjacent communities, environment and rail commuters**. These principles will drive every single construction activity. We are mindful of the challenging opportunities that this Project creates. The Rail Road third track design must result in a construction operation that progresses on schedule and on budget, minimizing operational effects on Rail Road passengers, while always maintaining a safe job site.

The Project will be constructed adjacent to the existing tracks between Hicksville Station and Floral Park Station. Our strategy is to tackle this Project by breaking it up into three zones: Block 1, Block 2 and Block 3. Each of these three blocks will have a responsible Area Manager to coordinate all structural and civil work in the most efficient manner. Blocks 1 & 3 will be tackled concurrently at the beginning of the Construction Phase and then the Team will continue to Block 2. By splitting the job in three areas the Team will be able to maximize the use of manpower, material and equipment resources, reducing construction costs and saving time for Project completion. The implementation of staged construction will allow the construction to progress and the design deliverables to be approved in manageable sizes.

Structures rehabilitation, retaining walls, structural steel erection, precast construction at stations and excavations will be **self-performed and make up much of the critical work** on the Project. 3TC will use the

LNTP to our advantage by finalizing certain designs, producing and getting approval of shop drawings and ultimately generate fabricated materials for the Project.

Pre-fabricated materials will be delivered directly to construction sites (i.e. bridge replacements, parking garage structures, retaining walls, or stations). Some materials will be stockpiled and stored at onsite laydown areas in commercial zones, away from residential neighborhoods.

Minimize Trucking On and Off Site to Minimize Impacts to Community

3TC is keenly aware that minimizing construction deliveries to the project corridor via trucking will address one of the community's principal concerns.

Consequently, our plan is to have track rail, ties, sub-ballast and ballast along with panelized switches loaded onto freight cars at transfer/laydown yards/sidings/stone suppliers and delivered to installation locations via train during night time single track outages. In addition, soldier piles, retaining wall units, lagging and select fill material will be delivered to the installation sites on the mainline via train cars during night time single track outages, where access cannot be gained from dead end streets along the ROW.

Third Parties/Utilities

Transit infrastructure projects such as this involve coordination with utility providers not in a direct contractual relationship with transit agency, known as Third Parties. For this Project, the Third Parties include utility companies, towns, villages and Nassau County. The utility relocation aspect of the Project is deemed by 3TC as having the utmost significance. The 3TC Utility Team have experts in their field and they are using their pre-established relationships with the Third-Party utility companies to facilitate early discussion and coordination. Each utility has been evaluated for impacts, protections, and relocations and the scheduling of any required utility work 3TC will continue our "early works" program throughout the LNTP phase, meeting

with Nassau County DPW, PSEG-LI, and the private communication third party utility companies. We will conduct our utility mark out and location survey and finalize our plans to mitigate schedule risk.

Traffic Management

Our approach to traffic management implementation is summarized as "active traffic management" rather than "maintenance of traffic." Leveraging our experience from many other high-profile projects with sensitive environmental issues, difficult terrain, and constrained local road networks, 3TC will develop a Traffic Management Plan/Construction Staging Plan with the objectives to:

- minimize and shorten the duration of construction requiring lane closures and/or traffic diversion
- minimize negative effects and impacts of detoured traffic on the local road network
- minimize the delays to local road users
- identify and evaluate possible detour alternatives and alternate routes
- obtain community input
- minimize impacts of construction on the adjacent community and the environment
- partner with the Rail Road, NYSDOT and local government and agencies seeking their guidance and approvals when required
- improve intersections, and protect residential streets, emergency services, school bussing, and major commercial generators

Quality in Design and Construction

Developing and implementing a robust Quality Management Plan (QMP) relies on input from the Lead Designer, the DBJV and the sub-consultants and subcontractors working for 3TC. As experienced design-builders, we know that the benefits of a sound QMP.

Quality begins with design, and Stantec provides our Team a proven Quality Management System that is certified in the internationally renowned ISO 9001 standard. As an **ISO 9001-certified firm, Stantec's** work products must all be rigorously reviewed and the QC/QA process fully documented with their internal procedures.

The 3TC Quality Team, led by the Quality Manager and supported by the Independent Construction QC Firm, M&J Engineering, an MBE company based out of Long Island, will take a proactive role in establishing clear, concise objectives and requirements at the earliest phase of work based on the Rail Road's requirements and guidelines.

Diversity Practices and Plan

3TC is fully committed to meet and exceed MWBE/SDVOB goals for this Project as part of our design, subcontracting and supplier opportunities. 3TC's full time MWBE/SDVOB Program Manager will promote that MWBE/SDVOBs have the maximum practical opportunities. With respect to design services, we have identified all potential scopes of work for these firms, contacted more than 230 firms, and we have ultimately partnered with 15 firms. On the construction side, we continue to maximize the effectiveness of our program by identifying size-appropriate scopes of work for MWBE/SDVOBs. As part of this effort, we have put together a combination of local MWBE firms for providing the QC services required by the contract. We have considered the possibility of additional opportunities to increase MWBE/SDVOB participation by breaking-up work to be self-performed into economically-feasible units to facilitate higher MWBE/SDVOB achievement. It is the policy of 3TC to ensure there is no discrimination on the basis of race, color, sex or national origin in the award and administration of contracts and subcontracts on this Project.

3TC provides best in class local and international firms with extensive Long Island experience and proven Rail Road track record. This selected blend of companies make for the right combination of global design-build talent and NY-driven railroad knowledge at the service of the MTA/LIRR, its users, and the Third Track Project surrounding communities.

We appreciate the opportunity to being part of this challenging Project and look forward to successfully delivering it on time and within budget.

3rd Track Constructors Joint Venture



1.1 Team and Experience

Volume 2 - Package 1: Management Approach

1.1 Team and Experience

1.1.1) Provide a narrative describing the qualifications, accreditations, and experience of the Proposer and its team members including experience relevant to the nature, size, complexity, and composition of the Proposer's proposed design and the Proposer's proposed means and methods of construction.

Qualification and experience of the Proposer and its team members

3rd Track Constructors (3TC or Team) is a design-build joint venture (DBJV) of John P. Picone, Inc. (Picone); Dragados USA, Inc. (Dragados); CCA Civil, Inc. (CCA); and Halmar International LLC (Halmar). With our Lead Designer, Stantec Consulting Services, Inc. (Stantec), we bring the proven performance, capability, and knowledge to deliver a long-awaited commuter rail expansion that will set a new benchmark for United States (US) public works projects in terms of value to the public, design, and construction. Through our Lead Designer, we have completed work on the interlockings Nassau 1 (N1) through Nassau 4 (N4) and grade crossing eliminations in Mineola. This is a significant qualification unique to 3TC, and will be one of the reasons 3TC will be able to progress the railroad systems through commissioning to complete the LIRR Expansion Project from Floral Park to Hicksville Project (the Project) on-time and within budget. In addition to our experience in Mineola, our train control subcontractor, E-J Electric Installation Co. (E-J Electric) has recently completed on time the [REDACTED] extension for NYC Transit with No. 7 train as well as work on the Rail Road's Harold interlocking.

The primary goal of this Project is to provide increased service and reliability annually to millions of people currently traveling between Nassau/Suffolk County and New York City's Penn Station and ultimately Grand Central Station. The Project will also help to reduce travel

congestion and its associated emissions on Long Island while simultaneously improving safety for numerous Nassau County travelers. Based on our diverse team members experience working together and our previous work on roughly one third of the 10-mile long project corridor, we will be able to quickly mobilize and tackle all of the issues efficiently to bring this Project in on schedule and budget with minimal disruption to the community. This is evidenced by the more than 30 Alternative Technical Concepts (ATCs) that we have already submitted to the Rail Road which address many of the Project's key issues that are listed below.

1. Maintaining and protecting traffic – approximately 500,000 vehicles cross the tracks daily - and thousands use Rail Road station parking during construction
2. Minimizing construction impacts during construction by limiting the construction footprint and expediting the Project delivery
3. Providing Rail Road service reliability during the construction period to maintain the more than 250 trains on any weekday
4. Providing a positive impact to the neighboring Nassau County communities during and after Project completion by improving traffic, safety and the overall travel experience





3TC is the right choice for delivering this unique Project as we:

- understand and know how to effectively manage the many complex design, construction, environmental and operational challenges that will be met on the Project through experience along the corridor and adjacent sites. The DBJV puts together global Design-Build leaders that are performing some of the most complex and iconic projects worldwide, with local firms with successful past-performance and rail experience. The four DBJV members also have previous experience with MTA/LIRR;
- incorporate Rail Road Operation requirements and 'Commuters first' priority as a key consideration for design and for every single construction activity. We understand the need for resilience of the Rail Road operations that will drive the pace of this Project;
- are participating in the major rail projects in North America for both renovations and upgrades of existing rail infrastructures and building new state-of-the-art rail transportation systems;

- have applied and will continue to apply our design-build expertise to deliver resilient projects on time, safely, and at the agreed upon price. Key team members have all worked together on other design-build projects. We have been working together collocated at Stantec's offices over the past 6 months, and stand ready to collocate instantly upon NTP;
 - have used our unmatched understanding of the design-build process and worked hand-in-hand with our clients to make those projects a success. 3TC has a deep body of knowledge and history of successful completion of some of MTA's largest design-build projects;
 - have devised our project designs and have selected the permanent construction materials based on durability and sustainability principals and operation and maintenance (O&M) considerations, among others;
 - have local experience in Nassau County, the NYC Metropolitan Area and its members have worked for the Rail Road, MTACC, NYSDOT, and interfaced with all local utility companies;
 - have unmatched financial capacity to address Project demands in real time and are committed to building the highest quality improvement at the fairest possible cost.
 - have allocated the required manpower – over 500 Team Members at project peak are ready to mobilize within a 6-12 month period - and we have material resources to self-perform a significant portion of this Project to ensure schedule certainty;
 - are committed to minimize local community impacts and incorporate their inputs and concerns into a context sensitive design approach during construction planning. As part of this effort, we have created a unique Outreach Management Team, led by Rubenstein Associates (Rubenstein), and integrated into the Design and Construction Teams;
 - are committed to encourage the participation of local firms and local work force, meeting the MBE/WBE/SDVOB goals. As a proof of this effort, we have put together a unique team for the Independent QC Firm, with the combination of Nassau County, MBE, WBE firms, supported by one of the biggest US design firms; and
 - recognize the need to maintain station parking during construction through efficiency, technology and ingenuity.
- 3TC's proposed Project Management Team members and key personnel are hand-picked to match their technical expertise and management abilities to the Project requirements. They bring experience from managing successfully completed rail, bridge, and road projects in urban and rural environments.
- Known to facilitate fast-track design and construction, design-build allocates project risks to the parties better able to manage those risks. Our Team has established an efficient, functional organization focused on working collaboratively with clear communications. We understand the key to success is a highly qualified, properly structured, and well-managed organization.
- We have the expertise to deliver a durable Project, and the sensitivity to respond to the unique long term needs and concerns of the people and local communities from Floral Park to Hicksville, and associated branches.

The ACS Group, which is Dragados and Picone's holding company, had revenues in excess of [REDACTED] in 2015 and has been consistently ranked No. 1 on the ENR Top 250 International Contractors List over the last years. Dragados is also ranked No. 7 on the 2017 ENR's Top 50 Domestic Heavy contractors. Similarly, CSCEC, which is CCA's parent company, had revenues in excess of [REDACTED] in 2015, has been ranked No. 1 on the ENR Top 250 Global Contractors List.

Major Participant & Specific Role	Qualification, Accreditations and Relevant Experience
 Lead JV Partner	<p>Picone, headquartered in Nassau County just eight miles away from Floral Park, brings to 3TC local knowledge and experience in similar Rail Road projects, such as the design-build reconfiguration of Johnson Avenue Yard in Jamaica, NY, completed in October 2016. Demolition, under-grade crossing structures, utilities, trackwork, ballasts, pile and sheeting installation, third party stakeholder coordination are among Picone’s specialties, not to mention the self-performance capabilities available from its large trade workers staff.</p>
 JV Partner	<p>Dragados, headquartered in New York City, provides 3TC with worldwide design-build management experience in complex transportation projects, such as the [REDACTED] MTA East Side Access Manhattan Structures in New York City, completed in 2013. Innovative design-build procurements, project controls, design-build coordination, collaborating, diversity utilization, public outreach, bridge structures, roadway construction, permitting, and environmental compliance are some of the areas where Dragados can provide its vast expertise.</p>
 JV Partner	<p>CCA, headquartered in the New York Metro Area, strengthens 3TC through its recent successful record of accomplishments in renovation and rehabilitation projects for the MTA, such as the [REDACTED] million 50th Street Subway Ventilation Facility and [REDACTED] 7 Line Extension in Manhattan, NY. In addition to NYSDOT Bridge and Highway projects, such as the [REDACTED] Alexander Hamilton Bridge in Bronx, NY (built in JV with Halmar) and [REDACTED] million SIE HOV Lane Expansion in Staten Island, NY. CCA’s management team expertise in bridge structures, drainage, precast structures, maintenance and protection of traffic (MPT), MEP, station systems and construction safety are the hallmark of its core business. In addition, CCA (thru its subsidiary Plaza Construction) could provide building and station fit out work, further enhancing the 3TC’s capabilities.</p>
 JV Partner	<p>Halmar, headquartered in Nanuet, NY, enhances 3TC’s MTA knowledge through its experience on railroad projects, such as the [REDACTED] design-build Yankee Stadium Train Station in Bronx, NY, (built in JV with CCA) completed in just 24 months. Construction management, trackwork, stations, parking structures, pedestrian overpasses, traction power, communications, signal and train control are construction scopes mastered by Halmar, not to mention the acumen of experience provided by its extensive trade workers staff. Halmar International has worked with CCA Civil in the past on other joint ventures together. These projects include 50th Street Subway Ventilation Facility, Alexander Hamilton Bridge and 7th Line Extension.</p>
 Systems & Electrical Subcontractor	<p>EJ Electric headquartered in Long Island City, NY, has been in the construction market for over 118 years, since 1899. They are a design-build and transit market champion. E-J Electric has constructed over [REDACTED] of New York transit projects within the past 15 years. Their experience includes complex, large-scale transit projects such as the [REDACTED] electrical portion of the No.7 Line Extension, the [REDACTED] Atlantic Yards, the [REDACTED] 96th Street, Second Avenue subway, among many more. E-J Electric’s extensive knowledge of electric work, signal, power, highway lighting & communication will be a key asset for 3TC.</p>
 Trackwork Subcontractor	<p>J-Track, LLC (J-Track) headquartered in Queens, NY, brings track building contractor experience to the 3TC Team. Their track record with the Rail Road includes the Hudson Yards MOW yard and shop, Johnson Ave Yard reconstruction, Harold Structures and Rail Road MOW repair facility located in St. Albans, NY. J-Track has extensive experience in working under flagging, General Order conditions and returning revenue rail service on-time.</p>
   Independent Construction QC Firms	<p>M&J Engineering, P.C. (M&J) is headquartered in New Hyde Park, NY, and is a preeminent provider of multi-discipline consulting engineering services. Since its inception, M&J has provided top quality expertise including construction inspection services for major bridge and rail/transit projects. To date, M&J has successfully completed over 150 projects, managing over [REDACTED] of work with over 1 million safe work hours. M&J is also currently providing Rail Road project control services for over [REDACTED] projects as a Prime Consultant. Additionally, M&J is a certified MBE consulting engineering firm, and is a Small Business Administration 8(a) Program Participant. Some of M&J’s current projects include construction inspection services on the MTA’s - Sea Beach Line Station modernization project which includes the major renovations of 9 stations and the rehabilitation of retaining walls along the Sea Beach Line in Brooklyn, NY. In this Project M&J will be supported by Tectonic Engineering & Surveying Consultants, P.C. (Tectonic), a firm that will provide inspection and testing services and fulfill the Independent Testing Agency role. Tectonic’s design-build experience on a similar role at the [REDACTED] New Tappan Zee Bridge. Additionally, the rail and transit WBE technical consultant DeAngelo Rail Services LLC (DeAngelo) will cover the rolling stock and related systems QC in the Project.</p>

Major Participant & Specific Role	Qualification, Accreditations and Relevant Experience
 Lead Designer	Stantec, ranked #8 in ENR’s transportation rankings, with offices in NYC and Happaugue as well as over a dozen locations throughout the region, which has over 750 multidisciplinary design professionals in the Region that can be brought to bear on the project. Dozens of these professionals have the necessary combinations of LIRR, Nassau County, NYSDOT, PSEG, Verizon and Design-Build experience to deliver this project on time which is imperative in the ultra-sensitive environment that will be encompassed by the Project. Of particular relevance is the work that Stantec previously executed on three miles of the 10 miles of the Third Track Project to grade separate three of the crossings (Herricks Road, Mineola Boulevard and Roslyn Road) and improve the safety at four other locations in Mineola. Couple that work with their recent completion of the Design-Build work executed at Johnson Avenue Yard and their work at Atlantic Yards (Vanderbilt Yard west portal and car shop) and Stantec’s relevant experience is unrivaled in the region.
 Lead Community Outreach	Rubenstein has provided extensive community outreach for the Rail Road double track project in Ronkonkoma with consulting advice and counsel regarding through coordination with LIRR/MTA government affairs efforts and the vision of the Cuomo Administration to strengthen mass transportation in the region. Topics included potential story opportunities that would underscore the strategic benefits of the Project, its integration into state and county transportation initiatives, the endorsements of labor, business, environmental and mass transit advocates, coordination with community affairs efforts along the ROW and adjacent communities.
 Utilities/Community Outreach Consultant	Cameron Engineering, a renowned Long Island firm, brings a wealth of knowledge relative to all affected communities and the corridor singularities. In the past they have provided design services at multiple Rail Road stations across Long Island; engineering services at the Village of Floral Park Pool Complex adjacent to Rail Road tracks; and utility coordination and public outreach efforts in more than 70 local municipal/private projects along the Third Track corridor. In this Project Cameron will support Rubenstein on the public outreach working for the DBJV and will also work within the Design Team providing local advice and utility coordination services.
 Track & Systems Consultant	TYLIN is an international expert in all aspects of track and systems engineering. TYLIN has direct experience with heavy rail systems throughout the U.S., including Chicago Transit Authority, Bay Area Rapid Transit, and Miami-Dade Transit. Retaining wall design is also a specialty provided by TYLIN on the Project.

We have leveraged our proven performance to provide the MTA Long Island Railroad (the Rail Road) with design and construction innovations that will result in a successful Project. The new third track will improve the quality of life for the region and will meet the goals and objectives established by the Rail Road.

In addition to its four members, the DBJV has carefully selected key firms with vast experience on Rail Road projects to round up our value proposal on critical activities such as:

- Trackwork, where J-Track will lead the construction efforts
- Electrical, signal, power, highway lighting and communication systems to be performed by E-J Electric
- Independent Construction QC, led by the Nassau County MBE firm M&J Engineering, P.C. and supported by Tectonic Engineering & Surveying Consultants, P.C. (Tectonic); DeAngelo Rail Services, LLC (DeAngelo). Tectonic will also perform the Independent Testing Agency role.

- Public Outreach, managed by local firm Rubenstein Associates. Supporting Rubenstein’s community outreach effort we will have Cameron Engineering & Associates, Epoch 5, CJ2, and Titanium Linx Consulting




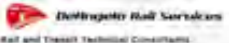

3TC is fully committed to meet and exceed MBE/WBE/SDVOB goals for this Project and as part of that effort, we have identified all potential scopes of work for these firms and contacted more than 230 firms. After this process, we have partnered with more than 15 firms as noted below and as reflected in Volume 2 Package 5.






Stantec, our Lead Designer, has more than 65 years of experience in the design of rail, bridge, and highway projects both nationally and in the NY Metro area, and critically, has led grade separation design projects in Mineola, NY. Steeped in the details of this Project, Stantec is an ideal choice as 3TC’s Lead Designer, as their ability to hit the ground running and their philosophy to always design with the community in mind will give the Rail Road and the Project a distinct advantage. In relation to the LIRR Expansion, Stantec offers focused



experience in urban and commuter rail, freight rail, complex signal and communication systems, and intermodal facilities. Supported by their network of specialists, sophisticated analysis techniques, and computer simulation models, their engineers and planners explore a variety of alternative options and improvements and come up with practical rail and transit solutions that meet the client needs, address community concerns and comply within environmental regulations. Add in Stantec’s expertise in transportation planning, economic analysis and feasibility studies, program and project management, environmental assessments, ITS, architecture, and safety and the result is a comprehensive solution that will keep the Project moving. Stantec’s hands-on experience with the Project’s corridor, including their work on the Herricks Road, Mineola Boulevard and Roslyn Road grade crossing eliminations, their team of engineers that detailed the design and produced the 24 wired locations for all the current Nassau locations along the Project corridor, as well as the Harold Interlocking Signalization project that included redundant processor control of eight interlockings, makes Stantec the leader in critical Rail Road Mainline upgrade projects.

1.1.2) Provide a list of sub-consultants or subcontractors, if any (including design professionals), to be employed in the Work and a description of the function(s) each sub-consultant or subcontractor will perform










3TC has assembled a team of exceptionally qualified and experienced professionals to provide those services and content-sensitive solutions required for this important Project. 3TC subcontractors, subconsultant firms, and key professionals have worked together in recent years, completing various complex, high profile Rail Road and NYSDOT projects in Long Island and the NYC Metropolitan Area. Several firms have local offices located in the Project area and Region 10. 3TC’s Key Personnel, like many successful Rail Road, NYSDOT and other projects, will manage, coordinate, and provide technical oversight for all major tasks listed, namely: traffic forecasting, modeling and corridor analysis, environmental documentation, highway, bridge track and systems design and public involvement, etc. Our Lead Designer, Stantec, has over 750 multidisciplinary personnel located in a dozen offices, including five New York offices. Joining the 3TC Team are several well-qualified and successful firms, who have the staff and breadth of resources to assist in completing this Project.

DBJV Services						
Company Name	Specialty	MBE/ WBE/ SDVOB	Lead Person	Experience		
				LIRR	NYSDOT	Nassau County
 E-J Electric Installation Co.	Electrical work, signal, power, highway lighting and communication	-	Mark J. Steffen	X	-	-
 J-Track, LLC	Trackwork	-	Scott Sbrocco, PE	X	X	X
 M&J Engineering, P.C.	Independent Construction QC	MBE	Maqsood Malik, PE	X	X	X
 DeAngelo Rail Services LLC	Independent Construction QC	WBE	Susan DeAngelo	-	-	-
 Tectonic Engineering & Surveying Consultants, P.C.	Independent Testing Agency	-	Maryann Carolini	X	X	-

DBJV Services						
Company Name	Specialty	MBE/ WBE/ SDVOB	Lead Person	Experience		
				LIRR	NYSDOT	Nassau County
 Rubenstein Associates	Community Outreach Manager	-	Gary Lewi	X	X	X
 Cameron Engineering and Associates	Community Outreach and Public Education	-	John Cameron, PE	X	X	X
 Epoch 5	Community Outreach and Public Information	WBE	Katherine Heaviside	-	-	-
 CJ2	Community Outreach and Public Information	WBE	Judy White	X	-	-
 Titanium Linx Consulting	Community Outreach and Public Information	WBE	Margo Cargill	-	-	X

Design Team and Services						
Company Name	Specialty	MBE/ WBE/ SDVOB	Lead Person(s)	Experience		
				LIRR	NYSDOT	Nassau County
 Lead Designer	Bridges, Walls, Tunnels, Stations and Other Structures Track and Train Control (Signal, Communications and Traction Power Systems) Civil Roadway Geometric Design and Track Alignment Stormwater Drainage Management Traffic Management and MPT Roadway Lighting/Traffic Signals/ Utilities/ITS Landscape and Architecture	-	Susan Walter, PE Stu Lerner, PE, ENV SP Ed McDonald Mariette Rajan, PE	X	X	X
 AmerCom Corp	Geotechnical design and pedestrian bridges	MBE	Ralph Rios, PE	X	-	X
AB Consulting	Vertical Transportation	MBE	Bharat Patel	X	X	X

Design Team and Services						
Company Name	Specialty	MBE/ WBE/ SDVOB	Lead Person(s)	Experience		
				LIRR	NYS DOT	Nassau County
 AWA Lighting Designers	Lighting Electrical	MBE	Abhay Wadhwa	X	X	X
 Cameron Engineering and Associates	Utility Coordination	-	John Cameron, PE Andrew Narus, PE	X	X	X
 Chrysalis Archaeological Consultants, Inc.	Architectural/Archaeological Tasks	WBE	Alyssa Loorya, MA, MPhil, RPA	-	X	X
 CSA Group, Inc.	Architectural/Archaeological Tasks	WBE	George Rupp	-	X	X
 DCS Infrastructure, LLC	Engineering Design	SDVOB	Donald Stout	*	-	-
 EnTech Engineering, P.C.	Environmental	MBE	Foad Khoshouei, PE	X	X	-
 Environmental Planning and Management, Inc.	Hazardous Materials (lead and asbestos abatement)	WBE	A. Stacey Gogos	X	X	X
 Gayron de Bruin Land Surveying and Engineering, PC	Survey and ROW	WBE	Christine Gayron, LS	X	X	X
 GZA Geo Environmental, Inc.	Geotechnical Support – stations, structures	-	Patrick Mahon, PE	*	X	X
 H2M Architects + Engineers	Water Main Design and Coordination	-	Robert Lucas, PE	X	X	X
 Hayduk Engineering, LLC	Engineering Design Support	SDVOB	Stephen Hayduk, PE	-	X	X

Design Team and Services						
Company Name	Specialty	MBE/ WBE/ SDVOB	Lead Person(s)	Experience		
				LIRR	NYSDOT	Nassau County
 LTK Engineering Services	Traction Power Systems	-	Ted Manning F. William Lipfert	X	X	-
 Munoz Engineering, PC	Land Surveying and MPT	MBE	Amir Haddad, PhD, PE Foad Khoshouei, PE Matthew Ziolkowski, PLS	X	X	X
 PK Engineering, PC	Federal Compliance, Environmental Analysis, and Public Outreach	MBE/ WBE	Chitra Radin	-	-	-
 Radin Consulting, Inc.	Structures	MBE	Peter Kim	X	X	X
 Track & Systems	LIRR Retaining/Noise Walls and Bridge Structures Mechanical, Electrical and Plumbing (MEP)	-	Neil Porto, PE Warren Meyers	X	X	-
 Vibranalysis Inc.	Noise and Vibration	WBE		*	-	-
 Walker Parking	Parking Structures	-	David Vander Wal	X	-	-
 W. Allen Engineering	Lighting Distribution MEP services for the elevators Radiant heat for the platforms Fire Alarm Design Other MEP services	SDVOB/ MBE	Kass Negash (lighting) Muad Banihani (Mechanical Design)	*	X	X
 WXY	Architecture	WBE	Claire Weisz, AIA	-	-	-
				* Experience working other MTA agencies		

1.1.3) Provide a separate summary of the background and experience of each Major Participant. Summaries shall be a maximum of 2 pages for each firm; the format is at the discretion of the Proposer. Include example of innovative design or construction logistics and other solutions implemented on other projects to reduce cost, time, or impact.



John P. Picone, Inc. (Picone) is one of the largest and most diversified heavy construction companies in the New York metropolitan area, performing a wide variety of infrastructure projects in both public and private sectors. Picone's experience includes railroad station renewals, railroad yard construction, sewer and water main projects, water pollution control plants, pump stations, fan plants, highway construction, bridges, pile driving, tunnelling, jacking, marine work and diverse mechanical projects. The wide range of project types and sizes has contributed to our continuous revenue growth over the past 67 years.

Picone provides high quality work, on time, within budget and in a safe manner. From their earliest days as a utility contractor to the present, Picone has grown and diversified its operations in order to serve New York's increasingly more complex capital projects market. Picone has many notable achievements, and a reputation for meeting and overcoming daunting construction challenges.

Picone's success has been based upon the ability to complete highly technical projects using both new and more conventional methodologies, and developing original creative solutions when necessary. One example is the strengthening of the FDR Drive for NYSDOT. Picone built a floating concrete plant to solve the extremely difficult delivery conditions in the East River. Another example is the extremely complicated mechanical work in 10 shafts for City Water Tunnel No. 3. Picone was able to meet a demanding schedule and help to open the new tunnel for drinking water supply to Manhattan. The list of difficult projects is long; however commitment to perform these contracts is unwavering.

With a committed staff of 14 Professional Engineers, 100 supervisory personnel and over 400 skilled union workers, Picone routinely self performs work, and has been able to consistently increase revenue and project

VALUE ADDED to REDUCE COST, TIME and IMPACT:



Picone recently completed the five station rehabilitation of the Pelham Line for NYCT. The work included the complete removal and replacement of the thru-spans for four of the stations. This work took place over a series of 54-hour weekend diversions. The original contract quantity of 54-hour diversions was 24 each or occurrences. Through an aggressive plan and cooperative subcontractors, Picone reduced the need for diversions down to 16 occurrences, thus saving NYCT a substantial amount of force account costs. The reduced weekend diversions also allowed for the stations to open on time and without delay to the overall project schedule.

diversity throughout its history. Their experience in both Design-Build projects and railroad yards makes us a perfect fit for the 3TC Team.

As with every successful corporation, the quality of the people makes all the difference. During years of learning and growing, our program of health and safety has grown as well, protecting personnel at all times in difficult environments.

As an experienced MTA/NYCT/LIRR contractor, Picone in the past few years has successfully performed numerous MTA/NYCT/LIRR projects. This experience has enabled Picone to develop a manpower base that is fully track trained and safety conscious. The multiple projects that required weekend work under General Orders have helped Picone to fully understand the coordinated effort it takes to achieve a successful Project. Moreover, it has provided Picone a self-perform work force with direct experience on Right-of-Way (ROW) projects. Picone's workers have the experience to self-perform work on all aspects of railroad construction. This requires the knowledge and proper use of alarm boxes, insulating rubber mats, tie blocks, track training, flagging and all other information critical to working on or around active



railroad tracks. Picone completed a Design-Build project at the LIRR Johnson Avenue Yard complex (pictured) in Queens with Stantec. This project required a high level of coordination with Stantec's engineers and designers, and, most important, the LIRR yard personnel. This project entailed the demolition of half of the yard tracks and the subsequent reinstallation of the same, all while keeping the existing yard tracks active. The challenges of working in an active train yard were met with a high level of coordination and cooperation between the many interested parties on-site.

Pelham Line and West End Line (NYCT) have afforded Picone the experience of working in and around an active railroad. These large-scale renewal projects called for a range of skill sets and coordination with different agency departments. Picone has worked directly with signals, communications, stations, track, elevators, escalators and every other department in MTA NYCT to get projects completed in an approved manner. Picone is currently performing work on the following major MTA NYCT projects: [REDACTED] CM-014 Grand Central; [REDACTED] 86th St 2nd Ave Line; [REDACTED] Six Stations Sea Beach Line, the [REDACTED] CH-057 Harold Structures; and the [REDACTED] million C-26512 Site P Entrance 7 Line.

Additionally, Picone has developed experience in Design-Build projects with a very high rate of successful proposals. In addition to Johnson Yards project, Picone is presently working on numerous other DB projects including MP-21 (replacement of the Rockaway Point Boulevard Bridge), MP-03S/CB-99S (Replacement of Mechanical and Electrical Equipment at Marine Parkway and Cross Bay Bridges), D900027 (Replacement of Route 110 over Sunrise Highway). These projects have put Picone in the unique position

of having a wide range of experience in both railroad active ROW projects, DB rail yard projects, and complex architectural and structural highway projects.

Picone also holds registrations in both OHSAS 18001 and ISO 14001.

Dragados USA, Inc. (Dragados) is a heavy civil, transportation and transit contractor based out of New York, NY ranked No. 6 on the 2017 Engineering News Records' (ENR) Top 20 Transportation Contractors in the United States and No.7 on the 2017 ENR's Top 50 Domestic Heavy contractors.

Dragados is a wholly-owned subsidiary of Dragados, S.A., one of the two construction arms of the ACS Group (ACS). Operating in 68 countries, ACS was ranked number one on the 2016 ENR Top International Contractors List, and Public Works Financing (PWF) consistently ranks ACS as the leading infrastructure developer in the world.

Founded in 1941, Dragados, S.A. has unmatched international experience in rail, mass transit, infrastructure, bridge, highway, tunnel, dam and marine projects, and is a leader in alternative project delivery, including design-build projects.

Dragados has built over 4,600 miles of highways, 2,200 miles of roads, 1,500 bridges, 865 miles of tunnels, 235 dams, 1,050 miles of railways, rail transit, and numerous rail facilities and airports. The largest P3 contractor in the world, Dragados has been the design-build contractor for ACS on over 90 concession projects worldwide and has completed over 150 design-build transportation projects.

With [REDACTED] sales in 2016 and a \$13.5 billion backlog, the company has concentrated its growth in North America, which has become its main area of business. It continues to strengthen its position in the United States and Canada thanks to the work of its North American subsidiaries John P. Picone, Schiavone Construction, Pulice Construction, Prince Contracting and J.F. White Contracting, and its lead companies in North America, Dragados USA and Dragados Canada.

Dragados has a dedicated and vibrant Research and Development (R&D) department that fosters the analysis,

VALUE ADDED to REDUCE COST, TIME and IMPACT:


In the \$1.2 billion P3 I-595 Corridor in Broward County, FL, the Dragados team completed the project on time and \$275 million below FDOT's original estimated cost which was partly accomplished due to innovative Alternative Technical Concepts (ATCs) presented during the procurement phase.

On this same project, to fit within the new roadway geometry, the existing bridge at the University Dr. intersection was jacked up 18 inches in a weekend operation (to restrict traffic impacts) that required more than 80 jacks all coordinated and controlled from a single console. Once the deck was in its final position and temporarily supported, traffic underneath was open and the work to reach the new elevations of the piers began. This innovative solution saved \$25 million in project costs and saved 1 month in project duration.

development and usage of innovative construction methods and materials on our projects, and an in-house Technical/Engineering Services Division tasked with providing innovative solutions and being a vehicle for incorporating lessons learned through our extensive history, into our new major and design-build projects.

As a repository of more than seven decades of corporate experience and with the talent and experience of its over 200 engineering staff, the Technical/Engineering Services Division provides technical support for the development of all types of infrastructure projects, including rail, mass transit, bridge, highway, heavy construction, civil, tunnel, marine, airport, and water projects. Established in December 2005, Dragados USA is built under the same tenets of Dragados and with the same goal to pursue excellence that has made our company a worldwide leader in all major construction fields and markets.

Since 2005, Dragados USA has grown steadily, successfully performing a variety of transportation, mass transit, dams, and water projects nationwide. Major projects completed to date include the [REDACTED]

billion East Side Access in New York City; the [REDACTED] million I-287 highway and bridge reconstruction, and the [REDACTED] million reconstruction of Croton Falls Dam in New York; the design-build portion of the [REDACTED] billion I-595 Corridor Roadway Improvements DBFOM project in Broward County, FL; and the [REDACTED] Portuguese Dam in Ponce, PR. Major projects under construction today include three highway-bridge projects in North Carolina with a combined cost of [REDACTED] million, and the [REDACTED] million Calaveras Dam, in Santa Clara County, CA; and design-build projects currently under construction include the [REDACTED] million Portsmouth Bypass DBFOM project in Scioto County, OH, the [REDACTED] billion Package 2-3 of the California High Speed Rail, the [REDACTED] million Harbor Bridge, in Corpus Christi, TX, the [REDACTED] billion SH288 Toll Lanes P3 project in Houston, TX, the [REDACTED] SR99 Bored Tunnel project in Seattle, WA, and the [REDACTED] Parallel Thimble Shoal Tunnel in Chesapeake, VA. Dragados and Statnec have teamed on 4 design-build or P3 projects.

Signature railroad ongoing projects include the \$1.1 billion Confederation Line Light Rail Train P3 in Ottawa, ON (Pictured) or the [REDACTED] Eglinton Crosstown Light Rail Train P3 in Toronto, ON. Other relevant international railroad experience includes the [REDACTED] million Seville Metro Line 1 and the [REDACTED] Atocha Station Expansion in Spain, the \$1.5 billion Crossrail C305 Eastern Running Tunnel in the United Kingdom, and the [REDACTED] billion North West Rail Link in Australia.

The success of all of these projects underscores Dragados USA's experience and capability to undertake major, technically complex design-build projects. Risk analysis, identification, assessment, mitigation, and management are key components of the Dragados project approach, especially to design-build contracts, which are subject to back-to-back contracts and tied to project-specific conditions and risk sharing mechanisms. They perform risk analyses at the SOQ and RFP stages, and, upon contract award, we implement project-specific risk management programs for each phase of our projects. In this Project, Dragados has implemented its risk analysis to monitor and mitigate critical threats for the successful completion of the third track construction such as impacts to the LIRR current operations, community impacts, utility relocations, and schedule slippage.



Confederation Line Light Rail Train P3 in Ottawa, ON

Dragados' success is the result of dedication to project performance, quality and safety, compliance with project schedule and cost requirements, and a commitment to reaching out and providing work opportunities to minorities and disadvantaged groups. They conduct personnel training sessions and emphasize diversity understanding, compliance with the laws, and integration with the community. In order to strengthen the company's health and safety culture, Dragados has prepared and disseminated internally a Health and Safety Bulletin which includes the best practices implemented at the company at the international level in the various activities performed by it.

Their work in the New York City area for MTACC has included two of the most important underground tunnel projects in NYC over the last decade. The [REDACTED] Manhattan Tunnels Excavation and the [REDACTED] Manhattan Structures projects, both a part of the East Side Access project, entailed the excavation of over thirty-two thousand feet of 22-ft diameter tunnels; two large 67-ft high, 58-ft wide, 1,143-ft long caverns; two

three-level and six one-level 400-ft long wye caverns; two 350-ft long cross-over caverns; one three-level ventilation plenum with a connector tunnel; one three level ventilation plenum with an adjacent ventilation plant cavern; two assembly chambers; eighteen cross passages; and various structures, such as facility rooms, signal niches, and control rooms.

The new Grand Central Terminal caverns are located fifty feet below the existing Metro-North Railroad track platforms at Grand Central Terminal. Each of the two caverns is as tall as an eight-story building and longer than the USS Enterprise aircraft carrier, the longest naval vessel in the world today. Working in New York City, no matter where or on what, is a challenge.

Performing construction work on a mega-project deep in midtown Manhattan, interacting and coordinating with existing railroads, the DOT, traffic operations, the local community, and affected agencies raised the level of difficulty and required total focus and unmitigated dedication to a project that required a workforce of more than 1,100 people at the peak of construction.

CCA CIVIL Established in March 2005 in Delaware, **CCA Civil, Inc. (CCA Civil)** is a wholly-owned subsidiary of China Construction America (CCA), the North American and South American subsidiary of China State Construction Engineering Corporation Ltd. (CSCEC), the world's largest construction and real estate conglomerate.

Located in Jersey City, New Jersey, CCA operates in New York, New Jersey, Washington DC, South Carolina, North Carolina, Louisiana, Florida, California, the Caribbean and Panama, providing a wide range of construction services such as program management, construction management, general contracting, design-build, and public-private partnership for public and private clients. Underpinned by its practical business approaches as well as ambitious yet prudent development strategies, CCA has delivered a significant number of commercial, residential, educational, industrial, and heavy construction projects.

The addition of Plaza Construction in 2014 has provided CCA with an enhanced building division and, more importantly, a stronger competitive position in the US as a whole. With combined revenue of over [REDACTED] in 2014, the new group is ranked no. 32 top contractor

in the US. Leveraging its strong capital position, CCA has been actively exploring new growth areas in high-yielding, capital-intensive sectors such as real estate and project financing. By employing innovative financial schemes and creating new business models, CCA is determined to bring its investment endeavor to the next level.

CCA Civil operates primarily in the New York City, New Jersey metropolitan area, providing transportation and heavy construction project services with an emphasis on bridges, infrastructure improvements, roadways, rail stations, underground structures, and tunnels.

As one of the fastest-growing heavy construction contractors in the United States, CCA Civil has become a major player in the infrastructure market. Since inception in 2005, CCA Civil has been awarded over [REDACTED] billion in infrastructure projects, solidifying CCA Civil firmly as one of the most active contractors in the region.

CCA Civil's signature projects are widely recognized by the industry and received numerous awards. CCA Civil's most celebrated work includes the Alexander Hamilton Bridge Rehabilitation with Halmar International (NYSDOT), the Metro North Yankee Stadium Design-Build Station (MTA), the Staten Island Expressway Widening (NYSDOT) and the Pulaski Skyway Reconstruction (NJDOT). With a dedicated and experienced team of construction professionals, CCA Civil was awarded a series of technologically challenging projects including the Gerritsen Inlet Bridge on the Belt Parkway in Brooklyn (NYCDOT) and the Wittpenn Lift Bridge Replacement (NJDOT) in Jersey City, each of which play a pivotal role in moving the traveling public in the Greater New York area.

CCA Civil successfully completed 4 major projects with Halmar International, three of which were MTA contracts: Yankees Station, 50 Street Ventilation, 7 Line Extension. In addition to Alexander Hamilton Bridge, these projects have a combined value of over [REDACTED] million. The past successful experience will be of added value to the 3TC Team.

Whether the projects entail highways and bridges above ground or ventilation facilities and tunnels below ground, CCA Civil is dedicated to completing projects safely, on time and within budget while providing high-

VALUE ADDED to REDUCE COST, TIME and IMPACT:



The NYCDOT [REDACTED] Gerritsen Inlet Bridge Project called for construction of approach roadways to the bridge that were 14 ft. higher than the existing roadway (at the highest point), and constructed in three stages. The purpose was to provide smoother profile that will meet the current standards. To support the staged construction, the contract called for driving steel sheet piling separating the new roadway from the existing that is only 1.5 ft. away from live vehicular traffic. CCA proposed a value engineering proposal to NYCDOT replacing the steel sheet piling to mechanically stabilized earth system (MSES) that does not require any MPT, or lance closure, or the use of heavy pile driving equipment, thus eliminating major safety risk and impact to the traveling public. The proposal was accepted and implemented successfully, which resulted in reducing risk, impact and time. More importantly while building the MSES an unknown active drainage system was discovered, which would have been destroyed if sheet plies were driven per the original contract, thus avoiding a major disruption for both the public and NYCDOT. It is noteworthy to mention that NYCDOT adopted CCA's innovative approach on all subsequent bridge projects and made the MSES the standard feature on similar bridge contracts.

quality end-products to all stakeholders, owners and the public.

Years of commitment and efforts have brought about steady and accelerated growth. With a visionary leadership and a dedicated team comprised of seasoned professionals in every aspect of its business, the CCA family of companies has become a leading construction and real estate company in the US market. Integrating its founding principles of integrity and innovation with quality assurance and value creation—the core values of CSCEC, CCA is committed to creating value for all stakeholders and building a better world.



Founded in 1962, the **Halmar International LLC (Halmar)** built itself

on the values of integrity, a customer first philosophy, and providing impeccable service. Through the years Halmar has undertaken multiple forms through the development of subsidiaries, mergers, and has since reestablished itself as Halmar International in 2005. Halmar works in partnership with project owners, subcontractors, construction managers, trades, and suppliers to achieve the highest levels of quality and safety while capitalizing on innovative procurement methods and developing cost-cutting competitive bids that benefit our customers. The firm's experience and expertise in the region gives Halmar the advantage to mobilize personnel and equipment quickly and efficiently to any work site.

Halmar has recently and successfully completed high profile projects such as a [REDACTED] million Rehabilitation of the I-95 Alexander Hamilton Bridge in NYC, the [REDACTED] million Rehabilitation of the I-90 Patroon Island Bridge in Albany, NY, and the [REDACTED] CM/GC contract for PANY&NJ's LaGuardia Capital Infrastructure Program. We also have completed several recent design-build projects including the [REDACTED] RK-73, Ramp MQ at the JFK Bridge for the TBTA and the Route 42 Emergency Bridge and Highway Replacement project for NYSDOT.

Halmar has significant experience working with and adjacent to the railroads performing such activities as constructing retaining walls, platforms, stations, laying track, and signal work. Projects include the \$199 million Stillwell Passenger Terminal design-build project for NYCT, the [REDACTED] Yankee Stadium Rail Station design-build project for MTA-MNR, the [REDACTED] million Path Harrison Station Replacement for PANY&NJ, the [REDACTED] Concourse Signal Modernization for NYCT, the [REDACTED] million Superstructure Replacement of Track 4 MTA-MNR, and the [REDACTED] million Emergency Reconstruction of the Port Jervis Line MP31 to MP 45 for MTA-MNR, just to name a few.

Halmar has been performing Design-Builds since 1984. Projects have ranged from roads and bridges to passenger stations to maintenance facilities. We are very proud to have been selected to perform the first design-build projects for NYSDOT, NYCT, NJ TRANSIT and MTA-MNR, reflecting these agencies' confidence in Halmar's design-build approach and on our ability to

VALUE ADDED to REDUCE COST, TIME and IMPACT:



For the design-build Belt Parkway over Ocean Parkway Bridge in Brooklyn we eliminated most of the construction impacts to a sensitive neighborhood that included a hospital and school by pre-casting over 70% of the bridge elements in upstate NY. On a project in midtown Manhattan, we saved a developer tens of millions of dollars by re-engineering the foundation by substituting rock anchors for caissons after a change to the building's façade resulted in significantly higher wind loads. Our redesign for rock anchors was later replicated at the World Trade Center site. Halmar redesigned over a [REDACTED] of work for the Alexander Hamilton Bridge (pictured above). We redesigned the jacking and support structures by developing a new load path through the existing columns onto our temporary structures resulting in saving over 3000 tons of steel. Although dire predictions of "carnageddon" filled the news during phase 4/5 of the project, we value engineered the work to reduce the amount of time each stage would take as well as developed methods for installing new steel with a gantry system that avoided any significant traffic backups. This project proved that not only were our customers receiving the best value of our work but so was the public. Recently on the I-90 Patroon Island Bridge project, a motorist wrote a letter to the editor of the Albany Times Union commending our performance doing all the work at night and reopening the bridge by 6:00 am despite a full-depth replacement of the bridge deck. These game-changing ideas are a result of Halmar's integrated approach to design and construction. We truly get the best ideas from our construction personnel and designers by working together and challenging each other. This approach motivates our design-build teams to find solutions and achieve things that benefit everyone involved in the project.

deliver a quality project. Halmar and our team members have an award winning track record in design-build.

Halmar has won the prestigious Design-Build Institute of America Project of the Year Award several times in the past decade. It's a result of our unique approach

to design-build projects. We truly integrate design and construction into an open collaborative process with all stakeholders with a primary focus on quality. We look at quality not as a product but as a process. By conforming to all the processes required by the Project we promote delivering a project on-time, on-budget, safely and to the owner's satisfaction. This is a commitment we make and fulfill on every design-build project we undertake. Because of this approach, we have completed over a dozen major design-build projects; on-time, safely, within budget without claims and to the complete satisfaction of every customer.

The president of MTA-MNR commented that our Yankee Stadium design-build project was the fastest station ever built in the railroad's history. Halmar gave NYSDOT its first 100-year-lifespan bridge deck with an innovative precast/post-tensioned design-build value engineering on the I-287 Westchester viaducts. Later, we improved on this design on a NYSDOT design-build bridge project in which we replaced two structures in just six weeks.



Stantec Consulting Services Inc (Stantec) is a leading full-service provider with a focus on providing maximum value for our clients. By offering a full range of services from planning and programming through design to commissioning and close-out, we offer and evaluate best-case features of every phase of a project. We are also able to meet any project requirement by applying in-house expertise and resources when appropriate. Stantec has worked with Picone, Halmar, and Dragados. Several projects are discussed below.

With nearly 65 years' experience as innovators, our representative experience covers a complete range of transformative, transit / transportation projects in cities around the world. We manage, execute, and deliver hundreds of projects annually ranging from small projects valued in the thousands of dollars to large capital investment projects costing billions of dollars.

We employ Lean execution practices that increase the responsiveness, flexibility, productivity, and reliability for large similar programs. Lean is a project management methodology used to create value for Stantec's clients. Some of our Lean Principles include the Design-Build team working together in one location fostering good communications. "One Team Approach" – a collaborative effort built on existing relationships

VALUE ADDED to REDUCE COST, TIME and IMPACT:



For the LIRR/NYSDOT Grade Elimination Projects of Herricks Road, Roslyn Road and Mineola Blvd. in Mineola, NY Stantec studied, designed, and provided construction services over the life of these three projects. Through these projects, the 3TC has already created efficiencies in design, scheduling, maintaining traffic, agency and community involvement, and cost estimating. The lessons learned on these projects will be applied to this project.

Stantec's design of Herricks Road grade elimination included provision of a future third track – the subject of this RFP. We have designed a "Roll-in" bridge within the corridor at Roslyn Road. Our Design Team has performed similar work within the project corridor. This is a great advantage in terms of familiarity, understanding community concern, and knowledge of constructability challenges to name a few.

and lessons learned, with the client, contractor, Stantec and sub-consultants eliminating duplication of effort and reducing soft cost. The members of the 3TC Team have collaborated on many projects like the LIRR Expansion Program, including LIRR Johnson Avenue Yard Reconfiguration, Nassau County, New York. Lead design consultant for this design-build Project with 3TC Team member: John P. Picone; South Ferry Terminal, Structural designer on a complex and dense community working with Halmar - a member of the 3TC; State Highway 288, structural designer with Dragados in Texas; and Eglinton Crosstown LRT systems designer with Dragados in Toronto.

Stantec brings a seasoned "A" team with the Rail Road and NYSDOT knowledge and experience, including Susan Walter, Stu Lerner, Jim Ariola, Ed McDonald, and Mariette Rajan. For example: The previous incarnation of the LIRR Expansion Project included island platforms at all stations and many additional crossovers and turnouts requiring the Rail Road ROW to be widened



Johnson Avenue. Yard project

and require significant residential property acquisitions. However, in January 2016, Stantec developed new track alignment plans for the Rail Road that excluded the island platforms and crossovers to demonstrate the 3rd Track could be added without acquiring residential properties for this program.

Stantec's designs maximize the client's use of capital including innovative design and construction considerations. For example: As part of Rail Road Grade Elimination Projects, Herricks Road crossing was a priority to be eliminated, since it was one the most dangerous crossings in the country. Stantec's design included provisions for the future third track that is now the subject of this RFP.

They employ innovation to reduce construction impacts and maximized use of offsite construction. For example, the Roslyn Road Grade Crossing was the most ambitious of Rail Road Grade Elimination projects. The new rail bridge was built away from the tracks and rolled into position in stages during the night, minimizing disruption to the Rail Road. Roslyn Road was depressed and realigned to avoid a costly relocation of a NYPA/LIAPA [REDACTED] line saving an additional [REDACTED] in construction costs.

For the Atlantic Yards Redevelopment Program, Stantec met the challenge of the existing workflow, activity durations, reduced waste, and minimized interfaces. Stantec's structural solution to the new West portal at Atlantic yards which eliminated all double track outages and greatly reduced the number of single track outages. Resulting in Significant cost savings for the Rail Road.

Stantec's proactive consideration of schedule compression affords the client the opportunity to make timely decisions and course adjustments with no impact to the budget. They continually hold interactive planning sessions to validate and confirm schedule complete with project controls fully integrated between the client/design-build contractor for buy-in, ownership of schedule and quick decision making. Focused on simplicity and seamless weekly reporting.

Stantec uses a Document Control Strategy that is a web-based database that provides the Rail Road, NYSDOT and local agencies with access to the original deliverables once they have been issued. All deliverables and project documentation are accessible to all team members regardless of location. This facilitates work-sharing, a fluid exchange of information and provides a central repository for all in progress and issued deliverables. As necessary, hard copies of drawings will be distributed. All transmittals are electronic. Document Control is the focal point for all documents, experience has shown that it is frequently as difficult, or more so, to close out the documentation as to achieve project completion. The role of Document Control is critical to the schedule success, and includes the following responsibilities:

- Stay alert to critical items requiring follow-up
- Track budgeted hours, quantities, and dollars
- Log and track revisions on all drawings and specifications
- Track follow-up items
- Track required submittals to improve timeliness etc.

Within the last 10 years Stantec has successfully executed billions of dollars of transit/rail and transportation related projects. This recent and extensive experience allows us to deliver the latest in innovation, lean delivery methods and accurate cost estimating. Our depth of experience, expertise, capacity, and record of producing quality work on projects similar in nature to this Project is unparalleled.

Stantec has led the design and participated in the development and creation of innovative design approaches that transformed and revitalized problematic transit lines. We're planners, designers, engineers, and architects. We're construction managers, environmental scientists, engineers, landscape architects, and estimators. Together we create smart, safe, and sustainable transit and rail systems.

1.1.4) Using Schedule XX (Form E-1) Past Project Description, provide no more than 15 project descriptions. At least 2 past project descriptions shall be provided for each Major Participant and shall highlight experience in the last 10 years relevant to the Project. Describe those projects having a scope comparable to that anticipated for the Project. Attach the Form E-1 to the respective firm's background and experience summary .

Schedule XX (Form E-1) is located in the *Volume 2: Technical Forms*.

1.1.5) Copy of the fully-executed joint venture agreement

A Copy of the fully-executed joint venture agreement is located in *Volume 1: Legal/Administrative Forms* and at the end of this volume following the tab: *Joint Venture Agreement* of this volume.

1.2 Organization



Volume 2 - Package 1: Management Approach

1.2 Organization (3 Organization Charts)

1.2.1) The Proposer shall provide 3 organization charts (each on 11"x17" sheets of paper) and narrative, illustrating the organization of the firms comprising the DB team involved, and the Proposer's Key Personnel and their prospective roles and responsibilities as well as other principal participants and any known subcontractors having a material role in the Project's design and construction. The organization charts shall be titled "Proposed DB Firm Organization", "Proposed Design Organization", and "Proposed Construction Organization".

These organizational charts are shown on the following pages.

3TC's organizational approach is built on the trust created by the unparalleled global experience of its members with successful design-build and traditional design-bid-build projects. Implementing a proven approach on this Project will provide the framework necessary to safely and efficiently deliver it. Our risk management approach provides tools to deliver a safe, quality and on schedule Project, while maintaining the flexibility necessary to adapt and respond to the needs of the Project. Throughout all phases of the Project, we will prioritize team integration, clear lines of communication with the Rail Road and other stakeholders, and provide organizational stability to ensure smooth transitioning between project phases.

Our Team employs the "4C Philosophy - Communication, Customization, Coordination and Continuity" that provides the framework needed to meet or exceed Project goals and to successfully deliver all design and construction, requirements of the Project according to the terms set forth in the Agreement.

Communication – Our Team knows that clear lines of communication both with the Rail Road, within our Team and the community is a key element to successfully delivering the Project. Our Project Manager (PM), Steven Maggipinto, PE, will serve as a single, reliable point of contact for the Rail Road throughout the Project duration. At the executive level, Francisco Gonzalez, Project Executive, will be our point of contact with the Rail Road through Project Completion. Both will be fully committed to this Project working on full-time basis. Our approach to contractual relationships has been built upon principles established from our extensive experience on design-build projects and will serve as the framework for our internal and external communication planning and execution.

Customization – Our strategy for integrating design with construction will be based on establishing a common goal for the Project under the overall framework of our project organization and our design and construction schedule. We will breakdown the Project into logical and integrated work activities and tasks that can be used to assemble focused delivery teams. This strategy optimizes the fundamental principles of project management: scope, schedule and budget control. Our approach will facilitate a rational design and construction schedule, allow us to optimize schedules for key personnel and equipment, and produce smaller buildable design units and construction packages, resulting in a high quality, cost efficient Project.

Coordination – Full integration and co-location of the design and construction services groups, along with the Rail Road and surrounding community will facilitate one clear understanding of the scope, quality, and schedule control. This approach to team building will facilitate faster coordinated exchanges of information and improve the overall team understanding of the Project. Our fully coordinated team will work together to design and construct the Project. We plan to co-locate, the DBJV Members, design engineers, construction professionals, and community outreach consultants, along with Rail Road Project personnel, in our Project Office in Mineola, NY immediately after NTP. This continuity of Key Personnel will expedite the permit application and environmental approval



processes, and at the same will help fast-track utility relocations across the Project. We already started the co-location effort during the Procurement Phase of this Project and the working relationships that have been built during this phase will serve us well during design and construction.

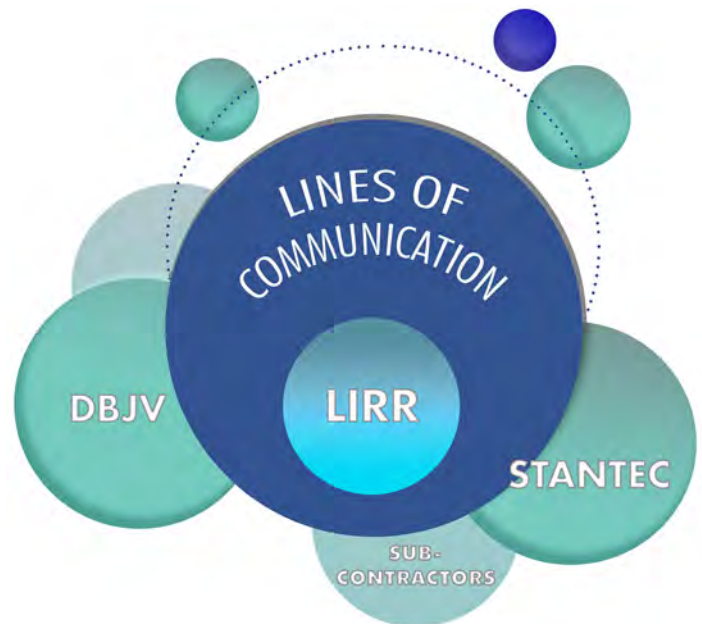
Continuity – Our Team pledges continuity of Key Personnel deemed essential at various phases of the Project. Our Deputy Project Manager (DPM), Vicken Bedian, PE, together with our Construction Manager (CM), Jesse Jameson, PE, and our Designer of Record, Stuart Lerner, PE, will guarantee the same experts who participated in developing the solutions remain in place to transfer knowledge and execution of the work packages. The 3TC members that were intimately involved and developed the technical input to the SOQ document and who will also be engaged at the Procurement Phase will provide the continuity upon Notice-to-Proceed (NTP) issued for the Project.

Establishing a long-term partnership with the Rail Road with clearly identified roles and responsibilities and lines of communication, is a critical component of our Team’s management goals. We are committed to the Rail Road to communicate efficiently and transparently throughout the Project Team, as well, regularly interact with the Rail Road’s Team and their representatives. The progress meetings will be outcome focused, enable 3TC to provide timely input into early identification/resolution of challenges and opportunities, and over-the-shoulder reviews of work in progress. Our DPM, Vicken Bedian, PE, our CM, Jesse Jameson, PE, and our Designer of Record, Stuart Lerner, PE, who you have met during the One-on-One Meetings during the Procurement Phase, will be there upon Project award to deliver the new third track for the commuter train users’ benefit.

One of the primary advantages of the design-build delivery is that the process allows the owner and 3TC to “create together” the means by which a project can be built safely, on schedule, and with high quality. We are

confident that a partnership between the Rail Road and 3TC on the Project will deliver:

1. A shorter design-build delivery schedule and the best value project
2. Reduced construction risk
3. Improved constructability & safety
4. Improved communications (between the Rail Road and 3TC and between the Project and the Public)
5. Full compliance with sensitive environmental issues



Our vast global and local experience has proven that the highest success of design-build projects is achieved when management of the project is clear, with well define reporting lines and where the communication between the different levels of the organization flows easily and effectively.

We approach design-build projects as an integrated effort that brings the knowledge and experience of the entire construction team into the design efforts from inception, so that the Project design is developed

in a way that maximizes efficiency of construction, reduces costs, and complies with the Initial Baseline Schedule (IBS). Equally critical to success is our focus on coordination and communication with the Railroad and the Communities to fully understand the Rail Road needs and the Community's concerns, and to work together as partners to meet those needs and the Project goals and address the Community's concerns.

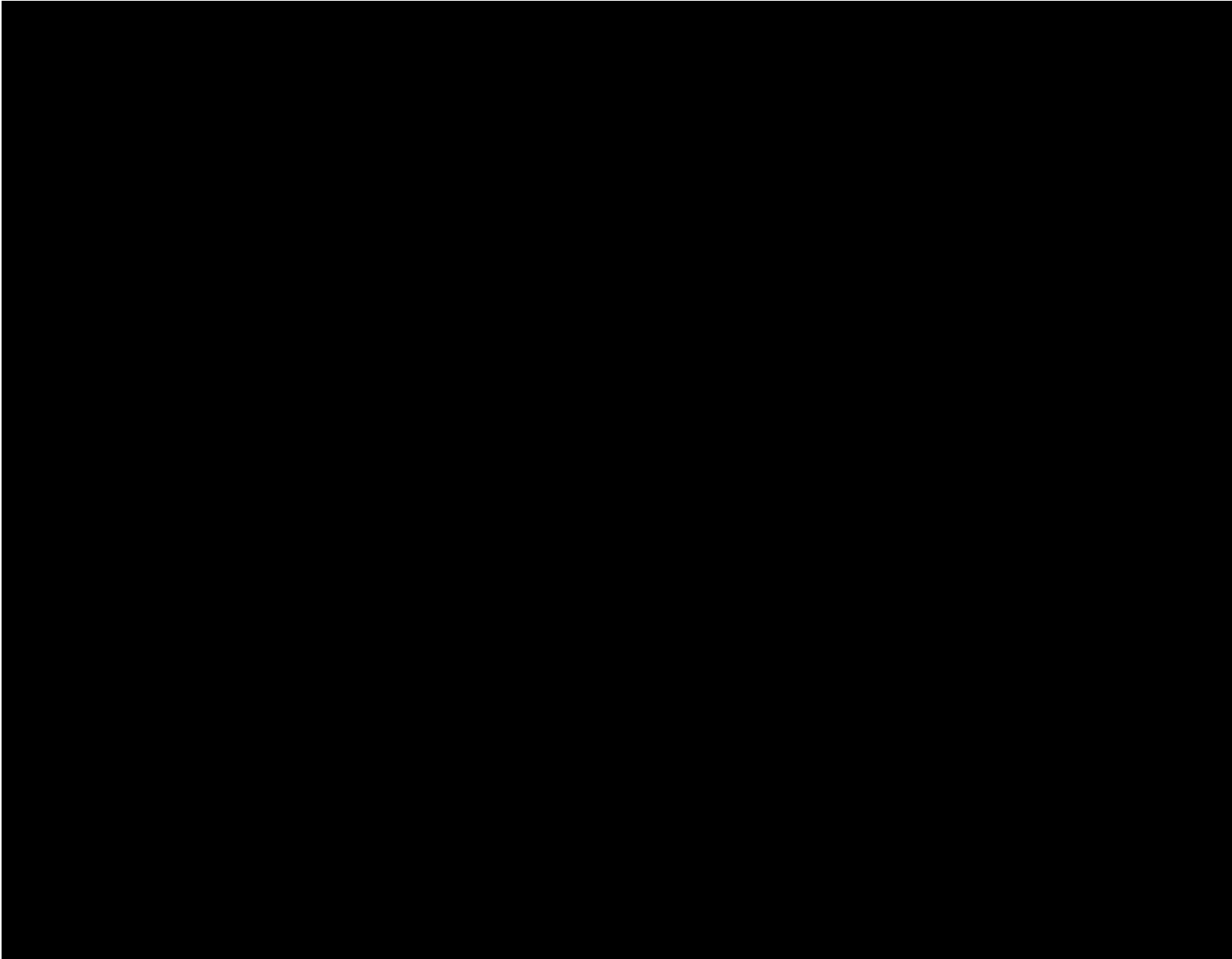
3TC's organization structure will follow an effective line organized with well-defined levels of responsibility and reporting. The PM, Steven Maggipinto, PE, will be

responsible for delivering design and construction in accordance with the Agreement.

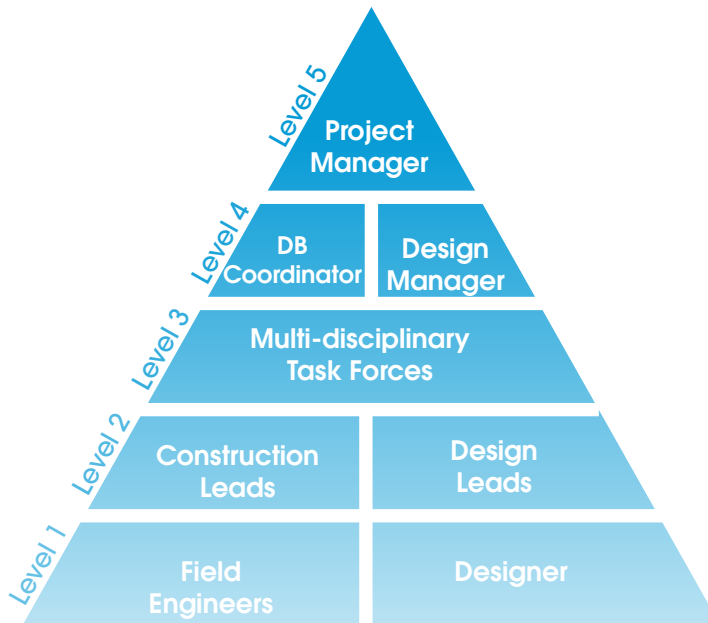
Our Team has developed a management structure that is presented in the Proposed DB Firm Organization Chart attached earlier in this section. The structure will provide a quality design and construction as well as an efficient and safe execution of the Project.

A Stable, Dedicated and Integrated Team for the Project: The structure of 3TC facilitates integration among disciplines and throughout phases using direct

KEY PERSONNEL FUNCTIONAL ORGANIZATION CHART



and clear lines of communication, co-location of the Team to facilitate interactive information sharing and the formation of multidisciplinary task groups which maximize the expertise of our Team members. This integrated and comprehensive approach to the Project will help optimize performance of the Project and long-term value to the Rail Road.



A critical factor to maintaining Team integration throughout the Project is the assignment of specific individuals responsible for coordinating the joint efforts of the team. Additionally, the structure of our management team will remain stable throughout all phases of the Project. Several of the Key Personnel were involved during the Procurement Phase, including the DPM, Vicken Bedian, PE, the CM, Jesse Jameson, PE, and our Designer of Record, Stuart Lerner, PE, and will continue their involvement throughout the Design and Construction Phases (collectively known as Design-Build Phase). This continuity of the Design-Build Management Team involvement throughout all Project phases will ensure that the Project specific knowledge and details gained in each phase will be carried through to each subsequent phase. This strategy ensures that the technical solutions for the Project are optimal from a design, construction, financial and life cycle perspective.

During the Design-Build Phase, our Design-Build Coordinator (DB Coordinator), Vicente Gomez, will integrate construction input from 3TC with design

activities through continuous interface with the Design Manager (DM), Susan Walter, PE, ensuring the design is aligned with the Project objectives while staying on schedule and within budget. Vicente and Susan have both worked together on the design-build of the [REDACTED] million SH-288 Toll Lanes in Houston, TX for TxDOT. our Design Manager has also worked with Dragados subsidiaries on multiple large scale design build projects including MTA South Ferry Project.

This previous shared experience will be a key asset for 3TC in hitting the ground running upon Project Award. Their interface will consist of weekly coordination meetings, including quality reviews, over-the-shoulder reviews and comment review meetings prior to design package submittals. The DB Coordinator will monitor related design unit development, and report progress to our PM. Our Construction Team will be responsible for their cost control and schedule reports. The Project Scheduler will maintain the overall schedule, and perform weekly reviews and monthly updates. The adjacent chart shows the different communication levels to expedite design and construction issue resolution during the Design-Build Phase.

Multidisciplinary Task Forces: to meet the "4C" philosophy and Project goals, multidisciplinary task force groups will be established to facilitate communication between disciplines, and assist in the coordination efforts of the organization. 3TC's customized multidisciplinary task forces bring together design and construction experts who work together to set out the requirements for consistent quality standards with respect to materials, procedures, and processes to meet the core objectives of the Project and optimize life cycle expectations and maintainability. Multidisciplinary task forces will use the subcontractors and suppliers' feedback to further strengthen the decision-making process and ensure the sharing of innovative methods and ideas.

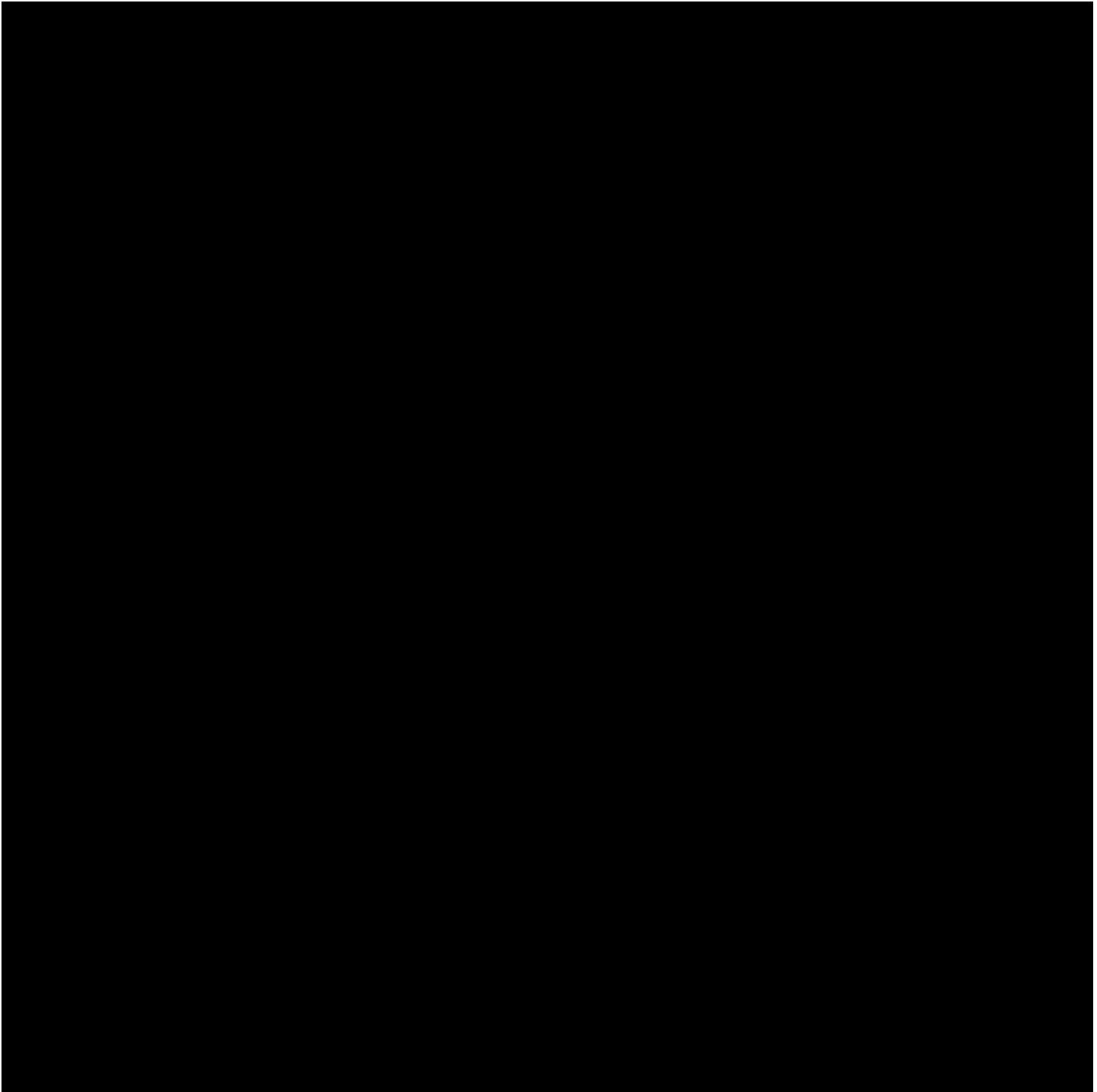
3TC Team will utilize six task forces, as defined in Section 1.6.1) of this Proposal.

The purpose of these teams will be all encompassing with respect to securing approvals/permits from the approving agencies. These Task Forces will be led by the above noted individuals each who have past relationships with the Rail Road and therefore can help

ensure an expedited construction document development and approval process. This will be accomplished due to the individuals' Project and agency knowledge and their ability to lead the design team quickly to issue/comment resolution. Of focus will be 3TC's efforts to reduce the number of separate packages and different levels of submissions that will need to be made to each

agency to help streamline the design, review and construction process. The following graphic is presented to demonstrate this.

A more detailed description of our planned organization during the Design-Build Phase is presented below.



Office Co-location (Mineola) improves communication, cooperation, and decision-making processes by allowing daily face-to-face interaction between design, construction, the Independent Construction QC Firm, the Community Outreach Team, and the Rail Road personnel.

A major benefit of design-build project delivery comes from collaboration between the contractor, designer and owner. One of our most significant "lessons learned" is that staff co-location enhances constructability, quality, schedule adherence, document coordination, and overall communication. It also expedites designer response to contractor RFIs and field design reviews to resolve issues, while providing the information that the Community Relations Teams require in real time.

Dragados and Stantec are currently co-located on the [REDACTED] SH-288 Toll Lanes in Houston, TX for TxDOT. Through this project and others, we've learned that co-location that begins in the Procurement Phase and carries on into the Design-Build Phase is essential to early and effective decision making. 3TC team members have been co-located since the RFQ was released and will remain so until Project completion. We've already seen great results from this strategy.

Co-locating not only improves communications and reduces the time to resolve challenges, but it also promotes team spirit. An example of where co-location saved our team considerable time during pre-award occurred during the development of the proposed at-grade crossings. Without the designer partners sitting next to the DBJV members in our 50 W 23rd Street co-location office in New York City, the Design Team would have evaluated numerous at-grade crossing arrangements that would have been ineffective. However, with both the DBJV members and Stantec present, the majority of these options were dismissed early as our designers received immediate feedback regarding equipment and preferred 'means and methods' for supporting the proposed crossings. Without co-location, we likely would have arrived at the same conclusions, but the time required to get there would have been considerably longer. Examples like this prove benefits for co-location.

Project Leadership

The Project Management Team or Project Leadership, consists of the Project Executive, Francisco Gonzalez; the PM, Steven Maggipinto, PE; the DM, Susan Walter, PE; the CM, Jesse Jameson, PE; the Quality Manager, Tomas Almonte, PE; and the Safety Manager, Patrick Bakelaar. Through his extensive local and national experience, including rail projects, and active role during the bid phase, our Designer of Record and Stantec's Principal-in-charge, Stuart Lerner, PE, will ensure the compliance of all design documents with the Contract and Rail Road requirements, and will advise the team with the goal of exceeding Project expectations. Steve Maggipinto, PE and Stuart have known and worked with each other over the last 30 years. In addition to these key positions required by the Contract Documents, the Design-Build Coordinator will be the main link to ensure proper coordination is achieved and encourage participation in the early stages by both designer and contractor. Our PM, Steven Maggipinto, PE will have full authority to lead the Team and the work effort. He will be, with our Project Executive, the point of contact for the Rail Road. He will have overall authority and responsibility for:

1. Lead the execution of the design and construction work and make sure the work is performed safely, with sensitivity to environmental compliance, the Community's which the Project impacts, and in accordance with contract requirements
2. Integrate the 3TC Team into one solid and effective unit
3. Look after the safety and welfare of the personnel employed on this Project, including stakeholders and the traveling public
4. Check that Project Management procedures are prepared, approved, issued, enforced and updated, as necessary
5. Verify that all approved Project procedures are implemented
6. Ensure continuous information flows to the Public/Community Outreach Team
7. Make sure all personnel assigned to an area, department, or activity are qualified and experienced in their relevant technical disciplines to perform their duties
8. Confirm that the Team clearly understands the responsibilities delegated to the appropriate personnel

Foundation to 3TC Project Management

1. A set of project management procedures developed from hundreds of successfully executed projects in accordance with the RFP and LIRR's procedures
2. Jointly establish clear consistent goals, objectives, and success criteria for the Project
3. Create and communicate the project's governance structure through the Project Management Plan (PMP). Who makes what decisions, how do they make them, and what are the rules for decision making
4. Establish and communicate the roles and responsibilities of all team members
5. Define the types, levels, frequency, and details of reporting project progress and performance
6. Schedule management, with special focus on critical path items and RFP milestones considering the LIRR operations
7. Overall project implementation of the Best Practices as described below:
 - **Alignment:** It's the condition where appropriate project participants work within established tolerances to develop and meet a uniformly defined and understood set of project objectives. Achieving alignment in the overall project objectives can benefit LIRR, the DBJV, and all Stakeholders involved.
 - **Safety:** Include the site-specific safety programs and implementation, auditing, and incentive efforts to create a project environment and a level of training that embraces the mindset that all accidents are preventable and that zero accidents is an attainable goal.
 - **Benchmarking & Metrics:** The systematic process of measuring the project performance through established KPIs for the purpose of determining problem areas that could be improved to achieve superior performance.
 - **Constructability:** effective and timely integration of construction knowledge into the construction and field operations to achieve the overall project objectives in the best possible time and at the most cost-effective levels.
 - **Disputes Prevention & Resolution:** Addressing disputes in their early stages in an effort to prevent potential litigation.
 - **Activity Planning & Cost Control:** Planning all activities in advance is critical to enforce cost control. Reviewing all definable features of work with management, field, quality, environmental, safety, and public/community relations personnel.
 - **Lessons Learned:** An effective Lessons Learned program facilitates the continuous improvement of the processes and procedures and provides a direct advantage in an increasingly competitive industry.
 - **Materials Management:** Planning and controlling all efforts to make sure the quality and quantity of materials and equipment are correctly specified in a timely manner and are available when needed.
 - **Partnering:** Partnering has been demonstrated to be a beneficial process for owners, JV, and the project as a whole.
 - **Planning for Closeout and Startup:** The project closeout must be planned far in advance of the Final Completion.
 - **Project Risk Assessment:** Identifying, assessing, and managing risk during project execution is essential. The project team must evaluate risk exposure for potential project impact to provide focus for mitigation strategies.
 - **Quality Management:** It incorporates all activities conducted to improve the efficiency, contract compliance and cost effectiveness of design, engineering, procurement, QA/QC, construction, and startup elements of construction projects.

9. Facilitate all personnel are familiar with, and have ready access to, all relevant documents within PTST management system
10. Ensure all personnel are adequately trained in the application of said project management systems
11. Make sure suitable and sufficient resources are available to carry out the Project to successfully pursue adherence to Project schedule and estimated cost

Steven Maggipinto, PE has served the role of PM for four major railwork projects for Dragados' companies, including our two East Side projects in New York City (combined [REDACTED] cost), both for the MTA, where he has demonstrated that he has the experience necessary for the Rail Road Project.

Our Team will also provide consistent executive leadership throughout all project phases (Procurement and Design-Build) and a highly qualified Technical Advisory Team to oversee the technical aspects of the work.

The Environmental Compliance, Quality, and Safety Managers will have a direct line of communication to our Project Executive and the Executive Committee. The Executive Committee will include at least one representative from each DBJV member. Jose Miguel Ibanez (President), Rafael de la Barreda (Executive Vice President), Charles Montalbano (President), and Chris Larsen (President) will represent Picone, Dragados, CCA, and Halmar respectively.

Design Organization

Our Team believes that the most effective way to manage the Design Team for the LIRR Expansion Project is through an inter-disciplinary design coordination approach that involves proactive, frequent, direct personal communications and regular inter-disciplinary internal review processes alongside peer review by industry experts. These mechanisms will allow us to hold our sub-consultants responsible for their tasks, and keep the Team focused on the Project goals, assignments, and deliverable schedule. Our Proposed Design Organization Chart is attached at the end of this section.

Our Design Team will maintain regular communications with all the key design discipline leaders to track

progress and to ensure Project issues are identified and resolved quickly. Through their vast experience in LIRR Project design, Stantec has developed design and management systems that have proved to be effective in management of internal and external multidiscipline design teams to maximize value to clients. Functional design team management has served Stantec well during design of many railroad projects for the Rail Road and across North America, by incorporating:

- Stage gate discipline reviews
- Regular design progress reporting to ensure any deviations to the plan emphasis on the priority of producing efficient constructible designs

Our Design Manager, Susan Walter, PE, along with our DB Coordinator, Vicente Gomez and our Deputy Design Manager (DDM) Mariette Rajan, PE, will administer the design work and manage the subconsultants to ensure overall Project success. All the 3TC members have an established working relationship with many design subconsultant firms as listed in Section 1.1. This history of working together will reduce the learning curve and streamline the design process from the procurement onset.

Assigned as DDM, Mariette Rajan, PE has more than 25 years of engineering experience, primarily in dense urban environments. She served as the Construction Support Services - Package Manager for the NYCT's Cortlandt Street Station Reconstruction project. Her responsibilities on that project align with her role on the 3rd Track Expansion Project where she coordinated the various Architecture/Engineering disciplines of these [REDACTED] effort to restore Lower Manhattan after the events of September 11, 2001.

While not defined as a key position by the RFP, we have assigned a Design Coordinator – James Ariola, PE. Jim offers strong experience with the Railroad having served as the Technical Advisor for the infrastructure structural design that was associated with the development over [REDACTED] Atlantic Yards project. For the [REDACTED] South Ferry Terminal project, Jim served as the Project Manager for the Design-Build team. This project required strong management skills in order to coordinate the array of multiple, concurrent tasks requiring a broad range of coordinated disciplines to keep the project moving forward smoothly, which he did.

A seamless, integrated interface between design and construction processes is the key to the success of this Project. Therefore, we will facilitate this process by assigning a full-time DB Coordinator -Vicente Gomez. Design and construction teams follow the same processes from top down through subconsultant and subcontractor organizations. Strong communication involves weekly progress reporting open discussion of Project needs, requests, and potential issues.

The design work plan will follow the development of the Project. We will modify the level of effort at each of the project development phases to make sure the Project moves at the proposed pace, cost remains in check, work product maintains the high level of quality we seek, and safety is kept per the Agreement standards.

Construction Organization

With 40 years of unmatched heavy civil construction experience managing complex railroad projects, Jesse Jameson, PE, will serve as our Construction Manager. Jesse has been responsible for construction of major rail project, including new track construction, totaling more than [REDACTED] in construction value, including the ongoing [REDACTED] Alexander Hamilton Bridge in Bronx, NY (where Halmar and CCA were Joint Venture partners) and the [REDACTED] Brooklyn-Queens Expressway bridge and roadway rehabilitation.. Specifically Jesse has worked on the MTA's [REDACTED] design-build Yankee Stadium Train Station in the Bronx, NY which included new track construction, community sensitivity, maintenance of operations for rail, and utility relocation. As Construction Manager, he will be responsible for overseeing field operations and for the execution of the construction work. During the early stages of the Design-Build Phase, he will be a part of the design development, providing constructability reviews and input on construction means and methods along with other specialized construction works provided by 3TC. Our Proposed Construction Organization Chart is presented earlier in this section and a smaller version is on the following page.

The construction organization will be led by the CM, Jesse Jameson, PE. The primary roles and responsibilities of the Construction Organization include:

- Executing the work while meeting the quality requirements, as well as progress and budget objectives
- Enforcement of the Safety Plan among construction crews
- Development and implementation of the overall site security
- Development and implementation of the Construction Phasing Plan
- Coordination and performance of constructability reviews with the Lead Designer
- Providing qualified personnel for the construction organization
- Training and development of construction staff personnel
- Planning and organizing the construction manpower requirements for joint venture review
- Maintaining effective relations and communication with the Rail Road representatives
- Assisting with risk mitigation associated with construction. Review and provide mitigation ideas and input to reduce or eliminate risks as they are determined

The Construction Organization will interact extensively with the DB Coordinator to review design submittals and with the field office engineering and surveying support groups.

The co-location of the Team in the same office around the Mineola Station will benefit the Project by facilitating the exchange of information among all participating parties, including the Community Outreach Team members. The Key Personnel co-located by 3TC will comply with RFP Volume 3 Section 2.26.6. This co-location effort has already been established by 3TC members during the Procurement Phase and will prove valuable to the Project design and overall Proposal.

Our construction personnel will work with the design disciplines and the Rail Road on the identification of constructability issues that result in improved construction, safer solutions, an integrated design, and a Project-specific approach to means and methods that minimizes impacts to the community, operations of the Rail Road and the environment.

Quality Organization

Our Quality Manager, Tomas Almonte, PE, brings experience in project management, quality assurance and quality control, including preparation and implementation of quality plans and procedures. Tomas has developed and implemented quality programs at both project and corporate levels, including at large-scale highway design-build projects such as the [REDACTED] billion I-595 Corridor Roadway Improvements in Florida and the [REDACTED] Southern Ohio Veterans Memorial Highway in Ohio.

Tomas will be responsible to establish, implement, and review the Quality Management Program required for Project. He will report to the Project Executive to promote independence from the production line within the DBJV.

Tomas' primary roles and responsibility for Quality Management include:

- Assisting in the coordination, development, and improvement of 3TC's Quality Management Program, including any complementary Project-specific Procedures and Manuals
- Assisting in the preparation of the Project Management Plan (PMP)
- Implementing an effective program of quality system audits on the Project and reporting the findings to the auditee and to the PM
- Overseeing the QC work performed by the Independent Construction QC Firm, M&J Engineering supported by Tectonic and DeAngelo

For your Project, Tomas will be responsible for establishing an internal Quality Assurance Program (QAP) and Quality Control Plan in accordance with Project requirements and guidelines. The Team will utilize these plans to monitor and adjust the design and construction processes, and to make sure the final product meets the specified level of quality and guarantees. Tomas will also interface with the Rail Road's Quality Manager to provide consistency between these internal and external quality assurance activities.

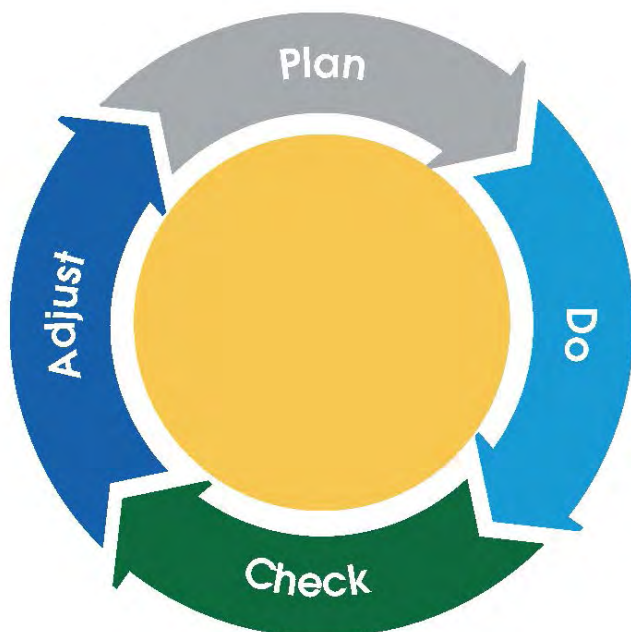
Tomas will also be accountable for ensuring that the Project Executive and PM periodically reviews the standards manual and associated documents to re-affirm their adequacy to the Project standards and to ensure they remain consistent with the Project objectives. The Project Executive and PM will approve any additions or amendments to the Quality Management Program prior to issue.

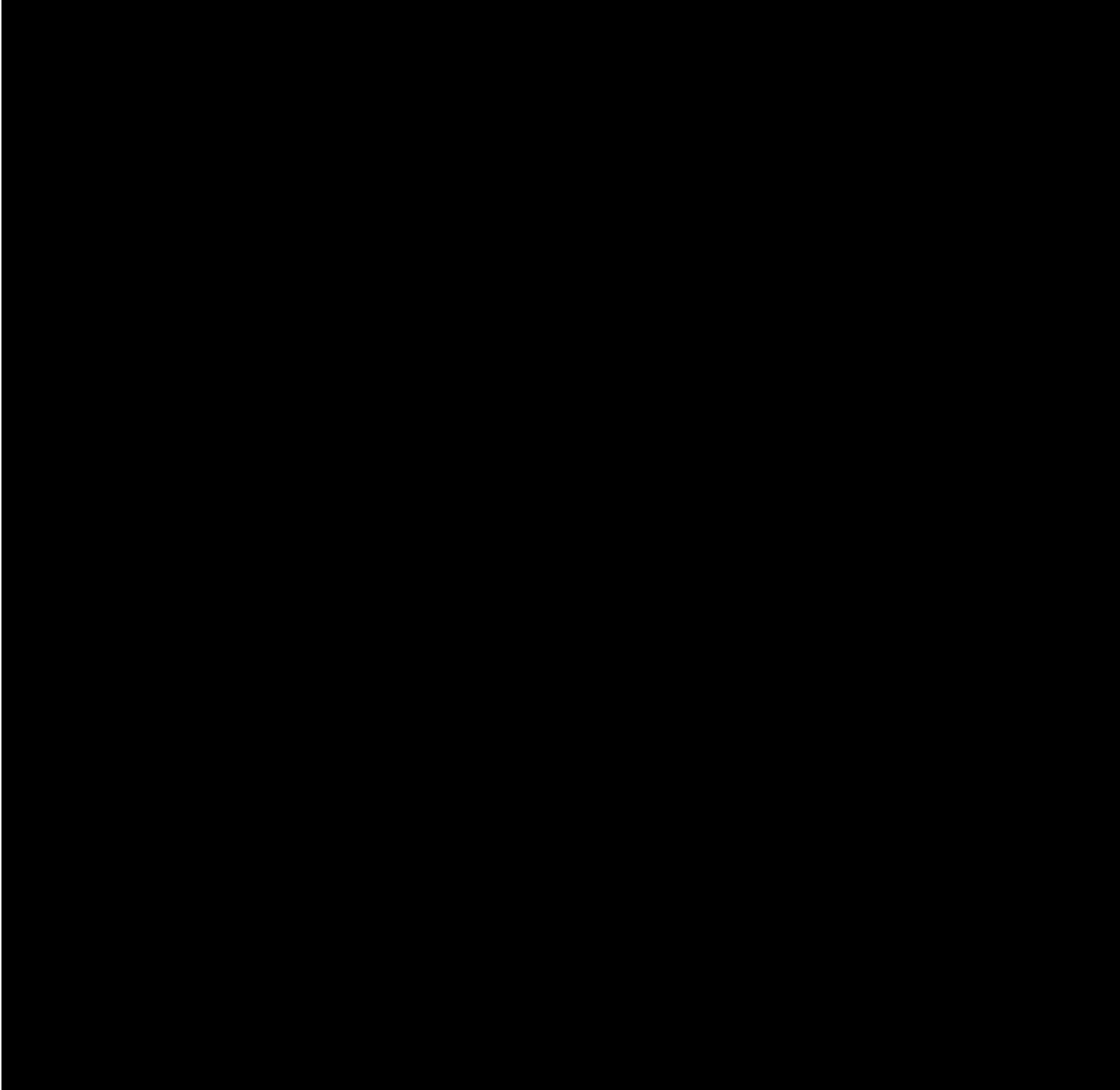
Safety Organization

Safety Manager Patrick Bakelaar, will bring over 15 years of experience in the management of complex infrastructure projects. He most recently served as Safety Manager on three major bridge projects such as the combined NJDOT [REDACTED] Pulasky Skyway Rehabilitation Contracts 3&4 in Newark, NJ, and the NYCDOT [REDACTED] Gerritsen Inlet Bridge in Brooklyn, NY. For this Project, Patrick will be responsible for assuring compliance with all site safety and health programs, and be the point of contact with all outside entities on safety, including OSHA.

Patrick will report directly to the Chief Safety Officer (who in turn will report to the Project Executive) and will have authority to stop work whenever there might be a potential safety risk, as per the provisions of the Safety Plan. He will be assisted by Safety Inspectors assigned to different areas of the Project (i.e. stations, parking building, roadway, and precast walls). The Safety Inspectors will coordinate on a daily basis with the appropriate superintendents to prepare in advance all safety measures required by the ongoing construction operations.

Safety staff will conduct weekly safety inspections that focus on working in the rail environment and its unique challenges (quiet trains operating at 79 mph), checking





for proper use of personal protective equipment and for safe work practices. Any safety incident, including a near-miss, will be subject to an incident investigation, including a root cause analysis (RCA). Results of the investigation and RCA can lead to modifications of our Safety Program, additional training, or the incorporation of new work procedures or equipment.

Coordination and Communications

Applying valuable lessons learned from our past, successful efforts together, 3TC members have already begun the contractor-designer integration and coordination effort during the Procurement Phase. Establishing early working relationships in a collocated office in New York City, combined with our similar project experience, will result in immediate and long-term benefits to the Railroad, including:

- Shorter construction schedules
- Reduced community impacts
- Reduced construction risk
- Improved communications
- Improved constructability
- Environmental compliance sensitive design
- Experienced team reviews and exchange of ideas

3TC will integrate and coordinate the design and construction efforts by:

- Establishing an integrated design and construction schedule
- Holding effective task forces and over-the shoulder reviews
- Assigning a full-time DB Coordinator
- Holding formal value engineering and constructability reviews
- Working together to bring project-specific construction requirements and needs into the Project design
- Co-locating design and construction teams, allowing for the exchange of information through both formal and informal communications
- Using Picone's office in Lawrence, NY to provide 24/7 support to the co-located office in Mineola to agency decision makers in the Project area in Long Island and to facilitate communication and coordination

We are mindful of the challenging opportunities that this Project creates. The Rail Road third track design must result in a construction operation that progresses on schedule and on budget, minimizing operational effects on LIRR passengers, yet being executed in accordance with the Agreement, while always maintaining a safe job site that is sensitive to environmental compliance and community concerns.














Our PMP will respond to those basic tenets and provide the **"4C Philosophy - Communication, Customization, Coordination and Continuity"** of support mechanisms, which, along with the implementation of a sound information sharing system, will support the PM work and provide him with the tools to provide successful completion of all technical, administrative, coordination, safety, and quality control aspects of the Project. Our PMP uses a results-oriented approach based on the implementation, maintenance and execution of the following management tools:

- Sound understanding of the Project
- Internal coordination and integration system
- Project-specific Quality Assurance/Quality Control Management Plan
- Unflinching coordination with several Agencies, their consultants, and all other stakeholders
- Sound internal communication system
- A commitment to quality performance
- Tight adherence to schedule and cost
- Proven sub-consultant management plan
- Construction team input into the design effort throughout the design period

3TC's PMP will include a subcontractor and supplier coordination and communication system, which will establish coordination methods, meetings, standards, and allow for continuous interaction with all subcontractors and suppliers, including constructability reviews of ongoing work and a dialogue with the Design Team. Communication with subcontractors and suppliers will be controlled. As a part of the design coordination work, 3TC's construction personnel, under the direction of the DB Coordinator, will meet regularly with the Lead Designer to coordinate the work and outline Project requirements to all Design Team members. The DB Coordinator will oversee the work of all task forces to ensure that Project requirements are maintained.

Our Community Outreach Team will be led by Gary Lewi. Gary will be responsible for the preparation and development of material required for the ongoing public outreach program and notification during construction in conjunction with the Rail Road. Gary has 31 years of experience. On a very similar project, the [REDACTED] LIRR Double Track in Ronkonkoma, he provided the Rail Road design team with consulting advice and counsel regarding the transformation of legacy and digital media, and changes in how, who and when media coverage is being undertaken regarding

1.2.3) The Proposer shall identify staff and firms (or potential firms if more than one firm is being considered) that will be responsible for each of the design and the construction of the following including vendors and subcontractors: a) Utilities and Railroad Utilities; b) Structures including Railroad bridges, retaining walls, and under-grade crossings; c) Civil works and highways including drainage; d) Lighting, traffic signals, and ITS; e) Track; f) Landscaping; g) Stations, MEP, and vertical transportation; h) Parking Structures; i) Permanent Facilities; j) Traction Power; k) Signals and Train Control; l) Communications; and m) Security Systems.

Vendor & Subcontractors	Specialty	Lead Person	Experience			
			LIRR	NYS DOT	Nassau County	Code Compliance
 CAMERON ENGINEERING	Utilities	Andrew Narus, PE	X	X	X	X
 Stantec	Structures including Railroad bridges, retaining walls & under-grade crossings	Pak So, PE	X	X	X	X
 Stantec	Civil works & highways including drainage	Jim Kielien, PE Nick Catalano, PE (Drainage)	X	X	X	X
 Stantec	Lighting, traffic signals & ITS	Michael Kalb, PE Abhay Wadhwa (Aw) (Lighting)				X
 Stantec	Track	Jose de Jesus Martinez, PE				X
 Stantec	Landscaping	Donna Walcavage, RLA				X
 Stantec	Stations, MEP & Vertical Transportation	Anne Marie Edden, AIA, LEED AP	X	X		X
 WALKER	Parking Structures	David Vander Wal	X			X
 Stantec	Permanent Facilities	Anne Marie Edden, AIA, LEED AP		X		X
 Stantec	Traction Power	George Pristach, PE	X			X
 Stantec	Signals and Train Control	Ed McDonald Antonios Panayotatos (Signals)	X			X
 Stantec	Communications	Chris Bosse, PMP Roberto Figueroa				X
 Stantec	Security Systems	Chris Bosse, PMP Roberto Figueroa Ed McDonald	X		X	X

1.2.4) The Proposer shall identify staff and firms (or potential firms if more than one firm is being considered) that will be responsible for each of the following functions including subcontractors: a) Railroad Operations; b) Permitting; c) Environmental Compliance; d) Lead and Asbestos Abatement; e) Chief Safety Officer; f) System and Construction Safety; g) System

and Construction Security; h) Project Controls including schedule and cost; i) Public Information; j) DB Quality and Special Inspections; k) Independent Construction QC Firm; l) Noise and Vibration Monitoring and Control; m) Third Party Coordination; n) Utility Coordination; o) MPT; and p) Survey.

Vendor & Subcontractors	Specialty	Lead Person	Experience		
			LIRR	NYSDOT	Nassau County
 Stantec	Railroad Operations	Steve Donald			
 Stantec	Environmental Permitting	George Rupp		X	
 Stantec	Environmental Compliance	Michael Flanigan		X	
 Environmental Planning & Management, Inc.	Lead and Asbestos Abatement	Frank Skoditch	X	X	X
 DRAGADOS USA	Chief Safety Officer	John A. Martin			
 DRAGADOS USA	System and Construction Safety	John A. Martin			
 CCA CIVIL	System and Construction Security	Patrick Bakelaar		X	
 DRAGADOS USA	Project Controls including schedule and cost	Vicente Gomez			
 RUBENSTEIN	Public Information	Gary Lewi	X	X	X
 DRAGADOS USA	DB Quality and Special Inspections	Tomas Almonte, PE			
 M&J ENGINEERING P.C. <small>"INNOVATIVE AND STATE-OF-THE-ART SOLUTIONS"</small>	Independent Construction QC Firm	Maqsood Malik, PE	X	X	X
 VIBRANALYSIS	Noise and Vibration Monitoring and Control	TBD			
 CAMERON ENGINEERING	Utility Coordination	Andrew Narus, PE	X	X	X
 Stantec	MPT	Thomas Harknett, PE	X	X	X
 GdB GAYRON de BRUIN <small>Land Surveying & Engineering, P.C.</small>	Survey	Christine Gayron, PLS	X	X	X

1.3 Key Personnel

Volume 2 - Package 1: Management Approach

1.3 Key Personnel

1.3.1) Provide a record of commitment for Key and Other personnel indicating that all identified staff shall work full time and exclusively on this Project, either for the duration of the Project, or until their input is no longer required.

Our Key and Other personnel will be fully committed and exclusively dedicated to this Project. Furthermore, Key and Other personnel will remain working on the Project for the duration of the Agreement, or until their input is no longer required.

1.3.2) Provide resumes for Key and Other Personnel (maximum four pages per person) for the following positions:

Project Leadership, designers, cost estimators, etc. have developed relationships across all levels, which affords the Rail Road an integrated team that has been co-located at Stantec's offices for the last six months. The following people are committed to working on this Project exclusively and for its duration. Our detailed resumes are included at the end of this section, under the *Resumes* tab.

FIVE (5) KEY PERSONNEL (Maximum 4 pages per person)

- Project Executive
- Project Manager
- Design Manager
- General Superintendent
- Quality Manager

1.3.3) Provide resumes Other Personnel (maximum four pages per person) for the following positions and that meet the requirements set out in the Technical Provisions, TP 2.2

OTHER (23) KEY PERSONNEL (Maximum 4 pages per person)

- Lead Construction Manager
- Area Construction Managers
- Lead Utility Coordinator
- Lead Structural Engineer
- Lead Geotechnical Engineer
- Lead Highway Engineer
- Lead Track Engineer
- Lead Architect
- Lead Electrical Engineer
- Lead Signal Engineer
- Systems Integration Engineer
- Rail Operations Specialist
- Environmental Compliance Manager
- Design Builder's Chief Safety Officer
- Safety Manager
- Outreach Program Manager
- M/WBE/SDV Program Manager

Resumes for these professionals are found immediately following the *Resumes* tab in this volume.

1.4 Past Performance

Volume 2 - Package 1: Management Approach

1.4 Past Performance

1.4.1) Using Schedule XXI (Form PP) Past Performance, provide the information requested in subparagraphs below for each Major Participant.

1.4.2) Awards, Citations and/or Commendations (Schedule XXII): List awards, citations and/or commendations for performance relevant to this Project received by any Major Participant within the last 7 calendar years.

1.4.3) Claims, dispute proceedings, litigation and arbitration proceedings: Provide a list of all litigation, arbitration and other binding dispute resolution proceedings involving amounts in excess of [REDACTED] and related to performance of a contract involving planning, permitting, design, construction or demolition of a public works project in which any Major Participant has been involved during the past 5 calendar years.

1.4.4) Liquidated damages: Describe any contract, which resulted in assessment of liquidated damages against any Major Participant involving amounts in excess of [REDACTED] over the past [REDACTED] calendar years.

1.4.5) Termination for cause or default: Describe the conditions surrounding any contract (or portion thereof) entered into by any Major Participant over the past 7 calendar years.

1.4.6) Disciplinary Action: Indicate any disciplinary action taken against any Major Participant within the past 7 years by any governmental agency or licensing board, including suspension from the right to propose or removal from any respondent list.

1.4.7) Vendor Responsibility Questionnaire for New York State: Confirm that each Major Participant either submitted a new Vendor Responsibility Questionnaire to the Railroad prior to the Proposal Deadline for Legal/Admin Proposals, or already has on file with the Railroad or another State agency a current Vendor Responsibility Questionnaire for New York State.

Regarding Items 1 through 6, we have provided Schedule XXI (Form PP) and Schedule XXII in Volume 2, Technical Forms.

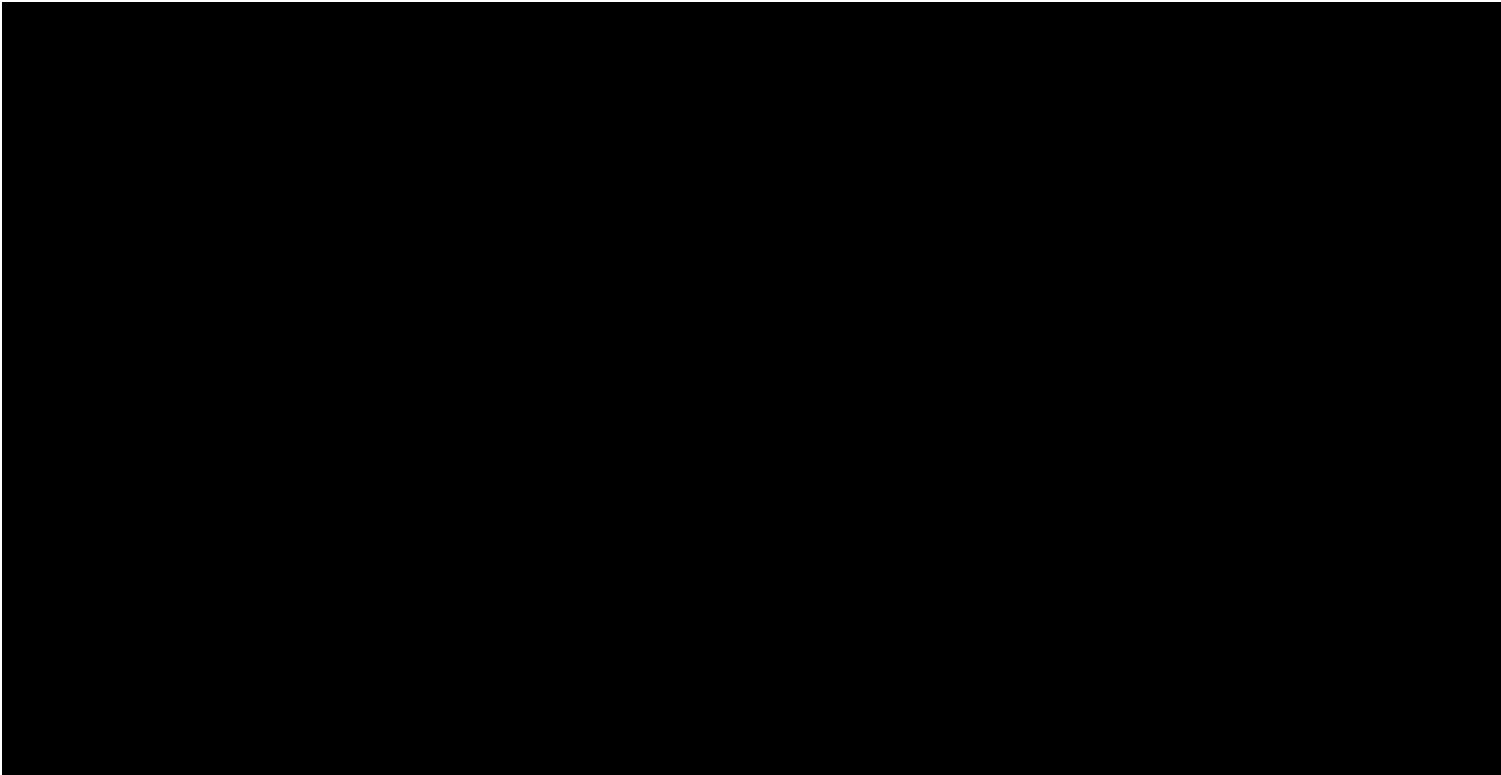
Regarding Item 7 for the Vendor Responsibility Questionnaire, each member of the 3TC team has on file or sent in prior to the Proposal due date the Vendor Responsibility Questionnaire.

1.5 Outreach Management

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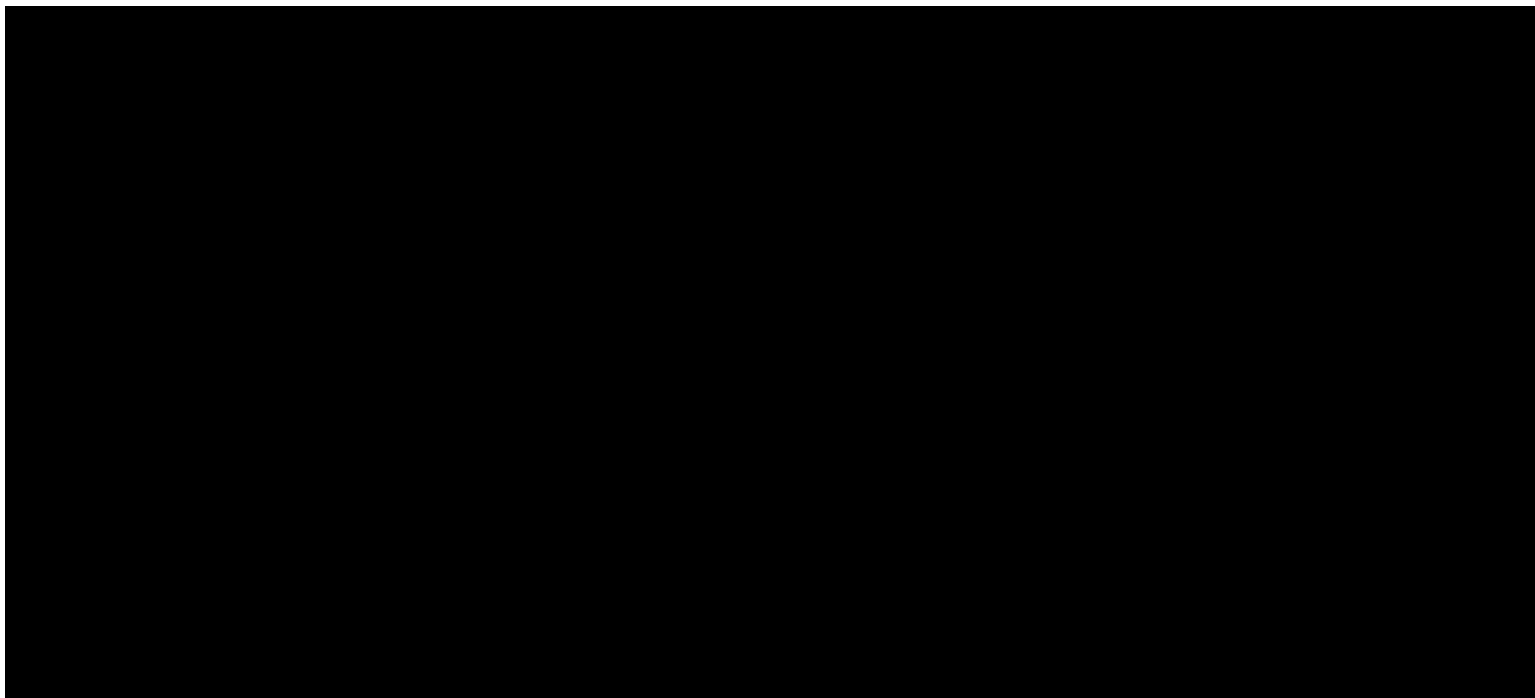
1.5 Outreach Management

1.5.1) Identify the Outreach Management team proposed in the organization chart and any additional personnel and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to outreach and the anticipated roles and responsibilities.



Community Outreach Team	
Role	Responsibilities & Qualifications

Community Outreach Team	
Role	Responsibilities & Qualifications
[REDACTED]	



[REDACTED]

[REDACTED]

[REDACTED]

T
[REDACTED]

[REDACTED]

gj²
Communication Strategies
[REDACTED]

E5 EPOCH 5
MARKETING INC
[REDACTED]

[REDACTED]

[REDACTED]

CAMERON ENGINEERING
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



reachable on a 24/7 basis if events merit. In addition to this, the two managers will designate deputies who will be current on their discussions, agenda items and priorities in the event either one of them is unavailable for any reason. The deputies will participate in weekly conferences with a pre-determined agenda. The goal here will be to ensure continuity of management and identify and isolate potential issues, prioritize mitigation responses, determine the effectiveness of our outreach program and Project Information Coordinating Center (PICC) data gathering and distribution system, the status and deadlines of collateral materials and community responses, the status of educational outreach programs, feedback from the Ambassador Program, comments from weekend "Open House" efforts, concerns and cooperation from community emergency services and the comments from businesses along the ROW.

As a result, 3TC's stakeholders are, in effect, sitting at the table where the Community Outreach Team is acting as their advocate, presenting potential quality of life issues that are of concern to stakeholders, providing real time feedback on mitigation efforts, identifying community services, schools, hospitals etc., that may be impacted by construction, reporting on commentary posted on social media and news stories being prepared for publication or broadcast.

1.5.2) Provide a narrative on the anticipated activities, and interfaces of the Outreach team including:

a) Communication Protocols

Accurate and timely information presented to Project stakeholders is the key to building trust between the community and Project representatives. This requires the ability to work collaboratively, not only within the Community Outreach Team, but among members of 3TC (i.e., Project Executive, Project Manager, Design Manager, Construction Manager) and the Rail Road. The elimination of traditional silos that isolate the different groups within 3TC (i.e. Community Outreach Team, Construction Team, Design Team) is the key to meeting the strategic community affairs objectives stated by the RFP.

Consistent with the strategic importance of effective community outreach and the need for a seamless, integrated approach that identifies stakeholder issues and resolves them before they become problems, the Outreach Program Manager will report directly to the 3TC Project Manager. In addition to Weekly Coordination Meetings designed to track potential issues, resolutions, construction milestones and outreach metrics, the two managers will communicate regularly and will be



So, too, is the recognition that social media has been a powerful and disruptive force affecting how our stakeholders receive their information. (A Pew Media Survey reveals that national newsroom employment levels are at their lowest level since The Great Depression. Some two thirds of Americans use social media and 62% of them get their news from these sites, as opposed to the websites of recognized media. In many instances, it is the online friends of these individuals who are forwarding news and information from which the recipients begin to shape their opinion on issues and individuals).

Finally, the Community Outreach Team will communicate daily with their Rail Road direct reports for the purpose of providing a steady flow of information on the status of various outreach elements, requesting approvals as needed, provide direct support on public information efforts as needed and realign its priorities consistent with Rail Road directives.



b) Community Communications

The transition of the Rail Road's onboard ticketing to digital platforms reflects how many Long Islanders now receive their information. While print remains a medium that cannot be ignored, it is no longer the preferred platform for presenting news and information. In addition, while a functioning and updated 3TC's website is a given, it remains a passive platform that will not proactively connect with our stakeholders.

We need to recognize that social media platforms are changing every month with a blizzard of options for the user to choose. The Community Outreach Team will need to embrace and leverage equally the well-established (Facebook), those highly leveraged by journalists (Twitter), and emerging challengers (Instagram, Snapchat, etc.). All of them will require significant content, and the challenge will be to create that content in a creative, innovative and effective manner.

Given the considerable force that video is now playing within social media algorithms, much of our messaging will be transformed into a series of video clips that help present the project's story, benefits, mitigation and progress.

We also need to recognize that social media has empowered each and every commuter to be a genuine news outlet capable of commenting on their Rail Road experience. Under this Proposal a specific communications effort would be made to engage the commuter so that he or she becomes an advocate for 3TC, especially those who commute from the ROW communities .

Community specific information platforms –

Individual apps and websites would be created for the specific communities along the ROW to enable that community to post comments, observations and concerns specific to their portion of 3TC's Communications and Public Outreach Program. The sites would include animated artist's renderings of their specific community station when completed, construction milestone status reports, responses from project representatives and video clips of comments by neighbors, community leaders from among the PTA, athletic clubs, church groups and chambers of commerce.

A Spanish online platform that replicates these various elements would be created to serve those ROW communities with a significant Latino population.

Construction streaming – There was an era when construction progress was marked by peering through a hole in the fence surrounding a work site. While that moment in time is consigned to nostalgia, individuals are still fascinated by how things are built, so we are proposing a construction app that will allow anyone on the web to look over the shoulder of those tasked with actually building 3TC during specific construction "windows."

The overview online – This kind of application would augment a series of parallel social media platforms that include a weekly graphic that visually charts progress and pending milestones, compelling photos of the project, update alerts on items ranging from new equipment now on site to the issuance of an economic report on the role of mass transportation on Long Island from third parties.

A moving target of technology – Key to this element of the RFP is an appreciation that from the time of this submission to the start of the project, information technology will continue to advance and evolve. The Community Outreach Team will maintain complete

commitment to identifying those shifts and modifying its content to ensure it is relevant to the next “big thing” over the course of the Project.

c) Community Outreach

Each ROW community is profoundly different, representing the diversity of the Island in regards to income, demographics, centers of commerce and worship, and project participation.

Those immediately impacted by construction may be aware of the Project’s strategic benefits, regional growth, the creation of a viable 21st Century transportation infrastructure, the amenities of a new commuter station or local grade crossing elimination but their immediate concern is the protection of their quality of life. Our Communications and Public Outreach Program must address those specific concerns unique to each community, specific neighborhoods and the individual residents and business owners adjacent to the ROW.

Public Education Programs

We believe there is a significant opportunity to engage young people all along the Project corridor regarding the technology and construction that will be employed during construction and, by doing so, build additional lines of communication to our stakeholders. Through the expertise of Cameron Engineering, we propose creating an age appropriate multidisciplinary educational curriculum that will allow the community affairs team to reach an important age group and introduce them to the exciting world of STEM and STEAM (STEM + Art = STEAM) careers.

Doing so also builds a new community based constituency who will also recognize the benefits of a third track that strengthens their access to mass transit destinations.

Specifically, this Public Education Initiative will be a comprehensive program aimed at educating Middle and High School students on the various technical and



construction related elements of the Project. With the experience of Cameron Engineering, and its Founder and Managing Partner, John Cameron, on education issues, specifically on STEAM elements, the Team is confident that it can effectively develop, implement and manage a successful Public Education Program.

The Team will meet with local school officials to discern whether their district programs are presently or will be STEM or STEAM oriented programs. STEM advocates point to our nation’s lack of global competitiveness in the STEM fields, as well as the millions of job opportunities that will exist in the coming years. STEAM proponents speak to the benefits of more diverse learning opportunities for a greater student population, as well as enhanced creativity and ingenuity skills helping to expand students’ applied knowledge through deepened learning.

John Cameron has throughout his career been involved with education activities, from serving as an Elementary School Board President, to High School Board Member to College and University Foundation Boards to serving as Commencement Speaker at a local College’s graduation ceremonies. John possesses baccalaureate and graduate science degrees as well as an honorary doctorate. In his capacity as Chairman of the Long Island Regional Planning Council, John led a Schools Working Group comprised of teachers, school board members and school superintendents addressing such critical issues as performance inequities between districts and school funding.

As the Co-Chair of the Regional Industry Council for Engineering, Architecture and Environment of the LI STEM Hub, John directly managed a schools STEM competition for a number of years. Additionally, he has been a guest speaker to various student bodies. For his work, John was recognized with an Education Partner Award by Nassau BOCES earlier this year. As exhibited in the attached Letter of Support from the Long Island STEM Hub (on the following page), the Team’s innovative idea of utilizing this major construction project to educate school students has serious merit and Cameron Engineering has a demonstrated record in such STEM education endeavors to validate its proposal.

3TC's Public Education Program planned for the Project will consist of the following:

- Monthly presentations (on a rotational basis) at Middle Schools and High Schools in the third track corridor. Technical representatives will present video footage of the construction activities along with a detailed explanation of the construction work. Question and answer periods will be included.
- Periodic (quarterly) guided and directed site visits will be conducted in cooperation and conjunction with the local school districts to enable students, teachers and guests to directly observe the construction activities of the Project. Certain key activities will be selected to optimize the educational experience.
- The Team (with Rubenstein as media consultants and Cameron as the public education lead) will utilize social media platforms not only to inform the local communities of construction activities, scheduling, traffic impacts, etc., but will also employ social media to communicate effectively with students on key STEAM activities. Twitter, Instagram and Snapchat will supplement You Tube, Facebook and Websites to transmit valuable educational materials. The Team proposes weekly educational videos on select social media site(s) to facilitate effective communication of construction activities to school students as an integral component of the STEAM educational program.

Additionally, the Team will utilize social media platforms to inform the affected communities on proposal safety routes to avoid construction conflicts.

- The Team will also utilize print media in communicating its technical, educational and informational messages to the communities and schools.
- 3TC proposes to have a STEAM competition whereby various middle and high school age children produce art to be independently judged on a school-level basis, the products of which can have the winning entries scanned, commercially reproduced and posted in the stations and on the platforms of the local commuter stations. Suggested themes can include rail transit, local landmarks, community life and the environment. Different categories can include not only the themes but also computer generated graphic and manual drawings/paintings.
- The benefits of this STEAM arts competition would be multifold. Not only would an expanded cohort of interested students in the Third Track project be developed along with their parents who will be following their children's work, but their new Rail Road station will now be uniquely adorned with the STEAM related artwork of the community's children. Artwork would be cycled on an agreed upon frequency with removed art electronically placed on a link to the Project's Third Track website. Local communities will now embrace with pride the skilled products of their youth.

Additionally, the 3TC's architectural team, with the concurrence of the Rail Road, will work with designated community representatives on color and design/decorative themes to provide individual uniqueness and visual interest and appeal to local stations.

It is the 3TC Team's belief that the uniquely decorated and art-adorned stations will not only remove the "dullness" of the Rail Road experience but also will now become an interesting visual attraction as the train pulls into a station rather than "just another stop" in one's travel to their ultimate destination.

Third Party Alliances

The role of the Long Island Association, the Right Track Coalition, the Nassau County Council of Chambers

and similar organizations remains a key part of any communication plan as their support and endorsements underscore the strategic nature of this Project. Close coordination is required to ensure consistent messaging, accuracy, and transparency of purpose.



Stantec professional teach elementary school age children about rain gardens.

In addition, these organizations have established a digital presence that includes an extensive email data base, social media followers, and the respect of opinion makers among business and media sectors. We would work in concert with them to provide these organizations with the additional content that allows them to grow their social media following.

Ambassador Program Elements

- Sharing current information: 3TC's Community Outreach Team would meet with Rail Road Community to discuss their initial outreach efforts during 2016-17 and identify individual ROW stakeholders, the concerns they have previously expressed to the Rail Road team, promises made, any subsequent contacts, public or press comments by stakeholders, their civic networking and block associations, relationships with community service and volunteer organizations, school age children, homebound seniors or disabled, etc.
- Confirm identities and location of immediate ROW-stakeholders that will be directly impacted by New Hyde Park construction. A property census suggests approx. 150 residential properties on the south side of the tracks and 130 residential on the

north side. Commercial business on the south side includes approx. 15 properties and 35 commercial properties on the north side.)

- Working with Cameron, the Community Outreach Team will review and update the database of community organizations, leadership, business associations to ensure it enters the field with the most accurate information on stakeholders and the community at large. This effort would work in coordination with the digital team to direct social media messages to these identified stakeholders.

Ambassador Structure - 3TC's Ambassadors will be selected from associates retained by the three Community Outreach Team members: CJ2, Epoch Five, and Titanium Linx Consulting. They will be chosen based on their communication skills and public comportment as they will be personal representatives of the Project and, by extension, the Rail Road, and the Governor, who is an engaged advocate for this Project.

Their preparation for going door-to-door in every single community will reflect how the Ambassadors will be trained to engage other Project communities as construction proceeds.

Ratios, Behavior and Reporting - An anticipated 15 Ambassadors will each be assigned approximately 20 private residences each along the Project municipalities where they will introduce themselves as that family's personal ombudsman for the duration of the Project. They will also be responsible for approximately four commercial properties each.

The Ambassadors will be briefed on protocols required to make an initial door-to-door introduction including the wearing of informal business attire, the placement of photo IDs, providing residents with business cards, wearing MTA (with prior approval from the Rail Road) blue windbreakers with embroidered Project logos, what days and time of day in which to walk door-to-door, introductory language, behavior and responses if contact is refused, and behavior and responses when a resident is angry or confrontational.

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walk door-to-door, introductory language, behavior and responses if contact is refused, and behavior and responses when a resident is angry or confrontational. Ambassadors will be provided with a script they will be asked to memorize for the purpose of engaging individual stakeholders, how best to determine their concerns, open up lines of communication, manage expectations regarding construction and proposed mitigation, and ensure stakeholders now appreciate that they have the means to communicate directly with their designated Project individual.

They will tell their assigned property owners that they will be their point of contact regarding any issues relating to construction. In addition, their Ambassador is available at any time as events warrant and will provide the homeowner with a cell phone number and email address to ensure prompt access.

They will also provide the stakeholder with the 24/7 hotline phone number that will be established through the PICC so that all calls are monitored, tracked and complaints addressed promptly.

Responses received by the Ambassador will be provided to the PICC for entry into a comprehensive constituent management data base that will track trends, individual contacts, potential macro issues, specific complaints, and mitigation responses. As noted previously, this effort is designed to provide a centralized data base platform that can provide insight, identify and resolve issues before they become significant problems.

Ambassador Activities - The role of the Ambassadors will go beyond acting as gateways to distribute Project information to individual stakeholders and receive their feedback. They will have a presence within each Project municipality throughout the entire Construction Phase. For example, Ambassadors would be at the community's September street fair, attend the Chamber of Commerce meetings as a member, be seen at a Veterans Day ceremony or the annual firefighters tournament. The purpose is to create repeated opportunities for casual public engagement, reinforcing our commitment to be visible, accessible, and open to stakeholders.

The Ambassador effort will include the staffing of a "Open Door" program. "Open Door" will find, as an example, an Ambassador on site on a weekend at a dedicated table at the Hillside Library in New Hyde Park

or one of the community's fire houses with posted hours for residents to stop in, ask questions, voice concerns, and seek clarification.

The Open Door program builds on the successful Rail Road's information office at the Mineola train station but will be specific to each community in this instance and other stakeholder communities as construction moves along.

The more conversational the dialogue between Ambassadors and stakeholders the more effective the relationship in establishing trust and resolving issues. Informal settings will be sought by having Ambassadors propose to ROW-way property owners that they host a neighborhood coffee klatch where the Ambassador brings the coffee and cake and answers questions in the intimacy of their home.

Community leaders representing groups such as Little League, Order Sons of Italy, Elks, and Knights of Columbus in New Hyde Park, will be reached out by the assigned Ambassador to discuss upcoming construction milestones.

Commercial property owners will be initially approached by the Ambassador requesting by phone an opportunity for an appointment. Failing to receive a response the Ambassador will leave their contact information with a company receptionist or administrative assistant.

d) Community Task Forces Engagement, Management and Inclusion

Grassroots Community Councils (Community Task Forces) – Much like the existing Long Island Commuters Council, working with local elected officials, we would invite each community to create a citizens advisory council (community task forces) whose membership would include stakeholders adjacent to the ROW. This would provide an additional means to create a line of communication based on personal interaction, trust and transparency.

In the Community – We recognize and endorse the need to continue the current Mineola outreach office as it has proven successful in creating a central location for stakeholders to find Project representatives. We would propose expanding on that successful effort.

Weekend Community Open House (Community Inclusion) – We envision weekend “open houses” where a Project Ambassador is located in community libraries or fire houses during regular weekend hours so that stakeholders need not travel to Mineola to get updated information on construction milestones, lodge a concern with a representative or simply ask a question. Where appropriate (e.g. Westbury, New Cassel, etc.), staffers will be bilingual to be able to effectively communicate with our Hispanic neighbors.

An information ‘movement bureau’ – To coordinate and manage the voluminous amount of information that needs to be disseminated and to absorb the issues, concerns and complaints from stakeholders, we envision the creation of an internal PICC that brings under one roof the various elements required for an effective engagement of ROW stakeholders. (Think of this as a “movement bureau” where all Project representatives have a communication representative providing information and insight to a central node.) Typically, if the Administration wants to know when was the last time three specific neighbors who asked about the ROW in New Hyde Park were spoken to, by whom, on what topic, and what their response was, we would have the immediate answers. If there is an engineering concern about new switches west of Mineola requiring more disruption than originally proposed, the PICC would not only be told of that emerging issue, but PICC would determine who could be impacted, what was originally presented to those stakeholders, by whom, when, and what will be the best course of action.

Identifying specific community issues – Each stakeholder community will face a different issue during construction.



For example, what impact will 3TC have on the adjacent Floral Park Recreation Center and Playground? How are we coordinating construction with the community to minimize impacts during peak recreational seasons? What steps are being taken to protect their recreational infrastructure? How are we communicating our mitigation plan to protect their quality of life and have we created a consensus path for that mitigation?

For example, every December 7th a family places flowers along the Merillon Avenue platform to mark the infamous massacre that took place there on an evening commuter train. We envision engaging the community to inquire whether a permanent memorial at that location would be appropriate and if, so, what form would that tribute take?

For example, in New Hyde Park a pedestrian passage is being proposed as part of station reconstruction. Create a juried community art competition in cooperation with the Sewanaka district to select student art work that will permanently adorn the walkways at the station.

For example, Westbury will not only see Rail Road parking garages in the adjacent commercial district built as part of 3TC but a possible mixed use could see these transformative structures[BM3] further strengthen residential and commercial property values throughout the community. This development would require an extensive community outreach effort to ensure there was public support for mix use and it was compatible with smart growth polices currently being embraced by Westbury Village Hall.

e) Weekly Updates to the Rail Road

A specific Outreach Status Section will be included in the agenda during the Weekly Progress Meetings with the Rail Road. This agenda topic will cover the weekly outreach activity and will address any concerns brought by surrounding communities, third party stakeholders and the Rail Road.

Recognizing that this is the purview of the Rail Road Community Affairs Team, 3TC's Community Outreach Team will provide insight and analysis helpful in maintaining an effective government affairs effort directed by the client. We stand ready to support the Rail Road in any capacity desired by them including being the front person on various issues.



f) Management of Project Advocates and Adversaries

We need to be able to respond to what will be a constant concern amongst Rail Road critics who live along the ROW that we are engaged in a multi-billion dollar capital program for infrastructure when the first priority should be repair of the existing system.

3TC's communication protocols will anticipate online messaging from critic and supporter alike; be capable of responding quickly with accurate information; and have an internal approval process that prevents misinformation from establishing a strong foothold on our website.

Personal ombudsman – As suggested elsewhere in our response, a key focus of 3TC's community outreach would be placed within the hands of Project "ambassadors" who would be assigned specific families and businesses along the ROW. This personal ombudsmen approach allows for the creation of a relationship built on sustained contact, the creation of trust, and the ambassador's ability to resolve issues quickly, especially in those cases where Project adversaries may need a special attention to address their requests.

Consider a scenario where our ambassador would speak to a Floral Park known activist who publicly spoke out against the Project. "I am empowered to personally address your concerns. Here are my numbers, my text address and my email. I am on call 24/7 for any issue relating to any Project issues. I have been personally deputized by the Governor to be your problem solver."

Other operating failures, including signal issues, have the means of diverting 3TC from key messaging regarding strategic growth and strengthening of the system. Our response to these criticisms needs to be defined, repeated and routinely distributed through a variety of mediums included in this section.

Community Service Organizations

We have long recognized the importance of community organizations that serve as potential platforms for information and outreach. We note that along the corridor there are groups that include service organizations, houses of worship, emergency response groups including fire departments and EMS volunteers, PTAs, veterans groups, sports and athletic organizations, chambers of commerce, historical societies, along with the expected civic associations.

From our experience, no one organization holds the key to reaching our stakeholders. Nearly 20 years ago, when assisting the late Alan Fortunoff, the legendary retailer, gain approval for his mall Project, The Source Mall. Rubenstein Associates had him and his son meet with neighbors in a series of coffee klatches in individual homes. It ensured that those organizations opposing his plan could not shut down a discussion with members of the community.

Placing that experience in this context, 3TC envisions sustained individual discussions with stakeholders adjacent to the Project, as well as regular contacts with a broad spectrum of community based organizations for the purpose of presenting the facts surrounding the



From experience, we know that including Civic and Community groups can create a collegial experience for all involved in a shared successful project.

Project, addressing their concerns, becoming part of their social media network, and creating the personal relationships between Project “ambassadors” and community leaders.

Special emphasis will be placed in creating 24/7 lines of communication with emergency service organizations so that we may anticipate Project issues unique to their role in serving the community. Similarly, we would establish 24/7 access with chambers of commerce to ensure we anticipate and minimize construction impacts on business districts along the corridor.

g) Management and Interface with the Press

While the Rail Road team will conduct all media interviews on Project issues, we would provide the client with support, insight and analysis regarding the constantly changing media environment so the agencies are prepared to anticipate and respond to questions.

For example, how have the community newspapers that serve the various communities along the third track corridor changed to meet the transformation from print to digital? Has the shift in business models for these publications created a loss in the newsroom of an institutional understanding of mass transportation on Long Island? Who is currently on the editorial board staff of Newsday and who has taken the lead in writing extensively on the role of 3TC? Has FIOS gained market share at the expense of News 12 Long Island, and what does that mean regarding coverage of our issue? How has the reduction in allocated space to metro stories at the Wall Street Journal impacted their coverage of Long Island? Which reporter is finding his or her reports on mass transit re-tweeted most often?

In addition, 3TC would be able to assist in any emergency situation, ensuring that all media inquiries are responded to promptly and accurately by the designated Rail Road team.

We see our role as tracking media coverage in real time so there is an insightful analysis of tenor, tone, and accuracy of coverage. Is a particular reporter providing fair and accurate coverage? Has a news outlet consistently ignored important Project milestones? Does a new reporter need to be provided with an in-person briefing? Has a journalist's reporting been fair, but is their



twitter commentary inaccurate or biased? Using online applications, MuckRack, an informational database on activities, interests and comments of journalists, we would provide weekly updates on coverage and trends so there is a better understanding of the media universe that touches the Project.

1.5.3) Provide a list and description of all deliverables from the Outreach Management team and anticipated schedule/intervals.

The following is the example of the Outreach Model for 3TC's Stakeholder Communities based upon the construction activities in the vicinity of the New Hyde Park Station. Similar approaches will be taken for each of the defined Construction Areas in Volume 2 Package 3 of this Proposal, including Floral Park Station, New Hyde Park Station, Merillon Station, Mineola Station, Carle Place Station, Westbury Station and Hicksville Station.

This model will also describe the deliverables, schedule and intervals throughout the Project duration.

New Hyde Park Station Vicinity Outreach Model Example

The different steps in the narrative below uses New Hyde Park as a specific example but one whose overall model would be replicated in addressing the specific community impact issues that need to be addressed prior to construction in the other Project communities.

A. Establishing baseline construction impact information

At the Project onset 3TC's Community Outreach Team will meet with the Rail Road's Community Affairs Team representatives to determine:

- Construction timelines for grade crossing elimination including road closings for at-grade crossings construction (identify community conflicts, i.e., street fairs, parades, block parties)
- Physical mechanics of the Project (i.e., required

onsite equipment, laydown areas, work hours, site staffing levels, location of temporary work and engineering sheds, crew parking areas, portasan locations, etc.)

- Projected site issues (i.e., road closures, pile driving, idling diesel work trains, weekend work schedules, dirt and dust mitigation, etc.)
- Special events, for example, determine will winter snows impact the construction site that in turn impacts the surrounding stakeholders and the various mitigation programs that will be implemented.
- Unique issues for ROW stakeholders (i.e., construction vibration and dust impact on vintage cars stored at Deluxe Car Storage)
- Road closure alternatives for emergency vehicles and previous discussions that may have already been held with New Hyde Park EMS, NCPD and Nassau County Fire Marshal's Office
- Whether road closures will have a significant impact on response times and whether the construction of a temporary fire station is required to prevent this potential crisis
- Discuss specific agreements made to elected officials and stakeholders regarding construction mitigation during their initial outreach program.
- Temporary relocation of New Hyde Park Station platform and its impact on New Hyde Park commuters. Establish the coordination between the Rail Road's Community Affairs and 3TC's Community Outreach Teams in regards to passenger outreach that outlines station reconstruction.
- Resident commuter parking dislocation, satellite parking and shuttle bus options, coordination with Nassau County Police, community emergency response teams, school administrators, houses of worship, etc., and others potentially impacted by changes in traffic behavior.

B. Social media landscape

Once the roadmap for construction impacts has been elaborated, 3TC will tap on the social media landscape through the following steps:

- Conduct "social listening" activities to identify third-party, digital channels or "influencers" that will be important to include in any digital community outreach and engagement efforts (i.e., New Hyde Park GOP, New Hyde Park Patch, New Hyde Park Memorial High School, New Hyde Park Facebook page)

- Benchmark volume, sentiment and content of digital conversation around the 3TC’s initiative among affected towns, constituents and stakeholders.
- Review and update the census of online social media platforms that are New Hyde Park specific (i.e., New Hyde Park GOP, New Hyde Park Patch, New Hyde Park Memorial High School, New Hyde Park Facebook page, etc.)
- Identify, access, and audit any owned digital channels including websites, email lists, blogs, and social media accounts that can be used to deliver our messages to constituent audiences.

- creation of a New Hyde Park specific factsheets. The factsheet will be used online and as handouts during Ambassador Program interaction in the community.
- Submit the copy for Rail Road review and approval.
- Forward the visuals and approved copy to an independent graphic designer under contract to the 3TC’s Community Outreach Team.
- Forward a draft layout to Rail Road Community Affairs Team for review and approval.
- Format the collateral materials for online distribution as well as traditional printing and community distribution.
- Using architectural renditions, Rail Road stock video of operating trains at New Hyde Park, and any other relevant, multimedia content to which the Rail Road has licenses to create shareable multimedia content (video, animated GIF, video slideshow, static share graphics etc.) that targets New Hyde Park social media platforms for the purpose of briefing stakeholders on construction milestones, mitigation programs, and opportunities to ask questions and seek additional information.
- Present the video to the Community Affairs Team’s Community Affairs Team for review, edits and approval.
- Discuss the option of drafting specific collateral materials that can be distributed by the businesses along the New Hyde Park ROW that will explain to their customers pending traffic disruptions and available detours that will enable them to access these commercial properties.
- Discuss the option of proposing ROW-businesses post a URL on their company’s website that links to a traffic mitigation map on 3TC’s website.



The social media landscape is only getting bigger and more complicated. Our Community Outreach Team has the experience to drive the Rail Road and stakeholders to the most effective and useful outlets.

C. Preparation of community specific collateral materials

- Secure Rail Road approved artist renderings of the New Hyde Park Project area, including station rehab and projected grade crossing streetscapes. Obtain an approved narrative of New Hyde Park construction that includes revisions and changes that may have followed initial outreach and the publication of initial community briefing documents.
- Draft and edit the narrative based on current information and visuals that will allow for the

“MOVEMENT BUREAU”

All information gathered from workshop sessions with the Design and Construction Teams and the Rail Road Community Affairs Team will be centralized in a PICC. This would be the equivalent of the Rail Road’s movement bureau.

Physically located in the offices of Rubenstein Associates, dedicated space will include a teleconferencing office, a dedicated project computer server, a central location for digital media coordinators, and public information master planning. Data entered by the Rubenstein Digital team will be available to all team members with access on a 24/7 basis.

3TC will provide existing software currently used to track work assignments and deadlines or commercially available constituent management will be purchased.

D. Modeling a New Hyde Park database

As a model for all of our community outreach efforts, all information gathered from meetings relating to the New Hyde Park section of the Project will be entered in the PICC where it will be prioritized and sorted for ease of retrieval based on geography, issues, engagement, affiliations, pending action, etc. All data received from Ambassador Personnel will be entered once representatives are physically in the field and beginning to establish themselves with community property owners and other stakeholders.

E. Information to act upon

PICC data will be reviewed during weekly team teleconference calls to determine trends, potential problem areas, speed by which issues are addressed, whether resolutions were to the satisfaction of the property owner and how often Ambassadors are connecting with their individual stakeholders.

F. Collateral Materials

Periodic 3TC's Updates that anticipate key construction milestones will be drafted for review by the Rail Road team, and then produced by a graphic designer so that it may be mailed to adjacent stakeholders, distributed at the weekend Open House, and distributed on line to all stakeholders throughout the community.

3TC's Updates will include questions from the stakeholders as well as community criticisms so that the integrity of the message and the medium is respected and acknowledged.

A video version of the Project update will be produced and distributed through social media.

G. Educational / Career Opportunities

Under the umbrella of the Ambassador Program, Cameron Engineering will engage the New Hyde Park PTA regarding the educational opportunities presented by this significant infrastructure construction Project.

Simultaneously, Cameron will reach out to the school district regarding the current STEM-PREP Summer

Institute being offered by the Sewanhaka Central High School District to determine how students may benefit by being exposed to the existing construction disciplines in New Hyde Park.

Using their experience from other Long Island projects, Cameron will create and distribute age appropriate curriculum that can be offered to middle school students online and in after school computer and science clubs along with Boy, Girl and Eagle Scout programs in New Hyde Park. Cameron will also explore community service Merit Badge eligibility for scouts by participating in a train safety education program that would be presented in coordination with the Rail Road.

Cameron will offer educational workshops regarding the role of engineering and science in creating the Project and create onsite construction tours, issuing "Project Superintendent" buttons to Middle School students and pose with construction equipment while wearing Project hardhats. With parental approval, these images and video "snapshots" will be posted on the Project's New Hyde Park specific website and social media pages.

Cameron will provide career guides to New Hyde Park Memorial High School students that connect the Project site to opportunities in engineering, construction, and Rail Road management. They will offer the school district's guidance counselors the opportunity to stage "Third Track career paths" that provide senior high school students with the means to meet, speak, and explore post-graduation career opportunities.

24/7 Construction Hotline – as noted in this document, in addition to manning a 24/7 hotline to receive stakeholder complaints, all calls will be logged with the centralized PICC where a constituent management system will provide a database on upcoming construction milestones, road closures, community events, emergency response times affected by construction, community points of contact, subject matter and complaint resolutions.

Communications and Public Outreach Plan – both the preparation, strategic overview, and its tactical implementation on the Project will be undertaken by the Community Outreach Team.

Website and Social Media – The Community Outreach Team will create and maintain a website,

issuing and posting text and visual content reviewed and approved by the Rail Road. We have taken the liberty of acquiring the URL: LIRRthirdtrackcommunity as a means of testing a name that would reflect the direct and sustained commitment to the stakeholders.

Project Database – As noted elsewhere, we are proposing the PICC that is modeled after the Rail Road’s Movement Bureau. This centralized office would use constituent management software where all information relating to the Project would be entered to ensure a complete understanding of the Project’s situational awareness. This would include contact information for distribution of both mailings and email.

Project Office – In addition to staffing the Project office this Proposal, would create community field offices staffed on weekends and placed in local libraries or fire stations that would enable local access to the third track community representatives under the Ambassador Program as detailed elsewhere.

Media alerts – 3TC’s Community Outreach Team will assume the responsibility for drafting media advisories that inform news editors, reporters, broadcast producers, online bloggers and freelance journalists of pending construction impacts. All materials will be submitted for approval to the Rail Road in a timely manner to allow for review, edits and changes. We are also proposing that video “press releases” be prepared for broadcast and cablecast news outlets that will encourage these stations to use the information provided. These video clips will show construction equipment and artist renderings of the relevant community station in question and will also be introduced onto the Project’s website and social media platforms.

Intelligent Live Information Panels will be installed in all stations and parking providing quick and relevant information to the users, reflecting construction news, upcoming changes, anticipated impacts and construction phases.

It is the belief of this team that a truly effective community communications effort ensures that the various stakeholders in the affected communities will have received this information first from the Rail Road as it underscores the commitment of the Rail Road Project team to effectively communicate with its stakeholders. We believe that when property owners receive updates from traditional media outlets, our stakeholders should

note they are receiving information on a topic they were already informed of through the Ambassador Program. These stakeholders would include residential and business property owners, school districts, first responders, community, service and civic groups, and municipalities.

We also believe that special attention needs to be focused on identifying those stakeholders who may be physically challenged or infirm and where 24/7 access to their properties may well be crucial to their health and well-being.

Government briefings would take place in coordination with the Rail Road and support their sustained outreach to village, town and county governments along the Project ROW.

Many of these municipalities have ombudsmen or “citizens service” departments that have long been recognized by their local residents as their first phone call for any issue, irrespective of whether the village, town or county is responsible for that specific problem. Accordingly, we would work closely with these line agencies to ensure they have the means to forward those calls to 3TC’s Community Outreach Team.

3TC’s Community Outreach Team proposes to begin its outreach efforts with the various emergency first responders along the Project ROW by requesting that the Nassau County Police Department, the Nassau Fire Marshal’s Office and the Nassau County Fire Commission host a summit where Rail Road representatives and the constructor team meet with key emergency response personnel to begin coordinating communications strategy and operational planning.

We will propose a dedicated task force be created among the entities that ensures an integrated approach to identifying and resolving issues, the creation of a 24/7 hotline dedicated to communicating with emergency services in real time, identifying POCs among individual emergency service organizations along the ROW, a periodic review of the effectiveness of our emergency communications system and drills that not only test the effectiveness of the communications chain but the alternative traffic routes that have been selected for emergency use during road closures.

Media Inquiries – We will draft media responses for review and use by the Rail Road as it relates to inquiries

from reporters and in coordination with the construction team to ensure the information being provided is accurate. Given the speed of the current news cycle, 3TC's Community Outreach Team will place a self-imposed one hour deadline for providing the Rail Road with a draft response.

Newsletters and brochures – 3TC's Community Outreach Team will prepare and distribute newsletters, press releases and brochures in coordination with the Rail Road and with information provided by the Construction Team.

We believe, given the diversity of the demographics along the ROW, electronic as well as hard copies of newsletters will be appropriate along with a version written in Spanish.

Email blasts and online postings will be included in this effort, but in recognition that few individuals are willing to offer their email addresses out of concern about spam, we envision social media being a key to distributing our information online.

Project Newsletter – 3TC envisions producing a monthly update on construction milestones, community outreach programs, educational initiatives, and tours of the work site, etc. "Bulletins" would be added as needed and coordinated with the Rail Road.

Outreach Support – We will work closely with the construction group to identify significant construction milestones, story ideas that may be of interest to stakeholders, construction mitigation solutions, and strategic transportation benefits to the affected communities and the region as a whole. The outreach team will also seek appropriate graphics already developed that support these messages or create them to ensure they are effective.

While we believe that weekly updates should be prepared so that stakeholders are presented with a sustained flow of information, quarterly summary reports to the community will be scheduled that will include updated visuals that can be posted online as well. These will include but are not limited to video, stills, animation, educational cartoons, etc.

Visuals – We will have high resolution professional photography taken of the Project for the purpose of allowing the photos (and accompanying video) help tell the story of construction benefits, mitigation efforts, community engagement, and related stories that support outreach and public information. These images would be key components of online messaging, newsletters and quarterly publications. In addition, these images will be made available to the media through the creation of an online "press room" at the Project's website.

Public Forums – Our Team extensive experience in supporting public forums and will be prepared to provide outreach and support staff as necessary.

Signage and Maps – As part of its integrated approach to community outreach, the Team will create and update signage, detour and construction zone maps, bus stop relocation information, road closure updates and related print materials. It will do so in coordination with NICE, town and county highway departments, emergency services, school districts, chambers of commerce, individual businesses and adjacent residential stakeholders to ensure that signage is consistent with their needs and their understanding of project mitigation.

Project Tours – Much the way East Side Access tours provided by Dragados and Picone have benefited the Project's ability to tell the story of strategic transportation infrastructure for the public good, so too, are Third Track Project tours. The community outreach team would coordinate with the Rail Road and the Construction Team for the purpose of publicizing stakeholder visits consistent with the strategic goals of community relations. These public information efforts may include photography, videography, social media content and commentary.

In addition, these visits may include school groups that integrate our proposed STEAM introduction as it relates to career opportunities in engineering, design and construction as evidenced by the work being done along the Project ROW.



1.6 Design Management

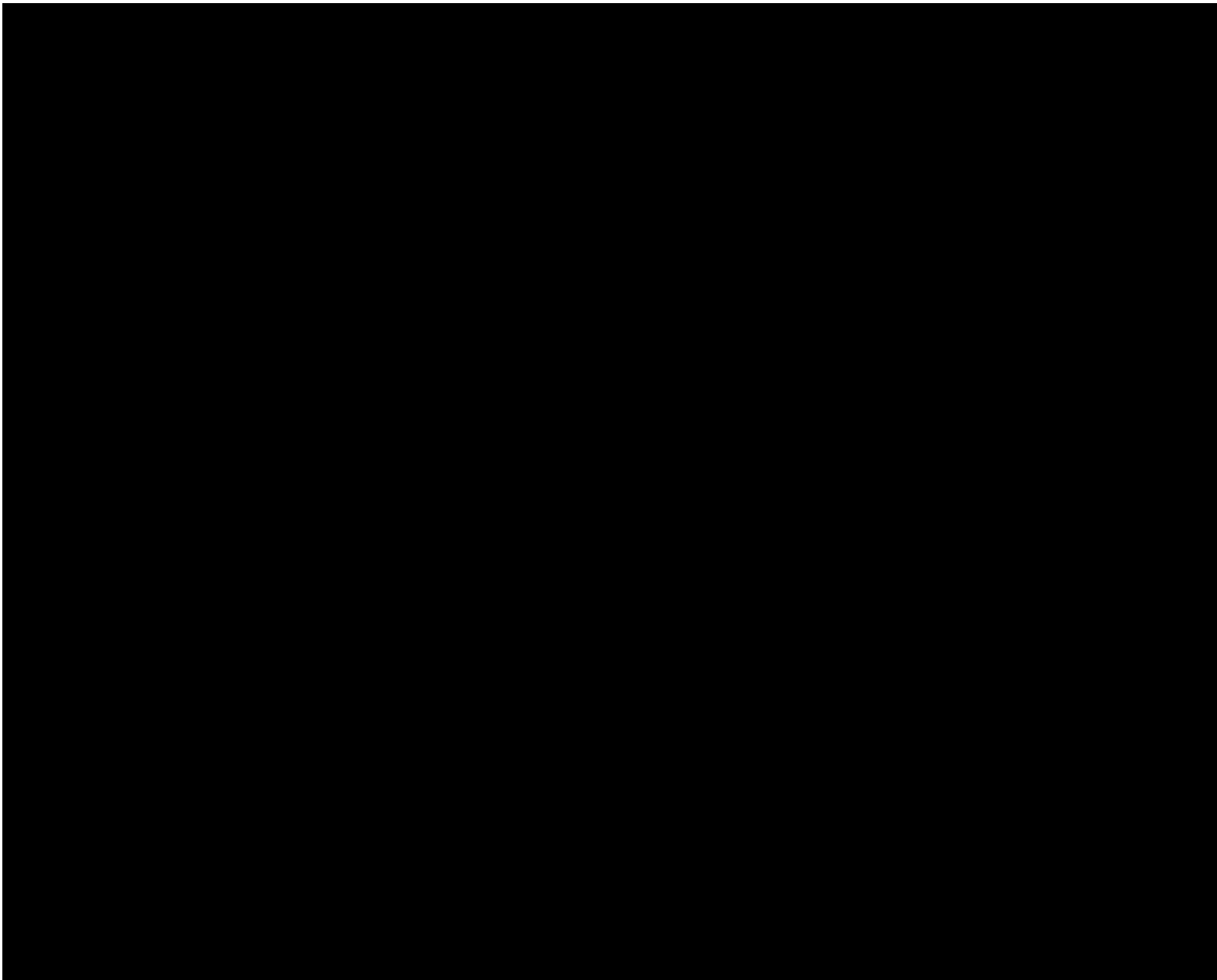
Volume 2 - Package 1: Management Approach

1.6 Design Management






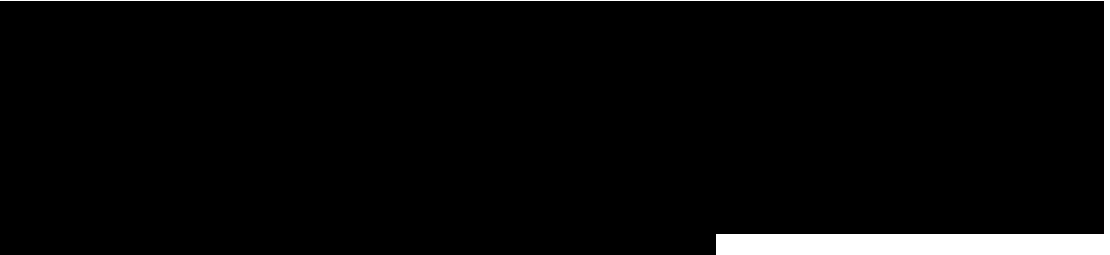





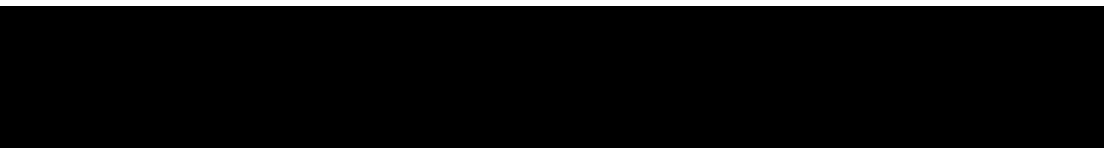





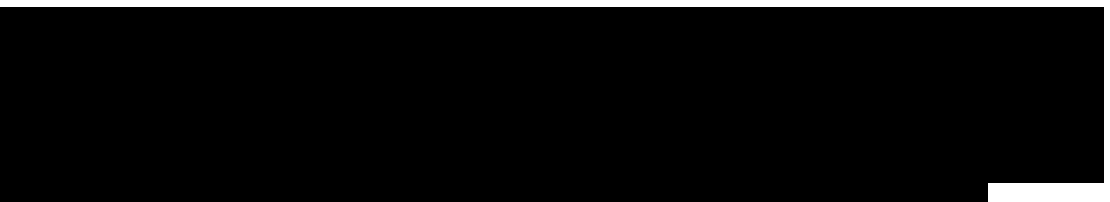
1.6.1. Identify the Design Management team proposed in the organization chart and provide a narrative outlining the quality and suitability of the proposed personnel,



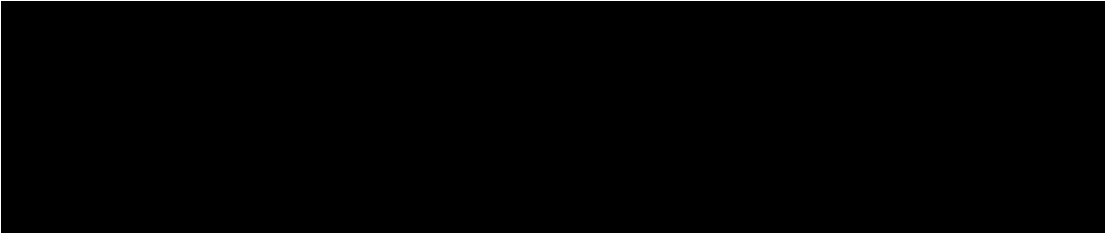



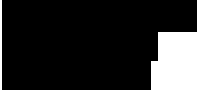




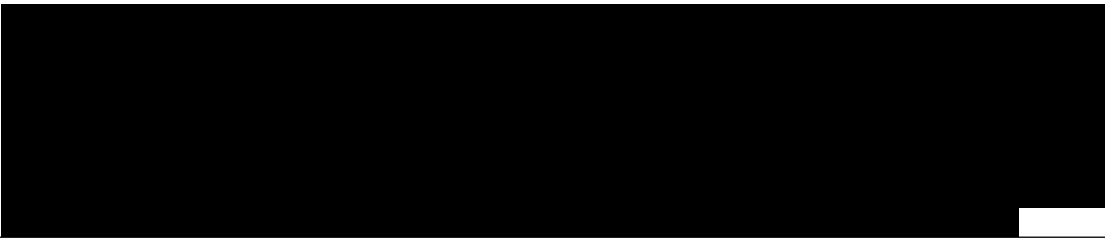


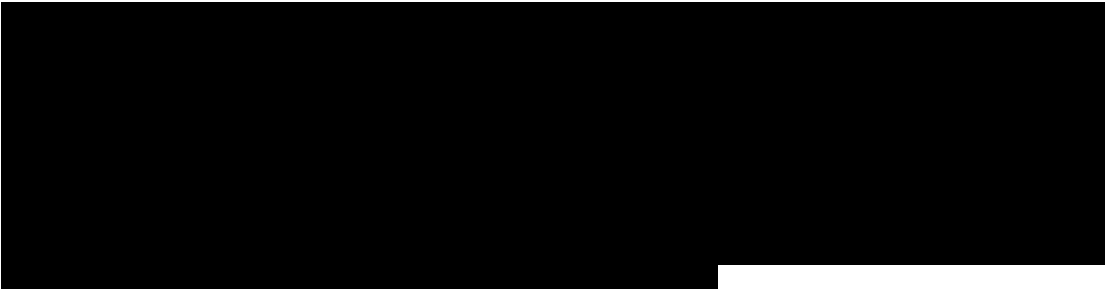


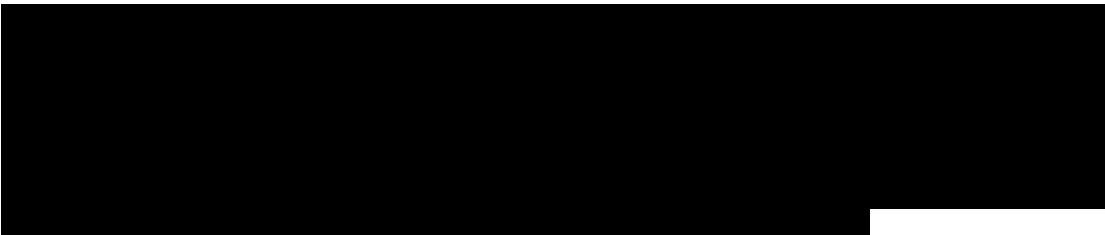
their proposed approach to design management and the anticipated roles and responsibilities.

For this Project, our assembled leadership team of professionals each bring at least 20 years of relevant experience and have the technical capabilities necessary to deliver the Project documents on-time. Additionally, many of these individuals have been working together for years and have also worked with the DBJV as well. As previously indicated, Stantec will be leading the overall design management and will be assisted by Cameron Engineering, TY Lin, LTK and a full complement of MBE/WBE/SDVOB organizations will also provide technical leadership within their disciplines.



Our Design leadership team is noted below.

Design Management Team	
Role	Responsibilities & Qualifications
 	
 	
 	
 	
 	
 	

Design Management Team	
Role	Responsibilities & Qualifications
 	
 	
 	
 	
 	
 	

Design Management Team	
Role	Responsibilities & Qualifications
 	
 	
 	
 	
 	

Design Management Approach

Our concept for design management is based upon our proven track record of complex design projects that involves full integration of design, construction, outreach, QC/QA and Rail Road staff into the delivery of the Project. Our concept is direct and uncompromising in its approach to high-quality, cost-effective, maintainable and resilient design and is based upon the following concepts:

- Assign experienced management, technical and QC staff familiar with the Rail Road, NYSDOT, Nassau County and fast-track delivery project requirements.
- Establish Project delivery or “task force” teams to focus on the technical, schedule and quality of the Project’s major design elements (Railroad systems, track, stations, walls, bridges, poles, grade crossing eliminations).
- Maintain a fully integrated and resource loaded schedule that links our design process, quality process and outreach process to the construction needs of the Rail Road and 3TC.
- Maintain effective lines of communication and Project documentation that incorporates all Project stakeholders.
- Build on the relationships established during the Procurement Phase at our co-located office between all 3TC Team members.
- Implement a robust system of QC/QA and over-the-shoulder reviews (in addition to standard ISO 9001 process) to reduce the possibility of errors and streamline the design process.

Communication

Based on our experience with other large-scale, fast delivery projects, coordination and communication between the various design disciplines, agencies and construction personnel must have clear, frequent, and routine communication protocols.

It is expected that within one month of a Limited Notice to Proceed (LNTP), the Team will be co-located within the same building in Mineola along with representatives of the Rail Road. The co-located office will provide the foundation that clearly facilitates Project communications. By co-locating, the 3TC will seamlessly coordinate the design and construction efforts with Rail Road representatives. From this office, our Design Manager, Design/Build Coordinator and leadership staff is responsible for ensuring all communications between approximately 90-160 design professionals

and 3TC Construction Team are organized and seamless to support collaborative decision making on design issues. The highlights of our communication plan are as follows:

- Multiple daily communications between DM Susan Walter, and the PM Steve Maggipinto, and the DB Coordinator, Vicente Gomez
- 15-minute briefing session at the start of every day to ensure full communications and coordination between designers, constructors, and Community Outreach Team
- Weekly meetings with design task force leaders
- Monthly meetings for all staff (motivational, general communications, upcoming design milestones and goals)
- Task Force based production teams comprised of a construction and design professionals to prevent constructability issues from arising and reduce field changes
- Use of a combination of ProjectWise for document management and a SharePoint site for collaboration as further described below. Through these tools, Project leadership and staff will track and produce all drawings, specifications, reports, shop drawings and RFIs.
- Distribution of the Design Team’s RFP drawings immediately after designation and prior to a LNTP to all affected stakeholders and arrange for early meetings to discuss their project needs and concerns. These meetings will be at our own risk, but we see value establishing these working relationships early in the final design process.

Task Forces

Our experience has shown that specialized project delivery teams or discipline based “task forces” with embedded DBJV leaders allow designers, quality control checkers and support personnel to focus on their areas of expertise and streamline the design process to meet the Project’s demanding schedule.

3TC’s design will be divided into the following six task forces:

The purpose of the task forces is all encompassing with respect to securing approvals/permits from the numerous agencies with jurisdiction over the Project. These task forces are led by the above noted individuals who have past relationships with these agencies, and can help ensure expedited construction document development and approval process. This will be accomplished based on the individuals' Project and agency knowledge and their ability to lead the design team quickly to issue/comment resolution. Of focus will be 3TC's effort to reduce the number of separate packages and different levels of submissions made to each agency to help streamline the design and construction process.

The experience of our Task Force leaders and Design Management Team assure the design process will move smoothly and transition seamlessly into the construction process minimizing changes through daily interface and direct lines of communication with the construction task force members. Additionally, potential vendors will be brought in by the construction task force leaders at milestones in the design process to help minimize changes after the construction has started.

Resource Management

We have developed a resource loaded design CPM schedule that documents the staffing needs of the Project. This schedule accounts for all management, administration, design development, and QC/QA activities. The management of these resources will be the direct responsibility of our Design Manager, Susan Walter, PE, who will have direct responsibility to make staff adjustments to ensure the Project milestones are met.

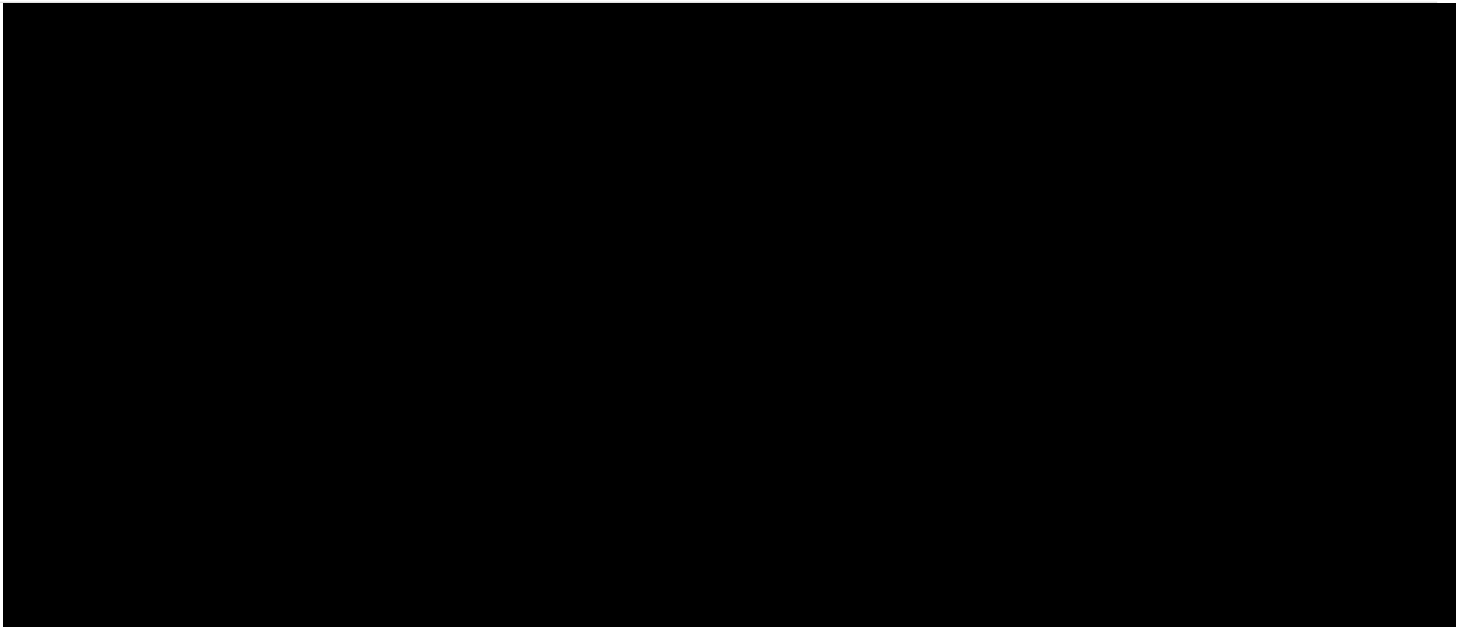
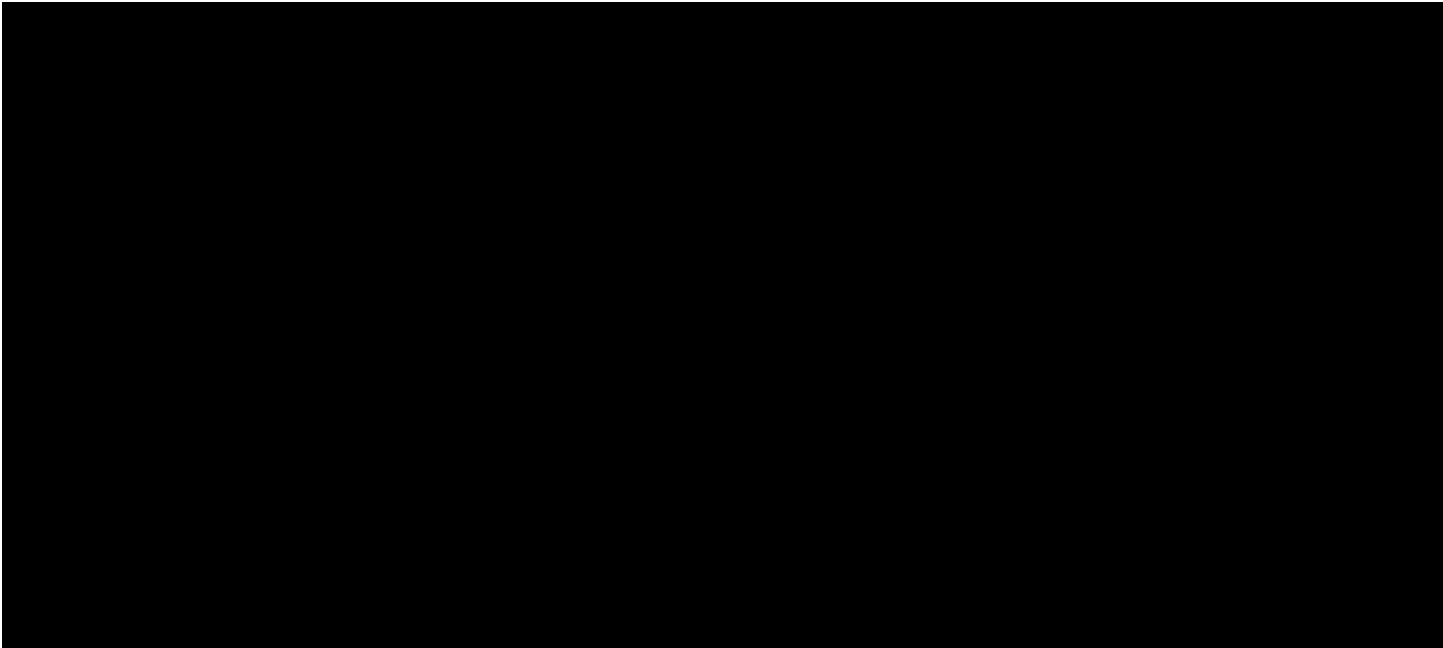
It is anticipated that approximately 90 to 160 professionals are needed during various times of the Project, ramping up quickly after the LNTP as the various task force leads prepare the design unit submittals, then ramping down as release for Construction packages are completed. Our goal is to have the majority of the design work completed within 12 months and essentially be 100% complete within 18 months of a LNTP to with the exception of track and train control.

The key will be to manage design resources available to the team and keep focused on the overall Project goals. The following charts depict the projected professional design staff that will be deployed to deliver the Project:

It is estimated that the Project will ultimately require more than 5,000 construction drawings and approximately 500,000 design hours. However, this represents only a small percentage of our design team transportation resources:








- Total Design Team resources: >30,000 people across 25+ consulting firms
- Total Design Team resources in Transportation: > 5,000 people (10,000,000 hours annually available)

Those Project resources are well in excess of what we will need to deliver the completed design in the time period required by the Rail Road in-service date



Integrated Design QA/QC

As detailed later in the Quality Section (1.13.1a) of this Proposal, 3TC will implement the checking of plans, calculations, reports and drawings through a day-to-day process for all disciplines. For design, our Design Quality Assurance Manager (DQAM), Karl Rubenacker, PE, will be supported by the following Independent QC leads that will focus on the aforementioned Task Forces:

Independent Design Check Staff	
Task Force	Check Engineer Lead
Track	Denis Broadhurst, PEng 
Systems	Kourosch Noori 
Drainage	Tim Hinrichs, PE 
Utilities	Joseph R. Amato, PE 
Grade Crossings	Stelios Bertos, PE-Structures Juno Garcia, PE -Roadway Design & Geometrics Chris Mojica, PE -Traffic Management  Greg deBruin, PLS, PE-Survey 
Stations/Aesthetics	Mark Yoes, RA 

The sequencing of our design process and the QC process is summarized in the flowchart on the next page, as well as the Requirements Management Process in Section 1.6.3 (facing page).

All design submittals are subject to formal checking/QC procedures in accordance with the approved Design Quality Management Plan (DQMP). All design submittals will be verified by the DQAM to confirm they satisfy the quality program requirements prior to being approved by the Design Manager, Designer of Record and the Quality Manager for distribution to the Rail Road for review or issued for construction.

1.6.2. Identify what work will be done at the Project Office, and what will be done remotely.

An integrated Project team of 25+ designers and builders have spent the last several months working side by side in Stantec’s offices. The 3TC forces will co-locate a majority of our design team to a Project Office adjacent to the Project site upon the Notice of Award. This office will be established in consultation with in-house Rail Road forces. Our preference will be to have an open floor plan to facilitate collaboration and build a sense of teamwork.

The only personnel not located at the Project Office will be specialty sub-consultants and staff needed less than 75% of their time.

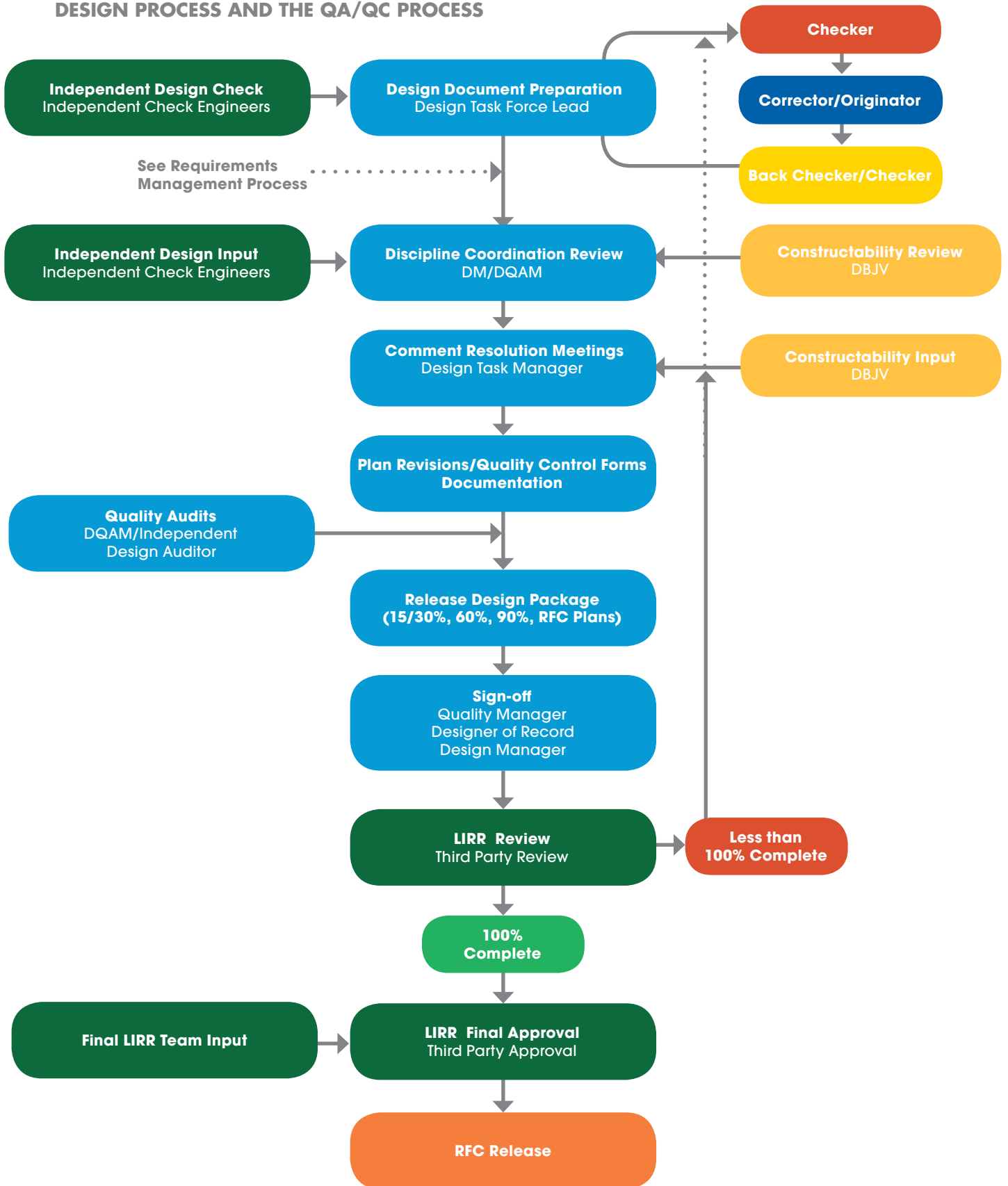
As noted above, it is anticipated that approximately 80 to 125 professionals are needed during various times of the Project, ramping up quickly after the LNTP as the various task force leads prepare the design unit submittals. It is estimated that approximately 20 to 25 professionals will be located in various NYC and other regional offices rather than the Project Office in Mineola.

The QC process as discussed in Section 1.13 will occur in the Project Office. The Quality Assurance process will be conducted in the Project offices and all other Project design production offices.

The support staff not to be located at the Project Office will be integrated into the Project in a manner similar to the way we achieved design integration during the Project pursuit phase. 3TC held weekly face-to-face meetings at our current co-location office to establish a level of comfort between all parties. Breakout meetings were held with subsets of the meeting participants to maximize production and effective decision making.

Following the Design Process and QA/QC Process flow chart is a series of tables framing the different deliverables associated with each submission package, the review and approval parties prior to construction, and where the deliverables will be produced. We will separately monitor through a ProjectWise based document log the status of each individual and group of deliverables to be submitted. The electronic files of these design deliverables will then be utilized to generate construction shop drawings, including such things as concrete formwork/pour drawings, steel fabrication and erection drawings and canopy shop drawings.

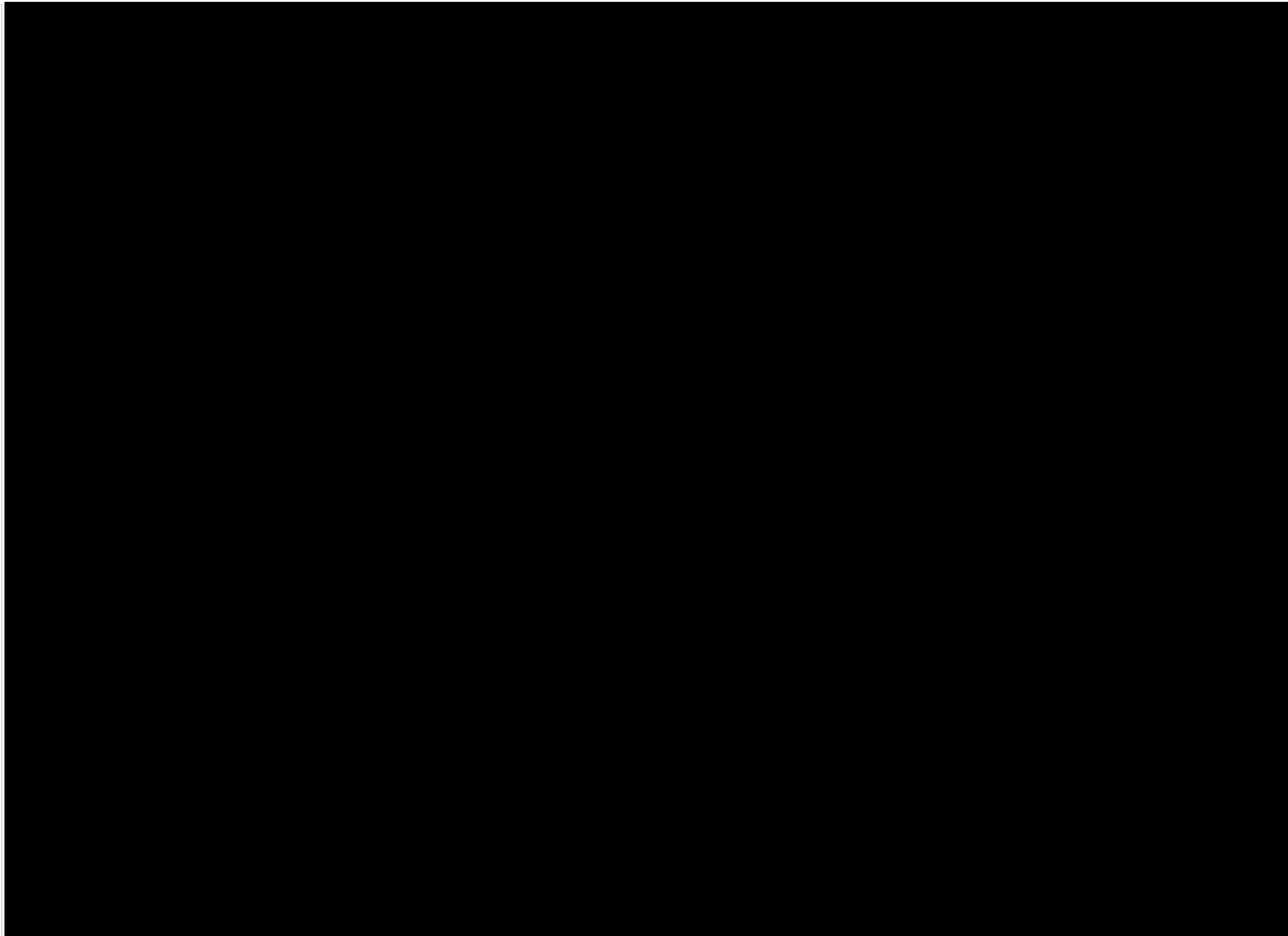
DESIGN PROCESS AND THE QA/QC PROCESS



These tables demonstrate how Project elements are packaged and how design production is distributed over time to reduce peaks and valleys in the review process by the Rail Road, Nassau County, NYSDOT, Local Government or any agency having jurisdiction (see the following Table of Roadway Jurisdiction and Agency Having Jurisdiction at Grade Crossing Eliminations).

Specifically, different packages that require common technical expertise will be distributed over multiple weeks so to keep the Project on schedule and avoid impacts from delays in the review process. The tables also demonstrate the relationships of various design packages that serve as predecessors to other design packages.

Below is a chart that depicts how many of the 15 technical packages will be submitted each month.



ANTICIPATED SUBMISSION PACKAGES

Months from LNTB

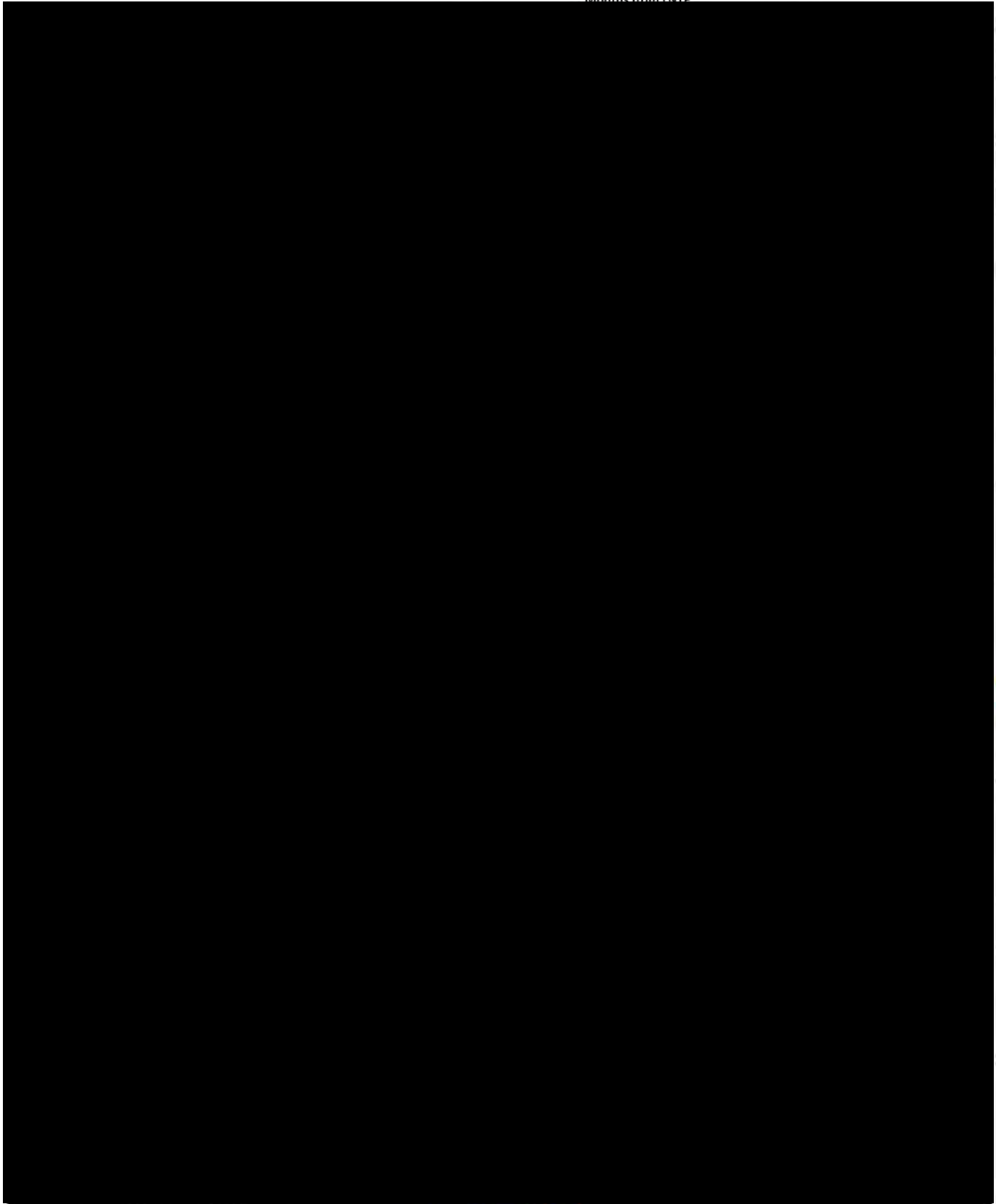


TABLE OF ROADWAY JURISDICTION		
ROADWAY NAME	LIMITS	AGENCY
COVERT AVENUE		NASSAU COUNTY DEPT. OF PUBLIC WORKS
WAYNE AVENUE		VILLAGE OF NEW HYDE PARK DEPT. OF PUBLIC WORKS
2ND AVENUE		VILLAGE OF NEW HYDE PARK DEPT. OF PUBLIC WORKS
3RD AVENUE		VILLAGE OF NEW HYDE PARK DEPT. OF PUBLIC WORKS
SOUTH 12TH STREET		VILLAGE OF NEW HYDE PARK DEPT. OF PUBLIC WORKS
2ND AVENUE		VILLAGE OF NEW HYDE PARK DEPT. OF PUBLIC WORKS
3RD AVENUE		VILLAGE OF NEW HYDE PARK DEPT. OF PUBLIC WORKS
NEW HYDE PARK ROAD		NASSAU COUNTY DEPT. OF PUBLIC WORKS
CLINCH AVENUE		VILLAGE OF GARDEN CITY DEPT. OF PUBLIC WORKS
GREENRIDGE AVENUE		VILLAGE OF GARDEN CITY DEPT. OF PUBLIC WORKS
PLAZA AVENUE WEST		VILLAGE OF NEW HYDE PARK DEPT. OF PUBLIC WORKS
PLAZA AVENUE EAST		VILLAGE OF NEW HYDE PARK DEPT. OF PUBLIC WORKS
MAIN STREET		NASSAU COUNTY DEPT. OF PUBLIC WORKS
FRONT STREET NORTH		VILLAGE OF MINEOLA DEPT. OF PUBLIC WORKS
FRONT STREET SOUTH		VILLAGE OF MINEOLA DEPT. OF PUBLIC WORKS

TABLE OF ROADWAY JURISDICTION		
ROADWAY NAME	LIMITS	AGENCY
WILLIS AVENUE		NASSAU COUNTY DEPT. OF PUBLIC WORKS
2ND STREET		NASSAU COUNTY DEPT. OF PUBLIC WORKS
SCHOOL STREET		TOWN OF NORTH HEMPSTEAD DEPT. OF PUBLIC WORKS
RAILROAD AVENUE		VILLAGE OF WESTBURY DEPT. OF PUBLIC WORKS
URBAN AVENUE		TOWN OF NORTH HEMPSTEAD DEPT. OF PUBLIC WORKS
RAILROAD AVENUE		TOWN OF NORTH HEMPSTEAD DEPT. OF PUBLIC WORKS
BROADWAY		TOWN OF NORTH HEMPSTEAD DEPT. OF PUBLIC WORKS
SOUTH TYSON AVENUE	AT LIRR MAINLINE	VILLAGE OF FLORAL PARK DEPT. OF PUBLIC WORKS
PLAINFIELD AVENUE	AT LIRR MAINLINE	NASSAU COUNTY DEPT. OF PUBLIC WORKS
DENTON AVENUE	AT LIRR MAINLINE	VILLAGE OF GARDEN CITY DEPT. OF PUBLIC WORKS
GLEN COVE ROAD	AT LIRR MAINLINE	NASSAU COUNTY DEPT. OF PUBLIC WORKS
NASSAU BOULEVARD	AT LIRR MAINLINE	NASSAU COUNTY DEPT. OF PUBLIC WORKS
CHERRY LANE	AT LIRR MAINLINE	TOWN OF NORTH HEMPSTEAD DEPT. OF PUBLIC WORKS
MEADOWBROOK PARKWAY	AT LIRR MAINLINE	NEW YORK STATE DEPT. OF TRANSPORTATION

Authorities Having Jurisdiction at Grade Crossing Eliminations							
	Covert Avenue	Urban Avenue	NHP Road	School Street	Main Street	S. 12th Street	Willis Avenue
Verizon	X	X	X	X	X	X	X
Verizon Business	X		X			X	
Lighttower	X		X	X			
AT & T					X		
Alice USA	X		X			X	
Level 3	X		X	X			
Crown Castle	X		X	X			
PSEG-LI	X	X	X	X	X	X	X
National Grid	X	X	X	X	X	X	X
Water Authority of Western Nassau	X		X			X	
Village of Mineola Water and Sewer		X		X	X		X
Garden City Park Water District			X				
Village of Garden City Water and Sewer			X				
Village of Westbury Water District		X		X			
Nassau County Department of Public Works	X	X	X	X		X	
Town of Hempstead	X		X			X	
Town of North Hempstead		X		X	X		X
Village of New Hyde Park	X		X			X	
Village of Garden City			X				
Village of Mineola		X		X	X		X
Village of Floral Park	X						
Village of Westbury				X			
Village of Stewart Manor	X						
Hamlet of New Cassel		X					
Nassau County	X	X	X	X	X	X	X

1.6.3) Describe the systems integration approach to be used for design to ensure environmental, construction, community and durability issues are incorporated

Integrating a Mega-project

3TC has presented a talented Design Team to perform the tasks required to complete this very complex Project. But it takes more than great designers it takes a process to integrate all those designs into an overall functional Third Track System. Many multi-discipline projects big and small succeed or fail based on the processes and personnel in place to coordinate the design teams to develop and design the interfaces between each of the design elements whether they be electrical, mechanical, structural, environmental or civil. For this reason, the 3TC Team's systems integration design approach is to adopt a proven system based on the Systems Engineering process developed using the guidelines established in the INCOSE Systems Handbook v 3.2.2 and/or ISO/IEC 15288.

The systems approach to the Project is designed to develop and track the attainment of requirements, manage the diverse multi-disciplinary interfaces so that safety, sustainability, durability and resiliency are part of our designs, as well as to manage and control risk. The enormity of the Project, the impact on the Rail Road's performance, the number of interfaces with impactful schedule implications requires that not only individual designs are monitored, but that gray areas between them are managed and implemented without major negative events.

The Systems Integration Engineer (SIE), Edward McDonald, will provide a needed level of coordination to the management of the Project schedule and compliance to requirements. Therefore, this process will be initiated prior to the start of design and will not be completed until the Project is in the warranty phase. The SIE must first establish ground rules for all disciplines that place all on the same page and ensure that each discipline focuses not only on their design but they are cognizant of the impacts they have on the integrated design. To start this process, the SIE generates a Systems Management Plan (SMP) suited for the work on this Project. The interfaces between the systems elements; signaling, communications, security, traction power, third rail, conduit and trough design, messenger requirements, and track are to be expected but these systems must also interact or integrate with the station

design, parking structures, TVMs, grade separation work, bridge widening, utilities, high tension poles, hybrid poles, and other Rail Road projects occurring in parallel (i.e. PTC, Rail Road tie replacement). The voluminous number of design requirements, operational requirements, and design interfaces that must be met will need to be properly managed and controlled to lead the Project to a successful completion for the Rail Road.

Systems Engineering Process

The Systems Engineering Process, (SEP) will encompass the entire Project life cycle starting with the allocation of design requirements by discipline, developing the interfaces between disciplines, implementing those designs during construction and finally testing or validating that the contract requirements have been met. The contractor will follow established Systems Engineering practices in delivering the Project, including:

- Providing a structured and auditable approach to attaining requirements, managing interfaces and controlling risks throughout the Project life cycle;
- Formalizing the processes in all stages of the Project;
- Elicit agreement between design disciplines to mitigate change and rework;
- Provide the basis to generate Test Plans and Commissioning Procedures;
- Manage the System Security and Hazard Management Plan (TVRA, PHA, OHA, FMEA)
- Assist in the development of required System Manuals and Training; and
- Using the Requirements Management Tool to:
 - Capture and manage system requirements in the Requirements Management Database
 - Ensure proper traceability from the Contracts Document to test results
 - Manage changes to requirements
 - Manage the RAM (Reliability, Availability & Maintainability), CAMP (Commissioning, Acceptance and Maintenance Plan), Durability Requirements and any other multi-discipline requirements.

The SEP will define the engineering processes and activities undertaken by the 3TC engineering staff for the design, delivery, and testing of the third track. The systems design solution will focus on complying with Contract specifications and meeting the integration needs. Several software tools will be utilized to

support this effort. One tool that will be used by the SI will be the Interface Control Documents (ICD). The process of creating and maintaining an ICD includes communication between the design disciplines facilitated by the SI. A signoff by all interfacing parties of the ICD implies the design is acceptable and compliant with the contract prior to the initiation of any design effort. The SI manages these documents and will eventually use them as a basis for verifying the designs and validating the final construction for adherence to requirements. The following are the basic elements of an ICD and are managed by the SI.

- Provides a description of the interface including why it exists;
- Establishes system boundaries for each interface;
- Describes the agreed to solution between the interfacing parties;
- Contains references to contract requirements and or user operational needs;
- Provides a record of formal sign-off by the interfacing parties which confirms the plan.

Requirements Management

Requirements are the basis from which the overall system is designed and constructed, and provides the designer with the basis for determining when designs are complete and in compliance with Rail Road requirements and standards. A clear identification, definition and management of requirements are essential to ensure the delivery of a functioning and compliant system.

On this Contract, the Rail Road has established prescriptive and operational requirements and various industry standards which will be the basis for our management of the requirements. Managing requirements is not just a beginning of the Project or just an end of the Project activity, it parallels the Project from start to completion. Failing this attentiveness to the requirements especially if they change, can have drastic negative impacts on a project in terms of cost and schedule. Therefore, the 3TC Team will manage this process until we are certain all work complies with the requirements (see Testing and Commissioning Section 1.16). Requirements will be tracked and traceable through the design verification, through construction, and only show completed when the test or inspection sheets that validate the requirement has been attained.

To manage the significant number of requirements, both specified and derived on this Project, it is necessary to implement a proven process and a proven tool with the capacity and flexibility to handle the volume of requirements on this Project. The Requirements Verification Traceability Matrix (RVTM) facilitates the Requirements Management process by serving as the document used to record all requirements for the Project. It links requirements to multiple Project elements, and allows those requirements to be traced throughout the life cycle of the contract. The RVTM tracks compliance during the design and construction to technical contract requirements, by providing references to objective evidence demonstrating the requirements have been fulfilled.

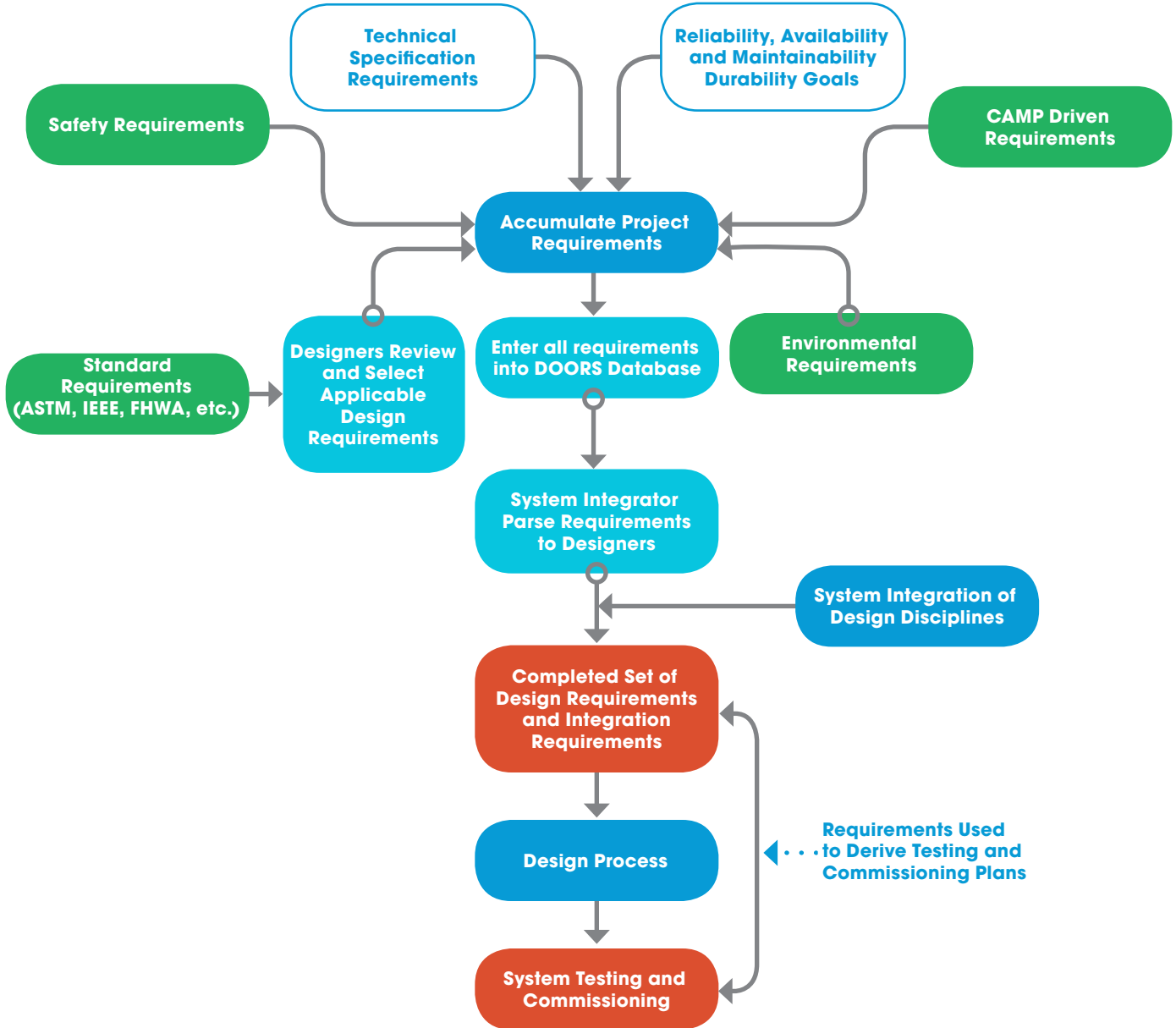
An important subset of the RVTM is the Certifiable Element List (CEL) where the Contractor certifies compliance with critical elements by requiring an additional review and sign-off. They are specifically required for the safety certification but Certifiable Elements include:

- **Environmental** requirements and mitigations as found in environmental documents including EIS/EIR, permits and approvals
- **Safety** requirements including hazard mitigations
- Security requirements including threat mitigations (Detailed in a Threat and Vulnerability Risk Assessment – TVRA)
- **Interface** items with other contracts and third party agreements

It is often hard to understand the magnitude of the volume of interfaces on a project of this size that must be managed to have a successful project. To illustrate this we have constructed an Interface Map for Third Track showing design elements and their interface with other design elements and with the major third parties dependent on this Project are included in the table following the Requirements Management Flow Chart.

The interface map includes the interfaces determined to exist between the major design elements and the specialized interfaces between design and third parties, the CELs, and the Rail Road. This Map excludes the numerous interfaces within each discipline and the many cases the X's represent multiple design interfaces. All told there are 103 design interface points (light blue shaded area) and 88 design to third party interface points (light yellow shaded area) making the design management process easier to visualize.

REQUIREMENTS MANAGEMENT FLOW CART



Third Track Design Interface Map	Design Elements																				Third Parties			CELS		LIRR												
	Bridge structures	Communication Network	Conduit, Trough and Ductbank	Corrosion Protection	Divide Tower	Drainage Systems	Existing Systems	Grade Separations	Jamaica Control Center	LIRR Security Center	Parking Garage Communication	Poles	Retaining walls	Roadways	Security Systems	Signal SCADA	Signals & Train Control	Sound walls	Station Buildings	Station Communications	Station Electrical Systems	Station platforms	Switch Heaters	Third Rail Heaters	TP SCADA	Track	Track support system	Traction Power	Small business	Utilities	NY DOT	Communities	Environmental	System Safety & Security	LIRR Force Account	LIRR Operations		
Bridge structures		X			X										X										X	X							X	X	X	X		
Communication Network	X		X			X	X	X	X	X	X				X	X	X				X			X	X	X	X							X	X	X		
Conduit, Trough and Ductbank						X	X	X			X						X		X	X	X	X	X	X	X	X	X	X								X		
Corrosion Protection						X	X																			X	X											
Divide Tower							X									X	X									X	X									X	X	
Drainage Systems						X	X				X	X	X				X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Existing Systems							X				X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Grade Separations													X													X	X									X	X	
Jamaica Control Center															X									X	X	X										X	X	
LIRR Security Center															X																				X	X	X	
Parking Garage Communications															X								X												X	X	X	
Poles												X														X	X	X	X	X	X	X	X	X	X	X	X	
Retaining walls																	X									X	X											
Roadways														X												X	X	X	X	X	X	X	X	X	X	X	X	
Security Systems															X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Signal SCADA																X										X	X										X	X
Signals and Train Control																										X	X										X	X
Sound walls																											X											
Station Buildings																				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Station Communications																					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Station Electrical Systems																					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Station platforms																											X											X
Switch Heaters																										X												X
Third Rail Heaters																										X												X
TP SCADA																										X	X	X	X	X	X	X	X	X	X	X	X	X
Track																										X											X	X
Track support system																										X											X	X
Traction Power																										X											X	X

To reliably and feasibly manage such a large number of individual requirements, many that impact multiple design elements, a software tool is required. 3TC has chosen to use IBM DOORS because it is an easy tool to use and has the ability to convert line items into spreadsheets for easier sorting and searching capability. Every requirement will be parsed and allocated to a responsible engineering lead for use in their design. Each requirement will be tracked and will be traceable throughout the design so that designs can be verified against requirements. Then they will be utilized again by the 3TC Test Team to generate Test Plans and Procedures that validate the final product against the requirements. When the requirements have all been traced to completion (test documentation, inspection documentation, computer simulation reports, etc.) then the Rail Road can be satisfied that the contract, from a technical standpoint, has been completed.

Communication and Interaction

No project succeeds without communication and no complex design system can be managed without the proper tools to configure and control the design process and that communication. Our approach identifies project needs and selects the best tools and systems for the Project which connects the tools and data created for use across multiple processes and disciplines using our project collaboration environment.

3TC will utilize a project delivery system to execute and monitor the Project. Our overall system includes the use of a Document and Data Control Plan/Project Implementation Plan centered around a digital database. In addition to the IBM DOORS as noted, the Design Team will use a variety of software tools to deliver the Project.

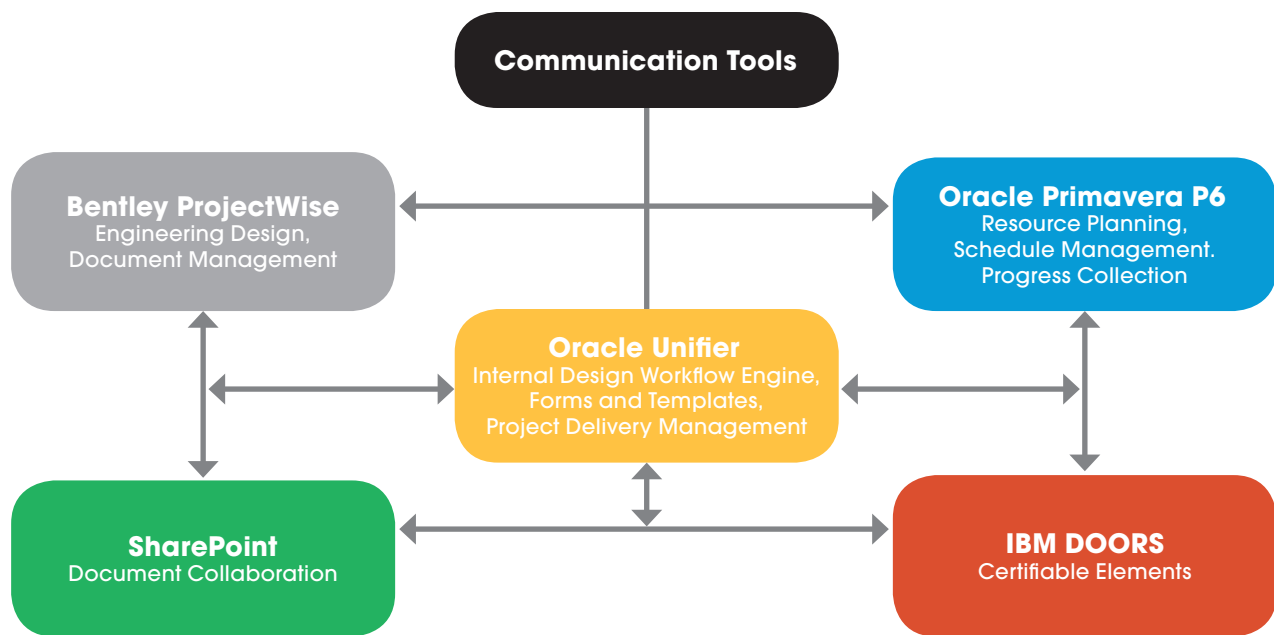
Bentley ProjectWise will serve as our overall document management system and SharePoint will be utilized in the collaborative development of Project reports and

documentation. These tools will serve the 3TC Team for multiple forms of collaboration in support of the designs as well as the design interfaces. The ProjectWise data base will be the controlled database for the Project while the SharePoint site will allow all parties to view designs, documents, interface requirements etc. and upload information or use in the design without impacting the controlled design documentation. ProjectWise will be accessible to all parties (Design Team, 3TC, the Rail Road, NYSDOT, Nassau County, etc.) possessing the necessary security clearances.

Oracle Primavera P6 is our Planning/Scheduling tool. 3TC will utilize P6 as our primary tool for overall management planning to achieve a timely delivery of the Project to the Rail Road. Using this software, a detailed project schedule will be developed incorporating time, resources and costs for design, Owner and 3rd Party reviews, construction and utility company relocations. As unforeseen impacts or 3rd Party delays occur the schedule will be adjusted and management can make informed decisions regarding reallocation of resources, re-sequencing of activities and/or additional resource

requirements. This proactive view of the schedule and resource requirements will reduce risk of both cost overruns, and the Project not being delivered on time. Working with all the stakeholders, 3TC will use P6 to capture the full scope of the Project within a structured Work Breakdown Structure (WBS). The WBS is integrated with the construction packaging scheme so that design is tracked and monitored holistically within all Project constraints. This allows us to effectively predict the resource requirements needed within the dynamics of complex projects. Our schedules capture engineering, construction and owner-related tasks and milestones to support complete visibility of the critical path. Progress of the activities is updated on a bi-weekly basis.

Oracle Unifier is designed to seamlessly connect project data/information together in order to minimize transposition errors and time lag when moving data across processes. The strength of Unifier is its workflow abilities. The workflow functionality allows projects to be fully aware of the status of all processes occurring at any time during the life cycle of the Project.



Processes available in Unifier include the following:

- Requests For Information
- Change Requests Log
- Conversation Log
- Risk Register
- Issue Register
- Key Decision Log
- Action Item Log
- Punch Lists
- Field Work Directives
- Daily Field Reports
- Meeting Minutes

As can be seen from the typical construction drawing production cycle illustrated at the left, a multidisciplinary approach is required to produce the thousands of drawings required to execute the Project typical to transit related projects.

We envision the cycle depicted to occur at the 30%, 60% and the 90% submission. The contents of each submission (drawing list and specification index) will be electronically rec-orded and tracked in the Project's Document and Data Control Plan Management System, which will involve the use of Project Wise and Unifier. Our strict document controls will facilitate communication and agreement between the disciplines in order to mitigate changes and reduce the chance of rework. Our Systems Engineering approach will ensure that the interfaces are de-signed, agreed to by the designers, and any special requirements have been verified in the de-sign process and included in the testing and inspection process to validate the final product.

The following table represents a sample of the integrated discipline monitoring that will occur for all design changes until a compliant agreed solution is developed:



Sample Design Comment Checklist and Resolution Process								
ID #	Change	Disciplines Affected	Task Force Affected	Qty.	Unit	Cost	Schedule Impacts (days)	Risk Effects
1	Epoxy reinforcing -> black iron	Structures, Electrical	Structures, Civil, Station, Systems	xxxx	Lbs.	(\$yyyy) Less material costs, less bonding costs	zzzzz	Cathodic protection bonding not required, but now exposure to deicing salts
2

Tracking the basics such as drawing revision control and change control is assisted by the tools we have decided to use the following is a sample log to be maintained on a daily basis to track the evolution of contract documents, its issue date of any given individual or set of documents. At the end of each work day, a listing of all drawings and specs will be posted in the top layer of the ProjectWise file structure with the latest issue date and time.

Sample Revision Log									
Document Name	ID #	15% Issue Date	15% Comments	60% Issue Date	60% Comments	90% Issue Date	90% Comments	Release For Construction Date	Revision No. x
Station Drawings									
XXXXX	Dwg. No.	Date + Link to PDF Dwg.	Date + Link to Comments	Date + Link to PDF Dwg.	Date + Link to Comments	Date + Link to PDF Dwg.	Date + Link to Comments	Date + Link to Comments	Date + Link to PDF Dwg.
YYYYY	Dwg. No.	Date + Link to PDF Dwg.	Date + Link to Comments	Date + Link to PDF Dwg.	Date + Link to Comments	Date + Link to PDF Dwg.	Date + Link to Comments	Date + Link to Comments	Date + Link to PDF Dwg.

Up to this point in the discussion we have described how the design integration will be performed, controlled and documented but this question asked us to go further and describe how specific topics will be integrated into the overall design plan. Let's take each one individually keeping in mind that the overarching processes and tools are in place.

Environmental Integration

In the Systems Approach to integration the environmental requirements are highlighted along with safety related requirements in a special category called the CEL (Certifiable Elements List) which requires special handling and reporting and each requirement must be individually certified across every design element that impacts those requirements.

Environmental and permitting issues will be identified early in the process and tracked via a matrix/database, and will be modified over time through regular monitoring and communication with the agencies/municipalities, elected officials and the community. The following steps will be taken to ensure that appropriate Environmental issues are integrated into the design process:

1. Include environmental permitting as core parts of the design and construction process and include these topics in all Project meetings.
2. Develop a requirements list (CEL) of environmental performance measures identified in the FEIS along with performance metrics to ensure compliance
3. Develop and institute a communication strategy on environmental and permitting issues among the design team, construction team, agencies/municipalities, elected officials and the public.
4. Assign full-time staff dedicated to environmental and permitting compliance and integrity including an agency contact. Including regular field monitoring and updating in the environmental matrix/database this group will report and document compliance and non-compliance through the Requirements Management System.

Construction Integration

Work during construction is guided by the RFC design plans, applicable codes and ordinances, the limitations caused by the surrounding neighborhoods, the interaction with the Rail Road and application of proper construction means and methods.

The following steps will be taken by the engineering and construction groups with 3TC to ensure compliance with applicable codes and improve performance of the final product to be constructed.

1. Past history of design issues encountered during prior Rail Road projects

2. Multiple meetings with regulatory and agency officials
3. Interagency meetings to resolve conflicts
4. Independent peer review
5. Retention of Code Review experts on an as-needed basis
6. Use of professional societies and associations as required resolving conflicts

As indicated above, a construction professional will be integrated into each task force and will communicate daily with the task force design manager and Design/Build Coordinator. Specific issues that will be reviewed by construction personnel will include:

- Construction team access to work area
- Constructability within available and acquired ROW and easements
- Equipment access to work area
- Laydown areas for construction materials
- Hours of operations allowed
- Overhead and lateral constraints
- Functionality
- Construction Staging
- Construction Phasing
- Support for testing
- Final Site restoration

Community Integration

As noted in Section 1.5, timely information presented to Project stakeholders is the key to building trust between the community and Project representatives. This requires the ability to work collaboratively, not only within the public affairs group, but among members of the various Project teams (i.e., community outreach, engineering, construction, government). The elimination of traditional silos that isolate infrastructure project teams is the key to meeting the strategic community affairs objectives stated by the RFP. The Design and Construction Teams must be aware of the specific requirements in the contract that were included to meet the needs of the surrounding communities and local businesses.

Community affairs will be viewed as an equal partner among the construction and engineering disciplines required to successfully build the third track.

As noted previously, we envision the creation of an internal Project Information Coordinating Center (PICC)

that brings under one roof the various elements required for an effective engagement of ROW stakeholders. We also envision the use of "Project Ambassadors" who would be assigned specific families and businesses along the ROW so that those local people feel a part of the overall Third Track process or in short "integrated." This personal approach allows for the creation of a relationship built on sustained contact, the creation of trust, and the ambassador's ability to resolve issues quickly.

The Project Information Coordinating Center and the Project Ambassadors will be integral parts of our Design/Build Task Forces. That way the concerns of the Project stakeholders will have a seat at the design and construction table. As much as any requirement those that deal with the local communities are important and manageable at a process level and will be tracked similar to those technical requirements.

Durability Integration

On the traditional Rail Systems elements of a project the RAM process during design and tracked through warranty are very similar to the Durability requirements generally applied to civil structures. Just as processors have forecasted failure rates or projected useful life, civil structures such as bridges, roads, retaining walls and station platforms have a Durability requirement. These requirements can be developed by the Rail Road or can be derived by using standards such as the FHWA, NYSDOT, or Nassau County design guidelines.

On civil design projects, the structural requirements will be established to guide the designer by providing a lifetime expectation. For this Project, new bridge structures will be designed for a 100-year service life, existing bridge elements in need of repair will be based on a 20-year service life and new retaining walls will be designed for a 75-year service life. These become the requirements for durability and the designers will specify components, bridge types, concrete mixes or treatments that will meet these design requirements.

As RAM requirements are injected into the electronics designs so will durability requirements be used for civil structures. Additionally, as with the RAM requirements these will be tracked and traced from design through construction to ensure compliance via testing, inspection or simulation.

The systems integration approach is a systematic, documented and traceable process that addresses basic contract requirements as well as special needs for the community, the environment, the construction process and the long-term service to the Rail Road.

One additional and very important output of this process is that it provides a basis for the development of the Test Plans, QC inspections and the test procedures that will validate the final product is compliant and support the eventual commissioning of the third track.

1.7 Construction Management



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- Seamless interaction and effective communication among the construction, design, quality, inspection staffs, public and community outreach team, and most importantly, with the Rail Road’s Project team.
- Control of subcontractors and suppliers. Subcontractors need to be managed properly and held accountable for the same high-quality workmanship as the rest of the Team. It is essential to ensure timely fabrication and deliveries of long-lead time materials.

1.7 Construction Management

1.7.1) Identify the Construction Management team proposed in the organization chart and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to construction management and the anticipated roles and responsibilities.

3TC’s Construction Management Team is organized to manage the construction in an efficient and effective manner. Our organizational approach is based on more than a hundred successful design-build (DB) projects completed in the past decades. Among the approaches we focus on is the role of the DB Coordinator that maintains a strong link with the Design Team during construction and Project completion (detailed description can be found in Section 1.7.4).

Key elements of our construction management organization include:

- Hierarchical responsibility and accountability. We have maintained this approach to construction for over 100 years of combined experience and have earned a premier reputation for completing high quality work performed on-time and budget without any claims or disputes

The accompanying Proposed Construction Organization chart defines the 3TC and clearly shows the seamless interaction between functional groups and the Rail Road, as well as coordination with other agencies, contractors, and utilities.

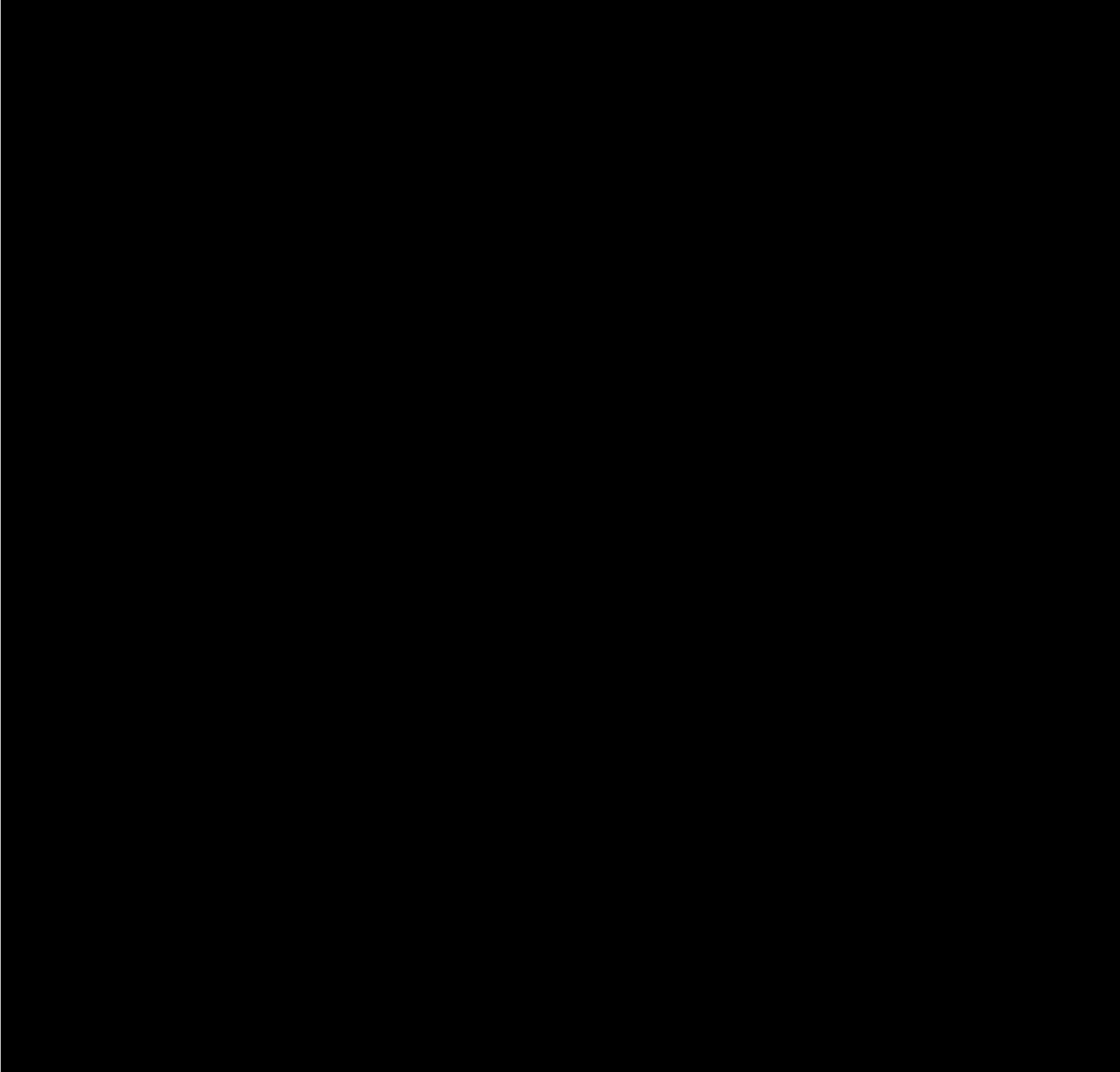
The personnel assembled represent a Team of highly qualified professionals with considerable bridge design and construction experience in an operating railroad environment. Our ability to provide the highest level of service is exemplified by our history of experience in providing similar services for clients, such as the NYSDOT, NYCDOT, Amtrak, NYCTA, TBTA, and the PANY&NJ. Our ability to provide the highest level of service is combined with sensitivity to the existing site conditions and further augmented by our understanding of the operational needs of a commuter railroad and the concerns of the communities along the route. Our experience has allowed us to gain considerable insight to the types of design and construction challenges that exist, as well as an understanding of the pragmatic issues that affect the operations of a railroad, and how to effectively work in harmony with the surrounding neighbors. The Proposed DB Firm Organization chart can be found in Section 1.2 and the resumes of the key personnel and support members in Section 1.3.

Construction Management Team	
Role	Responsibilities & Qualifications
 	

Construction Management Team

Role	Responsibilities & Qualifications
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1.7.2) Describe the proposed construction approach and how construction will be implemented.

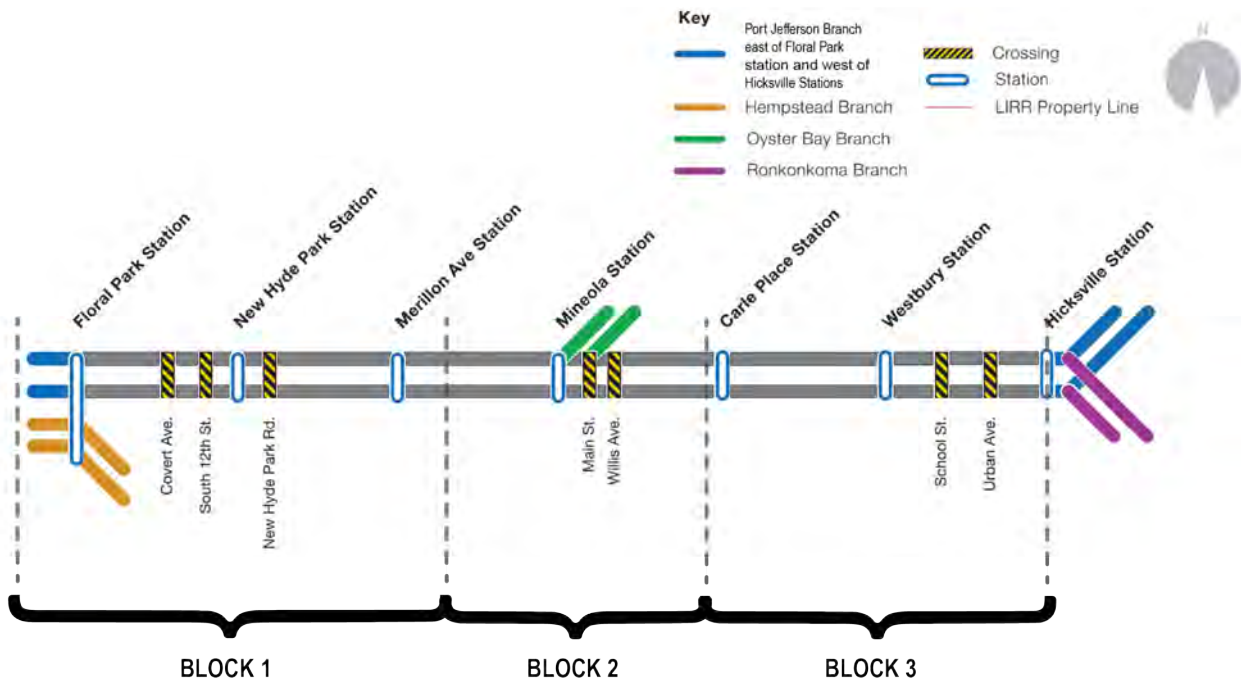
The Project will be constructed adjacent to the existing tracks between Hicksville Station and Floral Park Station. The existing tracks cross roads utilizing wider bridges and at grade crossings, the existing road will be depressed under a new thru-girder bridge at all crossing locations to reduce potential traffic to the traveling public. Our approach is to tackle this Project by breaking it up into three zones: Block 1, Block 2 and Block 3. Each of these three blocks will have a responsible Area Manager to coordinate all structural and civil work in the most efficient manner. Blocks 1 & 3 will be tackled concurrently at the beginning of the Construction Phase and then the Team will continue to Block 2. By splitting the job in three areas the Team will be able to maximize the use of manpower, material and equipment resources, reducing construction costs and saving time for Project completion. The implementation of staged construction will allow the construction to progress and the design deliverables to be approved in manageable sizes.

Three other Managers for construction (Station/Facility, Railroad Infrastructure, and Systems) together with a Utility/Third Party Coordination Manager will support the Block Area Managers to successfully deliver the Project Elements. Communication between the Design Team and the

DBJV will allow 3TC to foster design creativity. Design meetings are used to develop the means and methods of the Project. During this stage, we will be able to review drawings for their constructability and map out the site for the best access points to the job. Our Team will work together through meetings, phone calls and emails to create a win/win environment that is safe, constructible, and built efficiently. This will be communicated through detailed conversation as part of our initial Design Task Force as previously noted in earlier sections

In an effort to reduce neighboring community disruptions affected by this Project, it is 3TC's goal to understand their concerns and work with them to mitigate any potential issues, through our Public and Community Outreach Team. 3TC plans to notify the community of any potential activities that might affect them early in advance, with an attention to keeping a "doors always open" policy.

The Quality Management Plan (QMP) will be in place to promote the quality standards of materials brought to the site meet the Contract requirements. Construction crews will also have daily Safety Toolbox Meetings before the start of every job to not only pursue a quality construction product, but most importantly to do so under safe conditions. The Safety Toolbox Meeting is a good opportunity to warn the crews of potential safety hazards associated with the construction activities scheduled for the day.



The overall Project will require the construction of eight super structure replacements and or widenings which will utilize different methods of construction based on their current conditions. The three construction methods are as follows; stick build new super structure in place, erect new structure on temporary towers or existing/new abutments and roll bridges into place with the use of the self-propelled modular transporter (SPMT), and build in neighboring lot and with the use of a crane.

3TC plans to eliminate the at grade crossings at Covert Avenue, New Hyde Park, Urban Avenue, School Street, and Willis Avenue (Mainline and Oyster Bay Branch). These six (6) new structures will be built using cast-in place U-Boxes. These U-Boxes will have a thru-girder system on top and jacked into location. These locations will utilize a new three track "thru girder" structure. The new thru girder structures will be built on temporary towers and rolled into place using a SPMT. Covert Avenue, Urban Avenue, School Street, and Willis Avenue will require a six-month closure of the respective roads.

Additionally, there is 9.1 Miles (47,920 Linear Feet) of new retaining/noise wall, five existing stations that will be reconstructed (New Hyde Park, Merillon, Mineola, Carle Place, and Westbury), five new multilevel parking garages, and 8.3 miles of continuous welded rail on concrete ties including third rail traction power.

When working adjacent to existing Rail Road operations we will schedule all working operations with Rail Road. These operations will be planned and discussed with Rail Road Operations six months in advance. 3TC will provide the method of construction, specific equipment used, identify possible hazards and plan to work safely. Work can be accomplished using; Rail Road Flagging and double and single track shutdowns.

3TC will run and build this Project with "leadership through stewardship". Leadership is defined as "the capacity to lead", whereas stewardship is defined as "the conducting, supervising, or managing of something, especially the careful and responsible management of something entrusted to one's care". We, as the Proposer, are being entrusted by the Rail Road to complete this sensitive and difficult Project successfully by interacting and partnering with the surrounding communities.

Our Team will implement construction through organization, delegation, communication, partnership, and knowledge shared to ALL persons involved in the Project.













1.7.3) Explain what work will be managed by geographic area, what work will be managed by discipline, or combinations of both. Identify geographic works managers.





3TC will manage the work in combinations of geographic area (Blocks 1, 2, and 3) and be supported by multi-disciplinary task forces in order to meet the Project's schedule. The following is a breakdown which will highlight each of the discipline leads based on the style of work and its geographical location.

- 1. At grade crossings:** One Senior Superintendent will be in-charge of all at-grade crossing eliminations with an Assistant Superintendent to be assigned to each of the grade crossing elimination as at least two sites will be constructed concurrently. Each Assistant Superintendent will have a General Foreman and a Foreman, depending on the amount of tradesmen needed to meet the schedule.
- 2. Sound wall/Retaining walls:** These elements will include anything connected to walls construction, including proposed excavation, temporary support of excavation, soldier pile and lagging, install precast t-wall and fill to be imported for the wall construction. 3TC will employ one Senior Superintendent who will be in charge of the entire length of the job, with one Superintendent on each of the three (3) zones/blocks of the jobs running the perspective wall work. Assistant Superintendents, General Foreman and Foreman will be utilized depending on the number of tradesman we have to man the job with.
- 3. Stations (including Garages, Pedestrian Over/Under Passes):** One Superintendent to oversee all station construction/modifications the entire length of the job. One Assistant Superintendent to be on-site at all times at each station, which is being worked on. General Foreman and Foreman to be utilized according to crewing requirements for a specific activity.
- 4. Track work:** This work is an extremely specialized discipline. J Track, LLC will install the track. One Superintendent will be running this work for the DBJV. J. Track's Superintendent will report to the Area Senior Superintendent. J Track's record of on-time performance is outstanding.

- 5. Signal & Communications work:** Also a specialized discipline, EJ Electric will be our signal installation subcontractor. EJ Electric’s Superintendent will report to area Senior Superintendent. General Foreman and Foreman carrying out the work for the subcontractor. EJ Electric has delivered on-time on past MTA projects.
- 6. Traction power:** EJ Electric will perform all traction power work. EJ Electric’s Super will report to area Senior Superintendent. Depending on schedule and quantity of work to be going on simultaneously, we will employ Assistant Superintendents from our subcontractor at stationary locations, with General Foreman and Foreman as needed. 3TC will support EJ Electric in substation foundations, vaults and duct banks.
- 7. Utility relocations:** Considering the overall size this Project multiple subcontractors will be required to complete all utility relocations. 3TC will have one

- Senior Superintendent coordinating the work on the length of the Project, with two area Superintendents at each of the three (3) blocks. For any subcontractor being utilized, each subcontractor will have a Superintendent reporting to the area Superintendent in the perspective area the work is being done. Assistant Superintendents, General Foreman, and Foreman will be assigned to specific work locations.
- 8. Maintenance and protection of traffic, and pedestrians:** This is of paramount importance, since the public and contractor personnel will be interacting with each other for four years. 3TC will have one senior Superintendent overseeing the entire Project. The safety will then be delegated down to geographic areas, through Assistant Superintendents, General Foreman, and Foreman. We will have road MPT crews, and we will have ROW corridor and station safety crews, overseeing the DAILY maintenance of installed safety devices.

Design-Build Task Forces			
Task Force	Design Lead	DBJV Members	Design Sub Tasks
Track	Jose de Jesus Martinez, PE 	Jesse Jameson, PE  Bruce Carnovale  Marc Ragosta  EJ ELECTRIC INSTALLATION CO.	Track
Systems	Ed McDonald, Jr. 	Pawan Attreya  Michael Turcotte  Marc Ragosta  EJ ELECTRIC INSTALLATION CO.	SCADA Signals Traction/Signal Power Communication
Drainage	Nicholas Catalano, PE 	Bruce Carnovale 	Track Drainage Roadway Drainage
Utilities	Andrew Narus, PE 	Paul Duarte 	Owner Relocation Coordination 3TC Utility Relocations

Grade Crossings	Jim Kielian, PE 	Jesse Jameson, PE 	Survey Geotech Bridge Structures Pedestrian Bridges and Tunnels Retaining Walls Foundations Lighting Signing Traffic Signals
Stations/Aesthetics	Anne Marie Edden, RA Amy Seek (Aesthetics) 	Neal DeWitte, PE 	Safety & Security Signage MEP Garages Landscaping

1.7.4) Explain how design/construction integration across multiple disciplines will be managed.

3TC understands that in the initial phases of the Project the design can rapidly change. These changes will need to be addressed immediately and incorporated into the Release for Construction (RFC) drawing sets. These changes will also have to make their way to the multi-discipline leads. To do this each week the DB Coordinator, the Design Manager, and the design and construction discipline leads meet to discuss key design/constructability issues on the Project. As updates to the final plan sets occur it is the responsibility of the DB Coordinator to forward that information along to the Engineering Manager, who in turn will disseminate the updated drawings within the construction crews and the Purchasing Manager. Additionally, the DB Coordinator will interface with the Community Outreach Team to ensure all updates have been received and are being disseminated accordingly to the residents and rail transit users. The later will incorporate those updated design drawings into the bidding packages for subcontractors and suppliers/fabricators. This hierarchy will ensure that: required changes are addressed; required drawings are developed; and the proper parties have been notified of these changes.

3TC will record the meeting minutes of each week's Design Coordination Meetings. Meeting minutes will clearly identify the following:

- A. Action items and issues
- B. The party responsible for the action item
- C. The status of issues
- D. Due dates for identified action items

Action items and issues will be retained on the minutes until the required action is completed and/or the issue is resolved.

ProjectWise and other Electronic Data Management Systems as noted in Section 1.6 will be used to share information and control documents. 3TC will provide and maintain a Baseline Progress Schedule using the Primavera P6 scheduling software. This Baseline Progress Schedule will be prepared using the Critical-Path Method (CPM) and based on the principles in the latest edition of the Construction Planning and Scheduling Manual published by the Associated General Contractors of America, except where superseded by the Contract documents. 3TC and the Rail Road will use this Baseline Progress Schedule to manage the work, including the activities of subcontractors, fabricators, the Rail Road, Rail Road sub-consultants, other entities such as utilities and municipalities, and all other relevant parties.

3TC will submit and update the Project schedules as follows:

- A. 90-Day Schedule.
- B. Detailed Contract Schedule (Baseline Progress Schedule)
- C. Revised Detailed Contract Schedule.
- D. Six-Week Rolling Schedule.
- E. Weekend Time-Line Detail Schedule.
- F. Weekend Time-Line Summary Schedule.
- G. Weekend Time-Line As-Built Summary Schedule.
- H. Project Schedule Updates.
- I. Project Recovery Schedule.

In addition, we will submit 3 week look-ahead schedules, on a weekly basis, to Rail Road's Project Manager, and update the Baseline Progress Schedule on a monthly basis. Each update will show changes to the Baseline Progress Schedule that reflect the status of activities that have commenced or have been completed.

1.7.5) Explain how subcontractors will be managed. Outline what responsibilities are transferred to subcontractors and specifically address quality and schedule.

When working with our subcontracts it is the key that 3TC creates detailed scopes of work and schedules required by each Subcontractor. Each Subcontractor must buy into the Initial Baseline Schedule or work with 3TC to develop an enhanced schedule. This will be done through constant communication (i.e. Weekly Progress Meetings between 3TC and the subcontractors) and immersing the subcontractors into our process to make sure all material procurement is correct, that the work force is right for the job, that they follow a safe and efficient work plan, and that quality and safety is behind every action taken on the Project. To make sure that our subcontractors continue to work and meet deadlines 3TC will use progress payments.

Each subcontractor, however, will be responsible for the management of their own work force. Their work force will be responsible for both material procurement and equipment management, in complete coordination with 3TC management and our self-perform work activities, unless otherwise agreed upon in our final agreed upon contract.

When working with WBE, MBE, or SDVOB's, 3TC will be prepared to assist them in understanding and meeting their scope and schedule as further described in Volume 2 Package 5 of this Proposal. With a significant goal, 3TC will make every effort to meet the overall 36% requirement. We have employed "meet and greets" during the Procurement Phase to identify potential teaming partners. With this information, we will look to these potential subcontractors for support.

The Quality Team, led by the Quality Manager and supported by the Independent Construction QC Firm, M&J Engineering with Tectonic and DeAngelo, will take active roles establishing clear, concise objectives and requirements at the earliest phase of work, based on the Rail Road's requirements and guidelines. All

subcontractors will receive before they start construction a copy of 3TC's QMP so that they become familiar with the QA/QC procedures and quality standards. This will assure that the Project tasks have a defined basis and acceptance criteria established from which to evaluate performance. Planning activities will be followed by performance monitoring throughout work execution. Performance monitoring will take the form of inspections, tests, and data quality assessments, internal QC checks for field and laboratory operations, surveillance, and audits.

A combination of inspections and process monitoring will be performed in a systematic manner by the QC Inspectors so that the requirements for control of the activity and the quality of items are being achieved throughout an activity's duration. A Quality Check Point program including "witness and hold points" will be established where required, and all will be documented to promote coordination and sequencing of successive stages of the process or activity. Material acceptance will be documented and approved by authorized QC personnel. All observations and field and/or laboratory tests will be recorded on inspection data sheets.

Similar to the design/construction integration, our subcontractors will be a fully integrated part of our team, required to attend our progress meetings, as they are integral to the Project's success and must be fingers on the hands of 3TC. During these meetings, Subcontractors will confirm their progress so our schedule is current and up to date. We will also make sure they understand limitations to the Project and that they are constantly producing a realistic schedule as part of the team.

1.7.6. Provide a narrative and detail on the expected management to craft ratio.

The management to craft ratio would be the following: One General Superintendent will be in charge of, and in communication with ALL the Superintendents for the 3TC the length of the Project; a Senior Superintendent will have up to four Assistant Superintendents working for him/her; an Assistant Superintendent will have up to five General Foreman working for him/her; a General Foreman will have four to five Foreman working for him/her; a Foreman will have six to ten tradesman working for him/her.

1.8 Environmental Compliance and Mitigation

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1.8 Environmental Compliance Mitigation

1.8.1) Identify the Environmental Compliance Team proposed in the organization chart and additional personnel and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to environmental compliance and the anticipated roles and responsibilities.

3TC has assembled a highly qualified Environmental Compliance Team (ECT) that will be responsible for environmental management throughout the design and construction phases of the Project. The ECT will maintain environmental compliance during design and construction, in accordance with the federal, state, and local environmental permits and approvals. To this end, the ECT will incorporate and implement environmental mitigation measures and protocols identified in the Final Environmental Impact Statement (FEIS) throughout the Project. The ECT will also liaise with regulatory authorities, as appropriate, to obtain environmental

permits and to report on environmental management. 3TC is committed to implementing an environmental management program that:

- Prevents pollution through environmentally sound design and construction methods;
- Ensures compliance with all applicable environmental rules, regulations and laws;
- Ensures that environmental considerations include feasible and cost effective options for meeting or exceeding applicable regulatory requirements;
- Defines and establishes environmental objectives,

targets and best management practices and monitor performance through internal management and coordination systems; and

- Fulfills our responsibilities as a steward of the environment through environmental awareness and communication with employees, project team members, regulatory agencies, and neighboring communities.

The ECT is comprised of seven firms that were chosen for their respective areas of environmental assessment, environmental mitigation, regulatory permitting project experience and local knowledge. Key members of the ECT are identified in detail.

ECT Firms and Services:

CCA Civil, Inc.

- Construction Monitoring
- SWPPP Inspections During Construction

Stantec Consulting Services

- Environmental Compliance Team Management
- Stormwater Pollution Prevention Plan Preparation
- Coordination with Regulatory Agencies

Environmental Planning and Management, Inc.

- Lead and Asbestos Sampling Surveys
- Analytical Laboratory Services for Asbestos and Lead
- Lead and Asbestos Abatement Design
- Oversight and Project Air Monitoring during Asbestos and Lead Abatement

EnTech Engineering, P.C.

- Hazardous and Contaminated Materials
- Soil and Groundwater Testing
- Community Air Monitoring

CSA Group

- Environmental Permitting Compliance & Tracking
- Construction Monitoring Documentation
- Construction Noise Monitoring

Chrysalis Archaeological Consultants, Inc.

- Construction Protection Plan for
- Historic Resources
- Phase I and II Archaeological and
- Historical Services

ETS Contracting

- Lead and Asbestos Abatement

1.8.2) Describe the approach that will be used to ensure that Work will be conducted in a way that complies with environmental requirements set out in the Contract Documents and is consistent with the EIS and SEQRA Finding Statements issued by MTA and NYSDOT.

The FEIS for the Project identifies design guidance to help avoid significant impacts and outlines environmental mitigation performance commitments to be implemented during construction to avoid or lessen environmental impacts. The ECT's approach to ensuring compliance with the guidance and commitments are discussed below.

Design Phase

During the Design Phase, the ECT will develop specific design criteria and various monitoring plans that incorporate the environmental mitigation measures and improvements contained in the EIS. These design criteria will be spelled out in detail and will be provided to design team leaders for review. The design criteria will then be presented to each design team member at the start of the design build process to ensure that they are incorporated into their respective design milestone dates. In addition, the design team and contractors will conduct a constructability review to reach agreement that the mitigation measures can be constructed in a manner that meets or exceeds the various regulatory requirements and commitments. Changes would be incorporated as required.

Examples of specific design elements addressed in the FEIS that will need to be incorporated into the project include, but are not limited to:

- Use of directional lighting to limit spillover;
- Incorporation of sound attenuation walls on both sides of the ROW;

Environmental Compliance Mitigation Team

Role	Responsibilities & Qualifications
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- Use of retaining walls to limit the room needed adjacent to the ROW as well as property acquisitions;
- Use of existing rail sidings to limit width of the ROW;
- Use of pre-packaged replacement electrical substations to fit in the footprint of the existing equipment;
- Incorporation of drainage improvements to meet the 100-year flood criteria;
- Additional pedestrian bridges to provide safe and enhanced pedestrian movements; and
- Incorporation of grade separated road crossings to eliminate the need for the use of the rail horn and to reduce conflict and vehicle idling times.

The ECT will also develop a database of the environmental performance commitments found in the FEIS so that they can be incorporated as requirements in the construction contract documents, and provided to the environmental contractors responsible for on-going evaluations of historic architecture, air quality control, hazardous materials, asbestos, lead paint, stormwater, noise and vibration issues. This commitment list will be provided for all approved ATCs and changes due to field conditions.

Construction Phase

Relevant environmental mitigation and design criteria documentation in the form of specifications and drawings will be given to the Construction Team, as well as the Community Outreach Team. Meetings will be held to be sure that the construction and environmental contractors have a full understanding of their scope of work and that the Community Outreach Team understands mitigation requirements that will be completed. The ECT will then provide daily monitoring, assessment, and documentation that the Project is being constructed in compliance with all applicable environmental legislation and guidelines, along with the design criteria and specific FEIS commitments as identified in the database. Specific metrics and conditions will be provided for each mitigation measure that will serve as the basis for evaluating overall progress and ultimate compliance (e.g. acceptable dBA levels for noise), with communications to the Community Outreach Team on a regular basis.

Our experience in providing environmental compliance monitoring on similar projects of this magnitude is to conduct regular monitoring for the various environmental issues; develop and employ a tracking database to

manage and schedule the activities; and evaluate if environmental threshold metrics are met or exceeded. We will use an experienced team of professionals, along with our extensive Community Outreach Team, to record observations, correspondence, change order, and action items and then provide meeting summaries and progress reports on a consistent weekly interval. Daily monitoring reports will be prepared to document that actions are entered daily into the database.

The ECT will provide daily and/or periodic monitoring visits at appropriate frequencies to evaluate the compliance with each environmental performance commitment and condition throughout the construction phase. Photographs, site observations, and metrics will be recorded to document progress and compliance for each environmental commitment and condition. As metrics are met, the ECT will note the date the requirement is deemed complete and the basis for that decision. If shortcomings are identified, corrective measures will be developed and implemented to bring the activity back into compliance, while always maintaining complete communications of such modifications with the Community Outreach Team, so that effective communications are continuously achieved.

Lastly, "Environmental Compliance" summary reports for the Construction Phase will be provided to the Construction Team, Community Outreach Team, other team members and regulatory agencies. These compliance reports will be prepared in a manner that will facilitate internal and external auditing of the overall environmental compliance monitoring program.

1.8.3) Identify all areas of environmental impact (noise, traffic disruption, etc.) that are to be managed during design and construction activities to ensure compliance with the Draft and Final Environmental Impact Statement as adapted in the MTA and NYSDOT SEQRA Finding statements.

In order to comply with the mitigation measures and conditions identified in the FEIS, the construction documents will incorporate means and methods and best management practices that will enable the contractors to incorporate the mitigation measures and conditions into construction activities. Before construction begins, ECT members will meet with the Construction Team members to review the mitigation and permitting conditions, notification responsibilities, procedures for sharing information and contingency planning.

ECT members will be onsite to monitor construction, collect appropriate samples and document that work is carried out in accordance with the environmental mitigation measures and permit conditions. The ECT will be responsible for overseeing work that affects the environment, with emphasis on the intrusive “quality of life” activities for the duration of construction. The field teams will be responsible for the following activities and implementing the various environmental monitoring plans that will be prepared for the project.

The environmental factors identified in the FEIS that are to be managed during design and construction activities include the following.

Air and Noise Impacts:

- Develop a Construction Noise Control Plan and implement the construction noise and vibration monitoring program at sites that could be potentially affected by construction due to their sensitivity to such activity and their proximity to the ROW; and
- Develop and implement an air quality control plan which will include dust control, use of ultra-low sulfur diesel fuel, use of best available tailpipe control such as diesel particulate filters and not using older more polluting construction equipment.
- Implement the Community Air Monitoring Plan;
- Implement the construction-noise monitoring program; and
- Schedule construction to limit nighttime noise.



3TC has staff to perform air and noise testing

Soils/Contaminated Soils/ Groundwater:

- Soil/spoil characterization for evaluating disposal requirements/facilities;
- Document soil conditions through visual observation, olfactory inspection and field screening of organic vapors;
- Observe permitted and manifested soil load-out and documenting that transport vehicles are adequately permitted;
- Conduct confirmatory sampling and analysis of clean fill imported to the Project site and provide oversight during the import and placement of clean fill;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) and conduct routine site monitoring;

Lead and Asbestos Abatement:

- A comprehensive asbestos survey of areas (including underground utility vaults) will be conducted that include the sampling of suspect asbestos containing materials to confirm the presence or absence of asbestos. Identified ACM’s would be removed and disposed of prior to construction in accordance with all federal, state, and local regulations; and
- Demolition activities with the potential to disturb lead-based paint (LBP) would be performed in accordance with applicable Occupational Safety and Health Administration regulations including OSHA 29 CFR 1926.62 - Lead Exposure in Construction.

Cultural Resources:

- Develop mitigation and a Letter of Resolution (LOR) in concert with OPRHP for the demolition of S/NR-listed properties—the Nassau Tower and the former Mineola Rail Road Electrical Substation;
- Prepare a Construction Protection Plan (CPP) for the seven historic architectural resources identified in the FEIS as being within 100 feet of the construction area (3 in Floral Park, one in Mineola, one in Westbury and two in Hicksville). Typically these CPPs contain visual inspection and photo-documentation prior to construction as well as vibration monitoring during construction; and
- Conduct archaeological monitoring, discovery and treatment of existing and unknown cultural resources encountered during construction that were not identified in the FEIS.

Traffic and Transportation Impacts:

- Development of a Work Zone Traffic Control Plan;
- Road detour schedule coordination – (contact with school districts, emergency services);
- Provide replacement parking for station patrons and satellite parking for construction worker vehicles to limit parking in the communities (see section 1.13)
- Provide pedestrian access and maintain automotive access to area businesses;
- Monitoring Carle Place Station Shuttle Service during anticipated 12-month station closure;
- Street maintenance/sweeping coordination;
- Train schedule/Construction schedule coordination;
- Use rail to transport material to the construction site, as feasible; and
- Scheduling of construction truck activity to non-school hours, as possible;

1.8.4) Provide examples from five previous projects that demonstrate the Proposer's ability to meet environmental commitments.

1. NYC DEP - Newtown Creek NC-32G, Brooklyn, NY (\$200 million)

Newtown Creek (NC-32G) was a project that encountered multiple environmental issues that were addressed and resolved in an efficient manner by Picone. The existing property was previously the site of warehouses that contained metal shops, paint manufacturing and coatings companies. The site was separated into 500 CY cells that were tested in situ and classified in accordance with the disposal facility protocols. Approximately 500,000 CY of contaminated material was sent off the site to the approved facility. Cells that exceeded the protocols or were deemed hazardous for lead, PCBs and other hazardous materials were segregated and disposed in an approved manner. Care was taken to keep the multiple cells separate to avoid cross contamination. During the excavation and subsequent construction, Picone managed a deep well dewatering system that had a settling tank and a series of carbon filters that kept the effluent water acceptable



for disposal in the plant. Constant monitoring and changing of the filters was required. This project also entailed the dismantling and proper disposal of an existing bio filter plant and all associated chemicals and equipment contained within.

2. FDOT-I-595 Corridor Roadway Improvements, Broward County, FL (\$1.2 billion)



The I-595 Corridor Project was a good example where Dragados met the environmental commitments set out on the design-build Contract. The dewatering activities for the I-595 included methods such as well-points, sock trench and direct open pumping systems used in order to modify the alignment of the existing North New River Canal, install new drainage structures, create new bridge pier foundations and expand existing roadways and ramps at the I-595 Corridor. The pumps utilized were conventional dewatering trailer mounted pumps with a gallons per minute (GPM) capacity ranging from 1,083 to 3,500, horsepower from 29 to 60 and pump diameters from 6" to 8". The dewatering average depth was set at 6.5 ft and the average flow rates was 385 GPM. All dewatering activities follow the required standards as set forth by the South Florida Water Management District and the Florida Department of Environmental Protection. Dewatering durations went from 30 days to 96 days and radius of influence were estimated to go up to 210 ft.

Sock drain dewatering was used as an alternative to the traditional well point dewatering system. The sock drain provided a clear workspace where equipment and personnel can work without disruption. The use of

the sock drain dewatering system boosted productivity, enhanced the project schedule and also provided added value to the owner since it remained in place and could be used in the future for maintenance or repairs.

3. PANYNJ - LaGuardia Airport Capital Infrastructure Improvements, Redevelopment of Ingraham Mountain, Queens, NY (\$149 million)



Mass excavation of an existing 180,000 CY historic fill site and hauling/disposal of regulated and contaminated materials. Materials ranged from NYSDEC Commercial SCO level contamination to TCLP Lead Contaminated Landfill Soils. This project is an 11 acre property owned by the Port Authority of NY & NJ. It is located directly offsite of LaGuardia Airport adjacent to Bowery Bay, and was described as a historic fill site due to years of unregulated disposal in the 1970's and 1980's. As part of the capital infrastructure improvements program the area was planned for use as a staging area for the Redevelopment of LaGuardia Airport. In order to achieve this, the site required excavation to depths up to 20' below existing grade. No previous analytical, borings or categorization of the soil existed at the start of construction for the estimated 180,000 cy of in-place material to be excavated and hauled off of the project site. Halmar prepared and executed a sampling and categorization program for existing soils onsite and managed a streamlined disposal process for screened excavated materials. All materials were hauled to 10 different facilities and landfills based on which was most cost effective and permitted to accept the wide range of impacted soils. Contamination encountered included high level pesticides, PCBs, Lead, Arsenic, VOC, and petroleum. At completion 190,000 tons of excess contaminated soils were hauled and disposed of offsite

as approved by the Port Authority, and 40,000 tons of broken clean rock encountered during excavation were crushed onsite and beneficially re-used to establish final topography. After completion of the initial site excavation and grading project, the site was paved and utilized as a temporary offsite employee parking facility to generate necessary space on LaGuardia Airport property for the main terminal redevelopment project.

4. NYSDOT - Staten Island Expressway Reconstruction and Bus/HOV Lane Extension, between Victory Boulevard and Clove Road, Richmond County, NY (\$120 million)



The project includes widening a 3.2-mile stretch of the highway by adding one HOV lane in the median, widening both outside shoulders, installing new drainage system, demolishing three flyover bridges and rehabilitating another three. It also consisted of resurfacing the highway with 80,000 tons of asphalt pavement and more than 20,000 cy of Portland Concrete Pavement, and installing a noise barrier system along both sides to reduce the noise generated by the increased traffic volume. During the execution of the work, CCA proceeded in a manner which was sensitive to the nearby residents' interests with regard to environmental impacts. Items of similar scope to the Third Track Project concerning such environmental impacts include air monitoring, soil sampling, proper handling of contaminated soil, asbestos abatement, and intensive erosion and storm water control measures along both side of the entire roadway.

5. MTA/LIRR – Rehabilitation of Broadway and 150th Street Bridges, Queens NY (\$55 million)

As a subconsultant to Jacobs Civil Consultants, EPM performed a hazardous material survey of all accessible areas with the potential to be impacted by the rehabilitation of the Broadway and 150th Street Bridges in Queens, NY. Suspected asbestos containing materials (ACM) bulk samples were collected from various locations around each bridge within the scope of construction activity. In addition, after reviewing available record plans, EPM identified potential ACM items that were inaccessible, and assumed these to be asbestos containing until future sampling and analysis was possible. Bulk paint samples were collected from steel beams and columns, parapets, abutment walls, metal conduits, railings, and billboards within the areas to be disturbed by construction activity. The survey also noted the location of a small number of fluorescent bulbs, known as universal waste, which may have ballasts containing PCBs. EPM submitted a detailed report which summarized all sampling and lab results. Finally, EPM identified specifications for abatement of confirmed ACM and lead based paint.

1.8.5) Outline all environmental monitoring that is to be implemented, identified equipment to be used and details activity trigger levels.

Upon award, 3TC will immediately begin the preparation of a comprehensive Environmental Compliance Plan (ECP) that will, amongst other things, identify our anticipated monitoring activities. These activities include:

- Asbestos sampling and abatement;
- Archaeological and Historic Resources monitoring;
- Community Air Monitoring;
- Noise Monitoring;
- Contaminated Soils; and
- Other Environmental Performance Standards.

For Asbestos Abatement Monitoring, to measure airborne concentrations, air sampling pumps will be utilized prior to, during and post removal to collect samples and submit them to the laboratory for analysis. The clearance level for asbestos is 0.01 fibers/cubic centimeter of air. For Lead Paint Abatement Monitoring, periodic monitoring of the regulated areas will be conducted utilizing air sampling pumps as well as full time visual emissions monitoring. The results will be compared to the Action level of 30 Ug/cubic meter and the Permissible Exposure Limit of 50 Ug/cubic meters.

Chrysalis will document existing conditions (for architectural and archaeological concerns), update the existing Phase IA documentary reports, conduct Archaeological Monitoring, as necessary, and undertake Phase IB Archaeological Field Testing, as necessary. Monitoring will consist of one to two monitors using digital and manual recording methodologies (including photography, measurements, drawings, and maps) to document the various sites. If field testing needs to occur, the archaeological staff will ensure all County, State and Federal regulatory requirements are met using existing, on hand, equipment including trowels, buckets, shovels and dust pans, to complete the required task.



For Community Air Monitoring, (air particulate levels), DR-4000 devices or equivalent will be used to perform real time perimeter air monitoring of any excavation or demolition work will trigger the need for air monitoring for particulates. Following the Air Monitoring Plan, if the levels of the air borne particulates are 150 micrograms/cubic meters above the background, then dust suppression methods should be implemented. In addition, VOC's will be monitored using a PID device at upwind and downwind locations and at the excavation face during all excavation work.

The following table outlines the monitoring activity that will be required to meet the environmental performance standards discussed in the FEIS. It identifies plan/approach development, the phase of work where a given activity starts, the monitoring frequency anticipated at this time, and the monitoring approach and equipment to be used. Please note that it is anticipated that at least one full-time environmental monitor will be in place throughout the construction process.

Monitoring Activity			
Construction Plan Development and Monitoring Activity	Activity Start	Monitoring Frequency	Monitoring Approach and Equipment
Environmental team aware of design field changes	Prior to Construction	As changes occur	As needed
Complete Subsurface Sampling at remaining sites	Prior to Construction	As needed	Report Review, Visual Observation, Drilling Rig, Lab Analysis
Sample and analyze groundwater for dewatering	Prior to Construction	Once per Site	Report Review, Visual Observation, Drill Rig Monitoring Wells, Lab Analysis
Remove equip/material that may contain PCB or mercury	Prior to Construction	Once per Site	Report Review, Visual Observation
Sample, analyze and remove asbestos containing material	Prior to Construction	Once per Site	Report Review, Visual Observation, Camera
Define areas with Lead Based Paint	Prior to Construction	Once per Site	Report Review, Visual Observation
Develop and implement Remedial Action Plan (RAP)	Prior to Construction	Daily throughout remediation	Report Review, PID's, Visual Observation
Develop and implement Construction Health and Safety Plan (CHASP)	Prior to Construction	Daily throughout remediation	Report Review, Particular Meters, Visual Observation
Document Soil Conditions in areas not covered by the RAP	During Excavation	Once per Site	Visual Observation, PID Screening
Develop and implement a Construction Noise Control Plan	Prior to Construction	Daily During Construction	Hand Held Noise Monitor (e.g. Rion or Norsonic)
Develop and implement a Work Zone Traffic Control Plan	Prior to Construction	Twice Weekly	Report Review, Visual Observation
Prepare/implement a Construction Protection Plan (CPP) for seven historic structures	Prior to Construction	Daily During Construction in area	Visual Observation, Vibration Monitor (e.g. Vibrock V9000), camera
Develop Letter of Resolution (LOR) w/OPRHP for two S/NR-listed properties	Prior to Construction	Once	Report Review, Visual Observation, Camera
Develop plan for construction worker parking	Prior to Construction	Daily During Construction	Shuttle Bus, Visual Observation, Camera
Monitoring Carle Place Station Shuttle Service during 12 month station closure	Prior to Station Closure	Weekly	Visual Observation, Camera, Community Outreach
Develop and implement an Air Quality Control Plan	Prior to Construction	Weekly	Visual Observation of Equipment
Develop and implement a Stormwater Pollution Prevention Plan (SWPPP)	Prior to Construction	Weekly	Straw Bales, Silt Fence, Visual Observation, Camera
Develop and implement a Rodent Control Plan	Prior to Construction	Daily During Construction	Traps, Bait, Visual Observation, Camera

1.8.6) Identify any anticipated environmental impacts that are greater than those disclosed in the Environmental Requirements, and any additional impacts not identified in the Environmental Requirements, associated with approved or conditionally approved ATCs included in the Technical Proposal and other technical concepts that are not ATCs.

There is very limited pre-characterization data concerning Hazardous Materials, ACM Materials, Lead Materials, Non-Hazardous Materials, Non-Petroleum Contaminated Materials, Petroleum-Contaminated Materials, Non-Contaminated Materials, Rock/Construction debris and Other Materials that has been made available by the Rail Road as part of the RFP process. There has been a total of 39 soil borings advanced across the entire 10 mile corridor with limited laboratory analyses. There are no asbestos and lead survey reports available for the buildings to be acquired:

Furthermore, according to the Asbestos Survey Reports that were provided by Rail Road, there are numerous asbestos containing materials that are presumed present in the Substations, Stations, Aerial Cables, and Bridges.



Geotechnical Exploration for rock slope stability and field support along an Amtrak line.

As directed by Rail Road, these presumed materials will be sampled once accessible during construction to determine if they are asbestos containing. Therefore, It is unknown to what extent any of these materials may be present within the confines of the project, and most importantly, to what extent the proposed construction will be impacted by their presence in terms of cost or schedule.

The amount of lead, asbestos, hazardous and non-hazardous contaminated soils, and other waste materials that will be exposed during the remediation efforts may result in greater environmental impacts than those disclosed in the FEIS and the Environmental Requirements. The information does not exist to enable to identify, quantify, budget or schedule scope associated with environmental impacts beyond those disclosed in the Environmental Requirements.

At this time we have not identified any other potential environmental impacts that are greater than those identified in the FEIS, nor have we identified additional impacts or environmental impacts greater than those disclosed in the environmental requirements. As the design proceeds, it is possible that changes in the design could result in increased environmental impacts or impacts that differ from those identified in the initial environmental requirements. As such, the ECT, working with the PM, will modify the environmental management plans as needed to facilitate construction and reduce environmental impacts across the project site.

A representative from the ECT will attend weekly progress meetings throughout the duration of the project to update the Team and the Rail Road about any environmental issues or changes in environmental permits and conditions. Every attempt will be made to keep project changes to a minimum while addressing approved ATCs.

It is anticipated that the following two ATCs could potentially result with minor visual deviations that may need to be reviewed by the NYSDEC, Nassau County, and the respective Towns:

- **ATC #1** - "New Hyde Park & Clinch Avenue Intersection": Shifting the placement of the intersection approximately 200 feet; and
- **ATC #27** - "South Track Alignment (Elimination of Two Track Cut and Throw Switch Moves)": Continually constructing the third track between

Floral Park and the west end of Westbury Station on the south side of the ROW instead of having a portion of this run moved up to the north side of the ROW and then back down to the south side of the ROW.

1.8.7) Identify all new Environmental Approvals and changes to existing Environmental Approvals, including reevaluations or supplements to the EIS, required for implementation of approved or conditionally approved ATCs included in the Technical Proposal and other technical concepts that are not ATCs.

3TC doesn't anticipate any new Environmental Approvals and changes to existing Environmental Approvals, including reevaluations or supplements to the EIS, required for implementation of approved or ATCs included in the Technical Proposal and other technical concepts that are not ATCs.

1.8.8) Describe the Proposer's plan to obtain all new Environmental Approvals and changes to existing Environmental Approvals identified in Item (7) and associated schedule implications.

At this time 3TC doesn't anticipate the need for any additional Environmental Approvals or changes to the Environmental Approvals identified in Item (7). A detailed evaluation of the ongoing design will be conducted at the Project outset and compared to the impacts and subsequent approvals identified in the FEIS. If new permits or approvals are required during the Project, or should existing permits or approvals require modification, the ECT will coordinate and work with the Design Team and prepare and submit required applications to the respective government entities as stated before in Item (6). This will give the ECT and the Design Team as much lead time as possible to either revise the design and/or modify the permit application submittals.

The first step in obtaining additional or modified approvals will be to demonstrate that practicable measures and alternatives were evaluated to avoid, minimize and reduce the resulting environmental impact to the extent practicable.

Meetings with the respective regulatory agency will be scheduled as soon as practical to review the need for the permit or approval and how to progress related construction activities while the permit application is being reviewed. Emergency contingencies will be reviewed with the intent of keeping construction activities on schedule.

1.8.9) Identify the mitigation plans that the Proposer will develop to eliminate, reduce and/or mitigate environmental impacts at environmentally sensitive aspects of the Work, addressing potential Work activities related to the natural environment, physical environment, and cultural and historic resources, including the monitoring, treatment and discovery of existing and unknown archaeological and/or cultural resources encountered throughout the Contract term.

The following environmental mitigation-related plans will be produced and reviewed against the requirements and commitments of the FEIS and the applicable specifications as issued with the Final RFP:

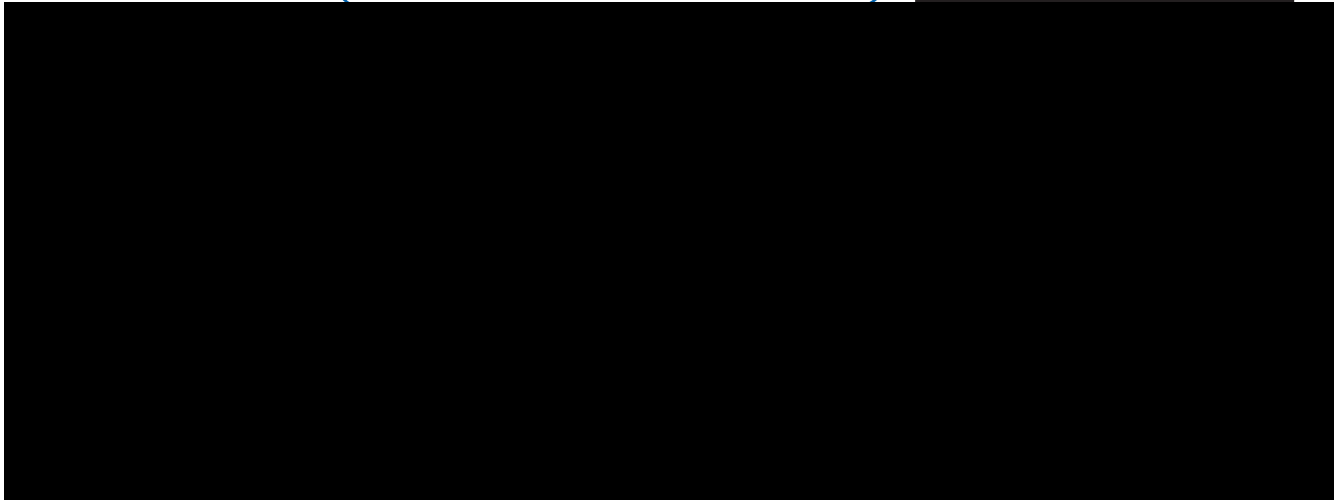
- Hazardous Materials Management Plan;
- Construction Health and Safety Plan (for removal of asbestos containing materials, lead based paint, mercury and polychlorinated biphenyls (PCB's) and other site contaminants such as metals;
- Remedial Action Plan;
- Air Quality Control Plan, including a Community Air Monitoring Plan (CAMP);
- Quality Control program to confirm compliance with environmental requirements;
- Community Noise and Vibration Monitoring Plan;
- Construction Protection Plan (to protect historic architectural resources within 100 feet of the construction activities and discovery of unknown archaeological resources encountered during construction);
- Stormwater Pollution Prevention Plan; and
- Work Zone Traffic Control Plan.

1.9 System Safety

Volume 2 - Package 1: Management Approach

1.9 System Safety

1.9.1) Identify the Safety team proposed in the organization chart and any additional personnel and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to safety and the anticipated roles and responsibilities.



System Safety Team

Role	Responsibilities & Qualifications
[Redacted Content]	

Contact information Will be available to the public and project personnel on inconspicuously posted public notices and bulletin board postings. Town hall meetings can be arranged with the approval of the Rail Road in order to give the public a venue where by they can communicate safety concerns and complaints. Although the MTA and the Rail Road offer the public different platforms by which complaints can be submitted, it will be our goal to work with the Rail Road and the public on a daily basis, through our Community Outreach Team, and take all necessary actions to ease the public's concern related to construction impacts. However, complaints submitted via such platforms would be handled and addressed expeditiously and accordingly, as described in earlier sections of this Proposal.

It is our intent to have a proactive and involved approach. We shall plan work to be as least inconvenient to the public as feasibly possible, within the terms of the contract. We shall communicate, through the Rail Road, with the public in an effort to maximize coordination and communication.

Safety staff will conduct regular safety inspections, checking for proper use of personal protective equipment and for safe work practices. Any safety incident, including a near-miss, will be subject to an incident investigation, including a Root Cause Analysis (RCA). Results of the investigation and RCA can lead to modifications of our Safety Program, additional training, or the incorporation of new work procedures or equipment.

1.9.2) Submit Schedule XXIII (Form S), Safety Questionnaire for each Principal and Construction Subcontractor that is a Major Participant for the projects listed on Form E-2 submitted with the Proposer's SOQ.

Schedule XXIII (Form S), Safety Questionnaire has been provided in Volume 2 – Technical Forms.

1.9.3) Describe the approach that will be used to ensure Project safety, including analysis, design, and construction considerations.

3TC has incorporated aspects of the ISO 14001:2004 (ISO) and OHSAS 18001:2007 (OHSAS) into the environmental and safety programs (Safety Health & Environmental Management System - SHEMS) for this Project. These systems incorporate a systematic approach to recognizing significant health aspects and safety hazards. This is done by identifying legal and other requirements during the Design Phase and

prior to the start of work and developing a means of checks to confirm compliance. These systems document lines of roles and responsibility starting from the Senior Management to the workforce. Enforcing these systems result in implications that affect both the Project design and the construction means and methods so it's paramount for 3TC to incorporate this health & safety input during the Procurement Phase.



3TC starts every project with Safety First.

Safety hazards such as working adjacent to live track, demolition of existing and construction of new stations, excavation adjacent to structures, construction of new parking facility, installation of new utilities and MPT for roadwork will be identified in the Job Hazard Analysis (JHA) that are developed for each work activity. Active JHA's will be reviewed periodically by the Safety Manager and the construction Superintendents for accuracy and completeness. This review will be documented and maintained by 3TC in the Electronic Data Management System (EDMS).

Prior to subcontractors starting work a pre-activity meeting will be held to review the health and safety requirements to work under their scopes of work. A copy of the HASP will be provided to the subcontractor who will sign-off an acknowledgment of receipt.

The SHEMS program is broken down into 16 procedures that include: tracking training requirements

and documentation, communication with internal/external interested parties, safety equipment training and calibration, incident/Injury investigation, auditing by external/internal entities, management review of the program, document control/record keeping and emergency preparedness and response. Some of the key aspects of the SHEMS program are identified below:

Meetings

- **Superintendent Daily Briefing** – Prior to each shift the Superintendent will meet with members of the Project Management Team and Foreman to review the work activities for the shift with a focus on health and safety issues. This information will be transferred to the labor force by the Foreman and Safety Manager (SM) for the specific work location.
- **Weekly Tool Box Talk** - Will be issued to each crew with a core message each week. The SM may augment this with a site specific topic.
- **Monthly Management Review (MMR)** – 3TC management will meet once every month to review the monthly and annual safety goals, results of internal/external audits, incident/injury/nonconformance investigation and communication form on any relevant communications.
- **Monthly Safety Committee (MSC)** – A Safety Committee will be formed and include 3TC's Project Management Team and a representative amount of superintendents and foremen. The Safety Committee will review any incident investigation and recommendations, result of site inspection and audits, any changes to policies and procedures, changes that may affect workplace health and safety, review of communications from the workforce and upcoming training requirements.

Risk Assessment and Mitigation

- Prior to the start of work 3TC will determine the significant health aspects and safety hazards for this Project site. A review of the significant environmental aspects and safety hazards will be included in the MMR meeting and documented.
- JHA's will be developed for each work activity by the SSM and assigned Superintendent. These will include a description of the work activity, materials, equipment and hazards and how the hazards will be mitigated. All current JHA's will be reviewed periodically by the members of the Project team. Copies will be maintained at each work location for review by the work crews.

- A risk assessment shall be done prior to development of the JHA to determine the initial risk level and the residual risk level. This will be done using a predetermined format.

Permits

- All permits required conducting work such as NYSDOT lane closure, noise, and water discharge will be documented and tracked on site.

Training

- **Safety Orientation** – Each new employee shall receive a project specific Safety Orientation training as set out in the HASP. OSHA 10 Hour Construction (Current to within the past five years) and Rail Road Track Training are required to work on site.
- **Competence Training** – All employees shall be trained in the scope of work for the activity and the hazards of each activity that they will engage in.
- **Hazardous Material Training** will be required for individuals that will be exposed to asbestos and lead.
- **Additional Training** in fall protection/prevention, LO/TO, excavation and scaffolding shall be given as required.
- All training shall be tracked and maintained on site.

Incident/Injury Investigation

- All any near miss and incidents shall be reported to the Rail Road and 3TC management immediately. A Corrective Action Report (CAR) shall be completed for all near miss and incidents by the Project team. This shall include a description of occurrence, cause analysis (Cause and Contributing Factor), Immediate Action, Short Term Action and Long Term Action.

Emergency Preparedness and Response

- An Emergency Action Plan (EAP) shall be developed to include all work locations, rally points, health care providers, urgent care locations and directions to them, etc. A drill shall be conducted periodically to determine the effectiveness of the plan. A post drill review shall be conducted and reviewed at the next MSC meeting.

1.9.4) Provide a draft Project "Health and Safety Plan"

We have includes a draft HASP later in Appendix 1.

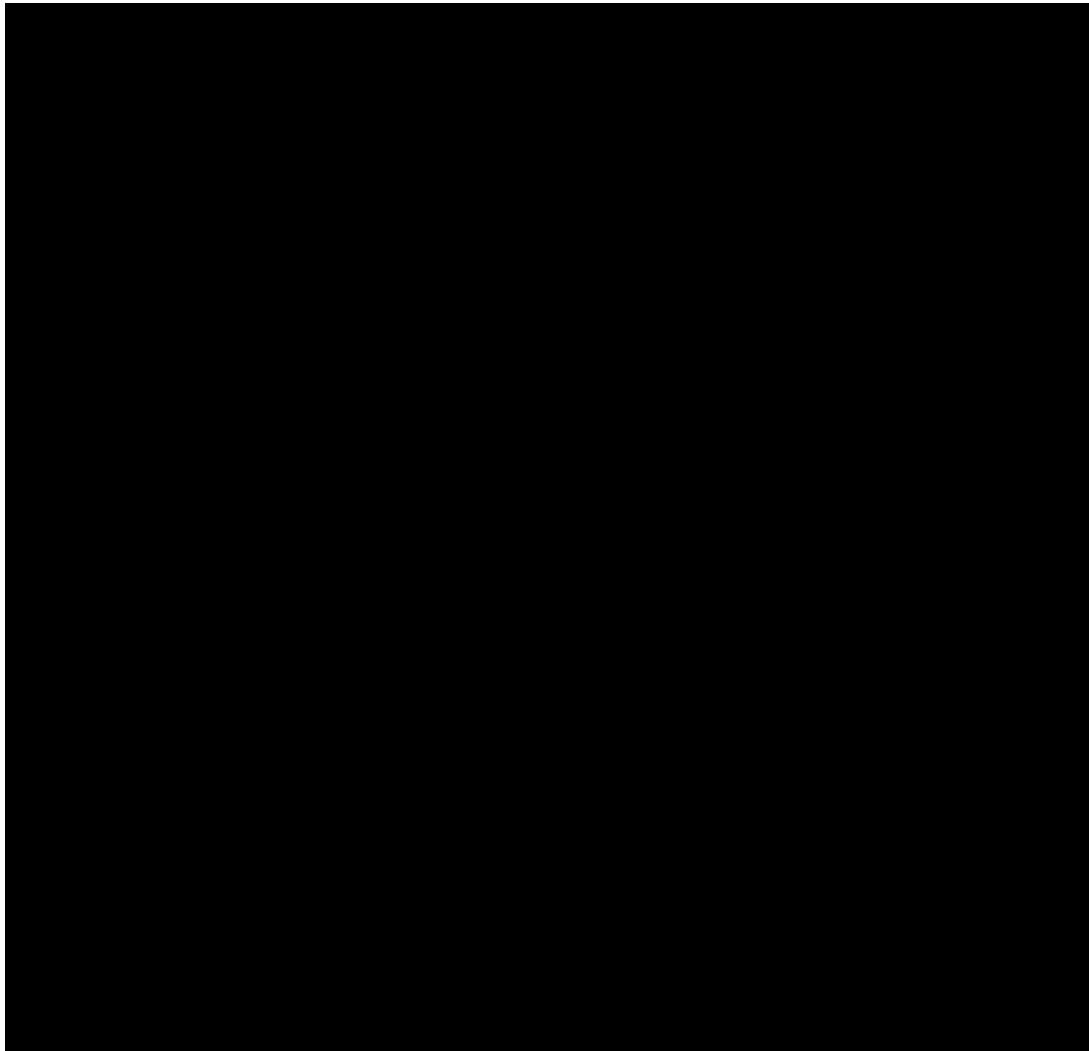


1.10 System and Construction Security

Volume 2 - Package 1: Management Approach

1.10 System & Construction Security

1.10.1) Identify the Systems Security team proposed in the organization chart and any additional personnel and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to security and the anticipated roles and responsibilities.



Systems & Construction Security Team

Role	Responsibilities & Qualifications
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The Systems Safety & Security Program on the Project will benefit from Stantec’s experience as the Federal Transit Administration’s (FTA) Project Management Oversight Consultant for the Massachusetts Bay Transit Authority’s (MBTA) Green Line Light Rail Extension and the California High Speed Rail Authority’s Manager of Quality Assurance and Verification & Validation. Stantec is currently tasked with providing Safety & Security Program Management services for the upcoming (summer 2017) Dallas Area Rapid Transit (DART) Light Rail Stations Platform Extension project, on Valley Metro’s Tempe Streetcar project and for Sound Transit’s Light Rail East Operations & Maintenance Facility, a design-build project necessary for the expansion of the region’s light rail system. For these projects, Stantec relies on a broad range of Signaling and Train Control, Communications Systems, Traction Power, and Rail Operations technical expertise to guide our clients successfully through these often complex, but critical processes.

Stantec’s rail experience on Federal Railroad Administration (FRA) regulated properties comes through projects such as the Regional Positive Train Control (PTC) program for the Trinity Railway Express (TRE) in the Dallas/ Ft. Worth area and through our role as FTA’s

Project Management Oversight Consultant overseeing the Austin Capital Metropolitan Transportation Authority’s TIGER grant funded commuter and freight rail enhancements.

From the construction side, our Railroad Coordinator/ Operations Manager, supported by Technical Advisor Michael A. Turcotte (Vice President Electrical Systems Development & Operations for Dragados and Picone) will provide construction inputs and bring the experience for our past and ongoing projects.

1.10.2) Describe the approach that will be used to ensure system security, including analysis, design, and construction considerations.

The approach to security for the Third Track project is not just a process or set of procedures to the 3TC team but a necessity for the Rail Road, the passengers, the rail workers and support staff and for the surrounding communities. Every effort will be made to evaluate how the system can become more resilient or less vulnerable to the issues of the day which unfortunately revolve around theft, personal assaults, destruction and violence. We intend to build into this system what will assist the LIRR making this new area comfortable and safe.

The System Safety & Security program for this Project begins with the development of a project specific Safety and Security Management Plan (SSMP) relevant to the Rail Road commuter rail environment. Our approach will be to develop this plan in accordance with Chapter IV of FTA Circular 5800.1, Safety and Security Management Guidance for Major Capital Projects. The plan will describe the approach to safety and security activities to be carried out during each phase of the Project. The plan should follow an outline similar to that shown in the following table.

The Plan will include analysis tools such as a Preliminary and Operational Hazard Analysis (PHA/OHA) and a Threats and Vulnerability Risk Analysis (TVA). Designs

will be subsequently created to eliminate (i.e., design out) the hazards through design selection. If an identified hazard cannot be eliminated, designs should be altered such that they are reduced in severity and/or probability of occurrence to an acceptable level. This may be accomplished, for example, through use of fail-safe devices and principles in design, the incorporation of high-reliability systems and components, and the use of redundancy in hardware and software design.

Another critical element of the program is the Safety and Security Certification Plan (SSCP), which is a sub-component of the System Safety & Security Management Plan. The purpose of the SSCP is to ensure project compliance with applicable regulatory codes,

Typical Safety & Security Management Plan (SSMP) Section Outline	
<p>SECTION 1: MANAGEMENT COMMITMENT AND PHILOSOPHY</p> <ul style="list-style-type: none"> 1.1 Safety and Security Policy Statement 1.2 Purpose of SSMP 1.3 Applicability and Scope of SSMP 1.4 SSMP Goal <p>SECTION 2: INTEGRATION OF SAFETY AND SECURITY INTO PROJECT DEVELOPMENT PROCESS</p> <ul style="list-style-type: none"> 2.1 Safety and Security Activities 2.2 Procedures and Resources 2.3 Interface with Management <p>SECTION 3: ASSIGNMENT OF SAFETY AND SECURITY RESPONSIBILITIES</p> <ul style="list-style-type: none"> 3.1 Responsibility and Authority 3.2 Committee Structure 3.3 Safety and Security Responsibilities Matrix <p>SECTION 4: SAFETY AND SECURITY ANALYSIS</p> <ul style="list-style-type: none"> 4.1 Approach to Safety and Security Analysis 4.2 Requirements for Hazard and Threat Vulnerability Analysis <p>SECTION 5: DEVELOPMENT OF SAFETY AND SECURITY DESIGN CRITERIA</p> <ul style="list-style-type: none"> 5.1 Approach to Development of Safety and Security Requirements and Design Criteria 5.2 Design Reviews 5.3 Deviations and Changes <p>SECTION 6: PROCESS FOR ENSURING QUALIFIED OPERATIONS AND MAINTENANCE PERSONNEL</p> <ul style="list-style-type: none"> 6.1 Operations and Maintenance Personnel Requirements 6.2 Plans, Rules, and Procedures 6.3 Training Program 6.4 Emergency Preparedness 6.5 Public Awareness 	<p>SECTION 7: SAFETY AND SECURITY VERIFICATION PROCESS (INCLUDING FINAL SAFETY AND SECURITY CERTIFICATION)</p> <ul style="list-style-type: none"> 7.1 Design Criteria Verification Process 7.2 Construction Specification Conformance Process 7.3 Testing/Inspection Verification 7.4 Hazard and Vulnerability Resolution Verification 7.5 Operational Readiness Verification 7.6 Safety and Security Certification Requirements <p>SECTION 8: CONSTRUCTION SAFETY AND SECURITY</p> <ul style="list-style-type: none"> 8.1 Construction Safety & Security Program Elements 8.2 Construction Phase Hazard & Vulnerability Analysis 8.3 Safety and Security Incentives <p>SECTION 9: REQUIREMENTS FOR 49 CFR PART 659, RAIL FIXED GUIDEWAY SYSTEMS, STATE SAFETY OVERSIGHT (IF APPLICABLE)</p> <ul style="list-style-type: none"> 9.1 Activities 9.2 Implementation Schedule 9.3 Coordination Process <p>SECTION 10: FRA COORDINATION (IF APPLICABLE)</p> <ul style="list-style-type: none"> 10.1 Activities 10.2 Implementation Schedule 10.3 Coordination Process <p>SECTION 11: DHS COORDINATION (IF APPLICABLE)</p> <ul style="list-style-type: none"> 11.1 Activities 11.2 Implementation Schedule 11.3 Coordination Process

Safety and Security standards, and best practices that require transit agencies to identify and ensure that preliminary and operational hazards, security threats, and vulnerabilities are evaluated and properly controlled or mitigated prior to the commencement of passenger service. Additionally, the SSCP verifies that all safety and security critical project elements are certified as compliant with specified safety and security requirements.

The SSCP identifies the process by which the Project will be certified as safe for revenue service. The Safety and Security Certification process verifies that the system, as designed and installed, meets or exceeds statutory requirements for safe, secure operations, and maintenance. The SSCP is a living document and will be updated as the Project progresses through successive stages of design, construction, and testing.

During the Project, the Systems Integration Engineer will oversee a staged approach to support project implementation which will require the management of many different stakeholders with varying levels of responsibility, spanning all project phases. In this dynamic environment, the SSCP provides a consistent safety and security focus for all safety related activities throughout each of these project lifecycle phases. The SSCP manages hazards and vulnerabilities throughout the project lifecycle, but particularly during system construction, testing, and commissioning. This is accomplished utilizing a systematic approach to risk management. The SSCP verifies application of this systematic process and ensures that hazards and vulnerabilities are translated into risks. System risks are then analyzed, assessed, prioritized, and resolved, accepted, managed, or simply tracked.

The SSCP ensures that all newly installed or modified systems and sub-systems are operationally safe and secure for customers, employees, emergency personnel, and the general public prior to entering into passenger service. The SSCP provides systematic methodologies and tools used to verify and document that all safety-critical security systems, subsystems, procedures, and training programs are compliant with applicable transit safety and security requirements for each applicable Systems Element. Typical examples of these tools and processes include:

- Identification of Safety Certifiable Elements List (SCEL)
- Safety and Security Design Criteria
- Design Criteria Conformance Checklists
- Construction Specification Conformance Matrices
- Management and Tabulation of and Integrated Test Requirements
- Testing and Validation in Support of SSCP
- Verification of Operational Readiness
- Safety and Security Certification

We've described in detail the processes and plans that will be used during our planning, integration into our design process and through the final validation of our efforts. The effort will provide a long-term advantage to the Rail Road but to us it is more personal than that. Several of our Team members travel this corridor every day to work or other events, we wouldn't want them to do so if we haven't done everything possible to provide a safe and resilient system for them to ride.

An aerial photograph of a large railroad yard, overlaid with a blue tint. The image shows numerous tracks curving and intersecting. A train is visible on one of the tracks in the middle ground. There are several pieces of construction equipment, including excavators and trucks, scattered across the yard, suggesting ongoing work or maintenance. In the background, there are various buildings, including a prominent yellow building, and a water tower. The overall scene depicts a complex and active rail facility.

1.11
Railroad
Operations

Volume 2 - Package 1: Management Approach

1.11 Rail Road Operations

1.11.1) Identify the Rail Road Operations team proposed in the organization chart and any additional personnel and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to operations and the anticipated roles and responsibilities.

3TC understands this Project will be built in one of the most congested rail corridors nationwide and therefore the minimization of impacts to operation and commuters is not only a priority, but a driven principle for every single activity every single day. We are aware that Rail Road operation will affect significantly both design and production rates of many construction activities.

Reduction of those impacts will be redundant in benefits for all parties, a more cost-effective solution and an optimized schedule.

Incorporating Rail Road operation inputs into design and construction activities from the very beginning, encouraging an active operation expert's participation in team meetings, and ensuring a proper and efficient communication and coordination with the Rail Road, will be the main goals of our dedicated team of individuals assigned full time to Rail Road Operations.

As part of this approach, the Railroad Operation Team (ROT) is shown in the org chart as one of the main divisions, directly under the PM and above the CM, the DM and the Design-Build Coordinator.

This ROT will be led by a strong Rail Road Coordinator/ Operation Manager, with more than 20 years of experience on railroad operations and very familiar with all operational restrictions and requirements.

While working on stations, near or affecting patrons and commuters, there will always be a 3TC representative on-site focused on their safety, operational requirements and attention that will be easily contacted.

Rail Road Operations Team (ROT)

Role

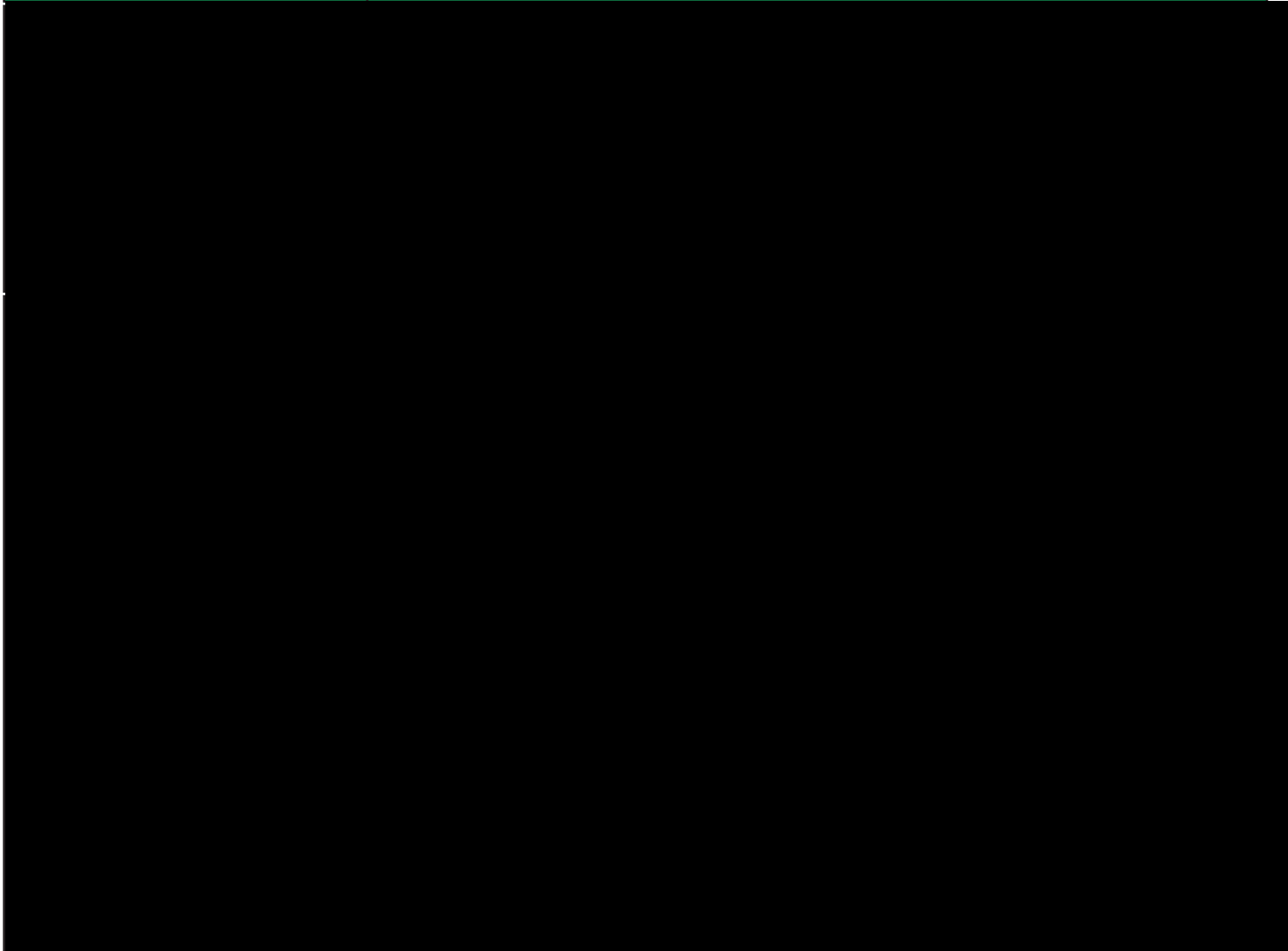
Responsibilities & Qualifications



Rail Road Operations Team (ROT)

Role

Responsibilities & Qualifications



1.11.2) Describe how work will be managed and coordinated with the Rail Road

The ROT function will be to schedule all Rail Road services and support for all operations by 3TC. They will be given the authority to make all requests for flagmen, signal, power and communications force account personnel, work trains and General Orders directly to the Rail Road. They will coordinate all 3TC work to make the most efficient use of Rail Road Force Account (Rail Road FA) work.

3TC ROT will be present at all scheduled meetings to ensure they have up to date information. They will coordinate with the 3TC Project Management Team and subcontractors, vendors and third party entities. They will provide the Rail Road with requests for services in accordance with Rail Road procedures. Sufficient time will be allotted to the Rail Road to provide the services requested. One of their direct responsibilities will be the attention to the impact on the patrons parking near the stations. They will have the authority to provide whatever services necessary to allow patrons full use of stations in accordance with the requirements of the contract. This may include temporary walkways, sidewalks, or shuttle busses, depending on the needs of the particular station.

This Team will have the requisite construction experience to manage the coordination necessary between the Rail Road and 3TC management. This will require that the team understand both the needs of the 3TC Construction Team as well as the requirements of the Rail Road operations. Each construction operation will need to be studied and understood by this team so that proper and efficient use of the Rail Road services may be made. All work on, in or around the ROW will fall under this group's responsibility.

Coordination and full exchange of information between this group, the Rail Road, and 3TC will be imperative to getting the work done efficiently and with the least impact to the riding public.

a) Minimizing impacts on Rail operations;

3TC's coordinated effort, as described, will allow work to be done at a minimum impact to the operating railroad. The use of weekly meetings, coupled with direct access to Rail Road personnel will produce a well-coordinated exchange of information between the 3TC Rail Road Operations team and Rail Road operations.



Atlantic Yards Development site is located between two of Brooklyn's busiest roadways and over nine subway lines, all of which had to remain operational due in part to experienced railroad operations specialists.

While working on stations near or affecting patrons and commuters, there will always be a 3TC representative on-site attentive to safety and operational requirements.

b) Minimizing impacts on patrons parking near stations;

The 3TC ROT will be part of the planning, notification and implementation of our team's parking solutions. This effort will allow for ridership to use the stations with the least amount of inconvenience. 3TC is fully aware of the need to not to burden the Rail Road and its station patrons during construction with loss of parking. We are also aware that our construction forces should not use station parking during construction related activities.

The following table summarizes potential impacts to parking expected along the Mainline, and indicates the maximum number of parking spaces that may need to be mitigated at each of the station locations. 3TC has identified and begun negotiations for several temporary locations for auxiliary parking following this table. As per the RFP requirements, staggered construction in the vicinity of the stations minimizes the need to replace all station parking at the same time. For example, work will be performed on one side of a station platform at a time, one new parking structure in the same station area may be constructed at a time (Mineola and Westbury), and work will be staggered at adjoining grade separations in the New Hyde Park, Mineola and Westbury areas. Furthermore, as the new permanent parking facilities are brought into service, parking impacts will be mitigated in the New Hyde Park, Mineola, and Westbury areas.

Location	Permanent Surface Parking Lost during Construction	Temporary Surface Parking Lost during Construction	Temporary Parking Spaces Lost during Garage Construction	Total Loss of Parking During Construction	Parking Gained Due to New Surface Lot and Garages	Stage Notes	Max loss of Parking Due to Staged Construction (Max Temporary Spaces)
Floral Park Station	10			10			10
							Total = 10
New Hyde Park Station				162	80	One Side At a Time	99
Covert Avenue				87		One Side At a Time	45
							Total = 144
Merillon Avenue Station	10			10			10
							Total = 10
Mineola Station				78		One Side At a Time	40
Main Street	14	28		42	11	One Street Closure At a Time	
Willis Avenue	19	17		36		One Street Closure At a Time	36
Harrison Parking Garage			109	109	442	One Garage at a Time	109
Mineola South Parking Garage			80	80	303	One Garage at a Time	
							Total = 185
Carle Place Station		14		14			14
							Total = 14
Westbury North Parking Garage			249	249	534	One Garage at a Time	249
Westbury South Parking Garage	23		163	186	518	One Garage at a Time	
Railroad Avenue	2	39		41		One Garage at a Time	
Urban Avenue	9	7		16			16
							Total = 265
Hicksville Garage			306	306	726		306
							Total = 306

Consequently, in keeping with the promises made by the Governor and Rail Road during the EIS phase of this Project, we are proposing a comprehensive program to mitigate the loss of parking along the Rail Road Mainline resulting from station reconstruction, grade crossing eliminations and parking garage construction.

Auxiliary Parking

3TC has identified and begun preliminary negotiations for additional station parking in Nassau County. The following table indicates the location of the potential auxiliary parking areas, the potential areas (or spaces) available and stations they will serve during construction.

3TC will provide shuttle service from these lots for construction staff to the Project work zones and for commuters to access their stations. Upon designation, 3TC will finalize these negotiations, the exact number of parking spots available, and the schedule and frequency of the shuttle bus services.

Temporary Parking Area			
Parking Area	Address	Stations Served	Approximate Negotiated Spaces
		Floral Park & New Hyde Park	150
		Mineola & Merillon Avenue	200 to 300
		Carle Place & Westbury	See Note Below
		Hicksville	200
		Hicksville	200
		Hicksville	200

Please note that with respect to the Former Nassau County Family Court House, the County representative who we contacted indicated that the County would be willing to provide this parking facility for the purpose of mitigating the Project parking impacts. However, the County would need a formal request from and enter into an agreement with another government entity (MTA, Rail

Road, NYSDOT) instead of a private party. 3TC would assist the Rail Road at the time of award to identify the appropriate government entity and reimburse that entity for any rental fee levied by Nassau County.

Shared Autonomous Vehicles

In addition to the conventional ways of getting local residents to the station during the time that the station parking is impacted, we will explore the implementation of Shared (12 person mini-buses) Autonomous Vehicles that operate at 25mph or less throughout the station area that is impacted. Stantec is currently involved with the testing of such vehicles at a 500-acre test facility in California and is also involved with pilot projects in Tennessee and at the Harrisburg International Airport in Pennsylvania. Since the vehicles have a moderate purchase price and have a very low operating cost because they are all electric and operate without a human driver, multiple units can be purchased and operated simultaneously and may ultimately help reduce the demand for permanent parking at the stations.

Temporary Auto Lifts/Concierge Parking

If additional temporary parking is necessary, 3TC will install temporary hydraulic auto lifts that are typical to the commercial parking lot industry at a portion of the station parking areas that are impacted during Mainline construction, or during the construction of the five proposed parking garages in the Mineola, Westbury and Hicksville Station areas.

Station patrons at these locations will be able to leave their vehicles with a parking attendant who will place their vehicles on the auto racks and retrieve their vehicles upon return to the station. This service will be provided at no cost to the Rail Road rider.

Rideshare Services

Through the use of GPS navigation, the advent of Smartphones and the dominance of social networks, rideshare services (such as Uber and Lyft) have become an integral part of the New York Metropolitan Area's transportation supply chain.

Recent State of New York legislation went into effect at the end of June 2017 provides for a uniform statewide regulatory framework for rideshare services and is overseen by the New York State Department of Motor

Vehicles. Although the legislation provided Nassau County with the right to opt-out of this framework, as of the date of submission of this Proposal, they have not exercised that option. Consequently point-to-point (intra-county) ride share services are legal in Nassau County.

Currently, there are 3,000 registered vehicles and 700 licensed rideshare drivers within Nassau County. Uber and Lyft recently celebrated the legalization of their services by providing discount coupons at the Hicksville Mainline trains station. Upon designation, 3TC will engage the aforementioned services to provide similar ride subsidies to station patrons impacted by the loss of parking at their local station.

Via

3TC has discussed with Via Transportation, Inc. ("Via") a possible partnership whereby 3TC would leverage Via's best-in-class on-demand shared ride technology to establish a dynamic shuttle system to help mitigate parking losses during the project.

Using Via's technology, 3TC could set up a dedicated shuttle system that allows riders to request on-demand vehicle journeys to or from train stations affected by construction within a predefined geographic radius. Instead of using personal vehicles to travel to or from the station, customers would simply request shuttle journeys using the Via app, which would automatically dispatch a dedicated vehicle to fulfill the trip. Rather than running on a fixed route, these Via-powered shuttles would be dynamically routed to aggregate customer journeys in a highly-efficient manner, responding in real time to changes in traffic conditions or road closures. This system would harness the same world-class algorithms and software tools that Via uses in its diverse microtransit deployments - from dense areas like New York City, to suburban and even rural contexts in the US and abroad. More information about the Via app and user experience is included below.

If 3TC is awarded this Project, and MTA is interested in mitigating parking loss with an advanced, real-time on-demand transit platform, Via and 3TC will explore a business and licensing agreement to deploy and operate Via's technology. Since the MTA's interest in such a system is not yet known, a final Via-3TC business agreement and license will be subject to the mutual assent of all parties following a Notice to Proceed.

ABOUT VIA:

Via is a developer and operator of on-demand microtransit systems. Founded in 2012 by Daniel Ramot and Oren Shoval, the New York City-based company has raised over \$150 million in venture capital funding and provided over 17 million rides to hundreds of thousands of members. In addition to operating its own consumer-facing services in New York City, Chicago, and Washington, D.C., Via also licenses its world-class technology to other kinds of transportation providers, such as public transit agencies, cities, taxi companies, and private operators of public transit. Via's website is <https://ridewithvia.com/>.



We have provided detailed information about Via in Section 1.13 of this Package.

Dynamic Sign Panels

In addition to the above measures, dynamic information panels will be installed in all stations and parking areas providing quick and relevant information to the users, reflecting construction news, upcoming changes, anticipated impacts, and the availability of other parking options.

Outreach

Finally, we will utilize our proposed Community Outreach Movement Bureau and its Project Ambassadors, as well as social media to publicize the availability of this parking mitigation program.

c) Minimizing Force Account and other expenditures required by the Rail Road;

All operations that may affect the operating railroad will be coordinated through the 3TC Project Management Team. This will include the most efficient use of the Rail Road FA work. 3TC is aware of the coordination effort necessary to get the work done by 3TC and Rail Road FA workforces. The efficient use of both workforces will enable the work to proceed as scheduled and with minimum effect on the riding public. Weekly meetings

between 3TC and the Rail Road will result in the best possible use of the Rail Road FA work.

d) Coordination with the Rail Road for Flagging, Outages

Utilization of Rail Road flagging, force account personnel, and track outages will be coordinated through the 3TC ROT. The quantity of these services required and their implementation is large part of the 3TC Proposal. Through design initiatives and inventive construction methods, 3TC has developed a method of construction that minimizes the use of these support services. This effort will continue after final design, through the construction of the work. The 3TC Team proposes to minimize the use of all Rail Road services. The Weekly Progress Meetings will allow for open communication with Rail Road personnel to allow for the best use of these services in a way that doesn't impact the Rail Road ongoing service operations.

e) Coordination with the Rail Road regarding the use of Work Trains and any other equipment that will be used on the track or ROW.

3TC ROT will be responsible for coordinating the use of Work Trains and any other equipment used on the track or ROW. Weekly Progress Meetings with the Rail Road will be the best way to present Work Plans and other detailed information with this regard. Our Team will submit a Work Plan to the Rail Road before the use of Hi-Rail vehicles and/or Work Trains within the Rail Road ROW. We will also provide advance notice to the Rail Road so that pilots and other Rail Road Protection staff may be scheduled. We understand the Rail Road will assign qualified pilots and any necessary Rail Road Protective Labor, for the operation of 3TC's Hi-Rail vehicle, and Work Trains along the Rail Road ROW, and to and from each work area. Our Work Trains and Hi-Rail vehicles will be in compliance with TPA1.22B MINIMUM RAILWAY CLEARANCE and with the safety requirements described in TPA1.22C VEHICLE OPERATION SAFETY PROGRAM.

1.12 Quality



Volume 2 - Package 1: Management Approach

1.12 Quality

1.12.1) Identify the Quality Management team and Independent Construction QC Firm proposed in the organization chart and any additional personnel and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to quality and the anticipated roles and responsibilities.

3TC's commitment to quality begins with 3TC and is passed down to the Lead Designer and the rest of the team members. Simply put, we provide the right people for each task, give them the organizational support to succeed, then guide their performance and assess the outcome. This results in quality projects that are simple to construct, easy to maintain and durable. An iterative review and input process ensures quality is built into the whole lifecycle of the Project. The 3TC's commitment to quality is demonstrated by our Lead Designer. Stantec provides our Team a proven Quality Management System that is certified in the internationally renowned ISO 9001 standard. As an ISO 9001-certified firm, Stantec's work products must all be rigorously reviewed

and the QC/QA process fully documented with their internal procedures.

3TC has designated quality management professionals with significant experience in developing and leading quality management programs for similar projects to serve as the core of our Quality Management Program for this Project. The Quality Management team (see adjacent chart) will be independent from the project staff and duties associated with the execution/production of the Work. We will establish and implement a Quality Management Plan (QMP) within 30 days of the LNTP to meet the Rail Road's quality requirements for Quality Assurance (QA) and the Quality Control (QC). Our quality philosophy and systems are based on the approach that quality is the responsibility of every partner, contractor, and employee, extending from top management to the trade level.

Developing and implementing the QMP relies on input from the Lead Designer, the DBJV and the sub-consultants and subcontractors working for 3TC. As experienced design-builders, we know that the benefits of a sound QMP start during Procurement Period and lasts through Final Acceptance, when the Rail Road will take over the Project. 3TC members are fully aligned in our efforts to ensure that quality is achieved throughout the Project delivery. 3TC's Design Quality Management Plan, outlined further in the Design Quality Management subsection, defines the QC and QA processes, as well as the responsibilities to control and verify that all engineering design requirements are met.

During construction and demolition activities, the first line of quality is at the crew level. 3TC will promote that quality requirements and expectations are communicated through training and regular team meetings to all personnel in the construction team. Construction crews are trained to "build it once and build it right". Our Independent Construction QC Firm, M&J Engineering, will work side by side with the construction

crews to achieve a work product that meets Contract Specifications. Quality Assurance throughout the construction and demolition activities will be provided by the QM as described in the Construction Quality Management subsection. Finally, Quality Oversight (QO) and Independent Assurance (IA) will be performed by the Rail Road or designated consultants.

The main responsibility of the Construction QC Firm staff is to further assist the DBJV in properly delivering a successful project. The QC personnel will have sufficient authority to:

- Monitor construction procedures and adjust, if necessary, such procedures using industry accepted methods to improve materials quality so as to control the conformity of the Work to the requirements of the Project Documents.
- Perform all testing and inspection work in accordance with the Contract Specifications and the Manual of Uniform Record Keeping (MURK). Testing entails construction controlled testing, fabrication testing of structural steel and precast concrete, specialized testing of Rail Road structures and commissioning.
- Identify and report non-conformance findings to the DBJV and/or the subcontractor and fabricators
- Reject non-conforming materials or materials installed or placed using non-conforming procedures
- Initiate and verify implementation of procedures as provided in any Corrective Action Plan (CAP).

The QA functions led by the QM will include:

- Perform record audits of QC reports
- Field audit, as needed, to ensure construction procedures are being performed as defined in Contract Specifications
- Identify and report non-conformance findings to the Project Manager, Construction Manager, and Area Manager performing the work. Assist the Engineer of Record on the Corrective Action Plan (CAP)
- Issue a "stop-work" order to the DBJV or contractor performing the Work, with a copy to the Rail Road, following identification of non-conforming work

Quality Team	
Role	Responsibilities & Qualifications
 	

1.12.2) Describe the proposed quality approach that will be used to ensure overall quality of the work, including Special Inspections:

a) Explain how Design Quality will be achieved

Quality is at the core of 3TC's Project delivery system through an engaged and committed workforce with high standards set for the work product. We take pride in exceeding expectations for quality safety, environmental protection, and minimum disruptions to the surrounding public, design, workmanship, schedule, budget, and overall value.

Establishing, implementing and maintaining the proven processes and procedures that shape our QMP will assure that the performed work and workmanship complies with the requirements of the Agreement.








3TC has married the DBJV's and Stantec's QC/QA processes to create one seamless organization to deliver the Project.

As noted above, the Design Quality Team will be led by DQAM, Karl Rubenacker, PE, an engineer who is renowned in the New York Metropolitan Area for producing the highest quality projects. Karl will also be supported by senior-level Independent Design Task Force Based Check Engineers. These Check Engineers have qualifications equal to or greater than the experience of those individuals who originate the drawings and they are noted in the following table.

Design Project Tasks

The Project encompasses a broad range of design tasks as follows:

- Survey & Geotechnical Investigations
 - The field verification of original ground shots and features, such as utilities, tie-ins, drainage courses, etc. to facilitate the design of the Project.
 - The field investigation via borings or test pits of existing soil properties including unit weights, bearing capacity, lateral earth pressures, contamination, water tables, aquifers, etc.

Design Check Staff	
Task Force	Independent Check Designer Lead
Track	Denis Broadhurst, PE 
Systems	Kourosch Noori 
Drainage	Tim Hinrichs, PE 
Utilities	Joseph R. Amato, PE 
Grade Crossings	Stelios Bertos, PE–Structures Juno Garcia, PE –Roadway Design & Geometrics Chirs Mojica, PE –Traffic Management  Greg deBruin, L.S.–Survey 
Stations/Aesthetics	Mark Yoes, R.A. 

- Stations/Aesthetics (Architecture, Structures, Mechanical, Electrical, Communications)
 - The finalization of station layouts, station aesthetics, finishes, station supporting structures, station ventilation, station lighting, and drainage. Also included is station signage, station security and station safety
- Structures/Grade Crossings
 - The detailed design of the retaining walls, foundations, substructure and superstructure to meet the anticipated loading, design criteria and defined standards and geotechnical and hydrological conditions.
- Rail Road Track, Rail System Engineering, Roadway, Utilities, Lighting and Drainage Engineering
 - The finalization of profile grades, horizontal alignment, cross section design, drainage and associated roadside appurtenances and the location and crossings of utilities and utility conflicts within the Project footprint. Design will focus on ways to mitigate impacts to adjacent property owners. The finalization of the lighting

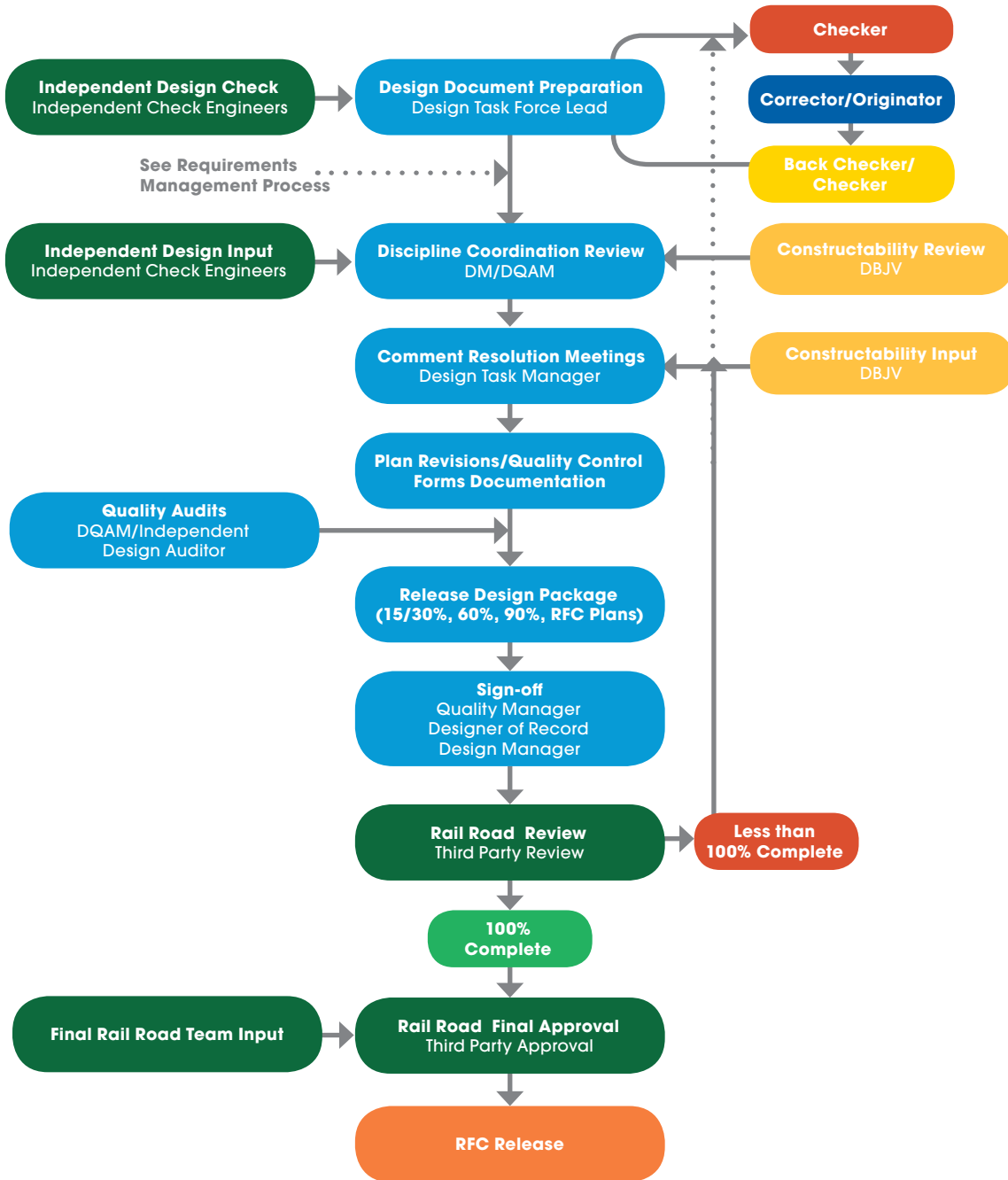
- and traffic signal design including power supply sources. Rail Road Track and Rail Systems Engineering
 - The finalization of track design and all systems integration design including train control, signals, SCADA, communications, traction power, radio antenna, communication power, signal power.

As noted in Volume 2 Package Section 1.6, these design tasks will be folded into the followings Tasks Forces where applicable to integrate the design across all design disciplines and construction:

- Track
- Systems
- Drainage
- Utilities
- Grade Crossings
- Stations/Aesthetics

Design Process

Our design process and the QC/QA process includes the following: detailed checking/back checking for all documents; independent, internal design checks for all disciplines; Discipline Coordination Reviews; Constructability Reviews and Rail Road and/or their designee reviews. The sequence of these checks as part of the overall design process is summarized below:



The interaction and interface between design production and design quality staff will be led by the Design Manager and DQAM. The Design Manager will plan the interaction process and resolve discrepancies arising from non-conformance activities. This interaction will consist of weekly coordination meetings and comment review meetings prior to design milestone and package submittals. Design QC Leads will have the authority to stop submissions in order to address any non-conformance uncovered during the review process. In the event of any unresolved finding, discrepancies will be escalated to the DQAM and if need be, to the QM who will direct corrective action(s) to resolve the matter.

All design submittals will be subject to formal checking/QC procedures in accordance the approved Design Quality Management Plan (DQMP). All design submittals will be verified by the Quality Manager to confirm they have satisfied the quality program requirements prior to being approved by the DM, Designer of Record and the QM for distribution to the Rail Road for review or issued for construction.

ISO Based Design Quality Management Plan

As part of 3TC's overall system of quality management, the DQMP will be based on the principles outlined in the ISO 9001 standard for quality assurance. The key elements of the applicable ISO 9001 standard as related to design will entail the following processes and procedures:

1. ISO 9001 4.2 – Documentation Requirements
2. ISO 9001 5.1 – Management Commitment
3. ISO 9001 5.2 – Customer Focus
4. ISO 9001 5.3 – Quality Policy
5. ISO 9001 5.6 – Management Review
6. ISO 9001 7.2 – Customer Related Processes
7. ISO 9001 7.3 – Design and Development
8. ISO 9001 8.2 – Monitoring and Measurement
9. ISO 9001 8.3 – Control of Nonconforming Product
10. ISO 9001 8.4 – Analysis of Data
11. ISO 9001 8.5 – Improvement

The DQMP will be concise, easy to maintain, easy to understand. The DQMP process will be implemented and coordinated with the co-located construction lead personnel and Rail Road representatives to assure the “over the shoulder reviews” are effective and

constructive. The DQMP will be distributed to all Design and Construction Team Leads as deemed necessary by the QM. The goal is to accomplish the following:

- Increase the probability of meeting the Rail Road's expectations in terms of the finished product
- Improve analysis and design solutions
- Allow for consideration of innovative solutions, materials and techniques
- Reduce constructability issues
- Provide adequate detail on plans
- Reduce errors in reports and plans

Process Control (ISO 9001 7.2, 7.3 and 8.2)

Process control is achieved by adhering to the following:

- Identify, confirm, document and communicate objectives, deliverables, schedule, work plan, standards and analysis methodology.
- Confirm the information provided is complete and accurate.
- Review site conditions
- Maintain a documented, indexed and traceable record of all work in a format that allows the Project team access to all pertinent Project information.
- Sign, and stamp where appropriate, all engineering products produced by team professionals.
- Provide all documentation to the designated quality assurance reviewer including Non-Conformance Reports.

Quality Control

Quality control is the responsibility of everyone undertaking a component of the work. To assist in this process, the DQAM will establish, as part of this DQMP, responsibilities and procedures for checking technical accuracy of the work, identifying then correcting discrepancies, rejecting product not meeting requirements, defining the frequency of implementing some or all of the procedure, reviewing procedural performance, and accepting the final work product. As noted previously, this procedure will include checks by individuals with the relevant qualifications and experience in the discipline, and knowledgeable of the technical requirements for a particular activity. Use of Checklists to assist in the reviews and provide documentation of the QC process will be required. QC records will be memoranda, meeting notes, or checklists specific to the task. Automated check software such as clash detection in BIM and VitalSim for an application

logic check will be utilized and aid in quality control in the design process. A list of the checklists, QC/QA forms and their content descriptions are as follows in the table:

Quality Assurance

The DQAM will designate senior-level staff from each discipline to carry out internal quality assurance reviews. The reviews will be carried out by an individual knowledgeable of the technical requirement for a particular activity, but has not been directly involved in the preparation of the material for that activity. The number of auditors will be adjusted if there are issue

Quality Control Forms	
Internal Audit Report Form	A Quality Assurance Report distributed to 3TC members, the Rail Road and its designees that track NCRs issued, Project improvement actions to be implemented, observations of trends effecting the Project and suggested process revisions.
Non-Conformance Report (NCR) Form	NCRs record non-conforming work incorporated into the project and could include, but not be limited to, deviations from design requirements, unexpected soil conditions, material defects, dimensional defects or other deviations in the work. Documentation includes their justification, assessment, action and approvals. The status of unresolved NCRs shall be reviewed in any regular progress meetings and in the Quality Audit summaries done by the Design Quality Assurance Manager.
Design Review Comment Form	A simple listing of the document, comment and response to be used by all review staff.
Survey Checklist	Listing of fieldwork and documentation checks to be implemented including GPS practices, calibration controls, data recording practices, drawing and control requirements.
Rail Systems, Station and Garage Checklists; RVTM and Interface Documents	Listing of Rail Road standards, codes and special requirements; field data collection needs; potential utility needs, system requirements (signals, lighting, communications, traction power/other power, SCADA, CCTV, fire, grounding, etc.); plan requirements and CADD standards; equipment detail needs; station specific needs (MEP, ADA, etc.)
Roadway, Utilities, Lighting & Drainage Engineering Checklists	Listing of data collection needs, stakeholder impacts and interaction, approval authorities and coordination, design criteria listings, traffic management strategy lists, ROW restrictions, traffic data needs and Level of Service Impacts, signal design and timing criteria, discipline specific calculations, construction/constructability impact checks, utility impacts checks, plan content and CADD requirements, etc.
Structures, Bridge & Retaining Wall Engineering Checklists	Listing of data collection needs, analysis methods and assumptions, modeling checks, roadway geometric requirements, traffic/train loadings geotechnical and foundation information checks, foundation issues, durability issues, hydrological information checks, constructability issue checks, substructure/superstructure load transfer checks, footing and pile design checks, seismic review, plan requirements and CADD standards, etc.

trends identified within specific areas of design. The QA reviewer confirms that the quality control process has been completed by signed-off Checklists and appropriate Design Review Comment Form responses. Components of the process include:

- Review and signoff of Checklists, Design Review Comment Forms and Non-Conformance Reports completed during the quality control process.
- Undertake, document and place on file independent mathematical and procedure checks of critical components of the design (i.e., road design, traffic operations, structures, drainage, electrical, survey and environmental) as relevant.
- Confirm that all standard policies, procedures and practices along with any client specific procedures have been followed.
- Prepare a Design Review Comment Form or Non-Conformance Report as appropriate to deal with issues noted in the review.
- Confirm that all issues raised and actions required are addressed.

In addition, a review of the composite package of activities will be undertaken to assess consistency, potential conflicts and overall conformance with the Project requirements.

Independent Quality Audit

The DQAM, in conjunction with an Independent Design Auditor, will undertake Milestone Quality Reviews/Audits to monitor the actual quality control and assurance measures taken during the Project's various phases against those expected. Deviations are noted, and appropriate action is taken to resolve the non-conformities in a timely manner.

The timing and number of Milestone Reviews/Audits will be detailed in the task-specific sections of this plan, and will be a function of the size and complexity of the Project. At a minimum, milestone reviews will be done at the 15%, 30%, 60%, 90% and RFC design stages for each element. The reviews/audits will be done in consultation with the Design and Construction Team and Task Force Leads and the results of the review/audit documented. Where existing processes are found to not be effective, recommendations for improved processes will be made as part of these reviews/audits.

The Rail Road will be updated on the results of the quality reviews/audits. Copies of the review/audit reports will be provided to the Rail Road, when requested, within 10 working days of the review/audit date.

At regular intervals, the quality reviews/audits will be reviewed to determine if revisions to processes are improving quality within the Project. The results of these reviews will be provided to the QM to assist in the overall assessment of 3TC's system of quality management.

Document and Data Control (ISO 9001 4.2)

Hard copy and digital file documentation is received and maintained in accordance with 3TC's Project Implementation Plan and available on ProjectWise. The filing system will be indexed and documented to assist in consistent filing and simplified retrieval of documents. Information contained on our servers is backed up daily.

Quality related records will be filed in a Quality Records File maintained by the DQAM. These records will include the following:

- Quality Management Plan
- Quality Assurance checklists
- Design Review Comment Forms, Non-Conformance Reports and evidence of the corrective action and subsequent compliance
- Minutes of all meetings related to Quality Assurance and Milestone Reviews/Audits
- Rail Road specified review certificates, such as independent review certificates
- Quality Milestone Reviews/Internal Audit Reports
- External Audit Reports

Control and Correction of Non-Conforming Work (ISO 9001 8.3, 8.4 and 8.5)

Identified deviations from designs or non-conformances need to be assessed, documented, and communicated to the Rail Road and their designated parties. This process will be handled through Design Review Comment Forms and Non-Conformance Reports (NCRs).

The corrective action taken and any preventative actions identified as being appropriate to prevent future occurrences will be documented.

b) Explain how Construction Quality will be achieved, and the roles of the Independent Construction QC Firm and independent Test Laboratories

The Construction Quality Management Plan (CQMP), as part of the QMP, will be the baseline tool to achieve quality in construction. It will set out the people, the processes and procedures, and the equipment necessary to promote full compliance with the quality standards set forth by the Agreement.

Our Proposed DB Firm Organization Chart shown in Section 1.2 depicts the depth of resources 3TC will dedicate to quality, and we count on their experience and ability to maintain quality throughout the Construction Period to deliver a successful Project.

Quality in construction starts with quality in design. We have outlined above the process by which 3TC will ensure the quality of Project's design. Our Team has selected a local Construction QC Firm with significant experience in delivering quality Rail Road projects, which complement the national and international railwork experience of our DBJV Members on similar, major design-build projects. Our CQMP emphasizes communication, coordination and a collaborative approach based on integration of design, construction and O&M to produce a Project that is simpler to construct and easier to maintain.

To ensure quality of construction throughout the process, we will maintain a continuous improvement approach, implement training sessions for all major construction activities, emphasize quality and safety and maintain quality supervision throughout. 3TC's key individuals will continue to be collocated in order to streamline processes, obtain faster deliverables, shorten deadlines and reduce the overall Project duration while delivering a high quality product.

Some of the major QA/QC processes and procedures included within our CQMP are described below:

- **Document Control** – CQMP will have a detailed Procedures for control of Project documents to ensure that all relevant documents and most updated files are current and readily available (both hard copies and electronic files) for the team members responsible

for the execution of the tasks. Any Invalid and/or obsolete Project documents are promptly protected against unintended use.

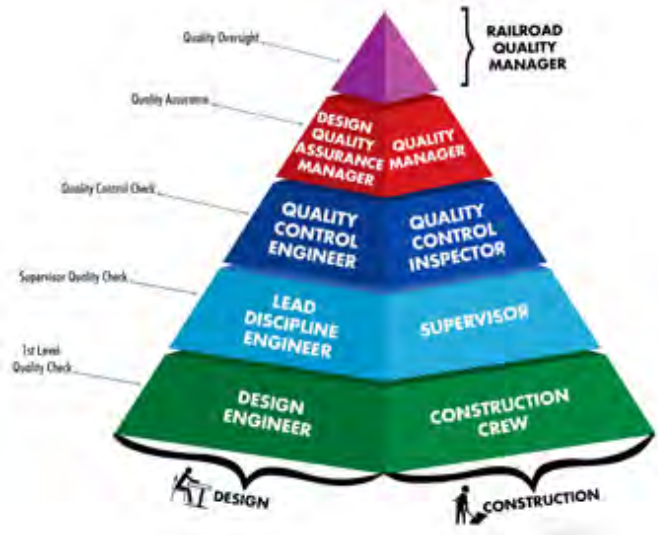
- **Changes** to the Project documents and data will be reviewed and approved by the QM.
- **Purchasing, Product Identification and Traceability** – A unique identification and tagging system will be implemented to ensure that purchased services or products conform to the Project's specification requirements. 3TC will direct suppliers to have quality programs consistent with the Project's QMP and other applicable Contract Documents.
- **Procurement** will be controlled through processes established in the CQMP covering such activities as procurement document control, supplier/sub-supplier selection/qualification, supplier quality survey, pre-award quality surveys, supplier quality approval, source/vendor surveillance, source/vendor inspection, release for shipment, and receiving inspection.
- **Control of Rail Road Supplied Items** – The CQMP will establish and maintain documented procedures for the control of verification, storage and maintenance of Rail Road-supplied items provided for incorporation into the Project or for related activities. Documented procedures included in CQMP which will detail the receipt/acceptance, storage, maintenance and preservation of these items.
- **Inspection, Testing, Sampling and Commissioning Activities** – The frequency of these tasks both during construction and fabrication is set forth in the Contract Documents. Our Inspection, Testing and Sampling Request Procedure provide a uniform context for scheduling inspection, testing, and sampling activities and facilitate the DBJV's Quality Check Point program. We strive for "zero rework" and our processes and procedures are designed to do work right the first time.
- **Daily Inspection Reports** – Document daily QC activities (in accordance with MURK) are reviewed by the CQCM and QM on a weekly basis.
- **Nonconforming Construction Work and Corrective Action** – The Treatment of Nonconformities Procedure will establish the steps to identify, track, and abate nonconformance work and defective means and methods.

The QM will be responsible for the integration of the construction quality management with the design quality management at the Weekly Quality Meetings and through the interface with the CQCM, the D-Build Coordinator, the DQAM and the Design Manager. Members of 3TC successfully implemented this quality approach on the \$1.2 billion PPP I-595 Corridor Roadway Improvements project in Florida.

The quality interface between 3TC and the Rail Road, for both design and construction activities, will be between the QM, assisted by the DQAM on design-related discrepancies, and the Rail Road's Quality Oversight Manager, functional group (Track, Power, Signals, Maintenance of Way, Scheduling, Stations, etc.) or designated consultant. The interface will be primarily by means of weekly follow-up meetings held between 3TC and the Rail Road.

c) Explain the proposed QA/QC approach and quality interface with the Rail Road

3TC's philosophy is that quality is the responsibility of everybody involved in the Project. Our first task is to educate all team members on the quality requirements of the Project and reporting chain of command. Our Quality Management Program depends on 3TC employees as our first line of monitoring and detection; the first quality check starts with those who perform the work and have the duty to provide notification of any defective work. Next, we require a series of checks and verifications by each immediate supervisor before spot and regular quality checks are performed by our dedicated quality staff and the Independent Construction QC Firm. This hierarchy is graphically presented on the pyramid shown below.



Design

The interface between the design and design quality staff will be led by the Design Manager, Susan Walter, and the DQAM, Karl Rubenacker, respectively. These two individuals will collaborate in the upper quality management planning and resolve discrepancies arising from design activities. In the event of any unresolved dispute, discrepancies will be escalated to the QM, who in turn will take corrective action(s) to resolve such issue. This interface will consist of weekly coordination meetings and comment review meetings prior to design milestone submittals. As noted previously design quality staff will have the authority to stop design work until the situation has been acceptably remedied.

Within the 3TC Team, the interface between the Lead Designer and 3TC regarding constructability review staff will be led by the Design Manager and the DB Coordinator, respectively, who will conduct “over the shoulder” review of the design in its preliminary stage with the aim of tackling any issues at its infancy. These two individuals will collaborate and resolve discrepancies arising from design review activities. Any discrepancies involving the quality of the submittals will be resolved by the DQAM and the QM. This interface will consist of weekly quality meetings, as needed, and comment review meetings prior to design milestone submittals.

Fabrication

Interface between 3TC (QA) and the Independent Construction QC Firm (QC) will be led by the QM and the CQCM respectively. These two individuals will collaborate in the upper quality management planning and resolve high-level discrepancies arising during fabrication of the structural steel, precast concrete elements, substation fabrication and any other specialized equipment assembly which are unique to railworks (i.e. Signals, Train Control, and Traction Power, etc.). In addition to the shop drawings, fabricators of certain permanent materials will be required to provide mock-ups to 3TC in order to obtain the Rail Road final approval prior the material installation.

Construction

Interface between the DBJV (QA) and the Independent Construction QC Firm (QC) will be led by the QM and the CQCM respectively. These two individuals will collaborate in the upper quality management planning and resolve high-level discrepancies arising from

construction activities. In the event of any unresolved dispute, discrepancies will be escalated to the Project Executive and, who in turn will take corrective action(s) to resolve such discrepancy.

QA and QC staff titles and reporting lines are shown on the Organization Charts shown in Volume 2 Package Section 1.2.

d) Explain the proposed process to demonstrate final compliance and acceptance with the Project Requirements in particular the role of the Rail Road in approvals/ comments

The process that 3TC will employ to demonstrate final compliance and acceptance with Project Requirements is woven into all our design approach, our management of requirements with traceability to our Test Plans, our management of the design interfaces and the oversight of the mandatory QA process audits and the field QC checks. We will manage each contract and derived requirement (applicable industry standards, local regulations etc.) in a centralized database that traces requirements from design through final field validation including testing and inspection. During the process each design group is aware of the requirements that they are to attain to ensure they are incorporated into the design. All along the design path the use of independent reviews and checks combined with QA oversight provide the Rail Road with the assurance that their needs are being addressed. During the design process the Rail Road will be provided submittals for their review and/or approval which will include a reference back to the applicable contract or derived requirement to show what was addressed by the submitted design. This requirements process will be managed by the Systems Integration Manager but with total transparency to the DB QA/QC process as well as the Rail Road reviewers.

By using these robust Requirements Management and Quality Assurance processes our goal is to minimize the time required for the Rail Road to review and/or approve the designs. However, there is no perfect process, so we welcome the review of the Rail Road and the use of its experience to provide the DB’s design team with constructive and practical comments for the final design.

Design QC System

Project design production personnel and design quality team members have specific independent roles with respect to design quality control. Our QMP will include procedures to be carried out by design production personnel. Additionally, the QMP will outline procedures for the following activities:

- Review Comment Summary and Resolution forms
- Validate and approve use of design software
- Review studies, reports, and other design documents
- Detail checking report forms for calculations, plans, and specifications
- Verify that reports, calculations, plans, and specifications meet the QMP quality standards

Construction QC System

To ensure compliance with the RFP and a quality finished product, our QM will work closely with our Design QA Manager, our Construction Quality Control Manager, our Project Manager, and the balance of the Construction Team to prepare our QMP. At a minimum, roles and responsibilities for Construction QC relating to the following items will be fully described in the QMP:

- Development and review of QC Inspection and Testing Schedules to be included in the QMP and Quality Control Plans.
- Development and review of standard QC Operating Documents, including; Inspection Report Forms, Testing Report Forms, and QC Record Books.
- Development and review of Quality Control Plans required for project produced materials.
- Performing random QC Sampling & Testing at field placement.
- Documenting QC Inspection results and QC Testing results.
- Maintaining QC Record Books and QC Database.
- Performing analysis of QC Inspection Data and QC Testing Data.
- Providing regular feedback to construction production personnel on results of QC Inspection and Testing Data.
- Addressing opportunities for improvement by identifying root cause(s) of a problem and determining modification(s) to work processes to improve delivery of services and construction activities.
- Ensuring appropriate process adjustments and corrective actions are implemented when determined necessary to provide the required level of quality.

e) Explain the process to correct defects and non-conformance in the Works in particular the role of the Rail Road in approvals/comments

As already mentioned before in this Section 1.12, the Treatment of Nonconformities Procedure will establish the steps to identify, track, and abate nonconformance work and defective means and methods. Detailed Procedures will be established and maintained as part of the CQMP to ensure that nonconforming Work is not inadvertently used, installed or allowed to remain in place. Nonconforming Work shall be identified, documented, and evaluated to determine appropriate disposition. Dispositions such as use-as-is, rework, repair will be subject to the Rail Road's approval. Nonconformances shall be remediated based on the criticality of the condition when discovered with appropriate time tables established for such conditions in the CQMP. Corrective action procedures will be established, documented, and maintained for all non-conforming conditions as part of the CQMP. These include procedures for investigation of the root cause of nonconforming work and the corrective action needed to correct the nonconformance, prevent recurrence, and procedures for analysis to detect and eliminate potential causes of nonconforming work. 3TC's QM or designee will verify that the corrective action has been accomplished to the satisfaction of the Rail Road. The QM will also determine preventive action to eliminate the causes of potential nonconformance's in order to prevent their occurrence. This also includes implementing and recording changes in procedures resulting from preventive action, corrective action, and continual improvement initiatives.

The detail step-by-step non-conformance process is the following:

- An NCR can be initiated by any 3TC Team or Rail Road member when nonconforming conditions occur.
- The nonconforming condition will be reviewed by the QM who will validate the item, condition or service is nonconforming before approving and initialing the NCR. The QM will ensure the NCR details are correct and if not valid, return the NCR to the originator.

- Nonconforming items referred in the NCR located on site will be identified and segregated from conforming items, when applicable, to prevent inadvertent use.
- The Area Managers or subcontractors/suppliers, when applicable, will carry out proposed solution, (already approved by the Designer of Record) for the NCR to: "repair", "rework", or agree to a "resolution" in case this has been provided as per the Contract requirements. This response shall be provided as soon as possible.
- When the NCR disposition is "repair" or "use as is" and a documented technical justification required, it shall be approved by the Designer of Record for concurrence by the Rail Road (if applicable).
- Following the completion of proposed corrective action determined in the NCR, the QM will have the item re-inspected to the specified acceptance criteria; unless other criteria was established in the NCR disposition. All corrective work will be witnessed by the QC inspector, QA representative and/ or in addition to Rail Road QA Oversight personnel, as appropriate.
- The QM will update the NCR Status Log and submit NCR Log to the Rail Road QA Oversight Manager on a weekly basis.

The QM is responsible to enforce implementation of the corrective action effort, but also to promote corrective action measures that anticipate the potential causes of nonconformities and works to reduce or eliminate these potential causes.

f) Explain how quality will be handled for specialty items including but not limited to Signals and Train Control, and Traction Power

Quality Control of Project Produced Materials: QC of Project produced materials will consist of sampling, testing, and inspection on a daily basis. All major work items will have specific QC Plans as part of the CQMP. QC of general construction activities will occur during the following phases of work:

- Pre-placement/installation
- Start of placement/installation
- QC during placement/installation
- Post placement/installation QC

Quality Control of Supplied Materials: As part of the CQMP, all material supply vendors will be required to submit qualifications including QC procedures, and approved plans will be incorporated into the CQMP.

Quality Control of Fabricated Structural Materials: 3TC will identify all Rail Road standard work items that must be addressed. We will require all fabricators have a QMP, and we will outline each fabricator QMP to confirm adherence to the Contract requirements.

Quality Control of Standard Manufactured Materials: 3TC Team will identify the standard work items to be addressed under this category and, once established, we will require each manufacturer to have a QMP in a format acceptable to the Rail Road. As material is delivered to the site, we will ensure that it is accompanied by a Certificate of Compliance and a copy of all manufacturer QC inspections and test results for the corresponding lot. We will also identify and execute random testing at the site to verify the Certificate of Compliance data. 3TC will engage a certified laboratory to be utilized for all required materials testing.

Quality Control of Signals and Train Control, and Traction Power: As a general rule the QC for all the specialty items such as signals, train control, traction power, substations, and gears will follow the same steps as described above. However, these specialty items may require additional specialized testing, acceptance and commissioning by various regulatory agencies either directly or through independent third party labs (hired by 3TC or related subcontractors). In addition, these items may require testing or witnessing by Rail Road's QA Oversight personnel. No specialized equipment will be released for full services until all the test reports are completed and validated for its intended purpose. The Initial Baseline Schedule will allow adequate duration for these critical activities. The following are some of the specialized testing that were included in the RFP. To test, integrate and commission these systems requires detailed planning, careful handling, and timing. The following Testing and Commissioning Table lists these critical systems with the responsibilities of the Rail Road and 3TC. (Note: Rail Road may use other entities as their representative but they are all designated as the Rail Road).

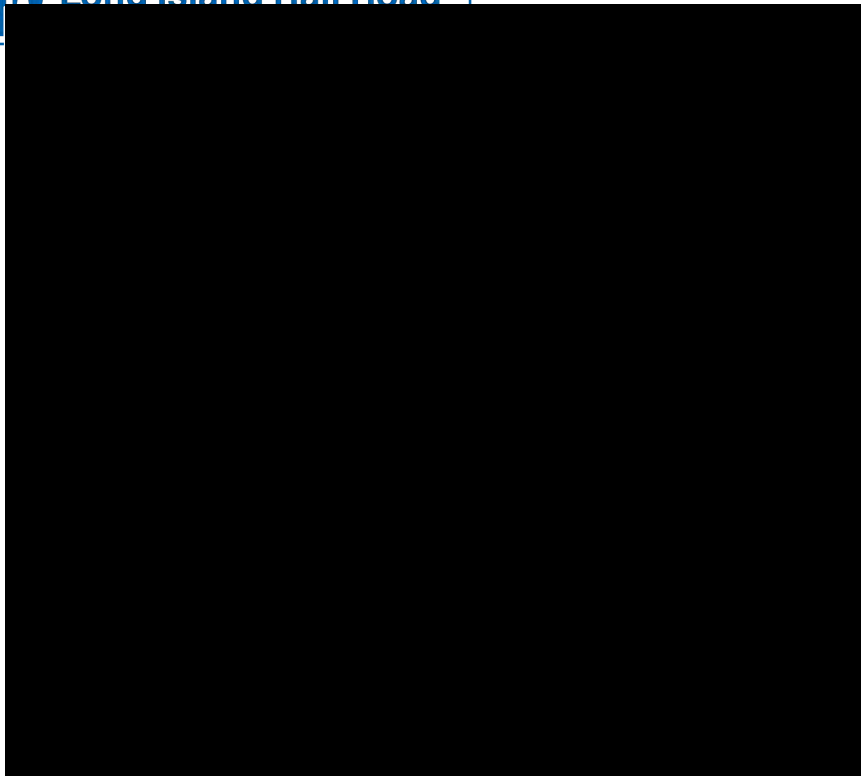
System	Activity	3TC	Rail Road
Traction Power, Signal Power	Generate Test Procedures	X	
Traction Power, Signal Power	Perform Testing	X	X
Traction Power, Signal Power	Commissioning		X
Third Rail Heaters	Generate Test Procedures	X	
Third Rail Heaters (In-Service track)	Perform Testing		X
Third Rail Heaters (In-Service track)	Commissioning		X
Third Rail Heaters (Out of Service Track)	Perform Testing	X	
Third Rail Heaters (Out of Service Track)	Commissioning	X	
Signal SCADA (Field and JCC)	Generate Test Procedures	X	
Signal SCADA (Field and JCC)	Perform Testing		X
Signal SCADA (Field and JCC)	Commissioning		X
Signal System	Generate Test Procedures	X	
Signal System	Preliminary, Static and FRA Testing	X	
Switch Heater System	Generate Test Procedures	X	
Switch Heater System	Perform Testing	X	
Switch Heater System	Commissioning		X
Signal System	Cab Signal Code		X
Signal System	TSRs		X
Signal System	Commissioning		X
Communications (Platform, Parking Garages, network)	Testing and Integration	X	
Communications (Platform, Parking Garages, network)	Acceptance		X
Security Systems	Testing and Integration	X	
Security Systems	Acceptance		X



1.13 MPT

1.13 MPT







Volume 2 - Package 1: Management Approach



1.13 MPT

1.13.1) Identify the team proposed in the organization chart that is responsible for traffic management and any other personnel and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to traffic management and the anticipated roles and responsibilities.

MPT Team	
Role	Responsibilities & Qualifications

MPT Team	
Role	Responsibilities & Qualifications
 	
 	

Reconstruction of grade crossings along the Rail Road, Mainline between Floral Park and Hicksville, Nassau County, is one of the main activities included in the scope of work.

The Table **Summary of Grade Crossings within Project limits** below lists the grade crossings that will be affected during the improvement of the entire Project. The table also shows the location and jurisdiction of the roads. Following the table, Figure 1 contains a Location Map showing the grade crossings.

Reconstruction at Covert Avenue, a two-way underpass with sidewalk would be implemented. To avoid taking residential properties, the Rail Road tracks would be raised five feet to reduce the depth of Covert Avenue

and to accommodate the vehicular clearance under the tracks (14 ft). Covert Avenue is a principal arterial and that is under the jurisdiction of Nassau County. Therefore, the TMP must include a Temporary Traffic Control (TTC), Transportation Operation (TO) and Public Information and Outreach (PlandO). Covert Avenue reconstruction is estimated to be completed in 6 months if full closure is permitted and up to 9 months if partial closure is permitted.

The reconstruction of New Hyde Park Road has two options that are being considered : a five-lane underpass with a kiss-and-ride northwest of the railroad tracks with a new 95-space surface parking lot; or a four-lane underpass with a kiss-and-ride located southwest of the railroad tracks. New Hyde Park Road is a principal

Summary of Grade Crossings within Project limits		
SITE NAME	MUNICIPALITY	ROAD JURISDICTION
Covert Avenue	New Hyde Park/Garden City	Nassau County
South 12th Street	New Hyde Park/Garden City	New Hyde Park Village
New Hyde Park Road	New Hyde Park/Garden City	Nassau County
Main Street	Mineola	Nassau County
Willis Avenue	Mineola	Nassau County
School Street	Westbury/New Cassel	N. Hempstead Township
Urban Avenue	N. Hempstead	N. Hempstead Township

arterial that is under the jurisdiction of Nassau County. Therefore, the TMP must include a Temporary Traffic Control (TTC), Transportation Operation (TO) and Public Information and Outreach (PIandO). The New Hyde Park Road reconstruction is estimated to be completed in 9 months utilizing a partial closure (ie: Maintain one lane in each direction).

1.13. 2) Describe how MPT will be implemented and managed.

During the design process, 3TC will be committed to the study, evaluation, and development of both geometric and MPT proposals, and will select those that provide effective, and appropriate solutions while minimizing community impacts, maintains access to stations and parking, and focuses on the safety of the thousands who use the existing grade crossings each day.

3TC's General Superintendent will be responsible for efficiently and appropriately implementing the Traffic Management Plan.

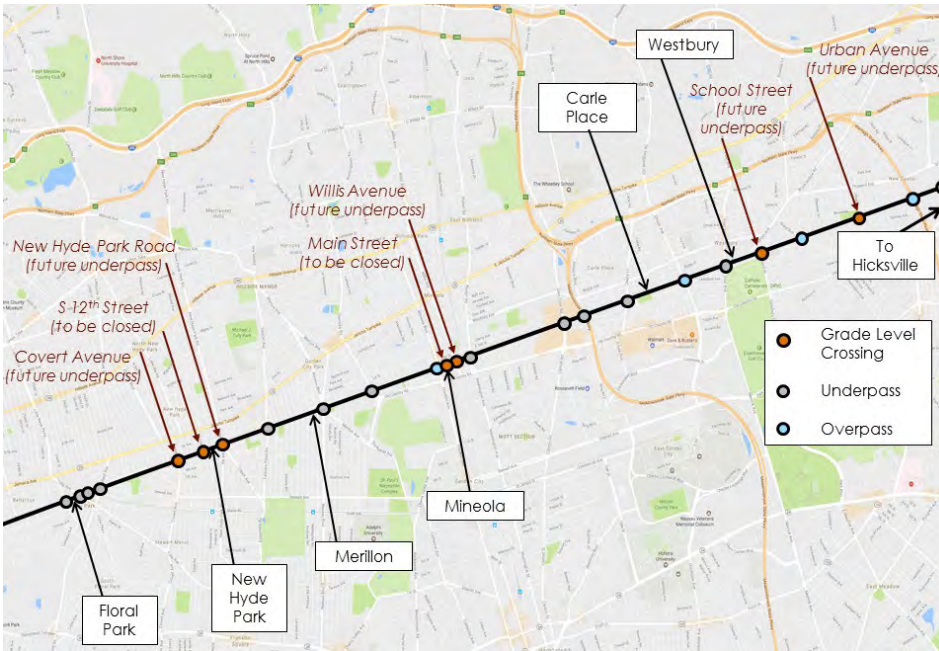
Our approach to MPT implementation is summarized as "active traffic management" rather than "maintenance of traffic." This is important during development of schematic geometric design alternatives when key issues or design influences must be identified and addressed to resolve any conflicts that arise. 3TC brings exceptional experience and knowledge of significant issues and procedures that can adversely affect project progress and the necessary expertise in all planning and engineering design to identify appropriate solutions. Our approach, which continuously identifies key issues and design influences, and effectively designs treatments that respond to those influences, will lead to the development of the traffic management plan that best balances the various engineering, environmental, and physical constraints. Our analyses of possible improvements for fatal flaws and deficiencies is key to achieving Project goals and objectives, resolving design problems, and implementing effective, sensitive, and safe improvements for the traveling public and the community. It is, therefore, imperative at the beginning of the design processes that the conceptual traffic management plan and construction staging concepts be reviewed and developed in much greater detail, recognizing the specific contractor work zone requirements (to build the Rail Road grade crossings, widen pavements and install drainage systems, walls, bridges, etc.).

Leveraging our experience from many other high-profile projects with sensitive environmental issues, difficult terrain, and constrained local road networks, 3TC will develop a Traffic Management Plan/Construction Staging Plan with the objectives to:

- minimize and shorten the duration of construction requiring lane closures and/or traffic diversion
- minimize negative effects and impacts of detoured traffic on the local road network
- minimize the delays to local road users
- identify and evaluate possible detour alternatives and alternate routes
- obtain community input
- minimize impacts of construction on the adjacent community and the environment
- partner with the Rail Road, NYSDOT and local government and agencies seeking their guidance and approvals when required

The construction of a third track on the Rail Road ROW will require disruption of automobile and pedestrian traffic currently using the vehicular crossings between the Floral Park and Hicksville train stations. Creating grade-separated crossings at some of the existing grade level crossings will increase the capacity of these roadways, by eliminating interruptions in traffic flow to allow for train traffic. At most of the crossings, train gates are down about 35-45% of the time in the AM and PM peak hours. Despite the long-term increase in roadway capacity at Rail Road crossings, during construction, it will be necessary to reduce travel lanes and potentially close crossings for a short period of time. Minimizing the impacts of these capacity reductions or closures will be paramount to lessen the impact on local communities and the traveling public.

Between the Floral Park area and the Hicksville area, the crossings vary from large overpasses, to grade crossings, to single-lane underpasses. Adding the third track will provide an opportunity to replace the grade level crossings with grade separated crossings, eliminating conflicts between train and road vehicle traffic, and improving safety and travel times. Each crossing will require a different strategy for construction when the third track is constructed. Impacts at crossings will include: full permeant closures, temporary closures during construction, lane closures causing alternating traffic, lane closures causing fewer lanes in each direction, shifting and narrowing lanes. At some



Glen Cove Road, Post Avenue, and Charlotte Avenue. These locations will be constructed primarily during daytime hours utilizing short term standard single lane closures. Various (WZTC) measures will be implemented including: flashing arrow boards, PVMS, plastic drums, Type 3 barricades, temporary signing and striping, and shadow vehicles. At Glen Cove Road long term lane reductions / partial closure is anticipated for short durations (ie: Maintain one lane in each direction).

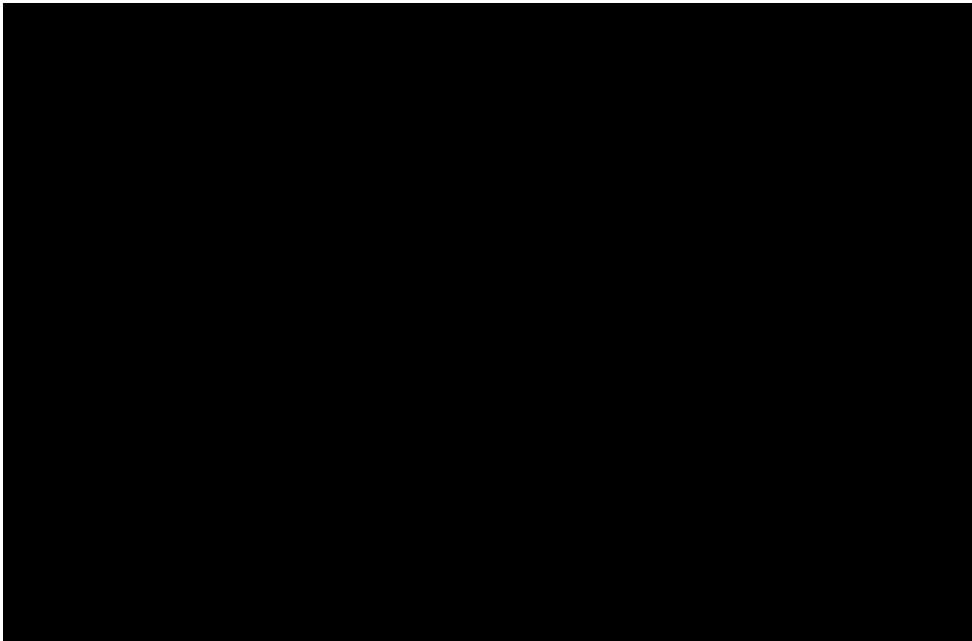
crossings, no impact to the roadway is necessary.

At five of the seven grade crossings, underpasses will be constructed, and two will be closed permanently. Construction of these underpasses will require temporary closures, and interruptions in traffic. The grade level crossings generally carry less traffic than the currently grade separated crossings. New Hyde Park Road carries the most traffic of the grade level crossings, with almost 20,000 vehicles on an average weekday. Covert Avenue and School Street both had approximately 12,000 vehicles counted using them, and the remainder had under 10,000 vehicles (Except S 12th Street, for which there was no count available).

The major crossings in the project area include the Meadowbrook State Parkway, with about 146,000 vehicles on a typical weekday and the Wantagh State Parkway with about 74,000 vehicles. On the Meadowbrook Parkway, traffic peaks in the afternoon, with just over 5,000 vehicles using the road in each direction. Three lanes will be maintained during peak hours at that location, by shifting and reducing lanes. Other crossings with over 20,000 vehicles daily include Herricks Road, Mineola Boulevard,

During each closure of a crossing we believe that most traffic will instinctively divert to nearby crossings. Some other traffic will reconfigure their trips to destinations that do not require crossing the Rail Road. To minimize or alleviate congestion caused by diverted traffic, the following steps will be taken:

- **Announcements** - Construction activity will be well publicized to alert drivers, both in print and on social media.
- **Detours** - Detours will be signed to follow the routes with the most additional capacity.
- **Intersection improvements** - Key intersections



along the diversion routes will be evaluated for potential short term improvements.

- **Protecting residential streets** - Turn restrictions and other actions will be implemented to prevent drivers from diverting to residential streets.
- **Parking** - Implement a plan to maintain the same number of parking spaces at the affected stations through the use of auxiliary parking and other mitigation measures as noted in Section 1.11.

School Street. Post Avenue also serves as a secondary access to the Roosevelt Field Mall and shopping along Old Country Road

We note that there is a truck prohibition on Urban Avenue north of the Rail Road crossing. 3TC will work with Nassau County and the affected Towns and Villages to determine if any of these truck route regulations need to be augmented or suspended during certain stages of construction.

Announcements

If drivers are aware of the closure at the beginning of their trip, they may be more likely to take a longer detour, using more major roadways. By providing drivers with an opportunity to take a longer detour further away from the closed crossing, this will remove some traffic from the posted detour routes, alleviating congestion on them. Our Traffic Management team will work with our Outreach Management Office to disseminate information via local print and social media to alert drivers to the closures. 3TC will work with NYSDOT's INFORM center in Hauppauge and in posting traffic information to their array of Variable Message Signs in the region. We will also work with 511 New York to disseminate traffic information about the Project.

Detours

Detour routes will be signed to follow the major, multi-lane roads in the area and away from residential streets. Our focus will be to actively manage traffic along these routes:

- East-West Routes in the vicinity of New Hyde Park
 - NY25 (Jericho Turnpike) Old Country Road, 6th Avenue, Stewart Avenue
- East-West Routes in the vicinity of Mineola
 - NY25, 2nd Street, Old Country Road
- East-West Routes in the vicinity of Westbury
 - Prospect Avenue, Broadway, Railroad Avenue, Main Street, Old Country Road
- North-South Routes in the vicinity of New Hyde Park
 - Plainfield Avenue in Floral Park
 - Clinch Avenue in Garden City
- North-South Routes in the vicinity of Mineola
 - Mineola Boulevard and Roslyn Road
- North South Routes in Westbury
 - Sylvester and Kinkel Street as they will become the dominant commercial vehicle route during construction
 - Post Avenue as it will be a diversion route for

Intersection Improvements

Diverted vehicles will pass through many intersections along their new routes, and delays at these intersections are expected to be the major causes of congestions. Some of these delays may be due to causes which can be corrected with a short-term solution. Solutions may include changes in signal timing, re-striping of turn lanes, or elimination of on-street parking.

Since the closures at railroad crossings will create new traffic patterns at nearby intersections, we will work with Nassau County Traffic and NYSDOT (INFORM) to evaluate the signal timings at those intersections and recommend changes that are appropriate for the new volumes. If the volumes are expected to change dramatically, the lanes could be re striped to accommodate the higher volume movements. For example, an exclusive turn lane could be added. If space is needed for an additional lane, adjacent street parking could be eliminated or prohibited during peak periods.

Protecting Residential Streets

While posted detours and publicized routes will be developed to follow major roadways, drivers may attempt to find their own routes using local residential streets. Appropriate actions will be taken to keep diverted traffic from cutting through neighborhoods. Three possible solutions are turn restriction, posting of "no through traffic" signs, and deployment of traffic calming measures.

Emergency Services/School Buses

The traffic management plan needs to account not only for commuters and residents, but also for emergency services response times and school bus routes in the area.

In cooperation with the agencies having jurisdiction over their roadways and the Rail Road, the 3TC team will prepare an Emergency Response Plan to be implemented in the event any roadway within the Project limit is shut down for unforeseen or unplanned circumstances. The Plan will be implemented when the anticipated duration of closure exceeds twenty 20 minutes.

The Emergency Response Plan will include a notification and communication plan that describes how the 3TC will promptly inform the appropriate personnel/entities of any unforeseen or unplanned circumstance. The team will work with the Rail Road and local jurisdictions to develop a list of personnel and entities that need to be contacted in the Emergency Response Plan.

This 3TC will perform a traffic study and analysis that will demonstrate that our Traffic Management Plan will not have an adverse effect on emergency services response times consistent with the allowable closures and lane restrictions provided for in the technical requirements.

Certainly, maintaining access to a medical center of regional importance such as Winthrop University Medical Center will be a focal point of our construction activities and 3TC is committed to meeting with the hospital and its ambulance providers to ensure emergency access/ingress to this facility.

Outreach will be made to the transportation coordinators for the public and private schools in the area to determine routes and headways and the potential need for additional buses to maintain their schedules.

It is also worth noting that typically school districts don't bus children who live less than one mile from their school (distance varies by school district). For example, several children have been observed walking to the Dryden Street School across the tracks on School Street. 3TC will work with the local school districts to determine if 100% bussing to a school is necessary when it is determined that there are many walkers may be directly impacted by construction.

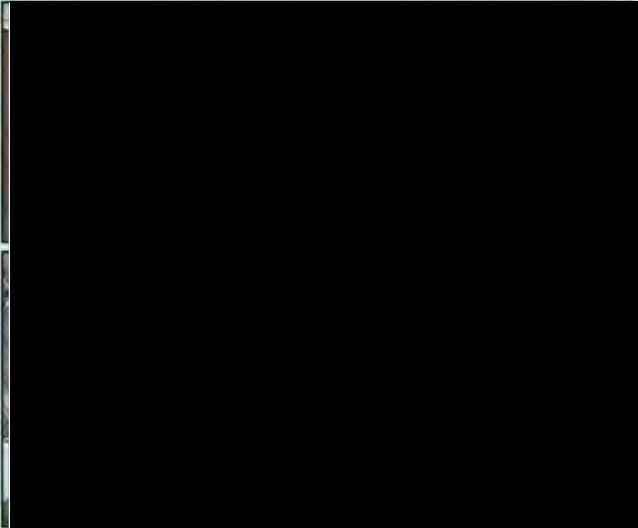
Major Commercial Traffic Generators

Maintaining access to businesses is a concern during construction and 3TC will work with local businesses to understand their specific needs (restaurants have different

needs than retail clothing establishments who differ from convenience stores) and to minimize disruption to and maintain access to their establishments. We recognize that these businesses are their family's livelihoods and we shall partner with them throughout construction.

3TC is aware that large traffic generators are located with the Project corridor and they may have their own unique business needs. For example:

Jamaica Ash & Rubbish Removal Co.



Jamaica Ash & Rubbish Removal Co., Inc. located at [REDACTED] is one of the largest solid waste and environmental management companies in the Northeastern United States. Jamaica Ash has been providing waste service on Long Island since 1954. Jamaica Ash services the largest mix of office buildings, strip centers, shopping malls and large "box" stores of any private or public waste company on Long Island. These types of businesses require specialized services that guarantee continued daily/weekly pickups and services that can satisfy their needs for recycling (paper, cardboard, plastics, metals), special pickups (weekend, special projects, etc.) and other materials (trailer loads, universal waste, white goods, etc.). The current existing driveway will be relocated further north on School Street due to the underpass profile grades.

Other Planned Projects

Outreach needs to be performed with the other state and local agencies to determine what other capital construction projects will be ongoing during

the construction of third track and that may need coordination. This is also true for major private developments especially in the Mineola area.

Holiday Restrictions

It is anticipated that except for long term closures, where approval has been granted in the Project Technical Requirements, or by arrangement with the authority having jurisdiction of the roadways in the Contract documents, no travel lane closures will be permitted on the following days and workdays preceding these days.

Schedule of Holidays	
1. New Year's Day, January 1	6. Independence Day, July 4th
2. Presidential Inauguration Day	7. Labor Day, the first Monday in September
3. Good Friday	8. Thanksgiving Day, the fourth Thursday in November
4. Easter weekend	9. Christmas Day, December 25th
5. Memorial Day, the last Monday in May	

Station Parking

3TC is fully aware of the need to not to burden the Rail Road and its station patrons during construction with loss of parking. We are also aware that our construction forces should not utilize station parking during construction related activities.

The following table summarizes potential impacts to parking expected along the Mainline, and indicates the maximum number of parking spaces that may need to be mitigated at each of the station locations. 3TC has identified and begun negotiations for several temporary locations for auxiliary parking following this table. As per the RFP requirements, staggered construction in the vicinity of the stations minimizes the need to replace all station parking at the same time. For example, work will be performed on one side of a station platform at a time, one new parking structure in the same station area may be constructed at a time (Mineola and Westbury), and work will be staggered at adjoining grade separations in the New Hyde Park, Mineola and Westbury areas. Furthermore, as the new permanent parking facilities are

brought into service, parking impacts will be mitigated in the New Hyde Park, Mineola, and Westbury areas. Consequently, in keeping with the promises made by the Governor and Rail Road during the EIS phase of this Project, we are proposing a comprehensive program to mitigate the loss of parking along the Rail Road Mainline resulting from station reconstruction, grade crossing eliminations and parking garage construction.

Auxiliary Parking

The 3TC Team has identified and begun preliminary negotiations for additional station parking within Nassau County. We have included in Appendix 2 several Letters of Intent with the potential owners. The table below indicates the location of the potential auxiliary parking areas, the potential areas (or spaces) available and the stations they will serve during construction.

3TC will provide shuttle service from these lots for construction staff to the Project work zones and for commuters to access their stations. Upon designation, 3TC will finalize these negotiations, the exact number of parking spots available, and the schedule and frequency of the shuttle bus services.

Temporary Parking Area			
Parking Area	Address	Stations Served	Approximate Negotiated Spaces
[REDACTED]		Floral Park & New Hyde Park	150
		Mineola & Merillon Avenue	200 to 300
		Carle Place & Westbury	See Note Below
		Hicksville	200
		Hicksville	200
		Hicksville	200

Please note that with respect to the Former Nassau County Family Court House, the County representative who we contacted indicated that the County would be

Location	Permanent Surface Parking Lost during Construction	Temporary Surface Parking Lost during Construction	Temporary Parking Spaces Lost during Garage Construction	Total Loss of Parking During Construction	Parking Gained Due to New Surface Lot and Garages	Stage Notes	Max loss of Parking Due to Staged Construction (Max Temporary Spaces)
Floral Park Station	10			10			10
							Total = 10
New Hyde Park Station				162	80	One Side At a Time	99
Covert Avenue				87		One Side At a Time	45
							Total = 144
Merillon Avenue Station	10			10			10
							Total = 10
Mineola Station				78		One Side At a Time	40
Main Street	14	28		42	11	One Street Closure At a Time	
Willis Avenue	19	17		36		One Street Closure At a Time	36
Harrison Parking Garage			109	109	442	One Garage at a Time	109
Mineola South Parking Garage			80	80	303	One Garage at a Time	
							Total = 185
Carle Place Station		14		14			14
							Total = 14
Westbury North Parking Garage			249	249	534	One Garage at a Time	249
Westbury South Parking Garage	23		163	186	518	One Garage at a Time	
Railroad Avenue	2	39		41		One Garage at a Time	
Urban Avenue	9	7		16			16
							Total = 265
Hicksville Garage			306	306	726		306
							Total = 306

willing to provide this parking facility for the purpose of mitigating the Project parking impacts. However, the County would need a formal request from and enter into an agreement with another government entity (MTA, Rail Road, NYSDOT) instead of a private party. 3TC would assist the Rail Road at the time of award to identify the appropriate government entity and reimburse that entity for any rental fee levied by Nassau County.

Shared Autonomous Vehicles

In addition to the conventional ways of getting local residents to the station during the time that the station parking is impacted, we will explore the implementation of Shared (12 person mini-buses) Autonomous Vehicles that operate at 25mph or less throughout the station area that is impacted. Stantec is currently involved with the testing of such vehicles at a 500-acre test facility in California and is also involved with pilot projects in Tennessee and at the Harrisburg International Airport in Pennsylvania. Since the vehicles have a moderate purchase price and have a very low operating cost because they are all electric and operate without a human driver, multiple units can be purchased and operated simultaneously and may ultimately help reduce the demand for permanent parking at the stations.

Temporary Auto Lifts/Concierge Parking

If additional temporary parking is necessary, 3TC will install temporary hydraulic auto lifts that are typical to the commercial parking lot industry at a portion of the station parking areas that are impacted during Mainline construction, or during the construction of the five proposed parking garages in the Mineola, Westbury and Hicksville Station areas.

Station patrons at these locations will be able to leave their vehicles with a parking attendant who will place their vehicles on the auto racks and retrieve their vehicles upon return to the station. This service will be provided at no cost to the Rail Road rider.

Rideshare Services

Through the use of GPS navigation, the advent of Smartphones and the dominance of social networks,

rideshare services (such as Uber and Lyft) have become an integral part of the New York Metropolitan Area's transportation supply chain.

Recent State of New York legislation that went into effect at the end of June 2017, provides for a uniform statewide regulatory framework for rideshare services and is overseen by the New York State Department of Motor Vehicles. Although the legislation provided Nassau County with the right to opt-out of this framework, as of the date of submission of this Proposal, they have not exercised that option. Consequently point-to-point (intra-county) ride share services are now legal in Nassau County.

Currently, there are 3,000 registered vehicles and 700 licensed rideshare drivers within Nassau County. Uber and Lyft recently celebrated the legalization of their services by providing discount coupons at the Hicksville Mainline trains station. Upon designation, 3TC will engage the aforementioned services to provide similar ride subsidies to station patrons impacted by the loss of parking at their local station.





Via's Technology

As mentioned previously in Section 1.11, 3TC has discussed with Via Transportation, Inc. ("Via") a possible partnership whereby 3TC would leverage Via's best-in-class on-demand shared ride technology to establish a dynamic shuttle system to help mitigate parking losses during the project.

Via has built a real-time, on-demand microtransit system that aggregates people traveling from multiple origins to multiple destinations in an exceptionally efficient way, providing the convenience and the flexibility of a custom ride while dramatically lowering the cost. All key service parameters – coverage zone, pickup and drop-off locations, degree of routing flexibility, pricing – are fully configurable. Via and 3TC would jointly scope these parameters based on the specific character of the MTA's needs.

Using Via

Via would make a version of its app available to MTA riders, which could be specifically branded for the MTA or LIRR, if desired. Once the rider inputs their origin and destination, Via's system determines which vehicle best accommodates a particular ride request based on a number of factors, including the customer's origin, his/her destination, the distribution of vehicle across the coverage zone, the occupancies of those vehicles, traffic conditions, and expected future demand. This process, which takes place within a few seconds, constitutes one of the core features of Via's microtransit system. Once the customer confirms, the vehicle - guided by the Via driver app - is dynamically re-routed to pick him/her up in the most efficient way possible, balancing both the need to maximize vehicle utilization across the entire system with the need to provide the highest quality service possible for each individual customer.

During the ride, Via's system remains in constant contact with each vehicle through the driver app, thereby ensuring that vehicles are routed from each pickup to

each drop-off point in the optimal way and that vehicles are continuously re-positioned to accommodate new requests based upon historical demand patterns. This customizable, predictive positioning feature will provide the MTA with a high degree of control over the service, and will allow the system to become more intelligent over time.

Vehicle Fleet

Via's technology is vehicle-agnostic; it can be deployed in vehicles as small as sedans, and as large as cutaway paratransit-style buses. In New York City, much of Via's fleet (which is operated by independent contractor driver-partners) are minivans and SUVs, which provide an ideal middle ground between aggregation capacity and ease of operation.

If all parties agree to collaborate, Via and 3TC would work with the MTA to create an appropriate fleet model for the P

roject. For example, here are two potential fleet models the deployment could follow:

- Via could provide its technology to 3TC, who would staff and operate their own dedicated vehicle fleet, powered by Via's tools
- Via could operate the service directly as a Transportation Network Company, utilizing local independent contractor drivers with appropriate vehicles to operate the service

If Via and 3TC were to follow the first model, by which 3TC procures dedicated vehicles for the project, these vehicles could be shifted between the different stations as their respective garages are taken out of commission, and completed. Via could assist 3TC in procuring right-size vehicles at a competitive price, drawing upon its relationships with auto OEMs.

Rider Pricing

Since the program scope has not yet been specified, pricing terms would be subject to discussion between Via, 3TC, and the MTA. Subject to the MTA's goals, Via and 3TC could envision offering discounted fares for riders transferring to or from LIRR trains, in order to incentivize shuttle use.

Summary

In the short term, Via and 3TC are confident that this shuttle model would deliver significant parking relief to

the riders impacted by the parking expansion aspect of the project. By delivering a consumer-grade solution that harnesses the power of the most efficient microtransit platform in the world, Via's technology would provide LIRR riders with a quick, easy-to-use alternative to driving. This shuttle system would also help alleviate traffic around the construction zones, serving more passengers without adding more vehicles to local roads.

In the longer term, Via and 3TC could provide the MTA with something much greater: a replicable model for first/last mile transit to and from LIRR stations. Instead of costly parking expansions at other LIRR stations in the future, the agency could create a system of dynamic shuttles that reduces single-occupancy vehicle trips, and promote shared mobility. Via and 3TC feel that this project would be a powerful testing ground for this concept, and we would look forward to working with the MTA to harness the findings from this project in a way that maximizes learning for the agency.

This Proposal is non-binding and specific details of the collaboration with Via are subject to the terms of the business agreement and license that the 3TC and Via plan to enter into if awarded this Contract.

Dynamic Sign Panels

In addition, dynamic information panels will be installed in all stations and parking areas providing quick and relevant information to the users, reflecting construction news, upcoming changes, anticipated impacts, and the availability of other parking options.

Outreach

Finally, we will utilize our proposed Community Outreach Movement Bureau and its Project Ambassadors, as well as social media to publicize the availability of this parking mitigation program.

Workzone Traffic Control Plan

3TC will prepare and submit the Workzone Traffic Control (WZTC) Plan for managing traffic operations the Rail Road a minimum of two weeks prior to initiation of any work in proximity to traffic or the implementation of any change in traffic patterns. The WZTC plans will be in accordance with the NYSDOT Standard Sheets, National Manual of Uniform Traffic Control Devices (MUTCD) and New York State Supplement to MUTCD. In addition, the plan will include contingency plans for weather, utility issues, and other unforeseen interruptions.

3TC will confirm acceptability of the proposed WZTC Plan with local jurisdictions (County, Town and Village), residents, and affected police and emergency response jurisdictions to facilitate safe and effective enforcement. The WZTC Plan will recognize the need for approval of the use of local public roads for detour routes.

We will coordinate development and submissions of WZTC Plans with the various design submissions as defined in the Technical Provisions.

3TC will maintain the following features (among others) during construction: roadway, curb, pavement, shoulder, drainage, barrier, guide rail pavements markings, traffic signal and loops, all signs within the ROW and work limits during construction. We will be responsible for maintenance of all new construction until the specific project element has been accepted by the Rail Road. Responsibility for snow and ice removal operations will be coordinated with the Rail Road and local jurisdictions.

The Construction Staging Plan will indicate the location and treatment of all traffic streams (motorized vehicles, bicycles, pedestrians) and will include details of:

- Contingency plans for weather, utility issues, and other unforeseen interruptions
- Duration of construction, sequencing of construction and detouring/alternate routing required for each construction stage
- Identification of lane(s) to be closed and duration of closure(s), if any
- Location and scheduled dates of use for all traffic control and safety devices, including but not limited to traffic channelization devices, barriers, impact attenuators, signs, pavement markings and variable message signs
- Location and schedule of flaggers (where such use is permitted and required)
- Location and type of regulatory, guidance and warning devices
- The means of delivery, work zone access points, and deployment of construction equipment, trailers, supplies, materials and other items for the Project
- Time of construction
- Public information considerations
- Maintaining access to all businesses, residences, and properties in and abutting the Project, including essential services; trash pickup and mail delivery

The following tables list the range of Temporary Traffic Control Strategies to be employed during the development

TEMPORARY TRAFFIC CONTROL	Covert Avenue	South 12th Street	New Hyde Park Rd.	Main Street	Willis Avenue	School Street	Urban Avenue
Control Strategies							
1. Construction phasing/staging			Yes				
2. Full roadway closures	Yes	Yes		Yes	Yes	Yes	Yes
3. Lane shifts or closures	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. One-lane, two-way controlled operation			Yes				
5. Night work	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6. Weekend work	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7. Pedestrian/bicycle access improvements	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8. Business access improvements	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9. Off-site detours/use of alternate routes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Traffic Control Devices							
10. Temporary signs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11. Arrow boards			Yes				
12. Channelizing devices			Yes				
13. Temporary pavement markings	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14. Flaggers and uniformed traffic control officers			Yes				
15. Temporary traffic signals	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16. Lighting devices	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Project Coordination Strategies							
17. Utilities	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18. Other transportation infrastructure	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Innovative Contracting Strategies							
19. Design-Build	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Innovative or Accelerated Construction Techniques							
20. Prefabricated/precast elements	Yes	Yes	Yes	Yes	Yes	Yes	Yes

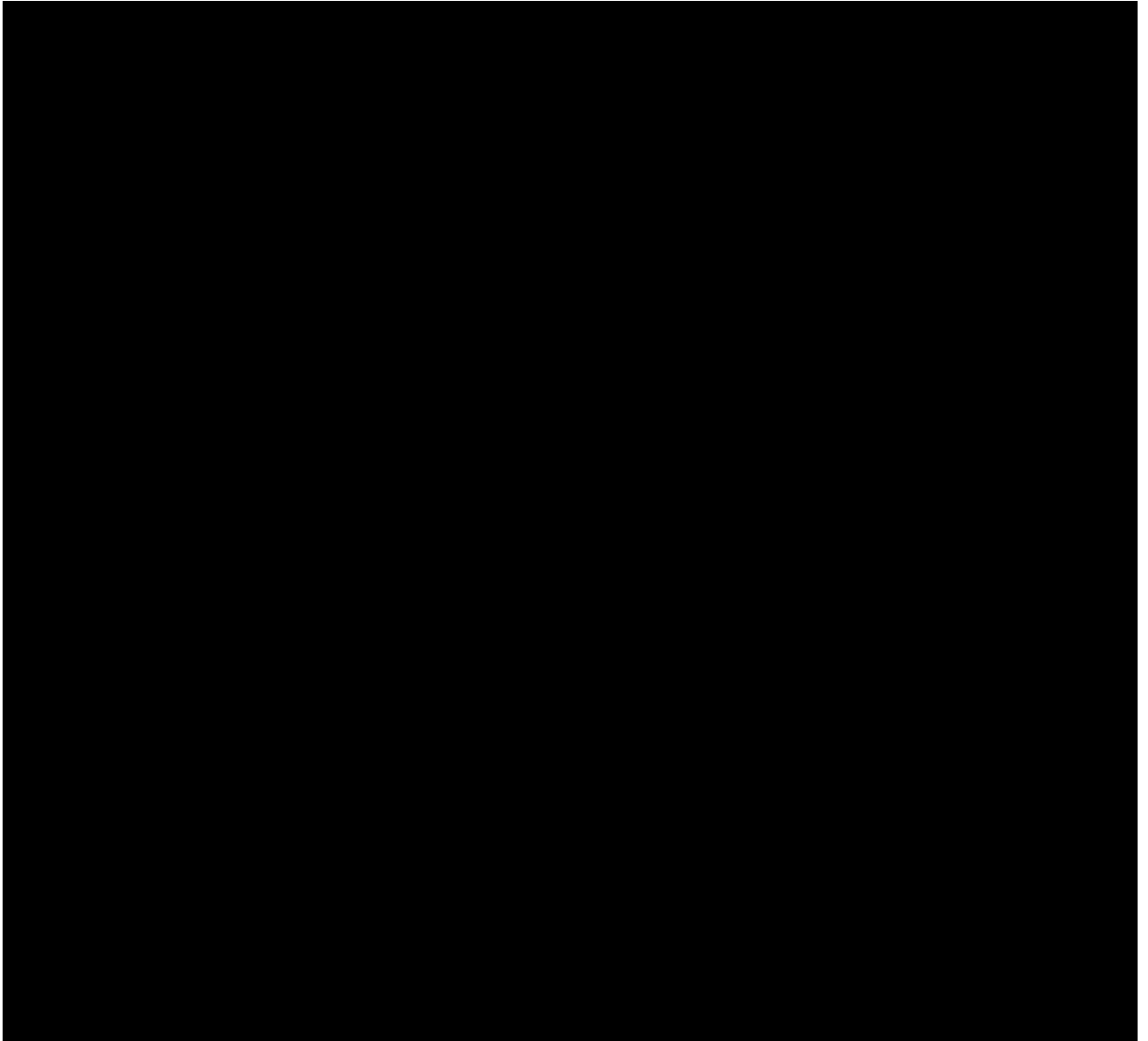
TRANSPORTATION OPERATIONS	Covert Avenue	South 12th Street	New Hyde Park Rd.	Main Street	Willis Avenue	School Street	Urban Avenue
Demand Management Strategies							
1. Shuttle services	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corridor/Network Management Strategies							
2. Signal timing/coordination improvements	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Temporary traffic signals	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. Street/intersection improvements	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. Parking restrictions	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6. Truck/heavy vehicle restrictions	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7. Coordination with adjacent construction site(s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Work Zone ITS Strategies							
8. PCMS with speed display	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9. Conflict warning system (e.g., construction vehicles entering roadway)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10. Real-time detour	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Work Zone Safety Management Strategies							
11. Speed limit reduction/variable speed limits	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12. Temporary traffic barrier	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13. Warning lights	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14. Project task force/committee	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15. Construction safety supervisors/inspectors	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16. TMP monitor/inspection team	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Incident Management and Enforcement Strategies							
17. Media coordination	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18. Local detour routes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19. Incident/Emergency response plan	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20. Increased penalties for work zone violations	Yes	Yes	Yes	Yes	Yes	Yes	Yes



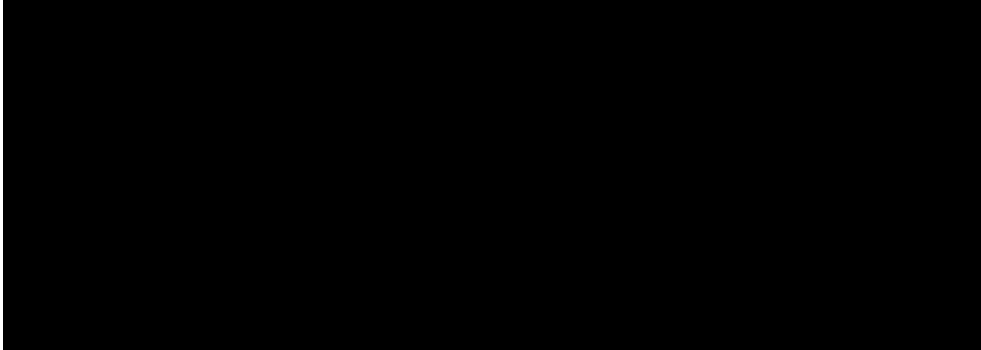


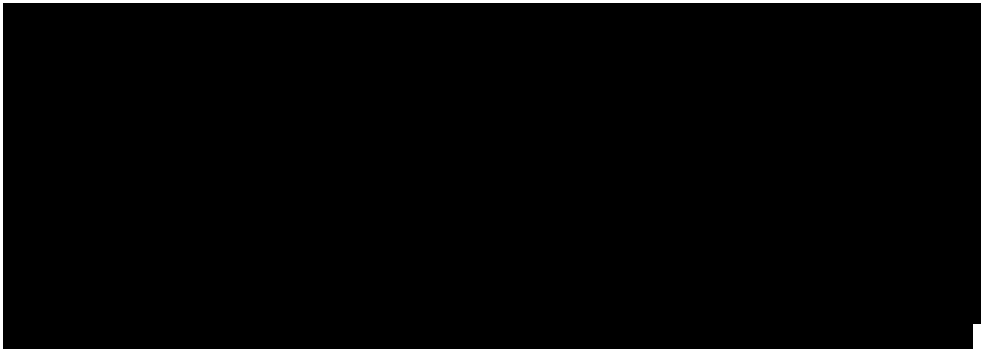
1.14 Third Parties and Utility Owners

Volume 2 - Package 1: Management Approach

1.14 THIRD PARTIES & UTILITY OWNERS

1.14.1) Identify the team proposed in the organization chart and any other personnel that are responsible for coordination with Third Parties and Utility Owners and provide a narrative outlining the quality and suitability of the proposed personnel, their proposed approach to utilities and the anticipated roles and responsibilities.



Third Party and Utility Owners Team	
Role	Responsibilities & Qualifications
 	
 	

1.14.2) Describe the approach that will be used to manage and coordinate work with affected Third Parties and Utility Owners.

Transit infrastructure projects frequently involve coordination with outside entities not in a direct contractual relationship with the grantee, referred to as Third Parties. With regard to the Project, the Third Parties include utility companies, towns, villages and Nassau County. The following details the Third Parties:

The Third Parties either hold permit or require similar approval authority over an element of the Project and can be a source of delay to advancing the Project. 3TC is closely coordinating with the Third Parties to ensure that the Third Parties act in a timely manner and share the urgency of the Rail Road in completing the Project as planned.

Timely coordination and resolution of issues with Third Party utilities is critical to meeting the Project schedule. For this Project, 3TC has begun the coordination process with Towns, Villages, Nassau County, and Third Party utility companies:

Utilities

- Verizon
- Verizon Business
- Lighttower
- AT&T
- Altice USA
- Level 3
- Crown Castle
- PSEG-LI
- National Grid
- Water Authority of Western Nassau
- Village of Mineola Water and Sewer
- Garden City Park Water District
- Village of Garden City Water & Sewer
- Carle Place Water District
- Village of Westbury Water District
- Nassau County DPW

Towns

- Town of Hempstead
- Town of North Hempstead
- Town of Oyster Bay

Villages

- Village of New Hyde Park
- Village of Garden City
- Village of Mineola
- Village of Floral Park
- Village of Westbury

Nassau County

Towns, Villages and Nassau County - Timely coordination and distribution of information to adjacent communities is critical in order to maintain the relationships and cooperation that the Rail Road has already established. The adjacent communities will be impacted directly by construction in their backyards' as well as indirectly by the mobility restrictions inherent in roadway construction. Our experience has shown that, on design-build projects, many of the questions typically asked by nearby residents have been deferred until the final design is completed. 3TC is proactive to the needs of the community, anticipate the community's concerns and answer their questions promptly. Early notification to the communities regarding construction scheduling, implications of construction and mitigation measures will be promoted.

Utilities - Coordination with utilities having facilities within or adjacent to the Project ROW, and identification of any unknown facilities, is critical to the progress of the Project. Each utility has been evaluated for impacts, protections, and relocations. Since all utility relocations are to be coordinated with the individual utility companies, early identification and scheduling of any required utility work is a necessity. 3TC will proceed with some work (such as clearing) before the utility work commences. 3TC is presently coordinating with the utility companies to identify each utility company's best case scenario regarding utility relocation, identify and approve utility work around so utility impacts to the Communities are minimized, and so permit and Labor needs are identified and mitigated prior to the scheduled critical path.

Property Acquisition - There are properties that are planned acquisition to support the progress of the Project. The ROW acquisition process is a complex combination of legally required activities and reviews completed by several specialized individuals within 3TC. These tasks include the unpredictable environment of negotiations with property owners who may or may not want to engage in a timely and respectable manner of negotiating. In order to avoid Project issues that result in the need to acquire additional property rights, 3TC has researched the anticipated acquisitions, including ownership, history, marketability, and present and future benefit to the Project.

Minimizing Impacts to the Community and Rail Road Service

There are a number of communities and neighborhoods impacted to varying degrees along the Third Track Corridor. To achieve the adequate balance between community impacts and schedule requires daily communication among the Project's led by the Outreach Program Manager (as described in Section 1.5 Outreach Management), the DBJV led by the Project Manager and the community stakeholders so that potential impacts are identified ahead of time and the corresponding mitigation activities are properly considered in the construction schedule (i.e., intrusive work on the eve of a holiday, a road closure that prevents a weekend street fair, etc.). Weekly Coordination Meetings will include a public affairs topic in the agenda and will serve to gather those unforeseen community impacts that will have to be mitigated. The schedule affections from these mitigation activities will be incorporated into the weekly construction schedule update.

In responding to extensive input from local communities, 3TC will use neighbor-friendly and innovative construction practices to keep the impact of construction as minimal as possible. This community-focused approach to construction includes:

- Pre-construction home inspections;
- Selective tree removal assessment;
- Satellite parking to keep workers' personal vehicles out of residential streets;
- Using existing track to transport materials to and from work sites;
- Advance notification of any disruptive work or road closures to residents, municipalities, school districts and first-responders;
- Scheduling construction deliveries outside of school and commuter traffic peak hours to the maximum extent practicable;
- Creating and implementing a community noise and vibration monitoring program;
- Implementing an air quality control plan to include dust control measures, ultra-low sulfur diesel fuel, the use of best available tailpipe technologies such as diesel particulate filters, and the utilization of newer equipment;
- Environmental monitoring consistent with a Construction Health and Safety Plan;
- Protecting access to existing businesses;
- Street cleaning as needed;

- Door-to-door outreach to residents;
- Regular online updates to the public;
- Staffing the Project Information Office with on-site supervision for rapid response to neighborhood concerns; and
- A 24/7 hotline assigned to a community outreach representative.

In the event of unavoidable impacts, the stakeholders must not only be notified but also briefed on what, why and when these impacts are taking place. In addition to this, it will be important to communicate the duration of the impact, the crucial role that particular impact plays in Project Completion, and the timeline for the next significant impact need to be presented to the community through the mediums outlined in other sections of this report including the door-to-door Ambassador Program, social media, traditional media and mailings as required.

Our lessons learned that guide our efforts regarding the utility coordination aspect of the Project

- Third Party involvement in a project, particularly when it involves inspections, permits and/or approvals, will be monitored closely. The DBJV will clearly define with the permitting entity what project elements are subject to inspections and/or permits.
 - Coordination with Third Parties has been carefully planned and coordination activities has been incorporated into the Project schedule. Early involvement is the key and one way to do this is have Third Parties review, if not help to establish, the important milestones that affect them. The DBJV will make sure each party is aware of pending dates. Inspection and permit milestones will be identified early. Schedule updates will be sent to Third Parties responsible for inspections, permits, and approvals.
 - Execute Memoranda of Understanding (MOU) or a similar agreement that identify who is to be involved, where and when. Put dates into the agreements and ensure that agreements with Third Party entities are understood by the staff that will be acting on their behalf. Dates in an agreement will included in the Project implementation schedule. Although it can be difficult, for one public agency to execute a binding agreement that imposes penalties or financial liability on another public agency, agreements will at minimum commit the entities to work together closely to achieve certain ends.
- Compensate third parties for their time or provide other incentives to encourage responsiveness. NYS must compensate the Rail Road, for example, for force account participation (design reviews, flagging, construction monitoring) on projects. An agreement will make compensation contingent upon the Third Party meeting its obligations.
 - Assign an individual on the 3TC Project Management Team (Utility/Third Party Coordination Manager) to lead Third Party coordination. The responsible person, the Utility Coordinator and the Third Party Coordinator is accountable for such coordination and will be fully knowledgeable of the status of Third Party actions. In order to avoid project delays and extra costs, the 3TC Team will take a leadership role and, at minimum, partner with the contractor on Third Party coordination.

1.14.3) Outline the significance placed on utilities as part of the overall Project and what measures are proposed to ensure that the Project stays on schedule.

Since the utilities that will be affected by construction or that are required to be replaced within the Contract Documents will be replaced in-kind or redundant utilities removed during construction, and since there may be no long-term disruptions in the service area, the utility relocation aspect of the Project is deemed by 3TC as having the utmost significance.

The success of the Project is based in a well-planned and thought out staging and phasing of the work. The following measures are taken by 3TC relating to utility relocation to assure that the Project stays on schedule:

- 3TC have identified the key work items, their predecessors, the activities that affect the critical path, and the interdependency of the work with respect to Third Party utilities. We have included these activities within our proposed baseline schedule.
- Utility owners within the Project limits have been identified and contacted. Meetings have been attended with each of the utility owners, and 3TC relocation plan has been discussed with the utility owners. As a result of the aforementioned action, 3TC understands each utility owner's needs, requirements, and response time. Our schedule reflects such. As a benefit, the utility owners understand our schedule and the importance assigned to a seamless relocation.

- A set of concise utility relocation plans has been developed and will be shared with the utility owners. 3TC anticipates minor comments from the utility owners and has built the revision time into our schedule.
- Construction crews will work on multiple sites simultaneously, or move from one location to the next maintaining consistency and efficiency.
- Utility relocation at the grade crossings will take place prior to major construction work.
- A utility survey and field verification will take place prior to construction.
- Anticipated conflicts will be identified and resolved prior to construction.
- Existing utilities will be protected.
- The Lead Utility Coordinator, Andrew Narus, PE, and the Third Party Coordination Manager, Paul Duarte are experts in their field and have substantial utility relocation experience. The design engineer and the construction personnel will work in partnership to assure communication is current and concise.
- The 3TC Team has a strong local presence and has been working in and with Nassau County well over 30 years. Local entities, Nassau County Department of Public Works, Village of Mineola Public Works, the water companies within the Project area and the Third Party utility providers within the Project area have been notified personally by the 3TC Team.

1.15 Mobilization

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1.15 Mobilization

1.15.1) Describe the proposed mobilization plan and approach to commencing Design and Construction Work.

In order to meet the schedule for this Project, 3TC will need to address critical items early in the process to eliminate any potential delays. During the LNTP period of the Project, which will be 9 months long, 3TC will be able to get some critical work completed. This LNTP period will enable us to perform limited field work and extensive design work in order to get a head start on the contract requirements. The following items will be performed during the LNTP period of the Contract:

- Develop an information and correspondence plan with the Rail Road
- Develop a Site Safety Plan
- Secure a co-location field office
- Assign responsibility matrix for all early start items
- Schedule in-house and the Rail Road progress meetings
- Secure field office space, build out to accommodate all required personnel
- Confirm status of structures to be Demolished

- Secure demolition permits
- Secure street permits
- Contract with utility subcontractors for utility relocation
- Perform preconstruction survey of existing structures
- Implement our outreach program to the various communities
- Institute our Ambassador Program
- Confirm all utility information
- Perform subsurface boring program
- Design all structures
- Design all power work
- Design all retaining and sound walls
- Design all drainage work
- Design all signal system work
- Design all communications work
- Design all parking structures
- Design all track work

This is a short list of the early action items that we will accomplish during the LNTP phase of work. It is not all inclusive, but an overall view of critical early start items.

3TC understands the importance of getting the early start items designed and released for fabrication in the very early stages of the Project.

It is imperative that 3TC Team members are on the job early and are able to get the Project advanced quickly. We will have a full staff on site with the capability of meeting the strict early start schedule.

When the NTP is issued, approximately 9 months after LNTP, the 3TC Team will be far along the path to start heavy construction. We will be ready to start the elimination of the grade crossings as well as the heavy



3TC stands ready to advance the Project during the LNTP.

utility work associated with each location. The retaining walls and sound walls will also start at various locations along the ROW. The power substations will be released for fabrication and the signal design completed.

The following list of the items of work to be performed immediately following the issuance of the NTP:

- Mobilization of heavy equipment to grade elimination locations
- Mobilization of heavy equipment to retaining wall locations
- Set up of temporary field offices at various locations
- Installation of MPT as required
- Installation of safety fence along ROW
- Installation of drainage and large utility work
- Continuation of the Ambassador Program in surrounding communities
- Demolition of existing structures

The coordination of this work will be the responsibility of the Project Manager. Together with the support staff and the Rail Road, this will enable 3TC to get an early start on this aggressive schedule.

The grade elimination work is critical to the early part of the schedule. Completion of the final design and methodology will allow for the release of the materials for each location. 3TC can then confirm the schedule for the track outages necessary for this work. Simultaneously, the retaining walls along the ROW need to be designed and released for fabrication in order to best utilize the track outages. There will be significant piggy-backing of outages for the installation of retaining structures along the ROW.

Independently, all track, power, signal and communication design work needs to be completed, and as noted in the specifications, submitted for approval. Upon approval or review as noted, equipment must be released as soon as possible. Long lead items like the modular substations, track switches and the signal

equipment will require substantial time to fabricate. 3TC intends to release this equipment and have it available for installation when required by the schedule. 3TC also intends to take advantage of the stored materials provision of the Contract in order to ensure this material is ready when needed.

1.15.2) Provide details regarding co-located office space that shall be provided for use by the Design-Builder and the Rail Road.

3TC will have multiple field offices for their field personnel and subcontractors. Depending on the work being performed, there may be as few as three and as many as six separate field offices situated throughout the Project to facilitate the work.

The main field complex will be at a location in the vicinity of the Mineola Station. 3TC will secure a large office complex that will house 3TC's management personnel, as well as other support staff coming from Design Team and subcontractors. The same complex will also separately house the Rail Road offices as provided for in the specification. There will be separate facilities in the same complex which will allow for ease of communication, as well as privacy as needed. 3TC sees this arrangement as most beneficial for "over the shoulder" review by the Rail Road personnel to allow for a smoother approval process. Means and methods can be discussed on a daily basis as well as issues pertaining to approvals that can take up valuable time. The co-location model described here has been used in the past to keep all parties involved in the day to day operation of the Project. It has been proven very useful in avoiding protracted resubmittals and unnecessary delays, especially at the beginning of the Project.

3TC encourages the use of the co-location field complex and looks forward to the Rail Road participation in getting the Project started and finished on-time.



1.16
Risk Mitigation

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1.16 Risk Mitigation

1.16.1) Identify risk management process and describe how the Rail Road and Design-Builder will work together to manage risks.

Large, complex projects such as the LIRR Expansion require the implementation of proactive risk management processes. These are based on the comprehensive identification, assessment, and mitigation of risks, which begins at the very inception of the design-build process. Our Team has already implemented risk management efforts. We will keep the Rail Road apprised of our work and seek its input as we continue to identify, monitor, control, and mitigate risk. Our tried and tested risk management processes will be applied to this Project to develop risk identification and response strategies. We intend to reduce overall project risk exposure on the Project, for the Rail Road and the Project stakeholders.

The Risk Management Plan (RMP) will form an integral part of the Project Management Plan, which provides a framework for all of the Project activities. We will develop a project-specific RMP that will address, among others, the following topics based on our Risk Management Process, as shown in the Risk Management figure:

- Program risk management organization
- Roles and responsibilities
- Risk-based design and constructability review
- Risk identification, analysis, and mitigation strategies
- Risk monitoring and control
- Program risk database and reporting protocols
- Management of risk reserves and contingencies
- Performance measurement
- Risk management education

Every Project activity will be scrutinized for its effect on the schedule. We will perform a job hazard analysis

and worksite threat analysis, and create a Risk Register. Risks will then be categorized as high, moderate, or low, based on a subjective assessment of the probability of occurrence and the significance of impact.

Assessing, controlling, and mitigating risk are crucial to successfully delivering any project. For projects with particular complexities, budget controls, or aggressive construction schedules, many owners have successfully adopted formal risk analysis workshops.

Adding a third track adjacent to a live Rail Road line is an inherently risky undertaking. Risk, however, can be controlled by a proactive plan to identify risks early in the Procurement Phase. Once identified, measures are implemented during the early stages of the Project to control and mitigate each issue before significant impacts are incurred. 3TC's extensive background in risk assessment techniques has led us to appreciate the inherent uncertainties in our profession.

Potential risks will continue to be proactively and continuously monitored and reviewed through the remainder of the design and construction processes, and the Risk Register will be formally reviewed and updated on a regular basis. Each review will identify new risks and reconsider the severity of the previously identified risks, based upon the incidents of the previous period. This ongoing process will enable a proactive approach to identifying and mitigating potential risks before they become an issue. Should any unexpected or unforeseen circumstances occur which require alternative solutions to mitigate such risks, an urgent works meeting will be held to do the following:

- Identify the most appropriate mitigation measure(s)
- Identify the appropriate third-party involvement, if required



- Identify the risk allocation under the Contract
- Implement the provisions required to facilitate mitigation

The RMP will address the following:

1. Environmental Risks and Mitigation Strategies to assess, monitor, comply, and mitigate all environmental commitments, as appropriate. The Team will monitor and be responsible for taking any corrective action necessary to be in compliance with all applicable environmental laws and regulations, and will detail approaches to assure compliance with all environmental commitments in the FEIS.
2. Design risks and mitigation strategies will be detailed and managed through a Design Risk Register. The Design Risk Register is updated on a quarterly basis to reflect the current risk assessment and effectiveness of mitigation strategies. As the design progresses, some risks will be eliminated while other risks may be newly identified and included in the register. The Design Risk Register will be readily available during the Design-Build Phase to the Rail Road personnel and the Rail Road's consultants.
3. Construction risks and mitigation strategies including but not limited to schedule, cost, and change management risks, subcontracting, equipment, and material procurement risks, project labor risks, and safety risks.

Throughout the course of design and construction, the effect of any changes on the base scope will be checked against the Risk Register and RMP. Appropriate additions and deletions will be made to the Risk Register as the Project progresses through construction.

During the Design Phase, a proactive approach to risk identification and mitigation will be undertaken as an integral part of the design development. The following components of the Design Phase will be addressed in the RMP:

- Coordination through design meetings/workshops/briefings internal to the Team between the DBJV and the Design Team led by Stantec.
- Consistency and accuracy of information transfer between team members.
- Design Process:
 - Design quality plan and quality systems.
 - Sensitivity analysis of key design assumptions.

- Assessment of construction impacts on third parties.
- Adoption of appropriate design criteria; design will be in accordance with the Rail Road's technical requirements.
- Design Reviews: The DBJV will participate in all formal design reviews and will take part in assessing and confirming the appropriateness of the design in terms of constructability, health and safety considerations, and impact on third parties.
- Design Review meetings will be conducted with the Rail Road's consultants as specified in the technical requirements.

During the Procurement Phase, several workshops were held by the Team to consider the complexities of the LIRR Expansion Project and assess project risks. These workshops identified a list of potential risks to major components of the project and determined the risk mitigation measure applicable to each. The Preliminary Risk Register was seeded with risks identified by the Team. The time and costs impacts derived from this Register were fully considered within the Initial Baseline Schedule and the Price Proposal.

Steve Maggipinto, PE, our PM, will have ultimate responsibility for preparing and executing both the Project Management Plan and RMP.

We will assign a Risk Management Committee (RMC) to investigate risks, identify their potential impacts, and develop avoidance and mitigation measures. This Committee will be chaired by the Project Manager and will include a senior representative from each DBJV partner, the Construction Manager, the Quality Manager, the Safety Manager, Design-Build Coordinator, and Design Manager. The RMC is responsible for assessing the identified risks and determine how they may impact these four critical areas:

- Public Safety and Mobility
- Project Cost
- Project Schedule
- Environmental Impacts

3TC has a unified approach to risk allocation and will provide a joint response to any potential risk that may arise during the Project execution.

1.16.2) Identify the greatest risks to project completion on time and on budget and outline how such risks are mitigated

RISK: Coordination and availability of Rail Road Force Account work.

Mitigation: Our Team recognizes the complexity of coordinating the Contract work and the Rail Road FA work. For this reason, we have developed the South Alignment redesign that significantly reduces the amount of force account work required to be done by the Rail Road and give the Rail Road a higher flexibility for performing its work without affecting the critical path. This will greatly reduce the risk of this item. In addition, our Rail Road Operation Team, led by our Railroad Coordinator/Operation Manager and supported by Michael A. Turcotte, will ensure a fluent communication and early coordination.

RISK: Utility Relocations early in the schedule

Mitigation: The relocation of certain utilities is very important in order to keep the project on schedule. This risk will be mitigated by having meetings with all the utility owners in the very early stages of the Project. 3TC has already had contact with each utility owner along the corridor. Estimates of work, along with relocation plans and potential costs have been exchanged with each participating municipality and utility. This very early exchange of information will result in the mitigation of risk to this very important item.

RISK: Operational requirements

Mitigation: 3TC understands that Rail Road operation will drive the construction. Our schedule and construction methods have been developed based on that premise, minimizing the interaction with the current operation. Our design reduces significantly these potential conflicts. Additionally, our Railroad Coordinator/Operation Manager will ensure a proactive communication with Rail Road and grant all operational requirements are met for each single activity.

RISK: Work to be performed during the double outages for underpasses

Mitigation: Our innovative solution (ATC#27 South Track Alignment) was developed with the purpose of reducing the completion risk of the scheduled activities for each double outage. Our proposed method requires much less outages and provides a higher float within each outage.

RISK: Unknown condition of existing bridges.

Mitigation: 3TC has received the initial condition reports for each of the structures that will require refurbishment under this contract. Our Team has visited each site and made notes of the existing conditions of the bridges and abutments. During the LNPT period, we will perform a more extensive inspection of the structures and submit our findings to the Rail Road for concurrence. This early action in identifying potential issues will greatly reduce the risk of this item.

RISK: Systems Integration

Mitigation: This risk will be tackled from the very beginning of the Project. Our Team understands the very important implication of integrating a new signal system and the PTC system into the existing operating Rail Road. We have secured the services of the most qualified signal provider. The design effort will be performed in conjunction with our highly experienced team and the Rail Road signals team. We believe we have the best, most experienced team to handle this integration and through design meetings and coordination with the Rail Road, we will decrease this risky item.

RISK: Voltage drop between Traction Power Substations

Mitigation: Our Team has determined that a temporary substation will need to be installed at each of the existing [REDACTED] locations before we can take the existing substation out of commission. This is not what the specifications require, but it is what we have determined needs to happen in order for the Rail Road to operate properly. By installing the temporary substations, we have eliminated the risk of a voltage drop between the existing substations.

RISK: Community Concerns

Mitigation: Our Team has developed an extensive and ambitious Public Outreach and Communications Plan that will be implemented by a specialized and dedicated Community Outreach Team. Our Team will have an early and proactive interaction with all affected communities and stakeholders, incorporating their concerns into our work plans. We believe our Public Outreach and Communications Plan is the best way to communicate with the neighboring communities and will substantially reduce the risk for the overall project.

RISK: Availability of resources

Mitigation: Our unique combination of JV partners and dedicated subcontractors brings an exceptional amount of local and specialized resources that will be supported with our national capabilities and ensured through our financial strength.

RISK: Unknown utilities or unexpected site ground conditions

Mitigation: This risk will be mitigated through an extensive on-site investigation and tests right after the LNTP and before the NTP.

RISK: Alignment between the Rail Road and Design-Builder

Mitigation: By implementing our 3TC Project Management principles and Best Practices, as defined before in Section 1.2, our Team will promote an early alignment with the Rail Road, identifying Rail Road goals and challenges.

RISK: Financial risk

Mitigation: The financial strength of our Team with two DBJV members included in the ENR Top 10 Worldwide Global Contractor List gives us an unparalleled capacity to undertake all our responsibilities and to implement additional measures to ensure Project completion if needed.

1.17 Ingenuity



Volume 2 - Package 1: Management Approach

1.17 Ingenuity

1.17.1) Provide description of innovations and explain how they will contribute to improved implementation of the Project, organized by: a) Management; b) Processes and procedures; c) Risk reduction & d) Interactions.

The 3TC Team will take an innovative approach to the overall management of the LIRR Expansion Project. This will be achieved by implementing state of the art technology for scheduling, 3D modeling, data sharing and communications. Utilizing this technology, Project quality will be enhanced through formalized processes and procedures, anticipating and mitigating risk associated with schedule and unknown factors and use of multiple means of communications.

a) Management

Co-located Office - 3TC forces will co-locate a majority of our Design Team to a Project Office adjacent to the Project site upon the Notice of Award. This office will be established in consultation with and also in-house Rail Road forces. The only personnel not located at the Project Office will be specialty sub-consultants and staff needed less than 75% of their time. Our preference will be to have an open floor plan to facilitate collaboration and build a sense of teamwork. The co-located office will facilitate real-time decision making with our Rail Road partners and quickly and efficiently move the Project from design to construction.

3TC Project Management System - By implementing our 3TC Project Management principles and Best Practices, defined in Section 1.2, our Team will ensure coordination, early detection of potential issues, risk monitoring and identification of Rail Road goals and challenges. This structured procedure has been proved effective in the past for large projects.

Primavera P6 Scheduling Software - The ultimate success of the Project will be judged in part based on delivering the Project on time. 3TC will utilize P6 as our primary tool for overall management planning to achieve a timely delivery of the Project to the Rail Road. Using this software, a detailed Project schedule will be developed incorporating time, resources and costs for design, Owner and Third Party reviews, construction and utility company relocations. As unforeseen impacts or Third Party delays occur the schedule will be adjusted and management can make informed decisions regarding reallocation of resources, re-sequencing of activities and/or additional resource requirements. This proactive view of the schedule and resource requirements will reduce risk of both cost overruns, and the Project not being delivered on time. Working with all the stakeholders, 3TC will use P6 to capture the full scope of the Project within a structured Work Breakdown Structure (WBS). The WBS is integrated with the construction packaging scheme so that design is tracked and monitored holistically within all project constraints. This allows us to effectively predict the resource requirements needed within the dynamics of complex projects. Our schedules capture engineering, construction and owner-related milestones to support complete visibility of the critical path. Progress of the activities is updated on a bi-weekly basis.

Project Wise - To support 3TC's communications and coordination efforts, we will use Project Wise as our base design document management/file sharing platform.



3TC has been co-located since January 2017 for the Procurement Phase of the Project

This will ensure that all team members are accessing the most current design files. As design changes are made to a particular discipline, these updates will immediately be referenced into the files of other disciplines, thereby enhancing communications between disciplines and minimizing the potential for design conflicts. Project Wise has been used successfully while developing the Proposal plans to share information between disciplines and offices.

Requirements Management - Requirements are the basis from which the overall system is designed and constructed and provides the designer with the basis for determining when designs are complete and in compliance with Rail Road requirements and standards. A clear identification, definition and management of requirements are essential to ensure the delivery of functioning and compliant system.

On this Contract, the Rail Road has established prescriptive and operational requirements and various industry standards which will be the basis for our management of the requirements. Managing requirements is not just a beginning of the Project or just an end of the Project activity, in fact, it parallels the Project from its origination until its completion. Failing this attentiveness to the requirements especially if they change, can have drastic negative impacts on the Project in cost and schedule. Therefore, the 3TC Team will manage this process until we are certain that all work complies with the requirements (see Testing and Commissioning Section 1.13). Requirements will be tracked and traceable through the design verification, through construction and only show completed when the test or inspection sheets that validate that the requirement has been attained.

To manage the significant amount of requirements both specified and derived on this Project it is necessary to implement a proven process and a proven tool that will have the capacity and flexibility to handle the volume of requirements on the Project. The Requirements Verification Traceability Matrix (RVTM) facilitates the Requirements Management process by serving as the document used to record all requirements for the Project. It links requirements to multiple Project elements, and allows those requirements to be traced throughout the life cycle of the contract. The RVTM tracks compliance during the design and construction of the project to technical Contract Requirements, by providing references

to objective evidence demonstrating the requirements have been fulfilled.

An important subset of the RVTM is the Certifiable Element List (CEL) where the Contractor certifies compliance with critical elements by requiring an additional review and sign-off. They are specifically required for the safety certification but Certifiable Elements include:

- Environmental requirements and mitigations as found in environmental documents including EIS/EIR, permits and approvals
- Safety requirements including hazard mitigations
- Security requirements including threat mitigations (Detailed in a Threat and Vulnerability Risk Assessment – TVRA)
- Interface items with other contracts and third party agreements

To reliably and feasibly manage such a large number of individual requirements, many which impact multiple design elements, a software tool is required. 3TC has chosen to use **IBM DOORS** Version 7.6 or later because it is an easy to use tool that has the ability to convert line items into spreadsheets for easier sorting and searching capability.

Every requirement will be parsed and allocated to a responsible engineering lead for use in their design. Each requirement will be tracked and will be traceable throughout the design so that designs can be verified against requirements. Then they will be utilized again by the 3TC Test Team to generate Test Plans and Procedures that validate the final product against the requirements. When the requirements have all been traced to completion (test documentation, inspection documentation, computer simulation reports) then the Rail Road can be satisfied that the Contract has been from a technical standpoint, been completed.

Innovative Management Software - 3TC will implement in-house management software that will ensure proper management, reporting and monitoring of all major Project aspects. The system counts on the lessons learned and previous experiences of many past and ongoing projects and is currently implemented in all Dragados and its subsidiaries' projects. The goals of this software are:

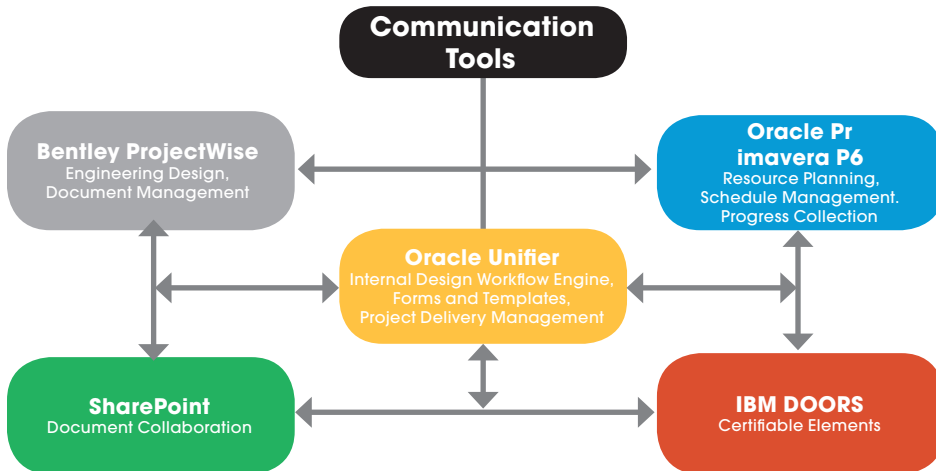
- The use of Standardized terms and monthly reports to allow companies executives, support departments and the rest of the organizations to identify, advise

and monitor the most important Project benchmarks

- Identify, mitigate and monitor Project risks
- To encourage detailed Project planning through specific tools and mandatory reports. The base of this system is that everything needs to be planned early in advance, be written and tracked.
- Early detection of potential issues, mitigation measures and action tasks.
- To enforce top management supervision and active participation.

prepared to extend 3D modeling to include 7D factors (x, y, z, schedule, cost, attributes and durability).

Oracle Unifier - Oracle Unifier is designed to seamlessly connect project data/information together in order to minimize transposition errors and time lag when moving data across processes. The strength of Unifier is its workflow abilities. The workflow functionality allows projects to be fully aware of the status of all processes occurring at any time during the life cycle of the Project.



3TC employs a number of systems that work together to manage, control and share information.

Processes available in Unifier include the following:

- Requests For Information
- Change Requests Log
- Conversation Log
- Risk Register
- Issue Register
- Key Decision Log
- Action Item Log
- Punch Lists
- Field Work Directives
- Daily Field Reports
- Meeting Minutes

b) Processes and Procedures

Civil 3D Modeling – The Project will be designed using AutoCAD Civil 3D modeling software. By designing in 3D the Design Team will be able to deliver a higher quality set of plans resulting in reduced contractor RFIs and construction delays. Utilizing 3D for all design elements the design team can identify conflicts between various design elements such as drainage pipe, utility lines, structural footings, OCS pole foundations, etc. during the design and inter-discipline review processes. These conflicts can then be resolved at a point in the schedule where there is time to analyze costs, adjust schedule in needed and obtain Owner and Third Party input if necessary, to make the best decision possible to alleviate the conflict. Knowledge of these conflicts during the design as opposed to during construction allows for better management decisions to be made and reduces cost and schedule risks. The 3D model will be further utilized during construction for direct download into GPS controlled construction equipment. This will both expedite construction and eliminate the risk of survey error. In consultation with the Rail Road, 3TC is

c) Risk Reduction

Tablets for Construction Staff – All construction supervisors will have tablets in the field during construction. This will ensure that they have access to the latest drawing revisions, reducing the risk that outdated drawings are being used for construction. The tablets will also be used to enhance interaction between construction and design staffs. Using the tablets the contractor will be able to share pictures, mark up drawings will questions and assemble RFIs in the field and immediately be able to share this information with the design team electronically. These construction issues can then be discussed between design and construction staff and resolved in a much quicker fashion than traditional means of having to wait for the design team member to review the issue in the field.

Risk Software – As described above, Dragados in-house management software will be implemented and one of its core components is the risk monitoring. This tool will allow our team to identify, mitigate and track project risks through a standardized procedure.

d) Interactions

Community Outreach - Given the complexity of the Project there is no one single innovative element that will ensure an effective community outreach program. Rather, there are a series of integrated actions that reflect the ingenuity of the overall strategy.

These include a dedicated Project representative for adjacent stakeholders under our Ambassador Program; the creation of a centralized data base within a "movement bureau" where information gathered by the Community Outreach Team is shared in real time with engineering and construction leads for the purpose of

quickly identifying issues before they become problems; eliminating management silos, ensuring that Community Outreach plays an equal role in Project administration; a multi-disciplinary social media strategy that engages Project communities as the individual neighborhoods they are; an educational program that not only connects students with community Project benefits but opens the door to career opportunities in engineering and construction; and creating staffed weekend field offices to ensure even greater access to Project representatives, sustained community dialogue that identifies issues and concerns and expands the Project's community affairs presence in individual communities.



1.18 ATCS

1.18 ATCS

Volume 2 - Package 1: Management Approach

1.18 ATCs

1.18.1) Identify all approved ATCs included in the Proposal.

1.18.2) Describe the steps to be taken to comply with the conditions of any approval and to obtain all required third-party approvals.

Approved ATCs in 3TC Proposal		
ATC#	TITLE	DESCRIPTION
1	New Hyde Park Road/Clinch Ave. Intersection Realignment	<p>This ATC includes moving the Clinch Avenue – New Hyde Park Road Intersection from approximately Sta. [REDACTED] to Sta. [REDACTED], providing revised intersection geometry for both Clinch Avenue and Greenridge Avenue.</p> <p>This ATC provides the following benefits:</p> <ul style="list-style-type: none"> • Safety: Increased sight distances • Reduce impacts by decreasing the affected footprint
27	Cut & Throw Elimination (South Alignment)	<p>The Track Plan and Profile (T-PP) Drawings provided by the Rail Road indicate a need to construct new track from Floral Park to Nassau 3 on the south side of the ROW, from N3 to the west of the Westbury Station on the north side of the ROW, then from the west to the east of Westbury Station on the South side of the ROW and then from east of Westbury Station to the connection at Divide on the North side of the ROW. This causes the need for three major track cut-and-throw moves and a very complex construction process at the N3 Interlocking. These three moves create significant interface between the Rail Road Force Account and the DB Contractor's field forces. 3TC has optimized the proposed third-track alignment to allow continuous construction of the third-track on the South side of the ROW from Floral Park to Urban Avenue before tying into D1 Interlocking on the North side of the ROW. This Technical Solution requires minor adjustments to existing track alignment and includes a revision to the Meadowbrook Parkway overpass and the modification of the existing N3 signal location. Eliminating two major cut-and-throws and relocating one to D1 Interlocking (instead of at Westbury Station), as described above, significantly reduces the work required by LIRR Force Account and reduces the number of hybrid poles required to relocated existing PSEG and Rail Road utilities along the ROW. This ATC also eliminated several temporary signal and communications tie-ins required to phase in the new interlockings and allows two-track revenue service during third-track construction with use of the existing interlockings.</p>
31	Combined Canopy Structures	<p>This ATC is a revision of the directive platform and pedestrian walkway canopy structures into a combined single structure.</p>

ATC Follow-up Conditions and /or 3rd Party Approval		
ATC#	TITLE	DESCRIPTION
1	New Hyde Park Road/Clinch Ave. Intersection Realignment	<p>Conditions of approval: The horizontal alignment is subject to approval by the Village of Garden City.</p> <p>Follow-up Action: 3TC will meet with the Village of Garden City immediately following designation and prior to a LNTP to seek their approval for this revision.</p>
27	Cut & Throw Elimination (South Alignment)	<p>Conditions of approval: The minimum distance from centerline of each outside track to the nearest face of retaining wall shall be not less than [REDACTED]. This requirement relates to safety of workers.</p> <p>There will be a transition area where it is impossible to provide for [REDACTED] clearance. In this transition area, the track shall be aligned to provide for [REDACTED] clearance as soon as practical. Transitioning areas between [REDACTED] and [REDACTED] shall include safety refuge cutouts spaced no more than [REDACTED] apart. The safety refuge cutouts shall provide for [REDACTED] clearance wherever possible. If not possible, the safety refuge cutouts must be maximum possible depth without affecting the integrity of the walls. The cutouts shall be a minimum of [REDACTED] high and [REDACTED] wide.</p> <p>The absolute minimum distance between centerlines of tracks shall be [REDACTED]. The revised alignment will require noise walls to be provided in such locations. Noise walls shall be provided consistent with LIRR requirements for walls in the base contract configuration.</p> <p>The relaxation of track clearance requirements set out in this ATC shall apply only in areas within the limits of the ATC, and in areas where the reduced clearance requirements are necessary to eliminate the need for shifting existing Track 1 and or Track 2.</p> <p>Follow-up Action: The proposed track alignment has been revised per the conditions of approval and now meets or exceeds all requirements and conditions.</p>
31	Combined Canopy Structures	<p>Conditions of approval: The walkway canopy shall be designed at a height to provide adequate weather protection for customers at the walkway level.</p> <p>Platform slabs shall be structurally independent so that they can be removed while canopy columns remain.</p> <p>There shall be no change to the configuration or dimensions of the canopy structure.</p> <p>Follow-up Action: No follow-up required.</p>

Resumes

Joint Venture Agreement

Appendix 1



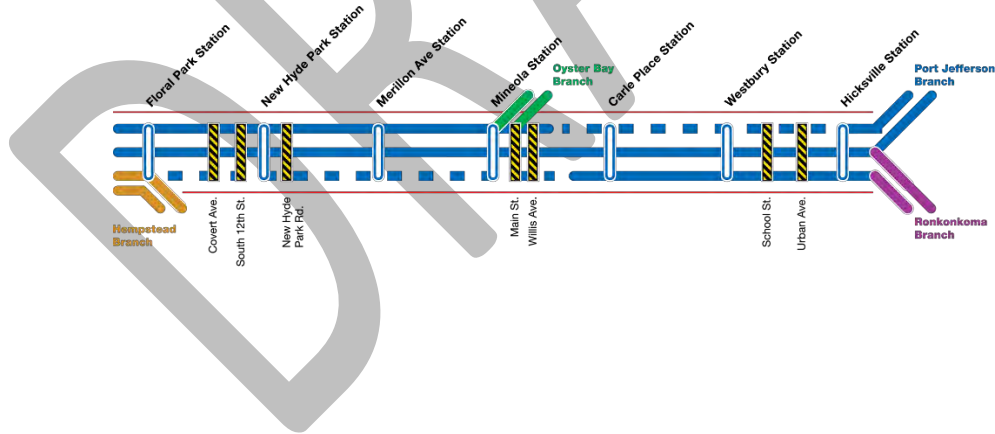
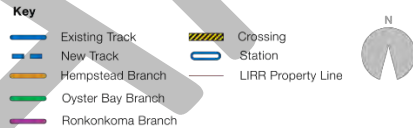
Site Specific Draft HEALTH AND SAFETY PLAN FOR



Design – Build Services for LIRR Expansion Project from Floral Park to Hicksville | LIRR CONTRACT #6240

For A Modern Long Island

LIRR Expansion Project



July 20, 2017

DRAFT

HEALTH AND SAFETY PLAN

Design – Build Services for LIRR Expansion Project from Floral Park to Hicksville Contract #6240

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1. Project Introduction:

The LIRR Expansion Project from Floral Park to Hicksville (the Project) is a key element of Governor Andrew Cuomo’s transportation initiatives and is a strategic component of a comprehensive plan to transform and expand New York’s vital regional transportation infrastructure and to enhance Long Island’s economy, environment, and future.

This design-build Project extends approximately 9.8 miles from the Village of Floral Park to the Hamlet of Hicksville. It entails the following major components:

- The installation of a third track within the existing Railroad Right-of-Way
- The elimination of all seven street-level grade crossings
- The installation of retaining and sound attenuation walls
- The improvements and modifications of various stations, including platforms and parking
- And other related improvements to railroad infrastructure, including signal, power, and communications systems

This Project will be executed by 3rd Track Constructors (3TC or Team), a design-build joint venture (DBJV) of John P. Picone, Inc. (Picone); Dragados USA, Inc. (Dragados); CCA Civil, Inc. (CCA); and Halmar International LLC (Halmar). With our Lead Designer, Stantec Consulting Services, Inc. (Stantec), we bring the proven performance, capability, and knowledge to deliver a long-awaited commuter rail expansion that will set a new benchmark for United States (US) public works projects in terms of value to the public, design, and construction.

2. Corporate Commitment and Leadership

3TC corporate offices are totally committed to the safety of each employee. The responsibility of the safety of each employee lies with each one of us: the employees. 3TC delegates to its supervisors the responsibility of implementing this program and creating a culture of safety. To be successful, our line supervisors must be of the mindset to fully embrace this commitment and program.

We embrace a culture of safety and aim at zero...

Zero Incidents, Zero Defects, Zero Waste, Zero Loss... TARGET ZERO, a mindset

We believe that every incident is preventable. And therefore, it is our objective to prevent all incidents resulting in injury or property damage by always planning and executing all work following the Hierarchy of Controls: Elimination/Substitution, Engineering Controls, Administrative Controls including work practices, and ultimately Personal Protective Equipment.

Our Health & Safety Program contains six elements to assist achieving our goal of a **TARGET ZERO** project. These six elements make up **i.T.E.A.C.H.** and they are as follows:

1. **Involve**ment – Involve the crew in the planning, be involved in the work
2. **Train**ing – Continual training to level of employees
3. **Evaluate** – Evaluate each other, the work, the implementation of the program, the commitment
4. **Accountability** – Hold people, and each other, accountable for their actions
5. **Commit**ment – Fully embrace the commitment, top-down
6. **Hazard Recognition** – Analyze the work, plan the work, prepare a thorough hazard analysis, follow the hazard analysis, revise the analysis as the hazards and the work change

a. EH&S Policy Statement

It is the policy of 3TC to provide and maintain a safe and healthful work environment for employees and to perform work in the safest way possible consistent with best-practices. The protection of the employees, property, the public and the environment are essential to the efficient and successful completion of every construction project 3TC undertakes. Therefore, the prevention of all incidents and accidents are more than just good business, it's our goal.

Our employees are our most valuable asset. We insist on their active participation and hold them accountable for conducting their work safely. There is no task or service so urgent that we cannot take the time or reasonable expense to follow all the provisions set forward in the Health and Safety Plan (HASP) and work in the safest manner possible.

This program establishes the minimum safety requirements for managers, supervisory personnel and employees. It assigns responsibilities, establishes standard procedures for hazard evaluation, employee and supervisor training, program enforcement, accident investigation and record keeping; and lists the minimum accident prevention requirements for typical operations.

We may amend this project specific HASP periodically to maintain compliance with legal and regulatory changes and recognized best practices. Any questions of interpretation or suggestions for improvement should be directed to 3TC's Safety Team. Any changes and revision to this HASP will be submitted to the Rail Road as amendments.

Safety professionals are a resource to the line supervisory personnel and assist with plan implementation. Safety professionals do not relieve supervision of their safety responsibilities.

b. References

During the development of this HASP, consideration was given to the Contract requirements, the current safety and health standards as defined by the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), Federal Railroad Administration (FRA), and the New York State Department of Transportation (NYSDOT).

The following is a comprehensive list of standards followed in this HASP:

- OSHA Regulations: 29 CFR 1910 and 1926
- NYSDOL.
- New York State D.O.T. Manual of Uniform Traffic Control Devices.
- New York State Uniform Fire Prevention and Building Code.
- LIRR Vehicle Operation Safety Policy and General Safety Rules.
- ANSI Z49.1 Standard- Safety in Welding and Cutting.
- Compressed Gas Association guidelines.
- NFPA (National Fire Protection Association) Standards.
- OSHA 29 CFR 1910.146 – Confined Spaces.
- 29 CFR 1910.268- .269- Enclosed Spaces.
- ADA Accessibility Guidelines for Buildings and Facilities (Appendix A to 36 CFR Part 1911).
- Mine Safety and Health Regulations.
- American National Standards Institute (ANSI).
- American Conference of Governmental Industrial Hygienists (ACGIH).
- USDOL.
- NYSDOT.
- NYCRR.
- CFR.
- New York State Public Service Law.
- Federal Railroad Administration.
- Environmental Protection Administration (Federal).
- Department of Environmental Conservation (State).
- Department of Environmental Protection (City).
- National Electrical Code, the New York State Industrial Code.
- NFPA 704 Hazard Warning System.
- NYCRR Subpart 753-3, Duties of Excavators.

Qualification of Safety Personnel

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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Safety Management

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Traffic Control Supervisor

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Project Management

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Executive Management

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Project Executive
3TC

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Rail Road Management

System Safety Department
Long Island Rail Road
144-41 94th Avenue – 4th Floor
Jamaica, NY 11435



c. HASP REVIEW AND APPROVAL SIGNATURES:

This Health and Safety Plan has been reviewed and approved by:

Safety Manager: Patrick Bakelaar

Signature: _____

Date: _____

Chief Safety Officer: John A. Martin

Signature: _____

Date: _____

Deputy Project Manager: Vicken Bedian, PE

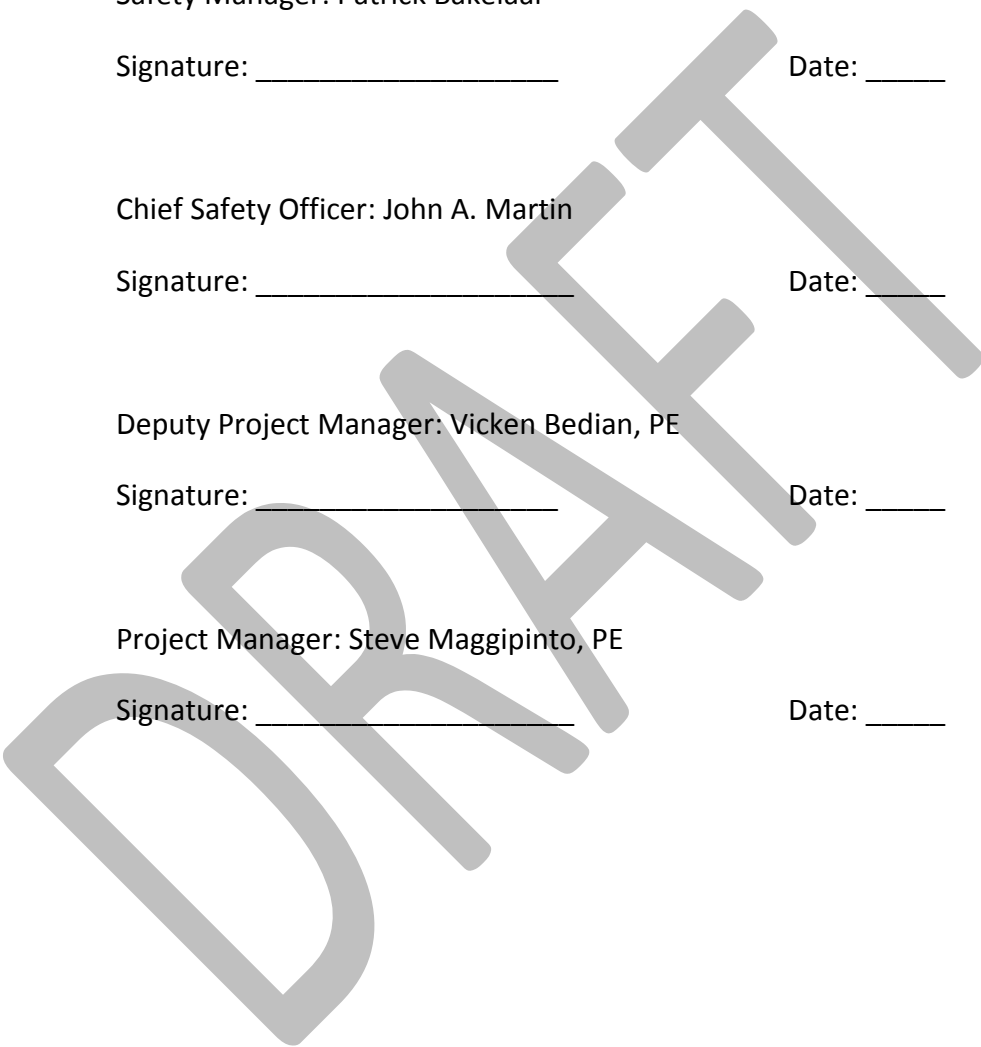
Signature: _____

Date: _____

Project Manager: Steve Maggipinto, PE

Signature: _____

Date: _____



d. Organizational Roles and Responsibilities

EXECUTIVE MANAGEMENT

Executive Management will:

- Provide leadership and convey commitment to the Health & Safety Program with all employees.
- Set goals in the form of achievable numbers related to safety statistics for the project.
- Support the Project Management Team with guidance and allocation of resources to safely perform all major work operations.
- Incorporate and review the safety performance of each Project Manager, Superintendent, and supervisor into their annual performance review.
- Fully support the Health & Safety Program, 3TC Safety Manager's role on job site and direct major safety issues through to their final resolution when elevated to the Executive Management level.
- Be responsible for ensuring that the Project Managers and Superintendents are fulfilling their roles in ensuring safety for the project.

SAFETY MANAGER

The Safety Manager will monitor supervisory management and employee activity to ensure overall compliance and performance of all corporate safety and health policies, rules and programs.

The Safety Manager will:

- Be responsible for the overall maintenance, enforcement, and management of 3TC's Safety & Health Program.
- Conduct safety orientations for all 3TC Project Management staff, supervisors, and field employees.
- Organize, document, and as necessary, conduct safety meetings and training programs/sessions to address general and site specific safety issues.
- Organize and coordinate the emergency action plan and medical facility listings for the Project site.
- Perform and document jobsite inspections on a frequent but random basis to identify unsafe acts or conditions related to site operations. Communicate any corrective actions to be taken to the responsible person, and verify corrective actions have been implemented. Inspections may be conducted jointly with the Project Manager and/or General Superintendent.

- Assist Superintendent(s) in the investigation of incidents to determine root cause, assist in development of appropriate corrective measures to prevent reoccurrence, and provide overall final review of each incident and corresponding investigation.
- Monitor and maintain all safety data for jobsite, including OSHA 300 Log and safety statistics.
- Work with project management to order, stock, and maintain adequate supply of necessary safety equipment and materials needed for the jobsite.
- Communicate with Owners and Federal, State, and local authorities on matters/meetings involving project site.
- Assist and support Project Managers and Superintendents during inspections and/or investigations by State, and take the lead in any OSHA inspection or hearing.
- Assist Superintendents and Engineers in the development and review of job hazard analysis for each major phase of work.
- Plan and develop any additional jobsite incident prevention requirements recognized during construction operations.
- When feasible, attend project meetings and make recommendations on safety issues.
- Work with management to ensure that all subcontractors' contracts are reviewed and signed prior to the start of their operations. Aid in the request, maintenance and verification of current Certificates of Insurance with each subcontractor on jobsite.
- Will have the authority to stop any and all hazardous or Immediately Dangerous to Life or Health (IDLH) work operations which are being performed by 3TC or its subcontractor on jobsite.
- Monitor and maintain the "Safety Toolbox Talk" program.

PROJECT MANAGER

The Project Manager is responsible for the implementation, promotion, and involvement of all employees on the jobsite to produce an effective Safety Culture. An effective Safety & Health Program comes from the commitment of top management and the Project Manager is expected to communicate this commitment to all project personnel and to lead by example.

The Project Manager:

- Will be the overall responsible individual on the jobsite to ensure that safety is communicated, required reports and surveys are conducted, and all incidents are reported and investigated in a timely manner.
- Will communicate requirement for compliance with the Project Safety Plan to Superintendent(s) and all other levels of supervisory personnel on jobsite, and resolve major safety issues through compliance enforcement with Project Management staff, if necessary.

- Will work closely with the Safety Manager to set goals, allocate project resources, and monitor safety statistics on the project.
- Will assist in pre-qualifying subcontractors before allowing them to work on project, continually evaluate the safety performance of subcontractors used, and will take the lead in enforcing subcontractor compliance with safety issues and corrective actions.
- Will be responsible for conducting a periodic formal safety inspection of the jobsite to be coordinated through the Safety Manager. Inspections may be conducted jointly with the Safety Manager and the General Superintendent.
- Will support the Lead Scheduler and Safety Manager in producing a Safe Work Plan (SWP) to correlate with the Six-Week Rolling Schedule by maintaining parallelism in document formats, a consistent, cohesive effort will effectively merge safety into the construction management process.

SUPERINTENDENT

The Superintendent's role is the key to a safe and productive work site. Safety and quality go hand-in-hand. To pre-plan effectively, manage labor efficiently, and produce quality work the first time is the continual focus of our lead field management.

Superintendent's responsibilities include the following:

- Will support project staff and Safety Manager by forecasting work activities in the project schedule, and schedule daily work activities to accommodate safe operations.
- Provide assistance to Safety Manager and be responsible for allocating personnel and material resources to correct deficiencies when observed or brought to their attention.
- Coach and counsel foreman and labor in safe operations.
- Monitor and enforce the safe work operations of all subcontractors.
- Work with Project Manager to document and notify subcontractor management regarding safety issues.
- Has the duty and authority to write safety violations for all employees found to be in violation of safety policy.
- Manage foreman and crews to effectively and consider the experience and qualifications of all personnel before assigning work operations.
- Review jobsite inspection reports and incident investigations with Safety Manager and provide for timely correction of any safety deficiencies noted.
- Ensure Safety Team is notified immediately of any and all incidents. Require that all incidents be investigated to ensure proper reporting and documentation.
- The Superintendent, in cooperation with the Safety Manager and/or the Project Manager, will immediately notify the Employee in Charge (EIC) about any incident at the project, and will provide to the EIC any documentation required under the Contract.

FIELD ENGINEERS

Engineers play an integral role in 3TC's safety culture and safe work procedures. When their assignment to a project exposes them to field operations, the Engineer's responsibilities include the following:

- Support the project staff and the Safety Manager in forecasting work activities and the project schedule to safely accommodate and plan daily work activities.
- Coach and counsel foreman and labor in safe operations.
- Support the project superintendent and take an active role in reporting, investigating, and documenting incidents when they occur.
- Ensure Safety Manager is notified immediately of any and all incidents.
- Assist in the development and review of the job hazard analysis for each major phase of work and for types of operations that have not been analyzed.

FOREMEN

The Foremen play the most important roles within the organization. Their knowledge, communication, and ability to effectively manage a crew of employees make them leaders. 3TC consistently communicates that a major focus of the foreman's role is to observe, coach, and manage the field crew of the project with safety as a top priority. 3TC holds the foreman accountable for the actions of their crew(s) because their crew should be an extension of their decision-making skills and work ethic.

The Foreman's role and responsibility will include the following:

- Coach and counsel crew(s)/laborer(s) on the importance of safe operations.
- Enforce and promote the provisions of this incident prevention program.
- Monitor and inform new employees in the recognition and avoidance of hazards involved with their work.
- Conduct daily visual inspections of their work area(s) to identify and correct unsafe work practices or unsafe conditions. (Foreman's qualifications will be forwarded to the Rail Road for review.)
- Conduct and document a weekly Safety Toolbox Talk with crew.
- Perform daily "Pre-Task Plan for safety and review Job Hazard Analysis with crew for each major phase of work and for types of operations that have not previously been analyzed.
- Provide, and ensure the use of, necessary Personal Protective Equipment (PPE) to crew. PPE includes, but not limited to, Head Protection, Eye and Ear Protection, Safety Vests, Personal Flotation Devices (PFD), Personal Fall Protection System (PFAS), etc. Ensure

that all necessary tools for daily operations are made available, being used properly and a kept in proper working order. Remove form service damaged or defective equipment.

- Encourage employees to report any unsafe conditions or unsafe practices.
- Investigate all incidents to determine cause and corrective measures.
- Report all incidents/incidents to the Superintendent and Safety Manager immediately.

EMPLOYEES

Employees are responsible for following the safe work procedures established to protect them.

Employees' responsibilities include the following:

- Each employee is responsible for learning and abiding by those rules and regulations which are outlined in this Project Safety Plan, reviewed in their new hire orientation, and directly instructed when performing assigned tasks.
- Utilize personal protective equipment and safety devices provided or required.
- Comply with all safety instructions and manufacturer's recommendations and requirements.
- Inspect all tools and equipment before using and report directly to supervisor/foremen of any damaged or unsafe items.
- Use the proper tools and equipment correctly for each job.
- Report any unsafe conditions or unsafe work practices to their supervisor.
- Report any injury to their supervisor immediately.
- Participate actively in the "Safety Toolbox Talk" safety meetings.
- Offer suggestions for improvement to the 3TC Health & Safety Program.
- No employee will be required or knowingly be permitted to work in an unsafe environment, except for the purpose of making safety corrections.

SUBCONTRACTORS

3TC expects that our Subcontractors to be responsible for providing safe working conditions and procedures for their employees. Subcontractors and their key field personnel will be responsible for complying with 3TC Project HASP. All safety issues observed and identified for correction will be addressed to the lead foreman/supervisor of the Subcontractor.

The following are the anticipated subcontractors:

- E-J Electric Installation Co. (traction power, electrical, signal & communications)
- J-Track, LLC (track work)
- M&J Engineering (independent construction QC)

Subcontractor responsibilities include, but are not limited to, the following:

- Subcontractors with a staff/crew of 25 or more, or at the discretion of the Safety Team and Project Management Team, will be required to appoint a full-time safety representative.
- The name and contact number of each subcontractor's lead supervisor (and project-site safety coordinator when applicable) will be provided to 3TC prior to the start of work on the project.
- The safety representative (when applicable) must have a minimum OSHA 30-Hour Construction Outreach Training.
- The name of the designated competent person will be required when starting work operations revolving around the following operations: Excavation; Fall Protection; Scaffolding; Confined Space Entry, Rigging for Material Handling, Cranes, Steel Erection; and any other operation undertaken which requires competent person, per OSHA Construction Standard.
- Discuss and coordinate provisions for immediate first aid and/or medical treatment for all work-related injuries and illnesses of their employees.
- Enforce that all subcontractor employees comply with the 3TC HASP, Contract requirements, and all Federal, State, and Local codes and regulations when applicable. This can be achieved by the implementation of the progressive Disciplinary Action Program.
- Pre-plan all work activities with an emphasis on safety to prevent bodily injury, illness, and property damage.
- 3TC will issue verbal and/or written notification outlining safety violations for any safety violations that need to be corrected. Safety violations will be corrected in a timely manner & up to including termination.

- Subcontractors must inform 3TC Safety Manager, Superintendent, and/or Project Manager of all incidents on the jobsite. They will provide the Project Management Team with a copy of their company incident report and NYS WCB C-2 form
- Subcontractors must inform 3TC of any hazardous conditions created by their operations or by others.
- Conduct weekly Toolbox Talk safety meetings and submit, on a frequent basis, documentation to 3TC Safety Manager.
- All subcontractor workers and visitors will comply with OSHA requirements and don all applicable personal protective equipment.
- Pre-Task Plans completed by the competent person on a daily basis

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3. Safety Rules & Disciplinary Action Program

3TC has a very strict policy for all employees, Management or Unions, to follow all safety rules, standards and regulations maintained by 3TC, and Federal, State or Local laws. 3TC issues a list of project safety rules to each employee prior to working onsite during the Safety Orientation Program conducted by 3TC. The Project safety rules are delineated in the Project Safety Orientation Sheet, signed in acknowledgement by all employees (Attachment A09-01) (Appendix).

It is the policy of 3TC to incorporate a progressive Disciplinary Action Program (DAP) to maintain consistency throughout the organization when poor decisions are made regarding safety, leading to unsafe acts that violate set policies and procedures. The overall goal of the DAP is to reduce accidents and hold all employees accountable for their roles and responsibilities in the field.

Employees and Supervisors observed or determined to be in violation of the 3TC safety policies and procedures will be held accountable for their decisions and actions. The DAP will be enforced.

The following outlines the progressive DAP (Excluding Fall Protection Zero Tolerance) to be followed for all employees. In all cases, 3TC reserves the sole discretion to determine and implement any of the three disciplinary actions listed below for all safety violations, of any type, up to and including termination:

- First Offense: Documented oral warning and retraining as deemed necessary.
- Second Offense: Documented written warning, suspension without pay at discretion of Superintendent and/or Project Manager, and retraining as deemed necessary.
- Third Offense: Documented termination notice – Effective Immediately.

All serious violations subject to this progressive DAP will be thoroughly investigated by the Superintendent and/or the Safety Manager. Upon completion of the investigation the information collected should be discussed with the personnel involved, noted, and used as training material. Documentation of all disciplinary actions will be maintained in the employees' personnel file.

Copies of all disciplinary action will be available to the EIC upon request. Disciplinary Action notifications to the EIC will include the following information:

- Employee Name
- Type and location of violation

- Date and time of violation
- Disciplinary Action taken

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4. Training & Education

All new hires of 3TC will abide by all safety standards of OSHA, and all Federal, State, and Local regulations. We, at 3TC, have a strict policy on work standards during our operations on and off the jobsite. We expect all employees and subcontractors to apply their expertise in the safest manner, applicable to their trade.

- All employees will go through a new hire safety orientation prior to any job site operations. Each employee will receive a list of all project safety rules, a review of important safety regulations, and known locations of SDS and First Aid Kits, both of which will be located in the field trailer(s)/office(s). They will also receive all Personal Protective Equipment as required to be donned while working.
- Each employee that conducts operations onsite for all Public Work projects will be required to have a 10-hour OSHA Outreach Training in Construction. All unions will be notified of this regulation prior to any acceptance of new employees. Employees with supervisory roles will be required to have 30-hour OSHA Outreach Training in Construction.
- All employees, and project personnel, will be required to attend a Rail Road Roadway Protection Training, yearly, and prior to working on the project. This training is an instructor-led training held by the Rail Road at their facility. Training registration must be done in advanced, as space is limited.
- Job Briefings will be conducted before work begins and anytime work conditions change. The job briefing will be conducted by the Roadway Worker in Charge (RWIC).
- Safety Toolbox Talks are held on a weekly basis by all the Construction Team, prior to the work week beginning. Copies of these Safety Toolbox Talk sign-in sheets will be forwarded to the RE on a periodic basis. Additional Safety Toolbox Talks may be held as necessary, should any incident or safety infraction occur.
- Pre-Task Plans and vehicle inspections are required to be conducted on a daily basis by all Labor Foremen. A Pre-Task Plan is a daily scope and hazard analysis prepared by the foremen and reviewed with the workers prior to start of operation.

5. Site Security and Site Access

Site Security refers to all of the efforts to be made to keep the job site safe and secure. The ultimate goal is to have no losses or incidents and deter all vandalism, theft, and criminal mischief.

3TC has implemented a Jobsite Security Program with the intent to achieve the above goal. This Jobsite Security Program will be developed once fully mobilized on site. Positive closure will be maintained at all access points.

A Site Access Plan will be prepared to identify the location of the access to the yards, staging areas, and Work Zones. The Plan will be further developed to include locations of site office, muster points and emergency evacuation routes. This plan will be review and approved by the EIC.

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6. Recordkeeping and Hazard Analysis

Accidents are unintentional incidents that may or may not result in an injury or property damage. Effective accident prevention depends on the complete investigation of all accidents (Root Cause Analysis), even if there is no injury or damage to property (Near Misses), in order to identify potentially serious losses. Accident investigation is a necessary and effective tool for preventing recurring or future accidents. Also, it is the opportunity to determine the causes of accidents and how to eliminate them.

a. OSHA Logs (300 Form) - See Appendix

The Log of Occupational Injuries and Illness, OSHA Form No. 300 will be maintained at the Administration Offices. A copy of the current log will be distributed to each Project monthly in accordance with the applicable regulations. These records will be preserved for five years following the end of the calendar year that these records cover.

b. Job Hazard Analysis - See Appendix

A job hazard analysis is a technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. Ideally, after you identify uncontrolled hazards, you will take steps to eliminate or reduce them to an acceptable risk level.

- All Labor Foremen will complete a Pre-Task Plan prior to any work operations, or when an incident occurs onsite that will require a safety talk. Employees working on that foreman's crew will sign on form after foreman has review with them.
- For major operations, a Work Plan will be prepared to analyze and recognize any hazards that may be associated with any work that is to be performed and implement the elimination and/or controls of those hazards.

c. Accident Reporting

All accidents must be reported immediately to the Safety Manager and the EIC. All accidents will be investigated by the immediate supervisor of the operation involved. All accidents that have occurred within a 24 hour period are:

- Any accident which involves any injury requiring a doctor's treatment; whether it be a First-Aid case, or OSHA recordable

- Auto/Motor accidents
- Property damage and public liability accidents
- “Near misses” which could have led to a serious injury
- Fire occurring within the project limits
- Accident Procedure
 - This section states the proper procedure on reporting ALL accidents to 3TC’s Project Management All accidents that have occurred within project limits will be reported within 24 hours.
 - Note: The Project Superintendent will immediately report Serious Incidents/Accidents to Project Management and the Safety Manager and the RE.

For any lost-time injury that occurs on the job site during operations, the Project Superintendent will provide:

- Field Superintendent/Engineer’s Report of Accident Investigation (Appendix)
- Job Hazard Analysis Form (Appendix)
- Post-Accident Review (Appendix)
- Investigation Procedure
 - Investigate: Obtain all facts, including questions to witnesses and injured employee (Who, What, When, Where, Why, and How?). Take pictures, measurements and statements immediately; before accident scene changes. Sequester the evidence.
 - These items are vital in finding the accident cause. It is not advisable to make recommendations prior to completing the fact-finding phase (Root-Cause Analysis).
 - Recommendations: Based on all facts available, meaningful recommendations should be made to prevent future occurrences.
 - Follow-up: Each recommendation should be assigned to a responsible person for completion.
 - Communication: Every employee in the work force will be informed of the accident, its causes and the recommendations.

Injury to an Employee:

- All employees will be instructed and required to report all work-related injuries or illness to their supervisor.

- A field supervisor will accompany the injured employee to the nearest medical facility where treatment will be provided. The supervisor will explain the circumstances involving the related injury to the treating physician
- The supervisor of an injured employee should notify the Safety Manager.
- The Project Management staff will notify the RE of all injuries which occur on site, and will provide written documentation as requested by the RE.

Serious Injury, Illness or Fatality:

- Whenever there is an incident that results in death or serious injuries that have immediate symptoms, a preliminary investigation will be conducted by the immediate supervisor of the injured person(s), a person designated by management, and any other persons whose expertise would help the investigation. An Incident Investigation Report form will be completed within 24 hours.
- The scene of any such serious accident should not be disturbed, except for rescue or emergency purposes, until released by a management official.
- All media inquiries will be directed to the VP of Operations and/or Corporate Management. No information will be provided to the media by any employee other than as just described. Should media arrive at the scene/site, contain them and advise them that no photos may be taken.

Property Damages:

- A Property Damage report must be completed for any incident that involves property damage, fire, theft, or a bodily injury to anyone other than a DBJV employee, or any other loss or potential claim.

[d. Accident Forms – See Appendix C](#)

7. Hazard Communication Program See Appendix

An effective Hazard Communication (HAZCOM) program depends on the management's involvement in the program; inclusion of employees in safety and health decisions; rigorous worksite analysis to identify hazards and potential hazards, including those which could result from a change in worksite conditions or practices; stringent prevention and control measures; and thorough training. The development of the HAZCOM Program will be in compliance with OSHA 29 CFR 1910.1200 and all Federal, State and Local jurisdictions, laws, regulations, codes and standards.

Any member of the Project Management Team can verify that all containers received for use will be clearly labeled as to the contents, note the appropriate hazard warning, and list the manufacturer's name and address. Once the project has started, a member of the 3TC Team will be appointed as the HAZCOM Coordinator.

All copies of the material Safety Data Sheets (SDS) will be available to all employees onsite. Copies will be in the office and in the field (**See Appendix for sample of cut sheet**). The employee ordering and/or receiving chemicals must ensure that the vendor has shipped that SDS with the chemicals.

Everyone who works with or is potentially exposed to hazardous chemicals will receive initial training on the hazard communication standard and this plan before starting work. Each new employee will attend a health and safety orientation that includes an overview of the OSHA hazard communication standard, the hazardous chemicals present at his/her work area, the physical and health risks of the hazardous chemicals and symptoms of overexposure.

- Hazardous Materials
 - Hazardous materials include substances that have a potential to cause either acute or chronic health problems due to chemical or physical properties.
- Incidental Release
 - An incidental release is a release of a hazardous substance which does not pose a significant safety or health hazard (e.g.; fire, explosion, or chemical exposure) to employees in the immediate vicinity or to the employee cleaning up the released hazardous substance. An incidental release does not have a potential to become an emergency within a short time frame. Any hazardous material that is accidentally released, where the substance can be absorbed, neutralized, or otherwise safely controlled at the time of release by the employee is not considered to be an emergency response.
- All employees that work with hazardous substances must be trained to protect themselves in handling incidental releases per 3TC's Hazardous Communications Program.

- In the event that a release requires an emergency response, regardless of the circumstances, all employees are instructed to evacuate. Employees are trained on the ability to decide whether a release is incidental or requires an emergency response.

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8. Competent Persons

As defined by OSHA, a Competent Person will be capable of identifying existing and predictable hazards in the surroundings, or work conditions in which are unsanitary, hazardous, or dangerous to employees and who has the authorization to take prompt corrective measures to eliminate them.

The Competent Person(s) will be designated and identified prior to any operation that requires the need of a Competent Person(s), as per OSHA and FRA. Some of these operations are:

- Lead
- Asbestos
- Demolition
- Excavation
- Fall Protection
- Respiratory Protection
- Confined Spaces
- Scaffolds and Stair towers
- Welding and Cutting
- Electrical
- Cranes, Hoists, Conveyors
- Concrete
- Steel Erection
- Blasting and Explosives
- Ladders
- Toxic and Hazardous Substances
- Roadway Worker in Charge

Designation of Competent person(s) and Delegation of Responsibilities will also be required of Subcontractors. The subcontractor will identify and provide the contractor with designated Competent Person's contact information.

9. Supervisory Personnel Training and Certification

All on-site supervisory personnel responsible for the implementation and monitoring of this program will at least have:

- All craft employees will have an OSHA 10-hour Construction Outreach Training
- All Project Managers, Project Engineers, Superintendents and Safety Representatives will have an OSHA 30-hour Construction Outreach Training
- All Foremen will have an OSHA 30-hour Construction Outreach Training
- All Field Engineers will have an OSHA 10-hour Construction Outreach Training
- All Staff will have as OSHA 10-hour Construction Outreach Training
- All project personnel will have Rail Road Roadway Worker Protection Program safety training

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10. LIRR Expansion Project – CONTACT LIST

Name: Title: Phone Number:

Steve Maggipinto, PE Project Manager
 Vicken Bedian, PE Deputy Project Manager
 TBD General Superintendent
 John A Martin Chief Safety Officer
 Patrick Bakelaar Safety Manager



EMERGENCY SERVICES CONTACT LIST

Emergency Medical Services, Fire Department, Police and Hospitals Serving or Closest to LIRR Expansion Project

Name:	Location:	Phone:
SAFETY ONE CALL	Main	347-494-7233
MTA Police	Main	800-836-6673
MTA Police – Garden City	565 Commercial Ave, Garden City NY 11530	516-222-6501
LIRR Fire Marshal	Main	347-494-6045
Garden City Police Department	349 Stewart Ave, Garden City NY 11530	516-742-9600
Winthrop-University Hospital	259 1 st Street, Mineola, NY 11501	516-663-0333
North Shore University Hospital	300 Community Dr, Manhasset, NY 11030	516-562-0100
Long Island Jewish Medical Center	275-05 76 th Ave, New Hyde Park, NY 11040	718-470-7000

ADDITIONAL EMERGENCY NUMBERS RELEVANT NUMBER

Name:	Location:	Phone:
OSHA		800-262-OSHA
CHEMTREC		800-262-8200
NATIONAL SPILL RESPONSE CENTER		800-424-8802
Nassau County Dept of Health	200 County Seat Drive, Mineola, NY 11501	516-742-6154
NYC DEP		718-595-7000
PSEG	PARK PLAZA NEWARK NJ	973-430-7000
US COAST GUARD	1343 CAINFIELD RD HIGHLANDS NJ	732-872-3429
NJDOT North Region – Construction, Highways, Bridges	Trenton	973-601-6655
LIRR Operator		718-217-5477
Amtrak Power Director		212-630-7684
VERIZON	NJ	908-412-6160
STATE POLICE	NORTHERN DISTRICT	609-298-1170

11. Emergency Action Plan

Purpose

The purpose of an Emergency Action Plan (EAP) is to protect employees from serious injury, property loss, or loss of life, in the event of an actual or potential major incident.

In event of a major incident, this emergency action plan describes the initial responsibilities and actions to be taken to protect all employees.

General Procedures

This plan is a guide for employees to familiarize with basic emergency planning, response for their evacuation.

Pre-planning:

Preparation will increase the margin of safety in an emergency.

- Train employees in ways of assisting others.
- Inform employees how to communicate in an emergency
- Assign specific tasks
- Areas that are to be searched

Notification of Emergency Warning:

In an event of any emergency, the warning may come from any of the following sources.

- Emergency siren (if required onsite by Owner or representative of Owner)
- Contact from any Emergency Patrolled Units: Local PD, Ambulance and Rail Road Safety One Call
- Cell Phones
- Two-Way radios
- Air Horn or an equivalent warning device

Once an emergency has been seen or heard of, inform the immediate supervisor who will continue notification up the Chain of Command.

Evacuation Routes and Meeting Places:

A map of evacuation routes will be given and displayed within the jobsite. Each map will show the way to an exit, depending on where employees are located. It will be the responsibility of the immediate supervisor to inform employees of such evacuation routes when working in their area. (Appendix)

- Additional Meeting Places will be established as work progresses.
 - Primary Meeting Place
TBD
 - Inclement weather meeting place
TBD
- All Foremen have an assigned work crew. The foremen/competent person will be responsible for the members of their crew.
- The Foreman will immediately notify the Superintendent and Safety Manager of any personnel that are missing, trapped, or injured.

Responding to Emergencies:

The information to summon emergency personnel is listed in [Contact List](#).

Criminal Activity / Hostile Intruder / Homeless

If any employee is to observe a crime in progress, behavior which you expect as criminal or hostile behavior the employee is to immediately call the proper authorities and tell their supervisor of such actions. Some reporting information will help the authorities in their search.

- Activity
- Person's Description
- Approx. Height
- Approx. Weight
- Sex
- Clothing
- Weapons
- Location
- Direction of Travel
- Vehicle
- Color
- Year
- Make
- Model
- License Plate

DO NOT APPROACH OR ATTEMPT TO APPREHEND THE PERSON(S) INVOLVED WITH THE ALLEGED INCIDENT

Stay on the phone line with the police dispatcher and provide additional information as changes of the situation occur until the police arrive or security officer.

Distraught, Emotionally Disturbed and/or Homeless Persons:

No employee is allowed to approach or engage with any homeless on or around the site.

Medical Emergencies:

Emergency Medical Services (EMS) personnel or those individuals who are professionally trained will only provide first aid. Until rescue personnel arrive do not attempt to move the employee unless eminent danger exists for you or the employee.

- Call **911** immediately if an injury is life threatening. Provide the following information:
 - Nature of medical emergency
 - Location of emergency.
 - Your name and number of where your calling from
 - Contact your immediate supervisor
- All first aid kits are located within the main field office, onsite and within every Labor Foreman and/or Project Superintendent assigned vehicle.

- If Injury is not life threatening and injured person is ambulatory, they may be escorted to the Medcor Services facility for First Aid treatment and evaluation. If medical attention beyond first-aid is needed, then the employee will be referred to a medical provider for further evaluation.
- In any case of personnel exposed to hazardous materials, consult the SDS and wear the appropriate personal protective equipment. Attempt first aid only if qualified. Follow all directions on SDS.
- Stokes baskets and stretchers will be provided and if needed crane assistance during rescue operations. Only professional personnel will be conducting such operations with assistance of the Emergency Medical Service.

a. Emergency Procedures

Whenever there is an incident that results in death or serious injuries that have immediate symptoms, a preliminary investigation will be conducted by the immediate supervisor of the injured person(s), a person designated by management, an employee representative of the safety committee, and any other persons whose expertise would help the investigation. Also, the Emergency Action Plan (Section will provide further assistance in an Emergency Procedure).

b. Job Specific Safety/Rescue Equipment

Every 3TC employee will be given the necessary Personal Protective Equipment during the new hire process as stated in our Health & Safety Plan Section 10 Part B, e.g.; Hard Hats (ANSI Compliant), Safety Glasses (ANSI Certified), Work Vests (ANSI Class 3 – Level 2), etc.

All special site specific safety equipment required onsite will be stored in an accessible area for employees and supervision to use in case of any incident. Such equipment that may be required is stretcher with bridle. Typically, it is designed to accommodate an adult in a face up position and it is used in search and rescue operations.

c. Jobsite Sanitary Facilities & Drinking Water

All jobsite facilities will be in accordance with our HASP. Each jobsite facility will be staged in an appropriate location with required assistance from the Rail Road. Every facility onsite will be serviced weekly or as required during the work-week. If required, proposed locations of each Sanitary Facility will be shown on a Site Logistics Plan. All other requirements will meet OSHA Standard 1926.51 and the Contract requirements.

All sanitary facilities will be located in the staging areas. The amount of sanitary facilities will be determined based on the workforce. In addition, sanitary facilities will be placed in major work areas, and portable facilities may be utilized where short term highway operations are underway.

All drinking water "potable water" will be provided to all employees onsite during their worksite operations. All potable water will be labeled and will meet any other standards as listed in OSHA Standard 1926.51.

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12. Fall Protection

Applicable Standards:

OSHA 29 CFR 1926.500, 501, 502, 503,

3TC is dedicated to the protection of its employees from on-the-job injuries as a result of being exposed to potential fall hazards on the jobsite. 3TC has a **Zero-Tolerance** Policy in effect for violations of the six feet (6') fall protection policy. Anyone found violating this policy may be permanently removed from the project and/or termination of employment.

To access locations at varying elevations throughout the project, a variety of equipment may be used, such as: Ladders, scaffolds, walking/working platforms, aerial lifts, stairways and other similar equipment.

To protect employees that are potentially exposed to fall hazards, some form of fall protection must be utilized. The most common forms of fall protection are guardrails, personal fall arrest systems, hole covers, and safety nets. Any one or all of these forms of fall protection may be used. Safety Monitors are NEVER allowed on 3TC projects.

a. Requirements

3TC requires that all personnel who are to use any type of Fall Protection, Shielding, Scaffolding, or perform any other major operation will receive a type of training, prior to the operation. Employees should be familiar with the use of all personal fall arrest systems.

b. Training Program

During the new hire process, in the field or in a Toolbox Safety Talk and Pre-Task Plan, these programs will help reinforce safety standards and keep people aware of the safety hazards and risks that are associated with their type of work. Every employee who is present for any type of training will be required to sign a sheet relating that all information passed on has been taking into consideration.

3TC will prepare a written certification record for all employees trained on fall protection. The record will include the name of employee, date of training, signature of employee, and person who conducted the training. That record can be found within the safety orientation documents. If the employee has prior training conducted by another employer or completed prior to the effective date of this section, the certification record will indicate the date the employer determined the prior training was adequate rather than the date of actual training. The latest training certification will be maintained on record.

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c. Fall Protection Plan

1. INTRODUCTION

- a. These guidelines establish the minimum fall prevention and protection requirements for all employees working at or over 6 feet above the ground or the next lower level. They contain requirements for fall protection from structures, ladders, scaffolds and aerial lifts. Fall protection may be required at lower levels if employees are exposed to falls.
- b. The intent of these guidelines is to prevent employees from falling off, onto, or through working levels and to provide protection from falling objects.
- c. The methods found in this guideline are not the only methods by which protection can be achieved, and these guidelines and systems do not provide protection for every situation encountered in the workplace.
- d. When different or unique applications arise, these guidelines can be used for basic information. If you are not sure how to use these guidelines or you think you have a better alternative please, contact the Safety Manager or Superintendent.
- e. 3TC's Fall Protection Plan following OSHA 1926.503(a) and Certificate of Completion OSHA 1926.503(b) are located within this Fall Protection Plan.

2. ZERO TOLERANCE POLICY

- a. Employees working at an elevated location 6 feet or more above the ground or the next lower level must be protected by guardrails, safety nets, or a personal fall arrest system. If harness and lanyards are used, the lanyard will be of such length that will prevent employee from making contact with ground.
- b. The LIRR Expansion is a 100% 6-foot Fall Protection compliance project. There is a zero tolerance for violations of this policy. Any 3TC employee or subcontractor employee in violation of this fall protection requirement will be immediately terminated from employment and/or from the Project.
- c. 3TC enforces a strict policy of zero tolerance for all employees that are actively performing operations that will require fall protection. All employees that fail to adhere to our policy will be terminated immediately.

3. GENERAL REQUIREMENTS

- a. We must determine whether walking/working surfaces can support workers safely. All required fall protection systems are to be provided and installed before commencing the work that requires the fall protection.
- b. Employees on walking/working surfaces with unprotected sides or edges 6 feet or higher above a lower level must be prevented from falling by using a Guardrail System, a Safety Net System, or a Personal Fall Arrest System. These requirements apply to all elevated walking and working surfaces, including Leading Edges, Hoist Areas, Holes, the face of Formwork and Reinforcing Steel, Ramps, Walkways, areas

above or next to Dangerous Equipment, Scaffolding, Roofs, Precast Concrete Structures, Overhand Bricklaying, and Wall Openings, where the hazard of falls is present.

- c. When it is infeasible or creates a greater hazard to install conventional fall protection systems to protect employees working on a Leading Edge, a site specific Fall Protection Plan may be developed and implemented.
- d. When employees are working below an elevated work area and toe boards do not provide sufficient protection from falling objects, screens, mesh or canopies must be installed for a distance sufficient to protect employees below.

4. PERSONAL FALL ARREST SYSTEMS

- a. Anchorages used for attachment of personal fall arrest equipment must be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached.
- b. Personal fall arrest systems, when stopping a fall, must do all of the following:
 - i. Limit maximum arresting force on an employee to 1,800 pounds.
 - ii. Be rigged so that an employee cannot free fall more than 6 feet or contact any lower level.
 - iii. Bring an employee to a complete stop and limit maximum deceleration distance an employee travels.
 - iv. Have enough strength to withstand twice the potential impact energy of an employee free falling 6 feet or the free fall distance allowed by the system, whichever is less.
 - v. The attachment point of a body harness used for fall protection must be in the center of the back near shoulder level or above the head.
 - vi. Harnesses and other fall arrest equipment may never be used for hoisting materials.
 - vii. Fall arrest systems and components subjected to impact loading must be immediately removed from service and not used until inspected and determined by a competent person to be undamaged and suitable for service.
 - viii. Rescue plans must be made for a prompt rescue of employees in case of a fall unless it has been determined that employees can rescue themselves.
 - ix. Personal fall arrest systems must be inspected before each use, for wear, damage or other deterioration. Defective components must be removed from service.
 - x. Personal fall arrest systems must not be attached to guardrail systems.
 - xi. When personal fall arrest systems are used at hoist areas they must be rigged to allow the movement of the employee only to the edge of the working surface.

- xii. Positioning devices must be rigged such that an employee cannot free fall more than 2 feet and secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds, whichever is greater.

5. HOLES/COVERS

- a. Covers for holes in floors, roofs, and other walking/working surfaces must meet the following requirements:
 - i. Covers located in roadways and vehicular aisles must be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover.
 - ii. All other covers must be capable of supporting without failure, at least twice the weight of employees, equipment, and materials that may be set on the cover.
 - iii. All covers must be secured when installed to prevent accidental displacement by the wind, equipment, or employees.
 - iv. All covers must be color coded or they must be marked with the word "Hole" or "Cover" to provide warning of the hazard.

6. TRAINING REQUIREMENTS

- a. Each employee who might be exposed to fall hazards must be trained by a competent person qualified in the following areas:
 - i. The nature of fall hazards in the work area.
 - ii. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used.
 - iii. The use and operation of guardrails, personal fall arrest systems, and other proper protection options.
 - iv. The correct procedures for handling and storage of equipment and materials and the erection of overhead protection.
 - v. The role of employees in fall protection plans.
 - vi. The federal and state regulations relating to this program.
 - vii. A written certification record, containing the name of the employee trained, the name and signature of the person who conducted the training, and the date training was completed must be maintained.
 - viii. Retraining must be conducted when we think that any affected employee who has already been trained does not have the understanding and skill required in the training section listed above, and when changes in the fall protection systems, equipment or workplace render previous training obsolete.

7. LADDERS

- a. Ladders must be of proper size, design, and condition for the intended use and must not be used as work platforms. Ladders with bent, broken, or damaged rungs or side rails must be removed from service.

- b. Side rails of job-made ladders must be constructed of dressed "selected grade lumber," or the equivalent, and must not have knots, except an occasional one less than 1/2, inch in diameter that appears only on the wide face and is at least 1/2, inch back from either edge. If splicing of side rails is necessary to attain the required length, the splice must develop the full strength of a continuous side rail of the same length.
- c. Side rails of single cleat ladders up to 16 feet long must be 2 inch by 6 inch lumber. Side rails of single cleat ladders from 16 to 24 feet in length must be 3 inch by 6 inch lumber.
- d. Side rails and middle rails of double cleat ladders up to 12 feet long must be 2 inch by 4 inch lumber. Side rails and middle rails of double cleat ladders from 12 to 24 feet in length must be 2 inch by 6 inch lumber.
- e. Cleats of job-made ladders must be clear, straight-grained and absolutely free from knots of any size that appear in the narrow face. Knots appearing in the wide faces of cleats must not exceed a diameter of 1/4 inch. Cleats must be uniformly spaced within 1/4 inch tolerance, and not farther apart than 12 inches measured from tops of cleats.
- f. Cleats of job-made ladders must be inset into the edge of the side rails one-half inch, or fill blocks must be used on the rails between the cleats. The cleats must be secured to each rail with three 10d common wire nails or other fasteners of equivalent strength.
- g. Single cleat ladders must not exceed 30 feet in length between the base and top landing. If the length required exceeds these maximum lengths, two or more separate ladders must be used, offset with a landing or platform between each ladder. Guardrails and toe boards must be erected on the exposed sides of the platforms.
- h. If a job-made ladder provides the only means of access to a work area for 25 or more employees, or if simultaneous two-way traffic is expected, a double cleat ladder must be installed. Double cleat ladders must not exceed 24 feet in length.
- i. Single cleat ladders must be at least 15 inches, but not more than 20 inches, between rails. Double cleat ladders must be at least 18 inches, but not more than 22 inches, between rails.
- j. Portable ladders must extend at least 36 inches above the top landing or be secured at the top and equipped with a grab rail. Fixed ladders must extend at least 42 inches above the top of access.
- k. All portable ladders must be placed on substantial footing and be tied, blocked, or otherwise secured to prevent their being displaced.
- l. Extension ladders must not exceed 44 feet in length when extended. When extended, the ladder sections must have the following minimum overlaps.
- m. Two-Section Ladders:
 - i. 3 feet for working lengths up to 33 feet.

- ii. 4 feet for working lengths 33 to 44 feet.
- n. Three-Section Ladders
 - i. 4 feet for each section.
- o. Each employee using ladders must be trained, by a competent person, to recognize hazards related to ladders and must know the procedures to be followed to reduce these hazards. The training must include, if applicable, the following areas:
 - i. The nature of fall hazards in the work area.
 - ii. The correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used.
 - iii. The proper construction, use, placement, and care in handling of ladders.
 - iv. The maximum intended load-carrying capacities of ladders.
 - v. The federal and state regulations relating to this program.
 - 1. Retraining must be conducted when we think that any affected employee who has already been trained does not have the understanding and skill required in the training section listed above, and when changes in the workplace render previous training obsolete.

8. SCAFFOLDING

- a. The footing or anchorage for scaffolds must be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks must not be used to support scaffolds or planks.
- b. Scaffolds and scaffold components must be inspected by a competent person before each work shift and after any occurrence that could affect the scaffold's structural integrity.
- c. Any scaffold or scaffold component identified as damaged or defective during any inspection must be immediately repaired, replaced or removed from service until repaired.
- d. Scaffolds must be erected, moved, dismantled, or altered under the supervision of a competent person.
- e. Scaffolds and their components must be capable of supporting at least four times the maximum intended load.
- f. Standard Guardrails are required along all open sides and ends of scaffolds and platforms of any kind that are 6 feet or more above the ground.
- g. Scaffold planks must extend over their end supports at least 6 inches but not more than 12 inches.

9. AERIAL LIFTS

- a. All aerial lifts including extendable boom platforms, articulating boom platforms, vehicle mounted aerial ladders, and vehicle mounted vertical towers must be used according to the manufacturer's recommendations. The boom and basket load limits specified by the manufacturer must not be exceeded.

- b. The lift controls on extendable boom platforms and articulating boom platforms must be tested before use each day to determine that they are in safe working condition.
- c. Extendable boom and articulating boom platforms, designed as personnel carriers, must have both upper and lower controls. All controls must be plainly marked to identify their function. The lower controls must be capable of overriding the upper controls.
- d. Only authorized employees may operate an aerial lift.
- e. When working from an aerial lift employees must wear a body harness and a lanyard attached to the boom or basket. The lanyard must never be attached to any other structure or equipment while the employee is in the aerial/lift.
- f. Employees must always stand on the floor of the basket and may not sit or climb on the edge of the basket. Planks, ladders, or other devices may not be used as a work platform inside an aerial lift basket.
- g. When outriggers are used, they must be positioned on pads or a solid surface. Wheel chocks must be used when operating an aerial lift on an inclined surface.
- h. Aerial lifts must not be moved with employees in an elevated basket, unless the aerial lift was specifically designed for that type of operation.
- i. Each employee who works while on an aerial lift must be trained, by a qualified person to recognize and control the hazards associated with the use of the type of aerial lift being used. The training must include, if applicable, all the following information:
 - i. The nature of the hazards in the work area.
 - ii. The correct procedures for dealing with those hazards.
 - iii. The proper use of the lift and the proper handling of materials on the lift.
 - iv. The maximum intended load and the load-carrying capacities of the lift.
 - v. Any other pertinent job information or requirements.

13. Housekeeping.

Good Housekeeping will be the responsibility of ALL employees.

- Waste materials are to be discarded in their proper places.
- Heat producing equipment will be maintained in good working order and will be maintained at least 36" away from combustible materials.
- All personnel are responsible to keep their work area neat and orderly.
- All aisles and exits will be kept clear.
- Access areas to fire extinguishers will be kept clear and in accordance with OSHA regulations.

- Emergency telephone number will be posted throughout the site and given to each employee.
- Each supervisor will be responsible to properly train all employees that are required to handle, store and maintain hazardous material.

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14. Tool Use Policy

a. Hand Tools

Hand tools are tools that are powered manually. Hand tools include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance. Some examples include the following:

- If a chisel is used as a screwdriver, the tip of the chisel may break and fly off, hitting the user or other employees.
- If a wooden handle on a tool, such as a hammer or an axe, is loose, splintered, or cracked, the head of the tool may fly off and strike the user or other employees.
- If the jaws of a wrench are sprung, the wrench might slip.
- If impact tools such as chisels, wedges, or drift pins have mushroomed heads, the heads might shatter on impact, sending sharp fragments flying toward the user or other employees. 3TC is responsible for the safe condition of tools and equipment used by employees. 3TC will not issue or permit the use of unsafe hand tools. Employees should be trained in the proper use and handling of tools and equipment. Employees, when using saw blades, knives, or other tools, should direct the tools away from aisle areas and away from other employees working in close proximity. Knives and scissors must be sharp; dull tools can cause more hazards than sharp ones. Cracked saw blades must be removed from service. Wrenches must not be used when jaws are sprung to the point that slippage occurs. Impact tools such as drift pins, wedges, and chisels must be kept free of mushroomed heads. The wooden handles of tools must not be splintered. Iron or steel hand tools may produce sparks that can be an ignition source around flammable substances. Where this hazard exists, spark-resistant tools made of non-ferrous materials should be used where flammable gases, highly volatile liquids, and other explosive substances are stored or used.

b. Power Tools

Appropriate personal protective equipment such as safety goggles and gloves must be worn to protect against hazards that may be encountered while using hand tools.

Workplace floors will be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools. Power tools must be fitted with guards and safety switches; they are extremely hazardous when used improperly. The types of power tools are determined by their power source: electric, pneumatic, liquid fuel, hydraulic, and powder-actuated.

To prevent hazards associated with the use of power tools, workers should observe the following general precautions:

- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.
- Disconnect tools when not using them, before servicing and cleaning them, and when changing accessories such as blades, bits, and cutters.
- Keep all people not involved with the work at a safe distance from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.
- Maintain tools with care; keep them sharp and clean for best performance.
- Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance when operating power tools.
- Wear proper apparel for the task. Loose clothing, ties, or jewelry can become caught in moving parts.
- Remove all damaged portable electric tools from use and tag them: "Do Not Use."

c. [Pneumatic Tools](#)

Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders. There are several dangers associated with the use of pneumatic tools. First and foremost is the danger of getting hit by one of the tool's attachments or by some kind of fastener the worker is using with the tool.

Pneumatic tools must be checked to see that the tools are fastened securely to the air hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must also be used and will serve as an added safeguard.

If an air hose is more than 1/2-inch (12.7 millimeters) in diameter, a safety excess flow valve must be installed at the source of the air supply to reduce pressure in case of hose failure.

In general, the same precautions should be taken with an air hose that are recommended for electric cords, because the hose is subject to the same kind of damage or accidental striking, and because it also presents tripping hazards. When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being ejected during tool operation. Pneumatic tools that shoot nails, rivets, staples, or similar fasteners and operate at pressures more than 1000 lbs./psi, must be equipped with a special device to keep fasteners from being ejected, unless the muzzle is pressed against the work

surface. Airless spray guns that atomize paints and fluids at pressures of 1000 lbs. /psi must be equipped with automatic or visible manual safety devices that will prevent pulling the trigger until the safety device is manually released.

d. Powder-Actuated Tools

When using powder-actuated tools, an employee first be trained by an authorized representative from the tool manufacturer and must wear suitable ear, eye, and face protection. The user must select a powder level—high or low velocity—that is appropriate for the powder-actuated tool and necessary to do the work without excessive force.

The muzzle end of the tool must have a protective shield or guard centered perpendicular to and concentric with the barrel to confine any fragments or particles that are projected when the tool is fired. A tool containing a high-velocity load must be designed not to fire unless it has this kind of safety device.

To prevent the tool from firing accidentally, two separate motions are required for firing. The first motion is to bring the tool into the firing position, and the second motion is to pull the trigger. The tool must not be able to operate until it is pressed against the work surface with a force of at least 5 pounds (2.2 kg) greater than the total weight of the tool.

If a powder-actuated tool misfires, the user must hold the tool in the operating position for at least 30 seconds before trying to fire it again. If it still will not fire, the user must hold the tool in the operating position for another 30 seconds and then carefully remove the load in accordance with the manufacturer's instructions. This procedure will make the faulty cartridge less likely to explode. The bad cartridge should then be put in water immediately after removal. If the tool develops a defect during use, it should be *tagged* and must be *taken out of service immediately* until it is properly repaired.

Safety precautions that must be followed when using powder actuated tools include the following:

- Do not use a tool in an explosive or flammable atmosphere.
- Inspect the tool before using it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions and has the proper shield, guard, and attachments recommended by the manufacturer.
- Do not load the tool unless it is to be used immediately.
- Do not leave a loaded tool unattended, especially where it would be available to unauthorized persons.
- Keep hands clear of the barrel end.
- Never point the tool at anyone.

- When using powder-actuated tools to apply fasteners, several additional procedures must be followed:
- Do not fire fasteners into material that would allow the fasteners to pass through to the other side.
- Do not drive fasteners into very hard or brittle material that might chip or splatter or make the fasteners ricochet.
- Always use an alignment guide when shooting fasteners into existing holes.
- When using a high-velocity tool, do not drive fasteners more than 3 inches (7.62 centimeters) from an unsupported edge or corner of material such as brick or concrete.
 - When using a high velocity tool, do not place fasteners in steel any closer than 1/2-inch (1.27 centimeters) from an unsupported corner edge unless a special guard, fixture, or jig is used.

e. [Chain Saw](#)

Operating a chain saw can be hazardous. The potential for injury can be minimized by use of proper personal protective equipment and safe operating procedures. This document addresses safe operating procedures for chain saw work. However, anyone attempting to operate a chain saw should always refer to manufacturers' safety manuals.

Chain saw operators should be trained in the safe operation and maintenance of chain saws as well as CPR and First Aid training. For all operations involving the use of chain saws, it is strongly recommended that at least two people be knowledgeable in First Aid and CPR. Operators should follow all manufacturer safety procedures. All appropriate personal protective equipment should be used, including hard hat, chaps, and eye, face, foot, hand and hearing protection.

- Equipment
- Chain saws should be equipped with at least two separate anti-kickback features. Chain brake, low kick back chain, reduced kick back bar, or nose guard are among current devices available.
- Personal Protective Equipment
- Hard Hat
- Chaps – leg protection apparel constructed of cut resistant material.
- Foot Protection
- Hearing Protection – any muff, plug or semi-aural protectors that can be properly worn with other required personal protective equipment.
- Face Shield – wire mesh or clear plastic designed for impact protection.
- Safety Glasses – should have side shields and be designed for impact protection.

- Hand Protection – appropriate gloves should be worn, when possible.
- Fueling and Starting
- Store and carry gasoline in safety cans.
- Use a funnel or flexible hose fitted to the container when fueling saws.
- Clear the area around fueling site of flammable material.
- Do not fuel the saw with engine running.
- Do not start the saw in the same spot where it is fueled.
- Allow engine to cool before refueling.
- After fueling wipe chain saw clean before restarting.
- Keep a fire extinguisher available when refueling.
- Place saw on the ground or other firm surface to start. Make sure chain cannot contact ground or other objects.

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15. Work around Railroads

Application Operations

All work on and around railroads will be in strict compliance with 49 CFR 214, Long Island Railroad, and Federal Railroad Administration rules and regulations. It will be in strict adherence with all Roadway Worker Protection Program. All personnel on site will receive the LIRR Roadway Worker Protection Training. This training must be done annually.

Intended Approach

3TC will schedule and perform the work in the sequence shown on the Contract drawings, if any, in such a manner as not to delay, endanger, or interfere with Rail Road operations. To the extent feasible the schedule sequence, and the times of 3TC operations, once approved, will be adhere to and operations of the Rail Road and others scheduled so as to cause the least interference with the community and the public.

All workers while working on Railroad property will be adhere to proper PPE:

- Class 2 – Level 2 – Breakaway Safety Vests, Hardhats with retroreflective material, Safety Glasses ANSI Z87, Work Boots with Safety Toes
- Workers working with-in the Railroad property will have completed the Railroad Worker Protection Health & Safety Program Training
- All work being performed on Railroad property will be coordinated with flaggers
- All workers will adhere to flagger's direction.

Before beginning work, all roadway workers must participate in

16. Work Over Water

This Project doesn't have any work over water.

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17. Trenching and Excavations

Applicable Operations

This section applies to all Trenching and Excavation operations.

Intended Approach

All Excavation procedure will be in compliance with the Contract requirements.

3TC has designated an Environmental Manager to the project. The Environmental Compliance Manager will meet the specified requirements of Section 158.03.01 and approved by the Rail Road.

3TC may employ a CIH to periodically review the site specific HASP and to oversee the safety program and assess implementation.

Soil piles and other materials must be kept at least 2 feet from the edge of the excavation. Excavations that undermine existing footing, structures, trees, etc. must be supported. Sides of excavations and trenches must be protected with sloping, benching, or shoring as determined by a competent person.

Means of egress from trench and excavations: A stairway, ladder, ramp or other safe means of egress will be located in trench excavations that are 4 feet (1.22 m) or more in depth so as to require no more than 25 feet (7.62 m) or lateral travel for employees. [§1926.651(c)(2)]

A trench can be a confined space and can possibly have a hazardous atmosphere. An air monitoring device can be used to evaluate the atmospheric environment.

a. Material Handling Plan

All regulated material encountered, moved, disposed of or recycled during construction will be in compliance with the aforementioned section and the plan. All subcontractors will comply with the section and develop a Material Handling Plan, as Per Section 202.03.04.

b. Pollution Prevention and Control Plan

An Air Quality Control Plan (PPC) will be developed in accordance with RFP Volume 3 Section 2.7.5

18. Overhead & Underground Utilities

All utilities will be located prior to any excavation both Overhead and Underground.

Overhead Utilities

All utilities will be visibly identified by the Construction Team and services and marked in a universal method.

Existing towers will be replaced and overhead transmission wires will be upgraded from [REDACTED] to [REDACTED]. Activity will also take place inside the station fence line on PSE&G property at the Turnpike Station.

All equipment must maintain a minimum clearance of [REDACTED]

Underground Utilities

All underground utilities will be marked by owners or operators. Superintendents or field engineers will call the appropriate numbers for a mark out of all utilities.

Responsible Person(s)

All responsible person (s) or competent person(s) will be named prior to any operation. The competent person will be capable of identifying existing and predictable hazards in the surroundings, or work conditions which are unsanitary, hazardous or dangerous to employees and will have the authority to take prompt corrective measures to eliminate them.

The competent person will perform daily inspections of excavations, adjacent areas and protective systems for possible cave-ins, indications of failure or protective systems, hazardous atmospheres or other hazardous conditions. The inspections will be conducted prior to the start of work and as needed throughout the shift.

19. Respiratory Protection

Respiratory Program

3TC will comply with the Respiratory Protection Program contained in the Lead Base Paint Management Plan. All employees will abide by all rules and regulations provided within our HASP and OSHA standards. Refer to the Hazard Communication Procedure within the HASP for further hazards and control measures.

Identify Operations

Operations that mandate the use of the respiratory protection are listed throughout the OSHA standards. Site Specific operations may be as followed:

- During concrete demolition operations with potential exposure to Crystalline Silica
- During any removal of Lead paint by a subcontractor or potential disturbance of lead contaminated materials
- Any operation that will be in a confined space
- During any removal of asbestos

Confined Space Operations

3TC will coordinate with the Rail Road regarding Confined Space Entry requirements for all manholes and other underground structures carrying railroad utilities. All Confined Space Entry will be conducted only by Rail Road authorized personnel and follow the Rail Road's established procedures. All required Confined Space Entries will be completed by authorized LIRR personnel and the Railroad will identify methods of hazard control and/or mitigative measures to be implemented by the 3TC before we begin any demolition, removal, and/or construction work involving railroad utilities. The Confined Space Entry Procedures will be implemented prior to start of work.

Prior to the commencement and during the work, should conditions change, all spaces should be evaluated and identified. Space must be evaluated for hazardous atmospheres, such as oxygen deficient, explosive or toxic atmospheres.

Intended Approach

A designated engineer or project supervisor will be responsible for employees' use of any respiratory equipment and using the appropriate procedures in conducting Confined Space operations.

Each employee will have medical evaluation and receive clearance prior to any use of a respiratory protection, if permissible exposure limits are exceeded. The employee will be fit tested prior to being issued a respirator, if required. The employee will also be given training on proper use of respirator and proper cleaning procedures of that respirator.

During permit/non-permit Confined Space operations a designated person will provide Air Monitoring prior to entry of the confined space. The space must be well ventilated and will use a ducted blower or an equal substitute. All employees will be equipped with PFAS and rescue system. Rescue equipment will be available in case of an emergency. All other respiratory protection guidelines will be followed as per OSHA Standard **1910.134**.

Personal Protective Equipment (PPE)

Applicable Operations

All operations that are conducted on Rail Road property and all 3TC jobsites will require all personnel to wear ANSI compliant hard hats, safety glasses, safety vests, work boots and proper dress attire suitable for construction operations. Hearing Conservation Program will be

implemented when an employee is exposed to noise levels exceeding 85dB over an 8-hour time weighted average.

Policy on PPE Equipment

3TC has a firm outlook on the use of personal protective equipment while conducting any sort of jobsite operation. 3TC will provide all PPE to all employees during their New Hire Orientation process. Each employee will be directed to wear all appropriate PPE at all times while performing work onsite. If any employee or subcontractor fails to abide by regulations in our HASP will be subject to 3TC Disciplinary Action Procedures.

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20. Personal Protective Equipment

Hard Hats – ANSI compliant hard hats must be worn AT ALL TIMES on ALL JOBS, BY ALL EMPLOYEES. Extra hard hats will be kept in the field office and made available to visitors. All hard hats will be inspected throughout employees operations by their supervisors and foreman, to ensure they are in good working order. MSA V-Guard Type I will be replaced after 5 years of use; suspension should be replace after 1 year of use.

Safety Vests – All employees on the jobsite will be required to wear a 360° high-visibility garment meeting ANSI/ISEA Class 3, Level 2 standards. Personal Floatation Devices are required when work near or over water.

Eye Protection – It is important to wear the appropriate eye protection. The eyes when seriously injured do not heal as other injuries, for this reason all will wear eye protection while conducting job operations.

Hearing Protection – Exposure to loud noises (over 85dB over an 8 hour day) can permanently damage the sense of hearing. During any operations were loud noises may occur employees are required to wear hearing protection when as needed, in accordance with OSHA 1926.52 and NIOSH.

Fall Protection – Fall Protection will be provided and worn by all employees who will be exposed to all fall exposures 6ft or above. Fall protection equipment will inspected prior to use.

Respiratory Protection – Appropriate respiratory protection devices will be used onsite where a work area may be exposed to airborne contaminates. Employees that will don respiratory protection will be medically cleared, fit tested and properly trained in their use.

Defective PPE Policy

- Employees are to check PPE before donning them each day at start of shift. In addition, the Safety Manager will also conduct periodic checks of PPE to inspect condition of such equipment; particularly Fall Protection equipment, i.e. harness, lanyards, and self-retracting lifelines (SRL).
- When an employee or Safety Manager determines that any PPE equipment is worn or damaged, such PPE will be immediately removed from service, and replaced with PPE that is new. Unless, the inspected PPE is deemed to be in proper working conditions, as per manufacturer's specifications.

21. Electrical Protection

Only qualified workers will be allowed to perform any type of electrical work.

Electrical Tools

The non-current carrying metal parts of electric tools will be grounded. When electrical tools are connected to a temporary power source, personnel will be protected by ground fault circuit interrupters.

Equipment Clearance

- Precautions will be taken to prevent contact with energized electrical lines, either above or below ground.
- Unless electrical lines are de-energized and visibly grounded, no equipment, machinery or tools will be operated or handled within () feet of power lines carrying over () The clearance will increase by 4 inches for each additional () [1926.600(a)(6)(ii)]
- For electrical systems carrying 600 volts or more, utility must be notified 5 days prior to work.
- If an equipment operator is unable to determine clearance between equipment and power line, a spotter will be used to gauge clearance. When in proximity of high voltage power lines, distance will be marked-out after measuring distances.
- All employees will be warned of hazardous and precautions of high voltage power lines.

Lock Out / Tag Out

The 3TC Lock-Out/Tag-Out Procedures establishes minimum performance requirements for the control of hazardous or unexpected release of stored or residual energy that could cause injury or death to an employee or to the public. As such, this project will comply with 29 CFR 1926, Subpart K; Section 1926.417.

Forms of energized systems can be electrical, steam, hydraulic, or pneumatic.

22. Construction Equipment

Applicable Operations

Operator Selection

Heavy Equipment: Only trained and qualified individuals will be permitted to operate this equipment. Training must include a thorough review of the hazards, safe and unsafe procedures, and a good working knowledge of the equipment itself. Crane operators will be licensed operators.

Motor Vehicles

Motor Vehicles: Operators must be experienced and licensed drivers regardless of whether they are operating on or off public roadways. Operators of commercial vehicles must have a Commercial Driver's License (CDL) and comply with 3TC's Fleet Safety Policy.

Specific Safety Regulations for Equipment

The following provisions will apply to all work on the project, including but not limited to, the activities of all subcontractors, manufacturers, fabricators, material suppliers, and independent truckers and owner-operators.

- A spotter will guide the backing of any vehicle or equipment with restricted visibility to the rear. This rule applies in any location when workers on foot, pedestrians, private vehicles or similar hazards may be present. All heavy equipment and vehicles will be fitted with working back-up alarms.
- If the operator loses visual contact, the vehicle will immediately be brought to a full stop until visual contact with the spotter is reestablished.
- Dump truck boxes may be raised only under the control of a spotter, unless the vehicle is in an area clearly marked to be free of overhead wires and safe for dumping.
- Dump truck boxes will be lowered prior to moving, except when dumping into a paver or similar operation, under the control of a spotter.
- All excavating, lifting and similar equipment will comply with electrical safety requirements; no equipment, machinery or tools will be operated or handled within (10) feet of overhead power lines carrying over [REDACTED]. The clearance will increase by 4 inches for each additional [REDACTED] [Reference §1926.600(a)(6)(ii) & 1926.1408 Table A]. A spotter will determine proximity clearance when equipment operator is not able to determine. The distance will measure as a slope distance perpendicular from the conductor to the nearest point of the vehicle.
- Each piece of equipment must contain a fully charged fire extinguisher (Type 2A: 10B: C) when in use.
- Any equipment must be turned off when left unattended for any period of time.
- Equipment parked on inclines will have the wheels chocked and the parking brake set.
- All heavy equipment will be equipped with an audible back up alarm.

a. Cranes and Hoists

All Cranes operations will be in compliance with OSHA 1926 Subpart CC and the contract specifications.

- All cranes must have a current NY Cranes & Derricks certification (CD number), if applicable, and a current annual inspection.
- All manufacturer's specifications and limitations applicable to the operation of any and all cranes must be complied with. These recommendations must be posted within the cab and must not be modified without the manufacturer's written approval.
- Operators must avoid swinging loads over employees. If this cannot be accomplished then employees are to stop work while loads are swinging over their work area.
- Hoisting or carting of personnel is strictly prohibited.
- Use a tag line to control all overhead loads.
- Make sure cranes are level and on firm footing.
- Operators should receive signals from only one signal person.
- Crane loads should never be traveled, raised, or lowered without a signal from the designated signal person.
- All personnel must keep clear of operating equipment.
- All equipment should be properly maintained and serviced in accordance with the manufacturer's recommended maintenance schedule.
- All heavy equipment will be equipped with flashing or rotating amber beacons or signal lights.

Responsible Person(s)

Only personnel who are qualified will work on specified equipment onsite, per manufactures directions. All other repairs will be made following Lock-Out/Tag-Out procedures.

23. Demolition

All demolition work will, at a minimum, adherence with 3TC policy, Section E20, Demolition Safety Procedures.

Applicable Operations

Listed are some contract Demolition operations:

- Removal of the Construction Barrier across the roadway of the approach
- Removal of portions of the existing bridge fence and railing

- Removal and backfill of foundations from abandoned PSE&G transmission towers

Intended Approach

All engineering calculations and drawings for demolition work will be reviewed by an independent outside professional engineer.

Responsible Person(s)

The responsible person(s) will be appointed prior to Demolition work being performed.

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Asbestos and Hazardous Material Handling

Any material suspected to contain Asbestos, of which has not been identified in the contract/bid documents, will be reported to the RE. Operations involving Asbestos Contaminated Material will cease until further direction from the Rail Road.

3TC will not conduct any removal of asbestos. 3TC will contract a subcontractor to remove all traces of asbestos that is found on the within the construction limits. Any hazardous materials that are to be handled, employees will refer to our Hazardous Communications Program (29 CFR 1926.1101).

All NY Department of Labor, NY Department of Environmental Protection and Federal, State, City, and local regulations will be strictly adhered to.

Fuel Handling and Storage

Applicable Operations

All fuel that is to be used onsite will be delivered daily by a Fuel Company of 3TC's choice. Each fuel delivery will be coordinated to be efficient with work site operations. Every fuel company that delivers to the site will be certified to conduct fueling of heavy equipment on the jobsite.

Storage of any fuel onsite will in approved US DOT containers. Each container will have the proper identification and be labeled correctly by the designated personnel. Fuel and Mixed fuel containers will be stored in the approved NFPA locker cages/cabinets. If required, permits will be secured prior to any storage of fuel.

24. Fire Protection and Prevention

It is intent 3TC to establish a Fire Protection and Prevention Program to prevent potential injuries and death to employees, the public, and/or damage property. This Program will be in compliance with 29 CFR 1926, Subpart F; NFPA, JCFD, KFD and Rail Road regulations.

- Compliance
 - All firefighting equipment's must be clearly visible and fully accessible at all times.
 - Fire extinguishers will be rated not less than 2A, ABC Dry Chemical (or equivalent) and must be located within [REDACTED] of all hot work operations. All fire extinguishers in use must be fully charged and tagged.
 - Transport and storage of fuel and gas will be as permitted by JCFD. Fuel and Gas handlers and Fire Guard/Watch personnel will have training.
- Prevention
 - Smoking will only be allowed in designated areas. There will be no smoking near flammable or combustible.
 - Good housekeeping practices are fire prevention essentials. There will be frequent cleaning of trash, scrap and other combustible materials.
 - Access and Egress to and from all work areas and fire extinguishing equipment will be clear of obstructions.
- Inspection and Maintenance
 - All fire extinguishing equipment will be inspected on frequent basis. Any fire extinguisher that has been discharged will be marked out of service and isolated in a designated area until serviced by a certified technician/vendor. Once serviced and certified, fire extinguishers may be put back into service.
 - All Hot Work operations, as described by NFPA & FC Chapter 26, will be performed in presence of an employee having Fire Watch/Guard Training.

a. Welding and Cutting

Applicable Standards:

OSHA 29 CFR 1926.350 – 354

Welding and cutting operations present various safety and health hazards. Welding and cutting operations on lead-painted surfaces often create lead fumes by "boiling off" the lead. These lead fumes may cause lead poisoning if inhaled or ingested in excessive amounts. Other metal fumes such as iron oxide, chromium, zinc, manganese, and cadmium may also be present during welding and cutting operations. Safety hazards such as fire may result in fatalities,

serious injuries, and/or property damage. Therefore, in an effort to eliminate or reduce the hazards associated with welding and cutting operations, the following rules and procedures should be included and enforced in any welding Health & Safety Program. A hot-work permit system may be used at some jobsites, such as welding in permit-required confined spaces containing hazardous materials. When working in the vicinity of welding operations, wear approved eyewear and avoid looking directly at the flash as serious flash burns could result. When opening valves on tanks that have regulators installed, be sure the pressure adjustment screw is all the way out and do not stand in front of the regulator. An internal failure could rupture the regulator and cause the adjustment screw to become a missile. Primers, paints, and other coatings should be removed, where feasible, from the area to be heated and for at least 4 in on all sides.

Gas Welding and Cutting

When transporting, moving, and storing compressed gas cylinders, always ensure that the valve protection caps are in place and secured. Secure cylinders on a cradle, slingboard, or pallet when hoisting. Never hoist or transport the cylinders by means of magnet or choker slings. Move cylinders by tilting and rolling them on their bottom edges. Do not allow cylinders to be dropped, struck, or come into contact with other cylinders violently. Secure cylinders in an upright (vertical) position when transporting by powered vehicles. Do not hoist cylinders by lifting on the valve protection caps. Do not use bars under valves or valve protection caps to pry cylinders loose when frozen. Use warm, not boiling, water to thaw cylinders loose. Remove regulators and secure valve protection caps prior to moving cylinders, unless cylinders are firmly secured on a special carrier intended for transport. Close the cylinder valve when work is finished, when cylinders are empty, or when cylinders are moved at any time. Secure compressed gas cylinders in an upright position (vertical) except when cylinders are actually being hoisted or carried. Oxygen cylinders should be stored at least 20 ft from other combustible materials such as acetylene. Alternatively, oxygen and fuel gas cylinders may be separated by a 5 ft-high non-combustible barrier with at least a 30-minute fire resistance rating.

Arc Welding and Cutting

Use only manual electrode holders that are specifically designed for arc welding and cutting. All current-carrying parts passing through the portion of the holder must be fully insulated against the maximum voltage encountered to ground. All arc welding and cutting cables must be completely insulated, flexible type, and capable of handling the maximum current requirements of the work in progress. Employees should report any defective equipment to their supervisor immediately and refrain from using such equipment. Shield all arc welding and cutting operations, whenever feasible, by noncombustible or flameproof screens to protect employees and other persons working in the vicinity from the direct rays of the arc.

Fire Prevention

Welders should locate the nearest fire extinguisher in their work area in case of a fire emergency. Fire extinguishing equipment must be immediately available in the work area. Never use matches or cigarette lighters to light torches. Use only friction lighters to light torches. Never strike an arc on gas cylinders. Move objects to be welded, cut, or heated to a designated safe location. If the objects cannot be readily moved, then all movable fire hazards in the vicinity must be taken to a safe place or otherwise protected.

Fuel lines should have flashback arrestors. Do not weld, cut, or heat where the application of flammable paints, or the presence of other flammable compounds, or heavy dust concentrations creates a hazard. Additional employees must be assigned to guard against fire while the actual welding, cutting, or heating is being performed when the operation is such that normal fire prevention precautions are not sufficient. Prior to applying heat to a drum, container, or hollow structure, provide a vent or opening to release any built-up pressure during the application of heat. Never cut, weld, or heat on drums, tanks, process lines, or containers that have contained flammable liquids until they have been purged and cleaned.

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25. Lead Exposure Control Plan

Any material suspected to contain Lead, of which has not been identified in the contract/bid documents, will be reported to the Rail Road. Operations involving Lead Contaminated Material will cease until further direction from the Rail Road.

3TC will not conduct any removal of lead from any structure. Should lead abatement be necessary, 3TC will contract a subcontractor to remove all lead. Any hazardous materials that are to be handled, employees will refer to our Hazardous Communications Program (29 CFR 1926.1101).

All NY Department of Labor, NY Department of Environmental Protection and Federal, State, City, and local regulations will be strictly adhered to.

Safe Worker Access to Work Locations

Vehicles transporting personnel will be properly inspected and in good working order. Any concerns, involving equipment and personnel logistics will be addressed immediately.

Staging Areas

Staging areas will be provided for all personnel that will be working on the jobsite. These lists of staging areas will be the main areas of parking for POV's and equipment unless otherwise noted. The exact location of staging areas will be determined when 3TC takes control of the site, and determined in cooperation with the EIC.

Vehicles transporting personnel will be properly inspected and in good working order. Any concerns, involving equipment and personnel logistics will be addressed immediately.

Due to the unique nature of this project workers and specialized equipment **may** need to be transported on a daily basis. The manpower and needed equipment will dictate the safety element. 3TC will supervise this element and evaluate it. Vehicles transporting personnel will be inspected to ensure that they are in good working order.

Flaggers, when required, will escort vehicles and abide by all standards as stated in WZTC, HASP, Site Specific plan, Rail Road regulations, and State, Local and Federal regulations.

26. Work Zone Traffic Control

3TC will provide the necessary Work Zone Traffic Controls as stated in the contract documents and also comply with the Manual of uniform Traffic Control Devices (MUTCD), or as directed by the Rail Road.

Responsible Persons

3TC's MPT Superintendent will have a full-time position and hold a CAIT - Traffic Control Coordinator Program certificate from Rutgers University or an approved equal.

Flagger Training

Employees called on to perform flagging duties have received the National Safety Council Traffic Flagging Course or an approved equal. All flaggers will wear an orange hard hat and an orange ANSI Class 3, Level 2 compliant safety vest. All flaggers will be required to use a Stop-Slow paddle.

Work Zone Traffic Control

The following equipment will be readily available during any Work Zone traffic Control procedures:

- Impact Attenuators vehicles will be provided and used in accordance with the Contract Documents and Specifications. All Shadow vehicles will be at least a minimum 8200kg and equipped with a Type B or Type C arrow board.
- All jobsite work vehicles will be equipped with warning beacon lights.
- All equipment will have Back-up Alarms.
- All personnel within the work area will wear an ANSI Class 3 Safety Vest, Hard Hats, and Work Boots.

Lane Closure Procedure

All lane closures procedures will be in strict accordance with MUTCD, the contract documents.

Night Closures

During night closures operations, a "back up", "shadow", "protection" vehicle should be used and should be positioned 100 feet or more behind a barrel truck as the first signs are placed. This processes to be followed for set-up and break down.

Other applicable PPE and accessories may include:

- Retro reflective striping on hard-hats.
- Eight (8) hour snap light sticks pinned to clothing.
- Hard-hat mini-light attachments.

Before making night time closures, all materials and equipment must be inspected and in good working order. All message boards and flashing arrow signs will be tested to insure all lights and switches are functioning properly and that the equipment is fueled and fully charged. All inspections and maintenance procedures will be documented daily and/or nightly.

Devices maintained in project inventory must be kept clean, stored properly to avoid marring and organized to verify that all items are in stock and readily retrievable. Devices will be inspected when they are returned to inventory. Any devices that are non-standard or in poor condition will be retired, modified or repaired. Equipment on work sites must be in good operating condition to avoid breakdowns and delays.

- All Work Zone Traffic Control (WZTC) will be done to meet Rail Road specifications by responsible people.
- The Rail Road Engineer-in-Charge (EIC) approves a WZTC scheme for work locations before it is instituted.
- All WZTC equipment is in accordance with Rail Road regulations and is operated and inspected by the MPT Superintendent at the start of each shift.

During normal operations some equipment and materials to be used are:

- [REDACTED] cones with two reflective stripes. [REDACTED] from top, [REDACTED] apart, top stripe [REDACTED] wide and bottom stripe [REDACTED] wide. (Day operations)
- All nighttime signs will be ASTM type IX sheeting.
- Diesel and/or solar arrow boards.
- Mobile impact attenuator a min of [REDACTED] and will be equipped with type B or C arrow panel.
- Radios to communicate between personal.
- All employees must wear Reflective Vest Type II, hard hat, work boots and safety glasses.
- All warning signs must be mounted at least [REDACTED] for one sign and [REDACTED] (5 ft.) for two signs above the travel pavement surface.

- Fixed temporary sign support will be **NCHRP 350** approved type A, type B or wooden sign posts in accordance with **730-19**. Portable temporary sign support will be **NCHRP 350** approved.

For night operations, all equipment must be properly illuminated or will have reflective stripes. All lane closures must be picked up in the reverse order that it was placed. Any changes to this must be approved by the Safety Officer and Rail Road.

Site Safety Procedures

- All work zone traffic controls will conform to the Manual of Uniform Traffic Control Devices and the contract specifications.
- All personnel will wear reflective safety vest while working in or adjacent to vehicle traffic lanes.
- Traffic control signs and/or cones or drums, in accordance with the contract specifications, will be placed and maintained in the vicinity of each work location.
- All equipment and the traffic control devices will be removed from the work location during non-working hours.
- The travel lane will be cleaned by the contractor before the lane is reopened to traffic.
- The contractor will provide a flagger with appropriate signs whenever operations interfere with traffic.
- If the contractor performs work at night, the work site will be illuminated as per the approved Nighttime Lighting Plan.
- All existing pavement markings in conflict with temporary pavement markings will be removed.
- The advisory speed sign will be modified with an appropriate speed through the lane closure area. The speed will be determined in accordance with the MUTCD and will be approved by the Engineer.
- All trucks will be equipped with amber rotating warning lights and reflective tape on the rear and sides.
- Nighttime flaggers will be **FHWA** certified, wear orange hard hats in accordance with **sec107-05 A**, and equipped with reflectorized **STOP/SLOW (24" X 24")** paddle, flashing with glow cone. Daytime flaggers will be trained in proper flagging procedures. Radios to be used by the flaggers for communication during lane closure.

- Nighttime work safety meeting will be held prior to the commencement of the first night work to ensure night work requirement – lighting, personal protecting clothing, vehicle safety, etc.
- Sign location depends on alignment, grade, location of street intersections and posted speed limits. They must face and be visible to oncoming traffic and be mounted to resist displacement.
- All warning signs must be mounted at least 2.1 meter (7ft), in urban districts, and 1.5 meter (5ft), in rural districts, above travel pavement surface (MUTCD, Section 6F.03).
- All warning signs will be diamond shape and have on back “Contractor’s” name, and Contract number, etc.

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27. Safety Responsibilities for Subcontractors and Suppliers

Subcontractor Health & Safety Compliance

Subcontractors are fully under the jurisdiction of this plan, to same extent as are 3TC Inc. employees. All subcontractors will bind themselves to every provision of this Site Specific Plan and 3TC Health & Safety Plan. Each subcontractor will have to submit a job Hazard Analysis plan prior to conducting any operations, to show how they intend to acknowledge and overcome any hazard that they may come across.

All subcontractors will comply with all provisions set forward by 3TC Inc. Each subcontractor and their employees will be in compliance specifically with:

- New Hire Orientation & ongoing training provided by management
- Tool Box Talks
- Take 5 for Safety/Pre-Task Plans
- Vehicle Inspections
- Accident recordkeeping and reporting
- Drug & Alcohol Policy

Subcontractors must acknowledge in writing that they have read, understood, and agree to comply with all Provisions of the Site Specific Plan, HASP, Rail Road requirements, Federal, State and local laws. 3TC will strongly recommend that all subcontractors sign on to our Site Specific Plan and HASP. This process will bind all subcontractors to follow all safety regulations put forth. Each subcontractor will submit in writing that name and qualification of their onsite competent person(s) in which each worker has exposure to, but not limited to:

- Scaffolds
- Ladders
- Excavations
- Confined Spaces

Subcontractor Pre-Task Safety Meetings/Tool Box Talks

Each subcontractor will be required to conduct a weekly safety toolbox meeting with their employees. A specific topic on work to be completed would be recommended. The subcontractor and their employees may join any Tool Box talk or safety lectures given by 3TC management. All employees will sign the Safety Toolbox Talk/Meeting document attendance sheet. Any employee, who refuses to sign the document, will not be permitted to work onsite. If need be, a secondary safety talk may be administered if management feels the need to talk about a hazardous operation. All copies of the safety talks will be given to the Project management and then copies will be turned over the Rail Road for their records.

The following are the anticipated subcontractors:

- E-J Electric Installation Co.
- J-Track, LLC

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28. Equal Employment Opportunity and Sexual Harassment Statement

EEO Statement

3TC is an equal employment opportunity company. Our Equal Employment Opportunity and Affirmative Action Statement and Plan is intended to fully comply with State of New York.

Sexual Harassment Statement

3TC's policy is to prohibit harassment of any employee by any employee, supervisor, client or visitor on the basis of sex or gender. The purpose of this policy is not to regulate personal morality within the company but to demonstrate our strong commitment to maintaining a work environment free of harassment. It is to ensure that at 3TC all employees are free from harassment on the basis of sex or gender.

While it is not easy to define precisely what types of conduct could constitute sexual harassment, examples of prohibited behavior include unwelcome sexual advances, requests for sexual favors, obscene gestures, displaying sexually graphic magazines, calendars, posters or internet sites, sending sexually explicit emails or other electronic transmissions, and other verbal or physical conduct of a sexual nature, such as invited touching in a sexual nature or sexually-related comments, and that (1) has the purpose or effect of creating an intimidating or hostile, or offensive working environment as defined by law; or (2) has the purpose or effect of unreasonably interfering with an individual's work performance; or (3) otherwise adversely affects and individual's employment opportunities. Depending upon the circumstances, the conduct can also include sexual physical appearance, conversation about your own or someone else's sex life, teasing or other conduct directed toward a person because of his or her gender which is sufficiently severe or pervasive to create an unprofessional and hostile working environment.

Anyone who feels that he or she has been subjected to conduct which violates this policy should immediately report the matter to any manager with whom you feel comfortable. If you have not received a satisfactory response within three (3) business days after reporting any incident of what you perceive to be harassment, please immediately contact TBD, 3TC Inc. EEO Officer. Every report of perceived harassment will be fully investigated and corrective action will be taken where appropriate. Violation of this policy will result in disciplinary action, up to and including termination.

3TC will not allow any form of discipline or retaliation against individuals who report incidents of unlawful harassment, pursue any such claim or cooperate in the investigation of such reports.

Location of Statement/Plan

This plan will be located within one of our offices/trailers and in the 3TC Corporate Office at Mineola, NY (address to be determined upon Project Award)

a. Officers

Steven Maggipinto, PE – Project Manager/Jobsite EEO Officer

Kylie Baierlein, Esq. – 3TC EEO Officer

Contact information is found the [CONTACT LIST](#) of this Plan.

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29. New Hire Orientation

All new hires of 3TC and subcontractors will abide by all safety standards of OSHA, State, Local, Federal regulations. 3TC has a strict policy on work standards during operations on and off the jobsite. It is expected the all employees and subcontractors apply their expertise in safest manner, applicable to their trade. They will be given a safety orientation prior to working on the jobsites. The New Hire Indoctrination will include:

- Drug/Alcohol Testing
- List of our Project Safety Rules
- Written clause stating that employees have understood all safety requirements
- Use of Personnel Equipment
- List of all emergency numbers
- Known location of all emergency supplies
- Known location of MSDS
- Review of Emergency Action Plan
- Disciplinary Action Plan/EEO Requirements

3TC is committed to applying the highest standards in Hazard Awareness and Safety standards. 3TC will expect only the best from its employees and will also enforce all disciplinary actions that are applicable to the HASP. Furthermore, 3TC understands the importance of safety in all operations and apply these standards to make the work environment is the safest possible.

30. PROJECT SAFETY RULES

ALL EMPLOYEES ABIDE BY, BUT NOT LIMITED, BY THE FOLLOWING RULES:

1. Hard hats and Safety Vests will be worn by all employees without exception.
2. Dress properly: Wear appropriate work clothes, gloves and work-boots; loose clothing and jewelry will not be worn.
3. Use eye and face protection when required by tasks, such as performing cutting, grinding, chipping, burning and welding, etc.
4. If you are in doubt about hazards or the proper protective clothing or equipment, ask your foreman.
5. All injuries, no matter how slight, must be reported to your foreman and or superintendent.
6. Fighting or horseplay will not be tolerated.
7. Substance abuse on the project will not be tolerated. Understand that you must be "Fit for Duty" and not under the influence of Illegal drugs or alcohol.
8. Make sure back-up warning devices on equipment are always in working order.
9. Be alert to proper shoring and/or slope layback for trenching operations.
10. Report any unsafe act or condition to your foreman and/or superintendent.
11. You must attend Toolbox Talks and Safety Training as Scheduled by 3TC.
12. It is your responsibility to report all accidents, injuries, hazardous conditions, broken or defective tools and equipment IMMEDIATELY to your direct supervisor.
13. Respirators are to be worn when necessary. Proper training will be given if required, you must be medically cleared, fit tested and be clean shaven to maintain a proper face seal.
14. Do not start any job operation prior to analyzing all hazards.
15. Never adjust or repair any equipment or machine unless you are a specifically authorized or trained to do so by your supervisor/foreman.
16. Housekeeping is an essential part of the jobsite operation. All tools to be put away when not in use. Work areas, machinery and all 3TC will be maintained and orderly at all times.
17. All sites are considered to be Alcohol and Drug free.
18. No crossing of live traffic will be permitted at any time. The employee will be terminated immediately.
19. If any homeless are encountered, stop operation and inform your supervisor.
20. The use of headphones, personal entertainment devices, iPods, earphones, etc. will not be use onsite.

21. Zero tolerance on all fall protection regulations. You must be tied off when exposed to any fall over 6’.
22. All employees will need to be 10hr OSHA certified to work onsite.

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Signature of Compliance to Project Safety Rules

This is to certify that I, _____

(Print Full Name)

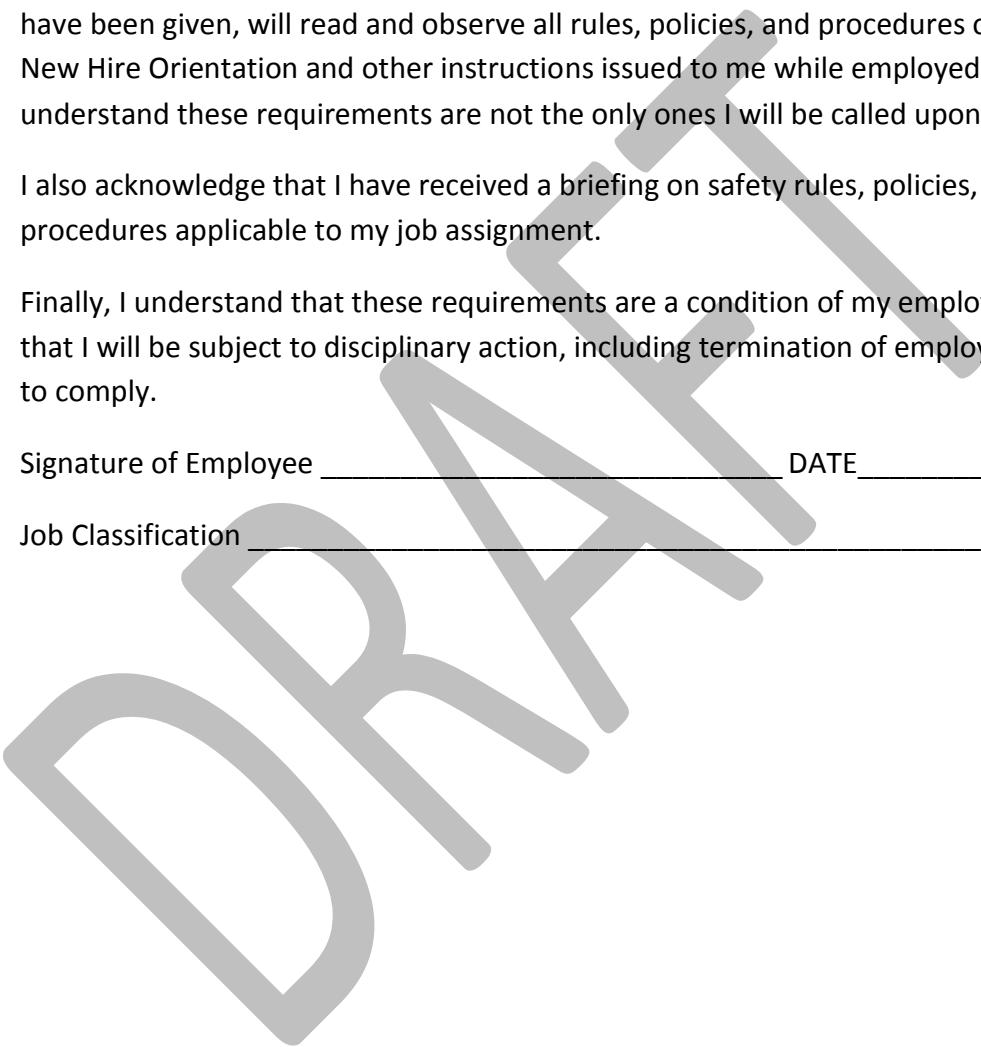
have been given, will read and observe all rules, policies, and procedures outlined in the New Hire Orientation and other instructions issued to me while employed by 3TC/ 3TC I understand these requirements are not the only ones I will be called upon to follow.

I also acknowledge that I have received a briefing on safety rules, policies, and procedures applicable to my job assignment.

Finally, I understand that these requirements are a condition of my employment and that I will be subject to disciplinary action, including termination of employment, if I fail to comply.

Signature of Employee _____ DATE _____

Job Classification _____



31. Drugs and Alcohol Policy

Introduction

3TC has the responsibility for maintaining a safe, healthful and productive work environment for employees, for employees of third parties on 3TC's work sites and for the protection of property and the general public. Employees who work under the influence of drugs or alcohol pose serious safety and health risks to themselves, their fellow workers and the general public. The possession, use, sale or being under the influence of drugs or alcohol in the work place presents an unacceptable risk to the Company and its employees.

No Contractor or subcontractor employee may use, distribute, dispense, possess or manufacture any alcoholic beverages, illegal drugs or any other intoxicating substance on a contract site. Contractor employees that are suspected of using drugs or alcohol, or who are suspected to be under the influence of such substances, will be reported to the superintendent or project manager.

Contractor employees who are under the influence of drugs or alcohol may deem incompetent, and are subject to dismissal.

To help provide a safe, healthy and productive drug-free work environment, it is the policy of the Company to prohibit the manufacture, possession, use, and sale or being under the influence of illegal drugs, controlled substances, alcohol or other mind altering substances on any work location. It is also the policy of the Company to assist its employees in overcoming drug and alcohol addiction. To accomplish this, 3TC provides access to available community resources for non-collective bargaining employees needing assistance with personal problems, including substance abuse.

Employees covered by collective bargaining agreements may be provided assistance under the terms of those agreements. 3TC has also implemented the following policies and drug-testing program in furtherance of its policy of maintaining a safe, healthful, productive and drug-free work environment for its employees.

Prohibited Substance and Items

The use, possession, manufacture, selling, distributing, concealing, receiving, transporting, or being under the influence of any of the following substances or items on Company property, by employees and all others, is prohibited:

1. Illegal drugs, controlled substances, marijuana, mood or mind-altering substances, "look-alike" substances, designer and synthetic drugs, and any other drugs or abnormal substances that may affect a person's senses, motor functions, or alter perception.
2. Alcoholic beverages.
3. Drug paraphernalia.
4. Prescription drugs and "over the counter" medications, except under the following conditions:
 - a. The prescription drugs have been prescribed by a licensed physician for the person in possession of the drugs. In addition, the employee is taking the prescription following the lawful direction of the prescribing physician or a non-prescription medication following the manufacturer's instructions.
 - b. The drugs/medication must be kept in their original container and must be taken in accordance with the dosage recommendations and usage cautions and must not affect the person's ability to perform work safely.
 - c. The prescription was filled by a registered/licensed pharmacist within the last twelve (12) months for the person possessing the drug/medication: the label will contain the person's name, the physician's name, the prescription number and the date issued.
5. The Company, at all times, reserves the right to determine if a drug or medication, whether prescribed or not, produces hazardous or non-safe effects and may restrict the use of any such drug or medication on Company premises accordingly. This may also include restricting the individual's work activity or presence at the work site.

Searches, Drug Testing, and Inspections

Conditions

1. Searches or inspections of the Company's premises and the employees and visitors at those premises may be utilized for the following situations:
2. The Company reserves the right to search or inspect for purposes of insuring compliance with the Policy, all Company-owned vehicles and property at any time without prior notice.
3. Upon reasonable cause, the Company retains the right to perform reasonable searches or inspections of employees' desks, offices, lockers, vehicles, lunch boxes and other personal effects while on Company premises during working hours.

4. Where an employee is performing Company business on the property of a client, the employee will be subject to searches in accordance with the reasonable rules of the property owner/lessee.

The Project Management team, in conjunction with the 3TC Human Resources Department, will oversee and administer a program designed to test for alcohol, drugs, and other controlled substances (hereinafter referred to as "testing" or "drug testing") in accordance with the Federal, State, and local laws and regulations. The following types of testing described in this policy will be used if the laws permits or it is required by the contract.

- All applicants will submit to pre-employment alcohol and drug screening.
- All employees will be tested when there is "reasonable suspicion" by Project Management staff that the employee is under the influence of alcohol or drugs while within the working limits of the Project, or in any location while operating vehicles or equipment owned, rented, or leased by 3TC
- All employees will be tested following accidents involving property damage or personal injury to themselves or others, or involving 3TC company vehicles or equipment.
- All employees will be tested when returning from a break of employment for a period of 30 days or greater.
- All efforts will be made to insure compliance with this policy while working within Federal, State, and local laws and regulations, client requirements, and applicable Union collective bargaining agreements.

Search Procedure

1. Searches and inspections of personal property or effects are voluntary and will not be conducted without written consent.
2. Searches will be performed with concern for the personal privacy of each employee or other individual. Body searches are not permitted. However, employees may be requested to empty their pockets.
3. Any suspected unauthorized controlled substances, illegal drugs or alcohol found will be impounded and sealed in a container. The seal will bear the date and names of all the people present and general description of the item. A receipt will be given to the individual for such impounded property.

Discipline

Employees or individuals who refuse to cooperate with a reasonable search will be advised that submission to such a search is a condition of continuing employment or presence on the premises and that failure to cooperate will result in discipline up to and including termination of employment or removal from the premises.

Voluntary Rehabilitation

- Employees who wish to seek the Company's assistance for rehabilitation from an alcohol or drug abuse problem should request such assistance prior to the Company's detection through search and/or testing.
- When an employee, prior to selection for testing or an incident or detection, seeks the Company's assistance, reasonable efforts will be made to provide assistance with rehabilitation or counseling using the available Company or community resources.
- The cost of rehabilitation or counseling is the sole responsibility of the employee. However, if the employee is covered by the Company's insurance plan, the costs will be paid as specified in the insurance plan.
- Any request for assistance will be kept confidential.
- An employee who voluntarily requests assistance with a drug or alcohol problem will be required to enter into a rehabilitation agreement with the Company.

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APPENDIX A - OSHA 300 Forms

To be provided upon Project Award.

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APPENDIX B - JOB HAZARD ANALYSIS AND PRE-TASK PLAN

To be provided upon Project Award.

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APPENDIX C - INCIDENT ACCIDENT REPORTING FORMS

To be provided upon Project Award.

3TC - INCIDENT AND ACCIDENT REPORTING FORMS AND PROCEDURES

- GENERAL LIABILITY REPORT FORM
 - USED TO RECORD INCIDENTS INVOLVING THIRD PARTIES
 - USED TO INCIDENTS INVOLVING PROPERTY DAMAGE OR EQUIPMENT DAMAGE
 - USED TO RECORD ENVIRONMENTAL INCIDENTS
- INCIDENT INVESTIGATION REPORT FORM AND PROCEDURE
 - USED TO RECORD INCIDENTS RESULTING IN INJURY TO EMPLOYEES AND/OR SUBCONTRACTOR EMPLOYEES
 - NJ DEPARTMENT OF LABOR FORM 1A-1
 - NOTE: THIS FORM IS PREPARED BY THE INSURANCE CARRIER AFTER FIRST REPORT OF INJURY AND SUBMITTED TO THE NJ WORKERS COMPENSATION BOARD
- FLEET SAFETY PROGRAM AND MOTOR VEHICLE ACCIDENT REPORT FORM
 - USED TO RECORD ALL ACCIDENT INCIDENTS INVOLVING A 3TC OWEND OR LEASED VEHILCE
 - USED TO RECORD ALL MOTOR VEHICLE ACCIDENTS INVOLVING PERSONAL VEHICLE, IF ACCIDENT IS WORK-RELATED.

APPENDIX D - SDS SAMPLE SHEET

To be provided upon Project Award.

SAMPLE - NEW GHS STANDARD SAFETY DATA SHEETS

- SAFETY DATA SHEETS (SDS)
 - GASOLINE UNLEADED – ALL GRADES

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APPENDIX E - JOB SITE SAFETY AUDITS

To be provided upon Project Award.

3TC – SAFETY AUDITS

- WEEKLY SAFETY WALK-THROUGH REPORT
- MONTHLY COMPREHENSIVE SITE SAFETY AUDIT REPORT

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APPENDIX F - SITE ACCESS PLAN

To be provided upon Project Award.

LIRR EXPANSION PROJECT – SITE ACCESS PLAN

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APPENDIX G - HAZARD COMMUNICATION PROGRAM

To be provided upon Project Award.

LIRR EXPANSION PROJECT – SITE SPECIFIC HAZCOM PROGRAM

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APPENDIX H - MPT SUPERINTENDENT CERTIFICATION

To be provided upon Project Award.

LIRR EXPANSION PROJECT – TRAFFIC CONTROL COORDINATOR (TCC)

- HEALTH MILLS
- COPY OF RUTGERS – CAIT CERTIFICATION

NOTE:

OTHER TCC WILL BE SUBMITTED TO THE RAIL ROAD'S OFFICE FOR APPROVAL. THIS HASP WILL BE UPDATED ACCORDINGLY.

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APPENDIX I - 3TC – WITTPENN HIRE PACKET

To be provided upon Project Award.

3TC – NEW HIRE PACKET FORMS AND POLICIES

- HOURLY EMPLOYEE RECORD FORM
- FEDERAL AND NJ STATE W-4 FORM
- I-9 FORM
- EEO / AFFIRMATIVE ACTION FORM
- MOTOR VEHICLE RECORDS RELEASE FORM
- COMPANY VEHICLE USE AGREEMENT AND ASSOCIATED FORMS
- SAFETY ORIENTATION PROGRAM AND ASSOCIATED FORMS

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APPENDIX J - MAPS & DIRECTIONS TO NEAREST HOSPITALS

To be provided upon Project Award.

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Appendix 2



Appendix 3



