MTA Construction & Development

DATE: 06/09/2022

CONTRACT SOLICITATION NOTICE/PROJECT OVERVIEW

MTA-C&D IS NOW ADVERTISING FOR THE FOLLOWING:

SSE EVENT#: 0000393022	**OPENING/DUE DATE: 07/28/2022**
TYPE OF SOLICITATION: RFP	**DOCUMENT AVAILABILITY DATE: 06/09/2022**

SOLICITATION TITLE: CS00005C Architectural and Engineering Design Services for the Penn Station Reconstruction Project

DESCRIPTION: The Metropolitan Transportation Authority ("MTA"), acting by and through MTA Construction & Development ("MTA C&D"), seeks to engage a consultant for the Penn Reconstruction Project to provide architectural and engineering design services for the Project to advance the design of the preferred alternative identified in the recently completed Penn Station Master Plan study. Reconstruction of existing Penn Station is an important goal of New York State's wide-ranging infrastructure program. As the State's economy and our region's population and workforce continue to grow, so too have the pressures on our transportation system, particularly on the commuter and intercity rail services running to and through Penn Station. New York City needs a new passenger rail hub with updated safety and security features that will connect and complement on-going and future infrastructure investments and offer a fitting rail gateway to the world's economic and cultural capital.

Funding: 100% FTA Goals: 22.5% DBE Est $ Range: $50M -$100M Contract Term: 12 Months

*****PLEASE SEE THE ATTACHED PROJECT OVERVIEW FOR ADDITIONAL INFORMATION*****

(X) PRE-BID CONFERENCE LOCATION: Moynihan Train Hall. **Please meet at the Amtrak Metropolitan Lounge security desk, located inside Moynihan Train Hall near the 8th Avenue and 31st Street entrance. Please email list of attendees to Stefanie Valenti at Stefanie.Valenti@mtacd.org by Friday, June 17, 2022.**	**DATE: 06/21/2022**	**TIME:** 10:00AM
(X) SITE TOUR LOCATION: **Please meet at the Amtrak Metropolitan Lounge inside Moynihan Train Hall. Please confirm your attendance via email to Stefanie Valenti at Stefanie.Valenti@mtacd.org**	**DATE: 06/21/2022**	**TIME: Following Pre-Bid Conf. Approx. 11:15AM**

FOR MORE INFORMATION, PLEASE CONTACT:

PROCUREMENT REPRESENTATIVE: Stefanie Valenti **EMAIL:** stefanie.valenti@mtacd.org

REQUIREMENTS TO PARTICIPATE

SYSTEM FOR AWARD MANAGEMENT (SAM): VENDORS ARE REQUIRED TO REGISTER WITH SAM, A FEDERAL VENDOR DATABASE USED TO VALIDATE VEDNDOR INFORMATION, BEFORE REQUESTING BID DOCUMENTS. YOU CAN VISIT THEIR WEBSITE AT www.sam.gov TO REGISTER. A DUNS NUMBER IS REQUIRED FOR REGISTRATION.

*******WE CANNOT PROCESS DOCUMENT REQUESTS WITHOUT A MTA BIDDER/SUPPLIER NUMBER. PLEASE ACCESS THE MTA VENDOR PORTAL, WWW.MYMTA.INFO, TO REGISTER AS A BIDDER*******

1 General

1.1 General Provisions

The Metropolitan Transportation Authority ("MTA"), acting by and through MTA Construction & Development ("MTA C&D"), seeks through this Request for Proposals ("RFP") to engage a consultant (the "Consultant") for the Penn Station Reconstruction Project (the "Project") to provide architectural and engineering ("A/E") design services for the Project to advance the design of the preferred alternative identified in the recently completed Penn Station Master Plan ("PSMP") study. Although this Contract will be held and managed by MTA C&D, Amtrak as the owner of Penn Station and NJ TRANSIT the other major tenant operator (collectively the "Partners") are equal partners in the Project. The Partners will all participate equally in the review of the work. Direction from MTA C&D, including the execution of any Options, will reflect the consensus of the Partners.

This Technical Scope of Services includes a Base Scope (the "Base Scope of Services") and six (6) Options (the "Option Scope of Services") that MTA C&D may exercise in its discretion as set forth in Article 4 of the General Contract Provisions.

The Partners have not yet decided on the procurement and delivery strategy most appropriate for the Project. Therefore, the Base Scope of Services is only for Preliminary Design, which can be progressed without regard to the procurement and delivery method ultimately chosen. As the Preliminary Design may support a Design-Build, Public-Private Partnership ("P3") or other alternative procurement and delivery process, it must be sufficient as a basis for developing clear and comprehensive design-build bridging documents under Options 1 or 2 and also must be suitable as the basis for advancing up to Final Design and Contract Documents under Option 3.1.

Options 4 and 5 comprise design development services for subway improvements and underground connections associated with the Project respectively.

It is the intent of this Contract that the Consultant will provide all services necessary to deliver the Preliminary Design as described in the Base Scope of Services and, if exercised, the Bridging Documents or Final Design as described in the Option Scope of Services for the Project, in the required time frames. Extensive guidance in the form of this Technical Scope of Services is provided to assist proposers in understanding what is expected of them, but this Technical Scope of Services should not be construed as an enumerated list of tasks and deliverables. Proposers must ultimately use their experience and expertise to appreciate all that will be necessary to meet the intent of this Contract without additional compensation unless MTA C&D issues one or more Contract Change Orders that represent significant or material changes in this Technical Scope of Services that could not reasonably be anticipated by a proposer with the requisite experience and expertise to deliver this Technical Scope of Services.

1.2 Project Definition

The key objectives for the Project include:

- Relieve overcrowding and improve passenger flow and orientation;
- Improve platform and station egress and accessibility;
- Optimize station functionality and operation;
- Relieve the cramped, disjointed circulation areas on the lower level;
- Create a clear street presence that integrates with the surrounding context;

- Introduce daylighting;
- Optimize retail and other revenue generation to support the station;
- Integrate Penn Station with the Penn Expansion (as defined in Section 1.6); and
- Create a superior passenger experience.

The reports and studies below are incorporated into this RFP by reference and will be provided to proposers with the RFP:

- PSMP Alternatives Report;
- PSMP Existing Conditions Report;
- PSMP Coordination Report;
- PSMP Passenger Egress Report;
- PSMP Program Report;
- PSMP Memo – LEGION Analyses;
- PSMP Memo - Substation Relocation;
- PSMP Retail Report; and
- Penn Station Retail Redevelopment Assessment.

The preferred alternative for the Project assumes that Madison Square Garden and the 2 Penn Plaza office building above Penn Station will remain in place.

The Partners have selected Alternative 4 in the PSMP Alternatives Report as the basis of the Preliminary Design. The PSMP Alternatives Report and the other supporting reports and memos define the essential characteristics of Alternative 4. In summary, those essential characteristics include:

- All boarding and alighting of trains, and all public-facing services, will be situated on the lower level of the station, with a greatly expanded and rationalized grid of public concourses;
- Portions of the upper level of the station above the lower-level public concourses will be removed to provide two-story or higher ceilings in the public concourses;
- The upper level will house only non-public station operations and back-of-house ("BOH") functions, except for public entry mezzanines with public amenities at the 7th Avenue and 8th Avenue ends of the station;
- There will be a major train hall, atrium and skylight on the east side of the station, situated roughly below and through the former taxiway between Madison Square Garden and the 2 Penn Plaza office building (now re-branded as Penn 2);
- The BOH spaces for the Partner railroads will be rationalized, co-located and consolidated to improve the efficiency of the building program to the greatest extent possible consistent with the operating needs of the Partners; and
- Retail amenities will be optimized to provide the best service to customers and enhance revenue to support the operation of the station.

1.3 Base Scope of Services Summary

The Base Scope of Services comprises Preliminary Design for the Project, nominally to a 30% level of completion. Some elements of the Project will need to be developed to a greater degree of completeness, particularly key architectural elements, while other elements of the Project can be developed to a lesser degree or presented solely as specifications or performance requirements.

The Base Scope of Services includes the following three (3) tasks, described in further detail in the sections below:

Task 1: Pre-Design Services;
Task 2: Preliminary Design; and
Task 3: Supporting Stakeholder Outreach.

1.4 Option Scope of Services Summary

The Option Scope of Services comprises further design and other services to support the method of procurement and delivery once it is selected by the Partners; and design development of other related transportation improvements.

The Option Scope of Services includes the following six (6) Options, described in further detail in the sections below:

Option 1: Bridging Documents and Procurement Support - Single Design-Build or P3 Contract;
Option 2: Bridging Documents and Procurement Support – Multiple Design-Build Contracts;
Option 3.1: Final Design and Contract Documents – Alternative Delivery Method;
Option 3.2: Construction Support – Alternative Delivery Method
Option 4: Design Development for Subway Improvements; and
Option 5: Design Development for Underground Connections.

1.5 Deliverables and Schedule Overview – Base Scope of Services

The primary deliverables for the Base Scope of Services are:

- Preliminary Design drawings;
- Preliminary renderings;
- Preliminary 3D structural model and Building Information Management ("BIM") model; and
- Preliminary technical specifications (CSI technical divisions 2 through 50).

Other specific deliverables are enumerated in the following sections.

The key Preliminary Design submittal milestones are summarized in Table 1-1 below. The Preliminary Design phase of this Contract must be completed within 12 months after written Notice to Proceed ("NTP").

Table 1-1: Base Scope of Services - Key Project Milestones

Submittal	Due
Project Management Plan	NTP+1 Month
Existing Conditions and Investigation Report	NTP+4 Months
Midpoint Submittal	NTP+6 Months
Draft Final Submittal	NTP+10½ Months
Final Submittal	NTP+12 Months

1.6 Project Overview and Background

Penn Station, owned by Amtrak and used as well by Long Island Rail Road ("LIRR") and NJT, with connections to six New York City Transit ("NYCT") subway lines, is the busiest transit hub in North America. Reduced to a basement and two (2) sub-basements below the Madison Square Garden

entertainment complex and the 2 Penn Plaza office building after the demolition of the original station headhouse in the 1960s, Penn Station currently provides a substandard environment for the roughly 600,000 people who pass through it each day pre-Covid and for the station and railroad workforces who maintain and operate it.

Reconstruction of existing Penn Station is an important goal of both New York State's and Amtrak's wide-ranging infrastructure programs. As the State's economy recovers from the COVID-19 pandemic and our region's population and workforce continue to grow, so too have the pressures on our transportation system, particularly on the commuter and intercity rail services running to and through Penn Station. New York City needs a new, state-of-the-art passenger rail hub that will connect and complement ongoing and future infrastructure investments and offer a fitting rail gateway to a unique economic and cultural capital.

The Project is intended to transform Penn Station to improve customer experience, increase passenger handling capacity, address substandard conditions, and restore the status of Penn Station to a world-class transportation facility.

Moynihan Train Hall, including the West End Concourse at the 8th Avenue end of the Farley Building, is now Amtrak's primary passenger ticketing, waiting and boarding facility, complemented by extensive retail development and passenger amenities. In addition, LIRR has additional ticketing facilities there and LIRR passengers are able to access some, though not all, LIRR trains from Moynihan.

Other key projects that affect the Project include:

- LIRR's 33rd Street Concourse in Penn Station is currently under construction. The new East End Gateway entrance to LIRR at 33rd Street and 7th Avenue is now in service;
- NJT has reached 30% design for a project to extend the Central Concourse on the lower level of Penn Station to serve Platforms 1 through 6, with new connections to the upper level and a new direct entrance pavilion on 31st Street between 7th and 8th Avenues;
- Amtrak and Vornado Realty Trust ("VNO") are working jointly to improve the entrance to Penn Station at 32nd Street and 7th Avenue, such improvements to include a new entrance canopy, a third escalator and an elevator;
- Amtrak will be re-purposing the space on the west side of the upper level of Penn Station that formerly housed its ticketing and Acela Lounge before these functions were moved to Moynihan Train Hall;
- Penn Station Access ("PSA"), a project to provide direct Metro-North Railroad ("MNR") access to Penn Station via the Hell Gate Line, serving four (4) new stations in the East Bronx, is in construction. Studies are underway to evaluate bringing additional MNR service directly down the Hudson Line into Penn Station;
- East Side Access ("ESA"), a project that will link LIRR customers to a new eight-track terminal beneath existing Grand Central Terminal, is in construction and projected to begin operations by the end of 2022. ESA will open track slots in Penn Station to be made available for MNR service made possible by the PSA project;
- The LIRR Mainline Expansion Project ("Third Track") will open for service in 2022. Together with ESA, the completed LIRR Double Track project and other improvements, the Third Track project will permit a 45% increase in LIRR peak service into New York City, while also allowing significant growth in reverse-peak-direction service to Long Island;
- New York, New Jersey and Amtrak have completed federal environmental review for the Hudson River Tunnel ("HRT") project to build two (2) new single-track tunnels under the

Hudson River and rehabilitate the two (2) existing tunnels, known as the North River Tunnels. They are beginning Preliminary Design for HRT and for an expansion of Penn Station (the "Penn Expansion"). Together, the HRT project and the Penn Expansion constitute a significant portion of Amtrak's Gateway Program. The Partners currently favor a Penn Expansion alternative immediately to the south of existing Penn Station, subject to a feasibility study and federal environmental review.

1.7 Project Limits

This Technical Scope of Services includes the following locations in, around, surrounding or associated with Penn Station (the "Project Limits"):

- The entirety of Penn Station from 7th Avenue to 8th Avenue and from W. 31st Street to W. 33rd Street, owned by Amtrak, at street level and below street level, including areas leased by LIRR and NJT;
- The train shed below Penn Station and the Farley Building and service tunnels below the track level;
- The train yards to the west of the Farley Building, including the 38th Street Yard;
- The Penn Station service building across 31st Street from Penn Station, owned by Amtrak (the "Service Building");
- All abutting sidewalks and streets, regardless of owner, extending to the building line on the opposite side of each street;
- All entrances to Penn Station;
- Areas that are potential connections to adjacent transportation spaces including:
    - Moynihan Train Hall (for coordination and integration);
    - West End Concourse;
    - Property contemplated for Penn Expansion;
    - NYCT A/C/E and 1/2/3 stations and connections to B/D/Q/N/R/W 34th Street stations and PATH 33rd Street station;
- Possible uses on adjacent privately-owned property, including:
    - Space within the footprint of 1 Penn Plaza, the adjacent buildings and plazas sometimes known as 1 Penn East and 1 Penn West, and 2 Penn Plaza, all owned by VNO;
    - The former taxiway between Madison Square Garden and 2 Penn Plaza, owned by MSG Sports and Entertainment, LLC ("MSG"), in which both Amtrak and VNO have easement rights; and
    - Space above Penn Station at and above street level owned by MSG, including the Privately Owned Public Spaces ("POPS") at the corners of 8th Avenue and 33rd and 31st Streets.

1.8 Integration of Penn Reconstruction and Penn Expansion

The preliminary design of the Penn Expansion will be done by others and is not part of this Project. This Technical Scope of Services does include all efforts necessary to ensure effective coordination between the Preliminary Design of the Project and the preliminary design of Penn Expansion.

1.9 NEPA / Section 106 / Section 4(f)

NEPA / Section 106 / Section 4(f) consulting, analysis and documentation are not part of the Project. They are the responsibility of the NEPA consultant team led by AKRF, Inc. (the "NEPA Consultant"), contracted to MTA C&D on behalf of the Partners. The NEPA / Section 106/ Section 4(f) services will take place concurrently with the work described in this Technical Scope of Services. The NEPA classification for this Project is anticipated to be either a Categorical Exclusion or an Environmental Assessment. Support the NEPA process by responding to technical questions and by providing technical data, analysis, drawings, illustrations and other graphics, tables or information to the NEPA Consultant as directed by MTA C&D.

1.10 Service Building

The replacement/relocation of the Service Building is part of the Penn Expansion and is not part of this Technical Scope of Services. However, heating, ventilating and air conditioning ("HVAC") equipment, electrical service, track switch pneumatics and other infrastructure in the Service Building supply Penn Station and must be kept operational throughout construction of the Project. Any interim mechanical, electrical and plumbing ("MEP") infrastructure needed for the Project will likely be located in the existing Service Building. Field verify these utilities to ensure there are no impacts to the functionality of these services over the course of the construction period of the Project. Work necessary to ensure the continued functioning of the services housed in the Service Building over the course of construction of the Project and to allow for coordinated replacement of the Service Building in the overbuild above the Penn Expansion, if it is located immediately south of Penn Station, is part of this Technical Scope of Services.

1.11 Scope of Retail

Retail shell space will be delivered as "white box" space. Design and construction of retail fit-up will be done by others.

1.12 Public Art

Solicitation and selection of artists will be the responsibility of the public art managers at MTA Arts & Design, NJT Transit Arts, and the Amtrak Transit Arts Committee. Coordinate with these art managers to facilitate the inclusion of public art in the Project.

1.13 Summary of General Design Requirements

Perform all work in accordance with the design parameters defined in this RFP as well as all applicable standards and reference documents. Throughout the term of this Contract, coordinate the work of the Consultant's own multi-disciplinary design team with the Partners, stakeholders and their contractors and consultants as identified by MTA C&D and organize and participate in reviews with the staffs of all Project consultants and affected agencies to ensure operational compatibility and sustainable designs. This includes coordination with consultants that the Partners have engaged as Project Management Consultants or to perform technical feasibility studies, preliminary design of the Penn Expansion and NEPA environmental review of the Project and the Penn Expansion.

Ensure that all design documents are reviewed, coordinated, evaluated, and refined such that the Project objectives are achieved. This includes meeting railroad operational and maintenance requirements, as well as commitments established in the NEPA environmental review and accompanying preliminary operations, feasibility, and construction phasing studies. Ensure that the impacts of design changes are reflected through the totality of the design.

Plan all work with reference to and in conformity with all information available relating to existing facilities, utilities and structures within the Project Limits. Obtain any information not already available through the Consultant's inspection of the site, preparation of any additional survey and testing, review of PSMP reports and studies and examination of relevant public records and/or other available information. Verify all information provided by stakeholders.

Respond to questions promptly and, when so requested, perform studies, assemble and evaluate data, prepare fact sheets, reports and cost estimates, and determine the effects of changes, if any, made to the Project schedule and/or scope of work.

Provide a cost-effective design and emphasize a philosophy of cost-effectiveness throughout all levels of the Consultant's organization, including subconsultants.

2 Project Support Services

This Section comprises the services that are applicable to the Project generally, and that the Consultant will provide across all Tasks and all Options.

2.1 Electronic Management of Project Records

MTA's ASITE platform will be the electronic document control and storage and project management platform for the Project. It was also used for the PSMP reports and studies. MTA's Bentley ProjectWise Design Integration platform will be the electronic design and modeling file control and storage platform for the Project. Work with MTA's ASITE team to configure the platform to best support the specific needs of the Project, design and automate workflows, and enable it to interface with the MTA's ProjectWise platform. See Section 4.4 for further BIM requirements.

Develop and implement the document management system and a collaborative management system that can be used by the Consultant and the Partners for the duration of the Project, from Preliminary Design through asset management, in a way that facilitates portability. Observe MTA's data and security protocols and coordinate with any such protocols of Amtrak and NJT. The development of an asset management system is not part of this Technical Scope of Services.

Coordinate with the Project staffs at Amtrak and NJT and their respective IT Departments to ensure full access to the MTA ASITE and ProjectWise platforms. MTA C&D will assist as needed.

Establish protocols to effectively manage the creation, naming, revision tracking, and retrieval of project records, and train all staffs in these protocols. Specific protocols will be needed for drawings, specifications, meeting minutes, schedules, cost estimates, reports, memos, procedures, and review comments and responses. Tracking of stakeholder comments and responses will require particular attention.

Configure the ASITE platform to manage the flow and tracking of documents between the Consultant and the Partners, and to provide controlled and limited access to outside parties such as New York City agencies and stakeholders to facilitate the transfer of documents. Establish a method of controlling access to documents containing Sensitive Security Information ("SSI") and include details in the Project Management Plan.

2.2 Project Work Sessions/ Meetings

Given the complexity of the Project, there will need to be a robust schedule of both regular and ad hoc meetings of various types to allow for oversight and to share information widely among the Partners and Project participants in a timely manner. Identify a program of meetings to serve these purposes efficiently and without unduly tying up Consultant and Partner resources. This program of meetings will change as needed over the course of the Project. All meetings and Consultant staff support required for these purposes and as directed by MTA C&D are part of this Technical Scope of Services.

Schedule, organize and prepare agendas, information, presentations and other materials for all meetings as appropriate. Record and distribute meeting notes or minutes when appropriate, documenting all decisions and actions arising from each meeting. Track the status of all such decisions and actions and any follow-ups and report the status of each at subsequent meetings as appropriate.

Identify and organize workshops on topics or issues that require in-depth study and participation by the staffs of the Partners and/or presentations by subject matter experts.

Beyond general outreach efforts, it will be necessary to brief or have collaborative design sessions with a key subset of stakeholders on a regular or ad hoc basis. These may include:

- New York City Department of City Planning ("NYCDCP");
- New York City Department of Transportation ("NYCDOT");
- New York City Department of Environmental Protection ("NYCDEP");
- New York Police Department ("NYPD")'
- Fire Department of New York ("FDNY");
- Con Ed;
- Local community boards and civic groups;
- VNO or any of its affiliates and any consultants or contractors they may employ;
- MSG or any of its affiliates and any consultants or contractors they may employ.

2.3 Project Management Plan

Submit a Project Management Plan ("PMP") within one (1) month after Notice to Proceed. Include:

- Consultant team organization, including:
    - An organization chart showing key personnel;
    - Responsibilities and roles of key personnel;
    - Sub-consultants' and subcontractors' roles and responsibilities;
    - DBE compliance and monitoring; and
    - Key personnel change notifications and procedures.
- A design schedule showing the logic of the Preliminary Design process, including:
    - Critical path for delivery of the Project;
    - Deliverable milestones;
    - Hold points for review and anticipated review durations;
    - Key design tasks, with durations and links to precedent and antecedent tasks;
    - Constructability reviews; and
    - Quality control and quality assurance reviews and anticipated durations.
- Quality Management Plan;
- Risk and Opportunities Management Plan for the work of this Contract;
- Document and Workflow Control Plans; and
- Dashboard(s) the Consultant proposes to use to monitor and manage Project progress.

2.4 Monthly Progress Report

Submit a monthly report with each monthly invoice. Include:

- Major activities undertaken and progress by Task;
- Activities and progress by disciplines not captured above;
- A Project schedule update;
- A commercial update, including progress on meeting participation goals and a copy of the Consultant's DBE Form E for the reporting month;
- Update to the Risk and Opportunities Management Plan, if any; and

- A narrative summary of progress, issues faced or anticipated and recommendations for MTA C&D or Partner actions to mitigate issues or facilitate progress of the work.

Indicate and explain any delays in the Project work against the Project schedule and the plan to mitigate any such delays and meet the Project schedule.

2.5 Engineering Reports

Prepare and issue purpose-specific engineering reports to record the basis for major design decisions, to obtain approvals of the Consultant's technical recommendations and designs, or to document revisions to PSMP reports (in which case, only the changed elements that supersede the PSMP report need be issued, in the form of a supplemental report).

2.6 Safety and Security

Submit a Safety and Security Plan for the work of this Contract, including all field inspections and surveys and project office safety and security protocols. A corporate Safety and Security Plan used by the Consultant or, if the Consultant is a joint venture, used by its individual members may be submitted to meet this requirement if it adequately addresses all issues relevant to this Project. Submit a Site-Specific Safety Work Plan ("SSSWP"), by activity, to Amtrak for review and approval prior to beginning any work activities in the station.

2.7 Federal, State, City, and Local Agencies and Utilities Coordination

Meet with the Partners and all relevant agencies and prepare presentations and documentation to secure approvals and permits from governmental/regulatory agencies, utility companies and other authorities having jurisdiction ("AHJ") over the work of this Contract. Perform the work of this Contract in conformance with their requirements.

2.8 Coordination with Railroad Operations

Give due consideration during the design phase to making certain that construction of the Project can be performed expeditiously, minimizing, to the extent possible, disruption of railroad operations and inconvenience to the public. Develop definitions and descriptions of all applicable types of track outages and other events required to perform all anticipated construction on railroad property. Develop a schedule of costs for each of the defined outage types and other events required to perform all anticipated construction on railroad property, along with a proposed baseline number of outages or other events assigned for the use of the prospective construction contractor.

Amtrak and LIRR force account work may be required to execute field inspections or surveys under this Contract and will be required for the work of the Project. Submit all required information, secure all required agreements and make all necessary arrangements and payments for the Partners' force account work under this Contract.

2.9 Real Estate

Identify property needed for the Project. Results of the property acquisition process may necessitate changes in the Preliminary Design, which design changes are deemed to be included in this scope. Coordinate with the Partners' real estate staffs, consultants and counsels to provide engineering support services as needed in acquiring the property, which may be acquired by either MTA or Amtrak. Prepare appraisals, title searches, surveys, property acquisition maps and metes and bounds descriptions by a licensed city surveyor as directed. Participate in meetings as directed in support of property and easement negotiations with property owners.

Conduct analyses of alternatives to evaluate trade-offs between design goals and the costs and difficulties of acquiring real estate and make recommendations.

Identify permanent and temporary property easements and construction licenses, including construction easements, to be acquired. For each property, determine the approximate date of use, duration of usage, size, location and purpose of its intended use. Prepare appraisals, title searches, surveys, maps and metes and bounds descriptions by a licensed city surveyor as directed.

Provide technical support for revisions to existing or proposed leases, construction licenses and maintenance agreements among the Partners or between the Partners and third parties. Support development of third-party agreements as needed.

3 Task 1: Pre-Design Services

3.1 Site Visit

Make a personal examination of the Project site. Note the existing conditions and, to the extent that existing conditions impact the design work, make recommendations on the approach to address those conditions. All site visits involving entering Amtrak property must conform to Amtrak's requirements, including Permission to Enter if required. All Consultant and sub-consultant personnel entering Amtrak property must carry a current contractor identification badge. All site visits involving entering MTA agency property must conform to MTA agency requirements. All site visits involving entering NJT property must conform to NJT agency requirements.

3.2 Review Available Information on Existing Conditions

Review all documentation herein and additional information developed by the PSMP study not included in this RFP that will be made available to the Consultant. Meet with each of the Partners to obtain any additional information they may possess that will be useful in Preliminary Design.

3.3 Surveying and Mapping

Conduct and document the following surveys:

- Topographic survey of adjacent streets, sidewalks, property lines, building lines, bicycle lanes, etc. Survey shall include spot finish floor and ceiling elevations inside the existing station;
- Utility and property surveys (See Real Estate Section); and
- Dimensional Survey of undocumented areas.

3.4 Geotechnical

3.4.1 Investigations and Testing

Perform a geotechnical investigation to supplement any available geotechnical subsurface information. The geotechnical investigation must be of sufficient detail to characterize subsurface conditions to the extent required for implementation of the Project and should include but not be limited to borings, test pits, soils and or rock laboratory analyses, and environmental samplings. Retain one (1) or more drilling firms licensed to perform work in New York State with experience in drilling within New York City and along active railroad and transit corridors. The drilling firms must obtain all required permits for their work. All drilling must be supervised, and logs prepared by experienced engineer(s)/geologist(s). To determine and monitor the water table during design and construction, place groundwater monitoring wells or piezometers in suitable locations as required for design. All geotechnical investigation work on Amtrak property will be subject to approval by Amtrak. In addition, arrange to do test pits at track level to confirm foundation geometry. Probe selected foundations.

Prepare a Geotechnical Investigation Plan in advance of the work for review and approval, including boring and test pit plan and the track outages that will be required and when.

Investigate all existing site drainage and possible sources of water leakage into the station. Be aware that there has long been a persistent problem with water intrusion into the station and train shed at and adjacent to 8th Avenue. This problem will require in-depth investigation to identify the source(s) of the water and design a permanent solution to the problem. Perform test pits or other destructive or non-destructive testing needed to support this effort.

3.4.2 Geotechnical Data Report

Document the results of the geotechnical investigation program in a Geotechnical Data Report. Prepare the report for the entire Project and include subsurface information and laboratory testing data gathered during the geotechnical investigation, as well as any available information provided by the Partners. The report must provide the data required to support design and construction of new or strengthened columns, electrical substations, catenary support structure foundations, drainage improvements or other Project facilities. Provide location plan(s), geologic sections, all boring and test pit data and results of drainage and water intrusion investigation.

3.4.3 Geotechnical Interpretive Report

Prepare a Geotechnical Interpretive Report based upon the geotechnical investigations and data collected. Include an engineering evaluation of subsurface conditions; geotechnical design criteria for both permanent and temporary structures; soil and rock engineering design parameters; design groundwater levels; a discussion of geotechnical design alternatives and construction considerations; an assessment of construction impacts on adjacent facilities; and requirements for a geotechnical instrumentation program for the protection of the adjacent facilities.

3.5 Environmental Investigations/Remediation

Survey and investigate to determine whether any hazardous materials exist within the Project Limits that may impact work on the Project. Hazardous materials may include asbestos, paint containing lead, PCBs, batteries, underground storage tanks, and soil contaminated by petroleum or any hazardous or non-hazardous waste. Significant quantities of hazardous materials have been identified in previous projects to be present in Penn Station. Prepare a Hazardous Materials Report presenting these findings. Retain an environmental investigation and remediation firm(s) licensed to perform work in New York State. Prepare a Hazardous Materials Report presenting findings and recommendations for remediation.

Determine how soil and groundwater contamination may affect the Project and incorporate this information into the Report and the plans and specifications.

Develop a preliminary method of disposal in accordance with all federal, state, city, and local agencies for water collected during construction dewatering and prepare necessary specifications.

3.6 Structural

A Revit model was compiled during the PSMP study showing approximately 85% of the floor framing. Conduct field investigation to identify structural members concealed behind finishes and not previously documented on the as-built drawings or previous investigations. Use existing as-builts to extend the localized areas of the model up to the 2nd and 3rd floors and the existing connecting bridge between 2 Penn Plaza and MSG, and to reflect the work done for the construction of the East End Gateway and the ongoing work in the LIRR 33rd Street Concourse. Add this information to the Revit model. The goal is a complete and comprehensive Revit model.

3.7 Standards

Ensure that all applicable codes, standards, specifications, guidelines, and procedures, including all applicable internal government agency procedures and guidelines, are met. Assess all work elements to ascertain which codes, standards, procedures, and guidelines apply and the AHJ from which approval is needed, and prepare the design accordingly. If requested, complete and submit a compliance checklist.

New York State recently adopted the Uniform Code Provisions for Rail Stations, dated June 2021. This document is the first building code to provide comprehensive guidance for the design of rail stations. It outlines the application of NFPA 130 to existing rail stations and references the New York State Existing Building Code for supplement. Support continuing discussion among the Partners and first responders on the Construction Codes and Standards that are to be used for the design, and incorporate the decisions reached in the Preliminary Design.

3.8 Facility Design Criteria

Obtain and review existing design criteria of the Partners. Prepare a memo recommending how each Partner's design criteria will be applied to design and construction of the Project. Submit for review and incorporate all comments. Based on the input from the Partners, establish complete Design Criteria and submit for review.

3.9 Safety Training

Consultant personnel who will be involved in visiting and/or working on the sites of the operating railroads will be required to complete Amtrak, LIRR, NJT and, if necessary, MNR contractor safety training every twelve (12) months. Without exception, personnel who do not complete the training and do not possess a valid contractor pass will not be admitted onto railroad property.

4 Task 2: Preliminary Design

4.1 General

This task includes the A/E analysis and design work needed to produce the Preliminary Design deliverables, taking into consideration all input and feedback from the Partners and other affected stakeholders, along with the community needs and work performed by the NEPA Consultant. Coordinate with the NEPA Consultant if the preferred design approach triggers additional environmental review.

Address and close out review comments and incorporate them into the Preliminary Design. Submit the final Preliminary Design documents to MTA C&D following incorporation of all Partner and stakeholder comments.

Prepare all drawings, specifications, and addenda in a format acceptable to the Partners and as approved by MTA C&D. Coordinate all documents. Prepare all designs and specifications in compliance with the requirements of all grant and funding partners, including FTA and/or FRA. Determine the coordinate system required and prepare design drawings in that format.

4.2 Technical Specifications

Prepare all preliminary specifications in CSI format for all applicable CSI technical divisions. Include key criteria for products and systems, and other requirements that cannot reasonably be depicted in the drawings.

4.3 Basis of Design Report

Prepare a Basis of Design Report ("BODR") to supplement the Preliminary Design. The BODR will synthesize the Partners' individual codes, standards, practices into a project-specific set of design criteria and requirements to supplement the technical specifications. Explain the logic behind the selection of the project-specific criteria, and identify and justify any deviations. Identify unresolved issues, if any, that are being carried into the next phase of the design and procurement process.

4.4 Building Information Management (BIM)

Design the Project in a fully integrated, state-of-the-art BIM format to coordinate the design/construction process and identify conflicts/clashes and clearance problems before they become field issues.

Provide the Partners with full access to review the model contents and lead monthly progress meetings on the BIM modeling.

See Section 2.1 regarding interfacing with the MTA ASITE management platform.

Prepare a quality control plan/BIM implementation plan for the entire process, including:

- Value management, interference management, and design-changes tracking;
- Assurance that the project data set has no undefined, incorrectly defined, or duplicated elements;
- Assurance that the fonts, dimensions, line styles, levels and other as-built drawing formatting issues follow the CADD Standard and BIM workspace requirements established for the Project; and
- A description of the extent of the BIM model.

Plan and execute the BIM model in such a way that engineering CADD files are generated efficiently and are usable for future contract document production, and the BIM model can serve as a basis for 3-D renderings, "animated" walkthroughs and physical model fabrication.

Submit BIM project models in accordance with the schedule to be specified by MTA C&D and in the format to be directed by MTA C&D.

4.5 Demolition

Provide plans delineating the areas to be demolished, indicating what elements within each area are to be demolished.

4.6 Architectural Requirements

4.6.1 Functional Program

Maintain and expand the current functional program database. Incorporate changes and updates as required. Add and populate room characteristics fields (e.g., HVAC, electrical, lighting, plumbing, data, communications, security, finishes, furnishings) by room or room type.

4.6.2 Architectural Design Requirements Report

Prepare an Architectural Design Requirements Report that documents key architectural decisions, supplements the architectural specifications, and includes renderings and other illustrations to serve as a comprehensive documentation of the architectural approach and key architectural characteristics of the Preliminary Design.

4.6.3 Passenger Experience Alternatives

Develop concept-level passenger experience alternatives for entrances, train hall(s), public circulation and public-facing spaces. Integrate retail layout and wayfinding. Develop evaluation criteria and evaluate each alternative under those criteria.

4.6.4 Public Art Coordination

Make recommendations and coordinate with the public art managers at MTA Arts & Design, NJT Transit Arts, and the Amtrak Transit Arts Committee (TAC).

Prepare an Artwork Implementation Plan. Recommend the allocation of responsibility (among the Partners and/or other entities) for leadership, management and funding for public artwork. Recommend a process for art programming and artist selection. Recommend target budget and funding sources. Determine and document potential artwork locations, and elements and project types to be incorporated in the BODR.

4.6.5 Visualizations

Prepare architect's in-house renderings for internal discussions, professional progress renderings, animations and videos, and final professional renderings, animations and videos.

The Master Plan concept includes a video information wall in the East Train Hall. Develop a preliminary concept for using this video wall for passenger information display and preliminary concepts for different types of programming for this wall to activate the train hall. This could include concepts for holiday and special event programming, and public service programming.

4.6.6 Architectural Drawings

Prepare architectural plans, elevations, building sections, reflected ceiling plans, room finish schedules, representative wall sections and details.

4.6.7 Furniture, Fixtures & Equipment

Review existing agency furniture, fixtures and equipment ("FF&E") specifications and procurement procedures. Prepare a plan recommending allocation of responsibility for FFE selection and procurement. Determine furniture quantities, locations and requirements for the reconstructed station including street furniture and interior furniture for waiting areas and BOH spaces. Develop FF&E plans and specifications as necessary for space-proofing purposes.

4.6.8 Signage and Wayfinding

Propose a comprehensive signage and wayfinding strategy to reconcile new signage and wayfinding for the Project with the signage and wayfinding in use in the Moynihan Train Hall and the strategy to be implemented in the LIRR 33rd Street Concourse renovation. Include directional signage in all public areas, site and building identification signage, and room identification signage in all station areas. Include a description, analysis, evaluation of the key directional decision points, and hierarchy and recommendation of the types of signs to be used at each. Include circulation diagrams delineating station user routes for the site, building exterior, and each public level of the station.

Design criteria for color, typography, accessibility, hierarchy of messaging and other standards will be established for the Project, informed by the strategy proposed by the Consultant, and implemented by the Consultant.

Include symbols keyed to each of the primary signage types established by the railroads' signage standards in the signage wayfinding design diagrams.

4.7 Civil and Utilities

Prepare site plans, showing building lines, curb lines, locations of bollards or other protective structures, entrances, and other physical characteristics that define the Project Limits. Prepare plans, cross sections, and profiles for roadway and driveway modifications necessary to implement the Project. Provide turning movement studies demonstrating feasibility of proposed vehicular access to the site.

Prepare Composite Utilities Plans depicting the location of existing street lighting, telephone/communications, storm drainage, water, and traffic signals.

Coordinate with utility providers to design new services needed to support proposed loads and other requirements in Penn Station. Prepare utility services plans indicating new, modified, and relocated water, sewer, gas and electric services as required to Penn Station and the existing Service Building. Initiate applications to utility owners for new service or modifications to existing service and incorporate their requirements in the Preliminary Design.

4.8 Environmental

Based on the assessment performed under Section 3.5, prepare criteria and technical specifications for remediation of hazardous materials. Incorporate any requirements that arise from the Section 106 investigation of impacts to historic properties or from the NEPA process for the Project.

4.9 Structural

Provide existing plans, foundation plans, structural demolition plans, column schedules, localized part plans, sections and elevations to depict reframing in critical areas, major mechanical and electrical equipment loadings and locations. No detailing other than Architecturally Exposed

Structural Steel ("AESS") is required. Support of excavation ("SOE") design and drawings are not required. Provide appropriate specifications.

Based on the Preliminary Hazard Analysis described in Section 4.13.3, conduct analysis of structural hardening to identify impacts on configuration of building structure and systems.

4.10 HVAC

Prepare layouts of each floor with conceptual single-line ductwork diagrams, conceptual piping layouts, locations of major equipment, equipment schedules presenting preliminary sizing of equipment, and schematic layout of equipment rooms showing existing and proposed equipment for space-proofing purposes. Provide appropriate specifications. Coordinate with SCADA system requirements in Section 4.13.5.

4.11 Plumbing

Provide sanitary and waste pipe layouts and riser diagrams, stormwater layouts and riser diagrams, and domestic water layout and riser diagrams. Conduct interface coordination of new sanitary waste vent lines with existing vent lines located within Madison Square Garden. Provide appropriate specifications.

4.12 Vertical Transportation

Recommend elevator and escalator equipment quantities and types. Support architectural, structural, and MEP work by space proofing and establishing mechanical, electrical and fire protection requirements for VT equipment. Provide appropriate specifications. Coordinate with SCADA system requirements in Section 4.13.5.

4.13 Systems and Systems Integration

4.13.1 Systems Integration

Investigate and confirm the as-built condition of all electrical and electronic systems. Develop a plan to rationalize, coordinate and integrate the various systems enumerated in the following subsections to the extent feasible and desirable, including temporary relocation and permanent replacement. Provide appropriate specifications.

4.13.2 Integrated Security, Fire and Life Safety, and Emergency Response Approach

Support the formation of a Security, Fire and Life Safety and Emergency Response Working Group (the "SFLS Working Group") to develop and implement an integrated approach to fire and life safety, building Supervisory Control and Data Acquisition ("SCADA") system, security systems and emergency response programs. The SFLS Working Group will comprise the Consultant's relevant task leads, corresponding Partner, City and State agency safety and security personnel, and first responders. Reflect the SFLS Working Group's decisions and recommendations in the work.

4.13.3 Preliminary Hazard Analysis

Conduct a Preliminary Hazard Analysis ("PHA"). Conduct interviews with the Partners, NYPD, FDNY, MTAPD, Amtrak PD and other security stakeholders and review available incident data. A Security Report prepared by PSMP will be made available to the Consultant as well. Determine and summarize vulnerabilities and identify potential mitigation strategies to be implemented in facility design and operations.

A Threat and Vulnerability Risk Assessment ("TVRA") will be completed at a later stage of design or procurement of the Project and is not part of this Contract.

4.13.4 Security Strategy

Based on the PSMP Security Report, discussions with the Partners and the findings of the PHA, develop and propose an overall strategy for security in Penn Station and for potential integration of security strategies for Moynihan Train Hall and Penn Expansion.

4.13.5 Supervisory Control and Data Acquisition System ("SCADA")

Develop a SCADA system, to be located in a building management center, for real-time monitoring and control of all building systems. Consider if and how this will be integrated with the security, fire alarm, fire control and emergency response systems, and possible co-location with the integrated command center set forth in Subsection 4.13.6.

4.13.6 Security and Access Control Systems

The work of this subsection will be based on the PSMP Security Report and the findings of the PHA (Section 4.13.3). Assess equipment and space needs for individual or unified monitoring location(s). Equipment specified under this subsection includes security devices (e.g., cameras, access control and intrusion detection). This subsection also includes design of an integrated security and emergency response command center, possibly integrated with Moynihan and the future Penn Expansion, and possibly integrated with a central building management center.

4.13.7 Life Safety Codes

Ascertain and document all applicable codes and their jurisdictional boundaries within the Project Limits and recommend a unified approach to implementing a Fire and Life Safety plan. Document all decisions and prepare a comprehensive compliance summary for the BODR.

4.13.8 Fire Alarm System

Prepare removal drawings for the existing fire alarm system and proposed layouts showing locations of the main fire alarm panel and associated data gathering panels and the fire command center. Provide riser diagrams showing network connections between main fire alarm panel and data-gathering panels, typical fire alarm devices and connections to HVAC, plumbing and fire protection equipment. Provide appropriate specifications.

4.13.9 Fire Protection

Prepare removal drawings for the existing fire protection system, and proposed layouts showing locations of the main fire pump and associated valve room arrangements, sprinkler zones, and associated main lines. Provide riser diagrams showing pipe, valve, and zone arrangement. Provide interface details with fire alarm equipment. Provide appropriate specifications.

4.13.10 Smoke Control

Prepare design documents for an emergency ventilation and smoke purge system serving Levels A, B and C of the Station. Design the emergency ventilation system in accordance with all applicable codes.

Perform an NFPA 130 Time of Tenability analysis for the platform level based on an appropriate train fire. This will require both egress simulation using LEGION or other approved software and CFD smoke modeling. Determine Platform Occupant Load based on the criteria outlined in Chapter 5 of NFPA 130. Determine Occupant Loads for Levels A, B and C based on the criteria of the New York City Building Code. Establish whether there is compliant egress capacity for the determined occupant load.

Perform similar modeling for the A, B and C Levels using appropriate fire scenarios in retail spaces or workshop/storage spaces.

The work under this Section need not be completed for the Midpoint Deliverables but rather the Final Deliverables only.

4.13.11 Police Radio System

Identify requirements and design the system to provide seamless police radio coverage to all spaces in Penn Station and be compatible and integrated with the system in use in the Moynihan Train Hall. The Partners will determine what police force(s) will patrol and operate in the station. Coordinate with the Partners to identify the system requirements for the chosen police force(s), including compatibility with NYPD if so directed by MTA C&D. This system is anticipated to be a Fiber-Fed Distributed Antenna System ("DAS"). Provide appropriate specifications.

4.13.12 FDNY Radio System

Identify requirements to make the Police Radio System compatible with FDNY radios. If necessary and if directed to do so by MTA C&D, design a separate radio system for FDNY, anticipated to be a DAS. Provide appropriate specifications.

4.13.13 Emergency Telephone

This category includes telephone systems for both emergency and public information and assistance purposes. Provide appropriate specifications.

4.13.14 Integrated Public Address, Passenger Information Displays and Emergency Information System

This category Includes speakers and audio head-end equipment, digital screens and their head-end equipment for integrated Passenger Information Displays (PIDs), which will also display Emergency Information and Notifications and, if directed, intermittent commercial advertising. The Passenger Information system will be a single integrated system serving all railroads using Penn Station. Provide appropriate specifications.

4.13.15 Neutral Host Wi-Fi System and Cellular Coverage System

Identify requirements and coordinate the design for a free Public Wireless Internet system accessible throughout the station to be provided by a neutral host selected by the Partners. Identify requirements and coordinate the design for a Cell Phone Coverage system to expand Cellular Service connectivity to support all major Cellular Service providers. This system will either have to be integrated with existing systems or will replace existing systems, as recommended by the Consultant and directed by MTA C&D.

4.13.16 Non-public Wi-Fi System for the Partners

Identify requirements and coordinate the design for a non-public Wi-Fi network for exclusive use of staff of the Partners.

4.13.17 Electrical

Prepare removal drawings for existing electrical distribution and proposed drawings for single-line and riser diagrams, electrical plans showing location of main distribution and satellite rooms, electrical connections to major HVAC, plumbing and fire protection loads, part plans with equipment layouts in new distribution rooms for space proofing purposes and schedules. Coordinate with Con Edison to provide new electrical services to support proposed required loads in Penn Station. Provide appropriate specifications.

4.13.18 Lighting

Prepare comprehensive lighting performance criteria. Cover required lighting levels for each type of functional area, energy consumption, and fixture mounting, maintenance, and durability requirements. Define or otherwise identify architecturally critical areas and provide salient requirements for lighting fixtures in such areas. Provide appropriate specifications.

4.14 Pedestrian Flow Analysis

Building on the LEGION model and analysis developed during the PSMP study, conduct pedestrian flow analysis of the station for the Midpoint Deliverables and the Final Deliverables.

Perform a time of tenability egress analysis in accordance with NFPA 130. Determine Platform Occupant Load based on the criteria outlined in Chapter 5 of NFPA 130. Determine Occupant Load for Levels A, B and C based on the criteria of the New York City Building Code. Account for human behavior in egress modeling and analysis. Perform CFD Modeling of smoke behavior using appropriate software for 1D and 3D modeling of train movements.

4.15 Construction Phasing and Staging

Develop and recommend an overall construction staging and maintenance and protection of traffic ("MPT") strategy for the Project, considering all work required to successfully complete the Project in the most time-efficient and compact manner.

Consider early activities, concurrent work, long-lead items, procurements and production of special construction equipment, and work performed by Amtrak forces.

Prepare MPT plans addressing pedestrians, private autos, taxis, buses, rideshare, deliveries and bicycle traffic. Address the following:

- Extent and sequencing of construction work;
- Work limits / restrictions on contractor access and use of premises;
- Proposed track outage windows for work that will affect normal train traffic;
- Proposed temporary or permanent relocation of Amtrak, LIRR, and NJT ticketing, baggage, customer waiting, and BOH facilities;
- Contractor laydown areas;
- Materials delivery system; and
- Locations for construction trailers.

Recommend design and performance criteria associated with the staging plans.

4.16 Constructability Review

Perform constructability reviews during the Preliminary Design to ensure that the design is constructible within the constraints of the stakeholders and operating railroads. The Partners will participate in constructability reviews for work on their respective properties.

4.17 Sustainability

The Project is to be designed and constructed in a sustainable manner. With that goal in mind, evaluate whether the use of the Envision and/or LEED system is suitable for the Project and make recommendations. The Envision rating system tool evaluates environmental, sustainable and resiliency initiatives included in large infrastructure projects. The Envision system is a collaboration of the American Society of Civil Engineers (ASCE), the Zofnass Program for Sustainable

Infrastructure at the Harvard University Graduate School of Design and the Institute for Sustainable Infrastructure.

If found to be suitable, provide a design that adheres to the sustainable infrastructure or buildings guidelines selected.

Consider utilizing the selected system's rating tool to evaluate the effectiveness of environmental protection initiatives and the sustainable performance of the Project taking into account the technical performance and social, environmental and economic perspectives of the Project. The rating tool should include a flexible framework of criteria achievements to help provide higher performing solutions by addressing infrastructure integration, using a lifecycle analysis, working with communities, and by striving for a restorative approach to stations projects.

Meetings and coordination will be necessary to further discuss design solutions that address various applicable credits and make available supporting documentation for the aspects of design that exceed the baseline. Provide a preliminary written evaluation of the Project based on the selected criteria over which designers have influence.

4.18 Preliminary Permitting Plan

Develop a preliminary permitting plan identifying any permits required for construction of the Project. Meet with the Partners, City agencies, utilities, and AHJs to identify all necessary approvals and permits required for the Project.

4.19 Cost Estimating and Scheduling

Provide Cost Estimates and Preliminary Construction Schedules for the Project at each milestone submission stage.

Develop a Work Breakdown Structure ("WBS") that will be the basis of both the cost estimates and schedules. Submit the WBS for review and approval before proceeding with the cost estimates and schedules.

Construct the schedules in Primavera P6, coordinated with the construction phasing and staging plans and methods, and preliminary requirements and locations for temporary laydown, back of house phasing and areas needed by the contractors. Logic-link the schedule items and show critical path and float.

Prepare the cost estimates bottom-up, filling-in the WBS as the design work progresses.

4.20 Unified Ticketing

Prepare recommendations for a unified ticketing system for Amtrak, NJT, LIRR and MNR, including necessary facility design and equipment changes. Submit for review and incorporate decisions into the Preliminary Design as directed by MTA C&D.

4.21 Retail Analysis

Two (2) retail reports are included with this RFP. Prepare updated analyses (including financial projections) and recommendations, including how best to curate the retail program.

4.22 Concept of Operations

A Working Group comprising staff from the Partners will lead the development of one or more Governance Model(s) and Concept(s) of Operations for Penn Station, including if and how they will be extended to Moynihan Train Hall and to the Penn Expansion in the future. Support the Working Group as directed. This may include staffing meetings, preparing meeting notes,

arranging workshops with subject matter experts, writing White Papers, and drafting memos and reports presenting the Governance Model(s) and Concept(s) of Operations as they are developed.

Provide one (1) or more advisors to support governance and management discussions among the Partners. Advisor(s) shall have experience in multi-agency governance of comparable passenger facilities. Discussions will cover the extent of unified management of Penn Station, potential integration with the management of Moynihan Trail Hall and Penn Expansion, potential use of a private party to take over a set of management tasks to be determined by the Partners, including curation of retail, cleaning, building routine, preventive and emergency maintenance, control and coordination of deliveries, and any other tasks the Consultant may recommend or that MTA C&D may direct.

Reflect all decisions of the Partners regarding the Governance Model(s) and Concept(s) of Operations in the Preliminary Design as appropriate.

4.23 Risk and Opportunities Management Plan

Develop and maintain a qualitative Risk and Opportunities Plan, beginning early in the Project. Include potential mitigations for the risks and identify ways to reflect those mitigations in the Preliminary Design and make recommendations on how to take advantage of opportunities.

Convene Project Risk Workshops at appropriate times with Consultant and Partner staffs. The workshops will review and extend the Risk and Opportunities Register to comprehensively identify and quantify general risks and opportunities for the Project overall and for construction in particular, for both cost and schedule. Use Monte Carlo simulations to establish appropriate cost and schedule contingencies in accordance with FTA guidelines and best industry practice. Develop further recommendations to mitigate risks and take advantage of opportunities.

Types of risk and opportunity to address in the Risk and Opportunities Management Plan for the Project, which will be used throughout the Project life include:

- Requirements;
- Design;
- Third-party risks, including permits, approvals and third-party work;
- Schedule;
- Construction;
- Start Up
- Unknown conditions; and
- Market conditions.

Include in the Plan:

- Risk and opportunities register: to include: risk element, risk category, risk description, risk event or outcome, probability of occurrence, cost and schedule impacts, risk rating, risk owner, and proposed mitigations, actions, mitigation/action responsible party, and timeline for effectively implementing mitigations/actions;
- Risk mitigations and opportunities pursuit plan;
- Party responsible for each risk mitigation and opportunity pursuit;
- A dashboard to monitor the progress and effectiveness of the risk mitigations and opportunities pursuits;

- An initial workshop with the Partners to begin the process;
- A workshop with the Partners before the Midpoint Submittal;
- A workshop with the Partners before the Draft Final Submittal.

6 Task 3: Supporting Stakeholder Outreach

6.1 Stakeholder and Public Outreach Support

The Partners will lead all stakeholder and public outreach activities. Support their stakeholder and public outreach efforts as directed.

6.2 Stakeholders

Stakeholders in the Project include:

- Elected officials whose jurisdictions include the area within the Project Limits or whose jurisdictions are affected by the Project, including local, city, county, state and Congressional elected officials in both New York and New Jersey;
- New York City agencies with jurisdiction over or interest in the Project Limits, including NYCDOT, NYCDCP, New York City Public Design Commission ("NYCPDC") and New York City Department of Environmental Protection ("NYCDEP);
- Emergency response agencies, including New York City Police Department ("NYPD") and New York City Fire Department ("FDNY");
- Empire State Development ("ESD"), the agency preparing a General Project Plan and Environmental Impact Statement for the Penn Station Area Civic and Land Use Improvement Project;
- Federal Railroad Administration ("FRA");
- Federal Transit Administration ("FTA");
- Gateway Program Development Corporation and Gateway Development Commission (together, "GDC");
- Northeast Corridor Commission ("NECC");
- Regional planning organizations;
- NYC Community Boards 4 and 5;
- Local and regional business associations;
- Local business owners and operators;
- Local residents;
- Amtrak, MTA and NJT Rider Councils and Americans with Disabilities Act ("ADA") compliance advisory committees;
- A Penn Station Stakeholders Advisory Group to be formed by the Partners to provide advice, comment and input on the Project;
- A Public Realm Advisory Group to be formed by ESD to provide advice, comment and input on public realm aspects of the Penn Station Area Civic and Land Use Improvement Project, including how the Project interfaces with the public realm;
- VNO, the owner of Penn 1 and 2;
- MSG, the owner of Madison Square Garden Corp.;
- Advocacy groups with an interest in the Project; and
- The general public.

6.3 Outreach Activities

Outreach activities may include:

- Public meetings and presentations about the Project, in-person or virtual;
- Public hearings for the environmental review process, which will be managed by the Environmental Consultant but may require advance support and attendance of the Consultant;
- Regular and ad hoc meetings with individual stakeholders or groups of stakeholders;
- Progress briefings for individual stakeholders or groups of stakeholders;
- Supporting and providing content for Project web page(s) on the Partners' public websites;
- Creating and maintaining public comment webpages on the Partners' public websites; and
- Supporting and providing content for the Partners' social media platforms.

6.4 Outreach Materials

Develop and provide outreach materials, which may include:

- Messaging, brochures, meeting handouts, fact sheets, Q&A documents and talking points;
- Narratives and tables;
- PowerPoint presentations;
- Large-size color plans, sketches, images or infographics;
- Renderings;
- Flash presentations;
- Interactive graphics;
- Videos and 3D animations or fly-throughs;
- Physical models; and
- Other types of illustrations.

6.5 Other Outreach Support Activities

- Taking meeting notes or minutes of stakeholder and public meetings;
- Scheduling, arranging and running public meetings, either in-person or virtual, and recording comments received;
- Tracking comments received from all sources, including meetings, letters, oral comments, and comment webpages; and
- Providing information and draft responses to questions, inquiries and comments raised at public meetings or otherwise submitted by the public, media, professional organizations, or other inquiring entities and tracking all responses and follow-ups.

7 Option Scope of Services

7.1 Options 1, 2, 3.1 and 3.2

The Option Scope of Services sets forth two (2) alternatives for preparing contract documents and providing support services during the procurement and award phase(s) for a Design-Build or P3 delivery of the Project, and one (1) alternative for advancing the Preliminary Design to a 100% final design ("Final Design") and preparing contract documents for an alternative delivery method.

- Under Option 1, prepare bridging documents and provide support services for procuring and delivering the Project as a single Design-Build or P3 contract, assuming two (2) design packages (one (1) early-works design package and one (1) design package for the balance of the Project);
- Under Option 2, prepare bridging documents and provide support services for procuring and delivering the Project as five (5) individual Design-Build contracts, each with its own procurement and award phase maintaining a focus on developing early works design packages; and
- Under Option 3.1, prepare a Final Design for the Project and contract documents appropriate for an alternative procurement process and delivery method, contracted to a single entity.
- Under Option 3.2, support the construction phase as Designer of Record for an alternative procurement process and delivery method.

Provide all Project Support Services as set forth in Section 2 above throughout the duration of the Option Scope of Services.

7.2 Option 1: Bridging Documents and Procurement Support – Single Contract Design-Build, or P3 Delivery

The Technical Scope of Services for Option 1 comprises the following Tasks:

- Task 1: Basis of Design Report;
- Task 2: Request for Qualifications ("RFQ") and Evaluation Support;
- Task 3: Bridging Documents; and
- Task 4: Request for Proposals ("RFP") and Procurement Support.

If a P3 delivery method is selected, modify the deliverables for the Tasks described below as directed so they can be made part of corresponding overall P3 documents to be prepared by others. Coordinate these deliverables with the P3 document preparer designated by MTA C&D.

7.2.1 Task 1 – Basis of Design Report

Modify the Basis of Design Report prepared under the Base Scope of Services as appropriate.

As part of this Task, prepare two (2) additional plans:

- A responsibility matrix defining the scope of work to be performed by the Design-Build, or P3 contractor(s) and the scope of work to be performed by others, including the Partners' force account craft personnel and the Partners' staffs; and
- A strategic plan consistent with current industry best practice for the approach chosen by the Partners. Address any early action items required to expedite the work, strategy or

actions to manage construction impacts on the work force housed in Penn Station, use of a Project Labor Agreement ("PLA"), overall procurement and Project schedule, coordination with environmental review and other issues identified.

7.2.2 Task 2 - Request for Qualifications ("RFQ") and Evaluation Support

The services of this Task comprise the following:

- Assist in preparing RFQ documents, including project descriptions in sufficient detail for respondents to understand the Project;
- Prepare qualifications analyses;
- Research the project histories of the respondents, including calling references;
- Assist in:
    - Scheduling, arranging and participating in interviews with those respondents deemed to be in a competitive range and answering technical questions;
    - Preparing materials for the use of the selection committee in the interviews, including suggested topics, questions and clarifications to pursue with each respondent;
- Prepare clarification questions after the interviews and evaluate the responses; and
- Develop addenda to the RFQ documents as directed.

7.2.3 Task 3: Bridging Documents

Prepare bridging documents in a format acceptable to MTA C&D that set forth all technical and performance requirements for the Project. Present the bridging documents as performance requirements suitable for use by the design-builder to prepare final designs, making clear the bridging documents are not a finished design. Include technical and performance requirements for all disciplines anticipated on the Project. Coordinate the bridging documents with the work of other consultants retained by the Partners.

Include the following documents:

- Architectural Principles and Requirements;
- Project Requirements and Scope of Work;
- Design Criteria and Performance Requirements;
- General Requirements Specifications (CSI Division 1);
- Preliminary Design Drawings;
- Preliminary Technical Specifications (CSI Divisions 2 – 50);
- BIM model in a format compatible with each Partners' technical requirements; and
- All documents, as-built drawings, drawings from previous improvements, inspection reports, surveys, utility plates, environmental reports and any other information developed during the PSMP Study, under this Contract, or available from other previous or on-going projects in Penn Station, released For Information Only.

7.2.4 Task 4: Request for Proposals ("RFP") and Procurement Support

This Task comprises the following services:

- Split the Preliminary Design into two (2) design packages, one (1) early works package and one (1) design package that comprises the balance of the Project, with both being part of a single contract;

- Assist in assembling a complete RFP package for the procurement of the single contract, including the bridging documents specified above, instructions to proposers and a draft contract;
- Assist in the development of any required special conditions clauses and other documents required for the development of solicitations;
- Assist in arranging a series of confidential one-on-one meetings with each of the qualified proposers, including:
    - Preparing agendas;
    - Preparing presentations or other materials;
    - Answering technical questions; and
    - Noting questions to be responded to and actions to be taken.
- Respond to proposer questions, comments, and requests for clarifications;
- Develop and implement an alternative technical concept ("ATC") process;
- Prepare proposal and cost analyses;
- Prepare addenda, amendments, revised drawings and specifications, and supplementary drawings for the construction package;
- Assist in scheduling, arranging and participating in interviews with those proposers deemed to be in a competitive range;
- Assist in determining if revised proposals or best and final offers ("BAFOs") will be requested, and if so, assist in preparing the terms and conditions of the requests;
- Prepare revised proposal or BAFO analyses;
- Assist in negotiations with one (1) or more proposers; and
- Compile a final set of conformed bridging documents.

Develop contract packages for any other required, ancillary contracts. Coordinate with the Partners to ensure consistency of terms and conditions among all contracts for the Project.

7.3 Option 2: Bridging Documents and Procurement Support – Multiple Design-Build Contracts;

Divide the Project into five (5) separate Design-Build contracts to reduce the scale and cost of each individual contract, maintaining a focus on developing early works design packages.

The tasks enumerated in Section 6.2 apply for each of the five (5) Design-Build contracts.

7.4 Option 3.1: Final Design and Contract Documents – Alternative Delivery Method.

The Partners are considering alternative delivery methods that require design to be progressed by the Consultant beyond the Preliminary Design, potentially to 100% completion.

The Technical Scope of Services for Option 3 comprises the following Tasks:

- Task 1: Procurement Support;
- Task 2: Value Engineering ("VE");
- Task 3: Basis of Design Report; and
- Task 4: Final Design and Contract Documents

The Consultant will work collaboratively with the Partners to:

- Optimize the Final Design and Contract Documents for ease of construction, minimized disruption to station and train operations and minimized cost;

- Coordinate design deliverables and packages to support proposed phasing plans, if any;
- Coordinate material selection decisions;
- Coordinate constructability, operability, and/or biddability reviews; and
- Resolve constructability issues and evaluate proposed ATCs.

Schedule the following with the Partners:

- Regular meetings and site visits, also inviting project stakeholders when so directed;
- Regular Over-the-Shoulder reviews for all design packages produced by the Consultant; and
- Design workshops on particular design issues whenever this would be the most efficient way to resolve issues.

7.4.1 Task 1: Procurement Support

Support the preparation of an RFQ and/or RFP for a construction contractor as directed, including support during the solicitation phase.

7.4.2 Task 2: Value Engineering ("VE")

The Consultant shall participate in the Value Engineering ("VE") workshop led by the construction contractor. The Preliminary Design (30%) package shall be a direct input to the workshop and as such, the Consultant shall assist the construction contractor in conducting VE early in the execution of Option 3.

7.4.3 Task 3: Basis of Design Report

Update the BODR for each design submittal enumerated below.

7.4.4 Task 4: Final Design and Contract Documents

For Final Design, continue and complete all the design and coordination elements begun in the Base Scope of Services to a 100% level of completion.

Advance the Preliminary Design to Final Design in the stages enumerated below and prepare complete Contract Documents in accordance with the following:

A. Intermediate Design Submittal (60%)

Prepare an intermediate design submittal at a 60% completion level for all project elements, for review and comment by the Partners, including technical specifications, CSI Division 1 specifications, an updated 3D structural model and an updated BIM model. At this stage, the overall design and specifications should be substantially complete, with draft or partial details for all elements of design enumerated in the Base Scope of Services and any other elements of design identified in the Base Scope of Services. Break the submittal into smaller packages in a logical arrangement as directed by MTA C&D. Perform the following additional activities and produce the following work products:

- Where necessary, define additional surveys, borings, test pits, laboratory tests and analysis to ensure the design is executed on the basis of a thorough and complete geotechnical, environmental, and utilities site investigation;
- Update the geotechnical baseline report (if applicable) based upon updated or new field and laboratory test data;
- Provide an overall Project schedule, including updated and refined procurement phasing;

- Update the testing and commissioning plan;
- Update the systems integration plan;
- Provide draft Contract Documents, which are essentially the same as the bridging documents enumerated in Option 1, modified as appropriate for this procurement and delivery method and advanced to a 60% completion level;
- Conduct a workshop with the Partners and appropriate security stakeholders to support a Threat and Vulnerability Risk Assessment ("TVRA"). Review available incident data and prepare a draft TVRA report, summarizing vulnerabilities and identifying potential mitigation strategies to be implemented in the facility design and operations;
- Assist the Partners in planning for track outages;
- Compile all applicable Partner soft costs and force account costs;
- Combine cost estimates with agency soft costs and force account costs;
- Update the risk and opportunities register, including risk mitigations and opportunities pursuits;
- Assist with the overall Project risk register;
- Schedule and run a risk workshop with the Partners to establish Project contingencies in accordance with FTA guidelines;
- Continue supporting the Environmental Consultant if necessary; and
- Organize and facilitate over-the-shoulder design-review workshops with the Partners.

B. Pre-Final Design Submittal (90%)

Advance the contract documents to a pre-Final Design submittal at a 90% completion level. Complete and fully coordinate all designs, drawings, specifications and plans. Resolve all comments received prior to 90% submittal and ensure they are incorporated into the contract documents and verified as closed. Perform the following activities:

- Finalize the comprehensive system testing and commissioning plan;
- Complete all design calculations and supporting documents;
- Organize and facilitate over-the-shoulder design review workshops with the Partners;
- Finalize the systems integration plan;
- Complete Certified Items List from the approved PHA;
- Update the overall Project schedule, including updated and refined procurement phasing;
- Prepare a Final TVRA report reflecting any changes or advancements since 60% design;
- Update the planning for track outages and organize access workshop with the Partners;
- Combine updated cost estimates with updated agency soft costs and force account costs;
- Continue supporting the Environmental Consultant as necessary;
- Obtain design approvals from the various utilities and AHJ(s) as required for the Project;
- Obtain design approvals from the appropriate federal, state and city agencies as required for the Project;
- Update the risk and opportunities register, including risk mitigations and opportunities pursuits;
- Assist with the overall Project risk register; and

- Schedule and run another risk workshop with the Partners to update Project contingencies and confirm mitigations.

C. Final Design Submittal (100%)

Resolve all comments received after the 90% submittal and ensure they are incorporated into the final contract documents. Organize and facilitate an over-the-shoulder design review workshop with the Partners to close out all open comments. Obtain signoffs from all stakeholders.

Develop all final design drawings, specifications, and other documents in accordance with local, state, and federal requirements such that required permits can be readily obtained for the designed work. All drawings and calculations must be sealed and signed by professional(s) licensed in the State of New York.

Submit a Final Design Submittal (100%) document checklist that includes such elements as, but is not limited to: design drawings, design specifications, and calculations. Prepare the checklist to meet the Project's minimum design criteria requirements and submit the checklist for approval.

7.5 Option 3.2: Construction Phase Support – Alternative Delivery Method

Provide engineering support services during the construction phase functioning as the designer of record for the Project. The Consultant services during the construction phase include, but are not limited to:

- RFI responses;
- Design deliverable reviews;
- Shop drawing reviews;
- Attendance at construction progress meetings;
- Change order support;
- Final inspections as applicable;
- Test witnessing as applicable;
- Coordination of the construction related questions/queries related to all design components; and
- Develop As-Built drawings from red lined drawings from the construction contractor.

The Consultant shall remain responsible for all errors and omissions discovered during all phases of the Project. The inspection, review, approval or acceptance of, or payment for, any of the work required under the Contract shall not be construed to relieve the Consultant of its obligations and responsibilities under the Contract, nor constitute a waiver of any of the MTA 's rights under the Contract or of any cause of action arising out of the performance of the Contract. The Consultant and/or its Subconsultants shall correct or revise any errors, omissions or defective work at no additional cost to the MTA.

7.6 Option 4: Design Development for Subway Improvements

Advance and refine the concept designs for the NYCT subway improvements included in the Final Environmental Impact Statement for the Penn Station Area Civic and Land Use Improvement Project based on the concept designs in the PSMP Alternatives Report attached to this RFP to support ESD in negotiations with developers and the City. The extent of design development will be on the order of 15% completion.

Coordinate with NYCT, ESD and VNO or other site developers as required.

7.7 Option 5: Design Development for Underground Connections

Advance and refine the concept designs for the underground connections included in the Final Environmental Impact Statement for the Penn Station Area Civic and Land Use Improvement Project based on the concept designs in the PSMP Alternatives Report attached to this RFP to support ESD in negotiations with developers and the City. The extent of design development will be on the order of 15% completion.

Coordinate with NYCT, ESD and VNO or other site developers as required.