

ATTACHMENT A

In order to provide LACMTA with the services described in the Scope of Work, the CMSSC will need to provide highly qualified, specialized, technical and administrative staff with expertise in the following, but not limited to, areas. The Proposer should not assume they are restricted by the titles of the positions but focus should be trained on the qualifications and experience needed to perform the services as described in this Scope of Work. Labor rates must be commensurate with the role performed.

ADMINISTRATIVE PROJECT MANAGER

The CMSSC Project Manager is responsible for total Contract execution in accordance with the requirements of this Contract between CMSSC and LACMTA and is the primary point of contact for all management, financing and contractual issues.

Examples of Duties

Maintain liaison with LACMTA representatives to ensure proper and timely involvement as well as maintain a professional and business-like relationship with LACMTA staff throughout the life of the Contract.

Reviews contracts and various documents and records for compliance with policies and procedures.

Coordinates the approval process for documents and contract changes.

Manage the Document Control/Change Control process and files for all project documents including submittals, contract changes, RFIs/RFCs, correspondence, design documents, reports, meeting minutes and other records. Maintain document control/change control database systems using Primavera's Contract Management.

Distribute documents and maintain controlled distribution lists.

Prepares and presents various reports, minutes, and records regarding contract document control/change control issues.

Assist in preparing project closeout documentation.

Qualifications:

Five (5) years performing Configuration Management work.

Experience with Primavera's Contract Management Document/Configuration control databases reporting preferred; experience with Adobe Acrobat writer desirable.

Valid California Class C driver license.

CONSTRUCTION RELATIONS OFFICER

Example of Duties:

Serves as an assistant reporting to LACMTA Construction Relations Manager, contractor, elected officials, business, professional, civic, governmental and community stakeholder groups regarding construction of the Westside Subway Extension project.

Coordinating communications and outreach efforts

Providing regular project updates to diverse constituents

Maintaining records and preparing routine and special reports and correspondence

Attending relevant construction preparedness meetings and authoring construction notices for public dissemination

Explore mitigation of construction impacts in collaboration with project team and contractor

Coordinating with contractor and relevant government agencies on project related issues and activities

Qualifications:

Three (3) years experience in Community Relations dealing with the interface of construction activities, government agencies, businesses and the general public.

Bachelor's Degree in Marketing, Communications, Political Science or other related field is desirable.

CONSTRUCTION CLAIMS (ANALYST, ADMINISTRATOR, ENGINEER)

Qualifications:

Ten (10) years experience in Engineering and Construction Project Control including preparation of Critical Path Method (CPM) scheduling.

Five (5) years experience in Independent Impact Analysis associated with Contractor Delay Claims.

Five (5) years experience in developing Cost Schedules, Financial Reporting and Forecasting.
Bachelor's Degree in Engineering, Business or related subject is desirable.
Successful track record in negotiating and resolving contractor claims.
Ability to use advanced computer techniques to develop graphic presentations and schedules.
Experience preparing and presenting arguments in front of a Disputes Review Board.

CONSTRUCTION CLAIMS LITIGATION SUPPORT SPECIALIST

Examples of Duties:

Provide support to resolve the backlog of outstanding claims on the projects, and assist in negotiations and settlement thereof. This task may include but is not limited to the following specific activities:

- Review documentation and perform analysis, including review of schedule, cost estimates, contract drawings, specifications and special studies.
- Assist in presentations to Disputes Review Board (DRB).
- Update the LACMTA claims file with pertinent data, using the LACMTA Change Control PMIS System.
- Value claims and prepare settlement strategies.
- Provide Claims Analysis support for LACMTA legal and outside counsel.

Qualifications:

- Bachelor's Degree in Engineering, Architecture, Construction Management, Business, or related field is desirable.
- Successful track record in negotiating and resolving Contractor Claims.
- Ability to use advanced computer techniques to develop graphic presentations and schedules.

CONSTRUCTION INSPECTION (SENIOR)

Examples of Duties:

Issues non-conformances to contractors on process or materials not conforming to contract documents.

Reviews construction records and daily inspection reports to monitor quality and quantity of the work of inspection staff and initiates corrective action as necessary.

Reviews submitted shop drawings for any deviation from contract documents, notifying the project manager of any discrepancies found.

Makes inspection reports on the quality of materials and workmanship entering into construction.

Recommends, drafts, enforces, and outlines construction inspection policies and procedures as required.

Performs inspection of Perfffff9(e)12.4(q)-9.6.8(m)-4(f9(e)121.8(i)4.5(s842.8i9(u)P15.5(o)1.664.6(r)-3.95





Cal-OSHA/OSHA 30 training certification.

CONTRACT ADMINISTRATOR

Qualifications:

Bachelor's Degree – Business, Public Administration, Engineering or Construction Management

4 Years experience performing contract administration work

CONTRACT ADMINISTRATOR (SENIOR)

Examples of Duties:

Assists in the following: Preparation of contract documents for pre-award solicitations and post award administration; monitoring contract compliance; preparation of modifications/change orders; preparation of cost analysis and pre-negotiation plans, evaluation and resolution of claims; participating in documenting final inspection, final acceptance, and preparation of close out documents; preparation of reports and other correspondence; interfacing with contractors and agency personnel; and other related work and duties.

Qualifications:

Bachelor's degree – Business, Public Administration, or other related field

Minimum of five (5) years journey-level experience performing contract administration work

Valid California Class C Driver License

COST/SCHEDULE ANALYST (SENIOR)

Examples of Duties:

Employ quantitative methods to analyze project costs and schedules. Develop and maintain project cost and schedule models. Monitor project performance and provide recommendations for cost and schedule control. Prepare cost and schedule reports for management review.

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Bachelor's Degree in Engineering, Construction Management or Business or other related field is desirable.

Knowledge of Spreadsheet– EcoSys desirable, Graphics, and DataBase Management, P6 Scheduling Program – including cost and resources - and word processing software.

dewatering, asbestos and lead based paint abatement on commercial structures, regulatory agency experience, waste management, environmental construction, mitigation plan monitoring and reporting, DTSC experience.

ESTIMATOR (UTILITY, CIVIL, STRUCTURAL, ELECTRICAL, MECHANICAL, TRACKWORK, TUNNEL, SYSTEMS)

Qualifications:

Bachelor's Degree in Business, Finance, Engineering or Construction.

At least seven (7) years experience in performing Cost Estimates, Reviewing Contractor's Price and Cost Proposals in the appropriate discipline for major engineering and construction projects.

GEOLOGIST

Qualifications:

Must have a minimum of ten (10) years professional experience working with Tunnel or Deep Excavations.

Capable of performing analysis of Borehole Logs and Laboratory Tests of soil samples.

California registration as a Geologist.

GEOTECHNICAL ENGINEER INSTRUMENTATION SPECIALIST

Example of Duties:

Responsible for overseeing, reviewing or developing a surveying and geotechnical instrumentation monitoring plan for Tunnels and Deep Excavations.

Organizes teams of surveyors, geologists and engineers to oversee, verify or monitor ground and structure behavior during tunneling and cut and cover excavations to ensure structure stability and conformance with tunneling specifications.

Insures timely review, interpretation and compilation of survey and geotechnical monitoring data -

Utilize or develop software for collecting or presenting data in graphical form and electronic transfer of data to the parties involved to minimize reporting times. Includes analysis of data to compare to allowable values and observe trends.

Communicates with LACMTA, Engineering Management Services Contractor and Design-build Geotechnical Engineer.

Qualifications:

Bachelor's Degree in Geology, Civil or Structural Engineering or related field. California registration as a Geotechnical Engineer.

Must have a minimum of Ten (10) years Professional Engineering experience in Geotechnical/Tunnel and Cut and Cover design as well as a Geotechnical Instrumentation Installation and Monitoring.

A strong knowledge of survey and geotechnical instrumentation that includes but is not limited to Multi-point Borehole Extensometers, Settlement Reference Points, Optical Prisms, Inclinometers, Groundwater Monitoring Wells, Strain Gages, Piezometers, and Extensometers

Familiarity with Borehole Logging, Laboratory Testing of Soil Samples, installation and removal of instrumentation is essential.

Three (3) years experience in managing a Geotechnical Instrumentation program on a tunnel project including TBM.

GEOTECHNICAL INSTRUMENTATION SPECIALIST

Example of Duties:

Performs monitoring of geotechnical and survey instrumentation.
Assists the CMSSC Geotechnical Engineer or the Engineering Management Support Services Contractor in the collecting, interpreting, analyzing and presenting geotechnical and survey monitoring data.

Qualifications:

Bachelor's Degree in Geology, Civil or Structural Engineering or related field.
Familiarity with Geotechnical/Tunnel and Cut and Cover design and construction.
Familiarity with Geotechnical Instrumentation Installation and Monitoring. A knowledge of survey and geotechnical instrumentation that includes but is not limited to Multi-point Borehole Extensometers, Settlement Reference Points, Optical Prisms, Inclinedometers, Groundwater Monitoring Wells, Strain Gages, Piezometers, and Extensometers
Familiarity with Borehole Logging, Laboratory Testing of Soil Samples, installation and removal of instrumentation is essential.
Three (3) years experience in design and construction of large civil projects.

GRAPHICS SPECIALIST

Qualifications:

Associate's Degree in Graphics, Art, Advertising or related field.
Three (3) years experience in Graphic Design or Advertising and Production, and knowledge of a variety of graphics software.

INSPECTOR (ASSOCIATE, SENIOR, LEAD) For (UTILITIES, CIVIL, ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, TRACKWORK, TUNNEL, SYSTEMS)

Examples of Duties:

Visits construction sites and inspects each stage of construction up to completion.
Interpret plans, specifications, and codes and verifies contract work is performed in accordance with them. Assist in obtaining approved designs and permits from utility companies for services to construction sites.
Monitor construction sites for safety violations. Prepares Non-Conformance Reports when work is not performed to the approved standards. Maintains daily activity logs and reports.
Review or prepare interim progress reports for contractor payments. Monitor contractor-testing activities. Prepare reports on labor, material, and equipment on site. Determine construction conforms to plans and specifications; if not issue Non-Conformance Reports for corrective action.

Assist in maintaining, supporting, and promoting a safe work environment while complying with LACMTA's safety rules, policies, and procedures.
Coordinates preparation of inspection cost estimates and maintenance records.
Arranges, coordinates and oversees technical inspections such as electrical, mechanical, landscaping, soil testing, concrete, and asphalt mixes, and reinforcing steel for conformance to specification requirements.
Coordinates Metro Test laboratory activities and compares verifications test results with result from Contractor's laboratory.
May allocate inspection resources and supervise inspectors.

Qualifications:

Five (5) years experience for Associate positions, ten (10) years experience for Senior and Lead positions which reflect a progressively increasing level of responsibility on complex projects as a General Contractor, Building Construction Supervisor, Building Inspector of large commercial or industrial construction projects, heavy construction projects, transportation, or transit construction projects for the appropriate disciplines including utilities, civil, architectural, structural, electrical, mechanical trackwork, and tunnel systems.

ICC Certificate of Reinforced Concrete or Masonry, ACI Registered Contracting Inspector License, comparable Deputy Inspection License for a county for city agency. NICET certification, or other alternative certification from an acceptable nationally recognized organization is highly desirable where applicable to Inspection of that particular trade.

Cal-OSHA/OSHA 30 training certification.

Additional requirements for Tunnel Inspector:

At least ten (10) years of recent experience in Construction Management, of which at least five (5) years in Tunnel Inspection of large and complex engineering/construction projects.

Experience in two projects or more of relevant, verifiable Tunneling projects with features similar to those of the assigned project. This experience shall include Verifiable Earth Pressure Balance or Slurry TBM projects of diameter greater than 15 ft.

Full knowledge of Tunnel Inspection methods and Current Tunnel Construction techniques; Construction Materials necessary to determine the quality and correct use in projects; and the safe working habits and regulations in relation to different phases of construction.

Additional requirements for Trackwork Inspector:

A minimum of five (5) years of journey-level experience inspecting, constructing and performing installation, repair and maintenance of rail, track work (ballasted and direct fixation) and related facilities.

ITS NETWORK USER SUPPORT (TECHNICIAN, ANALYST, ENGINEER)

Qualification:

Minimum three (3) years experience in Computer Hardware, Networking Diagnostic and Repair.

NEW MEDIA/COMMUNICATIONS OFFICER

Four (4) years of experience in an assignment at least comparable to that of a Level II in the applicable test method(s), as defined in ASNT's Recommended Practice No. SNT-TC-1A, latest edition.

Bachelor's Degree may be substituted for experience as indicated.

OFFICE ENGINEER

Examples of Duties:

Three (3) years Clerical experience or Office Administration experience in construction field.

Proficiency in using Microsoft Word, Excel and Power Point software.

QUALITY ENGINEER

Qualifications:

Bachelor's Degree in Engineering or other related field, experience with Construction Engineering, Inspection and Testing for large infrastructure projects, understanding of Construction Testing Disciplines, such as welding, non-destructive testing, electrical systems design and testing, rail and rail systems design, tunnel construction, train control systems, including trackwork components and structures for transit systems.

Five (5) years experience conducting Quality Assurance Audits/Surveillance of Engineering Design and Construction Activities.

Registration as a Professional Engineer.

At least fifteen (15) years experience in Civil Construction with ten (10) years experience in construction of transit systems.
Experience as a Resident Engineer/Construction Manager on a design-build project of at least \$100 million.
Cal-OSHA/OSHA 30 training certification.

RESIDENT ENGINEER/CONSTRUCTION MANAGER (TUNNELS)

Qualifications:

Bachelor's Degree in Construction Management or Engineering.
At least fifteen (15) years experience in Heavy Civil Construction with ten (10) years experience in Construction of Tunnels.
An additional five years experience may be substituted for the Bachelor's degree in addition to the fifteen (15) years minimum required experience.
Two or more projects using Verifiable Earth Pressure Balance or Slurry TBMs of diameter greater than 15 ft.
Experience as a Resident Engineer/Construction Manager on a design-build project of at least \$100 million.
Cal-OSHA/OSHA 30 training certification.
Certification of training on Title 8 Tunnel Safety Orders.

RESIDENT ENGINEER/CONSTRUCTION MANAGER (STATIONS)

Qualifications:

Bachelor's Degree in Construction Management or Engineering.
At least fifteen (15) years experience in Heavy Civil Construction with ten (10) years in construction of Rail Transit Systems.
An additional five years experience may be substituted for the Bachelor's degree in addition to the fifteen (15) years minimum required experience.
Experience of Top Down Construction in an urban area.
Experience as a Resident Engineer/Construction Manager on a design-build project of at least \$100 million.
Cal-OSHA/OSHA 30 training certification.

RESIDENT ENGINEER/CONSTRUCTION MANAGER (CUT AND COVER TUNNELS)

Qualifications:

Bachelor's Degree in Construction Management or Engineering.
At least fifteen (15) years experience in Heavy Civil Construction with ten (10) years experience in Construction of Tunnels.
An additional five years experience may be substituted for the Bachelor's degree in addition to the fifteen (15) years minimum required experience.
Two (or more) projects using Top Down Construction in an urban area.
Experience as a Resident Engineer/Construction Manager on a design-build project of at least \$100 million.
Cal-OSHA/OSHA 30 training certification.

RESIDENT ENGINEER/CONSTRUCTION MANAGER (SEQUENTIAL EXCAVATION METHOD)

Qualifications:

Bachelor's Degree in Civil, Mining or Geotechnical Engineering.

Fifteen (15) years experience in Tunnel Engineering or Construction of which five (5) years in Field Engineering of Sequential Excavation of large caverns of span greater than 50 ft.

An additional five years experience may be substituted for the Bachelor's degree in addition to the fifteen (15) years minimum required experience.

Experience as a Resident Engineer/Construction Manager on a design-build project of at least \$30 million.

Cal-OSHA/OSHA 30 training certificate.

RESIDENT ENGINEER/CONSTRUCTION MANAGER (UTILITY DIVERSIONS)

Qualifications:

Bachelor's Degree in Construction Management or Engineering highly desirable.

At least fifteen (15) years experience in Civil Engineering Construction with ten (10) years Construction of Utilities.

An additional five years experience may be substituted for the Bachelor's degree in addition to the fifteen (15) years minimum required experience.

Experience in relocation of all utilities including water, natural gas, power, sanitary

Example of Duties:

Reviews engineering, construction and project deliverables - such as submittals, plans and specifications - for constructability, safety, quality, cost, schedule and technical adequacy
Interfaces with engineering and contractor staff
Provides technical expertise on technical issues
Provides technical leadership for construction, constructability, safety, quality, cost and schedule
Provides claim analysis on technical issues.

Qualifications:

Bachelor of Science is preferred.
Professional License, Accreditations or Qualifications in field of expertise
10+ years experience in technical field

TEST AND STARTUP ENGINEER**Qualification:**

Five (5) years experience performing Testing and Startup activities on large transit projects.

THIRD-PARTY ADMINISTRATOR**Examples of Duties:**

Coordinate the preparation of engineering plans, drawings, specifications, procedures, and schedules necessary for utility rearrangement and restoration work with project teams, as well as City, County, State, and Utility Agencies. Develop technical reports, feasibility studies, economic analyses, and other forms of correspondence, including letters, notices, and design reviews that apply to project utility service requirements, utility rearrangement configurations and construction permitting. Assist in the negotiation and preparation of agreements with outside agencies and public/private utilities for all services and works necessary to support LACMTA's construction and operation activities.

Qualifications:

Bachelor's Degree in Engineering, Construction Project Management, or other related field.
Valid California Class C driver's license.
California Professional Engineering registration highly desirable.
A minimum of five (5) years of Construction experience including at least three (3) years of experience performing Third Party Administration work.

TUNNEL BORING MACHINE SPECIALIST**Example of Duties:**

Responsible for overseeing and reviewing a TBM monitoring program with pressurized face TBM,(either Slurry-TBM or EPB-TBM)

Works with Geotechnical instrumentation specialist, and tunnel resident engineers/construction managers, verify or monitor performance of TBM during tunneling operations to ensure conformance with tunneling specifications. Insures timely review, interpretation and compilation of TBM performance data and reporting of data to LACMTA
Utilize software for collecting and presenting data in graphical form and electronic transfer of data to the parties involved to minimize reporting times. Includes analysis of data to compare to allowable values and observe trends.
Communicates with LACMTA, Engineering Management Services Contractor and Design-build Geotechnical Engineer.

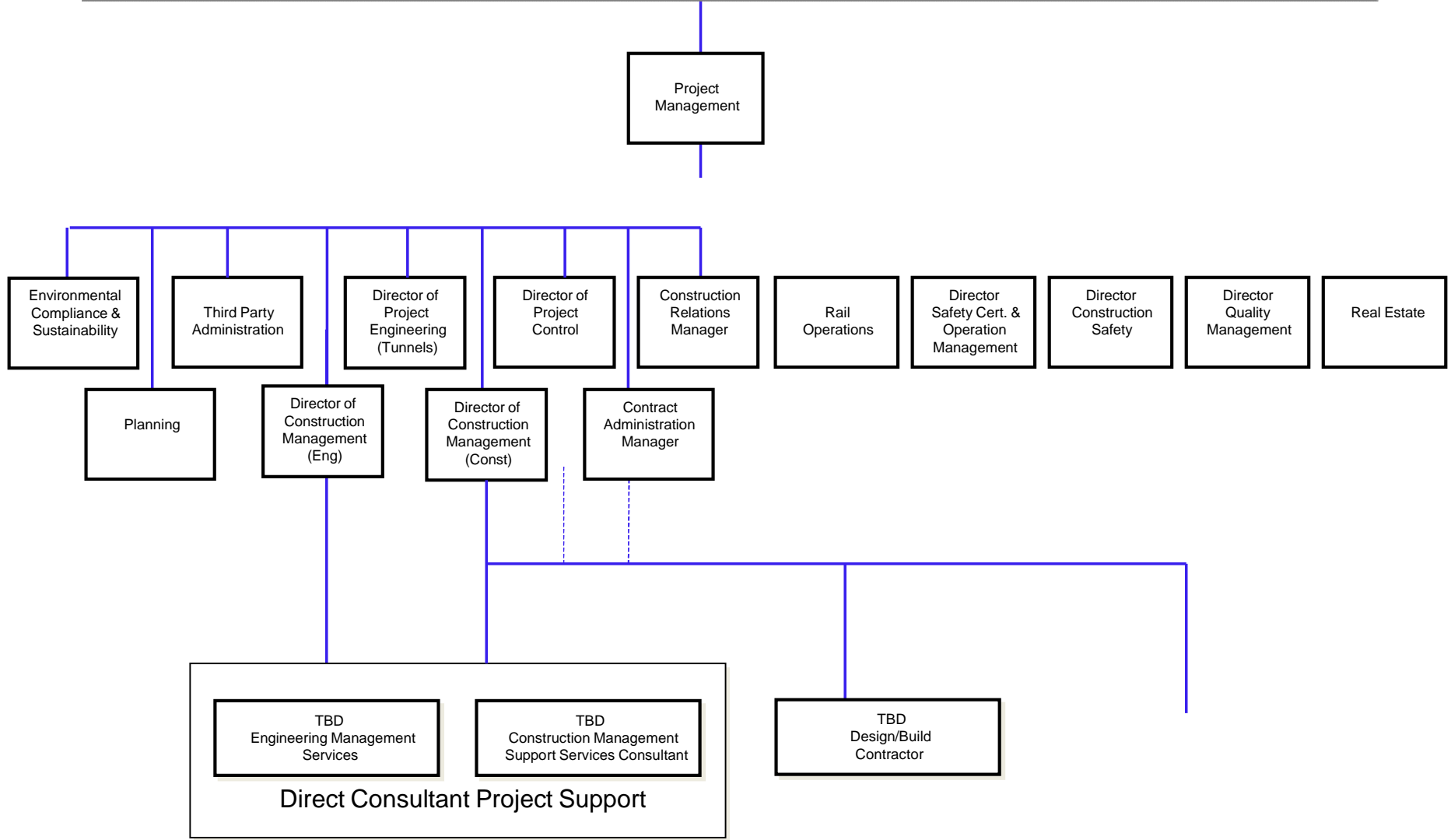
Qualifications:

Bachelor's Degree in Geology, Engineering or related field.
Ten (10) years Professional Engineering experience in Tunnel Boring Machine technology. Experience with a TBM manufacturer is preferable.
Knowledge and experience in constructing segmentally lined tunnels in soil.
Familiar with software for presenting data in graphical form and electronic transfer of data to the parties involved to minimize reporting times. Includes analysis of data to compare to allowable values and observe trends.
Familiarity with TBM body and trailing gear systems, including grouting, soil conditioning, pressurizing of tunnel face and ground around shield body, underground safety requirements, mechanical and electrical systems, and diagnostic testing.
Three (3) years experience in review and management of TBM performance.
OSHA 30-Hr Safety training.
Experience of and ability to work in low pressure compressed air preferable.

ATTACHMENT B

(See following page)

INTEGRATED PROJECT MANAGEMENT OFFICE TEAM



ATTACHMENT C

(See following page)

