SECTION XI - EXHIBITS

1 EXHIBIT A SCOPE OF SERVICES

Metropolitan Transit Authority of Harris County
Planning Engineering & Construction

SCOPE OF SERVICE

RECONSTRUCTION OF CAMBRIDGE BLVD @
FANNIN STREETS INTERSECTION

General Description:

This work consists of furnishing all necessary equipment, labor, material, and supervision for the proposed intersection improvements. All improvements shown in the attached plan set shall be constructed including but not limited to sidewalks, ramps, poles, necessary conduit, wiring, new hardware, and programming.

The detailed work description can be found later in this S.O.W.

Basic Requirements / Special Conditions:

(a) The Contractor shall review, field verify, and confirm all existing conditions (to include but not limited to: stated dimensions, locations, drawings, layouts, etc.) prior to performing this work. The Contractor shall also comply with all applicable City of Houston Specifications as stated in the latest available version.

(b) All work shall comply with the requirements of this document including national specification and standards, state and local government authority codes, regulations, and specifications.

(c) The Contractor shall submit manufacturer’s material data sheets, detailed construction schedule and phasing plans to METRO’s Project Manager for review and approval prior to beginning of the work.

(d) The Contractor is to coordinate with METRO Operations for construction vehicle access and related personnel activities within the guideway, if necessary.

(e) The Contractor is to provide a safe working condition throughout the construction process to ensure that no accident occurs.

(f) Provide City of Houston appropriate pedestrian and bicyclist controls and sidewalk closures including traffic guide/safety drums, cones and/or red safety nets around the construction zone area(s) throughout the construction process. The Contractor shall comply with all City of Houston, METRO, Texas Medical Center, and OSHA safety requirements and shall be fully responsible for any and all occurrence or accidents due to his work. The work is being performed near Texas Medical Center and will be high profile so METRO and other entities will also be inspecting the work for compliance with safety requirements.

(g) The Contractor shall coordinate his work to minimize disruptions to the City of Houston, Texas Medical Center, and METRO’s operations and as directed by METRO. It is anticipated that close coordination and cooperation is necessary between the contractor, the City of Houston, Texas Medical Center and METRO to satisfy the safety concerns of citizens and METRO customers.

(h) The Contractor is responsible for the cost and execution of all applicable permits if any as required by the governing City or any other municipality’s ordinances.

(i) The contractor will be responsible for arranging any staging areas near the project site. The Contractor shall barricade this area and maintain it in a neat, clean and orderly fashion at all times.

(j) The Contractor shall safely haul and legally dispose of all removed material from the site, and follow all safety and environmental codes and regulatory requirements for this work.

(k) Personnel contact: METRO Project Manager, W. Mark Phillips, PE, (713) 739-4670 office, (281) 380-4166 cell.

Scope of Work:

The scope of the work is listed as follows. The sequence of work listed should deviate from the sequence listed below as determined necessary by the contractor.

(a) Coordinate schedule for installation with applicable entities including Rice University, City of Houston and METRO Operations. Submit acceptable traffic and pedestrian control plans necessary to complete the work to the applicable agencies.

(b) Notify utilities of planned work in the area. When utilities are marked, review the plans provided to confirm all utilities shown on plans have been properly marked at the site. If there are any utilities shown on the plans that have not been marked, the contractor shall employ a utility locator, at the contractor’s expense (if necessary), to locate any such utilities prior to commencing the work.

(c) Set up any necessary staging areas and set up appropriate pedestrian protection around these areas. Arrange legal lane closures to accommodate necessary material deliveries, including concrete.
(d) Set up appropriate pedestrian and bicyclist control measures. City of Houston pedestrian sidewalk closures shall be used. At least one safe path shall always be maintained across all intersections. The contractor should expect heavy pedestrian and bicycle volume during all hours and plan work accordingly.

(e) Demo existing civil site features in a sequence sufficient to maintain worker and public safety.

(f) Excavate soil necessary or bore to install the conduits and foundations shown. City of Houston specification compliant methods to be used. Care shall be taken during excavation to avoid damaging unknown utilities.

(g) Appropriate conduits should be laid at a depth acceptable to the City.

(h) Replace necessary soil above conduit excavations and tamp to meet City specifications.

(i) Set rebar to match existing spacing, doweling as necessary, and pour concrete to match pre-existing sidewalk and/or curb thickness, slopes, and elevations. The contract will include time for personnel to remain on site during the initial cure process of the concrete to protect it. It is expected that the personnel on site shall have no other responsibilities during this time frame which will prevent them from protecting the concrete from damage during curing.

(j) Set poles and install associated traffic signal and signing hardware as appropriate. Install appropriate traffic signaling wires as shown on the plans. Construct remaining site features as appropriate.

(k) Remove traffic and pedestrian control and clean-up site to leave in same condition as it was found.

Applicable METRO specification sections. This includes but not limited to the following shown starting the next page:

INDEX OF SPECIFICATIONS

DIVISION 1

GENERAL REQUIREMENTS

01010 Summary of Work
01505 Mobilization
01040 Project Coordination
01311 Construction Schedule
01452 Contractor Quality Control
01510 Temporary Facilities
01541 Maintenance and Protection of Utilities
01560 Environmental Impact Controls
01573 Temporary Traffic Lighting Devices
01700 Project Close Out

CITY OF HOUSTON

Copies (electronic) of these METRO's specification section(s) will be provided upon written request to METRO's Project Manager.

3. Miscellaneous Details:
Relevant details are attached herewith:

4. Attachments:
4.1 RED LINE SAFETY ENHANCEMENTS
FANNIN AT CAMBRIDGE INTERSECTION

END OF SCOPE
PART 1 - GENERAL

1.01 DESCRIPTION

A. Location

See Scope of Work

B. General

The Scope of Work for this Project shall consist of providing all supplies, support services, data, labor, tools, materials, equipment, supervision, construction and all else required to prepare the site and construct the rail repairs as noted in the project scope of work.

C. Project Scope

The Work shall include the project scope of work and shall include (as applicable), but not be limited to, the following major items, to the extent specified and indicated:

1. Provide administration and construction support services to complete work.

2. Coordination with utility owners, governing agencies, and other contractors.

3. Ensure the protection of trees, shrubs, vegetation, structures, and facilities where indicated.

4. Perform demolition and removal of above ground and underground structures and facilities as needed.

5. Perform required earthwork, including excavation, embankment, backfill and compaction.

6. Perform soil stabilization as required for paving reconstruction.

7. Construct bus and vehicle traffic roadways, curbs, walks, ramps, shelters, and parking area columns, foundations, pads, and building, as indicated.

8. Provide pavement markings, traffic and parking signs and signals as indicated.

9. Provide a clean Site during the Work and prior to written acceptance by METRO.

1.02 QUALITY ASSURANCE

A. The Work shall comply with the requirements of the Contract Documents including cited national specifications and standards; state and local government authority codes, regulation, and specifications.

B. In case of conflicts or discrepancies between cited national and local standards, local requirements shall govern unless otherwise directed in writing. In case of conflicts or discrepancies between institutional, national and federal specifications as referenced for inclusion with a METRO standard specification, the most stringent of the specifications listed shall govern unless otherwise directed in writing. All conflicts shall be brought to the attention of METRO in writing for resolution.

1.03 OTHER REQUIREMENTS

A. A CPM for the Project shall be submitted in accordance with Section 01311 - CPM Schedule of these specifications.

B. Except as otherwise specified or indicated, the following shall be provided as part of the Project:

1. Labor, management, and superintendence as required to complete the work.

2. Construction supplies, equipment, products, tools, machinery, materials, and all appurtenances necessary to
execute and complete the Work of the Contract.


4. Other facilities and services as necessary to execute and complete the Work of the Contract.

5. All governmental permits, licenses and fees required for execution and completion of the Work, in the Contractor's name.

C. The City of Houston and any affected utility owner shall be notified not less than 14 days prior to starting work in an area in which a utility may be located. Notices shall be in writing. An affected utility owner and METRO shall be notified 72 hours prior to commencing construction operations.

D. The Contractor shall prosecute the Work as indicated, in accordance with the Contract Documents, and in a timely manner so as to ensure coordination of all parts of the Work with work of other parties under adjoining and interfacing contracts, including governmental bodies and utility companies.

E. Proposals for scheduling work at times other than the normal work period of a calendar day shall be submitted to METRO not less than 48 hours in advance of those times. Such proposals shall outline all special precautions to be taken to control the hazards presented by prosecuting the Work at times other than the normal work period of a calendar day. The proposal shall include supplementary lighting of work areas, availability of medical facilities, security precautions and all other precautions necessary.

F. Construction equipment and vehicles which exceed the weight, size and noise limitations of the authorities having jurisdiction shall not be operated outside the Construction limits of the Site. Refer to Section 01560 - Environmental Impact Controls of these Specifications.

1.04 DEFINITIONS

A. CONSTRUCTION DRAWINGS: All professional design drawings, exclusive of Shop Drawings, prepared for parts of the Work not indicated on METRO-furnished Drawings. Construction Drawings become part of the Contract Drawings upon written approval of that Drawing by METRO.

B. CONTRACT DOCUMENTS: Documents applicable to and specified to an individual Contract, normally consisting of, but not necessarily limited to, the Agreement or Contract, Standard Technical Specifications, Contract Drawings, and errata thereto. Addenda to the Contract Documents issued prior to the Bid date will become part of the Contract Documents. Change orders issued after Contract execution will become part of the Contract Documents.

C. CONSTRUCTION SPECIFICATIONS: Normally consisting of the technical specifications prepared to cover corresponding construction operations, materials, workmanship, and/or service performance required to produce the work.

D. CONTRACT DRAWINGS: The plans, profiles, cross-sections, elevations, schedules and details which show locations, character, dimensions and arrangements of the parts of the Work, including, METRO-furnished Drawings, approved Construction Drawings and approved Shop Drawings. Unless otherwise defined, the term Drawings shall mean the Contract Drawings.

E. CONTRACTOR: The individual, firm, partnership, or corporation, or combination thereof, private, municipal, or public, including joint ventures, who, as an independent contractor, has entered into a contract with METRO to carry out the intent of the Contract Documents.

F. DAYS: Whenever used in the Contract Documents, "days" means calendar days.

G. ENGINEER: For definition refer to Article 1, Definitions of the Proposed Contract, of the Invitation for Bid.

H. FURNISH: Except as otherwise defined, term "furnish" is used to mean supply and delivery to Project Site, ready for unloading, unpacking, assembly, installation, and so forth, as applicable in each instance.

I. INSTALL: Except as otherwise defined, term "install" is used to describe operations at Project Site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.

J. INSTALLER: The term "installer" is defined as the entity (person or firm) engaged by the Contractor, its subcontractor or sub-subcontractor for performance of a particular unit of work at the Project Site, including installation, erection,
application and similar required operations. It is a general requirement that installers be qualified in the operations they are engaged to perform.

K. METRO-FURNISHED DRAWINGS: The METRO Standard Drawings, furnished under separate cover.

L. PROJECT (WORK): The providing of construction, labor, materials, equipment, and compliance with contractual requirements as specified and indicated in the Contract Documents to produce the Work, ready for intended use. Project includes Transit Center and such other work as identified in the Contract Documents. "Project" and "Work" shall have the same meaning as used in these Specifications.

M. PROVIDE: Except as otherwise defined, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

N. SHOP DRAWINGS: Drawings furnished by the Contractor to illustrate specific parts of the Work not indicated on the Contract Drawings of the Construction Drawings. Shop Drawings include drawings, diagrams, illustrations, schedules, charts, brochures, tables and other data graphically indicating and describing fabrication and installation of specific portions of the Work. Shop Drawings become part of the Contract Drawings upon written approval of that Drawing by METRO.

O. SITE: The tract of real estate in possession of METRO, where the Work is to be performed for METRO, within the indicated limits, in accordance with the terms of the Contract, and as required by the Contract Documents. The term "Site" is defined as the space available to the Contractor for performance of the Work, either exclusively or in conjunction with others performing other work adjacent to the Project. The extent of the Project Site as shown on the Drawings, may or may not be identical with the description of the land upon which the project is to be built.

1.05 INTERPRETATION

A. Final Authority

Where "indicated," "specified," "detailed," "required," "directed," "requested," "authorized," "permitted," or phrases of similar import are used, it shall be understood that the reference is made to the elements of the Contract Documents as interpreted by METRO, unless stated otherwise. However, no such implied meaning shall be interpreted to extend the Engineer's responsibility into the Contractor's area of construction supervision.

B. Imperatives

The word "shall" is an auxiliary verb which expresses mandatory requirements on the part of the contractor. The word "will" is an auxiliary verb which expresses probable intent or action on the part of METRO. The word "may" is an auxiliary verb which expresses permissible requirements on the part of the party addressed in the Contract. A statement of requirements for the performance of the Contract in the imperative mood shall be interpreted by the Contractor as if the verb "shall" is included in such statement (e.g., "submit all test results" shall have the same meaning as "Contractor shall submit all test results.") Imperative language is used generally in these Specifications. Except as otherwise indicated, requirements expressed imperatively shall be performed by the Contractor.

C. References

References to prime Articles include Articles under the Article referenced, e.g., a reference to Article 1.05 is also a reference to Articles 1.05, A through H.

D. Methods and Means

Interpretations, directions, observations, and suggestions of the Engineer shall not be construed as dictating, controlling, directing, or supervising the Contractor's methods, means, techniques, sequences, and procedures.

E. Approved and Approvals

Where used in conjunction with METRO's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of METRO responsibilities and duties as specified in the Contract Documents. In no case will "approval" by METRO be interpreted as a release of Contractor from responsibilities to fulfill requirements of Contract Documents. The requirement to submit a document or Drawing to METRO for review and approval shall not be interpreted to imply automatic approval thereof by METRO. METRO may invoke or defer such action regarding approvals as it deems necessary.

F. Overlapping and Conflicting Requirements
Where compliance with two or more industry standards or sets of requirements is specified or indicated, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, the most stringent requirement is intended and will be enforced by METRO, unless specific language in the Contract Documents clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently-equal but different requirements, and uncertainties as to which level of quality is more stringent, to METRO for a written decision before proceeding with the Work in question.

G. Minimum Quality/Quantity

In every instance, the quality level or quantity indicated or specified is intended to be the minimum for the work to be performed or provided. Except as otherwise indicated, the actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable limits. In complying with these requirements, indicated numerical values are either minimums or maximums as noted, or as appropriate for context of the requirements. Refer instances of uncertainty to METRO for a written decision before proceeding with the Work in question.

H. Specialist Assignments

In certain instances, Specification text requires that specific work is to be performed by specialists of expert entities (e.g., Installer, Landscape Architect, Geotechnical Consultant), who shall be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the Contractor has no option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the Work; they are also not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party involved in a specific unit of work is recognized as "expert" for the indicated process or operation. Nevertheless, the final responsibility for fulfillment of the Contract requirements shall remain with the Contractor.

PART 2 -PRODUCTS (Not Used)

PART 3 -EXECUTION (Not Used)

END OF SECTION 01010
SECTION 01040

PROJECT COORDINATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies the minimum administrative and supervisory requirements necessary for integration and coordination of work on Project including, but not limited to, the following:

1. Project Meetings
2. Outside Agencies
3. Quantity Measurements
4. Special Reports
5. Conservation and Salvage

B. Work Included: To enable orderly review during progress of the work and to provide for systematic discussion of problems, the Engineer will conduct project meetings throughout the construction period.

C. Related Work

1. Documents affecting work of this Section include, but are not necessarily limited to, Contract Articles, Drawings and Technical Specifications.

2. The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility and normally are not part of project meetings content.

1.02 QUALITY ASSURANCE

A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit the Contractor to solutions agreed upon in the project meetings.

1.03 SUBMITTALS

A. In accordance with Section 01340 - Shop Drawings, Product Data, Samples, and Record Documents of these Specifications, the following shall be submitted:

1. Agenda Items: To the maximum extent practicable, advise the Engineer at least 24 hours in advance of project meetings regarding items to be added to the agenda.

2. Minutes: The Engineer will compile minutes of each project meeting, and will furnish one copy to the Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - MEETINGS

3.01 MEETING SCHEDULE

A. Except as noted below for Pre-construction Meeting, project meetings shall be called throughout the progress of the work as deemed necessary by the Engineers.

B. Coordinate as necessary to establish mutually acceptable schedule for meetings.

3.02 MEETING LOCATION

A. The Engineer will establish meeting location. To the maximum extent practicable, meetings will be held at the job site.
3.03 PRE-CONSTRUCTION MEETING

A. Pre-construction Meeting will be scheduled by METRO prior to the Notice to Proceed.
   1. Provide attendance by authorized representatives of the Contractor and major subcontractors.
   2. The Engineer will advise other interested parties.

B. Minimum Agenda: Data will be distributed and discussed on at least the following items:
   1. Organizational arrangement of Contractor's forces and personnel, and those of subcontractors and materials suppliers.
   2. Channels and procedures for communication.
   3. Construction schedule, including sequence of critical work.
   4. Contract Documents, including distribution of required copies of original Documents and revisions.
   5. Processing of Shop Drawing and other data submitted for review.
   6. Processing of Change Orders, Bulletins, and field decisions.
   7. Rules and regulations governing performance of the work.
   9. Other contracted related items such as conflicts/compatibility problems, weather limitations, manufacturer recommendations, acceptance of substrates/adjoining work, temporary facilities, space and access limitations, governing regulations and inspection/testing requirements.

3.04 PROJECT MEETINGS

A. Attendance
   1. The Contractor's Project Manager and/or Superintendent shall represent the Contractor at all project meetings throughout progress of the work.
   2. Subcontractors, materials, suppliers, and others may be invited to attend those project meetings in which their aspect of the work is involved.

B. Minimum Agenda
   1. Review, revise as necessary, and approve minutes of previous meetings.
   2. Review progress of the work since last meeting, including status of submittals for approval.
   3. Identify problems which impede planned progress.
   4. Develop corrective measures and procedures to regain planned schedule.
   5. Complete other current business.

C. Revisions to Minutes
   1. Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.
   2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes three working days prior to next regularly scheduled meeting.
3. Challenge to minutes shall be settled as priority portion of "old business" at the next regularly scheduled meeting.

PART 4-OUTSIDE AGENCIES

4.01 Contractor shall interface with outside agencies as required for Contract conformance. Contractor shall appraise/copy METRO on all correspondence, between Contractor and governing agencies, which is necessary to meet the terms of this Contract.

4.02 Contractor shall coordinate the inspection of work from all outside governing agencies as required.

PART 5-QUANTITY MEASUREMENTS

5.01 The Contractor shall supply necessary manpower, equipment, and tools to assist METRO representative in the field measurement of Contract pay quantities.

PART 6-SPECIAL REPORTS

6.01 REPORT TIMING

A. Contractor shall submit special reports directly to METRO within one (1) day of an occurrence on the site. A copy of the report shall also be submitted to the other entities that are affected by the occurrence within one (1) day.

6.02 REPORTING UNUSUAL EVENTS

A. When an event of an unusual, unscheduled, or significant nature occurs at the Site, Contractor shall prepare and submit a special report. Such special report shall list chain of events, and times of occurrence, persons participating, action by Contractor's personnel, an evaluation of the results or effects and similar pertinent information.

6.03 REPORTING ACCIDENTS

A. Contractor shall prepare and submit reports of accidents at Site and anywhere else related work is in progress. Report shall record and document names, dates and actions. For this purpose, "accident" is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury. Reporting shall comply with requirements of OSHA and other local authorities having jurisdiction.

PART 7-CONSERVATION AND SALVAGE

7.01 GENERAL

A. During supervision and administration of the work, construction operations shall be carried out with the maximum possible consideration given to conservation of materials. In addition, maximum consideration shall be given to salvaging materials and equipment involved in performance of the work, but not incorporated therein. Disposition of salvage materials which are METRO's property shall be as directed in writing by METRO.

END OF SECTION 01040
SECTION 01311
CONSTRUCTION SCHEDULE

PART 1 -GENERAL

1.01 DESCRIPTION
A. This Section specifies the requirements for the Construction Schedule.

1.02 QUALITY ASSURANCE
A. The scheduling approach shall be either a formal Critical Path Method (CPM) computerized schedule or a progress chart in a bar chart format of suitable scale to indicate appropriately the percentage of Work scheduled for completion by any given date during the construction period.

1.03 SUBMITTALS
A. In accordance with Section 01340 - Shop Drawings, Product Data, Samples, and Record Documents of these Specifications, the following shall be submitted:

1. Within 10 days after the effective date of the Notice to Proceed, five copies of a Schedule showing Contractor's planned operations and his planned general approach to the Work, for METRO review.

2. If the Schedules are not submitted when required, progress payments may be withheld.

PART 2 -PRODUCTS

2.01 CONSTRUCTION SCHEDULE
A. The Construction Schedule, either computer generated CPM or bar chart shall contain the following as a minimum:

1. A list of the different types of work activities or work elements.

2. The start and completion of each work activity.

3. Logical dependencies (ties) indicating what work must be accomplished before other work can begin.

4. The "weighing" or relative worth of each work activity or work element in relation to the total project cost.

2.02 CONSTRUCTION SCHEDULE SUPPORTING DATA
A. Written supporting data such as the proposed number of days per week on which work will be performed, planned number of shifts per day and number of hours per shift shall be furnished with the Construction Schedule. Unusual or unique situations or constraints shall be described.

PART 3 -EXECUTION

3.01 PREPARATION
A. Prior to performing the Work of this Section, the Contractor shall thoroughly study the sequence-of-work, R-O-W availability, utility and other work which interface with this Contract.

B. The Schedule shall be maintained by the Contractor, on a monthly basis, throughout the duration of the Contract, showing the current and forecasted status compared to the original schedule.
3.02 PROGRESS REPORTING AND CHANGES

A. Monthly Site progress meetings shall be held on dates mutually agreed to by METRO and the Contractor. The Contractor's CPM consultant, if Contractor has engaged such consultant, may be required to attend such progress meeting. Presence of subcontractors during progress meeting is optional, unless specifically required by METRO. Additional meetings may be required by METRO. The Contractor shall have his copies of the Schedule and other data required by this Section, accurately filled in and completed prior to the meeting. Work progress will be reviewed by METRO to verify:

1. Percentage for completed and partially completed activities.
2. Remaining duration required to complete each activity started, or scheduled to start, but not completed.
3. Identification of any problems that have developed or are anticipated in the next reporting period.

B. In addition to the foregoing, the Contractor shall submit a narrative report and an annotated schedule to METRO once each month. The narrative report shall include a description of the amount of progress during the last month in terms of completed activities, a description of problem areas, current and anticipated delaying factors, estimated impact on performance of other activities and completion dates and an explanation of corrective actions taken or proposed. All proposed changes in activity duration or activity dependence shall be submitted to METRO for review.

C. If, in the opinion of METRO, the Contractor has fallen behind the approved schedule, the Contractor shall take steps necessary to improve his progress, including those that may be required by METRO, without additional cost to METRO. Such METRO requirements may include an increase in the number of shifts, an increase in the number of hours or days of work and/or the amount of construction plant. The Contractor shall submit, for METRO approval, a supplementary schedule demonstrating how the approved rate of progress will be regained.

D. Failure of the Contractor to comply with METRO's requirements under this clause shall be grounds for termination of the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this Contract.

3.03 REVISIONS TO APPROVED SCHEDULE

A. If Contractor desires to change the approved schedule, METRO shall be notified in writing stating reasons for proposed change. If METRO considers the change to be of a major nature, METRO may require Contractor to revise and submit for approval, at no additional expense to METRO, all of the affected portion of the Construction Schedule to show effect on entire Project. A change may be considered to be of a major nature if either the time estimated to be required for an activity or the sequence of activities is varied to a degree that there is reasonable doubt by METRO that the Contract completion date, or dates, will be met.

END OF SECTION 01311
PART 1 -GENERAL

1.01 DESCRIPTION

A. In addition to the CONTRACT ARTICLE, "INSPECTION OF CONSTRUCTION", this section specifies the Contractor Quality Control (CQC) requirements for the Work of this Contract.

B. The Contractor is responsible for quality control and shall establish and maintain an effective quality control system to perform inspections, tests, and retesting in the event of failure for items of work, including that of subcontractors, to ensure compliance with the Contract.

1.02 CONTRACTOR QUALITY CONTROL (CQC) PLAN

A. The Contractor shall furnish two copies of the CQC plan to METRO for review and acceptance.

B. The CQC plan shall document the Contractor's policy statement regarding quality, identify the Contractor's representative responsible for CQC activities and contain a listing of definable features of work for which preparatory and completion inspections shall be conducted and documented.

C. METRO's acceptance of the CQC plan is conditional and will be predicated on satisfactory performance during construction. METRO reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

PART 2 -PRODUCTS (Not Used.)

PART 3 -EXECUTION

3.01 CONTROL/DOCUMENTATION

A. Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. METRO's Resident Engineer will ensure that all CQC meetings and inspections are properly documented and copies provided to all parties.

B. In the presence of METRO's designated representative, Contractor shall perform a CQC inspection before beginning work on each definable feature of work. Include in the inspection a review of:

1) Contract Documents
2) Approved Shop Drawings and data submittals
3) Manufacturer's recommended installation procedures
4) Manufacturer's certified test reports and certificates of conformance and compliance for materials and equipment
5) Physical examination of conformed materials and equipment
6) Request for services of independent testing laboratory
7) Procedures, tolerances and standards established

C. METRO shall have access to all work areas during the Contractor's working time and shall have the right to monitor the methods and procedures used in construction related activities and testing. METRO shall be given 24 hour notice in advance of inspections.

D. The Contractor shall maintain adequate records to provide evidence of quality and accountability. These records shall include results of inspections, tests, process controls, certification of processes and personnel, discrepant material (including records of disposition), and other quality requirements defined in the Contract. These records shall be maintained, completed, and available to METRO at all times during the performance of the Contract.

3.02 TESTING OF MATERIALS
A. The Contractor shall perform inspections, tests and other services to ensure that all work conforms to Contract requirements. To conduct such testing, the Contractor shall request the services of an independent testing laboratory employed and paid for by METRO. The Contractor shall direct its requests for testing to METRO’s Resident Engineer. The testing work performed by METRO’s independent laboratory will be under the general direction of the Resident Engineer.

B. Repeat Tests and Inspections:

The testing laboratory will perform acceptance tests and inspections as directed only once at no cost to the Contractor. The Contractor shall be responsible for the cost of all repeat acceptance tests and inspections. The Contractor shall be responsible to make corrections to nonconforming materials and workmanship.

C. Coordination:

1. It shall be the Contractor’s responsibility to cooperate and coordinate with the testing laboratory to perform the tests specified by the Contract or required by the Engineer to verify that the Contractor’s quality control measures and/or performance are adequate to provide a product which conforms to the contract requirements. For collection of test samples, conducting field tests, etc., the testing laboratory shall be given twenty-four (24) hours notice.

3.03 SUBMITTALS

A. Certify submittals required by the technical sections of the Contract by the Contractor in accordance with the Contractor Quality Control plan and submit as specified in Section -1340, "SHOP DRAWINGS, PRODUCT DATA, SAMPLES & RECORD DOCUMENTS". Clearly mark each item proposed to be incorporated into the Project, identify on the submittals and catalog cuts and cross-reference to the drawings and Specifications so as to identify clearly the use for which it is intended. Maintain at the Worksite an up-to-date submittal status log showing the status of all submittals required by the Contract.

B. Certified Test Reports: Before delivery of materials and equipment, submit for approval certified copies of the reports of all tests listed in the technical sections (and referenced publications). Accompany test reports with certificates from the manufacturer certifying that the material and equipment proposed to be supplied is of the same type, quality, manufacturer and make as that tested.

C. Manufacturer's Certificates of Conformance or Compliance: Preprinted certifications are not acceptable. The originals of all manufacturer’s certifications shall name the appropriate item of equipment or material, specification, standard or other document specified as controlling the quality of that item and have attached thereto certified copies of test data upon which the certifications are based. Furnish all certifications signed by the manufacturer's official authorized to sign certificates of conformance or compliance.

D. Laboratory Reports: The Contractor shall provide reports which cite the Contract requirements, the test or analysis procedures used, the actual test results, and include a statement that the item tested or analyzed conforms or fails to conform to the specification requirements.

3.04 NOTIFICATION OF NONCOMPLIANCE

METRO will notify the Contractor of any noncompliance with the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. If the Contractor fails or refuses to comply promptly, METRO may issue an order stopping all or part of the work until satisfactory corrective action has been taken.

3.05 COMPLETION INSPECTION

At the completion of all work or any increment thereof established by a completion time stated in CONTRACT ARTICLE, "PERIOD OF PERFORMANCE", or Specification Section 01700, "PROJECT CLOSEOUT", the Contractor, along with METRO's representative, shall conduct a completion inspection of the work and develop a "punch list" of items which do not conform to the approved plans and specifications. Such a list shall be included in the CQC documentation and shall include the estimated date by which the deficiencies will be corrected. The completion inspection and any deficiency corrections required by this paragraph will be accomplished within the time stated for completion of the entire
PART 4 - MEASUREMENT AND PAYMENT

4.01 GENERAL

No separate measurement is made for this section. The payment for work in this section is incidental to the total bid for the project.

END OF SECTION 01452
SECTION 01510
TEMPORARY UTILITIES AND OTHER FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies the requirements for providing, maintaining and removing temporary utility services, construction facilities, protection provisions and support facilities for construction and testing.

1.02 QUALITY ASSURANCE

A. Reference Standards Applicable to this Section

1. NECA: National Electrical Contractor's Association

2. NFPA: National Fire Protection Association
   a. 10: Standard for Portable Fire Extinguishers.
   b. 70: National Electrical Code.

3. UL: Underwriters Laboratories

B. Temporary facilities shall comply with the applicable regulations and standards of the City of Houston, the requirements of the utility companies involved and the requirements specified herein.

C. Electrical facilities and their installation shall comply with the applicable requirements of the City of Houston, NFPA 70, UL, and NECA NJG-6, "Temporary Job Utilities and Services Guidelines".

D. The provision and installation of fire protection facilities for construction shall comply with the applicable requirements of the City of Houston, NFPA 10, NFPA 241, and the UL.

PART 2 - PRODUCTS

2.01 TEMPORARY SUPPORT FACILITIES

A. Temporary support facilities may include, but not be limited to, field offices, storage sheds, fabrication sheds, sanitary facilities, drinking water, first aid facilities, bulletin board, telephones, clocks, thermometer, project identification signs, clean-up facilities, waste disposal service, rodent/pest control and similar miscellaneous services, all as may be reasonably required for proficient performance of the Work and accommodation of personnel at the Site, including METRO personnel.

B. Discontinue and remove temporary support facilities, and make incidental similar use of permanent work of the Project, only when and in manner authorized by METRO; and, if not otherwise indicated, immediately before time of Substantial Completion. Locate temporary support facilities for convenience of users, and for minimum interference with construction activities.

2.02 TEMPORARY UTILITY SERVICES

A. Water Service

1. Water service shall comply with the applicable requirements of City of Houston, Public Works Department,
Water Division.

2. Water shall be potable, from municipal supplies approved by the State or City Health Department.

B. Electrical Service

Electrical service shall comply with the applicable requirements of City of Houston, NFPA 70, Houston Lighting and Power Company, and NECA NJG-6, "Temporary Job Utilities and Services Guidelines".

C. Telephone Service

1. Telephone service shall comply with the applicable requirements of Southwestern Bell Telephone Company.

2. Provide two (2) phone lines to METRO’s field office.

D. Contractor shall be responsible for all Temporary Utility Service Fees.

2.03 TEMPORARY CONSTRUCTION FACILITIES

A. Water Distribution System

A water distribution system shall be provided which is sufficient to provide the water needs for construction operations and Site fire protection.

B. Enclosures

Temporary enclosures shall be provided as needed and where required to ensure protection from inclement weather and unsatisfactory ambient conditions. Tarpaulins, where used, shall be UL labeled and have a flame spread of 15 or less.

C. Heating

Temporary heating shall be provided where necessary to ensure specified minimum ambient conditions for installation of materials. Fuel-burning heaters shall be equipped with individual-space thermostatic controls and be UL labelled. Spaces heated with fuel-burning heaters shall have adequate ventilation. Oil-fired heaters shall not be used.

D. Electrical Service Distribution System

1. An electrical service distribution system shall be provided which is sufficient to accommodate construction operations requiring electrical power, use of power tools, electric heating, lighting and start-up testing of permanent electric-powered equipment prior to connection to permanent electrical system.

2. Distribution system shall be weatherproof, grounded and provided with short circuit and overload protection. Outlets shall be spaced so that any area requiring power tools can be reached with a single 100 ft. extension cord.

3. Engine-driven power-generators shall be provided for power for electric welding.

E. Lighting

Lighting shall be sufficient to ensure proper workmanship throughout construction. Task lighting shall be provided as necessary.

F. Access Provisions

Ramps, stairs, ladders, sidewalk bridges and protection, and similar temporary access provisions shall be provided as required to safely perform the Work and facilitate its inspection.

G. Roads and Parking Areas

Temporary roads and parking areas shall be provided to service construction areas. Roads and parking areas shall be
surfaced sufficiently to provide all-weather, uninterrupted access. Access to the site for construction vehicles and equipment shall meet the requirements of the project's storm water pollution prevention plan as specified in Section 01566 - Storm Water Pollution Prevention Plan.

2.04 TEMPORARY PROTECTION PROVISIONS

A. Telephone Service

Telephone service shall be provided, accessible to all construction personnel, for emergency use. Emergency telephone service shall have emergency telephone numbers prominently displayed. Emergency telephone numbers shall include METRO transit police, local police, ambulance, fire department, utility companies and other emergency telephone numbers as may be required.

B. Environmental Protection

Environmental protection shall be provided as specified in Section 01560 - Environmental Impact Controls of these Specifications.

C. Fire Extinguishers

Provide types, sizes, numbers and locations as would be reasonably effective in extinguishing fires during early stages at Project Site. Provide Type A extinguishers at locations of low-potential for either electrical or grease-oil-flammable liquids fires; provide Type ABC dry chemical extinguishers at other locations; comply with recommendations of NFPA No. 10. Post warning and quick-instructions at each extinguisher location, and instruct personnel at Project Site, at time of their first arrival, on proper use of extinguishers and other available facilities at Project Site. Post local fire department and METRO Transit Police call number on each telephone instrument at Project site.

2.05 TEMPORARY SUPPORT FACILITIES

A. Field Office

A field office shall be provided as specified in Section 01590 - Field Office of these Specifications.

B. Construction Support Facilities and Equipment

Construction support facilities and equipment shall be provided as specified in Section 01505 - Mobilization of these Specifications.

C. Sanitary Facilities

Temporary sanitary facilities shall be provided at accessible locations, and shall be secluded from public observation insofar as practicable. Facilities shall be relocated as the center of activity moves. Sanitary facilities shall be serviced as often as necessary to prevent accumulation of wastes and unsanitary conditions.

D. First Aid Facilities

First aid facilities shall be provided consisting of the following:

1. Supplies: Not less than one 16 unit first aid kit for each 50 persons, or fraction thereof, employed at the Site.

2. Personnel: Not less than one certified First Aid person for each 50 persons, or fraction thereof, employed at the Site. First aid personnel shall have valid certificates issued by the U.S. Bureau of Mines or the American Red Cross. First aid personnel shall be provided with a hard hat with the first aid emblem affixed. First aid personnel may be assigned other duties not interfering with their first aid duties.

E. Drinking Water

Drinking water shall be provided in dispenser-type units. Dispenser units shall have adequate supplies of paper cups and waste receptacles. Drinking water shall be cooled during hot weather.
F. Contract Identification Signs

Identification signs shall be provided and located as directed by METRO. Size of sign, wording, letter sizes, colors, layout, and construction shall be as shown on METRO Standard Drawing No. TRS-1053-2.

PART 3 -EXECUTION

3.01 INSTALLATION

A. Temporary facilities shall be established prior to beginning construction operations requiring the use of the temporary facility.

B. Facilities shall be installed, operated, maintained and relocated as necessary. Installations shall be at locations which will be non-hazardous, sanitary, protective of persons and property and free of deleterious effects.

3.02 REMOVAL

A. Temporary facilities shall be removed when the need for the facility no longer exists. The area occupied by the facility shall be cleaned and restored to its original condition or as directed.

END OF SECTION 01510
SECTION 01541

MAINTENANCE AND PROTECTION OF UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies the requirements for providing protection, support, removal of existing supports, and maintenance of existing utilities within, adjacent to, or affected by the Work under this Contract.

1.02 QUALITY ASSURANCE

A. Reference Standards Applicable to this Section

1. ANSI: American National Standards Institute
   a. A 10: Safety Requirements Series.

2. AWWA: American Water Works Association
   a. Standards and Manuals.

3. City of Houston

4. NECA: National Electrical Contractors Association


B. Work Standards

Utilities shown on the Contract Drawings and encountered in the limits of the Work area shall remain in service and be maintained in-place and protected in their locations, unless otherwise specified or indicated. Methods of temporary support and protection of various facilities, if shown on the Contract Drawings, are suggestions only, and the requirements specified herein shall apply. Such suggestions shall not be construed as dictating the Contractor’s methods, means, techniques, sequences, and procedures.

C. Locating Utilities

Within the limits of and adjacent to the Work, there are known to exist public and private utilities, storm and sanitary sewers, underground and aerial power lines, telephone lines, TV cable and communication lines, gas and water service lines, street lighting, traffic signalization, and petroleum product lines.

1. The Contract Drawings indicate known existing utilities, and proposed utilities by others, in their approximate locations from information shown on record drawings, furnished by others as of the date of the contract drawings.

2. METRO does not warrant the accuracy of these locations, nor that all existing utilities within the limits of the
Work have been shown on the Drawings.

3. Before commencing the Work, coordinate with utility owners to determine actual location of existing and proposed utilities. Location of utilities, as indicated, shall not relieve the Contractor of his contractual obligations of contacting utility owners. Municipally owned utility lines such as water, sanitary sewer, storm sewer, and traffic signalization may not be located by their owners and in such case determine the location of each affected line, structure, or apparatus. Coordinate all Work affecting the utilities with appropriate utility owners and the Engineer.

4. Before commencing the Work, contact the owner and verify by field investigation the locations of all utility facilities within and adjacent to the construction limits that may be affected by Work operations. Conflicts which result due to failure to locate, existing utilities which are shown on the Construction Drawings or which the Contractor has been given notice or has knowledge of, shall be the sole responsibility of the Contractor. The cost of remedial work, removal of portions of the work or extensive design changes occasioned by the failure of the Contractor to verify the location of existing utilities as described above, shall be borne by the Contractor.

5. If a utility line, structure, or apparatus which was not located and was not shown on the plans is encountered, notify the Engineer and determine ownership of that utility. If ownership cannot be determined through reasonable inquiry to utility owners, the utility line, structure, or apparatus shall be treated as an active utility. As appropriate, either provide support of the utility across or adjacent to the excavation as required to proceed with the work or make a more in-depth investigation of the utility line, structure, or apparatus if the location impacts the work and proceed as directed by the Engineer.

D. Notices

1. Provide written notice to all public and private utility owners at least 14 days prior to scheduled commencement of work.

2. Notify the Utility Coordinating Committee's (UCC) one-call center at (713) 223-4567, and other necessary one-call centers at least 48 hours before commencing excavation. Weekends and holidays shall not be included in the 48 hour notice period. Locate requests to one-call centers shall be made only for work that is scheduled to be performed within the next ten working days and shall not exceed a fourteen calendar day period.

3. The notification to the one-call center shall not relieve the Contractor of his responsibility to notify all public and private utilities, municipalities and agencies having jurisdiction.

4. Maintain a log of all locate requests at all times and it shall be made available to the Engineer upon request. The log shall contain an accurate description of the instructions to the municipalities, utility companies, the name of the one-call center, date of the contact, the notification number provided by the one-call center if applicable.

5. If a locate request is not fulfilled by a member of the appropriate one-call center, contact the one-call notification center and request a status on the "locate" requested for the non-responsive utility company and notify Engineer. If during the status investigation the utility has indicated either they have no facilities in the vicinity of the work and the contract documents depict a utility line, structure, or apparatus or that they did not respond, the appropriate one-call center will re-notify the utility that a "locate" is required. If a "locate" of the utility line, structure or apparatus is still not made and the plans indicates a utility line, structure, or apparatus exists in the vicinity of the excavation, contact the appropriate one-call center for a direct contact with the non-responsive utility company. The utility company contact provided by the one-call center shall be used only for the specific non-response for that locate request. All subsequent utility locate requests shall be in accordance with the provisions of these contract documents.

6. Notify in writing all utility owners not belonging to a one-call center at least 72 hours in advance of his intent to excavate any segment of the Site, so each utility owner may mark utility locations to ensure safety of utilities as required by law. Weekends and holidays shall not be included in the 72 hour notice period.

7. Notify the Engineer immediately and notify in writing within 24 hours the affected utility owners and METRO of damage to or loss of any utility. Repairs will be made by the utility owner, or by Contractor when directed
by the Utility owner, at the Contractor's expense, for damage or loss caused by the Contractor's or his subcontractor's operations.

8. The City of Houston, other cities in the area, municipal utility districts, water control and improvement districts, and Harris County are not members of a one-call system. Determine the exact location of these utilities prior to excavating. The Engineer will supply the name, address and phone number of each municipal utility owner representative.

1.03 OTHER CONTRACTS

A. Contracts may be let for utility relocation. The Contractor shall be cognizant of these relocations, and protect and support in-place as necessary the relocated utilities. When an underground facility, according to the plans, will be excavated beneath, or the soil support undermined, develop and submit to the utility owner for approval, a design of the proposed support system. Support system designs shall be submitted to the utility owner a minimum of 14 calendar days prior to the proposed excavation around the utility line, structure, or apparatus. Supports and protection shall be removed when no longer needed by the Contractor or utility owner, and as directed by the Engineer.

1.04 SAFETY


1.05 REARRANGEMENT OF UTILITY FACILITIES

A. Rearrangement of existing utility will be performed by their owners, or others as deemed appropriate by utility owners, in close coordination with the Work of this Contract. For rearrangement of utilities by owners, give the owners advance written notice of the Work schedule. Written notice to utility owners shall be at least 14 working days prior to the Contractor's scheduled commencement of Work. However, rearrangements by owners may or may not be started or completed at the end of the minimum notice period. The Engineer may direct the Contractor to schedule and participate in meetings with utility owners as deemed necessary by the Engineer to coordinate both Contractor's and utility owner's work schedules.

B. Where utilities or their appurtenances conflict with permanent construction, work involved in permanently relocating or otherwise altering such utilities and their appurtenances will be done by utility owners or others.

C. If the Contractor wishes to have any utilities temporarily or permanently relocated, braced, or otherwise supported for his own convenience, he shall make necessary arrangements with utility owners and compensate them at his own expense for the cost of such work as mutually agreed upon. Compensation shall be by certified check in advance of the contemplated work.

D. In accordance with OSHA Section 1926.651 General Requirements, utilities exposed in the excavation shall be protected, supported or removed as necessary to safeguard employees.

1.06 COOPERATION AND ACCESS

A. Provide access to utility owners, and others as designated, to the Work Site at all times to relocate, service, and inspect their facilities. Cooperate with utility owners and others in facilitating such work so as not to delay the Work of this Contract.

1.07 CONTINUITY OF SERVICE

A. Ensure continuity of utility service and maintain, in a safe and satisfactory operating condition, all overhead, surface, and subsurface utilities. This Article shall apply equally to utilities owned or operated by METRO, public utilities, and private owners.

B. Existing service connections to buildings are not necessarily shown on the Drawings, but protect, support, and maintain such connections to ensure continuous service.
1.08 PRESERVATION OR ABANDONMENT OF PROPERTY

A. Rearranged facilities and existing utilities not indicated as abandoned or to be abandoned shall be protected. When a utility has been placed in-service, the utility owner will verify that those facilities to be abandoned are out-of-service before the Contractor starts work in that area. Abandoned utilities shall be verified by the utility owner and Contractor before removal of the utility. Verification shall be confirmed in writing by the Contractor to both the utility owner and the Engineer.

1.09 SUBMITTALS

A. In accordance with Section 01340 - Shop Drawings, Product Data, Samples, and Record Documents of these Specifications, prepare and submit Shop Drawings to the Engineer and utility owners for review and approval of all utilities which conflict with construction of the Work.

B. Work Plan

Shop Drawings shall identify the plan and schedule for performing the Work. The plan for performing the Work shall include, but not necessarily be limited to, the horizontal and vertical locations of existing and rearranged utility services, conflicts which such utilities and facilities present to the Work, details of proposed temporary support and protection systems for facilities designated on the Contract Drawings, or where required to be protected and supported, and how the Contractor proposes to proceed with the Work. Work shall not be started until the Engineer and the utility owner have approved the plan in writing. Approval shall not relieve the Contractor of his obligation to comply with the Contract Documents.

C. Notices

Submit to the Engineer a copy of all notices and correspondence with utility companies and public agencies including locate requests.

PART 2 -PRODUCTS

2.01 GENERAL

A. Unless otherwise specified or indicated, all materials for Work hereunder shall conform to the requirements of the respective Sections of these Specifications for each system to which such materials pertain.

B. Existing manhole frames and covers, grates, valve boxes, indicator posts, curb cocks, meter boxes, and similar items shall be adjusted, supported in place, replaced in kind, or repaired to governing standards for which such materials pertain.

C. Existing utility poles indicated on the drawings may or may not be relocated by their owners. Unless indicated otherwise on the drawings, assume utility poles are to remain in place.

PART 3 -EXECUTION

3.01 INSPECTION

A. Locate and identify subsurface existing structures indicated to remain before beginning the Work in the vicinity of such structures. Work shall be performed so as not to damage existing subsurface structures.

3.02 EXCAVATION, BACKFILLING, AND COMPACTION

A. All excavation shall be in accordance with Section 02161 - Trench Safety Systems, of these Specifications.

B. Perform backfilling and compaction as specified in Section 02200 - Earthwork of these Specifications.

3.03 REMOVAL AND REPLACEMENT OF PAVEMENTS, SIDEWALKS, CURBS, AND GUTTERS

A. Remove and replace pavements, sidewalks, curbs and gutters as required to perform excavation work. Each utility
owner will perform removal and restoration work as required for their appropriate portion of the Work, unless otherwise indicated or directed by the Engineer.

3.04 UNSAFE AND UNSUITABLE FACILITIES

A. If condition or location of a facility is unsafe or unsuitable for maintenance and support, and if an unsafe or unsuitable condition is a result of work performed by utility owners, the Contractor shall immediately notify the Engineer and the utility owner, with written follow-up within 24 hours, of the conditions requiring remedial action. Do not proceed further without written direction from the Engineer.

3.05 SANITARY, STORM AND COMBINED SEWERS

A. Maintain active sewers, house connections and laterals in operating condition and a closed system at all times. Adequate precautions and safety measures shall be taken to avoid flooding of the job during storms and to avert dangers from sudden increases in flows, for any reason, that might clog, damage, or interfere with normal operations. Discharge of storm water and construction-generated sediment into the sanitary and combined sewer systems, and flow of waste water contaminants across surfaces of streets, property, into open excavations or other natural or man-made systems shall not be permitted. Work hereunder shall be coordinated with that of Section 01560 - Environmental Impact Controls of these Specifications.

B. Temporary sewer facilities and supports of design and capacity necessitated by construction shall be provided where indicated or required. Plan and design temporary sewer facilities and supports and construct same in accordance with approved Shop Drawings. Furnish, install, maintain and ultimately remove temporary sewer facilities and supports. Furnish and install new sewer facilities at proper line and grade, as indicated or required.

C. Maintain minimum requirements for backfilling and compacting exposed existing sewer facilities and for new installations in accordance with City of Houston Standard Specifications listed in Section 1.02-A-3, above.

3.06 WATER MAINS

A. Maintain continuity of all existing water mains, and shall provide for temporary support and protection of these facilities at the Site.

B. Details for supporting water mains during construction shall be submitted in writing a minimum of 14 calendar days prior to excavation for review and approval by the City of Houston Water Department.

C. Perform work in connection with relocation, removal, replacement, and construction of new, permanent and temporary water mains and service connections as indicated. Where water mains are to be abandoned or taken out of service, City of Houston Water Department will disconnect lines and services and cap water mains prior to any removal work except as indicated or provided for in the contract documents. City of Houston Water Department will supervise removal of temporary supports from its lines, and placement and compaction of backfill around and over its water lines.

D. City of Houston Water Department will disinfect the water main and perform one bacteriological test on Contractor-installed mains. Retests will be done at the Contractor’s expense and with no increase in Contract time.

E. Conformance to the Specifications of the City of Houston Water Department, as listed in Section 1.02-A-3 above and applicable AWWA Standards and Manuals shall be required.

F. Perform hydrostatic or pressure tests.

3.07 ELECTRICAL DISTRIBUTION AND SERVICE

A. Maintain continuity of existing electrical facilities and provide protection of Houston Lighting & Power Company facilities on the Site.

B. When excavating within five feet (5-feet) and beneath a depth of three feet (3-feet) below existing grade of a utility pole or anchor to which HL&P Company facilities are attached, HL&P Company or its contractor will secure or otherwise brace these poles and anchors prior to excavation. The cost of Houston Lighting and Power’s work shall be included in the contract bid price and no additional compensation will be made.
C. HL&P will perform all work in connection with relocation, removal, replacement, and construction of new permanent building service connections, duct banks, and manhole adjustments, at no cost to the Contractor, unless otherwise indicated. Where electric lines are to be abandoned or taken out of service, HL&P will disconnect lines and services prior to any removal work by the Contractor. HL&P will oversee removal of temporary supports from its underground facilities, and also oversee placement and compaction of backfill around and over its underground facilities.

D. Details for electrical ducts and manholes to be supported in-place during construction shall be submitted in writing a minimum of 14 calendar days prior to excavation for review and approval by HL&P.

3.08 GAS MAINS AND SERVICES AND PETROLEUM PRODUCT LINES
A. Maintain continuity of existing gas facilities and protection of Entex facilities during construction operations.

B. Entex or its designated contractor, will perform all work in connection with relocation, removal, replacement, support, and construction of permanent and temporary gas mains and service connections identified in the Contract. Where gas mains are to be taken out of service or abandoned, Entex will disconnect mains and services and cap mains to remain, prior to any removal work by the Contractor. Entex will oversee removal of temporary supports from its line, and placement and compaction of backfill around and over gas mains.

C. Entex will provide details for supporting in-place, its gas facilities during construction. A minimum of 14 calendar days prior to excavation submit in writing to Entex details for any alternative system for supporting in-place, the Entex gas facilities during construction. Entex is under no obligation to approve the Contractor's proposed system for supporting in-place, the Entex gas facilities.

D. Articles 3.08 A thru C hereinabove shall apply as appropriate to petroleum product or other natural gas facilities, with the owners thereof substituted in lieu of Entex.

3.09 TELEPHONE FACILITIES
A. Maintain continuity of existing telephone facilities and temporary support and protection of these facilities on the Site.

B. Southwestern Bell Telephone Company, or its designated contractor, will perform all work in connection with relocation, removal, and replacement of telephone service identified in the Contract. Where telephone lines are to be abandoned or taken out of service, Southwestern Bell Telephone Company, or its designated contractor, will disconnect lines and services prior to any removal work by the Contractor. Southwestern Bell Telephone Company will supervise removal of temporary supports from its lines, and also supervise placement and compaction of backfill around and over its underground facilities.

C. Details for telephone ducts and manholes to be supported in-place during construction shall be submitted by the contractor in writing a minimum of 14 calendar days prior to excavation for review and approval by Southwestern Bell Telephone Company.

D. Provide support and otherwise brace utility poles and anchors on which there are no Houston Lighting and Power facilities as required. Maintain the facility in a safe condition. Prevent any movement of utility poles and anchors during or as a result of the excavation.

3.10 TRAFFIC SIGNALS
A. Maintain continuity of existing and rearranged facilities, and temporary support and protection of these facilities on the Site as directed by the City of Houston and the engineer.

3.11 STREET LIGHTS
A. Maintain existing intensity and adequacy of illumination along all pedestrian walkways, grade separations, and streets where existing lighting has been removed or disconnected for construction, as directed by HL&P and the Engineer.

3.12 CABLEVISION, WESTERN UNION AND OTHER COMMUNICATION FACILITIES
A. Maintain continuity of existing and rearranged facilities, by providing adequate temporary support and protection of facilities on the Site, as directed by the facility owner and the Engineer.
3.13 OTHER FACILITIES

A. Maintain continuity of any and all facilities, adequate temporary support and protection of these utilities at the Site as directed by the Engineer.

END OF SECTION 01541
SECTION 01560
ENVIRONMENTAL IMPACT CONTROLS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies the controls required to control and minimize environmental impact caused by construction activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 GENERAL

Contractor shall provide facilities, establish procedures, and conduct construction activities in a manner which will ensure compliance with those regulations controlling construction activities at Project Site. Contractor shall designate one person, the General Superintendent or other, to enforce strict discipline on activities related to generation of wastes, pollution of air/water/soil, generation of noise, and similar harmful or deleterious effects which might violate regulations or reasonably irritate persons at or in vicinity of Project Site.

3.02 NOISE CONTROL

A. General

1. Noise caused by construction activities shall be minimized. Construction equipment and machinery shall be equipped with efficient noise suppression devices for the protection of both employees and the public.

3.03 TEMPORARY IMPROVEMENTS FOR WATER QUALITY/FLOODING/ DRAINAGE

A. Work hereunder shall be coordinated with the work of Section 01505 - Temporary Facilities of these Specifications. The City of Houston and Harris County Flood Control District and Water Pollution ordinances of the City, State and Federal Governments and the Texas Natural Resource Conservation Commission (TNRCC) regulations shall govern.

B. Temporary improvements shall be demolished when no longer required. Debris shall be removed and Site shall be restored to its original condition or as directed by METRO.

3.04 AIR POLLUTION

A. Motor Emissions

1. Emission control devices shall be used on gasoline and diesel construction equipment. Idling and unnecessary operation of equipment shall be prohibited to prevent and control air pollution in accordance with applicable City of Houston ordinances and Environmental Protection Agency criteria.

2. Contractor shall use low-sulfur (500 ppm or less) diesel fuel in all diesel operating vehicles and motorized equipment used by the contractor and its subcontractors in the performance of this work. No diesel operating vehicle or motorized equipment used in the performance of this work shall utilize a high-sulfur diesel fuel in excess of the required 500 ppm sulfur content. If the contractor or its subcontractors are found to be using high-sulfur diesel fuel during the performance of this work, METRO may, at its discretion, order the contractor to cease operation of all such vehicles and motorized equipment until this requirement has been complied with. The contractor shall not be entitled to any claims for compensation therefor. Either off-road sulfur "red-eye" diesel fuel or on-road low-sulfur diesel containing 500 ppm or less sulfur content may be used to comply with this requirement. Contractors and subcontractors using this type of fuel must have invoices/receipts available upon demand by METRO’s Contract Administrator to ensure compliance with this low-sulfur fuel use requirement.

B. Dust Control
Work and access areas shall be maintained free of dust. Loaded trucks shall be covered and dust-generating surfaces shall be sprinkled with water or receive a light application of bitumen. Trucks and equipment shall be washed down prior to leaving the construction Site. Adjacent streets shall be swept as directed by METRO to remove all spilled material. Sediments and construction materials reaching a public or private road shall be removed by street cleaning, not flushing before the end of each working day.

C. Burning

Burning of trees, shrubs, rubbish and other materials is prohibited. Burning of waste materials on METRO-controlled property will not be permitted. All materials shall be disposed of off-site in a legal manner.

3.05 EROSION AND SEDIMENT CONTROLS

A. General

Erosion and sediment controls shall:

1. Divert upslope water around disturbed areas of the Site.
2. Limit the exposure of disturbed areas of the Site.
3. Remove sediment from storm water before it leaves the Site.

B. Seeding, mulching, netting and watering shall be provided on sloped surfaces, berms at the top of the slopes, interceptor ditches at end of berms and at locations to ensure that erosion during construction will be minimized.

C. Sediment Controls

1. Silt dams, traps, dikes, barriers, fences, and related control appurtenances shall be provided as required to prevent sedimentation of existing drainage systems.
2. Temporary improvements for sedimentation control shall be removed upon completion of the Work for which the controls were provided.

D. Stabilization Practices

1. Undertake stabilization practices to cover or maintain existing cover over site soils. Minimize the amount of existing vegetated area that is disturbed or denuded, especially those areas outside the immediate zone of construction activity.
2. Stabilization practices shall include temporary and permanent seeding, mulching (or combinations of seeding and mulching applied by hydraulic planting or hydro-mulch seeding), sodding, the use of vegetative buffer strips, protection of trees and other mature vegetation, the use of woven geotextile fabrics, riprap, gabions; erosion mats, blankets or netting made of certain fibrous materials; and other appropriate measures, such as specialized soil retaining systems, or other practices specified or approved by METRO.

E. Implementation of Stabilization Practices

1. Stabilization practices shall be undertaken within 14 days after construction activity on any portion of the construction site has temporarily or permanently ceased.

2. If construction activities on a portion of the site are scheduled to resume within 21 days of being suspended, METRO may allow the Contractor to delay implementing temporary stabilization on that portion of the site if its storm water runoff is discharged through an appropriate sediment trapping device.

3. METRO will determine the definition of Portion of the Construction Site based on construction sequencing, the Contractor's submitted construction schedule, or the type and scope of the project.

F. Construction and Maintenance of Stabilization Practices
1. Stabilization practices shall be in accordance with HC/COH Storm Water Management Handbook for Construction Activities, Appendix C; as specified in Sections 01533 - Tree Protection and Trimming of these Specifications, 02933 - Seeding of these Specifications, and 02935 - Sodding of these Specifications; as shown on the drawings; and in accordance with the project Storm Water Pollution Prevention Plan (SWPPP) specified in Section 01566 - Storm Water Pollution Prevention of these Specifications.

2. Stabilization practices shall be inspected after each storm event of record for erosion or other storm related damage. Repair any storm damage within 24 hours of said inspection and promptly repair any other degradation to the effectiveness of a specific stabilization practice.

G. Structural Practices

1. Structural practices specified in the project SWPPP shall be designed to prevent water from crossing disturbed areas of the site or to remove sediment from site runoff before it is discharged or both.

2. Approved structural practices shall include earth dikes and drainage swales (when combined, commonly called diversions), silt fences, sediment traps, check dams, level spreaders, subsurface drains, pipe slope drains, temporary storm drain diversions, storm drain inlet protection, rock outlet protection, sump pits, temporary or permanent sediment basins, temporary waterway crossings, wind breaks, construction entrance/exit stabilization measures, and other practices specified or approved by METRO.

3. Structural practices that are not approved for implementation on METRO projects include the use of brush barriers and the use of straw bales as sediment fences, traps, barriers, dikes, or check dams - inclusive of whether or not said brush barriers or straw bales are proposed to be covered with filter fabric.

H. Construction and Maintenance of Structural Practices

1. Structural practices shall be in accordance with HC/CH Storm Water Management Handbook for Construction Activities, Appendix C, and in accordance with the dimensions shown on drawings or specified in the project SWPPP or both.

2. Structural practices shall be inspected after each storm event of record for damage or sediment accumulation. Repair any storm related damage within 24 hours of said inspection and otherwise perform routine maintenance of structural practices as stated in the project SWPPP, or as directed by METRO.

3.06 STORM WATER MANAGEMENT MEASURES (SWMMs)

A. Specified Management Measures

SWMMs include the use of on-site infiltration devices, storm water flow attenuation by the use of vegetative swales or natural depressions, storm water outfall velocity dissipation devices, storm water retention structures including those with artificial wetlands, storm water quality detention structures, combinations of these management measures, and other approved measures.

B. Construction and Maintenance of SWMMs

1. SWMMs shall be constructed in accordance with the project plans and/or as specified in the project SWPPP.

2. SWMMs that are constructed to function during construction shall be inspected after each storm event of record for damage or sediment accumulation. Repair any such storm related damage within 24 hours of said inspection and shall otherwise perform routine maintenance of SWMMs as stated in the project SWPPP, or as directed by METRO.

3. Responsibility for the maintenance of permanent SWMMs constructed as part of the project shall revert to METRO or another designated party at the completion and close-out of the project.

3.07 CONSTRUCTION SITE HOUSEKEEPING BEST MANAGEMENT PRACTICES

A. General
Appropriate construction site housekeeping Best Management Practices (BMPs) shall be instituted to minimize the opportunities for toxic and hazardous substances to enter storm water discharges from construction activities.

3.08 CLEANING

A. Safety Requirements

1. The Site shall be maintained in a neat, orderly and hazard-free condition in accordance with local ordinances and anti-pollution regulations until final acceptance of the Work.

2. Volatile wastes shall be stored in covered metal containers and removed from the Site daily.

3. Accumulation of wastes which create hazardous conditions shall be prevented.

4. Adequate ventilation shall be provided during the use of volatile or noxious substances.

B. Interim Cleaning

1. Cleaning shall be performed daily to ensure that the Site facilities, shelters, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.

2. Loose materials on exposed surfaces shall be removed or secured at end of each day's work or more often to maintain the Site in hazard-free condition. Dislodgement of materials due to wind and other forces shall be prevented.

3. Dry materials and rubbish shall be wet down to prevent blowing dust.

4. On-site containers shall be provided for collection of waste materials, debris and rubbish. Containers shall be regularly emptied and contents disposed of legally off-site.

5. Interiors of shelters shall be vacuum cleaned when ready to receive finish painting or special coatings. Vacuum cleaning shall continue as required, until shelters are ready for final acceptance.

6. Dropping or throwing of materials from heights will be prohibited.

7. Cleaning operations shall be scheduled so that dust and other contaminants resulting from cleaning processes will not fall on wet, newly painted surfaces.

8. Waste materials shall not be buried in site excavations.

C. Final Cleaning

1. Refer to Section 01700 - Project Closeout of these Specifications. A final inspection shall be conducted, in the company of METRO, of exposed interior and exterior surfaces in preparation for Substantial Completion. The cognizant METRO Division Directors and Assistant General Managers may be in attendance.

2. Grease, dust, dirt, stains, spilled paint and concrete, labels (except UL and FM labels), fingerprints and other materials shall be removed from exposed finished surfaces.

3. Marred surfaces shall be repaired and refinished to specified finish to match adjacent surfaces at no additional cost to METRO. Paved surfaces shall be broom cleaned.

4. Thoroughly sweep and washdown pavement surfaces on or along the site and adjacent streets or properties subject to off-site tracking of sediments or fugitive dust as specified in this Section and the project's SWPPP specified in Section 01566 - Storm Water Pollution Prevention of these specifications.

5. Cleaning operations shall continue until Work has been finally accepted by METRO in writing.

3.09 SITE SPECIFIC COMMITMENTS
A. Where specific mitigation measures or more rigorous criteria and specifications are identified in such documents, the more stringent requirements shall take precedence over these Specifications.

END OF SECTION 01560
SECTION 01573
TEMPORARY TRAFFIC LIGHTING DEVICES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies the requirements for furnishing, installing, relocating, maintaining and subsequently removing the temporary traffic lighting devices as required by public agencies having jurisdiction, Section 01570 - Traffic Regulation of these Specifications, and as directed by METRO. The following types of lighting devices are specified:

1. Warning light, Type A, Low Intensity.
2. Warning light, Type B, High Intensity.
3. Warning light, Type C, Steady Burn.
4. Arrow board, Type A.
5. Arrow board, Type B.
6. Arrow board, Type C.

1.02 QUALITY ASSURANCE

A. Reference Standards Applicable to this Section

1. TxDOT: Texas Department of Transportation.

2. The above referenced standard may be obtained from:

   Texas Department of Transportation
   Highway Building
   11th and Brazos Streets
   Austin, Texas 78701
   Telephone: (512) 475-2081

B. All temporary traffic lighting devices shall comply with the requirements of the TxDOT Manual on Uniform Traffic Control Devices for Streets and Highways and the applicable regulations and standards of Harris County, Texas and the City of Houston, Texas.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Lighting Devices

Temporary traffic lighting devices shall comply with the requirements and recommendations of Part VI, Section E - Lighting Devices in the TxDOT Manual on Uniform Traffic Control Devices for Streets and Highways.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Temporary traffic lighting devices shall be furnished, installed, relocated, maintained and removed in accordance with the requirements and recommendations of Part VI of the TxDOT Manual on Uniform Traffic Control Devices for Streets and Highways, other applicable public regulations, and as directed by METRO.
3.02  REMOVAL AND RELOCATION

A.  At the completion of each stage of traffic regulation, all temporary lighting devices used during that stage shall be relocated as required for the next stage of traffic regulation, as indicated on the Drawings and as directed by METRO. At the completion of the final stage of traffic regulation, all temporary lighting devices shall be removed from the Site.

END OF SECTION 01573
PART 1 -GENERAL

1.01 DESCRIPTION
   A. This Section specifies the requirements for completing, documenting, and closing out the Project.

1.02 DEFINITIONS
   A. Project Closeout

   Project closeout is the term used to describe certain collective requirements, indicating completion of the Project, that are to be fulfilled near the end of the Contract Period of Performance in preparation for final acceptance of the Project by METRO, as well as final payment to the Contractor and the normal termination of the Contract.

   B. Other Requirements

   Specific requirements for individual units of work shall be as included in the appropriate Sections in Divisions 2 through 16 of the Contract Documents.

   C. Time

   Time of closeout is directly related to "Substantial Completion"; therefore, the time of closeout may be either a single time period for the entire Project or a series of time periods for individual elements of the Project that have been certified as substantially complete at different dates. This time variation, if any, shall be applicable to the other provisions of this Section.

   D. Substantial Completion

   This milestone shall be the stage of the Project at which when solely determined by METRO, the Project is ready for intended service to the extent required by METRO.

1.03 PREREQUISITES TO SUBSTANTIAL COMPLETION
   A. General

   Contractor shall complete the following, as applicable, before requesting METRO's inspection for certification of Substantial Completion, either for the entire Project or for portions of the Project. List known exceptions in the request.

   1. In the progress payment request that coincides with, or is the first request following, the date Substantial Completion is claimed, show either 100% completion for the portion of the Project claimed as "substantially complete", or list incomplete items, the value of incomplete work, and reasons for the work being incomplete. Include supporting documentation for completion as indicated in the Contract Documents.

   2. Submit a statement showing an accounting of Change Orders to the Contract Sum.

   3. Advise METRO of all pending insurance change-over requirements.

   4. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.

   5. Obtain and submit releases enabling METRO's full, unrestricted use of the Project and access to services and utilities. Where required, include occupancy permits, operating certificates and similar releases.

   6. Assemble Record Drawings, maintenance manuals, final photographs, damage or settlement survey, property survey, and similar final record information for turnover after final acceptance.
7. Assemble special tools, spare parts, extra stock of material and similar physical items for turnover after final acceptance.

8. Make the final change-over of locks and transmit the keys to METRO. Advise METRO personnel of the change-over in security provisions.

9. Complete start-up testing of systems, and instruction of METRO operating and maintenance personnel. Discontinue or change over and remove temporary facilities and services from the Project Site, along with construction tools and facilities, mock-ups, and similar elements.

10. Complete final cleaning up requirements, including touch-up painting of marred surfaces. Touch-up and otherwise repair and restore marred exposed finishes.

B. Inspection Procedures

Upon receipt of the Contractor's request for inspection, METRO will either proceed with inspection or advise the Contractor in writing of unfilled prerequisites. Following the initial inspection, METRO will either prepare the Certificate of Substantial Completion, or will advise the Contractor in writing of work which must be performed before the certificate will be issued. METRO will repeat, or have repeated, the inspection when requested and when assured that the Project has been Substantially Completed. Results of the completed inspection shall form the initial "punch-list" for final acceptance.

1.04 PREREQUISITES TO FINAL ACCEPTANCE

A. General

Contractor shall complete the following, as applicable, before requesting METRO's final inspection for certification of final acceptance, and final payment as required by the Contract Documents. List known exceptions in request.

1. Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

2. Submit an updated final cost statement, accounting for final additional Change Orders to the Contract Sum.

3. Submit a certified copy of the final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and has been endorsed and dated by METRO.

4. After receipt of Substantial Completion, Contractor shall transfer potable and irrigation water, sanitary, electrical and phone services over to METRO. Utilities shall address their invoices to:

   Director of Accounting
   Metropolitan Transit Authority
   1201 Louisiana, 18th Floor
   P. O. Box 61429
   Houston, Texas  77208-1429

   Upon transfer of utilities to METRO, Contractor shall provide documentation on date of utility transfer along with meter readings for potable and irrigation water and electric services.

5. Submit consent of surety.

6. Submit a final liquidated damages or incentive settlement statement, acceptable to METRO.

7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure

1. METRO will reinspect the Project upon receipt of the Contractor's notice that the punch-list items resulting from earlier inspections, have been completed, except for those items whose completion has been delayed because of circumstances that are known to and acceptable by METRO.
2. Upon completion of reinspection, METRO will either prepare a Certificate of Final Acceptance, or will advise the Contractor in writing of work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance. If necessary, the reinspection procedure shall be repeated until final acceptance.

1.05 RECORD DOCUMENTS REQUIRED AT CLOSEOUT

A. General

1. Requirements for Record Documents shall be as indicated herein. General submittal requirements are indicated in the various "Submittals" Articles and in Section 01340 - Shop Drawings, Product Data, Samples, and Record Documents of these Specifications.

2. Do not use Record Documents for construction purposes; protect from deterioration and loss in a secure, fire-resistant location; provide access to Record Documents for METRO's reference during normal working hours.

B. Record Drawings

1. Maintain a Record Drawings set of blue or black line white-prints of Contract Drawings and Shop Drawings in a clean, undamaged condition. Mark-up the set of Record Drawings to show the actual installation where the installed work varies from the work as originally shown. Mark whichever Drawing is most capable of showing the actual "field" condition fully and accurately; however, where Shop Drawings are used for mark-up, record a cross-reference at the corresponding location on the working drawings. Give particular attention to concealed work that would be difficult to measure and record at a later date.

2. Mark Record Drawing sets with red erasable pencil and where feasible, use other colors to distinguish between variations in separate categories of work.

3. Mark-up new information which is known to be important to METRO, but for some reason was not shown on either Contract Drawings or Shop Drawings.

4. Note related Change Order numbers where applicable.

5. Organize Record Drawing sets into manageable sets, bind with durable paper or cardboard cover sheets, and print suitable titles, dates and other identification on the cover of each set.

C. Record Specifications

Maintain one complete copy of the Contract Documents, including Specifications and Addenda, and one copy of other written documents such as Change Orders and similar modifications issued during construction. Mark these documents to show variations in the actual work performed in comparison with the text of the Specifications and modifications as issued. Give particular attention to substitutions, selection of options and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related Record Drawing information and Record Product Data, where applicable. Upon completion of the Project, submit Record Specifications to METRO for retention.

D. Record Storm Water Pollution Prevention

Maintain inspection reports on storm water pollution prevention, one copy of each revision to the SWPPP and one signed copy of the Notice of Termination, all as specified in Section 01566 - Storm Water Pollution Prevention.

E. Record Product Data

Maintain one copy of each Product Data submittal. Mark these Record Documents to show variations in the actual work performed in comparison with the submitted information. Include both variations in the products as delivered to the Site, and variations from the manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the Project which cannot otherwise be readily discerned at a later date by direct observation. Note related Change Orders and mark-up of Record Drawings and Specifications. Upon completion of mark-up, submit complete set of Record Product Data to METRO for retention.
F. Record Sample Submittals

Immediately prior to the date of Substantial Completion, the Contractor shall meet at the Site with METRO personnel who so desire, to determine which, if any, of the submitted samples that have been maintained by the Contractor during progress of the Work, are to be transmitted to METRO for retention.

G. Miscellaneous Record Submittals

Refer to other Sections of these Specifications for requirements of miscellaneous record-keeping and submittals in connection with the actual performance of the Work. Immediately prior to the date of Substantial Completion, Contractor shall complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference and submit to METRO for retention.

H. Maintenance Manuals

Contractor shall organize operating and maintenance data into sets of manageable size. Bind data into individual binders, properly identified and indexed. Bind each set of data in a heavy-duty 2-inch, 3-ring vinyl-covered binder, with pocket folders for folded sheet information. Mark the appropriate identification on both front and spine of each binder in accordance with Section 01730 - Operating and Maintenance Data.

1.06 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for project closeout. This cost will be considered incidental to the total contract bid amount.

PART 2 -PRODUCTS (Not Used)

PART 3 -EXECUTION

3.01 OPERATING AND MAINTENANCE INSTRUCTIONS AT CLOSEOUT

A. General

1. Contractor shall comply with Section 01730 - Operating and Maintenance Data of these Specifications.

2. Arrange for each Installer of operating equipment and other work that requires regular or continuing maintenance, to meet at the Site with METRO personnel to provide necessary basic instruction in the proper operation and maintenance of the entire Work. Where Installers are not experienced in the required procedures, arrange for instruction by the manufacturer's representatives.

3. As part of this instruction, provide a detailed review of the following items, as appropriate:

   Maintenance manuals
   Record Documents
   Spare parts and materials
   Tools
   Lubricants
   Fuels
   Identification systems
   Control sequences
   Hazards
   Cleaning
   Warranties, bonds, maintenance agreements and similar continuing commitments.

4. As part of this instruction, for operating equipment demonstrate the following procedures:

   Start-up
   Shut-down
   Emergency operations
   Noise, vibration, control, and flow adjustments
Safety procedures
Economy and efficiency adjustments
Effective energy utilization

3.02 FINAL CLEANING

A. General

1. Contractor shall comply with Section 01560 - Environmental Impact Controls of these Specifications. Provide final cleaning of the Project at the time so directed by METRO in writing. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a normal, commercial cleaning and maintenance program. Comply with the manufacturer's instructions for cleaning and make ready operations.

2. Complete the following cleaning operations before requesting METRO inspection for certification of Substantial Completion:

   a. Remove labels which are not required as permanent UL or FM labels.

   b. Clean transparent materials, including mirrors and glass, to a polished condition. Remove putty and other substances which are noticeable. Replace chipped or broken glass and other damaged transparent materials.

   c. Clean exposed exterior and interim hard-surfaced finishes to a dust-free condition, free of dirt, dust, stains, films and similar noticeable distracting substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors and pavers broom clean. Vacuum interior surfaces.

   d. Wipe and clean surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

   e. Clean the Project Site, including landscape areas, of rubbish, litter and other foreign substances. Sweep paved areas to a broom clean condition; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

B. Pest Control

When so directed in writing by METRO, Contractor shall engage an exterminator to make a final inspection of the Project, and to rid the Project of rodents, insects and other pests.

C. Removal of Temporary Protection

Contractor shall comply with Section 01510 - Temporary Facilities of these Specifications. Except as otherwise indicated or directed in writing by METRO, remove temporary protection devices and facilities which were installed during the course of the Project to protect previously completed work during the remainder of the construction period.

D. Compliance

Contractor shall coordinate his efforts hereunder with Section 01560 - Environmental Impact Controls of these Specifications. Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at the Site. Do not bury debris or excess materials on METRO property. Do not discharge volatile or other harmful or dangerous materials into drainage systems. Remove waste materials from the Site and dispose of in a lawful manner. Where extra materials of value, which remain after completion of associated work, have become METRO property, dispose of these materials as directed in writing by METRO.

END OF SECTION 01700
EXHIBIT B DRAWINGS

3 EXHIBIT C CONTRACTOR'S RELEASE

Pursuant to the terms of METRO Contract No. ______________, as amended, and in consideration of the sum of Dollars ($______), which has been or is to be paid under said Contract to ______________ (hereinafter called the Contractor) or its assignees, if any, the Contractor for itself and its subcontractors, upon payment of the said sum by the Metropolitan Transit Authority (hereinafter called METRO), does release and discharge METRO, its officers, agents, and employees, of and from all liabilities, obligations, claims and demand whatsoever under or arising from the said Contract, except specified claims as follows:

__________________________________________

(IF NONE, SO STATE)__________________________________________

IN WITNESS WHEREOF, this release has been executed this ___ day of _________, 20__.

By: ________________________________
    (Signature of Company Official)

CERTIFICATE

I, ________________________________, certify that I am ________________________________ (title) of the firm named as the Contractor in the foregoing release; that ________________________________, (name) who signed said release on behalf of the Contractor and its subcontractors, was the ________________________________ (title) of said firm; that said release was duly signed for on behalf of said firm and is within the scope of its powers as so constituted.

By: ________________________________
    (Signature of Certifying Person)

(If a Corporation, affix the Corporate Seal)
CONSTRUCTION SUBMITTAL FORM

PROJECT TITLE: 

CONTRACT NO. 

CONTRACTOR NAME: 

Routing sequence - Follow numbers. 
Always forward original of this form and retain copy. 

<table>
<thead>
<tr>
<th>SUBMITTAL NO.</th>
</tr>
</thead>
</table>
| Date: 
| Date: 
| Date: 
| Date: 
| Date: 

ACTION TAKEN (X)

| Approved
| REJECTED: Review and Resubmit
| For Info Only
| See Remarks

| SPEC SECT. NO.: 
| SUBCONTRACTOR: 
| 
| By signing this submittal, the Contractor hereby certifies that any iron, steel or manufactured product(s), including components, included in this submittal are produced in the United States. 
| 
| Signatures: 
| CONTRACTOR: 
| ENGINEER: 
| PROJECT MANAGER: 

SEPRA COPIES 

<table>
<thead>
<tr>
<th>IDENTIFICATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>
| 1. 
| 2. 
| 3. 
| 4. |

Remarks: 

Distribution: 

SAMPLE
## EXHIBIT E FEDERAL HIGHWAY CONSTRUCTION WAGE RATES

**GENERAL DECISION NUMBER:** TX200038  
**MODIFICATION:** 0  
**STATE:** TEXAS  
**CONSTRUCTION TYPE:** HIGHWAY CONSTRUCTION  
**PUBLISHED DATE:** January 3, 2020

<table>
<thead>
<tr>
<th>LABOR CLASSIFICATION</th>
<th>HOURLY RATES</th>
<th>LABOR CLASSIFICATION</th>
<th>HOURLY RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEMENT MASON/CONCRETE FINISHER (Paving and Structures)</td>
<td>$12.98</td>
<td>SERVICER</td>
<td>$13.97</td>
</tr>
<tr>
<td>ELECTRICIAN</td>
<td>$27.11</td>
<td>STEEL WORKER</td>
<td></td>
</tr>
<tr>
<td>FORM BUILDER / FORMSetter</td>
<td></td>
<td>Reinforcing Steel</td>
<td>$15.15</td>
</tr>
<tr>
<td>Paving &amp; Curb</td>
<td>$12.34</td>
<td>Structural Steel Welder</td>
<td>$12.85</td>
</tr>
<tr>
<td>Structures</td>
<td>$12.23</td>
<td>Structural Steel</td>
<td>$14.39</td>
</tr>
<tr>
<td>LABORER</td>
<td></td>
<td>TRUCK DRIVER</td>
<td></td>
</tr>
<tr>
<td>Asphalt Raker</td>
<td>$12.36</td>
<td>Low Boy-Float</td>
<td>$16.03</td>
</tr>
<tr>
<td>Flagger</td>
<td>$10.33</td>
<td>Single Axle</td>
<td>$11.46</td>
</tr>
<tr>
<td>Laborer, Common</td>
<td>$11.02</td>
<td>Single or Tandem Axle Dump</td>
<td>$11.48</td>
</tr>
<tr>
<td>Laborer, Utility</td>
<td>$11.73</td>
<td>Tandem Axle Tractor w/Semi Trailer</td>
<td>$12.27</td>
</tr>
<tr>
<td>Pipelayer</td>
<td>$12.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Zone Barricade Servicer</td>
<td>$11.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAINTER (Structures)</td>
<td>$18.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER EQUIPMENT OPERATOR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asphalt Distributor</td>
<td>$14.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asphalt Paving Machine</td>
<td>$14.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broom or Sweeper</td>
<td>$12.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete Pavement Finishing Machine</td>
<td>$13.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete Paving, Curing, Float,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texturing Machine</td>
<td>$11.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete Saw</td>
<td>$13.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crane, Hydraulic, 80-tons or less</td>
<td>$13.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crane, Lattice boom, 80-tons or less</td>
<td>$14.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crane, Lattice boom, Over 80-tons</td>
<td>$15.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crawler Tractor</td>
<td>$13.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavator, 50,000 lbs. or less</td>
<td>$12.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavator, Over 50,000 lbs.</td>
<td>$14.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundation Drill, Crawler Mounted</td>
<td>$17.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundation Drill, Truck Mounted</td>
<td>$15.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front End Loader, 3 cu yd or less</td>
<td>$13.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front End Loader, over 3 cu yd</td>
<td>$13.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loader / Backhoe</td>
<td>$14.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanic</td>
<td>$16.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milling Machine</td>
<td>$13.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Grader, Fine Grade</td>
<td>$15.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Grader, Rough</td>
<td>$14.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off Road Hauler</td>
<td>$14.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pavement Marking Machine</td>
<td>$11.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piledriver</td>
<td>$14.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roller, Asphalt</td>
<td>$11.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roller, Other</td>
<td>$11.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scraper</td>
<td>$13.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spreader Box</td>
<td>$13.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WELDERS** - Receive rate prescribed for craft performing operation to which welding is incidental.  

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR, 5.5 (a) (1) (iii)).
6  EXHIBIT F CERTIFICATION OF RESTRICTIONS ON LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief, that:

A. No federal appropriated funds have been or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an office or employee of any agency, a member of Congress, an officer or employee of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

B. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions. After a Contract is awarded by METRO, if applicable, the undersigned is also required to submit to METRO's Contracting Officer a signed copy of the Form-LLL, 'Disclosure Form to Report Lobbying,' for all sub-awards at all tiers in excess of $100,000.00.

C. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly. Once a Contract is awarded by METRO, the undersigned is also required to submit to METRO's Contracting Officer a signed copy of the certificate for all sub-contracts at all tiers in excess of $100,000.00.

This certification is a material representation of fact upon which reliance is placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31 U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Executed this ________________ day of ________________, 20___

Company Name: ________________________________

By: ________________________________
(Signature of Company Official)

________________________
(Title of Company Official)
EXHIBIT G DEBARMENT AND SUSPENSION FORM

The undersigned certifies, by submission of this certification, that neither the bidder's/contractor's company nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

If the company is unable to certify to any of the statements in this certification, the company shall attach an explanation to this certification.

I hereby certify that I am authorized to execute this certification on behalf of the company and certify the truthfulness and accuracy of the contents herein or attached hereto to the best of my belief. The company does/does not (strike one) have in-house legal counsel.

Company Name: ____________________________________________

By: ____________________________

Signature of Company Official Date

Title of Company Official

The following shall also be completed if the Company has in-house legal counsel:

The undersigned legal counsel for ______________________________________________________________________________ hereby certifies that ____________________________________________ has authority under state and local law to comply with the subject assurances and that the certification above has been legally made.

Signature of Company's Attorney Date

83
Please refer to the current versions of METRO's Codes of Ethics for METRO Employees and for the METRO Board of Directors at https://www.ridemetro.org/Pages/ConflictsDisclosure.aspx
9 EXHIBIT ISMALL BUSINESS FORMS

Form 1 CONTRACTOR UTILIZATION PLAN FORM

INSTRUCTIONS TO COMPLETING CONTRACTOR UTILIZATION PLAN FORM

The Contractor Utilization Plan identifies the bidder/proposer’s (prime) team of certified and non-certified subcontractors and suppliers. It is also used to determine the percent (%) of Small Business (SB) participation on the team. **All team members must be listed on the form regardless of certification status.** Make additional copies of the appropriate Section(s) of the form, if needed, to include all team members.

Information applicable to all members of the team in Sections 1, 2, 3 & 4 of the CUP:

- Name, tax identification number, business address and contact information of prime, subcontractors and suppliers.
- Brief description of work to be performed by prime or subcontractors; or products to be provided by the suppliers.
- Certification status of prime, subcontractor(s) and supplier(s). Include a copy of the METRO SBE certificate or a DBE certificate for any applicable members of the team. Be sure to reference the solicitation regarding the types of SB certifications that METRO accepts or visit the METRO website [www.ridemetro.org](http://www.ridemetro.org) and go to the Small Business link.
- Percentages of the total contract value to be performed by the prime and each subcontractor and supplier. *(Note: The total of all team members must equal 100%).*
- Price is **REQUIRED** on this form when responding to “Invitations for Bid” (IFB) solicitations. Price is only required on the **FINAL CUP** for “Requests for Qualifications” (RFQ) or “Requests for Proposals” (RFP) solicitations.

<table>
<thead>
<tr>
<th>Type of Work to be Performed or Materials Supplied</th>
<th>Indicate if SBE/DBE (Y/N)</th>
<th>Percent of Contract Effort</th>
<th>Price (IFB ONLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SBE</td>
<td>DBE</td>
<td></td>
</tr>
</tbody>
</table>

CUP Completion Instructions continued on next page
Section 1 – Prime Contractor: This Section is only for the bidder’s/proposer’s information.

Section 2 – Subcontractors: This Section is used to list all certified and non-certified subcontractors.

Section 3 – Suppliers – Manufacturers (100%): In this section, list all certified and non-certified suppliers that manufacturer or produce the product they are providing.

- 100% of each certified supplier’s contract value (or percentage) will count towards the SB goal.

Section 4 – Suppliers – Dealers (60%): In this section, list all certified and non-certified suppliers that purchase their products from a wholesaler.

- 60% of each certified supplier’s contract value (or percentage) will count towards the SB goal.

- Note that the “Percent of Contract Effort” in this section is divided into 2 parts: “100%” and “60%”. BOTH PERCENTAGES MUST BE SPECIFIED IF A SUPPLIER IS CERTIFIED.

- The “100%” represents the total value of the P.O. (or Contract) as a percentage of the total value of the bid. For example: If the total bid is $1,000,000 and the P.O. value is $100,000, then the 100% value = 10% and the 60% value = 6%. In this example, only 6% ($60,000) will be counted towards the SB goal. See example below:

<table>
<thead>
<tr>
<th>Percent of Contract Effort</th>
<th>Price (IFB ONLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Value (%): 10%</td>
<td>100% Value ($)</td>
</tr>
<tr>
<td></td>
<td>$100,000</td>
</tr>
<tr>
<td>60% Value (%): 6%</td>
<td>60% Value ($)</td>
</tr>
<tr>
<td></td>
<td>$60,000</td>
</tr>
</tbody>
</table>

- Reminder: In the case of an RFP or RFQ, only specify the percentages.

Summary Totals & SBE/DBE Participation Section

- In this section, under “TOTAL AMOUNT OF BID/PROPOSAL”, specify the dollar amounts and the corresponding percentages relative to the total bid amount from Sections 1, 2, 3, & 4. (Important: The total dollars must match your bid amount and the corresponding percentages must total to 100%.)

- Under “% SBE/DBE Participation” specify the percent of SB participation per Sections 1,2,3 & 4. See IFB example below:

**EXAMPLE ONLY SCENARIO:** The Prime is not certified, and all of the subcontractors and suppliers are certified firms. The Small Business goal is 35%.

<table>
<thead>
<tr>
<th>TOTAL AMOUNT OF BID/PROPOSAL</th>
<th>% SBE/DBE Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIME: $500,000</td>
<td>50 %</td>
</tr>
<tr>
<td>SUBCONTRACTORS: $300,000</td>
<td>30 %</td>
</tr>
<tr>
<td>SUPPLIER-MANUFACTURERS: $100,000</td>
<td>10 %</td>
</tr>
<tr>
<td>SUPPLIERS-DEALERS: $100,000</td>
<td>10 %</td>
</tr>
<tr>
<td>TOTAL BID/PROPOSAL AMOUNT:  $1,000,000</td>
<td>100 %</td>
</tr>
</tbody>
</table>

(Note: If the solicitation is an RFP or RFQ, only specify the percentages.)

Remember to submit all Sections, enter the information highlighted in yellow blow, sign and date the form.
Bidder/Proposer presents the following participants in this solicitation and any resulting contract.

## Section 1 - PRIME CONTRACTOR

<table>
<thead>
<tr>
<th>Name of Business</th>
<th>Type of Work to be Performed or Materials Supplied</th>
<th>Indicate if SBE/DBE (Y/N)</th>
<th>Percent of Contract Effort</th>
<th>Price (IFB ONLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SBE</td>
<td>DBE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Section 2 - SUBCONTRACTORS

<table>
<thead>
<tr>
<th>Name of Business</th>
<th>Type of Work to be Performed or Materials Supplied</th>
<th>Indicate if SBE/DBE (Y/N)</th>
<th>Percent of Contract Effort</th>
<th>Price (IFB ONLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SBE</td>
<td>DBE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

87
## Section 3 - SUPPLIERS - MANUFACTURERS 100%

Counts for 100% toward small business goal when purchased from small business manufacturer (see Instructions to Bidders/Proposers).

<table>
<thead>
<tr>
<th>Name of Business</th>
<th>Tax ID No.</th>
<th>Business Address</th>
<th>Telephone No.</th>
<th>Contact Person</th>
<th>Title</th>
<th>Email Address</th>
<th>Indicate if SBE/DBE (Y/N)</th>
<th>Percent of Contract Effort (100%)</th>
<th>Price (IFB ONLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bidder/Proposer presents the following participants in this solicitation and any resulting contract.

### Section 4 – SUPPLIERS – DEALERS

60%

<table>
<thead>
<tr>
<th>Name of Business</th>
<th>Tax ID No.</th>
<th>Business Address</th>
<th>Telephone No.</th>
<th>Contact Person</th>
<th>Title</th>
<th>Email Address</th>
</tr>
</thead>
</table>

| Name of Business | Tax ID No. | Business Address | Telephone No. | Contact Person | Title | Email Address |

Counts for 60% toward small business goal when purchased from small business regular dealer (see Instructions to Bidders/Proposers).

<table>
<thead>
<tr>
<th>Type of Work to be Performed or Materials Supplied</th>
<th>Indicate if SBE/DBE (Y/N)</th>
<th>Percent of Contract Effort</th>
<th>Price (IFB ONLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SBE</td>
<td>DBE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100%</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
<td>60%</td>
</tr>
</tbody>
</table>

**TOTAL AMOUNT OF BID/PROPOSAL**

<table>
<thead>
<tr>
<th>PRIME: $</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBCONTRACTORS: $</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>SUPPLIERS-MANUFACTURERS: $</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>SUPPLIERS-DEALERS: $</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>TOTAL BID/PROPOSAL AMOUNT: $</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

The Contractor agrees to adhere to this Plan submitted unless a waiver is received from the Office of Small Business. Any changes in the Plan regarding the proposed use of certified subcontractors in discharging the contract duties must be approved by the Office of Small Business. The approval of the Office of Small Business will not be unreasonably withheld upon a showing of good cause to make the change.

Submitted By: ____________________________
Signature of Owner/Office of Business (Date)

Business Name: __________________________

Address: ________________________________

Telephone/Email: ________________________
Form 2 BUSINESS ASSURANCE STATEMENT

The undersigned certifies that he/she has read, understands and agrees to be bound by the small business provisions set forth in this Solicitation. The undersigned further certifies that he/she is legally authorized by the bidder/contractor to make the statements and representations in this solicitation and that said statements and representations are true and accurate to the best of his/her knowledge and belief. The undersigned agrees to attain the small business utilization percentages of the total offer amount as set forth below:

Small Business contract Goal Commitment = __% - must match commitment on the Contractor Utilization Plan form

The undersigned will enter into formal agreement(s) for work to be identified on the 'Contractor Utilization Plan Form' form conditioned upon execution of a contract with METRO and agrees to include the two assurance statements below in all subcontracts.

Copies of the subcontract agreements will be submitted to the Contracting Officer within fifteen 15 days of contract award and within fifteen 15 days of the addition of new subcontractors to the Contractor Utilization Plan.

The undersigned certifies that the firm shown below has not discriminated against any subcontractors on the basis of race, color, national origin, religion, sex (including gender identity and sexual orientation), disability, or age, but has provided full and equal opportunity to all potential subcontractors irrespective of race, color, national origin, religion, sex (including gender identity and sexual orientation), disability, or age.

The undersigned understands that if any of the statements and representations are made knowing them to be false or there is a failure to implement any of the stated intentions, objectives, goals, and commitments set forth herein without prior approval of METRO's President & Chief Executive Officer or duly authorized representative, the bidder/contractor will be subject to the loss of any Contractor, the termination thereof resulting from this bid, and could be ineligible for future METRO contract awards.

Signature: _____________________________

Title: _____________________________ Date of Signing: _________________

Firm or Corporation: _____________________________

Address: ____________________________________________

_________________________________________________________

Telephone Number: _____________________________
Form 3  SUBCONTRACTOR/SUPPLIER LETTER OF INTENT

PLEASE SUBMIT SEPARATE FORMS FOR EACH SUBCONTRACTOR/SUPPLIER

For use by submitters to identify subcontractors and suppliers.

Solicitation No.: ____________________________

Project Title: ________________________________

Prime Contractor: ____________________________

Subcontractor/Supplier: ________________________

Small Business  Yes □  No □  Disadvantaged Business: Yes □  No □

Contact Name: ______________________________

Address: ___________________________________

Phone: __________________ Fax: _______________

Period of Performance: ________________________

Description of proposed materials or services to be performed under the Contract Utilization Plan:

Signature of Subcontractor/Supplier __________________________ Title __________________________

Signature of Prime Contractor __________________________ Title __________________________
Copies of the Subcontract Agreements will be submitted to the Contracting Officer within fifteen (15) days of Contract award and within fifteen (15) days of the addition of new Subcontractors to the Contractor Utilization Plan and will include the Clauses below:

Pledge of Prompt Payments

I pledge to pay all Subcontractors within five (5) business days after receiving payment from METRO for amounts previously invoiced for work performed or materials furnished under the Contract.

Signature: ____________________________
Title: ________________________________
Date: ________________________________

METRO's Non-discrimination Mandate

I affirm that _________________________ (Company name) adheres to METRO's Non-discrimination Mandate and has not discriminated against any subcontractors in considering subcontracting opportunities on the basis of race, color, national origin, religion, sex (including gender identity and sexual orientation), disability, or age.

Signature: ____________________________
Title: ________________________________
Date: ________________________________

(FOR CONSTRUCTION CONTRACTS)

I pledge to release the retainage of all Subcontractors within thirty (30) days after satisfactory completion and approval of work performed. Subcontractors may petition the prime Contractor to make the final payment and may notify METRO of the request. As METRO releases retainage for payment to the Subcontractor, the prime Contractor is required to immediately (within 15 days) pay the Subcontractor. The release of retainage will be made to the Subcontractor regardless of the prime invoicing METRO.

Signature: ____________________________
Title: ________________________________
Date: ________________________________
A. PURPOSE

To establish safety guidelines regarding the use of Personal Protective Equipment (PPE) at METRO Facilities, Construction Sites, and other locations where employees are exposed to hazards.

II. SCOPE

This guideline outlines mandatory requirements for wearing PPE for all employees, Contractors, and visitors of the Metropolitan Transit Authority of Harris County. PPE for eyes, head, face and extremities shall be provided to all employees, and maintained in a reliable and sanitary manner per these guidelines. PPE is issued whenever by reason of hazards of process, environmental chemical hazards or radiological hazards exist or have the potential to exist within the employee’s task assignment. The PPE issued will be of the type needed to afford protection against the hazards to be encountered.

This guideline does not supersede any local, state, or federal law. If this guideline is in conflict with any other law, rule, or regulation the stricter of the two will apply.

III. RESPONSIBILITY

System Safety will provide guideline oversight and is responsible for subsequent updates.

All METRO employees and Contractors are responsible for compliance with and enforcement of this guideline.

IV. GENERAL

A. Eye & Face Protection

Eye and face protection meeting the ANSI Z87.1 (appropriate for the hazard or potential hazard) shall be worn by all affected employees in any METRO maintenance shop, construction areas, areas so designated by signage and/or during work activities where there is a potential for injury to the eyes. Protective eyewear will not be required when employees are in office areas, break areas, storerooms or inside the primary walkway through the maintenance shop (as designated by the yellow lines). Eye and face PPE must be distinctly marked to facilitate and document compliance.

Safety Glasses: Safety glasses (equipped with side shields) are protective devices intended to shield the wearer’s eyes from a variety of hazards. While safety glasses are primary protectors and may be used alone they may also be used in conjunction with other protectors.

Goggles: Goggles are protective devices intended to fit the immediate surrounding area of the eyes, and to protect the eyes from a variety of hazards. While they are primary protectors and may be used alone, they may be used in conjunction with other protectors.

Faceshields: Faceshields are protective devices intended to shield the wearers face, or portions thereof, in addition to the eyes from certain hazards.

NOTE: Faceshields are secondary protectors and shall be used only with primary protectors.

Welding Helmets: Welding helmets are protective devices intended to shield the wearer’s eyes from optical radiation and impact.

NOTE: Welding helmets are secondary protective devices and shall only be used in conjunction with primary protectors.
Employees who wear prescription lenses while engaged in operations where a potential for eye hazards exist shall wear eye protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription without disturbing the proper fit or position of the lenses.

Maintenance employees may enroll in the Prescription Safety Glass Program. Contact System Safety for more information.

B. **Head Protection**

All employees, Contractors and visitors must wear bump caps when there is a potential for injury to the head from bumping into objects.

ANSI Z89.1 Class E&G hard hats must be worn while performing/supporting aerial device work, in construction areas, or where there is a potential for injury to the head from falling objects.

C. **Foot Protection**

Individuals who have the potential to incur foot injuries because of their work activities must wear safety toe shoes which meet two ASTM standards – ASTM F 2412 and ASTM F 2413. This includes mechanics, technicians, cleaners, storeroom personnel, painters, wrecker operators, T-Truck mechanics, Facilities Maintenance personnel, Maintenance of Way personnel, and High Occupancy Vehicle (HOV) lane personnel.

All other employees, Contractors and visitors must wear safety toe shoes in work areas where there is potential for foot injuries from falling or rolling objects, objects piercing the sole, and exposure to electrical hazards. Safety toe footwear worn at construction sites must cover the ankle.

D. **Hand Protection**

Affected employees shall use the proper hand protection when hazards exist from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical or thermal burns, and harmful temperature extremes. Hand protection shall be selected on the basis of the tasks to be performed, conditions present, duration of use, the hazards and potential hazards identified.

E. **Safety Vests**

All METRO employees, visitors, and Contractors working in bus and rail yards are required to wear ANSI Class II, or better, high visibility safety vests at all times. Vests are also required for employees working along the rail alignment, or anywhere they have exposure to vehicular traffic. Safety vests must also be worn at all construction sites.
11 EXHIBIT K BUY AMERICA CERTIFICATE

The bidder/contractor hereby certifies that it will meet the requirements of 49 U.S.C. 5323 (j)(1), and the applicable regulations in 49 C.F.R. Part 661.5.

Name of Bidder/Contractor: 

Date of Signing: 

Signature: 

Title: 

OR

The bidder/contractor hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323 (j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(B) or (j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Name of Bidder/Contractor: 

Date of Signing: 

Signature: 

Title:
ATTACHMENT NO. 001

ADMINISTRATIVE MODIFICATION TO CONTRACTS

This is an Administrative Modification to Contracts that fall under the Uniform Regulations, commonly called “Super Circular”. The attached Appendix II to Part 200 will replace any already existing and add those additional articles to all contracts. This is to be placed in all relevant contract folders.

Mary L. Groves
Director of Procurement

In addition to other provisions required by the Federal agency or non-Federal entity, all contracts made by the non-Federal entity under the Federal award must contain provisions covering the following, as applicable.

(A) Contracts for more than the simplified acquisition threshold currently set at $150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

(B) All contracts in excess of $10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.


(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States").

The Act provides that each contractor or subcontractor must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the
basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

(H) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235). "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.


MEMO

To: Andrea Alexander  
KPMG Subcontractor

From: Mary L. Groves  
Director of Procurement

Date: February 13, 2019

Subject: Uniform Guidance Regulations  
(AKA “Super Circular”)

This document is to let you know that METRO has adopted and Incorporated into METRO’s Procurement Manual, “Super Circular at 14.2 and 14.3 has incorporated FTA FAST Act:


CC: Michael Kyme, Chief Procurement Officer  
Karen Hudson, Deputy Chief Procurement Officer  
Files