



Expo

IFB No. XP8901-852

**EXPOSITION CORRIDOR
LIGHT RAIL TRANSIT PROJECT**

Culver City Station Parking Lot Improvements

October 2012



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SECTION 01100 SUMMARY OF WORK

1.0 Scope of Work

1.0.1. Overview

These General Requirements provide information relating to and requirements applicable to the Work to be performed under the Contract for Culver City Station Parking Lot Improvements (Project) for the Exposition Corridor Light Rail Transit Project. The Project includes: Furnish and install two inches of asphalt concrete; Excavate, compact and prepare the ground surface for the placement of the asphalt concrete; Protect the existing facilities located within and around the paving area; Ensure at least fifty percent of the parking lot and fifty percent of the handicap parking spots are available to the public at all times.

All Work shall be performed in accordance with the applicable definitions and Parts 2-9 of the Standard Specifications for Public Works Construction, 2009 Edition, (Green Book), as modified by the City of Los Angeles Brown Book, August 3, 2009 edition, which are incorporated by reference, provided however, that where specifications are provided in Section 1.1, those specifications shall prevail.

1.1 Parking Lot Improvements at the Culver City Station

The existing parking lot services the Culver City Station Exposition Rail Transit. The Culver City station is currently the terminus station for the Exposition transit line and therefore has a high demand for patron parking. The Parking lot is currently located on a triangle shaped area, with Venice Boulevard to the North West, National Boulevard to the North East, Washington Boulevard to the South East and the Metro Right of Way to the South. The work for this Project is located solely within Metro property and is primarily within the City of Culver City.

The existing parking lot is currently covered with six (6) inches of an epoxy type paving material termed Envirotac which has been scarified into the subgrade. The parking lot has been striped using the Caltrans standard striping and the ground had been compacted to 95% relative compaction at optimum moisture content. Due to the properties of the ground, the Envirotac material has not adhered to the ground and is currently patchy in many areas. Since the Envirotac material has not served its purpose as a paving material, the intent of this project is to cover the Envirotac material with two (2) inches thick of Caltrans standard 1/2 inch HMA Type A to create a suitable surface for a parking lot.

1.1.1. Work Included

Scope of Work includes repaving the parking lot to create a suitable surface for parking spaces and the following:

- A. Due to the high demand for parking at this location, it is important that at least fifty percent of the parking spaces and handicap spaces are open for riding patrons at all times. The Contractor thorough means and methods shall determine the best way to temporarily close portions of the parking lot in order to meet this requirement. The Contractor will be permitted to close off the existing handicap spot locations, but must

temporarily designate the handicap spots in a location that is handicap accessible. The temporary closure plan(s) shall be submitted to the Authority for approval prior to construction.

- B. Place two inches of full depth asphalt concrete of the entire area as shown on the plans.
- C. Over excavate where necessary to allow for the finished surface to match existing elevations such that tripping hazards are not created, the standard depth of curbs are maintained, existing flow lines are maintained and existing drainage patterns are maintained. Any over excavation that is not reused or re-graded on site shall be removed off site by the Contractor at no additional cost.
- D. Remove the existing wheel stops, reuse and reposition the wheel stops after the paving and striping is complete.
- E. Protect the existing utilities, conduits, light poles, wayfinding signs, fire hydrants, storm drain inlets, monitoring wells, curbs, sidewalks and other existing facilities that may or may not be indicated on the plans. If the contractor determines that existing facilities need to be modified to accommodate the new pavement thickness, the contractor shall coordinate with the city for any modifications that are required to existing facilities (monitoring wells, ect.). The contractor shall field verify the location of all such facilities prior to construction.
- F. All work described above, as shown on the drawings and as described in the specifications shall be considered incidental to the installation of the asphalt concrete.
- G. Conform to the requirements of the Greenbook and City of Los Angeles Brown Book (Brown Book), as applicable.

1.1.2. Work Excluded

The following work elements will be excluded from this Contract:

- A. Work on Drawings G-002 for the curbs shall be considered as information only.
- B. Work on Drawings C-100 for the location of curbs, existing monitoring wells, storm drain inlets, and areas of temporary filled asphalt concrete adjacent to existing gutters show in typical section detail shall be considered as information only.
- C. Work on Drawings C-101 for the locations of curbs, existing gutters, storm drain inlets, fire hydrants, tactile tile warning strips shall be considered as information only.
- D. Work on Drawings C-102 for the location of curbs, existing storm drain inlets (also shown in 8" concrete apron detail), monitoring wells, vapor extraction equipment areas shall be considered as information only
- E. Work on Drawings C-300 for the location of curbs, proposed signs, posts, striping, markings, and arrow details outside the proposed AC pavement area. Locations of existing signs shall be considered as information only.
- F. Work on Drawings S-10-303 for parking lot light pole foundation details shall be considered as information only.
- G. Work on Drawings E-0.3 for typical light pole base details and luminaire specifications shall be considered as information only.
- H. Work on Drawings E-1.0 & E-1.1 for electrical components within the site power/light plan shall be considered as information only.

1.2 Contract Option

There is 1 item of the bid scope which is defined as Options, which may or may not be executed by the AUTHORITY, as part of this project. The scope of the option will be to increase the thickness of the asphalt concrete from 2 inches to 3 inches. The contractor shall price work associated with the 1 inch increase in asphalt concrete thickness as part of this option.

1.3 Contractor Responsibilities

- A. The Contractor's scope of services is to furnish all labor, equipment and services to construct the Work in accordance with the Contract Documents.
- B. The Contractor shall perform all of the project management, quality control, construction, supply, fabrication, shipping, expediting, storing materials, installation, erection, debugging, testing and demonstration of facilities, material and equipment required to deliver the Work, in conformance with all of the requirements of this Contract.

1.4 Authority's Responsibilities

The Authority shall be responsible for the following:

- A. Providing designs, specifications and other information as may be available pertaining to Project work separately contracted by the Authority.
- B. Providing the Right of Way and rights-of-entry as described in the Drawings.
- C. Assisting in the Contractor's coordination and liaison with Metro, local and state agencies, and the public.
- D. Conducting overall program management and project oversight.

2.0 Third Party Relations

2.1 Public Agencies, and Public and Private Utility Owners

The Contractor shall coordinate with public agencies and public and private utilities with local jurisdiction or impacted by the Project. Contractor shall perform the work in such a manner as to ensure that adjustments and/or relocations of facilities owned or controlled by these agencies are not necessary.

2.2 Coordination with Other Contractors

The Authority reserves the right to contract for and perform other or additional work on or near the Site. Contractor shall cooperate with such other contractors to the extent reasonably necessary for the performance by such other contractors of their work, and shall cause its employees, agents, officers and Subcontractors and other Persons for whom Contractor may be contractually or legally responsible to so cooperate. If the Authority awards other separate contracts, which affect the Work, the Contractor shall conduct the Work without interfering with or hindering the progress or completion of the work being performed by other contractors.

2.3 Coordination with Metro

Contractor shall coordinate with Metro all Work that impacts the operation of the Metro Expo Culver City Station.

2.4. Contractor Responsibilities

Contractor shall cooperate, and in conjunction with the Authority, keep the community, local and otherwise involved agencies and elected officials informed and to work to accommodate their input. Contractor is responsible for the following:

- A. Working with the community to address or mitigate any traffic management, parking lot closure issues, or temporary utility shutdowns;
- B. Working with the community to address or mitigate any noise, air quality, dust control concerns;
- C. Posting temporary signage to inform customers that the station and other businesses directly affect by construction is open, including special access directions, if warranted;
- D. Scheduling construction, haul routes to minimize conflicts during peak operating hours and city approval, as required, for staging trucks.
- E. Making any reasonable adjustments to its construction operations necessary to alleviate these concerns.

2.5 Specific Information

Should an event or incident, or other project circumstance develop which is likely to generate community or media interest, Contractor shall inform the Authority, and cooperate with the Authority's direction with regard to distribution of information. Contractor shall ensure that all field supervisors and other management personnel are aware of and follow the Authority's emergency notification procedures in the event of an emergency.

2.6 Authority Consent

Notwithstanding anything herein, Contractor shall not have any communications with the public or the media or otherwise communicate or distribute any information regarding the Project without obtaining Authority's prior written consent.

3.0 Management Program and Organization

For the duration of the Contract, the Contractor shall be responsible for the total management of the construction, installation, inspection, testing and acceptance of the Work provided under this Contract, pursuant to the terms and conditions thereof. The Contractor shall be responsible for establishing the required organization and procedures and providing personnel and supporting equipment/facilities to ensure that the Project is completed within the time schedule set forth herein.

4.0 Work Restrictions

- A. The Contractor shall minimize public hazards and inconvenience; restore street, parking lot and other work areas to their original condition and state of usefulness as soon as practicable; and to identify and coordinate activities with adjacent work by others.
- B. Prior to starting construction, Contractor shall confirm requirements with affected local jurisdictions regarding areas and times of work restrictions during construction. It will be the responsibility of the Contractor to confirm these requirements with the individual Jurisdictions and Agencies and obtain additional requirements.

5.0 Construction Staging and Sequencing

- A. Contractor will be required to perform certain construction activities in stages to ensure that minimum requirements for traffic flow are maintained; to minimize the extent and/or duration of closures;
- B. Conform to the requirements of Chapter 7-7 of the Greenbook and City of Los Angeles Brown Book (Brown Book), as applicable.
- C. Maintain contact with Metro, City of Culver City, City of Los Angeles, and County of Los Angeles to stay informed of planned construction that may affect Contractor's activities.
- D. Contractor's employees shall park off-street or on-street at locations approved by the Authority.
- E. Install appropriate traffic controls, signs, lighting, and signals in conformance with LADOT and Public Works Department standards to ensure pedestrian and vehicular safety during construction.
- F. Schedule construction and plan haul routes to minimize conflicts.
- G. Provide flag persons at construction sites and construction staging areas where construction activities may compromise the safety of pedestrians and/or motorists.
- H. Do not park or stage construction vehicles along streets bordering schools.
- I. The staging and sequencing plans shall be approved by the Authority and the city prior to construction.

6.0 Construction Lines and Grades

The contractor has been given drawings as part of this contract. It is known that the elevations and the striping of the parking lot is not accurately shown in comparison to the existing conditions. The contractor shall be responsible for matching the existing condition.

7.0 Project Kick-Off Meeting

The initial Progress Meeting shall be held within seven days after receipt of the NTP at a location and time designated by the Authority. The agenda for this meeting will include Safety, Quality, Design, Communications and the Project Schedule.

8.0 Submittals

8.1 Submittal Changes

- A. Changes proposed will not be permitted unless those changes have been submitted and accepted in writing.

8.2 Review of Submittals

- A. All submittals required by the Contract shall bear a stamp or other imprint indicating that the submittals were reviewed, and approved prior to construction. Submittals not bearing this stamp and evidence of review and approval shall not be used for construction.

8.3 Submittals Review by The Authority

- A. Submittals will be reviewed by the Authority for conformance to requirements of the Contract. Review of a separate item will not constitute review of an assembly in which the item functions. Review will not relieve from responsibility for accuracy of submittals, conformity of submittals to requirements indicated, compatibility of described product with contiguous products and the rest of the system, or for prosecution and completion of the Contract.
- B. Review stamp will be affixed, action block will be marked, and stamp will be signed, name printed and dated. Stamp lettering to have 1/8-inch minimum.
- C. The Engineer or his designee will review submittals for general conformance with the Contract and mark, sign and date the review stamp.
- D. Action block stamp marks have the following meanings:
 - 1. The mark APPROVED AS NOTED means that the design documents have been reviewed and approved as a design submittal with comments as noted on attached Design Review forms. The comments shall be incorporated into the final documents.
 - 2. The mark APPROVED is an approval, and means every illustration and description appears to conform to the respective requirements of the Contract; fabrication, assembly, manufacture, installation, application and erection of the illustrated and described product may proceed; the submittal is approved and need not be resubmitted.
 - 3. The mark REVISE AND RESUBMIT means revise and incorporate all comments and resubmit for review and approval.
 - 4. The mark REJECTED, is a rejection, and means the submittal is deficient to the degree the reviewer cannot correct the submittal with a reasonable degree of effort, has not made a thorough review of the submittal, and the submittal needs revision and is to be corrected and resubmitted, within 30 calendar days for review.
 - 5. The mark RECORD ONLY means the submittal was not reviewed for approval and was received for information only.
- E. One marked up copy of the submittal document(s) Reviewed for Approval will be returned within 14 calendar days after submittals have been received.

8.4 Submittal Responsibilities

- A. Coordinate each submittal with requirements of the Work; place particular emphasis upon ensuring each submittal of one trade is compatible with other submittals of that trade and submittals of other trades.
- B. Distribution of Submittals After Review - Distribute prints of approved submittals, bearing the Engineer or his designee's stamp and signature, to all concerned parties.
- D. Liability to the Contractor, in case of deviations in the submittals from requirements of the Contract, is not relieved by the Engineer or his designee's review and approval of submittals containing deviations, unless the Authority expressly approves deviations by issuing a Change as specified herein.
- E. Resubmittals - Make any required corrections and resubmit.

- I. Direct specific attention in writing, on resubmitted shop drawing, to revisions other than the corrections on the previous submittals.
- J. All information in the original submittal shall be included in any re-submittals.

8.5 Electronic Document Submission

In general, all documents shall be submitted in electronic format. Most project documents including Requests for Information (RFI's), Submittals, Drawings, Change Proposals shall be prepared by the contractor in the software of their choice, with the final document being printed in a PDF format in which the text is recognizable (OCR converted).

9.0 Progress Payments

9.1 Payment Estimate

As back-up for the Application for Progress Payments, status the Schedule of Values for all Work and show status of completion. The Payment Estimate format and content shall be approved by the Authority.

9.2 Physical Progress Measurement

Each month the Contractor and the Authority will conduct a physical job walk to establish the percent complete for each item on the Schedule of Values. The Application for Progress Payment will be processed in accordance with the terms in the Contract.

10.0 Pre-Post Construction Survey

- A. The Contractor shall perform a pre and post construction survey of the adjacent properties streets, sidewalks and public right-of way that may be impacted as part of the construction process.
- B. Pre-Construction Surveys ("PCS") of properties shall record existing conditions of each adjacent property. Post-construction surveys shall not be required of adjacent properties unless specifically required or if damage has been discovered.
- C. A PCS records the physical condition of existing structures and other facilities in the relevant area adjacent to the construction areas. This survey forms the basis for evaluating actual or alleged damage to these structures that may be caused by the construction.
- D. A Post-Construction Survey is an identical examination performed in order to record the post-construction condition of the structures and other facilities adjacent to rail construction areas. This examination documents any changes or damages, which have occurred during construction.
- E. Any damage discovered after construction and not documented, as part of the pre-construction survey, shall be the Contractor's responsibility to fix at the Contractor's cost.

11.0 Permit Responsibilities

- A. The Contractor shall perform all agency coordination and permitting work as required to construct the work of this Contract in accordance with all applicable laws and regulations.
- B. The Contractor shall be responsible for obtaining all permits related to the Contract work, as necessary. Permit fees will be paid for by the Authority.
- C. The Contractor shall provide information and technical support as requested by the Authority in response to the Authority's responsibility for agency coordination or other public coordination.
- D. The Contractor shall be responsible for preparing and implementing maintenance and protection of traffic plans subject to approval of the Authority and regulatory authorities.

12.0 Quality Management

12.1 Project Quality Organization

- A. The Project Quality Inspector responsible for executing quality responsibilities shall report to an executive level of management separate from line organizations responsible for performing the Work.
- B. The Project Quality Inspector shall be responsible for all Project Quality functions and shall be on site during all operations.
- C. The Project Quality Inspector shall have the authority to stop affected work, control further processing, or prevent shipment of items that do not meet contract quality requirements. . A Stop Work Order written by the Project Quality Inspector can only be removed by the Project Quality Inspector. The Authority shall be notified when a Stop Work Order is issued and when it is removed.

12.2 Procurement Control

Products materials and services shall be purchased from subcontractors and suppliers that have a demonstrated effective product quality history. The Authority specified quality and design requirements shall be passed down to subcontractors and suppliers. Where equipment procurement is involved, the methods and means for handling, storage and packaging shall be defined in procurement documents. Subcontractors and suppliers performance shall be monitored and evaluated by Project Quality to ensure compliance to contract documents.

12.3 Inspection and Testing

- A. Contractor shall perform inspections and testing in conformance with the Contract in accordance with all applicable laws and regulations and the contract specifications, as applicable.
- B. All materials and each part or detail of the work may also be subject to inspection and testing by the Authority. In addition, the City of Culver City, City of Los Angeles and Metro representatives have the right to inspect the work. Such inspection does not make such person a party to the Contract nor will it change the rights of the parties hereto. Contractor hereby consents to such inspection and testing. Upon request from

the Authority, Contractor shall furnish information to such persons as are designated in such request and shall permit such persons access to all parts of the work. Audits, inspections and tests conducted by the Authority, LADOT, and LACPW shall not in any way relieve the responsible organization of the responsibility to conduct required inspections and tests to ensure compliance to all contract document requirements.

- C. The Authority may impose inspection hold points to verify compliance to contract documents during all phases of Work. The Contractor may not proceed with Work until each hold point has been released by the Authority. Inspections by the Authority do not relieve the Contractor from performing contractually required inspections.
- D. Contractor shall not be relieved of obligations to perform the work in accordance with the contract documents by reviews, tests, inspections or approvals performed by others. The reviews, inspections, tests and approvals conducted by the Authority, Government agencies, utilities and others do not constitute acceptance of the materials or work reviewed, tested or inspected, and the Authority may reject or accept any work or materials, request changes and/or identify additional work which must be done at any time prior to the final approval date.
- E. At all times before Final Acceptance, Contractor shall remove or uncover such portions of the finished construction as directed by the Authority. After examination by the Authority or designee, Contractor shall restore the work to the standard required by the contract documents. If the work exposed or examined is not in conformance with the requirements of the contract documents, then uncovering, removing and restoring the work and recovery of any delay to any critical path occasioned thereby shall be at Contractor's cost. Furthermore, any work done or material used without adequate notice to and opportunity for prior inspection by the Authority, or its designee, may be ordered uncovered, removed or restored at Contractor's cost and with no entitlement for a time extension even if the work proves acceptable after uncovering. If work exposed or examined under this Section is in conformance with the requirements of the contract documents and adequate notice and opportunity for prior inspection was given to the Authority then any delay to the Critical Path from uncovering, removing and restoring work shall be considered an Authority Excusable Delay, and Contractor shall be entitled to a Contract Modification for the cost of such efforts and recovery of the delay to any Critical Path occasioned thereby.
- F. Records of all inspections and tests that provide results that the work passed defined acceptance criteria shall be maintained and available to the Authority upon request.

12.4 Control of Measuring and Test Equipment

- A. Measuring and test equipment, including software when applicable, shall be tracked and controlled by individual item to ensure the accuracy and reliability of the equipment is maintained on an ongoing basis. Control elements shall include the following:

- Calibration standards shall be traceable to the National Institute of Standards and Technology (NIST).
 - Measuring and test equipment shall be uniquely identified i.e., equipment type, identification number, location etc.
 - The next calibration due date shall be clearly indicated on individual measuring and test equipment items.
 - Calibration intervals shall be identified, documented and periodically reviewed for effectiveness.
 - Handling, preservation and storage of measuring and test equipment shall ensure that the accuracy and fitness for use is maintained.
 - Measuring and test equipment calibration records shall be maintained and available for review by the Authority.
 - Verification and documentation of developed software.
- B. Measuring and test equipment found to be out of tolerance, damaged, or lost during use shall be documented on a nonconformance report. Work inspected or tested with out-of-tolerance or damaged equipment shall not be acceptable until the nonconformance is resolved and all characteristics previously inspected have been corrected and verified.

12.5 Control of Nonconforming Items

- A. All items whether material, equipment, or hardware, including construction and testing that do not conform to Contract Documents, Reference Codes or Reference Standards shall be documented on a Nonconformance Report, segregated and controlled until the nonconforming condition(s) is analyzed, dispositioned, corrected and the corrective action verified. Only then may the items be returned to use. The organization responsible for creating the nonconforming condition(s) shall be responsible for investigating the cause of the nonconformance, and initiating corrective action including implementing steps to prevent recurrence. The cause of the problem, disposition, and corrective action shall be documented and available to the Authority upon request.
- B. Nonconforming hardware and materials shall be reviewed by qualified and authorized individuals to determine the appropriate disposition and corrective action. Disposition of nonconforming items and materials include:
- Rework to meet the original design.
 - Repair to achieve fitness for use.
 - Accept the condition as-is.
 - Reject the condition and return the hardware and material to the supplier.
- C. Repair and Accept-as-is dispositions shall be approved by the Authority before affected Work proceeds.
- D. The status of nonconforming hardware and materials shall be maintained, status reports distributed and materials shall be maintained and available to the Authority upon request.

12.6 Handling, Shipping and Storage

Methods and means for handling hardware and materials to prevent damage or deterioration shall be provided by the Contractor. Hardware and materials shall be stored in designated controlled areas such as stock rooms, designated hold areas, segregated areas, etc., to facilitate accountability and to prevent damage, deterioration and theft. The Contractor shall define methods for authorizing receipt and dispatching hardware and materials.

12.7 Quality Records

Quality records include results of inspections and tests, and all other related documents. Quality records shall be identified, collected indexed and stored in a manner that precludes damage, loss or deterioration. Specific retention times and location shall be designated and the records shall be accessible for use. At a minimum, quality records shall be identified by title, contract number, revision, date, and signed by an authorized individual. Quality records are considered valid only if stamped (controlled) or signed by an authorized individual. Corrections or revisions to quality records shall receive the same level of review and approval as the original document. Quality records shall be available for review by the Authority upon request.

12.8 Quality Control Inspection

- A. Quality Control Inspections shall be performed on all work to ensure compliance to contract documents. All work shall be subject to inspection during all work shifts and off-site work activities. Assignment of inspection personnel shall be consistent with the level of activity and complexity of work to be performed. Such inspections shall be by individuals other than those responsible for performing the Work. Work activities subject to inspection include but are not limited to; material and equipment receiving, in-process and final construction activities, in-process tests, qualification tests, equipment installation and tests, and system integration testing and acceptance.
- B. Sufficient inspection points shall be implemented to verify all work is in accordance with contract documents. Inspections shall be conducted in accordance with prepared Quality Control Inspection Instructions and Field Inspection Checklists that have been approved by the Authority. Work may not proceed without inspection instructions and checklists in place for the specific work activity.
- C. Inspection planning shall be prepared in support of the construction schedule and shall include identification of prerequisite requirements such as approved submittals, material certifications, verification of personnel certifications for special processes, equipment calibration verification, applicable inspection instructions and checklists are available, and the number of inspectors required, etc. Hazardous Waste Operations, while not a scheduled activity, must meet the requirements and the intent of this paragraph.
- D. Each inspector shall document the results of daily inspections and surveillances on Daily Inspection Reports that include the applicable Quality Inspection Checklists. All inspection documents shall be maintained on the job site as quality records and available to the Authority, or its designee, upon request.

- E. Inspection personnel shall have sufficient organizational freedom to identify and report nonconforming conditions and have sufficient training, knowledge and experience to perform specific inspection.
- F. Inspections conducted by other than the Contractor in no way relieves the contractor of responsibility for compliance to all contract document requirements.

12.9 Independent Testing Laboratory

- A. Employ the services of an Independent Testing Laboratory to perform material qualification and job control testing utilizing personnel who are not affiliated with the Contractor and who are not affiliated with any Subcontractor performing Work on the Project. The Contractor shall pay for the Laboratory services. The Laboratory shall have an appropriate current certification issued by a nationally recognized Regulatory Agency approved by the Authority.
- B. Personnel performing tests shall be licensed or certified commensurate with the applicable Codes, Federal Standards, Utility Standards, Industry Standards, etc. The Contractor’s Laboratory shall be approved by the Authority before related work is allowed to start. The Authority approved Laboratory shall not be changed without the written approval of the Authority. The credentials of the technicians or inspectors performing special process inspections or tests and job control tests shall be reviewed for compliance to applicable codes, standards, special training/testing etc. and accepted by the Contractor before inspections or tests are performed. Records of qualification/certifications shall be maintained by the Contractor at the jobsite and available to the Authority upon request.

12.10 Respond To The Authority Nonconformances

Contractor shall respond to the Authority issued Nonconformance Reports, Quality Action Requests and other documented reports of nonconforming or indeterminate conditions within 5 calendar days. The response shall include a description of investigative actions, statement of the cause of the problem, action to correct the problem and to prevent recurrence, to the satisfaction of the Authority.

12.11 Construction Work Plans

Prepare Construction Work Plans (CWP) for the six Work locations. The CWPs are presented and discussed at the Contractor Meetings. The subject Work may not proceed until the CWP is approved by the Authority. As a minimum, CWPs shall address:

- A. Description of the Work and applicable Contract specification section.
- B. Include actions that are defined as “special events” in that the Work may constitute exposing the general public to danger, inconvenience or risk.
- C. List of required submittals to complete the Work activity.
- D. Individual(s) and position(s) responsible for supervision of the Work.
- E. Planned start date of the Work, progress rate expected and extended Work hours required.
- F. Prerequisite activities required.

- G. Include a Hazard Analysis for the scope of Work.
- H. Safety issues.
- I. Inspection and/or tests to be accomplished.
- J. Inspection hold points.

12.12 Temporary Access Roads and Parking Areas-Quality Control

Provide materials and construction and maintenance methods to satisfy emergency response requirements of local fire jurisdictions and adequate for loading, density of traffic, and weather conditions expected at temporary access roads and parking areas during construction period.

12.13 Failure To Perform

Nonconforming work is work that the Authority determines does not conform to the requirements of the Contract Documents. Nonconforming work shall be removed and replaced so as to be acceptable to the Authority, at Contractor's cost; and Contractor shall promptly take all action necessary to prevent similar deficiencies from occurring in the future. The fact that the Authority may not have discovered the nonconforming work shall not constitute an acceptance of such nonconforming work. In the event the Contractor fails to correct any nonconforming work after receipt of notice from the Authority requesting such correction and within the time specified in the notice, then the Authority may cause the nonconforming work to be remedied or removed and replaced and may deduct the cost of doing so from any moneys due or to become due Contractor and/or obtain reimbursement from Contractor for such cost. Remedy for Contractor's failure to perform will be in addition to any other rights or remedies available to the Authority under this contract.

13.0 Safety

13.1 Description

- A. The Contractor shall establish, implement and maintain an effective Injury and Illness Prevention Program in accordance with California Code of Regulations (CCR) Title 8 Section 3203. The Contractor is solely responsible for keeping its records and seeing that its subcontractors records are updated and accurate.
- B. The Contractor shall comply with the CCR Title 8, as well as all other federal, state and local regulations, statutes and codes applicable to its operations. Strict compliance with all applicable regulations as determined by the Authority or its designee, shall be considered within the original scope of this Contract and shall not delay the schedule for performance of Work by the Contractor nor shall it be relied upon to form the basis of any claim. Compliance with determinations by the Authority or its designee shall not relieve the Contractor from other obligations imposed by law or regulation nor serve as the basis of request for change to increase the cost of the Work.
- C. The Contractor shall comply with Section 01545, 1.2. Compliance with the parts of Section 01545 shall be considered within the original scope of this Contract and shall not delay the schedule for performance of Work by the Contractor nor shall it be relied upon to form the basis of any claim.

13.2 Requirements

- A. Comply with both the CCR Title 8, and the Code of Federal Regulations (CFR) Title 29. Where the State and Federal regulations have differing requirements, the Contractor shall comply with that which is more stringent. The Contractor shall have full responsibility for maintaining conditions which are free from recognized hazards that are likely to cause physical harm to its employees.
- B. Conform to Los Angeles City Fire Code Division 13 or the requirements of the authority having jurisdiction for the establishment of a fire watch in areas where welding operations and flame cutting are performed.
- C. Comply with the requirements of CCR Title 8, Section 5192, Hazardous Waste Operations and Emergency Response, with respect to the handling of hazardous or contaminated wastes and mandated specialty training and health screening.

13.3 Submittals

All submittals and re-submittals, when required, shall be considered within the original scope of this Contract and shall be submitted in accordance with the Authority accepted submittal schedule so as to not delay the performance of Work by the Contractor.

Upon receiving notice of award of this Contract, the Contractor shall prepare and submit for review the submittals listed as A, B, and C below and shall not receive permission to perform Work upon the Worksite for this Contract or any work order hereunder, until the Authority has returned the submittals as "Accepted". Authority refusal to issue permission to perform Work upon the Worksite, either prior to Work beginning or during the Contractor's performance of the Work, due to the Contractor's failure to submit listed safety submittals, or due to the Authority rejection of unacceptable submittals, shall not constitute a basis for any claim of delay, interference, disruption or other similar types of claims nor serve as the basis of request for change or claim to increase the cost of the Work.

At a minimum, the following items shall be submitted by the Contractor for review and acceptance by the Authority.

- A. Worksite specific Injury and Illness Prevention Program including a Site Specific Emergency Action Plan, to be revised and resubmitted as conditions warrant.
- B. Qualifications and certifications of designated Lead and other Safety Representatives, and other first aid providers.
- C. Job Hazard Analyses (JHA) Matrix for each construction operation or activity. Individual JHA's will be required to be submitted with sufficient review time prior to the start of any task included in this matrix.
- D. Qualifications and/or certifications of individuals who will serve as Qualified or Competent Persons. These supervisory individuals are designated by the Contractor to supervise special high risk/high hazard safety programs such as (but not limited to) Fall Protection, Excavation, Hazardous Waste Operations and Confined Space Entry. This Submittal shall be re-submitted by the Contractor upon any change to the personnel submitted.

- E. Regarding the training required by CCR Title 8, Section 5192, Hazardous Waste Operations and Emergency Response, with respect to the handling of hazardous or contaminated wastes and mandated specialty training and health screening - Submit a list of qualified personnel at least 15 days before commencing any excavation; update at monthly intervals during ongoing excavation operations. Include, for each individual, the date of certification and sufficient evidence of training and medical screening to conform to appropriate laws, regulations and the requirements of this Contract. Plan to be revised and resubmitted as conditions warrant.
- F. Excavation Action Plans for all excavation activities for which a protective system is required by CCR Title 8 Article 6. Include all drawings for any ground support system to be used during the excavation activity. Include the slopes and configurations of sloping or benching systems. All excavation submittals shall be submitted at least 15 days prior to the planned Work. Compliance with this provision and any stoppage of Work resulting from compliance with this provision shall be considered within the original scope of this Contract and shall not delay the schedule nor shall it be relied upon to form the basis of any claim for performance of Work by the Contractor.
- G. Energy Isolation Program (Lock Out, Tag Out): Include details of procedures, equipment and training. This program shall be established and implemented to ensure that the Contractor's and Sub-contractor's workers exposed to sources of stored energy are properly protected. This protection shall provide protection from hazards such as, but not limited to: electrical, hydraulic, gravitational and compressed air or gas. The Energy Isolation Program shall be submitted and accepted prior to any Work covered by the plan.

13.5 Worksite Conditions

- A. Operating Rail Systems
 - 1. Details of the Work Permit and Track Allocation procedures will be discussed at the pre-construction meeting.
- B. The Authority has developed a Hazard Communication Program which contains a list of Material Safety Data Sheets (MSDS) for hazardous substances known to be present at each operational location. Contractor shall confirm with local management the location of the site specific Hazard Communication Program, MSDS inventory and individual MSDS. The Contractor shall maintain a current list of all hazardous substances that will be used in Worksite operations. Unless the Contractor provides, in writing, an alternate method to be used to provide Authority employees access to Material Safety Data Sheets, copies of all Material Safety Data Sheets for substances appearing on the hazardous substance list shall be readily available at the Worksite.
- C. Contractor's employees shall comply with all posted traffic safety regulations while operating motor vehicles upon Authority properties. Employees walking or working in areas subject to vehicular traffic shall wear retro-reflective orange high visibility safety vests.

- D. When conducting Work which negatively impacts existing sidewalks (including both improved and unimproved sidewalks), the Contractor shall take all possible steps to insure the continuing ability for pedestrians to safely pass through or around the work areas (including pedestrians utilizing motorized wheel chairs) without being directed into the adjacent street, traffic or bike lane.
- E. When the specific Work Site conditions do not match the conditions illustrated on any standard traffic control plan, (as published in the most recent MUTCD, WATCH Manual, etc.) the contractor shall draft and submit to Metro. The failure of the Contractor to comply with this paragraph will result in the issuing of a Stop Work Notice to the Contractor for the particular work. Compliance with any Stop Work Notice for Traffic Control issued by the Authority or its designee, shall be considered within the original scope of this Contract and shall not delay the schedule for performance of Work by the Contractor nor shall it be relied upon to form the basis of any claim. Compliance with any Stop Work Notice for Traffic Control issued by the Authority or its designee shall not relieve the Contractor from other obligations imposed by law or regulation nor serve as the basis of request for change to increase the cost of the Work.

13.6 Construction Equipment and Tools

- A. Select and operate construction & personal protective equipment and tools in conformance with Section 01545, 1.2 (A) and in accordance with the manufacturer's specifications for the equipment or tools' intended use.
- B. Equipment - All equipment, tools and or other items used to complete the Work shall be inspected by the Contractor to insure compliance with applicable regulatory standards. Equipment, tools and or other items are subject to periodic inspection by the Authority. The Contractor shall promptly remove equipment rejected by the Authority as not conforming to Section 01545, 1.2. This removal shall be considered within the original scope of this Contract and the Work shall be completed in such a manner so as to not delay the schedule for performance of Work by Contractor nor shall the removal serve as the basis of request for change to increase the cost of the Work or be relied upon to form the basis of any claim.

The Authority has established a program by which equipment, tools and other items used to complete the Work shall be removed from service when it has been determined that the equipment, tools and other items present a potential for unintended injury when used as directed by the manufacturer. A tag with a prominent red and black message including the word "DANGER" may be utilized by the Authority. This tag shall be known as a "Red Tag." The tag will be signed by the Authority staff person, dated and note the specific reasons for the rejection. Any equipment, tool and or other item so tagged shall not be used to complete the Work until the condition noted on the tag has been corrected and the tag has been removed by the person who affixed the tag or their designee.

Any person who ignores, removes, damages or otherwise tampers with an Authority Red Tag shall be immediately removed from the Work by the Contractor and shall not return to the project without the written permission of the Authority Construction Safety Manager or an authorized designee.

- C. Special Safety Equipment - Where necessary for conformance with Section 01545 1.2, the Contractor shall provide special safety equipment and persons qualified to operate same to insure the safety of the Worksite. Such special safety equipment may include but is not limited to air quality measuring and monitoring equipment, noise measuring and monitoring equipment and other measuring devices related to industrial hygiene. Compliance shall be considered within the original scope of this Contract and shall not delay the schedule for performance of Work by the Contractor nor shall be relied upon to form the basis of a claim for delay. Equipment shall be used in accordance with the respective manufacturer's design, directions, and intended use.
- D. Electrical installations for construction activities shall conform to the National Electrical Code ANSI/NFPA 70-1984 for electrical installations and be acceptable and the State of California, Division of Occupational Safety and Health.
- E. Electrical equipment and tools to be used on the Worksite, shall be listed by at least one of the following USA testing facilities: Underwriters Laboratories, Factory Mutual or Electrical Testing Laboratories. Any electrical tool or equipment which is not listed by at least one of the above testing facilities shall be removed from the Worksite.

13.7 Safety Equipment

- A. All personal protective and other safety equipment placed into use at the Worksite shall include markings to show appropriate ANSI approval codes or other indications of approved usage. Equipment shall not be altered in any way without written approval by the respective manufacturer.
- B. Persons entering the Worksite shall, at minimum, be equipped with the following personal protective equipment: hardhat, eye protection, and work boots. ANSI accepted protective footwear shall be worn by all personnel exposed to foot hazards or working below grade (steel toed recreational shoes are not permitted).
- C. No person shall be allowed to wear recreational pants (shorts) or sleeveless shirts into any work areas of the Worksite.

13.8 Safety Representative

The Contractor Safety Representative's performance will be subject to periodic evaluation by the Authority throughout the prosecution of the Work. The contractor's Lead Safety Representative shall at a minimum perform the following duties:

- A. Document in writing daily safety observations of the jobsite(s) and public areas contiguous and adjacent thereto and take *necessary* and *timely* corrective action(s) to eliminate unsafe acts and/or conditions and document outstanding safety compliance activities or behaviors.
- B. Review *incident* and investigation reports, to insure timely submission, and that corrective action(s) have been completed to prevent recurrence.

- C. Provide line supervisors with relevant material for use in conducting weekly toolbox safety meetings.
- D. Review safety meeting reports submitted by line supervisors to ensure adequacy of training as well as subject matter.
- E. Conduct incident investigations and preserve incident sites. Prepare and submit the required reports to the Authority for final distribution in accordance with the manual.
- F. Develop and implement a safety training programs for line supervisors and employees as applicable to their specific jobs.
- G. Develop and implement incentive programs designed to recognize individual contractor/subcontractor employee safety efforts and contributions towards improvement of job site safety.
- H. Ensure that employees receive medical treatment for occupational injuries and that a written OSHA 300 log is maintained and available for review by the Authority or designee without prior notice.
- I. Ensure that all subcontractor employees at any tier comply with jobsite safety rules and regulations; and that the subcontractors' reports are completed in accordance with this Contract and according to the requirements of the applicable regulatory agencies.
- J. Provide for control, availability, and use of safety equipment, including employee personal protective equipment.
- K. Perform or supervise environmental testing on items including, but not limited to; noise, air flow, and air quality. Written records of such tests shall be kept and made available upon request. It is the Lead Safety Representative's responsibility to ensure that the contractor complies with all pollution and environmental control requirements.
- L. Conduct weekly safety meetings to be attended by all contractor/subcontractor and management personnel. Written records of these meetings shall be maintained at the worksite and made available to the Authority upon request without prior notice.
- M. Coordinate and participate in the development of Job Hazard Analyses, ensuring quality and timely submittals. Coordinate training of work crews and line supervision affected by each JHA.

13.9 Safety Personnel

- A. To insure the safety of the Worksite, Contractor Safety Personnel shall not work more than eleven hours in any twenty-four hour period or more than fifty-five hours in any seven consecutive day period. Included in the definition of Contractor Safety Personnel are the Lead Safety Representative, and any other persons accepted in writing by the Authority Construction Safety staff as Safety Representatives.
- B. The Contractor shall insure that only those Safety Representative(s) accepted in writing by the Authority for employment on the Worksite is/are present at the Worksite whenever work is in progress at the Worksite. The absence of the required Safety Representative shall result in the immediate stoppage of all work at the Worksite. The Contractor is responsible for maintaining an adequate staff of safety personnel, whose

qualifications have been submitted to and accepted in writing by the Authority, in order to avoid work stoppages in the event of an expected or unexpected absence due to vacation, illness, personal emergency, resignation or termination of the assigned Safety Representative(s).

- C. The Contractor's Safety Representative(s) shall have the authority to direct immediate correction of any unsafe or unhealthful condition and, as necessary, to stop work until appropriate corrective measures have been completed. Compliance with this provision shall be considered within the original scope of this Contract and any stoppage of work resulting from compliance with this provision shall not delay the schedule for performance of Work by the Contractor nor shall it serve as the basis of request for change to increase the cost of the Work or be relied upon to form the basis of a claim for delay.
- D. Any individual assigned as a Safety Representatives shall be submitted to the Authority in writing and shall meet the following qualifications: A supervisory employee of the Contractor responsible for the implementation of the Contractor's safety and health program at the Worksite. Three years heavy civil construction experience including one year of full time responsibility for construction safety programs. Current certification in good standing as a Construction Health & Safety Technician and Red Cross (or equivalent) First Aid and CPR. The Safety Representative must be present at the jobsite whenever Work is in progress.

14.0 Excavations

- A. All excavation operations shall be under the immediate supervision of a Competent Person, as defined in CCR Title 8, who is fully familiar with the requirements for safe excavation procedures and capable of enforcing strict compliance. The support system shall be designed by a civil engineer, licensed in the State of California and the support system plan shall be available for review by the Authority without prior notice.

15.0 Contractor Responsibility

Nothing in this specification shall release or relieve the Contractor and its subcontractors and suppliers from its safety responsibilities as described above. Any time a Cal-OSHA or Fed-OSHA representative seeks access to the Worksite, the Contractor's Safety Representative on duty shall immediately contact the designated Authority Safety Representative to inform and seek direction on how to proceed. It is understood that the Worksite belongs to the Authority and the Contractor has no authority to prohibit access to Cal-OSHA/Fed-OSHA representatives, except as described herein. If the Contractor's Safety Representative fails to meet any of the duties and obligations described above, the individual may be removed immediately by the Authority and the Contractor and its employee shall have no recourse against the Authority.

Compliance with the provisions of this Part shall be considered within the original scope of this Contract and shall not delay the schedule for performance of Work by Contractor nor

shall it serve as the basis of request for change to increase the cost of the Work or be relied upon to form the basis of any claim.

16.0 Payment – Work included in LSFP

The Work for this Section is included in Contractor's LSFP.

END OF SECTION

SECTION 02200 EARTHWORK

1.0 General

1.1 Description

A. The Work specified in this Section consists of performing operations to excavate materials, regardless of character and subsurface conditions, necessary for construction of structures and other facilities; to excavate trenches for utilities; to excavate selected material from site and to obtain borrow material on- or off-site for use as specified; to construct embankments, including placing and compacting selected material in connection therewith as specified; to place and compact backfill for structures and other facilities; to backfill and compact trenches; to remove and replace unsuitable material; to excavate and grade roads, parking areas and driveways; to prepare base material for the placing of other material thereon; as indicated. If contaminated soils are encountered contact the Authority for further instructions.

1.2 Quality Control

- A. Comply with Project Quality Program requirements.
- B. Perform testing as specified on each type and source of material.
- C. Before performing mechanical excavation, augering, drilling or boring, use hand excavation to expose below ground utilities and services in vicinity of proposed Work. Instruct employees and subcontractors of need to perform hand excavation.
- D. The Authority or its designee will provide contamination monitoring and testing.

1.3 Reference Standards

- A. American Society for Testing and Materials (ASTM)
 - ASTM D422 Particle Size Analysis of Soils
 - ASTM D1556 Density and Unit Weight of Soil in Place by the Sand-Cone Method
 - ASTM D1557 Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft (2,700 kN-m/m))
 - ASTM D2419 Sand Equivalent Value of Soils and Fine Aggregate
 - ASTM D2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 - ASTM D4253 Maximum Index Density of Soils Using a Vibratory Table
 - ASTM D4254 Minimum Index Density of Soils and Calculation of Relative Density
 - ASTM D4318 Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.4 Submittals

- A. Gradation test report.

- B. Results of backfill material qualification tests and field density tests for each category of products in Part 2.
- C. Manufacturer's product data.

1.5 Worksite Conditions

- A. Indicated locations of existing facilities and systems are approximate. Investigate and determine exact location and nature of utilities, facilities and systems, and be solely responsible for damages caused by construction activities.
- B. Excavation in areas that have or may have underground facilities:
 - 1. Delineate with white paint, flags or other methods area to be excavated and contact Underground Service Alert to request that facility owners mark the location of underground utilities.
 - 2. Identify temporary survey markings using PINK colored markings in accordance with Underground Service alert requirements.
 - 3. Facility owners will field mark approximate location and number of subsurface installations affected by excavation using following colors:
 - a. Safety RED - Electric power, distribution, and transmission installations, or municipal electric installations.
 - b. High Visibility Safety YELLOW - Gas distribution and transmission installations, oil distribution and transmission installations, or installations containing or transporting dangerous materials, products, or steam.
 - c. Safety Alert ORANGE - Telephone and telegraph installations, police and fire communication installations, and cable television installations.
 - d. Safety Precaution BLUE - Water installations and slurry pipelines.
 - e. Safety GREEN - Sewer installations.
 - f. Do not use above listed colors for Contractor's temporary markings such as survey points; use U.S.A. designated PINK color.
- C. Prevent water from accumulating in excavation. Remove accumulated water as required and as directed by the Authority.

2.0 Products

- 2.1 In accordance with Standard Specifications for Public Works Construction (SSPWC).

3.0 Execution

3.1 Excavation

- A. Remove material encountered within indicated limits.
- B. Subgrade - Lowest elevation of excavation required to accommodate indicated construction. Do not place anything on subgrade before inspection and acceptance of

subgrade by the Authority or its designee. If soils encountered at indicated subgrade are unacceptable, as determined by the Authority or its designee, excavate until soils acceptable to the Authority or its designee are encountered.

- C. Soft siltstone and claystone of Fernando and Puente formations that may be encountered on Project are identified as "bedrock" on boring logs.
- D. Materials may be prone to water slaking when exposed to rain or other water sources. Bearing capacity of subgrade in such wet materials may become unsuitable if subjected to excessive disturbance by construction equipment. If this occurrence cannot be avoided, and material does become unsuitable, over excavate to remove damaged materials to a depth acceptable to the Authority or its designee. Use excavated materials or from a borrow source meeting requirements of embankment fill.
- E. Remove surplus excavated materials, and excavated materials that do not satisfy specified fill and backfill requirements, from Worksite and dispose of materials in designated areas, in accordance with CAL/OSHA.
- F. When excavating within two feet of utility markings, California law requires hand excavation be used to expose utilities; inform employees and Subcontractors, who perform excavation, of requirements of the law. The law defines excavation as any operation that moves dirt (i.e. pile drilling; instrumentation borings; general; structural or utility excavation, etc.)
- G. General Excavation - Excavating for construction of parking lots, roadways, driveways and bus lanes, as indicated.
 - 1. Subgrade preparation for at-grade roadways in excavation areas - Placing, compacting, shaping, and draining subgrade to satisfy specified requirements. See Testing, paragraph 3.4 B.
 - 2. Generally form side slopes of rock cuts to typical section indicated. Remove loose rock on cut slopes immediately after having been loosened.
 - 3. Cut side slopes of earth cuts as indicated.
 - 4. Fill unauthorized excavation with acceptable fill material, at no additional cost to the Authority, and compact to 90 percent of maximum dry density and +/- two percent of optimum moisture content as determined by ASTM D1557.
- H. Trench Excavation - Consisting of open trenching for pipes and conduits; excavate for vaults, manholes and related facilities. Do not place excavated materials within three feet of edge of trench.
- I. Should gas well casings, Underground Storage Tanks (USTs) or hazardous substances requiring Excluded Hazardous Waste Operations (events) be encountered during excavation operations, the Authority or its designee may direct Contractor to cease excavation operations until events are removed and closed in accordance with requirements of governmental authorities having jurisdiction.

3.2 Fill Materials

- A. Place fill materials where indicated. Use excavated materials meeting requirements of embankment fill and/or general backfill. Deposit and spread in uniform, horizontal layers not thicker than twelve inches before compaction; extend layers full width of cross-section, where practicable. Compact each layer of fill material to specified compaction. Do not place stone and rubble in areas where fence posts and utility poles will be installed, or under piled structures. Contact between stones or rubble or nesting that will create voids - Not allowed. Compact fill with equipment other than heavy machinery where heavy machinery may damage facilities. "Jetting" method of compaction is specifically prohibited. For backfill in the City ROW, onsite and offsite material shall be approved by the Bureau of Engineering prior to placement.
- B. Place and compact embankment as indicated.
1. Scarify area within embankment limits to a depth not less than six inches; recompact loosened soil to specified compaction for embankment. On slopes steeper than one vertical to five horizontal, cut steps approximately 12 feet wide into original ground before placing embankment.
 2. Compact additional fill required by additional excavation to specified compaction.
 3. Remove flexible pavements occurring less than three feet below finished grade. Flexible pavements occurring three feet or more below finished grade may be left in place provided they are broken into pieces not larger than one foot in greatest dimension.
 4. Shape surface of finished compacted subgrade, and slopes of cuts and embankments, to indicated grades, alignments and cross sections. Blade surface of finished subgrade to indicated elevations, within a tolerance of +/-0.1 foot.
 5. Compact each fill layer to at least 90 percent of maximum dry density in accordance with ASTM D1557; except within upper three feet of fill below finished grade of roadways, trackways and other surface features sustaining vehicular loads, compact to at least 95 percent of maximum dry density and +/- two percent of optimum moisture content as determined by ASTM D1557. "Jetting" method of compaction is specifically prohibited.
- C. Backfilling around utilities not specified otherwise in other applicable sections of utility specifications and drawings.
1. Place bedding material under utility so that utility will be supported uniformly and continuously. Place bedding material for backfilling as indicated or to a depth of 12 inches above top of conduit. Compact material with light hand-operated equipment to at least 85 percent of maximum index density in accordance with ASTM D4253 and D4254; ensure proper support for conduit. Place additional structural backfill, as required, in eight inch lifts and compact to at least 90 percent of maximum dry density and +/- two percent of optimum moisture content as determined by ASTM D1557. Instead of compacting backfill, trenches may be backfilled with 3/4 sack cement slurry. Compaction by jetting is not allowed.
 2. Place backfill material around utility structures; shield to protect structures and waterproofing or coating thereof, and prevent displacement and damage by soil placement. Do not proceed with backfilling on or against concrete utility structures until those structures have reached 67 percent of their 28 day compressive strength, except thrust blocks against which backfill may be placed not less than 24 hours after placement of concrete.

3. Remove or fill vaults, manholes and catch basins designated as abandoned or to be abandoned. Break bottoms of structures left in place to permit drainage.
 4. Obtain utility owner's approval before backfilling on or round utility lines and facilities. Coordinate with the Authority or its designee to obtain these approvals.
- D. Ram and tamp backfill placed under a supported utility with special tools and equipment used in utility construction. Jetting method of compaction is specifically prohibited. When backfill cannot be adequately compacted, place lean concrete between compacted backfill and underside of utility lines. Place construction paper between lean concrete and bottom of utility.

3.3 Abandonment of Old Oil Wells

- A. If an abandoned oil well is encountered during excavation, notify the Authority or its designee, CAL/OSHA representatives, and California Division of Oil and Gas (CAL/DOG). Define location and condition of well, control materials from well, and re-abandon well in accordance with requirements of CAL/OSHA and CAL/DOG.

3.4 Testing

- A. For each material used as backfill, perform following test for each 1,000 cubic yards of fraction thereof; ASTM D422, ASTM D1557, ASTM D4318.
- B. Test each 100 linear feet or 500 square feet or fraction thereof for backfill in accordance with ASTM D1556 or ASTM D2922. Tested area - Acceptable when test results indicate compacted density is a minimum of the values specified in Paragraph 3.1 of maximum dry density and +/- two percent of optimum moisture content as determined by ASTM D1557 for that specific lot.
- C. For earthwork quality control testing for small area backfilling and installation such as manholes, fire hydrants, light poles, etc., a minimum of one density test shall be performed to verify the compaction of backfill material, unless otherwise directed by the Authority's Quality Manager.
- D. Place structural backfill, trench bedding and pervious material in lifts not exceeding eight inches loose. Place embankment and general backfill in lifts not exceeding twelve inches loose.

END OF SECTION

SECTION 02512 ASPHALT CONCRETE PAVEMENT

1.0 General

1.1 Description

- A. The Work specified in this Section consists of furnishing and placing asphalt concrete pavement to the thicknesses, lines and grades indicated in accordance with the Caltrans Standard Specifications.

1.1 Quality Control

- A. Comply with Project Quality Program requirements.
- B. Use asphalt concrete producer regularly engaged in production of hot-mix for hot-laid asphalt concrete pavement.
- C. Use asphalt concrete pavement construction supervisor having acceptable evidence of successful experience in supervising Work similar to that specified herein.
- D. Referenced Standards – Caltrans Standard Specifications, Section 39. Asphalt concrete mix design shall be approved by the Authority prior to placement.
- E. Local Jurisdictions, as applicable.
- F. Perform field job control tests in accordance with the test method and at the frequency specified in Section 3.8.

1.2 Submittals

- A. Test reports of materials used.
- B. Material qualification data, asphaltic concrete mix design, and job control test results for review and acceptance by the Authority or its designee.
- C. Manufacturer's product data.
- D. Referenced Standards – Caltrans Standard Specification, Section 39.

1.3 Worksite Conditions

Examine the area and conditions under which Work will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected to the satisfaction of the Authority or its designee.

2.0 Products

2.1 Asphalt Materials

- A. Asphalt concrete, Caltrans standard specification section 39. HMA 1/2 inch type A shall be used.
- B. Liquid asphalt, Caltrans standard specification section 93.
- C. Asphalt emulsions, Caltrans standard specification section 94.
- D. Prime coat and tack coat in accordance with Caltrans standard specification section 39.

3.0 Execution

3.1 Application of Prime Coat

- A. Conform with Caltrans standard specification Section 39.

3.2 Application of Tack Coat

- A. Conform with Caltrans standard specification Section 39.

3.3 Application of asphalt pavement

- A. Conform with Caltrans standard specification Section 39.

3.4 Reconditioning of Asphalt Paving Base Course

- A. Recondition the previously constructed base course as specified below; immediately before applying the prime coat remove debris and other objectionable substance from the surface by means of a power broom or blower supplemented with hand brooms. After the cleaning operation and before the application of the prime coat, the authority or its designee will inspect the area to determine the fitness of the areas to receive the bituminous priming material. Immediately before the application and as directed by the authority or its designee, ensure a uniform spread of the bituminous material by lightly sprinkling with water excessively dry portions of the base course prepared for treatment.
- B. Base course - the authority or its designee will inspect and test the surface of the base course for adequate compaction and surface tolerances. Correct ruts and soft, yielding spots that may appear in the base course, areas having inadequate compaction, and underlying course surface deviations exceeding the specified requirements; loosen the affected areas, removing unsatisfactory material and adding approved material where

required; reshape and recompacting to line and grade and to the specified density requirements to the satisfaction of the authority or its designee.

3.5 Joining Pavement

Carefully lay joints between existing and new pavements or between work of successive days in a manner to ensure a continuous bond between existing and new sections. Expose, clean and cut edges to straight, vertical surfaces. Paint joints with a uniform coat of tack coat before the fresh mixture is placed.

3.6 Defective Materials

Materials not complying with the specified requirements are not acceptable. Remove and replace defective materials as directed by the authority or its designee.

3.7 Flood Test

Flood asphalt pavement with water to check for positive drainage. Provide materials and equipment for flood testing. Test with the authority or its designee present.

3.8 Testing

Notify the authority or its designee when the work is ready to be tested.

- A. Remove areas not accepted - remove and replace defective areas to the satisfaction of the authority or its designee.
- B. Perform the following tests as indicated in Caltrans standard specification Section 39.

END OF SECTION

SECTION 02580 PAVEMENT STRIPING AND MARKING

1.0 General

1.1 Description

- C. The Work specified in this Section consists of furnishing and applying pavement markings, including messages, arrows and striping, as indicated and in accordance with Title 24, California Code of Regulations, Part 2 and Subsections 210-1.6 and 310-5.6 of the latest issue and supplements of the Standard Specifications for Public Works Construction (SSPWC) adopted by the Board of Public Works of the City of Los Angeles as modified by the corresponding issue of the Brown Book, as modified herein, and the latest editions of the MUTCD (2003), California Supplement and the State of California Traffic Manual and the Work Area Traffic Control Handbook (WATCH Manual). All restoration striping shall be installed with retro-reflective thermoplastic by the Contractor. Pavement marking material shall be per LADOT Spec No. 76-012-15.

1.3 Description

1.4 Quality Control

- A. Comply with Project Quality Program requirements.
- B. Caltrans Standard Specification
- C. Local Jurisdictions, as applicable

1.5 Submittal

- A. Manufacturer's product data
- B. Referenced Standards – Caltrans Standard Specification, Section 84.

2.0 Products

- A. PAINTED TRAFFIC STRIPES AND PAVEMENT MARKINGS - Caltrans Standard Specification, Section 84.
- B. Temporary striping can be painted, in accordance with these specifications.

3.0 Execution

3.1 Surface Preparation and Application

- A. Caltrans Standard Specification, Section 84.

3.2 Application

- A. Provide pavement striping and markings of the lengths, widths and configurations indicated or specified. Apply paint by machine, except for special areas and markings which are not adaptable to machine application, in which case hand application will be permitted. Apply reflectorized material to all striping and markings and evenly spread on surface. All painted striping and marking shall be double coated.
- B. Provide equipment adaptable to traveling at a uniform, predetermined speed which will produce a uniform application of paint. Provide paint machine of the pressurized spray type, capable of applying the paint at a uniform rate and through nozzles which spray paint directly upon the pavement, capable of applying three separate stripes, either solid or broken, at the same time. Provide paint tanks having a mechanical agitator. Provide nozzles having a cutoff valve which will automatically apply broken lines, and line guides consisting of metallic shrouds or air blasts.
- C. Provide hand painting equipment consisting of brushes, templates and guides.
- D. Provide symbols for the physically handicapped as indicated and in accordance with the requirements of Part 2 of Title 24, California Code of Regulations and the State of California Architectural Barriers law. Paint on the applicable concrete wheel stops, the wording, HANDICAPPED PARKING ONLY, in black letters, three inches high, on light blue painted wheel stops.
- E. Application of paint shall conform to Caltrans Standard Specification, Section 84.
- F. Removal of existing striping and pavement markings shall conform to SSPWC and Brown Book.

3.3 Adjusting

- A. Repair or replace pavement markings which fail to present a satisfactory and uniform day and night appearance, those which fail to satisfy the specified requirements and markings which are marred or damaged by traffic or by other causes, at no additional cost to the Authority. Correct stripes which deviate more than the allowable tolerances by removing the affected portion of the stripe; paint a new stripe in accordance with specified requirements. Completely remove arrows and stripes that do not meet specified requirements and repaint. Subject to acceptance by the Authority or its designee, damaged portions may be repaired.

3.4 Clean Up

- A. Remove misted, dripped and spattered paint. Remove paint by means which will not damage the surface from which removed.

3.5 Acceptance

- A. The Contractor will be responsible for maintenance of pavement markings until accepted by the Authority or its designee.

END OF SECTION