

CITY OF JUNCTION CITY
Public Works Construction Standards

Division 2-1

General Specifications

SECTION 01040
MOBILIZATION, BONDS, PERMITS AND INSURANCE

PART 1: GENERAL

1.1 SCOPE

- a. This section includes but is not limited to work necessary to move in personnel and equipment, set up all offices and facilities and prepare for construction and provide necessary permits, licenses, construction bonds and required insurance.

PART 2: PRODUCTS

None.

PART 3: EXECUTION

3.1 GENERAL

- a. Set up construction facilities in a neat and orderly manner within designated or approved work area. Supply all labor and equipment necessary to accomplish the work as specified. Conform to applicable requirements of these standards, including but not limited to:
 - 1) Required notifications
 - 2) Protection of surveying monuments and other markers
 - 3) Temporary traffic control
 - 4) Temporary utility connections
 - 5) Protection of property
 - 6) Dust control
- b. Move personnel, equipment, supplies, and incidentals to the project site. Establish offices, buildings, and other facilities necessary for work required.
- c. Provide required bonds and insurance certificates prior to issuance of the Construction Permit or Notice to Proceed.
- d. The Contractor shall procure all permits, performance bonds and licenses required by all approving agencies and pay all associated fees.

- e. Contractor to conform to all permit requirements, including providing forty-eight (48) hours notice to approving agencies, and all utilities prior to the start of construction.
- f. The Contractor shall procure all permits, licenses and bonds, and pay all charges and fees, and serve all necessary notices incidental to the due and lawful prosecution of the work.
- g. When the agencies with an interest in the project require the posting of signs for public notification, the Contractor shall post such signs in conformance with the requirements of the respective agencies. The Contractor shall be responsible for supplying the materials necessary to post the signs and notifications.

The contractor shall post a project sign which includes as a minimum the project name, the contractor's name & telephone number, and the name of the project owner. The sign shall be a exterior plywood backed weatherproof sign a minimum of 4 feet square, and shall be mounted in a conspicuous location on a minimum of two 4 x 4 posts braced as required.

PART 4: SPECIAL PROVISIONS

None

**SECTION 01042
CONSTRUCTION SEQUENCING**

PART 1: GENERAL

1.1 SCOPE

- a. This section includes construction sequencing and provision of temporary facilities necessary to maintain all existing facilities during the performance of this work unless otherwise specified.

1.2 REQUIREMENTS

- a. The Contractor shall construct the project so as to minimize disruption to existing facilities.
- b. Maintain a treatment efficiency not less than efficiency achieved during the corresponding month of the previous year. All treatment processes having multiple units can be used so that a portion of the process can be kept on-line while the remaining is out of service for modifications. All facilities must be kept in effective operation at all times.
- c. One week advance notice shall be given to the City prior to beginning work on any facility which requires disruption of normal operation.
- d. When a unit is removed from service, all associated modifications shall be performed. The work shall be performed in such a manner as to avoid removing a unit from service more than once.
- e. Contractor to provide for the flow of sewers, drains, or watercourses during the course of the work. All existing facilities to be restored to the satisfaction of the City.
- f. Make excavations and borings ahead of work, as necessary, to determine the exact location of interfering utilities or underground structures.
- g. Contractor to coordinate with other trades for completion of the work in a timely manner.

1.3 **TEMPORARY CONSTRUCTION**

- a. The Contractor shall furnish and install all necessary temporary construction required to maintain the operation of the facility, including bulkheads, plugs, stop planks, stop plates, blind flanges, pipelines, pipe connections, flumes, cofferdams, pumping equipment, valves, etc.
- b. All costs including labor, equipment and materials which are required shall be paid by the Contractor.
- c. All temporary facilities shall be of the Contractor's design.
- d. All phases of work requiring interference of normal operation of the existing facility shall be scheduled in accordance with agreements made on the job between the Contractor, Owner and City. The Contractor shall notify the City at least one week before such work is to begin.

1.4 **SEQUENCING**

- a. The Contractor shall be required to follow all construction sequencing required by this section.
- b. Coordinate timing of all work of this section with the City.
- c. Conform to drawing requirements.

PART 2: PRODUCTS

None

PART 3: EXECUTION

None

PART 4: SPECIAL PROVISIONS

None

**SECTION 01043
COORDINATION AND CONTROL OF THE WORK**

PART 1: GENERAL

1.1 SCOPE

- a. This section includes coordination and control of the work.

PART 2: PRODUCTS

None.

PART 3: EXECUTION

3.1 CONSTRUCTION SURVEYING AND STAKING

- a. The Contractor shall be responsible for layout of the work and transferring elevations from the stakes set by the Design Engineer/Surveyor. The Contractor shall notify the Design Engineer/Surveyor immediately if any errors are found in the stakes set.
- b. The Contractor shall preserve and protect the construction stakes or monuments set by the Design Engineer/Surveyor until their purpose has been served.

3.2 WARRANTY BOND

- a. The Contractor shall be responsible for a period of one year after written acceptance of improvements by the City for all workmanship and materials furnished for the improvements. Prior to provisional acceptance of public improvements, Contractor shall provide a one-year warranty bond. One-year period to begin upon the City's provisional acceptance of all work. The bond to be in a form acceptable to the City.

3.3 FIELD RECORD DRAWINGS AND AS-BUILTS

- a. The Contractor shall maintain a neatly marked set of record drawings showing the locations and depths of all new and existing waterlines, storm and sanitary sewer laterals, buried conduits and other utilities encountered during construction. Drawings shall be kept current with the work as it progresses and shall be subject to inspection by the City at any time. Failure to keep field record drawings current may result in the issuance of a stop work order until the record drawings are made current.

- b. As-built drawings shall be prepared and stamped by a registered professional Land Surveyor or Civil Engineer. Reproducible mylar as-built drawings must be submitted and approved by the Owner prior to final payment. The following as-built information shall be provided on the drawings:
- 1) Sanitary Sewer Mainline - Service tap stationing, manhole and cleanout stationing, and invert.
 - 2) Sanitary Sewer Services - Length from mainline and depth at property line with side tie to property pin.
 - 3) Water Mainline - Station and depth of all fittings, valves and service taps.
 - 4) Water Services - Length from mainline and side tie to property pin.
 - 5) Storm Sewer - Manhole and catch basin stationing and invert elevations.
 - 6) Existing Utilities - Station locations and depths at crossings.
- c. As-built information shall be based on the benchmark used for the design survey unless that benchmark was destroyed during construction. If the design survey benchmark was destroyed during construction, an alternate approved benchmark shall be used as the basis for as-built information. The benchmark used as the basis of the as-built information shall be clearly noted on the drawings.

3.4 CONFORMITY WITH DRAWINGS AND ALLOWABLE DEVIATIONS

- a. Finished surfaces in all cases shall conform with lines, grades, cross sections and dimensions shown on the approved drawings. Deviations from the approved drawings and working drawings will in all cases be determined by the City and authorized in writing.

3.5 UTILITY CONFLICTS

- a. The Contractor shall be responsible for exposing potential utility conflicts far enough ahead of pipeline construction to make necessary adjustments in grade and alignment of the new work within the recommended limits of pipe and fitting deflection and/or the lines and grades stated in the Approved construction drawings. The Contractor shall be responsible for informing the City of the need for a grade and/or alignment adjustment. Where failure to expose potential utility conflicts in advance results in the necessity of removing and/or relocating newly laid pipe, this additional work shall be performed by the Contractor at no additional expense to the City.

- b. The Contractor shall not deviate from the design line and grade stated or shown on the approved construction drawings without the written approval of the City.

3.6 CONTRACTOR RESPONSIBILITY TO OBTAIN ALL REQUIRED INSPECTIONS

- a. The Contractor shall be responsible to ensure that all inspections required by the approved construction drawings, contract documents or agencies having jurisdiction are completed by authorized inspectors prior to proceeding with subsequent work which covers or which is dependent on the work to be inspected. Work done completed or covered without obtaining required inspections will be considered as unauthorized work as outlined below, and may be ordered removed at the Contractor's expense. Failure to obtain necessary inspection(s) and approval(s) shall result in the Contractor being fully responsible for all problems arising from uninspected work.

3.7 REMOVAL OF DEFECTIVE OR UNAUTHORIZED WORK

- a. All work which does not conform to the requirements of the approved construction drawings shall be considered as unacceptable.
- b. Immediately remove unacceptable and defective work found to exist prior to acceptance of or final payment for the work. Replace with work and materials which conform to the approved construction drawings, or remedy otherwise in an approved manner. This provision shall have full effect regardless of the fact that the unacceptable work may have been done or the defective materials used with the full knowledge of the Inspector.
- c. Work done beyond the lines shown on the drawings or ordered, work done without required inspection, or any extra work done without authority will be considered as unauthorized. Work so done may be ordered removed at the Contractor's expense. Work done without lines and grades being given may also be considered as unauthorized and will be subject to rejection.

3.8 PROTECTION OF EXISTING FACILITIES

- a. The Contractor shall protect from damage due to his operations, all existing facilities including but not limited to survey monuments, fence lines, trees, underground utilities, drainage facilities, landscaping, roadway surfaces etc., which are not specifically designated for removal or alteration. The locations of these facilities as shown on the plans were derived from the best information available. However, the completeness and accuracy of these locations as shown is not guaranteed. It shall be the responsibility of the Contractor to verify the existence and locations of underground facilities in advance of construction. Any existing facilities not designated for removal or alteration, which are damaged by the

Contractor's operations shall be restored or replaced to an "in kind" or better condition at the expense of the Contractor. The Contractor shall notify all public and private utility companies serving in the area in advance of construction, so underground utility locations can be confirmed and existing facilities relocated if necessary to facilitate construction. Contractor shall make excavations and borings ahead of work, as necessary, to determine the exact location of interfering utilities or underground utilities.

- b. At least a week in advance of beginning work, the Contractor shall notify the registered underground protection service, all public bodies and other owners of such facilities of the proposed location of his operations, advising them that their property may be affected and that such measures as they may deem necessary should be promptly taken to protect, adjust, remove and/or build them. Contractor shall comply with ORS 757.541 to ORS 757.571.
- c. Three conditions which may be encountered will be dealt with as follows:
 - 1) Structures which are adjacent to but not included within the limits of an excavation required for performance of the work shall be acceptably protected, supported and maintained in service by the Contractor at his expense.
 - 2) Structures within the limits of the work which can be satisfactorily supported and maintained in service and which do not require removal and rebuilding in the judgment of the City, shall be thus supported by the Contractor at his expense, including cost of repair of damage incidental to his operations.
 - a) Supports for water and gas mains, sewers, conduits and similar structures shall be constructed of timber or other acceptable materials, shall be supported on undisturbed foundations and shall be sufficiently substantial to ensure against settlement when pipe trenches or other excavations are backfilled. In all cases where permits or inspections fees are required by utilities in connection with changes to or temporary support of their conduits, the Contractor shall secure such permits and pay all inspection fees.
 - b) The Contractor shall assume full responsibility for maintaining all public utility structures in service and shall support and protect, or remove and rebuild them at his own expense. Such services shall not be interrupted without permission of the owner of the public utility structure.

- 3) In case relocation of pipelines or other utility structures is required because of direct interference with the installation of the work, the Contractor shall relocate the pipeline or other utility structure at no additional cost to the City. Where it is the policy of any utility owner to perform such work with his own forces, the Contractor shall cooperate to the fullest extent with such utility owners. All work shall be done in a manner to protect the public and the work.

3.9 PROTECTION OF PROPERTY

- a. Protect all public and private property, insofar as it may be endangered by operations and take every reasonable precaution to avoid damage to such property.
- b. Restore and bear the cost of any public or private improvement, facility, or structure within the right-of-way or easement which is damaged or injured directly or indirectly by or on account of any act, omission, or neglect in the execution of the work and which is not designated for removal but visibly evident or correctly shown on the plans. Restore to a condition substantially equivalent to that existing before such damage or injury occurred, by repairing, rebuilding, or otherwise affecting restoration thereof, or if this is not feasible, make a suitable settlement with the Owner of the damaged property, all at no expense to the City.
- c. Give reasonable notice to occupants of buildings on property adjacent to the work to permit the occupants to remove vehicles, trailers, and other possessions as well as salvage or relocate plants, trees, fences, sprinkler systems, or other improvements in the right-of-way which are designated for removal of which might be destroyed or damaged by work operations.
- d. Protect all designated trees and planted areas within the right-of-way or easements. Exercise care and conduct operations so as to minimize damages to other planted areas.
- e. Review with City the location, limits and methods to be used prior to clearing work. Clearing and grubbing shall be performed in strict compliance with all local, State and Federal laws.
- f. The Contractor shall be responsible for the protection of public and private property adjacent to the work and shall exercise due caution to avoid damage to such property.
- g. The Contractor shall repair and replace all existing improvements within the right-of-way, easement, and permit of entry areas which are not designated for removal (examples are curbs, sidewalks, storm drains, water mains, sanitary sewers, driveways, fences, walls signs, utility installations, pavements, structures, sprinkler

lines) which are damaged or removed as a result of the contractor's operations. Repairs and replacements shall be equal to or better than existing improvements and shall match them in finish and dimension.

- h. Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed because of the Contractor's operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible. Lawns shall be reseeded after replacement of topsoil and covered with suitable mulch except as noted otherwise.
- i. The costs to the Contractor for protecting, repairing, removing, replacing, or restoring existing improvements not required as a part of this work shall be incidental to other bid items.
- j. Until acceptance of the project, at all times protect from damage and preserve all materials, supplies, equipment of any description, and all work already performed, from the nature of the work, the action of the elements, and damage by any person or persons, or from any other cause whatsoever.

3.10 HOURS OF WORK

- a. Construction working hours shall be from 7:00 A.M. to 6:00 P.M. local time, Monday through Friday, excluding Federal, State and local holidays, unless otherwise approved by the City.

3.11 RESTORATION AND CLEANUP

- a. Periodically, or as directed by the City, as the work progresses, and immediately after completion of the work, clean up and remove all refuse, debris, equipment, and unused materials of any kind resulting from the work. Upon failure to do so within 72 hours after directed, the work may be done by the City or third party and the cost thereof assessed against the Contractor.
- b. As a condition precedent to final acceptance of the project, remove all equipment and temporary structures, and all rubbish, waste, lathe, flagging, etc., and generally clean up the right-of-way and premises to conform substantially to conditions as they existed before the commencement of work, as approved.
- c. All disturbed areas shall be graded to form a smooth, free draining surface. Contractor shall seed and mulch all exposed slopes not scheduled to be landscaped.

3.12 FINAL INSPECTION

- a. When all construction work on the project is complete and all extra work bills, forms and documents required under the City Standards are submitted, notify the City in writing. City will make an inspection of the project and project records within 15 days of receiving said notice. If, at such inspection, all construction provided for and ordered under the approved construction drawings is found completed and satisfactory and all certificates, bills, forms, and documents have been properly submitted, such inspection shall constitute final inspection.
- b. If work is found unsatisfactory, or if all certificates, bills, forms and documents have not been properly submitted, the City will so notify the Contractor. After correction are made, or all certificates, bills, forms, or documents are properly submitted, notify the City in writing. City will make another inspection within fourteen (14) days after such notice, and if all work is satisfactory, then this inspection shall constitute the final inspection.

3.13 VERBAL AGREEMENTS

- a. No verbal agreement or conversation with any officer, agent or employee of the City, either before or after issuance of a permit, shall affect or modify any of the terms or obligations contained in any of the documents comprising the City standards. Any such verbal agreement or conversation shall be considered as unofficial information and in no way binding upon the City.

3.14 COOPERATION OF CONTRACTOR

- a. The Contractor shall conduct his operations so as to interfere as little as possible with those of the City, other Contractors, utilities, or any public authority on or near the work. The City reserves the right to perform other work by Contract or otherwise; to permit other public bodies, public utility companies and others to do work on or near the project during progress of the work. If a conflict arises, the City shall determine when and how the work shall proceed. Claims for delay or inconvenience due to operations of such other parties on work indicated or shown on the drawings will not be allowed.

3.15 MANDATORY PROJECT SUPERINTENDENT

- a. The Contractor shall designate one person as primary project superintendent to oversee and coordinate construction. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications, thoroughly experienced in the type of work being performed. If the Contractor is a joint venture, designate one person from the joint venture organization, with these qualifications, to act as project superintendent. This person's work time shall be

devoted exclusively to this project to ensure that work coordinations, quality and time lines are met.

The Project Superintendent shall:

- 1) Keep one complete set of approved construction drawings available on the project at all times.
 - 2) Carefully protect and preserve the survey marks and stakes.
 - 3) Furnish the City every reasonable facility necessary for obtaining information regarding the nature, quantity and quality of any part of the work.
 - 4) Allow the City reasonable access to the Contractor's books and records at all times. The City will honor a request for confidentiality to protect trade secrets.
 - 5) Be appointed in writing.
 - 6) Have full authority and responsibility to execute orders or directions of the City without delay.
 - 7) Have full authority and responsibility to promptly supply the materials, equipment, tools, labor and incidentals required for the work.
 - 8) Be available at all times to the City.
 - 9) Be on the project at all times work is underway, except as permitted.
- b. For short periods of time during the performance of minor or incidental portions of the work, the Contractor may designate another person to act for the superintendent. This designation shall be in writing, stating the person's name, duration of appointment and scope of authority. The acting superintendent shall be available to the City at all times for contact by telephone or radio.
- c. Failure to provide the superintendence required by these provisions is sufficient cause for issuance of a stop work order, or other action the City may deem to be appropriate.

3.16 EMERGENCY MAINTENANCE SUPERVISOR

- a. The Contractor shall submit to the City the names, addresses and telephone numbers of two employees responsible for performing emergency maintenance and

repairs when the Contractor is not working. These employees shall be designated, in writing by the Contractor, to act as his representatives and shall have full authority to act on his behalf.

- b. At least one of the designated employees shall be available for a telephone call any time an emergency arises.

3.17 CONDUCT

- a. The Contractor and his men shall at all times be civil and courteous around private citizens and property owners. If ever directed to leave private property by the property owner or his representative, the Contractor and his personnel shall do so immediately. If any property owner or his representative makes demands, the Contractor is to remain courteous and report the matter to the City. No foul language, obscene gestures, or rudeness directed to private citizens will be tolerated. Radios and personal stereos (including walkmans) will not be permitted. If, in the City's opinion, the Contractor or any of his men fail to conduct themselves as stipulated or follow the direction of the City, the City shall bar the offending individual from the project. His order shall be final.

3.18 TRESPASS

- a. The Contractor will be solely responsible for any trespass upon private property or injury thereto resulting from or in connection with his operations. He will be liable for any claims made because of his trespass or his deposit of debris of any kind on private property.

3.19 USE OR POSSESSION PRIOR TO FINAL COMPLETION

- a. The City shall have the right to take possession of or use for his own benefit any completed or partially completed part of the work with the public right-of-way. Such possession or use shall not be deemed an acceptance of the occupied portion of the project. While the City is in such possession, the Contractor shall be relieved of the responsibility for injury or damage to the said completed portion of the work other than that resulting from the Contractor's fault or negligence. Continued operation or use of facilities being rehabilitated or reconstructed shall not be construed as use or possession prior to final completion.
- b. Prior to the City taking possession of or using any completed or partially completed part of the work, written notice shall be given by the City to the Contractor at least 24 hours in advance of the City actually assuming possession.

3.20 TEMPORARY WATER, HEATING, LIGHTING AND POWER

- a. The Contractor shall provide all water, heat, lighting and power required to construct and protect the work until the work is placed in service.
- b. The source for temporary power shall be from the electric utility or Contractor supplied auxiliary power units.
- c. The source for temporary water shall be from the City water utility, if the City's system is capable of supplying the temporary water.
- d. The Contractor shall pay the City for all water utilized by the Contractor in the construction of the facility.
- e. The installation for electric power shall meet the requirements of local authorities and of OSHA.
- f. The Contractor shall obtain all permits and pay all costs for connecting temporary services at no expense to the City.

3.21 BARRICADES

- a. The Contractor must provide and maintain proper barricades, fences, signal lights, flares or watchmen to properly protect the work, equipment, persons, animals and property against injury.
- b. In areas of public travel and/or on all approaches leading to this work, all barricades and obstructions shall be illuminated at night. All lights for this purpose shall be kept burning from sunset to sunrise.
- c. Temporary traffic control devices and facilities shall be furnished, erected and maintained in accordance with all Local and State requirements.

3.22 MAINTAINING TRAFFIC

- a. Where contract work is within streets or other public thoroughfares, the Contractor shall so plan and schedule his work as to cause as little interference with general public traffic. Street surfaces shall be maintained and kept clean where construction work under the approved construction drawings has been performed until inspection and acceptance of all such work.
- b. Access of fire, police and ambulance vehicles to property abutting and adjacent to such thoroughfares shall be maintained whether or not permission has been granted to restrict other traffic. The Contractor shall obtain all permits from Municipal,

County, State or other authority having jurisdiction over traffic in thoroughfares, and shall comply with all regulations and directions of such authority concerning erecting barricades and detouring movement of traffic.

- c. The Contractor shall maintain the roads for operating personnel, deliveries of operating supplies, normal maintenance vehicles and other equipment incidental to the operation and maintenance of all City facilities.

3.23 DISPOSAL OF DEBRIS

- a. All debris resulting from construction operations, i.e., packaging, waste materials, damaged equipment, etc., shall be trucked from the site by the Contractor and disposed of at an approved off site location.
- b. The Contractor shall police the hauling of debris to ensure that all spillage from haul trucks is promptly and completely removed.
- c. All debris shall be disposed of in accordance with Federal, State and City rules and regulations.
- d. Excavated materials not suitable or not required for backfill or embankment shall be deposited on one or both of the following waste sites:
 - 1) Waste sites designated in the approved construction drawings.
 - 2) Waste sites provided by the Contractor.
- e. Either type of waste site shall be operated in such a manner as to meet all safety and health requirements of State and local agencies. Sites, operations, or the result of such operations, which create a nuisance problem, or which result in damage to public or private properties will not be permitted.
- f. Do not deposit materials on an unimproved dedicated street area without written permission of the City.

3.24 SANITARY REGULATIONS

- a. Necessary housing accommodations shall be provided for the workers for changing clothes and for protection during inclement weather. Toilet accommodations shall also be maintained for the use of the employees on the work site. The accommodations shall be in approved locations, properly screened from public observance and shall be maintained in a strictly sanitary manner. The Contractor shall obey and enforce all other sanitary regulations and orders and shall take precautions against infectious diseases. The Contractor shall maintain at all times, satisfactory

sanitary conditions around all shanties, tool and supply houses and on all other parts of the work all in accordance with all Federal, State and Local ordinances, regulations and requirements.

3.25 DUST CONTROL

- a. The Contractor shall apply water or dust palliative, or both, for the alleviation or prevention of dust nuisance caused by his operations. Dust control operations shall be performed by the Contractor at the time(s) as required or as ordered by the City. Failure of the Owner to issue such order will not relieve the Contractor of this responsibility. The Contractor shall comply with all Federal, State and Local ordinances, regulations and requirements.

3.26 SMOKE PREVENTION

- a. Strict compliance with all ordinances regulating the production and emission of smoke will be required and the Contractor shall accept full responsibility for all damage that may occur to property as a result of negligence in providing required control. The Contractor shall comply with all Federal, State and local regulations.

3.27 CONTROL OF NOISE

- a. The Contractor shall eliminate noise to as great an extent as possible at all times. Air compressors shall be equipped with silencers and the exhaust of all gasoline motors and other power equipment shall be provided with mufflers. In the vicinity of hospitals, libraries and schools, precautions shall be taken to avoid noise and other nuisance. The Contractor shall require strict observances of all pertinent ordinances and regulations.

3.28 USE OF EXPLOSIVES

- a. The use of explosives shall be prohibited.

3.29 WEATHER CONDITIONS

- a. In the event of temporary suspension of the work or during inclement weather, or whenever the City shall direct, the Contractor shall carefully protect (and cause his subcontractors to similarly protect) all work and materials against damage or injury from the weather. If, in the opinion of the City, any work or materials have been damaged by reason of failure on the part of the Contractor or any of his subcontractors to so protect his work, such materials shall be removed and replaced at the expense of the Contractor.

3.30 VERMIN CONTROL

- a. At the time of acceptance by the City, any structure or structures entirely constructed under the approved construction drawings shall be free of rodents, insects, vermin or pests.

3.31 FAIR EMPLOYMENT PRACTICES ACT

- a. The Contractor agrees that neither he nor his subcontractors will discriminate against any employee or applicant for employment, to be employed in the performance of the work under the approved construction drawings, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his race, age, color, sex, religion, national origin or ancestry or marital status.

3.32 CONSTRUCTION ACCESS

- a. The Contractor shall be responsible for design, construction and maintenance of any and all structures required for access to the site for construction or delivery of materials, including but not limited to construction access roads.
- b. Unless otherwise shown or specified, the access road and street sections shown are based upon the anticipated loads following construction and not upon the loads during the construction period. Any increase in road size or depth required to accommodate the loads due to the Contractor's choice of construction methods or sequence of operations shall be the responsibility of the Contractor, and shall be supplied at no additional cost to the City.
- c. Any advice or recommendations solicited from or given by the City to the Contractor shall not relieve the Contractor of any of his responsibilities under this section.

PART 4: SPECIAL PROVISIONS

None

**SECTION 01200
PROJECT MEETINGS**

PART 1: GENERAL

1.1 SCOPE

- a. This section includes all scheduling and administering of preconstruction and progress meetings as herein specified and necessary for the proper and complete performance of this work.

1.2 PRECONSTRUCTION MEETING

- a. **Scheduling:** The Design Engineer shall be responsible for scheduling the preconstruction conference prior to issuance of a construction permit as outlined in Section 1.4 of the City's Public Works Design Standards.
- b. **Attendance:**
- 1) Representatives of the following parties are to be in attendance at the preconstruction meeting:
 - a) City
 - b) Design Engineer
 - c) Major Contractor(s)
 - d) Representatives of governmental or regulatory agencies, when appropriate.
 - e) Utility companies
 - 2) **Minimum Agenda:**
 - 3) The agenda for the preconstruction meeting shall consist of the following:
 - a) Distribute and discuss a list of major subcontractors and a tentative construction schedule.
 - b) Chain of Command.
 - c) Critical work sequencing.
 - d) Designation of responsible personnel.
 - e) Adequacy of distribution of approved construction drawings.
 - f) Submittal of shop drawings, project data and samples.
 - g) Procedures for maintaining record documents.
 - h) Major equipment deliveries and priorities.

- i) Security procedures.
- j) Housekeeping procedures.

1.3 PROGRESS MEETINGS

- a. Schedule: At the preconstruction meeting the location, date and time of periodic progress meetings will be established if needed.
- b. Attendance:
 - 1) Representatives of the following parties are to be in attendance at the periodic progress meetings.
 - a) Design Engineer
 - b) Major Contractor(s)
 - c) City representative
 - d) Representatives of Governmental or Other Regulatory Agencies, as appropriate.
 - e) Utility companies, when appropriate.

PART 2: PRODUCTS

None

PART 3: EXECUTION

None

PART 4: SPECIAL PROVISIONS

None

**SECTION 01300
CONSTRUCTION SUBMITTALS**

PART 1: GENERAL

1.1 SCOPE

- a. This section includes requirements for construction submittals for public works projects which will be turned over to the City for operation and maintenance, including but not limited to streets, public utility pipelines, pump stations, treatment facilities (water, sewer or storm), storage reservoirs, bridges, etc.

1.2 COORDINATION OF SUBMITTALS

- a. All submittals to the City, with the exception of the laboratory test certificates and reports, shall be made by the Design Engineer. Direct submittals from contractors, subcontractor or suppliers will not be accepted unless otherwise noted herein or approved in writing by the Public Works Director.
- b. All submittals shall reference the Specification item that it covers, the Design Engineer and Contractor's name, the project title and location, and the date of submission. Submittal shall also indicate whether the information is for the City's review and approval, for record purposes or for the fulfillment of the operation and maintenance requirements.
- c. Prior to Submitting Information to the City:
- 1) The Design Engineer and Contractor shall carefully review the correctness and thoroughness of the material, verify all field measurements, and coordinate all aspects of each item being submitted.
 - 2) The Design Engineer and Contractor shall carefully review and ensure that all submittals are tailored to the project by highlighting appropriate information and/or deleting or crossing out non-applicable information, and that all options and equipment furnished are indicated.
 - 3) **The Design Engineer shall verify his review by affixing his signature to the submittal report submitted as the front page of each submittal.**

PART 2: PRODUCTS

2.1 GENERAL

- a. All submittals shall be accompanied by a completed copy of the submittal report included under Part 4 of this section.
 - 1) All submittal reports shall be numbered sequentially. Resubmittals shall be designated with the same number as the original submittal followed by a designation letter (ie. Submittal "5A" for the first resubmittal of submittal 5, Submittal "5B" for second, etc.).
 - 2) A separate submittal report shall be prepared for each submittal. Generally, items under a single specification section or category can be included on the same submittal report.
 - 3) Except in the case of operations and maintenance manuals, or as otherwise approved by the City, a single submittal report shall not be used for items under different specification sections or material categories.
- b. **Three Categories of Information Are Normally Required:**
 - 1) Information for record.
 - 2) Information for the City's review and approval.
 - 3) Operation and maintenance information.
- c. All submittals shall be tailored to the project by highlighting appropriate information and/or deleting or crossing out non-applicable information. All options and equipment furnished shall be so indicated.
- d. Manufacturers submitting proposals for equipment which will require changes to the design shown on the drawings or specified herein shall also include detailed information on structural, electrical, mechanical and other miscellaneous changes or modifications required to adapt their equipment to the design shown.

2.2 INFORMATION FOR RECORD

- a. **Laboratory Certificates:** Certificates shall include the results of tests by an independent laboratory for comparison to Specification requirements, mix design data and approval, plan inspection reports and certification, and other required information from the laboratory. All information submitted shall be signed by an authorized agent of the laboratory.

- b. **Licenses and Permits:** The Contractor shall obtain all licenses and permits required by Local, State and Federal laws and submit copies of them to the City.
- c. **Installation and Calibration Certificates:** Certificates shall be submitted for equipment as indicated in the individual sections. These certificates shall indicate manufacturer's satisfaction with the installation, the accuracy of calibration and alignment, and the operation of the equipment. Such certificates must be signed by an authorized agent of the manufacturer.

2.3 **INFORMATION FOR THE CITY'S REVIEW AND APPROVAL**

- a. **Construction Schedules:** Unless otherwise specified, the Contractor shall submit construction schedules as outlined under Section 01305, Project Schedules contained herein.
- b. **Material and Equipment Submittals:**
 - 1) The Design Engineer shall indicate on the submittals all variances from the requirements in the specifications or on the drawings. Failure to note variances from the specification requirements may result in the submittal being returned to the Design Engineer and Contractor without review.
 - 2) All submittals shall be tailored to the project by highlighting appropriate information and/or deleting or crossing out non-applicable information. All options furnished shall be indicated. Failure to follow these instructions will result in the submittal being returned without review.
 - 3) Submittals for all materials and equipment used by the Contractor in the performance of the work shall include the following as applicable:
 - a) **Manufacturers' Literature:** Literature indicating the compliance of the product with the Specifications shall be included with all submittals. This shall include catalog sheets and other descriptive bulletins. Manufacturer's literature shall also include, but not be limited to the following:
 - (1) Manufacturer's catalog data
 - (2) Materials of construction
 - (3) Manufacturer's name and model number
 - (4) Installation instructions and drawings
 - b) **Manufacturers' or Suppliers' Certificates:** Certificates shall state that the products have been sampled and tested in accordance with

the proper industrial and governmental standards and meet the requirements of the City standards or the approved construction drawings. Certificates shall be signed by an authorized agent of the manufacturer.

- c) **Design Data:** Design data shall include the calculations, supporting theories, safety factors and assumptions used in designing the product.
- d) **Samples:** Samples shall be provided as required in the individual sections. Samples shall be of the precise material proposed to be furnished. The number of samples and sample size shall be of the industry standard unless otherwise stated in the individual sections.
- e) **Shop Drawings:** Shop drawings shall include the following as applicable to the equipment or system along with any special requirements due to the nature of the project:
 - (1) Scaled details
 - (2) Scaled dimensional drawings
 - (3) Sectional assembly drawings
 - (4) Fabrication information
 - (5) Wiring schematics with termination point identification
 - (6) Motor information
 - (7) Piping schematics

4) **Substitutions:**

- a) Submittals for substitute materials or equipment shall include but not be limited to manufacturer's literature, design criteria, dimensions and installation instruction.
- b) The submittal shall include any certifications or test results required to demonstrate that the proposed materials or equipment meets the requirements of the specifications and is equivalent or better than the specified materials or equipment.
- c) If the substitution requires a change in the design, the submittal shall include all pertinent design information and details for the required design change, with supporting documentation.

2.4 OPERATION AND MAINTENANCE INFORMATION

- a. The Design Engineer shall furnish five (5) copies of O&M manuals with information on all equipment requiring maintenance by the City.
- b. The work shall not be considered to be substantially complete and acceptable to the City until all associated O&M information is submitted and accepted by the City.
- c. The O&M manuals will be accepted only if complete, and only after revised, where necessary, to conform to the City's notes on previous submittals that have been "Approved as Noted." The Design Engineer shall be responsible for submitting the O&M manuals far enough prior to the end of the Contract Period to allow the City adequate time to review the manuals.
- d. All manuals shall be tailored to the project by high lighting appropriate information and/or deleting or crossing out non-applicable information. All options furnished shall be indicated.
- e. Manuals shall be printed on heavy, first quality paper, 8-1/2" x 11" size with standard three hole punching. Large manuals shall be submitted in three ring binders. Drawings shall be reduced to 11" x 17". Where reduction is not possible, larger drawings shall be folded separately and placed in envelopes which are bound into the manual.
- f. A Table of Contents and index tabs shall be furnished for all manuals containing data for three or more items of equipment.
- g. Field modifications to equipment during installation shall be included in the manual so that the manual reflects as-built conditions. Revisions to the manual may be submitted for incorporation into the manual where appropriate. However, the City reserves the right to return all six manuals for revision to reflect as-built conditions.
- h. O&M manuals shall include copies of all submittals for the project. O&M manuals shall also include but not be limited to the following:
 - 1) Suppliers name, address and telephone number along with manufacturers job number and/or Purchase order number for all equipment supplied. This listing may be included at the front of the manual and at the front of each individual section of the manual.

- 2) Confirmation of all corrections noted on shop drawings or submittals approved subject to "Make Corrections Noted."
- 3) Descriptive literature, bulletins or other data covering the equipment or system.
- 4) Complete list of equipment and appurtenances included with the system, complete with manufacturer and model number.
- 5) General arrangement drawing.
- 6) Sectional assembly.
- 7) Dimension print.
- 8) Materials of construction.
- 9) Parts list with assembly drawings.
- 10) Recommended spare parts list with part and catalog number.
- 11) Utility requirements.
- 12) Lubrication recommendations and instructions.
- 13) Drive dimensions and data.
- 14) Pump seal data.
- 15) Performance guarantee.
- 16) Certified performance curve.
- 17) Operating instructions.
- 18) Assembly, installation, alignment, adjustment and checking instructions.
- 19) Maintenance instructions including trouble shooting guidelines, lubrication and preventive maintenance instructions with task schedule.
- 20) Special tools and equipment required for operation and maintenance.
- 21) Description of equipment controls.

- 22) Description of associated instrumentation.
- 23) Schematic wiring diagrams.
- 24) Schematic piping diagrams.

2.5 OTHER SUBMITTALS

- a. Other submittals are required under various sections of these Specifications.

PART 3: EXECUTION

3.1 GENERAL

- a. Delivery prior to approval of any material or equipment for which submittals are required will be at the Contractor's risk. Material or equipment for which submittals are required shall not be incorporated into the work until after the submittals have been reviewed and approved.
- b. Any material or equipment on-site which is rejected by the City after review of submittals shall be removed from the job site by the Contractor within two (2) working days of notification of rejection.

3.2 DISTRIBUTION

- a. Distribution of submittals shall be as follows unless otherwise directed in the individual Sections:
 - 1) Information for Record - The Contractor or the laboratory shall submit one (1) copy of all test certificates, licenses, permits and installation and calibration certificates directly to the following:
 - a) Owner
 - b) City
 - 2) Information for City's Review and Approval
 - a) The Design Engineer shall submit to the City five (5) copies of all documents requiring the City's review.

- b) The City will review the submittals with reasonable promptness for their compliance with the design concept and the approved construction drawings.
- c) If the submittals are found insufficient three copies will be returned to the Design Engineer for correction. The Contractor shall than resubmit five (5) copies of the corrected information.
- d) Upon acceptance, the City will distribute marked copies via construction bulletins as follows:
 - (1) Two (2) copies - City
 - (2) Three (3) copies - Design Engineer or Contractor

PART 4: SPECIAL PROVISIONS

4.1 SUBMITTAL REPORT

- a. See following pages:

JUNCTION CITY PUBLIC WORKS SUBMITTAL REPORT

PROJECT: _____

FROM: _____

TO: _____

COPIES: _____

SUBMITTAL NUMBER: _____

WITH RESPECT TO:

- SHOP DRAWINGS MANUFACTURER'S DATA
- REPORTS METHOD STATEMENT INFORMATION FOR RECORD
- SAMPLES OTHER OPERATIONS & MAINTENANCE MANUALS

DESCRIPTION: _____

SPECIFICATION SECTION & TITLE: _____

I hereby certify that the material submitted has been checked for compliance with the specification and any exceptions have been clearly noted.

Dated: _____

Signed

Title

RESPONSE TO SUBMITTAL:

- NO EXCEPTIONS NOTED REVISE AND RESUBMIT
- MAKE CORRECTIONS NOTED REJECTED
- SEE ATTACHED LETTER

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the approved construction drawings and City standards. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for dimensions to be confirmed and correlated at the job site; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of his or her Work with that of all other trades; and for performing all work in a safe and satisfactory manner.

Signed

Title

Date

**SECTION 01305
CONSTRUCTION SCHEDULES**

PART 1: GENERAL

1.1 SCOPE

- a. This Section includes, but is not necessarily limited to, the preparation, furnishing, distribution, and periodic revision of construction schedules as herein specified and as necessary for the proper and complete performance of this Work.

1.2 RELATED SECTIONS

- a. 01300 - Construction Submittals

1.3 SUBMITTALS

- a. Submittals shall be in accordance with the requirements of these standards and shall include the following as a minimum:

- b. **Overall Project Schedule**

- 1) **Initial Project Schedule**

- a) The initial project schedule shall be submitted to the City a minimum of 24 hours prior to the preconstruction conference.
 - b) If required, resubmit revised project schedule within 7 days after receipt of a returned review copy.

- 2) **Periodic Updating:** Updated project schedules shall be submitted on a monthly basis, accurately depicting progress to the time of submission and showing the anticipated project schedule from that time forward.

- 3) **Number of Copies:** Three (3) copies.

- c. **Weekly Work Schedule**

- 1) The Contractor shall also submit to the City a schedule of his work for each week. The weekly work schedule shall be delivered no later than 4:00 p.m. of the last regular workday of the preceding week to the City Public Works's office.

PART 2: PRODUCTS

2.1 OVERALL PROJECT SCHEDULE

- a. **Form of Overall Project Schedule:** The overall project schedule shall:
- 1) Be in the form of a bar chart showing the proposed operations. The schedule shall be complete and show in detail the manner in which the contractor proposes to complete the work within the specified time.
 - 2) Be prepared in the chronological order showing the beginning and end of each item of work.
 - 3) Identify each path by:
 - a) Major work item or title.
 - b) Distinct graphic delineation.
 - 4) Use a horizontal time scale and identify the first work day of each week.
 - 5) Allow space for updating.
 - 6) Not be larger than 24" x 36" unless approved by the Engineer.
- b. **Content of Overall Project Schedule:** The overall project schedule shall show a complete sequence of construction by activity.
- c. **Updating Overall Project Schedules**
- 1) **Changes:** Show all changes occurring since previous submission of the updated schedule.
 - 2) **Progress:** Indicate progress of each activity and show completion dates.
 - 3) **Other Items:**
 - a) Include major changes in scope.
 - b) Include activities modified since previous updating.
 - c) Include revised projections due to changes.

- d) Include other identifiable changes.

2.2 WEEKLY WORK SCHEDULES

a. Form and Content of Weekly Work Schedule: The weekly work schedules shall:

- 1) Be prepared on 8½ x 11 paper.
- 2) Identify the foreman of each work crew of the Contractor and the location and type of work the crew will be doing each day.
- 3) Identify each subcontractor, foreman of each work crew of the subcontractor and the location and type of work the subcontractor will be doing each day.
- 4) Include proposed notification dates of any interruptions of service or other work for which the City standards or the approved construction drawings require the Contractor to issue notifications.

b. Failure to Submit Weekly Work Schedules

- 1) If the Contractor fails to submit weekly work schedules as outlined herein, the Owner, at his option, may issue a Stop Work Order on the project until the required schedules are submitted and approved by the Owner.

PART 3: EXECUTION

None

PART 4: SPECIAL PROVISIONS

None

**SECTION 01505
TEMPORARY TRAFFIC CONTROL**

PART 1: GENERAL

1.1 SCOPE

- a. This section includes all work necessary to provide temporary traffic control to minimize obstruction and inconvenience to the public and to protect pedestrian and vehicular traffic.
- b. Temporary traffic control shall include, but not be limited to:
 - 1) Furnishing, installing, maintaining and removing all required traffic control devices.
 - 2) Providing flaggers, barricades, lights, signs as shown on the Drawings or specified herein.
 - 3) Provide pilot cars as required.
- c. Contractor shall provide temporary traffic control measures outside the contract limits when the Contractor's work activities affect traffic outside the contract limits.
- d. All work under this section to conform with all Federal, State and local regulations and requirements.

1.2 DEFINITIONS

- a. MUTCD:
 - 1) Manual on Uniform Traffic Control Devices.
 - 2) Oregon supplement to the Manual on Uniform Traffic Control Devices.
 - 3) Short Term Traffic Control Handbook 1993, ODOT.

1.3 SUBMITTALS

a. Traffic Control

- 1) The Contractor shall submit a traffic control plan at the Preconstruction Conference. The traffic control plan shall include:
 - a) Location and types of traffic control measures proposed.
 - b) Proposed order and duration of traffic control measures.

PART 2: PRODUCTS

2.1 UNIFORM TRAFFIC CONTROL DEVICES

- a. Use new or like-new equipment for all temporary items under this Section unless otherwise specified.
- b. All barricades, signs, lights, flags and other traffic control devices shall conform to the current edition of the MUTCD unless otherwise specified.
- c. Signs
 - 1) Use standard size and shape conforming to the current edition of the MUTCD unless otherwise specified or ordered. Double-face signs will not be allowed except for flagger "STOP/SLOW" sign paddles.
 - 2) Type
 - a) Unless otherwise specified or shown on the plans, use signs composed of orange reflectorized sheeting background with nonreflectorized black legend on one of the following materials.
 - (1) Sheet aluminum.
 - (2) 3/4-inch medium or high-density overlay plywood.
 - b) Where there is interference from extraneous light sources which limits the effectiveness of the reflectorized surface, or as required by the City, illuminated signs shall be used.

3) Flaggers

- a) Flaggers shall be equipped with a minimum of the following:
- b) Clothing to cover the complete body except head, neck, and arms below the point of the shoulders.
- c) An OSHA approved hard hat.
- d) An orange, fluorescent red-orange, or fluorescent yellow-orange vest. For night-time conditions, the vest shall be reflective.
- e) Highly visible, reflective "STOP/SLOW" sign paddles conforming to the MUTCD.
- f) Portable, self-contained two-way radio with a range suitable for the project.
- g) Illuminated stand area of high visibility at night.

PART 3: EXECUTION

3.1 GENERAL

- a. Contractor shall adequately warn the public at all times of existing conditions on all streets affected by work operations.
- b. Provide approved access to private properties at all times, except during City approved stages of construction.
- c. The Contractor shall notify affected residents, businesses and emergency services in writing during business hours 48 hours in advance of parking removal, and/or street, driveway, and alley detour or closures. Failure to provide proper, timely notification will be grounds to deny the commencement of the work.
- d. Emergency traffic such as police, fire, and disaster units shall be provided access to the work area at all times.
- e. Provide open trenches and excavations with adequate barricades of an approved type. At night mark all open work and obstructions by lights. Install and maintain all necessary signs, lights, flares, barricades, railings, runways, stairs, bridges, and facilities for the protection of the public.

- f. Contractor shall conform to all applicable local, State and Federal regulations relating to temporary traffic control and protection of the public.

3.2 TRAFFIC CONTROL WITHIN PROJECT LIMITS

- a. Contractor shall provide temporary traffic control as required by MUTCD, as well as applicable local and Federal regulations.
- b. When vehicular parking is a hazard to through traffic or to the work, furnish and place "NO PARKING" signs on any street which is impacted by the work.
- c. Flagging stations shall be staffed continuously during those hours requiring flaggers or until the City determines flagging is no longer required.

3.3 DETOURS

- a. Contractor shall submit detour plans to the City, local and State authorities a minimum of seven (7) days prior to commencement of the work necessitating the detour, and obtain approval from all regulating authorities prior to detour construction.
- b. Contractor shall construct and maintain approved temporary detours to provide adequate passage of public traffic.
- c. Contractor shall assume responsibility for detours within the limits of the project such as side street crossings, temporary bridges over freshly placed concrete, or utilization of one or more lanes of the construction area for maintenance of traffic.
- d. Upon failure to immediately provide, maintain, or remove suitable detours or detour bridges when ordered to do so by City, City may without notice to Contractor or Surety, provide, maintain, or remove the detour and assess costs thereof to the Contractor.
- e. When detours are not available, confine operations to a width which provides for safe passage of traffic.

3.4 ONE-WAY PILOTED TRAFFIC

- a. If, in the judgement of the City, one-way piloted traffic is necessary, provide at least two flaggers to control traffic, one flagger being stationed at each end of the roadway being limited to restricted use and furnish a pilot car and driver to lead traffic. Pilot cars shall be identified with appropriate sign information mounted on the rear of the vehicle. At the end of each day leave work in such condition that it can be traveled without damage to the work and without danger to the public.

PART 4: SPECIAL PROVISIONS

None

**SECTION 01568
EROSION AND POLLUTION CONTROL**

PART 1: GENERAL

1.1 SCOPE

- a. It shall be the responsibility of the Contractor to prevent pollution of air, water and soil resulting from his operations.
- b. The Contractor shall perform work required to prevent soil from eroding or otherwise entering onto all paved areas and into natural watercourses, ditches, and public sewer systems and to prevent dust attributable to his operations from entering the atmosphere. This work shall be in accordance with Federal, State and Local codes.
- c. Water containing suspended material from any part of the Contractor's operations shall be clarified before discharging to drains or streams.
- d. Contractor shall procure and conform to all Federal, State and local permit requirements, including but not limited to DEQ 1200-C permit requirements.
- e. Noise pollution shall be minimized through the use of proper mufflers on all construction equipment.

PART 2: PRODUCTS

2.1 GENERAL

- a. Dust palliatives shall conform to OSHD Section 00340, Watering.
- b. Other erosion control structures and products as shown on the drawings.

PART 3: EXECUTION

3.1 STREETS, SIDEWALKS AND DRIVEWAYS

- a. Streets, haul roads and if directed by the City, detours and bypass roads shall be swept by automatic self-contained sweepers.
- b. Excessive dirt on pavements shall be removed by means of hand shoveling or appropriate mechanical equipment and the area swept as directed above.

- c. Sidewalks and driveways shall be cleaned by means of shovels and handbrooms or appropriate mechanical equipment.
- d. Dust on unsurfaced streets or parking areas and any remaining dust on surfaced streets shall be controlled with an approved dust palliative as directed by the City.
- e. The Contractor shall comply with the above requirements on a daily basis. If the Contractor fails to perform the above work in a satisfactory manner, all work, except cleanup operations, may be stopped by the City until the Contractor has satisfactorily complied with the above requirement.

3.2 WATER DISCHARGED TO STREAMS

- a. The Contractor shall construct and maintain filters, sedimentation traps, or stilling basins with overflows to clarify waters containing suspended materials from fill areas, excavations, deep wells, well points and disposal sites before discharging to drains or streams.

PART 4: SPECIAL PROVISIONS

None

**SECTION 01800
CONSTRUCTION SURVEY WORK**

PART 1: GENERAL

1.1 SCOPE

- a. This section includes the furnishing of all labor, materials, equipment and services necessary for the completion of Construction Survey Work as required to complete all work under the approved construction drawings.
- b. This work includes the layout of all lines and grades shown on the approved construction drawings from baselines established by the Design Engineer with the Contractor's assistance or as altered or modified by the Design Engineer and of miscellaneous survey work related to construction of the project.

1.2 PROTECTION OF SURVEY MARKERS

- a. Contractor shall notify the Design Engineer not less than three working days prior to starting work in order that the Design Engineer may take necessary measures to ensure the preservation of survey monuments, stakes, lot stakes, and bench marks. Contractor shall not disturb permanent survey monuments, stakes, lot stakes, or bench marks without the consent of the Design Engineer, and notify the Design Engineer and bear the expense of replacing any that may be disturbed without permission.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, contractor shall adjust the monument cover to the new grade at no expense to the City.

- b. Contractor shall preserve construction survey stakes and marks for the duration of their usefulness during construction.

All work, upon completion, shall conform to the lines, elevations and grades shown on the approved construction drawings.

PART 2: PRODUCTS

2.1 SURVEY EQUIPMENT

- a. Contractor's surveying equipment shall be able to operate within the tolerance limits set by the technical specifications. The City may at any time during the project require contractor's equipment to be checked for accuracy.

PART 3: EXECUTION

3.1 GENERAL

- a. The Design Engineer shall establish baselines and benchmarks which in his judgment will enable the Contractor to proceed with the work.
- b. The Contractor shall provide field forces necessary to lay out the location, alignment, elevation and grade of the work shown on the approved construction drawings.
- c. The Contractor shall use competent personnel and suitable equipment for the layout of the work required.

3.2 RIGHT-OF-WAYS AND EASEMENTS

- a. When the Contractor performs construction within 10 feet of a right-of-way or easement line, he shall place tall stakes properly identified at points of change in width or direction of the right-of-way or easement line and at points along the line so that at least two stakes can be seen distinctly from any point on the line.

3.3 PAVEMENT

- a. Stakes for line and grade of pavement and/or curb shall be set at sufficient station intervals (not to exceed 50 feet) and at low and high points of vertical curves to assure conformance to plan line and grade.

PART 4: SPECIAL PROVISIONS

None