

General Requirements Section 100

101 Sequence of Construction

- A. Subdivision development, commercial construction, and City sponsored projects shall follow a sequence of construction as noted by the City Engineer and outlined below. Where variances are deemed necessary by the Developer's Engineer (Texas Licensed Professional Engineer), or the City's contracted Project Engineer or Contractor, the request must be in written form to the City Engineer. All permits and fees must be paid at the time of the variance request.
- B. Erosion Control devices installed per Storm Water Pollution Prevention Plan. Erosion Control devices must be maintained during the entire course of construction.
- C. Drainage and Grading including all cut and fill for proposed streets must be installed first (drainage pipe, culverts, inlet boxes, channels, rip-rap, detention/retention ponds, etc.).
- D. Utilities installed after drainage and especially after cut and fill has been completed. Utilities include but are not limited to Water, Sewer, Electric, Cable, Telephone, and Gas. Revegetation begins immediately in areas of utilities installed out of the Right of Way.
- E. Utilities (including Storm Drainage Pipe) tested per Section 800 of Burnet Standard Specifications of Subdivision Construction and subsequent repairs made.
- F. Pavement installed and revegetation of right of way. Pavement may not begin until all Utilities within the Right of Way are installed and complete (Water, Sewer, Electric, Cable, Telephone, and Gas).
- G. Utilities tested per Section 800 of Burnet Standard Specifications of Subdivision Construction and subsequent repairs made.
- H. Record drawings (As-Built) submitted to City Engineer.
- I. Revegetation complete, Erosion Control devices removed.
- J. Final Walk Through, Punch List, Final Acceptance.

110 Responsibilities and Obligations

111 City of Burnet

111.01 Specification Deficiencies: If omissions or ambiguities occur in these specifications, requirements of the Texas Department of Transportation, the Texas Commission on Environmental Quality, and/or the City Engineer shall govern that part of the work.

111.02 Standard Products Lists (SPL): The City of Burnet Standard Products Lists (SPL) is considered to form a part of these Specifications. Contractors may, when appropriate, elect to use products from the SPL; however, submittal to the Engineer is still required.

The SPL's should not be interpreted as being a pre-approved list of products necessarily meeting the requirements for a given construction project. Items contained in the SPL cannot be substituted for items shown on the Drawings, or called for in the specifications, or specified in the Bidding Requirements, Contract Forms and Conditions of Contract, unless approved by the Engineer.

The Developer/Contractor shall submit descriptive information and evidence that the materials and equipment the Contractor proposes for incorporation in the work is of the kind and quality that satisfies the specified functions and quality.

111.03 Authority and Duties of Inspector: Inspector will be authorized to inspect all work done and all materials furnished. Such inspection may extend to all or to any part of the work and to the preparation or manufacture of the materials to be used. An inspector will be assigned to the work by the Director of Public Works and will report to him the progress of the work and the manner in which

it is being performed. The inspector will also report whenever it appears that the materials furnished and the work performed by the Contractor fail to fulfill the requirements of the Construction Documents and to call the attention of the Contractor and the Owner to any obligation to perform the work in accordance with the requirements of the Construction Documents.

The Inspector will not be authorized to revoke, alter, enlarge, or release any requirement of the Construction Documents, nor to approve or accept any portion of work, or to issue instructions contrary to the Construction Documents. He will in no case act as foreman or perform other supervisory duties for the Contractor nor interfere with the management of the work. The inspector shall, however, have the authority to temporarily suspend work if deficiencies are discovered. Such suspension shall be followed by written notification to the Consulting Engineer/Owner and may be appealed to the City Engineer.

111.04 Final Inspection: Within five working days after the Owner has given the City Engineer written notice that the work has been substantially completed, the Inspector will review the work and schedule a final acceptance walk through.

111.05 Acceptance by the City: A meeting for final acceptance will be on the site and at a time mutually agreeable between the City Engineer and the Owner. The Inspector will also invite:

- A. Contractors, as appropriate
- B. Consulting Engineer
- C. Water/Wastewater Utility Representative
- D. Street Department Representative
- E. City Of Burnet Engineer
- F. Fire Marshall Representative
- G. Public Works Representative
- H. Electric Supervisor
- I. If the project involved A.D.A. requirements and T.D.L.R./Independent Contractor approved the plans the representative for T.D.L.R./Independent Contractor that reviewed the plans will be invited.

A final acceptance letter or a conditional acceptance letter will be provided by the City Engineer based on the results of the walk through.

112 **Developers & Owners**

112.01 Owner-Engineer Relationship: The owner shall specify his representatives for the work who will be responsible for all communications with the City. When the Construction Plans have been reviewed by the City of Burnet Staff (Water/Wastewater, Electrical, Streets Department, etc.), approved by the City Engineer and passed to the Construction Inspector, the work must not deviate from the signed Construction Documents. Field adjustments not affecting project integrity, cost of construction, time and consistent with intent of design may be approved by the Inspector. The office of the City Engineer must approve changes to Construction Drawings.

112.02 Owner's Duty and Superintendence: The Owner shall insure that no work shall be done nor materials used without qualified supervision and inspection of work.

The Owner and Owner's contractor shall comply with Storm Water Pollution Prevention Requirements as defined by the T.C.E.Q. and the L.C.R.A. by maintaining all permits. A copy of the permit shall be provided to the City of Burnet Engineering Department prior to construction. The Owner shall post the permits on the jobsite per T.C.E.Q. requirements.

If burning is allowed on the project, authorization from the City of Burnet Fire Marshall is required.

112.03 Pre-construction Conference: The Owner will distribute approved plans prior to convening a pre-construction Conference to start any construction. As a minimum, the conference shall consist of: introduction of all parties with exchange of phone numbers and addresses; discussion of start dates and schedule of events; Erosion and Sedimentation controls, traffic control, barricades, superintendence, and final acceptance guidelines and publishing and distribution of minutes. A minimum of two days notice of the conference will be given to:

- A. Owners Representative
- B. Consulting Engineer
- C. Contractors for roads, drains, and utilities
- D. City Engineer or Representative
- E. Water/Wastewater Utility Director
- F. Fire Department
- G. Texas Department of Transportation (if applicable)
- H. Public Works Representative
- I. Streets Representative
- J. Electric Utility Supervisor

112.04 Substantial Completion: Substantial completion shall be defined as the date that, in the opinion of the Owner or his Consulting Engineer, and City inspector, all work will be finished within 10 days.

112.05 Guarantee Against Work: Owner shall warrant the work for a period of one year from the date of the Letter of Final Acceptance of complete project. Said warranty shall bind Owner to correct any defects in materials, workmanship (including utility backfills), or design inadequacies, which may be discovered within said one year period. Owner shall correct or cause his Contractor to correct at his own expense, such defects within 30 days after receiving written notice of such defects from the City Engineer. Should Owner or his Contractor fail or refuse to correct such defects within the said 30 day period or to provide acceptable assurances that such work will be completed within a reasonable time thereafter; the City of Burnet may correct any such defects at expense of Owner or his Contractor or his bond.

113 Engineers / Surveyors

113.01 Construction Drawings: Construction drawings shall meet all requirements of the City of Burnet Standard Specifications and Subdivision ordinance, and must be approved by the office of the City Engineer.

All plans shall be drawn at Texas Central State Plane Grid NAD 83' and scaled to surface values based on an origination point of x,y,z = 0,0,0. The scale factor used shall be clearly marked on the face of the plat. An electronic copy of the construction plans shall be provided to the City of Burnet at Texas Central State Plat Grid NAD 83' and at surface values. All rights-of-way and easements shall be based on surface values.

All projects submitted for construction must be designed to adhere to the Texas Department of Licensing & Regulations – Architectural Barriers Act. Additional requirements are in this section under 120 of this chapter.

113.02 Geotechnical Evaluation: A geotechnical report including laboratory reports shall be submitted at the time of the construction drawings submittal to support the design submitted. This report shall include a geotechnical evaluation for any structures (i.e. Lift Stations, concrete foundations, etc.) and to support the street design.

113.03 Drainage Report: Drainage calculations are required for all culverts, low water crossing and drainage ditches.

A drainage report and storm water pollution prevention plan if required shall be submitted at the time of the construction drawings submittal to support the design.

113.04 As-Built Drawings: The Owner's Engineer must submit record drawings that have been signed, sealed, and dated by final acceptance of the project.

114 Laboratory

114.01 Testing of Materials: Unless otherwise specified, atterberg limits and soil moisture-density tests performed on the site to determine the quality of material to be incorporated into the project will be as directed by the Engineer. Frequency, time, locations, and procedures of tests will be coordinated and approved by the Inspector. This testing is to be accomplished by an independent laboratory. Payment for all testing will be the responsibility of the Contractor. Restoration or patching required due to testing shall be done at no expense to the City.

115 General Project Information

115.01 Submittals: Prior to the start of construction four copies of submittals are required for the project. Allow five (5) working days for Engineering to review the submittals. They will be reviewed by the City Engineer.

If approved: Two copies will be returned to the Design Engineer stamped approved.

If rejected: Four Copies will be returned to the Design Engineer with a cover letter stating areas of concern.

Utility and Street Construction cannot start prior to approval of the submittals.

115.02 Trench Safety System Plan Submittal: Prior to or at the Pre-Construction Conference, the Design Engineer/Developer shall submit to the City Of Burnet a Trench Safety System Plan sealed by a registered Professional Engineer licensed in the State of Texas.

A Notice To Proceed with construction will not be issued by the City Of Burnet until the Trench Safety System Plan is received by the City Of Burnet.

The Trench Safety System Plan at a minimum shall conform to OSHA standards for sloping of sides, utilization of trench boxes, and/or utilization of shoring, sheeting and bracing methods.

The Contractor's Competent Person(s) shall be responsible for the maintenance of a copy of appropriate OSHA regulations onsite and the implementation of OSHA trenching safety regulations at the work site. Trenching shall be completed to the lines and grades indicated on the Drawings or as specified in various technical standard specification items requiring excavation and trenching and/or backfilling. The Contractor shall perform all trenching in a safe manner and shall maintain safety systems to prevent death or injury to personnel or damage to structures, utilities or property in or near excavation.

If evidence of possible cave-ins or earthen slides is apparent or an installed trench safety system is damaged, the work in trench shall immediately cease, personnel evacuated from hazardous area and the Owner notified. Personnel shall not be allowed to re-enter the excavation until necessary repairs or replacements are completed and are inspected and approved by the Contractor's Competent Person(s). Repair and replacement of damaged safety system shall be at the Contractor's sole expense.

115.03 Water, Solid Waste and Electricity: The Contractor shall make arrangements as may be required to bear all expenses for obtaining water, solid waste disposal, and temporary electric power. The contractor shall make all connections, furnish all necessary extensions, and remove same upon completion of the work.

The contractor shall establish an account with the City Of Burnet solid waste contractor prior to the start of the job, if solid waste is to be generated on the project. Construction debris and waste shall be disposed of per TCEQ requirements. Depending on the project a roll-off may be required to contain the waste. Due to contracts requirements with the City Of Burnet solid waste contractor, the contractor shall pay all tipping fees for the project. This includes Capital Improvements Projects as well as private developments. All outstanding bills shall be paid prior to final acceptance of the project.

Any damage to City Of Burnet property will be billed to the contractor. Any outstanding bills shall be paid prior to final acceptance of the project.

120 General Project Requirements

121 General Requirements

The engineer on record for the project needs to determine what general requirements are required for the project.

122 Special Requirements

122.01 EPA National Pollutant Discharge Elimination (NPDES): Projects which disturb over 5 acres must comply with NPDES requirements. These require that a plan be prepared by a Professional Engineer and be included in the bid documents. A Notice of Intent (NOI) as part of a TCEQ general permit must be submitted to TCEQ and LCRA by the contractor or owner at least 48 hours prior to the start of construction. A Notice of Termination (NOT) must be prepared upon completion of the conditions specified in the SW3P and submitted to EPA.

122.02 Storm Water Pollution Prevention Plan (SW3P): Plans and specifications for all projects located in TxDOT right of way and all projects which disturb over 5 acres are required to include a plan to mitigate storm water pollution. Other city capital projects may include this plan if deemed necessary to prevent surface water pollution. This SW3P will be part of the work which is performed by the contractor. As a minimum the SW3P must include:

- Site description.
- Control measures to be performed by the contractor.
- Any permanent storm water management measures.
- Procedures for maintenance of erosion control measures.
- Description of inspection procedures.

122.03 TCEQ Approvals: Plans and specification must be filed for record with TCEQ - Water Quality Division, for all wastewater collection system extensions, but no approval will be issued by TCEQ. All

water distribution system extensions which constitute a significant change (10 % or more) must be submitted to the Plan Review Team of TCEQ and approved prior to construction. All improvements other than maintenance of existing facilities at the water or wastewater treatment plants must be submitted to and approved by TCEQ (Water Quality Division), prior to bidding. All plans which include work on public water or wastewater systems must conform to the TCEQ requirements for water and wastewater systems.

122.04 Wetlands: Projects which disturbs (cut/fill) land that is below the plane of ordinary high water of a stream or area that is considered "waters of the United States" will be required to submit a U.S. Army Corps of Engineer 404 permit. The owner may use applicable Nationwide Permits as recommended by a Licensed Professional Engineer in Texas.

122.05 City Of Burnet Planning & Development: The engineer on record for the project needs to determine what planning and zoning ordinances are required for the project. If the project would require any waivers or variances that need to be acted upon then they need to be submitted to the City of Burnet Planning and Development Department.

123 Control of Work

123.01 Conformity with Plans, Specifications and Special Provisions: All work performed and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, details, gradations, physical and chemical characteristics of materials in accordance with tolerances shown on the plans or indicated in the specifications and special provisions.

In the event the Engineer finds that the work performed or the materials used are not within reasonably close conformity with the plans, specifications and special provisions, the affected material or product shall be removed and replaced or otherwise satisfactorily corrected by and at the expense of the Contractor.

Any deviations from the plans and approved work drawings will be made only with the approval of the Engineer.

123.02 Coordination of Plans, Specifications and Special Provisions: The specifications accompanying plans, special provisions and addendums are essential parts of the contract and a requirement occurring in one is as binding as though occurring in all. They are intended to be cooperative and to describe and provide for a complete work. In cases of disagreement, figured dimensions shall govern over scaled dimensions, plans shall govern over standard and special specifications, and special provisions shall govern over both standard and special specifications and plans.

123.03 Cooperation of Contractor: The Contractor shall have one copy of the plans and specifications available on the project at all times. He shall give the work his constant attention to facilitate the progress thereof and shall cooperate with the Engineer and his representatives in every way possible. The Superintendent shall be cooperative, responsible and competent, English speaking, authorized to receive orders and to act for the Contractor. The Superintendent will be available at all times. In the event a competent superintendent is not available, the Engineer may suspend work until one is available.

123.04 Deviation from the Plans and Specifications: No deviation from the requirements of the plans and specifications will be permitted without the express, written approval of the Engineer. The Contractor shall prepare and/or assemble a detailed description of each proposed deviation from the plans and specifications. The description of each proposed deviation shall include, but not be limited to, drawings indicating horizontal and vertical details of all structural, mechanical and electrical

elements of the proposed deviation, manufacturer's detailed performance and construction data for all equipment, detailed descriptive specifications of all piping and valves and all other data, information and plans as requested by the Engineer. The copies of the description of each proposed deviation shall be submitted to the Engineer for review.

All deviations from the plans and specifications shall conform to the original defined and implied intent of the plans and specifications.

The Developer/Owner shall be responsible for and assume all costs of all elements of approved deviations including, but not limited to design, preparation of plans, procurement of materials and equipment, construction, installation and instigation of service. If the completed improvements of each deviation do not fulfill, provide, and meet the defined and implied intent of the plans and specifications, the Developer/Owner shall provide labor, materials and equipment as required to modify the work to the satisfaction of the Engineer.

123.05 Quality of Equipment and Materials: In order to establish standards of quality, the Engineer may have referred in detailed specifications to certain products by name and catalog number. This procedure is not to be construed as eliminating from competition other products of equal or better quality by other manufacturers. The word "or approved equal" shall be considered following all such listings regardless of whether they so appear.

The Design Engineer shall furnish to the Engineer the complete list of proposed desired substitutions in sufficient time prior to their use to give the Engineer adequate time for his review, together with such engineering and catalog data as the Engineer may require. Failure on the part of the Design Engineer to supply data to the Engineer prior to ordering or using such alternate material or equipment will not relieve the Design Engineer of furnishing acceptable material or equipment as required by the Engineer.

The Design Engineer shall abide by the Engineer's judgment when proposed substitute materials or items of equipment are judged to be unacceptable and shall furnish the specified material or item of equipment in such cases. All proposals for substitutions shall be submitted in writing by the Design Engineer and not by individual trades or material suppliers. The Engineer will review proposed substitutions within a reasonable time after submission and no substitutions shall be used unless the substitution is accepted in writing.

123.06 Specifications by Standard Designation: Whenever practicable, specifications will be made herein by designating certain published "standards" of recognized organizations. Standards will be indicated by the full name of the sponsoring organization or by clearly recognized abbreviations and designation number. In all cases, it shall be understood that such references mean the designated specifications or the latest revision thereof.

123.07 Inspection: The Engineer or his representatives shall be allowed access to all parts of the work at all times and shall be furnished every reasonable facility for ascertaining whether the work as performed is in accordance with the requirements and intent of the plans and specifications. The Contractor shall cut and replace with new materials at his own expense such samples as are customarily required for testing purposes. If the Engineer requests it, the Contractor shall at any time before acceptance of the work, remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore the work to the standard required by the specifications. Owner will in any event retain all samples required for the inspection.

123.08 Unauthorized and Defective Work: Any defective work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to

exist during construction or after final acceptance, shall be removed immediately and replaced by work and materials which shall conform to the contract documents or shall be remedied otherwise in an acceptable manner authorized by the Engineer. These provisions shall have full effect regardless of the fact that the defective work may have been done or the defective materials used with the full knowledge of the inspector. The fact that the owner may have previously overlooked such defective work shall not constitute an acceptance of any part of it. Work done contrary to or regardless of the instructions of the Engineer, work done beyond the requirements of the contract documents or any extra or additional work done without authority will be considered as unauthorized and will not be paid for by the Owner. Work so done may be ordered removed or replaced at the Contractor's expense.

123.09 Non-Waiver: No act or omission by Owner shall constitute waiver or estoppel of Owner's right to enforce any provision of this Contract.

123.10 Remedies Cumulative: No provision hereof is in lieu of any warranty implied by law. No provision hereof is in lieu of any remedy provided by law. All warranties and remedies are cumulative, and resort to one by Owner shall not be an election over others.

123.11 Final Inspection: Unless otherwise required, the Engineer shall make final inspection of the work included in the contract within a reasonable time after written notification by the Contractor that the work is completed. If the work is approved by the Engineer after inspection, he shall advise the Contractor that the work is completed. If the work is not approved by the Engineer after inspection, he shall advise the Contractor as to the particular defects to be remedied before final approval and recommendation for acceptance can be made to the Owner.

124 – 126 Reserved

127 Control of Materials

127.01 Materials: Only materials conforming with the construction documents shall be used in the work. Materials which for any reason become unsuitable for use shall be rejected and not used.

127.02 Test of Materials: All tests of materials shall be made in accordance with approved methods as described and designated in the technical specifications. When tests of materials are required, such test shall be made by a testing laboratory approved by the Engineer and at the expense of the Contractor. The Contractor shall provide such facilities as may be required for collecting and forwarding samples and shall hold materials represented by the samples until tests have been made and the materials found equal to the requirements of the specifications.

Unless otherwise specified, all tests of materials shall be made in accordance with the methods prescribed by the American Society for Testing Materials.

Upon completion of laboratory testing of materials as specified above, the results of the tests made therein shall be used as a basis for acceptance or rejection in accordance with the specifications for the particular material. Contractor will retain all materials tested.

127.03 Storage of Materials: Materials shall be stored in such manner as to insure the preservation of their quality and fitness for use. Suitable sheds, platforms, and covers shall be provided when necessary to protect materials and the materials shall be stored in such manner as to facilitate inspection.

127.04 Defective Materials: All materials not conforming to the requirements of the contract documents shall be considered as defective. Upon failure on the part of the Contractor to remove,

repair, or replace defective material when so ordered by the Engineer, the Owner shall have authority to remove, repair, or replace such defective material and to deduct all costs so incurred from any monies due or to become due the Contractor. Defective material not permitted for use shall be immediately removed from the site or disposed of as directed by the Engineer.

127.05 Manufacturer Directions: Manufactured articles, material, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the manufacturer and must be approved by the Engineer as required by the technical provisions.

130 Technical Specifications

131 General Information

131.01 References: TECHNICAL SPECIFICATIONS are of the abbreviated, simplified, or streamlined type and include incomplete sentences. The omission of words or phrases such as "Contractor shall", "in conformity therewith", "shall be", "as noted on PLANS", "according to PLANS", "a", "an", "the", and "all", are intentional. Omitted words or phrases shall be supplied by inference in same matter as they are when a "note" occurs on PLANS.

The TECHNICAL SPECIFICATIONS are interpreted to require that Contractor shall provide all items, articles, materials, operation or methods listed, mentioned, or scheduled either on PLANS or specified herein, or both, including all labor, materials, equipment, and incidentals necessary and required for their completion.

Whenever the words "approved", "satisfactory", "designated", "submitted", "observed", or similar words or phrases are used, it shall be assumed that the word "Engineer" follows the verb as the object of the clause, such as "approved by Engineer".

All references to standard TECHNICAL SPECIFICATIONS or manufacturer's installation directions shall mean the latest edition thereof.

Reference to technical society, organization, or body is made in TECHNICAL SPECIFICATIONS in accordance with following abbreviations:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute (Formerly ASA)
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Waterworks Association
FS	Federal Specifications
IEEE	Institute of Electrical and Electronic Engineers
IPCEA	Insulated Power Cable Engineers Association
LCRA	Lower Colorado River Authority
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation

PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PTI	Post-Tensioning Institute
SSPC	Steel Structures Painting Council
TCEQ	Texas Commission on Environmental Quality
UL	Underwriters' Laboratories

Some TECHNICAL SPECIFICATION items cover construction requirements and materials in comprehensive manner, and only pertinent portions of these items apply.

~~131-139~~ Reserved

140 General Provisions

141 Definitions

"Act of God" - An earthquake, flood, cyclone, or other cataclysmic phenomenon of nature.

"Addendum" - Any written or graphic modification or interpretations of the contract document issued by the Engineer.

"Engineer" - The City Engineer for the City of Burnet, Texas or his designated representative.

"Notice to Proceed" - The written notice given by the Owner to the Contractor fixing the date on which Contractor shall commence to perform his obligation under the contract documents.

"Plans" - The maps and drawings together with any supplements furnished by the Engineer.

"Product Data" - Complete catalog data for the manufactured items of equipment and all component parts, including specific performance data, material description and source, rating, capacity, working pressure, material gauge or thickness, brand name, catalog numbers, and other necessary information.

"Right-of-Way" - The area (either temporary or permanent) provided by the Owner for use in constructing the work covered by the contract, including the appurtenances thereto.

"Shop Drawings" - All diagrams, drawings, illustrations, brochures, schedules, and all other data submittals required by the contract to be furnished by the Contractor illustrating fabrication, installation, dimensions, and other aspects of the work.

"Specifications" - The directions, requirements, explanations, terms and provisions pertaining to the various features of the work to be done, the manner and method of performance, and the manner and method of measurement and payment (Specifications include such directions, requirements, and explanations as appear on the plans).

"Substantial Completion" - The date when the work or specified part thereof is sufficiently completed in accordance with the contract so that the project or a specified part can be used for the purposes for which it was intended.

150 Legal Relations and Responsibility to the Public

151 Responsibilities

151.01 General: Developer/Owner shall, at his own expense, comply with all applicable federal, state,

and local laws, regulations, and standards including without limitation those governing labor, safety, health, and sanitation.

151.02 Permits and Licenses: The Developer/Owner shall produce all permits and licenses and give all notices necessary and incident to the due and lawful prosecution of the work.

151.03 Public Safety and Convenience: The Developer/Owner shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Any review by the Engineer of the Contractor's performance does not, and is not intended to; include review of the adequacy of the Contractor's safety measures in, on or near the construction site.

The Contractor shall at all times so conduct his work as to insure the least possible obstruction to traffic. The convenience of the general public and the protection of persons and property are of prime importance and shall be provided for by the Contractor in an adequate and satisfactory manner.

The Contractor shall conduct the work so as to cause a minimum of inconvenience to traffic at intersections and connecting streets and to persons operating commercial enterprises or residing along the route of work. Entrances to residences, garages, service stations, business places and driveways of all kinds shall not be blocked for more than a few hours, if at all. Satisfactory means of ingress and egress for persons residing or transacting business along the route of the work shall be maintained all times. The Contractor shall not work before 7:00 a.m. or after 6:00 p.m. without written permission of the Engineer.

Adequate sanitary conveniences for the use of persons employed on the work properly secluded from public observation shall be constructed and maintained by the Contractor in such a manner and at such points as shall be approved by the Engineer. These conveniences shall be maintained at all times without nuisance and their use shall be enforced. Upon completion of the work, they shall be removed from the premises, leaving all clean and free from nuisance.

151.04 Barricades, Warning Signs and Flagmen: The Developer/Owner shall at his expense and without further or other order provide, erect and maintain at all times during the progress or temporary suspension of the work suitable barricades, fences, signs or other adequate warnings or protection, and shall provide, keep and maintain such danger lights, signals, and flagmen as may be necessary to insure the safety of the public as well as those engaged in connection with the work. All barricades and obstructions shall be protected at night by signal lights which shall be suitably distributed across the roadway and which shall be kept burning from sunset to sunrise. The Developer/Owner shall provide all barricades and the placement of all barricades shall meet the requirements as provided within Part VI, Texas Manual on Uniform Traffic Control Device for Streets and Highways.

Failure of the Engineer to notify the Developer/Owner to maintain barriers, lights, signals, or flagmen shall not relieve the Developer/Owner from this responsibility. The Developer/Owner will be required, at the request of the Engineer, to produce a Traffic Control plan and submit this to the City Engineer for approval.

All traffic control devices and procedures used by the Developer/Owner in controlling, directing, and safeguarding traffic shall conform to the requirements of the "Texas Manual on Uniform Traffic Control Devices".

The Developer/Owner's responsibility for the safeguarding of traffic as specified above shall cease when the work is completed and accepted by the City.

151.05 Fences: By the construction of temporary fences or by other adequate means, the Developer/Owner shall restrain livestock from leaving the lands wherein they are confined, or from trespassing which would be made possible, or which might result from, the removal or destruction of existing fences or the carrying out of any part of the work under the contract. The Developer/Owner shall be responsible for all loss, injury or damage that may result from his failure to restrain stock as above provided. The expense for erecting and maintaining temporary fences and for otherwise providing for the restraint of stock shall be borne by the Developer/Owner.

151.06 Safeguarding of Excavations: The Developer/Owner shall provide such safeguards and protections around and in the vicinity of excavations as may be necessary to prevent and avoid the occurrence of damage, loss, injury and death to property and persons because of such excavations. Liability for such damage, loss, injury or death shall rest with the Developer/Owner.

151.07 Use of Explosives: A permit must be obtained from the City Fire Marshall prior to any blasting, as per adopted fire code. In the use and storage of explosives, the Contractor shall use every precaution to prevent injury to persons and damage to property. Secure storage places shall be provided and all such places shall be clearly marked with warning signs. Only persons experienced in the handling of explosives shall be used on the project. No blasting shall take place until a warning has been sounded and all persons within the radius of danger removed. In the handling and storage of explosives, the Contractor must comply with all Federal, State and local laws, and the Owner and Engineer will in no way be responsible for damages to property or injury to persons resulting from explosions.

When explosives are used, particularly in proximity to buildings or other structures, care shall be taken to protect the surroundings from injury by explosion, resultant concussion or by flying rocks or debris. The quantities of explosives and manner of their use shall be such that adjacent property will not be damaged. In case the vicinity of the work is accessible to the general public, the Contractor shall, before any explosives are used, post men about the work in various directions to warn all persons of the danger existing and to prevent them from approaching more closely than safety will permit.

151.08 Trespass: The Developer/Owner will be solely responsible for any trespass upon adjacent property or injury thereto resulting from or in connection with his operations. He will be liable for any claims that may be made on account of trespass or the deposit of debris of any kind upon private property.

151.09 Protection of Property and Persons: In the performance of the work to be done under the contract, the Developer/Owner shall use every reasonable and practical means to avoid damage to property, injury to persons and loss, expense, inconvenience and delay to property owner, users of streets or highways and others. He shall provide protective devices and flagmen wherever and whenever needed in affording this protection and in the performance of the work, and shall use no means or methods which will unnecessarily endanger either persons or property.

At points where the Developer/Owner's operations are adjacent to properties of railway, telegraph, telephone, water, gas, or other pipeline or power companies, or are adjacent to other property, work shall not be commenced until all arrangements necessary for the protection of the interests of the Owner as well as any interest that a third party may have therein, have been made.

All utility companies shall be advised by the Developer/Owner of the work proposed under this Contract and of the necessary adjustments to their respective installations. The Developer/Owner shall communicate with all utility companies at least three (3) days in advance before commencing any work in areas where utilities are located.

The Developer/Owner shall be on the alert for any additional utilities which he may encounter in the

course of the operations. If additional utilities are discovered, the Developer/Owner shall immediately take steps to protect the utility and notify the Engineer and the utility owner.

In case of damage to any utilities by the Developer/Owner, either above or below the ground, the Contractor shall restore such utilities to a condition equal to that existing before the damage was done. Any and all costs incurred for such restoration shall be borne entirely by the Developer/Owner.

The Developer/Owner shall take into consideration the adjustments of installations by public utilities in areas within the limits of the contract in preparing his proposal. No additional compensation will be allowed for work interruptions, changes in handling, excavation, drainage and paving, changes in types of equipment used, etc. caused by others performing work within the limits of the contract.

151.10 Restoration of Damaged Property: All damage and injury to property that may be caused by or that may result from the carrying out of the work to be done under the subcontractors, or his employees, shall promptly be made good by the Developer/Owner either by the repairing, rebuilding, or replacing of the property damaged or in some other manner satisfactory to the owner of such property. In case of failure on the part of the Developer/Owner to promptly and satisfactorily make good damage or injury, the Developer/Owner may proceed to repair, rebuild, or replace such property as may be deemed necessary.

In applying the provisions above stated, the repairing, rebuilding or replacing of damaged property shall be understood to include the providing of any temporary facilities that may be needed to maintain normal service until the required repairing, rebuilding or replacing is accomplished.

151.11 Developer/Owner's Responsibility for Work: Until final acceptance of the construction, the Developer/Owner will be responsible for any injury or damage to the work or any part thereof or to materials, equipment, or supplies due to any cause whatsoever, and he shall make good at his own expense all such injuries or damages.

151.12 No Personal Liability of Engineer: The exercise of all responsibility, power, and authority by Engineer or his representative is undertaken solely to satisfy Engineer's obligation to the Developer/Owner. It shall not give rise to any claim against nor impose liability to Engineer or his representatives in favor of Developer/Owner or third persons for any reason whatsoever and Contractor agrees that any remedy he has arising out of in connection with Engineer's performance hereunder, whether neglect or otherwise, is against the Developer/Owner and not Engineer.