San Jacinto River Authority
Purchasing Department
1577 Dam Site Road
Conroe, Texas 77304

EXHIBIT 2A - TECHNICAL SPECIFICATIONS AND REQUIREMENTS FOR RFP 20-0000-A

REPAIR AND REHABILITAION SERVICES FOR LEVEE REHABILITATION DOWNSTREAM OF SIPHON 21 PROJECT

SJRA PROJECT NO. HDPR0031.1004.2C001

TEXAS WATER ENGINEERING, PLLC.
Texas Registered Engineering Firm F-8482

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WORK COVERED BY CONTRACT DOCUMENTS

PART 1 - GENERAL

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B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 SUBMITTALS (NOT USED)

1.4 DEFINITIONS

A. Mobilization Area: An area, defined on the Contract Drawings, for Contractor staging and storage of construction equipment, tools, products, and spare parts.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Levee Rehabilitation Downstream of Siphon 21, hereafter called “Project” is located south of the intersection of Cottontail Dr. and the SJRA Highlands Main Canal in Crosby, TX. The Project will improve the maintenance access along the west side of the SJRA South Canal and generally includes:

- Mobilization and demobilization to and from site to perform work as shown on Drawings;
- Installation of stabilized construction access and traffic control measures;
- Grubbing/root removal for root systems associated with trees 6-inches or larger in diameter for approximately 1,400 linear feet on the west side of the canal levee downstream of existing SJRA Siphon 21 (trees cleared as part of previous contract);
- Backfill and repair of canal levees damaged from grubbing and tree/root removal activities;
- Removing spoils generated from grubbing activities and disposal off-site;
- Removal of existing canal obstructions including haul off and disposal of debris off-site and associated repairs to canal levee;
- Installation of a 6-inch thick topsoil layer along grubbed and repaired section of west levee;
- Filter fabric fence installation on the west side of the canal;
- Final grading, hydro-mulching, seeding and restoration of all disturbed areas along the west canal levee; and
- Extra work items to be performed at the direction of the SJRA and Principal Engineer, including:
    - Care of water provisions to dewater areas below canal water surface that require repairs;
    - Spot repairs to levees damaged by animals and localized slope failure;
    - Installation of 6-inch thick topsoil layer along east and west canal levee as needed based on work performed;
    - Final grading, hydromulch, seeding and restoration of all disturbed areas along the east canal levee; and
    - Removal of culvert crossings in drainage ditch along east levee, including culvert removal, fill removal, appurtenant item removal, haul-off/disposal of debris off-site, and restoration of ditch.

1.6 CASH ALLOWANCES (NOT USED)

1.7 OWNER-FURNISHED PRODUCTS

A. No items to be furnished by the Owner.

1.8 DOCUMENT MANAGEMENT SOFTWARE

A. Contractor and the Owner's Representative shall be given the applicable number of Document Management System user names and passwords.

B. Contractor shall use the Owner's internet based document management system to transmit its documents to the Owner's Representative, including but not limited to Requests for Information (RFIs), shop drawing submittals, applications for payment, and letters of correspondence. Refer to Specification Section 01 33 00 – Submittals. The document management software should be able to automatically notify all team members of a submittal upload regardless of the originator, i.e. contractor, Principal Architect/Engineer, Owner's Representative, or Owner. Notification of new uploads should go to all team members regardless if they are the Principal Architect/Engineer or not, i.e. sub-consultants for construction management & inspection, but are not tasked as the Principal Architect/Engineer.

C. A minimum of one (1) and a maximum of three (3) accounts on the document management system will be provided by the Owner. Additional accounts may be requested by the Contractor.

D. Each account will allow one (1) user to access the document management system. Training on the document management system will be provided by the Owner as requested by the Contractor at a mutually agreed upon date and location.

1.9 WORK SEQUENCE

A. Construct Work in during the construction period in such a manner as to not impede SJRA maintenance activities and/or landowner access. Coordinate construction schedule and operations with the Owner's Representative. Subcontractors shall coordinate its activities and operations with the Contractor.

B. Notify Owner if work requires the use of multiple crews working concurrently in order to complete the project within the specified Contract Time. At no time will multiple crews be allowed to work in consecutive traffic control phases during construction.

C. Data for all facilities and utilities shown were taken from available plans, record drawings, and/or utility maps made available from several sources. Actual field locations of facilities and utilities may vary from that shown on the Drawings. Contractor shall make a complete and independent verification of utility locations prior to submittal of subsequent shop drawings. Unless otherwise approved by the Owner's Representative, work shall not continue at locations where there is a conflict with existing utilities.

D. Construction disturbing traffic shall be conducted during off-peak hours. Continue work in areas using same construction schedule during consecutive days and/or weekends until work is completed.

E. Flow in the canal must be maintained at all times up to 70 MGD . No shutdowns of the canal will be permitted; however, Owner may reduce the canal water level to approximately 39.5 ft-msl to 40.5 ft-msl for a total of 14 calendar days for Contractor to repair levees below the normal operating water level. Contractor shall notify Owner at least 14 calendar days prior to performing work at water's edge. Contractor's activities shall not impede or interfere with canal flow and operations during construction.

1.10 WORK GUIDELINES

A. Maintain local driveway access to public schools, residential and commercial properties adjacent to work areas at all times. Coordinate work and schedule with impacted business owners, schools, and residents in conjunction with the Owner's Representative, well in advance of commencing the Work in the area(s) of the impacted entities.

B. Contractor shall adhere to each privately owned and operated utility company's construction guidelines when constructing the proposed Work adjacent-to or across each such entities wet or dry utility. Contractor to coordinate with such utilities for guidelines.

C. Contractor shall coordinate its Work with the respective pipeline companies' at all proposed utility crossings. See appropriate Contract Drawings for additional and /or related information.

D. Obtain right-of-entry agreement(s), insurance, crossing permit(s), and other documentation as required or deemed necessary by each utility or pipeline company or other such entity at no additional cost to the Owner.

E. Contractor shall coordinate its Work schedule with those utility companies who require a representative of their company to be present (onsite) during the construction adjacent-to or across their wet or dry utility.

F. Site restoration at all crossings shall be performed immediately upon completion of the Work. Restoration shall be performed in accordance with all applicable Specification Sections and utility company requirements.

G. Hand dig within one (5) feet of underground service lines (public or private).

H. Contractor shall bear the sole responsibility for damage to existing utilities resulting from its construction activities. The Contractor shall be responsible for the repair of damaged utilities, at no additional cost to the Owner.

1.11 COORDINATION OF WORK

A. Comply with coordination requirements outlined in Specification Section 01 14 19 – Use of Premises.

B. One-Call all three (3) One-Call centers in the state of Texas a minimum of forty-eight (48) hours prior to construction within twenty-five (25) feet of a private pipeline.

Contact numbers for such centers are as follows:

1. TESS (Texas) One Call (800) 344-8377.
2. Texas One-Call (800) 245-4545.
3. Texas (Lone Star) One Call (800) 669-8344.

C. Existing structures adjacent to the proposed work shall be closely monitored during construction Several conditions including, but not limited to, soil type, construction methods, weather conditions, surrounding construction, personnel experience, and supervision may impact the amount of ground movement within and surrounding the alignment

D. All work shall be performed to the lines, grades, elevations, and locations shown on the Drawings.

E. Prevent overstress or damage of any structure and any part or member of it during construction. This applies to new and existing facilities, utilities, and structures affected by construction operations. Contractor shall provide engineered temporary supports and connections as required to assure the safety and stability of the same to prevent overstress of any part.

F. Work shall include the restoration of existing drainage swale systems within SJRA easement after removal of drainage culverts (if applicable). Contractor shall restore ground cover to areas damaged during construction. If residential areas are disturbed, provide block sod. Perform hydro-mulching per applicable Specification Sections.

G. Contractor Work performed within all rights-of-way shall be performed in accordance with the respective entities' standards. Contractor to coordinate with such entities to obtain required standards.

1.12 CONTRACTOR USE OF PREMISES

A. Comply with all requirements outlined in Specification Section 01 14 19 – Use of Premises.

1.13 CONTRACT CLARIFICATION

A. Should clarification of the Contract Documents be requested, request clarification before proceeding with Work by submitting a Request for Information (RFI). Such requests shall be preceded by a diligent investigation of the Contract Documents. Include evidence of such investigation(s) in all requests for clarification.

1.14 ALTERNATE CONSTRUCTION METHODS

A. Alternate construction means and methods will be permitted in accordance with applicable Contract Document details and specification at no additional cost to the Owner. Alternate construction means and methods shall provide a substantial benefit to the project and/or the Owner. Contractor accepts full responsibility for all additional costs of geotechnical investigations and other incidental items, including any re-design that may be necessary to permit the alternate construction means and methods.

B. Contractor shall submit the below listed modifications for alternate construction methods to the Owner's Representative for Principal Architect/Engineer and Owner's consideration. Submittal shall be made prior to commencement of any construction activity utilizing an alternate construction method. Contractor execution of alternate construction methods prior to its receiving Principal Architect/Engineer and Owner's approval shall be at the sole risk of the Contractor for removal and replacement at no additional cost to the Owner. The following modifications must also be signed and sealed by a Licensed Professional Engineer registered in the State of Texas prior to submittal to Owner's Representative.

1. Revisions to levee cross section and method of repair/restoration;
2. Proposed construction method and detailed plan of approach;
3. Proposed traffic control plan and;
4. Revisions to material specifications

1.15 UTILITY LINES

A. All utilities represented on the Drawings are shown as an approximate location and are based on the best information available during project design. Contractor shall field-verify the exact location of all utilities prior to commencing construction. The Contractor shall be responsible for any and all damage to these utilities, caused or resulting from their failure to locate, protect and/or maintain these utilities during construction.

1.16 WARRANTY

A. Comply with the warranty requirements stipulated in Contract Document General Conditions and the warranty requirements of the various specification sections of this project manual.

PART 2 - PRODUCTS (NOT USED, SEE INDIVIDUAL SPECIFICATION SECTIONS FOR PRODUCT AND MATERIAL INFORMATION)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 14 19

USE OF PREMISES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for:
    a. Contractor Responsibilities
    b. Temporary Utilities
    c. Limits of Construction & Site Access
    d. Storage Sheds and Buildings
    e. Working Times
    f. Site Access Times
    g. Notification to Adjacent Occupants
    h. Safety Requirements
    i. First Aid Equipment
    j. Fire Protection
    k. Security Measures
    l. Protection of Utilities, Pipelines, and Property
    m. Surface Restoration
    n. Traffic Control and Use of Public Rights of Way
    o. Contractor’s Roads and Parking
    p. Coordination with Facility Owner’s Operations
    q. Contractor's Field Office
    r. Project Photographs
    s. Special Considerations Related to Adjacent Properties and Facilities
    t. Historical and Archaeological Sites

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.
2. Division 31 – Earthwork
3. Division 32 – Exterior Improvements

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 SUBMITTALS

A. See Specification Section 01 33 00 – Submittals for the requirements for the mechanics and administration of the submittal process.

B. Contractors Safety Program.

C. All proposed notifications to adjacent occupants.

D. Planning requests for temporary Owner's facility operations and adjustments.

1.4 CONTRACTOR RESPONSIBITIES

A. Comply with applicable requirements specified in other sections of Project Specifications.

B. Comply with procedures for access to the site and Contractor's use of rights-of-way.

C. Maintain and operate temporary construction facilities and temporary systems to assure continuous service of Owner's and other adjacent existing facilities.

D. Modify and extend temporary systems as Work progress requires.

E. Completely remove materials and equipment when no longer required.

F. Restore existing facilities used for temporary services to original or better condition, or as specified.

G. Prior to installation of material, equipment and/or other work, verify with subcontractors, material or equipment manufacturers, and installers that the substrate or surface to which those materials will attach is acceptable for installation of those materials or equipment. (Substrate is defined as any building or construction surfaces to which materials or equipment are attached to, or required prior to installation i.e., floors, walls, ceilings, soils, utilities, site grading, and backfill etc.).

H. Correct unacceptable substrate until acceptable for installation of equipment or materials.

1.5 TEMPORARY UTILITES

A. Obtaining Temporary Service:

1. Make arrangements with utility service companies for temporary services, unless provided by Owner.

2. Abide by rules and regulations of utility service companies and/or authorities/agencies/entities having jurisdiction.

3. Be responsible for utility service costs and permits until Work is substantially complete, or de-mobilization from site. Included services are fuel, power, light, heat, and any other utility services necessary for execution, completion, testing, and initial operation of Work.
4. Be responsible for providing approved metering devices, as necessary, for any temporary utilities.

B. Water:

1. Provide and maintain adequate supply of potable water for consumption by Contractor personnel and Owner's Representatives.

C. Electricity and Lighting:

1. Provide electrical service required for Work, including testing of Work. Provide power for lighting, operation of equipment, and other use as necessary.

D. Sanitary Facilities:

1. Provide and maintain sanitary facilities for persons on job site. Comply with regulations of State and local departments of health.
2. Enforce use of sanitary facilities by construction personnel at job site. Enclose sanitary facilities. Pit-type toilets will not be permitted. No discharge will be allowed from these facilities. Collect and store sewage and waste so as not to cause nuisance or health problem. Haul sewage and waste off-site and properly dispose of in accordance with all applicable regulations.
3. Locate toilets near Work site and seclude from view as best as possible. Keep toilets clean and supplied throughout course of Work. Locate toilets a minimum of 100 feet from all water wells.

1.6 LIMITS OF CONSTRUCTION & SITE ACCESS

A. Construction operations and storage areas are limited to Owner's property, permanent easements, temporary construction easements (TCE), access easements and/or the Limits of Construction or Construction Limits as indicated on the Contract Drawings.

B. A TCE has been acquired by the SJRA from the adjacent landowner and is shown on the Drawings and is designated as MC03-01. Contractor shall comply will all requirements as described in the recorded easement document.

C. An access easement along the main access road as shown on the Drawings has been acquired by the SJRA from the adjacent landowner and is designated as MC03-04. Contractor shall comply will all requirements as described in the recorded easement document.

D. Contractor shall document existing condition of primary site access road prior to construction activities. Contractor shall maintain existing conditions of road throughout the project and shall repair road from damage incurred from construction traffic. Contractor shall restore access road to pre-construction or better conditions at the end of the project at no additional cost to Owner.

E. Unauthorized use of areas, or trespassing on land outside of defined limits, is not permitted.

F. Make arrangements, at no cost to the Owner, for Contractor's temporary use of any private properties which may be needed by Contractor for performance of Work. Contractor and Contractor's surety shall indemnify and hold harmless the Owner and Owner's Representatives against claims or demands arising from use of properties outside the Limits of Construction. Submit notarized copy of any separately negotiated agreement(s) between private property owner(s) and Contractor prior to use of area.

G. Where Limits of Construction are shown on Contract Drawings to extend to a property or Right-of-Way line, keep equipment, materials, and stockpiles a minimum of 5 feet from boundary, or existing fence lines.

H. Where utility alignment is within an esplanade and Limits of Construction are shown to extend to edge of the esplanade, keep equipment, materials, and stockpiles a minimum of 5 feet from back of curb.

I. There are unique terms and conditions associated with the various public and private easements, rights-of-entry, encroachment and crossing documents (collectively, the easement documents) which may be site specific. Contractor shall familiarize itself with all easement Documents. Easement documents are available from the Owner on a case by case basis upon request.

J. The Contractor, at its sole expense, shall be responsible for complying with all terms and conditions of all easement documents and the easement rights described therein for this project.

K. Contractor shall safely, properly, and adequately assume and perform all of the duties, indemnities, responsibilities, and liabilities of the Owner under the easement documents.

L. Contractor, at its cost, shall provide all insurance required by the easement documents. All land included within the tracts covered by the easement documents and easements described herein shall be restored to its original condition prior to Substantial Completion of the construction (including, without limitation, repair or replacement of pavement, concrete, signs, fencing, trees, sidewalks, landscaping, shrubbery, and grass) unless otherwise specified in the Contract Documents.

1.7 STORAGE SHEDS AND BUILDINGS

A. Provide adequately ventilated, watertight storage facilities with floor above ground level for protection of materials and equipment susceptible to weather damage.

B. Store materials in neat and orderly manner. Store materials and equipment to permit easy access for identification, inspection, and inventory.

C. Storage of materials not susceptible to weather damage may be on blocks off ground.

D. Storage of all fuels and chemicals shall be in designated areas by Contractor.

E. Refer to Specification Section 01 65 50 – Product Delivery, Storage, and Handling for additional requirements.

F. Fill and grade site for temporary structures to provide positive drainage away from Work area, but not to impact adjacent property owners.

G. Avoid obstructing drainage ditches or inlets. When obstruction is unavoidable due to requirements of Work, provide grading and temporary drainage structures to maintain unimpeded drainage flow. Failure of the Contractor to maintain proper site drainage shall prohibit it from making a claim against the Owner for monetary or time damages due to drainage impacts.

1.8 WORKING TIMES

A. Working days will be defined as any day of the week, not including Saturdays, Sundays, or Legal Holidays in which conditions under the Contractor's control will permit work for a continuous period of not less than seven (7) hours during Working Hours. Upon agreement with Owner, work on Saturdays, Sundays and/or Legal Holidays may be allowed and will be considered a Working Day.

B. Those hours in which the Work shall be performed. Except as otherwise authorized in writing by Owner's, all Work shall be done between 7:00 a.m. and 6:00 p.m. Work outside these hours may be approved by and coordinated with Owner upon Contractor request. Any approved night work by Owner may be revoked at any time by Owner if Contractor fails to maintain adequate equipment and supervision for the prosecution and control of the night Work.

1.9 SITE ACCESS TIMES

A. Contractor to coordinate all site access, including deliveries, outside of working hours with Owner’s Representative. Neither Owner nor Owner’s Representatives shall sign for any Contractor deliveries. Refer to Specification Section 01 65 50 – Product Delivery, Storage, and Handling.

B. Contractor shall coordinate with Owner to not interfere with Owner’s facility operations.

C. Contractor shall not block access to site down site access road at any time. While using access road, Contractor shall keep equipment and vehicles moving and not park, store, or impede the use of the access road by site Owner or SJRA.

1.10 NOTIFICATION OF ADJACENT OCCUPANTS

A. Owner will notify individual occupants in areas to be affected by Work of proposed construction activities and schedule. Contractor shall coordinate with Owner on any activities that are upcoming that may impact or be disruptive to adjacent occupants' daily activities.

1.11 SAFETY REQUIREMENTS

A. Beware of overhead power lines existing in area and in close proximity to project. When 10 feet of clearance between energized overhead power line and construction-related activity cannot be maintained, submit a request to the appropriate utility provider to de-energize or move conflicting overhead power line(s).

B. Submit Contractor's Safety Program in accordance with Specification Section 01 33 00 – Submittals.

C. Conduct operations in strict accordance with the Contractor's Safety Program, in accordance with applicable Federal, State, and local safety codes and statutes, and with good construction practice. Establish and maintain procedures for safety of all work, personnel, and equipment involved in Project.

D. Observe and comply with Texas Occupational Safety Act (Art. 5182a, V.C.S.) and with all safety and health standards promulgated by Secretary of Labor under Section 107 of Contract Work Hours and Standards Act, published in 29 CFR Part 1926 and adopted by Secretary of Labor as occupational safety and health standards under Williams-Steiger Occupational Safety and Health Act of 1970, and to other legislation enacted for safety and health of Contractor employees. Safety and health standards apply to subcontractors and their employees as well as to Contractor and its employees.

E. Observance of and compliance with regulations is solely and without qualification responsibility of Contractor without reliance or superintendence of or direction by the Owner or Owner's Representative. Immediately advise Owner's Representative of investigation or inspection by Federal Safety and Health Inspectors of Contractor or subcontractor's work or place of work on job site under this Contract, and after investigation or inspection, advise Owner's Representative of results. Submit one copy of accident reports to Owner's Representative within 10 days of occurrence.

F. Protect areas occupied by workmen using best available devices for detection of lethal and combustible gases. Test devices frequently to assure functional

capability. Constantly observe infiltration of liquids into Work area for visual or odor evidences of contamination, and immediately take appropriate steps to seal off entry of contaminated liquids into Work area.

G. Implement safety measures, including but not limited to safety personnel, first-aid equipment, ventilating equipment, and other safety equipment.

H. Maintain required coordination with Police and Fire Departments during entire period covered by Contract.

I. In safety plan, include project safety analysis. Itemize major tasks and potential safety hazards. Plan to eliminate hazards or protect workers and public from each hazard.

1.12 FIRST AID EQUIPMENT

A. Provide first aid kit throughout construction period. List telephone numbers for hospitals, and ambulance services in each first aid kit.

B. Have at least one person thoroughly trained in first aid and cardiopulmonary resuscitation (CPR) procedures present on site whenever Work is in progress. Contractor to conform to protocols and requirements for training and protection against “blood borne pathogens.”

1.13 FIRE PROTECTION

A. Conform to specified fire protection and prevention requirements established by Federal, State, or local governmental agencies and as provided in Contractor’s Safety Program.

1.14 SECURITY MEASURES

A. Protect all Work materials, equipment, and property from loss, theft, damage, and vandalism. Perform duty to protect property of the Owner used in connection with performance of Work.

B. If existing fencing or barriers are breached or removed for purposes of construction, provide and maintain temporary security fencing equal to existing.

1.15 PROTECTION OF UTILITIES, PIPELINES, AND PROPERTY

A. Utilize Utility Coordinating Committee One Call System (telephone number, (713) 223-4567), which must be called 48 hours in advance to locate utilities. Toll free telephone number is 1-800-669-8344, Texas (Lone Star) One Call System.

B. Protect and maintain bench marks, monuments or other established points and reference points and if disturbed or destroyed, replace items to full satisfaction of Owner’s Representative and controlling agency at no additional cost to Owner.

C. Prevent damage to existing utilities during construction. Utilities shown on

Drawings are at approximate locations. Pre-locate, by whatever means may be required (metal detection equipment, probes, excavation, survey), underground utilities before excavating. Perform investigative work and repairs required after investigation. Contractor is responsible for damages caused by failure to locate and preserve these underground utilities. Give owners of utilities a minimum of five (5) days' notice before commencing Work in area, for locating utilities during construction and for making adjustments or relocation of utilities when they conflict with proposed Work. No separate payment will be made for repair work. Include payment in unit prices for work in appropriate sections.

D. Contractor shall adhere to each privately owned and operated utility company's construction guidelines when working adjacent-to or across each such entities wet or dry utility.

E. Prior to abandonment of any utility indicated on the Drawings, make arrangements with Owner's Representative and utility owner to terminate service, remove meters, valves, appurtenances, transformers, and/or poles, as required.

F. Utility Outages and Shutdowns: Provide a notification to the Owner's Representative and private utility companies (when applicable) a minimum of 48 hours, excluding weekends and holidays, in advance of required utility shutdown. Shutdown planning and coordination activities shall commence a minimum of 2-weeks prior to scheduled shutdown. Coordinate all work as required.

G. Protect and prevent damage to existing crossing, parallel, and adjacent pipelines during construction in accordance with Specification Section 01 11 13 – Work Covered by Contract Documents.

H. When excavating near product pipelines and prior to start of excavation, request that representative of pipeline company come to the construction site(s) to meet representatives of Contractor and Owner's Representative to discuss actual procedures that will be used. Request that pipeline company's representative probe and locate pipelines in at least three locations: one at each side of proposed excavation and one at centerline of proposed Work. Representative of the pipeline company and Owner's Representative must be present to observe activities of Contractor at all times when excavation is being conducted within 15 feet of existing pipelines.

I. Protection of the Work, and Public and Private Property

1. Take precautions, provide programs, and take actions necessary to protect the Work, and public and private property from damage.

2. Do not alter condition of properties adjacent to and along Limits of Construction.

3. Do not use ways, means, methods, techniques, sequences, or procedures that result in damage to adjacent properties or improvements.
4. Restore properties damaged by Contractor outside of designated Limits of Construction at no cost to Owner.
5. Take action to prevent damage, injury, or loss, including, but not limited to, the following:
    a. Store materials, supplies, and equipment in orderly, safe manner that will not interfere with progress of Work or work of others.
    b. Provide suitable storage for materials subject to damage by exposure to weather, theft, breakage, or otherwise.
    c. Place upon Work or any part thereof only safe loads.
    d. Frequently clean up refuse, rubbish, scrap materials, and debris created by construction operations, keeping Project site safe and orderly.
    e. Provide safe barricades and guard rails to protect pedestrian and vehicular traffic around openings, scaffolding, temporary stairs and ramps, excavations, elevated walkways, and other hazardous areas.
6. Assume full responsibility for preservation of public and private property on or adjacent to the Limits of Construction. When direct or indirect damage is done by or on account of any act, omission, neglect, or misconduct in execution of Work by Contractor, restore to condition equal to or better than that existing before damage was done.
7. Perform daily clean up in affected construction areas in order to restore site to existing or better conditions. Areas should be free of debris, scrap material, dirt, mud, and other items identified by Owner's Representative. Do not leave buildings, roads, streets, or other construction areas unclean. If deemed necessary by the Owner's Representative, Contractor shall employ street sweeping/cleaning equipment to maintain area streets.

J. Barricades and Warning Signals:

1. Where Work is performed on or adjacent to any roadway, right-of-way, or public place, furnish and erect barricades, fences, lights, warning signs, and danger signals, and take other precautionary measures, for protection of persons or property and of the Work.
2. Paint barricades to be visible at night. From sunset to sunrise, furnish and maintain at least one light at each barricade.
3. Erect sufficient barricades to keep vehicles and pedestrians from entering the area under construction.
4. Maintain barricades, signs, lights and provide watchmen until Project is

accepted by the Owner or the site has been completely restored to its preconstruction condition.

5. Whenever Work creates encroachment on public roadways, station flagmen to manage traffic flow in accordance with approved traffic control plan and Section 1.17.

K. Protection of Existing Structures:

1. Underground Structures:

   a. Underground structures are defined to include, but not be limited to, sewer, water, gas, and other piping, manholes, boxes, chambers, electrical signal and communication conduits, tunnels, and other existing subsurface installations located within or adjacent to limits of Work.

   b. Known underground structures including water, sewer, electric, and telecommunication services are shown on Contract Drawings. This information is not guaranteed to be correct or complete.

   c. Explore ahead of trenching and excavation work and sufficiently uncover obstructing underground structures to determine their location, to prevent damage to them, and to prevent interruption of utility services. Restore underground structures to original conditions at no additional cost if damaged during construction.

   d. Necessary changes in location of Work may be made by the Owner to avoid unanticipated underground structures.

   e. If permanent relocation of underground structures or other subsurface installations is required and not otherwise provided in Contract, the Owner will direct Contractor in writing to perform Work,

2. Surface Structures: Surface structures are defined as existing buildings, structures and other constructed installations above ground surface. Included with structures are their foundations and any extensions below the surface. Surface structures include, but are not limited to buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks, guard cables, fencing, and other facilities visible above ground surface.

3. Protection of Underground and Surface Structures:

   a. Support in place and protect from direct or indirect damage underground and surface structures located within or adjacent to limits of Work.

   b. Prevent overstress or damage to any structure and any part or member of structures during construction. This applies to new and existing facilities, utilities, and structures affected by construction operations. Contractor shall provide engineered temporary supports and connections

as required to assure the safety and stability of the structures and prevent overstress of any part. Employ a registered Professional Engineer licensed in the State of Texas to design temporary supports to assure safety and integrity of structures and facilities.

c. Install temporary supports carefully and as required by party owning or controlling structure. Before installing structure supports, satisfy Owner's Representative that methods and procedures have been approved by owner of structure.

d. Avoid moving or changing property of public utilities or private corporations without prior written consent of responsible official of that service or public utility. Representatives of these utilities reserve the right to enter within limits of this Project for purpose of maintaining their properties, or of making changes or repairs to their property that may be considered necessary by performance of this Contract.

e. Notify owners and/or operators of utilities and pipelines adjacent to the Work of the nature of construction operations and dates when operations will be performed. When construction operations are required in immediate vicinity of existing structures, pipelines, or utilities, give minimum of 5 working days advance notice. Probe and flag location of underground utilities prior to commencement of excavation. Keep flags in place until construction operation reaches and uncovers utility.

f. Assume risks attending presence or proximity of underground and surface structures within or adjacent to Work including but not limited to damage and expense for direct or indirect damage caused by Contractor's Work to structure. Immediately repair damage at no additional cost to Owner.

L. Protection of Installed Products:

1. Provide protection of installed products to prevent damage from subsequent operations. Remove protection facilities when no longer needed, prior to final completion of Work.

2. Control traffic to prevent damage to equipment, materials, and surfaces.

3. Provide coverings to protect equipment and materials from damage. Cover projections, wall corners, jambs, sills, and exposed sides of openings in areas used for traffic and passage of materials in subsequent work.

1.16 SURFACE RESTORATION

A. Restore site to the condition which existed before construction in accordance with Specification Section 01 74 23 – Restoration of Site, unless otherwise noted in Contract Documents.

1.17 TRAFFIC CONTROL AND USE OF PUBLIC RIGHTS OF WAY

A. Comply with traffic regulation in accordance TxDOT and local ordinances.

B. Provide barricades and signs in accordance with Section VI of the State of Texas Manual on Uniform Traffic Control Devices.

C. Contractor shall provide flagmen at the intersection of site access road and Crosby-Lynchburg Rd. when trucks and equipment leaving the site are unable to turn around and may require exit onto Crosby-Lynchburg road in reverse.

D. Notify Owner's Representative at least 48 hours prior to closing a street or street crossing. It is the Contractor's responsibility to obtain all required permits for street closures in advance.

E. Maintain 10-foot-wide minimum access lane for emergency vehicles, including access to fire hydrants, at all times.

F. Remove surplus materials and debris and open each 500 lineal foot length of roadway for public use when work within that length is complete.

G. Contractor shall provide and install signs indicating entrances to businesses whose normal entry is impaired or detoured as a result of construction. Proposed signs shall be submitted to the Owner's Representative for approval prior to manufacture and installation.

H. Final acceptance of any portion of Work is not based on return of roadway to public use.

I. Avoid obstructing driveways or entrances to private property.

J. Provide temporary access or complete excavation and backfill in one continuous operation to minimize duration of obstruction when excavation is required across drives or entrances.

K. Contractor shall bear the sole responsibility for damage to existing traffic cables resulting from its construction activities. The Contractor shall be responsible for the repair of damaged traffic cables including the re-cabling of the entire intersection if required, at no additional cost to the Owner.

L. Provide mats or other means to prevent overloading or damage to existing roadways from tracked equipment, large tandem axle trucks or equipment that will damage existing roadway surface. Contractor shall repair or replace damaged roadway not scheduled for removal and/or replacement at no additional cost to the Owner. Repairs or replacement shall be in conformance with the roadway owner's requirements.

M. Provide daily sweeping of hard-surface roadways to remove soils tracked onto public roadways.

1.18 CONTRACTORS ROADS AND PARKING

A. Prevent interference with traffic on existing roads.

B. Construct and maintain temporary access roads and parking areas.

C. Designate temporary parking areas to accommodate Contractor's and Owner's Representative personnel. When site space is not adequate, provide additional off-site parking. Locate as approved by Owner's Representative.

D. Minimize use by construction traffic of existing streets and driveways.

E. Do not allow heavy vehicles or construction equipment in existing parking areas.

F. Do not inhibit the ability of the Owner's personnel to access, operate, and maintain existing facilities during construction.

1.19 COORDINATION WITH FACILITY OWNER'S OPERATIONS

A. Work that may interrupt normal operations shall be accomplished at times convenient to, and approved by Owner.

B. Perform the Work such that Owner's facilities remain in continuous satisfactory operation during the Project. Schedule and conduct the Work such that the Work does not:

1. Impede Owner's production or processes,
2. Create potential hazards to public health or wellbeing,
3. Create potential hazards to operating equipment and personnel,
4. Reduce the quality of Owner's facilities' product(s) or effluent, or
5. Cause odors or other nuisances.

C. If Contractor's operations cause an unscheduled interruption of Owner's operations, immediately re-establish satisfactory operation for Owner.

D. Unscheduled shutdowns or interruptions of continued safe and satisfactory operation of Owner's facilities that result in fines or penalties by authorities having jurisdiction shall be paid solely by Contractor.

1.20 CONTRACTOR'S FIELD OFFICE (NOT USED)

1.21 PRINCIPAL ARCHITECT/ENGINEER'S FIELD OFFICE (NOT USED)

1.22 PROJECT PHOTOGRAPHS

A. Refer to Specification Section 01 32 36.01 – Project Photographs

1.23 SPECIAL CONSIDERATIONS RELATED TO ADJACENT PROPERTIES AND FACILITIES

A. Contractor shall be responsible for negotiations of any waivers or alternate arrangements required to enable transportation of materials to the site.

B. Maintain conditions of access road to site such that access is not hindered as the result of construction related deterioration.

1. Provide daily sweeping of hard-surface roadways to remove soils tracked onto roadway.

1.24 HISTORICAL AND ARCHAEOLOGICAL SITES

A. If, during the course of construction, evidence of deposits of historical or archeological interest are found, the Contractor shall cease operations affecting the find and shall notify Owner.

1. No further disturbance of the deposits shall ensue until the Contractor has been notified by Owner that Contractor may proceed.

2. Owner will issue a notice to proceed after appropriate authorities have surveyed the find and made a determination to Owner.

3. Compensation to the Contractor, if any, for lost time or changes in construction resulting from the find shall be determined in accordance with changed or extra work provisions of the Contract Documents.

1.25 WARRANTY (NOT USED)

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 MAINTENANCE

A. Maintain temporary facilities in a clean, neat, and orderly manner including maintenance of all-weather surface driveway and parking areas and equipment or materials furnished and supplied as part of any storage yard for duration of Contract.

B. Maintain complete field file of Shop Drawings, posted Drawings and Specifications, and other files of field operations including provisions for maintaining "As Built Drawings."

3.2 OWNER TRAINING (NOT USED)

END OF SECTION

SECTION 01 22 00

UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Authority
2. Unit Quantities Specified
3. Measurement
4. Payment Plus Conditions
5. Nonconformance Assessment
6. Nonpayment for Rejected Products

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. Measurement:

1. Measurement by Volume:
   a. Stockpiles: Measured by cubic dimension using mean length, width, and height or thickness.
   b. Excavation and Embankment Materials: Measured by cubic dimension using average end area method.
2. Measurement by Area: Measured by square dimension using mean length and width or radius.
3. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
4. Stipulated Price Measurement: By unit designated in Agreement.
5. Other: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of Work.
6. Measurement by Each: Measured by each instance or item provided.
7. Measurement by Lump Sum: Measure includes all associated work.

B. Payment:

1. Payment Includes: Full compensation for required supervision, labor, products, tools, equipment, plant, transportation, services, and incidentals; and erection, application or installation of an item of Work; and Contractor's overhead and profit.
2. Total compensation for required Unit Price Work shall be included in Unit Price provided in Proposal. Claims for payment as Unit Price Work, but not specifically covered in list of unit prices contained in Proposal, will not be accepted.
3. Interim payments for stored materials will be made only for materials to be incorporated under items covered in unit prices, unless disallowed in Supplementary Conditions.
4. Progress payments will be based on Owner's Representative's observations and evaluations of quantities incorporated in Work multiplied by unit price.
5. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities determined by Owner's Representative multiplied by unit price for Work which is incorporated in or made necessary by the Work.

1.3 SUBMITTALS (NOT USED)

1.4 AUTHORITY

A. Measurement methods delineated in Specification sections are intended to complement criteria of this section. In event of conflict, the order of governance is: General Conditions, Individual Specifications, 01 22 00 – Unit Prices.

B. Owner's Representative will take measurements and compute quantities accordingly.

C. Assist by providing necessary equipment, workers, and survey personnel.

1.5 UNIT QUANTITIES SPECIFIED

A. Quantity and measurement estimates stated in Agreement are for contract purposes only. Quantities and measurements supplied or placed in Work and verified by Owner's' Representative shall determine payment as stated in General Conditions of the Contract.

B. When actual Work requires greater or lesser quantities than those quantities indicated in Proposal, provide required quantities at unit prices contracted as stated in the General Conditions of the Contract.

1.6 NONCONFORMANCE ASSESSMENT

A. Remove and replace Work, or portions of Work, not conforming to Contract Documents.

B. When not practical to remove and replace Work, Owner's Representative will direct one of the following remedies:

1. Nonconforming Work will remain as is, but Unit Price will be adjusted lower at discretion of Owner's Representative.
2. Nonconforming Work will be modified as authorized by Owner's Representative, and Unit Price will be adjusted lower at discretion of Owner's Representative, when modified Work is deemed less suitable than specified.

C. Specification sections may modify above remedies or may identify a specific formula or percentage price reduction.

D. Authority of Owner's Representative to assess nonconforming work and identify payment adjustment is final.

1.7 NONPAYMENT FOR REJECTED PRODUCTS

A. Payment will not be made for the following:

1. Products wasted or disposed of in unacceptable manner.
2. Products determined as nonconforming before or after placement.
3. Products not completely unloaded from transporting vehicle.
4. Products placed beyond lines and levels of required Work.
5. Products remaining on hand after completion of Work, unless specified otherwise.
6. Loading, hauling, and disposing of rejected products.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 26 63

CHANGE ORDERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

Procedures for processing Change Orders, including:

1. Quality Assurance.
2. Responsible Individual.
3. Documentation of Change in Contract Price and Contract Time.
4. Change Procedures.
5. Proposals and Contract Modifications.
6. Work Change Directive.
7. Change Order.
8. Execution of Change Documentation.
9. Correlation of Contractor Submittals.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT (NOT USED)

1.3 SUBMITTALS (NOT USED)

1.4 QUALITY ASSURANCE

A. Reference Standards:

1. Equipment Rental Rates: equipmentwatch.com. Rental Rate is defined as full unadjusted base rental rate for appropriate item of construction equipment.

1.5 RESPONSIBLE INDIVIDUAL

A. Provide letter to the Owner's Representative indicating name, title, address and contact information of individual authorized to execute change documents and who is responsible for informing others in Contractor's employ and Subcontractors of changes to the Work. Information should be provided at the Preconstruction Conference but, no later than 10 calendar days following the Preconstruction Conference.

1.6 DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

A. Maintain detailed records of changes in Work. Provide full information required for identification and evaluation of proposed changes, and substantiate costs of

changes in Work.

B. Document each proposal for change in cost or time with sufficient data to allow evaluation of proposal. Provide additional information upon request of the Owner or the Owner's Representative.

C. Proposals shall include the following minimum information:

1. Quantities of items in original Proposal with additions, reductions, deletions, and substitutions.
2. Quantities and cost of items in original schedule of values with additions, reductions, deletions, and substitutions.
3. Provide unit prices for items not included in original Proposal with supporting information when absent from original Proposal Work.
4. Justification for changes in Contract Time.
5. Additional data upon request.

D. For changes in Work performed on a time-and-materials basis, provide the following additional information:

1. Quantities and description of products and equipment.
2. Taxes, insurance and bonds.
3. Overhead and profit.
4. Dates, times, and by whom work was performed.
5. Time records and certified copies of applicable payrolls.
6. Invoices, receipts for products, rented equipment, and subcontracts, similarly documented.

E. For changes in Work performed on a time-and-materials basis, payment for rental equipment will be as follows:

1. Actual invoice cost for duration required to complete extra work without markup for overhead and profit. When extra work comprises only a portion of rental invoice where equipment would otherwise be on site, compute hourly equipment rate by dividing the actual monthly invoice by 176. (One day equals 8 hours and 1 week equals 40 hours.)
2. Do not exceed estimated operating costs given on equipmentwatch.com website for items of equipment. Overhead and profit will be allowed on operating cost.

F. For changes in Work performed on a time-and-materials basis using Contractor-owned equipment, use equipmentwatch.com rates as follows:

1. Contractor-owned equipment will be paid at Rental Rate for duration of time required to complete extra work without markup for overhead and profit. Utilize lowest cost combination of hourly, daily, weekly, or monthly rates. Use 150 percent of Rental Rate for double shifts (one extra shift per day)

and 200 percent of Rental Rate for more than two shifts per day. Standby rates shall be 50 percent of appropriate Rental Rate shown on equipmentwatch.com website. No other rate adjustments apply.

2. Do not exceed estimated operating costs given on equipmentwatch.com. Overhead and profit will be allowed on operating cost. Operating costs will not be allowed for equipment on standby.

1.7 CHANGE PROCEDURES

A. Changes to Contract Price or Contract Time can only be made by issuance of Change Order. Issuance of Work Change Directive will be formalized into a Change Order. Changes will be in accordance with requirements of the General Conditions.

B. The Owner's Representative will advise of minor changes in Work not involving an adjustment to Contract Price or Contract Time as authorized by the General Conditions by issuing supplemental instructions.

C. Request clarification of Drawings, Specifications, Contract Documents, or other information by using Request for Information. Response by the Owner's Representative to Requests for Information does not authorize Contractor to perform tasks outside scope of Work. Changes must be authorized as described in this section.

1.8 PROPOSALS AND CONTRACT MODIFICATIONS

A. The Owner or the Owner's Representative may issue a Request for Proposal (RFP), which includes detailed description of proposed change with supplementary or revised Drawings and Specifications. The Owner or the Owner's Representative may also request a proposal in response to a Request for Information. Prepare and submit proposal within 7 days or as specified in the request.

B. Submit request for Contractor changes to Owner's Representative describing proposed change and its full effect on Work, with a statement describing reason for change and effect on Contract Price and Contract Time including full documentation.

C. The Owner may use the Principal Architect/Engineer to review Change Orders.

1.9 WORK CHANGE DIRECTIVE

A. The Owner may issue a signed Work Change Directive instructing Contractor to proceed with a change in Work. Work Change Directive will subsequently be incorporated in Change Order.

B. Document will describe changes in Work and designate method of determining change in Contract Price or Contract Time.

C. Proceed promptly to execute changes in Work in accordance with Work Change Directive.

1.10 CHANGE ORDER

A. Stipulated Price Change Order

1. Stipulated Price Change Order will be based on accepted proposal.

B. Unit Price Change Order

1. Where Unit Prices for affected items of Work are included in Proposal, unit price Change Order will be based on unit prices, subject to the General Conditions.
2. Where unit prices of Work are not pre-determined in Proposal, Work Change Directive or accepted proposal will specify unit prices to be used.

C. Time-and-Material Change Order

1. Provide itemized account and supporting data after completion of change, within time limits indicated for claims in the General Conditions.
2. The Owner will determine change allowable in Contract Price and Contract Time as provided in the General Conditions.
3. Maintain detailed records of work done on time-and-material basis as specified in paragraph 1.6, Documentation of Change in Contract Price and Contract Time.
4. Provide full information required for evaluation of changes and substantiate costs for changes in Work.

1.11 EXECUTION OF CHANGE DOCUMENTATION

A. The Owner or the Owner's Representative will issue Change Orders, Work Change Directives, or accepted proposal for signatures of parties as described in the General Conditions.

1.12 CORRELATION OF CONTRACTOR SUBMITTALS

A. For Stipulated Price Contracts, promptly revise Schedule of Values and Application for Payment forms to record authorized Change Orders as separate line item.

B. For Unit Price Contracts, next monthly estimate of Work after acceptance of a Change Order will be revised to include new items not previously included and appropriate unit rates.

C. Promptly revise progress schedules to reflect change in Contract Time, and to adjust time for other items of work affected by change, and resubmit for review.

D. Promptly enter changes to on-site and record copies of Drawings, Specifications, or Contract Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 29 73

SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Measurement and Payment
2. Definition
3. Preparation
4. Submittal

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 SUBMITTALS

A. Submit Schedule of Values in accordance with requirements of Section 01 33 00 – Submittals. Submit at least 10 days prior to submitting first application for progress payment. Submit via SharePoint.

B. Revise Schedule of Values and resubmit for items affected by contract modifications, Change Orders, and Work Change Directives. After changes are reviewed without exception by Authority's Principal Architect/Engineer, make submittal at least 10 days prior to submitting next application for progress payment.

1.4 DEFINITIONS

A. Schedule of Values: Is a schedule, prepared and maintained by the Contractor, allocating portions of the Contract Amount to various portions of the Work, including a tabulation of all of the costs of the various Subcontracts and materials which in the aggregate make up the Cost of the Work. The Schedule of Values shall be subject to Owner's approval and, after such approval, be used as the basis for reviewing the Contractor's Application For Payment.

1.5 PREPARATION

A. For stipulated price contracts, subdivide Schedule of Values into logical portions of Work, such as major work items or work in contiguous geographic areas.

B. Schedule and Schedule of Values shall be developed together. At a minimum, the Schedule of Values shall be broken out by trade and split between materials and labor as approved by the Owner. Such Prices will include overhead and profit applicable to each item of work. The Schedule of Values should include but is not limited to the following items:

1. Site preparation, stabilized construction access and traffic control
2. Grubbing, root removal and levee repair
3. Removal of canal obstructions and associated levee repairs
4. Topsoil installation
5. Final grading, Hydro-mulch, and restore all disturbed areas
6. Bond costs
7. Miscellaneous spot levee repairs
8. Care of Water
9. Culvert crossing removal including appurtenant items and fill removal
10. Additional topsoil installation
11. Additional final grading, and hydro-mulch installation

C. Round off figures for each listed item to nearest $100 except for value of one item, when necessary, to make total of items in Schedule of Values equal Contract Price for stipulated price contracts or lump sum amount in Schedule of Unit Price Work.

D. Submit Schedule of Values in approved electronic spreadsheet, formatted to print on 11” x 17” paper, to the Owner’s Document Management System.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

Specific requirements for the preparation, submittal, updating, status reporting and management of the construction Progress Schedule

B. The Contractor shall develop a Microsoft Project Gantt Chart (bar chart) schedule using the latest edition of Microsoft software demonstrating fulfillment of the contract requirements. The Contractor shall keep the network up to date in accordance with the requirements of this section. The Contractor shall utilize the plan for scheduling, coordination and monitoring work under this contract, including activities of subcontractors, equipment vendors and suppliers. The Gantt Chart shall be utilized to satisfy time applications.

C. Related Specification Sections include, but are not necessarily limited to:

1. Division 01 – General Requirements

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost of construction scheduling in overhead cost for this project.

1.3 SCHEDULING STAFF

A. Employ or retain services of individual experienced in critical path scheduling for duration of Contract. Individual shall cooperate with Owner's Representative and shall update schedule (Progress Schedule) monthly as required by the Contract's General Conditions, to indicate current status of Work.

1.4 QUALITY ASSURANCE

A. The person preparing and revising the construction Progress Schedule shall be experienced in the preparation of schedules of similar complexity, and shall have five (5) years of experience in the preparation and updating of construction schedules for projects of similar type, size and complexity.

B. Within five (5) days from award of the Contract, Contractor shall submit to Owner's Representative the name of this person responsible for the preparation, maintenance, updating and revision of all schedules.

1.5 DEFINITIONS

A. The following definitions shall apply to this Specification Section:

1. BASELINE SCHEDULE: The initial as-bid, detailed, cost and resource loaded Progress Schedule prepared by the Contractor to define its plan for constructing the Project as required by the Contract Documents, and

accepted by the Owner or Owner's Representative as meeting the requirements of the Contract Documents for specified constraints, sequences, milestones and completion dates.

2. PROGRESS SCHEDULE: The initially accepted Baseline Schedule, or subsequently approved Revised Baseline Schedules, updated each month to reflect actual start and finish dates of schedule activities and all time impact events regardless of the cause.
3. REVISED BASELINE SCHEDULE: The initially accepted Baseline Schedule revised to reflect only approved changes.

1.6 SUBMITTALS

A. Shop Drawings:

1. See Specification Section 01 33 00 – Submittals for requirements for the mechanics and administration of the submittal process.
2. Scheduler qualifications.
3. Baseline Schedule: Submitted within 30 calendar days after Effective Date of Agreement.
4. Monthly Progress Schedules.
5. Revised Baseline Schedules.
6. Look-Ahead Schedules.

1.7 SCHEDULING CONFERENCE

A. The Contractor shall schedule and the Owner will conduct a scheduling conference with the Contractors project manager and construction scheduler within 10 calendar days after the preconstruction Conference. The Contractor shall present and the Owner shall review the following documents at this time:

1. Baseline construction schedule
2. Schedule of submittals
3. A summary schedule of values

1.8 BASELINE SCHEDULE AND PROGRESS UPDATES

A. The complete Gantt chart will contain at a minimum:

1. All work events and activities as necessary to fully detail the project schedule
2. Each activity/event on the Gantt chart schedule shall contain at a minimum an event/activity description, time duration in calendar days and a start and finish date.
3. Activity constraints not defined in the contract will not be accepted
4. Logic events (non-work) will be permitted where necessary to reflect proper sequence among work events, but must have zero duration
5. The duration for each listed activity shall be in calendar days
6. Each activity shall be for a duration of not less than 1 and not more than 30 calendar days
7. The schedule shall take into consideration the effects of normal weather impact
8. The Contractor is not required to cost load the Gantt chart. This information shall come from the Schedule of Values, which shall reflect and contain all the same activities and events identified on the Gantt chart.

B. Float Time:

1. Neither the Owner nor the Contractor owns the float; the project owns the float.
2. As such, liability for delay of the project completion date rests with the party actually causing delay to the project completion date.
3. Contractor shall provide with the schedules, a procedural outline of the system shut-downs and proposed tie-ins, and the Owner's O&M staff, which shall be subject to approval of the Owner.

1.9 POTENTIAL DELAY OF THE PROJECT

A. Contractor shall submit data for a revised project schedule within 5 days of the occurrence of any of the following:

1. When Contractor caused delay in completion of any activity or group of activities indicates an overrun of the Contract time by 15 calendar days or 10% of the remaining duration, whichever is less.
2. Whenever delays in submittals, deliveries, or work stoppages are encountered making necessary the replanning or rescheduling of the Work.
3. When the schedule does not represent the actual progress of the Work.
4. When a change order significantly affects the contract completion date

B. The revised project schedule shall show:

1. How the Contractor intends to return to the current schedule
2. How the Contractor intends to avoid falling behind on future activities
3. Any modifications/changes to future activities
4. Any new activities

C. Provide a written narrative report to define:

1. Problem areas, anticipated delays and any impacts on the future completion of the work in a timely manner.
2. Any corrective actions, future and current
3. Changes in scope
4. Revised projections of progress and completion
5. The revised project schedule and narrative shall be presented to the Owner not later than the next scheduled progress meeting
6. The cost of revision of the construction schedule not arising from items 1,2 & 3 shall be included in the cost of the approved change order or revision

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 36.01

PROJECT PHOTOGRAPHS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Technical and submittal requirements for project photographs, including:

   a. Measurement and Payment

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 - General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 DEFINITIONS:

1. Pre-construction Photographs: Photographs taken, in sufficient numbers and detail, prior to beginning field activities, to show original construction site conditions.
2. Progress Photographs: Photographs, taken throughout the duration of construction at regular intervals from vantage points, approved by the Owner's Representative, that document progress of the Work.
3. Completed Project Photographs: Photographs, taken at the completion of the project from progress photograph vantage points, approved by the Owner's Representative, that document the completion of the Work.

1.4 SUBMITTALS:

1. Refer to Section 01 33 00 – Submittals.
2. Format and Media. Digital photography shall be used for Preconstruction and Progress Photographs. Digital or film photography may be used for Completed Project Photographs. Submit color prints of photographs whether produced by digital or film photography for hard copy submittals. Submit digital Joint Photographic Experts Group (JPEG) images for electronic submittals.

   a. Media

      1) Digital Photography. Use at least 6.0 megapixel density for photographs. Submit digital photographic files to SJRA project SharePoint site in JPEG format.

3. Submit Preconstruction Photograph digital images with embedded GPS coordinates (latitude, longitude and compass direction of view) shown on the

image. Contractor shall download digital images and GPS coordinates to the Owner's GIS system if directed by the Owner's Representative.

4. Submit Progress Photograph digital images to SJRA project SharePoint site..
5. Submit Completed Project Photograph digital images to SJRA project SharePoint site.
6. Submittal Quantities and Frequencies
   a. Preconstruction photographs: Submit one set of digital images to the SJRA Project SharePoint site.
   b. Progress Photographs: Submit one set of digital images each month with each Application for Payment. Monthly Applications for Payment shall be deemed incomplete if not accompanied by the required Progress Photographs. Contractor's failure or election to not submit a monthly Application for Payment shall not affect the requirement for monthly Progress Photographs:
      1) For Facility Contracts with a Total Bid Price over $100,000, at least once each month during construction: Provide five (5) progress photos as directed by Owner's Representative.
   c. Completed Project Photographs:
      1) Submit two sets of Completed Project Photographs, after Date of Substantial Completion and prior to final payment. Two sets of Completed Project photos shall be taken from two vantage points. Each of the two vantage points pre-approved by the Owner. Vantage points for Finished Photographs will be approved separately from vantage points approved for Progress Photographs.
7. Labeling:
   a. Digital Images: .
      1) For each digital image create a file name which has as part of the name the date the photograph was taken and the location of the photograph by station, coordinates or other unique identifier
8. Photographic files become the property of the Owner with all rights of reproduction to the Owner. Do not publish photographs without written consent by the Owner.

B. Quality Assurance:

1. Contractor shall be responsible for the quality of and timely execution and submittal of photographs.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Mechanics and administration of the submittal process for:
    a. Shop Drawings.
    b. Samples.
    c. Miscellaneous submittals.
2. General content requirements for Shop Drawings.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 - General Requirements.
2. Sections in Divisions 02 through 32 identifying required submittals.

1.2 MEASUREMENT AND PAYMENT

A. Unit Price. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 SUBMITTALS (NOT USED)

1.4 DEFINITIONS

A. Shop Drawings:

1. See General Conditions.
2. Product data and samples are Shop Drawing information.

B. Miscellaneous Submittals:

1. Submittals other than Shop Drawings.
2. Representative types of miscellaneous submittal items include but are not limited to:
    a. Construction schedule.
    b. Materials
    c. Facility Shutdown Plan(s)
    d. Installed equipment and systems performance test reports.
    e. Warranties.
    f. Construction photographs.
    g. Record Documents.

h. Cost breakdown (Schedule of Values).

i. Safety Plan(s).

1.5 SUBMITTAL SCHEDULE

A. Schedule of Shop Drawings:

1. Submitted and approved within 15 days of receipt of Notice to Proceed.
2. Account for multiple transmittals under any specification section where partial submittals will be transmitted.

B. Shop Drawings: Submittal and approval prior to 50 percent completion.

1.6 PREPARATION OF SUBMITTALS

A. General:

1. All submittals and all pages of all copies of a submittal shall be completely legible.
2. Submittals which, in the Owner's Representative's or Principal Architect/Engineer's sole opinion, are illegible will be returned without review.

B. Shop Drawings:

1. Scope of any submittal and shop drawing transmittal:
   a. Submit shop drawings utilizing Owner's standard Submittal Transmittal Form.
   b. Limited to one (1) Specification Section.
   c. Do not submit under any Specification Section entitled (in part) "Basic Requirements" unless the product or material submitted is specified, in total, in a "Basic Requirements" Section.
2. Numbering letter of transmittal:
   a. Include a series number, "xx", beginning with "01" and increasing sequentially with each additional transmittal.
   b. Assign consecutive series numbers to subsequent transmittals.
3. Describing transmittal contents:
   a. Provide listing of each component or item in submittal capable of receiving an independent review action.
   b. Identify for each item:
      1) Manufacturer and Manufacturer's Drawing or data number.
      2) Contract Document tag number(s).
      3) Unique page numbers for each page of each separate item.

4) Use divider sheets with labeled tabs to separate independent items within a single submittal.

c. When submitting "or-equal" items that are not the products of named manufacturers, include the words "or-equal" in the item description.

4. Contractor stamping:

a. General:

1) Contractor's review and approval stamp shall be applied either to the letter of transmittal or a separate sheet preceding each independent item in the submittal.

a) Contractor's signature and date may be submitted electronically.

b) Shop Drawing submittal stamp shall read "(Contractor's Name) has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval as stipulated under the General Conditions of the Contract.

2) Submittals containing multiple independent items shall be prepared with an index sheet for each item listing the discrete page numbers for each page of that item, which shall be stamped with the Contractor's review and approval stamp.

a) Individual pages or sheets of independent items shall be numbered in a manner that permits Contractor's review and approval stamp to be associated with the entire contents of a particular item.

b) Use divider sheets with labeled tabs to separate independent items within a single submittal.

b. Electronic stamps:

1) Contractor may electronically embed Contractor's review and approval stamp to either the Submittal Transmittal Form or a separate index sheet preceding each independent item in the submittal.

2) Contractor's signature and date on electronically applied stamps may be electronic.

5. Resubmittals:

a. Number with original root number and a suffix letter starting with "A" on a new Submittal Transmittal Form.

b. Do not increase the scope of any prior transmittal.

c. Account for all components of prior transmittal.

1) If items in prior transmittal received "A" or "B" Action code, list them and indicate "A" or "B" as appropriate (See also 1.6, this Section).

a) Do not include submittal information for items listed with prior "A" or "B" in resubmittal.

2) Indicate items to be resubmitted “at a later date” for any prior "C" or "D" Action item not included in resubmittal.

a) Obtain Principal Architect/Engineer’s approval to exclude items.

6. Electronic submittals utilizing web based document management system (SharePoint®):

a. Shop drawing submittals shall be produced (scanned) in Adobe Acrobat's Portable Document Format (PDF) Version 5.0 or higher.

b. Do not password protect and/or lock the PDF document.

c. Create one (1) PDF document (PDF file) for each submittal.

d. Drawings or other graphics must be converted to PDF format and made part of the single (one [1]) PDF document.

1) Scanning to be used only where actual file conversion is not possible.

e. Limit PDF document size to 5MB.

f. Rotate pages that must be viewed in landscape to the appropriate position for easy reading.

g. Images only shall be scanned at a resolution of 300 dpi or greater.

1) Perform Optical Character Recognition (OCR) capture on all images.

2) Achieve OCR with the "original image with hidden text" option.

3) Word searches of the PDF document must operate successfully to demonstrate OCR compliance.

h. Create bookmarks in the navigation frame, for each entry in the Table of Contents/Index.

1) Normally three (3) levels deep (i.e., "Chapter," "Section," "Sub-section").

i. Thumbnails must be generated for each PDF file.

j. Set the opening view for PDF files as follows:

1) Initial view: Bookmarks and Page.

2) Magnification: Fit in Window.

3) Page layout: Single page.

4) Set the file to open to the cover page of the submittal with bookmarks to the left, and the first bookmark linked to the cover page.

k. All PDF documents shall be set with the option "Fast Web View" to open the first pages of the document for the viewer while the rest of the document continues to load.

l. File naming conventions:

1) File names shall use a "nine dot three" convention (XXXXXX-YY-Z.PDF) where XXXXXX is the Specification Section number, YY is the Shop Drawing Root series number and Z is an ID number used to designate the associated volume.

a) Example 1:

(1) Two (2) pumps submitted as separate Shop Drawings under the same Specification Section:

(a) Pump 1 = 43 21 21-01-1.pdf.

(b) Pump 2 = 43 21 21-02-1.pdf.

b) Example 2:

(1) Control system submitted as one (1) Shop Drawing but separated into two (2) shop drawing submittals:

(a) Volume 1 = 40 90 00-01-1.pdf.

(b) Volume 2 = 40 90 00-01-2.pdf.

7. Provide clear space (3 In Sq) for Principal Architect/Engineer stamping of each component defined in the PREPARATION OF SUBMITTALS Article – Contractor Stamping.
8. Contractor shall not use red color for marks on transmittals.
   a. Duplicate all marks on all copies transmitted, and ensure marks are photocopy reproducible.
   b. Outline Contractor marks on reproducible transparencies with a rectangular box.
9. Transmittal contents:
   a. Coordinate and identify Shop Drawing contents so that all items can be easily verified by the Owner's Representative and the Principal Architect/Engineer.
   b. Identify equipment or material use, tag number, Drawing detail reference, weight, and other Project specific information.
   c. Provide sufficient information together with technical cuts and technical data to allow an evaluation to be made to determine that the item submitted is in compliance with the Contract Documents.
   d. Submit items such as equipment brochures, cuts of fixtures, product data sheets or catalog sheets on 8-1/2 x 11 inch pages.
      1) Clearly mark (indicate) exact item or model and all options proposed.
   e. When a Shop Drawing submittal is called for in any Specification Section, include as appropriate, scaled details, sizes, dimensions, performance characteristics, capacities, test data, anchoring details, installation instructions, storage and handling instructions, color charts, layout

Drawings, rough-in diagrams, wiring diagrams, controls, weights and other pertinent data in addition to information specifically stipulated in the Specification Section.

1) Arrange data and performance information in format similar to that provided in Contract Documents.

2) Provide, at minimum, the detail specified in the Contract Documents.

f. Provide warranty information.

g. If proposed equipment or materials deviate from the Contract Drawings or Specifications in any way, clearly note the deviation and justify the said deviation in detail in a separate letter immediately following transmittal sheet.

C. Miscellaneous Submittals:

1. Prepare in the format and detail specified in Specification requiring the miscellaneous submittal.

D. Operation and Maintenance Manuals: (Not Used)

1.7 TRANSMITTAL OF SUBMITTALS

A. Shop Drawings:

1. Transmit all submittals via Owner's Document Management System (SharePoint).
2. Utilize SJRA Standard Submittal Transmittal Form (to be provided by Owner) to transmit all Shop Drawings.
3. All submittals must be from Contractor.
   a. Submittals will not be received from or returned to subcontractors.
4. Provide submittal information defining specific equipment or materials utilized on the Project.
   a. Generalized product information, not clearly defining specific equipment or materials to be provided, will be rejected.

B. Miscellaneous Submittals:

1. Transmit all submittals via Owner's Document Management System (SharePoint).

C. Expedited Return Delivery (Not Used):

D. Fax Transmittals: (Not Used)

1.8 PRINCIPAL ARCHITECT/ENGINEER 'S REVIEW ACTION

A. Shop Drawings and Samples:

1. Items within transmittals will be reviewed for overall design intent and will receive one of the following actions:

a. NO EXCEPTION.

b. EXCEPTIONS AS NOTED.

c. REVISE & RESUBMIT

d. REJECTED - RESUBMIT.

e. ACKNOWLEDGE RECEIPT.

f. FOR INFORMATION PURPOSES ONLY.

g. SUPPLEMENTARY INFORMATION.

2. Submittals received will be initially reviewed to ascertain inclusion of Contractor's approval stamp.

   a. Submittals not stamped by the Contractor or stamped with a stamp containing language other than that specified herein will not be reviewed for technical content and will be returned without any action.

3. In relying on the representation on the Contractor's review and approval stamp, Owner and Principal Architect/Engineer reserve the right to review and process poorly organized and poorly described submittals as follows:

   a. Submittals transmitted with a description identifying a single item and found to contain multiple independent items:

      1) Review and approval will be limited to the single item described on the transmittal letter.

      2) Other items identified in the submittal will:

         a) Not be logged as received by the Principal Architect/Engineer.

         b) Be removed from the submittal package and returned without review and comment to the Contractor for coordination, description and stamping.

         c) Be submitted by the Contractor as a new series number, not as a re-submittal number.

   b. Principal Architect/Engineer, at Principal Architect/Engineer's discretion, may revise the transmittal letter item list and descriptions, and conduct review.

      1) Unless Contractor notifies Principal Architect/Engineer in writing that the Principal Architect/Engineer's revision of the Submittal Transmittal Form item list and descriptions was in error, Contractor's review and approval stamp will be deemed to have applied to the entire contents of the submittal package.

4. Submittals returned with Action "A" or "B" are considered ready for fabrication and installation.

a. If for any reason a submittal that has an "A" or "B" Action is resubmitted, it must be accompanied by a letter defining the changes that have been made and the reason for the resubmittal.

b. Destroy or conspicuously mark "SUPERSEDED" all documents having previously received "A" or "B" Action that are superseded by a resubmittal.

5. Submittals with Action "A" or "B" combined with Action "C" (Revise and Resubmit) or "D" (Rejected) will be individually analyzed giving consideration as follows:

   a. The portion of the submittal given "C" or "D" will not be distributed (unless previously agreed to otherwise at the Preconstruction Conference).

      1) One (1) copy of the "C" or "D" Drawings will be marked up and returned to the Contractor.

         a) Correct and resubmit items so marked.

   b. Items marked "A" or "B" will be fully distributed.

   c. If a portion of the items or system proposed are acceptable, however, the major part of the individual Drawings or documents are incomplete or require revision, the entire submittal may be given "C" or "D" Action.

      1) This is at the sole discretion of the Principal Architect/Engineer.

      2) In this case, some Drawings may contain relatively few or no comments or the statement, "Resubmit to maintain a complete package."

      3) Distribution to the Owner and field will not be made (unless previously agreed to otherwise).

6. Failure to include any specific information specified under the submittal paragraphs of the Specifications will result in the submittal being returned to the Contractor with "C" or "D" Action.

7. Calculations: Requirements for the submittal of calculations in the individual Specification Sections shall be satisfied through the submittal of a certification sealed by the Principal Architect/Engineer that the calculations have been performed. Certification will be received for information purposes only and will be returned stamped "D. ACKNOWLEDGE RECEIPT ".

8. Transmittals of submittals which the Principal Architect/Engineer considers as "Not Required" submittal information, which is supplemental to but not essential to prior submitted information, or items of information in a transmittal which have been reviewed and received "A" or "B" Action in a prior submittal, will be returned with Action "E. Acknowledge Receipt" (Principal Architect/Engineer 's Review Not Required).

1.9

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 05

ENVIRONMENTAL PROTECTION AND SPECIAL CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Addresses:

1. Minimizing the pollution of air, water, or land; control of noise, the disposal of solid waste materials, and protection of deposits of historical or archaeological interest.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost of same in associated items for this project.

1.3 SUBMITTALS

A. Shop Drawings:

1. See Specification Section 01 33 00 – Submittals for requirements for the mechanics and administration of the submittal process.
2. Prior to the start of any construction activities submit as applicable:
   a. A detailed proposal of all methods of control and preventive measures to be utilized for environmental protection.
   b. A drawing of the work area, haul routes, storage areas, access routes and current land conditions including trees and vegetation.
   c. Submit manufacturer's catalog sheets and other product data on dispensing equipment, pump, and aboveground fuel storage tanks, indicating capacity and dimensions of tank.
   d. Submit drawings to show location of tank protection area and driveway. Indicate nearest inlet or channelized flow area. Clearly dimension distances and measurements.
   e. Submit list of spill containment equipment, and quantities thereof, located at fueling area.

1.4 ENVIRONMENTAL CONTROLS

A. Provide and maintain methods, equipment, and temporary construction as necessary for controls over environmental conditions at construction site and adjacent areas.

B. Work to minimize impact to surrounding environment. Adopt construction procedures that do not cause unnecessary excavation and filling of terrain,

indiscriminate destruction of vegetation, air or stream pollution, nor harassment or destruction of wildlife.

C. Recognize and adhere to environmental requirements of Project. Limit disturbed areas to boundaries established by Contract. Avoid pollution of "on-site" streams, sewers, wells, or other water sources.

D. Burning of rubbish, debris, or waste materials is not permitted.

1.5 POLLUTION CONTROL

A. Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere by discharge of noxious substances from construction operations.

B. Provide equipment and personnel to perform required emergency measures to contain spillage, and to remove contaminated soils or liquids. Excavate and dispose of contaminated earth off-site, and replace with suitable compacted fill and topsoil.

C. Provide systems for control of atmospheric pollutants.

1. Prevent toxic concentrations of chemicals.
2. Prevent harmful dispersal of pollutants into atmosphere.

D. Use equipment that conforms to current Federal, State, and local laws and regulations.

E. Install or otherwise implement positive controls to prevent hazardous materials migrating from Work area.

1.6 PEST AND RODENT CONTROL

A. Provide rodent and pest control as necessary to prevent infestation of construction or storage areas.

B. Employ methods and use materials which will not adversely affect conditions at site or on adjoining properties.

1.7 NOISE CONTROL

A. Highlands Main Canal has no official noise limit, but is governed by state regulations that dictate a maximum level of 85 decibels at any time of the day or night. Local municipal noise limits may be more restrictive and shall be followed as required.

B. Provide vehicles, equipment, and construction activities that minimize noise to greatest degree practicable. Conform noise levels to latest OSHA standards. Do not permit noise levels to interfere with Work or create nuisance in surrounding areas.

C. Conduct construction operations during daylight hours except as approved by Owner's Representative.

D. Select construction equipment to operate with minimum noise and vibration. When in opinion of Owner's Representative, objectionable noise or vibration is produced by equipment, rectify conditions without additional cost to Owner. Sound Power Level (PWL) of equipment shall not exceed 85 dbA (re: 10-12 watts) measured 5 feet from piece of equipment. Explicit equipment noise requirements are specified with equipment specifications.

1.8 DUST CONTROL

A. Control objectionable dust caused by operation of vehicles and equipment. Apply water or use other methods, subject to approval of Owner's Representative, to control amount of dust generated.

1.9 WATER RUNOFF AND EROSION CONTROL

A. Comply with Texas Pollutant Discharge Elimination System (TPDES) permit when required.

B. In addition to TPDES requirements:

1. Provide methods to control surface water, runoff, subsurface water, and water from excavations and structures to prevent damage to Work, site, or adjoining properties.
2. Control fill, grading and ditching to direct water away from excavations, pits, tunnels, and other construction areas; and to direct drainage to proper runoff courses so as to prevent erosion, sedimentation or damage.
3. Provide, operate, and maintain equipment and facilities of adequate size to control surface water.
4. Dispose of drainage water in manner to prevent flooding, erosion, or other damage to portion of site or to adjoining areas and in conformance with environmental requirements.
5. Retain existing drainage patterns external to construction site by constructing temporary earth berms, sedimentation basins, retaining areas, and temporary ground cover as needed to control conditions.
6. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
   a. Minimize area of bare soil exposed at one time.
   b. Provide temporary control measures, as berms, dikes, and drains.
7. Construct fills and waste areas by selective placement to eliminate erosion of surface silts or clays.
8. Inspect earthwork periodically to detect evidence of start of erosion. Apply corrective measures as required to control erosion.

1.10 QUALITY ASSURANCE

A. Person conducting visual examination for pollutant shall be fully knowledgeable about the TPDES Construction General Permit, detecting sources of storm water contaminants, inspection of aboveground storage tank and appurtenances for leakage, and the day-to-day operations that may cause unexpected pollutant releases.

PART 2 - PRODUCTS

2.1 ABOVEGROUND FUEL STORAGE TANK

A. Tank Assembly: Must be listed with UL 1709 and UL 2085.

B. Inner Steel Storage Tank: Follow UL 142, with minimum thickness of ⅛-inch welded construction.

C. Tank Encasement: Either concrete or steel to provide minimum of 110 percent containment of inner tank capacity. Provide 5-gallon overspill containment pan for tank refueling.

D. Dispenser Pump: For submersible pump, UL listed emergency shut-off valve to be installed at each dispenser. For suction pump, UL listed vacuum-activated shut-off valve, with shear section, is to be installed at each dispenser. Fuel may not be dispensed from tank by gravity flow or by pressurization of tank. Means must be provided to prevent release of fuel by siphon flow.

E. Representative Manufacturers: Convault, Fireguard, Ecovault, SuperVault, or equal.

2.2 CONCRETE

A. Provide concrete with minimum strength of 4,000 psi at 28 days.

2.3 AGGREGATES

A. Coarse aggregate shall consist of crushed stone, gravel, crushed blast furnace slag, or combination of these materials. Aggregate shall be composed of clean, hard, durable materials, free from adherent coatings, salt, alkali, dirt, clay, loam, shale, soft or flaky materials, or organic and injurious matter.

B. Coarse aggregates shall conform to following gradation requirements.

Sieve Size	**Percent Retained**
(Square Mesh)	(By Weight)
2-1/2"	0
2"	0 - 20
1-1/2"	15 - 50
3/4"	60 - 80
No. 4	95 - 100

PART 3 - EXECUTION

3.1 INSTALLATION

A. Employ and utilize environmental protection methods, obtain all necessary permits, and fully observe all local, state, and federal regulations.

B. Prohibit equipment and vehicles from maneuvering on areas outside of dedicated rights-of-way and easements for construction. Immediately repair damage caused by construction traffic to erosion and sediment control systems.

C. Maintain existing erosion and sediment control systems located within project site until acceptance of Project or until directed by Owner's Representative to remove and discard existing system.

D. Remove and dispose sediment deposits at designated spoil site for Project. If a project spoil site is not designated on Drawings, dispose of sediment off site at location not in or adjacent to stream or flood plain. Assume responsibility for off-site disposal. Spread sediment evenly throughout site, compacted and stabilized. Prevent sediment from flushing into a stream or drainage way. If sediment has been contaminated, dispose of in accordance with existing federal, state, and local rules and regulations.

E. Assume responsibility for collecting, storing, hauling, and disposing of spoil, silt, and waste materials as specified in this or other Specifications and in compliance with applicable federal, state, and local rules and regulations.

F. Employ protective measures to avoid damage to existing trees to be retained on project site. Conduct construction operations under this Contract in conformance with erosion control practices described in this or other Specifications.

G. Prepare spill response and containment procedures to be implemented in event of significant materials spill. Significant materials include but are not limited to: raw materials; fuels; materials such as solvent, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; chemical required to be reported pursuant to Section 313 of Title III of SARA; fertilizers; pesticides, and waste products such as slag, ashes and sludge that have potential to be released with storm water discharges. Spill containment procedures shall be kept on-site or in construction field office.

H. Spill containment equipment appropriate to size of operation is to be located in close proximity of fueling area. Such equipment includes, but not limited to, suitable waste containers for significant materials, drip pans, booms, inlet covers, or absorbent.

I. Properly label significant materials or waste containers used for construction activities and stored on-site overnight.

J. Install, maintain, and inspect erosion, sediment control measures and practices as specified in Drawings and in this or other Specifications

K. Land Protection:

1. Except for any work or storage area and access routes specifically assigned for the use of the Contractor, the land areas outside the limits of construction shall be preserved in their present condition.
    a. Contractor shall confine his construction activities to areas defined for work within the Contract Documents.
2. Manage and control all borrow areas, work or storage areas, access routes and embankments to prevent sediment from entering nearby water or land adjacent to the work site.
3. Restore all disturbed areas including borrow and haul areas and establish permanent type of locally adaptable vegetative cover.
4. Unless earthwork is immediately paved or surfaced, protect all side slopes and backslopes immediately upon completion of final grading.
5. Plan and execute earthwork in a manner to minimize duration of exposure of unprotected soils.
6. Except for areas designated by the Contract Documents to be cleared and grubbed, the Contractor shall not deface, injure or destroy trees and vegetation, nor remove, cut, or disturb them without approval of the Owner’s Representative.
    a. Any damage caused by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense.
7. Utilize, as necessary, erosion control methods to protect side and backslopes, minimize and the discharge of sediment to the surface water leaving the construction site as soon as rough grading is complete.
    a. These controls shall be maintained until the site is ready for final grading and landscaping or until they are no longer warranted and concurrence is received from the Owner’s Representative.
    b. Physically retard the rate and volume of run-on and runoff by:
        1) Implementing structural practices such as diversion swales, terraces, straw bales, silt fences, berms, storm drain inlet protection, rocked outlet protection, sediment traps and temporary basins.
        2) Implementing vegetative practices such as temporary seeding, permanent seeding, mulching, sod stabilization, vegetative buffers, hydroseeding, anchored erosion control blankets, sodding, vegetated swales or a combination of these methods.

3) Providing Construction sites with graveled or rocked access entrance and exit drives and parking areas to reduce the tracking of sediment onto public or private roads.

8. Discharges from the construction site shall not contain pollutants at concentrations that produce objectionable films, colors, turbidity, deposits or noxious odors in the receiving stream or waterway.

L. Solid Waste Disposal:

1. Collect solid waste on a daily basis.
2. Provide disposal of degradable solid waste to an approved solid waste disposal site.
3. Provide disposal of nondegradable solid waste to an approved solid waste disposal site or in an alternate manner approved by Owner's Representative and regulatory agencies.
4. No building materials wastes or unused building materials shall be buried, dumped, or disposed of on the site.

M. Fuel and Chemical Handling:

1. Store and dispose of chemical wastes in a manner approved by regulatory agencies.
2. Take special measures to prevent chemicals, fuels, oils, greases, herbicides, and insecticides from entering drainage ways.
3. Do not allow water used in onsite material processing, concrete curing, cleanup, and other waste waters to enter a drainage way(s) or stream.

N. Control of Dust:

1. The control of dust shall mean that no construction activity shall take place without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne so that it remains visible beyond the limits of construction.
   a. Reasonable measures may include paving, frequent road cleaning, planting vegetative groundcover, application of water or application of chemical dust suppressants.
   b. The use of chemical agents such as calcium chloride must be approved by the State of Texas DOT.
2. Utilize methods and practices of construction to eliminate dust in full observance of agency regulations.
3. The Owner's Representative will determine the effectiveness of the dust control program and may request the Contractor to provide additional measures, at no additional cost to Owner.

O. Burning:

1. Do not burn material on the site.
2. If the Contractor elects to dispose of waste materials by burning, make arrangements for an off-site burning area and conform to all agency regulations.

P. Control of Noise:

1. Control noise by fitting equipment with appropriate mufflers.

Q. Completion of Work:

1. Upon completion of work, leave area in a clean, natural looking condition.
2. Ensure all signs of temporary construction and activities incidental to construction of required permanent work are removed.

R. Historical Protection:

1. If during the course of construction, evidence of deposits of historical or archaeological interests is found, cease work affecting find and notify Owner's Representative.
   a. Do not disturb deposits until written notice from Owner's Representative is given to proceed.
2. The Contractor will be compensated for lost time or changes in construction to avoid the find based upon normal change order procedures.

3.2 TOPSOIL PLACEMENT FOR EROSION AND SEDIMENT CONTROL SYSTEMS

A. When topsoil is specified as a component of another Specification, conduct erosion control practices described in this Specification during topsoil placement operations.

B. When placing topsoil, maintain erosion and sediment control systems consisting of swales, grade stabilization structures, berms, dikes, waterways, and sediment basins.

C. Maintain grades which have been previously established on areas to receive topsoil.

D. After areas to receive topsoil have been brought to grade, and immediately prior to dumping and spreading topsoil, loosen subgrade by discing or by scarifying to a depth of at least 2 inches to permit bonding of topsoil to subsoil. Compact by passing bulldozer up and down slope, tracking over entire surface area of slope to create horizontal erosion control slots.

E. No sod or seed shall be placed on soil which has been treated with soil sterilants until sufficient time has elapsed to permit dissipation of toxic materials.

3.3 DUST CONTROL

A. Implement dust control methods to control dust creation and movement on construction sites and roads and to prevent airborne sediment from reaching

receiving streams or storm water conveyance systems, to reduce on-site and off-site damage, to prevent health hazards, and to improve traffic safety.

B. Control blowing dust by using one or more of following methods:

1. Mulches bound with chemical binders such as Carasol, Terratack, or equal.
2. Temporary vegetative cover.
3. Spray-on adhesives on mineral soils when not used by traffic.
4. Tillage to roughen surface and bring clods to surface.
5. Irrigation by water sprinkling.
6. Barriers using solid board fences, snow fences, burlap fences, crate walls, bales of hay, or similar materials.

C. Implement dust control methods immediately whenever dust can be observed blowing on project site.

3.4 KEEPING STREETS CLEAN

A. Keep streets clean of construction debris and mud carried by construction vehicles and equipment. If necessary, install stabilized construction exits at construction, staging, storage, and disposal areas. Vehicle/equipment wash area (stabilized with coarse aggregate) may be installed adjacent to stabilized construction exit, as needed. Release wash water into a drainage swale or inlet protected by erosion and sediment control measures. Construction exit specified in Section 01 57 13.02 - Stabilized Construction Access.

B. In addition to stabilized construction exits, shovel or sweep pavement to extent necessary to keep street clean. Water hosing or sweeping of debris and mud off of street into adjacent areas is not allowed.

3.5 EQUIPMENT MAINTENANCE AND REPAIR

A. Confine maintenance and repair of construction machinery and equipment to areas specifically designated for that purpose. Locate areas so that oils, gasoline, grease, solvents, and other potential pollutants cannot be washed directly into receiving streams or storm water conveyance systems. Provide these areas with adequate waste disposal receptacles for liquid as well as solid waste. Clean and inspect maintenance areas daily.

B. On construction site where designated equipment maintenance areas are not feasible, take precautions during each individual repair or maintenance operation to prevent potential pollutants from washing into streams or conveyance systems. Provide temporary waste disposal receptacles.

3.6 WASTE COLLECTION AND DISPOSAL

A. Formulate and implement a plan for collection and disposal of waste materials on construction site. In plan, designate locations for trash and waste receptacles and establish a collection schedule. Specify and carry out methods for ultimate disposal of waste in accordance with applicable local, state, and federal health

and safety regulations. Make special provisions for collection and disposal of liquid wastes and toxic or hazardous materials.

B. Keep receptacles and waste collection areas neat and orderly to extent possible. Waste shall not be allowed to overflow its container or accumulate from day-to-day. Locate trash collection points where they shall least likely be affected by concentrated storm water runoff.

3.7 WASHING AREAS

A. Avoid washing concrete delivery trucks or dump trucks and other construction equipment at locations where runoff shall flow directly into a watercourse or storm water conveyance system. Designate special areas for washing vehicles. Locate these areas where wash water shall spread out and evaporate or infiltrate directly into ground, or where runoff can be collected in temporary holding or seepage basin. Beneath wash areas construct a gravel or rock base to minimize mud production.

3.8 STORAGE OF CONSTRUCTION MATERIALS AND CHEMICALS

A. Isolate sites where chemicals, cements, solvents, paints, or other potential water pollutants are stored in areas where they shall not cause runoff pollution.

B. Store toxic chemicals, materials, pesticides, paints, and acids in accordance with manufacturers' guidelines. Protect groundwater resources from leaching by placing a plastic mat, packed clay, tar paper, or other impervious materials on areas where toxic liquids are to be opened and stored.

3.9 DEMOLITION AREAS

A. Demolition activities which create large amounts of dust with significant concentrations of heavy metals or other toxic pollutants shall use dust control techniques to limit transport of airborne pollutants. However, retain water or slurry used to control dust contaminated with heavy metals or toxic pollutants on site, and prevent runoff directly into watercourses or storm water conveyance systems. Carry out methods of ultimate disposal of these materials in accordance with applicable local, state, and federal health and safety regulations.

3.10 SANITARY FACILITIES

A. Provide construction sites with adequate portable toilets for workers in accordance with applicable health regulations.

3.11 PESTICIDES

A. Use and store pesticides during construction in accordance with manufacturers' guidelines and with local, state, and federal regulations. Avoid overuse of pesticides which could produce contaminated runoff. Take great care to prevent accidental spillage. Never wash pesticide containers in or near flowing streams or storm water conveyance systems.

3.12 CONSTRUCTION METHODS

A. Do not locate fueling area in or near channelized flow area or close to storm sewer conveyance system. Provide sufficient space to allow installation of other erosion and sediment controls to protect those areas.

B. Clear and grub fueling area to remove unsuitable materials. Place geotextile fabric as permeable separator to prevent mixing of coarse aggregate with underlying soil. Overlap fabric minimum of 6 inches. Place coarse aggregate on top of geotextile fabric to minimum depth of 8 inches.

C. Grade protection area and driveway to provide sufficient drainage away from stabilized areas. Use sandbags, gravel, boards, or similar methods to prevent sediment from entering public right-of-way, receiving stream or storm water conveyance system. Provide driveway to fuel tank area with minimum width of 15 feet for one-way traffic and 30 feet for two-way traffic.

D. Place aboveground storage tank on top of cast-in-place or pre-cast foundation. Base size and thickness of foundation on size and weight of tank to be used, with minimum thickness of 6 inches. Enclose concrete foundation by 5-inch by 5-inch concrete curb and extend minimum of 1 foot beyond tank and dispenser assemblies, so that leak and drip can be contained within concrete foundation.

E. Slope concrete foundation minimum of 1 percent toward 6-inch wide by 12-inch long by 4-inch deep sump pit. Install minimum of 2-inch pipe inside sump pit with valve on outside of curb to allow draining of concrete foundation.

F. Install portable concrete Jersey Barrier around concrete foundation. Provide minimum clearance of 2 feet from edge of foundation. In lieu of Jersey barrier, install 4-inch diameter steel pipe bollards around foundation. Bury bollards minimum of 3 feet deep, 3 feet above ground, and 4 feet on center, encased in 12-inch wide concrete foundation.

3.13 MAINTENANCE

A. Inspections shall be conducted by designated health and safety officer qualified to conduct health and safety inspections.

B. Inspect stabilized areas after every storm event and at least once a week. Provide periodic top dressing with additional coarse aggregate to maintain required depth. Repair and clean out damaged control measures used to trap sediment.

C. Inspect fuel tank foundation’s bermed area after every storm event and at least once a week. Visually examine storm water contained in tank’s bermed foundation area for oil sheen or other obvious indicators of storm water pollution. Properly dispose of storm water when pollutant is present. Record visual examination of storm water discharge in Report noting date and time of examination, name of examiner, observations of water quality, and volume of storm water discharged from bermed area. Keep Report with other storm water pollution control inspection reports on site, in readily accessible location.

3.14 TEMPORARY FUELING AREA CLOSURE

A. Dispose of temporary vehicle and equipment fueling area by removal of sediment and erosion controls properly off site. Owner's Representative will inspect top soils in fueling area and immediate vicinity for evidence of fuel leaks. If Owner's Representative determines that sufficient pollutants have been released, remove soil and properly dispose off site. Other remediation methods may be required.

END OF SECTION

SECTION 01 45 16.32

CONTRACTOR'S QUALITY CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Measurement and Payment
2. Quality Assurance/Control of Installation
3. References
4. Manufacturer's Field Services and Reports

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 SUBMITTALS (NOT USED)

1.4 QUALITY ASSURANCE/CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality at no additional cost to the Owner.

B. Comply fully with manufacturers' installation instructions, including each step in sequence.

C. Request clarification from Owner's Representative before proceeding when manufacturers' instructions conflict with Contract.

D. Comply with specified standards as minimum requirements for Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work by persons qualified to produce specified level of workmanship.

1.5 REFERENCES

A. Obtain copies of standards and maintain at job site when required by individual Specification sections.

1.6 MANUFACTURERS' FIELD SERVICES AND REPORTS (NOT USED)

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 45 29
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Testing laboratory services
2. Requirements of this section apply to testing laboratories employed by the Contractor for approval of manufactured products, materials, including mix designs and quality control of materials
3. Requirements of this section also apply to testing laboratories employed by the Owner for approval of materials and the constructed Work on site.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project

1.3 QUALITY ASSURANCE

A. Reference Standards

1. ASTM C 1077 – Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
2. ASTM D 3666 – Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials.
3. ASTM D 3740 – Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
4. ASTM E 329 – Standard Specification for Minimum Requirements for Agencies Engaged the Testing and/or Inspection of Materials Used in Construction.
5. ISO/IEC 17025 – General Requirements for the Competence of Calibration and Testing Laboratories.

1.4 RELATED REQUIREMENTS

A. To test products and materials and provide certifications as identified in Part 2 Products, in the individual Specification sections, the Contractor shall either

1. Select, employ and pay for services of an independent testing laboratory or laboratories, or

2. Cause its suppliers to perform required inspection and testing using an independent testing laboratory or a qualified in-house laboratory.

B. Owner's Representative may, at its option, observe or witness any and all testing of materials and products which are to be utilized in the construction of the Work as they are being tested by the Contractor's laboratories.

C. Owner will select, employ, and pay for services of an independent testing laboratory to perform inspection and testing identified in Part 3 of individual Specification sections.

D. Employ and pay for services of independent testing laboratory or laboratories to perform inspection and testing identified in Part 2 of individual Specification sections.

E. Employment of testing laboratory by Owner does not relieve the Contractor of obligation to perform the Work in accordance with requirements of Contract Documents.

F. Owner's Representative schedules and monitors Owner's testing laboratory. Provide minimum 24 hours notice of testing to Owner's Representative to avoid delay of the Work.

1.5 QUALIFICATION OF LABORATORY

A. Meet laboratory qualification requirements of ASTM E 329 and applicable requirements of ASTM C 1077, ASTM D 3666, and ASTM D 3740.

B. Meet ISO/IEC 17025 conditions for accreditation by the American Association for Laboratory Accreditation (A2LA) in specific fields of testing required in individual Specification sections.

C. If laboratory subcontracts are part of testing services, such work will be placed with laboratory complying with requirements of this Section.

1.6 LABORATORY

A. Owner's testing laboratory will provide and distribute copies of laboratory reports to the distribution list provided by Owner's Representative at the preconstruction conference. Distribution will include download to the Owner's electronic document management system (SharePoint) for the Project.

B. Keep one copy of each laboratory report at site field office for duration of project.

C. Contractor's testing laboratory will provide and distribute copies of laboratory test reports for materials to be incorporated into this Work to the distribution list provided by Owner's Representative at the preconstruction conference. Distribution will include download to the Owners electronic document management system (Sharepoint) for the Project

D. Laboratories will email material supplier, Contractor, and Owner's Representative no later than close of business on working day following test completion and review, reports which indicate failing test results.

1.7 LIMITS ON TESTING LABORATORY AUTHORITY

A. Laboratory may not release, revoke, alter, or enlarge requirements of Contract.

B. Laboratory may not approve or accept any portion of the Work.

C. Laboratory may not assume duties of Contractor or the Owner

D. Laboratory has no authority to stop the Work.

1.8 SUBMITTALS (NOT USED)

1.9 CONTRACTOR RESPONSIBILITIES

A. Provide safe access to the Work and to manufacturer's facilities for Owner's Representative, and for testing laboratory personnel.

B. Provide testing laboratory with copy of construction schedule and copy of each update to construction schedule.

C. Notify Owner's Representative and testing laboratory during normal working hours of the day previous to expected time for operations requiring inspection and testing services. When Contractor fails to make timely prior notification, then do not proceed with operations requiring inspection and testing services.

D. Notify Owner's Representative 24 hours in advance when Specification requires presence of Owner's Representative for sampling or testing.

E. Request and monitor testing as required to provide timely results and avoid delay to the Work. Where specified, provide samples to laboratory in sufficient time to allow required test to be performed in accordance with specified test methods before intended use of material.

F. Cooperate with laboratory personnel in collecting samples on site. Provide incidental labor and facilities for safe access to the Work to be tested; to obtain and handle samples at site or at source of products to be tested; and to facilitate tests and inspections including storage and curing of test samples.

G. Arrange with laboratory through Owner's Representative. Payment for additional testing will be made in accordance with General Conditions of the Contract:

1. Retesting required for failed tests
2. Retesting for nonconforming Work
3. Additional sampling and tests requested beyond specified requirement
4. Insufficient notification of cancellation of tests for Work scheduled but not performed.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CONDUCTING TESTING

A. Conform laboratory sampling and testing specified in individual Specification sections to latest issues of ASTM standards, TxDOT methods, or other recognized test standards as approved by Owner's Representative.

B. Requirements of this section also apply to those tests for approval of materials, for mix designs and for quality control of materials as performed by employed testing laboratories.

END OF SECTION

SECTION 01 57 13.01

TPDES REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

Preparation of Storm Water Pollution Prevention Plan and notifications to TCEQ.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 DEFINITIONS

A. Commencement of Construction Activities: The exposure of soil resulting from activities such as clearing, grading, and excavating.

B. Large Construction Activity: Project that:

1. Disturbs 5 acres or more, or
2. Disturbs less than 5 acres but is part of a larger common plan of development that will disturb 5 acres or more of land.

C. Small Construction Activity: Project that:

1. Disturbs 1 or more acres but less than 5 acres, or
2. Disturbs less than 1 acre but is part of a larger common plan of development that will ultimately disturb 1 or more acres but less than 5 acres.

D. TPDES Operator:

1. The person or persons who have day-to-day operational control of the construction activities which are necessary to ensure compliance with the SWP3 for the site or other Construction General Permit conditions.

1.4 SUBMITTALS (NOT USED)

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWP3)

A. Prepare a SWP3 following Part III of the Construction General Permit.

B. Update or revise the SWP3 as needed during the construction following Part III, Section E of the Construction General Permit.

C. Submit the SWP3 and any updates or revisions to Owner's Representative for review and address comments prior to commencing, or continuing, construction activities.

3.2 NOTICE OF INTENT FOR LARGE CONSTRUCTION ACTIVITY

A. Fill out, sign, and date TCEQ Form 20022 (3/5/2008) Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR150000), **ATTACHMENT 1** of this Section 01 57 13.01 – TPDES Requirements.

B. Submit the Notice of Intent by one of the following methods:

1. Submit online at TCEQ ePermits (www6.tceq.state.tx.us/steers) and pay the $225 application fee. Transmit a copy of the electronic certificate provided by TCEQ to Owner's Representative.

2. Send a $325 check and completed TCEQ Form 20022 (3/5/2008) to the Texas Commission on Environmental Quality. Transmit a copy of the check and completed form to Owner's Representative.

C. Owner will complete a separate Owner's copy of TCEQ Form 20022 (3/5/2008) for NOI, and will submit Notice, along with application fee, to the TCEQ.

D. Submission of the Notice of Intent form by Contractor to TCEQ is required a minimum of 7 days before Commencement of Construction Activities.

3.3 CONSTRUCTION SITE NOTICE FOR SMALL CONSTRUCTION ACTIVITY

A. Fill out, sign, and date the Construction Site Notice, Attachment 2 to TPDES General Permit TXR150000, "Construction Site Notice," **ATTACHMENT 2** of this Section 01 57 13.01 – TPDES Requirements.

B. Transmit the signed Construction Site Notice to Owner's Representative at least 7 days prior to Commencement of Construction Activity.

3.4 CERTIFICATION REQUIREMENTS

A. Fill out TPDES Operator's Information form, **ATTACHMENT 3** of this Section 01 57 13.01 – TPDES Requirements, including Contractor's name, address, and telephone number and the names of persons or firms responsible for maintenance and inspection of erosion and sediment control measures. Use multiple copies as required to document full information.

B. Contractor and Subcontractors shall sign and date the Contactor's/Subcontractor's Certification for TPDES Permitting, **ATTACHMENT 4** of this Section 01 57 13.01 – TPDES Requirements. Include this certification with other Project certification forms.

C. Submit properly completed certification forms to Owner's Representative for review before beginning construction operations.

D. Conduct inspections in accordance with TCEQ requirements. Ensure persons or firms responsible for maintenance and inspection of erosion and sediment control measures read, fill out, sign, and date the Erosion Control Contractor's

Certification for Inspection and Maintenance. Use the EPA NPDES Construction Inspection Form, **ATTACHMENT 5** of this Section 01 57 13.01 – TPDES Requirements; to record maintenance inspections and repairs.

3.5 RETENTION OF RECORDS

A. Keep a copy of this document and the SWP3 in a readily accessible location at the construction site from Commencement of Construction Activity until submission of the Notice of Termination (NOT) for Storm Water Discharges Associated with Construction Activity under TPDES Construction General Permit (TXR150000). Contractors with day-to-day operational control over SWP3 implementation shall have a copy of the SWP3 available at a central location, on-site, for the use of all operators and those identified as having responsibilities under the SWP3. Upon submission of the NOT, submit all required forms and a copy of the SWP3 with all revisions to Owner's Representative.

3.6 REQUIRED NOTICES

A. Post the following notices from the effective date of the SWP3 until the date of final site stabilization as defined in the Construction General Permit:

1. Post the TPDES permit number for Large Construction Activity, or a signed TCEQ Construction Site Notice for Small Construction Activity. Signed copies of the Contractor's NOI must also be posted.
2. Post notices near the main entrance of the construction site in a prominent place for public viewing. Post name and telephone number of Contractor's local contact person, brief project description and location of the SWP3.
    a. If posting near a main entrance is not feasible due to safety concerns, coordinate posting of notice with Owner's Representative to conform to requirements of the Construction General Permit.
    b. If Project is a linear construction project (e.g., road, utilities, etc.), post notice in a publicly accessible location near active construction. Move notice as necessary.
3. Post a notice to equipment and vehicles operators, instructing them to stop, check, and clean tires of debris and mud before driving onto traffic lanes. Post at each stabilized construction exit area.
4. Post a notice of waste disposal procedures in a readily visible location on site.

3.7 ON-SITE WASTE MATERIAL STORAGE

A. On-site waste material storage shall be self-contained and shall satisfy appropriate local, state, and federal rules and regulations.

B. Prepare list of waste material to be stored on-site. Update list as necessary to include up-to-date information. Keep a copy of updated list with the SWP3.

C. Prepare description of controls to reduce pollutants generate from on-site storage. Include storage practices necessary to minimize exposure of materials to storm water, and spill prevention and response measures consistent with best management practices. Keep a copy of the description with the SWP3.

3.8 NOTICE OF TERMINATION

A. Submit an NOT, **ATTACHMENT 6** of this Section 01 57 13.01 – TPDES Requirements, to Owner's Representative within 10 days after:

1. Final stabilization has been achieved on all portions of the site that are the responsibility of the Contractor; or
2. Another operator has assumed control over all areas of the site that have not been stabilized; and
3. All silt fences and other temporary erosion controls have either been removed scheduled to be removed as defined in the SWP3, or transferred to a new operator, if the new operator has sought permit coverage.

B. Owner's Representative will complete NOT and submit Contractor's notices to the TCEQ and MS4 entities.

END OF SECTION

ATTACHMENT 1

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

TCEQ Office Use Only
Permit No.: TXR15
RN:
CN:
Ref No:

Sign up now for ePermits NOI at www6.tceq.state.tx.us/steers
Get Instant Permit Coverage and only pay a $225 application fee.

Reset Form

If filing a paper NOI you can pay the application fee on line? Go to www.tceq.state.tx.us/epay
Select Fee Type: GENERAL PERMIT CONSTRUCTION STORM WATER DISCHARGE NOI APPLICATION
If submitting a paper NOI, coverage under the general permit starts seven (7) days after the date postmarked for delivery to TCEQ.

IMPORTANT:
- Use the **INSTRUCTIONS** to fill out each question in this form.
- Use the attached **CUSTOMER CHECKLIST** to make certain all you filled out all required information.
- Incomplete applications **WILL** delay approval or result in **automatic Denial**.

Renewal of General Permit
Is this NOI to renew an ACTIVE permit?
☐ Yes - What is your permit number? **Permit No. TXR15_____**
☐ No - a permit number will be issued.

Application Fee if mailing a paper NOI:
You must pay the **$325** Application Fee to TCEQ for the application to be considered complete.
Payment and NOI must be mailed to separate addresses. See instructions for correct mailing addresses.

Provide your payment information below, for us to verify payment of the application fee:

☐ Mailed:	Check/Money Order No.:	Company Name on checking account:
☐ EPAY:	Voucher No.:	Is the Payment Voucher copy attached? ☐ Yes

A. OPERATOR (applicant)

1. If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity?
CN (Search Central Registry)

2. What is the Legal Name of the entity (applicant) applying for this permit?

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

3. What is the name and title of the person signing the application?
(The person must be an official meeting signatory requirements in TAC 305.43(a).)

Name:	Job Title:

4. What is the Operator's (applicant) mailing address as recognized by the **US Postal Service**? (verify at USPS.com)

Address:	Suite No./Bldg. No./Mail Code:	
City:	State:	ZIP Code:
Country Mailing Information (if outside USA).	Country Code:	Postal Code:

5. Phone No.: ( )	Extension:
6. Fax No.: ( )	E-mail Address:

7. Indicate the type of Customer:

☐ Individual	☐ Sole Proprietorship-D.B.A.	☐ Limited Partnership
☐ Corporation	☐ Federal Government	☐ General Partnership
☐ State Government	☐ County Government	☐ City Government
☐ Other Government	☐ Other (describe):	

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ATTACHMENT 1

8. Independent Operator: ☐ Yes ☐ No (If governmental entity, subsidiary, or part of a larger corporation, check "No".)		
9. Number of Employees: ☐ 0-20; ☐ 21-100; ☐ 101-250; ☐ 251-500; or ☐ 501 or higher		
10. Customer Business Tax and Filing Numbers *(This item is not applicable to Individuals, Government, GP or Sole Proprietor.)* **REQUIRED** for Corporations and Limited Partnerships **(Verify the entity's status and filing no. with TX SOS at 512/463-5555)**		
State Franchise Tax ID Number:	Federal Tax ID:	
TX SOS Charter (filing) Number:	DUNS Number (if known):	
B. APPLICATION CONTACT		
If TCEQ needs additional information regarding this application, who should be contacted?		
1. Name:	Title:	Company:
2. Phone No.: ( )	Extension:	
3. Fax No.:	E-mail Address:	
C. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE		
1. TCEQ Issued RE Reference Number (RN): **RN** **(Search Central Registry)**		
2. Name of Project or Site (the name as known by the community where this facility/project is located): (example: phase and name of subdivision or name of project that's unique to the site)		
3. Does the site have a physical address? **If Yes**, complete **Section A** for a physical address. **If No**, complete **Section B** for site location information.		
Section A: Enter the physical address for the site. **(verify it with USPS.com or other delivery source)**		
Street Number:	Street Name:	
City:	ZIP Code:	
Section B: Enter the site location information.		
If no physical address (Street Number & Street Name), provide a written location access description to the site: (Ex.: phase 1 of Woodland subdivision located 2 miles west from intersection of Hwy 290 & IH35 accessible on Hwy 290 South)		
City where the site is located or nearest city to site:	ZIP Code where site is located:	
4. Identify the county where the site is located:		
5. Latitude: ___ ° ___ ' ___ " N	Longitude: ___ ° ___ ' ___ " W	
6. What is the primary business of this entity? In your own words, briefly describe the primary business of the Regulated Entity: (Do not repeat the SIC and NAICS code)		
7. What is the mailing address for the regulated entity?		
Is the RE mailing address the same as the Operator? ☐ Yes, address is the same as Operator ☐ No, provide the address		
Street Number:	Street Name:	
City:	State:	ZIP Code:
D. GENERAL CHARACTERISTICS		
1. Is the site located on Indian Country Lands? ☐ No ☐ Yes – If Yes, do not submit this NOI. Contact EPA, Region VI If the site is on Indian country lands, you must obtain authorization through EPA, Region VI.		
2. What is the Standard Industrial Classification (SIC) code (see instructions for common codes): **(Search Osha.gov)** Primary: _____ Secondary: _____		

TCEQ-20022 (03/05/2008) Page 2

ATTACHMENT 1

3(a) What is the total number of acres disturbed? _____

3(b) Is the project site part of a larger common plan of development or sale? ☐ Yes ☐ No

If **Yes**, the total number of acres disturbed can be less than 5 acres.

If **No**, the total number of acres disturbed must be 5 or more. If the total number of acres disturbed is less than 5 then the project site does not qualify for coverage through this Notice of Intent. Coverage will be denied. See the requirements in the general permit for small construction sites.

4. Discharge Information (all information MUST be provided or the permit will be denied)

4(a) What is the name of the water body(s) to receive the storm water runoff or potential runoff from the site?

4(b) What is the segment number(s) of the classified water body(s) that the discharge or potential discharge will eventually reach?

4(c) Are any of the surface water bodies receiving discharges from the construction site on the latest EPA-approved CWA 303(d) list of impaired waters?

☐ Yes ☐ No

If Yes, provide the name of the impaired water body(s). _____

4(d) Is the discharge into an MS4? ☐ Yes ☐ No

If **Yes**, what is the name of the MS4 Operator? _____

Note: The general permit requires you to send a copy of the NOI to the MS4 Operator.

4(e) Is the discharge or potential discharge within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer?

☐ Yes ☐ No

If the answer is Yes, please note that a copy of the agency approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) must be included or referenced in the Storm Water Pollution Prevention Plan.

E. CERTIFICATION

Check "Yes" to the certifications below. **Failure to certify to all items will result in denial.**

☐ Yes	I certify that I have obtained a copy and understand the terms and conditions of the general permit (TXR150000).
☐ Yes	I certify that the full legal name of the entity (Operator) applying for this permit has been provided and is legally authorized to do business in Texas.
☐ Yes	I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed.
☐ Yes	I certify that a storm water pollution prevention plan has been developed and implemented prior to construction, and that is compliant with any applicable local sediment and erosion control plans and prepared and implemented as required in the general permit TXR150000.

Operator Certification:

I, _____ _____
Typed or printed name *(Required & must be legible)* Title *(Required & legible)*

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under **30 Texas Administrative Code §305.44** to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature: _____ Date: _____
(Use blue ink)

TCEQ-20022 (03/05/2008) Page 3

ATTACHMENT 1

Texas Commission on Environmental Quality
General Permit Payment Submittal Form
$325 for a paper Construction NOI Application Fee

Use this form to submit your Application Fee only if you are mailing your payment.

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- Do not mail this form with your NOI form.
- Do not mail this form to the same address as your NOI.

Mail this form and your check to:

BY REGULAR U.S. MAIL	BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality Financial Administration Division Cashier's Office, MC-214 P.O. Box 13088 Austin, TX 78711-3088	Texas Commission on Environmental Quality Financial Administration Division Cashier's Office, MC-214 12100 Park 35 Circle Austin, TX 78753

Fee Code: **GPA** General Permit: TXR150000

1. Check / Money Order No:
2. Amount of Check/Money Order:
3. Date of Check or Money Order:
4. Name on Check or Money Order:

5. NOI INFORMATION

If the check is for more than one NOI, list each Project/Site (RE) Name and Physical Address exactly as provided on the NOI. DO NOT SUBMIT A COPY OF THE NOI WITH THIS FORM AS IT COULD CAUSE DUPLICATE PERMIT ENTRIES.

See Attached List of Sites (If more space is needed, you may attach a list.)

Project/Site (RE) Name:

Project/Site (RE) Physical Address:

Staple Check In This Space

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ATTACHMENT 1

Did you complete everything? Use this checklist to be sure!

Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

	Customer GP Notice of Intent Checklist **TXR150000**
√	This checklist is for use by the operator to ensure a complete application. Missing information may result in denial of coverage under the permit. (See NOI Process description in the Instructions)
☐	**Application Fee of $325.00** was mailed separately to TCEQ's Cashiers's Office (separate from the NOI) or the EPAY payment voucher is attached.
	OPERATOR INFORMATION - Confirm each item is complete: √
☐	Customer Number (CN) issued by TCEQ Central Registry
☐	Legal Name as filed to do business in Texas (Call TX SOS 512/463-5555)
☐	Name and Title of person signing the application. This person must meet signatory requirements in 30 TAC Section 305.43
☐	Operator Mailing Address is complete & verifiable with USPS. www.usps.com
☐	Phone Numbers/E-mail Address
☐	Type of Operator (Entity Type)
☐	Independent Operator
☐	Number of Employees
☐	For Corporations or Limited Partnerships – Tax ID and SOS Filing numbers are REQUIRED
	Application Contact person we can call for questions about this application.
	REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE - Confirm each item is complete: √
☐	Regulated Entity Reference Number (RN) (if site is already regulated by TCEQ)
☐	Site/Project Name/Regulated Entity
☐	Site/Project (RE) Physical Address Please do not use a rural route or post office box for a site location
☐	**Or** if no physical address, the location information that includes description, zip code and city is listed.
☐	Latitude and Longitude TCEQ USGS Topographic Map Viewer or TerraServer-USA
☐	Business description
☐	Site Mailing Address (checked same as operator or complete & verifiable with USPS. www.usps.com)
	GENERAL CHARACTERISTICS - Confirm each item is complete: √
☐	Indian Country Lands –the facility is not on Indian Country Lands
☐	Standard Industrial Classification (SIC) code www.osha.gov/oshstats/sicser.html
☐	Acres Disturbed is provided and qualifies for coverage through a NOI.
☐	Common plan of development or for sale?
☐	Discharge Information:
☐	receiving water body
☐	segment number(s) is REQUIRED
☐	water body on the latest EPA-Approved Clean Water Act 303(d) list of impaired waters
☐	MS4 Operator
☐	Edwards Aquifer Rule
☐	**CERTIFICATION** Certification statements have been checked indicating "Yes" Signature meets 30 Texas Administrative Code (TAC) §305.44 and is original and has been provided for the Operator.

TCEQ-20022 Checklist (03/05/2008) Page 1

ATTACHMENT 1

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)
General Information and Instructions

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI) and other related forms:

BY REGULAR U.S. MAIL	BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality	Texas Commission on Environmental Quality
Storm Water Processing Center (MC228)	Storm Water Processing Center (MC228)
P.O. Box 13087	12100 Park 35 Circle
Austin, TX 78711-3087	Austin, TX 78753

TCEQ Contact list:

Application Processing Questions relating to the status and form requirements:	512/239-3700, 512/245-0130 or swpermit@tceq.state.tx.us
Technical Questions relating to the general permit:	512/239-4671 or swgp@tceq.state.tx.us
Environmental Law Division:	512/239-0600
Records Management for obtaining copies of forms submitted to TCEQ:	512/239-0900
Information Services for obtaining reports from program data bases (as available):	512/239-DATA (3282)
Financial Administration's Cashier's office:	512/239-0357 or 512/239-0187

Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

1. **Administrative Review:** Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(s) on the form must be verified with the US Postal service as an address receiving regular mail delivery. Never give an overnight/express mailing address.

2. **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.

3. **Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.

-or-

Denial of Coverage: If the application is too incomplete to process, or the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

General Permit (Your Permit)

If filing the NOI through ePermits online application, coverage under the general permit begins the day the NOI is submitted to TCEQ through epermits. **Sign up now for on line NOI at https://www6.tceq.state.tx.us/steers/**

If mailing a paper NOI, coverage under the general permit begins **seven (7) days after a completed NOI is postmarked for delivery to** the TCEQ. You should have a copy of your general permit when submitting your application.

You may view and print your permit for which you are seeking coverage, on the TCEQ web site http://www.tceq.state.tx.us/permitting/water_quality/stormwater/TXR15_AIR.html.

General Permit Forms

The Notice of Intent (NOI), Notice of Termination (NOT), and Notice of Change (NOC) #20391 with instructions are available in Adobe Acrobat PDF format on the TCEQ web site http://www.tceq.state.tx.us/permitting/water_quality/stormwater/TXR15_AIR.html.

Sign up now for on line Notice of Termination application at https://www6.tceq.state.tx.us/steers/

Change in Operator

An authorization under the general permit is not transferable. If the operator or owner of the regulated entity changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted not later than 10 days prior to the change in Operator status.

TCEQ-20022 Instructions (03/05/2008) Page 1

ATTACHMENT 1

TCEQ Central Registry Core Data Form
The Core Data Form has been incorporated into this form. **Do not send a core data form to TCEQ.**

After final acknowledgment of coverage under the general permit, the program will assign a Customer Number (CN) and Regulated Entity Number (RN). For Construction Permits, a new RN will be assigned for each Notice of Intent filed with TCEQ, since construction project sites can overlap with other Customers. The RN assigned to your construction project will not be assigned to any other TCEQ authorization.

You can find the information on the Central Registry web site at www4.tceq.state.tx.us/crpub. You can search by the Regulated Entity (RN), Customer Number (CN) or Name (Permittee), or by your permit number under the search field labeled "Additional ID". Capitalize all letters in the permit number.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorizations as changes occur. For General Permits, a Notice of Change form must be submitted to the program area.

Application Fees:

$225.00 application fee if submitting the NOI through ePermits.
$325.00 application fee if submitting a paper NOI for processing.

The application fee is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit.

• Mailed Payments:
DO NOT mail your check with the original Notice of Intent application.
Use the attached Application Fee payment submittal form is mailing the payment. Do not include a copy of the NOI.

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

• ePAY Electronic Payment:
Go to www.tceq.state.tx.us/epay
Select Water Quality, then select the fee category "GENERAL PERMIT CONSTRUCTION STORM WATER DISCHARGE NOI APPLICATION".
You must include a copy of the payment voucher with your NOI. Your NOI will not be considered complete without the payment voucher.

The Annual Water Quality Fee has been consolidated into the Application Fee effective March 5, 2008. An annual fee will not be assessed and billed to operators on 9/1/2008. This does not relieve the operator of fees due for prior fiscal year assessments.

The operator will continue to receive an invoice for payment of any past due annual fee. A 5% penalty will be assessed if the payment is received by TCEQ after the due date. Annual fee assessments cannot be waived as long as the authorization under the general permit was active on September 1 of the FY billed.

ATTACHMENT 1

INSTRUCTIONS FOR FILLING OUT THE NOI FORM

A. OPERATOR (As defined in the general permit.)

1. TCEQ Issued Customer Number (CN)
TCEQ's Central Registry will assign each customer a number that begins with "CN," followed by nine digits. **This is not a permit number**, registration number, or license number.
- If this customer has not been assigned a Customer Reference Number, leave the space for the Customer Reference Number blank.
- If this customer has already been assigned this number, enter the operator's Customer Reference Number in the space provided.

2. Legal Name
Provide the legal name of the facility operator, as authorized to do business in Texas. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at 512/463-5555, or go to http://www.sos.state.tx.us/corp/contact.shtml for more information related to filing in Texas. If filed in the county where doing business, provide a copy of the legal documents showing the legal name.

3. Name and Title of person signing the Notice of Intent application form. Signature meets 30 Texas Administrative Code (TAC) §305.44

4. Operator Mailing Address
Provide a complete mailing address for receiving mail from the TCEQ. The address must be verifiable with the US Postal Service at www.usps.com, for regular mail delivery (not overnight express mail). If you find that the address is not verifiable using the USPS web search, please indicate the address is used by the USPS for regular mail delivery.

5. Phone Number
This number should correspond to this customer's mailing address given earlier. Enter the area code and phone number here. Leave "Extension" blank if this customer's phone system lacks this feature.

6. Fax Number and E-mail Address
This number and E-mail address should correspond to operator's mailing address provided earlier. (Optional Information)

7. Type of Entity
Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type:

Individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ.

Sole Proprietorship— D.B.A. is a customer that is owned by only one person and has not been incorporated. This business may:
- be under the person's name
- have its own name ("doing business as," or d.b.a.)
- have any number of employees

Partnership is a customer that is established as a partnership as defined by the Texas Secretary of State's Office.

Corporation the customer meets all of these conditions:
- is a legally incorporated entity under the laws of any state or country
- is recognized as a corporation by the Texas Secretary of State
- has proper operating authority to operate in Texas.

Government- Federal, state, county, or city government (as appropriate)
the customer is either an agency of one of these levels of government or the governmental body itself.

Other is Estate, Trust, etc.
the customer does not fit one of the above descriptions. Enter a short description of the type of customer in the blank provided.

8. Independent Operator
Check "No" if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check "Yes."

9. Number of Employees
Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the NOI.

10. State Franchise Tax ID Number
Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter this number here.

Federal Tax ID
All businesses, except for some small sole proprietors, individuals, or general partnerships should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Sole proprietors, individuals, or general partnerships do not need to provide a federal tax ID.

TX SOS Charter (filing) Number
Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filing number. You may obtain further information by calling SOS at 512/463-5555 http://www.sos.state.tx.us/corp/contact.shtml.

ATTACHMENT 1

DUNS Number Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.
B. Application Contact
Provide the name, title and communication information of the person that TCEQ can contact for additional information regarding this application. **If the application is missing information and there is no contact person to call, the application may be denied.**
C. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE
1. Regulated Entity Reference Number (RN) This is a number issued by TCEQ's Central Registry to sites (a location where a regulated activity occurs) regulated by TCEQ. This is not a permit number, registration number, or license number. • If this Regulated Entity has not been assigned a Regulated Entity Number, leave this space blank. • If this customer has been assigned this number, enter the operator's Regulated Entity Number.
2. Site/Project Name/Regulated Entity If the site is already regulated by TCEQ, use the same name as on the existing Regulated Entity Reference Number (RN). If new, provide the name of the site as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity.
3. Site/Project (RE) Physical Address Section A: Enter the complete physical address of where the site is located. This must be a street number and street name for a complete physical address. This address must be validated through US Postal Service or your local police (911 service) as a valid address. Please confirm this to be a complete and valid address. In some rural areas, new addresses are being assigned to replace rural route addresses. **Please do not use a rural route or post office box for a site location.** Section B: If a site does not have an actual physical address that includes a street number and street name, then provide a complete written location access description, and the zip code and city where the site is located. For example: "The site is located 2 miles west from intersection of Hwy 290 & IH35, located on the southwest corner of the Hwy 290 South bound lane." This includes authorizations for construction projects such as highways and subdivision.
4. Identify the County where the site is located. If the site covers more than one county, provide the county that is most affected by the authorized activity and list the additional county(s) as secondary.
5. Latitude and Longitude Enter the latitude and longitude of the site in either degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to: TCEQ USGS Topographic Map Viewer or TerraServer-USA
6. Description of Activity Regulated In your own words, briefly describe the primary business being conducted at the site. (A description specific to what you are doing that requires this authorization - Do not repeat the SIC Code(s).)
SITE MAILING ADDRESS
Provide a complete mailing address to be used by TCEQ for receiving mail at the site. In most cases, the address is the same as the operator. If so, simply place a check mark in the box. If you provide a different address, please verify the address with USPS as instructed above for the operator address.
D. GENERAL CHARACTERISTICS
1. **Indian Country Lands** If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA, Region VI, Dallas. Do not submit this form to TCEQ. Indian Country means (1) all land within the limits of any American Indian reservation under the jurisdiction of the U.S. government, notwithstanding the issuance of any patent, and including rights-of-way running throughout the reservation; (2) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or outside the limits of a State; and (3) all Indian allotments, the Indian titles which have not been extinguished, including rights-of-way running through the same. Indian Tribe means any Indian Tribe, band, nation, or community recognized by the Secretary of the Interior and exercising substantial governmental duties and powers.
2. **Standard Industrial Classification (SIC) code** Provide the SIC code that best describes the construction activity being conducted at the site. Common SIC Codes related to construction activities include: 1521 Construction of Single Family Homes; 1522 Construction of Residential Bldgs. Other than Single Family Homes; 1541 Construction of Industrial Bldgs. and Warehouses; 1542 Construction of Non-residential Bldgs. other than Industrial Bldgs. and Warehouses; 1611 Highway & Street Construction, except Highway Construction; 1622 Bridge, Tunnel, & Elevated Highway Construction; 1623 Water, Sewer, Pipeline & Communications, and Power Line Construction. For help with SIC codes, go to: www.osha.gov/oshstats/sicser.html

ATTACHMENT 1

3. **Estimated Area of Land Disturbed**
3(a). Provide the approximate number of acres that the construction site will disturb.
3(b). Indicate is the site is part of a common plan of development or for sale.

Construction activities that disturb less than one acre, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage.

Construction activities that disturb between one and five acre, unless they are part of a common plan that disturbs five acres or more acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres.

"Disturb" means any clearing, grading, excavating, or other similar activities. If you have any questions about this item, please call the storm water technical staff at (512)239-4671.

4. **Discharge Information**
4 (a). The storm water may be discharged directly to a receiving stream or through a **MS4*** from your site. It eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. You must provide the name of the water body that receives the discharge from the site (a local stream or lake).

4 (b). The classified segment number(s) is REQUIRED to get coverage. Go to the link to find the segment number of the classified water body where storm water will flow http://www.tceq.state.tx.us/compliance/monitoring/water/quality/data/wqm/viewer/viewer.html . Call Water Quality Assessments at 512/239-4671 for further assistance. Another source for segments is: http://www.tceq.state.tx.us/comm_exec/forms_pubs/pubs/gi/gi-316/index.html

4 (c). If any surface water body(s) receiving discharges from the construction site are on the latest EPA-approved CWA § 303(d) list of impaired waters, provide the name(s) of the water body(s).

EPA approved CWA 303d list of impaired waters can be found at: Texas Water Quality Inventory and 303(d) List - Texas Commission on Environmental Quality - www.tceq.state.tx.us

4 (d). Identify the **MS4*** Operator name if the storm water discharge is into an MS4.

***MS4 is an acronym for Municipal separate storm sewer system. MS4 is defined as** a separate storm sewer system owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law such as a sewer district, flood control or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, that discharges to water in the state.

For assistance, you may call the technical staff of the Water Quality Assessment & Standards Section at 512/239-4671.

4 (e). **Edwards Aquifer Rule**
See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer at http://www.tceq.state.tx.us/compliance/field_ops/eapp/viewer.html.

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin.

The general permit requires the approved Contributing Zone Plan or Water Pollution Abatement Plan to be included as a part of the Storm Water Pollution Prevention Plan. The certification must be answered "Yes" for coverage under the general permit.

E. CERTIFICATIONS

Failure to indicate "Yes" to ALL of the certification items may result in denial of coverage under the general permit.

The certification must bear an original signature of a person meeting the signatory requirements specified under **30 Texas Administrative Code §305.44**

IF YOU ARE A CORPORATION:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or

ATTACHMENT 1

similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the Texas Commission on Environmental Quality's Environmental Law Division at 512/239-0600.

30 Texas Administrative Code
§305.44. Signatories to Applications.

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

ATTACHMENT 2

CONSTRUCTION SITE NOTICE

FOR THE

Texas Commission on Environmental Quality (TCEQ)

Storm Water Program

TPDES GENERAL PERMIT TXR150000

The following information is posted in compliance with **Part II.D.2** of the TCEQ General Permit Number TXR150000 for discharges of storm water runoff from construction sites. Additional information regarding the TCEQ storm water permit program may be found on the internet at:

http://www.tceq.state.tx.us/permitting/water_quality/stormwater/TXR15_AIR.html

Contact Name and Phone Number:	
Project Description: (Physical address or description of the site's location, estimated start date and projected end date, or date that disturbed soils will be stabilized)	
Location of Storm Water Pollution Prevention Plan :	

For Construction Sites Authorized Under Part II.D.2. (Obtaining Authorization to Discharge) the following certification must be completed:

I _____ (Typed or Printed Name Person Completing This Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part II.D.2. of TPDES General Permit TXR150000 and agree to comply with the terms of this permit. A storm water pollution prevention plan has been developed and implemented according to permit requirements. A copy of this signed notice is supplied to the operator of the MS4 if discharges enter an MS4 system. I am aware there are significant penalties for providing false information or for conducting unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Signature and Title Date

ATTACHMENT 3

TPDES OPERATOR'S INFORMATION

Owner's Name and Address:

_____

_____

_____

_____

Telephone: _____

Contractor's Names and Addresses:

General Contractor:

_____

_____

_____

_____

Telephone: _____

Site Superintendent:

_____

_____

_____

_____

Telephone: _____

Erosion Control and Maintenance Inspection:

_____

_____

_____

_____

Telephone: _____

Subcontractor's Names and Addresses:

_____	_____
_____	_____
_____	_____
_____	_____
Phone: _____	Phone: _____

Note: Insert name, address, and telephone number of persons or firms.

ATTACHMENT 4

CONTRACTOR'S / SUBCONTRACTOR'S

CERTIFICATION FOR TPDES PERMITTING

I certify under penalty of law that I understand the terms and conditions of TPDES General Permit No. TXR150000 and the Storm Water Pollution Prevention Plan for the construction site identified as part of this certification.

Signature: _____

Name: (printed or typed) _____

Title: _____

Company: _____

Address: _____

Date: _____

Signature: _____

Name: (printed or typed) _____

Title: _____

Company: _____

Address: _____

Date: _____

Signature: _____

Name: (printed or typed) _____

Title: _____

Company: _____

Address: _____

Date: _____

ATTACHMENT 5

EPA NPDES Construction Inspection Form

The following inspection is being performed in compliance with Part IV.D.4. of the NPDES Region 6 Storm Water Construction General Permit [63 Fed. Reg. 36502] and being retained in accordance with Part V of the Permit. Qualified personnel (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, placement and effectiveness of structural control measures, and locations where vehicles enter or exit the site. Inspections shall be performed at least once every 14 days and within 24 hours of the end of a storm event of 0.5 inches or greater. Where sites have been temporarily stabilized, runoff is unlikely due to winter conditions, or during seasonal arid periods in arid areas (0-10 inches of rainfall annually) and semi-arid areas (10-20 inches annually) such inspections shall be conducted at least once every month. This form is primarily intended for use with construction projects in Texas and New Mexico. Permittees on Indian Country lands in Oklahoma, Louisiana and Arkansas and some oil and gas facilities in Oklahoma may use this form if they are eligible for this permit. Other facilities need to check with their NPDES authority before using this form.

If you do not know your NPDES Permit Number, contact the NOI Processing Center at (301)495-4145. This form was prepared as an example and it is not a required form for use with the permit. Alternative forms may be used if they contain all of the required information as set forth in the permit. This form and additional information regarding the NPDES Region 6 storm water program may be found on the Internet at http://www.epa.gov/region6/sw/. Any person with a complaint about the operation of this facility in regards to this permit should contact EPA Region 6 at (214)665-7112.

Permit Number(s) covered by this inspection (e.g. owners, developers, general contractor, builders)	
Signature and Certification in accordance with Part VI.G of the permit:	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Signature_____Date_____
Date of Inspection	
Inspector Name	
Is there a copy of the permit language with the SWPPP?	• YES • NO
Is the inspector qualified and are the qualifications documented in the SWPPP?	• YES • NO
Is an NPDES storm water construction sign posted at the entrance for all permittees?	• YES • NO

You may want to use EPA Region 6 construction checklist to assure components of the SWPPP are complete. This form, the construction sign, and the checklist are available on the Region 6 NPDES Storm Water Forms and Documents web page which may be found on the internet at http://www.epa.gov/earth1r6/6en/w/formsw.htm In addition to the checklist, you should provide a narrative (see next page) on the existing Best Management Practices and Structural Controls found during each inspection. Any problems identified in an inspection should be corrected within 7 days. The inspection should cover all components of the SWPPP and all potential pollutants. While eroded soil is the primary pollutant of concern, do not forget to inspect for other pollutant sources such as fuel tanks, paints, solvents, stabilization materials, concrete hardner, batch plants, and construction debris. The inspector will need to update the SWPPP to reflect findings of the inspection. The site map should be updated after an inspection to show controls that have been added or removed, to ensure the site map is kept current in accordance with Part IV.C. of the permit.

Revision 4, March 1, 2000

ATTACHMENT 5

Narrative Findings of the inspection:

Observations should include any findings of Best Management Practices or controls that are not in accordance with the SWPPP. If a control is not in place or failed, observe the reason why. A control removed temporarily for work is not necessarily a violation if properly recorded in the SWPPP. If it has been removed, record why it was removed and, if applicable, when it will be reinstalled. If the control has failed, observe the conditions so a conclusion may be made as to wether the control failed for improper maintenance or improper design. The qualified inspector will know when a failed control is inadequate and should be replaced by an improved control mechanism. Qualified inspectors are to have authority to make changes to the SWPPP to assure compliance. Controls that have not been installed should be given a reason why they are not installed and/or a scheduled date for installation if they are designed for a later phase of construction. After the inspection, the SWPPP and its site map should be updated to reflect current conditions of controls and Best Management Practices at the time of the inspection. This includes removing uninstalled controls from the site map or otherwise denoting on the site map if they are no longer installed if the controls have been removed because they are no longer necessary (e.g. stabilization has been achieved in that area).

Revision 4, March 1, 2000

ATTACHMENT 6

**Notice of Termination (NOT)
for Authorizations under
TPDES General Permit TXR150000**

TCEQ Office Use Only
Permit No.:
RN:
CN:

Reset Form

Sign up now for on line NOT at http://www.tceq.state.tx.us/permitting/steers/steers.html
Get your NOT Confirmation letter immediately after submitting the on line NOT form.

What is the permit number to be terminated?
Processing will be delayed without the permit number. TXR15_____

A. OPERATOR (applicant)

1. What is the Customer Number (CN) issued to this entity? **CN_____**
2. What is the full Legal Name of the current permittee?

This must be the current permittee of the permit to be terminated.

3. What is the applicant's mailing address as recognized by the **US Postal Service**?

Address:	Suite No./Bldg. No./Mail Code:	
City: Houston	State:	ZIP Code:
Country Mailing Information (if outside USA).	Country Code:	Postal Code:

4. Phone No.: ( )	Extension:
5. Fax No.: ( )	E-mail Address:

B. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

1. What is the TCEQ Issued RE Reference Number (RN)? **RN_____**
2. Name of Project or Site as currently permitted):

(example: phase and name of subdivision or name of project that's unique to the site)

3. Physical Address of Project or Site as currently permitted: (enter in spaces below)

Street Number:	Street Name:	
City:	ZIP Code:	County (Counties if >1):

4. If no physical address (Street Number & Street Name), provide the written location access description to the site:

C. REASON FOR TERMINATION

Check the reason for termination:

- ☐ Final stabilization has been achieved on all portions of the site that are the responsibility of the Operator and all silt fences and other temporary erosion controls have either been removed, or scheduled for removal as defined in the SWP3.
- ☐ Another permitted Operator has assumed control over all areas of the site that have not been finally stabilized, and temporary erosion controls that have been defined in the SWP3 have been transferred to the new Operator.
- ☐ The activity is now authorized under an alternate TPDES permit.
- ☐ The activity never began at this site that is regulated under the general permit.

D. CERTIFICATION

I, _____ _____
Typed or printed name Title

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under **30 Texas Administrative Code §305.44** to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature:_____ Date:_____
(Use blue ink)

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ATTACHMENT 6

Notice of Termination (NOT) for Authorizations under TPDES General Permit TXR150000 General Information and Instructions

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI):

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Storm Water Processing Center (MC228)
P.O. Box 13087
Austin, TX 78711-3087

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Storm Water Processing Center (MC228)
12100 Park 35 Circle
Austin, TX 78753

TCEQ Contact list:

Application Processing Questions relating to the status and form requirements:	512/239-4671
Technical Questions relating to the general permit:	512/239-4671
Environmental Law Division:	512/239-0600
Records Management for obtaining copies of forms submitted to TCEQ:	512/239-0900
Information Services for obtaining reports from program data bases (as available):	512/239-DATA (3282)
Financial Administration's Cashier's office:	512/239-0357 or 512/239-0187

Notice of Termination Process:

A Notice of Termination is **effective on the date postmarked for delivery to TCEQ**.
When your NOT is received by the program, the form will be processed as follows:

1. **Administrative Review:** The form will be reviewed to confirm the following:
   - the permit number is provided
   - the permit is active and has been approved
   - the entity terminating the permit is the current permittee
   - the site information matches the original permit record
   - the form has the required original signature with title and date

2. **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a phone call will be made to the applicant to clear the deficiency. A letter will not be sent to the permittee if unable to process the form.

3. **Confirmation of Termination:** A Notice of Termination Confirmation letter will be mailed to the operator.

General Permit (Your Permit)
Coverage under the general permit begins **48 hours after a completed NOI is postmarked for delivery to** the TCEQ. You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site www.tceq.state.tx.us

General Permit Forms
The Notice of Intent (NOI), Notice of Termination (NOT), and Notice of Change (NOC) with instructions are available in Adobe Acrobat PDF format on the TCEQ web site www.tceq.state.tx.us.

Change in Operator
An authorization under the general permit is not transferable. If the operator or owner of the regulated entity changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted not later than 10 days prior to the change in Operator status.

TCEQ Central Registry Core Data Form
The Core Data Form has been incorporated into this form. **Do not send a core data form to TCEQ.**

After final acknowledgment of coverage under the general permit, the program will assign a Customer Number (CN) and Regulated Entity Number (RN). For Construction Permits, a new RN will be assigned for each Notice of Intent filed with TCEQ, since construction project sites can overlap with other Customers. The RN assigned to your construction project will not be assigned to any other TCEQ authorization.

You can find the information on the Central Registry web site at https://www6.tceq.state.tx.us/epay/. You can search by the Regulated Entity (RN), Customer Number (CN) or Name (Permittee), or by your permit number under the search field labeled "Additional ID" Capitalize all letters in the permit number.

ATTACHMENT 6

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorzations as changes occur. For General Permits, a Notice of Change form must be submitted to the program area.

Annual Water Quality Fee: This fee is assessed to operators with an active authorization under the general permit on September 1 of each year. The operator will receive an invoice for payment of the annual fee in November of each year. The payment will be due 30 days from the invoice date. A 5% penalty will be assessed if the payment is received by TCEQ after the due date. Annual fee assessments cannot be waived as long as the authorization under the general permit is active on September 1.

It's important for the operator to submit a **Notice of Termination** (NOT) when coverage under the general permit is no longer required. A NOT is effective on the postmarked date of mailing the form to TCEQ. It is recommended that the NOT be mailed using a method that documents the date mailed and received by TCEQ.

• Mailed Payments:
You must return your payment with the billing coupon provided with the billing statement.

• ePAY Electronic Payment:
Go to https://www6.tceq.state.tx.us/epay/
You must enter your account number provided at the top portion of your billing statement. Payment methods include Mastercard, Visa, and electronic check payment (ACH). A transaction over $500 can only be made by ACH.

INSTRUCTIONS FOR FILLING OUT THE NOT FORM

A. OPERATOR (current permittee.)

1. TCEQ Issued Customer Number (CN)

2. Legal Name of Operator
The operator must be the same entity as previously submitted on the original Notice of Intent for the permit number provided.

3. Operator Mailing Address
Provide a complete mailing address for receiving mail from the TCEQ. Update the address if different than previously submitted in the Notice of Intent or Notice of Change.

4. Phone Number, Fax Number, and E-mail Address
Provide updated contact information.

B. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

1. Regulated Entity Reference Number (RN)

2. Site/Project Name/Regulated Entity
Provide the name of the site as previously submitted in the Notice of Intent for the permit number provided.

3. Site/Project (RE) Physical Address
Provide the physical address or location access description as previously submitted for the permit number provided.

C. REASON FOR TERMINATION

Indicate the reason for terminating the permit by checking one of the options. If the reason is not listed then provide an attachment that explains the reason for termination.

Please read your general permit carefully to determine when to terminate your permit. Permits will not be reactivated after submitting a termination form. The termination is effective on the date postmarked for delivery to TCEQ.

D. CERTIFICATIONS

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

IF YOU ARE A CORPORATION:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

IF YOU ARE A MUNICIPALITY OR OTHER GOVERNMENT ENTITY:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to

END OF SECTION

SECTION 01 57 13.02

STABILIZED CONSTRUCTION ACCESS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Stabilized construction roads, parking areas, exits and truck washing area requirements.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. Measure and pay for stabilized construction roads, traffic control, parking areas, exits and truck washing area by lump sum complete in place. No separate payment shall be made for Street Cleaning as Required by Section 01 57 13.01 – TPDES Requirements. Include cost of Work for Street Cleaning under Section in pay items for which Work is a component.

1.3 SUBMITTALS

A. Conform to requirements of Specification Section 01 33 00 – Submittals.

B. Submit manufacturer's catalog sheets and other product data on geotextile fabric.

C. Submit sieve analysis of aggregates conforming to requirements of this Specification.

1.4 REFERENCES

A. ASTM D4632 – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.

PART 2 - PRODUCTS

2.1 GEOTEXTILE FABRIC

A. Provide woven or non-woven geotextile fabric made of polypropylene, polyethylene, ethylene, or polyamide material.

B. Geotextile fabric shall have minimum grab strength of 270 psi in any principal direction (ASTM D4632) and equivalent opening size between 50 and 140.

C. Geotextile and threads shall be resistant to chemical attack, mildew, and rot and shall contain ultraviolet ray inhibitors and stabilizers to provide minimum of 6 months of expected usable life at temperature range of 0°F to 120°F.

D. Representative Manufacturers: Mirafi, Inc. or equal.

2.2 COARSE AGGREGATES

A. Coarse aggregate shall consist of crushed stone, gravel, crushed blast furnace slag, or combination of these materials. Aggregate shall be composed of clean, hard, durable materials free from adherent coatings, salt, alkali, dirt, clay, loam, shale, soft or flaky materials, or organic and injurious matter.

B. Coarse aggregates shall be 3 inch to 5 inch granular material.

PART 3 - EXECUTION

3.1 PREPARATION AND INSTALLATION

A. If necessary to keep street clean of mud carried by construction vehicles and equipment, provide stabilized construction roads and exits at construction, staging, parking, storage, and disposal areas. Construct erosion and sediment controls in accordance with requirements specified in this Section.

B. Maintain existing erosion and sediment control systems located within Project site until acceptance of Project or until directed by Owner's Representative to remove and discard existing system.

C. Regularly inspect, repair, or replace components of stabilized construction exits. Unless otherwise directed, maintain stabilized construction roads and exits until project is accepted by the Owner. Remove stabilized construction roads and exits promptly when directed by Owner's Representative. Discard removed materials off site.

D. Remove and dispose of sediment deposits at designated spoil site for Project. If project spoil site is not designated on Drawings, dispose of sediment off site at location not in or adjacent to stream or flood plain. Assume responsibility for off site disposal. Spread sediment evenly throughout site, compacted and stabilized. Do not allow sediment to flush into stream or drainage way. If sediment has been contaminated, dispose in accordance with existing federal, state, and local rules and regulations.

E. Prohibit equipment and vehicles from maneuvering on areas outside of dedicated rights-of-way and easements for construction. Immediately repair damage caused by construction traffic to erosion and sediment control systems.

F. Conduct construction operation under this Contract in conformance with erosion control practices described in this and other Specifications.

3.2 CONSTRUCTION METHODS

A. Provide stabilized access roads, subdivision roads, parking areas, and other on-site vehicle transportation routes where shown on Drawings.

B. Provide stabilized construction exits and truck washing areas when approved by Owner's Representative, of sizes and locations where shown on Drawings or as specified in this Section.

C. Vehicles leaving construction areas shall have their tires cleaned to remove sediment prior to entrance onto public right-of-way. When washing is needed to remove sediment, construct truck washing area. Truck washing shall be done on stabilized areas which drain into drainage system protected by erosion and sediment control measures.

D. Details for stabilized construction exit are shown on Drawings. Construct other stabilized areas to same requirements. Furnish and place geotextile fabric as permeable separator to prevent mixing of coarse aggregate with underlaying soil. Maximum exposure of geotextile fabric to elements between laydown and cover of 14 days to minimize damage potential.

E. Grade roads and parking areas to provide sufficient drainage away from stabilized areas. Use sandbags, gravel, boards, or similar methods to prevent sediment from entering public right-of-way, receiving stream or storm water conveyance system.

F. Inspect and maintain stabilized areas daily. Provide periodic top dressing with additional coarse aggregates to maintain required depth. Repair and clean out damaged control measures used to trap sediment. Immediately remove sediment spilled, dropped, washed, or tracked onto public right-of-way.

G. Maintain length of stabilized area as shown on Drawings, but not less than 30 feet. Maintain thickness of at least 8 inches. Maintain width of at least 12 feet.

H. Stabilization for other areas shall have same coarse aggregate, thickness, and width requirements as stabilized construction exit, except where shown otherwise on Drawings.

I. Stabilized area may be widened or lengthened to accommodate truck washing area when authorized by Owner's Representative.

J. Alternative methods of construction may be utilized when shown on Drawings, or when approved by Owner's Representative. These methods include following:

   1. Cement-Stabilized Soil - Compacted cement-stabilized soil or other fill material in application thickness of at least 8 inches.

   2. Wood Mats/Mud Mats - Oak or other hardwood timbers placed edge-to-edge and across support wooden beams which are placed on top of existing soil in application thickness of at least 6 inches.

   3. Steel Mats - Perforated mats placed across perpendicular support members.

K. Provide street cleaning, such as sweeping or vacuuming, at locations around project site where construction traffic has caused tracking of sediments onto roadways. Do not wash or flush sediments into adjacent drainage systems.

L. Mechanical sweepers shall be vacuum-type or regenerative sweepers. Sweeping speed not to exceed 6 mph. Make two passes.

M. Clean street daily before end of workday. When excess sediments have tracked onto streets, Owner's Representative may direct contractor to clean street as often as necessary. Remove and dispose of sediments properly.

N. Use other erosion and sediment control measures to prevent sediment runoff during period of rains and non-working hours and when storm discharges are expected.

END OF SECTION

SECTION 01 57 23

TEMPORARY STORM WATER POLLUTION AND EROSION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Construction and maintenance of temporary storm water protection and erosion control devices.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.
2. Section 31 10 00 – Clearing and Grubbing.
3. Section 31 23 00 – Earthwork.

1.2 MEASUREMENT AND PAYMENT

A. Payment for filter fabric fabric fence is per linear foot where filter fabric fence is placed on the west side of the levee as shown on the Drawings.and includes complete in place per this specification section.

B. No separate measurement and payment for filter fabric fence associated with culvert removal on the east side of the levee, cost shall be included in culvert removal pay item.

C. No separate payment will be made for temporary storm water pollution and erosion control other than items listed in 1.2-A. Include the cost in associated items for the project.

1.3 QUALITY ASSURANCE

A. Reference Standards:

1. ASTM International (ASTM):
   a. A36 – Standard Specification for Carbon Structural Steel.
   b. D698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
   c. D3786 – Standard Test Method for Hydraulic Bursting Strength for Knitted Goods and Nonwoven Fabrics.
   d. D4355 – Standard Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus).
   e. D4491 – Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
   f. D4632 – Standard Test Method for Grab Breaking Load and Elongation of

Geotextiles.

g. D4833 – Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.

h. D6382 – Standard Practice for Dynamic Mechanical Analysis and Thermogravimetry of Roofing and Waterproofing Membrane Material.

1.4 DEFINITIONS

A. Filter Fabric Fence and Reinforced Filter Fabric Fence: Installed to allow surface or channel runoff percolation through fabric in sheet-flow manner and to retain and accumulate sediment.

B. Straw Bale Fence: Installed to allow surface runoff percolation through straw in sheet-flow manner and to retain and accumulate sediment.

C. Interceptor Dikes and Swales: Constructed to direct surface or channel runoff around the project area or runoff from project area into sediment traps.

D. Drop Inlet Baskets: Installed to allow runoff percolation through the basket and to retain and accumulate sediment.

E. Sediment Traps: Constructed to pool surface runoff from construction area to allow sediment to settle onto the bottom of trap.

1.5 SUBMITTALS

A. Conform to requirements of Specification Section 01 33 00 – Submittals.

B. Submit manufacturer's literature for product specifications and installation instructions.

C. Submit manufacturers catalog sheets and other product data on geotextile or filter fabrics, outlet pipe, perforated riser, and connectors.

D. Submit proposed methods, equipment, materials, and sequence of operations for storm water pollution prevention structures.

E. Submit shop drawings for Drop Inlet Baskets.

1.6 WARRANTY (NOT USED)

PART 2 - PRODUCTS

2.1 CONCRETE (NOT USED)

2.2 AGGREGATE MATERIALS

A. Stone: Use open graded aggregates with minimum diameter of 3 inches, and maximum 5 inches in diameter and less than ½ cubic foot in volume unless otherwise specified. Use clean, hard crushed concrete or stone free from adherent coatings, salt, alkali, dirt, clay, loam, shale, soft or flaky materials, or organic and injurious matter.

B. Provide gravel lining as shown on the Drawings.

C. Provide clean cobbles and gravel consisting of crushed concrete or stone. Use clean, hard crushed concrete or stone free from adherent coatings, salt, alkali, dirt, clay, loam, shale, soft or flaky materials, or organic matter.

D. Sediment Pump Pit Aggregate: Use nominal 2-inch diameter river gravel.

2.3 PIPE

A. Polyethylene culvert pipe or PVC sewer pipe.

B. Inlet Pipes: Galvanized steel pipe.

C. Standpipe for Sediment Pump Pits: Galvanized round culvert pipe or round PVC pipe, minimum of 12-inch and a maximum of 24-inch diameter, perforate at 6 to 12 inch centers around circumference.

2.4 GEOTEXTILE FILTER FABRIC

A. Woven or nonwoven geotextile filter fabric made of either polypropylene, polyethylene, ethylene, or polyamide material, in continuous rolls of longest practical length.

B. Grab Strength: 100 psi in any principal direction (ASTM D4632), Mullen burst strength greater than 200 psi (ASTM D3786), and equivalent opening size between 50 and 140 for soils with more than 15 percent by weight passing No. 200 sieve and between 20 and 50 for soils with less than 15 percent by weight passing No. 200 sieve; and maximum water flow rate of 40 gallons per minute per square foot (ASTM D4491).

C. Filter fabric material shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0°F to 120°F. Ultraviolet stability exceed shall exceed 70% after 500 hours of exposure (ASTM D4355).

D. Acceptable Manufacturers: Mirafi, Inc., Synthetic Industries, or approved equal.

2.5 FENCING

A. Wire Fencing: Woven galvanized steel wire, 12½ gauge by 2 inch by 4 inch mesh spacing, minimum 24-inch roll or sheet width of longest practical length.

B. Fence Stakes: Nominal 2 by 2 inch moisture-resistant treated wood or steel posts (min. of 1.25 lbs. per linear foot and Brinell Hardness greater than 140) with safety caps on top; length as required for minimum 8 inch bury and full height of filter fabric.

2.6 SANDBAGS

A. Provide woven material made of polypropylene, polyethylene, or polyamide material.

B. Minimum unit weight of 4 ounces per square yard.

C. Minimum grab strength of 100 psi in any principal direction (ASTM D4632)

D. Mullen burst strength exceeding 300 psi (ASTM D3786).

E. Ultraviolet stability exceeding 70 percent (ASTM D4355).

F. Size: Length: 18 to 24 inches. Width: 12 to 18 inches. Thickness: 6 to 8 inches. Weight: 50 to 125 pounds.

2.7 DROP INLET BASKET

A. Provide steel frame members in accordance with ASTM A36.

B. Construct top frame of basket with two short sides of 2-inch by 2-inch and single long side of 1-inch by 1-inch, 1/8 inch angle iron. Construct basket hangers of 2 inch by 1/4 inch iron bars. Construct bottom frame of 1-inch by 1/4 inch iron bar or 1/4 inch plate with center 3 inches removed. Use minimum 1/4 inch diameter iron rods or equivalent for sides of inlet basket. Weld minimum of 14 rods in place between top frame/basket hanger and bottom frame. Exact dimensions for top frame and insert basket will be determined based on dimensions of type of inlet being protected.

2.8 STRAW BALE

A. Straw: Standard-baled agricultural hay bound by wire, nylon, or polypropylene rope. Do not use jute or cotton binding.

B. Straw Bale Stakes (applicable where bales are on soil): No. 3 (3/8 diameter) reinforcing bars, deformed or smooth at Contractor's option, length as required for minimum 18-inch bury and full height bales.

PART 3 - EXECUTION

3.1 PREPARATION, INSTALLATION AND MAINTENANCE

A. Provide erosion and sedimentation control systems at the locations shown on Drawings. Construct in accordance with the requirements shown on the Drawings and as specified in this Section.

B. Control fill, grading and ditching to direct water away from excavations, pits, tunnels, and other construction areas, and to direct drainage to proper runoff courses to prevent erosion, sedimentation or damage.

C. Do not clear, grub or rough cut until erosion and sediment control systems are in place unless approved by Owner’s Representative to allow installation of erosion and sediment control systems, soil testing, and surveying.

D. Maintain erosion and sediment control systems located within project site until acceptance of project or until directed by Owner’s Representative to remove and discard existing system.

E. Regularly inspect and repair or replace damaged components of erosion and

sediment control structures. Unless otherwise directed, maintain erosion and sediment control structure until project area stabilization is accepted. Redress and replace granular fill at outlets as needed to replenish depleted granular fill. Remove erosion and sediment control structures promptly when directed by Owner's Representative. Dispose of materials in accordance with Specification Section 01 74 19 – Construction Waste Management and Disposal.

F. Remove and dispose sediment deposits at the designated spoil site for the Project. If a project spoil site is not designated on Drawings, dispose of sediment off site at approved location in accordance with Specification Section 01 74 19 – Construction Waste Management and Disposal. Off-site disposal shall be the responsibility of the Contractor. Sediment to be placed at the project site should be spread, compacted and stabilized in accordance with the Owner's Representative directions. Sediment shall not be allowed to flush into streams or drainage ways. If sediment has been contaminated, it needs to be disposed of in accordance with existing federal, state and local regulations.

G. Unless otherwise shown on the Drawings, compact embankments, excavations, and trenches in accordance with the Drawings.

H. Conduct all construction operations under this Contract in conformance with erosion control practices described in Specification Section 01 35 05 – Environmental Protection and Special Controls.

I. Prohibit equipment and vehicles from maneuvering on areas outside of dedicated right of way and easements for construction. Immediately repair damage caused by construction traffic to erosion and sediment control structures.

J. Protect existing trees and plants.

K. Conduct all construction operations under this Contract in conformance with the erosion control practices required by State and local law.

3.2 CONSTRUCTION METHODS

A. Reinforced Filter Fabric Fence:

1. Attach the filter fabric to 2-inch by 2-inch wooden stakes or equivalent steel posts spaced a maximum of 6 feet apart and embedded a minimum of 1 foot. If filter fabric is factory pre-assembled with support netting, then maximum spacing allowable is 8 feet. The wooden stakes shall be installed at a slight angle toward the source of anticipated runoff.

2. Trench in the toe of the filter fabric fence with a spade or mechanical trencher so that the downward face of the trench is flat and perpendicular to the direction of flow or for V-trench configuration as shown on Drawings. Lay filter fabric along the edges of the trench. Backfill and compact trench.

3. Use galvanized 2-inch by 4-inch welded fabric for woven wire securely fasten filter fabric material to woven wire fence with tie wires.

4. Securely fasten filter fabric to stakes using staples or wire ties at 3 inches on

center maximum. Filter fabric fence shall have a minimum height of 18 inches and a maximum height of 36 inches above natural ground.

5. The filter fabric should be provided in continuous rolls and cut to the length of the required to minimize the use of joints. When joints are necessary, the fabric should be spliced together only at a support post with a minimum 6-inch overlap, and sealed securely.
6. Inspect sediment filter barrier systems after each rainfall, daily during periods of prolonged rainfall, and at a minimum once a week. Repair or replace damaged section immediately to restore the requirements of this Item. Remove sediment deposits when silt reaches a depth one-third of the height of the fence or 6-inches, whichever is less.
7. When used in swales, ditches or diversions, elevation of barrier at top of filter fabric at flow line location in channel shall be lower than bottom elevation of filter fabric at ends of barrier or top of bank, whichever is less, in order to keep storm water discharge in channel from overtopping bank.

B. Triangular Filter Fabric Fence:

1. Attach filter fabric to wire fencing, minimum 18 inches on each side. Provide a fabric cover and skirt with continuous wrapping of fabric. Skirt should form continuous extension of fabric on upstream side of fence.
2. Secure triangular fabric filter fence in place using one of the following methods:
   a. Toe-in skirt 6-inches with mechanically compacted material;
   b. Weight down skirt with continuous layer of 3-inch to 5-inch graded rock; or
   c. Trench-in entire structure 4-inches.
3. Anchor triangular fabric filter fence structure and skirt securely in place using 6-inch wire staples on 2-foot centers on both edges and on skirt, or staked using 18-inch by 3/8-inch diameter re-bar with tee ends.
4. Lap fabric filter material by 6-inches to cover segment joints. Fasten joints with galvanized shoat rings.

C. Sediment Traps:

1. Use fill material for embankment free of roots, woody vegetation, oversized stones or rocks, or organic or other objectionable matter. Clear, grub, and strip area under embankment of vegetation and root material.
2. Limit of excavation and outlet length and height shall be as specified on Drawings. Use side slopes of 2H:1V or flatter.
3. Maintain minimum of 6-inches between top of core material and top of stone outlet, minimum of 4-inches between bottom of core material and existing ground and minimum of 1-foot between top of stone outlet and top of embankment.

4. Embed rock minimum of 4-inches into existing ground for stone outlet.
5. For stone outlet, core shall be minimum of 1-foot in height and 1-foot in width and wrapped in triple layer of geotextile fabric.
6. Install stone outlet or outlet pipe and riser as shown on Drawings.
7. Repair or replace damaged trap components. Redress and replace stone as needed to replenish depleted stone. Remove sediment deposit and restore traps to original dimensions when sediment has accumulated to one-half design depth of the trap or 1-foot, whichever is less.

D. Dikes and Swales:

1. Unless otherwise indicated, maintain minimum dike height of 18-inches, measured from cleared ground at up slope toe to top of dike. Maintain side slopes of 2:1 or flatter.
2. Dike and Swale Stabilization: When shown on the Drawings, place gravel lining 3 inches thick and compacted into the soil or 6 inches thick if truck crossing is expected. Extend gravel lining across bottom and up both sides of swale minimum height of 8 inches vertically, above bottom. Gravel lining on dike side shall extend up the up slope side of dike a minimum height of 8 inches, measured vertically from interface of existing or graded ground and up slope toe of dike, as shown on Drawings.
3. Divert flow from dikes and swales to sediment basins, stabilized outlets, or sediment trapping devices of types and at locations shown on Drawings. Grade dikes and swales as shown on Drawings, or, if not specified, provide positive drainage with maximum grade of 1 percent to outlet or basin.
4. Clear in accordance with Specification Section 31 10 00 – Clearing and Grubbing. Compact embankments in accordance with Specification Section 31 23 00 – Earthwork.
5. Carry out excavation for swale construction so that erosion and water pollution is minimal. Minimum depth shall be 1 foot and bottom width shall be 4 feet, with level swale bottom. Excavation slopes shall be 2H:1V or flatter. Clear, grub and strip excavation area of vegetation and root material.

E. Downspout Extenders:

1. Downspout extender shall have slope of approximately 1 percent. Use pipe diameter of 4 inches or as shown on the Drawings. Place pipe in accordance with Specification Section 31 21 33 – Trenching, Backfilling, and Compacting for Utilities.

F. Pipe Slope Drains:

1. Compact soil around and under drain entrance section to top of embankment in lifts appropriately sized for method of compaction utilized.
2. Inlet pipe shall have slope of 1 percent or greater. Use pipe diameter as shown on the Drawings.

3. Top of embankment over inlet pipe and embankments directing water to pipe shall be at least 1 foot higher at all points than top of inlet pipe.
4. Pipe shall be secured with hold-down grommets spaced 10 feet on center.
5. Place riprap apron with a depth equal to pipe diameter with 2H:1V side slopes.

G. Paved Flumes:

1. Compact soil around and under the entrance section to top of the embankment in lifts appropriately sized for method of compaction utilized.
2. Construct subgrade to required elevations. Remove and replace soft sections and unsuitable material. Compact subgrade thoroughly and shape to a smooth, uniform surface.
3. Construct permanent paved flumes in accordance with Drawings.
4. Remove sediment from riprap apron when sediment has accumulated to depth of one foot.

H. Level Spreaders:

1. Construct level spreader on undisturbed soil and not on fill. Ensure that spreader lip is level for uniform spreading of storm runoff.
2. Maintain at required depth, grade, and cross section as specified on Drawings. Remove sediment deposits as well as projections or other irregularities that will impede normal flow.

I. Inlet Protection Barriers:

1. Place sandbags and filter fabric fences at locations shown on Drawings.
2. Maintain to allow minimal inlet inflow restrictions/blockages during storm events.

J. Drop Inlet Baskets:

1. Fit inlet insert basket into inlet without gaps around insert at locations shown on Drawings.
2. Support for inlet insert basket shall consist of fabricated metal as shown on Drawings.
3. Construct top frame of basket with two short sides of 2-inch by 2-inch and single long side of 1-inch by 1-inch, 1/8-inch angle iron. Construct basket hangers of 2-inch by 1/4-inch iron bars. Construct bottom frame of 1-inch by 1/4-inch iron bar or 1/4-inch plate with center 3-inches removed. Use minimum 1/4-inch diameter iron rods or equivalent for sides of inlet basket. Weld minimum of 14 rods in place between top frame/basket hanger and bottom frame. Exact dimensions for top frame and insert basket will be determined based on dimensions of type of inlet being protected.
4. Push down and form filter fabric to shape of basket. Use sheet of fabric

large enough to be supported by basket frame when holding sediment and extend at least 6-inches past frame. Place inlet grates over basket/frame to serve as fabric anchor.

5. Remove sediment deposit after each storm event and whenever accumulation exceeds 1-inch depth during weekly inspections.

K. Straw Bale Fences:

1. Place bales in row with ends tightly abutting adjacent bales. Place bales with bindings parallel to ground surface.
2. Embed bale in soil a minimum of 4-inches.
3. Securely anchor bales in place with Straw Bale Stakes driven through bales a minimum of 18-inches into ground. Angle first stake in each bale toward previously laid bale to force bales together.
4. Fill gaps between bales with straw to prevent water from channeling between bales. Wedge carefully in order not to separate bales.
5. Replace with new straw bale fence every two months or as required by Owner's Representative.

L. Brush Berms:

1. Construct brush berm along contour lines by hand placing method. Do not use machine placement of brush berm.
2. Use woody brush and branches having diameter less than 2-inches with 6-inches overlap. Avoid incorporation of annual weeds and soil into brush berm.
3. Use minimum height of 18-inches measured from top of existing ground at upslope toe to top of berm. Top width shall be 24-inches minimum and side slopes shall be 2H:1V or flatter.
4. Embed brush berm into soil a minimum of 4-inches and anchor using wire, nylon or polypropylene rope across berm with a minimum tension of 50 pounds. Tie rope securely to 18-inch x 3/8-inch diameter rebar stakes driven into ground on 4-foot centers on both sides of berm.

3.3 STREET AND SIDEWALK CLEANING

A. Keep areas clean of construction debris and mud carried by construction vehicles and equipment. If necessary, install stabilized construction exits at construction, staging, storage, and disposal areas, following Specification Section 01 57 13.02 – Stabilized Construction Access.

B. In lieu of or in addition to stabilized construction exits, shovel or sweep pavements as required to keep areas clean. Do not hose or sweep debris and mud off street into adjacent areas, except, hose sidewalks during off-peak hours, after sweeping.

3.4 WASTE COLLECTION AREAS

A. Prevent water runoff from passing through waste collection areas, and prevent water runoff from waste collection areas migrating outside collection areas.

3.5 EQUIPMENT MAINTENANCE AND REPAIR

A. Confine maintenance and repair of construction machinery and equipment to areas specifically designated for that purpose, so fuels, lubricants, solvents, and other potential pollutants are not washed directly into receiving streams or storm water conveyance systems. Provide these areas with adequate waste disposal receptacles for liquid and solid waste. Clean and inspect maintenance areas daily.

B. Where designated equipment maintenance areas are not feasible, take precautions during each individual repair or maintenance operation to prevent potential pollutants from washing into streams or conveyance systems. Provide temporary waste disposal receptacles.

3.6 VEHICLE/ EQUIPMENT WASHING AREAS

A. Install wash area (stabilized with coarse aggregate) adjacent to stabilized construction exit(s), as required to prevent mud and dirt run-off. Release wash water into drainage swales or inlets protected by erosion and sediment controls. Build wash areas following Specification Section 01 57 13.02 – Stabilized Construction Access. Install gravel or rock base beneath wash areas.

B. Wash vehicles only at designated wash areas. Do not wash vehicles such as concrete delivery trucks or dump trucks and other construction equipment at locations where runoff flows directly into watercourses or storm water conveyance systems.

C. Locate wash areas to spread out and evaporate or infiltrate wash water directly into ground, or collect runoff in temporary holding or seepage basins.

3.7 REMOVAL OF CONTROLS

A. Remove erosion and sediment controls when the site is finally stabilized, as directed by Owner's Representative.

B. Dispose of sediments and waste products following Specification Section 01 35 05 – Environmental Protection and Special Controls.

3.8 OWNER TRAINING (NOT USED)

END OF SECTION

SECTION 01 65 50

PRODUCT DELIVERY, STORAGE, AND HANDLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for product delivery, storage and handling.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 - General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No payment will be made to Contractor for equipment or materials not properly stored and insured or without approved Shop Drawings.

1. Previous payments for items will be deducted from subsequent progress estimate(s) if proper storage procedures are not observed.

B. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 SUBMITTALS

A. Provide submittals for materials in accordance with Specification Section 01 33 00 - Submittals.

1.4 TRANSPORTATION

A. Make arrangements for transportation, delivery, and handling of equipment and materials required for timely completion of Work.

B. Transport and handle products in accordance with instructions.

C. Consign and address shipping documents to proper party giving name of Project, street number, and city. Shipments shall be delivered to Contractor.

1.5 DELIVERY

A. Scheduling: Schedule delivery of products or equipment as required to allow timely inspection and installation, and to avoid prolonged storage, overburdening of limited storage space, conflicts with other contractors on site. Confirm availability of equipment and personnel for handling products prior to delivery.

B. Packaging: Deliver products or equipment in manufacturer's original unopened and unbroken cartons or other containers designed and constructed to protect the contents from physical or environmental damage.

C. Identification: Clearly and fully mark and identify as to manufacturer, item, and installation location.

D. Protection and Handling: Provide manufacturer's instructions for storage and handling.

PART 2 - PRODUCTS

A. Products: Means material, equipment, or systems forming Work. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of Work. Products may also include existing materials or components designated for reuse.

B. When contract documents require that installation of work comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in installation, including two copies to Owner's Representative. Maintain one set of complete instructions at job site during installation until completion.

PART 3 - EXECUTION

3.1 PROTECTION, STORAGE AND HANDLING

A. Protection:

1. Protect materials in accordance with manufacturer's recommendations and requirements of these Specifications.

    a. Store products or equipment in location to avoid loss or physical damage to items while in storage.

2. Protect equipment from exposure to elements and keep thoroughly dry.

3. When space heaters are provided in equipment, connect and operate heaters during storage until equipment is placed in service.

B. Storage:

1. Make necessary provisions for safe storage of materials and equipment. Place loose soil materials, and materials to be incorporated into Work to prevent damage to any part of Work or existing facilities and to maintain free access at all times to all parts of Work and to utility service company installations in vicinity of Work. Keep materials and equipment neatly and compactly stored in locations that will cause minimum inconvenience to other contractors, public travel, adjoining owners, tenants, and occupants. Arrange storage to provide easy access for inspection.

2. Restrict storage to areas available on construction site for storage of material and equipment as shown on Drawings or approved by Owner's Representative.

3. Provide off-site storage and protection when on-site storage is not adequate. Provide addresses of and access to off-site storage locations for inspection by Owner's Representative.

4. Do not use lawns, grass plots, or other private property for storage purposes without written permission of owner or other person in possession or control of premises.

5. Neatly, safely, and compactly stack materials delivered and stored along line of Work to avoid inconvenience and damage to property owners and general public, and maintain at least 3 feet from fire hydrant. Keep public, private driveways, and street crossings open.
6. Repair or replace damaged lawns, sidewalks, streets, or other improvements to satisfaction of Owner's Representative. Total length which materials may be distributed along route of construction at one time is 1,000 linear feet, unless otherwise approved in writing by Owner's Representative.

C. Handling:

1. Handle materials in accordance with manufacturer's recommendations and requirements of these Specifications.
2. Coordinate off-loading of materials and equipment delivered to job site. If necessary to move stored materials and equipment during construction, relocate materials and equipment at no additional cost to Owner. Do not allow the off-loading of materials in those parking areas used for crew's personal vehicles.
3. Provide equipment and personnel necessary to handle products by methods to prevent damage to products or packaging.
4. Provide additional protection during handling as necessary to prevent breaking, scraping, marring, or otherwise damaging products or surrounding areas.
5. Handle products by methods to prevent over bending or over stressing.
6. Lift heavy components only at designated lifting points.
7. Do not drop, roll, or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

3.2 STORAGE FACILITIES

A. Temporary Storage Building (if required):

1. Provide a weatherproof temporary storage building specifically for the purpose of providing for protection of products and equipment.
   a. Size building to accommodate anticipated storage items.
2. Equip building with lockable doors and lighting, and provide electrical service for equipment space heaters and heating or ventilation as necessary to provide storage environments acceptable to specified manufacturers.
3. Provide methods of storage of products and equipment off the ground.
4. Provide this structure within 15 days after Notice to Proceed.
   a. Locate building on-site where shown on the Drawings or in location approved by the Owner's Representative.
   b. Remove building from site prior to startup and demonstration period.

3.3 FIELD QUALITY CONTROL

A. Inspect Deliveries:

1. Inspect all products or equipment delivered to the site prior to unloading.

a. Reject all products or equipment that are damaged, used, or in any other way unsatisfactory for use on Project.

B. Monitor Storage Area: Monitor storage area to ensure suitable temperature and moisture conditions are maintained as required by manufacturer or as appropriate for particular items.

END OF SECTION

SECTION 01 71 13

MOBILIZATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for mobilization.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. Measurement for mobilization is on lump sum basis.

B. Mobilization payments will be included in periodic progress payment upon written application subject to following provisions:

1. Authorization for payment of 50 percent of Contract Price for mobilization will be made upon receipt and approval by Owner's Representative of the following items, as applicable:

   a. Schedule of Values submittal in accordance with Specification Section 01 29 73 – Schedule of Values.

   b. Trench safety program (if applicable).

   c. Construction Schedule submittal in accordance with Specification Section 01 32 16 – Construction Progress Schedule.

   d. Preconstruction photographs in accordance with Specification Section 01 32 36.01 – Project Photographs.

2. Authorization for payment of remaining 50 percent of Contract Price for mobilization will be made upon completion of Work amounting to 5 percent of Contract Price less mobilization unit price.

C. Mobilization payments will be subject to retainage amounts stipulated in the General Conditions of the Contract.

1.3 SUBMITTALS (NOT USED)

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 71 32.16

CONSTRUCTION SURVEYING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for construction surveying.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 QUALITY CONTROL

A. Conform to State of Texas laws for surveys requiring licensed surveyors.

B. Employ land surveyor acceptable to the Owner, if required.

1.3 MEASUREMENT AND PAYMENT

A. No Separate payment will be made for field surveying. Include cost in unit price for Work requiring field surveying.

1.4 SUBMITTALS

A. Conform to requirements of Specification Section 01 33 00 – Submittals.

B. Submit to Owner's Representative name, address, and telephone number of Surveyor before starting survey work.

C. Submit documentation verifying accuracy of survey work on request.

D. Submit certificate signed by surveyor, that elevations and locations of Work are in conformance with Contract.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain complete and accurate log of control and survey Work as it progresses.

B. Prepare certified survey setting forth dimensions, locations, angles, and elevations of construction and site Work upon completion of foundation walls and major site improvements.

C. Submit Record Documents under provisions of Specification Section 01 78 39 – Project Record Documents.

1.6 EXAMINATION

A. Verify locations of survey control points prior to starting Work.

B. Notify Owner's Representative immediately of any discrepancies discovered.

1.7 SURVEY REFERENCE POINTS

A. Control datum for survey established by provided survey as indicated on Contract Drawings. Inform Owner's Representative in advance of time at which

horizontal and vertical control points will be established so verification deemed necessary by Owner's Representative may be done with minimum inconvenience to Owner's Representative and minimum delay to Contractor.

B. Locate and protect survey control points prior to starting site work; preserve permanent reference points during construction.

C. Notify Owner's Representative 48 hours in advance of need for relocation of reference points due to changes in grades or other reasons.

D. Report promptly to Owner's Representative loss or destruction of reference point.

E. Contractor to replace permanent reference points disturbed by operations, at no additional cost to the Owner.

1.8 SURVEY REQUIREMENTS

A. Utilize recognized engineering survey practices.

B. Establish minimum of two permanent bench marks on site, referenced to established control points. Record locations with horizontal and vertical data on Project Record Documents.

C. Establish elevations, lines, and levels to provide quantities required for measurement and payment and to provide appropriate controls for Work. Locate and lay out by instrumentation and similar appropriate means:

1. Site improvements including pavements; stakes for grading; fill and topsoil placement; utility locations, slopes, embankments, and invert elevations

2. Grid or axis for structures

D. Periodically verify layouts by same means.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for construction waste management and disposal.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for waste material disposal under this Section. Include payment in unit price for related sections.

1.3 SUBMITTALS

A. Conform to requirements of Specification Section 01 33 00 – Submittals.

B. Obtain and submit disposal permits for proposed disposal sites if required by local ordinances. Submit a copy of all disposal permits to the Owner's Representative.

C. Submit copy of written permission from property owner(s) outside limits of Project, with description of property, prior to disposal of excess material. Submit written and signed release from property owner upon completion of disposal work. Copies of the permission and release documents are to be submitted to the Owner's Representative.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SALVAGEABLE MATERIAL

A. Excavated Material: When indicated on Drawings, load, haul, and deposit excavated material at location or locations designated by Owner outside limits of Project.

B. Other Salvageable Materials: Conform to requirements of individual Specification Sections.

C. Coordinate with the Owner's Representative the loading of salvageable material.

3.2 EXCESS MATERIAL

A. Remove and legally dispose of vegetation, rubble, broken concrete, debris, asphaltic concrete pavement, excess soil, and other materials not designated for salvage from job site.

B. Excess soil may be deposited on private property outside the Project limits when written permission is obtained from property owner. Submit written permission from property owner to Owner's Representative prior to disposal. See Paragraph 1.3C above.

C. Verify flood plain status of any proposed disposal site. Do not dispose of excavated materials in area designated as within 100-year Flood Hazard Area unless the proper permit has been obtained. Remove excess material placed in "100-year Flood Hazard Area" at no additional cost to the Owner.

D. Remove waste materials from site daily, in order to maintain site in neat and orderly condition, unless otherwise authorized by the Owner.

END OF SECTION

SECTION 01 74 23

RESTORATION OF SITE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for the restoration of sites affected by levee repair, grubbing and tree root removal activities. Section does not apply to roadway extension projects.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.
2. Section 02 41 13 13 – Removing Existing Pavements and Structures.
3. Section 31 23 00 - Earthwork
4. Section 32 91 05 Topsoiling and Finished Grading
5. Section 32 92 13 – Hydro-Mulching.

1.2 MEASUREMENT AND PAYMENT

A. Measurement and payment for restoration of project site for areas disturbed by levee repair is by cubic yard and is included with earthwork pay item.

B. Measurement and payment for topsoil restoration of project site disturbed is by cubic yard and is captured in topsoil pay item.

C. Measurement and payment for final grading and hydromulch restoration of the project site disturbed is by square yard and is captured in hydromulch pay item.

D. Other restoration required will not have a separate pay item. Include the cost in associated items for this project.

1.3 REFERENCES

A. ANSI Z60.1 – American Standard for Nursery Stock.

1.4 DEFINITIONS

A. Site Restoration is replacement or reconstruction of site improvements to rights-of-way, easements, public property, and private property that are affected or altered by construction operations, with improvements to restore to a condition which is equal to, or better than, that which existed prior to construction operations.

B. Site Improvement includes but is not limited to pavement, curb and gutter, esplanades, sidewalks, driveways, culverts, headwalls, mail boxes, lighting, signage, fences, lawns, irrigation systems, surface drainage systems, and landscaping.

1.5 SUBMITTALS

A. Conform to requirements of Specification Section 01 33 00 – Submittals.

B. Submit qualifications of nursery or landscaping firm to be used.

1.6 QUALITY ASSURANCE

A. Have trees, landscape shrubs, and plantings performed by qualified personnel.

1.7 SCHEDULING

A. After repair work is completed and is submitted on monthly estimate for payment, complete site restoration for that segment in accordance with Part 3 of this Section, unless extended in writing by Owner's Representative.

1.8 WARRANTY

A. Provide 2-week warranty on plants and sod grasses that die due to shock or damage only.

B. Replace plants that fail during warranty period according to specifications governing original plants.

C. Damage caused by natural hazards including hail, high winds or storm is not covered by warranty.

D. Existing plant material required to be moved on site are covered under warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Seeding and Sodding.

1. Provide site grading and topsoil in accordance with Specification Section 32 91 05 – Topsoiling and Finished Grading

2. Provide hydro-mulching/seeding in accordance with Specification Section 32 92 13 – Hydro-Mulching.

PART 3 - EXECUTION

3.1 COORDINATION (NOT USED)

3.2 EXAMINATION

A. Construction Site Photographs. Document conditions on and adjacent to construction site with construction photographs as specified in Specification Section 01 32 36.01 – Project Photographs.

B. Make photographs of all areas where construction operations will be conducted including driveways and sidewalks within or adjacent to Work area.

3.3 PREPARATION

A. Removing Pavements and Structures.

1. Remove structures as required to perform Work. Perform removals in accordance with Specification Section 02 41 13 13 – Removing Existing Pavements and Structures.

B. Remove or relocate existing fencing, if required, for construction operations. Maintain integrity of private property owner's fencing if needed for protection of children, pets, or property. Notify Property owner and/or resident at least 72 hours in advance before removing fencing and coordinate security needs in accordance with Specification Section 01 11 20 – Use of Premises.

3.4 INSTALLATION

A. Seeding and Sodding.

1. Clean up construction debris and level area with topsoil so that resulting surface of new grass matches level of existing grass and maintains pre-construction drainage patterns. Level minor ruts or depressions caused by construction operations where grass is still viable by filling with topsoil.

2. Restore unpaved areas not requiring sodding with hydromulch methods conforming to Specification Section 32 92 13 – Hydro-Mulching.

B. Fence Removal and Replacement.

1. Remove and dispose of damaged or substandard material.

3.5 CLEANING

A. Remove debris and trash to maintain clean and orderly site as described in General Conditions and Specification Section 01 74 19 – Construction Waste Management and Disposal.

3.6 MAINTENANCE

A. Refer to Specification Section 32 92 13 – Hydro-Mulching for additional maintenance requirements.

END OF SECTION

SECTION 01 77 19

CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for closeout of a construction project.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 SUBMITTALS (NOT USED)

1.4 SUBSTANTIAL COMPLETION

A. Comply with the General Conditions of the Contract regarding Substantial Completion when Contractor considers the Work, or portion thereof designated by Owner's Representative, to be substantially complete.

B. Insure the following items have been completed when included in the Work, prior to presenting a list of items to be inspected by Owner's Representative for issuance of a Certificate of Substantial Completion:

1. Construction of, and repairs to, utilities, pavement, driveways, sidewalks, culverts, headwalls and curbs and gutters;
2. Sodding and hydromulch seeding, unless waived by the Owner in writing;
3. General clean up including signage, lighting, pavement markings, transfer of services, successful testing and landscape;
4. Installation of all proposal items included in Exhibit 4 – Pricing Sheet and approved Contract Document changes.
5. Any additional requirements in Specification Section 01 11 20 – Use of Premises.

C. Assist Owner's Representative with inspection of Contractor's list of items and complete or correct the items, including items added by Owner's Representative, within a time period of 30 days or as mutually agreed.

D. Should Owner's Representative's inspection show failure of Contractor to comply with substantial completion requirements, including those items in Paragraph 1.4 of this specification, Contractor shall complete or correct the items, before requesting another inspection by Owner's Representative.

1.5 CLOSEOUT PROCEDURES

A. Comply with the General Conditions of the Contract regarding Final Inspection and Final Payment when Work is complete and ready for Owner's Representative's final inspection.

B. Provide Project Record Documents in accordance with Specification Section 01 78 39 – Project Record Documents.

C. Complete or correct items on punch list, with no new items added. Address new items during warranty period.

D. Owner will occupy portions of Work as specified in other Sections.

1.6 FINAL CLEANING

A. Execute final cleaning prior to Final Inspection.

B. Clean site; sweep paved areas, rake landscaped surfaces clean.

C. Remove waste and surplus materials, rubbish, and temporary construction facilities from site following final test of utilities and completion of Work.

1.7 ADJUSTING (NOT USED)

1.8 OPERATION AND MAINTENANCE DATA (NOT USED)

1.9 WARRANTY

A. Warranties shall commence in accordance with requirements in the General Conditions of the Contract.

1.10 SPARE PARTS AND MAINTENANCE MATERIALS (NOT USED)

1.11 TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR) INSPECTION (NOT USED)

1.12 FINAL PHOTOS

A. Provide per Specification Section 01 32 36.01 – Project Photographs.

1.13 PROJECT RECORD DOCUMENTS

A. Provide per Specification Section 01 78 39 – Project Record Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Maintenance and Submittal.
2. Recording.
3. Submittals.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Maintain one record copy of documents at site in accordance with the General Conditions of the Contract.

B. Store Record Documents and samples in field office when field office is required by Contract, or in secure location. Provide secure storage for Record Documents and samples.

C. Label each document “PROJECT RECORD” in neat, large, printed letters.

D. Maintain Record Documents in clean dry and legible condition. Do not use Record Documents for construction purposes.

E. Keep Record Documents and Samples available for inspection by Owner’s Representative.

F. Bring Record Drawings to progress review meetings for viewing by Owner’s Representative.

1.4 RECORDING

A. Record information concurrently with construction progress. Do not conceal Work until required information is recorded.

B. Contract Drawings: Legibly mark each item to record actual construction, or “as built” conditions, including:

1. Measured horizontal locations and elevations of underground utilities and appurtenances, referenced to permanent surface improvements.
2. Elevations of underground utilities referenced to bench mark utilized for Project.

3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction.
4. Field changes of dimension and detail.
5. Modifications made by Change Order.
6. Details not on original Contract Drawings.
7. References to related shop drawings and modifications.

C. Maintain on site at all times an instrument for accurately measuring elevations.

D. Record information with red marking pen on set of opaque drawings.

E. Legibly mark Record Drawings to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
2. Changes made by Change Order or Field Order.
3. Other matters not originally specified.

F. Legibly annotate shop drawings to record changes made after review.

1.5 SUBMITTALS

A. At Contract closeout, deliver Project Record Documents to Owner's Representative.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

Division 02- EXISTING CONDITIONS

SECTION 02 41 13.13
REMOVING EXISTING PAVEMENTS AND STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Removing fences.
2. Removing pipe culverts.
3. Removing existing bridges.
4. Regulatory Requirements

B. Related Specifications Sections include but are not necessarily limited to:

1. Division 01 – General Requirements

1.2 MEASUREMENT AND PAYMENT

A. Payment for the work specified for removal of canal obstructions, which payment shall be by lump sum and constitute full compensation for labor, equipment, tools, and incidentals necessary to complete the specified work for removal of such structures as described in section 1.4 and shown on the Drawings, including haul-off and disposal of debris.

B. Payment for the work associated with drainage ditch culvert crossings and associated appurtenances, which payment shall be by each and constitutes full compensation for labor, filter fabric fence, appurtenance removal, equipment, tools, and incidentals necessary to complete the specified work for removal of such structures as described in section 1.4 and shown on the Drawings, including haul-off and disposal of debris.

1.3 SUBMITTALS (NOT USED)

1.4 WORK INCLUDED

A. Furnish labor, materials, equipment and incidentals necessary for every type of required demolition. Demolition includes removal of culverts and/or canal obstructions and restoring the site to lines and grades as shown on the Drawings.

B. Furnish equipment of every type required to demolish and transport construction debris away from the Site.

1.5 STANDARDS

A. Work shall be performed in accordance with the codes and ordinances of the agency having jurisdiction over the Place of Record.

B. Coordinate removal work with utility companies.

C. Occupational Safety and Health Association (OSHA), 29CFR Parts 1010 and 1926, “Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite”, 40 CPR Part 61 - “National Emission Standard for Hazardous Air Pollutants”

1.6 DELIVERY AND STORAGE

A. Stockpile construction debris at the Site only as long as necessary before hauling to a disposal site. Stack materials neatly and handle in an orderly manner until removed from the Site.

1.7 JOB CONDITIONS

A. Contractor shall visit the Site and determine the extent of demolition required and the Site conditions that might affect his proposal. Include costs of covering all aspects of the demolition as part of the proposal.

B. The Drawings shall be carefully reviewed to determine the extent of necessary demolition and to identify elements of the existing construction which are to remain in place. Report any discrepancies to Owner and Engineer before disturbing existing conditions. Property lines and limits of demolition shall be accurately located prior to beginning site demolition. Start of demolition activities shall represent confirmation by Contractor that existing conditions are as presented in the Contract Documents. Demolition outside the limits indicated on the Drawings, or outside the property lines shall not be performed.

C. Material removed during demolition, and any equipment not otherwise designated to remain the property of the Owner, shall become the property of the Contractor and shall be promptly removed from the Site.

1.8 HAZARDOUS MATERIALS

A. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner. Hazardous materials will be removed by Owner under a separate contract.

B. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

1.9 WARRANTY (NOT USED)

PART 2 - PRODUCTS

A. New materials and equipment for patching and extending work shall meet the requirements of the individual Sections in these Contract Documents. For materials not addressed in these documents, materials used shall meet or exceed the dimensions and quality of the existing work.

PART 3 - EXECUTION

3.1 PREPARATION

A. Obtain advance approval from Owner's Representative for dimensions and limits of removal work.

B. Contractor shall be responsible for obtaining location of underground utilities at the Site and stake and flag locations. Known existing underground utilities as shown in Construction Drawings are based on best available information at the time of preparation of these construction documents. Arrange for all applicable utility companies to accurately locate underground piping and set color-coded flags along the project limits. Investigate utility company's records to ascertain depths and sizes of piping and other ancillary features.

1. In the event that exact location of utility cannot be obtained, dig test holes as necessary to establish location of utility. Contractor shall not use mechanical digging machines within 6 feet of any active buried utility. For a distance of 5 feet on either side of buried utility, all digging shall be by hand excavation. If the utility is not active, or is to be abandoned or removed, any form of excavation may be used.

3.2 PROTECTION

A. Protect following from damage or displacement:

1. Adjacent public and private property.
2. Trees, plants, and other landscape features designated to remain.
3. Utilities designated to remain.
4. Pavement and utility structures designated to remain.
5. Benchmarks, monuments, and existing structures designated to remain.
6. Access and maintenance roads.

3.3 REMOVALS

A. Remove pavements and structures by methods that will not damage underground utilities. Do not use drop hammer near existing underground utilities.

B. Minimize amount of earth loaded during removal operations.

C. Removal of Existing Site Structures

1. Removal of Steel and Metal Structures: Remove metal wires, support posts, and fencing in areas as shown on the Drawings. Remove all components of structure down to grade and regrade levee and/or ground to match surrounding area. Restore levee and/or grade with topsoil and hydromulch to match surrounding conditions.
2. Removal of Timber Structures:

a. Remove entire or partial wooden bridge structures as shown on the Drawings. Remove all components of structure and regrade levee and/or ground to match surrounding area. Restore levee and/or grade with topsoil and hydromulch to match surrounding conditions.

b. Extract timber piles from the ground.

D. Removal of Pipe

1. Remove drainage culvert pipes as shown on the Drawings. Backfill and regrade drainage swale/channel to match adjacent swale/channel flow line and side slopes. Restore swale/channel with topsoil and hydromulch to match surrounding conditions

3.4 BACKFILL

A. Backfill cavities resulting from demolition. Fill cavities occurring within the limits of buildings, structures, or pavements.

B. Backfill and compact cavities outside the construction limits to the same density as the surrounding earth. No testing is required for backfill outside the limits of new construction.

3.5 DISPOSAL

A. Disposal shall be in accordance with requirements of Section 01 74 19 – Construction Waste Management and Disposal.

B. Remove from site debris resulting from work under this section in accordance with requirements of Specification Section 01 74 19 – Construction Waste Management and Disposal.

3.6 OWNER TRAINING (NOT USED)

END OF SECTION

Division 31 – EARTHWORK

SECTION 31 11 00
CLEARING AND GRUBBING

Part 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Grubbing of project area as shown on the Drawings. Clearing of this area was performed under a separate contract.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.
2. Division 02 – Existing Conditions
3. Division 31 – Earthwork
4. Division 32 – Exterior Improvements

1.2 MEASUREMENT AND PAYMENT

A. Measurement

1. Measurement is on a cubic yard basis.

B. Payment

1. Payment for the work specified for “Clearing and Grubbing”, which payment shall constitute full compensation for labor, equipment, tools, and incidentals necessary to complete the specified work, including haul off of spoils shall be on a cubic yard basis.
2. Grubbing required to perform spot repairs along the west and east levee will not have a separate pay item. Include cost in spot repair pay item.

1.3 WORK INCLUDED

A. Provide labor, materials, equipment and incidentals necessary to perform operations in connection with grubbing, and disposal of cleared and grubbed materials.

B. Grubbing activities on the west levee to include grubbing and removal of roots and restoration of levee cross section as shown on the Drawings.

1.4 QUALITY ASSURANCE; DEFINITIONS

A. Grubbing: Grubbing is defined as the removal of stumps, roots, boards, logs, and other organic matter found at or below ground level. Refer to Contract Drawings for limits of grubbing.

1.5 WARRANTY (NOT USED)

Part 2 - PRODUCTS (NOT USED)

Part 3 - EXECUTION

3.1 PREPARATION

A. Mark areas to be grubbed prior to commencing grubbing operations. The Owner's Representative shall approve grubbing limits prior to commencement of grubbing operations.

B. Trees and shrubs outside of the grubbing limits, which are within 10 feet of the limits, shall be clearly marked to avoid damage during grubbing operations.

C. Remove trees and brush outside the grubbing limits, but within the immediate vicinity of the work and or/ SJRA easement line and TCE, upon receipt of approval by the Owner's Representative, when the trees or brush interfere with the progress of construction operations.

D. The grubbing limits shall not extend beyond the project limits.

E. Establish the grubbing limits as follows:

1. Grub areas along the west levee in the project limits as shown on the Drawings as part of the base proposal.

3.2 INSTALLATION

A. Clearing: Clearing shall consist of the felling, cutting up, and the satisfactory disposal of trees and other vegetation, together with the down timber, snags, brush, rubbish, fences, and debris occurring within the area to be cleared.

B. Grubbing:

1. Grubbing shall consist of the removal and disposal of stumps and roots for trees equal to or larger than 6 inches in diameter.

2. Extend grubbing along the levee embankments to limits as shown on the Drawings.

3.3 FIELD QUALITY CONTROL

A. Timber, logs, roots, brush, rotten wood, and other refuse from the clearing and grubbing operations shall be removed from the Owner's property.

B. The Contractor shall be responsible for compliance with the Federal, State, County, and Municipal laws and regulations relative to the disposal of grubbed material.

C. Completely remove timber, logs, roots, brush, rotten wood, and other refuse from the Owner's property. Disposal of materials in streams shall not be permitted and no materials shall be piled in stream channels or in areas where it might be washed away by floods. Timber within the area to be cleared shall become the property of the Contractor, and the Contractor may cut, trim, hew, saw, or otherwise dress felled timber within the limits of the Owner's property, provided timber and waste material is disposed of in a satisfactory manner. Materials shall be removed from the site daily, unless permission is granted by the Owner or Owner's Representative to store the materials for longer periods.

3.4 OWNER TRAINING (NOT USED)

END OF SECTION

SECTION 31 23 00

EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Earthwork.

B. Related Specification Sections include, but are not necessarily limited to:

1. Division 01 – General Requirements.
2. Section 31 24 00.01 – Borrow.

1.2 MEASUREMENT AND PAYMENT

A. Unit Price. Payment for earthwork associated with levee repair is per cubic yard and includes all labor and materials for repair/restoration of west canal levee and miscellaneous spot repairs to cross section as shown on the Drawings, complete in place.

B. Payment for earthwork associated with canal obstruction removal is by lump sum and is captured in removal of canal obstructions pay item.

C. Payment for earthwork associated with culvert removal is by each and is captured in removal of drainage ditch culvert crossing pay item.

1.3 QUALITY ASSURANCE

A. Referenced Standards:

1. ASTM International (ASTM):

a. C33 – Standard Specification for Concrete Aggregates.

b. C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

c. D698 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3).

d. D1140 – Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing

e. D1557 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3(2,700 kN-m/m)).

f. D2216 - Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil, and Rock by Mass.

g. D3786 – Standard Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics: Diaphragm.

h. D4221 – Standard Test Method for Dispersive Characteristics of Clay Soil by Double Hydrometer.

i. D4253 – Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.

j. D4254 – Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.

k. D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

l. D4632 – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.

m. D6572 – Standard Test Methods for Determining Dispersive Characteristics of Clayey Soils by the Crumb Test.

1.4 SUBMITTALS

A. Shop Drawings:

1. See Specification Section 01 33 00 – Submittals for requirements for the mechanics and administration of the submittal process.
2. Submit backfill material sources and product quality information in accordance with requirements of this section, including Atterberg limit testing and dispersive soil testing.
3. Submit sieve analysis reports on all granular materials.
4. Submit trench excavation safety program (if used).
5. Product technical data including:
   a. Acknowledgement that products submitted meet requirements of standards referenced.
   b. Manufacturer's installation instructions.
6. Certifications.
7. Test reports:
   a. Soils inspection and testing results.

B. Samples:

1. Submit samples and source of fill and backfill materials proposed for use.
2. Submit samples and source of borrow materials proposed for use.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Classify materials for backfill for purpose of quality control in accordance with Unified Soil Classification Symbols as defined in ASTM D 2487.

B. Class Designations Based on Laboratory Testing:

1. Class I: Well-graded gravels and sands, gravel-sand mixtures, crushed well-graded rock, little or no fines (GW, SW):
   a. Plasticity index: non-plastic.
   b. Gradation: D_{60}/D_{10} - greater than 4 percent; amount passing No. 200 sieve - less than or equal to 5 percent.
2. Class II: Poorly graded gravels and sands, silty gravels and sands, little to moderate fines (GM, GP, SP, SM):
   a. Plasticity index: non-plastic to 4.
   b. Gradations:
      1) Gradation (GP, SP): amount passing No. 200 sieve - less than 5 percent.
      2) Gradation (GM, SM): amount passing No. 200 sieve - between 12 percent and 50 percent.
      3) Borderline gradations with dual classifications (e.g., SP-SM): amount passing No. 200 sieve - between 5 percent and 12 percent.
3. Class III: Clayey gravels and sands, poorly graded mixtures of gravel, sand, silt, and clay (GC, SC, and dual classifications, e.g., SP-SC):
   a. Plasticity index: greater than 7.
   b. Gradation: amount passing No. 200 sieve - between 12 percent and 50 percent.
4. Class IVA: Lean clays (CL).
   a. Plasticity Indexes:
      1) Plasticity index: greater than 7, and above A line.
      2) Borderline plasticity with dual classifications (CL-ML): PI between 4 and 7.
   b. Liquid limit: less than 50.
   c. Gradation: amount passing No. 200 sieve - greater than 50 percent.
   d. Inorganic.
5. Class IVB: Fat clays (CH).
   a. Plasticity index: above A line.

b. Liquid limit: 50 or greater.

c. Gradation: amount passing No. 200 sieve - greater than 50 percent.

d. Inorganic.

C. Soils classified as silt (ML), elastic silt (MH), organic clay and organic silt (OL, OH), and organic matter (PT) are not acceptable as backfill materials.

D. Soils classified as dispersive are not acceptable as backfill materials.

1. These soils may be used for site grading and restoration in unimproved areas as approved by the Owner's representative.
2. Soils in Class IVB, fat clay (CH) may only be used as backfill materials outside of roadways and where otherwise allowed by this Specification Section.

E. Provide backfill material that is free of stones greater than 2 IN, free of roots, waste, debris, trash, organic material, unstable material, non-soil matter, hydrocarbon or other contamination, conforming to the following limits for deleterious materials:

1. Clay lumps: Less than 0.5 percent for Class I, and less than 2.0 percent for Class II, when tested in accordance with ASTM C142.
2. Lightweight pieces: Less than 5 percent when tested in accordance with ASTM C123.
3. Organic impurities: No color darker than standard color when tested in accordance with ASTM C40.
4. Clay Clods: Less than 2 inches in least dimension.

F. Imported Backfill:Class IV non-dispersive, inorganic, lean clay with a maximum liquid limit of 49, 60 to 85% passing #200 sieve, and plasticity index between 15 and 30 or clayey soils treated with lime to meet plasticity criteria.

G. Native Backfill: Any suitable soil or mixture of soils initially excavated during excavation, meeting the requirements of section 2.1 B of this Specification, and within Classes I, II, III and IV.

H. Manufactured materials, such as crushed concrete, may be substituted for natural soil or rock products where indicated in the product specification, and approved by the Owner's representative, provided that the physical property criteria are determined to be satisfactory by testing.

PART 3 - EXECUTION

3.1 GENERAL

A. Remove and dispose of unsuitable materials as directed by Owner's Representative to site provided by Contractor.

B. Perform work to conform to applicable safety standards and regulations. Employ trench safety system (if required) as designed by the Contractor's engineer licensed in the State of Texas.

C. Immediately notify agency or company owning any existing utility line which is damaged, broken or disturbed. Obtain approval from Owner's Representative and agency for any repairs or relocations, either temporary or permanent.

D. Maintain permanent benchmarks, monumentation and other reference points. Unless otherwise directed in writing, replace those which are damaged or destroyed.

3.2 PROTECTION

A. Protect existing surface and subsurface features on-site and adjacent to site as follows:

1. Provide barricades, coverings, or other types of protection necessary to prevent damage to existing items indicated to remain in place.
2. Protect and maintain benchmarks, monuments or other established reference points and property corners.
    a. If disturbed or destroyed, replace at own expense to full satisfaction of Owner and controlling agency.
3. Verify location of utilities.
    a. Omission or inclusion of utility items does not constitute non-existence or definite location.
    b. Secure and examine local utility records for location data.
    c. Take necessary precautions to protect existing utilities from damage due to any construction activity.
    d. Repair damages to utility items at own expense.
    e. In case of damage, notify Owner's Representative at once so required protective measures may be taken.
4. Maintain free of damage, existing sidewalks, structures, and pavement, not indicated to be removed.
    a. Any item known or unknown or not properly located that is inadvertently damaged shall be repaired to original condition.
    b. All repairs to be made and paid for by Contractor.
5. Provide full access to public and private premises, fire hydrants, street crossings, sidewalks, and other points as designated by Owner to prevent serious interruption of travel.
6. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage to structures on-site or on adjoining property.

7. Avoid surcharge or excavation procedures which can result in heaving, caving, or slides.

B. Salvageable Items: Carefully remove items to be salvaged, and store on Owner's premises unless otherwise directed.

C. Dispose of waste materials, legally, off site.

1. Burning, as a means of waste disposal, is not permitted.

3.3 SITE EXCAVATION AND GRADING

A. The work includes all operations in connection with excavation, borrow, construction of fills and embankments, rough grading, and disposal of excess materials in connection with the preparation of the site(s) for construction of the proposed facilities.

B. Excavation and Grading: Perform as required by the Contract Drawings.

1. Contract Drawings may indicate both existing grade and finished grade required for construction of Project.

a. Stake all units, structures, piping, roads, parking areas and walks and establish their elevations.

b. Perform other layout work required.

c. Replace property corner markers to original location if disturbed or destroyed.

2. Preparation of ground surface for embankments or fills:

a. Before fill is started, scarify to a minimum depth of 6 IN in all proposed embankment and fill areas.

b. Excavate surface in a manner to bench and break up surface so that fill material will bind with existing surface as shown in Drawings.

3. Protection of finish grade:

a. During construction, shape and drain embankment and excavations.

b. Maintain ditches and drains to provide drainage at all times.

c. Protect graded areas against action of elements prior to acceptance of work.

d. Reestablish grade where settlement or erosion occurs.

C. Borrow:

1. Provide necessary amount of approved fill compacted to density equal to that indicated in this Specification Section and in Specification Section 31 24 00.01 – Borrow.

2. Include cost of all borrow material in original proposal.

3. Fill material to be approved by Owner's Representative (Soils Engineer) prior to placement.

D. Construct embankments and fills as required by the Contract Drawings:

1. Construct embankments and fills at locations and to lines of grade indicated.
   a. Do not place any fill or backfill material until subgrade under fill or backfill has been inspected and approved by Owner's Representative (Soils Engineer) as being free of undesirable material and compacted to specified density.
   b. Surface shall be stepped as shown in drawings to achieve proper compaction.
   c. Completed fill shall correspond to shape of typical cross section or contour indicated regardless of method used to show shape, size, and extent of line and grade of completed work.
2. Provide approved fill material, which is free from roots, organic matter, trash, frozen material, and stones having maximum dimension greater than 6 IN.
   a. Ensure that stones larger than 3/4 IN are not placed in upper 6 IN of fill or embankment.
   b. Do not place material in layers greater than 8 IN loose thickness.
   c. Place layers horizontally and compact each layer prior to placing additional fill.
   d. Do not place fill and backfill when the temperature is less than 40 DegF and when subgrade to receive fill and backfill material is frozen, wet, loose, or soft.
3. Compact by sheepsfoot, pneumatic rollers, vibrators, or by other equipment as required to obtain specified density.
   a. Control moisture for each layer necessary to meet requirements of compaction.

E. Dewatering:

   a. Where groundwater is or is expected to be encountered during excavation, install a dewatering system to prevent softening and disturbance of subgrade below foundations and fill material, to allow foundations and fill material to be placed in the dry, and to maintain a stable excavation side slope.
   b. Groundwater shall be maintained at least 3 FT below the bottom of any excavation.
   c. Review soils investigation before beginning excavation and determine where groundwater is likely to be encountered during excavation.

d. Dispose of groundwater to an area which will not interfere with construction operations or damage existing construction.

1) Install groundwater monitoring wells as necessary.

e. Shut off dewatering system at such a rate to prevent a quick upsurge of water that might weaken the subgrade.

3.4 ROCK EXCAVATION (NOT USED)

3.5 USE OF EXPLOSIVES

A. Blasting with any type of explosive is prohibited.

3.6 FIELD QUALITY CONTROL

A. Do not include in bid price the cost of inspection services indicated herein as being performed by the Owner's Representative (Soils Engineer).

B. Moisture density relations to be established by the Owner's Representative (Soils Engineer) required for all materials to be compacted.

C. Extent of compaction testing will be as necessary to assure compliance with Specifications.

D. If borrow material is required, Atterberg limit (LL, PL, PI, % passing 200) and soil dispersion crumb tests shall be performed for each borrow backfill material source for review and approval prior to placement of borrow backfill in areas shown in drawings. If crumb testing indicates potential dispersive material, material may be subject to double hydrometer testing before approval of material for use as backfill.

E. Contractor to provide 5 days advance notice and borrow source location to Owner's Representative (soils engineer) when ready for borrow material testing.

F. In-place density tests of compacted materials will be performed by Owner's Representative according to the standards provided in section 3.7, and at the following frequencies and conditions: Owner's Representative shall take a minimum of 1 nuclear density test per 100 linear feet for each compacted lift.

G. Owner will provide a recognized testing laboratory capable of performing a full range of testing procedures complying with the standards or testing procedures specified. The testing lab shall provide certified technicians that are trained and knowledgeable in, in-trench nuclear density testing, sand cone, concrete sampling and testing, ASTM D698 and D1557 proctors at a minimum.

1. Contractor to update his field "as-built" drawings with density test locations in the plan.

H. Give minimum of 24 HR advance notice to Owner's Representative (Soils Engineer) when ready for compaction or subgrade testing and inspection.

I. Should any compaction density test or subgrade inspection fail to meet Specification requirements, perform corrective work as necessary.

J. Pay for all costs associated with corrective work and retesting resulting from failing compaction density tests.

3.7 COMPACTION DENSITY REQUIREMENTS

A. Obtain approval from Owner's Representative (Soils Engineer) with regard to suitability of soils and acceptable subgrade prior to subsequent operations.

B. Provide dewatering system necessary to successfully complete compaction and construction requirements.

C. Remove frozen, loose, wet, or soft material and replace with approved material as directed by Owner's Representative (Soils Engineer).

D. Stabilize subgrade as necessary with well graded granular materials as directed by Owner's Representative (Soils Engineer).

E. Assure by results of testing that compaction densities comply with the following requirements:

LOCATION	MATERIAL	COMPACTION DENSITY
All applicable areas	Bank sand	95 percent of standard proctor density, +2 to -1% optimum density, up to +3% of optimum moisture content by ASTM D698 and ASTM D2922
	Pea gravel	95 percent of maximum relative density by ASTM D4253 and ASTM D4254
	Well-graded crushed stone	95 percent of maximum relative density by ASTM D4253 and ASTM D4254
	Native/select backfill	95 percent of standard proctor density, +2 to -1% optimum density, up to +3% of optimum moisture content by ASTM D698 and ASTM D2922
	Cement stabilized sand	95 percent of standard proctor density, +2 to -1% optimum density, up to +3% of optimum moisture content by ASTM D558 and ASTM D2992

3.8 EXCAVATION, FILLING, AND BACKFILLING FOR STRUCTURES

A. General:

1. In general, this section is applicable to repair work needed in the event existing structures become damaged during the project and require repair this includes, but is not necessarily limited to, excavation for culvert, removal of underground obstructions and undesirable material, backfilling, filling, and fill, backfill, and subgrade compaction.

2. Obtain fill and backfill material necessary to produce grades required.

   a. Materials and sources to be approved by Owner's Representative.

b. Excavated material approved by Owner's Representative may also be used for fill and backfill.

B. Excavation Requirements for Structures:

1. General:

a. Do not commence excavation for foundations or structures until Owner's Representative approves:

1) The removal of topsoil and other unsuitable and undesirable material from existing subgrade.

2) Density and moisture content of site area compacted fill material meets requirements of specifications.

3) Surcharge or mass fill material has been removed from construction area or portions thereof.

b. Owner's Representative grants approval to begin excavations.

2. Removal of obstructions and undesirable materials in excavation includes, but is not necessarily limited to, removal of old foundations, existing construction, unsuitable subgrade soils, expansive type soils, and any other materials which may be concealed beneath present grade.

a. If undesirable material and obstructions are encountered during excavation, remove material and replace as directed by Owner's Representative.

3. Level off bottoms of excavations to receive foundations, floor slabs, equipment support pads, or compacted fill.

a. Remove loose materials and bring excavations into approved condition to receive concrete or fill material.

b. Where compacted fill material must be placed to bring subgrade elevation up to underside of construction, scarify existing subgrade upon which fill material is to be placed to a depth of 6 IN and then compact to density stated in this Specification Section before fill material can be placed thereon.

4. Subgrade stabilization:

a. Provide compaction density of replacement material as stated in this Specification Section.

b. Loose, wet, or soft materials, when approved by Owner's Representative, may be stabilized by a compacted working mat of well graded crushed stone.

c. Method of stabilization shall be performed as directed by Owner's Representative.

d. Do not place further construction on the repaired subgrades, until the subgrades have been approved by the Owner's Representative (Soils Engineer).

5. Protection of structures:

   a. Prevent new and existing structures from becoming damaged due to construction operations or other reasons.

   b. Prevent subgrade under new and existing foundations from becoming wet and undermined during construction due to presence of surface or subsurface water or due to construction operations.

6. Shoring:

   a. Shore, sheet pile, slope, or brace excavations as required to prevent them from collapsing.

   b. Remove shoring as backfilling progresses, but only when banks are stable and safe from caving or collapse.

3.9 SPECIAL REQUIREMENTS

A. Erosion Control:

1. Conduct work to minimize erosion of site.
2. Construct stilling areas to settle and detain eroded material.
3. Remove eroded material washed off site.
4. Clean streets daily of any spillage of dirt, rocks or debris from equipment entering or leaving site.

3.10 OWNER TRAINING (NOT USED)

END OF SECTION

SECTION 31 24 00.01
BORROW

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Borrow

B. Related Specification Sections include, but are not necessarily limited to:

1. Division 01 – General Requirements.
2. Section 31 23 00 – Earthwork

1.2 MEASUREMENT AND PAYMENT

A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 QUALITY ASSURANCE

A. Referenced Standards:

1. ASTM International (ASTM):

a. C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

b. D1140 – Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing.

c. D2216 - Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil, and Rock by Mass.

d. D4221 – Standard Test Method for Dispersive Characteristics of Clay Soil by Double Hydrometer.

e. D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

f. D6572 – Standard Test Methods for Determining Dispersive Characteristics of Clayey Soils by the Crumb Test.

1.4 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – Submittals.

B. Submit location and description of proposed borrow area for approval.

C. Submit material samples for testing.

1.5 WARRANTY (NOT USED)

PART 2 - PRODUCTS

2.1 SOIL MATERIAL

A. Borrow material used for embankment shall be free of lumps greater than 2 inches, rocks larger than 2 inches, organic material, chemical waste or other contamination, and debris. Take borrow material from sources approved by Owner's Representative.

B. Use Class IV non-dispersive, inorganic, lean clay with a maximum liquid limit of 49, 60 to 85% passing #200 sieve, and plasticity index between 15 and 30 or clayey soils treated with lime to meet plasticity criteria.

C. If borrow material is required, Atterberg limit (LL, PL, PI, % passing 200) and soil dispersion crumb tests shall be performed for borrow backfill material for review and approval prior to placement of borrow backfill in areas shown in drawings. If crumb testing indicates potential dispersive material, material may be subject to double hydrometer testing before approval of material for use as backfill.

PART 3 - EXECUTION

3.1 PREPARATION

A. Notify Owner's Representative and testing laboratory 5 days in advance of opening borrow source to permit obtaining samples for qualification testing. When material does not meet specification requirements, locate another source of borrow.

B. Clear approved source area of trees, stumps, brush, roots, vegetation, organic matter, and other unacceptable material before excavation.

3.2 TESTS

A. Test and analyze soil materials in accordance with ASTM D 4318, ASTM D 2216, ASTM D 1140, and ASTM D 6572 under provisions of Section 01 45 29 - Testing Laboratory Services.

3.3 EXCAVATION

A. Provide adequate drainage of surface water, so that surface water run off does not enter borrow pit excavation.

3.4 HAULING

A. Use covered trucks.

3.5 EMBANKMENT

A. Conform to requirements of Section 31 23 00 – Earthwork.

3.6 OWNER TRAINING (NOT USED)

END OF SECTION

Division 32 – EXTERIOR IMPROVEMENTS

SECTION 32 91 05

TOPSOILING AND FINISHED GRADING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Topsoiling .

B. Related Specification Sections include, but are not necessarily limited to:

1. Division 01 – General Requirements.
2. Section 31 10 00 – Clearing and Grubbing.

1.2 MEASUREMENT AND PAYMENT

A. Unit Price. Payment is per cubic yard where topsoil is placed and includes complete in place per this specification section.

B. Payment for final grading is captured in hydro-mulch pay item.

1.3 SUBMITTALS

A. Shop Drawings:

1. See Specification Section 01 33 00 – Submittal for requirements for the mechanics and administration of the submittal process.
2. Project Data: Test reports for furnished topsoil.

1.4 SITE CONDITIONS

A. Verify amount of topsoil stockpiled and determine amount of additional topsoil, if necessary, to complete work.

B. Location of Work: All areas within limits of grading and all areas outside limits of grading which are disturbed in the course of the work.

1.5 WARRANTY (NOT USED)

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil:

1. Imported, Original surface soil typical of the area.
2. Existing topsoil stockpiled under Specification Section 31 10 00 – Clearing and Grubbing.
3. Capable of supporting native plant growth.
4. pH: 5.5 to 8.5.

5. Liquid Limit: 50 or less.
6. Plasticity Index: 20 or less.
7. Gradation: maximum of 10 percent passing No. 200 sieve.

2.2 TOLERANCES

A. Finish Grading Tolerance: 0.1 FT plus/minus from required elevations.

PART 3 - EXECUTION

3.1 PREPARATION

A. Correct, adjust and/or repair rough graded areas.
   1. Cut off mounds and ridges.
   2. Fill gullies and depressions.
   3. Perform other necessary repairs.
   4. Bring all sub-grades to specified contours, even and properly compacted.
B. Loosen surface to depth of 2 IN, minimum.
C. Remove all stones and debris over 2 IN in any dimension.

3.2 ROUGH GRADE REVIEW

A. Reviewed by Owner's Representative in Specification Section 31 10 00 – Clearing and Grubbing.

3.3 PLACING TOPSOIL

A. Do not place when subgrade is wet or frozen enough to cause clodding.
B. Spread to compacted depth of 6 IN for all disturbed earth areas.
C. If topsoil stockpiled is less than amount required for work, furnish additional topsoil at no cost to Owner.
D. Provide finished surface free of stones, sticks, or other material 1 IN or more in any dimension.
E. Provide finished surface smooth and true to required grades.
F. Restore stockpile area to condition of rest of finished work.

3.4 ACCEPTANCE

A. Upon completion of topsoiling, obtain Owner's Representative acceptance of grade and surface.
B. Make test holes where directed to verify proper placement and thickness of topsoil.

3.5 OWNER TRAINING (NOT USED)

END OF SECTION

SECTION 32 92 13

HYDRO-MULCHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Seeding, fertilizing, mulching, and maintenance of areas indicated on Drawings.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 01 – General Requirements.
2. Section 01 74 23 – Restoration of Site
3. Section 32 91 05 – Topsoiling and Finished Grading.

1.2 MEASUREMENT AND PAYMENT

A. Unit Price. Payment is per square yard and includes final grading and hydro-mulch placement complete in-place per this specification section.

1.3 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – Submittals.

B. Submit certification from supplier that each type of seed conforms to these specifications and requirements of Texas Seed Law. Certification shall accompany seed delivery.

C. Submit certificate stating that fertilizer complies with these specifications and requirements of Texas Fertilizer Law.

1.4 WARRANTY (NOT USED)

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil: Conform to material requirements of Section 32 91 05 – Topsoiling and Finished Grading.

B. Seed: Conform to U.S. Department of Agriculture rules and regulations of Federal Seed Act and Texas Seed Law. Seed shall be certified 90 percent pure and furnish 80 percent germination and meet following requirements:

1. Rye: Fresh, clean, Italian rye grass seed (lollium multi-florum), mixed in labeled proportions. As tested, minimum percentages of impurities and germination must be labeled. Deliver in original unopened containers.

2. Bermuda: Extra-fancy, treated, lawn type common bermuda (Cynodon dactylon). Deliver in original, unopened container showing weight, analysis, name of vendor, and germination test results.
3. Wet, moldy, or otherwise damaged seed will not be accepted.
4. Seed requirements, application rates, and planting dates are:

TYPE	APPLICATION RATE POUNDS/A	PLANTING DATE
Hulled Common Bermuda Grass 98/88	40	Jan 1 to Mar 31
Unhulled Common Bermuda Grass 98/88	40	
Hulled Common Bermuda Grass 98/88	40	Apr 1 to Sep 30
Hulled Common Bermuda Grass 98/88	40	Oct 1 to Dec 31
Unhulled Common Bermuda Grass 98/88	40	
Annual Rye Grass (Gulf)	30	

C. Fertilizer: Dry and free flowing, inorganic, water soluble commercial fertilizer, which is uniform in composition. Deliver in unopened containers which bear manufacturers guaranteed analysis. Caked, damaged, or otherwise unsuitable fertilizer will not be accepted. Fertilizer shall contain minimum percentages of following elements:
   1. Nitrogen: 10 Percent
   2. Phosphoric Acid: 20 Percent
   3. Potash: 10 Percent

D. Mulch:
   1. Virgin wood cellulose fibers from whole wood chips having minimum of 20 percent fibers 0.42 inches in length and 0.01 inches in diameter.
   2. Cellulose fibers manufactured from recycled newspaper and meeting same fiber content and size as for cellulose fibers from wood chips.
   3. Dye mulch green for coverage verification purposes.

E. Soil Stabilizer: “Terra Tack 1” or approved equal.

F. Weed control agent: Pre-emergent herbicide for grass areas, such as “Benefin,” or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

A. Provide final grading in accordance with requirements of Section 01 74 23 – Restoration of Site and 32 91 05 – Topsoiling and Finished Grading.

B. Place and compact topsoil in accordance with requirements of Section 32 91 05 – Topsoiling and Finished grading.

C. Dispose of objectionable and waste materials in accordance with Section 01 74 19 – Construction Waste Management and Disposal.

3.2 APPLICATION

A. Seed: Apply uniformly at rates given in Paragraph 2.1 B for type of seed and planting date.

B. Fertilizer: Apply uniformly at rate of 500 pounds per acre.

C. Mulch: Apply uniformly at rate of 50 pounds per 1,000 square feet.

D. Soil Stabilizer: Apply uniformly at rate of 40 pounds per acre.

E. Weed Control Agent: Apply at manufacturer's recommended rate prior to hydro mulching.

F. Sod: Lay single row of sod along perimeter where top soil and pavement intersect.

G. Suspend operations under conditions of drought, excessive moisture, high winds, or extreme or prolonged cold. Obtain Owner’s representative approval before resuming operations.

3.3 MAINTENANCE

A. Maintain grassed areas minimum of 90 days, or as required to establish acceptable growth. For areas seeded in fall, continue maintenance following spring until acceptable lawn is established.

B. Maintain grassed areas by watering, fertilizing, weeding, and trimming.

C. Repair areas damaged by erosion by regrading, rolling, and replanting.

D. Reseed small, sparse grass areas. When sparse areas exceed 20 percent of planted area, reseed by hydro mulch.

E. Mow grass when height reaches 3½ inches or greater on average before final acceptance. Mow to height of 2½ inches.

3.4 OWNER TRAINING (NOT USED)

END OF SECTION