

CHEVRON U.S.A. INC.
ENGINEERING DEPARTMENT
EL PASO, TEXAS

Specification No. EP-470-S
January 27, 1983 (JKW)
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CONSTRUCTION OF STORM WATER BASINS AND PUMP STATION
WASTE WATER-TREATING PROJECT
PHASE III

EL PASO REFINERY

SECTION 1.0 - SCOPE OF WORK

1.1 GENERAL

CONTRACTOR shall provide all material, utilities, tools, construction equipment, labor, including supervision and inspection, and all items of a consumable nature (listed in Specifications EG-1048 and EG-1049) that are required for construction of two High Density Polyethylene (HDPE) lined storm water basins, pump station, and related facilities, as detailed by this Specification, including the drawings and other attachments listed in the Appendix, except as otherwise provided in Section 4.0, at COMPANY'S El Paso Refinery, El Paso, Texas.

This work includes but is not limited to:

All earthwork associated with the construction of two HDPE lined basins and basin access roads (includes construction of one new basin and modifications to the existing basin); relocation of oily silt from bottom of existing lined basin to refinery land farm; removal and disposal of hypalon liner, steel overflow pipes, and pump suction pipe from existing basin; removal of oil contaminated subgrade under existing hypalon liner (if any); installation of below grade piping (welded steel, PVC, and reinforced concrete pipe); all concrete work including construction of pump paving slab, overflow channel, pipe collars, and pump suction sumps; surfacing basin access roads with crushed rock, also grading roads where necessary prior to surfacing; oil stabilization of newly graded slopes; fabrication and installation of steel platform and stairs; procurement and installation of HDPE liners.

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SECTION 2.0 - GENERAL PROVISIONS

2.1 COMPANY REVIEW AND APPROVAL

COMPANY'S approval of or agreement to the performance of certain items of construction work or the furnishing of certain material and equipment by CONTRACTOR as required in this Specification, or otherwise obtained for the work hereunder, shall in no way relieve CONTRACTOR from the full responsibility for the performance of such work, for the adequacy of such material and equipment or for the sole responsibility for the work performed under this specification. CONTRACTOR shall obtain such approval or agreement through COMPANY'S Representative, or in a manner previously approved in writing by COMPANY'S Representative.

2.2 OTHER CONTRACTS

COMPANY reserves the right to let other contracts or perform other services in connection with CONTRACTOR'S work hereunder. CONTRACTOR shall afford others equitable opportunities for the introduction and storage of their materials and the execution of their work and shall properly coordinate its work with theirs.

2.3 PLANT REGULATIONS

Prior to commencement of work, CONTRACTOR shall become familiar with the plant regulations included in Addendum No. 1 to this specification entitled, "Additional Provisions for the Performance of Work". These regulations apply to all contractors performing work on COMPANY'S premises. CONTRACTOR shall be responsible for compliance with these regulations while on the premises of COMPANY.

2.4 PERMITS

CONTRACTOR is required to obtain all State and local permits, other than those called out as provided by COMPANY in the specification, if any.

2.5 SALVABLE AND NON-SALVABLE MATERIAL

- 2.51 All salvable material and equipment shall remain the property of COMPANY, except those materials supplied by the CONTRACTOR not incorporated in the finished facility. Declaration of items as salvable or non-salvable shall be made by COMPANY Representative.
- 2.52 All salvable material shall be removed by CONTRACTOR to El Paso Refinery Storehouse area. This shall be handled as "new" material and not damaged so as to be unserviceable.

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- 2.53 All items declared by the COMPANY Representative to be non-salvable shall become the property of CONTRACTOR and be disposed of outside COMPANY's premises. Non-salvable material does not include excavated material which will be disposed of on COMPANY premises.

• 2.6 SURVEYING

- 2.61 CONTRACTOR shall perform all surveying necessary from base lines and bench marks established by COMPANY. The accuracy for all grades, elevations, and plumbing of any structures and location of facilities described in the specification shall be the responsibility of CONTRACTOR.
- 2.62 CONTRACTOR shall preserve all permanent survey monuments and bench marks. In the event CONTRACTOR disturbs any permanent monuments or bench marks, they shall be replaced by a land surveyor acting under COMPANY'S instructions; replacement cost shall be for CONTRACTOR'S account and may be deducted from the sums due or to become due CONTRACTOR.

2.7 SAFEGUARDING WORK AND PROPERTY

- 2.71 CONTRACTOR'S operations shall be so conducted that a minimum of damage and inconvenience is caused to other refinery facilities, the public, or to owners and tenants of adjoining property affected by the work. CONTRACTOR'S work plan shall be approved by the COMPANY Representative before work begins.
- 2.72 CONTRACTOR'S work and equipment shall be guarded by barricades, delineators, trench covers, etc. Lights shall be installed at idle machinery, or at other obstructions on roads and accessible areas from sunset to sunrise.
- 2.73 CONTRACTOR shall install temporary roads approved by the COMPANY Representative, as necessary to maintain access to existing operating and maintenance facilities while construction is proceeding.
- 2.74 Repair of damage to barricades and to rope, wire or fenced delineation of COMPANY facilities shall be the responsibility of CONTRACTOR. When CONTRACTOR after due notice, fails to restore any barricade or delineation during the course of the work, COMPANY may perform this work and deduct the cost from the sum due or to become due CONTRACTOR.
- 2.75 CONTRACTOR shall supply knowledgeable flagmen as necessary to ensure safe traffic control. Flagmen shall be located at positions approved by the COMPANY Representative.

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2.8 GUARANTEE

Irrespective of whether COMPANY has inspected or approved any of the work hereunder, CONTRACTOR guarantees that all of the materials and labor furnished hereunder by CONTRACTOR shall be free from defects in materials and/or workmanship for a period of one year (except for the HDPE liner installation which shall be guaranteed for a period of two years) from the date of the Acceptance of the Facility by COMPANY. Any such materials and/or workmanship found to be defective during said one (or two) year period and any damage caused by such defects or the repair or replacement of them shall be replaced by CONTRACTOR at his sole expense with materials and workmanship that are satisfactory to COMPANY. COMPANY will notify CONTRACTOR of such defects in writing and CONTRACTOR shall promptly thereafter replace the defective materials and/or workmanship and repair any damage caused by such defect or such replacement. If CONTRACTOR does not commence and pursue with diligence the replacement of defective materials and/or workmanship, or damage caused by such defect or such replacement, COMPANY may replace defective material and/or workmanship and repair any damage, and COMPANY shall deduct from any sums due or to become due CONTRACTOR or CONTRACTOR shall reimburse COMPANY for all of COMPANY'S expenses in replacing such defective material and/or workmanship and repairing such damage.

2.9 TEMPORARY CONSTRUCTION FACILITIES

- 2.91 CONTRACTOR shall provide and install all necessary temporary facilities including, but not limited to, tool rooms, locker rooms, toilets, office and storehouse. All temporary installations shall be subject to approval by COMPANY prior to installation.
- 2.92 In addition, CONTRACTOR shall provide all necessary temporary equipment and material including, but not limited to, shoring, concrete forms, bracing, ladders, scaffolding, staging, drop cloths and tarpaulins.
- 2.93 CONTRACTOR shall maintain all temporary facilities, material and equipment in a safe and adequate manner and remove them immediately upon completion of the work requiring their presence.

2.10 MISCELLANEOUS

Accommodations, meals and transportation of all CONTRACTOR'S employees shall be the responsibility of the CONTRACTOR.

2.11 WORK SPACE AND STORAGE AREA

COMPANY will assign space for CONTRACTOR'S office, work space and storage area.

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SECTION 3.0 - PERFORMANCE OF WORK

3.1 CODES

All work described in this specification shall be performed in strict conformance with the codes and industrial standards hereunder.

- 3.11 All applicable municipal codes, laws, and ordinances governing the work.
- 3.12 The latest edition of ANSI Code for Pressure Piping, ANSI B31.3 Petroleum Refinery Piping and the AISC Code of Standard Practice for Steel Building and Bridges, the AWS Code for Welding and Building Construction, D 1.0-69.

3.2 SCHEDULE

- 3.21 CONTRACTOR shall maintain a detailed construction schedule for all phases of work and shall conform with the commencement and completion dates set forth in the Facing Sheet of this Agreement. The schedule shall indicate start of construction, job progress and completion date for each portion of the work. CONTRACTOR shall submit this construction schedule to COMPANY within one week after the date of this Agreement and shall resubmit a revised schedule each week until construction is completed. COMPANY will retain the prerogative to alter the schedule without advancing the job completion date at any time to facilitate or maintain refinery operations.
- 3.22 It is understood that the CONTRACTOR'S compensation, as provided for in the Facing Sheet of this Agreement, includes all overtime payments, premiums, bonuses or other extras required to meet this schedule, and that CONTRACTOR shall not be entitled to additional compensation for these amounts except as otherwise provided.

3.3 SEQUENCE OF WORK

- 3.31 The existing hypalon lined basin and pump station must remain in tact and in service until the new pond is complete and operable, at which time modifications to the existing pond may begin. Aside from this requirement, the sequence of work shall be as mutually agreed between COMPANY and CONTRACTOR and shall be consistent with the facing sheet of the agreement.

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3.4 MATERIAL HANDLING AND CORRESPONDING PAPER WORK

- 3.41 CONTRACTOR shall use COMPANY Purchasing Department Form GO-111, to requisition material required for the work hereunder. The form shall be submitted to COMPANY Representative at least 24 hours in advance of the time material is required. Only the COMPANY Representative can authorize the release of materials. The material shall be picked up by CONTRACTOR at the El Paso Refinery Storehouse.
- 3.42 CONTRACTOR'S requests for withdrawal of COMPANY-furnished material and equipment shall be based on quantities shown on drawings or lists of materials furnished by COMPANY. CONTRACTOR shall obtain approval from COMPANY'S Representative, in writing, before materials in excess of the quantities shown on the drawings or lists of materials will be issued.
- 3.43 CONTRACTOR shall be responsible for keeping all materials and equipment in good condition until the completed facility is accepted by COMPANY.
- 3.44 CONTRACTOR shall be held accountable for surplus materials furnished by COMPANY, items received from COMPANY and to be returned, and for shortages or damages to equipment and materials furnished by COMPANY.
- 3.45 CONTRACTOR shall promptly check bills of material or drawings for any errors which would result in shortages and shall, notify COMPANY in writing if there are any such errors or if the equipment and materials listed are insufficient to meet his anticipated needs. Delays caused by CONTRACTOR'S failure to discover and promptly report such errors or that the equipment and materials listed are insufficient to meet his anticipated needs shall not necessarily constitute a basis for extension of time of completion under Section 3.2 or a basis for reimbursement under Section 3.3 of the Terms and Conditions.
- 3.46 Upon completion of the job, CONTRACTOR shall furnish COMPANY an inventory of all remaining equipment and materials which were furnished by COMPANY including the quantity, description, and the item number of each item. When directed by COMPANY, CONTRACTOR shall transport the remaining equipment and materials to such locations as designated by COMPANY.

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SECTION 4.0 - WORK AND MATERIAL BY COMPANY

4.1 WORK BY COMPANY

The following items of work related to the facility shall be performed by COMPANY:

Installation of pump and motor; installation of above grade steel piping for pump suction and discharge lines; all electrical work; fabrication of aluminum silt weirs.

4.2 MATERIAL BY COMPANY

COMPANY shall provide only such material as indicated on Construction Drawing Lists of Materials.

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SECTION 5.0 - CONSTRUCTION

This section amplifies the construction details for some portions of CONTRACTOR'S work.

5.1 GENERAL

5.11 Equipment Location

Construction drawings indicate the locations of principal equipment and general plant arrangement. Location of minor structures are shown on the detailed construction drawings.

5.12 Final Connections

If it is necessary for CONTRACTOR to make connection to any COMPANY facility already in service, CONTRACTOR shall request a date for making such connection in advance so that COMPANY Construction Representative can schedule a shutdown. No work shall be done until a Work Permit has been issued. COMPANY Inspector must be present while work is in progress.

5.2 PIPING

5.21 General

All piping shown on the construction drawings shall be installed by CONTRACTOR. Piping shall be pre-formed and laid in such a way that it will at all points conform to the supports or trench bottom and be located as indicated on the construction drawings.

5.22 Piping Material

All piping shall be field fabricated by CONTRACTOR. COMPANY shall provide suitably coated steel pipe and bare fittings. Carbon steel piping shall be furnished in double-random lengths beveled for welding. All PVC pipe shall be furnished in 20 foot lengths, along with the necessary elbows, flanges, cleaner and glue.

5.23 Delivery and Hauling

Pipe to be furnished by COMPANY will be handled from storage by CONTRACTOR. Attention should be given to proper storage and stringing using sacks, pads or other methods to prevent damage to the coatings.

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5.24 Pipe Damaged in Shipment

CONTRACTOR shall repair or cut off, as specified by COMPANY, sections of pipe damaged in shipment while being handled by COMPANY. CONTRACTOR shall receive payment for this work as a Change. Pipe will be considered damaged in shipment only if CONTRACTOR notifies COMPANY of the damage so that COMPANY can inspect the damage before CONTRACTOR handles the pipe in any manner. Any pipe damage not previously called to COMPANY'S attention and revealed by field test or inspection will be repaired by CONTRACTOR at his expense.

5.25 Loose Pipe and Short Pieces

All pieces of pipe exceeding 6 feet in length which are cut off when making tie-in welds or for other reasons shall be hauled ahead and welded into the pipeline by CONTRACTOR.

5.26 Vents and Drains on Piping

Vents and drains at all high and low points in the piping which are required for complete venting or draining for hydrostatic test shall not be shown on construction drawings. Any such vents and drains shall be installed as necessary by CONTRACTOR. Vents and drains installed for hydrostatic testing shall be plugged and seal welded upon completion of testing.

5.27 Preparation and Care of Pipe for Welding

Interior: The inside of each length of pipe shall be thoroughly examined to make sure that it is free from dirt, animals or other obstructions. If obstructed in any way, the pipe shall be swabbed out before being incorporated into the line.

Ends: The ends of the pipe shall be thoroughly cleaned of rust, scale, dirt, grease, protective coating or other foreign matter which might affect the quality of the welds.

Beveling: The ends of unbeveled pipe produced by field cut shall be beveled to an angle of approximately 35 degrees to the plane at the end of the pipe before being welded into the line. The beveling shall be done in a workmanlike manner, and the finished cut shall be clean, free from scale and ground to correct tolerance if necessary.

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5.28 Unattended Sections:

Open ends of sections of pipeline, when unattended, shall be effectively closed or plugged.

5.29 Identifying Welder's Work:

COMPANY shall assign identifying letters or numbers to each welder employed on the line and shall require each welder to "autograph" the welds he makes. The "autographing" of welds shall be done to the satisfaction of COMPANY..

5.210 Connections in the Run of Existing Lines

Tie-in welds which are required to be isolated by packing the interior of the line will be shown on the construction drawings or specified by the COMPANY Representative.

5.211 Ditching

Safety: CONTRACTOR shall become familiar with and adhere to the requirements of Engineering and Maintenance Instruction No. 2045 entitled "Trench or Ditch Excavations" attached as part of Appendix A.04.

Character: Ditching shall be of sufficient width and in such alignment as to permit laying the pipe therein without straining the pipe and without injury to protective coatings. The bottom of the ditch shall be free of debris or any foreign material which, in COMPANY'S opinion, might damage protective coatings, and it shall be so graded or padded that it will afford uniform bearing to the pipe throughout its length. A "padding" of three or more inches of loose backfill will be considered desirable but will not be required in normal tillable soil. Such padding will be required wherever rock or hard clods are encountered in the bottom of the ditch. This padding may not contain clods or rocks if their diameter exceeds the thickness of the padding. All wood blocks used for support in the ditch shall be removed prior to backfilling.

Backfill: In buried pipeline sections material removed by the ditching operation shall be redeposited as backfill and compacted to 90% relative density as described in ASTM D-1557. Rates of compaction tests for trench backfill shall be as per Subsection 5.58. Before backfill is placed however, COMPANY shall determine by survey, the location and elevations of piping which will be buried. CONTRACTOR shall give minimum 48 hour notice to COMPANY of pipeline availability for survey at all points along the route. Backfill shall not be made without authorization by the COMPANY Representative.

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5.212 Buried Lines

CONTRACTOR shall fabricate, install, coat bare surfaces including field butt welds in pipe and backfill all excavation for underground lines. CONTRACTOR shall apply suitable coating material on fittings and stub-ins (including heat shrinkable sleeves for field butt welds in straight sections of pipe). CONTRACTOR shall furnish any special equipment required to make coating applications in the field, such as the tool for heating the sleeves. A primer and tape system shall also be used. A 50% overlap of the tape is required. COMPANY shall furnish primer, tape and heat shrinkable sleeves as required. COMPANY shall inspect the quality of coating by testing coated pipe with either a Stearns, or Tinker and Razor, holiday detector. COMPANY shall furnish the detector and perform the tests. CONTRACTOR shall space pipe support as to allow for spark testing of the wrapped joints.

5.3 CONCRETE WORK

5.31 Scope of the Work

CONTRACTOR shall provide and be responsible for all concrete work.

5.32 Methods

Placing and curing concrete shall be in accordance with Specification EG-850.

5.33 Properties

Ready-Mix concrete shall be in accordance with ASTM Specification C-94.

Portland cement type V-A per ASTM Specification C-150 and normal weight aggregate per ASTM Specification C-33 shall be used for all concrete.

The proportioning of concrete mixture shall be as follows:

Minimum compressive strength: 2500 PSI
Maximum aggregate size: 3/4 inch
Water - cement ratio: .55
Cement content: 545 lbs/cu.yd. concrete
Average total air content: 6%

5.34 Anchor Bolts

Anchor bolts shall be accurately placed and securely tied to avoid movement during concrete placement. CONTRACTOR shall take care to preserve all liner to concrete anchor bolts in the existing lined basin as these may be reused to secure the new 80 mil HDPE liner to existing concrete structures.

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5.35 Special Techniques

CONTRACTOR shall consult COMPANY'S Construction Representative before using such special techniques as, for example, pumping structural concrete.

5.36 Concrete Samples

COMPANY may perform compression and slump tests on concrete. CONTRACTOR shall furnish samples taken in accordance with ASTM Specifications as may be requested for the following tests and inspections:

5.361 Compression Tests: One cylinder from each truckload of structural concrete placed.

5.362 Slump Tests: Each truckload.

5.37 Slump Test

The consistency of the concrete mix shall be such that it is plastic and workable. The consistency shall be determined by CONTRACTOR in advance of placing concrete by the standard slump test. The required slump shall be a 4 inch minimum and a 6 inch maximum.

5.38 Hot Weather Requirements

Concrete deposited in hot weather shall not have a placing temperature that will cause difficulty from loss of slump, flash set, or cold joints. Concrete temperature shall be less than 90 degrees F.

5.39 Water Stops

Water stops shall be extruded polyvinyl chloride (P.V.C.). Durajoint type 5 or COMPANY approved equal.

5.310 Preparation of Concrete Surfaces

Concrete surfaces which are to be lined shall have all rough edges and projections removed in the area of lining. All cracks in the concrete shall be cleaned and filled with a sand-cement mortar. Extruded expansion joint material and joint sealers shall be cut off flush. The entire surface to be lined shall be cleaned of all foreign materials and swept thoroughly.

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5.4 DRAIN SYSTEM MATERIALS

Reinforced concrete pipe shall conform to ASTM Designation: C-76 Class III or better. Flexible joints shall be neoprene "O" ring gasket in accordance with ASTM Designation: C-433.

5.5 EXCAVATION AND BACKFILL

5.51 Earthwork shall be in accordance with applicable paragraphs of Specification EG-581.

5.52 Examination of Site: CONTRACTOR has the responsibility for sampling and testing earth to be graded and shall have examined the site, compared it with drawings and specifications, and satisfied himself as to the conditions under which work is to be performed. Following the job start, no adjustments in compensation shall be made in behalf of CONTRACTOR for any extra expense to which he may be put due to failure or neglect on his part to acquaint himself with conditions of the site and any other work thereon, their approaches and possibilities. COMPANY shall make available for CONTRACTOR'S inspection before the job start the report of soils investigation in order that data therein may be utilized in the work on site.

5.53 Calculation of Earthen Volumes: Volume of material to be excavated, filled or handled in any way shall be calculated by CONTRACTOR from topography data on specification drawings and/or from CONTRACTOR'S site examination.

5.54 Removal of Oil Contaminated Soil

Soil at the construction site which has been contaminated with oil shall be subexcavated and stock piled at a nearby location designated by the COMPANY'S Representative. CONTRACTOR shall be responsible for such subexcavating and stock piling. CONTRACTOR shall also be responsible for relocating the oily sludge in the bottom of the existing pond to an area inside the refinery designated by the COMPANY'S Representative. Soil shall be considered "oil contaminated" in the event it does not meet the parameters set forth in Subsection 5.58 below as a result of its hydrocarbon content.

5.55 Removal of Hypalon Liner and Steel Piping from Existing Basin

CONTRACTOR is responsible for removing and disposing of the existing hypalon liner in its entirety. CONTRACTOR shall also remove and dispose of all existing steel overflow and pump suction piping into existing lined basin. CONTRACTOR shall submit with proposal, the location of the disposal site for COMPANY review and approval.

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5.56 Preparation of Areas to be Filled

CONTRACTOR shall clear and grub out all trees, bushes, brush, weeds and all other growth and shall haul such material off the property and dispose of it in a location arranged for by CONTRACTOR. Top soil shall be removed from ground surfaces to the satisfaction of the COMPANY Representative. After this, the ground surfaces shall be scarified a minimum of eight inches and compacted to 90% density before fill is started.

5.57 Preparation of Areas to be Excavated

Following clearing and grubbing, per Subsection 5.56 above, excavation work shall proceed in accordance with the specification drawings. Cut slopes remaining in borrow areas shall be straight and uniform. Cuts shall be planned to require excavation of the entire slope face. The slope toe shall be cleaned of excess material and made true to line at the limit of excavation.

5.58 Fill Control and Compaction Certification

Fill shall be placed in lifts that shall not exceed 12 inches in thickness after compaction and shall be compacted with rollers or mechanical tampers which provide uniform compaction through the full depth of the fill. All fill shall be compacted to a minimum of 90% of maximum dry density as determined by ASTM D-1557. Fill material shall meet the following parameters as determined in accordance with ASTM D-442:

<u>Sieve Size</u>	<u>Precent Passing</u>
4	40 - 100
200	0 - 25

The plasticity index of all fill material shall not exceed 20.

Tests of fill material shall be made at the following rates:

- 5.581 One field density per every 10,000 square feet of fill, or a minimum of two per lift, according to ASTM D-1556 or ASTM D-2922. In addition, a minimum of two field densities in each pond bottom at finished grade and a minimum of four field densities in each pond for sideslopes; locations to be designated by COMPANY'S project engineer. Field densities for ditch backfill shall be performed at the rate of one at mid-depth and one at final grade for every 150 lineal feet of ditch.

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5.582 One moisture density curve for each type of fill material used according to ASTM D-1557.

5.583 One sieve analysis and one plasticity index for each type of material used, according to ASTM D-422, D-423 and D-424.

CONTRACTOR is responsible for providing COMPANY with written certification through a recognized independent testing agency that the requirements of this specification have been met as to compaction and quality of fill material used.

5.59 Use of Material to be Graded

COMPANY shall designate earthen material on COMPANY'S premises, available for use as fill. Such material may or may not satisfy the requirements of this specification, consequently, it is CONTRACTOR'S responsibility to sample and test the material to verify that the requirements of this specification are met. Any additional earthen material required shall be the responsibility of the CONTRACTOR.

5.510 Foreign Material in Fill

Concrete, asphalt paving, rocks, etc., to be incorporated in the fill shall be blended into fill in pieces not to exceed three inches in greatest dimension. This material shall not be placed in the first one (1) foot lift or in the final two (2) feet of fill. CONTRACTOR shall distribute the material in the fill and thoroughly tamp it into the surrounding soils.

5.511 Filling into Existing Slopes

Where fill is to be placed against natural or cut slopes of 4 horizontal to 1 vertical or steeper, the compacted fill should be placed on horizontal benches excavated into the slopes. Filled slopes shall be overfilled and cut back to a compacted surface.

5.512 Water

Fresh water shall be used where addition of moisture is required to meet soil compaction requirements.

5.513 Subgrade Preparation for HDPE Liner

The lining subgrade shall be smooth and free of all rocks, stones, sticks, roots, sharp objects, oily soil or any substance which might damage the liner. The immediate liner subgrade shall consist of a

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minimum of four (4) inches of fine grained sandy material free of any deleterious substance. The surface shall provide a firm, unyielding foundation for the membrane with no sudden, sharp or abrupt changes or breaks in grade. No standing water or excessive moisture shall be allowed. The liner installation contractor shall certify to COMPANY in writing, that the surface on which the membrane is to be installed is acceptable.

5.514 Grading

CONTRACTOR is responsible for all grading and shall grade areas shown on drawings to a tolerance of plus or minus 0.1 foot.

5.6 OIL STABILIZATION

Stabilization of earthen slopes, called for on construction drawings, shall be accomplished by applying three sprayed coats of cut-back or emulsified asphalt. The treatment shall consist of one application of cut-back asphalt as weather coats. Stabilization should be applied as soon as possible after grading to prevent erosion damage. Asphalt material shall be furnished by CONTRACTOR, hauled to site, and applied by CONTRACTOR.

5.61 Surface Preparation

5.611 Grading and Finish

All earthen areas to be stabilized shall be of uniform grade, thoroughly compacted and dressed to a smooth and even finish prior to the start of oiling. Slopes shall be repaired with hand compacted fill as required to present a smooth, finished appearance.

5.612 Moisture Content

The typical moisture content of all areas to be oil-stabilized shall be checked by the CONTRACTOR prior to applying penetration coat. Ideally, moisture content should be 5-6% by weight but in no case shall it exceed 10% by weight. Light spraying of water will be permitted to achieve this condition.

5.62 Penetration Coat

PDO-K cut-back asphalt or equal shall be sprayed at a temperature of 75°-180°F, as measured at time of spraying. The rate shall be 1/4 gallon per square yard of surface or as necessary to obtain an initial penetration of 1/2" minimum into the surface. A second coat may be required to achieve minimum penetration.

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5.63 Weather Coat

Two coats of emulsified asphalt, type CRS-2 shall be sprayed at the rate of 1/4 gallon per square yard per application at a temperature of 75°-160°F, as measured at the time of spraying.

5.64 Application

All sprayed coats shall be applied with care, avoiding holidays and runs, to insure that no thin or spongy spots occur that may lead to eventual erosion. Coating of slopes shall be carried three feet past the slope top and toe. CONTRACTOR shall complete all oil stabilization work prior to pond liner installation.

5.65 Curing Time

Curing time for each coat, including the penetration coat shall be not less than forty-eight (48) hours.

5.66 Adverse Conditions

All reasonable care shall be exercised when spraying earth stabilization materials to avoid spray drift away from the immediate spray site. No work shall start unless authorized by COMPANY Representative. If the CONTRACTOR encounters adverse wind conditions during the course of the work, all spraying shall immediately be stopped.

5.7 HDPE LINER FABRICATION AND INSTALLATION

Basin liners shall be fabricated and installed as per Specification EP-492-S entitled "Manufacture and Installation of High Density Polyethylene Liners".

5.8 FABRICATION AND INSTALLATION OF STEEL STRUCTURES

CONTRACTOR is responsible for the fabrication and installation (including painting) of all steel structures. Fabrication shall be as per Standard Specification EG-398 entitled "Steel Fabrication". Installation shall be as per construction drawings.

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SECTION 6.0 - INSPECTION AND TESTING

6.1 GENERAL

CONTRACTOR shall be solely responsible for thorough craft inspection during construction and for the quality of the work. COMPANY will make such inspection as COMPANY may desire in order to check the progress and quality of the work, to see that CONTRACTOR'S employees are properly qualified in their respective crafts, that workmanship is of an acceptable grade, and that all requirements of this specification are being met. Such inspection or any other inspection or testing by COMPANY shall in no way relieve CONTRACTOR of full responsibility for the work hereunder.

6.2 HYDROSTATIC TEST

- 6.21 CONTRACTOR shall hydrostatically test all lines after installation with all welded, screwed and flanged joints exposed and accessible for wipe test by COMPANY Representative who must be given adequate advance notification of intent to test. COMPANY Representative must approve the hydrotest.
- 6.22 CONTRACTOR may, at his option, test sections of the pipelines in any length desired. CONTRACTOR shall supply all labor and equipment for such tests. Preliminary testing shall not relieve CONTRACTOR of the responsibility for the final hydrostatic proof test, or completion test, of the entire pipeline as covered herein.
- 6.23 With the line(s) placed in final position, and the maximum number of connections and fittings installed, CONTRACTOR shall fill the system with fresh water at minimum temperature of 60°F. and shall apply the completion test in accordance with COMPANY'S Refinery Instruction 1501 attached in Appendix A.04..
 - 6.231 CONTRACTOR shall furnish calibrated test gauges and pressure recording instruments. Test pressure required will be computed by COMPANY and specified on construction drawings.
 - 6.232 CONTRACTOR shall install test gauges and instruments as directed by the COMPANY Representative.
 - 6.233 Following completion of test, CONTRACTOR shall drain the lines as directed by the COMPANY Representative and assure that piping is washed or blown clean of loose materials.

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- 6.24 Repair: If leakage is indicated, CONTRACTOR shall locate it and make repairs to the satisfaction of COMPANY, after which the test shall be repeated or the line accepted, at the option of COMPANY. CONTRACTOR shall bear the expense of repairs or retests necessitated by his faulty workmanship; COMPANY shall bear the expense of repairs and retests occasioned by the use of faulty material supplied by COMPANY.

6.3 WELDING INSPECTION

- 6.31 CONTRACTOR shall arrange for welding qualification tests at his expense in accordance with Engineering and Maintenance Instruction No. EP-2200 entitled "Qualification of Welders" attached in Appendix A.04. Welders shall be required to pass qualification tests before performing any operation. COMPANY reserves the right to require additional qualification tests during construction if it has any doubt about the competence of welders. COMPANY shall be allowed to witness tests and to examine test coupons. If additional tests are required and passed by welders, cost of retesting will be borne by COMPANY; if failed, cost of retesting shall be borne by CONTRACTOR.
- 6.32 COMPANY may perform random radiography of welds in accordance with Section 7.0 of Specification No. EG-2505 to verify that the overall quality of workmanship is in accordance with COMPANY standards as set forth in Specification No. EG-2505. Welds so inspected shall be repaired or replaced by CONTRACTOR at no increase in CONTRACTOR'S compensation if the weld fails to meet said standards. All of COMPANY'S radiographs will be available to CONTRACTOR for his review and use to the extent he desires to verify that all requirements of Section 6.1 above are met.

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SECTION 7.0 - DRAWINGS, SPECIFICATIONS, AND INSTRUCTIONS

7.1 GENERAL

- 7.11 Work shall be in accordance with the drawings, specifications, and instructions listed in the attached Appendices which Appendices are a part of this specification.
- 7.12 The specifications indicate qualities of materials and methods of workmanship, and the drawings indicate dimensions, quantities, positions and details of construction.
- 7.13 COMPANY will provide to CONTRACTOR one reproducible copy of all pertinent standard drawings, standard specifications, construction drawings, and instructions.

7.2 DRAWINGS

- 7.21 CONTRACTOR shall be responsible for promptly notifying COMPANY if there are any errors in the specification drawings and/or conflicts with existing facilities. CONTRACTOR shall submit any proposed change or suggested deviation from the drawings to COMPANY for written approval before beginning fabrication and/or installation.
- 7.22 Upon completion of the Facility, CONTRACTOR shall mark a copy of each drawing to indicate any changes or deviations made in the actual installation. These marked drawings shall be turned over to COMPANY.
- 7.23 CONTRACTOR shall be responsible for verifying all dimensions of and for proper fitting up of tie-ins to existing facilities or facilities to be constructed by CONTRACTOR as shown on the design drawings provided by COMPANY.

7.3 STANDARD SPECIFICATIONS

Unless otherwise expressly provided in this Specification, (a) any data, specifications, material, and work or any other matter which is covered by this Agreement which the standard specifications require to be provided by COMPANY shall instead be provided by CONTRACTOR; (b) any provisions of the standard specifications requiring COMPANY to inspect certain material or work shall mean that COMPANY has an option, rather than the obligation, to so inspect such material or work.

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7.4 ENGINEERING AND MAINTENANCE INSTRUCTIONS/REFINERY INSTRUCTIONS

In the engineering instructions, reference to COMPANY'S personnel shall be of no effect, and CONTRACTOR'S personnel shall perform all activities which are to be performed under the engineering instructions, except as otherwise provided elsewhere in this Specification.

CHIEF ENGINEER

CHEVRON U.S.A. INC.
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A.01 - CONSTRUCTION DRAWINGS

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<u>Drawing Number</u>	<u>Title</u>
PD-08-33140	Plot Plan, 36 Acres Additions
PD-08-33161, Sheet 1	Sections and Details 36 Acres Additions
PD-08-33161, Sheet 2	Sections and Details 36 Acres Additions
PD-08-32542	Topographical Layout 36 Acres
PD-08-33164	Plan, Sections, and Details Concrete Pump Suction Sumps
PD-08-33189	Section and Details Concrete Inlet Box
PD-08-33191	Piping Plan, Section and Details
PC-08-33188	Foundation Plan and Sections, Pump Paving Slab
PC-08-33187	Plan and Sections, Concrete Emergency Overflow Channel
PD-08-32990	Layout, Sections and Details, T-804 Basin
PD-08-33195	Plot Plan and Elevations T-809 Platform
PD-08-33197	Layout and Details T-809 Platform
PD-08-33199	Plot Plan and Elevations T-804 Platform
PD-08-33200	Layout and Details T-804 Platform
PF-29265-4	Lined Storm Surge Pond - Layout, Details, and Sections (For Reference Only - Not for Construction)

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A.02 - STANDARD DRAWINGS

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<u>Drawing Number</u>	<u>Title</u>
GA-M99645-16	Standard Handrails
GB-Q68922-14	Standard Anchor Bolts
GE-S99975-3	Standard Guard Posts
GB-M13966-11	Standard Steel Stairs

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A.03 - STANDARD SPECIFICATIONS

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<u>Specification Number</u>	<u>Title</u>
EG-398-H	Steel Fabrication
EG-516-C	Reinforcing Steel Fabrication
EG-581	Clearing, Grading and Earthwork
EG-850-C	Placing and Curing Concrete
EG-851	Concrete Proportioning and Mixing
EG-1048-A	Small Tools and Equipment
EG-1049-C	Supplies
EG-2505-H	Fabrication of Steel Piping

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A.04 - MISCELLANEOUS

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<u>Instruction, Practice Number</u>	<u>Title</u>
Refinery Instruction No. 1501	Hydrostatic Testing of Refinery Equipment
Engineering and Maintenance Instruction No. EP-2045	Trench or Ditch Excavations
Engineering and Maintenance Instruction No. EP-2200	Qualification of Welders
EP-492-S	Manufacture and Installation of High Density Polyethylene Liners
--	Soils Investigation
Product Data Sheet	Carboline 187 HFP Primer and Finish