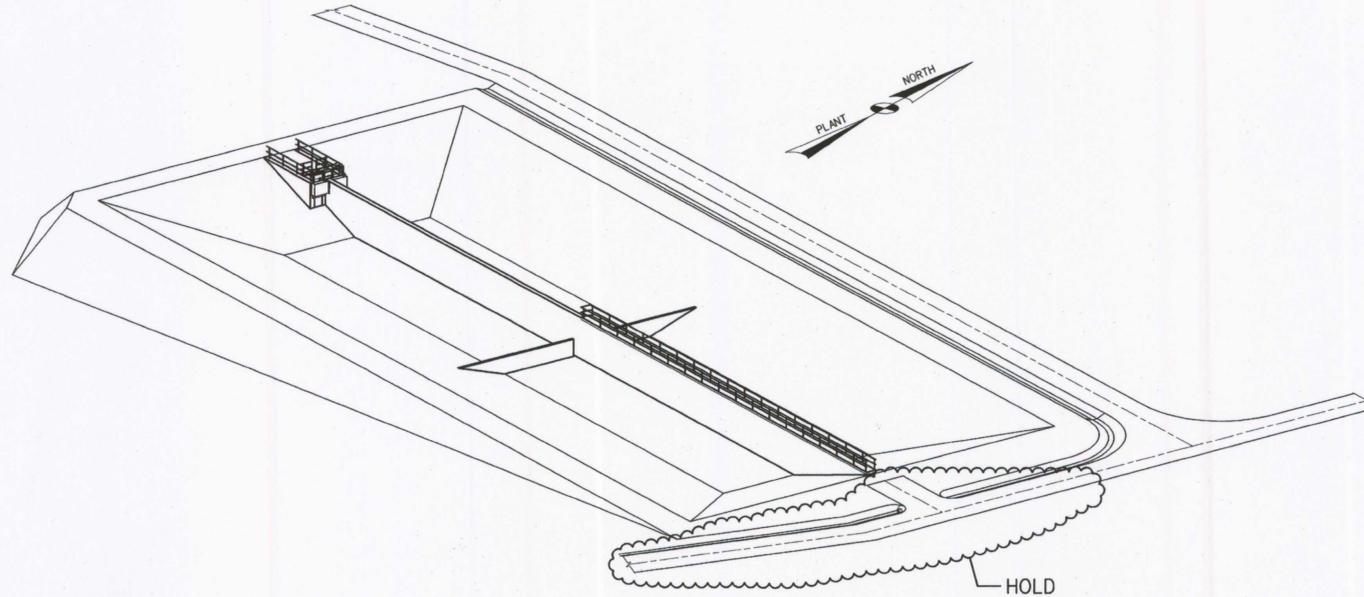


GW - 032

ENGINEERING DRAWINGS

Sanitary Treatment Pond



ISOMETRIC VIEW
N.T.S.

NOTES

- SITE PREPARATION, GRUBBING, EXCAVATION, BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REPORT BY GEOMAT INC. PROJECT NUMBER 112-1286, LABELED: "GEOTECHNICAL ENGINEERING REPORT, WASTE WATER SYSTEM IMPROVEMENTS" AND IN ACCORDANCE WITH WESTERN SPECIFICATION CV502100, "SITE PREPARATION, EXCAVATION AND BACKFILL SPECIFICATION".
- EXCAVATION WORK SHALL BE COORDINATED WITH THE SITE STORM WATER POLLUTION PREVENTION PLAN PRIOR TO START OF WORK.
- CARE SHALL BE TAKEN NOT TO DAMAGE ANY UNDERGROUND OBSTRUCTIONS. ALL EXISTING UNDERGROUND OBSTRUCTIONS WITHIN THE EXCAVATION LIMITS SHALL BE REVIEWED BY WESTERN REFINERY BEFORE REMOVAL.
- EXISTING SOIL SHALL BE REMOVED TO SPECIFIED DEPTH, AND BE PROPERLY PREPARED FOR INSTALLATION OF LINER.
- ALL UNSUITABLE MATERIAL UNDER CONCRETE RETAINING WALL SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL TO ELEVATIONS AS INDICATED ON THE DRAWINGS.
- REMOVED SOIL SHALL BE DISPOSED AT A WESTERN REFINERY DESIGNATED SITE.
- THE AREA TO BE FILLED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES, CONDITIONED TO NEAR OPTIMUM MOISTURE CONTENT AND COMPACTED. SOFT OR WEAK AREAS DISCLOSED BY PROOF-ROLLING SHALL BE REMOVED AND REPLACED WITH COMPACTED FILL.
- ENGINEERING FILL SHALL BE PLACED IN 8 INCHES LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY DETERMINED BY THE STANDARD PROCTOR TEST IN ACCORDANCE WITH ASTM D698.
- WORK SHALL BE DONE UNDER THE SUPERVISION OF THE GEOTECHNICAL REPRESENTATIVE.
- ACCESS, DRAINAGE AND DEWATERING OPERATIONS REQUIRED TO MAINTAIN THE SITE SHALL BE PROVIDED BY THE CONTRACTOR.
- CONTRACTOR WILL FURNISH AND INSTALL SAFETY FENCE WHERE REQUIRED.
- PLANT COORDINATES & ELEVATIONS ARE BASED ON THE FOLLOWING PLANT BENCHMARKS LISTED BELOW:

CP-9 N. 4102.88' W. 2049.82' EL. 205.11'	CP-11 N. 3608.67' W. 1924.45' EL. 214.12'
CP-10 N. 4099.87' W. 1899.83' EL. 206.87'	

PLANT DATUM ELEVATION 200'-0" - TRUE DATUM ELEVATION 6904.48' (MSL)

- THE NATIVE CLAY SOILS ARE EXPANSIVE AND ARE NOT CONSIDERED SUITABLE FOR USE IN COMPACTED STRUCTURAL FILLS. IMPORTED SOILS TO BE USED IN STRUCTURAL FILLS SHOULD CONFORM TO THE FOLLOWING:

GRADATION	PERCENT FINER BY WEIGHT (ASTM C136)
3"	100
NO. 4 SIEVE	50-100
NO. 200 SIEVE	50 MAX
MAXIMUM EXPANSIVE POTENTIAL (%) *	1.5

* MEASURED ON A SAMPLE COMPACTED TO APPROXIMATELY 95 PERCENT OF THE ASTM D698 MAXIMUM DRY DENSITY AT ABOUT 3 PERCENT BELOW OPTIMUM WATER CONTENT. THE SAMPLE IS CONFINED UNDER A 144-PSF SURCHARGE AND SUBMERGED. FILL MATERIALS FOR USE UNDER SLABS AND FOUNDATIONS SHOULD HAVE A LIQUID LIMIT < 40 AND PLASTIC INDEX IN THE RANGE OF 6 TO 18.

- AGGREGATE BASE SHOULD CONFORM TO NMDOT SPECIFICATIONS.
- SLOPES OF SOIL SHALL BE IN ACCORDANCE WITH OSHA 29 CFR 1926 AND LOCAL REQUIREMENTS.
- RIP RAP REQUIREMENTS:
FOR SOIL SLOPE INCLINATIONS AROUND PERIMETER OF POND AREA BETWEEN 3:1 TO 2.5:1 (HORIZONTAL:VERTICAL) PROVIDE PROTECTION RIP RAP D50 ≥ 4 INCHES (AT A MINIMUM) AND BETWEEN 2.5:1 TO 1.5:1 (HORIZONTAL:VERTICAL) PROVIDE PROTECTION (GROUTED RIP RAP PLACED OVER FILTER FABRIC) RIP RAP D50 ≥ 12 INCHES (AT A MINIMUM).

POND LINER NOTES

- THIS DRAWING SET ILLUSTRATES POND LINER DESIGN REQUIREMENTS. REFER TO DOCUMENT "FLEXIBLE MEMBRANE LINER SUPPLY AND INSTALLATION BID PACKAGE" DOCUMENT NUMBER: WR-MU1-SP-HSE-0001 FOR LINER REQUIREMENTS.
- ALL LINER ATTACHMENT & INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES. POND LINER SHALL BE PURCHASED AND INSTALLED BY A LICENSED CONTRACTOR.

LIST OF MATERIAL

QTY	DESCRIPTION
553.7	CU YDS - 4500 psi CONCRETE
ONE LOT	LBS - REINFORCING STEEL
ONE LOT	HILTI HIT RE 500 EPOXY
ONE LOT	SILICONE RUBBER CAULKING
ONE LOT	7/32" DIA STAINLESS STEEL WIRE ROPE (TYPE 304, 7 X 19) PLAN
ONE	EA - NEENAH R-2556-A FRAME & GRATE (TYPE G)
ONE	EA - 10" DIA. CS SHORT RADIUS 90° ELBOW (COATED & WRAPPED)
ONE	EA - 10" DIA. CS LONG RADIUS 45° ELBOW (COATED & WRAPPED)
ONE	EA - 10" DIA. CS 150° SLIP ON FLANGE
2	EA - MK-Z84-03-192-1 (3/8") STAINLESS STEEL UNDERFLOW BAFFLE
2	EA - MK-Z84-03-192-2 EMBEDDED PLATE (GALV.)
2	EA - FONTAINE MODEL 403 STAINLESS STEEL SERIES 40 WEIR GATE
4	EA - HDPE PIPE BOOT
14	EA - MK-Z84-03-191-1 ANCHOR POSTS W/ EMBED EYE BOLT (GALV)
40	EA - 3/4"-16 FORGED TYPE 316 STAINLESS STEEL EYE & EYE TURNBUCKLE
480	EA - STAINLESS STEEL WIRE ROPE "U" SHAPED CLAMPS
8	LF - 1 1/2"x1 1/2"x1/4" ANGLE (GALV)
10	LF - 36" DIA RCP (4" THICK WALL) W/CONCENTRIC FLAT TOP SECTION
170	LF - 10" DIA CS PIPE (SCHD 40) (COATED & WRAPPED)
204	LF - TPE-R BASE SEAL STYLE *555 BY WESTEC BARRIER INC.
205	LF - 2" DIA PVC PIPE (SCHD 40)
410	LF - 10" DIA HDPE DR-17 RISER PIPE W/ 8 THREADED END CAPS
1300	SF - HDPE TEXTURED LINER
39000	SF - HDPE GEOMEMBRANE LINER (PRIMARY)
39000	SF - HDPE GEONET
39000	SF - HDPE GEOMEMBRANE LINER (SECONDARY)
39000	SF - GEOSYNTHETIC CLAY LINER (GCL)

ALL MATERIALS TO BE FIELD PURCHASED UNLESS NOTED
LINER MATERIALS TO BE PURCHASED & INSTALLED BY LINER CONTRACTOR

NOTES

- FOR CIVIL/STRUCTURAL GENERAL NOTES REF DWG Z84-03-140.
- FOR LOCATION REF DWG Z84-03-184.
- WORK THIS DRAWING WITH DRAWING Z84-03-184 THRU Z84-03-192, Z84-04-135, Z84-04-136 & WR-MU1-SP-HSE-0001.

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
Z84-03-140	CIVIL/STRUCTURAL GENERAL NOTES
Z84-03-184	STP-1 WASTE WATER POND - GENERAL ARRANGEMENT PLAN
Z84-03-185	STP-1 WASTE WATER POND - RETAINING WALL PLAN & SECTIONS
Z84-03-186	STP-1 WASTE WATER POND - ENLARGED PLAN @ OUTLET
Z84-03-187	STP-1 WASTE WATER POND - PLAN
Z84-03-188	STP-1 WASTE WATER POND - SECTIONS SHT 1
Z84-03-189	STP-1 WASTE WATER POND - SECTIONS SHT 2
Z84-03-190	STP-1 WASTE WATER POND - SECTIONS & DETAILS SHT 1
Z84-03-191	STP-1 WASTE WATER POND - SECTIONS & DETAILS SHT 2
Z84-03-192	STP-1 WASTE WATER POND - SECTIONS & DETAILS SHT 3
Z84-04-135	STP-1 WASTE WATER POND - RETAINING WALL PLATFORM
Z84-04-136	STP-1 WASTE WATER POND - OUTLET END PLATFORM
WR-MU1-SP-HSE-0001	FLEXIBLE MEMBRANE LINER SUPPLY AND INSTALLATION BID PACKAGE



THIS P.E. STAMP IS APPLICABLE TO THE CIVIL/STRUCTURAL PORTION OF THIS DRAWING ONLY.
MUSTANG ENGINEERS AND CONSTRUCTORS, L.P.
PROJECT No. 18205



STP-1 WASTE WATER POND LIST OF MATERIAL & GENERAL NOTES WASTE WATER TREATMENT PLANT

DRN. BY: HR	DATE: 6/6/11	RFE No:
CHK'D. BY: JAM	DATE: 7/21/11	CAD REF:
APP'D. BY: <i>rlw</i>	DATE: 7/22/11	
DRAWING NO.	Z84-03-183	REV 0

REV.	REVISION DESCRIPTION	RFC No.	DATE
1	ISSUED FOR CONSTRUCTION		7/22/2011