

ABBREVIATIONS

AC	ASPHALTIC CONCRETE	HT.	HEIGHT	T.O.B.	TOP OF BEAM
ADJ	ADJUSTABLE	HWL	HIGH WATER LEVEL (ELEVATION)	TEMP	TEMPORARY
AF	ABOVE FINISH FLOOR	HZ	HERTZ	THK	THICK, THICKNESS
ALUM	ALUMINUM	ID	INSIDE DIAMETER	TOC	TOP OF CONCRETE
ANCH	ANCHOR	IN	INCH	TOP	TOP OF PIPE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	INT	INTERIOR	TOW	TOP OF WALL
AWWA	AMERICAN WATER WORKS ASSOCIATION	INV	INVERT	TYP	TYPICAL
		JT.	JOINT	UC	UNDERCOATING
BC	BEGIN OF CURVE	KSI	KIPS PER SQUARE INCH	UNO	UNLESS NOTED OTHERWISE
BLDG.	BUILDING	L	LENGTH	VERT	VERTICAL
BO	BLOW OFF	LAB	LABORATORY	VPI	VERTICAL POINT OF INTERSECTION
BOP	BOTTOM OF PIPE, PLATE	LBS	POUNDS	W/	WITH
BP	BASE PLATE	LOL	LAYOUT LINE	W/O	WITHOUT
		LR	LONG RADIUS	WC	WATER COLUMN
C/C	CENTER-TO-CENTER	LT	LEFT	WR	WATER-RESISTANT
CAP	CAPACITY	MANUF.	MANUFACTURER	WSP	WELDED STEEL PIPE
CFM	CUBIC FEET PER MINUTE	MAX.	MAXIMUM	WT	WEIGHT
CG	CENTER GRADE	MS, M.	MACHINE BOLTS	WTR	WATER
CI	CAST IRON	MECH.	MECHANICAL		
CJ	CONTROL JOINT	MH	MANHOLE		
CL	CENTERLINE, CHLORINE	MIN.	MINIMUM		
CLR	CLEAR	MLMC	MORTAR LINED AND MORTAR COATED		
CWC	CEMENT MORTAR COATING	MPT	MALE PLASTIC THREAD		
CML	CEMENT MORTAR LINING	MTG	MOUNTING		
CMP	CORRUGATED METAL PIPE	MTL	METAL		
CMU	CONCRETE MASONRY UNIT	N	NORTH		
COL	COLUMN	N.I.C.	NOT IN CONTRACT		
COMM	COMMUNICATION	NO.	NUMBER		
CONC	CONCRETE	NOM	NOMINAL		
CONT	CONTINUOUS	NTS	NOT TO SCALE		
COP	COPPER	(N)	NEW		
CP	CATHODIC PROTECTION	O.C.	ON CENTER		
		O.D.	OVERALL DIMENSION, OUTSIDE DIAMETER		
D	DEPTH	OD	OUTSIDE DIAMETER		
D or DIA	DIAMETER	OPNG	OPENING		
DBD	DEFERRED BOLTING DEVICE	OSA	OUTSIDE AIR		
DET	DETAIL	OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION		
DIM	DIMENSION	PE	POLYETHYLENE		
DN	DOWN	PH	PHASE		
DR	DIMENSION RATIO	PI	POINT OF INTERSECTION		
DS	DOWNSTREAM	PL	PLATE		
DWG	DRAWING	PLCS	PLACES		
		PLYWD	PLYWOOD		
EA	EXHAUST AIR, EACH	PRC	POINT REVERSE CURVE		
EC	END OF CURVE	PREFAB	PREFABRICATED		
EF	EACH FACE	PSF	POUNDS PER SQUARE FOOT		
EL. or ELEV.	ELEVATION	PSI	POUNDS PER SQUARE INCH		
ELEC	ELECTRIC, ELECTRICAL	PT	POINT		
EMBED	EMBEDMENT	PVC	POLYVINYL CHLORIDE		
ER	EXHAUST REGISTER				
EW	EACH WAY				
EX	EXISTING				
EXC	EXCAVATION				
EXIST. (E)	EXISTING				
f'c	28-DAY CONCRETE CYLINDER STRENGTH				
F.E., F.F.	FINISH ELEVATION, FLOOR	RCP	REINFORCED CONCRETE PIPE		
F.H.	FIRE HYDRANT	REINF	REINFORCING		
F.O.F.	FACE OF FINISH	REQD	REQUIRED		
F.O.W	FACE OF WALL	RT	RIGHT		
FG	FINISHED GRADE				
FIN.	FINISH	S	SLOPE		
FLG	FLANGED	SA	SUPPLY AIR		
FRP	FIBERGLASS REINFORCED PLASTIC	SCH	SCHEDULE		
FT	FOOT OR FEET	SECT	SECTION		
		SHT	SHEET		
GA. or ga.	GAUGE	SIM	SIMILAR		
GALV.	GALVANIZED	SL	SLOPE		
GND	GROUND	SLB/B	SHORT LEG BACK TO BACK		
GPH	GALLONS PER HOUR	SOL OR SOLN	SOLUTION		
GPM	GALLONS PER MINUTE	SPCS	SPACES		
		SPEC	SPECIFICATION		
H	HEIGHT	SQ	SQUARE		
H/C OR H.C.	HANDICAPPED	SQ FT	SQUARE FEET		
HDPE	HIGH DENSITY POLYETHYLENE	SS or SST	STAINLESS STEEL		
HGL	HYDRAULIC GRADE LINE	STA	STATION		
HORIZ	HORIZONTAL	STD	STANDARD		
HP	HORSEPOWER	STL	STEEL		
HP	HORIZONTAL POINT OF INTERSECTION	STRUCT	STRUCTURAL		
HR	HANDRAIL				
HS	HIGH STRENGTH				

STRUCTURAL GENERAL NOTES

- General:
- All work done under this contract shall comply with the 1997 edition of the Uniform Building Code (UBC).
 - The Contractor shall verify all dimensions, elevations and site conditions before starting work and shall notify the Engineer immediately of any discrepancies, omissions, ambiguities and conflict between various elements of the working drawings and/or specifications.
 - Dimensions and non-structural items not shown on structural drawings may be found on Civil Drawings.
 - Dimensions shall not be scaled off the drawings.
 - Notes and details on the drawings shall take precedence over General Notes and Typical Details, in case of conflict.
 - The structure is designed as a stable unit after all components are in place. The Contractor shall be responsible for providing temporary bracing as required to ensure the vertical and lateral stability of the entire structure or any portion thereof during construction.
 - The Contractor shall design, construct and maintain all safety devices, including shoring, scaffolding and bracing, and shall be solely responsible for conforming to all local, state and federal safety and health standards, laws and regulations. Neither the Owner nor the Engineer will enforce the safety measures or regulations.
 - Any substitutions shall need approval of the Engineer. The Contractor shall be responsible for all changes, additional costs and coordination with all items that the substitution may affect.
 - Fees and costs associated with redesign or modifications of these plans by the Engineer as a result of deviation by the contractor from the Plans and Specifications or due to error, faulty materials or faulty ownership are the responsibility of the Contractor.
 - The Engineer will provide only periodic observation of the work.
 - The Contractor shall assume sole and complete responsibility for the job site condition during the course of construction of the project, including the safety of all persons and property. This requirement applies continuously and is not limited to the normal working hours.
 - The Contractor agrees to defend, indemnify and hold harmless the Owner and the Engineer from any and all liabilities, real or alleged, in connection with the performance of work on this project.
 - Neither professional activities nor presence of the Engineer at the construction site relieves the Contractor of his obligation, duties and responsibilities for construction means, methods, sequences and procedures necessary for the Contractor to complete the work in accordance with the Plans and Specifications.
 - Bidders must visit the site and familiarize themselves with the existing conditions. Discrepancies must be brought to the attention of the Owner and Engineer before the bid date.
- Excavations, Grading and Filling
- The Contractor shall notify the Sols Engineer at least 48 hours prior to commencement of any excavation, clearing and demolition.
 - The Contractor shall notify all governmental agencies having jurisdiction over the project prior to commencement of any excavation, clearing and demolition, and shall make all necessary arrangements for their inspection.
 - The Contractor shall take all necessary action to locate and protect any underground or concealed conduit, plumbing or other utilities prior to beginning excavations. If underground obstructions are encountered during installations, the installer shall contact Engineer for direction.

- Backfilling in trenches and around footings is to be placed in 6 inches layers and compacted with either air or gasoline operated equipments.
- A soils investigation report has been prepared by Fugro West, Inc., 4820 McGrath Street, Suite 100, Ventura, California 93003, Tel (805) 650-7000. Earth and foundation work is to be done in compliance with the recommendation of this report. A copy of the report is available at Padre Associates.

Concrete:

- All concrete for beams, walls, foundations, flat work and miscellaneous items is to have a minimum ultimate compressive strength of 4000 psi at 28 days, unless noted otherwise.
- Cement is to be type II, low alkali, conforming to ASTM C-150.
- All aggregate used in concrete are to conform to ASTM C-33. Aggregate shall be uniformly graded with the maximum aggregate size to be 3/4".
- Drypack shall be composed of one part cement to not more than 3 parts sand.
- All exposed corners of concrete shall have 3/4" chamfer, unless noted otherwise.
- All inserts, anchor bolts or other embedded elements shall be securely tied in place prior to placement of concrete.

Reinforcing Steel:

- All reinforcing steel shall conform to ASTM A 615, Grade 60.
- Welded reinforcing bars shall conform to ASTM A 706.
- Minimum protective cover for reinforcing steel shall be as follows:
 - Cast against and permanently exposed to earth: 3"
 - Cast in forms and exposed to earth and weather: 2"
 - Walls: 1.5"
- Splices of adjacent reinforcing bars shall be staggered.
- Reinforcing detailing shall be in accordance with the latest editions "Manual of Standard Practice" by Concrete Reinforcing Steel Institute, and ACI 315.
- All reinforcing steel, welded wire fabric, anchor bolts, hold down anchors, dowels, and inserts shall be well secured in position prior to and while placing concrete or grout.
- Vertical reinforcement for cast in place walls shall be doweled to the supporting members with the same size and spacing of reinforcement as called for in the drawings, unless noted otherwise.

Concrete Adhesive

- Drill diameter of the hole 1/8" larger than bolt or rebar to be inserted in the hole.
- Drill to the depths shown on the drawings.
- Blow out holes to remove all dust and particles.
- Use a high strength, high bond, non-shrink concrete adhesive as shown on the drawings. Install in conformance with manufacturers recommendations.

Notification:

- The Engineer shall be notified 48 hours prior to commencement of the following:
- Demolition work.
 - Placement of reinforcing steel and formwork.
 - All concrete placements.

Screw pile notes and specifications:

- Helical Steel Piles shall be installed by certified and experienced personnel. Proof of experience and certification shall be made available upon request. Piles shall be installed in strict conformance to manufacturer's specifications.
- AB Chance Helical SS-150 High Strength Screw Anchor Piles, or equivalent, shall be used.

- The minimum depth of installation shall be 15 feet unless directed otherwise by the Engineer. If installation can not achieve required depth, work on that pile shall be cease until the Engineer has been contacted and provides revised directions.
- Minimum Torque shall be 5,500 foot-pounds.

Special Inspections:

- All special inspections shall conform to Section 1701 of the Uniform Building Code.
- Special inspection shall be performed by a registered Deputy Inspector approved by the Owner and the governing jurisdiction.
- Is required for all concrete with a design 28-day ultimate compressive strength of 2500 psi or greater. Items requiring special inspections include:
 - Concrete placement
 - Concrete strength
 - Reinforcing steel placement in concrete
- The Engineer shall be notified immediately of any tests which indicated non-compliance with applicable Codes or requirements of these Plans and Specifications.
- Required for installation of epoxied anchors.
- All drilled piers.
- All screw piles.
- It is the responsibility of the contractor to inform the special inspector or inspection agency at least one working day prior to performing any work that requires special inspection. All work performed without the required special inspection is subject to removal.

MISCELLANEOUS

- All stainless steel shall be ASTM A316 U.N.O.
- Pipe penetrations thru conc. wall shall be per detail



SYMBOL LEGEND

