

1. GENERAL:

- 1.1– NOTES GIVEN ON THIS DRAWING ARE APPLICABLE TO ALL ARCHITECTURAL AND STRUCTURAL DRAWINGS UNLESS OTHERWISE NOTED.
- 1.2– ALL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DRAWINGS AND SPECIFICATION.
- 1.3– THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS OF ALL DISCIPLINES FOR ALL ITEMS INCLUDING BUT NOT LIMITED TO SIZES AND LOCATION OF ALL OPENINGS FOR DUCT, PIPES AND PIPE SLEEVES, NUTS AND OTHER SUCH ITEMS TO BE EMBEDDED IN CONCRETE OR OTHERWISE INCORPORATED IN STRUCTURAL WORKS.
- 1.4– THE CONTRACTOR SHALL BRING TO THE NOTICE OF THE ENGINEER DISCREPANCIES OR AMBIGUITIES IN DRAWINGS IF ANY, FOR HIS CLARIFICATIONS/INSTRUCTIONS, PRIOR TO THE START OF WORK.
- 1.5– THE CONTRACTOR SHALL PREPARE AND SUBMIT CONSTRUCTIONAL METHODOLOGY & WORK SCHEDULE, BAR BENDING SCHEDULES FOR ENGINEERS APPROVAL AND OBTAIN THE SAME BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR WORKABILITY OF HIS METHODOLOGY, AND BAR BENDING SCHEDULES. THE ENGINEERS APPROVAL SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY UNDER THE CONTRACT.
- 1.6– THE CONTRACTOR SHALL VERIFY ALL LAYOUTS, CONFIGURATIONS, DIMENSIONS AND LEVELS PERTAINING TO WORKS BEFORE PROCEEDING WITH THE WORK. HE SHALL ALSO COORDINATE SCHEDULE OF CONSTRUCTION WITH SUPPLY AND INSTALLATION OF EQUIPMENT BY OTHERS.
- 1.7– THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THE SAFETY AND STABILITY OF THE STRUCTURE, AND SAFETY OF THE LIFE OF WORKERS AND PROPERTY DURING THE WORK, THE CONTRACTOR SHALL EXERCISE ALMOST CARE AND PRECAUTION TO AVOID ANY MISHAP OR ACCIDENT. PROPER AND ADEQUATE MEASURES SHALL BE TAKEN BY THE CONTRACTOR ACCORDINGLY.
- 1.8– ALL UTILITIES CABLES, PIPE’S AND EXISTING STRUCTURAL ELEMENTS SHALL BE PROTECTED DURING EXECUTION OF THE WORK BY THE CONTRACTOR. ANY ITEMS DAMAGED OR DESTROYED DUE TO CONTRACTORS CARELESSNESS OR NEGLIGENCE SHALL BE REPAIRED OR REPLACED USING MATERIAL OF SAME TYPE OR APPROVED EQUIVALENT QUALITY BY THE CONTRACTOR AT HIS OWN COST.
- 1.9– ALLOWABLE BEARING CAPACITY IS _ TON/FT² /AT THE DEPTH OF _ METER BELOW N.G.L.
- 1.10– ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE SPECIFICATION OF THE CONTRACT. IN THE ABSENCE OF ANY EXPRESSED OR IMPLIED SPECIFICATION IN THE CONTRACT, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO RELEVANT AMERICAN STANDARDS.

2. PLANT COORDINATE SYSTEM & REFERENCE BENCH MARKS:

- 2.1– ALL ELEVATIONS ARE WITH REFERENCE TO SURVEY PLAN.
- 2.2– PLANT/WELLHEAD PROPOSED FINISHED GROUND LEVEL (FGL.=100.00) SHALL BE AS PER GRADING PLAN.
- 2.3– REFER TOPOGRAPHICAL SURVEY DWG. FOR ALL THE PLANT COORDINATES & REFERENCE BENCH MARKS.

3. DIMENSIONS:

- 3.1– SYSTEM OF UNITS IS METRIC. ALL DIMENSIONS ARE MENTIONED IN MILLIMETERS EXCEPT ELEVATION WHICH ARE SPECIFIED IN METERS UNLESS OTHERWISE NOTED.

4. MATERIALS:

- 4.1– ALL REINFORCING BARS SHALL BE DEFORMED BAR CONFORMING TO ASTM A 615 HAVING A SPECIFIED YIELD STRENGTH OF NOT LESS THAN (60,000) Psi.
- 4.2– WELDED WIRE FABRIC.
–ASTM A185 FOR FIRE PROOF CONCRETE.
–ASTM A884 FOR OTHERS.
- 4.3– STRUCTURAL STEEL.
STEEL COVER, GRATING, CHEQUERED PLATE AND OTHER MISCELLANEOUS STEEL CONFORMING TO ASTM A36 OR EQUIVALENT.
- 4.4– PIPES AND FITTINGS.
(1) CSP (CARBON STEEL PIPE) AND FITTINGS.
– API 5L GRADE B ELECTRIC RESISTANCE WELD FOR PIPE DIAMETER 24” OR LESS.
– API 5L GRADE B SUBMERGED ARC WELD FOR PIPE DIAMETER 26” OR OVER.
(2) PVC PIPES AND FITTINGS (FOR STRAIGHT PORTION).
(2.1) FOR CONDUIT PIPES FOR ELEC/INST CABLES (WITH/WITHOUT CONCRETE PROTECTION).
– PIPE : ASTM D2729
– JOINT : ADHESIVE JOINT (SOCKET JOINT).
(2.2) FOR SANITARY AND CHEMICAL SEWERS.
– PIPE : ASTM F441M OR EQUIVALENT
– JOINT : ADHESIVE JOINT (SOCKET JOINT) OR FLANGED JOINT
(3) PE PIPE (FOR BENDING PORTION).
- 4.5– CAST IRON MANHOLE COVER.
MANUFACTURE’S STANDARD CAST IRON. (GAS SEALED TYPE)
- 4.6– WATER STOPER.
POLYVINYL CHLORIDE CENTRAL BULB TYPE.
- 4.7– JOINT FILLER.
ASTM D994, D1751, OR APPROVED EQUIVALENT.
- 4.8– JOINT SEALANT (HYDROCARBON RESISTANT TYPE).
ASTM D2628 (HOT APPLICATION), BS 5212 TYPE F (COLD APPLICATION), OR APPROVED EQUIVALENT.

4.9– POLYETHYLENE SHEET FOR VAPOUR BARRIER THICKNESS SHALL BE 0.15mm AS MINIMUM.

4.10– MILD STEEL BOLT AND NUTS ASTM A307 GRADE B, OR EQUIVALENT.

4.11– WELDING FOR CARBON STEEL ELECTRODES SHALL CONFORM TO:
AWS CODE A5.1 E70 SERIES.
AWS CODE A5.1 E60 SERIES. (FOR LADDER, HANDRAIL AND FLOORING ONLY).

4.12– MORTAR.
–MIXING
CEMENT GROUT / CEMENT–SAND WEIGHT RATIO : 1:4
–MATERIAL
SAND : FINE AGGREGATE ASTM C33.
CEMENT : ASTM C150 TYPE–1/TYPE–4.

4.13– CHAMFER.
ALL EXPOSED CORNER OF CONCRETE ABOVE GROUND SHALL CHAMFERED BY 25mm.

5. FOUNDATION AND STRUCTURE WORK:

- 5.1– THE CONTRACTOR SHALL STUDY AVAILABLE SOIL REPORT BEFORE COMMENCING WORK.
- 5.2– ALL CONCRETE SHALL BE TESTED IN ACCORDANCE WITH BS/ASTM STANDARDS AND SHALL COMPLY WITH BS/ASTM STANDARDS AND SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS.
TESTING OF GRADE C40 TO C20 CONCRETE SHALL BE PERFORMED IF SO DIRECTED BY THE ENGINEER.

GRADE	CLASS	MIN. CUBE CRUSHING STRENGTH AT 28 DAYS PSI.	TYPE OF STRUCTURE
C40	A–1	5800 PSI.	
C30	A	5000 PSI.	SUPER STRUCTURE
C25	B	3750 PSI. OR (1:1½:3)	SUBSTRUCTURE
C20	C	3000 PSI. OR (1:2:4)	FLOOR
C15	D	2200 PSI. (1:3:6)	FLOOR
C10	E	1500 PSI. (1:4:8)	LEAN

5.3– ALL REINFORCING STEEL SHALL BE HELD FIRMLY IN PLACE BEFORE AND DURING THE PLACING OF CONCRETE BY MEANS OF WIRES AND SUPPORTS ADEQUATE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION.

5.4– BEFORE CASTING OF ANY STRUCTURAL MEMBER, THE CONTRACTOR SHALL ENSURE THAT ALL EMBEDDED ITEMS FOR ELECTRICAL, MECHANICAL, HVAC, PLUMBING, STRUCTURAL STEEL, AND OTHER WORKS, AND DOWELS FOR STRUCTURAL MEMBERS AND ARE PROPERLY LOCATED IN PLACE.

5.5– CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE SO MADE AND LOCATED AS TO IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL NEED PRIOR APPROVAL OF THE ENGINEER. WORKS, AND DOWELS FOR STRUCTURAL MEMBERS AND ARE PROPERLY LOCATED IN PLACE.

5.6– MANUFACTURING OF PRECAST CONCRETE ELEMENTS SHALL BE DONE IN STRICT CONFORMANCE WITH THE RELEVANT STANDARDS.

5.7– APPROVED STAKING, HANDLING & LIFTING DEVICE SHALL BE USED FOR ERECTION OF PRECAST ELEMENTS & GIRDERS.



5.8– CONTRACTOR MAY USE PLASTICIZER TO ACHIEVE REQUIRED WORKABILITY OF CONCRETE MIX AS APPROVED BY THE ENGINEER.

5.9– WATER/CEMENT RATIO SHALL NOT EXCEED 0.40 OR AS INDICATED IN MIX DESIGN.

5.10– CLEAR COVER TO REINFORCEMENT TO BE
a) 20mm IN SLAB,
b) 40mm. IN COLUMN, BEAMS & WALLS
c) 60mm IN FOOTINGS.
d) PEDESTAL TOP COVER = 25mm.

5.11– CONTRACTOR SHALL PREPARE AT LEAST 6 SAMPLES FOR EACH POUR & SHALL SUBMIT THE TEST REPORTS TO THE ENGINEER FOR 7 & 28 DAYS (3 FOR EACH) CRUSHING STRENGTH AS PER SPECIFICATIONS.

AS BUILT

F0	26-04-2018	AS BUILT	MSL	MSH	SMM
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	APPR.
CLIENT:  OIL & GAS DEVELOPMENT COMPANY LTD. OGDCL HOUSE TOWER-B, FIRST FLOOR F-166, BLUE AREA, JINNAH AVENUE ISLAMABAD PAKISTAN FAX : +92 051 2623033, PHONE: +92 051 9209859					
CONSULTANT:  Zishan Engineers (Pvt.) Ltd. An ISO 9001-2008 certified company 47/F Block 6, PECHS, Karachi-Pakistan Tel: (92-21) 34393045-46 & 34310151-54; Fax: (92-21) 34533430 & 34510156 E-Mail: contact@zishanengineers.com Website: www.zishanengineers.com			DWG. NO. 165-4-CSTD-002 REV. F0		
PROJECT : KPD-TAY INTEGRATED DEVELOPMENT PROJECT PHASE-II			JOB NO. 165-4		
TITLE : STANDARD DRAWING FOR GENERAL NOTES FOR CIVIL WORKS AND BAR ARRANGEMENT			SIZE	SCALE	SHEET
			A1	N.T.S.	1