

GENERAL NOTES:

1. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE THESE SPECIFICATIONS AND THE 2010 EDITIONS OF THE CALIFORNIA BUILDING CODE. WHERE CONFLICTS OCCUR, THESE SPECIFICATIONS SHALL PREVAIL.
2. THE DEWATERING DESIGN IS IN ACCORDANCE WITH THE PROCEDURES CONTAINED IN THE MAFAC PUBLICATION P-418 DEWATERING & GROUNDWATER CONTROL & PROJECT SPECIFICATIONS SECTION 31 23 11.
3. REFERENCE MATERIALS:
 - A. GEOTECHNICAL INFORMATION PROVIDED IN PROJECT DOCUMENTS REFERENCE SHEETS 01-101,121,131 OF CONTRACT 1274.
 4. DEWATERING SYSTEM INSTALLATION SHALL BE CONSISTENT WITH THE DESIGN CRITERIA REQUIREMENTS AND INSTALLATION RESTRICTIONS SPECIFIED HEREIN.
 5. DEWATERING SHALL BE PROVIDED FOR THE GEOTECHNICAL RECOMMENDATIONS SO THAT THE GROUND WATER LEVEL IS LOWERED TO 5 FEET BELOW BOTTOM OF EXCAVATION. THIS SHALL BE MAINTAINED THROUGHOUT DEWATERING. DEWATERING WELLS SHALL BE LOCATED BETWEEN WALERS AND CORNER STRUTS TO PREVENT CONFLICTS DURING INSTALLATION.
 6. THE GENERAL CONTRACTOR SHALL VERIFY ALL GRADES AND DIMENSIONS. SEE CONTRACT DRAWINGS AND SPECIFICATIONS FOR ALL INFORMATION RELATIVE TO THE NEW AND EXISTING CONSTRUCTION AND CONDITIONS. THE GC SHALL RESOLVE ANY CONFLICTS BETWEEN THESE DRAWINGS AND OTHER CONTRACT DRAWINGS WITH THE SHORING ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
 7. DESIGN OF TEMPORARY SURFACE WATER CONTROL SYSTEMS ARE NOT INCLUDED IN THE SCOPE OF THESE DRAWINGS.
 8. EXISTING UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THE DEWATERING PLAN LAYOUT ARE BASED ON RECORD LOCATIONS. ADDITIONAL UTILITIES MAY BE PRESENT AND FOR IN OTHER LOCATIONS. THE GENERAL CONTRACTOR SHALL VERIFY AND DETERMINE THE LOCATION OF ALL UTILITIES AND DRILLING CLEARANCE PRIOR TO PROCEEDING WITH THE WORK. THE GC SHALL VERIFY THE LOCATION OF ALL EXISTING JARMOLES AND VALVES, MEASURE INVERTS AND CONTROL CLEARANCE OF WELLS FROM VALVES AND EXISTING CONDITIONS. CONSULT THE DEWATERING ENGINEER IF UTILITY LINES, PIPING OR OTHER OBSTRUCTIONS REQUIRE THE RELOCATION OF WELLS.

DEWATERING INSTALLATION PROCEDURE:

1. DEWATERING WELLS SHALL BE DRILLED WITH AN AUGER DRILL RIG, WITH HOLES KEPT OPEN WITH WATER OR A COMBINATION OF WATER/POLYMER SLURRY.
2. AFTER A HOLE IS DRILLED TO TOP, INSTALL THE 10 INCH DIAMETER PVC WELL CASING (20 FEET SLOTTED & 45 FEET SOLID).
3. BACKFILL AROUND CASING WITH SELECT 3/8" PEA GRAVEL FILTER PACK MATERIAL.
4. INSTALL 25 YD CEMENTS OR AROUND 200 LBS SERVICE WHERE AVAILABLE. CAPABLE OF RUBBERING APPROXIMATELY 6 PUMPS PER 50 AMP CIRCUIT. PROVIDE BACKUP CONTROLS FOR EACH POWER DROP CAPABLE OF MAINTAINING THE STEADY STATE POWER SUPPLY IN THE EVENT OF A POWER FAILURE OR INTERRUPTION.
5. FLUSH AND WASH THE WELLS WITH CLEAN WATER AND COMPRESSED AIR TO RUN CLEAN AND DEVELOP FLOW.
6. INSTALL PUMPS, INCLUDING AUTOMATIC SHUT-OFFS, ISOLATION VALVE AND CHECK VALVE.
7. INSTALL MINIMUM 4 INCH HEADER PIPE TO COLLECT EACH PUMPS 2 INCH DISCHARGE LINE ABOVE SPRINGLINE OF THE HEADER PIPE.
8. RUN 4 INCH HEADER PIPING TO THE 3 COMPARTMENT SETTLING WER TANK ADJACENT TO THE DISCHARGE LOCATION.
9. AFTER INITIAL TESTING, SHOULD SEDIMENT MONITORING INDICATE THAT 5 PPM SOLIDS IS BEING EXCEEDED, PLACE AN ADDITIONAL WER TANK IN SERIES PRIOR TO DISCHARGE LOCATION. INSTALL FLOWMETER AT SUITABLE LOCATION IN THE EFFLUENT LINE TO FACILITATE MONITORING OF FLOW AT THE DISCHARGE POINT.
10. THE 24-HOUR CONTACT SERVICE NUMBER AT OTIS IN CASE OF CALL-OUT EMERGENCY WHERE PROBLEMS ARISE WITH THE DEWATERING SYSTEM IS 910-715 1327.

DEWATERING REMOVAL PROCEDURE:

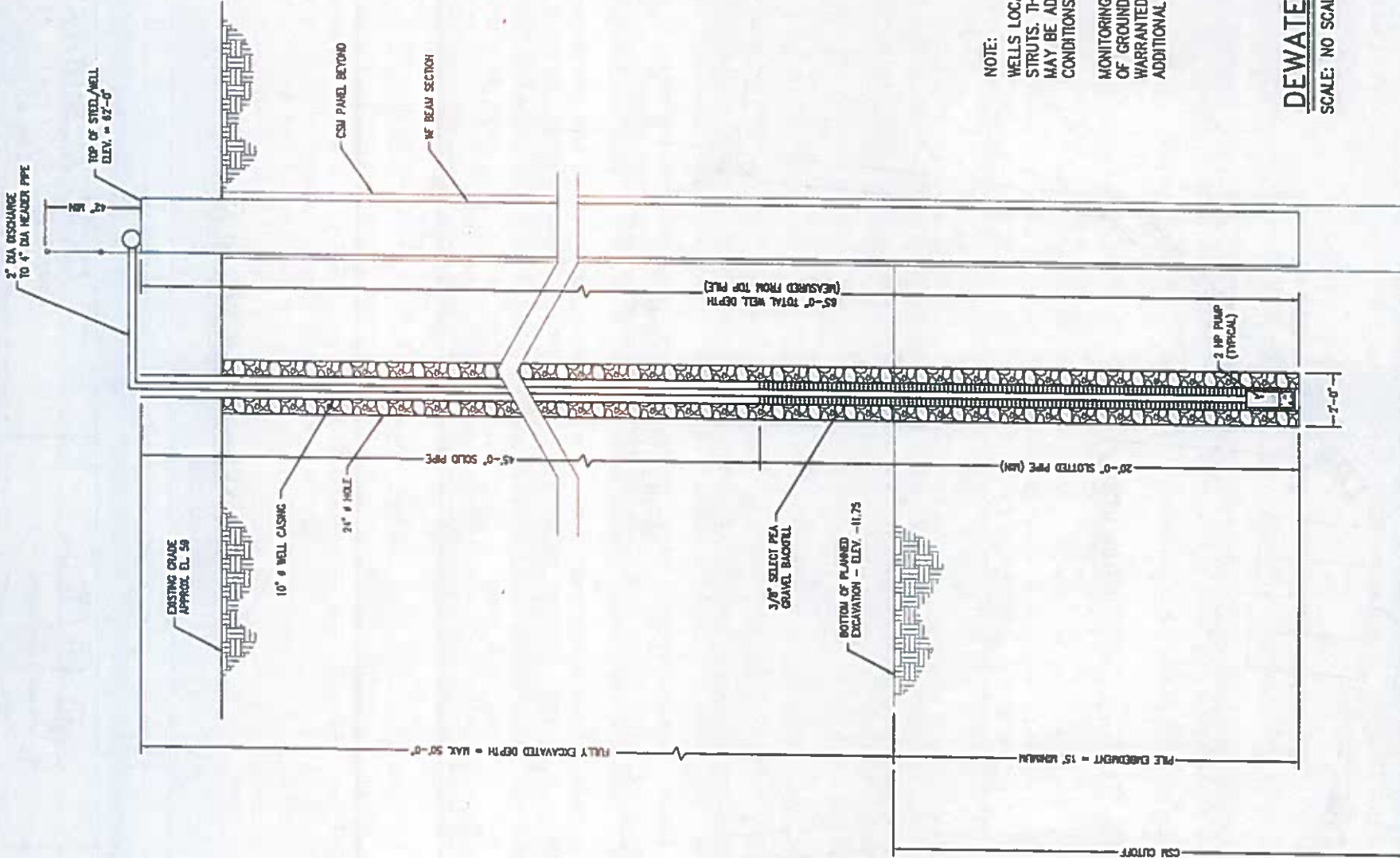
1. VERIFY WITH STRUCTURAL ENGINEER THAT WELLS CAN BE REMOVED (I.E. WHEN BASE SLAB REACHES 20 DAY STRENGTH).
2. REMOVE WELL AND 2" PIPING. PLUG 10" CASING & BACKFILL WELL IMMEDIATELY WITH CEMENT & BENTONITE MORTAR TO ABANDON IN PLACE.
3. SEAL AND FILL BASE SLAB BLOCKOUT WITH APPROVED GROUT BACKFILL.
4. REMOVE ALL HEADER PIPE AND BAKER TANK ASSEMBLIES.
5. PLUG AND ABANDON SEWER LATERAL CONNECTION POINT TO DPM SPECIFICATIONS.

DESIGN ASSUMPTIONS (TO BE FIELD VERIFIED BY TESTING):

- BASED ON SIMILAR PROJECT EXPERIENCE IN THE AREA. PEAK FLOWS ARE EXPECTED TO APPROXIMATE 100 GPM. HAVING EVENTUAL STEADY STATE FLOW AVERAGING 10 GPM.
- 1 x 100 GPM = 100 GPM INITIAL BASE FLOW DISCHARGE ON STARTUP
- 1 x 10 GPM AVE. = 10 GPM STEADY STATE DISCHARGE

DRAWING LIST:

- SHEET DW-1
 - DW-2
- TITLE
DEWATERING NOTES & TYPICAL WELL DETAIL
DEWATERING LAYOUT SITE PLAN



POT HOLE TO FIELD VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION

NOTE:
WELLS LOCATED TO AVOID CONFLICTS WITH SHORING WALERS & STRUTS. THE LENGTH OF SLOTTED CASING MAY BE ADJUSTED BY ENGINEER WHERE DRILLING CONDITIONS INDICATE.

MONITORING WELL MW-2 WILL BE USED TO DETERMINE DEPTH OF GROUND WATER TABLE WITH WATER SOUNDING DEVICE. IF WARRANTED TO ACCELERATE GROUND WATER LOWERING, AN ADDITIONAL WELL POINT MAY BE PLACED IN THE CASING PROVIDED.

DEWATERING WELL DETAIL

SCALE: NO SCALE

REVISION: DATE: DESCRIPTION/REASON:

DESIGN BY: D. BLAKE	SCALE: AS SHOWN
CHECKED BY: B. HANMER	JOB NUMBER: 1338
DATE: DECEMBER 23, 2013	CONTRACT NO.:

THE USE OF THESE DRAWINGS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL USE FOR WHICH THEY WERE PREPARED. ANY OTHER USE WITHOUT THE WRITTEN CONSENT OF DRILL TECH DRILLING & SHORING, INC.



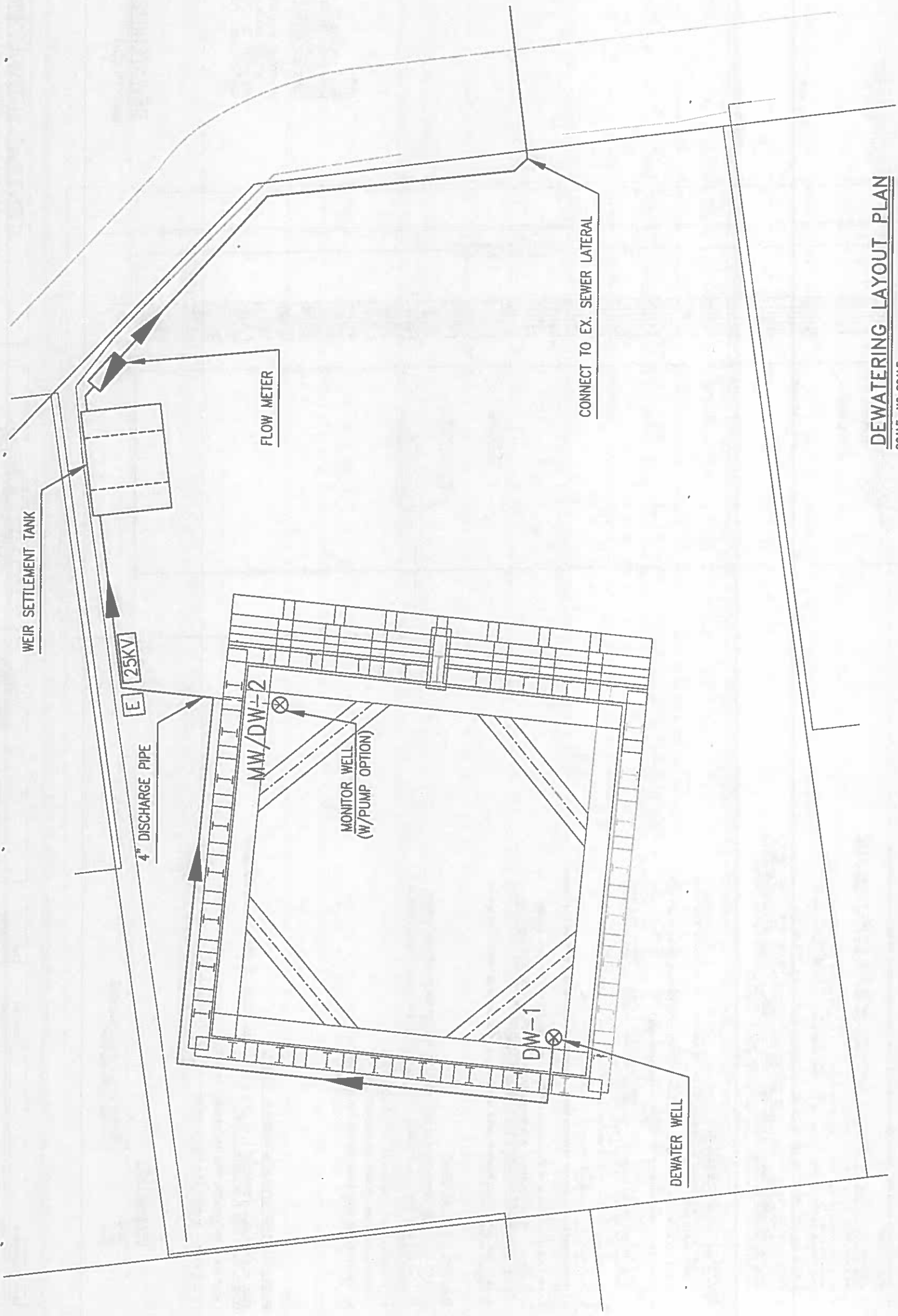
DRILL TECH
DRILLING & SHORING, INC.
2200 Wymore Way - Antioch, CA 94509-8548
Phone: 925/978-2060 - Fax: 925/978-2063

CENTRAL SUBWAY PROJECT
EXCAVATION DEWATERING AT RETRIEVAL SHAFT
SAN FRANCISCO, CA

DEWATERING NOTES & WELL DETAIL

SHEET: DW-1
1 OF 2

LEGEND	
DW-4	DEWATER WELL LOCATION & ID
⊗	
→	DIRECTION OF FLOW
▬	FLOW MEASUREMENT
—	SOLDER PILE IN CSJ CUTOFF
E	ELECTRICAL SERVICE DROP/PANEL
25KV	25KV GENERATOR (W/BACKUP)



DEWATERING LAYOUT PLAN
SCALE: NO SCALE

REVISION	DATE	DESCRIPTION/REASON	DESIGN BY:	SCALE:	AS SHOWN	JOB NUMBER:	DATE:	CONTRACT NO:
			D. BLAKE	AS SHOWN		1338	DECEMBER 23, 2013	
			B. JARNER					

			CENTRAL SUBWAY PROJECT EXCAVATION DEWATERING AT RETRIEVAL SHAFT SAN FRANCISCO, CA	SHEET: DW-2 2 OF 2
2200 Wynara Way - Antioch, CA 94509-8548 Phone: 925/978-2060 - Fax: 925/978-2063				

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