

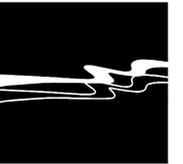
IMPROVEMENT PLANS

FOR

GREENFIELD WASTEWATER TREATMENT PLANT

SURFACE AERATOR ADDITION

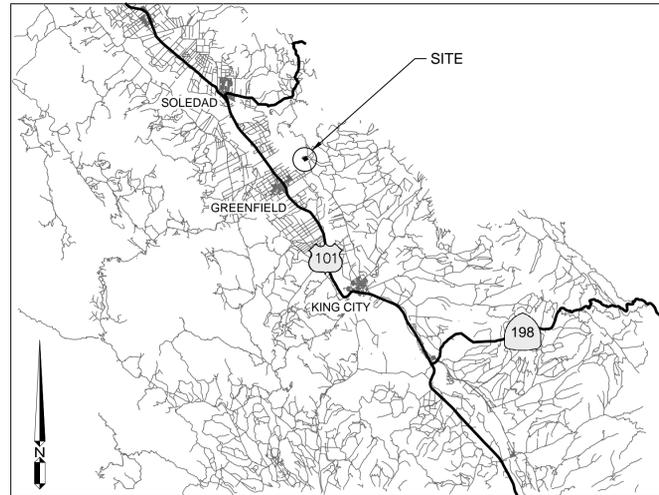
CITY OF GREENFIELD, MONTEREY COUNTY



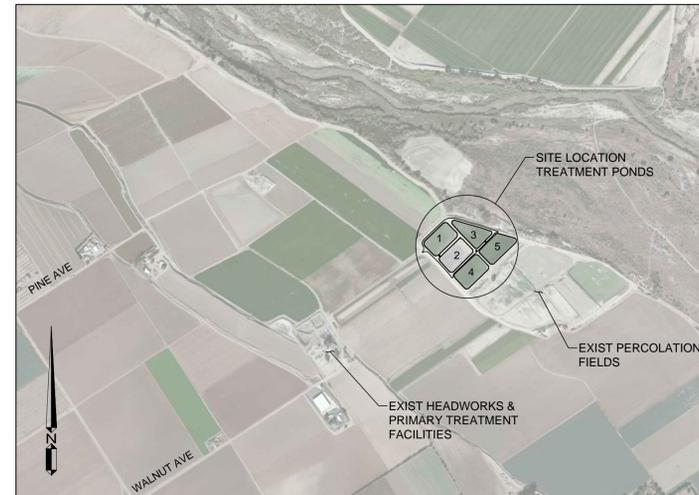
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VICINITY MAP
NTS



SITE LOCATION
NTS

SHEET INDEX	
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ABBREVIATIONS

AC ASPHALTIC CONCRETE	M METER	MAX MAXIMUM
ACP ASBESTOS CEMENT PIPE	MIN MINIMUM	MISC MISCELLANEOUS
AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MH MANHOLE	N/A NOT APPLICABLE
ARV AIR RELEASE VALVE	NGVD NATIONAL GEODETTIC VERTICAL DATUM	NIC NOT IN CONTRACT
A&V AIR AND VACUUM (COMBINATION) VALVE	NTS NOT TO SCALE	OD OUTSIDE DIAMETER
AVG AVERAGE	PCC PORTLAND CEMENT CONCRETE	PH POTHOLE (UTILITY WAS POTHOLED)
BC BEGIN CURVE	PIV POST INDICATOR VALVE	PCC POINT OF CONNECTION
BLDG BUILDING	PRV PRESSURE REGULATING VALVE	PSF POUND PER SQUIRE FOOT
BM BENCH MARK	PSI POUND PER SQUARE INCH	PVC POLYVINYL CHLORIDE
BO BLOW OFF	R RADIUS	RC REINFORCED CONCRETE
BV BALL VALVE	RCP REINFORCED CONCRETE PIPE	REQD REQUIRED
C CURB	RT RIGHT	R/W RIGHT OF WAY
CAV COMBINATION AIR VALVE	RET WALL RETAINING WALL	SS SANITARY SEWER
CATV CABLE TELEVISION	SCH SCHEDULE	SD STORM DRAIN
CJ CAST IRON	SHT SHEET	SPEC SPECIFICATIONS
CL CENTERLINE	SSFM SANITARY SEWER FORCE MAIN	STA STATION
CLASS CLASS	STD STANDARD	STL STEEL
CO CORRUGATED METAL PIPE	SW SIDEWALK	T TELEPHONE
CO CLEANOUT	TB THRUST BLOCK	TB TOP OF BANK
CONC CONCRETE	TC TOP OF CURB	TF TOP OF FOOTING
CONST CONSTRUCTION	TG TOP OF GRATE	TP TOP OF PAVEMENT
CONT CONTINUOUS	TYP TYPICAL	TW TOP WALL
CP CATHODIC PROTECTION	UTL COMMON TRENCH UTILITIES	VAR VARIES
CPG COUPLING	VC VERTICAL CURVE	VIC VERTICAL COUPLING
CY CUBIC YARD	VERT VERTICAL	W WATER
DET DETAIL	W WIDE FLANGE	WL WATER LINE
DIA DIAMETER	WM WATER METER	WS WATER SERVICE
DIM DIMENSION	WW WATER VALVE	WWV WELDED WIRE MESH
DW DRIVEWAY	WWT WET WELL	
E EXISTING		
EA EACH		
EC END CURVE		
ELE ELEVATION		
EP EDGE OF PAVEMENT		
EX EXISTING		
EG EXISTING GROUND		
FCA FLANGE COUPLING ADAPTOR		
FDC FIRE DEPARTMENT CONNECTION		
FF FINISH FLOOR		
FG FINISH GRADE		
FH FIRE HYDRANT		
FL FLOW LINE		
FL FIRE LINE		
FLG FLANGE		
FS FINISH SURFACE		
FT FEET		
G GAS		
GA GAGE		
GAL GALLON		
GALV GALVANIZED		
GB GRADE BREAK		
GPD GALLONS PER DAY		
GPM GALLONS PER MINUTE		
GV GATE VALVE		
HC HANDICAP		
HDPE HIGH DENSITY POLYETHYLENE		
HGL HYDRAULIC GRADE LINE		
ID INSIDE DIAMETER		
IN INCHES		
INV INVERT		
JP JOINT POLE		
JT JOINT UTILITY TRENCH		
L LENGTH		
LAT LATERAL		
LF LINEAR FEET		
LP LIGHT POLE		
LT LEFT		

*NOTE: THIS IS A STANDARD SET OF ABBREVIATIONS.
NOT ALL ABBREVIATIONS SHOWN WILL APPLY TO THIS WORK.



Signature
02/08/2016
DATE SIGNED

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GREENFIELD WASTEWATER TREATMENT PLANT
SURFACE AERATOR ADDITION
COVER

JOB #: 1163-0003
DESIGNERS: SGT
DRAWN BY: BDH
DATE: 2/8/16
DRAWING NO.
C-1
1 OF 11 SHEETS

GENERAL NOTES

- THESE PLANS ARE PART OF A SET OF CONTRACT DOCUMENTS AND SHALL NOT BE CONSIDERED THE SOLE SOURCE OF CONSTRUCTION INFORMATION. ALL CONSTRUCTION WORK AND INSTALLATIONS SHALL CONFORM TO THESE PLANS AND SPECIFICATIONS AND STANDARD DRAWINGS AND SPECIFICATIONS REFERENCED HEREIN.
- THE CONTRACTOR SHALL HAVE COPIES OF THE APPROVED CONTRACT DOCUMENTS FOR THIS PROJECT ON SITE AT ALL TIMES AND SHALL BE FAMILIAR WITH ALL APPLICABLE STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE DURING THE COURSE OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE ENGINEER AND OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, OR THIRD PARTY IN VIOLATION OF THE LAW OR IN TRESPASS. THE CONTRACTOR SHALL PRACTICE SAFETY AT ALL TIMES AND SHALL FURNISH, ERECT, AND MAINTAIN, SUCH FENCES, BARRICADES, LIGHTS, AND SIGNS NECESSARY TO GIVE ADEQUATE PROTECTION TO THE PUBLIC AT ALL TIMES.
- INFORMATION PERTAINING TO EXISTING UNDERGROUND FACILITIES IS BASED ON RECORD INFORMATION AND IS AS SHOWN FOR INFORMATIONAL PURPOSES ONLY. UNDERGROUND FEATURES SHOWN IN PLAN VIEW ON THE PLANS ARE INDICATED WITH THEIR APPROXIMATE LOCATION AND EXTENT, AND MAY NOT APPEAR IN PROFILE OR SECTION VIEWS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL AGENCIES INVOLVED AND SHALL LOCATE ALL FACILITIES PRIOR TO EXCAVATION IN ANY AREA. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA), TOLL FREE AT 1-800-642-2444 AND THE CITY, (48) HOURS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL CONTINUALLY REVIEW JOB SITE CONDITIONS. CONDITIONS REQUIRING CONSTRUCTION DIFFERENT FROM THAT SHOWN ON THE PLANS SHALL BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED CONSTRUCTION.
- THESE DRAWINGS REPRESENT THE FINISHED CONDITION AND UNLESS OTHERWISE INDICATED, THEY DO NOT SHOW THE METHOD OF CONSTRUCTION.
- ALL IMPROVEMENTS SHOWN OR INDICATED ON THESE DRAWINGS ARE TO BE CONSTRUCTED AND/OR INSTALLED BY THE CONTRACTOR IN THIS PROJECT, UNLESS THEY ARE CALLED OUT AS: "EXISTING", "FUTURE", "NIC", "NOT A PART", OR HAVE SOME OTHER EXCLUDING NOTATION.
- THE CONTRACTOR SHALL KEEP A SET OF PROJECT DRAWINGS ON WHICH RECORD INFORMATION SHALL BE PLACED NOTING DEVIATIONS FROM THE PLANS IN THE LOCATION, GRADE, SIZE, TYPE, AND SCOPE OF WORK WHICH IS CONSTRUCTED.
- OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) REQUIREMENTS AND STANDARDS SHALL BE OBSERVED AT THE JOB SITE AT ALL TIMES.
- CONTRACTOR SHALL ORGANIZE A PRE-CONSTRUCTION MEETING PRIOR TO COMMENCEMENT OF WORK. THE MEETING SHALL INCLUDE (AT A MINIMUM) THE OWNER/REPRESENTATIVE, CONTRACTORS, ENGINEER OF RECORD, SOILS ENGINEER, PERTINENT UTILITY COMPANIES, SURVEYOR, AND CITY OF GREENFIELD (CITY) INSPECTOR.
- EXISTING TOPOGRAPHIC INFORMATION DELINEATED ON THESE PLANS IS BASED ON A FIELD SURVEY PROVIDED BY THE CITY.
- ALL CONSTRUCTION SHALL BE IN COMPLETE COMPLIANCE WITH ALL RECOMMENDATIONS AND REQUIREMENTS AS SET FORTH IN THE PROJECT SOILS REPORT.
- NO CONSTRUCTION SHALL BE STARTED WITHOUT PLANS APPROVED BY THE CITY. THE CITY ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO START OF CONSTRUCTION. ANY CONSTRUCTION DONE WITHOUT APPROVED PLANS OR PRIOR NOTIFICATION TO THE CITY ENGINEER WILL BE REJECTED AND WILL BE AT THE CONTRACTOR'S AND/OR OWNER'S RISK.
- SOILS TESTS SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. ALL TESTS MUST BE MADE WITHIN 15 DAYS PRIOR TO THE PLACEMENT OF MATERIAL. THE TEST RESULTS SHALL CLEARLY INDICATE THE LOCATION AND SOURCE OF THE MATERIAL.
- COMPACTION TESTS SHALL BE MADE ON SUB-GRADE MATERIAL AND MATERIAL AS SPECIFIED BY THE SOILS ENGINEER. SAID TESTS SHALL BE MADE PRIOR TO THE PLACEMENT OF THE NEXT MATERIAL.
- THE ENGINEER OF RECORD SHALL PERFORM PERIODIC REVIEWS OF COMPLETED WORK TO DETERMINE CONFORMANCE WITH THE APPROVED PLANS. THE CONTRACTOR SHALL CORRECT ANY DIFFERENCES FOUND BY SUCH SURVEY AND WILL PROVIDE ALL CONTRACTOR'S RECORDS KEPT DURING THE COURSE OF CONSTRUCTION TO THE ENGINEER OF RECORD FOR PREPARATION OF RECORD DRAWINGS.
- THE CITY INSPECTOR ACTING ON BEHALF OF THE CITY MAY REQUIRE REVISIONS IN THE PLANS TO RESOLVE UNFORESEEN PROBLEMS THAT MAY ARISE IN THE FIELD. ALL REVISIONS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER OF RECORD.
- A REGISTERED CIVIL ENGINEER MUST VERIFY THAT THE IMPROVEMENTS, WHEN COMPLETED, ARE IN CONFORMANCE WITH THE PLANS PRIOR TO THE REQUEST FOR FINAL INSPECTION. RECORD DRAWINGS ARE TO BE PREPARED AFTER CONSTRUCTION IS COMPLETED. THE CIVIL ENGINEER PREPARING THE RECORD DRAWING PLANS WILL BE PRESENT WHEN THE FINAL INSPECTION IS MADE.
- ALL PERTINENT UTILITY COMPANIES SHALL BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION.

GRADING NOTES

- THE FOLLOWING SOIL QUANTITIES ARE ESTIMATES ONLY AND ARE NOT ADJUSTED FOR REMOVAL OF VEGETATION OR FOR ROCK INCURRED DURING EXCAVATION. QUANTITY ESTIMATES SHOWN ON THESE PLANS ARE TO BE USED FOR BONDING AND PERMIT PURPOSES ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL QUANTITIES AND SHRINKAGE FOR THE PURPOSES OF CONSTRUCTION AND BIDDING.
 - A. CUT = 16,140 CY
 - B. FILL = 933 CY
 - C. NET = 15,207 CY (CUT)
- ALL GRADING AND SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE 2010 CALIFORNIA BUILDING CODE (CBC) CHAPTER 18 & 33 AND THE 1997 UNIFORM BUILDING CODE (UBC) APPENDIX CHAPTER 33. THE GRADING ORDINANCE OF THE CITY OF GREENFIELD, AND THE SOILS REPORT. IN THE CASE OF CONFLICT BETWEEN THE PRECEDING REQUIREMENTS AND THESE PLANS, THE MORE STRINGENT SHALL GOVERN.
- THE PROJECT GEOTECHNICAL ENGINEER, WILL BE NOTIFIED AT LEAST TWO (2) WORKING DAYS BEFORE SITE CLEARING OR GRADING OPERATIONS COMMENCE, AND WILL BE PRESENT TO OBSERVE THE STRIPPING OF DELETERIOUS MATERIAL AND PROVIDE CONSULTATION TO THE GRADING CONTRACTOR IN THE FIELD.
- ALL GRADING OPERATIONS SHALL CONFORM TO THE RECOMMENDATIONS IN THE SOILS REPORT AS DESCRIBED IN NOTE 3 ABOVE, UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER OF RECORD OR AS NOTED ON THESE PLANS.
- ALL PERMANENT CUT OR FILL SLOPES SHALL BE NO STEEPER THAN 2.0 HORIZONTAL TO 1.0 VERTICAL. THE GEOTECHNICAL ENGINEER SHALL SUBMIT A REPORT VERIFYING THE STABILITY OF ALL SLOPES STEEPER THAN 2.0 HORIZONTAL TO 1.0 VERTICAL.
- ALL FILLS SHALL BE BENCHED INTO COMPETENT MATERIAL AND FILL AREA SHALL BE PREPARED AS REQUIRED BY THE GEOTECHNICAL ENGINEER. NO FILL SHALL BE PLACED UNTIL PREPARATION OF THE SITE HAS BEEN APPROVED BY THE GEOTECHNICAL ENGINEER. SCARIFICATION OF THE EXISTING SOIL AT AREAS TO RECEIVE FILL SHALL BE PERFORMED. ALL FILL MATERIAL SHALL BE IN ACCORDANCE WITH THE SOILS REPORT.
- FIELD OBSERVATION AND TESTING DURING THE GRADING OPERATIONS, AS DESCRIBED HEREIN, SHALL BE PROVIDED BY PROJECT GEOTECHNICAL ENGINEER SO THAT A DECISION CAN BE FORMED REGARDING THE ADEQUACY OF THE SITE PREPARATION, THE ACCEPTABILITY OF FILL MATERIALS, AND THE EXTENT TO WHICH THE EARTHWORK CONSTRUCTION AND THE DEGREE OF COMPACTION COMPLY WITH THE PROJECT'S GEOTECHNICAL SPECIFICATIONS AND IS SUITABLE TO SUPPORT THE INTENDED STRUCTURES.
- THE CONTRACTOR SHALL FURNISH THE GEOTECHNICAL ENGINEER WITH A SUBMITTAL INDICATING THE TYPE OF CONCRETE, MIX QUANTITIES, AND MASONRY MATERIALS TO BE USED IN THE CONSTRUCTION OF ALL FOUNDATIONS, FOUNDATION WALLS, AND RETAINING WALLS FOR PRIOR APPROVAL.
- THE CONTRACTOR SHALL PROVIDE UNIFORM GRADES BETWEEN CONTROL ELEVATIONS WITH SMOOTH VERTICAL CURVES AT GRADE BREAKS. THE EDGES OF ALL GRADING WORK SHALL BE ROLLED AND CONTOURED TO PRESENT A NATURAL LOOKING APPEARANCE THAT BLENDS WITH ADJACENT NATURAL GRADES AND AVOIDS PRISMATIC FORMS.
- NO AREA SHALL BE GRADED SOONER THAN IS NECESSARY FOR CONSTRUCTION TO REDUCE THE AMOUNT OF TIME THAT THE SOILS ARE DEVOID OF PLANT MATERIAL.
- PRIOR TO FINAL INSPECTION, THE GEOTECHNICAL ENGINEER SHALL CERTIFY THAT ALL GRADING, SCARIFICATION, AND COMPACTION WAS DONE IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE SOILS REPORT AND AS NOTED ON THESE PLANS.
- THE GEOTECHNICAL ENGINEER SHALL INSPECT AND CERTIFY THAT ALL FOUNDATION EXCAVATIONS COMPLY WITH THE RECOMMENDATIONS OF THE SOILS REPORT.
- THE ENGINEER OF RECORD SHALL INSPECT GRADING OPERATIONS AND COMPLETE AN INSPECTION REPORT ON A BI-WEEKLY BASIS STATING THE PROGRESS OF GRADING OPERATIONS.
- SEE EROSION CONTROL PLANS FOR EROSION, SEDIMENTATION, AND DUST CONTROL NOTES.

CONSTRUCTION NOTES

- THE CONTRACTOR SHALL INVESTIGATE THE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR ANY EXISTING HAZARD TO CONSTRUCTION NOT SHOWN ON THE PLANS SUCH AS FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, OR LARGE DEPOSITS OF ORGANIC MATERIAL, ETC. IF ANY SUCH HAZARDS ARE FOUND, THE OWNER AND ENGINEER SHALL BE NOTIFIED. ALL EXISTING SURFACE STRUCTURES, FENCES, TANKS, PIPES, ETC., AND ANY BURIED MATERIAL SPECIFIED IN THE PLANS FOR REMOVAL FROM THE SITE SHALL BE DISPOSED OF AT A LICENSED DISPOSAL FACILITY.
- ALL DISTURBED AREAS SHALL BE RE-VEGETATED. TEMPORARY EROSION, SEDIMENTATION, AND SILTATION MITIGATION DEVICES SHALL BE PLACED BETWEEN OCTOBER 15 AND APRIL 15. DRAINAGE SHALL BE DISPERSED FROM IMPERMEABLE AREAS TO MITIGATE EROSION.
- THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS WRITTEN NOTICE TO THE PROJECT REPRESENTATIVE AND SURVEYOR WHEN REQUESTING SURVEY STAKES.
- ALL WASTEWATER CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF GREENFIELD, UNLESS OTHERWISE NOTED ON THESE PLANS.

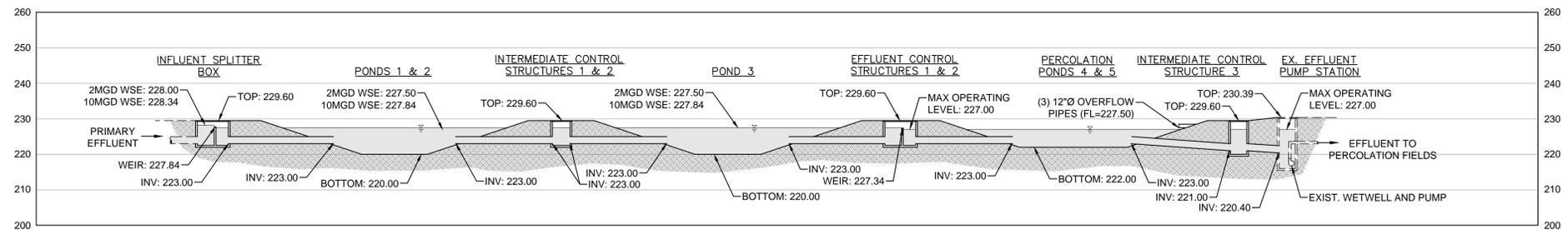
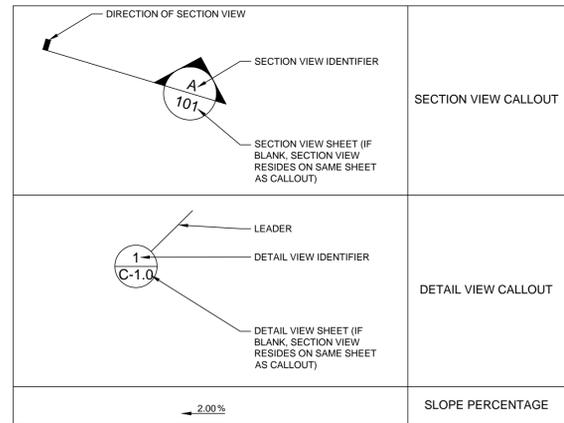
DESIGN CRITERIA

Design Criteria, Units	Existing Capacity, 1.0 MGD	Design Capacity, 2.0 MGD
OXIDATION PONDS 1, 2 AND 3		
Area, Acres (Total)	6.25	6.25
BOD ₅ Loading Rate, lbs/acre-day	200	400
BOD ₅ Loading Rate, kg/acre-day	78	156
Surface Aerators, Number	---	18 (6 each pond)
Surface Aerators, Horsepower, Each	---	5
Surface Aerators, Horsepower, Total	---	90
Pond Operating Depth, feet	5	7.5
Total Detention Time, days	14.9	5.9
PERCOLATION PONDS 4 AND 5		
Number	2	2
Area, Acres (total)	4.21	4.21
Water Depth, feet	5	5
Application Rate, inches/day		2.5
Disposal Capacity, mgd		0.28
EFFLUENT PERCOLATION FIELDS		
Total Area, acres	13	26
Application Rate, inches/day		2.5
Disposal Capacity, mgd	0.85	1.76
TOTAL EFFLUENT DISPOSAL CAPACITY		
Effluent Disposal Capacity, mgd	1.13	2.04

LINETYPE LEGEND

PROPOSED	EXISTING	DESCRIPTION
SS	SS	SANITARY SEWER
ELE	ELE	ELECTRICAL
X	X	FENCE
~	~	DIRT ROAD
~	~	MINOR CONTOUR
~	~	MAJOR CONTOUR

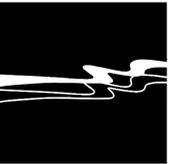
SYMBOLS LEGEND



1 HYDRAULIC PROFILE

Scale: 1"=20'

HYDRAULIC PROFILE SHOWN UNDER THE FOLLOWING CONDITIONS:
 • AVERAGE 2 MGD FLOW
 • ALL PONDS (POND 1-5) IN OPERATION
 • PERCOLATION PONDS 4 & 5 AT MAX OPERATING LEVEL



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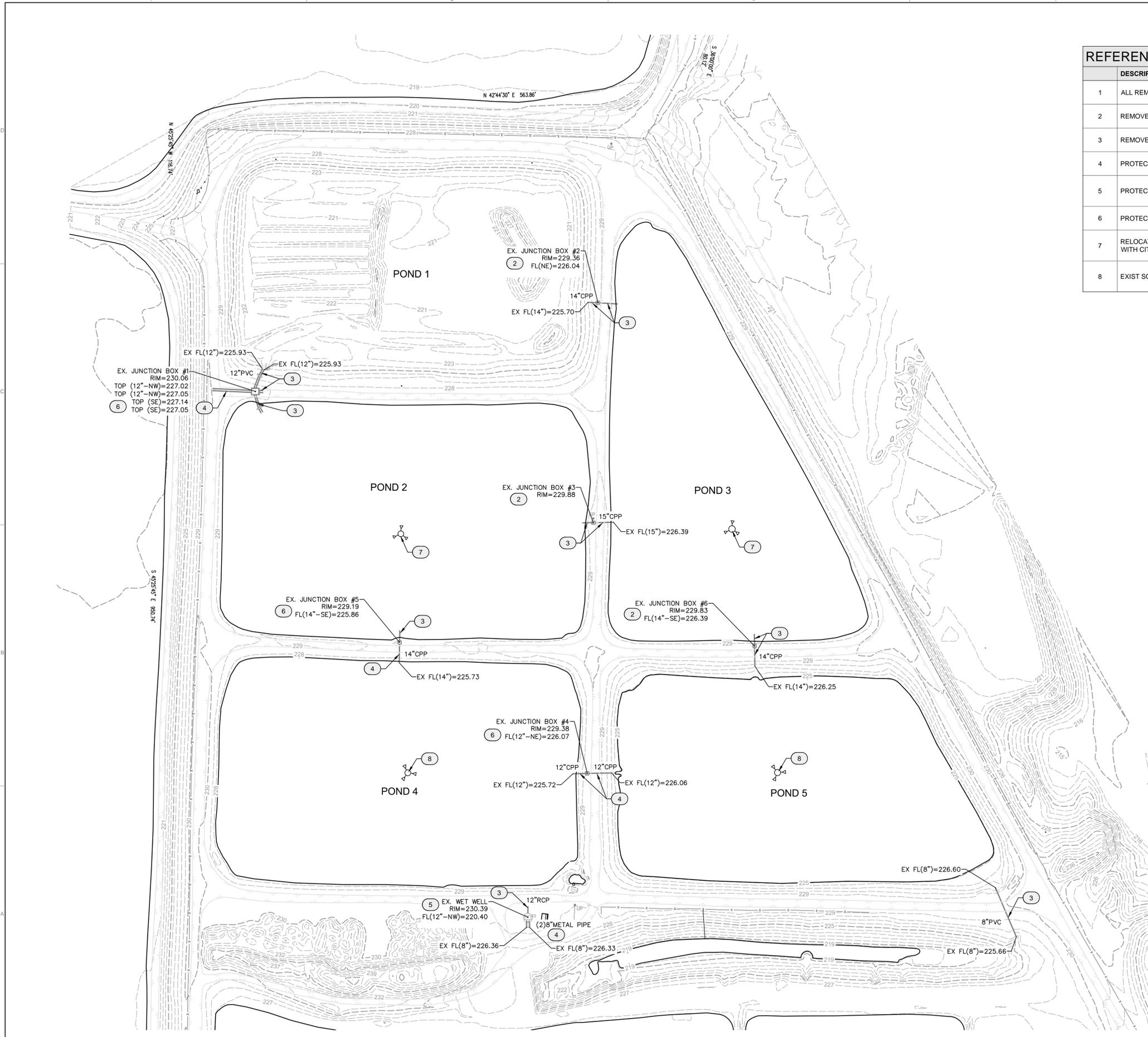
GREENFIELD WASTEWATER TREATMENT PLANT SURFACE AERATOR ADDITION NOTES

JOB #: 1163-0003
 DESIGNERS: SGT
 DRAWN BY: BDH
 DATE: 2/8/16

DRAWING NO.

C-2

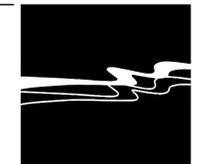
2 OF 11 SHEETS



REFERENCE NOTES	
DESCRIPTION	
1	ALL REMOVAL AND SALVAGE OF CONSTRUCTION MATERIAL SHALL BE PER SPEC SECTION 02 42 00
2	REMOVE EXIST JUNCTION BOX
3	REMOVE EXPOSED AND BURIED PROCESS PIPING
4	PROTECT IN PLACE EXIST BURIED PROCESS PIPING
5	PROTECT IN PLACE EXIST WETWELL
6	PROTECT IN PLACE EXIST JUNCTION BOX
7	RELOCATE EXIST SOLAR POWERED POND CIRCULATORS TO PONDS 4 AND 5. COORDINATE RELOCATION WITH CITY STAFF DURING CONSTRUCTION.
8	EXIST SOLAR POWERED POND CIRCULATORS TO REMAIN IN PONDS 4 AND 5.

SURVEY NOTES

- TOPOGRAPHIC SURVEY OF THE EXISTING SEWER TREATMENT FACILITY WAS PROVIDED BY THE CITY OF GREENFIELD.
- ELEVATIONS SHOWN ARE BASED ON NAVD-88 DATUM. THE BENCHMARK IS AN NGS DISK (NGS ID# GU3642) STAMPED "GREENFIELD 1944", ELEVATION 289.6.



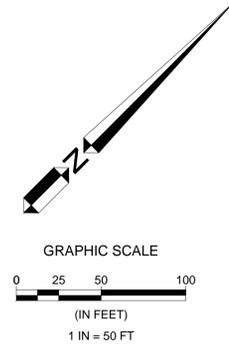
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**GREENFIELD WASTEWATER TREATMENT PLANT
 SURFACE AERATOR ADDITION
 EXISTING CONDITIONS AND DEMOLITION**

JOB #: 1163-0003
 DESIGNERS: SGT
 DRAWN BY: BDH
 DATE: 2/8/2016
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C-3
 3 OF 11 SHEETS



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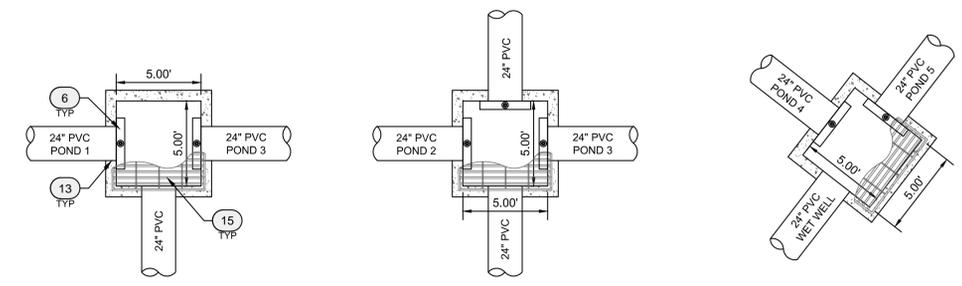


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**GREENFIELD WASTEWATER TREATMENT PLANT
SURFACE AERATOR ADDITION
SITE PLAN**

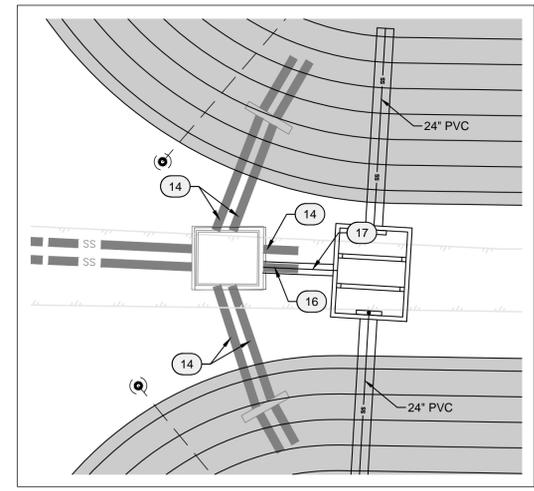
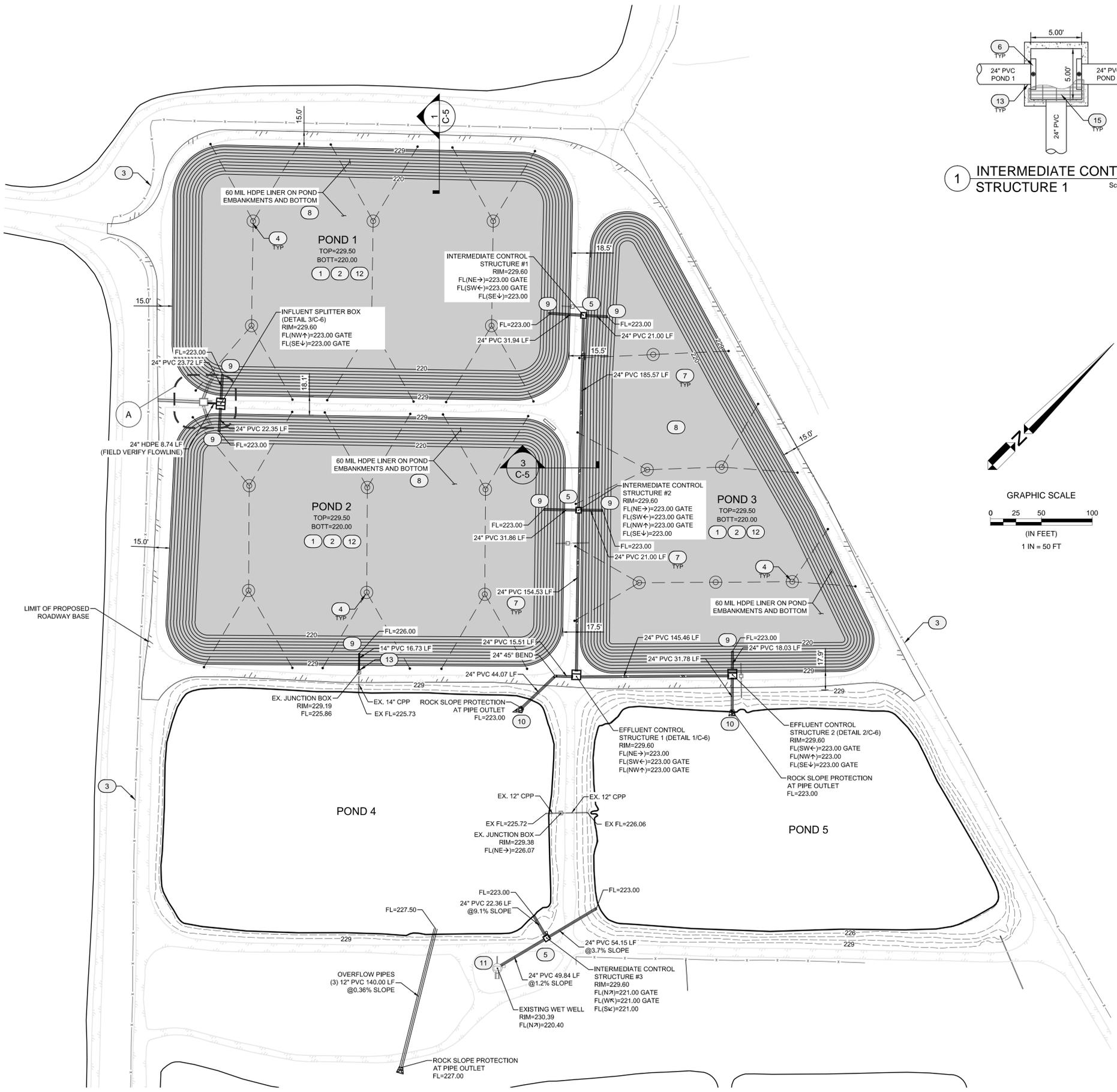
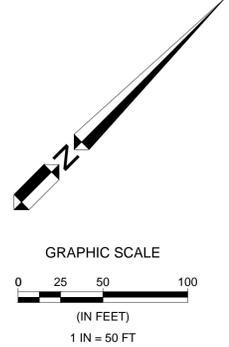
JOB #: 1163-0003
DESIGNERS: SGT
DRAWN BY: BDH
DATE: 2/9/16
DRAWING NO.
C-4
4 OF 11 SHEETS



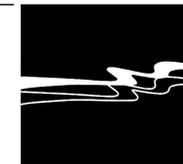
1 INTERMEDIATE CONTROL STRUCTURE 1 Scale: 1"=5'
2 INTERMEDIATE CONTROL STRUCTURE 2 Scale: 1"=5'
3 INTERMEDIATE CONTROL STRUCTURE 3 Scale: 1"=5'

REFERENCE NOTES

DESCRIPTION
1 SEE SPEC. SECT. 01 11 00, SUMMARY OF WORK, FOR ORDER OF WORK/COORDINATION WITH CITY OPERATIONS STAFF, AND MAINTAINING WASTEWATER PONDS IN SERVICE DURING CONSTRUCTION
2 IMPLEMENT POND IMPROVEMENTS, AERATOR INSTALLATION IN ACCORDANCE WITH APPROVED WORK PLAN PER SPEC. SECT. 01 11 00, SUMMARY OF WORK
3 EXISTING CHAIN LINK FENCE TO BE PROTECTED IN PLACE
4 5-HP FLOATING AERATORS (TYP. 18) PER SPEC. SECT. 46 51 13. SEE ELECTRICAL PLANS FOR ELECTRICAL SERVICE. FOR CABLE AND MOORING POST SEE DETAIL 6/ DWG C-5
5 5' x 5' PRE-CAST CONCRETE BOX W/ 12" MIN GRAVEL BASE PER SPEC. SECT. 03 40 00 AND SECT. 31 00 00.
6 24" SLIDE GATE PER SPEC. SECT. 40 05 59.26. SEE DETAIL 4/ DWG C-6
7 24" DIAMETER PVC PIPE PER SPEC. SECT. 33 31 00. SLOPE/INVERTS AS INDICATED ON PLANS
8 HDPE LINER PER DETAIL 1/ DWG C-5, AND SPEC. SECT. 33 47 13
9 PVC PIPE BOOT AND PENETRATION PER DETAIL 5/DWG C-5
10 ROCK SLOPE PROTECTION AT OUTLET PER DETAIL 8/DWG C-5
11 PENETRATE EXIST WETWELL WITH 24" PVC PIPE PER DETAIL 9/C-5
12 REMOVE AND DISPOSE OF MUNICIPAL SEWAGE SLUDGE FROM PONDS 1, 2 AND 3 PER SECTION 33 47 99, SLUDGE REMOVAL FROM PONDS, AND APPROVED WORK PLANS.
13 PIPE PENETRATIONS PER DETAIL 5/C-6, ALL 14", 18" AND 24" PIPE PENETRATIONS INTO HYDRAULIC CONTROL STRUCTURES.
14 VERIFY EXISTING PIPE SIZE/MATERIAL, PROVIDE SUITABLE WATER-TIGHT PLUG TO HOLD 10 PSI WATER PRESSURE PER DETAIL 7/C-6. SUBMIT CATALOG CUT SHEET OF PROPOSED PIPE PLUG TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
15 ALUMINUM GRATE PER SHEET S-1 STRUCTURAL DETAILS.
16 REMOVE EXISTING PIPE AND MODIFY OPENING TO ACCEPT 24" PIPE, PIPE PENETRATION PER DETAIL 5/C-6
17 COORDINATE BYPASSING AND/OR TEMPORARY SHUT DOWN FOR PIPE TIE-IN WITH CITY OPERATIONS STAFF.



A EXISTING INFLUENT STRUCTURE Scale: 1"=10'



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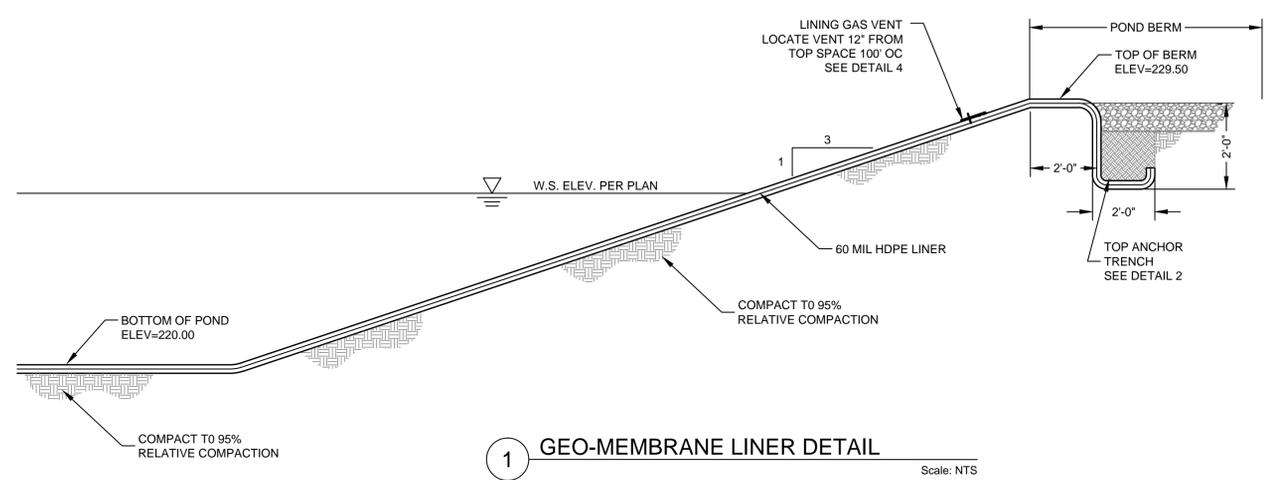
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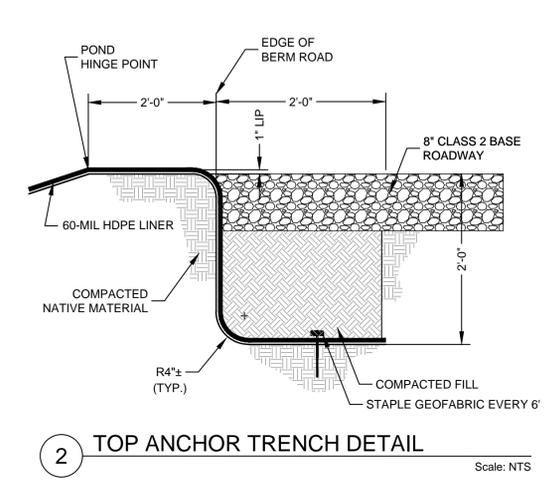
GREENFIELD WASTEWATER TREATMENT PLANT
SURFACE AERATOR ADDITION
DETAILS-1

JOB #: 1163-0003
DESIGNERS: SGT
DRAWN BY: BDH
DATE: 2/8/16

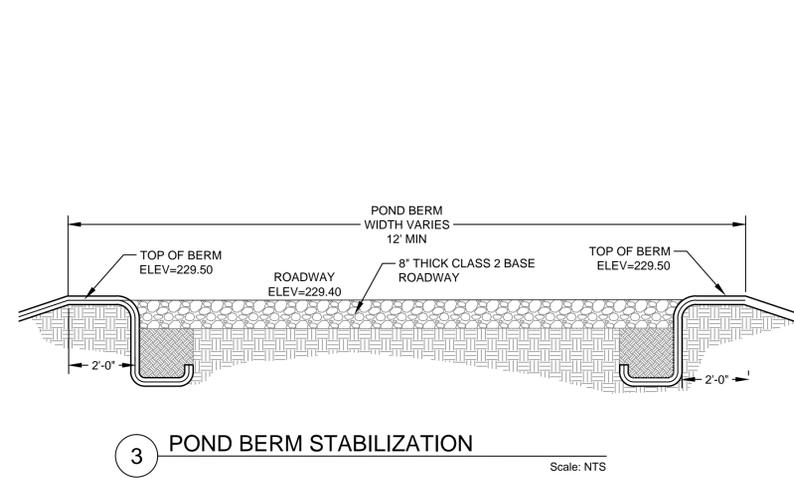
DRAWING NO.
C-5
5 OF 11 SHEETS



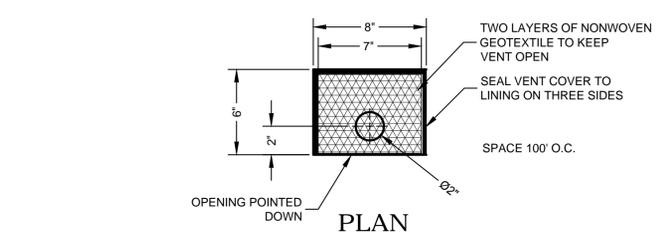
1 GEO-MEMBRANE LINER DETAIL
Scale: NTS



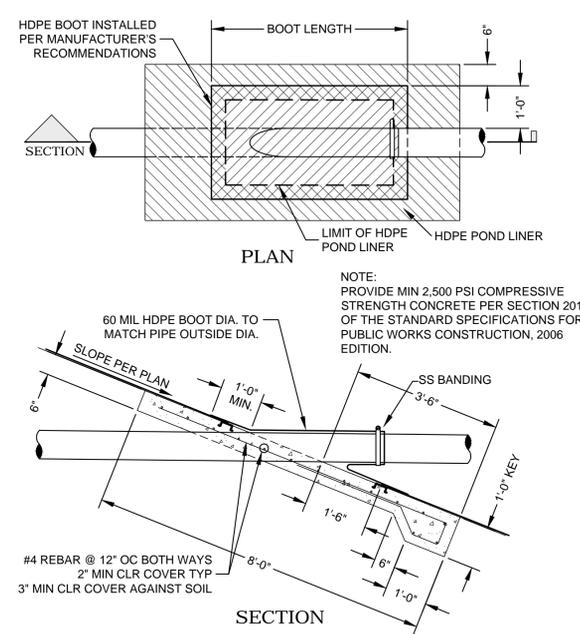
2 TOP ANCHOR TRENCH DETAIL
Scale: NTS



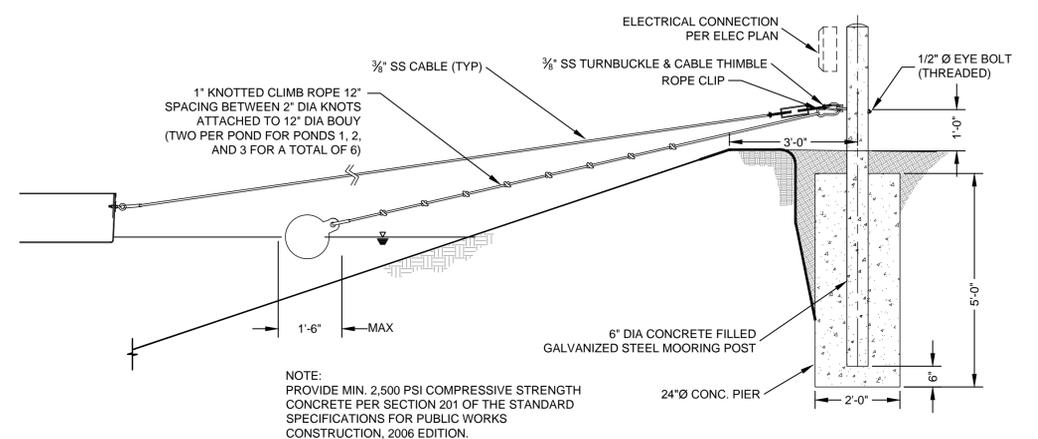
3 POND BERM STABILIZATION
Scale: NTS



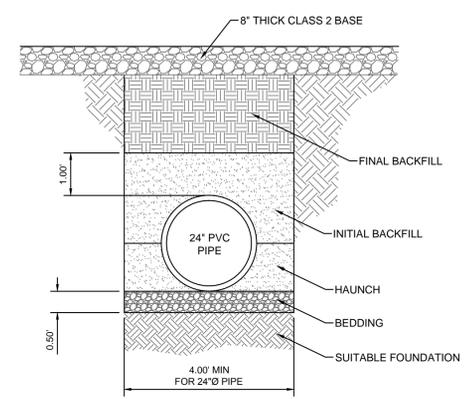
4 LINING GAS VENT DETAIL
Scale: NTS



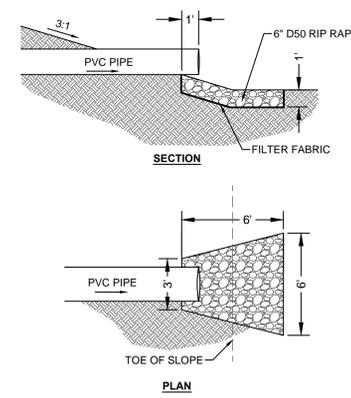
5 HDPE PIPE BOOT DETAIL
Scale: NTS



6 CABLE-MOUNTED AERATOR AND MOORING POST DETAIL
Scale: NTS



7 PVC PIPE TRENCH DETAIL
Scale: NTS



8 ROCK SLOPE PROTECTION
Scale: NTS

- NOTES:
- RSP FABRIC PER CALTRANS SECTION 88.
 - PLACE RSP FABRIC LOOSELY AND PIN TO ALL SIDES AND BOTTOM OF TRENCH.
 - ROCK SHALL NOT PROTRUDE ABOVE CULVERT FLOWLINE OR ADJACENT GRADE. MATCH RSP GRADE WITH ADJACENT GRADE.
 - TRIM RSP FABRIC SO THAT NONE PROTRUDES ABOVE GROUND.
 - RIPRAP SHOULD BE A WELL-GRADED MIXTURE WITH 50% BY WEIGHT LARGER THAN THE DESIGN SIZE (D50). THE DIAMETER OF THE LARGEST STONE SHOULD BE (1.5) TIMES D50 WITH THE SMALLER SIZES GRADING DOWN TO 1-INCH ROCK. SEE GRADATION TABLE BELOW.

RIPRAP GRADATION	
STONE SIZE RANGE (FT)	% OF GRADATION SMALLER THAN
1.5xD ₅₀	100
D ₅₀	50
0.5xD ₅₀	15

TRENCH EXCAVATION SAFETY SHALL BE IN ACCORDANCE WITH THE CAL-OSHA CONSTRUCTION SAFETY ORDERS. THE CONTRACTOR SHALL HAVE A CAL-OSHA PERMIT AND THE DESIGNATED "COMPETENT PERSON" IN CHARGE OF TRENCH SAFETY SHALL BE ON SITE AT ALL TIMES WHEN PERSONNEL ARE EXPOSED TO EXCAVATED TRENCHES.

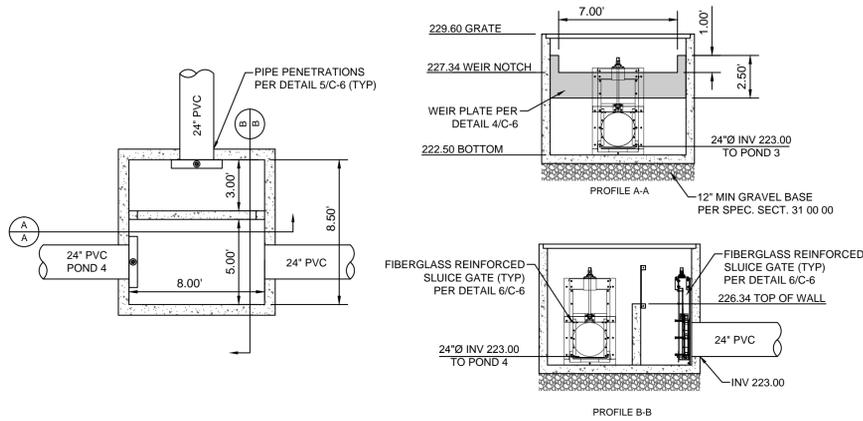
ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.

MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER.

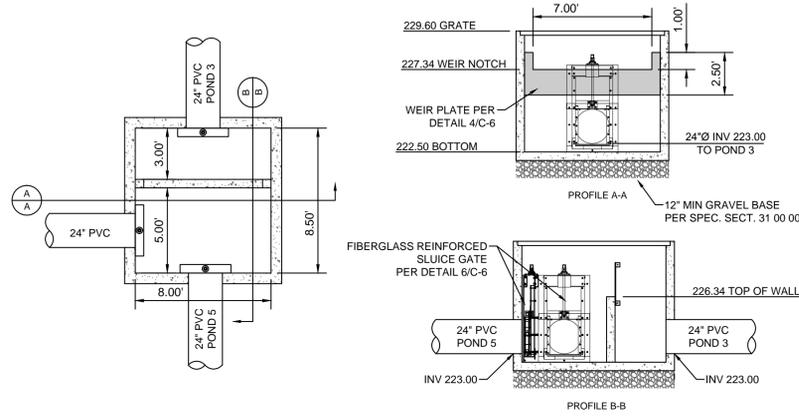
BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR THE MATERIAL SPECIFICATION TO ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4"

INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, OR III FOR INITIAL BACKFILL (INCLUDES HAUNCH). MINIMUM HEIGHT OVER THE CROWN OF THE PIPE IS 6". THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR THE MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.



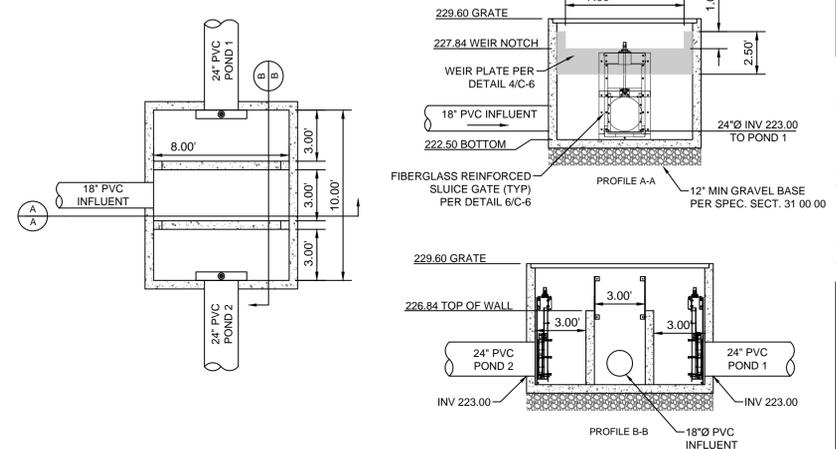
1 EFFLUENT CONTROL STRUCTURE 1

Scale: NTS



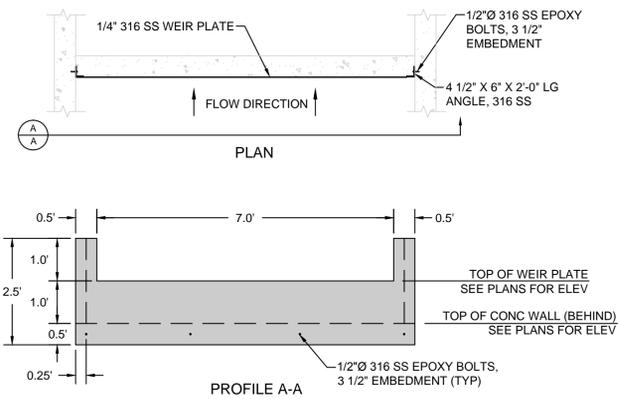
2 EFFLUENT CONTROL STRUCTURE 2

Scale: NTS



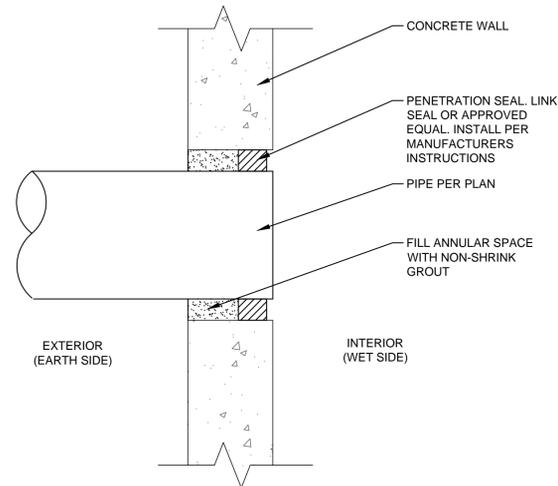
3 INFLUENT SPLITTER BOX

Scale: NTS



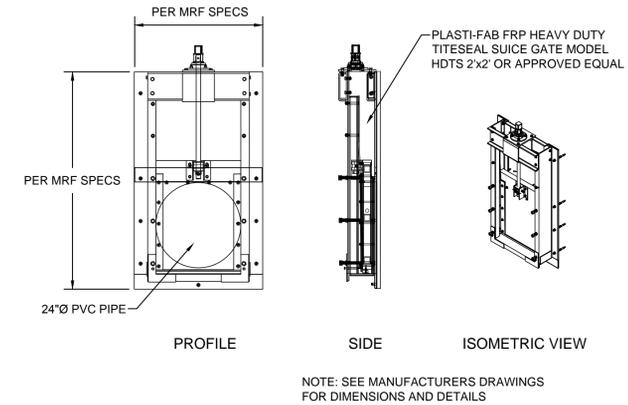
4 WEIR PLATE

Scale: NTS



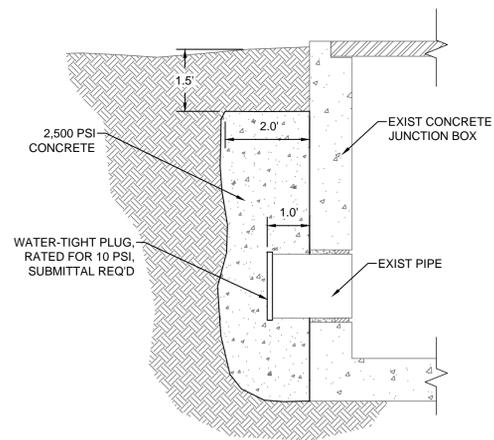
5 TYPICAL PIPE PENETRATION

Scale: NTS



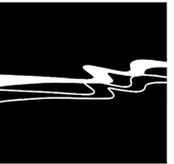
6 FIBERGLASS REINFORCED SLUICE GATE

Scale: NTS



7 EXISTING PIPE PLUG

Scale: NTS



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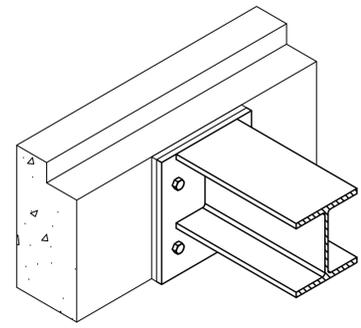
**GREENFIELD WASTEWATER TREATMENT PLANT
 SURFACE AERATOR ADDITION
 DETAILS-2**

JOB #: 1163-0003
 DESIGNERS: SGT
 DRAWN BY: BDH
 DATE: 2/8/16

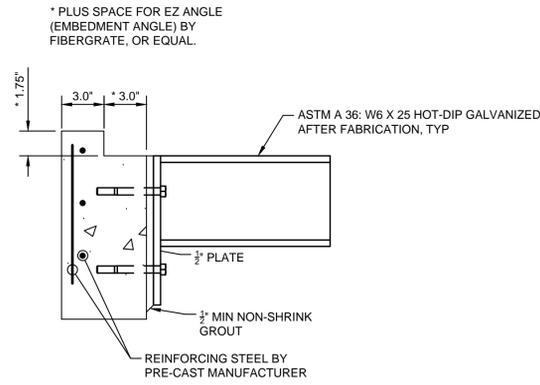
DRAWING NO.

C-6

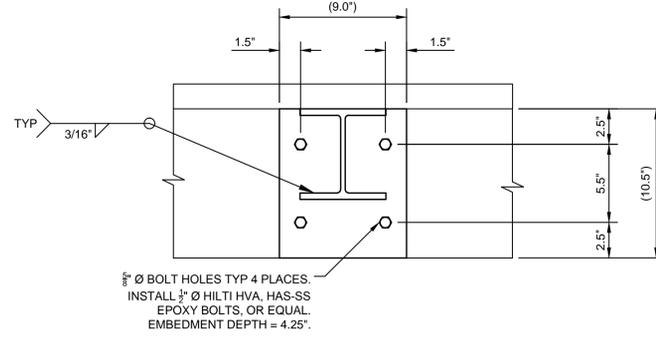
6 OF 11 SHEETS



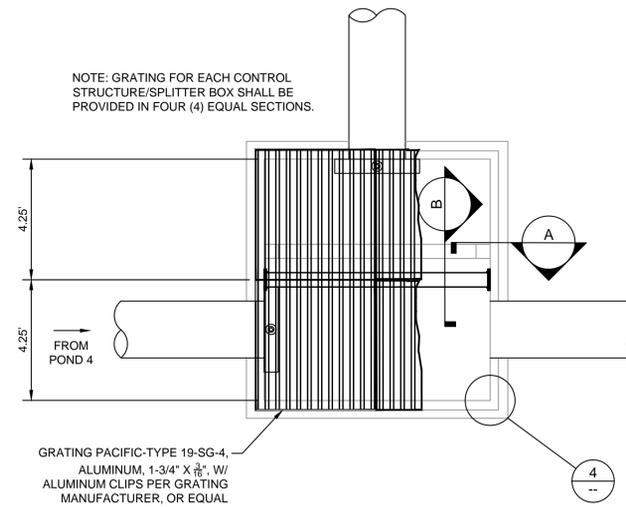
SUPPORT DETAIL (REF)



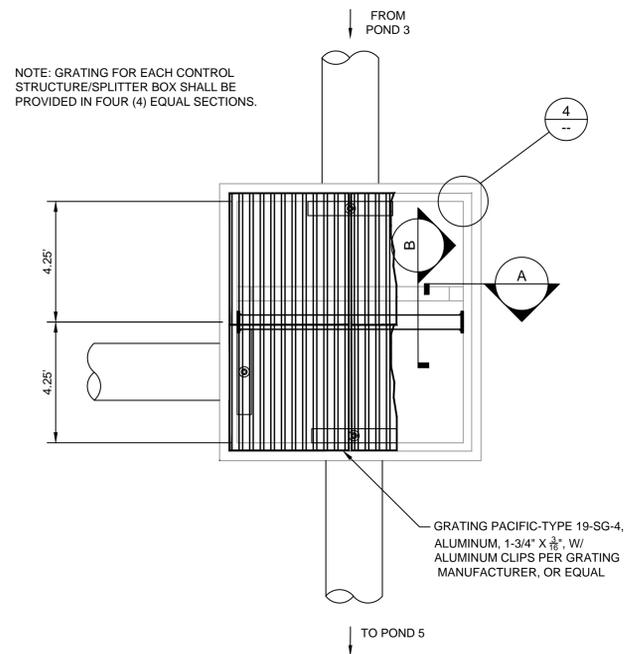
A GRATING CONCRETE BOX INTERFACE NTS



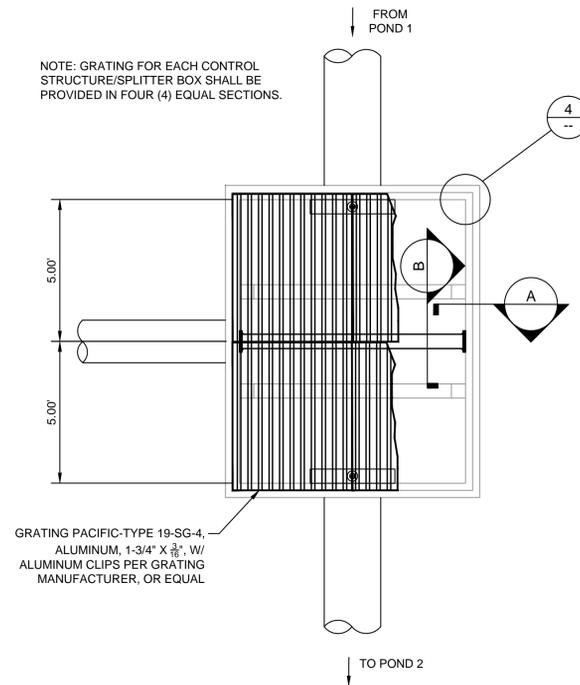
B GRATING SUPPORT NTS



1 GRATING EFFLUENT CONTROL STRUCTURE 1 NTS



2 GRATING EFFLUENT CONTROL STRUCTURE 2 NTS



3 GRATING INFLUENT SPLITTER BOX NTS



4 EZ GRATE EMBED FRAME NTS



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GREENFIELD WASTEWATER TREATMENT PLANT
SURFACE AERATOR ADDITION
STRUCTURAL DETAILS

JOB #: 1163-0003
DESIGNERS: SGT
DRAWN BY: BDH
DATE: 2/8/16

DRAWING NO.
S-1
7 OF 11 SHEETS

GENERAL NOTES

- CODE COMPLIANCE: ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH CODES, STANDARDS, AND ORDINANCES AS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION AND THEIR LATEST ADOPTED EDITIONS (IN EFFECT AT TIME OF BUILDING PERMIT APPLICATION) OF THE FOLLOWING PUBLICATIONS:
 - CALIFORNIA CODE OF REGULATIONS TITLE 24; INCLUDES 2013 CALIFORNIA ELECTRICAL CODE, 2013 CALIFORNIA FIRE CODE, 2013 CALIFORNIA BUILDING CODE, ETC. WITH LOCAL AMENDMENTS AS APPLICABLE.
 - AMERICANS WITH DISABILITIES ACT (ADA).
- SAFETY: THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORKPERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED FOR SAFETY. THE CONTRACTOR SHALL HOLD ALL PARTIES HARMLESS OF NEGLIGENT SAFETY PRACTICES, WHICH MAY CAUSE INJURY TO OTHERS ON OR NEAR THE JOB SITE.
- LABEL PANELS, CABINETS, BACKBOARDS, MAIN DEVICES, SAFETY SWITCHES, CONTACTORS AND OTHER SPECIFICALLY DESIGNATED EQUIPMENT SHOWN ON PLANS. USE ENGRAVED LAMINATED PLASTIC NAMEPLATES ATTACHED BY SCREWS OR RIVETS. FOR FEEDERS, NEATLY AND INDELIBLY LABEL CONDUIT DESTINATIONS ON BOTH VISIBLE ENDS OF CONDUIT RUNS WHERE CONDUITS TERMINATE AT DESIGNATED ENCLOSURES, STRUCTURES OR EQUIPMENT (INCLUDING PULL AND SPLICE BOXES).
- EQUIPMENT ANCHORAGE NOTE
ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2013 CBC, SECTION 1615A.1.20 AND ASCE 7-05 SECTIONS 13.3, 13.4 & 13.6.

THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT BE DETAILED ON THE PLANS:

- EQUIPMENT WEIGHING LESS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.
- FURNITURE REQUIRED TO BE ATTACHED IN ACCORDANCE WITH PART 2, TITLE 24, C.C.R..
- TEMPORARY OR MOVABLE EQUIPMENT.
- EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
- EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL ENGINEER AND THE FIELD REPRESENTATIVE OF THE DIVISION OF THE STATE ARCHITECT.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO RESIST THE FORCES PRESCRIBED IN ASCE 7-05 SECTION 13.3 AS DEFINED IN ASCE 7-05 SECTION 13.6.8, 13.6.7, AND 13.6.5.5, ITEM 6, RESPECTIVELY.

GENERAL SITE PLAN NOTES

- UTILITY COMPANY CONTACTS: BEFORE CONSTRUCTION, COORDINATE & VERIFY ALL UTILITY COMPANY REQUIREMENTS:

JOSE SALDANA JFSE@PGE.COM (831)784-3576
- TRENCHING AND BACKFILLING FOR ALL CONDUIT SYSTEMS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL CONDUITS SHALL HAVE MINIMUM COVER REQUIREMENTS AS SPECIFIED IN CEC 300-5. MORE STRINGENT DEPTH REQUIREMENTS MAY BE IMPOSED BY UTILITY COMPANY AND / OR THIS SPECIFICATION. JOINT TRENCHING MAY BE UTILIZED WHERE PRACTICABLE AND WERE PERMITTED BY THIS SPECIFICATION.
- LOCATIONS OF EXISTING UNDERGROUND (UG) UTILITY SYSTEMS SHALL BE DETERMINED BY CALLING UNDERGROUND SERVICE ALERT (USA). WHEN PLANNING UNDERGROUND WORK, AND BEFORE YOU DIG, CONTACT UNDERGROUND SERVICE ALERT (USA) AT LEAST 48 HOURS PRIOR TO EXCAVATION (WEEKENDS EXCLUDED) FOR THE LOCATION OF UNDERGROUND GAS AND ELECTRIC LINES OR EQUIPMENT.
- MAINTAIN REQUIRED CLEARANCES FROM ALL SANITARY SEWER, WATER AND STORM DRAIN PIPING. REFER TO CIVIL PLANS FOR EXACT LOCATIONS AND DEPTHS OF PIPING.
- ALL SITE UTILITY WORK SHALL BE INSTALLED PER THE UTILITY COMPANY ISSUED CONSTRUCTION DRAWINGS AND SPECIFICATIONS SPECIFIC TO THIS PROJECT. ANY UTILITY WORK PERFORMED WITHOUT PRIOR UTILITY COMPANY APPROVAL SHALL BE DONE AT THE CONTRACTOR'S RISK.

LEGEND

NOTE: INTERPRET IN CONTEXT

LIGHT FIXTURES

- CEILING SURFACE MOUNT
- WALL SURFACE MOUNT
- PENDANT MOUNT
- ⊕ RECESSED DOWNLIGHT
- ⊕ RECESSED WALLWASH
- ⊕ RECESSED FLOOR
- ⊕ SURFACE FLOOR
- ⊕ FLUOR. STRIP UON
- ⊕ TRACK LIGHT
- ⊕ DIRECTIONAL FLOOD
- ⊕ EMERGENCY FIXTURE
- ⊕ POLE LIGHT
- ⊕ POLE LIGHT- DECORATIVE
- ⊕ UPLIGHT- FLUSH IN GRADE
- ⊕ BOLLARD
- ⊕ TANDEM-WIRED LAMPS
- ⊕ UNDERCABINET LIGHT
- ⊕ WALL SURFACE MOUNT LINEAR TYPE
- ⊕ PENDANT LINEAR FLOOR
- ⊕ RECESSED WALL MOUNT
- ⊕ WALLPACK
- ⊕ EXIT LIGHT- WALL
- ⊕ EXIT LIGHT- CEILING
- ⊕ (ARROW INDICATES DIRECTION)
- ⊕ LETTER ADJACENT INDICATES FIXTURE TYPE

SWITCHES

- ⊕ SPST
- ⊕ DPST
- ⊕ 3-WAY
- ⊕ 4-WAY
- ⊕ DIMMER
- ⊕ TIMER SWITCH
- ⊕ W/THERMAL OVERLOAD
- ⊕ W/PILOT LIGHT
- ⊕ KEY OPERATED
- ⊕ DUAL LEVEL SWITCHING
- ⊕ SWITCHLEG DESIGNATION
- ⊕ OCCUPANCY SENSOR

POWER/COMM.

- ⊕ SINGLE RECEPT.
- ⊕ DUPLX RECEPT.
- ⊕ DUPLX- HALF SWITCHED
- ⊕ DOUBLE DUPLX
- ⊕ SPECIAL CONFIGURATION
- ⊕ FLOOR MOUNT 208V, 1Φ RECEPT
- ⊕ DUPLX- FLOOR OUTLET
- ⊕ GROUND FAULT CIRCUIT INTERRUPT
- ⊕ MOUNTED ABOVE COUNTER
- ⊕ JUNCTION BOX
- ⊕ TELEPHONE OUTLET
- ⊕ DATA OUTLET
- ⊕ PHONE/DATA COMBO OUTLET
- ⊕ MOUNTED ABOVE COUNTER
- ⊕ TELEVISION OUTLET
- ⊕ SAFETY DISCONNECT
- ⊕ DROP CORD RECEPT
- ⊕ ABOVE-CLGMOUNT J-BOX
- ⊕ TV OUTLET-FLOOR MOUNT
- ⊕ TELEPHONE FLOOR OUTLET
- ⊕ DATA FLOOR OUTLET
- ⊕ PHONE/DATA COMBO FLOOR OUTLET

MISCELLANEOUS

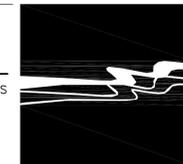
- ⊕ MOTOR
- ⊕ THERMOSTAT
- ⊕ CIRCUIT BREAKER
- ⊕ FUSIBLE SWITCH
- ⊕ GROUND
- ⊕ PHASE
- ⊕ CLOCK
- ⊕ CLOCK/SPEAKER COMBINATION
- ⊕ WALL MOUNTED CLOCK
- ⊕ PUSHBUTTON
- ⊕ FLUSHMOUNT PANEL
- ⊕ SURFACE MOUNT PANEL
- ⊕ FLUSHMOUNT CABINET
- ⊕ SURFACE MOUNT CABINET
- ⊕ DAMPER MOTOR
- ⊕ HUMIDISTAT
- ⊕ MAGNETIC CONTACTOR
- ⊕ COMBINATION STARTER

ABBREVIATIONS

- | | | |
|-----------------------------------|---------------------------------------|---|
| A AMPERE | FACP FIRE ALARM CONTROL PANEL | OCF OVERCURRENT PROTECTION |
| AB AMP BREAKER | FAT FIRE ALARM TERMINAL | OD OUTSIDE DIAMETER |
| ABAND ABANDONED | FAU FORCED AIR UNIT | OH OVERHEAD |
| ABV ABOVE | FBO FURNISHED BY OTHERS | OSA OFFICE OF THE STATE ARCHITECT |
| AC ALTERNATING CURRENT | FC-# FAN COIL | OSHPD OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT |
| AC-# AIR CONDITIONER | FLA FULL LOAD AMPS | OVLD OVERLOAD |
| ADJ-# ADJACENT | FLR FLOOR | P POLE |
| AF AMP FUSE, AMP FRAME | FLUOR FLUORESCENT | PA PUBLIC ADDRESS |
| AFF ABOVE FINISH FLOOR | FS FUSIBLE SWITCH | PB PULLBOX |
| AFG ABOVE FINISH GRADE | FVNR FULL VOLTAGE NON-REVERSING | PC PULL CHAIN |
| AIC AMPERES INTERRUPTING CAPACITY | G GROUNDING CONDUCTOR | PC PHOTOCELL |
| AI ALUMINUM | GC GENERAL CONTRACTOR | PC PLUMBING CONTRACTOR |
| AS AMP SWITCH RATING | GD GARBAGE DISPOSAL | ph PHASE |
| ATS AUTOMATIC TIME SWITCH | GFCI GROUND FAULT CIRCUIT INTERRUPTER | PANEL |
| ATS AUTOMATIC TRANSFER SWITCH | GFI GROUND FAULT CIRCUIT INTERRUPTER | PCC POINT OF CONNECTION |
| AV AUDIBLE/AUDIO VISUAL | GND GROUND | -PP- POWER PRIMARY |
| AWG AMERICAN WIRE GAGE | GRS GALVANIZED RIGID STEEL | -PST- POWER SECONDARY |
| BFG BELOW FINISH GRADE | GWS GANG WITH SWITCH | PV PHOTOVOLTAIC |
| BIL BASIC IMPULSE LEVEL | H HEIGHT, HIGH | (R) RELOCATE(D) |
| BLDG BUILDING | HACR HEATING, AC & REFRIG | RECEPT RECEPTACLE |
| C CONDUIT | HO HIGH OUTPUT | REF REFRIGERATOR |
| -C- CATY CONDUIT | HOA HAND-OFF-AUTO | REQ'D REQUIRED |
| CAB'T CABINET | HP HORSEPOWER | RLA RATED LOAD AMPS |
| CATV CABLE TELEVISION | HPF HIGH POWER FACTOR | RM ROOM |
| CB CIRCUIT BREAKER, CODE BLUE | HPS HIGH PRESSURE SODIUM | RMC RIGID METAL CONDUIT |
| CBC CA. BUILDING CODE | ID IDENTIFICATION | REMOVE REMOVE |
| CA. ELECTRICAL CODE | IF INSIDE FROST | RPLC REPLACE |
| CA. ENERGY COMMISSION | IG ISOLATED GROUND | RS RAPID START |
| CF COMPACT FLUORESCENT | J-BOX JUNCTION BOX | SC SIGNAL CABINET |
| CFC CALIFORNIA FIRE CODE | k QUANTITY 1000 | SCC SHORT CKT CURRENT |
| CLG CEILING | kVA KILOVOLTAMPS | SFM STATE FIRE MARSHAL |
| CL CENTER LINE | kw KILOWATT | SHT SHEET |
| CKT CIRCUIT | LC LIGHTING CONTACTOR | SHT SLIMLINE, SWITCH LEG |
| CN'T'R CONTRACTOR | LPS LOW PRESSURE SODIUM | SPEC SPECIFICATION |
| C.O. CONDUIT ONLY (W/PULLROPE) | LRA LOCKED ROTOR AMPS | SPST SINGLE POLE SINGLE THROW |
| COND CONDUIT, CONDUCTOR | LS LIFE SAFETY BRANCH | SQ SQUARE |
| CR CRITICAL BRANCH | LT LIGHT | STR'G STORAGE |
| CSFM CALIFORNIA SFM | LTG LIGHTING | SURF SURFACE |
| CT CURRENT TRANSFORMER | LV LOW VOLTAGE | SVC SERVICE |
| Cu COPPER | MC MECHANICAL CONTRACTOR | SW SWITCH |
| CU-# CONDENSING UNIT | MCA MINIMUM CKT AMPS | T TRANSFORMER, TERMINAL |
| D DEPTH | MCB MAIN CIRCUIT BREAKER | -T- TELEPHONE CONDUIT |
| DC DIRECT CURRENT | MCTB MAIN CATV TERMINAL BOARD | (TBR) TO BE REMOVED |
| DF DRINKING FOUNTAIN | MCTC MAIN CATV TERMINAL CABINET | TIC TIME CLOCK |
| DIA DIAMETER | MECH MECHANICAL | TEL TELEPHONE |
| DISC DISCONNECT | MFR MANUFACTURER | TELCO TELEPHONE COMPANY |
| DIST DISTRIBUTION | MFS MAIN FUSIBLE SWITCH | TIME SWITCH |
| DPST DOUBLE POLE SINGLE THROW | MH METAL HALIDE | TSP TIME SWITCH OVERRIDE |
| DW DISHWASHER | MLO MAIN LUGS ONLY | TTB TELEPHONE TERMINAL BOARD |
| EM EMERGENCY | MOCP MAXIMUM OCP | TTC TELEPHONE TERMINAL CABINET |
| (E) EXISTING | MSB MAIN SWITCHBOARD | TX TRANSFORMER |
| EA EACH | MT MOUNT | TYP TYPICAL |
| EB ELECTRONIC BALLAST | MT HT MOUNTING HEIGHT | TYP SIM TYPICAL SIMILAR |
| EC ELECTRICAL CONTRACTOR | MTS MANUAL TRANSFER SWITCH | UC UNDERCABINET, UNDERCOUNTER |
| EC-# EVAPORATIVE COOLER | MTTB MAIN TELEPHONE TERMINAL BOARD | UG UNDERGROUND PULL SECTION |
| EF-# EXHAUST FAN | MTTC MAIN TELEPHONE TERMINAL CABINET | UGPS UNDERGROUND PULL SECTION |
| EL EVENING LIGHT | MW MICROWAVE | UL UNDERWRITERS LABORATORIES |
| ELEC ELECTRICAL | N NEUTRAL (GROUNDED CONDUCTOR) | UN UNLESS OTHERWISE NOTED |
| ELEC ELECTRICAL | (N) NEW | USA UG SVC ALERT 800-642-2444 |
| EM EMERG BATTERY BACKUP | N3R NEMA 3R | V VOLT |
| EMB EMERGENCY BALLAST | NC NORMALLY CLOSED | VAC VOLT AMPERES |
| EMERG EMERGENCY | NEC NATIONAL ELECTRICAL CODE | VLT VOLT ALTERNATING CURRENT |
| EOL END OF LINE | NEMA NAT'L ELEC MANUFACTURER'S ASSOC | VHO VERY HIGH OUTPUT |
| EQUIPT EQUIPMENT | NIC NOT IN CONTRACT | VOLT VOLTAGE |
| ES ENERGY SAVING | NL NIGHT LIGHT | VNDAL-VANDAL-RESISTANT |
| (EXN) (E) IN (N) LOCATION | NO NORMALLY OPEN | W WIDTH, WATT, WIRE |
| (EXR) (E) TO BE (R) | NPF NORMAL POWER FACTOR | WH-# WATER HEATER |
| EXT EXTERIOR | NTS NOT TO SCALE | WP WEATHERPROOF (NEMA 3R) |
| F FLUORESCENT | OC ON CENTER | XFMR TRANSFORMER |
| (F) FUTURE | | +48 INDICATES MOUNTING HEIGHT AFF |
| F-# FURNACE | | |
| FA FIRE ALARM | | |

CONVENTIONS

- ⊕ NUMBERED SHEET NOTES: REFERS TO NOTES ON SAME SHEET AS REFERENCE
- ⊕ DETAIL REFERENCE:
-DETAIL DESIGNATION
-SHEET NUMBER REFERENCE
- ⊕ FEEDER SCHEDULE DESIGNATION
(EXAMPLE: 3103 = 310 AMPERE, 600V,
CURRENT CARRYING CONDUCTORS,
PREFIXES: 'M' INDICATES MEDIUM VOLTAGE,
'C014' INDICATES CONDUIT ONLY,
QUANTITY (1) AND SIZE (4"))

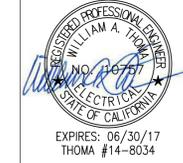


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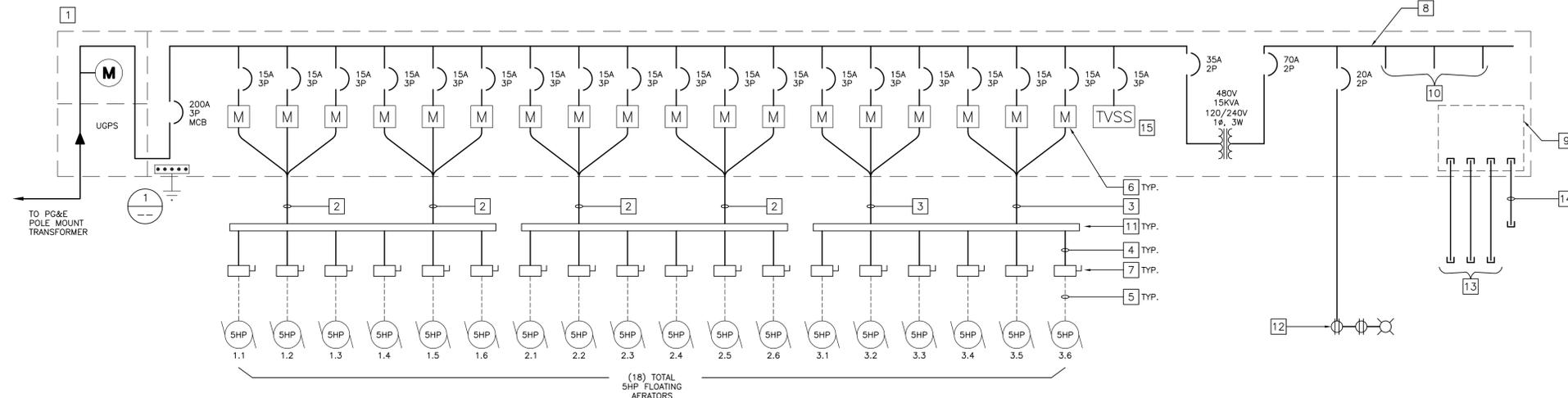
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GREENFIELD WASTEWATER TREATMENT PLANT
SURFACE AERATOR ADDITION
GENERAL NOTES LEGEND AND ABBREVIATIONS

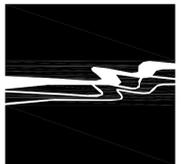
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DESIGNERS: GOICP
DRAWN BY: LB
DATE: 2/8/16
DRAWING NO.
E-1
8 OF 11 SHEETS



SINGLE LINE DIAGRAM

REFERENCE NOTES

1. MOTOR CONTROL CENTER, 'MCC'. 200A, 277/480V, 3Ø, 4W, NEMA 3R, 65KAIC. MOUNT ON CONCRETE PAD. SEE DETAIL 3/E-3.0 FOR ADDITIONAL INFORMATION.
2. 1" C WITH (9)#12 THWN & (1)#10 GND. THREE AERATOR FEEDS.
3. 1" C WITH (9)#12 THWN & (1)#12 GND. THREE AERATOR FEEDS.
4. 3/4" C WITH (3)#12 THWN & (1)#12 GND TO AERATOR DISCONNECT.
5. AERATOR CONDUCTORS PROVIDED BY OTHERS. TERMINATION BY EC.
6. COMBINATION MOTOR STARTER, FVNR, WITH H-O-A SELECTOR SWITCH, INDICATOR LIGHTS, START/STOP PUSH BUTTONS, INTEGRAL CPT, AND CONTROL WIRING FOR FUTURE REMOTE AND AUTOMATIC CONTROLS. TYPICAL FOR (18)
7. 30A NON-FUSED DISCONNECT, NEMA 4X, SS. TYPICAL FOR (18).
8. INTEGRAL LOAD CENTER WITH (18) CIRCUITS.
9. SPACE IN CABINET FOR FUTURE CONTROLS (TIMECLOCK, DO MONITOR, ETC.).
10. BUSSED SPACE PROVISIONS FOR FUTURE LOADS
11. 6" x 6" x 8" GUTTER MOUNTED TO DISCONNECT BACKBOARD. SEE DETAIL 1/E-3.0.
12. RECEPTACLES AND LIGHTS IN CABINET. SEE DETAIL 2/E-3.0.
13. 1" C.O. STUBS TO EDGE OF PONDS FOR FUTURE DO SENSORS.
14. PROVIDE (4) 1" C.O. STUBS TO 17" X 30" CONCRETE PULL FOR FUTURE CONTROLS.
15. TRANSIENT VOLTAGE SURGE SUPPRESSOR.



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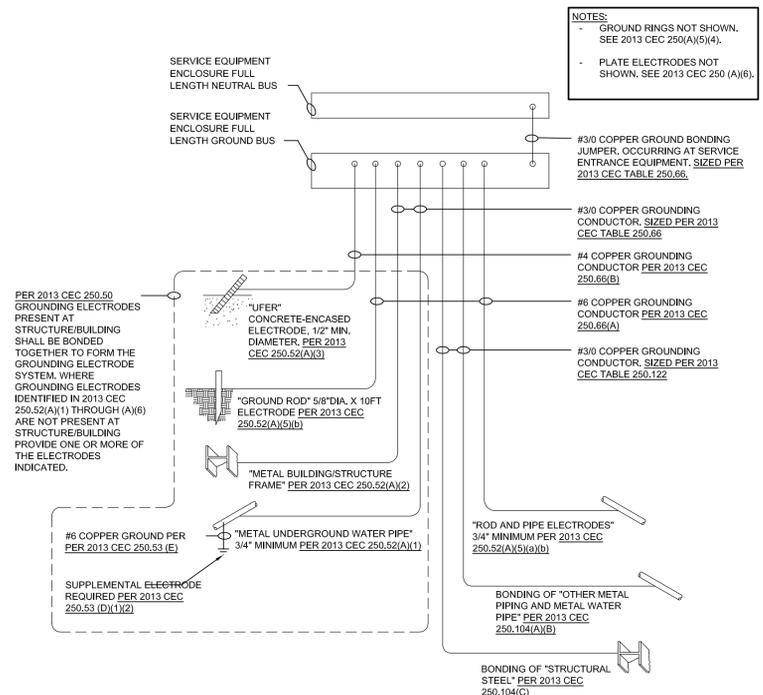
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EXPIRES: 06/30/17
 THOMA #14-8034

SINGLE LINE DIAGRAM NOTES

- A. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT AND COORDINATE WITH THE SERVING UTILITY TO ENSURE ALL SERVING UTILITY REQUIREMENTS ARE MET.
- B. SERVICE ENTRANCE EQUIPMENT SHALL BE IN ACCORDANCE WITH THE SERVING ELECTRIC UTILITY COMPANY'S REQUIREMENTS.
- C. FOR SERIES RATED EQUIPMENT; IN ADDITION TO ALL FACTORY APPLIED, CODE REQUIRED MARKING AND SPECIFIED LABELING OF THE ELECTRICAL PANELBOARD AND THEIR COMPONENTS, ADDITIONAL MARKING AND LABELING IDENTIFYING THE SERIES RATED SYSTEM SHALL BE PROVIDED AS FOLLOWS:
 - a. THE SERIES COMBINATION INTERRUPTING RATING, AS INDICATED ABOVE, SHALL BE MARKED ON THE EQUIPMENT BY THE MANUFACTURER AS REQUIRED BY NEC 240-83(C).
 - b. WHEN USED, THE CONTRACTOR SHALL USE A "SERIES RATED SYSTEM" LABEL INDICATING SERIES RATING WARNINGS, COMPLYING WITH NEC 110-22 AND SHALL BE FURNISHED BY MANUFACTURER. THE LABEL SHALL BE PERMANENTLY AFFIXED TO THE INTERIOR OF PANELBOARD'S TRIM WHERE IT CAN BE READILY SEEN BY SERVICE PERSONNEL. THE COMPLETED LABEL SHALL READ:
 CAUTION!
 SERIES COMBINATION SYSTEM RATED SYSTEM [xx,xxx]A.
 IDENTIFIED REPLACEMENT COMPONENT REQUIRED.
 ANY ADDITIONS OR REPLACEMENTS SHALL BE WITH IDENTICAL COMPONENTS.
 FAILURE TO DO SO COULD RESULT IN ELECTRICAL EXPLOSION AND FIRE.
 SERIES RATINGS SHALL NOT BE USED WHERE MOTORS ARE CONNECTED ON THE LOAD SIDE OF THE HIGHER-RATED OVERCURRENT DEVICE AND ON THE LINE SIDE OF THE LOWER-RATED OVERCURRENT DEVICE, WHEN THE SUM OF THE MOTOR FULL-LOAD CURRENTS EXCEEDS 1 PERCENT OF THE INTERRUPTING RATING OF THE LOWER-RATED CIRCUIT BREAKER PER NEC 240-86(B).
- D. ALL CONDUCTORS SHALL BE COPPER WITH TYPE [THHN/THWN] INSULATION UNLESS OTHERWISE NOTED.
- E. ALL SWITCHES, CIRCUIT BREAKERS AND OTHER EQUIPMENT, AS SPECIFIED, SHALL HAVE TERMINATION PROVISIONS LISTED AND IDENTIFIED FOR USE WITH 75 DEG. CONDUCTORS, AND ALL FEEDER CONDUCTORS, AND CONDUITS, ARE SIZE BASED ON USE OF 75 DEG. C COPPER WIRES TYPE THWN/THHN.
- F. DESIGN SHOWN IS BASED ON EATON PRODUCT. ENGINEER-APPROVED EQUAL ALTERNATE PRODUCT WILL BE ACCEPTABLE.
- G. ALL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED [UL, CSA, ETC.] (CEC 110-2).



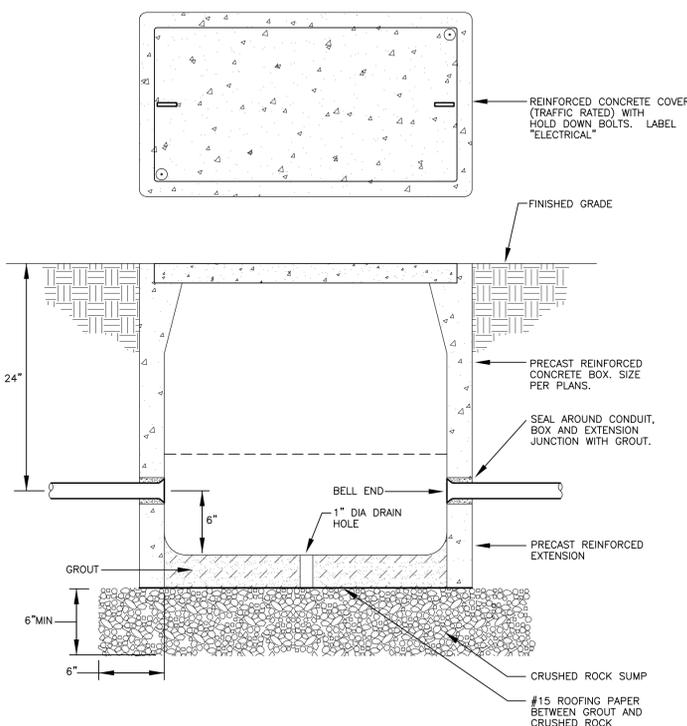
1 GROUND/BOND DETAIL
 NTS

WARNING
 POTENTIAL ARC FLASH HAZARD
 Appropriate PPE and Tools Required
 when working on this equipment

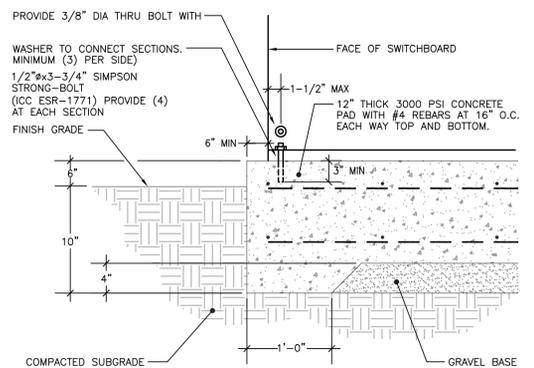
2 ARC FLASH SIGN
 NTS

GREENFIELD WASTEWATER TREATMENT PLANT
SURFACE AERATOR ADDITION
SINGLE LINE DIAGRAM

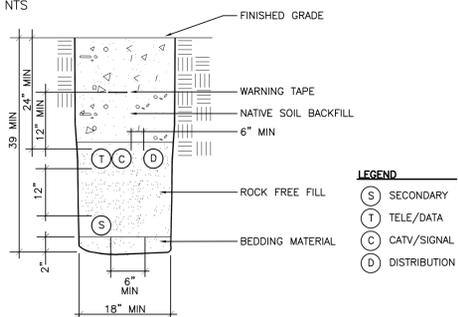
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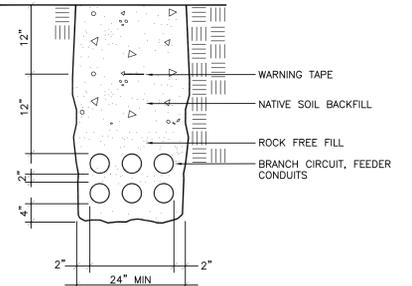
6 PULLBOX DETAIL
NTS



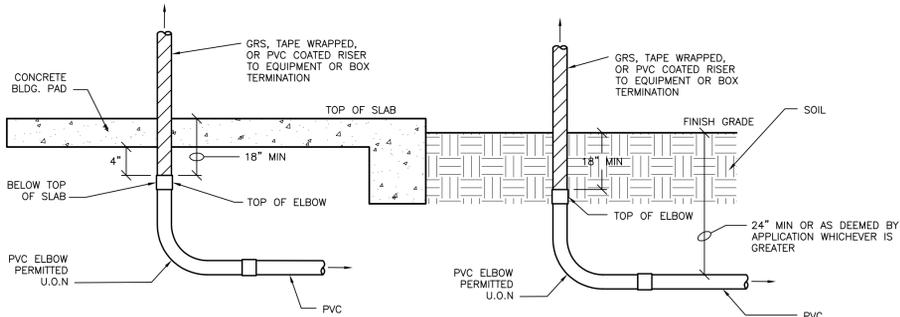
3 SWITCHBOARD MOUNTING SECTION
NTS



4 SECONDARY TRENCH DETAIL
NTS

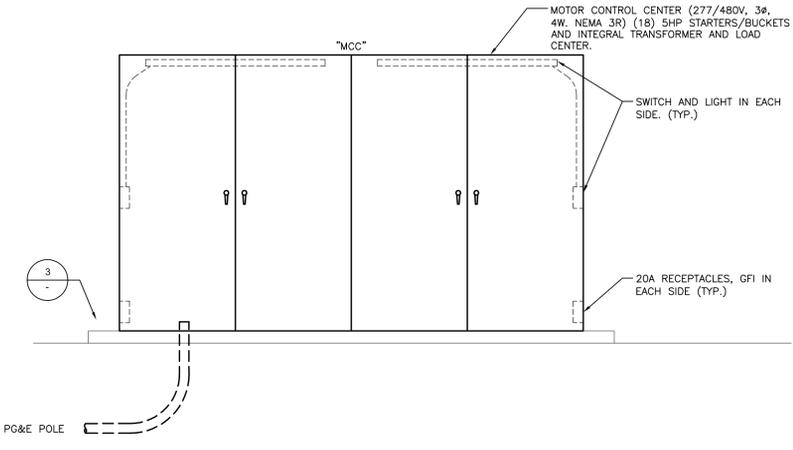


5 TYP FEEDER/BRANCH CKT CONDUIT TRENCH DETAIL
NTS

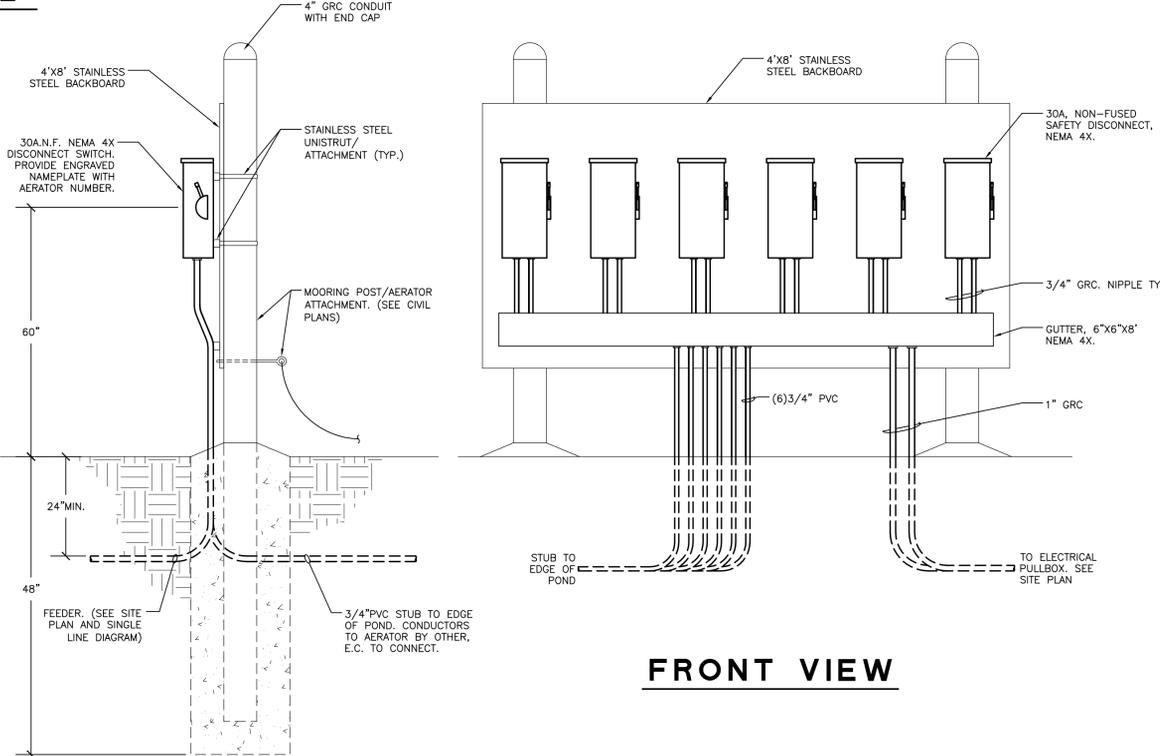


7 UNDERGROUND CONDUITS & TRANSITIONS TO ABOVE GRADE/SLAB
NTS

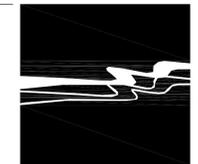
- NOTES:**
UNDERGROUND CONDUITS AND TRANSITION TO ABOVE GRADE/SLAB SHALL BE AS FOLLOWS:
1. PVC ELBOWS ALLOWED IF TOP OF ELBOW IS MINIMUM 18" BFG OR BELOW TOP OF SLAB, OTHERWISE GRS, TAPE WRAPPED, OR PVC COATED ELBOWS ARE REQUIRED.
 2. GRS ELBOWS ARE REQUIRED IF CONDUIT RUN IS 150' GREATER.
 3. GRS RISERS ARE REQUIRED FROM ELBOW BELOW GRADE TO EQUIPMENT (DEVICE, OUTLET, PANEL, CABINET, ETC.) ABOVE GRADE.
 4. GRS ELBOWS/RISERS TO BE PVC COATED OR TAPED WRAPPED (1/2" LAPPED) TO 3" ABOVE FINISH GRADE OR TOP OF SLAB.



1 EQUIPMENT ELEVATION
NTS



2 AERATOR DISCONNECT SWITCH ELEVATION
NTS



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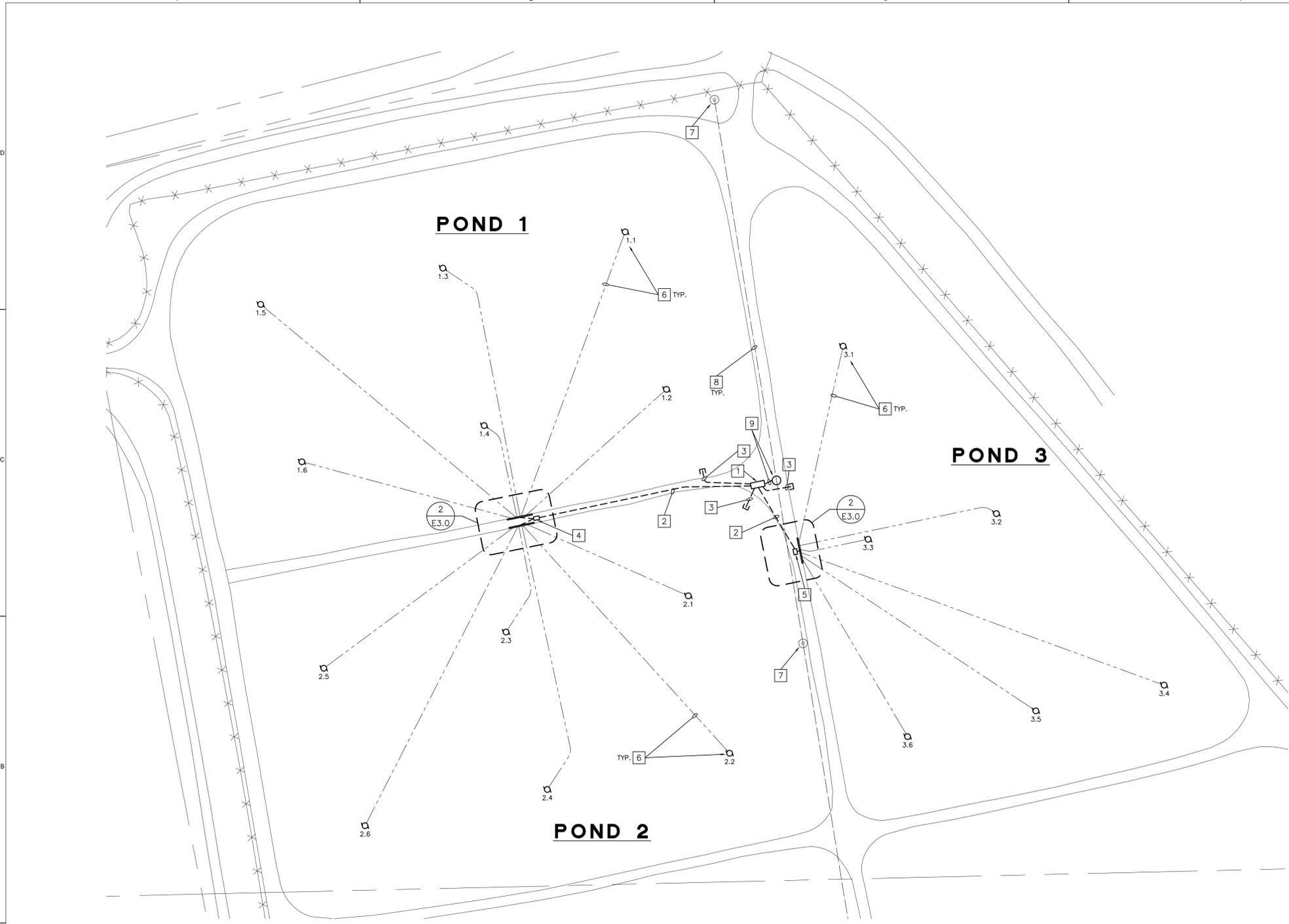
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GREENFIELD WASTEWATER TREATMENT PLANT
SURFACE AERATOR ADDITION
ELECTRICAL DETAILS

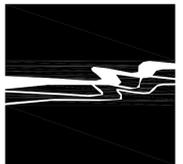
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REFERENCE NOTES

1. NEW MOTOR CONTROL CENTER "MCC". SEE SINGLE LINE DIAGRAM SHEET E-2.0. COORDINATE LOCATION WITH CIVIL PLANS TO MAINTAIN ADEQUATE CLEARANCE FOR SERVICE VEHICLES ON ROAD.
2. FEEDERS TO AERATOR DISCONNECTS. SEE SINGLE LINE DIAGRAM SHEET E-2.0.
3. 1" C.O. STUB TO EDGE OF POND FOR FUTURE SENSORS.
4. 17"x30" FLUSH IN GRADE PULLBOX WITH TRAFFIC RATED LID, LABEL "ELECTRICAL".
5. 11"x17" FLUSH IN GRADE PULLBOXES WITH TRAFFIC RATED LIDS, LABEL "ELECTRICAL".
6. AERATORS CONDUCTORS BY OTHERS. EC TO CONNECT.
7. EXISTING PG&E POWER POLE.
8. EXISTING OVERHEAD POWER LINES.
9. NEW POWER POLE AND GUY WIRES TO INTERCEPT EXISTING PG&E OVERHEAD CONDUCTORS. PROVIDE 3"PG&E SECONDARY CONDUIT FROM POLE TO "MCC". COORDINATE WORK WITH PG&E HANDOUT PACKAGE.

NOTE: COORDINATE CONDUIT ROUTING WITH CIVIL TO AVOID CONFLICT WITH PROCESS PIPING AND JUNCTION BOXES.



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GREENFIELD WASTEWATER TREATMENT PLANT
SURFACE AERATOR ADDITION
SITE ELECTRICAL PLAN

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DESIGNERS: GOICP
DRAWN BY: LB
DATE: 2/8/16

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SITE ELECTRICAL PLAN

SCALE: 1" = 40'-0"
NORTH