GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
COUNTY PROJECT NUMBER 6914GTWTP

PROJECT DESCRIPTION

THE GATEWAY OF THE AMERICAS WATER TREATMENT PLANT IS LOCATED AT 1499 HIGHWAY 98, CALEXICO, CALIFORNIA 92231. THE GATEWAY OF THE AMERICAS WATER SYSTEM OWNER IS THE COUNTY OF IMPERIAL. THE GATEWAY OF THE AMERICAS IS CLASSIFIED AS A "COMMUNITY WATER SYSTEM". THE IMPERIAL COUNTY PUBLIC HEALTH DEPARTMENT -DIVISION OF ENVIRONMENTAL HEALTH IS THE LOCAL PRIMACY AGENCY. THE AGENCY ISSUED A DOMESTIC WATER SUPPLY PERMIT FOR THE GATEWAY OF THE AMERICAS WATER SYSTEM AND IS RESPONSIBLE FOR THE OVERSIGHT AND ENFORCEMENT OF THE PERMIT REQUIREMENTS. THE GATEWAY OF THE AMERICAS WATER SYSTEM LOCAL PRIMACY AGENCY IDENTIFICATION NUMBER IS 1300018.

THE IMPROVEMENT PLANS CONTAINED HEREIN ARE FOR THE IMPROVEMENTS TO THE GATEWAY OF THE AMERICAS *WATER TREATMENT PLANT*. THESE PLANS DO NOT INCLUDE IMPROVEMENTS *TO THE GATEWAY OF THE AMERICAS WATER DISTRIBUTION SYSTEM OR IMPROVEMENTS TO THE* CALEXICO EAST LAND PORT OF ENTRY (LPOE) WATER SYSTEM.

THE PREVIOUS BACKUP DIESEL FIRE PUMP FAILED WHILE OPERATING APPROXIMATELY 4 YEARS AGO AND WAS NOT SALVAGEABLE. THE PREVIOUS BACKUP DIESEL FIRE PUMP IS NO LONGER OPERABLE. THE ORIGINAL 2001 BOOSTER PUMPING SYSTEM WHICH CONVEYED WATER TO THE WATER DISTRIBUTION PIPELINE SYSTEM WAS REPLACED WITH AN INTERIM BOOSTER PUMPING SYSTEM IN MARCH OF 2023. THE INTERIM BOOSTER PUMPING SYSTEM CONSISTS OF THREE (3) OF THE PRIOR EXISTING PUMPS AND ONE (1) NEW PUMP. THE INTERIM BOOSTER PUMPS CONSIST OF ONE (1) 100 GPM - 10HP; ONE (1) 250 GPM - 20 HP AND TWO (2) 750 GPM - 50 HP PUMPS. THE FOUR PUMPS CAN DELIVER 1,850 GPM AT 70 PSI TO THE DISTRIBUTION SYSTEM. THE INTERIM ELECTRICAL CONTROL PANEL AND PUMPS CURRENTLY MAINTAIN THE DOWNSTREAM PIPELINE DISTRIBUTION OPERATING PRESSURE IN A RANGE BETWEEN 68 AND 78 PSI. THE INTERIM PUMPING SYSTEM DOES NOT POSSESS AN AUTOMATICALLY ACTIVATED EMERGENCY ELECTRICAL POWER SUPPLY AND THEREFORE DOES NOT PROVIDE ADEQUATE FIRE FLOW PROTECTION TO THE GATEWAY OF THE AMERICAS SERVICE AREA.

THE IMPROVEMENTS TO THE GATEWAY OF THE AMERICAS WATER TREATMENT PLANT INCLUDE THE REPLACEMENT OF THE INTERIM BOOSTER PUMPING SYSTEM WHICH CONVEYS POTABLE WATER TO THE WATER DISTRIBUTION PIPELINE SYSTEM, IMPROVEMENTS TO THE ELECTRICAL SYSTEM AND INSTALLATION OF AN EMERGENCY STANDBY DIESEL GENERATOR SET. THE STANDBY DIESEL GENERATOR SET WILL PROVIDE AN EMERGENCY POWER SUPPLY FOR THE NEW BOOSTER PUMPS TO INSURE ADEQUATE FIRE PROTECTION. THE NEW VARIABLE FREQUENCY BOOSTER PUMPING SYSTEM WILL BE CAPABLE OF PROVIDING 2,800 GPM AT 78 PSI FLOW TO THE WATER DISTRIBUTION PIPELINE SYSTEM. THIS HIGHER CAPACITY FIRE FLOW WILL ADEQUATELY PROVIDE THE REQUIRED FIRE FLOW TO THE GATEWAY OF THE AMERICAS INDUSTRIAL AND COMMERCIAL ESTABLISHMENTS.

THE GATEWAY OF THE AMERICAS WATER TREATMENT PLANT IMPROVEMENTS DO NOT INCLUDE EXPANDING THE CAPACITY OF THE WATER TREATMENT PLANT, IMPROVEMENTS TO THE RAW WATER STORAGE OR CONVEYANCE SYSTEM, FILTERING SYSTEMS, WATER STORAGE TANKS, DISINFECTION SYSTEM, INSTALLATION OF A SCADA SYSTEM OR OTHER MAJOR WATER TREATMENT PLANT COMPONENTS. THE IMPROVEMENTS ALSO DO NOT INCLUDE IMPROVEMENTS TO THE GATEWAY OF THE AMERICAS WATER DISTRIBUTION SYSTEM FOR THE INSTALLATION OF THE DISTRIBUTION SYSTEM PIPELINE SECTIONS REQUIRED FOR THE SUPPLY OF 2,800 GPM @ 20 PSI RESIDUAL PRESSURE TO ALL AREAS OF THE GATEWAY OF THE AMERICAS SERVICE AREA AND LPOE.

THE MAJOR GATEWAY OF THE AMERICAS WATER TREATMENT PLANT IMPROVEMENTS ARE AS FOLLOWS:

1. INSTALL A BYPASS PUMPING SYSTEM TO CONVEY TREATED WATER FROM THE TANKS TO THE DISTRIBUTION SYSTEM DURING THE DEMOLITION AND CONSTRUCTION OF THE EXISTING AND NEW DISTRIBUTION PUMPS, PIPING AND ELECTRICAL SYSTEM. **SEE SPECIAL CONDITION SECTION 00840-1 ENTITLED, "SEQUENCE OF CONSTRUCTION FOR MAINTAINING THE WATER TREATMENT PLANT OPERATIONAL DURING THE CONSTRUCTION PERIOD AND LISTING OF MAJOR PROJECT ITEMS."**
2. COMPLETE THE RELOCATION OF THE DISTRIBUTION PUMPS, AND DEMOLITION OF PIPING, A PORTION OF THE EXISTING ELECTRICAL SYSTEM AND EXISTING PARKING AREA. THE NEW ELECTRICAL SYSTEM WILL OCCUPY THE LOCATION OF THE EXISTING PARKING AREA.
3. INSTALL NEW VARIABLE FREQUENCY DRIVE BOOSTER PUMPING SYSTEM, PIPING, VALVES, *FLOWMETER AND ELECTRICAL VFD AND CONTROL PANEL. THE VARIABLE FREQUENCY* DRIVE BOOSTER PUMPING SYSTEM SHALL BE CAPABLE OF PROVIDING 2,800 GALLONS PER MINUTE AT 78 PSI PRESSURE TO THE PIPELINE DISTRIBUTION SYSTEM.
4. THE PRESSURE RELIEF VALVE UPSTREAM OF THE EXISTING 500,000 GALLON GROUND STORAGE RESERVOIR IS TO BE REPLACED.
5. THE IMPERIAL IRRIGATION DISTRICT IS TO INSTALL A NEW ELECTRICAL TRANSFORMER, NEW SECONDARY CONDUCTORS FROM THE TRANSFORMER TO THE NEW SERVICE ENTRANCE SECTION (SES) AND INSTALL A NEW METER IN THE SES.
6. INSTALL A NEW PCC PARKING AREA TO REPLACE THE DEMOLISHED PARKING AREA TO ACCOMMODATE THE NEW ELECTRICAL PANELS.
7. INSTALL NEW ELECTRICAL CONCRETE PAD IN THE LOCATION OF THE NEW ELECTRICAL PANELS. PLACE A SHADE STRUCTURE OVER THE ELECTRICAL PANELS.
8. INSTALL A NEW ELECTRICAL SYSTEM INCLUDING THE 277/480 VOLT, 3 PHASE, 4 WIRE, 800 AMP SES PANEL, AUTOMATIC TRANSFER SWITCH AND 3 PHASE AND 1 PHASE LOAD CENTERS. EXISTING ELECTRICAL PANELS AND TRANSFORMERS TO REMAIN OPERABLE ARE TO BE CONNECTED TO THE NEW ELECTRICAL SYSTEM. CONNECT EXISTING CIRCUITRY TO THE NEW ELECTRICAL SYSTEM. INSTALL NEW CIRCUITRY TO THE VFD ELECTRICAL AND CONTROL PANELS. INSTALL ALARM, MONITORING AND SIGNAL CIRCUITRY. INSTALL FLOWMETER CONVERTER AND CIRCUITRY, NEW GENERATOR SET CIRCUITRY AND GENERATOR SET ANNUNCIATOR PANEL CIRCUITRY. COMPLETE RELOCATION OF EXISTING ELECTRICAL CIRCUITRY. COMPLETE OTHER MISCELLANEOUS ELECTRICAL WORK.
9. INSTALL A NEW STANDBY DIESEL EMERGENCY 350 KW GENERATOR SET ON PREPARED PCC SUPPORT PAD. EXTEND CONDUITS AND CONDUCTORS FROM THE STANDBY EMERGENCY GENERATOR TO THE NEW AUTOMATIC TRANSFER SWITCH.
10. COMPLETE MINOR GRADING WORK BEFORE AND AFTER THE INSTALLATION OF THE ELECTRICAL PCC PAD, NEW PCC PARKING LOT AND NEW STANDBY DIESEL EMERGENCY GENERATOR SET PCC PAD.
11. COMPLETE A SATISFACTORY START-UP OF THE ELECTRICAL, NEW VARIABLE FREQUENCY DRIVE PUMPING SYSTEM AND ALL OTHER SYSTEM COMPONENTS. PLACE THE NEW VARIABLE FREQUENCY DRIVE PUMPING SYSTEM IN OPERATION.

GENERAL NOTES

GENERAL NOTES

1. ALL WORK, MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE GREENBOOK) CURRENT EDITION AND AMERICAN WATER WORKS ASSOCIATION STANDARDS. IF CONTRADICTIONS ARISE BETWEEN VARIOUS CODES, THE MOST RESTRICTIVE STANDARDS APPLY.
2. TRENCHING AND BACKFILL SHALL COMPLY WITH THE RECOMMENDATIONS OF THE PLANS.
3. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.
4. ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AND AT NO EXPENSE TO THE OWNER OR ENGINEER.
5. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
6. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
7. THE EXISTENCE, LOCATION AND CHARACTERISTICS OF UNDERGROUND UTILITY INFORMATION SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM A REVIEW OF AVAILABLE RECORD DATA. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID UTILITY INFORMATION. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. CONTRACTOR WILL VERIFY LOCATIONS.
8. IF AT ANY TIME DURING EXCAVATION OPERATIONS ANY UNFAVORABLE GEOLOGICAL CONDITIONS ARE ENCOUNTERED, INCLUDING BUT NOT LIMITED TO THE UNCOVERING OF ARTICLES POTENTIALLY ARCHEOLOGICAL IN NATURE, EXCAVATION IN THAT AREA WILL STOP UNTIL APPROVED CORRECTIVE MEASURES ARE OBTAINED. CONTRACTOR WILL VERIFY LOCATIONS.
9. ALL DEBRIS AND FOREIGN MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT APPROVED DISPOSAL SITES. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR THE TRANSPORTATION OF MATERIAL TO AND FROM THE SITE.
10. DIMENSIONS TO PIPELINES ARE TO CENTERLINE UNLESS OTHERWISE NOTED.
11. THE CONTRACTOR SHALL REPLACE ALL EXISTING IMPROVEMENTS DAMAGED DURING CONSTRUCTION TO MATCH EXISTING, INCLUDING PERMANENT TRENCH RESURFACING.
12. ALL DIMENSIONS ARE IN FEET OR DECIMALS THEREOF UNLESS OTHERWISE ILLUSTRATED ON THE PLANS.
13. WATER SHALL BE PROVIDED ONSITE AND USED TO CONTROL DUST DURING CONSTRUCTION OPERATIONS.
14. A GEOTECHNICAL FIRM SHALL ALSO BE RESPONSIBLE TO VERIFY AND REPORT THAT PROPER COMPACTION HAS BEEN OBTAINED BY SUBCONTRACTORS AND AGENCIES CONCERNING UTILITY LINE BACKFILL (INCLUDING, BUT NOT LIMITED TO WATER LINES, ELECTRICAL AND LANDSCAPE IRRIGATION LINES).
15. IF ANY UNFORESEEN SUB-SURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, THEY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING FURTHER.
16. UNSUITABLE MATERIAL THAT IS EXCAVATED BY THE CONTRACTOR THAT CANNOT BE USED AS FILL SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR.
17. CONTRACTOR SHALL REPLACE ANY SURFACE OR SUBSURFACE IMPROVEMENTS DAMAGED OR REMOVED DUE TO CONSTRUCTION AND IS REQUIRED TO REPLACE THEM TO THEIR ORIGINAL CONDITION.
18. CONTRACTOR SHALL MAINTAIN ACCESS TO EXISTING FIRE LANES AT ALL TIMES. COORDINATE WITH FIRE AUTHORITY.
19. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INSPECTIONS PRIOR TO POURING ANY CONCRETE.
20. CONTRACTOR IS RESPONSIBLE FOR EROSION, DUST, MUD, SILT, DEBRIS AND TEMPORARY DRAINAGE CONTROL DURING EXCAVATION OPERATIONS.
21. THE TERM "INSPECTION" OR "INSPECT" AS USED IN THESE CONTRACT DOCUMENTS SHALL BE TAKEN TO MEAN "OBSERVE" OR "OBSERVATION". THE ENGINEER IS NOT RESPONSIBLE FOR THE CONTRACTOR'S CONSTRUCTION METHODS.
22. SUBMIT SHOP DRAWINGS AND LAYOUT DRAWINGS FOR ALL MATERIALS PRIOR TO ANY MATERIAL PURCHASE OR INSTALLATION FOR REVIEW/APPROVAL BY THE ENGINEER.
23. REMOVE INTERFERING PORTIONS OF EXISTING ABANDONED UTILITIES AS REQUIRED TO CONSTRUCT PROJECT. VERIFY ABANDONED STATUS PRIOR TO REMOVAL.
24. IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUND WATER BODIES OF WATER FROM POLLUTION BY FUEL, OILS, BITUMENS OR OTHER HARMFUL MATERIALS.
25. HARD HAT AND HIGH VISIBILITY ORANGE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THE PROJECT.
26. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT 48 HOURS PRIOR TO ANY EXCAVATION. 1-800-227-2600.
27. CONTRACTOR SHALL NOTIFY THE IMPERIAL COUNTY COMMUNITY AND ECONOMIC DEVELOPMENT AGENCY 48 HOURS PRIOR TO COMMENCEMENT OF WORK. TELEPHONE: 442-265-1104.
28. THE CONTRACTOR SHALL PROVIDE THE COUNTY OF IMPERIAL PUBLIC WORKS DIRECTOR AND WTP CHIEF OPERATOR WRITTEN NOTICE AS TO THE PROPOSED TIME OF CONNECTION TO AN EXISTING GATEWAY OF THE AMERICAS WATERLINE. UNINTERRUPTED SERVICE SHALL BE PROVIDED TO THE CONSUMER EXCEPT IN INSTANCES SPECIFICALLY APPROVED BY THE THE COUNTY OF IMPERIAL PUBLIC WORKS DIRECTOR AND WTP CHIEF OPERATOR. SAID NOTICE SHALL OUTLINE THE SEQUENCE OF WORK REQUIRED TO MAKE CONNECTION, VERIFY ALL AFFECTED WATER USERS AND ESTIMATE THE DURATION OF ANY PROPOSED SHUTDOWN TIME. SPECIFIC APPROVAL OF THE COUNTY OF IMPERIAL PUBLIC WORKS DIRECTOR AND WTP CHIEF OPERATOR SHALL BE REQUIRED PRIOR TO ANY SHUTDOWN. 24-HOUR WRITTEN NOTICE SHALL BE PROVIDED BY THE CONTRACTOR TO ALL AFFECTED CONSUMERS. THE CONTRACTOR SHALL NOTIFY THE COUNTY OF IMPERIAL PUBLIC WORKS DIRECTOR AND WTP CHIEF OPERATOR 48 HOURS PRIOR TO STARTING ANY WORK. THE CONNECTION TO EXISTING GATEWAY OF THE AMERICAS WATERLINE SHALL BE SUPERVISED BY THE COUNTY OF IMPERIAL PUBLIC WORKS DIRECTOR AND WTP CHIEF OPERATOR.
29. ALL DRAINING OF EXISTING WATER MAINS AND DISPOSAL OF WATER AT TIE-INS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
30. **ALL WATER LINE INSTALLATIONS SHALL BE CHLORINATED IN ACCORDANCE WITH THE STATE OF CALIFORNIA HEALTH DEPARTMENT, CONSISTING OF NOT LESS THAN 50 PPM INITIAL DOSAGE WITH NOT LESS THAN 25 PPM RESIDUAL DOSAGE, AFTER 24-HOURS. INSTALLATIONS SHALL BE FLUSHED AND A 48-HOUR BACTI TEST SHALL BE REQUIRED PRIOR TO PRESSURE TESTING. ALL TESTING AND TESTING METHODS SHALL BE APPROVED BY THE COUNTY OF IMPERIAL PUBLIC HEALTH DEPARTMENT. DISINFECTION REQUIREMENTS AT PIPE CONNECTIONS AND SHORT PIPE RUNS MAY BE ACCOMPLISHED IN ACCORDANCE WITH AWWA C651-23.**
31. **ALL SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED AT 150 PSI PRESSURE FOR 4 HOURS AS A MINIMUM AND PER AWWA STANDARDS, LATEST REVISION.**
32. PRIOR TO PLACING NEW/ALTERED WATER PIPELINE SECTIONS IN SERVICE, OR AFTER DEPRESSURIZING AN EXISTING WATER PIPELINE SECTION BELOW 5 PSI, A BACTERIA TEST IS TO BE COMPLETED AND THE RESULTS ARE TO BE REVIEWED BY THE LPA FOR APPROVAL. FOR MINOR PIPELINE WORK INVOLVING THE CUTTING INTO OR REMOVING OR REPAIRING EXISTING SMALL LENGTH PIPING, VALVES OR FITTINGS DISINFECTION MAY BE ALLOWED PER AWWA C651-23 WITHOUT THE NECESSITY OF COMPLETING BACTERIAL TESTING IF APPROVED BY THE LPA.
33. THE CONTRACTOR SHALL FIELD VERIFY THE PIPE CONDITION AT ALL POINTS OF CONNECTION, AND IS RESPONSIBLE FOR PROVIDING ALL FITTINGS AT THE POINTS OF CONNECTION TO CONNECT TO EXISTING PIPELINES.
34. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL GEOTECHNICAL REPORTS TO THE COUNTY OF IMPERIAL FOR COMPACTION, CONCRETE STRENGTH, ETC.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL EXISTING UTILITIES, STRUCTURES, AND ALL OTHER SITE FEATURES, UNLESS OTHERWISE NOTED ON THE PLAN.
2. THE CONTRACTOR SHALL BE FAMILIAR WITH AND RESPONSIBLE FOR CLEARING THE SITE IN PREPARATION FOR CONSTRUCTION.
3. THE ENGINEER OF RECORD ASSUMES NO LIABILITY FOR THE EXISTENCE AND LOCATIONS OF UNDERGROUND UTILITY LINES, STRUCTURES OR IRRIGATION LINES. THE CONTRACTOR IS TO MAKE AN ON-SITE INSPECTION AND NOTIFY ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK OR EXCAVATION TO DETERMINE THE EXACT LOCATION OF ANY AND ALL UNDERGROUND FACILITIES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS AND SHALL PAY ALL FEES NECESSARY FOR GRADING AND DEMOLITION AS REQUIRED BY PRIVATE, LOCAL AND STATE JURISDICTIONS.
5. **THE CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING ABOVE AND UNDERGROUND UTILITIES. LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE SHOWN FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL POTHOLE AND EXPOSE EXISTING ELECTRICAL CIRCUITRY AND PIPELINES PRIOR TO COMPLETING EXCAVATION WORK FOR THE INSTALLATION OF NEW ELECTRICAL CIRCUITRY OR WATER PIPELINES.**
6. DAMAGE TO ANY EXISTING UTILITIES AND SERVICES TO REMAIN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
7. ANY WALLS, FENCES, SIDEWALKS, SLABS, STRUCTURES AND/OR APPURTENANCES ADJACENT TO OR WITHIN THIS PROJECT SHALL BE PROTECTED IN PLACE. IF GRADING OPERATIONS DAMAGE OR ADVERSELY AFFECT SAID ITEMS IN ANY WAY, THE CONTRACTOR IS RESPONSIBLE FOR REPLACING THE DAMAGED ITEMS TO THE SATISFACTION OF THE COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT (ICDPW) .
8. CONTRACTOR AND CONSTRUCTION MANAGER SHALL MAINTAIN RECORD DRAWINGS OF ALL UTILITIES ENCOUNTERED DURING DEMOLITION, AND RECORD THE LOCATIONS OF ALL CAPPED UTILITIES FOR THE PREPARATION OF AS-BUILT DRAWINGS.
9. COORDINATE THE SALVAGE AND REMOVAL OF ITEMS/EQUIPMENT WITH THE ICDPW.
10. CONTRACTOR MUST OBTAIN A DUST PERMIT AND IMPLEMENT THE PROVISIONS OF THE DUST PERMIT DURING CONSTRUCTION.

UNDERGROUND UTILITY CONFLICT NOTES

1. LOCATIONS AND DEPTHS OF UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND BASED ON AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS, DEPTHS, DIAMETERS AND MATERIAL COMPOSITION OF EXISTING WATER PIPELINES ARE UNKNOWN. THE LOCATION OF ELECTRICAL CIRCUITRY IS UNKNOWN.
2. **CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE MARK-OUT OF ALL UNDERGROUND FACILITIES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL POTHOLE AND EXPOSE ALL EXISTING UTILITIES, ELECTRICAL CIRCUITRY AND WATER PIPELINES ALONG THE LENGTH OF THE NEW ELECTRICAL CIRCUITS AND WATER PIPELINES PRIOR TO EXCAVATION OF THE NEW ELECTRICAL CIRCUITRY AND WATER PIPELINES. THE TRENCH SHALL BE EXCAVATED BY HAND WITH A SHOVEL OR WITH A BACKHOE. A TRENCHER SHALL NOT BE ALLOWED TO BE USED FOR ELECTRICAL CIRCUITRY OR WATER PIPELINE INSTALLATION.**
3. NO LESS THAN 3 WORKING DAYS PRIOR TO ANY EXCAVATION OR TRENCHING, EACH CONTRACTOR DOING SUCH WORK SHALL CONTACT THE FOLLOWING AGENCIES SO THAT EXISTING UNDERGROUND UTILITIES MAY BE LOCATED. THE AGENCY MAY REQUIRE AN INSPECTOR TO BE PRESENT.
   1. COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT (442) 265-1818
   2. GATEWAY OF THE AMERICAS WTP CHIEF OPERATOR (760) 996-5775
   3. IMPERIAL IRRIGATION DISTRICT ENERGY DEPARTMENT (760) 427-7688
4. PRIOR TO EXCAVATING FOOTINGS FOR LIGHTS OR CONCRETE PADS AND SLABS, THE CONTRACTOR SHALL CONFIRM THAT NO UNDERGROUND UTILITIES ARE WITHIN 3' HORIZONTALLY OF THE PROPOSED EXCAVATION. ANY UTILITY FOUND TO BE WITHIN 3' OF THE EXCAVATION SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER. THE LOCATION OF THE STREET LIGHT, CONCRETE PAD AND SLABS MAY BE ADJUSTED AS DIRECTED BY THE CONSTRUCTION MANAGER.
5. CONTRACTOR TO TAKE PRECAUTIONARY MEASURES TO PROTECT EXISTING WATER MAINS DURING PREPARATION OF SUBGRADE.

CLEANUP

1. **THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL RUBBISH, WASTE MATERIALS, EXISTING PAVEMENT, CONCRETE DEBRIS AND ALL OTHER MATERIAL RESULTING FROM DEMOLITION ACTIVITIES. SURPLUS NATIVE MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.**

SAFETY

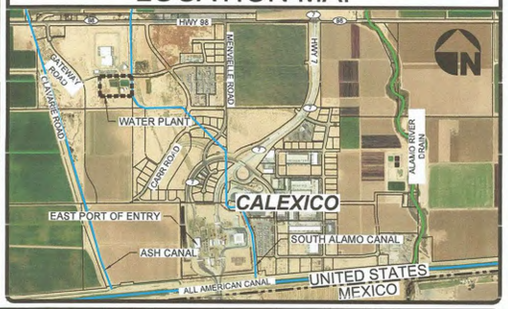
1. THE CONTRACTOR SHALL COMPLY WITH SAFETY AND PROTECTION REQUIREMENTS NOTED IN THE GENERAL CONDITIONS, AND ALL PERTINENT PROVISIONS OF THE DEPARTMENT OF LABOR "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION," TITLE 29, PARTS 1910 AND 1926 (ALSO NOTED IN THE TECHNICAL SPECIFICATIONS), WITH ADDITIONS OR MODIFICATIONS THERETO, IN EFFECT DURING CONSTRUCTION OF THIS PROJECT.
2. ALL HEAVY CONSTRUCTION MACHINERY TO INCLUDE BULLDOZERS, BACKHOES, ETC., MUST BE EQUIPPED WITH A ROLL BAR MEETING THE REQUIREMENTS OF THE ABOVE REGULATION. SAFETY HELMETS SHALL BE WORN BY ALL PERSONNEL WORKING AT THE SITE. IN ADDITION, ALL SPECTATORS AND INSPECTORS SHALL BE REQUIRED TO WEAR SAFETY HELMETS IN CONSTRUCTION ZONE. STEEL TOE SAFETY SHOES OR BOOTS, LONG SLEEVE SHIRTS AND LONG PANTS SHALL BE WORN BY ALL PERSONNEL WORKING AT THE SITE.

INCIDENTAL ITEMS

1. ANY ITEM OF WORK CALLED OUT BY THE CONTRACT PLANS OR SPECIFICATIONS AND NOT SPECIFICALLY NOTED AS A BID ITEM ON THE PROPOSAL SHALL BE CONSIDERED INCIDENTAL TO ONE OF THE BID ITEMS ON THE PROPOSAL FORM.

VICINITY MAP

LOCATION MAP



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15	E1	WATER TREATMENT PLANT ELECTRICAL SITE PLAN
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17	E3	WATER TREATMENT PLANT ELECTRICAL ONE-LINE DIAGRAM.

GEOTECHNICAL ENGINEER'S STATEMENT

I STATE THAT I HAVE REVIEWED THESE PLANS AND FIND THAT THEY SUBSTANTIALLY CONFORM TO THE RECOMMENDATIONS SET FORTH IN REPORT NO. LE21020 DATED FEBRUARY 2021 PREPARED IN OUR OFFICE.

PETER E. LABRUCHERIE, P.E.
LANDMARK CONSULTANTS, INC.
780 N. 4TH STREET
EL CENTRO, CALIFORNIA 92243
PHONE: (760) 337-1100

PETER E. LABRUCHERIE, P.E. — DATE 07/30/2024
RCE 84812

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF THE WORK OF THIS PROJECT. THAT I HAVE EXERCISED REPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF THE PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF IMPERIAL IS CONFINED TO REVIEW ONLY AND DOES NOT RELIEVE ME AS ENGINEER OF WORK, OF MY REPONSIBILITY FOR PROJECT DESIGN.

JAMES G. HOLT
THE HOLT GROUP, INC.
1601 N. IMPERIAL AVENUE
(760) 337-3883

JAMES G. HOLT, P.E. — DATE 07/12/2024
R.C.E. NO. 31773

REGISTERED PROFESSIONAL ENGINEER — JAMES G. HOLT — No. 31773 — Exp. 12-31-24 — CIVIL — STATE OF CALIFORNIA

DIGALERT — DIAL BEFORE YOU DIG — TOLL FREE 811 — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER — JAMES G. HOLT — No. 31773 — Exp. 12-31-24 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — R.C.E. No. 31773
07/12/2024 — DATE — REG. EXP. 12/31/24

REGISTERED PROFESSIONAL ENGINEER — JOHN A. GAY — No. 62028 — Exp. 9-30-25 — CIVIL — STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. — R.C.E. No. 62028
DIRECTOR OF PUBLIC WORKS
7/30/24 — DATE — REG. EXP. 09/30/25

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE	07-12-2024
DRAWN	LNM, JS,RS,FBC
DESIGNED	JGH
SCALE	
CHECKED	JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS
TITLE SHEET

C1
REFERENCE — THG #542.116
SHEET 1 OF 17

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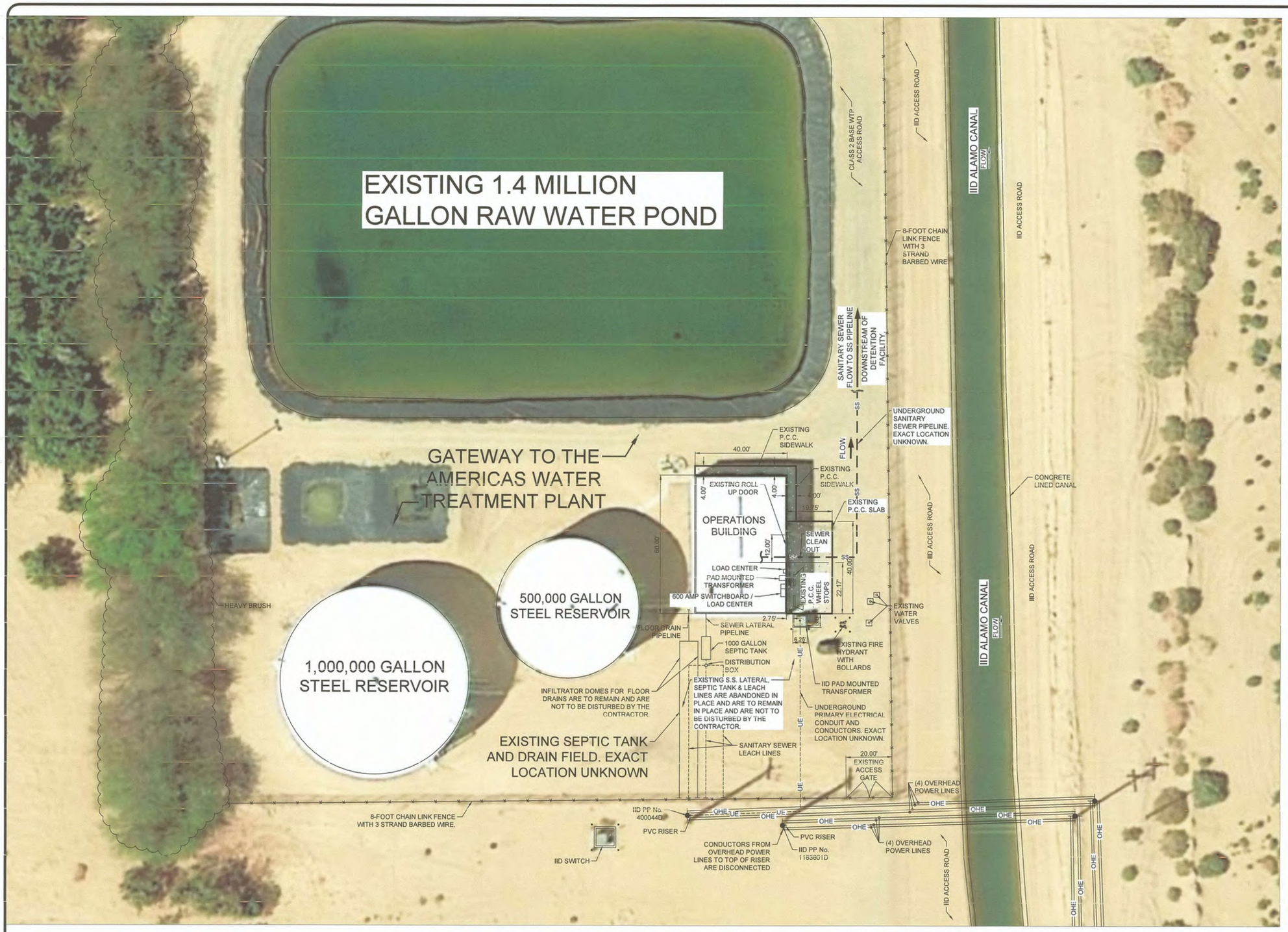


ABBREVIATIONS

A/C	AIR CONDITIONING	LIP.	LIP OF CURB IN DRIVEWAYS
A.C.	ASPHALT CONCRETE	MC	MIDDLE OF CURVE
ACG.	A.C. GRINDINGS	M.H.	MANHOLE
A.C.P.	ASBESTOS CEMENT PIPE	MAX.	MAXIMUM
AGG.	AGGREGATE	MIN.	MINIMUM
APP.	APPROXIMATE	MISC.	MISCELLANEOUS
ARHM	ASPHALT RUBBER HOT MIX	N.S.	NATIVE SURFACE
ATS	AUTOMATIC TRANSFER SWITCH	N.T.S.	NOT TO SCALE
AWWA	AMERICAN WATER WORKS ASSOCIATION	O.C.	ON CENTER
		O.D.	OUTSIDE DIAMETER
		OHE	OVERHEAD ELECTRICAL LINE
B.C.	BEGINNING OF CURVE RADIUS	PAD	PAD ELEVATION
BLDG.	BUILDING	P.C.C.	PORTLAND CONCRETE CEMENT
B.V.	BUTTERFLY VALVE	%	PERCENT
C	CHORD	P.I.G.	POINT OF INTERSECTING GRADES
C.B.	CATCH BASIN		
C.I.	CAST IRON	P.I.T.	POINT OF INTERSECTING TANGENTS
C&G	CURB AND GUTTER		
℄	CENTERLINE	PKG.	PARKING
CL2B/C2B	CLASS 2 BASE	P.P.	POWER POLE
C.M.C.	CEMENT MORTAR COATED	POC	POINT OF CONNECTION
C.M.L.	CEMENT MORTAR LINED	P.O.T.	PATH OF TRAVEL
DIA.	DIAMETER	P.V.C.	POLY VINYL CHLORIDE
DI	DUCTILE IRON	R.	RADIUS
D/W	DRIVEWAY	R.C.P.	REINFORCED CONCRETE PIPE
Δ	DELTA	ROW	RIGHT-OF-WAY
E.P.	EDGE OF PAVEMENT	S/W	SIDEWALK
EL.	ELEVATION	S.	SLOPE
E.C.	END OF CURVE RADIUS	SAMI	STRESS ABSORBING MEMBRANE INTERLAYER
ELEC.	ELECTRICAL		
F.F.	FINISH FLOOR ELEVATION	S.D.	STORM DRAIN
℄	FLOWLINE	S.E.S.	SERVICE ENTRANCE SECTION
F.S.	FINISH SURFACE	SS	SANITARY SEWER
GEN.	GENERATOR SET	S.S.	STAINLESS STEEL
G.B.	GRADE BREAK	STA	STATION
G.V.	GATE VALVE	T.	TANGENT
H.B.	HOSE BIB	T.C.	TOP OF CURB OR TOP OF CONCRETE
I.C.	IRRIGATION CONTROLLER		
I.D.	INSIDE DIAMETER	TMH	TOP OF MANHOLE
I.I.D	IMPERIAL IRRIGATION DISTRICT	T.P.	TOP OF PAVEMENT
		TRANS.	TRANSFORMER
ICPWD	IMPERIAL COUNTY PUBLIC WORKS DEPARTMENT	TYP.	TYPICAL
		UE	UNDERGROUND ELECTRIC
INV.	INVERT	VCP	VITRIFIED CLAY PIPE
L	LENGTH	WTP	WATER TREATMENT PLANT
LPA	LOCAL PRIMACY AGENCY		

N

20 0 20 40 60

SCALE 1"= 20'

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:

JAMES G. "JACK" HOLT — 31773 R.C.E. No.

07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN J. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:

JOHN GAY, P.E. — 62028 R.C.E. No.
DIRECTOR OF PUBLIC WORKS

7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE

GATEWAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS

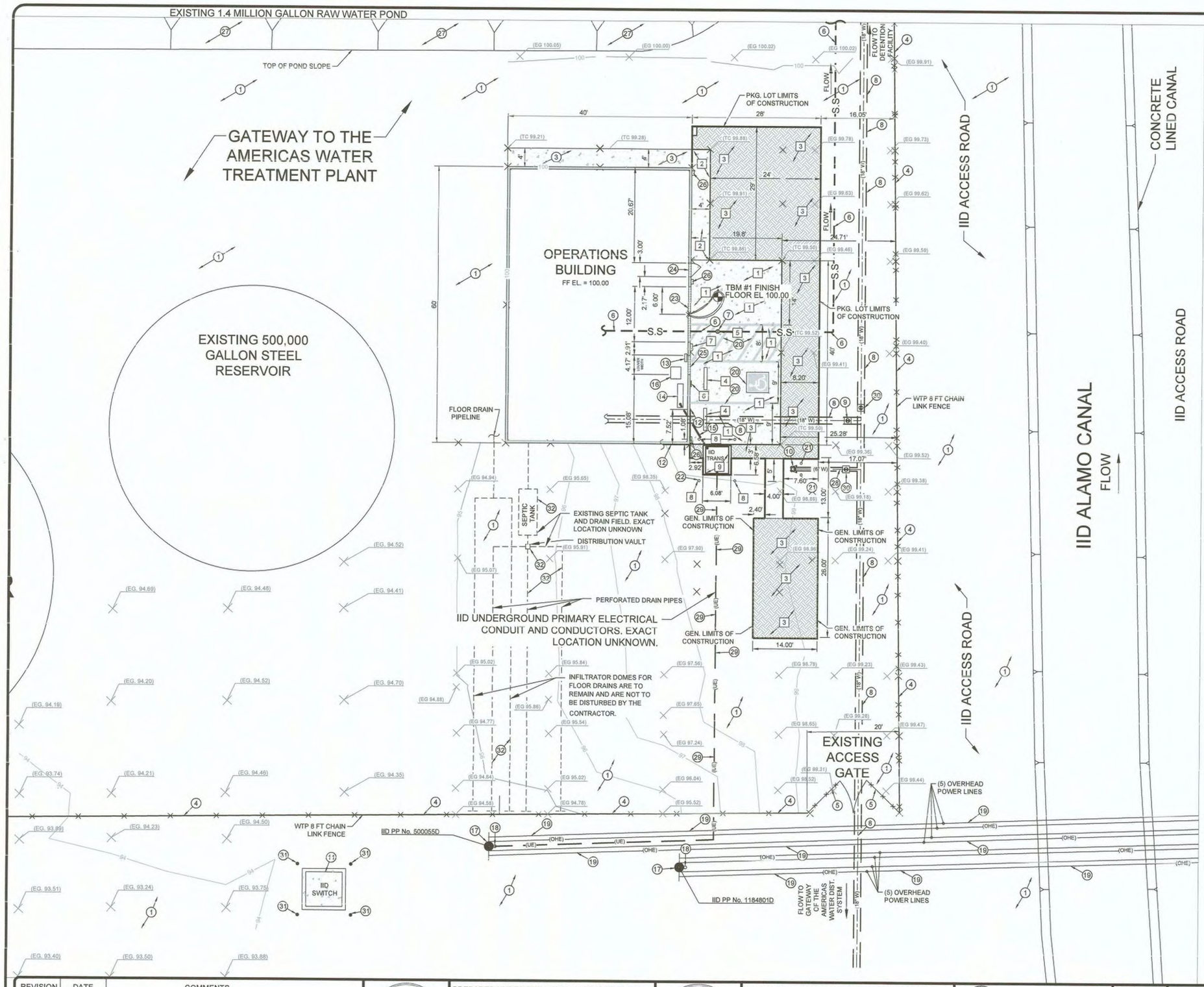
EXISTING WATER TREATMENT PLANT SITE PLAN AND ABBREVIATIONS SCHEDULE

C2

REFERENCE — THG #542.116

SHEET 2 OF 17

C:\Users\fcastro.HOLT-LEGION-MIN\The Holt Group\542.116 - Documents\2024 - DOCUMENTS\CAD 2024\542.116 - SHEET 2_EXISTING WATER TREATMENT PLANT SITE PLAN.dwg 07/17/2024 10:01



EXISTING KEYNOTES

1. EXISTING NATIVE MATERIAL TO REMAIN.
2. EXISTING IID P.C.C. PAD MOUNTED TRANSFORMER.
3. EXISTING P.C.C. SIDEWALK TO REMAIN.
4. EXISTING 8-FOOT HIGH CHAIN-LINK FENCE WITH 3-STRAND BARBED WIRE TO REMAIN.
5. EXISTING 8-FOOT HIGH CHAIN-LINK SWING GATE WITH 3-STRAND BARBED WIRE TO REMAIN.
6. EXISTING SANITARY SEWER SERVICE PIPELINE TO REMAIN. EXACT LOCATION OF SANITARY SEWER PIPELINE IS UNKNOWN.
7. EXISTING SANITARY SEWER CLEANOUT.
8. EXISTING UNDERGROUND 18 INCH DIAMETER WATER DISTRIBUTION TRANSMISSION PIPELINE TO REMAIN.
9. EXISTING WATER VALVE WITH STEEL COVER AND 18-INCH SQUARE CONCRETE COLLAR TO REMAIN. ON 1/26//2021 A MEASUREMENT FROM THE TOP OF THE VALVE RISER TO THE DIRT SURFACE WITHIN THE VALVE RISER (COVERING THE VALVE NUT) WAS MEASURED TO BE 4 FEET.
10. EXISTING JAMES JONES FIRE HYDRANT TO REMAIN.
11. EXISTING IID PAD MOUNTED ELECTRICAL PRIMARY POWER SWITCH TO REMAIN.
12. EXISTING ELECTRICAL CONDUITS TO REMAIN.
13. EXISTING ELECTRICAL LOAD CENTER TO REMAIN. SEE ELECTRICAL DRAWING E-2
14. EXISTING 600 AMP SWITCHBOARD/LOAD CENTER TO BE REMOVED AND DISPOSED OF PER ELECTRICAL DWG 2.
15. EXISTING UNDERGROUND ELECTRICAL CONDUIT. EXACT LOCATION AND DEPTH UNKNOWN.
16. EXISTING PCC PAD MOUNTED TRANSFORMER TO BE RELOCATED PER ELECTRICAL DWG. E-2.
17. EXISTING IID POWER POLE TO REMAIN.
18. EXISTING PVC ELECTRICAL RISER TO REMAIN.
19. EXISTING IID OVERHEAD PRIMARY ELECTRICAL POWER LINES TO REMAIN.
20. EXISTING HANDICAP STRIPING AND PARKING SYMBOL.
21. EXISTING 3-INCH DIAMETER FIRE HYDRANT BOLLARD TO REMAIN.
22. EXISTING 6-INCH DIAMETER IID PAD MOUNTED TRANSFORMER STEEL BOLLARD. TYPICAL.
23. EXISTING 12-FOOT WIDE ROLL-UP DOOR TO REMAIN.
24. EXISTING 3-FOOT WIDE X 6-FOOT-8 INCH HIGH DOOR TO REMAIN.
25. EXISTING 50-INCH WIDE X 39-INCH HIGH VENTILATION LOUVER TO REMAIN. THE BOTTOM OF THE LOUVER IS LOCATED 8'-9" ABOVE THE OPERATIONS BUILDING FINISH FLOOR ELEVATION.
26. EXISTING 4-INCH X 3-INCH RECTANGULAR STORM WATER DOWNSPOUT TO REMAIN.
27. EXISTING RAW WATER POND TO REMAIN.
28. EXISTING UNDERGROUND 6 INCH DIAMETER FIRE HYDRANT ASSEMBLY PIPELINE TO REMAIN.
29. EXISTING IID UNDERGROUND PRIMARY ELECTRICAL CONDUIT AND CONDUCTORS. THE EXACT LOCATION AND DEPTH OF THE UNDERGROUND ELECTRICAL CONDUIT AND CONDUCTORS IS UNKNOWN. SEE UNDERGROUND UTILITY NOTE ON DRAWING C3.
30. EXISTING WATER VALVE WITH STEEL COVER AND 18-INCH SQUARE CONCRETE COLLAR TO REMAIN.
31. EXISTING 6-INCH DIAMETER IID PAD MOUNTED SWITCH BOLLARD TO REMAIN.
32. EXISTING S.S. LATERAL, SEPTIC TANK AND LEACH LINES ARE ABANDONED IN PLACE AND ARE TO REMAIN IN PLACE AND ARE NOT TO BE DISTURBED BY THE CONTRACTOR.

DEMOLITION KEYNOTES

1. REMOVE AND DISPOSE OF EXISTING P.C.C. SLAB AND UNDERLYING MATERIAL TO SUB-BASE DESIGN GRADE.
2. REMOVE AND DISPOSE OF EXISTING P.C.C. SIDEWALK AND UNDERLYING MATERIAL TO SUB-BASE DESIGN GRADE.
3. REMOVE AND DISPOSE OF EXISTING NATIVE MATERIAL TO SUB-BASE DESIGN GRADE.
4. REMOVE AND DISPOSE OF EXISTING P.C.C. PARKING CURB STOP IN POOR CONDITION.
5. CONTRACTOR TO PROTECT THE EXISTING SANITARY SEWER CLEAN-OUT DURING DEMOLITION ACTIVITIES. A NEW RISER SECTION AND CAST IRON FRAME AND COVER ARE TO BE INSTALLED PER CONSTRUCTION KEYNOTE 15 ON DRAWING C4 AND DETAIL C ON DRAWING C7.
6. REMOVE AND DISPOSE OF EXISTING WALL MOUNTED HANDICAP PARKING SIGN
7. REMOVE AND DISPOSE OF EXISTING 4 INCH X 3 INCH RECTANGULAR STORM WATER DOWNSPOUT TO ACCOMMODATE NEW ELECTRICAL AND SHADE STRUCTURE INSTALLATION. INSTALL RAIN -TIGHT SEAL AT THE RAIN GUTTER DOWNSPOUT CONNECTION POINT.
8. EXISTING IID TRANSFORMER STEEL BOLLARD TO BE REMOVED AND DISPOSED OF.
9. EXISTING IID PCC PAD MOUNTED TRANSFORMER TO BE REMOVED. SEE IID CSP SERVICE ORDER NUMBER 60127410, SHEET 2 OF 3. CONTRACTOR TO CONTACT IID REGARDING REMOVAL AND REPLACEMENT OF THE TRANSFORMER.

UNDERGROUND UTILITY NOTE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ILLUSTRATED ON THIS PLAN SHEET ARE APPROXIMATE. IT SHALL BE NECESSARY FOR THE CONTRACTOR TO EXCAVATE UTILITIES WHICH HAVE THE POTENTIAL OF CONFLICTING WITH NEW UNDERGROUND CONSTRUCTION TO PRECISELY LOCATE THE HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND UTILITIES.

IT SHALL BE NECESSARY TO EXCAVATE THE EXISTING 18 INCH DIAMETER WATER PIPELINE WHICH EXTENDS EAST OF THE OPERATIONS BUILDING. THE CONTRACTOR SHALL OBTAIN THE ELEVATIONS OF THE TOP AND BOTTOM OF THE 18 INCH DIAMETER WATER PIPELINE AT THE NEW ELECTRICAL CONDUIT CROSSING POINTS. THE INSTALLATION OF THE NEW ELECTRICAL CONDUITS AND CONDUCTORS EXTENDING FROM THE GENERATOR SET TO THE OPERATIONS BUILDING SHALL BE ASSESSED AFTER THE 18 INCH WATER PIPELINE ELEVATIONS ARE OBTAINED.

FINAL CLEANUP AND GRADING

AT THE CONCLUSION OF THIS PROJECT THE CONTRACTOR SHALL CLEAN-UP THE SITE AND GRADE THE WATER TREATMENT PLANT SITE IN ACCORDANCE WITH TECHNICAL CONDITIONS SECTION 02 200 - 3.10. THE COST ASSOCIATED WITH THIS CLEAN-UP AND GRADING WORK SHALL BE INCLUDED IN THE MOBILIZATION COST ITEM OF THE BID FORM.

N

10 0 10 20 30

SCALE 1"= 10'

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN A. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. — 62028 R.C.E. No.
DIRECTOR OF PUBLIC WORKS
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
DEMOLITION SITE PLAN

C3
REFERENCE
THG #542.116
SHEET 3 OF 17

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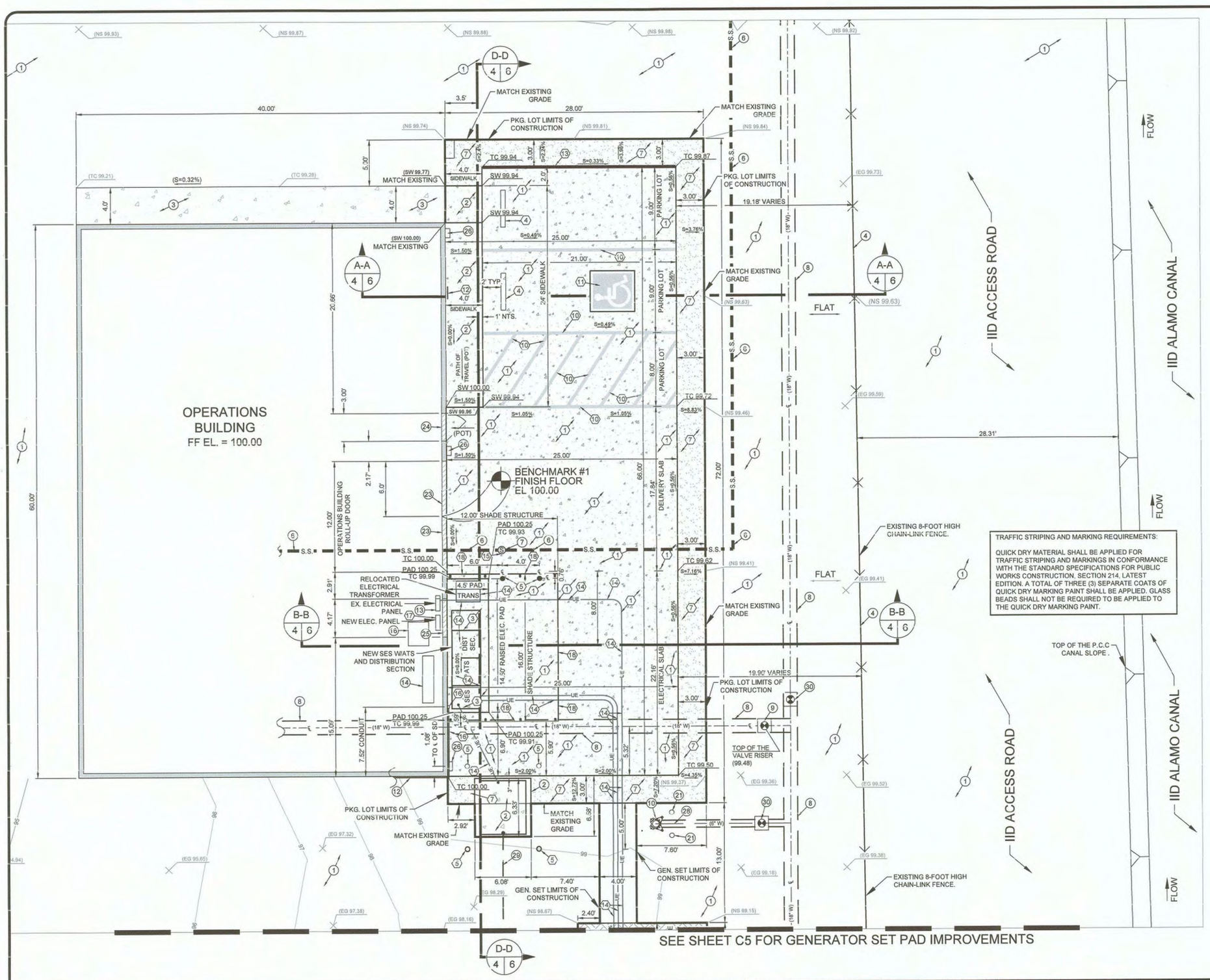

TRAFFIC STRIPING AND MARKING REQUIREMENTS:

QUICK DRY MATERIAL SHALL BE APPLIED FOR TRAFFIC STRIPING AND MARKINGS IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SECTION 214, LATEST EDITION. A TOTAL OF THREE (3) SEPARATE COATS OF QUICK DRY MARKING PAINT SHALL BE APPLIED. GLASS BEADS SHALL NOT BE REQUIRED TO BE APPLIED TO THE QUICK DRY MARKING PAINT.

EXISTING KEYNOTES

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13. EXISTING ELECTRICAL LOAD CENTER TO REMAIN. SEE ELECTRICAL DRAWING E-2
14. EXISTING 600 AMP SWITCHBOARD/LOAD CENTER TO BE REMOVED AND DISPOSED OF PER ELECTRICAL DWG 2.
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32. ~~EXISTING S.S. LATERAL, SEPTIC TANK AND LEACH LINES ARE ABANDONED IN PLACE AND ARE TO REMAIN IN PLACE AND ARE NOT TO BE DISTURBED BY THE CONTRACTOR.~~

CONSTRUCTION KEYNOTES

1. INSTALL 8-INCH P.C.C CONCRETE SLAB OVER 12-INCHES OF CLASS 2 BASE MATERIAL WITH NUMBER 4 REBAR 1-FOOT ON CENTER EACH WAY. COMPACT THE CLASS 2 BASE MATERIAL TO 95 PERCENT MAXIMUM DENSITY PER ASTM D-1557. CONCRETE SHALL CONTAIN 7 SACKS OF CEMENT PER CUBIC YARD AND ATTAIN 5,000 PSI COMPRESSIVE STRENGTH AFTER 28 DAY CURING. SEE SECTIONS A-A, B-B AND D-D ON SHEET 6 FOR PCC SLAB SUBGRADE AND SUBBASE CONSTRUCTION.
2. INSTALL 4-INCH P.C.C. SIDEWALK OVER 6-INCHES OF GRANULAR SAND PER DETAIL D ON SHEET 7. CONCRETE SHALL CONTAIN 7 SACKS OF CEMENT PER CUBIC YARD AND ATTAIN 5,000 PSI COMPRESSIVE STRENGTH AFTER 28 DAY CURING. COMPACT THE GRANULAR SAND TO 95% OF MAXIMUM DENSITY PER ASTM D-1557.
3. INSTALL ELECTRICAL PANEL HOUSEKEEPING P.C.C. PAD PER SECTIONS B-B AND D-D ON SHEET 6.
4. INSTALL CONCRETE CURB STOPS AT PARKING SPACES PER DETAIL B ON SHEET 7.
5. INSTALL STEEL BOLLARDS PER DETAIL A ON SHEET 7.
6. ~~INSTALL CLASS 2 BASE MATERIAL AT A VARIABLE DEPTH PER SECTIONS C-C AND E-E ON SHEET 6. COMPACT THE CLASS 2 BASE MATERIAL TO 95 PERCENT MAXIMUM DENSITY PER ASTM D-1557.~~
7. INSTALL 8 INCHES OF CLASS 2 BASE MATERIAL FLUSH WITH THE NEW P.C.C. PARKING LOT SURFACE. COMPACT THE CLASS 2 BASE MATERIAL TO 95 PERCENT MAXIMUM DENSITY PER ASTM D-1557.
8. ~~INSTALL P.C.C. GENERATOR PAD PER SECTIONS C-C AND E-E ON SHEET 6. CONSTRUCT KEY WALL ON THE SOUTH AND EAST EDGES OF THE P.C.C. GENERATOR PAD FOR SEISMIC RESISTANCE. CONCRETE SHALL CONTAIN 7 SACKS OF CEMENT PER CUBIC YARD AND ATTAIN 5,000 PSI COMPRESSIVE STRENGTH AFTER 28 DAY CURING.~~
9. ~~EXACT TERMINATION /CONNECTION AT EMERGENCY GENERATOR SET IS TO BE DETERMINED BY THE SELECTED GENERATOR MANUFACTURER PER THE APPROVED GENERATOR SUBMITTAL.~~
10. INSTALL 4-INCH WIDE BLUE HANDICAP STRIPING PER CALTRANS STANDARD A90A.
11. INSTALL BLUE HANDICAP SYMBOLS PER CALTRANS STANDARD A24C.
12. INSTALL NEW WALL MOUNTED R99C (CA) HANDICAP SIGN AND R7-6B VAN ACCESSIBLE SIGN PER CALTRANS STANDARD A90A.
13. INSTALL NEW 4-INCH WIDE WHITE PARKING STRIPE.
14. SEE ELECTRICAL PLAN SHEETS FOR NEW ELECTRICAL CONDUIT AND PANEL INSTALLATION INCLUDING EXISTING TRANSFORMER RELOCATION.
15. INSTALL THE NEW RISER AND COVER FOR THE EXISTING SANITARY SEWER CLEANOUT PER DETAIL C ON SHEET 7.
16. MODIFY, ADJUST AND EXTEND EXISTING CONDUIT AND CONDUCTORS TO APPROPRIATE NEW ELECTRICAL LOAD CENTER.
17. NEW ELECTRICAL PANEL. SEE ELECTRICAL DWG. E-2.
18. INSTALL NEW ELECTRICAL PANEL SHADE STRUCTURE PER DETAIL E ON SHEET 7.

SCALE 1"= 5'

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

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COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
PARKING LOT AREA GRADING PLAN

C4
REFERENCE
THG #542.116
SHEET 4 OF 17

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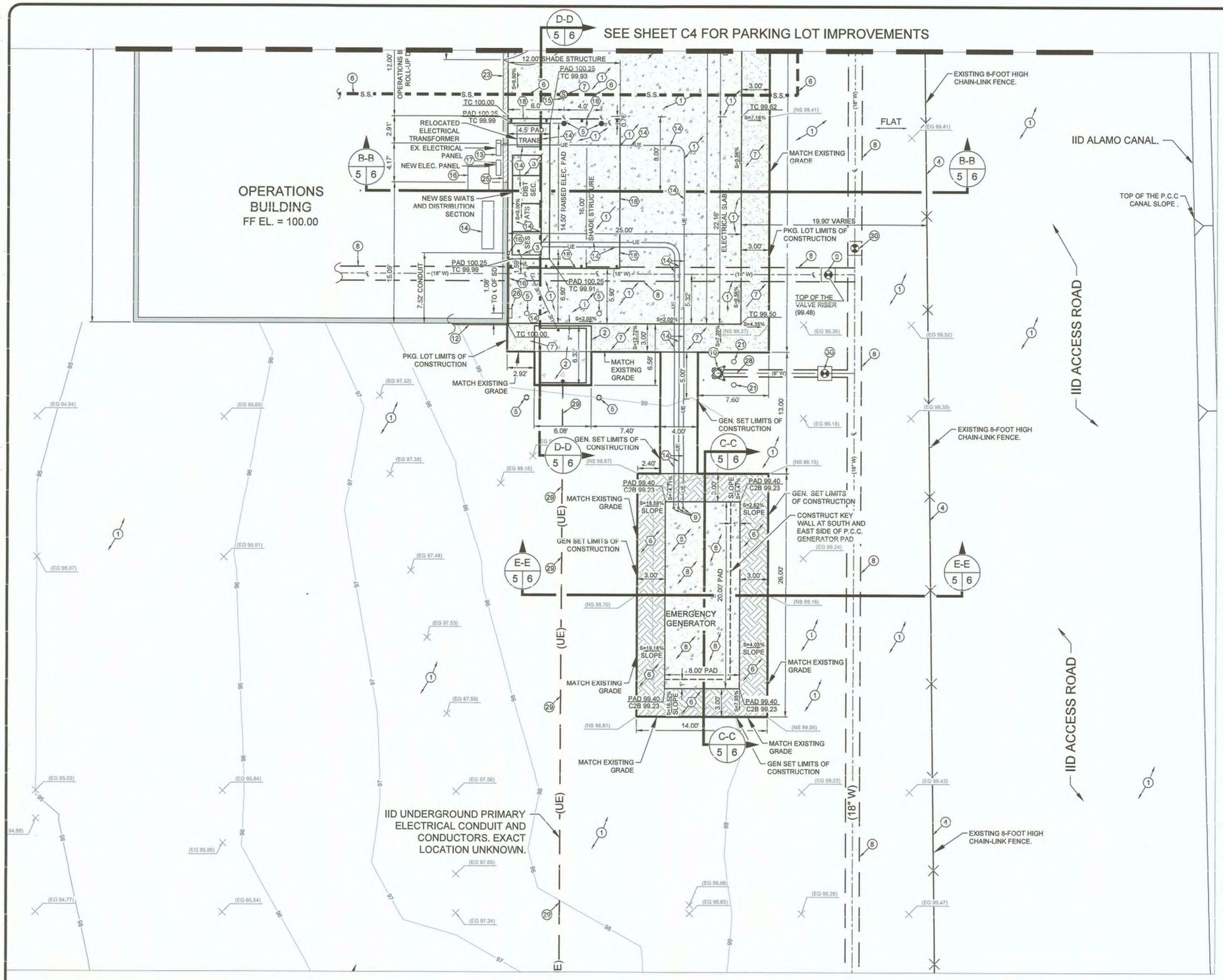

EXISTING KEYNOTES

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CONSTRUCTION KEYNOTES

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6. ~~INSTALL CLASS 2 BASE MATERIAL AT A VARIABLE DEPTH PER SECTIONS C-C AND E-E ON SHEET 6. COMPACT THE CLASS 2 BASE MATERIAL TO 95 PERCENT MAXIMUM DENSITY PER ASTM D-1557.~~
7. INSTALL 6 INCHES OF CLASS 2 BASE MATERIAL FLUSH WITH THE NEW P.C.C. PARKING LOT SURFACE. COMPACT THE CLASS 2 BASE MATERIAL TO 95 PERCENT MAXIMUM DENSITY PER ASTM D-1557.
8. ~~INSTALL P.C.C. GENERATOR PAD PER SECTIONS C-C AND E-E ON SHEET 6. CONSTRUCT KEY WALL ON THE SOUTH AND EAST EDGES OF THE P.C.C. GENERATOR PAD FOR SEISMIC RESISTANCE. CONCRETE SHALL CONTAIN 7 SACKS OF CEMENT PER CUBIC YARD AND ATTAIN 5,000 PSI COMPRESSIVE STRENGTH AFTER 28 DAY CURING.~~
9. ~~EXACT TERMINATION/CONNECTION AT EMERGENCY GENERATOR SET IS TO BE DETERMINED BY THE SELECTED GENERATOR MANUFACTURER PER THE APPROVED GENERATOR SUBMITTAL.~~
10. INSTALL 4-INCH WIDE BLUE HANDICAP STRIPING PER CALTRANS STANDARD A90A.
11. INSTALL BLUE HANDICAP SYMBOLS PER CALTRANS STANDARD A24C.
12. INSTALL NEW WALL MOUNTED R99C (CA) HANDICAP SIGN AND R7-8B VAN ACCESSIBLE SIGN PER CALTRANS STANDARD A90A.
13. INSTALL NEW 4-INCH WIDE WHITE PARKING STRIPE.
14. SEE ELECTRICAL PLAN SHEETS FOR NEW ELECTRICAL CONDUIT AND PANEL INSTALLATION INCLUDING EXISTING TRANSFORMER RELOCATION.
15. INSTALL THE NEW RISER AND COVER FOR THE EXISTING SANITARY SEWER CLEANOUT PER DETAIL C ON SHEET 7.
16. MODIFY, ADJUST AND EXTEND EXISTING CONDUIT AND CONDUCTORS TO APPROPRIATE NEW ELECTRICAL LOAD CENTER.
17. NEW ELECTRICAL PANEL. SEE ELECTRICAL DWG. E-2.
18. INSTALL NEW ELECTRICAL PANEL SHADE STRUCTURE PER DETAIL E ON SHEET 7.

SCALE 1"= 5'

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN L. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. — 62028 R.C.E. No.
DIRECTOR OF PUBLIC WORKS
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
GENERATOR SET AREA GRADING PLAN

C5
REFERENCE
THG #542.116
SHEET 5 OF 17

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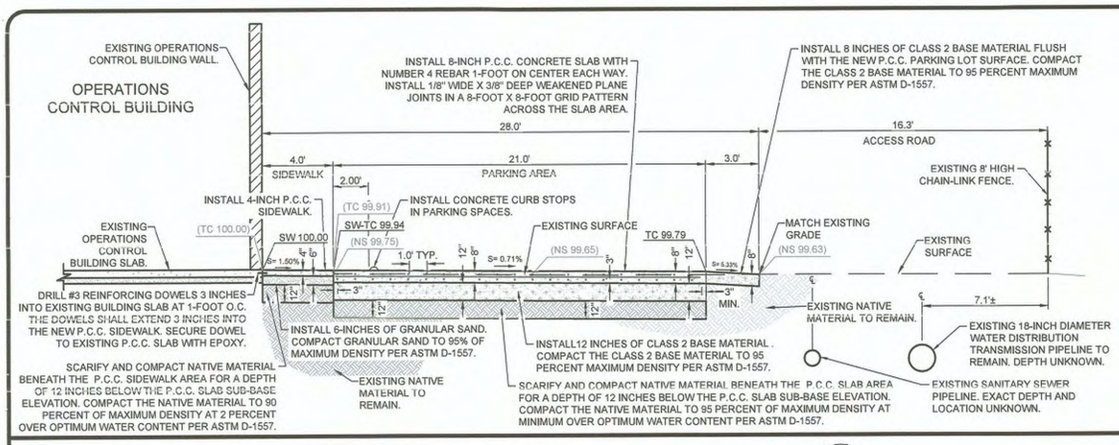
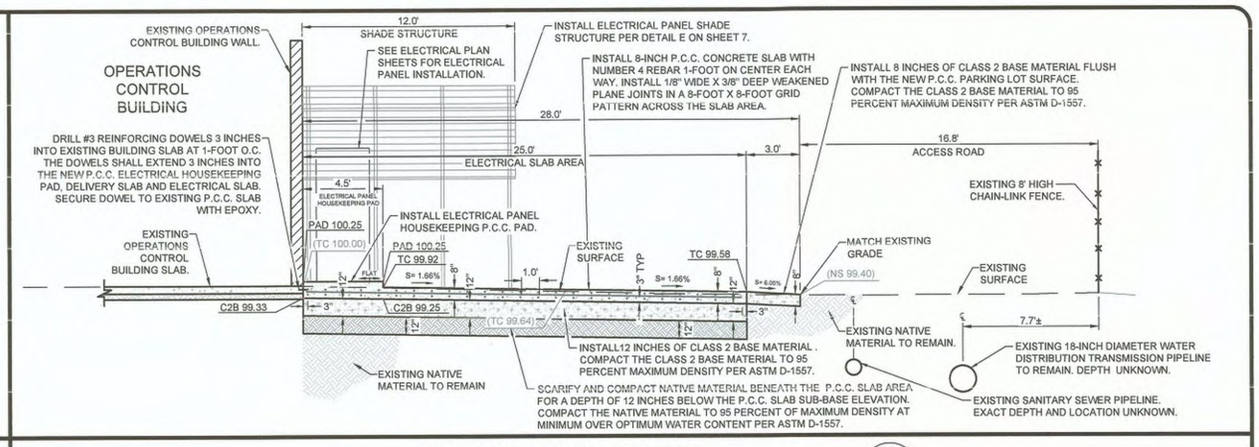


PARKING LOT SECTION

HORIZONTAL SCALE: 1"=4'
VERTICAL SCALE: 1"=4'

A-A 4|6



ELECTRICAL PANEL SECTION

HORIZONTAL SCALE: 1"=4'
VERTICAL SCALE: 1"=4'

B-B 4|6

ANCHOR BOLTS NOTE:

ANCHOR BOLTS FOR THE SECUREMENT OF THE GENERATOR SET AND SHROUD SHALL BE OF THE SIZE AND NUMBER INDICATED ON THE APPROVED SHOP DRAWINGS. THE ANCHOR BOLTS SHALL BE GALVANIZED STEEL CAST IN PLACE ANCHOR BOLTS OR ADHESIVE ANCHOR BOLTS. ADHESIVE ANCHOR BOLTS SHALL BE MANUFACTURED BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

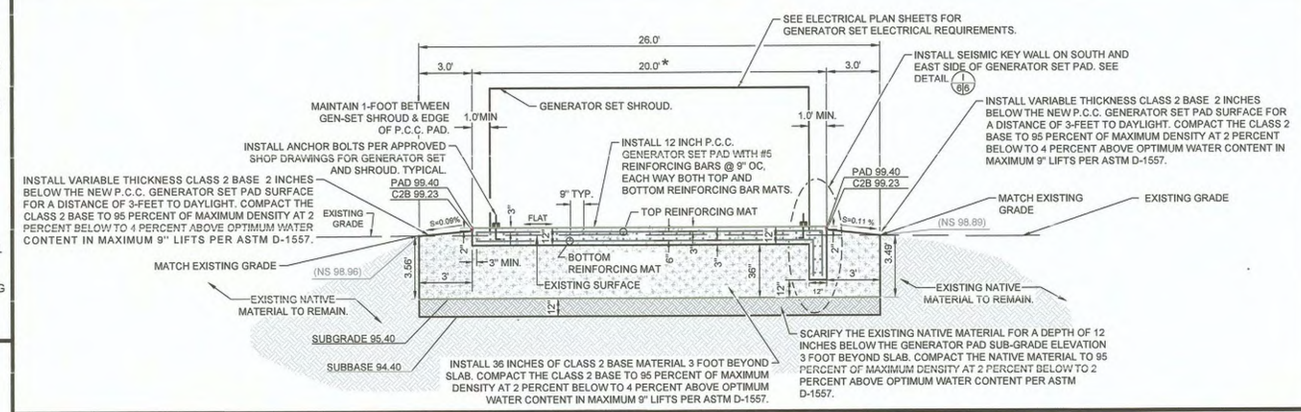
A. HILTI "HIT-HY 200" ICC ESR-3187.
B. HILTI "HIT-RE 500 V3" ICC ESR-3814.
C. SIMPSON "SET-XP" EPOXY ADHESIVE ICC ESR-2508.

ADHESIVE ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

GENERATOR SET SUPPLIER SHALL FORWARD BOLT SUBMITTAL DOCUMENTS FOR REVIEW AND APPROVAL WITH GENERATOR SET SUBMITTAL DOCUMENTS. THE BOLT SUBMITTAL DOCUMENTS SHALL INCLUDE BOLT STRUCTURAL ENGINEERING CALCULATIONS PREPARED AND STAMPED BY A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER.

GENERATOR PAD DIMENSION NOTE *

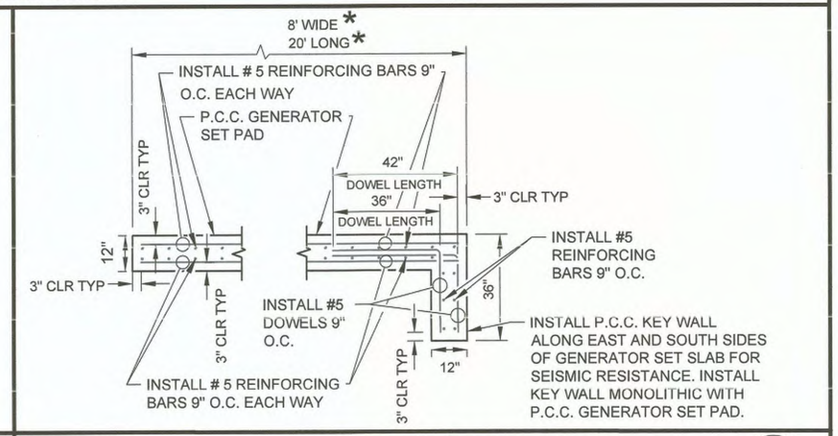
FINAL DIMENSIONS OF THE GENERATOR SET P.C.C. PAD SHALL BE DETERMINED PER THE GENERATOR SET MANUFACTURER SHROUD DIMENSIONS. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE FINAL GENERATOR SET SHROUD DIMENSIONS AND P.C.C. PAD DIMENSIONS.



GENERATOR SET PAD SECTION

HORIZONTAL SCALE: 1"=4'
VERTICAL SCALE: 1"=4'

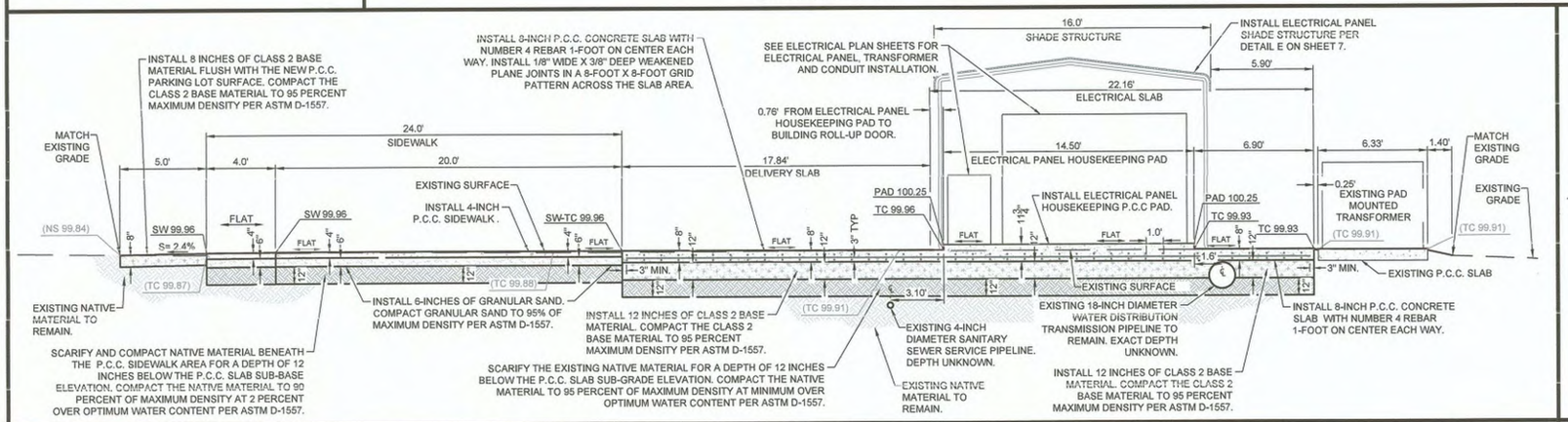
C-C 5|6



GENERATOR P.C.C. PAD AND KEY REINFORCING BAR DETAIL

HORIZONTAL SCALE: 1"=2'

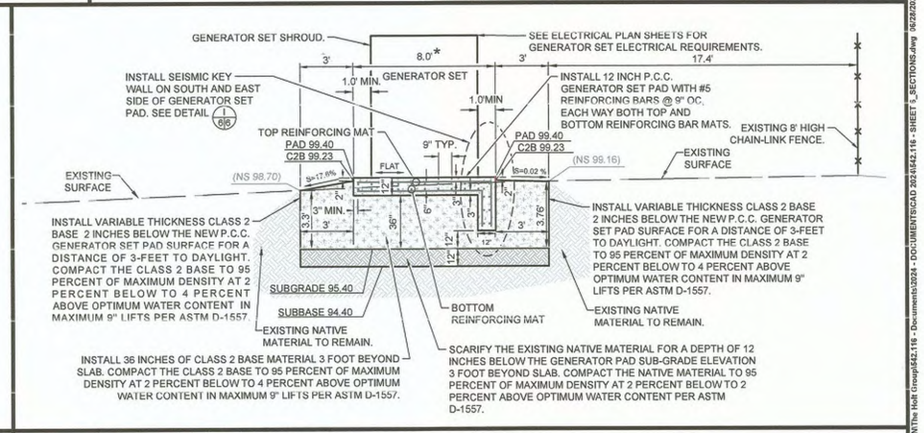
I 6|6



PARKING LOT, ELECTRICAL PANEL AND GENERATOR SET PAD SECTION

HORIZONTAL SCALE: 1"=4'
VERTICAL SCALE: 1"=4'

D-D 4,5|6



GENERATOR SET PAD SECTION

HORIZONTAL SCALE: 1"=4'
VERTICAL SCALE: 1"=4'

E-E 5|6

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

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COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
GRADING PLAN SECTIONS

C6

REFERENCE
THG #542.116
SHEET 6 OF 17

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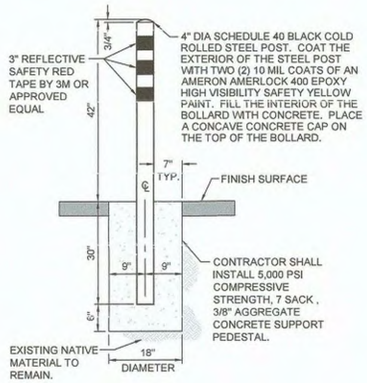
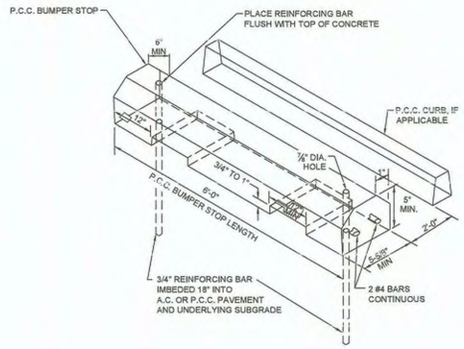


NOTE : IF THE BOLLARD IS TO BE INSTALLED FOR AN IID PAD MOUNTED TRANSFORMER THEN THE HORIZONTAL INSTALLATION OF THE BOLLARD SHALL BE ACCOMPLISHED IN THE CONFORMANCE WITH IID TYPICAL BARRIER POST DETAIL 181.6. CONCRETE STRENGTH SHALL CONFORM TO THIS DETAIL.

BOLLARD INSTALLATION DETAIL

NTS

A 4,5|7



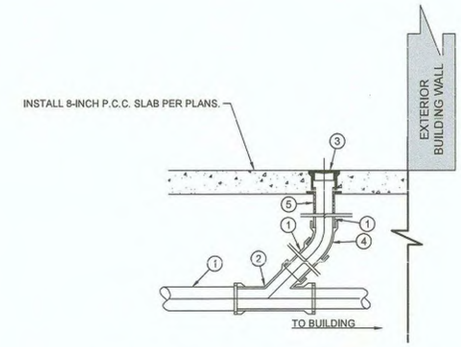
NOTES

1. CONTRACTOR SHALL PAINT BUMPER STOPS BLUE IN ADA PARKING SPACE LOCATIONS.
2. THE DISTANCE FROM THE P.C.C. BUMPER STOP TO THE P.C.C. CURB OR P.C.C. EXTERIOR SIDEWALK EDGE IS 2FT- 0 INCHES.

P.C.C. PRECAST CURB STOP DETAIL

NTS

B 4|7



NOTE: 1. CLEANOUT RING AND COVER SHALL BE RAISED TO THE NEW CONCRETE SLAB FINISHED SURFACE.

2. THE EXISTING SANITARY SEWER PIPELINE DIAMETER IS NOT KNOWN.

CONSTRUCTION KEYNOTES

1. EXISTING SANITARY SEWER SERVICE PIPELINE.
2. EXISTING WYE FITTING.
3. INSTALL NEW CAST IRON FRAME AND COVER LETTERED "SEWER" FLUSH WITH THE P.C.C. SLAB FINISH GRADE.
4. EXISTING 45-DEGREE ELBOW FITTING.
5. ADD PVC PIPELINE EXTENSION AS REQUIRED.

SANITARY SEWER CLEANOUT DETAIL

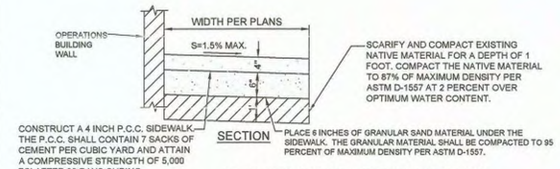
NTS

C 4|7

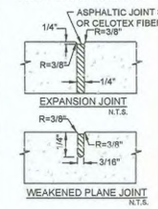
SIDEWALK PLAN

TABLE A

SIDEWALK WIDTH	SIDEWALK WEAKENED PLANE JOINT SPACING	CURB AND GUTTER WEAKENED PLANE SPACING	CURB AND GUTTER AND SIDEWALK EXPANSION JOINT SPACING
4.5 FEET	4.5 FEET	9 FEET	72.0 FEET
5.0 FEET	5.0 FEET	10 FEET	70.0 FEET
5.5 FEET	5.5 FEET	11 FEET	66.0 FEET
6.0 FEET	6.0 FEET	12 FEET	72.0 FEET
8.0 FEET	8.0 FEET	16 FEET	72.0 FEET



SECTION



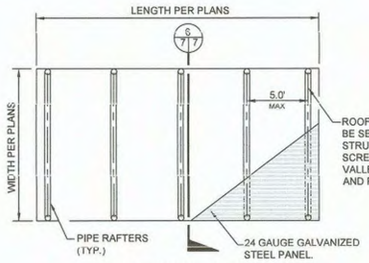
NOTES FOR CURB AND GUTTER AND SIDEWALK

1. PLACE WEAKENED PLANE JOINT ALONG THE CURB AND GUTTER PER CURB AND GUTTER DETAIL.
2. PLACE EXPANSION JOINT ALONG SIDEWALK AND CURB AND GUTTER PER CURB AND GUTTER DETAIL. EXPANSION JOINT MATERIAL TO BE COMPOSED OF 1/2" FIBER BOARD INSTALLED ACROSS FULL SECTION OF CURB AND GUTTER AND SIDEWALK.
3. THE GUTTER SURFACE, CURB FACE, TOP OF CURB, AND SIDEWALK SURFACE SHALL RECEIVE A DOUBLE TROWEL FINISH.
4. THE CURB AND GUTTER EDGES SHALL BE PLACED TRUE TO LINE AND GRADE. VERTICAL ELEVATIONS SHALL NOT VARY MORE THAN ±0.01' WITH A MAXIMUM VARIANCE OF 0.02' FROM DESIGN GRADE OCCURRING IN ANY GIVEN 100 FOOT SECTION. THE HORIZONTAL CURB AND GUTTER EDGES SHALL NOT VARY MORE THAN 1/4" IN ANY GIVEN 100 FOOT SECTION.
5. SIDEWALK SHALL BE INSTALLED AND ADJOINED TO THE CURB AND GUTTER AS ILLUSTRATED ON THE PLANS.
6. THE P.C.C. SHALL CONTAIN 7 SACKS OF CEMENT PER CUBIC YARD AND ATTAIN A COMPRESSIVE STRENGTH OF 5,000 PSI AFTER 28 DAYS CURING.
7. FOR SIDEWALK WIDTHS GREATER THAN 4.5 FEET WIDE WEAKENED PLANE JOINT AND EXPANSION JOINT SHALL CONFORM TO TABLE "A" ABOVE.
8. THE P.C.C. SHALL CONTAIN 1 1/2 LBS OF POLYPROPYLENE FIBER PER CUBIC YARD. THE POLYPROPYLENE FIBER SHALL BE MANUFACTURED BY FIBERMESH OR AN APPROVED EQUAL.

P.C.C. SIDEWALK DETAIL

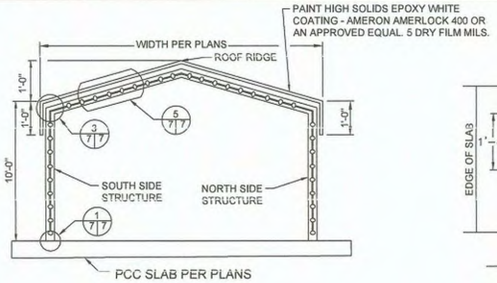
MODIFIED COUNTY OF IMPERIAL STANDARD DRAWING NO. 420 - NTS

D 4,5|7



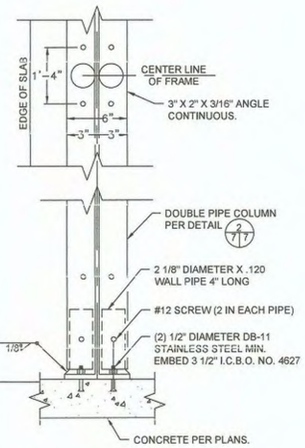
ROOF FRAMING PLAN

NOT TO SCALE



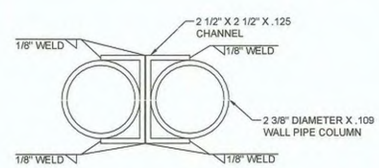
SECTION DETAIL 6 7|7

NOT TO SCALE



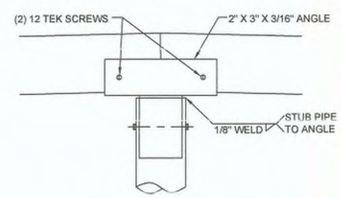
DOUBLE POST ON CONCRETE SLAB DETAIL 1 7|7

NOT TO SCALE



DOUBLE PIPE COLUMN DETAIL 2 7|7

NOT TO SCALE

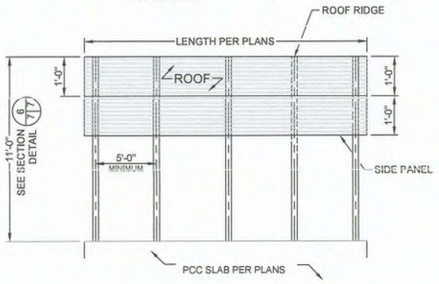


CENTER COLUMN CONNECTION DETAIL 4 7|7

NOT TO SCALE

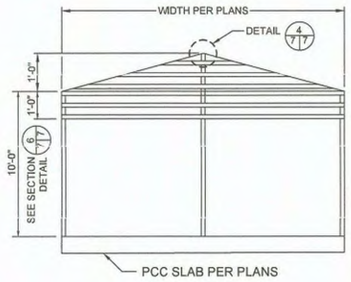
SHADE STRUCTURE NOTES

1. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE UNIFORM BUILDING CODE / OR LOCAL BUILDING CODE.
2. ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.
3. ALL STEEL TUBING SHALL CONFORM TO ASTM A-446 GRADED (Fy = 50 KSI)
   MISC. STRUCTURAL STEEL ASTM A-36 (Fy = 36 KSI)
   STEEL BOLTS ASTM A-307
   STEEL PIPE COLUMN ASTM A-53 (Fy = 50 KSI)
4. ALL WELDING SHALL BE BY CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST A.W.S. SPECIFICATIONS.
5. ALL SCREWS SHALL BE "TEKS" BY BUILDEX OR APPROVED EQUIVALENT.
6. ALL ROOFING MATERIAL SHALL BE 24 GAUGE GALVANIZED STEEL PANEL.
7. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AS SHOWN ON THE DRAWINGS. SHOULD CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE ON THE PLANS, NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
8. THE CONTRACTOR SHALL FORWARD SHADE STRUCTURE SUBMITTAL DOCUMENTS FOR REVIEW DURING THE PROJECT CONSTRUCTION PHASE. SHADE STRUCTURE PLANS, SECTIONS AND DETAILS SIMILAR TO THE SHADE STRUCTURE ILLUSTRATED ON THESE PLANS SHALL BE FORWARDED FOR REVIEW AND APPROVAL. STRUCTURAL CALCULATIONS PREPARED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER SHALL BE PROVIDED. THE COUNTY OF IMPERIAL PLANING AND DEVELOPMENT SERVICES DEPARTMENT - BUILDING DIVISION SHALL REVIEW AND APPROVE THE SUBMITTAL PLANS AND STRUCTURAL CALCULATIONS PRIOR TO THE CONSTRUCTION OF THE SHADE STRUCTURE.
9. PAINT ALL STEEL STRUCTURAL MEMBERS, ROOFING MATERIALS WITH AN AMERON AMERLOCK 400 COATING 5 DRY FILM MILS OR AN APPROVED EQUAL HIGH SOLID EPOXY WHITE.



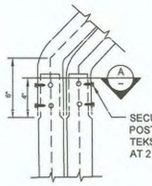
SIDE VIEW PROFILE

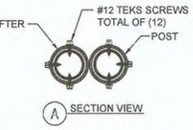
NOT TO SCALE



FRONT VIEW PROFILE

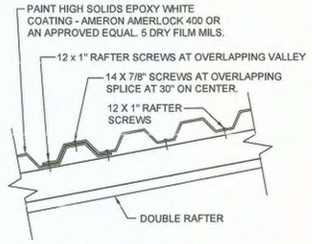
NOT TO SCALE





DOUBLE POST TO DOUBLE RAFTER CONNECTION DETAIL 3 7|7

NOT TO SCALE



SHEET CONNECTION DETAIL 5 7|7

NOT TO SCALE

SHADE STRUCTURE DETAILS

NTS

E 4|7

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:

JAMES G. "JACK" HOLT — 31773 R.C.E. No.

07/12/2024 DATE — 12/31/24 REG. EXP.

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JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.

7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE

GATE WAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS

PARKING LOT AND GENERATOR SET GRADING PLAN DETAILS

C7

REFERENCE — THG #542.116

SHEET 7 OF 17

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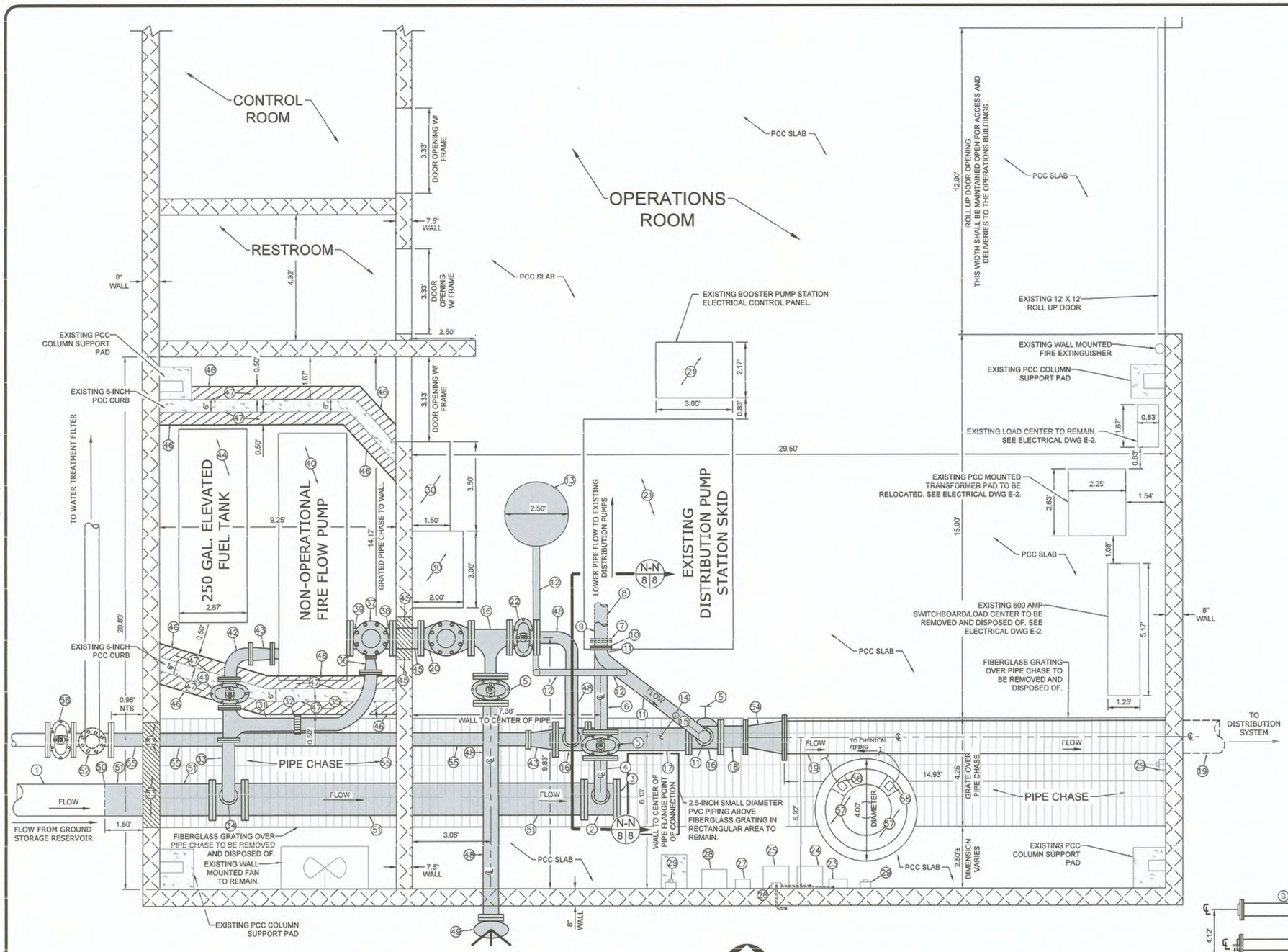
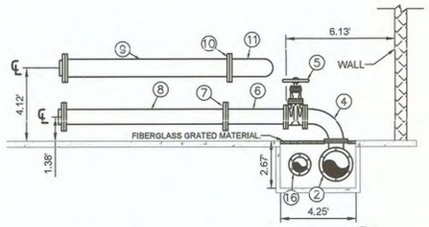


NOTE: THE SHADED PIPING IS SUBJECT TO DEMOLITION AND IS TO BE REMOVED AND DISPOSED OF. THE EXISTING/DEMOLITION KEYNOTES "CALL-OUT" EACH SPECIFIC PIPING RELATED ITEM SUBJECT TO DEMOLITION OR TO BE KEPT IN PLACE AND REMAIN.



EXISTING PIPELINE SECTION N-N 8 8

SCALE: 1" = 4'

EXISTING/DEMOLITION KEYNOTES

1. EXISTING 18" DUCTILE IRON PIPELINE DELIVERING WATER FROM THE RESERVOIRS TO THE DISTRIBUTION PUMPS TO REMAIN.
2. EXISTING 18" X 18" X 10" DUCTILE IRON FLANGED TEE TO BE REMOVED AND DISPOSED OF.
3. EXISTING 18" DUCTILE IRON BLIND FLANGE TO BE REMOVED AND DISPOSED OF.
4. EXISTING 10" - 90 DEGREE FLANGED STEEL ELBOW TO BE REMOVED AND DISPOSED OF.
5. EXISTING 10" OS & Y VALVE TO BE REMOVED AND DISPOSED OF.
6. EXISTING 10" STEEL PIPE TO BE REMOVED AND DISPOSED OF.
7. EXISTING 10" STEEL PIPE FLANGE FOR LOWER PIPE.
8. EXISTING 10" LOWER STEEL PIPE CONNECTED TO EXISTING PUMP SKID.
9. EXISTING 10" UPPER STEEL PIPE CONNECTED TO EXISTING PUMP SKID.
10. EXISTING 10" STEEL PIPE FLANGE FOR UPPER PIPE.
11. EXISTING 10" STEEL FABRICATED PIPELINE INCLUDING 90 DEGREE ELBOWS AT UPSTREAM AND DOWNSTREAM ENDS TO BE REMOVED AND DISPOSED OF.
12. EXISTING 1 1/2" STEEL PIPELINE FROM THE 10" STEEL DISTRIBUTION PUMP DISCHARGE PIPELINE TO THE SYNCROFLO PRESSURE TANK TO BE REMOVED AND DISPOSED OF.
13. EXISTING 30 INCH DIAMETER SYNCROFLO STEEL PRESSURE TANK TO BE REMOVED AND DISPOSED OF.
14. EXISTING PRESSURE GAUGE AND ATTACHED ELECTRICAL CABLE TO BE REMOVED AND DISPOSED OF.
15. EXISTING VERTICAL 10" STEEL PIPELINE BETWEEN THE 10" OS & Y VALVE AND 10" X 10" X 10" DUCTILE IRON TEE TO BE REMOVED AND DISPOSED OF.
16. EXISTING 10" X 10" X 10" DUCTILE IRON TEE TO BE REMOVED AND DISPOSED OF.
17. EXISTING 10" DUCTILE IRON PIPELINE TO BE REMOVED AND DISPOSED OF.
18. EXISTING 10" DUCTILE IRON SPOOL TO BE REMOVED AND DISPOSED OF.
19. EXISTING 18" DUCTILE IRON PIPELINE TO REMAIN.
20. EXISTING 10" FLANGED DUCTILE IRON CHECK VALVE TO BE REMOVED AND DISPOSED OF.
21. RELOCATE AND INSTALL EXISTING SKID MOUNTED DISTRIBUTION PUMP STATION INCLUDING PUMPS, PIPING, ELECTRICAL CONTROL PANEL, CIRCUITRY AND ALL OTHER ANCILLARY ITEMS FROM THE OPERATIONS ROOM TO THE NEW PCC CONCRETE SUPPORT SLAB DURING THE 48 HOUR PERIOD AFTER THE SHORT DURATION TEMPORARY BYPASS IS COMMENCED. SEE LONG TERM DURATION TEMPORARY BYPASS KEYNOTE 2 ON PLAN SHEET 13 AND SECTION M-M ON PLAN SHEET 14. THE RELOCATION AND INSTALLATION OF THE EXISTING BOOSTER PUMP STATION SKID SHALL BE COMPLETED PER SPECIAL CONDITION SECTION 00840-1, "ENTITLED SEQUENCE OF CONSTRUCTION".
22. EXISTING 10" NON-RISING STEM GATE VALVE TO BE REMOVED AND DISPOSED OF.
23. GRID BEE STORAGE TANK MIXER ENCLOSURE TO REMAIN.
24. GRID BEE STORAGE TANK PUMP MOTOR CONTROL CENTER ENCLOSURE TO REMAIN.
25. GRID BEE STORAGE TANK BLOWER MOTOR CONTROL CENTER TO REMAIN.
26. ELECTRICAL PULL BOX NEAR FLOOR LEVEL TO REMAIN.
27. CT TANK CHLORINE ANALYZER TO REMAIN.
28. ENCLOSURE RELATED TO CT TANK TO REMAIN.
29. DUPLEX ELECTRICAL RECEPTACLE TO REMAIN.
30. FREE STANDING STEEL STORAGE CABINET TO BE REMOVED BY THE COUNTY OF IMPERIAL PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
31. 10" STEEL FABRICATED TEE AND PIPE EXTENSION TO BE REMOVED AND DISPOSED OF.
32. 10" STEEL TRANSITION COUPLING TO BE REMOVED AND DISPOSED OF.
33. 10" X 12" - 90 DEGREE STEEL FABRICATED REDUCING ELBOW TO BE REMOVED AND DISPOSED OF.
34. 18" X 18" X 12" DUCTILE IRON TEE TO BE REMOVED AND DISPOSED OF.
35. 10" STEEL FABRICATED PIPE SECTION WITH 90 DEGREE ASCENDING STEEL ELBOW TO BE REMOVED AND DISPOSED OF.
36. 6" X 10" DUCTILE IRON REDUCER TO BE REMOVED AND DISPOSED OF.
37. 6" FIRE PUMP RELIEF VALVE CONNECTED TO A 6" X 6" X 6" DUCTILE IRON TEE LOCATED BENEATH THE RELIEF VALVE. FIRE PUMP RELIEF VALVE TO BE REMOVED AND DISPOSED OF.
38. 6" X 6" X 6" DUCTILE IRON TEE LOCATED BENEATH FIRE RELIEF VALVE TO BE REMOVED AND DISPOSED OF.
39. 6" FLEXIBLE RUBBER SPOOL TO BE REMOVED AND DISPOSED OF.
40. REMOVE AND DISPOSE OF EXISTING INOPERABLE DIESEL POWERED FIRE PUMP AND MOTOR, EXHAUST SYSTEM, CONTROL PANEL, PUMP SKID, ELECTRICAL CIRCUITRY, BATTERIES, CABLES, SECUREMENT BOLTS AND ALL OTHER ANCILLARY ITEMS.
41. EXISTING 10" NON-RISING STEM GATE VALVE TO BE REMOVED AND DISPOSED OF.
42. 10" STEEL FABRICATED 90 DEGREE ELBOW TO BE REMOVED AND DISPOSED OF.
43. 8" X 10" DUCTILE IRON REDUCER TO BE REMOVED AND DISPOSED OF.
44. REMOVE AND DISPOSE OF EXISTING ELEVATED STEEL FUEL TANK, SUPPORT LEGS, SUPPORT LEG STEEL SUPPORT PLATES AND ANCHOR BOLTS, VENT PIPELINES, FUEL LINES, ELECTRICAL CIRCUITRY FOR TANK FUEL SENSORS AND ALL OTHER ANCILLARY ITEMS.
45. REMOVE AND DISPOSE OF EXISTING PIPING/FITTING EXTENDING BETWEEN 6" X 6" X 6" DUCTILE IRON TEE AND DUCTILE IRON CHECK VALVE. REMOVE A 18" X 18" SQUARE SECTION OF SHEET ROCK IN OPERATIONS ROOM AND EXISTING FIRE PUMP ROOM TO ACCOMMODATE PIPING REMOVAL. REPLACE 18" X 18" SECTION OF WALL CONSISTENT WITH THE REMAINDER OF THE EXISTING WALL AFTER THE EXISTING PIPING IS REMOVED AND DISPOSED OF. PAINT BOTH SIDES OF SHEET ROCK WALL TO MATCH COLOR OF EXISTING WALL.
46. SAWCUT EXISTING PCC CONCRETE FOR THE FULL DEPTH OF PCC CONCRETE.
47. REMOVE AND DISPOSE OF 7 INCH HIGH, 6 INCH WIDE PCC CONTAINMENT CURB AND PCC CONCRETE FLOOR BETWEEN THE CURB AND THE DEMOLITION SAWCUT LINE.
48. EXISTING 10" STEEL PIPE TO BE REMOVED AND DISPOSED OF.
49. REMOVE AND DISPOSE OF EXISTING ELLIPTICAL FITTING W/ 2.5" VALVE CONNECTIONS.
50. SAWCUT EXISTING 18-INCH DIAMETER DUCTILE IRON PIPELINE.
51. REMOVE AND DISPOSE OF 18-INCH DIAMETER DUCTILE IRON PIPELINE.
52. EXISTING 8-INCH X 8-INCH X 8-INCH DUCTILE IRON TEE TO REMAIN.
53. REMOVE EXISTING GROUT PATCHED MATERIAL SURROUNDING THE EXISTING 8-INCH STEEL PIPE AND 18-INCH DUCTILE IRON PIPE TO THE EXISTING MASONRY UNITS. INSTALL PLYWOOD OR STEEL FORMS ON EACH SIDE OF THE MASONRY WALL OPENING THROUGH WHICH THE NEW 8-INCH AND 18-INCH DUCTILE IRON PIPELINES ARE TO PASS THROUGH. PLACE OR DRILL NO 4 REINFORCING BARS INTO EACH COURSE OF MASONRY WALL UNITS ON THE NORTH AND SOUTH SIDES OF THE OPENING FOR A LENGTH OF 4-INCHES. THE NO. 4 REINFORCING BARS SHALL EXTEND INTO THE OPENING AREA FOR A DISTANCE OF 1-FOOT. SECURE THE PLYWOOD OR STEEL FORMS WITH WHALERS, TIES, AND OTHER SUPPORT MEMBERS. PLACE 7-SACK, 5,500 PSI 3/8-INCH MAXIMUM AGGREGATE CONCRETE WITHIN THE FORMWORK FLUSH WITH THE INTERIOR AND EXTERIOR WALLS AFTER THE NEW PIPING HAS BEEN INSTALLED AND THE FORMWORK IS SECURE. TAMP THE FORM OR VIBRATE THE CONCRETE TO ENSURE THE CONCRETE FULLY OCCUPIES THE VOLUME WITHIN THE FORMWORK AND THE EXTERIOR CONCRETE WALLS ARE SMOOTH AND IN ALIGNMENT WITH THE MASONRY WALLS.
54. EXISTING 10-INCH X 18-INCH DUCTILE IRON REDUCER TO BE REMOVED AND DISPOSED OF.
55. EXISTING 8-INCH STEEL PIPE TO BE REMOVED AND DISPOSED OF.
56. EXISTING 8-INCH RESILIENT WEDGE GATE VALVE.
57. 4'-0" DIAMETER 3.6 FEET HIGH-250 GALLON SODIUM HYPOCHLORITE CHEMICAL TANK. SODIUM HYPOCHLORITE CHEMICAL TANK TO BE REMOVED BY THE WATER TREATMENT PLANT OPERATORS PRIOR TO THE INITIATION OF PHYSICAL CONSTRUCTION ACTIVITIES.
58. CHEMICAL PUMPS TO BE REMOVED WITH THE CHEMICAL TANK BY THE WATER TREATMENT PLANT OPERATORS.

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN L. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
OPERATIONS BUILDING EXISTING SITE/DEMOLITION PLAN

C8
REFERENCE
THG #542.116
SHEET 8 OF 17

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OPERATIONS BUILDING

COATING SYSTEM

THE PIPING, FITTINGS AND VALVES ABOVE THE OPERATIONS BUILDING FLOOR LEVEL SHALL BE COATED. THE PIPE SPOOLS AND SECTIONS WHICH EXTEND FROM A POINT ABOVE THE FLOOR LEVEL TO A POINT BELOW THE FLOOR LEVEL SHALL BE COATED BELOW THE FLOOR LEVEL (WITHIN THE PIPE CHASE) UP TO THE FLANGE CONNECTION POINT. ALL OTHER DUCTILE IRON PIPING, FITTINGS, REDUCERS AND PIPE COMPONENTS BELOW THE OPERATIONS BUILDING FLOOR LEVEL, IN THE PIPE CHASE, SHALL ONLY BE REQUIRED TO BE SUPPLIED WITH THE MANUFACTURERS ASPHALTIC MATERIAL IN CONFORMANCE WITH ANSI/AWWA C115/A21.15-20 AND ANSI/AWWA C110/A21.10-12. THE PIPE SUPPORTS AND PIPE SUPPORT HARDWARE WITHIN THE PIPE CHASE AREA *SHALL* BE COATED AS NOTED BELOW. THE PIPE SUPPORTS ABOVE THE OPERATIONS BUILDING FLOOR LEVEL SHALL BE COATED AS NOTED BELOW. THE SKID MOUNTED VARIABLE FREQUENCY DRIVE PUMPING SYSTEM INCLUDING THE STRUCTURAL MEMBERS, SUCTION AND DISCHARGE PIPING, VALVES, FITTINGS, PUMPS, MOTORS AND ALL OTHER COMPONENTS (EXCEPT FOR THE ELECTRICAL VFD AND CONTROL PANEL ENCLOSURE) SHALL BE COATED. THE SKID MOUNTED BOOSTER PUMP STATION COMPONENTS SHALL BE COATED PER TECHNICAL SPECIFICATION SECTION 15380-2.05. BY THE MANUFACTURER PRIOR TO THE SHIPMENT OF THE NEW SKID MOUNTED BOOSTER PUMP STATION. THE FLOW METER SHALL NOT BE COATED. THE ABOVE GRADE DUCTILE IRON PIPING, FITTINGS, REDUCERS AND PIPE COMPONENTS ABOVE THE FLOOR LEVEL AND EXTENDING INTO THE PIPE CHASE THAT ARE NOT PART OF THE SKID MOUNTED BOOSTER PUMP STATION *SHALL BE SHOP PRIMED AT THE MANUFACTURER'S FACILITY* WITH THE PRIME COAT SYSTEM DESCRIBED BELOW AND SHALL NOT BE COATED WITH THE MANUFACTURES STANDARD ASPHALTIC MATERIAL. ALL OTHER NON-SKID MOUNTED BOOSTER PUMP STATION COMPONENTS ABOVE THE OPERATIONS FLOOR LEVEL SHALL BE COATED WITH A PRIME COAT, INTERMEDIATE COAT AND TOP COAT AS FOLLOWS; *EXCEPT THE EPOXY COATED VALVES WILL NOT REQUIRE A PRIME COAT OR INTERMEDIATE COAT*:

1. FIRST COAT - PRIMER COAT - ONE COAT - 2 DRY FILM MILS OF AN ETHYL SILICATE INORGANIC ZINC-RICH PRIMER.
2. SECOND COAT - INTERMEDIATE COAT - ONE COAT - 5 DRY FILM MILS OF A CYCLOALIPHATIC AMINE EPOXY COATING SYSTEM.
3. THIRD COAT - TOP COAT - ONE COAT - 5 DRY FILM MILS OF AN ALIPHATIC ACRYLIC POLYURETHANE - SEMI GLOSS.

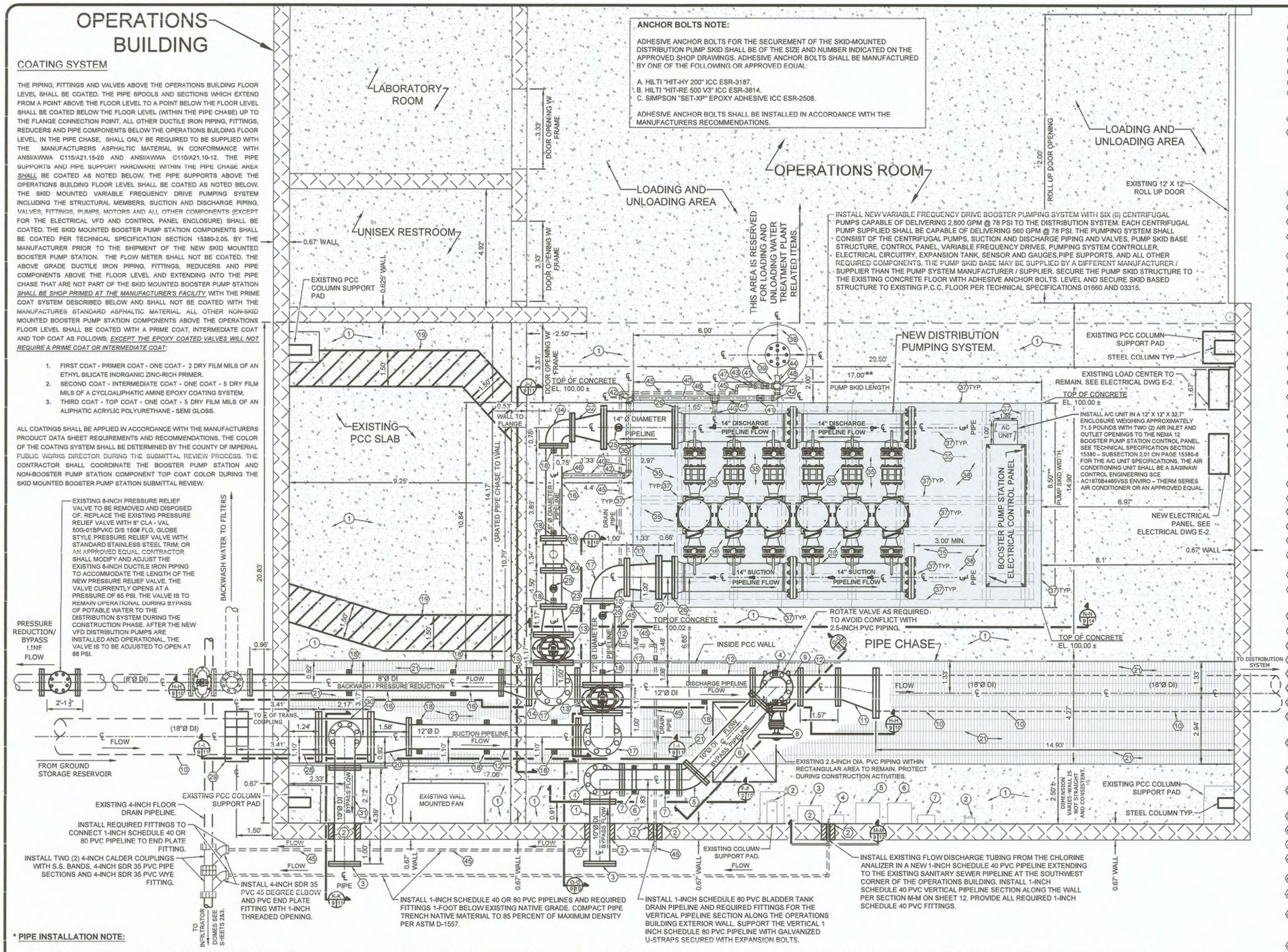
ALL COATINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS PRODUCT DATA SHEET REQUIREMENTS AND RECOMMENDATIONS. THE COLOR OF THE COATING SYSTEM SHALL BE DETERMINED BY THE COUNTY OF IMPERIAL PUBLIC WORKS DIRECTOR DURING THE SUBMITTAL REVIEW PROCESS. THE CONTRACTOR SHALL COORDINATE THE BOOSTER PUMP STATION AND NON-BOOSTER PUMP STATION COMPONENT TOP COAT COLOR DURING THE SKID MOUNTED BOOSTER PUMP STATION SUBMITTAL REVIEW.

ANCHOR BOLTS NOTE:

ADHESIVE ANCHOR BOLTS FOR THE SECUREMENT OF THE SKID-MOUNTED DISTRIBUTION PUMP SKID SHALL BE OF THE SIZE AND NUMBER INDICATED ON THE APPROVED SHOP DRAWINGS. ADHESIVE ANCHOR BOLTS SHALL BE MANUFACTURED BY ONE OF THE FOLLOWING OR APPROVED EQUAL:

A. HILTI "HIT-HY 200" ICC ESR-3187.
B. HILTI "HIT-RE 500 V3" ICC ESR-3814.
C. SIMPSON "SET-XP" EPOXY ADHESIVE ICC ESR-2508.

ADHESIVE ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.



EXISTING KEYNOTES

1. EXISTING PCC SLAB.
2. DUPLEX ELECTRICAL RECEPTACLE TO REMAIN.
3. ENCLOSURE RELATED TO CT TANK TO REMAIN.
4. CT TANK CHLORINE ANALYZER TO REMAIN.
5. GRID BEE STORAGE TANK BLOWER MOTOR CONTROL CENTER TO REMAIN.
6. GRID BEE STORAGE TANK PUMP MOTOR CONTROL CENTER ENCLOSURE TO REMAIN.
7. GRID BEE STORAGE TANK MIXER ENCLOSURE TO REMAIN.

CONSTRUCTION KEYNOTES

1. AFTER REMOVAL OF EXISTING 10-INCH STEEL PIPELINE, INSTALL NEW 10-INCH CLASS 52 DUCTILE IRON PIPE SPOOL.
2. REPLACE SECTIONS OF THE STEEL WALL PANELS AS NECESSARY AFTER REMOVAL OF THE PRIOR EXISTING PIPELINE AND INSTALLATION OF THE NEW REPLACEMENT PIPELINE SECTION, AS APPLICABLE. INSTALL SEALANT IN THE PIPE OPENING GAP BETWEEN THE EXTERIOR OF THE NEW PIPE CIRCUMFERENCE AND CIRCULAR STEEL WALL PANEL OPENING TO CREATE A SEAL-TIGHT CONDITION. THE SEALANT SHALL BE A FIELD PIGMENTABLE, NO BLEED, ONE COMPONENT PLUS COLOR PACK, NON- SAG ELASTOMETRIC, NEUTRAL CURE SILICONE SEALANT IN CONFORMANCE WITH ASTM C-920, TYPE S, GRADE NS, CLASS 50 AND 88 A SIKA SIKASIL WS-295 FPS OR AN APPROVED EQUAL. A BACKER ROAD SHALL BE INSTALLED IN THE GAP PRIOR TO THE SEALANT APPLICATION. A "CANT" BEAD OF SEALANT SHALL BE APPLIED BRIDGING THE GAP BETWEEN THE EXTERIOR OF THE PIPE AND THE OUTSIDE FACE OF THE METAL PANEL AFTER THE BACKER ROD INSTALLATION IS ACCOMPLISHED. THE CONTRACTOR SHALL CONSULT THE SEALANT MANUFACTURER TO DETERMINE COMPATIBILITY AND ADHESION TO THE PIPE AND PANEL FINISHES. THIS MAY REQUIRE MOCKUPS AND FIELD TESTING TO DETERMINE THE EXTENT OF PREPARATION AND IF A PRIMMER IS REQUIRED. A PRIMER SHALL BE SUPPLIED AND APPLIED IF IT IS DETERMINED A PRIMER IS REQUIRED. ALL COST RELATIVE TO THE SEALANT INSTALLATION SHALL BE INCIDENTAL TO THE DUCTILE IRON PIPE INSTALLATION COST. THE SEALANT INSTALLATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE SEALANT MANUFACTURES PRODUCT DATA SHEET.
3. INSTALL 10-INCH DUCTILE IRON BLIND FLANGE.
4. INSTALL 10-INCH - 90 DEGREE DUCTILE IRON FLANGED ELBOW.
5. INSTALL 10-INCH - 45 DEGREE DUCTILE IRON FLANGED ELBOW.
6. INSTALL 10-INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. INSTALL RESTRAINED FLANGE ADAPTER (RFA) AT PLAIN END FOR FITTING CONNECTION. RFA NOT ILLUSTRATED ON PLAN.
7. INSTALL PIPE SUPPORTS PER DETAIL G ON SHEET 11.
8. INSTALL 10-INCH RESILIENT WEDGE GATE VALVE WITH HAND WHEEL OPERATOR, PER AWWA C509-15.
9. INSTALL 12-INCH X 12-INCH X 10-INCH FLANGED DUCTILE IRON TEE.
10. EXISTING 18-INCH DUCTILE IRON PIPELINE TO REMAIN.
11. AFTER REMOVAL AND DISPOSAL OF EXISTING 10-INCH X 18-INCH DUCTILE IRON ECCENTRIC REDUCER INSTALL NEW 12-INCH X 18-INCH FLANGED DUCTILE IRON ECCENTRIC REDUCER.
12. INSTALL 12-INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPELINE. INSTALL RESTRAINED FLANGE ADAPTER (RFA) AT PLAIN END FOR FITTING CONNECTION. RFA NOT ILLUSTRATED ON PLAN.
13. INSTALL 12-INCH O.S.&Y. GATE VALVE WITH HAND WHEEL OPERATOR , PER AWWA C509-15.
14. INSTALL 12-INCH X 12-INCH X 12-INCH FLANGED DUCTILE IRON TEE.
15. INSTALL 8-INCH X 12-INCH FLANGED DUCTILE IRON ECCENTRIC REDUCER.
16. INSTALL 8-INCH FLANGED X PLAIN END CLASS 52 DUCTILE IRON PIPE SPOOL. INSTALL RESTRAINED FLANGE ADAPTER (RFA) AT PLAIN END FOR REDUCER CONNECTION. RFA NOT ILLUSTRATED ON PLAN.
17. INSTALL 12-INCH - 90 DEGREE FLANGED DUCTILE IRON ELBOW.
18. INSTALL NEW PIPE SUPPORTS FOR NEW PIPE SEGMENTS PER DETAIL F ON SHEET 11.
19. AFTER SAWCUTTING, REMOVING AND DISPOSING OF THE EXISTING P.C.C. CURB AND P.C.C SLAB ADJACENT TO THE CURB PER PLAN SHEET 8, INSTALL 6-INCHES OF CLASS 2 BASE IN THE AREA PREVIOUSLY OCCUPIED BY THE P.C.C. CURB AND ADJOINING SLAB. COMPACT THE CLASS 2 BASE MATERIAL TO 95 PERCENT MAXIMUM DENSITY PER ASTM D-1557. INSTALL 6-INCHES OF P.C.C. CONCRETE OVER THE CLASS 2 BASE MATERIAL LEVEL WITH THE EXISTING P.C.C. FLOOR SURFACE. CONCRETE SHALL CONTAIN 7 SACKS OF CEMENT PER CUBIC YARD AND ATTAIN 5,000 PSI COMPRESSIVE STRENGTH AFTER 28 DAY CURING.
20. INSTALL NEW 12-INCH X 18-INCH FLANGED DUCTILE IRON REDUCER.
21. CONTRACTOR TO INSTALL NEW YELLOW FIBERGLASS GRATES SEE DETAIL H ON SHEET 12.
22. INSTALL 8-INCH X 12-INCH DIAMETER FLANGED DUCTILE IRON REDUCER.
23. INSTALL 8-INCH CLASS 52 DIAMETER DUCTILE IRON FLANGED SPOOL.
24. INSTALL 8-INCH DIAMETER FLANGED ELECTROMAGNETIC FLOW METER.
25. INSTALL PRESSURE GAUGE WITH BRASS BALL VALVE / SHUT-OFF VALVE AND OPERATOR HANDLE. THE PRESSURE GAUGE SHALL COMPLY WITH TECHNICAL SPECIFICATIONS SECTION 15450.
26. POINT OF CONNECTION WITH SKID MOUNTED PUMP PIPING.
27. INSTALL 14-INCH DUCTILE IRON FLANGED PIPE SPOOL TO CONNECT 12-INCH X 14-INCH FLANGED DUCTILE IRON REDUCER TO THE SKID MOUNTED PUMP STATION 14-INCH SUCTION PIPELINE. THE APPROXIMATE LENGTH IS ILLUSTRATED ON THE PLAN SHEET. THE CONTRACTOR SHALL DETERMINE THE EXACT PIPE SPOOL LENGTH DURING PROJECT CONSTRUCTION.
28. INSTALL 18-INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL.
29. INSTALL 18-INCH DUCTILE IRON TRANSITION COUPLING WITH DUCTILE IRON HARDWARE.
30. INSTALL 18 INCH X 18 INCH X 10 INCH DUCTILE IRON FLANGED TEE.
31. INSTALL 10-INCH CLASS 52 DUCTILE IRON FLANGED SPOOL.
32. INSTALL 8-INCH X 14-INCH DIAMETER FLANGED DUCTILE IRON REDUCER.
33. INSTALL 12-INCH X 14-INCH DIAMETER FLANGED DUCTILE IRON REDUCER.
34. INSTALL 8-INCH - 90 DEGREE FLANGED DUCTILE IRON ELBOW.
35. INSTALL A PUMP SKID FRAME PER THE INDICATED DIMENSIONS ON THIS PLAN SHEET.PUMP SKID LIFTING POINTS SHALL BE PROVIDED. A MINIMUM CLEARANCE OF THREE FEET FROM THE PUMPS AND PIPING TO THE ELECTRICAL PANEL SHALL BE PROVIDED. PRE-ENGINEERED SHOP DRAWINGS SHALL BE PROVIDED FOR THE PUMP SKID.
36. INSTALL 14-INCH DUCTILE IRON PIPE SPOOL TO CONNECT THE 8-INCH X 14-INCH FLANGED DUCTILE IRON REDUCER TO THE SKID MOUNTED PUMP STATION 14-INCH DISCHARGE PIPELINE. THE APPROXIMATE LENGTH IS ILLUSTRATED ON THE PLAN SHEET. THE CONTRACTOR SHALL DETERMINE THE EXACT PIPE SPOOL LENGTH DURING PROJECT CONSTRUCTION.
37. INSTALL LORD AND SONS TP 100 BEAM OR AN APPROVED EQUAL FOR THE PUMP SKID FRAME. COATING OF THE STEEL BEAMS SHALL BE ACCOMPLISHED PER THE TECHNICAL SPECIFICATIONS OR PER THE COATING SPECIFICATION REQUIREMENTS INCLUDED ON THE PLANS. TYPICAL.
38. INSTALL 3/16" STEEL DIAMOND PLATE FOR THE PUMP SKID FRAME. STEEL DIAMOND PLATE TO BE ATTACHED TO THE UNDERLYING PUMP SUPPORT PLATFORM BEAMS. COATING OF THE STEEL DIAMOND PLATE SHALL BE ACCOMPLISHED PER THE TECHNICAL SPECIFICATIONS OR PER THE COATING SPECIFICATION REQUIREMENTS INCLUDED ON THE PLANS.
39. INSTALL A 132 GALLON GRUNDFOS BLADDER TANK MODEL GFXA-500 OR AN APPROVED EQUAL.
40. INSTALL 2-INCH 316 STAINLESS STEEL PIPELINE. DETERMINE THE EXACT PIPELINE LENGTH AT THE TIME OF INSTALLATION.
41. INSTALL 2-INCH 316 STAINLESS STEEL BALL VALVE WITH TEE HANDLE.
42. INSTALL 2-INCH 316 STAINLESS STEEL PIPELINE ELBOWS AS REQUIRED TO CONFIGURE THE 2-INCH S.S. PIPELINE TO MATCH THE PIPELINE HEIGHT. SEE CROSS SECTION H ON PLAN SHEET 10 , J-J ON PLAN SHEET 11, AND N-N ON PLAN SHEET 14 FOR PIPELINE HEIGHT.
43. INSTALL 1-INCH X 2-INCH 316 STAINLESS STEEL REDUCER FITTING.
44. INSTALL 2-INCH 316 STAINLESS STEEL PIPELINE TO THE 2-INCH NPT CONNECTION POINT OF THE BLADDER TANK. DETERMINE THE EXACT PIPELINE LENGTH AT THE TIME OF INSTALLATION.
45. INSTALL 1-INCH SCHEDULE 80 PVC DRAIN PIPELINE. DETERMINE THE EXACT PIPELINE LENGTH AT THE TIME OF INSTALLATION, AND PROVIDE ALL REQUIRED 1-INCH SCHEDULE 80 PVC FITTINGS AND TWO DISCONNECT FITTINGS TO PROVIDE THE ABILITY TO TEMPORARILY REMOVE THE 1 INCH PVC DRAIN PIPELINE IN ORDER TO REMOVE THE NEW YELLOW FIBERGLASS GRATES FOR OPERATION AND MAINTENANCE PURPOSE. PROVIDE GALVANIZED U-STRAPS 4 FEET ON CENTER WITH EXPANSION BOLTS TO SECURE THE DRAIN PIPELINE TO THE OPERATIONS BUILDING CONCRETE FLOOR.
46. PROVIDE THREADED PIPE INLET / OUTLETS ON NEW DISCHARGE PIPELINES TO CONNECT THE NEW 2 INCH S.S. BLADDER TANK PIPELINES.
47. INSTALL 1-INCH ADAPTER FITTING FROM 316 STAINLESS STEEL TO SCHEDULE 80 PVC.
48. INSTALL 2-INCH 316 STAINLESS STEEL TEE FITTING.

*** PIPE INSTALLATION NOTE:**

THE DIMENSIONS NOTED WITH AN ASTERISK ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL OBTAIN FIELD MEASUREMENTS AND MODIFY THE PIPELINE DISTANCES TO THE EXACT REQUIREMENTS AT THE TIME OF CONSTRUCTION. DIFFERENCES IN THE MANUFACTURER'S LENGTHS FOR THE FLOWMETER, VALVES, SKID MOUNTED PUMPING SYSTEM AND OTHER ITEMS WILL CONTRIBUTE TO THE REQUIREMENT TO ADJUST PIPE DIMENSION LENGTHS. ALTHOUGH IT HAS BEEN ATTEMPTED TO MITIGATE ALL POTENTIAL CONFLICTS DURING THE PREPARATION OF THESE PLANS; UNDETECTED OR UNFORESEEN CONFLICTS MAY EXIST WHICH WILL REQUIRE PIPELINE DIMENSION MODIFICATIONS. IT SHOULD ALSO BE NOTED THAT PIPING ALIGNMENTS MAY NOT BE PARALLEL AND PERPENDICULAR WHICH MAY RESULT IN SLIGHT DIMENSION ADJUSTMENTS. PIPE SECTIONS WHICH ARE NOT PARALLEL AND PERPENDICULAR MAY STRESS THE PIPE SECTIONS AT THE FLANGED CONNECTIONS. THE CONTRACTOR SHALL MODIFY PIPING ALIGNMENTS TO THE EXTENT POSSIBLE TO MAINTAIN PIPING ALIGNMENTS PARALLEL AND PERPENDICULAR. IN THE EVENT IT IS NOT POSSIBLE TO MAINTAIN PIPING ALIGNMENTS PARALLEL AND PERPENDICULAR IT MAY BE NECESSARY TO INSTALL DUCTILE IRON TRANSITION COUPLINGS ALONG THE PIPING ALIGNMENTS TO ALLEVIATE STRESSING THE PIPING AT THE FLANGED CONNECTION POINTS. RESTRAINED FLANGE ADAPTERS ARE REQUIRED ALONG SEVERAL PIPE SECTIONS PER CONSTRUCTION KEYNOTES WHICH SHOULD ALLOW A MINIMAL AMOUNT OF PIPE DIMENSION LATITUDE AND PIPE ALIGNMENT FLEXIBILITY.

NOTE: ✱✱ DIMENSION WILL BE DETERMINED BY SKID MOUNTED PUMP STATION MANUFACTURER OR MAGNETIC FLOW METER MANUFACTURER AS APPLICABLE.

SCALE: 1" = 2'

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN E. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.
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PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
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PROJECT TITLE
GATEWAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS
WATER TREATMENT PLANT OPERATIONS BUILDING NEW SITE PLAN

C9
REFERENCE
THG #542.116
SHEET 9 OF 17

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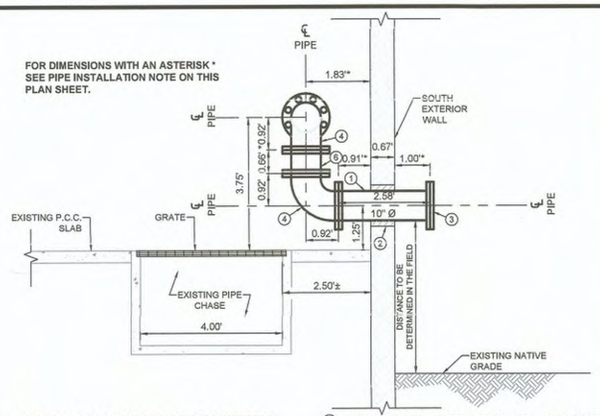
FOR DIMENSIONS WITH AN ASTERISK * SEE PIPE INSTALLATION NOTE ON THIS PLAN SHEET.

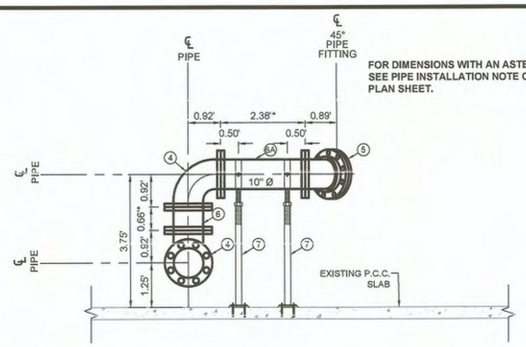


BY-PASS CONSTRUCTION PIPELINE KEYNOTES - SECTION O-O AND F-F THROUGH G-G

1. AFTER REMOVAL OF EXISTING 10 INCH STEEL PIPELINE INSTALL NEW 10 INCH FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL.
2. INSTALL SEALANT IN PIPE OPENING SPACE BETWEEN THE EXTERIOR OF THE NEW PIPE SECTION AND WALL TO CREATE A SEAL-TIGHT CONDITION. SEE CONSTRUCTION KEYNOTE 2 ON PLAN SHEET 9.
3. INSTALL DUCTILE IRON BLIND FLANGE.
4. INSTALL 10 INCH - 90 DEGREE DUCTILE IRON FLANGED ELBOW.
5. ~~INSTALL 10 INCH - 45 DEGREE DUCTILE IRON FLANGED ELBOW.~~
6. INSTALL 10 INCH FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. ~~INSTALL PIPE SUPPORTS PER DETAIL F ON SHEET 11.~~
7. ~~INSTALL 10 INCH RESILIENT WEDGE GATE VALVE WITH HAND WHEEL OPERATOR.~~
8. ~~INSTALL 12 INCH X 12 INCH X 10 INCH DUCTILE IRON TEE.~~

PIPELINE SECTION O - O
SCALE: 1" = 2'
9 | 10

FOR DIMENSIONS WITH AN ASTERISK * SEE PIPE INSTALLATION NOTE ON THIS PLAN SHEET.

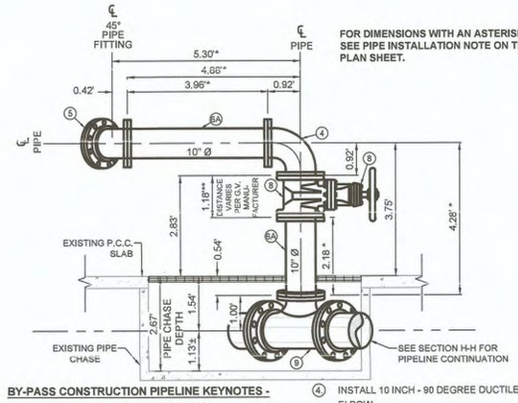


BY-PASS CONSTRUCTION PIPELINE KEYNOTES - SECTION O-O AND F-F THROUGH G-G

1. ~~AFTER REMOVAL OF EXISTING 10 INCH STEEL PIPELINE INSTALL NEW 10 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. WELD FLANGE TO PLAIN END OF THE PIPE SPOOL AFTER THE EXACT PIPE DIMENSION IS DETERMINED.~~
2. ~~INSTALL SEALANT IN PIPE OPENING SPACE BETWEEN THE EXTERIOR OF THE NEW PIPE SECTION AND WALL TO CREATE A SEAL-TIGHT CONDITION.~~
3. ~~INSTALL DUCTILE IRON BLIND FLANGE.~~
4. INSTALL 10 INCH - 90 DEGREE DUCTILE IRON FLANGED ELBOW.
5. INSTALL 10 INCH - 45 DEGREE DUCTILE IRON FLANGED ELBOW.
6. INSTALL 10 INCH FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL.
6A. INSTALL 10 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
7. INSTALL PIPE SUPPORTS PER DETAIL G ON SHEET 11.
8. ~~INSTALL 10 INCH RESILIENT WEDGE GATE VALVE WITH HAND WHEEL OPERATOR.~~
9. ~~INSTALL 12 INCH X 12 INCH X 10 INCH DUCTILE IRON TEE.~~

PIPELINE SECTION F - F
SCALE: 1" = 2'
9 | 10

FOR DIMENSIONS WITH AN ASTERISK * SEE PIPE INSTALLATION NOTE ON THIS PLAN SHEET.



BY-PASS CONSTRUCTION PIPELINE KEYNOTES - SECTION O-O AND F-F THROUGH G-G

1. ~~AFTER REMOVAL OF EXISTING 10 INCH STEEL PIPELINE INSTALL NEW 10 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. WELD FLANGE TO PLAIN END OF THE PIPE SPOOL AFTER THE EXACT PIPE DIMENSION IS DETERMINED.~~
2. ~~INSTALL SEALANT IN PIPE OPENING SPACE BETWEEN THE EXTERIOR OF THE NEW PIPE SECTION AND WALL TO CREATE A SEAL-TIGHT CONDITION.~~
3. ~~INSTALL DUCTILE IRON BLIND FLANGE.~~
4. INSTALL 10 INCH - 90 DEGREE DUCTILE IRON FLANGED ELBOW.
5. INSTALL 10 INCH - 45 DEGREE DUCTILE IRON FLANGED ELBOW.
6A. INSTALL 10 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
7. ~~INSTALL PIPE SUPPORTS PER DETAIL F ON SHEET 11.~~
8. INSTALL 10 INCH RESILIENT WEDGE GATE VALVE WITH HAND WHEEL OPERATOR.
9. INSTALL 12 INCH X 12 INCH X 10 INCH DUCTILE IRON TEE.

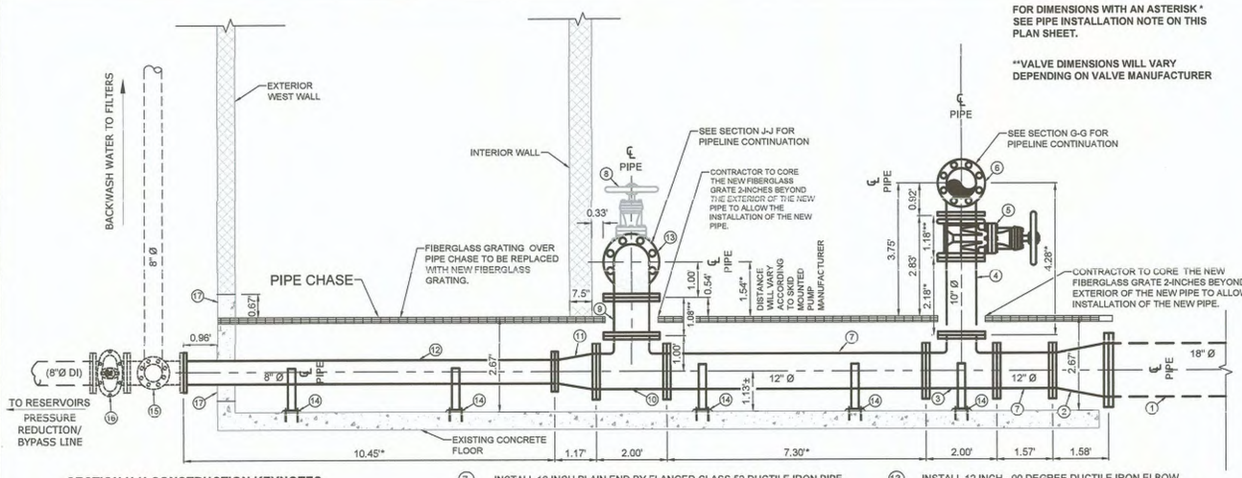
PIPELINE SECTION G - G
SCALE: 1" = 2'
9 | 10

* PIPE INSTALLATION NOTE:

THE DIMENSIONS NOTED WITH AN ASTERISK ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL OBTAIN FIELD MEASUREMENTS AND MODIFY THE PIPELINE DISTANCES TO THE EXACT REQUIREMENTS AT THE TIME OF CONSTRUCTION. DIFFERENCES IN THE MANUFACTURER'S LENGTHS FOR THE FLOWMETER, VALVES, SKID MOUNTED PUMPING SYSTEM AND OTHER ITEMS WILL CONTRIBUTE TO THE REQUIREMENT TO ADJUST PIPE DIMENSION LENGTHS. ALTHOUGH IT HAS BEEN ATTEMPTED TO MITIGATE ALL POTENTIAL CONFLICTS DURING THE PREPARATION OF THESE PLANS; UNDETECTED OR UNFORESEEN CONFLICTS MAY EXIST WHICH WILL REQUIRE PIPELINE DIMENSION MODIFICATIONS. IT SHOULD ALSO BE NOTED THAT PIPING ALIGNMENTS MAY NOT BE PARALLEL AND PERPENDICULAR WHICH MAY RESULT IN SLIGHT DIMENSION ADJUSTMENTS. PIPE SECTIONS WHICH ARE NOT PARALLEL AND PERPENDICULAR MAY STRESS THE PIPE SECTIONS AT THE FLANGED CONNECTIONS. THE CONTRACTOR SHALL MODIFY PIPING ALIGNMENTS TO THE EXTENT POSSIBLE TO MAINTAIN PIPING ALIGNMENTS PARALLEL AND PERPENDICULAR. IN THE EVENT IT IS NOT POSSIBLE TO MAINTAIN PIPING ALIGNMENTS PARALLEL AND PERPENDICULAR IT MAY BE NECESSARY TO INSTALL DUCTILE IRON TRANSITION COUPLINGS ALONG THE PIPING ALIGNMENTS TO ALLEVIATE STRESSING THE PIPING AT THE FLANGED CONNECTION POINTS. RESTRAINED FLANGE ADAPTERS ARE REQUIRED ALONG SEVERAL PIPE SECTIONS PER THE CONSTRUCTION KEYNOTES WHICH SHOULD ALLOW A MINIMAL AMOUNT OF PIPE DIMENSION LATITUDE AND PIPE ALIGNMENT FLEXIBILITY.

FOR DIMENSIONS WITH AN ASTERISK * SEE PIPE INSTALLATION NOTE ON THIS PLAN SHEET.

**VALVE DIMENSIONS WILL VARY DEPENDING ON VALVE MANUFACTURER



SECTION H-H CONSTRUCTION KEYNOTES

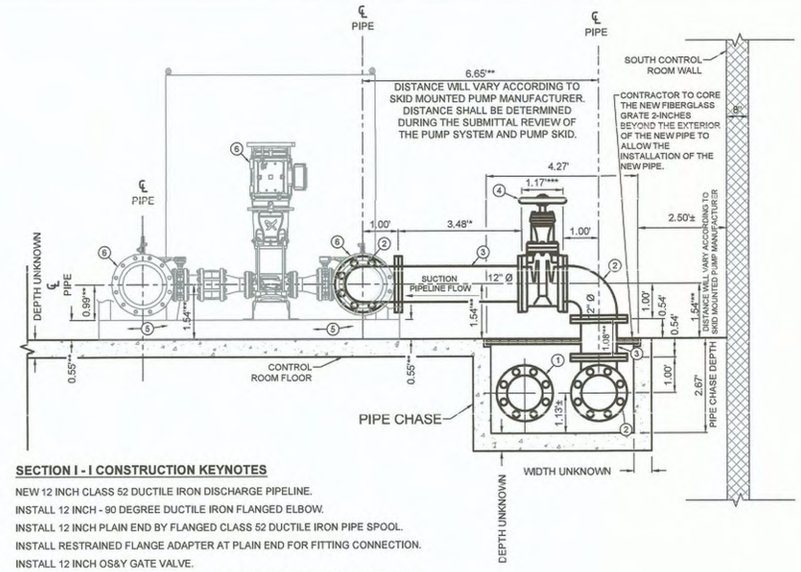
1. EXISTING 18 INCH DUCTILE IRON PIPELINE TO REMAIN.
2. AFTER REMOVAL AND DISPOSAL OF 10 INCH X 18 INCH DUCTILE IRON REDUCER INSTALL NEW 12 INCH X 18 INCH DUCTILE IRON FLANGED ECCENTRIC REDUCER.
3. INSTALL 12 INCH X 12 INCH X 10 INCH DUCTILE IRON FLANGED TEE.
4. INSTALL 10 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
5. INSTALL NEW 10 INCH RESILIENT WEDGE GATE VALVE WITH HAND WHEEL OPERATOR.
6. INSTALL 10-INCH 90 DEGREE DUCTILE IRON FLANGED ELBOW.
7. INSTALL 12 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
8. INSTALL 12 INCH OS&Y GATE VALVE.
9. INSTALL 12 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPELINE. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
10. INSTALL 12 INCH X 12 INCH X 12 INCH DUCTILE IRON FLANGED TEE.
11. INSTALL 8 INCH X 12 INCH FLANGED DUCTILE IRON ECCENTRIC REDUCER.
12. INSTALL 8 INCH FLANGED X PLAIN END CLASS 52 DUCTILE IRON PIPE SECTION. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
13. INSTALL 12 INCH - 90 DEGREE DUCTILE IRON ELBOW.
14. INSTALL NEW PIPE SUPPORTS FOR NEW PIPE SEGMENTS PER DETAIL F ON SHEET 11.
15. EXISTING 8-INCH X 8-INCH X 8-INCH DUCTILE IRON TEE TO REMAIN.
16. EXISTING 8-INCH RESILIENT WEDGE GATE VALVE.
17. REMOVE EXISTING GROUT PATCHED MATERIAL SURROUNDING THE 8-INCH STEEL AND 18-INCH DUCTILE IRON PIPELINES. INSTALL PCC WALL AROUND NEW PIPELINES PER KEYNOTE 53 ON PLAN SHEET 8.

PIPELINE SECTION H - H
SCALE: 1" = 2'
9 | 10

FOR DIMENSIONS WITH AN ASTERISK * SEE PIPE INSTALLATION NOTE ON THIS PLAN SHEET.

**DIMENSION WILL VARY ACCORDING TO SKID MOUNTED PUMP MANUFACTURER. DIMENSIONS TO BE REVIEWED DURING PUMP SKID SUBMITTAL REVIEW.

***VALVE DIMENSIONS WILL VARY DEPENDING ON VALVE MANUFACTURER.



SECTION I - I CONSTRUCTION KEYNOTES

1. NEW 12 INCH CLASS 52 DUCTILE IRON DISCHARGE PIPELINE.
2. INSTALL 12 INCH - 90 DEGREE DUCTILE IRON FLANGED ELBOW.
3. INSTALL 12 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
4. INSTALL 12 INCH OS&Y GATE VALVE.
5. INSTALL PUMP SYSTEM SKID FRAMING. PUMP SYSTEM SKID FRAMING DIMENSIONS SHALL BE DETERMINED BY THE APPROVED SHOP DRAWINGS. THE PUMP SKID FRAMING SYSTEM SHALL BE PROVIDED WITH LIFTING POINTS. THERE SHALL BE A MINIMUM OF 3 FEET OF HORIZONTAL CLEARANCE FROM THE BOOSTER PUMPS AND PIPING AND THE ELECTRICAL PANEL.
6. INSTALL NEW VARIABLE FREQUENCY DRIVE BOOSTER PUMPS, SUCTION PIPING, DISCHARGE PIPING, VALVES AND OTHER PIPING COMPONENTS PER PLAN SHEET 9 AND TECHNICAL SPECIFICATION SECTION 15380.

PIPELINE SECTION I - I
SCALE: 1" = 2'
9 | 10

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN A. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
PIPE SECTIONS

C10
REFERENCE
THG #542.116
SHEET 10 OF 17

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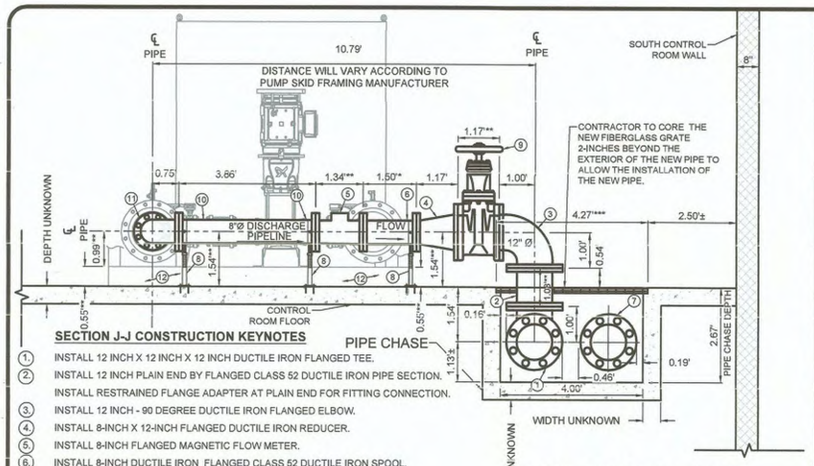


SECTION J-J CONSTRUCTION KEYNOTES

1. INSTALL 12 INCH X 12 INCH X 12 INCH DUCTILE IRON FLANGED TEE.
2. INSTALL 12 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SECTION. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
3. INSTALL 12 INCH - 90 DEGREE DUCTILE IRON FLANGED ELBOW.
4. INSTALL 8-INCH X 12-INCH FLANGED DUCTILE IRON REDUCER.
5. INSTALL 8-INCH FLANGED MAGNETIC FLOW METER.
6. INSTALL 8-INCH DUCTILE IRON FLANGED CLASS 52 DUCTILE IRON SPOOL.
7. NEW 12-INCH CLASS 52 DUCTILE IRON SUCTION PIPELINE.
8. INSTALL PIPE SUPPORT PER DETAIL G ON SHEET 11.
9. INSTALL 12-INCH OS&Y GATE VALVE.
10. INSTALL 8 INCH FLANGED X PLAIN END CLASS 52 DUCTILE IRON PIPE SPOOL. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR REDUCER CONNECTION.
11. INSTALL 8-INCH - 90 DEGREE FLANGED DUCTILE IRON ELBOW.
12. INSTALL PUMP SYSTEM SKID FRAMING. PUMP SYSTEM SKID FRAMING DIMENSIONS SHALL BE DETERMINED BY THE APPROVED SHOP DRAWINGS. THE PUMP SKID FRAMING SYSTEM SHALL BE PROVIDED WITH LIFTING POINTS. THERE SHALL BE A MINIMUM OF 3 FEET OF HORIZONTAL CLEARANCE FROM THE BOOSTER PUMPS AND PIPING AND THE ELECTRICAL PANEL.

NOTES:

* EXACT DIMENSIONS SHALL BE DETERMINED IN THE FIELD DURING THE CONSTRUCTION PHASE. SEE PIPE INSTALLATION NOTE ON THIS PLAN SHEET.

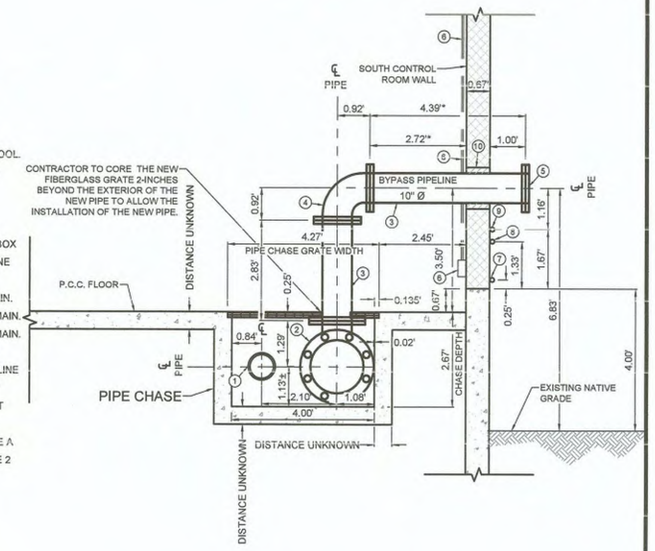
** DIMENSIONS ILLUSTRATED WILL VARY DEPENDING ON THE MANUFACTURER OF THE PUMP STATION, MAGNETIC, FLOWMETER AND VALVE .

*** PIPE CHASE GRATE WIDTH VARIES.

DISCHARGE PIPE SECTION J - J
SCALE: 1" = 2'
9 | 11

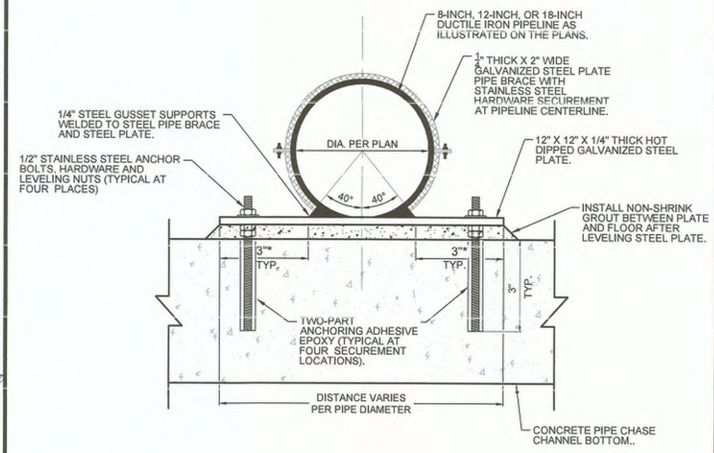
SECTION K-K CONSTRUCTION KEYNOTES

1. INSTALL 8-INCH CLASS 52 DUCTILE IRON PIPELINE.
2. INSTALL 18 INCH X 18 INCH X 10 INCH DUCTILE IRON FLANGED TEE.
3. INSTALL 10-INCH CLASS 52 DUCTILE IRON FLANGED SPOOL.
4. INSTALL 10 INCH - 90 DEGREE DUCTILE IRON FLANGED ELBOW.
5. INSTALL10-INCH DUCTILE IRON BLIND FLANGE.
6. EXISTING ELECTRICAL JUNCTION BOX AND VERTICAL METALLIC CONDUIT EXTENDING FROM THE JUNCTION BOX TO BE RELOCATED TO ACCOMMODATE BYPASS PIPELINE INSTALLATION.
7. EXISTING 1-INCH RIGID ELECTRICAL CONDUIT TO REMAIN.
8. EXISTING 1/2-INCH RIGID ELECTRICAL CONDUIT TO REMAIN.
9. EXISTING 3/4-INCH RIGID ELECTRICAL CONDUIT TO REMAIN.
10. CUT CIRCULAR OPENING IN METAL BUILDING WALL TO ACCOMMODATE NEW 10-INCH DIAMETER BYPASS PIPELINE INSTALLATION. AFTER THE INSTALLATION OF THE NEW 10-INCH DIAMETER BYPASS PIPELINE, INSTALL SEALANT WITHIN THE PIPE OPENING SPACE BETWEEN THE EXTERIOR OF THE NEW PIPELINE AND WALL TO CREATE A SEAL TIGHT CONDITION. SEE CONSTRUCTION KEYNOTE 2 ON SHEET 9.



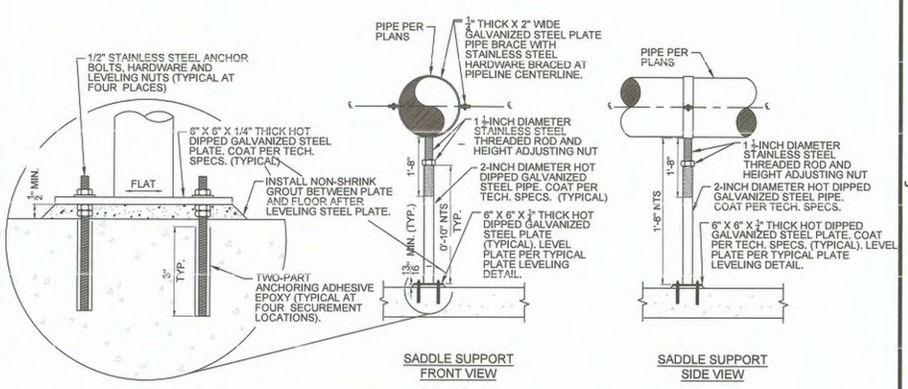
BYPASS PIPE SECTION K - K
SCALE: 1" = 2'
9 | 11

*ADJUST DISTANCE AS REQUIRED TO ACCOMODATE PIPE LOCATION WITHIN THE PIPE CHASE.



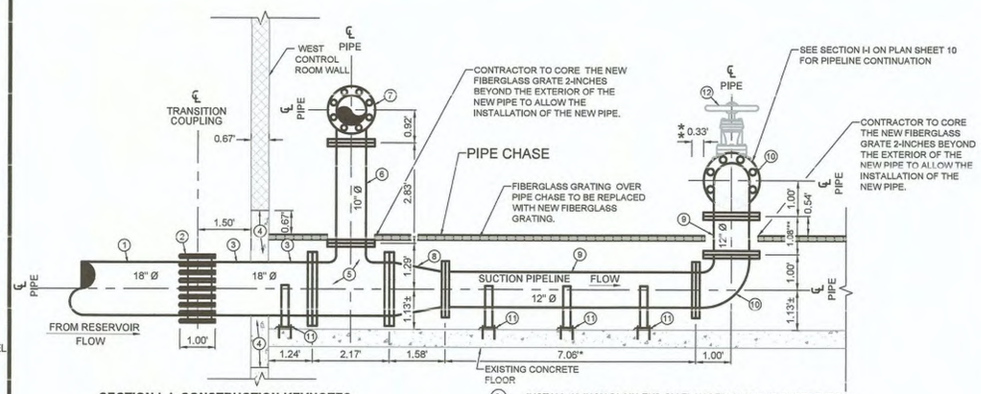
NOTE: PIPE SUPPORT MEMBERS SHALL BE COATED PER PLAN COATING SPECIFICATIONS OR TECHNICAL SPECIFICATIONS.

PIPE SUPPORT DETAIL F
NOT TO SCALE
9,10,11 | 11



NOTE: AS A CLARIFICATION ITEM; COATING OF STEEL PIPE SUPPORT MEMBERS SHALL BE ACCOMPLISHED PER THE TECHNICAL SPECIFICATIONS OR PER THE COATING SPECIFICATION REQUIREMENTS INCLUDED ON THE PLANS. ALL STEEL PIPE SUPPORTS SHALL BE COATED.

PIPE SUPPORT DETAIL G
SCALE: 1" = 2'
9,10,11 | 11



SECTION L-L CONSTRUCTION KEYNOTES

1. EXISTING 18 INCH DUCTILE IRON PIPELINE TO REMAIN.
2. INSTALL 18-INCH DUCTILE IRON TRANSITION COUPLING WITH DUCTILE IRON HARDWARE.
3. INSTALL 18 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPE SPOOL.
4. REMOVE AND REINSTALL EXISTING GROUT PATCHED MASONRY WALL WITH A P.C.C. WALL REPAIR PER KEYNOTE 53 ON PLAN SHEET 8.
5. INSTALL 18 INCH X 18 INCH X 10 INCH DUCTILE IRON FLANGED TEE.
6. INSTALL 10 INCH CLASS 52 DUCTILE IRON FLANGED SPOOL.
7. INSTALL 10-INCH-90 DEGREE DUCTILE IRON FLANGED ELBOW.
8. INSTALL 12 INCH X 18 INCH FLANGED DUCTILE IRON REDUCER.
9. INSTALL 12 INCH PLAIN END BY FLANGED CLASS 52 DUCTILE IRON PIPELINE. INSTALL RESTRAINED FLANGE ADAPTER AT PLAIN END FOR FITTING CONNECTION.
10. INSTALL 12-INCH-90 DEGREE DUCTILE IRON FLANGED ELBOW.
11. INSTALL NEW PIPE SUPPORTS FOR NEW PIPELINE SEGMENTS PER DETAIL F 9,10,11 11.
12. INSTALL 12-INCH OS&Y GATE VALVE.

FOR DIMENSIONS WITH AN ASTERISK * SEE PIPE INSTALLATION NOTE ON THIS PLAN SHEET.

**VALVE DIMENSIONS WILL VARY DEPENDING ON VALVE MANUFACTURER

SUCTION PIPE SECTION L - L
SCALE: 1" = 2'
9 | 11

* **PIPE INSTALLATION NOTE:**

THE DIMENSIONS NOTED WITH AN ASTERISK ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL OBTAIN FIELD MEASUREMENTS AND MODIFY THE PIPELINE DISTANCES TO THE EXACT REQUIREMENTS AT THE TIME OF CONSTRUCTION. DIFFERENCES IN THE MANUFACTURER'S LENGTHS FOR THE FLOWMETER, VALVES, SKID MOUNTED PUMPING SYSTEM AND OTHER ITEMS WILL CONTRIBUTE TO THE REQUIREMENT TO ADJUST PIPE DIMENSION LENGTHS. ALTHOUGH IT HAS BEEN ATTEMPTED TO MITIGATE ALL POTENTIAL CONFLICTS DURING THE PREPARATION OF THESE PLANS; UNDETECTED OR UNFORESEEN CONFLICTS MAY EXIST WHICH WILL REQUIRE PIPELINE DIMENSION MODIFICATIONS. IT SHOULD ALSO BE NOTED THAT PIPING ALIGNMENTS MAY NOT BE PARALLEL AND PERPENDICULAR WHICH MAY RESULT IN SLIGHT DIMENSION ADJUSTMENTS. PIPE SECTIONS WHICH ARE NOT PARALLEL AND PERPENDICULAR MAY STRESS THE PIPE SECTIONS AT THE FLANGED CONNECTIONS. THE CONTRACTOR SHALL MODIFY PIPING ALIGNMENTS TO THE EXTENT POSSIBLE TO MAINTAIN PIPING ALIGNMENTS PARALLEL AND PERPENDICULAR. IN THE EVENT IT IS NOT POSSIBLE TO MAINTAIN PIPING ALIGNMENTS PARALLEL AND PERPENDICULAR IT MAY BE NECESSARY TO INSTALL DUCTILE IRON TRANSITION COUPLINGS ALONG THE PIPING ALIGNMENTS TO ALLEVIATE STRESSING THE PIPING AT THE FLANGED CONNECTION POINTS. RESTRAINED FLANGE ADAPTERS ARE REQUIRED ALONG SEVERAL PIPE SECTIONS PER THE CONSTRUCTION KEYNOTES WHICH SHOULD ALLOW A MINIMAL AMOUNT OF PIPE DIMENSION LATITUDE AND PIPE ALIGNMENT FLEXIBILITY.

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN L. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
PIPE SECTIONS AND DETAILS

C11
REFERENCE
THG #542.116
SHEET 11 OF 17

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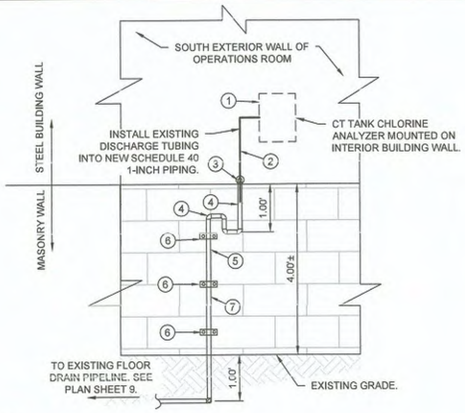
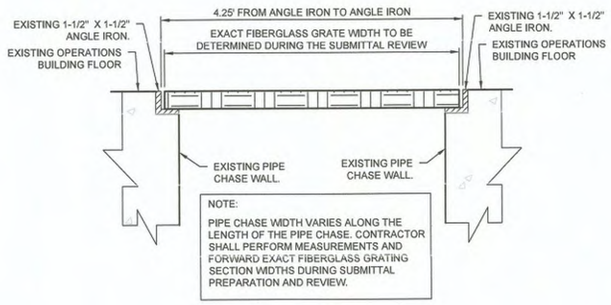


KEYNOTES:

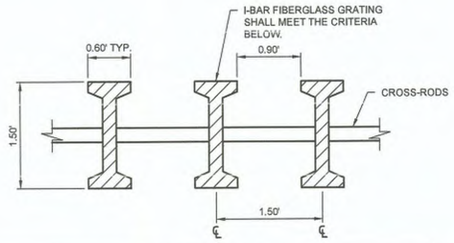
1. EXISTING CT TANK CHLORINE ANALYZER MOUNTED ON THE INTERIOR WALL OF THE OPERATIONS BUILDING. SEE PLAN SHEET 9.
2. INSTALL EXISTING CT TANK CHLORINE ANALYZER DISCHARGE TUBING INTO NEW 1-INCH PVC DISCHARGE PIPING.
3. INSTALL 1-INCH PVC PIPE SLEEVE THROUGH THE METAL BUILDING WALL. INSTALL SEALANT IN THE PIPE OPENING SPACE BETWEEN THE EXTERIOR OF THE NEW PVC PIPE SECTION AND WALL TO CREATE A SEAL-TIGHT CONDITION. SEE CONSTRUCTION KEYNOTE 2 ON PLAN SHEET 9.
4. INSTALL 1-INCH SCHEDULE 40 PVC PIPING FITTINGS ON THE EXTERIOR WALL TO CREATE A TRAP.
5. INSTALL 1 INCH SCHEDULE 40 PVC PIPELINE ALONG THE EXTERIOR OF THE EXISTING MASONRY WALL TO A POINT 1-FOOT BELOW THE EXISTING NATIVE GRADE.
6. INSTALL GALVANIZED STEEL PIPE BRACKETS. SECURE THE PIPE BRACKETS AND 1-INCH SCHEDULE 40 PVC PIPE TO THE MASONRY WALL WITH EXPANSION BOLTS.
7. PAINT THE 1-INCH SCHEDULE 40 PVC PIPE INSTALLED ON THE OUTSIDE WALL WITH A WHITE LATEX PAINT TO PROVIDE U.V. PROTECTION.

CHLORINE ANALYZER DISCHARGE SECTION (M-M / 9 | 12)

NOT TO SCALE



PIPE CHASE FIBERGLASS GRATING SECTION DETAIL



FIBERGLASS GRATING LOAD TABLE

LBS/SF - DEFLECTION IN INCHES

SPAN	LOAD TYPE	50	100	150	200	250	300	400	500	750	1000	SLF 2.1	DEFL
48"	UNIFORM	0.080	0.133	0.200	0.266	0.333	0.400	0.533	0.666	--	--	1017	1.354
	CONCEN-TRATED	0.032	0.053	0.080	0.107	0.133	0.160	0.213	0.266	0.400	0.533	2033	1.083
54"	UNIFORM	0.127	0.211	0.317	0.422	0.528	0.633	--	--	--	--	777	1.640
	CONCEN-TRATED	0.045	0.075	0.113	0.150	0.188	0.225	0.300	0.375	0.563	--	1748	1.312

RESIN: SPF, SVF
COLOR: YELLOW
BB SIZE: 1.500" HT X 0.600" TOP FLANGE WIDTH
SURFACE: MEDIUM GRIT
OPEN AREA: 60%
LBS/SF: 300
WIDTH: 48", 54"
NOTE: FIBER GLASS GRATING IS TO BE CUT TO FIT

I-BAR FIBERGLASS GRATING SECTION DETAIL AND CRITERIA

I-BAR FIBERGLASS GRATING DETAIL (H / 9 | 12)

NOT TO SCALE

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN J. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.
7/30/24 DATE — 09/30/25 REG. EXP.

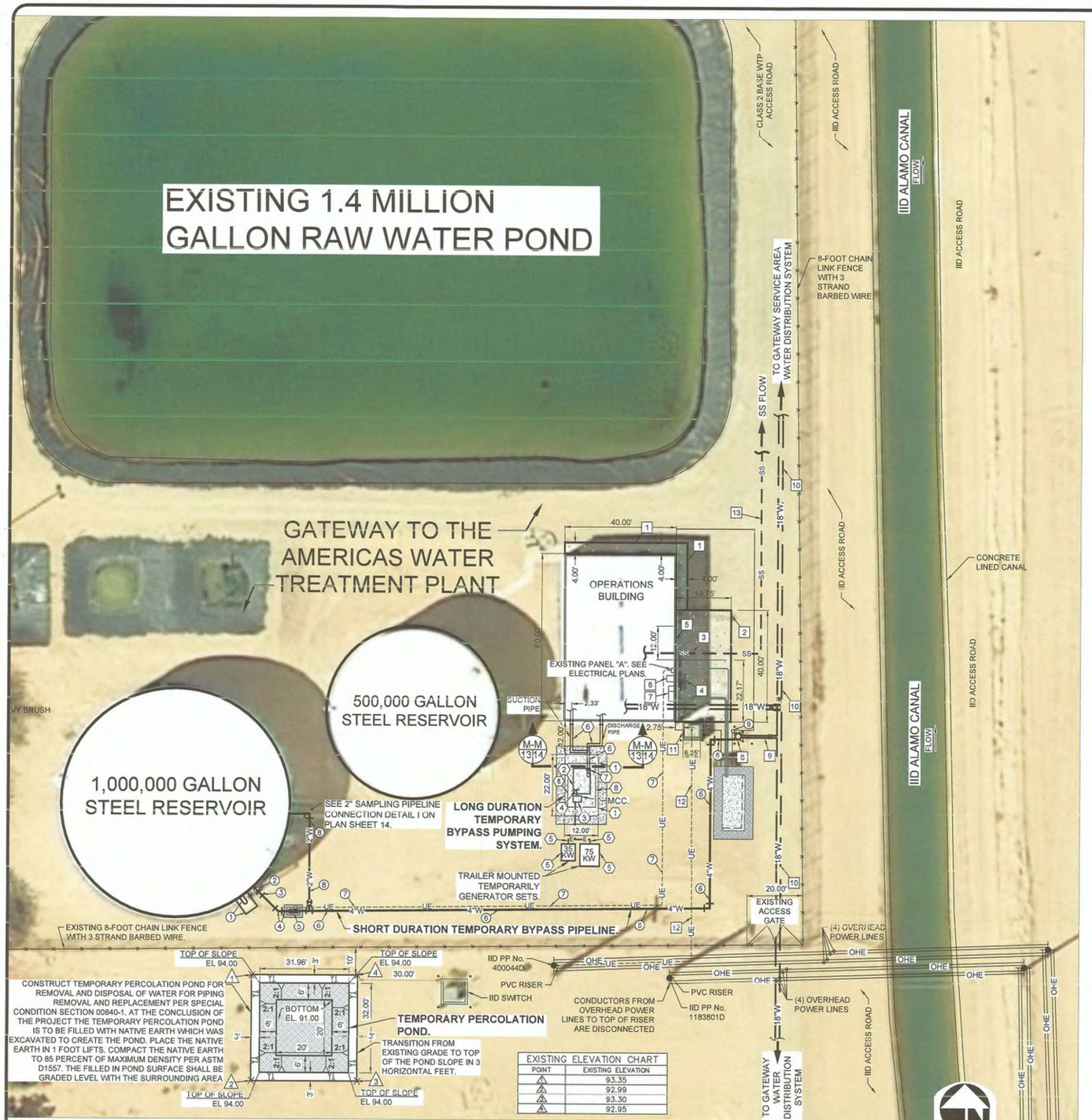
PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA
WATER TREATMENT PLANT IMPROVEMENTS
PIPE SECTIONS AND DETAILS

C12
REFERENCE
THG #542.116
SHEET 12 OF 17

C:\Users\fcastro.HOLT-LEGION-MIN\The Holt Group\542.116 - Documents\3024 - DOCUMENTS\CAD 2024\542.116 - SHEET 10 & 11_PIPE SECTIONS AND DETAILS.dwg 06/28/2024 16:17



EXISTING ELEVATION CHART	
POINT	EXISTING ELEVATION
A	93.35
B	92.99
C	93.30
D	92.95

SHORT DURATION AND LONG TERM DURATION BYPASS

EXISTING KEYNOTES

1. EXISTING PCC SIDEWALK.
2. EXISTING PCC SLAB.
3. SEWER CLEAN OUT.
4. EXISTING PCC WHEEL STOPS.
5. EXISTING ROLL UP DOOR.
6. PAD MOUNTED TRANSFORMER.
7. 600 AMP SWITCHBOARD/LOAD CENTER.
8. EXISTING FIRE HYDRANT WITH BOLLARDS. CONNECT TEMPORARY SHORT DURATION TEMPORARY BYPASS PIPELINE TO EXISTING FIRE HYDRANT.
9. EXISTING UNDERGROUND WATER PIPELINE DOWNSTREAM OF FIRE HYDRANT TO REMAIN.
10. EXISTING 18 INCH WATER DISTRIBUTION PIPELINE.
11. IID PAD MOUNTED TRANSFORMER.
12. UNDERGROUND PRIMARY ELECTRICAL CONDUIT AND CONDUCTORS. EXACT LOCATION AND ROUTING OF THE UNDERGROUND PRIMARY ELECTRICAL CONDUIT AND CONDUCTORS IS UNKNOWN. CONTRACTOR SHALL COORDINATE POTHOLING OF THE EXISTING UNDERGROUND PRIMARY ELECTRICAL CONDUIT AND CONDUCTORS WITH THE IID ENERGY DEPARTMENT PRIOR TO THE START OF THE PHYSICAL CONSTRUCTION WORK.
13. EXISTING SANITARY SEWER PIPELINE. EXACT LOCATION AND ROUTING OF THE UNDERGROUND SANITARY SEWER PIPELINES IS UNKNOWN.

SHORT DURATION TEMPORARY BYPASS KEYNOTES

1. EXISTING RESERVOIR OVERFLOW PIPELINE AND PCC SPLASH PAD TO REMAIN.
2. EXISTING 8 INCH STEEL RESERVOIR OUTLET PIPELINE AND EXISTING 8 INCH NON RISING STEM (NRS) RESILIENT WEDGE GATE VALVE WITH 150 POUND FLANGED END TO REMAIN.
3. CONNECT NEW 4 INCH X 8 INCH DUCTILE IRON REDUCER FITTING TO THE EXISTING 8 INCH NRS RESILIENT WEDGE GATE VALVE.
4. INSTALL 4 INCH AWWA C-900 DR 18 PVC PIPING, FITTINGS, REDUCERS, ADAPTERS AND ALL OTHER REQUIRED PIPING COMPONENTS FROM THE NEW 4 INCH X 8 INCH DUCTILE IRON REDUCER TO THE PUMP SUCTION INLET.
5. CONNECT 110 GALLON PER MINUTE AT 127 FOOT TOTAL DYNAMIC HEAD, 3530 RPM CENTRIFUGAL PUMP WITH APPROPRIATE HARDWARE TO A 1 FOOT WIDE X 2.5 FOOT LONG X 1 FOOT DEEP PCC PUMP PEDESTAL SLAB PLACED ON 1 FOOT OF CLASS 2 BASE COMPACTED TO 95 PERCENT MAXIMUM DENSITY PER ASTM D-1557. THE NATIONAL SANITATION FOUNDATION (NSF) 61 CERTIFIED CENTRIFUGAL PUMP SHALL POSSESS A 1.5 INCH SUCTION AND 1.25 INCH DISCHARGE. PROVIDE REDUCER FITTINGS UPSTREAM AND DOWNSTREAM OF THE PUMP TO TRANSITION FROM AND TO THE UPSTREAM AND DOWNSTREAM 4 INCH AWWA C-900, DR18 PVC WATER PIPELINE. THE PUMP MOTOR SHALL BE A 7.5 HP, 3,600 RPM, 208 VOLT, 3 PHASE, TEFC MOTOR WITH A 1.15 SERVICE FACTOR. THE PUMP SHALL BE A GRUNDFOS SERIES LC 12709 END SUCTION CENTRIFUGAL PUMP, CLOSED COUPLED; OR AN APPROVED EQUAL.
6. INSTALL 4 INCH AWWA C-900 DR 18 PVC PIPING, DUCTILE IRON AWWA C110 FITTINGS, DUCTILE IRON REDUCERS, ADAPTERS AND ALL OTHER REQUIRED PIPING COMPONENTS FROM THE CENTRIFUGAL PUMPING UNIT TO THE EXISTING FIRE HYDRANT LOCATED SOUTHEAST OF THE EXISTING OPERATIONS BUILDING. THE 4 INCH AWWA C-900 DR 18 PVC PIPELINE SHALL BE INSTALLED WITH DUCTILE IRON JOINT RESTRAINTS. THE 4 INCH AWWA C-900 DR 18 PVC PIPELINE CAN BE PLACED ABOVE GRADE OR BELOW GRADE, AT THE CONTRACTOR'S OPTION.
7. INSTALL ELECTRICAL CIRCUITRY AND DISCONNECT SWITCH FROM EXISTING PANEL "A" INSIDE THE OPERATIONS BUILDING TO THE SHORT DURATION TEMPORARY CENTRIFUGAL PUMP. A DISCONNECT SWITCH SHALL BE LOCATED AT THE CENTRIFUGAL PUMP CONCRETE PEDESTAL. SEE THE ELECTRICAL PLANS FOR ELECTRICAL REQUIREMENTS.
8. INSTALL A 2 INCH SCHEDULE 80 PVC PIPELINE WITH REQUIRED FITTINGS FROM A POINT ALONG THE SHORT DURATION TEMPORARY BYPASS CENTRIFUGAL PUMP DOWNSTREAM PIPELINE TO THE EXISTING 2 INCH SCHEDULE 80 PVC SAMPLING PIPELINE CONNECTED TO THE EXISTING 1,000,000 GALLON GROUND STORAGE RESERVOIR. SEE DETAIL I ON PLAN SHEET 14.
9. CONNECT 0 TO 100 PSI PRESSURE GAUGE TO FIRE HYDRANT TO MONITOR SHORT DURATION TEMPORARY BYPASS PRESSURE. MAINTAIN BY THE PASS FLOW PRESSURE AT 55 PSI. OPEN 2" PRESSURE RELIEF VALVE AT 1,000,000 GALLON GROUND STORGE RESERVOIR, AS REQUIRED, TO MAINTAIN THE BYPASS FLOW PRESSURE AT 55 PSI.

SHORT DURATION TEMPORARY BYPASS NOTES

1. THE SHORT TERM TEMPORARY BYPASS COMPONENTS INCLUDING THE PIPE FITTINGS, REDUCERS, PIPELINES, CENTRIFUGAL PUMP AND ALL OTHER COMPONENTS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651-23 PROCEDURES PRIOR TO PLACING THE SHORT DURATION TEMPORARY BYPASS SYSTEM IN SERVICE.
2. THE SHORT TERM PIPING COMPONENTS INCLUDING BUT NOT LIMITED TO THE PVC PIPING, DUCTILE IRON REDUCERS, ADAPTERS, CENTRIFUGAL PUMP, DUCTILE IRON JOINT RESTRAINTS AND ALL OTHER ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AT THE CONCLUSION OF THE SHORT TERM BYPASS PUMPING ACTIVITIES. THE CONTRACTOR SHALL REMOVE THE SHORT DURATION BYPASS COMPONENTS FROM THE PROJECT SITE WITHIN 5 CALENDAR DAYS AFTER THE SHORT TERM BYPASSING ACTIVITIES ARE COMPLETED.
3. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE SHORT DURATION TEMPORARY BYPASS CENTRIFUGAL PUMP PCC CONCRETE PEDESTAL WITHIN 5 CALENDAR DAYS AFTER SHORT DURATION TEMPORARY BYPASS ACTIVITIES ARE COMPLETED.
4. THE SHORT DURATION UNDERGROUND ELECTRICAL CIRCUITRY, INCLUDING THE DISCONNECT SWITCH AT THE CENTRIFUGAL PUMP SHALL BECOME THE PROPERTY OF THE CONTRACTOR AFTER THE SHORT DURATION BYPASSING ACTIVITIES ARE COMPLETED. THE CONTRACTOR SHALL REMOVE THE ELECTRICAL CIRCUITRY (CONDUIT AND CONDUCTORS) AND DISCONNECT SWITCH FROM THE PROJECT SITE WITHIN 5 CALENDAR DAYS AFTER SHORT DURATION TEMPORARY BYPASS ACTIVITIES ARE COMPLETED.

LONG TERM DURATION TEMPORARY BYPASS KEYNOTES

1. INSTALL A 12 FOOT WIDE X 22 FOOT LONG X 8 INCH DEEP PCC SLAB PLACED ON A MINIMUM OF 18 INCHES OF CLASS 2 BASE PER SECTION M-M ON PLAN SHEET 14. THE PCC SLAB SHALL BE INSTALLED A MINIMUM OF 10 DAYS PRIOR TO THE COMMENCEMENT OF THE LONG TERM DURATION TEMPORARY BYPASS.
2. INSTALL EXISTING BOOSTER PUMP STATION PUMP SKID LOCATED IN THE OPERATIONS BUILDING TO THE NEWLY CONSTRUCTED PCC SLAB DURING THE 48 HOUR PERIOD AFTER THE SHORT DURATION TEMPORARY BYPASS IS COMMENCED.
3. INSTALL THE EXISTING BOOSTER PUMP STATION NEMA 1 CONTROL PANEL LOCATED IN THE OPERATIONS BUILDING WITHIN A NEMA 3R DEAD FRONT ENCLOSURE. SECURE THE CONTROL PANEL AND DEAD FRONT ENCLOSURE TO THE NEWLY CONSTRUCTED PCC SLAB DURING THE 48 HOUR PERIOD AFTER THE SHORT DURATION TEMPORARY BYPASS COMMENCES.
4. INSTALL ALL ELECTRICAL CIRCUITRY BETWEEN THE EXISTING BOOSTER PUMP STATION CONTROL PANEL AND EXISTING BOOSTER PUMP STATION DURING THE 48 HOUR PERIOD AFTER THE SHORT DURATION TEMPORARY BYPASS COMMENCES. INSTALL ANY REQUIRED HYDRAULIC PIPELINES AND PIPE CONNECTIONS REQUIRED FOR THE EXISTING ELECTRICAL PANEL TO OPERATE THE EXISTING BOOSTER PUMP STATION WITHIN A PRESSURE RANGE FROM 74 PSI TO 82 PSI DURING THE 48 HOUR PERIOD AFTER THE SHORT DURATION TEMPORARY BYPASS COMMENCES.
5. PROVIDE TWO (2) PORTABLE TRAILER MOUNTED GENERATOR SETS TO PROVIDE AN ELECTRICAL POWER SUPPLY TO THE RELOCATED EXISTING BOOSTER PUMP STATION CONTROL PANEL. GRADE THE EXISTING NATIVE AREA THE TRAILER MOUNTED GENERATOR SETS ARE TO BE POSITIONED LEVEL, AS REQUIRED. ONE OF THE GENERATOR SETS SHALL PROVIDE AN ELECTRICAL POWER SUPPLY TO OPERATE EITHER A 10 HP, 480 VOLT, 3 PHASE WATER PUMP OR 20 HP, 480 VOLT, 3 PHASE WATER PUMP. THE OTHER TRAILER MOUNTED GENERATOR SET SHALL PROVIDE AN ELECTRICAL POWER SUPPLY TO OPERATE A 50 HP, 480 VOLT, 3 PHASE WATER PUMP FOR BACKWASHING THE WATER TREATMENT PLANT FILTERS OR FOR PROVIDING A 480 VOLT, 3 PHASE ELECTRICAL POWER SUPPLY TO OPERATE (1) 10 HP WATER PUMP, (1) 20 HP WATER PUMP AND (2) 50 HP WATER PUMPS (130 HP TOTAL) FOR FIRE FLOW DEMANDS. IT IS ESTIMATED THAT THE SMALLER TRAILER MOUNTED GENERATOR SET WILL BE SIZED AT APPROXIMATELY 35 KW, 277/480 VOLT, 3 PHASE, 4 WIRE AND THE LARGER GENERATOR SET WILL BE SIZED AT APPROXIMATELY 75 KW, 277/480 VOLT, 3 PHASE, 4 WIRE. THE EXACT SIZE OF THE TRAILER MOUNTED GENERATOR SETS SHALL BE DETERMINED DURING THE SUBMITTAL REVIEW PROCESS. A CONTROL METHOD TO AUTOMATICALLY ENERGIZE AND DE-ENERGIZE THE SMALL GENERATOR SUPPLYING POWER FOR THE DOMESTIC WATER SUPPLY AND LARGE GENERATOR SUPPLYING POWER FOR FIRE FLOW DEMAND SHALL BE PROVIDED. THE CONTRACTOR SHALL SUPPLY AN ELECTRICAL DIAGRAM SUBMITTAL DOCUMENT ILLUSTRATING THE POWER AND CONTROL CIRCUITRY TO BE PROVIDED BETWEEN THE GENERATOR SETS AND THE RELOCATED EXISTING BOOSTER PUMP STATION CONTROL PANEL FOR REVIEW BY THE ELECTRICAL DESIGN ENGINEER. SEE THE "LONG DURATION TEMPORARY BYPASS MAJOR ITEMS" – ITEM NUMBER 2 OF SPECIAL CONDITION SECTION 00840-1 FOR A MORE COMPREHENSIVE PORTABLE GENERATOR SET DESCRIPTION.
6. INSTALL NEW 10 INCH INLET AND OUTLET PIPING CONSISTING OF 10 INCH AWWA C900-DR 18 PVC PIPELINE SECTIONS AND C110 DUCTILE IRON FITTINGS WITH RESTRAINED JOINT FITTINGS FROM THE CONTROL BUILDING TO THE EXISTING SKID MOUNTED BOOSTER PUMP STATION. THE 10 INCH INLET AND OUTLET PIPING IS TO BE CONSTRUCTED DURING THE 48 HOUR PERIOD AFTER THE SHORT DURATION TEMPORARY BYPASS COMMENCES. THE SUCTION PIPING IS TO BE CONNECTED TO THE PIPE SECTION CALLED OUT BY SECTION K-K ON PLAN SHEET 9 AND THE DISCHARGE PIPING IS TO BE CONNECTED TO THE PIPE SECTION CALLED OUT BY SECTION O-O ON PLAN SHEET 9. REFER TO SECTION K-K ON PLAN SHEET 11 AND SECTION O-O ON PLAN SHEET 10 FOR THE VERTICAL DISTANCE OF INLET AND OUTLET PIPELINES ABOVE THE OPERATIONS ROOM FLOOR. THE CONTRACTOR SHALL FIELD CONSTRUCT THE INLET AND OUTLET PIPELINES AND FITTINGS BETWEEN THE CONTROL BUILDING AND BOOSTER PUMP STATION SKID INLET AND OUTLET PIPELINE CONNECTIONS DURING THE 48 HOUR SHORT DURATION BYPASS PUMPING PERIOD.
7. 10 INCH DIAMETER LOWER AND UPPER PIPE POINTS OF CONNECTION EXTENDING FROM THE SKID MOUNTED DISTRIBUTION PUMP STATION.
8. INSTALL 10 FOOT WIDE X 20 FOOT LONG X 9 FOOT HIGH TEMPORARY SHADE STRUCTURE (EGGSHELL METAL CARPORT) OVER THE EXISTING PUMP STATION SKID AND CONTROL PANEL/DEAD FRONT ENCLOSURE. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF SHADE STRUCTURE FOR REVIEW AND APPROVAL BY THE ENGINEER. THE SHADE STRUCTURE SHALL BE CONSTRUCTED DURING THE 48 HOUR SHORT DURATION BYPASS PUMPING PERIOD.

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES G. "JACK" HOLT — 31773 R.C.E. No.
07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN A. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS
SHORT DURATION AND LONG TERM DURATION BYPASS SYSTEMS

C13
REFERENCE
THG #542.116
SHEET 13 OF 17

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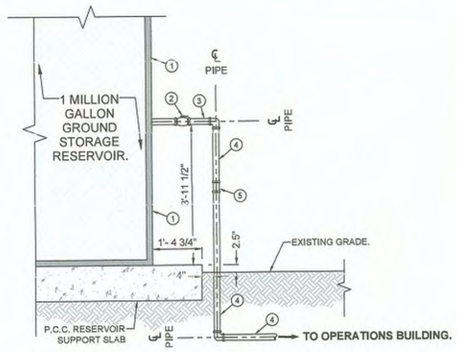
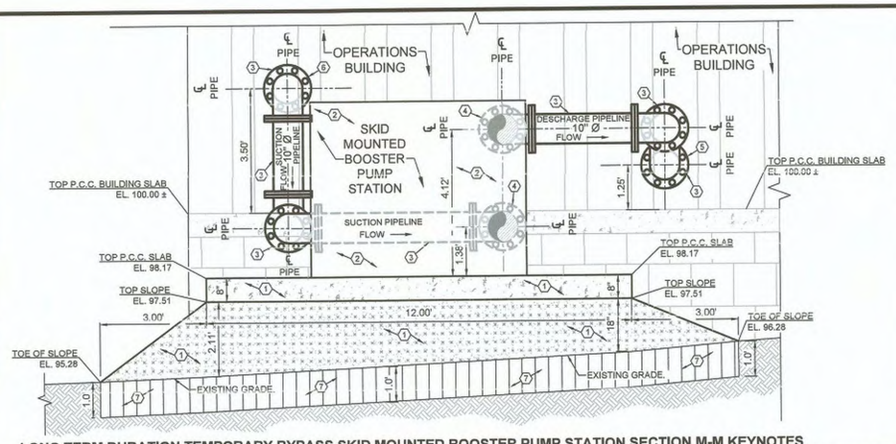


EXISTING 2" SAMPLING PIPELINE TO BE TEMPORARILY USED FOR FOR A PRESSURE RELIEF PIPELINE - KEYNOTES

1. EXISTING STEEL TANK WALL
2. EXISTING 2" BRASS BALL VALVE WITH OPERATOR HANDLE.
3. EXISTING 2" SCHEDULE 80 PVC SAMPLING PIPELINE.
4. EXISTING 2" SCHEDULE 80 PVC PIPING TYPICAL.
5. EXISTING 2" SCHEDULE 80 PVC UNION. DISCONNECT UNION AND CONNECT 2" SCHEDULE 80 PVC PRESSURE BLOWOFF PIPELINE PER SHORT DURATION TEMPORARY BYPASS KEYNOTE 8 ON PLAN SHEET 13. AFTER THE SHORT TIME DURATION TEMPORARY BYPASSING IS CONCLUDED REASSEMBLE THE 2" SAMPLING PIPELINE TO ITS ORIGINAL CONDITION.

EXISTING 2" SAMPLING PIPELINE TO BE TEMPORARILY USED FOR FOR A PRESSURE RELIEF PIPELINE - DETAIL I 13 14

SCALE: 1" = 2'

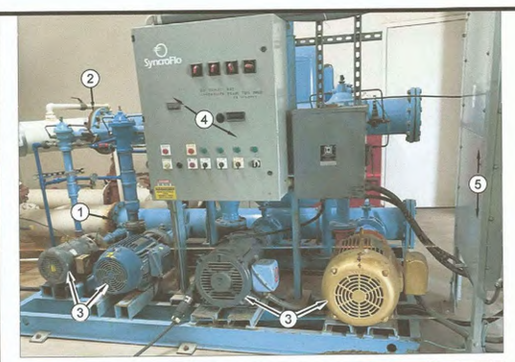


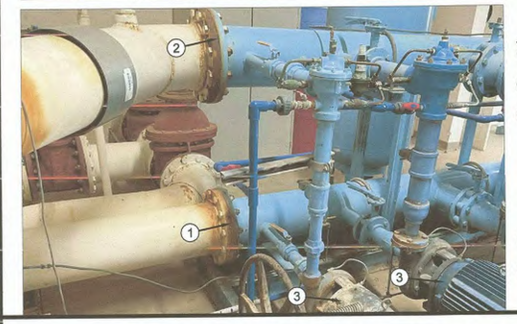
LONG TERM DURATION TEMPORARY BYPASS SKID MOUNTED BOOSTER PUMP STATION SECTION M-M KEYNOTES

1. INSTALL A 12 FOOT WIDE X 22 FOOT LONG X 8 INCH DEEP PCC SLAB PLACED ON A MINIMUM OF 18 INCHES OF CLASS 2 BASE SHALL BE PLACED IN MAXIMUM 9 INCH LIFTS AND BE COMPACTED TO 95 PERCENT OF THE MAXIMUM DENSITY PER ASTM D 1557 . THE PCC SLAB SHALL BE INSTALLED A MINIMUM OF 10 DAYS PRIOR TO THE COMMENCEMENT OF THE LONG TERM DURATION TEMPORARY BYPASS. THE P.C.C. SHALL CONTAIN 7 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE. THE CONCRETE SURFACE SHALL BE DOUBLE TOWELED WITH A LIGHT BROOM FINISH. SEE PHOTOS OF THE EXISTING BOOSTER PUMP STATION PER DETAIL J ON THIS PLAN SHEET.
2. RELOCATE AND INSTALL EXISTING BOOSTER PUMP STATION PUMP SKID LOCATED IN THE OPERATIONS BUILDING TO THE NEWLY CONSTRUCTED PCC SLAB DURING THE 48 HOUR PERIOD AFTER THE SHORT DURATION TEMPORARY BYPASS IS COMMENCED.
3. INSTALL NEW 10 INCH INLET AND OUTLET PIPING CONSISTING OF 10 INCH AWWA C900-DR 18 PVC PIPELINE SECTIONS AND AWWA C110 DUCTILE IRON FITTINGS WITH RESTRAINED JOINT FITTINGS FROM THE OPERATIONS BUILDING TO THE RELOCATED EXISTING SKID MOUNTED BOOSTER PUMP STATION. THE 10 INCH INLET AND OUTLET PIPING IS TO BE CONSTRUCTED DURING THE 48 HOUR PERIOD AFTER THE SHORT DURATION TEMPORARY BYPASS COMMENCES. THE SUCTION PIPING IS TO BE CONNECTED TO THE PIPE SECTION CALLED OUT BY SECTION K-K ON PLAN SHEET 9 AND THE DISCHARGE PIPING IS TO BE CONNECTED TO THE PIPE SECTION CALLED OUT BY SECTION O-O ON PLAN SHEET 9. REFER TO SECTION K-K ON PLAN SHEET 11 AND SECTION O-O ON PLAN SHEET 10 FOR THE VERTICAL DISTANCE OF INLET AND OUTLET PIPELINES ABOVE THE OPERATIONS ROOM FLOOR. THE CONTRACTOR SHALL FIELD CONSTRUCT THE INLET AND OUTLET PIPELINES AND FITTINGS BETWEEN THE CONTROL BUILDING PIPE SECTIONS AND BOOSTER PUMP STATION SKID INLET AND OUTLET PIPELINE CONNECTIONS DURING THE 48 HOUR SHORT DURATION BYPASS PUMPING PERIOD.
4. 10" LOWER AND UPPER STEEL PIPE CONNECTION POINTS EXTENDING FROM THE SKID MOUNTED DISTRIBUTION PUMP STATION.
5. FLANGED POINT OF CONNECTION TO OUTLET PIPE SECTION O-O. SEE PLAN SHEET 9 AND 10.
6. FLANGED POINT OF CONNECTION TO INLET PIPE SECTION K-K. SEE PLAN SHEET 9 AND 11.
7. SCARIFY AND COMPACT NATIVE MATERIAL BENEATH THE SKID MOUNTED BOOSTER PUMP STATION CLASS 2 BASE SUPPORT PAD TO 90 PERCENT OF MAXIMUM DENSITY PER ASTM D1557.

LONG TERM DURATION TEMPORARY BYPASS SECTION M-M 13 14

SCALE: 1" = 2'



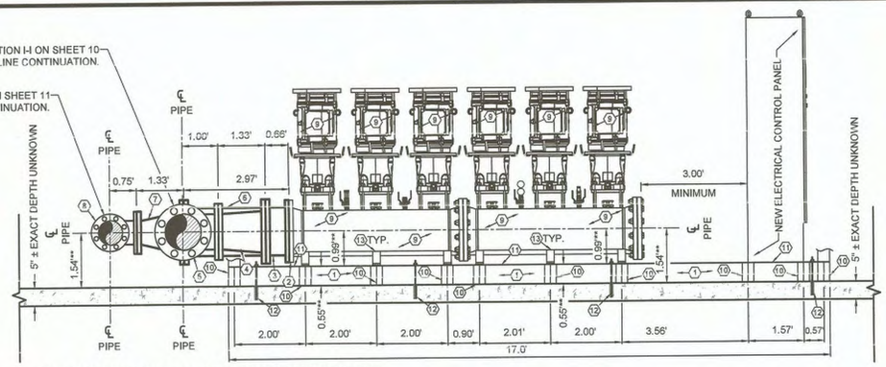


EXISTING SKID MOUNTED BOOSTER PUMP STATION DETAIL J KEYNOTES

1. 10" LOWER (SUCTION SIDE) STEEL PIPE POINT OF CONNECTION TO THE SKID MOUNTED DISTRIBUTION PUMP STATION. SEE KEYNOTE 4 OF SECTION M-M.
2. 10" UPPER (DISCHARGE SIDE) STEEL PIPE POINT OF CONNECTION TO THE SKID MOUNTED DISTRIBUTION PUMP STATION. SEE KEYNOTE 4 OF SECTION M-M.
3. EXISTING CENTRIFUGAL BOOSTER PUMPS. THERE IS ONE (1) - 100 GPM - 10 HP, ONE (1) - 250 GPM - 20 HP AND TWO (2) - 750 GPM - 50 HP CENTRIFUGAL PUMPS. THE 480 VOLTS, 3 PHASE, 4 WIRE PUMP MOTORS ARE CONTROLLED BY THE EXISTING BOOSTER PUMP ELECTRICAL PANEL AND ARE SEQUENCED TO OPERATE IN A PRESSURE RANGE BETWEEN 68 AND 78 PSI. THE EXISTING BOOSTER PUMP STATION DELIVERS A POTABLE WATER SUPPLY TO THE GATEWAY OF AMERICA SERVICE AREA WATER PIPELINE DISTRIBUTION SYSTEM. SEE SPECIAL CONDITION SECTION 00840-1 FOR A MORE DETAILED DESCRIPTION REGARDING THE REMOVAL AND RE-INSTALLATION OF THE EXISTING SKID MOUNTED BOOSTER PUMP STATION FOR THE LONG DURATION TEMPORARY BYPASS.
4. EXISTING BOOSTER PUMP STATION CONTROL PANEL TO BE RELOCATED PER LONG TERM BYPASS KEYNOTE 3 ON PLAN SHEET 13.
5. EXISTING FUNCTIONAL BOOSTER PUMP STATION ELECTRICAL CONTROL PANEL.

EXISTING SKID MOUNTED BOOSTER PUMP STATION - DETAIL J 14 14

NOT TO SCALE



NOTE: ** DIMENSION WILL BE DETERMINED BY SKID MOUNTED PUMP STATION MANUFACTURER OR MAGNETIC FLOW METER MANUFACTURER AS APPLICABLE.

NEW DISTRIBUTION PUMPING SYSTEM SECTION N-N KEYNOTES

1. INSTALL A PUMP SKID FRAME PER THE INDICATED DIMENSIONS ON THIS CROSS SECTION AND PLAN SHEET 9. PUMP SKID LIFTING POINTS SHALL BE PROVIDED. A MINIMUM CLEARANCE OF THREE FEET FROM THE PUMPS AND PIPING TO THE ELECTRICAL PANEL SHALL BE PROVIDED. PRE-ENGINEERED SHOP DRAWINGS SHALL BE PROVIDED FOR THE PUMP SKID FRAME FOR REVIEW AND APPROVAL BY THE ENGINEER. THE PUMP SKID SHALL SUPPORT THE FOLLOWING WEIGHTS: BOOSTER PUMP AND PIPING WITHOUT WATER - 7,227 LBS ; BOOSTER PUMPS AND PIPING WITH WATER - 9,001 LBS ; THE ELECTRICAL PANEL WEIGHS 942 LBS.
2. POINT OF CONNECTION WITH SKID MOUNTED PUMP PIPING.
3. INSTALL 14-INCH DUCTILE IRON FLANGED PIPE SPOOL TO CONNECT 12-INCH X 14-INCH FLANGED DUCTILE IRON REDUCER TO THE SKID MOUNTED PUMP STATION 14-INCH SUCTION PIPELINE. THE APPROXIMATE LENGTH IS ILLUSTRATED ON THIS CROSS SECTION AND PLAN SHEET 9. THE CONTRACTOR SHALL DETERMINE THE EXACT PIPE SPOOL LENGTH DURING PROJECT CONSTRUCTION.
4. INSTALL 12-INCH X 14-INCH DIAMETER FLANGED DUCTILE IRON REDUCER.
5. INSTALL 12-INCH - 90 DEGREE FLANGED DUCTILE IRON ELBOW.
6. INSTALL 14-INCH DUCTILE IRON PIPE SPOOL TO CONNECT THE 8-INCH X 14-INCH FLANGED DUCTILE IRON REDUCER TO THE SKID MOUNTED PUMP STATION 14-INCH DISCHARGE PIPELINE. THE APPROXIMATE LENGTH IS ILLUSTRATED ON THIS CROSS SECTION AND PLAN SHEET 9. THE CONTRACTOR SHALL DETERMINE THE EXACT PIPE SPOOL LENGTH DURING PROJECT CONSTRUCTION.
7. INSTALL 8-INCH X 14-INCH DIAMETER FLANGED DUCTILE IRON REDUCER..
8. INSTALL 8-INCH - 90 DEGREE FLANGED DUCTILE IRON ELBOW.
9. INSTALL NEW VARIABLE FREQUENCY DRIVE BOOSTER PUMPS, SUCTION PIPING, DISCHARGE PIPING, VALVES AND OTHER PIPING COMPONENTS PER PLAN SHEET 9 AND TECHNICAL SPECIFICATION SECTION 15380.
10. INSTALL LORD AND SONS TP 100 BEAM OR AN APPROVED EQUAL FOR THE PUMP SKID FRAME. COATING OF THE STEEL BEAMS SHALL BE ACCOMPLISHED PER THE TECHNICAL SPECIFICATIONS OR PER THE COATING SPECIFICATION REQUIREMENTS INCLUDED ON THE PLANS.
11. INSTALL 3/16 STEEL DIAMOND PLATE FOR THE PUMP SKID FRAME. STEEL DIAMOND PLATE IS TO BE ATTACHED TO THE UNDERLYING PUMP SUPPORT PLATFORM BEAMS. COATING OF THE STEEL DIAMOND PLATE SHALL BE ACCOMPLISHED PER THE TECHNICAL SPECIFICATIONS OR PER THE COATING SPECIFICATION REQUIREMENTS INCLUDED ON THE PLANS.
12. INSTALL ADHESIVE SECURED 5/8" DIAMETER EXPANSION BOLTS PER NOTE ON PLAN SHEET 9. THE NUMBER AND LOCATION OF THE ANCHOR BOLTS SHALL BE ILLUSTRATED ON THE PUMP SKID FRAME SHOP DRAWINGS.
13. INSTALL CUSTOM BUILT PUMP SUPPORT BENEATH THE SUCTION AND DISCHARGE PIPELINES AS ILLUSTRATED ON SECTION N-N. PRE-ENGINEERED SHOP DRAWINGS SHALL BE PROVIDED FOR THE PUMP SUPPORT FOR REVIEW AND APPROVAL BY THE ENGINEER. SECURE PUMP SUPPORTS TO THE PUMP SKID FRAME. TYPICAL.

NEW DISTRIBUTION PUMPING SYSTEM PIPELINE, PUMP AND SKID SECTION N-N 9 14

SCALE: 1" = 2'

REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES G. HOLT No. 31773 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:

JAMES G. "JACK" HOLT — 31773 R.C.E. No.

07/12/2024 DATE — 12/31/24 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN A. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:

JOHN GAY, P.E. DIRECTOR OF PUBLIC WORKS — 62028 R.C.E. No.

7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN LNM, JS,RS,FBC
DESIGNED JGH
SCALE
CHECKED JGH

PROJECT TITLE

GATEWAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS

BYPASS SECTION AND DETAIL SHEET

C14

REFERENCE THG #542.116

SHEET 14 OF 17

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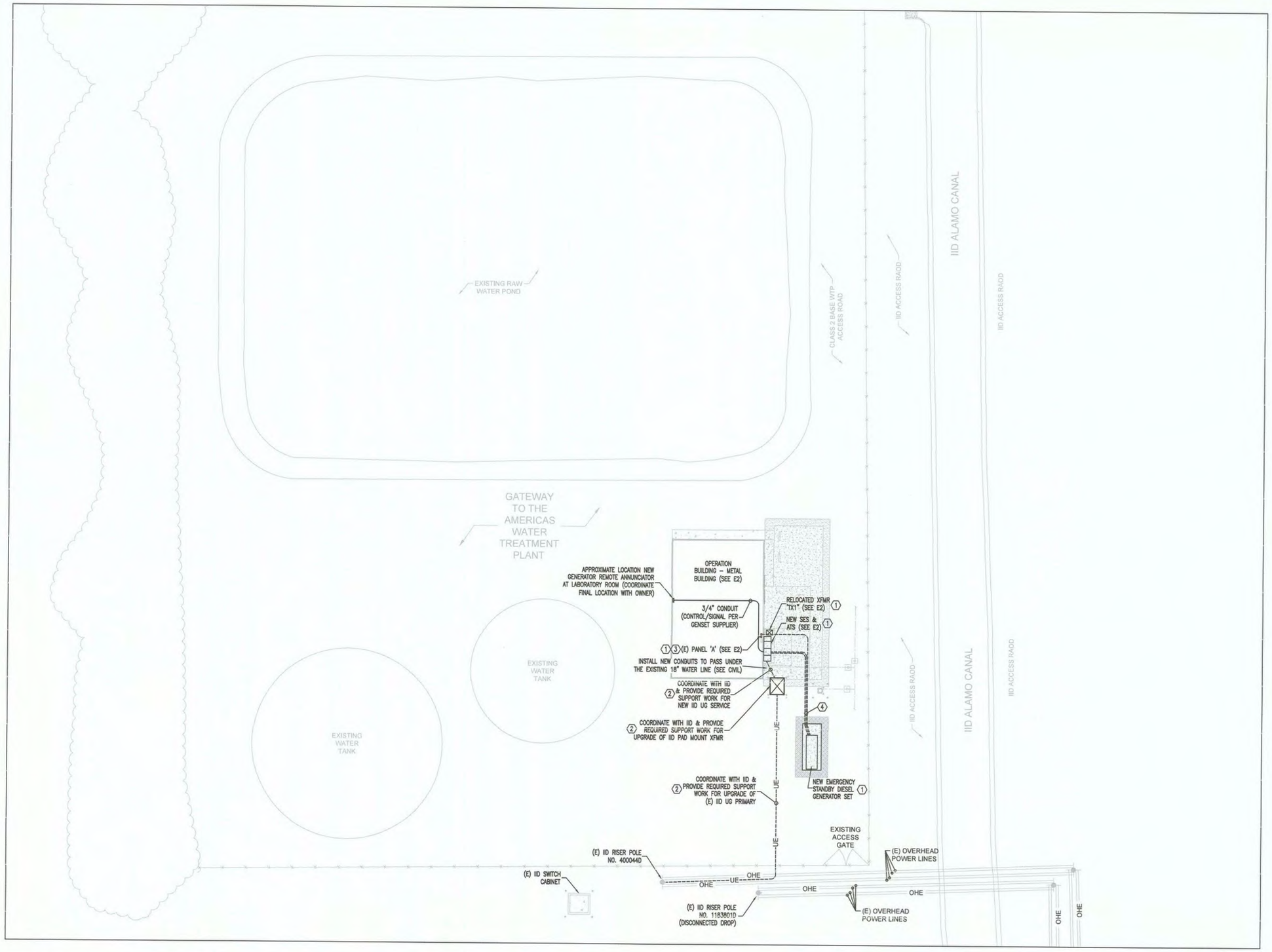

NOTES:

1. ALL ELECTRICAL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED.
2. SEE PANEL SCHEDULES FOR BRANCH CIRCUIT WIRE SIZING UNLESS INDICATED OTHERWISE.
3. EXISTING ELECTRICAL NOT INDICATED TO BE REMOVED OR REPLACED SHALL BE PROTECTED DURING CONSTRUCTION & LEFT IN PLACE. CLEAN/REPAIR/RESTORE THIS EXISTING ELECTRICAL TO SERVICEABLE CONDITION PRIOR TO COMPLETION OF WORK.
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE, BID, AND PROVIDE ALL INCIDENTAL ELECTRICAL DEMOLITION WORK, TEMPORARY ELECTRICAL REMOVAL & REINSTALLATION WORK, & RESTORATION OF EXISTING ELECTRICAL WORK TO EXISTING CONDITION OR BETTER AT ANY CIVIL OR MECHANICAL DEMOLITION OR RENOVATIONS IDENTIFIED ON THE CIVIL PLANS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CIVIL PLANS & COORDINATING WORK RESPONSIBILITY WITH THE GENERAL CONTRACTOR & INCLUDING ALL SUCH WORK IN THE CONTRACT BID.

KEY NOTES:

1. SEE ELECTRICAL ONE-LINE DIAGRAM
2. COORDINATE WITH IID. PROVIDE & INSTALL XFMR PAD, TRENCH, BACKFILL, & CONDUIT PER IID DRAWINGS & SPECIFICATIONS. SEE ELECTRICAL GENERAL NOTE 7.
3. COORDINATE 120V GENERATOR ACCESSORIES POWER WITH GENSET SUPPLIER & PROVIDE NEW BRANCH CIRCUIT BREAKERS AS REQUIRED AT EXISTING PANEL (MINIMUM (2) 1P/20A BRANCH BREAKERS). CONNECT NEW ACCESSORIES BRANCH CIRCUITS AND LABEL PER SPECIFICATIONS. LOCATE NEW BRANCH CIRCUITS AS REQUIRED TO BALANCE NEW & EXISTING PANEL LOADS ACROSS 3 PHASES TO WITHIN 10%.
4. (2) PARALLEL 3" CONDUITS (GENSET FEED PER ELECTRICAL ONE-LINE DIAGRAM), (1) 1" COND. ((4)#12 CU THWN-2, (1)#12 CU GRD GENSET BAT. CHARGER & BLOCK HEATER CIRCUITS), (1) 1" CONDUIT (GENSET SIGNAL & CONTROL CONDUCTORS AS REQUIRED BY MANUFACTURER & OWNER). SEE ELECTRICAL TRENCH SECTIONS 1 & 2 ON SHEET E-2.

ELECTRICAL SYMBOLS & ABBREVIATIONS:

- DUPLEX RECEPTACLE, 120V/20A, MOUNT 15" A.F.F. UNLESS NOTED OTHERWISE.
- FUSED OR NONFUSED DISCONNECT SAFETY SWITCH, SIZE & TYPE AS SHOWN.
- NEMA MOTOR STARTER, SIZE AS SHOWN.
- NUMBER OF WIRES IN CONDUIT, LONG SLASH DENOTES GROUND WIRE, SHORT SLASH DENOTES NUMBER OF CURRENT CARRYING CONDUCTORS, HALF SLASH DENOTES SWITCHED LEG.
- $ LIGHT CIRCUIT SWITCH, 120V/20A, MOUNT 48" A.F.F. UNLESS NOTED OTHERWISE.
- — — — UNDERGROUND CONDUIT.
- ——— ABOVE GROUND CONCEALED CONDUIT.
- P.C. PHOTO CELL, 120V/20A, MOUNT AS SHOWN, NEMA 3R.
- J JUNCTION BOX, MOUNT AS SHOWN.
- ATS AUTOMATIC TRANSFER SWITCH.
- CWP COLD WATER PIPE.
- (E) EXISTING.
- GENSET GENERATOR SET.
- GFI GROUND FAULT CIRCUIT INTERRUPTER.
- MTS MANUAL TRANSFER SWITCH
- SES SERVICE ENTRANCE SECTION, SIZED AS SHOWN.
- IID IMPERIAL IRRIGATION DISTRICT.
- WP OUTDOOR WEATHERPROOF ENCLOSURE.
- WP-IU OUTDOOR WEATHERPROOF IN-USE ENCLOSURE.
- UG UNDERGROUND.
- XFMR TRANSFORMER.

N

20 0 20 40 60

SCALE 1"= 20'

DIGALERT 811

JOL ENTERPRISES, INC.
720 E. 39th Place, Suite E
Yuma Arizona, 85365
office: (928) 783-0932
fax: (928) 783-3991
www.jolenterprises.com

JOB. No.: 20-048

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REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES ROBERT ALLER No. E 16119 Exp. 12/31/25 ELECTRICAL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES R. ALLER — E16119 R.C.E. No.
07/12/2024 DATE — 12/31/25 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN A. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. — 62028 R.C.E. No.
DIRECTOR OF PUBLIC WORKS
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN TH
DESIGNED TH
SCALE AS SHOWN
CHECKED JRA

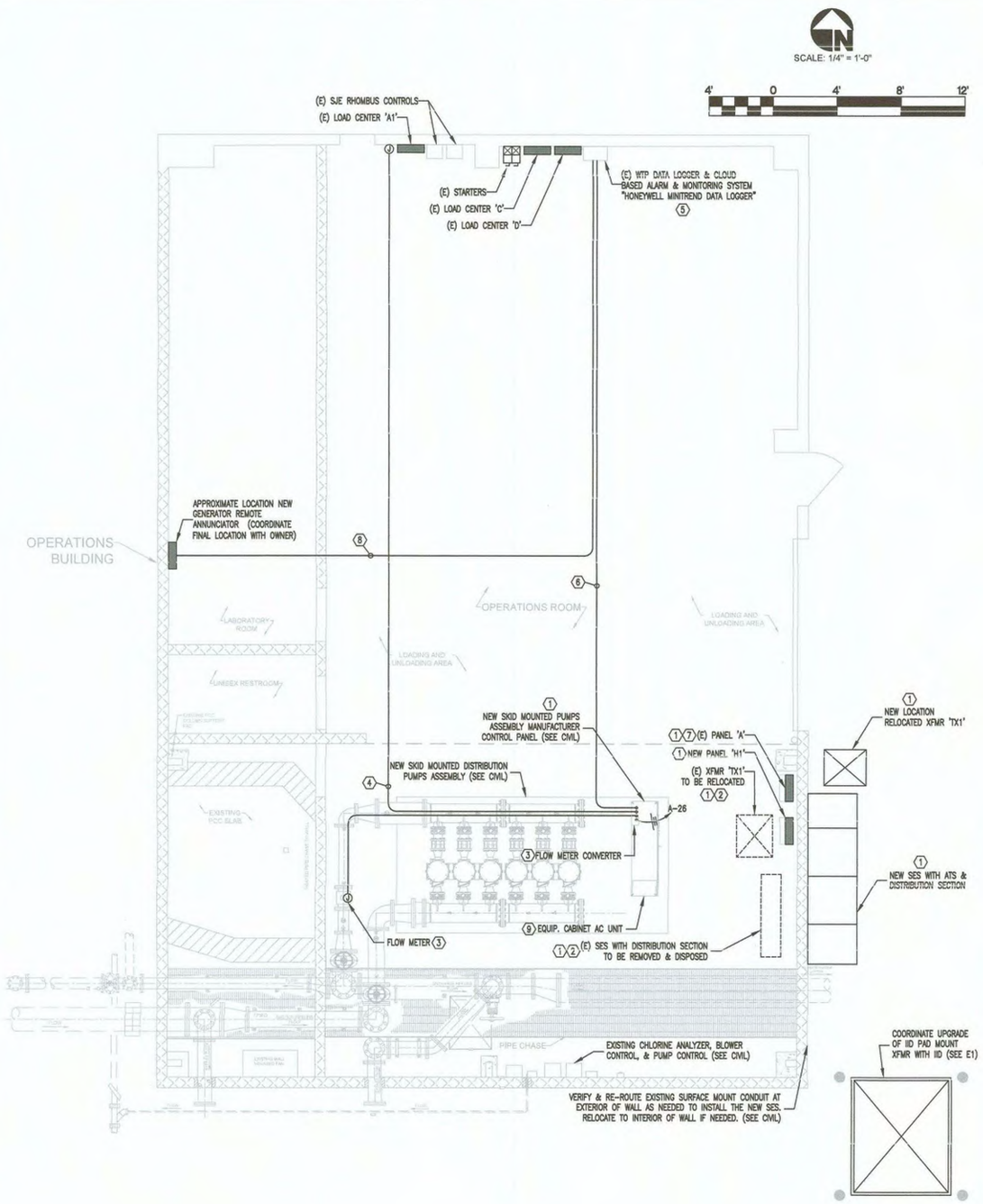
PROJECT TITLE
GATEWAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS -
WATER TREATMENT PLANT
ELECTRICAL SITE PLAN

E1

REFERENCE XX

THG #542.116

SHEET 15 OF 17



ELECTRICAL GENERAL NOTES:

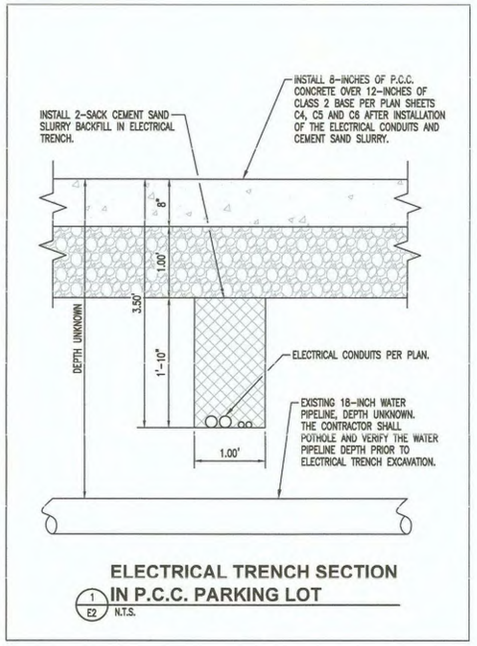
1. ALL MATERIALS AND WORKMANSHIP TO BE NEW AND OF FIRST RATE QUALITY. MATERIALS TO BE UL LISTED AND APPROVED. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE AND ANY OTHER STATE AND LOCAL APPLICABLE CODES.
2. ALL CEILING, FLOOR, AND WALL PENETRATIONS AND BOXES SHALL BE CAULKED/SEALED TO PRESERVE FIRE RATINGS AND WATER PROOF INTEGRITY. FIRESTOPPING OF PENETRATIONS IN AND THROUGH FIRE RATED FLOORS, CEILINGS & WALLS SHALL BE IN ACCORDANCE WITH IBC & UL AND AS REQUIRED BY THE FIRESTOPPING MANUFACTURER FOR THE CONSTRUCTION TYPE & FIRE RATING SPECIFIED (SEE ARCHITECTURAL DRAWINGS). THE FIRESTOPPING SYSTEM SHALL BE LISTED AND TESTED TO UL-1479 & ASTM E-814. INSTALL IN STRICT COMPLIANCE WITH THE MANUFACTURER INSTRUCTIONS.
3. ALL ELECTRICAL CONDUCTORS SHALL BE COPPER, 90 DEGREE C TEMPERATURE RATING, MINIMUM SIZE IS NO. 12 AWG. ALL WIRING SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED ON THE DRAWINGS. UNDERGROUND CONDUCTORS MUST BE RATED FOR 90 DEGREE C AS DEFINED FOR "WET LOCATION" BY THE NEC UNLESS NOTED OTHERWISE.
4. ALL CONDUIT SHALL BE METALLIC ELECTRICAL CONDUIT UNLESS NOTED OTHERWISE ON THE DRAWINGS. MINIMUM SIZE CONDUIT IS 1/2". ALL CONDUITS AND BOXES SHALL BE CONCEALED ABOVE CEILINGS, IN WALLS OR UNDER FLOORS AS REQUIRED OR AS NOTED OTHERWISE ON THE DRAWINGS.
5. UNDERGROUND CONDUIT SHALL BE MINIMUM OF SCHEDULE 40 PVC, 90 DEGREE C. RATED WITH MINIMUM OF TRENCH COVER PER NEC TABLE 300-5. ALL UNDERGROUND JUNCTION/PULL BOXES SHALL BE RATED THE SAME AS THE ASSOCIATED CONDUIT, MINIMUM SIZE UNDERGROUND CONDUIT IS 3/4".
6. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF CONDUIT, WIRING, ELECTRICAL EQUIPMENT AND ASSOCIATED HARDWARE WITH THE INSTALLATION OF THE MECHANICAL EQUIPMENT AND OTHER TRADES. SEE THE CIVIL PLANS FOR EXACT LOCATIONS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION WITH EXISTING EQUIPMENT AND CONSTRUCTION. FIELD VERIFY EXISTING WORK.
7. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND INSTALLATION OF SERVING ELECTRICAL TELEPHONE/TV COMPANY CONDUIT SYSTEMS AND SERVICE EQUIPMENT. UNDERGROUND TRENCH LOCATIONS SHOWN ARE APPROXIMATE AND MUST BE VERIFIED BY THE SERVING UTILITY. CONTACT WITH THE SERVING UTILITIES IS REQUIRED PRIOR TO INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR EXISTING FIELD CONDITIONS AND PROVIDING A FULL FUNCTIONING ELECTRICAL SYSTEM.
8. ALL LIGHT FIXTURES, RECEPTACLE AND JUNCTION BOXES, PANEL BOARDS AND ALL OTHER METALLIC ELECTRICAL APPLIANCES AND DEVICES MUST BE GROUNDED AS REQUIRED BY SECTION 250 OF THE NATIONAL ELECTRICAL CODE.
9. MATERIALS & INSTALLATION SHALL COMPLY WITH REQUIREMENTS FOR INSTALLATION IN SEISMIC ZONE 4/DESIGN CATEGORY D.

KEY NOTES:

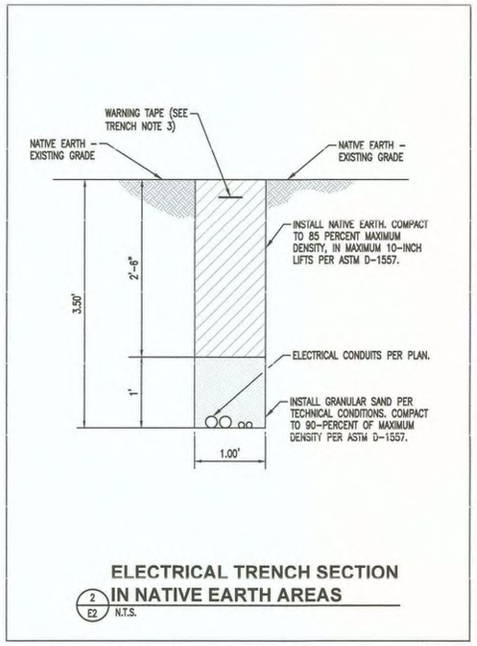
1. SEE ELECTRICAL ONE-LINE DIAGRAM.
2. RELOCATE OR REMOVE/SALVAGE/REPLACE EXISTING ELECTRICAL FEEDER(S) WIRING & CONDUIT TO THE NEW EQUIPMENT LOCATION.
3. J-BOXES & EQUIPMENT CONNECTIONS FOR ELECTROMAGNETIC FLOW METER & CONVERTER, SEE CIVIL. PROVIDE 120V SUPPLY. LOCATE CONVERTER AT CONTROL PANEL PER TECHNICAL SPECIFICATION SECTIONS 15380-1.01A & 15400-1.01A . PROVIDE 3/4" CONDUIT WITH LOW VOLTAGE CONTROL/SIGNAL AS REQUIRED BY SUPPLIER TO PUMPS CONTROL PANEL TO ALLOW FOR DATA LOGGING OR OTHER SIGNAL INPUT AT CONTROL PANEL.
4. VERIFY & LOCATE EXISTING 'LOW LEVEL' SIGNAL WIRING FROM EXISTING RAW WATER TANK & RAW WATER TANK CONTROLS AT NORTH WALL TO EXISTING DISTRIBUTION PUMP STATION SKID TO BE REMOVED. EXISTING RACEWAYS & WIRING ARE INADEQUATE AND WILL NEED TO BE REPLACED & REROUTED TO THE NEW CONTROL PANEL AS SHOWN. PROVIDE NEW 3/4" CONDUIT WITH LOW VOLTAGE CONTROL/SIGNAL WIRING TO MATCH EXISTING AND CONNECT THE 'LOW LEVEL' SIGNAL WIRING AT THE NEW CONTROL PANEL. COORDINATE WITH SYSTEM SUPPLIER TO PROGRAM PUMPS SHUTOFF UPON WATER TANKS 'LOW LEVEL' SIGNAL. COORDINATE WITH SYSTEM SUPPLIER TO PROGRAM A WARNING ALARM AT A SECONDARY 'LOW LEVEL' SIGNAL.
5. EXISTING DATA LOGGER & CLOUD BASED ALARM & MONITORING SYSTEM. CABINET IS LABELED "HONEYWELL MINITREND DATA LOGGER" PER THE ORIGINAL CONSTRUCTION DOCUMENTS. HOWEVER, THE SYSTEM CONSISTS OF AUTOMATION DIRECT EQUIPMENT INCLUDING (1) CLICK KOYO PLC MODEL CO-11DRE-D, (3) CLICK KOYO INPUT MODULES MODEL CO-04AD-1, (1) SENTINEL PRO CLOUD BASED MONITORING SENSIPHONE WITH CELLULAR MODEM & BATTERY BACKUP CONTROLLER, & (1) C-MORE EA9-T7CL-R TOUCH SCREEN HMI. THE EXISTING PLC HAS 8 AVAILABLE DISCRETE INPUTS AND THE EXISTING INPUT MODULES HAVE A TOTAL OF 2 AVAILABLE ANALOG 0-20mA INPUTS. REMOVE ANY EXISTING INPUT SIGNAL CIRCUITS FROM EXISTING DISTRIBUTION PUMP EQUIPMENT TO BE REMOVED. USE RECOVERED INPUTS AND THE REMAINING AVAILABLE INPUTS AS FEASIBLE FOR THE NEW SYSTEM INPUTS. PROVIDE & INSTALL (1) NEW CLICK KOYO CO-04AD-1 OR SIMILAR INPUT MODULE COMPATIBLE TO THE PLC IF NEEDED FOR THE NEW INPUTS. PROVIDE LOW VOLTAGE CONTROL/SIGNAL WIRING TO MATCH EXISTING AND CONNECT THE NEW INPUTS. REPROGRAM SYSTEM PLC AS REQUIRED FOR THE NEW INPUTS. COORDINATE WITH NEW SYSTEMS SUPPLIERS, EXISTING EQUIPMENT, AND OWNER. NEW INPUTS SHALL INCLUDE THE FOLLOWING:
   - DISTRIBUTION PUMP FLOW RATE.
   - DISTRIBUTION PUMP SET POINT PRESSURE.
   - DISTRIBUTION PUMP DISCHARGE PRESSURE.
   - DISTRIBUTION PUMP SUCTION PRESSURE.
   - DISTRIBUTION PUMP LOW SUCTION PRESSURE (WARNING & ALARM).
   - HIGH SYSTEM PRESSURE.
   - LOW SYSTEM PRESSURE.
   - DISTRIBUTION PUMP LOW WATER LEVEL WARNING.
   - DISTRIBUTION PUMP SHUTDOWN DUE TO LOW WATER LEVEL.
   - VFD TRIP/FAILURE.
   - ACTIVE/ENERGIZED PUMPS.
   - INDIVIDUAL PUMP FAILURE.
   - GENERATOR ALARM/TROUBLE.
   - GENERATOR RUNNING.
   - GENERATOR RUN TIME.
6. EXISTING RACEWAYS & WIRING ARE INADEQUATE AND WILL NEED TO BE REMOVED, REPLACED, & REROUTED. PROVIDE NEW 3/4" CONDUIT WITH NEW LOW VOLTAGE CONTROL/SIGNAL WIRING TO MATCH EXISTING BETWEEN THE NEW CONTROL PANEL AND THE EXISTING DATA LOGGER & ALARM AS SHOWN.
7. PROVIDE NEW 15A/1P BRANCH CIRCUIT BREAKER AT EXISTING AVAILABLE SPACE FOR NEW FLOW METER & CONVERTER (LOAD 180VA). PROVIDE NEW BRANCH CIRCUIT BREAKERS AT EXISTING AVAILABLE SPACES FOR NEW GENSET BATTERY CHARGER & BLOCK HEATER, SIZE AS REQUIRED BY SUPPLIER (ESTIMATED (2) 20A/1P, LOADS 360VA & 1,800VA). NEW BRANCH CIRCUIT BREAKERS SHALL BE COMPATIBLE TO EXISTING SQUARE-D PANELBOARD & RATINGS. CONNECT NEW BRANCH CIRCUITS. LABEL PER SPECIFICATIONS.
8. PROVIDE NEW 3/4" CONDUIT WITH NEW LOW VOLTAGE CONTROL/SIGNAL WIRING AS REQUIRED FOR GENERATOR/ATS DATA INPUTS BETWEEN THE NEW GENERATOR REMOTE ANNUNCIATOR PANEL AND THE EXISTING DATA LOGGER & ALARM AS SHOWN.
9. EQUIPMENT CABINET AC UNIT INCLUDING CONTROL PANEL INTEGRAL BRANCH CIRCUIT BREAKER, AC UNIT DISCONNECT SWITCH, BRANCH CIRCUIT WIRING, THERMOSTAT/CONTROLS, & OVERLOAD PROTECTION, BY EQUIPMENT SUPPLIER, SEE SPECIFICATION SECTION 15360.

NOTES:

1. ALL ELECTRICAL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED.
2. SEE PANEL SCHEDULES FOR BRANCH CIRCUIT WIRE SIZING UNLESS INDICATED OTHERWISE.
3. EXISTING ELECTRICAL NOT INDICATED TO BE REMOVED OR REPLACED SHALL BE PROTECTED DURING CONSTRUCTION & LEFT IN PLACE. CLEAN/REPAIR/RESTORE THIS EXISTING ELECTRICAL TO SERVICEABLE CONDITION PRIOR TO COMPLETION OF WORK.
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE, BID, AND PROVIDE ALL INCIDENTAL ELECTRICAL DEMOLITION WORK, TEMPORARY ELECTRICAL REMOVAL & REINSTALLATION WORK, & RESTORATION OF EXISTING ELECTRICAL WORK TO EXISTING CONDITION OR BETTER AT ANY CIVIL OR MECHANICAL DEMOLITION OR RENOVATIONS IDENTIFIED ON THE CIVIL PLANS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CIVIL PLANS & COORDINATING WORK RESPONSIBILITY WITH THE GENERAL CONTRACTOR & INCLUDING ALL SUCH WORK IN THE CONTRACT BID.



ELECTRICAL TRENCH SECTION IN P.C.C. PARKING LOT
1 / E2 N.T.S.



ELECTRICAL TRENCH SECTION IN NATIVE EARTH AREAS
2 / E2 N.T.S.

TRENCH SECTIONS NOTES:

1. TRENCH BOTTOM: APPROVED BEDDING AS SHOWN. TRENCH BOTTOM SHALL BE SMOOTH, FLAT, & WITHOUT SURFACE IRREGULARITIES. OTHERWISE, A SUFFICIENT AMOUNT OF BEDDING MATERIAL SHALL BE INSTALLED TO PROVIDE THE REQUIRED SURFACE. TRENCH BOTTOM SHALL BE FREE OF ANY DEBRIS OR ORGANIC MATERIAL. ANY CHANGE IN LEVEL OF TRENCH BOTTOM SHALL BE MADE OVER SUFFICIENT DISTANCE TO GIVE A GRADUAL CHANGE IN GRADE.
2. CONDUIT COVER (SHADING): APPROVED COVER AS SHOWN. THE FIRST 6" OF BACKFILL MATERIAL PLACED ABOVE THE CONDUIT COVER MATERIAL SHALL NOT CONTAIN ROCKS LARGER THAN 3" IN DIAMETER. TRENCH RUN MATERIAL MAY BE USED FOR THE REMAINDER OF THE BACKFILL.
3. PROVIDE 4" WIDE PLASTIC WARNING TAPE 3" BELOW FINISHED GRADE CENTERED ABOVE CONDUITS.

JOL ENTERPRISES, INC.
720 E. 39th Place, Suite 6
Yuma Arizona, 85365
office: (928) 783-0922
fax : (928) 783-3894
www.joleterprises.com

JOB. No.: 20-048

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REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES ROBERT ADLER No. E 16119 Exp. 12/31/25 ELECTRICAL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES R. ADLER — E16119 R.C.E. No.
07/12/2024 DATE — 12/31/25 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN A. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. — 62028 R.C.E. No.
DIRECTOR OF PUBLIC WORKS
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE	07-12-2024
DRAWN	TH
DESIGNED	TH
SCALE	AS SHOWN
CHECKED	JRA

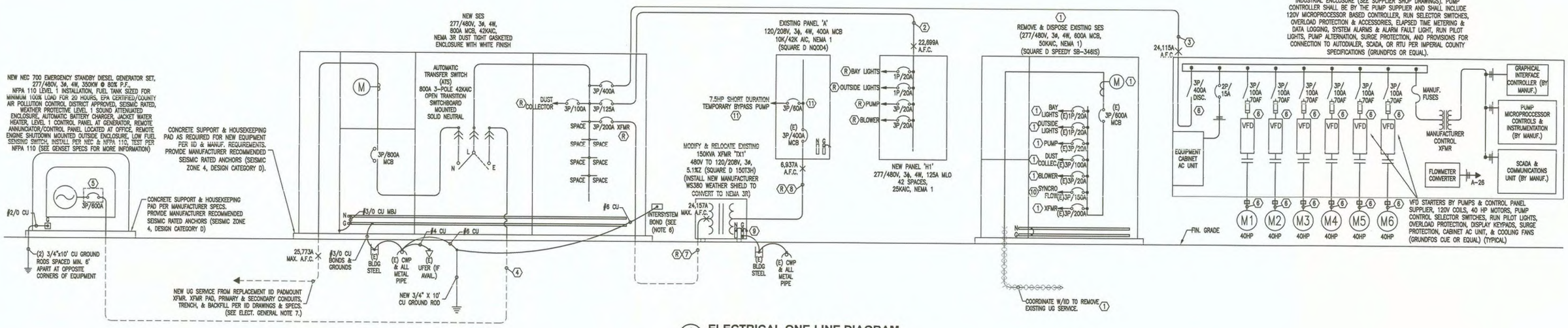
PROJECT TITLE
GATEWAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS -
WATER TREATMENT PLANT - OPERATIONS BUILDING ELECTRICAL POWER PLAN

E2

REFERENCE XX

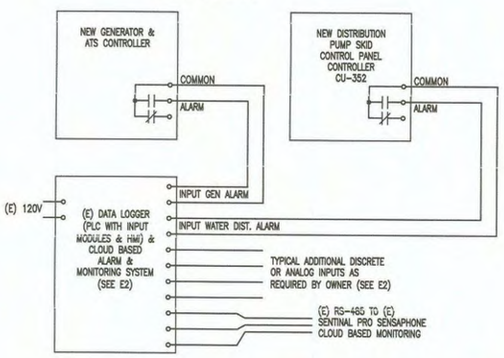
THG #542.116

SHEET 16 OF 17



1 / E3 ELECTRICAL ONE-LINE DIAGRAM

NTS



2 / E3 ALARM & AUTODIALER SCHEMATIC

NTS

LOAD SUMMARY (NEW 800A SES) (AMPS @ 277/480V/3PH)

EQUIPMENT	HP	QTY	LOAD	TOTAL LOAD	TOTAL AMPS
EXISTING 600A SES (DESIGNATE AS MDP-1)					
(E) 150KVA TRANSFORMER & PANEL 'A'					
(E) RECEPTACLES (EST. 20 x 180VA)	-	-	3,600 VA		
(E) FIRE PUMP BAT. CHARGER TO BE REMOVED	-	-	0 VA		
(E) WATER HEATER	-	-	2,000 VA		
(E) LAB AC UNIT	-	-	3,000 VA		
(E) TIME CLOCK, CONTROLS, AUTODIALER, ETC.	-	-	2,000 VA		
(E) MIXER	-	-	1,200 VA		
(E) CHEM & FEED PUMPS	-	4	4,800 VA		
(E) PACKAGED WATER TREATMENT PLANT	-	-	14,000 VA		
(E) RAW WATER PUMP	10	1	11,639 VA		
(E) BLOWERS	7.5	2	18,290 VA		
(E) FILTRATE PUMP	7.5	1	9,145 VA		
FUTURE LOAD (TO XFMR CAPACITY)	-	-	80,000 VA		
SUBTOTAL TRANSFORMER				149,674 VA	180.0 AMPS
(E) 150A/3P - SYNCRO-FLO TO BE REMOVED					
(E) PUMP	50	2	0 VA		
(E) PUMP	20	1	0 VA		
(E) PUMP	10	1	0 VA		
SUBTOTAL SKID				0 VA	0.0 AMPS
(E) LIGHTING - INDOOR (2,400SF x 2VA/SF)	-	-	4,800 VA		
(E) LIGHTING - OUTDOOR	-	-	2,620 VA		
(E) RAW WATER PUMP	10	1	11,639 VA		
(E) DUST COLLECTOR	-	-	35,000 VA		
(E) BLOWER	7.5	1	9,145 VA		
TOTAL LOAD EXISTING MDP-1				212,878 VA	256.1 AMPS
NEW ACCESSORY EQUIPMENT					
NEW FLOW METER & CONVERTER	-	-	180 VA		
NEW GENERATOR CHARGER & BLOCK HEATER	-	-	2,160 VA		
TOTAL LOAD MISC. NEW EQUIPMENT				2,340 VA	2.8 AMPS
NEW 400A PUMP SKID					
NEW PUMPS (NOTE 1)	40	6	259,392 VA		
25% LARGEST MOTOR	40	-	10,808 VA		
CABINET AC UNIT	-	-	2,000 VA		
CONTROL PANEL	-	-	500 VA		
TOTAL LOAD NEW PUMP SKID				272,700 VA	328.0 AMPS
TOTAL LOAD NEW SES				487,918 VA	586.9 AMPS

NOTES:
1. ONLY 5 PUMPS WILL BE ABLE TO RUN AT ONE TIME. CALCULATION ALLOWS WORST CASE.

SCHEDULING, OUTAGES, & PHASING WORK:

1. MAINTAIN EXISTING ELECTRICAL SYSTEMS IN SERVICE THROUGHOUT THE CONSTRUCTION.
2. MINIMIZE DISRUPTION TO OPERATIONS. OUTAGES SHALL BE LIMITED TO 6 HOURS MAXIMUM DURATION DURING SCHEDULED TIMES SPECIFICALLY APPROVED BY THE OWNER.
3. PROVIDE, MAINTAIN, & OPERATE AN ALTERNATE POWER SOURCE OR TEMPORARY GENERATOR AT CONTRACTOR EXPENSE FOR ANY OUTAGES THAT REQUIRE AN EXTENDED OUTAGE. THE NEW PROJECT GENERATOR SET SHALL NOT BE USED FOR THIS PURPOSE.
4. CONDUCT THE WORK AND ELECTRICAL EQUIPMENT CUT OVERS IN PHASES TO ALLOW FOR ORDERLY ENERGIZATION & ACCEPTANCE OF NEW EQUIPMENT AND SUBSEQUENT REMOVAL OF EQUIPMENT DESIGNATED FOR REMOVAL. SUBMIT CONTRACTOR SCHEDULE AND PHASING PLAN FOR APPROVAL PRIOR TO STARTING WORK.
5. COORDINATE SCHEDULING & PHASING OF THE ELECTRICAL WORK WITH THE SCHEDULING & PHASING OF THE WATER SYSTEM WORK. DE-ENERGIZE EXISTING DISTRIBUTION PUMP STATION SKID AND ENERGIZE NEW DISTRIBUTION PUMP SKID ACCORDING TO THE REQUIREMENTS FOR THE WATER SYSTEM WORK.
6. RECOMMENDED PHASING AND SEQUENCE OF WORK IS AS FOLLOWS.
   A. INSTALL NEW SES, ATS, PANEL "H1", EMERGENCY GENERATOR SET, & ASSOCIATED WIRING & ACCESSORIES COMPLETE & READY FOR USE. INSTALL NEW FEEDER WIRING, CONDUIT, BOXES, & ACCESSORIES REQUIRED TO EXTEND EXISTING FEEDERS FROM THE EXISTING SES LOCATION TO THE NEW SES COMPLETE AND READY FOR CHANGE OVER. COORDINATE WITH IID TO INSTALL NEW IID SERVICE AND UPGRADE THE PADMOUNT TRANSFORMER.
   B. COORDINATE WITH IID TO ENERGIZE & COMMISSION THE NEW SES. KEEP EXISTING SES ENERGIZED UNTIL COMPLETION OF THE FEEDER & BRANCH CIRCUIT CHANGE OVERS.
   C. CHANGE OVER (REMOVE, RELOCATE/REPLACE, & RECONNECT) THE EXISTING FEEDERS & BRANCH CIRCUITS AT THE EXISTING SES TO THE NEW SES & PANEL 'H1'. RELOCATE THE EXISTING TRANSFORMER 'TX1' AND PANEL 'A' SECONDARY/FEEDER TO THE NEW LOCATION SHOWN.
   D. DE-ENERGIZE EXISTING DISTRIBUTION PUMP STATION SKID AND ENERGIZE NEW DISTRIBUTION PUMP SKID ACCORDING TO THE REQUIREMENTS FOR THE WATER SYSTEM WORK. REMOVE & DISPOSE EXISTING DISTRIBUTION PUMP STATION SKID ELECTRICAL.
   E. COORDINATE WITH IID TO DE-ENERGIZE THE EXISTING SES AND REMOVE THE EXISTING SERVICE. REMOVE & DISPOSE THE EXISTING SES.

NOTES (ONE-LINE DIAGRAM):

1. PROVIDE RATED EQUIPMENT & DEVICES BY MANUFACTURER CAPABLE OF SAFELY INTERRUPTING THE AVAILABLE FAULT CURRENT.
2. PROVIDE WARNING LABELS & MARKING BY MANUFACTURER AT ALL SWITCHBOARDS, PANELBOARDS, & INDUSTRIAL CONTROL PANELS/MCC'S LIKELY TO CREATE ARC FLASH CONDITIONS AS REQUIRED BY NEC ART. 110.16.
3. LABEL & MARK MAIN SERVICE DISCONNECT(S) PER NEC. MAXIMUM OF 6 DISCONNECTS PERMITTED PER NEC.
4. TIE UFER GROUND TO BUILDING FOUNDATION PER NEC.
5. WHERE CONDUIT IS INDICATED AS OVERHEAD METAL CONDUIT, UNDERGROUND/UNDER SLAB PVC CONDUIT IS AN APPROVED ALTERNATE, AND VICE VERSA.
6. INSTALL INTERSYSTEM BONDING TERMINATION BAR (ERICO OR EQUAL) PER NEC ART. 250.94 EXTERIOR TO THE SERVICE EQUIPMENT.
7. ALL NEW & RELOCATED EQUIPMENT INSTALLED OUTDOORS, INCLUDING THE SES, ATS, PANEL, & TRANSFORMER, SHALL BE PAINTED WHITE OR ORDERED WITH MANUFACTURER WHITE FINISH. INSTALL APPROVED WEATHER STRIPPING OR GASKETING TO PREVENT THE ENTRANCE OF DUST.

KEY NOTES:

1. RELOCATE EXISTING FEEDERS & BRANCH CIRCUITS TO NEW SES OR PANEL AS INDICATED PRIOR TO DE-ENERGIZATION & DEMOLITION OF THE SES. (MAINTAIN EXISTING FEEDERS & BRANCH CIRCUITS OPERATIONAL THROUGHOUT CONSTRUCTION AS NOTED IN "SCHEDULING, OUTAGES, & PHASING OF WORK".) COORDINATE WITH IID TO DISCONNECT EXISTING UG SERVICE & REMOVE EXISTING IID METERING EQUIPMENT AFTER RELOCATING FEEDERS & BRANCH CIRCUITS.
2. (4) #1/0 CU THHN/THWN-2, (1) #6 CU GRD, 2" CONDUIT.
3. (3) 600MCM CU THHN/THWN-2, (1) #3 CU GRD, 3" CONDUIT; OR ALTERNATE (2) PARALLEL SETS: (3) #3/0 CU THHN/THWN-2, (1) #3 CU GRD, 2" CONDUIT (EACH SET).
4. (2) PARALLEL SETS: (3) 400 MCM CU THWN-2, (1) #2/0 CU THWN-2 NEUTRAL, (1) #1 CU GROUND, 3" CONDUIT (EACH SET).
5. GENERATOR BREAKER BY GENERATOR MANUFACTURER.
6. MOTOR STARTER, CONTROLS, DISCONNECT SWITCH, SHORT-CIRCUIT/GROUND-FAULT PROTECTION, OVERLOAD PROTECTION, WIRE, CONDUIT, & ACCESSORIES AT SKID MOUNTED EQUIPMENT PER EQUIPMENT MANUFACTURER & ASSEMBLER. SEE EQUIPMENT SHOP DRAWINGS.
7. (3) #4/0 CU THWN-2, (1) #6 CU GRD, 2" CONDUIT.
8. (2) PARALLEL SETS: (4) #4/0 CU THHN/THWN-2, (1) #1/0 CU GROUND, 2 1/2" CONDUIT (EACH SET).
9. VERIFY EXISTING XFMR SYSTEM BONDING JUMPER LOCATED AT TRANSFORMER OR PANEL. REPAIR & RECONNECT AS REQUIRED. USE MINIMUM #1/0 CU BONDS & GROUNDS.
10. REMOVE EXISTING FEEDER & EQUIPMENT AS REQUIRED. COORDINATE SCHEDULING & PHASING OF WORK WITH OWNER. MAINTAIN EXISTING FEEDER OPERATIONAL UNTIL THE EXISTING PUMP SKID IS REMOVED (SEE CIVIL) AND AS NOTED IN "SCHEDULING, OUTAGES, & PHASING OF WORK".
11. PROVIDE & INSTALL TEMPORARY CIRCUITRY FOR SHORT DURATION TEMPORARY BYPASS 7.5HP PUMP. PROVIDE NEW BREAKER COMPATIBLE WITH EXISTING MANUFACTURER REQUIREMENTS & RATINGS AT EXISTING AVAILABLE SPACE AT PANEL. (BREAKER TO REMAIN AS A "SPARE" AFTER USE.) MOTOR CIRCUIT SHALL BE (3) #8 CU THWN-2, (1) #10 CU GROUND, 3/4" CONDUIT. COMBINATION DISC. SWITCH & FVNR STARTER LOCATED AT THE PUMP SHALL BE 60A/3P, 30A RK5 FUSES OR OL ELEMENTS, NEMA 3R. INSTALL AS SHOWN ON CIVIL SHEET C13. REMOVE & DISPOSE TEMPORARY ELECTRICAL UPON REMOVAL OF PUMP. SEE CIVIL.

(R) EXISTING FEEDER OR BRANCH CIRCUIT WIRE & CONDUIT TO BE RELOCATED TO NEW SES OR PANEL BREAKER AS SHOWN. PROVIDE NEW WIRE & CONDUIT TO MATCH EXISTING IF NEEDED OR IF SHOWN AS REQUIRED TO RELOCATE THE WIRING. LABEL BREAKER PER SPECIFICATIONS.

JOL ENTERPRISES, INC.
720 E. 39th Place, Suite 6
Yuma Arizona, 85365
office: (928) 783-0922
fax: (928) 783-3691
www.jolenterprises.com

JOB. No.: 20-048

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REVISION	DATE	COMMENTS

REGISTERED PROFESSIONAL ENGINEER JAMES ROBERT ADLER No. E 16119 Exp. 12/31/25 ELECTRICAL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECT SUPERVISION OF:
JAMES R. ADLER — E16119 R.C.E. No.
07/12/2024 DATE — 12/31/25 REG. EXP.

REGISTERED PROFESSIONAL ENGINEER JOHN A. GAY No. 62028 Exp. 9-30-25 CIVIL STATE OF CALIFORNIA

COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT APPROVED FOR CONSTRUCTION BY:
JOHN GAY, P.E. — 62028 R.C.E. No.
DIRECTOR OF PUBLIC WORKS
7/30/24 DATE — 09/30/25 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE 07-12-2024
DRAWN TH
DESIGNED TH
SCALE AS SHOWN
CHECKED JRA

PROJECT TITLE
GATEWAY COUNTY SERVICE AREA WATER TREATMENT PLANT IMPROVEMENTS -
WATER TREATMENT PLANT
ELECTRICAL ONE-LINE DIAGRAM

E3
REFERENCE XX
THG #542.116
SHEET 17 OF 17