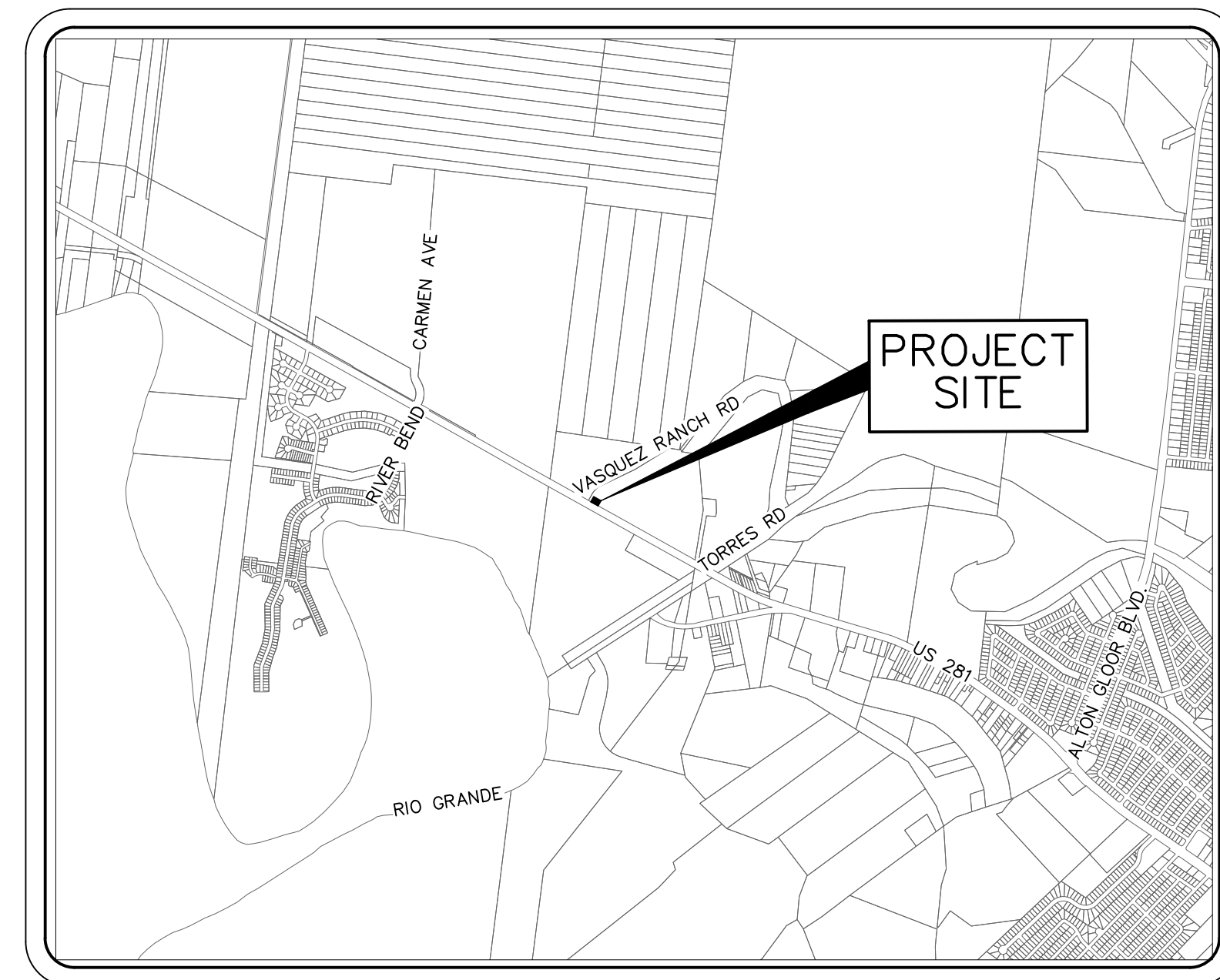


CONSTRUCTION PLANS FOR LIFT STATION FOR RIVER WOODS SUBDIVISION AND SURROUNDING AREAS

BROWNSVILLE, TEXAS

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LOCATION MAP
SCALE 1" = 2000'

PREPARED BY:



1075 PAREDES LINE ROAD, SUITE B
BROWNSVILLE, TEXAS 78521
TEL (956) 303-7100
TBPELS ENGINEERING FIRM #312

AVO: 45857 DATE: AUGUST 2022

OWNER/DEVELOPER

SPACELAND INVESTMENTS, LLC
2133 SANTA ANA AVE
RANCHO VIEJO, TX 78575
PHONE (956) 561-0864

UTILITY DISCLAIMER:

THE INFORMATION SHOWN ON THESE DRAWINGS INDICATING SIZE, TYPE AND LOCATION OF UNDERGROUND, SURFACE, AND AERIAL UTILITIES IS NOT GUARANTEED TO BE EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT THE TEXAS "ONE CALL" SYSTEM AT 811 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION FOR EXISTING UTILITY LOCATIONS. THE CONTRACTOR SHALL ALSO BE FULLY RESPONSIBLE FOR FIELD VERIFYING LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES AFFECTED BY CONSTRUCTION FOR THIS PROJECT IN ORDER TO AVOID DAMAGING THOSE UTILITIES, AND SHALL IMMEDIATELY ARRANGE FOR REPAIR AND RESTORATION OF CONTRACTOR-DAMAGED UTILITIES TO THE UTILITY COMPANY'S APPROVAL AT THE EXPENSE OF THE CONTRACTOR.

ENGINEER OF RECORD:

HALFF ASSOCIATES, INC.
1075 PAREDES LINE ROAD, SUITE B
BROWNSVILLE, TEXAS 78521
CONTACT: JOHN W. CLINT, P.E.
EMAIL: JCLINT@HALFF.COM
TEL: (956) 303-7110
TBPE FIRM# F-312

DISCLAIMER

THE SEAL(S) APPEARING ON THIS CONSTRUCTION SET WERE AUTHORIZED BY:
JOHN W. CLINT P.E., 85417
ON 02/11/2022
ALTERATION OF SEALED DOCUMENTS WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF

HALFF ASSOCIATES, INC.
1075 PAREDES LINE ROAD
SUITE B
BROWNSVILLE, TEXAS 78521
TBPE FIRM #F-312

BPUB ENGINEER'S STATEMENT:

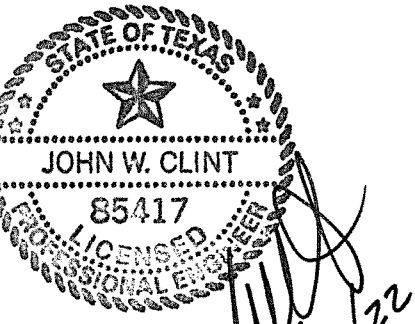
THE ABOVE IDENTIFIED PLANS AND SPECIFICATIONS HAVE BEEN REVIEWED AND FOUND TO BE IN COMPLIANCE WITH THE APPLICABLE ENGINEERING PROVISIONS (WATER AND WASTEWATER IMPROVEMENTS) OF THE MUNICIPAL CODE OF THE CITY OF BROWNSVILLE AND BPUB WATER AND WASTEWATER STANDARD DETAILS. ISSUANCE OF THIS APPROVAL SHALL NOT BE CONSTRUED AS APPROVAL OF CONCEPT FOR THE CONSTRUCTION DETAILS OF THE PROPOSED IMPROVEMENTS AND SHALL NOT IN ANY WAY RELEASE THE DEVELOPER AND THE DESIGN ENGINEER FROM LIABILITY FOR THE ADEQUACY OF THE DESIGN NOR FROM LIABILITY CAUSED BY AND RESULTING FROM THE CONSTRUCTION OF IMPROVEMENTS AS PROVIDED IN THE ABOVE SPECIFIED DOCUMENTS.

MARIE C. LEAL, P.E.
DIRECTOR OF SPECIAL PROJECTS AND WATER / WASTEWATER ENGINEERING,
PLANNING & OPERATIONS
FOR THE BROWNSVILLE PUBLIC UTILITIES BOARD

LIFT STATION FOR RIVER WOODS
SUBDIVISION AND SURROUNDING AREAS
BROWNSVILLE, TEXAS



Revision No.	Date	Description



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GENERAL CONSTRUCTION NOTES:

- 1. ALL MATERIALS, WORKMANSHIP AND IMPROVEMENTS SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES...
2. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL SCHEDULE A PRECONSTRUCTION CONFERENCE...
3. PRE-CONSTRUCTION PHOTOGRAPHS SHALL BE TAKEN TO SHOW EXISTING CONDITIONS OF THE SITE AND ADJOINING STRUCTURES TO REMAIN...
4. THE CONTRACTOR SHALL HAVE A PERSON ON CALL 24 HOURS A DAY TO ADDRESS CONSTRUCTION AREA MAINTENANCE ITEMS...
5. STANDARD WORK HOURS: THE STANDARD WORK HOURS FOR THE OWNER IS 8:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY...
6. THE CONTRACTOR SHALL VERIFY ALL HORIZONTAL AND VERTICAL DIMENSIONS AND THE LOCATION OF EXISTING AND PROPOSED PROJECT ELEMENTS...
7. ALL MATERIALS AND LABOR, WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT, WHICH ARE NECESSARY FOR THE PROPER INSTALLATION AND FUNCTION OF THE SYSTEM SHALL BE FURNISHED BY THIS CONTRACTOR...
8. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE, EQUIPMENT, MATERIALS OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S AND/OR OWNER'S APPROVAL IN WRITING...
9. CONTRACTOR TO PLAN AND PERFORM HIS WORK IN A MANNER THAT WILL PERMIT SAFE PUBLIC TRAFFIC MOVEMENT ON ALL STREETS...
10. THE CONTRACTOR SHALL PLAN AND SEQUENCE ALL CONSTRUCTION ACTIVITY IN SUCH A MANNER THAT WILL PERMIT SAFE PEDESTRIAN AND VEHICULAR MOVEMENT...
11. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS...
12. CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICES SUCH AS SIGNS, LIGHTS, SIGNALS, AND OTHER DEVICES, AS NEEDED FOR THE SAFETY OF THE PUBLIC AND WORKERS...
13. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND SAFETY OF THE WORK SITE, WORKERS, SUBCONTRACTORS, MATERIALS AND EQUIPMENT...
14. THE DRAWINGS AND SPECIFICATIONS REPRESENT THE COMPLETED STRUCTURES/DESIGN...
15. THESE PLANS, PREPARED BY HALFF ASSOCIATES, INC., DO NOT EXTEND TO OR INCLUDE DESIGN OF SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES...
16. CONTRACTOR SHALL PROVIDE A SEQUENCE OF WORK AND PERFORM ASSOCIATED GRADING THAT PROVIDES POSITIVE OUTFALLS AT ALL TIMES...
17. CONSTRUCTION STAKING DESIGN PLAN SHALL BE PROVIDED BY THE CONTRACTOR AND AT CONTRACTOR'S EXPENSE...
18. CONTRACTOR TO COORDINATE WITH THE OWNER ON WORK SCHEDULES, TESTING, GENERAL INSPECTION, AND OPERATION AND LOCATION OF EXISTING LINES...
19. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL CONSTRUCTION MATERIALS TESTING AND GENERAL INSPECTIONS...
20. MATERIAL TESTING SHALL BE PROVIDED BY THE OWNER. RE-TEST TO BE AT CONTRACTOR'S EXPENSE...
21. THE CONTRACTOR SHALL INSPECT ALL MATERIALS AT DELIVERY AND NOTIFY THE OWNER OF ANY DAMAGED OR QUESTIONABLE MATERIALS...
22. THE CONTRACTOR SHALL COORDINATE ANY REQUIRED TEMPORARY RELOCATION OF MAILBOXES WITH THE BROWNSVILLE POSTMASTER...
23. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED (NO SEPARATE PAY)...
24. THE CONTRACTOR IS ENCOURAGED TO INSPECT AND DOCUMENT THE PRE-CONSTRUCTION CONDITION OF ALL PRIVATE DRIVEWAYS...
25. ANY DAMAGE TO EXISTING PAVEMENT OR EXISTING STRUCTURES SHALL BE REPAIRED TO PRECONSTRUCTION CONDITION OR BETTER AT CONTRACTOR'S EXPENSE...
26. NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER OR ENGINEER, UNLESS OTHERWISE NOTED.

27. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK...

28. CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING NEAR EXISTING FACILITIES AND/OR UTILITIES. ALL DAMAGE TO BE REPAIRED AT CONTRACTOR'S EXPENSE...

29. INFORMATION ON EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS FROM BEST AVAILABLE INFORMATION OF RECORD AND SPOT FIELD LOCATIONS...

30. ALL WORK SHALL BE PERFORMED WITHIN THE OWNER'S RIGHT-OF-WAY, EASEMENTS OR ON PUBLIC-OWNED PROPERTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PERMISSION TO USE PRIVATE PROPERTY...

31. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED RESIDENTS OR BUSINESS OWNERS OF CONSTRUCTION ACTIVITY THROUGH THE USE OF BILINGUAL (ENGLISH AND SPANISH) DOOR TAGS, PAMPHLETS OR SIMILAR METHODS...

30. CONTRACTOR TO ENSURE SAME DAY ACCESS TO ALL RESIDENCES AND BUSINESSES ADJACENT TO CONSTRUCTION.

32. THE CONTRACTOR SHALL DO ALL NECESSARY CLEARING, EXCAVATION, TRENCHING, SHORING, DE-WATERING, DEMOLITION, GRADING, BACKFILLING, ETC. TO COMPLETE THE PROJECT...

33. THE CONTRACTOR SHALL PROVIDE A GROUNDWATER CONTROL PLAN FOR APPROVAL BY THE OWNER PRIOR TO CONSTRUCTION. THE PLAN SHALL BE DEVELOPED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER...

34. THE CONTRACTOR SHALL PROVIDE AN EMERGENCY PLAN, IN CASE OF A LARGE RAIN EVENT OR OTHER IMPACTFUL EVENT FOR APPROVAL BY THE OWNER PRIOR TO CONSTRUCTION...

35. ALL COMPACTION SHALL BE ACHIEVED BY MECHANICAL METHODS. NO WATER JETTING ALLOWED, UNLESS APPROVED BY THE OWNER.

36. ALL SPOIL MATERIAL AND DEBRIS SHALL BE DISPOSED OFFSITE BY THE CONTRACTOR IN A LEGAL MANNER, FURNISHING AND TRANSPORTATION OF ALL OFFSITE MATERIAL TO BE AT CONTRACTOR'S EXPENSE.

37. DEMOLITION, REMOVAL AND DISPOSAL OF ALL EXCESS CONCRETE, CURBS, RUBBLE, ETC. TO BE DONE IN A LEGAL MANNER AT CONTRACTOR'S EXPENSE.

38. THE CONTRACTOR SHALL KEEP THE CONSTRUCTION AREA AS CLEAN AS POSSIBLE. ALL ASSOCIATED DEBRIS SHALL BE COLLECTED AND PROPERLY DISPOSED OF AT THE END OF EACH WORKDAY.

39. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL RETURN THE SITE TO ORIGINAL CONTOURS UNLESS DIFFERENT FINISHED ELEVATIONS ARE SHOWN ON PLANS...

40. CONCRETE NOTES:

- A. ALL CONCRETE WORK TO BE FORMED, UNLESS OTHERWISE APPROVED.
B. ALL CONCRETE TO BE 3000-PSI MINIMUM AT 28 DAYS, UNLESS OTHERWISE SHOWN.
C. ALL REINFORCING STEEL TO BE ASTM A-615, GRADE 60, UNLESS OTHERWISE SHOWN.
D. ALL EXPOSED CONCRETE WORK TO BE CHAMFERED.
E. ALL CONCRETE USED FOR CURB AND GUTTER, CONCRETE PAVEMENT, DRIVEWAYS, SIDEWALKS AND OTHER FLAT WORK SHALL CONTAIN A MINIMUM OF 1.5 POUNDS OF FIBER MESH PER CUBIC YARD.
F. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH CURING COMPOUND RESIN...
G. EXPANSION JOINTS WILL BE PLACED AT CURB RETURNS, INLETS AND AT THE END OF EACH POUR WITH INTERVALS NOT TO EXCEED 40 FT.
H. CONTRACTION (DUMMY, SAWED OR GROVED) JOINTS SHALL BE 2" DEEP AND PLACED AT MAXIMUM OF 10-FOOT INTERVALS.
I. WHEN CONNECTING TO EXISTING CURB AND GUTTER, THE CONTRACTOR SHALL DRILL AND DOWEL TWO #6 X 16" THE BARS A MINIMUM OF 6-INCHES DEEP INTO THE EXISTING CURB AND GUTTER SECTION.

41. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING ALL FIELD CHANGES AND FURNISHING A LEGIBLE SET OF RECORD DRAWINGS TO THE ENGINEER.

42. WHEN INSTALLING ANY MANUFACTURED PRODUCT, THE CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDED INSTALLATION DIRECTIONS...

UTILITY GENERAL NOTES:

1. THE TYPE, SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES DEPICTED ON THE CONSTRUCTION PLANS WERE RESEARCHED WITH RESPECT TO THE BEST AVAILABLE DATA...

BROWNSVILLE PUB BROWNSVILLE ENGINEERING DEPT. (956) 983-6100
TXDOT - BROWNSVILLE OFFICE (956) 542-2260
CAMERON COUNTY IRRIGATION DISTRICT NO.6 (956) 399-7186
TEXAS GAS SERVICE (800) 959-5325
SPECTRUM/TIME WARNER CABLE (800) 222-5355
AT&T TEXAS (800) 288-2020
AMERICAN ELECTRIC AND POWER (AEP) TEXAS (800) 277-2177
MAGIC VALLEY ELECTRICAL COOPERATIVE (MVEC) (866) 225-5683
FRONTIER COMMUNICATIONS (800) 921-8101
CHARTER COMMUNICATIONS (866) 974-2389
VERIZON (800) 922-0204
MILITARY HIGHWAY WATER SUPPLY CORPORATION (956) 565-2491

2. CONTRACTOR SHALL EXPOSE ANY EXISTING UTILITY THAT MAY BE IN CONFLICT PRIOR TO COMMENCING CONSTRUCTION AND EXCAVATION.

3. THE CONTRACTOR SHALL NOTIFY ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS RESPONSIBLE FOR PUBLIC AND PRIVATE UTILITIES AFFECTED BY HIS/HER OPERATIONS PRIOR TO COMMENCING CONSTRUCTION.

4. CONTRACTOR SHALL AT ALL TIMES ALLOW ACCESS TO EXISTING DRIVEWAY OR PROVIDE/MAINTAIN ALTERNATIVE ALL-WEATHER ROUTES.

5. ALL TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION.

6. ANY DAMAGES TO FENCES, WALKS, OR PRIVATE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

7. ALL CONSTRUCTION MATERIALS TESTING WILL BE COORDINATED THROUGH THE OWNER.

8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL EXCAVATED MATERIAL, EXCESS CONCRETE, AND DEBRIS FROM THE CONSTRUCTION SITE AT NO ADDITIONAL EXPENSE TO THE OWNER.

9. IN ACCORDANCE WITH HOUSE BILLS 662 AND 665 ENACTED BY THE TEXAS LEGISLATURE (70th REGULAR LEGISLATIVE SESSION), THE CONTRACTOR SHALL MEET THE REQUIREMENTS FOR TRENCH SAFETY AS OUTLINED IN THE CURRENT VERSION OF THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS...

10. PRIOR TO COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL PROVIDE A TRENCH SAFETY PLAN. ALL PLANS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS...

11. IN THE EVENT CONDITIONS ENCOUNTERED IN THE FIELD REQUIRE TRENCH SAFETY SYSTEMS OUTSIDE OF THE EXTENTS SUGGESTED TRENCH PROTECTION SHOWN ON THE CONSTRUCTION PLANS, ALL EXCAVATION SHALL CEASE AND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER...

12. THE CONTRACTOR SHALL ENSURE APPROVED TRENCH SAFETY PLANS ARE IMPLEMENTED. FAILURE TO ADHERE TO THE TRENCH SAFETY PLAN WILL RESULT IN A STOP WORK ORDER...

13. TRENCHES OR EXCAVATIONS MAY NOT BE LEFT OPEN OVERNIGHT UNLESS AUTHORIZED IN WRITING BY THE OWNER. IN CASES WHERE TRENCHES ARE LEFT OPEN, THE CONTRACTOR MUST PROVIDE TRAFFIC-RATED, ANCHORED STEEL PLATE COVERS APPROVED BY THE OWNER.

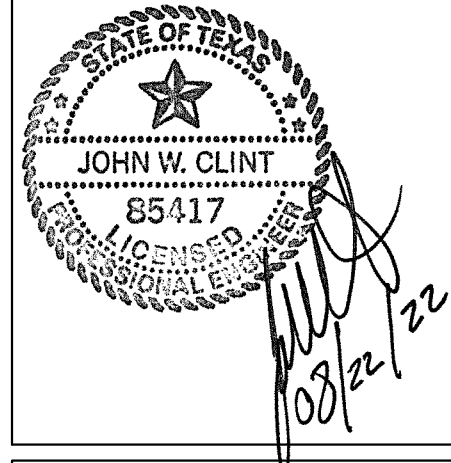
14. CONTRACTOR SHALL PROTECT AND SUSPEND ALL EXISTING UTILITIES TO REMAIN.

15. ALL UTILITIES SHALL REMAIN IN SERVICE AT ALL TIMES. THE PROTECTION, TEMPORARY BYPASS PUMPING, ETC. OF ALL UTILITY LINES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE PROPOSE UTILITIES...

LIFT STATION FOR RIVER WOODS SUBDIVISION AND SURROUNDING AREAS BROWNSVILLE, TEXAS



Table with 2 columns: Revision No., Date, Description



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Sheet Number: 2

UTILITY NOTES

1. ALL CONSTRUCTION OPERATIONS TO BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE.
2. ELECTRICAL LINES ARE LOCATED IN THE PROJECT AREA. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO STATE LAW (VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436 (C)) CONCERNING CONSTRUCTION OPERATIONS IN THE VICINITY OF ELECTRICAL LINES AND THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES.
3. ANY CHANGES OR REVISIONS TO THE UTILITY DESIGN MUST FIRST BE SUBMITTED TO BPUB FOR REVIEW AND WRITTEN APPROVAL.
4. THE CONTRACTOR SHALL GIVE BROWNSVILLE PUB 24 HOUR ADVANCE NOTICE PRIOR TO PLACEMENT OF ANY CONCRETE, TO PERMIT THE REVIEW OF FORMS, REINFORCING STEEL PLACEMENT, AND OTHER PREPARATIONS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST BROWNSVILLE PUB STANDARD SPECIFICATIONS.
6. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, ALL UTILITY CONCRETE IS TO BE CLASS "K" (4000 PSI-28 DAYS), AND ALL REINFORCING STEEL TO BE ASTM A615 GRADE 60.
7. MAXIMUM LENGTH OF OPEN TRENCH TO BE 60', OR AS DIRECTED BY THE OWNER.

WASTEWATER NOTES

1. ALL PIPE BEDDING MATERIAL SHALL CONFORM TO DETAILS AND THE MANUFACTURER'S RECOMMENDATION.
2. ALL INTERNAL CONCRETE SURFACES FOR WASTEWATER MANHOLES TO BE COATED PER MATERIALS AND PROCEDURES SPECIFIED IN CONTRACT SPECIFICATIONS AND DESIGN PLANS.
3. ALL MANHOLE COVERS SHALL BE 32" DIAMETER WATERTIGHT SANITARY SEWER MANHOLE FRAME AND COVER EAST JORDAN IRON WORKS MODEL V-1430A (OR APPROVED EQUAL) AND READ "BROWNSVILLE PUB".
4. THE DISTANCE FROM TOP OF SANITARY SEWER MANHOLE CONE TO FINISHED GRADE TO BE 12" MINIMUM OR 18" MAX (AS PER DETAIL), UNLESS NOTED OTHERWISE ON PLANS.
5. EXISTING WASTEWATER LINES SHALL BE KEPT IN SERVICE UNTIL PROPOSED WASTEWATER SYSTEM IMPROVEMENTS HAVE BEEN COMPLETED AND APPROVED BY THE OWNER.
6. CONTRACTOR TO CONSTRUCT WASTEWATER GRAVITY MAIN FROM DOWNSTREAM END TO UPSTREAM END WITH BELLS FACING UPSTREAM.
7. ALL MANHOLES TO BE BENCHED IN THE DIRECTION OF FLOW TO MINIMIZE TURBULENCE.
8. ALL SEWER LINES, MANHOLES AND FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH TCEQ CHAPTER 217.57 REGULATIONS.

THE OWNER RETAINS THE RIGHTS TO TELEVISION THE LINE TO DETERMINE THE CONDITION OF THE SEWER LINE PRIOR TO FINAL ACCEPTANCE.
9. THE CONTRACTOR SHALL PERFORM QUALITY TESTING FOR THE WATER AND WASTEWATER SYSTEM INSTALLED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS AT HIS EXPENSE. BPUB TO BE GIVEN 48 HRS NOTICE PRIOR TO ALL TESTING AND SHALL BE MONITORED BY BPUB PERSONNEL. TESTING IS TO BE DONE IN ACCORDANCE WITH BPUB STANDARDS.
10. ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18", AND HAVE WATERTIGHT COVERS. MANHOLES SHALL BE MARKED WITH MANHOLE MARKERS (USE MARKER DETAIL AS SHOWN IN "TYPICAL SERVICE CONNECTION") LOCATED AT THE RIGHT-OF-WAY. COST SUBSIDIARY TO OTHER ITEMS.
11. CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICE CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE TO HAVE A SLOPE OF 1/4-INCH PER FOOT PLUS 2' FEET MINIMUM COVER AT THE FUTURE HOME.

UTILITY TESTING NOTES

1. BROWNSVILLE PUBLIC UTILITIES BOARD TO BE GIVEN 48 HOURS NOTICE PRIOR TO ALL TESTING OF WATER LINES AND WASTEWATER LINES, AND DENSITY TESTING. REFER TO SPECIFICATIONS AND TCEQ NOTES FOR TESTING REQUIREMENTS. ALL TESTING TO BE CONDUCTED IN PRESENCE OF B.P.U.B. INSPECTOR.
2. ALL SANITARY SEWERS, EXCLUDING SERVICE LINES, SHALL BE MANDREL TESTED PER TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CRITERIA. MANDREL TEST SHALL NOT BE PERFORMED UNTIL BACKFILL HAS BEEN IN PLACE FOR A MINIMUM OF 30 DAYS.
3. SOIL DENSITY TESTS AND RELATED SOIL ANALYSIS TESTS TO BE ACCOMPLISHED BY AN INDEPENDENT LABORATORY UNDER CONTRACT WITH THE OWNER. TESTS WHICH SHOW UNSATISFACTORY RESULTS ARE TO BE REPEATED AT THE EXPENSE OF THE CONTRACTOR SUBSEQUENT TO CONTRACTOR'S REMEDIAL ACTIVITIES.
4. DENSITY TESTING OF COMPACTED SUBGRADE MATERIAL FOR FIRST COURSE, AND SECOND COURSE OF COMPACTED BASE SHALL BE MADE AT ALL DRIVEWAYS AND INTERSECTING STREETS. IN ADDITION, ONE (1) DENSITY TEST PER LIFT PER FIVE HUNDRED (500) FEET OF INSTALLED PIPELINE SHALL BE CONDUCTED.

EROSION CONTROL NOTES:

1. CONTRACTOR SHALL OBTAIN A SWPPP PERMIT AND POST IT AT THE CONSTRUCTION SITE, IN ACCORDANCE WITH TDPS REQUIREMENTS, PRIOR TO CONSTRUCTION.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING ANY EARTH DISTURBING ACTIVITY.
3. ALL EFFORTS SHALL BE MADE TO CONTAIN DISTURBED SOILS WITHIN THE EXTENTS OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES.
4. THE CONTRACTOR SHALL SEQUENCE ALL CONSTRUCTION IN SUCH A MANNER AS TO MINIMIZE THE AMOUNT AND EXTENTS OF DISTURBED EARTH.
5. A STABILIZED CONSTRUCTION EXIT IS REQUIRED AT ALL POINTS OF DESIGNATED EGRESS FROM THE LIMITS OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION(S) UNLESS OTHERWISE NOTED ON THE PLANS. THE LOCATION(S) OF THE STABILIZED CONSTRUCTION EXIT(S) MAY BE MODIFIED WITH RESPECT TO THE SEQUENCE OF CONSTRUCTION.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY MAINTAINED DURING THE COURSE OF THEIR INTENDED USE.
7. ALL STAGING, MATERIAL STORAGE, STOCKPILE AND REFUSE AREAS SHALL REQUIRE APPLICABLE EROSION AND SEDIMENT CONTROL MEASURES.
8. ALL CONSTRUCTION DEBRIS SHALL BE CONTAINED WITHIN APPROPRIATE RECEPTACLES (ROLL-OFF CONTAINERS, DUMPSTERS, TRASH CANS, WIRE-MESH CAGES, ETC.) AND CONFINED WITHIN PERIMETER EROSION AND SEDIMENT CONTROLS.
9. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE DURING THE COURSE OF EARTH DISTURBING ACTIVITY AND UNTIL FINAL STABILIZATION IS ACHIEVED. STRUCTURAL MEASURES MAY BE REMOVED ONLY UPON FINAL PROJECT ACCEPTANCE BY THE OWNER OR AS DIRECTED BY THE OWNER.
10. PERMANENT STABILIZATION SHALL BEGIN AS SOON AS PRACTICABLE OR AS DIRECTED BY THE OWNER.
11. DUST CONTROL SHALL BE IMPLEMENTED AS NECESSARY OR AS DIRECTED BY THE OWNER. DUST CONTROL MAY CONSIST OF WATERING OR OTHER METHODS APPROVED BY THE OWNER. DUST CONTROL AND ASSOCIATED WATERING OR OTHER METHOD SHALL BE SUBSIDIARY TO THE EROSION CONTROL BID ITEM IN THE UNIT PRICE SCHEDULE.
12. TRACKED DEBRIS SHALL BE SWEEPED AT THE END OF EACH WORKDAY OR AS DIRECTED BY THE OWNER.
13. ALL DISCHARGES ASSOCIATED WITH DEWATERING OPERATIONS SHALL IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES. MEASURES MAY INCLUDE BUT ARE NOT LIMITED TO SEDIMENTATION BASINS OR FILTER SOCKS.
14. CONCRETE WASH-WATER SHALL NOT BE DISCHARGED DIRECTLY INTO A STORM SEWER SYSTEM OR RECEIVING STREAM. ALL WASH ACTIVITIES MUST BE PERFORMED WITHIN THE EXTENTS OF ESTABLISHED EROSION AND SEDIMENT CONTROL MEASURES OR DESIGNATED AREAS APPROVED BY THE OWNER.
15. SEDIMENT SHALL BE CLEARED FROM ALL STORM SEWER PIPES, CULVERTS AND APPURTENANCES WITHIN THE LIMITS OF CONSTRUCTION PRIOR TO FINAL PROJECT ACCEPTANCE. SEDIMENT SHALL BE PROPERLY DISPOSED.
16. STAGING, STOCKPILE AND EQUIPMENT STORAGE AREAS SHALL NOT BE LOCATED WITHIN THE EXTENTS OF ANY TREE DRILINES.

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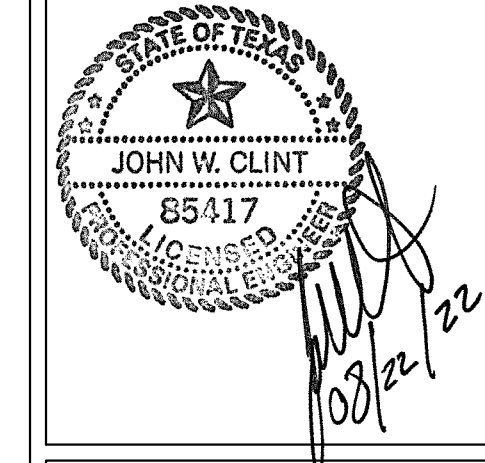
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**LIFT STATION FOR RIVER WOODS
SUBDIVISION AND SURROUNDING AREAS**

BROWNSVILLE, TEXAS



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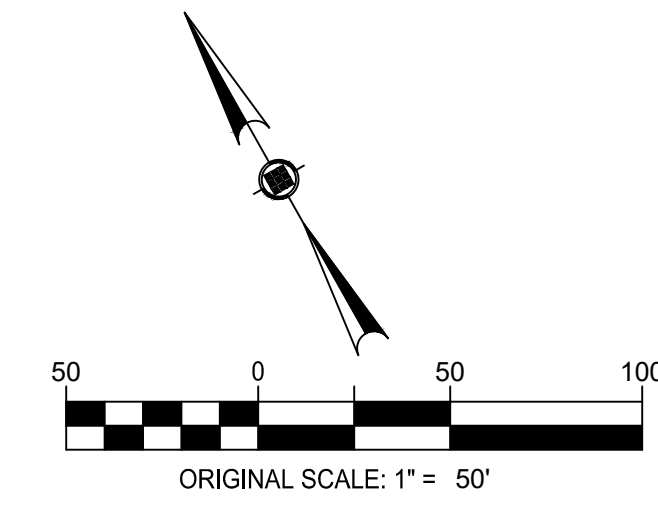
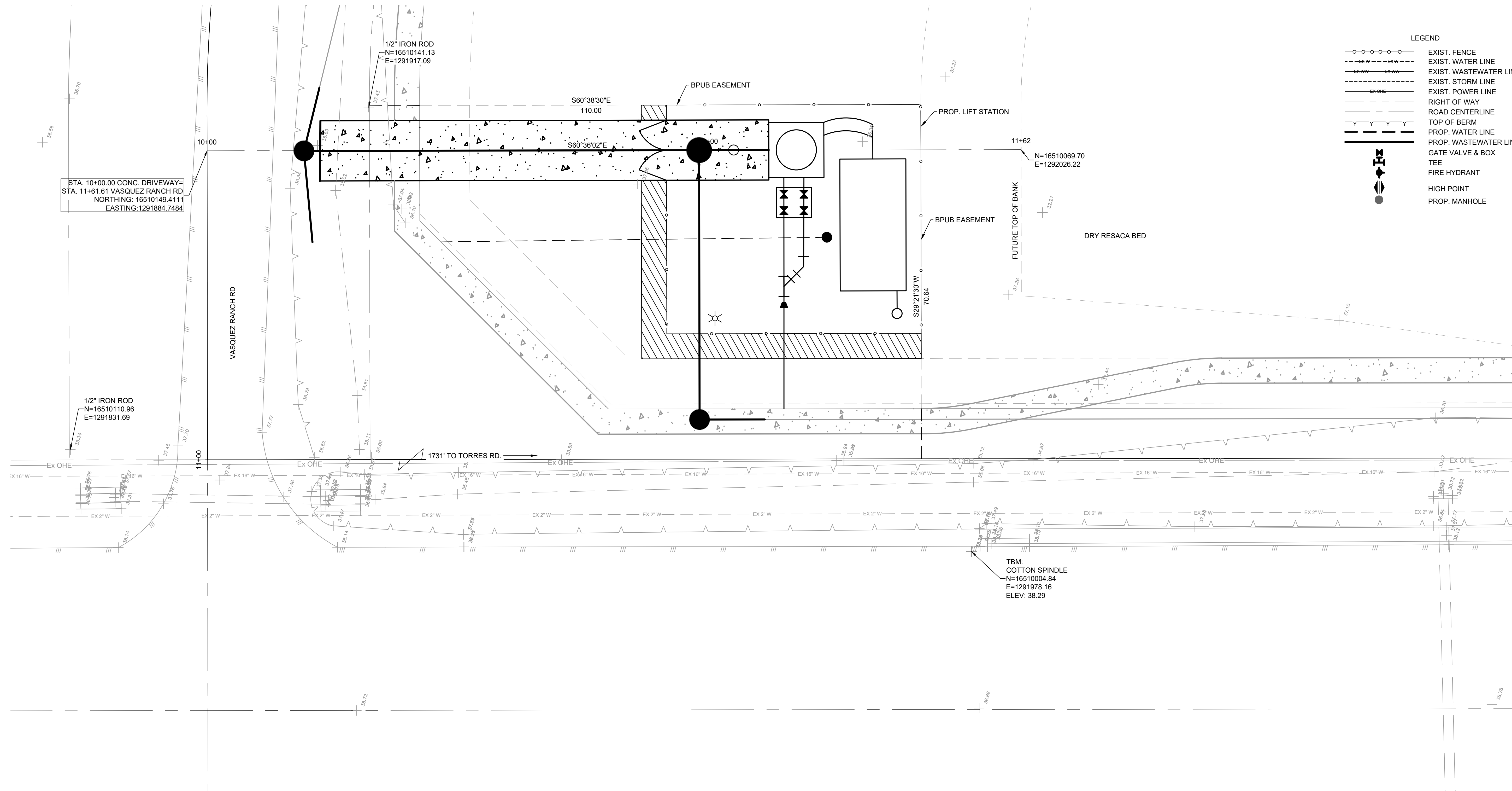
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Sheet Number
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Aug 24, 2022 - 4:45pm

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LEGEND

- EXIST. FENCE
- EXIST. WATER LINE
- EXIST. WASTEWATER LINE
- EXIST. STORM LINE
- EXIST. POWER LINE
- RIGHT OF WAY
- ROAD CENTERLINE
- TOP OF BERM
- PROP. WATER LINE
- PROP. WASTEWATER LINE
- GATE VALVE & BOX
- TEE
- FIRE HYDRANT
- HIGH POINT
- PROP. MANHOLE

STA. 10+00.00 CONC. DRIVEWAY=
 STA. 11+61.61 VASQUEZ RANCH RD
 NORTHING: 16510149.4111
 EASTING: 1291884.7484

1/2" IRON ROD
 N=16510110.96
 E=1291831.69

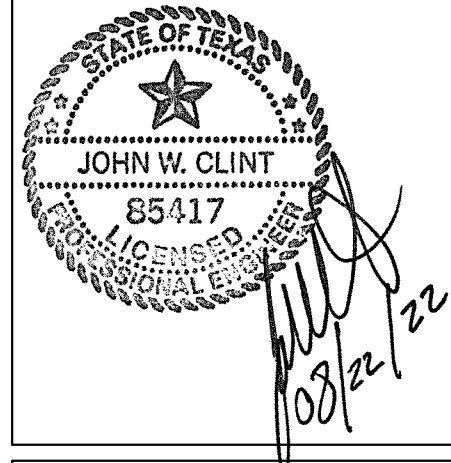
1/2" IRON ROD
 N=16510141.13
 E=1291917.09

TBM:
 COTTON SPINDLE
 N=16510004.84
 E=1291978.16
 ELEV: 38.29

LIFT STATION FOR RIVER WOODS
 SUBDIVISION AND SURROUNDING AREAS
 BROWNSVILLE, TEXAS



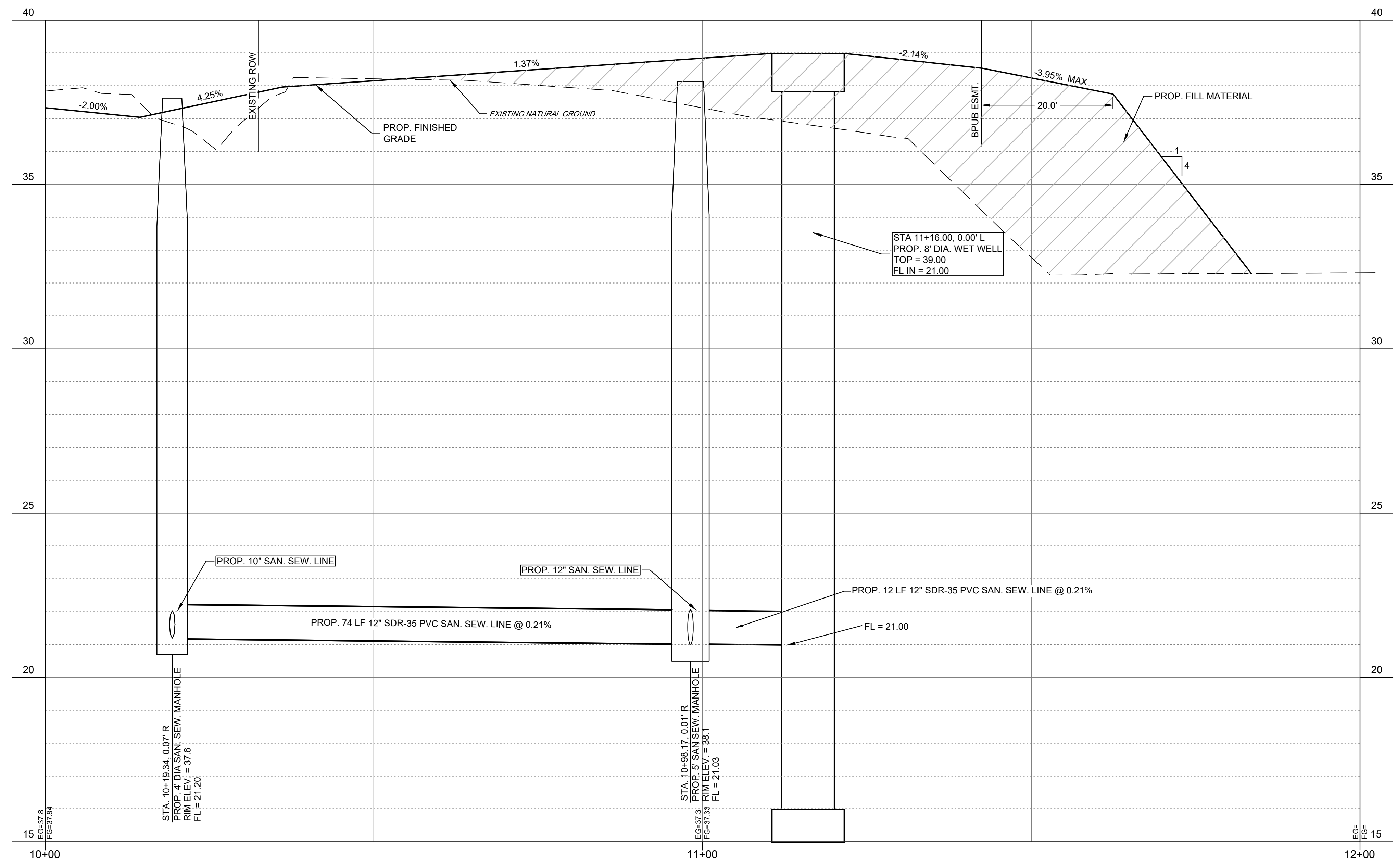
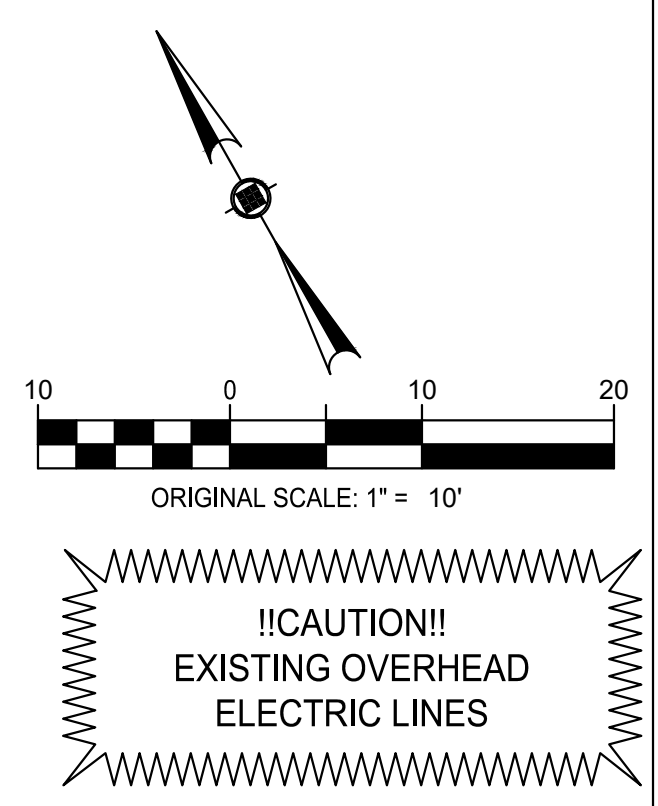
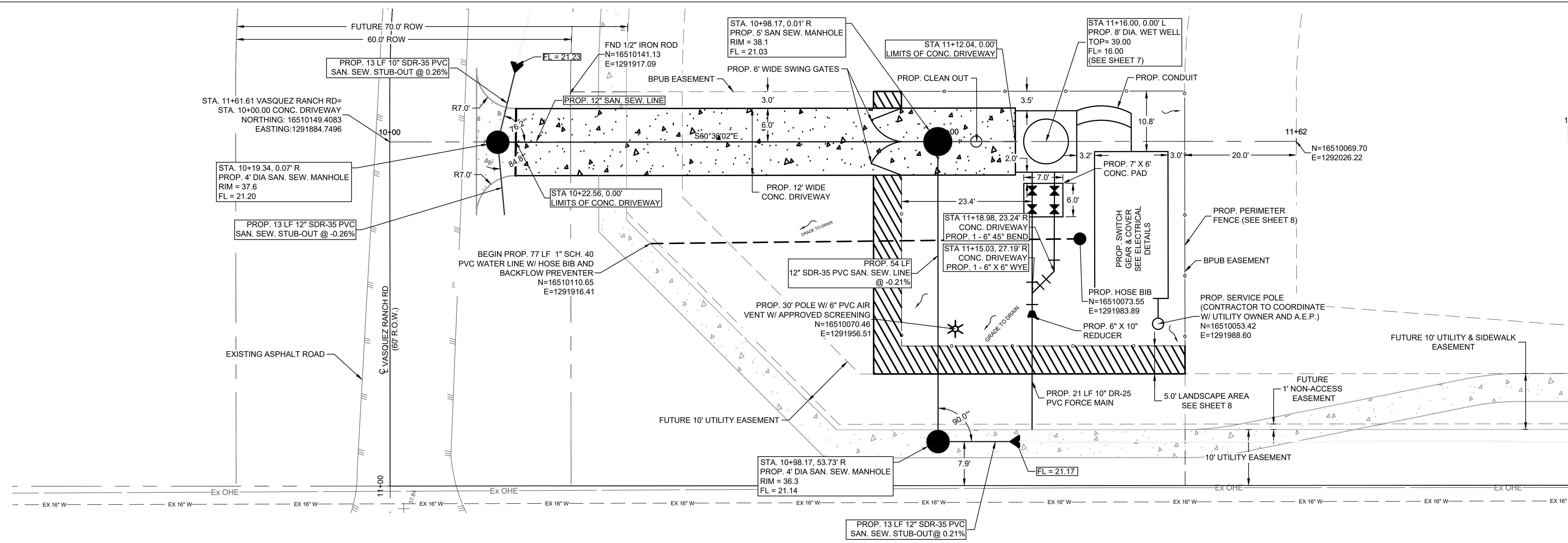
Revision No.	Date	Description



Project No.: 45857.001
 Issued: 8/22/2022
 Drawn By: MH
 Checked By: JWC
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Sheet Title
 SURVEY CONTROL PLAN

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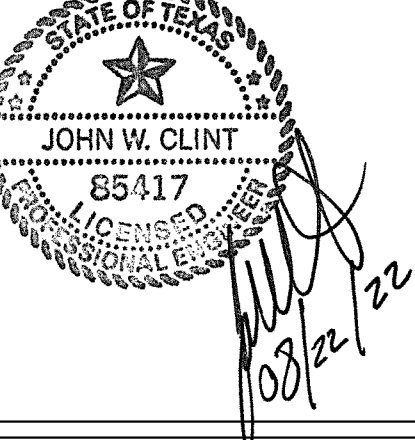


**LIFT STATION FOR RIVER WOODS
SUBDIVISION AND SURROUNDING AREAS**

BROWNSVILLE, TEXAS

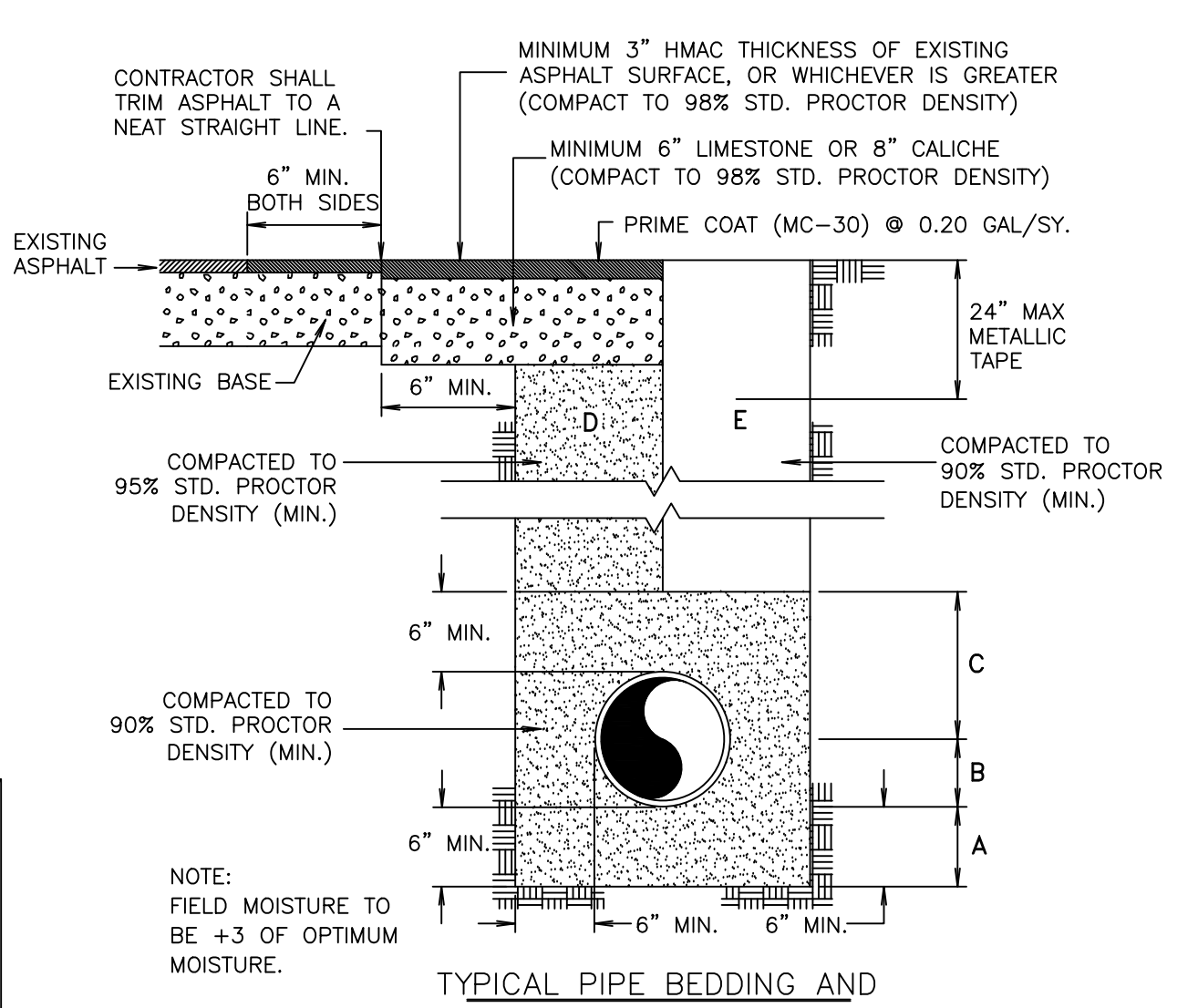
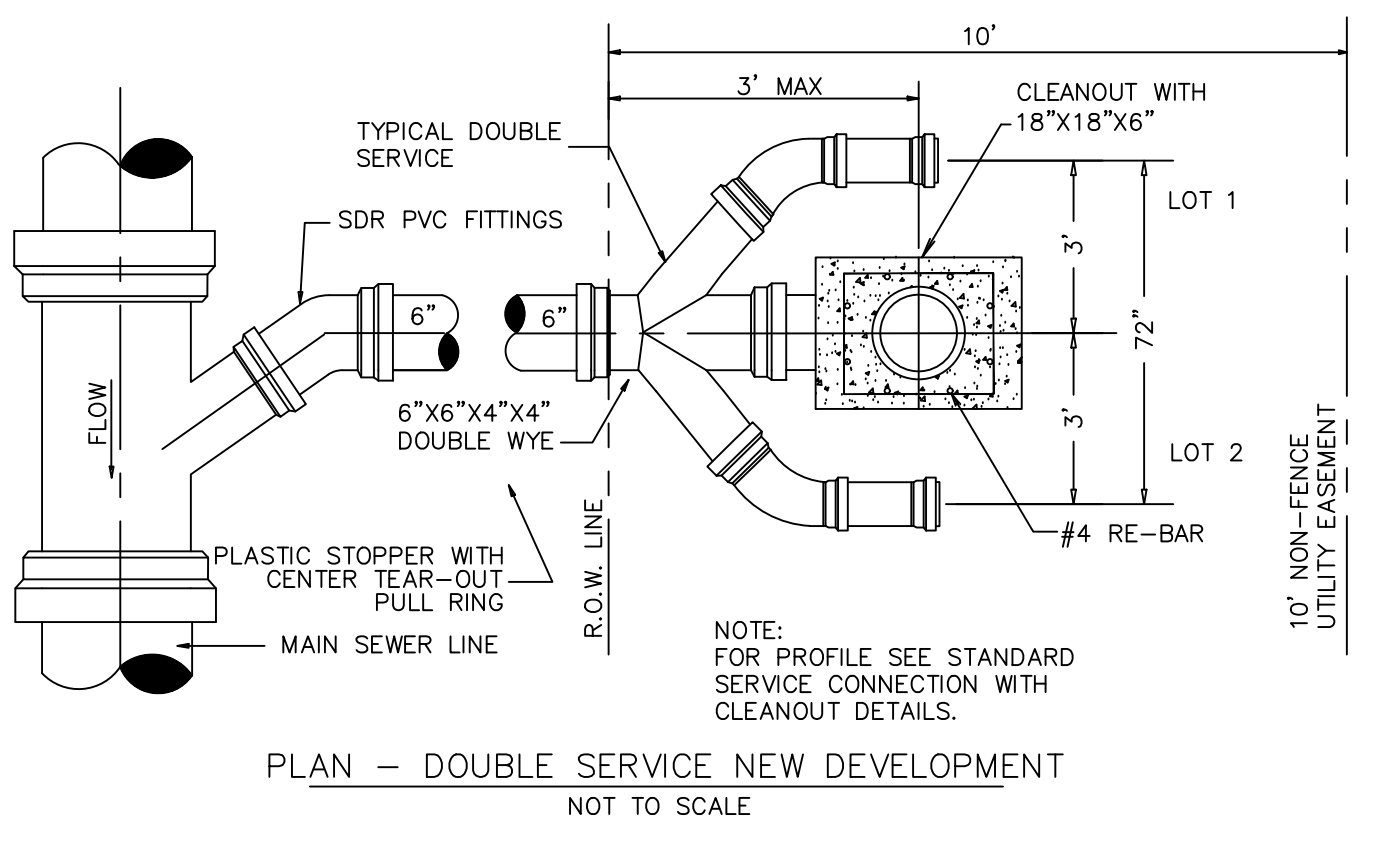
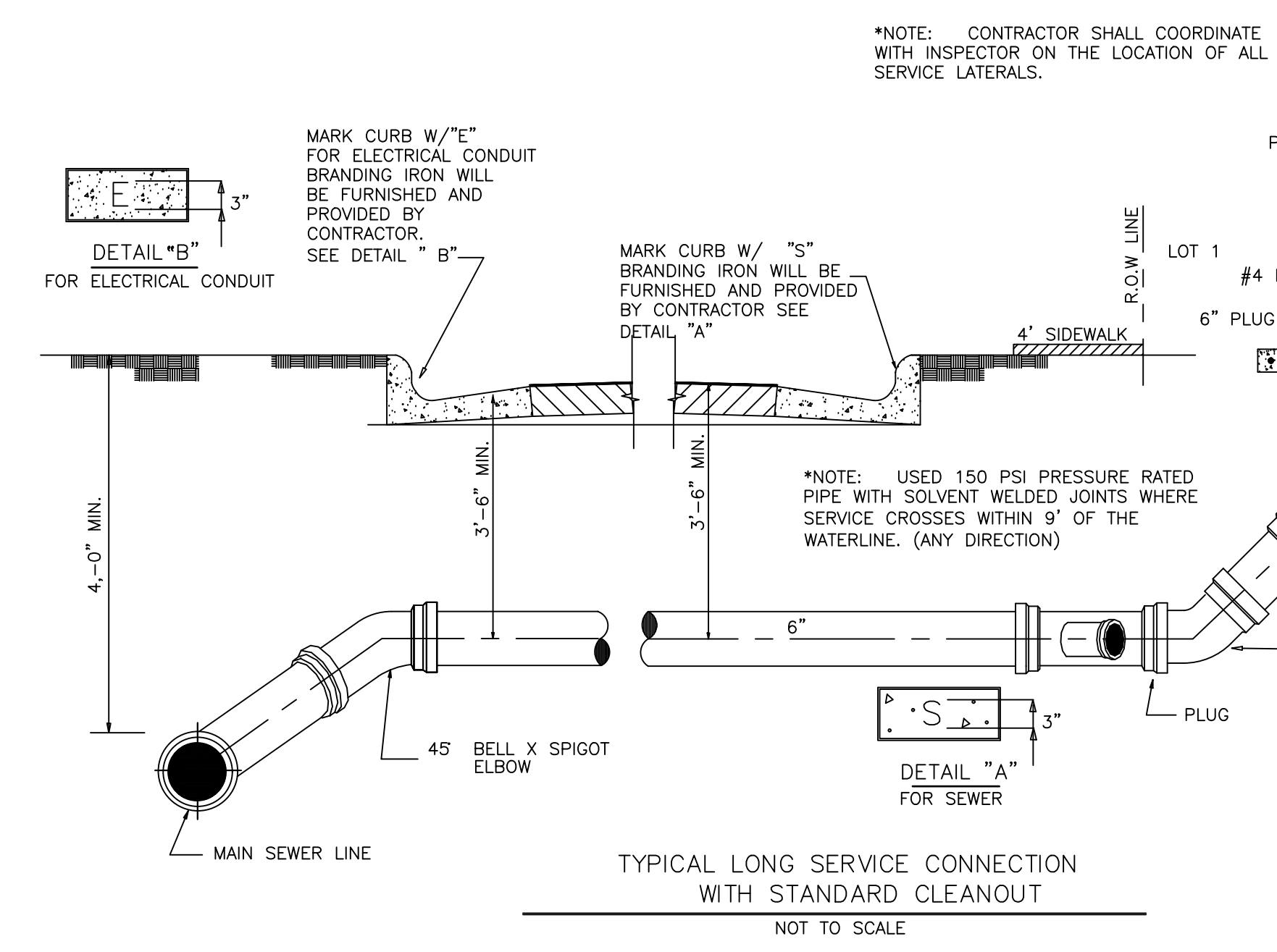
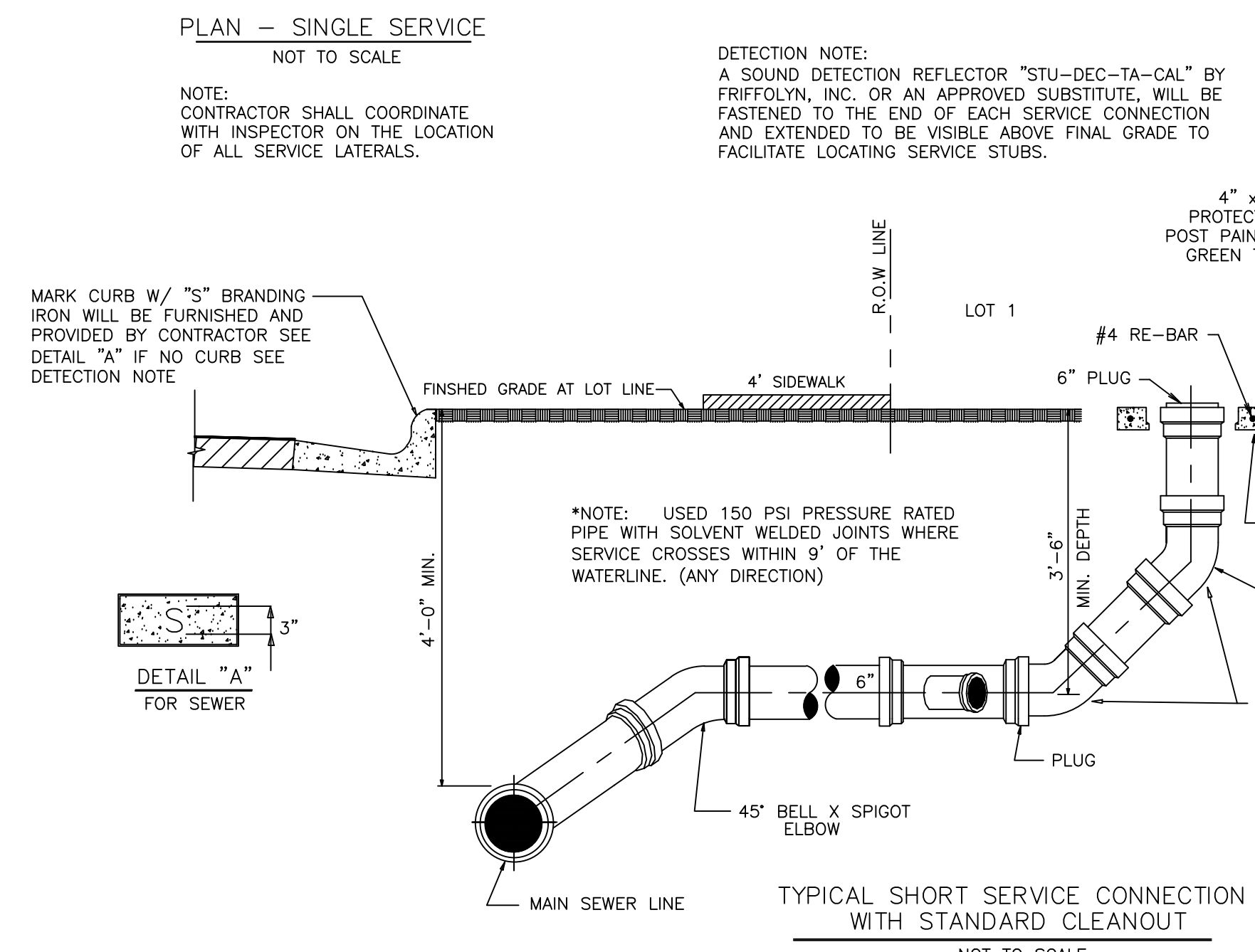
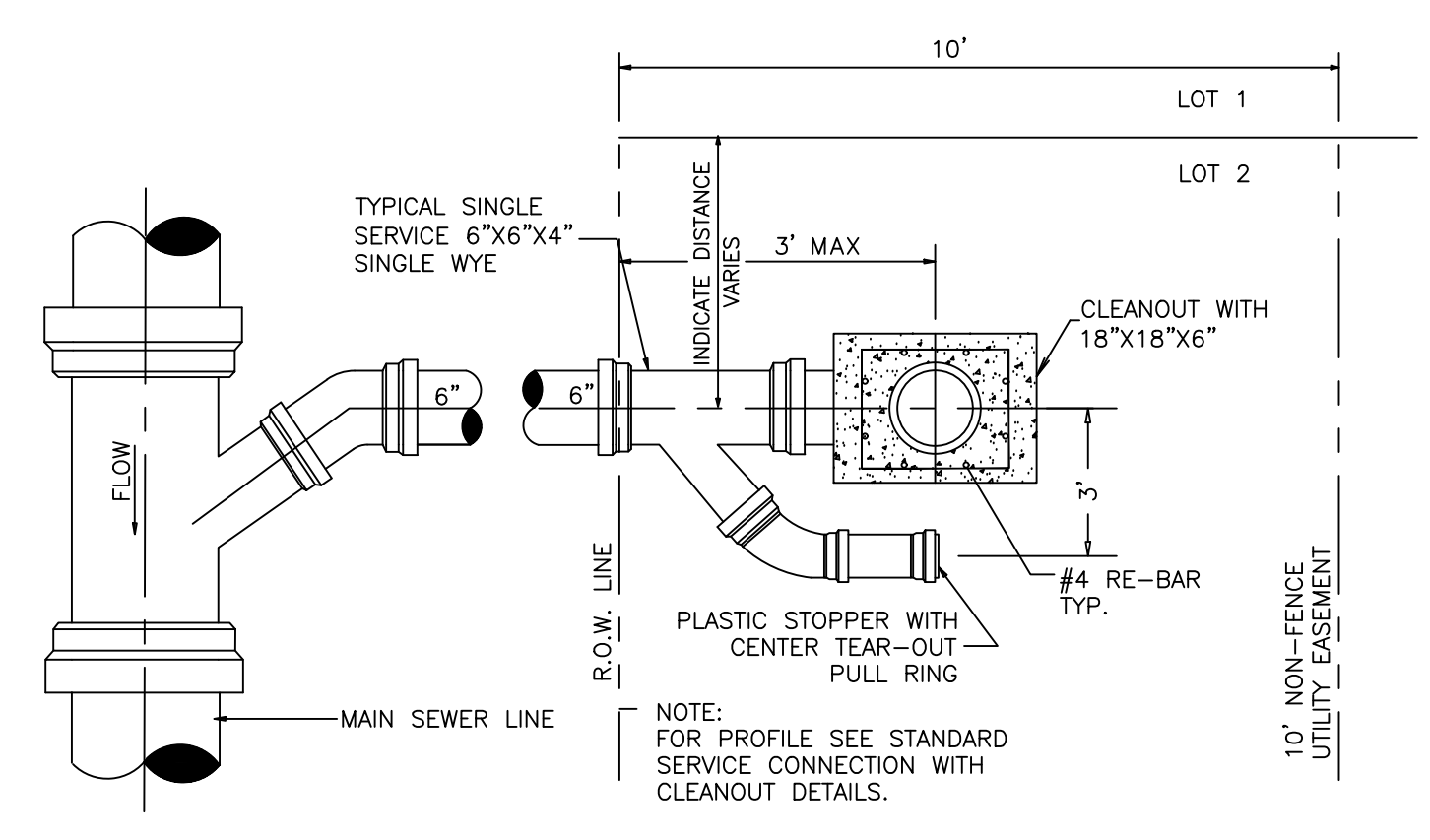
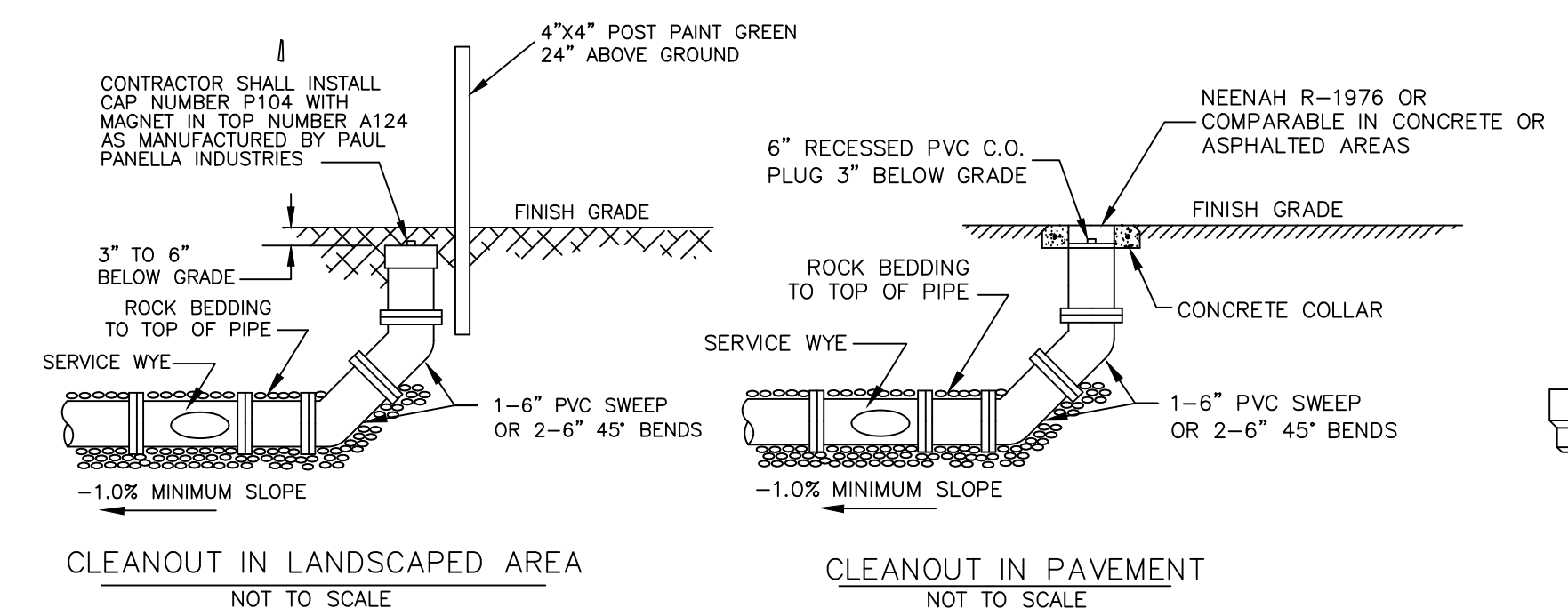


Revision No.	Date	Description

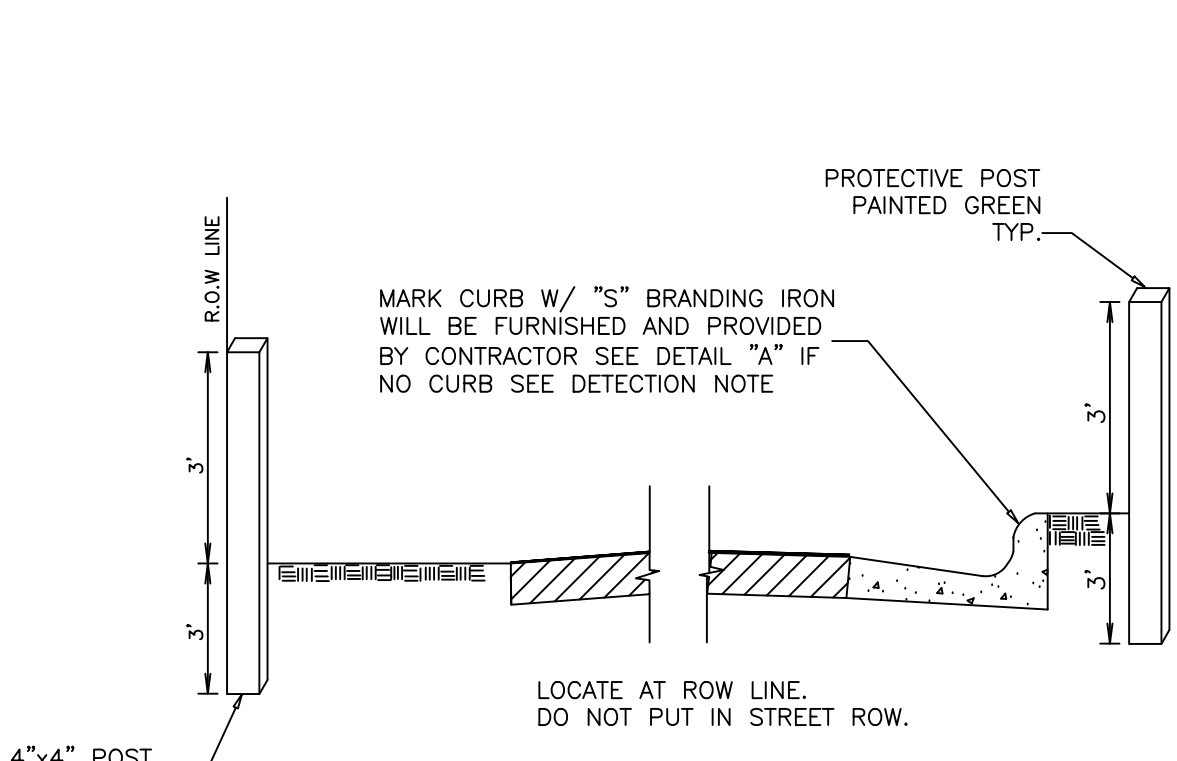
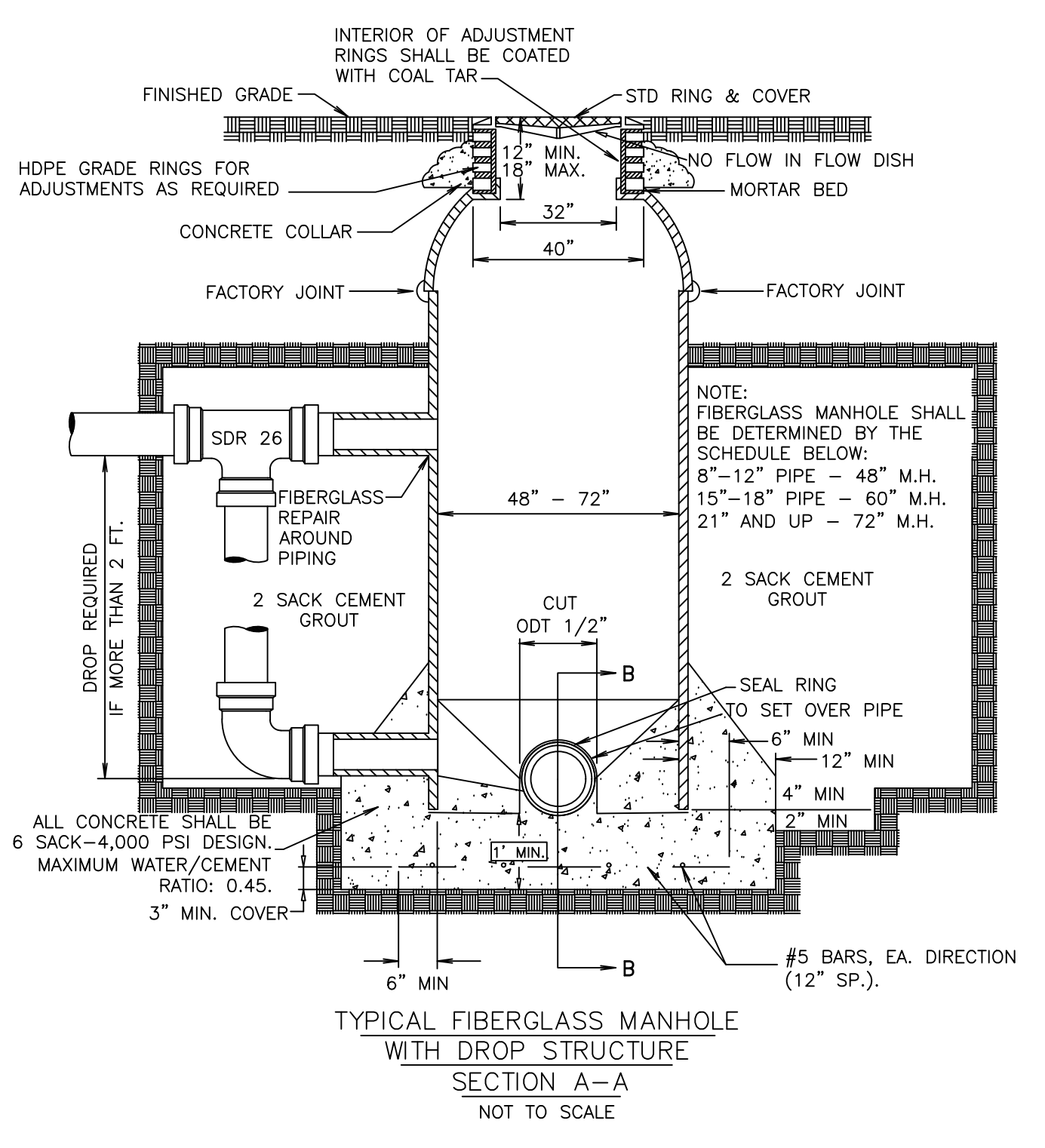
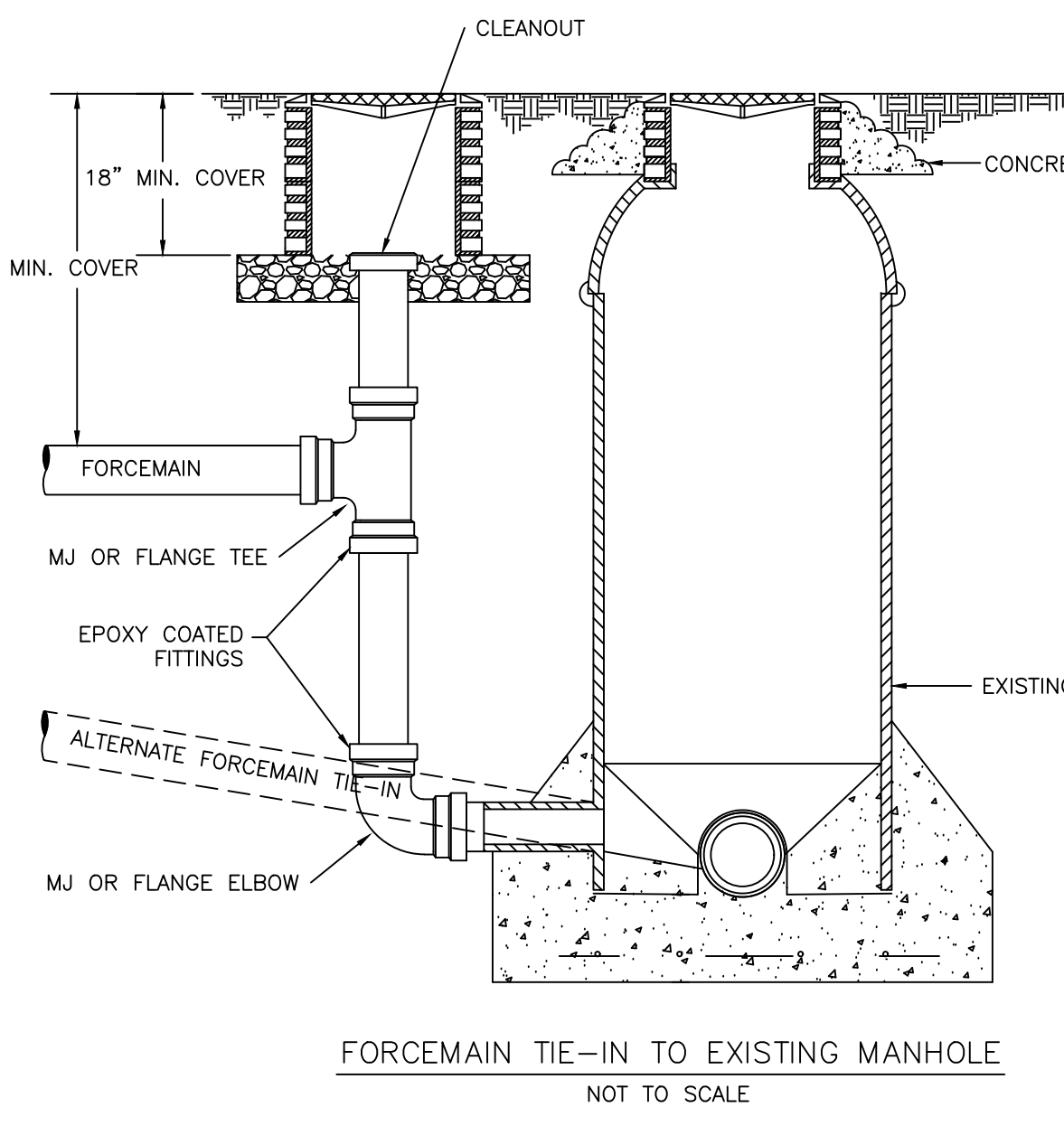


Project No.:	45857.001
Issued:	8/22/2022
Drawn By:	MH
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Sheet Title	LIFT STATION
Sheet Number	5

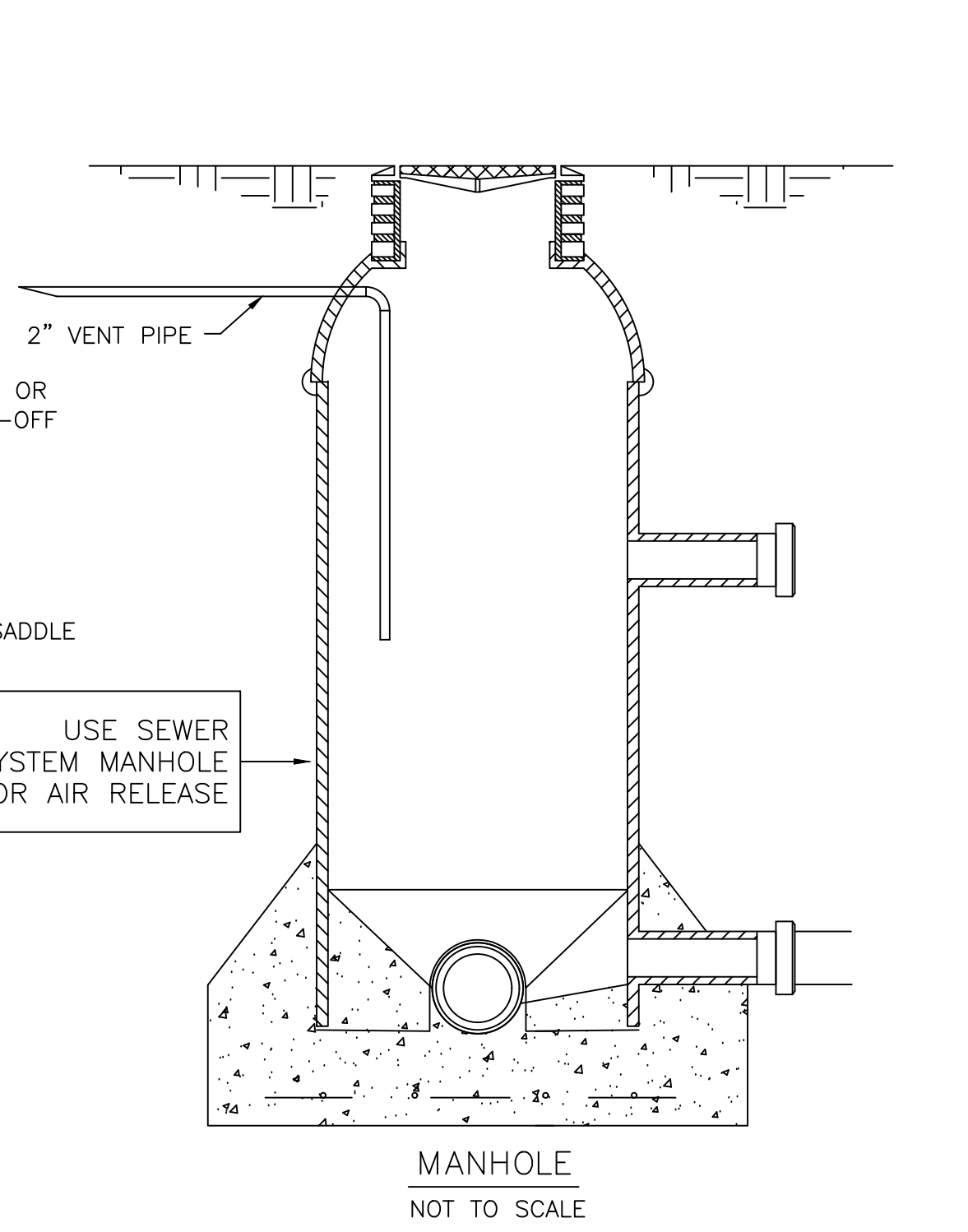
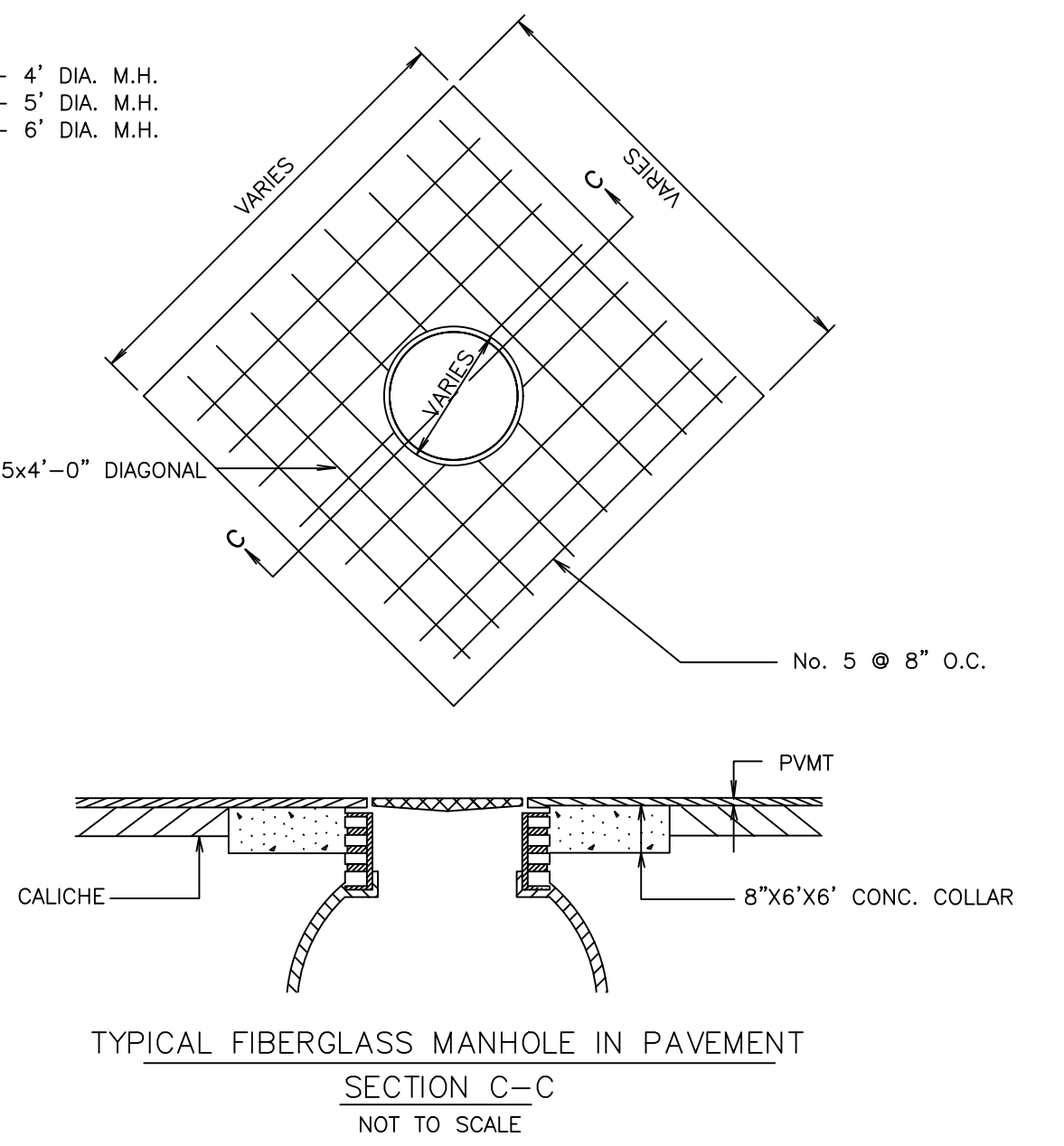
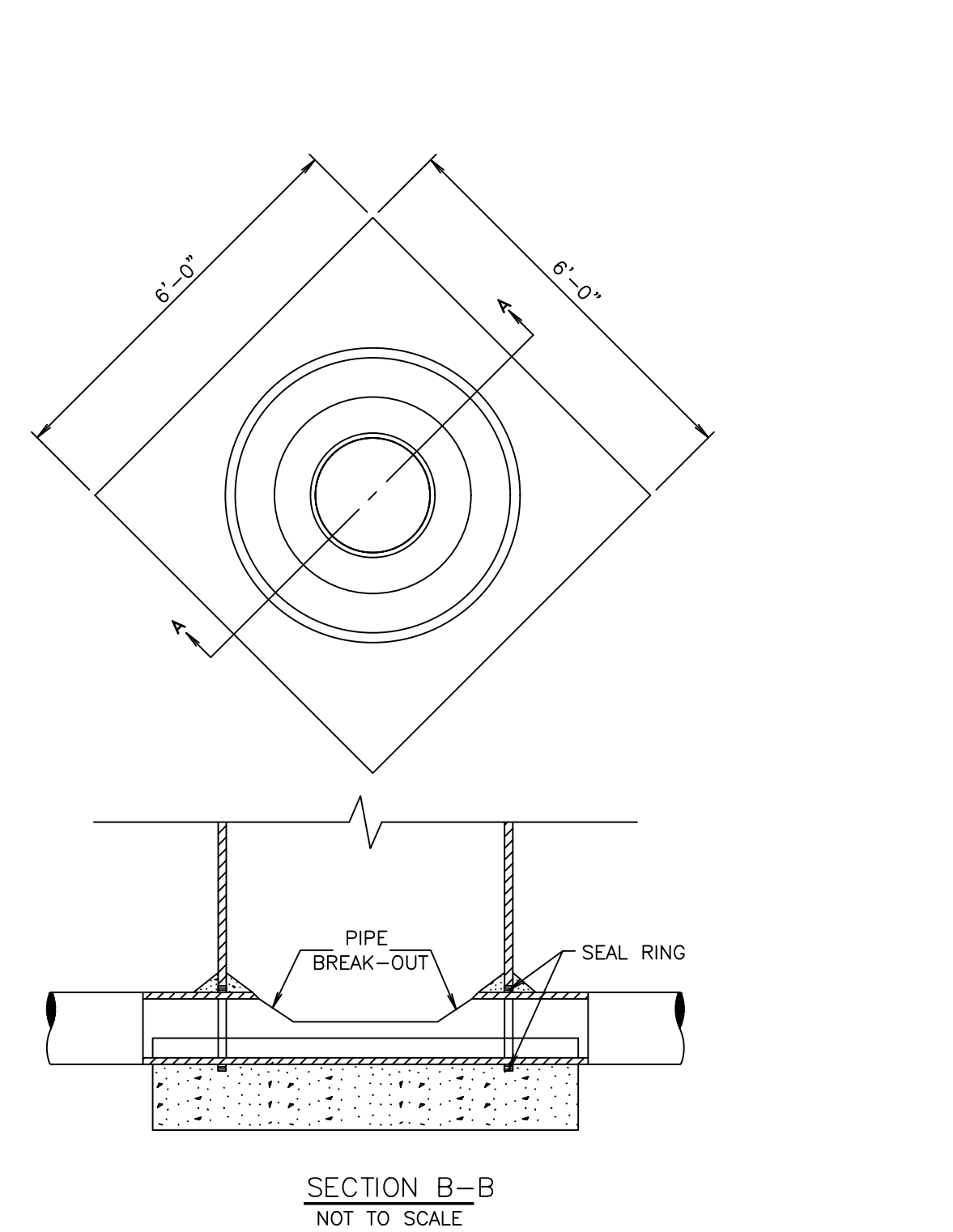
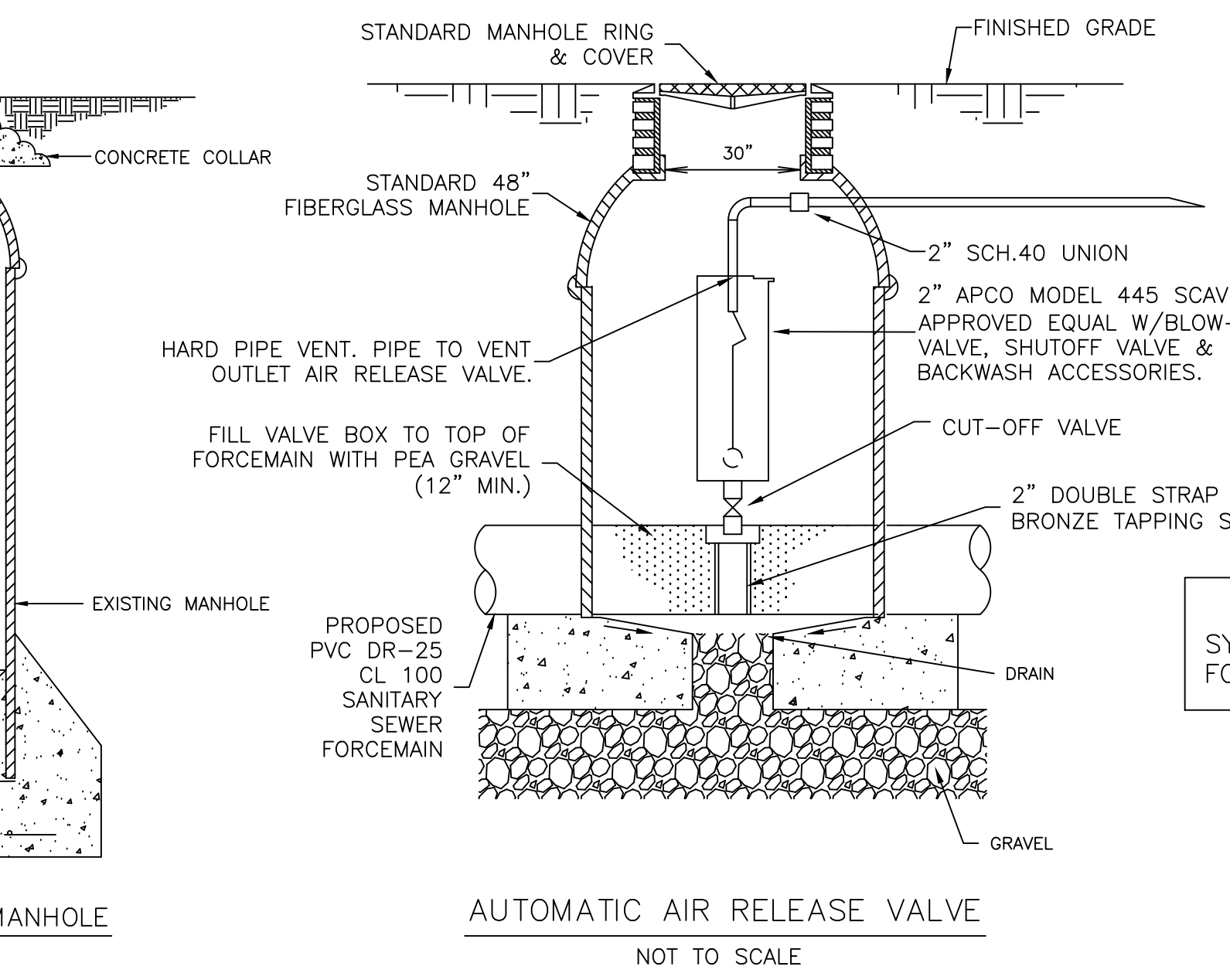
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- A BANK RUN SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE (MIN. THICKNESS = 6").
 - B BANK RUN SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE (4" LIFTS, HAND TAMPED).
 - C BANK RUN SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 6" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED).
 - D BANK RUN SAND BACKFILL, CLASS "A" (6" LIFTS, MECHANICAL COMPACTION).
 - E EARTH BACKFILL, CLASS "B" (12" LIFTS, MECHANICAL COMPACTION).
- FOUNDATION PREPARATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS STABLE.
- BACKFILL AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO 95% STD. PROCTOR DENSITY. THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 6". STRUCTURE BACKFILL MATERIAL SHALL BE BANK RUN SAND, APPROVED SITE SOIL, OR OTHER APPROVED.



NOTE: THE ENGINEER/CONTRACTOR SHALL PROVIDE BPUB WITH "CUT-SHEETS" PRIOR TO APPROVAL FOR BEGINNING CONSTRUCTION PROJECTS. THE "CUT-SHEETS" WILL BE USED TO VERIFY PIPE ELEVATIONS.

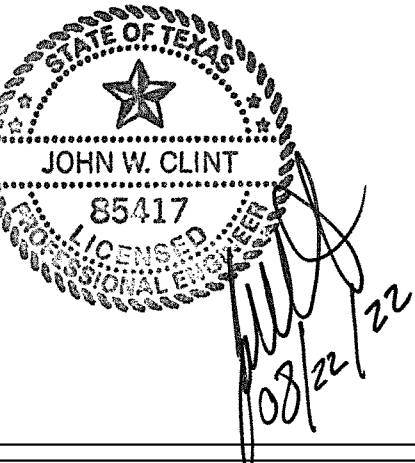


LIFT STATION FOR RIVER WOODS SUBDIVISION AND SURROUNDING AREAS

BROWNSVILLE, TEXAS



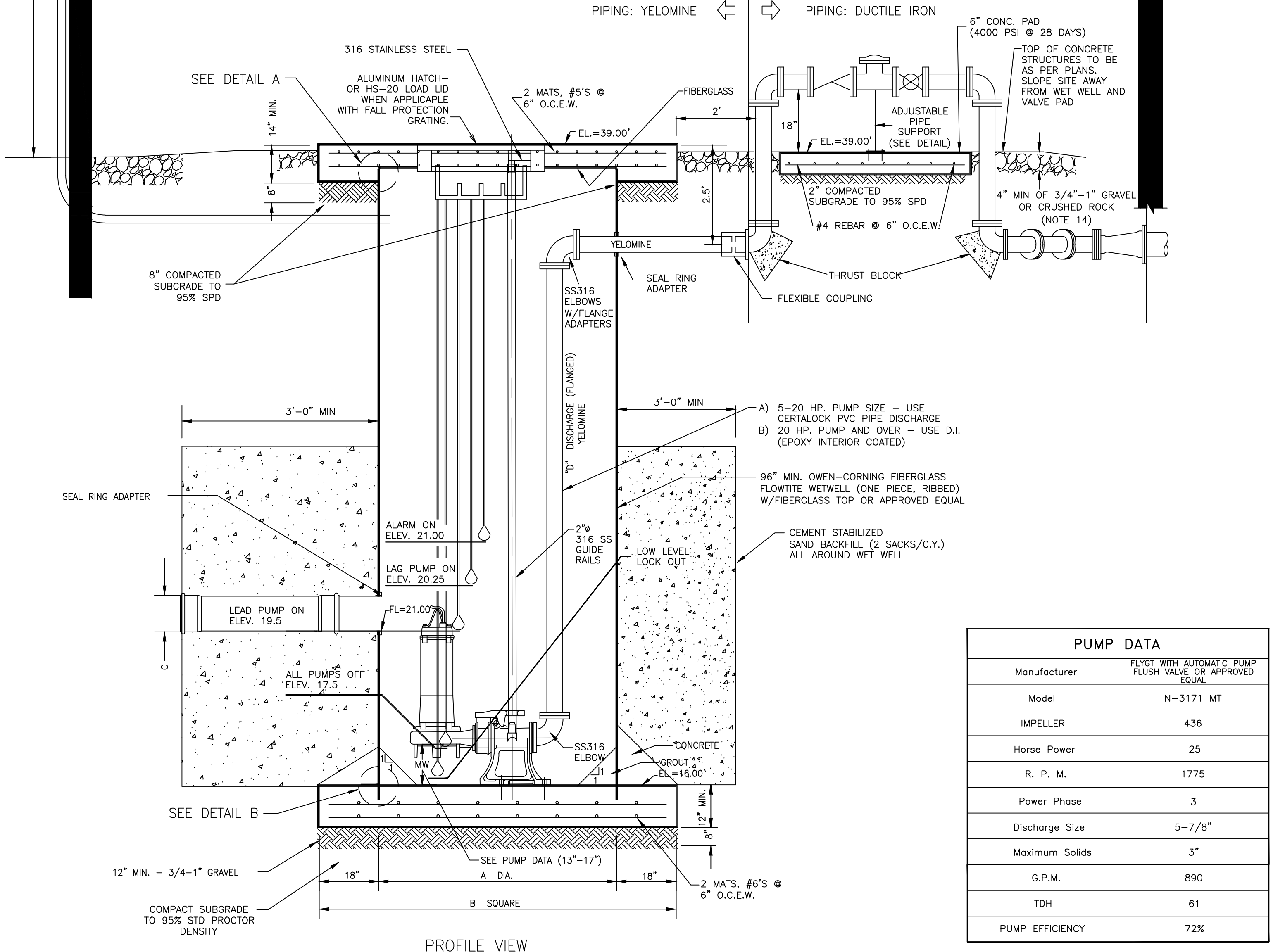
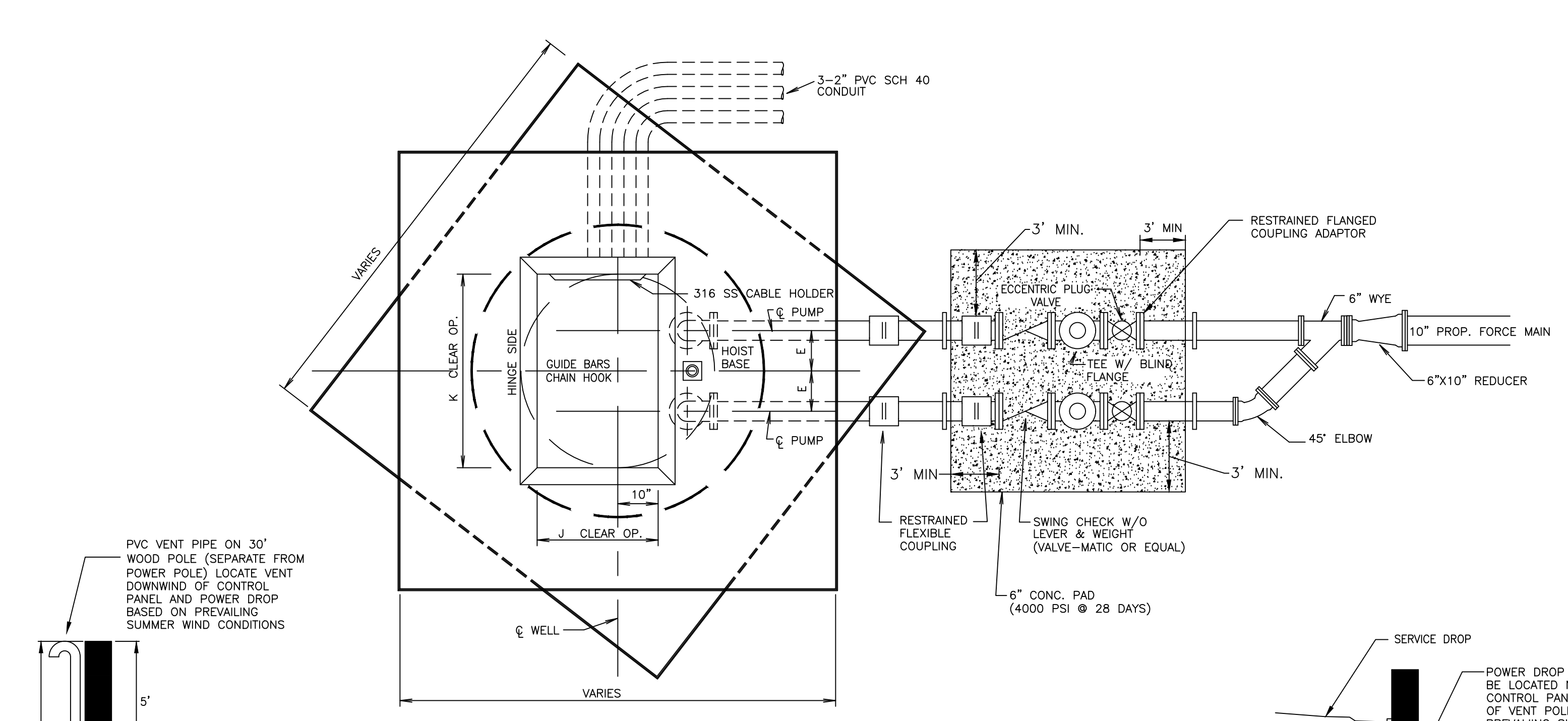
Revision No.	Date	Description



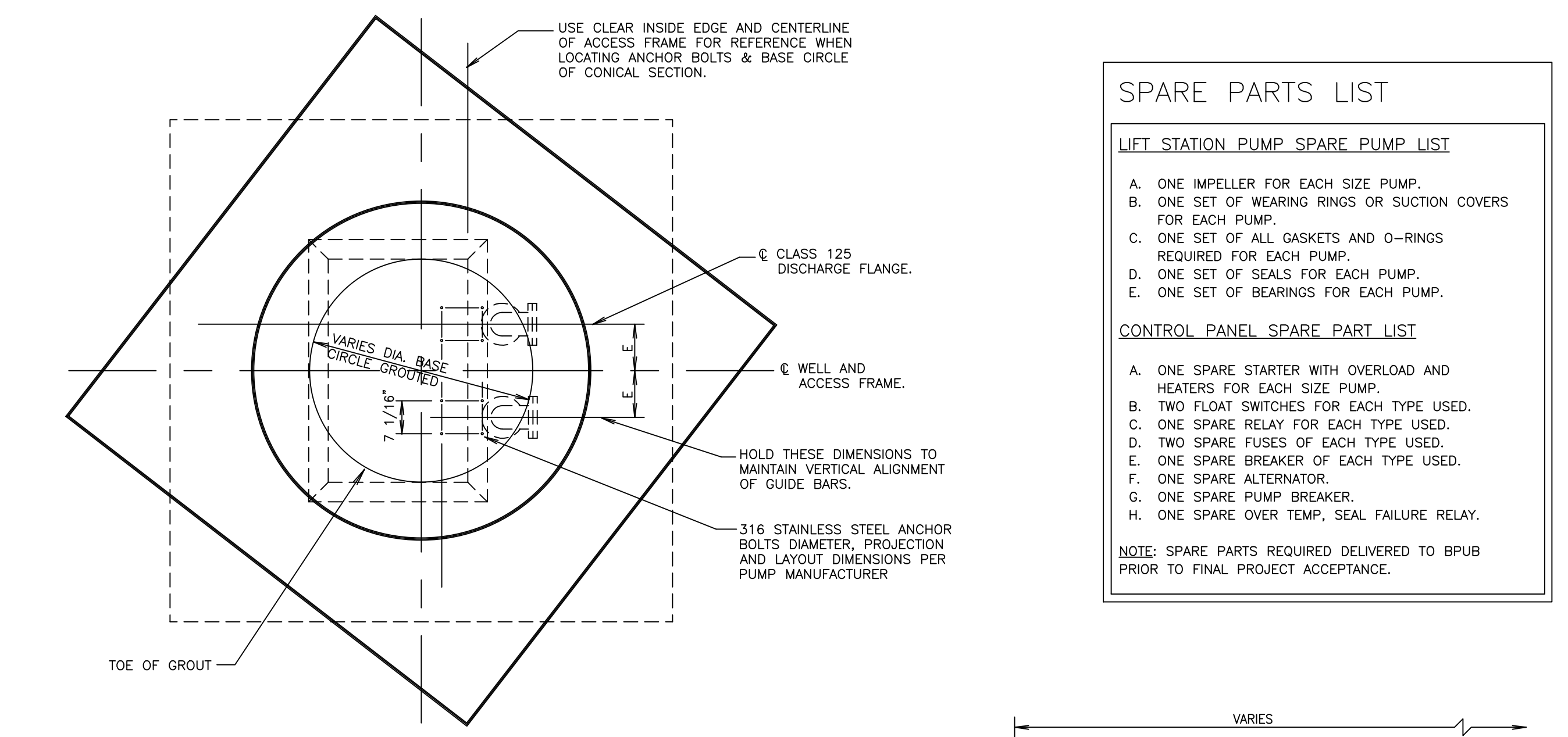
Project No.:	45857.001
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Checked By:	JWC
Scale:	AS NOTED
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Sheet Number:	6

Aug 29, 2022 - 11:49am

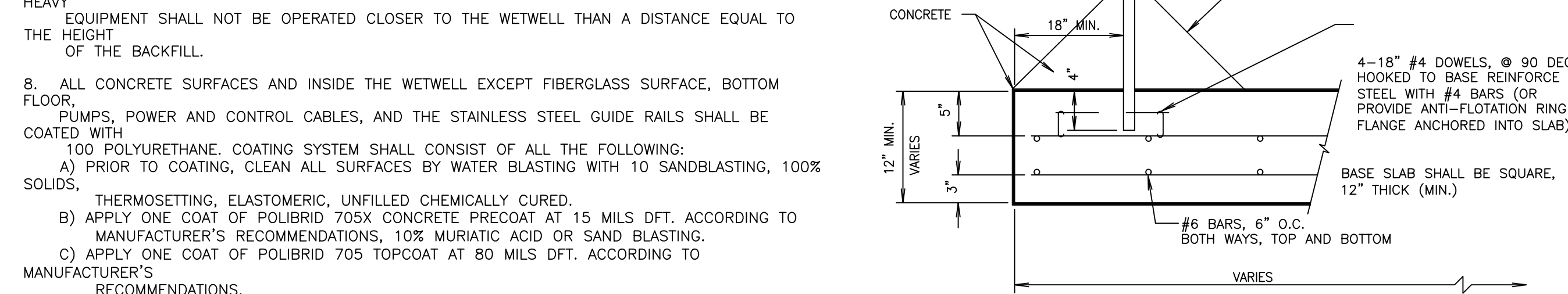
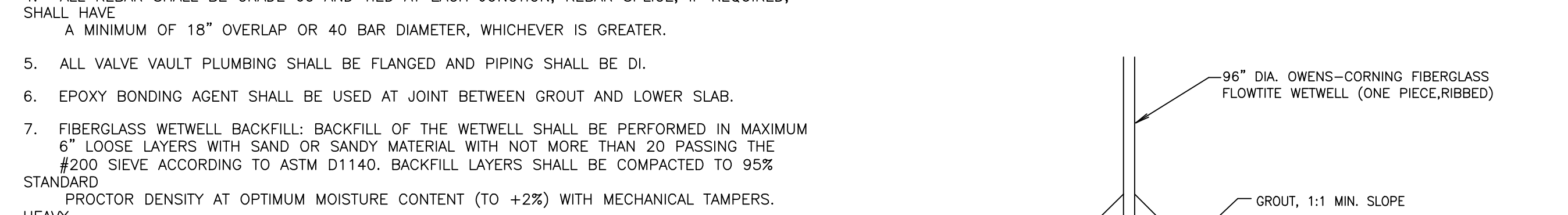
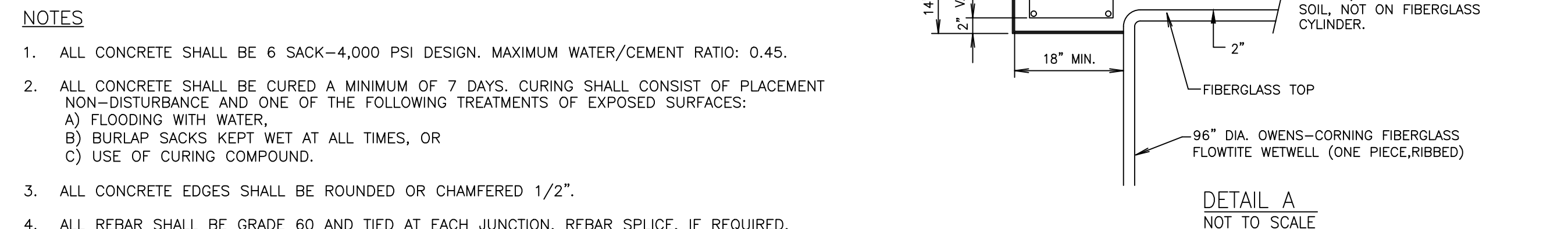
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PROFILE VIEW NOT TO SCALE



PLAN VIEW AT BASE ELEVATION NOT TO SCALE



PIPE SUPPORT DETAILS NOT TO SCALE

NOTES:

- MAXIMUM 4" LONG
- ANCHOR BOLT EMBEDMENT PER BOLT MANUFACTURER
- HOT DIP GALVANIZE AFTER FABRICATION.

PUMP DATA	
Manufacturer	FLYGT WITH AUTOMATIC PUMP FLUSH VALVE OR APPROVED EQUAL
Model	N-3171 MT
Impeller	436
Horse Power	25
R. P. M.	1775
Power Phase	3
Discharge Size	5-7/8"
Maximum Solids	3"
G.P.M.	890
TDH	61
PUMP EFFICIENCY	72%

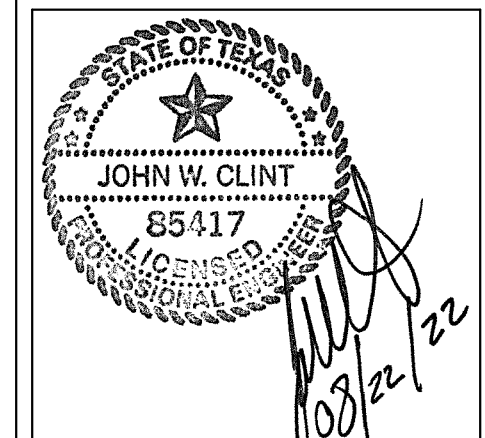
MIN. DIMENSIONS	
DIMENSIONS	6" DISCHARGE
A	96"
B	132"
C	12"
D	6"
E	18"
F	N/A
G	N/A
H	N/A
I	N/A
J *	42"
K *	60"

PIPE SIZE	HOLE RADIUS	FLG PLATE	THRD STUD	CUP ID	BASE PLATE	EXTENSION PIPE SIZE REQ'D NOTE 1	ANCHOR BOLT HOLE DIAMETER NOTE 2
3"	3.00"	.250"	1"x6"	2.5"	4"x6"x1/2"	2"	9/16"
4"	3.75"	.250"	1"x6"	2.5"	4"x6"x1/2"	2"	9/16"
6"	4.75"	.250"	1"x6"	2.5"	4"x6"x1/2"	2"	9/16"
8"	5.87"	.250"	1"x6"	2.5"	4"x6"x1/2"	2"	9/16"
10"	7.125"	.250"	1"x6"	2.5"	4"x6"x1/2"	2"	9/16"
12"	8.50"	.250"	1"x6"	2.5"	4"x6"x1/2"	2"	9/16"
14"	9.375"	.375"	1.5"x6"	3.5"	8"x8"x1/2"	3"	3/4"
16"	9.825"	.375"	1.5"x6"	3.5"	8"x8"x1/2"	4"	3/4"
18"	11.375"	.375"	2"x6"	4.5"	12"x12"x5/8"	4"	3/4"
20"	12.50"	.375"	2"x6"	4.5"	12"x12"x5/8"	4"	3/4"
24"	14.75"	.375"	2"x6"	4.5"	12"x12"x5/8"	4"	3/4"

LIFT STATION FOR RIVER WOODS SUBDIVISION AND SURROUNDING AREAS

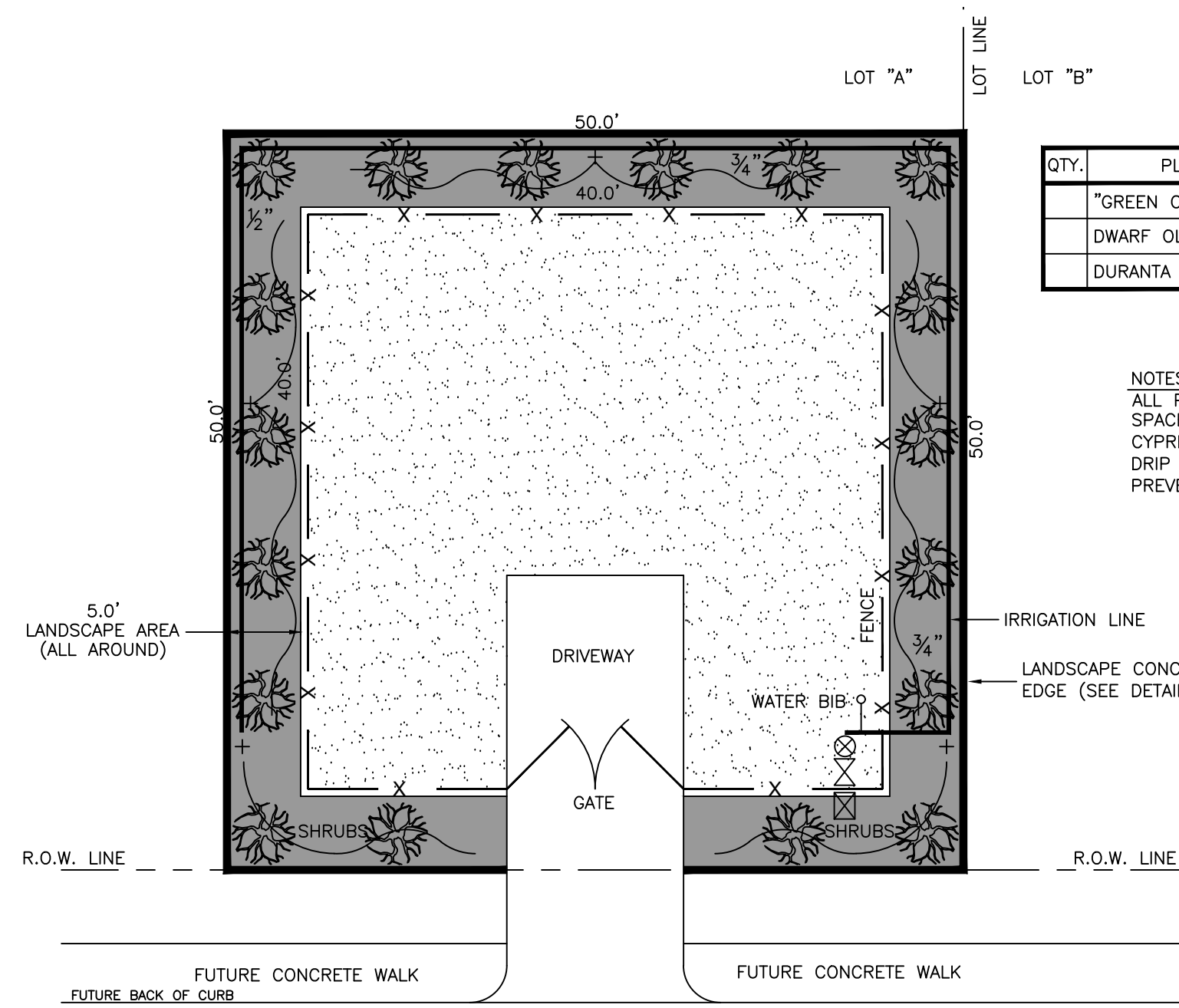


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 Sheet Number

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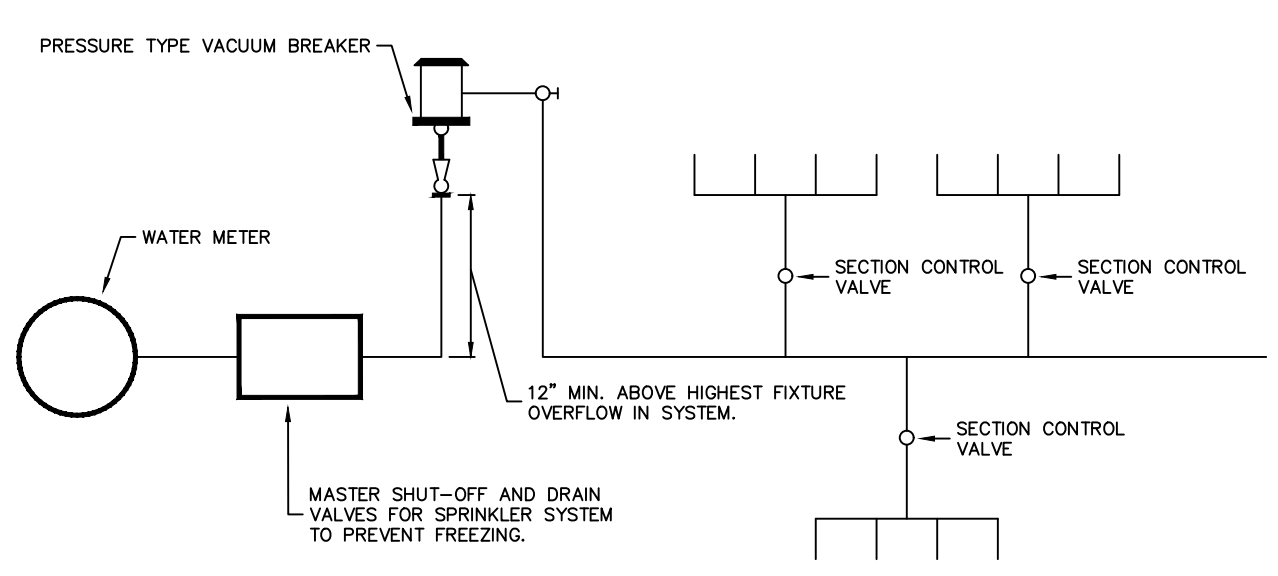
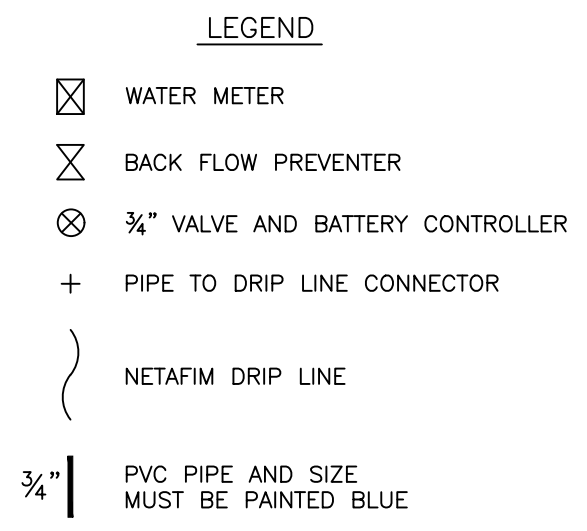


TYPICAL LIFT STATION LANDSCAPING PLAN

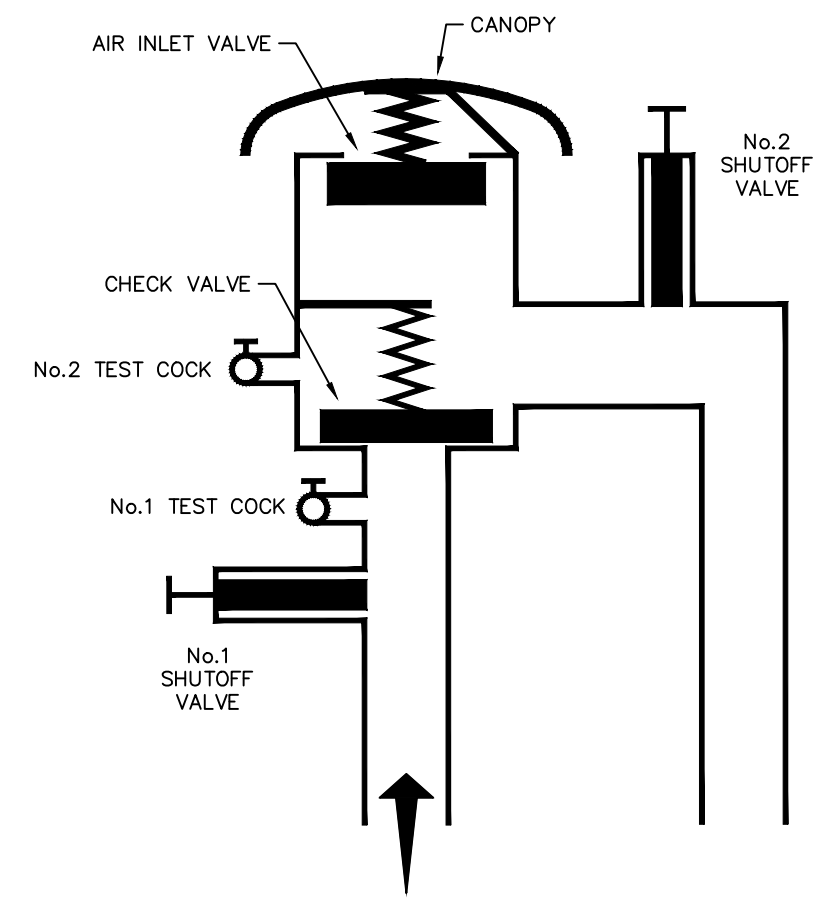
LIST OF RECOMMENDED SHRUBS

QTY.	PLANT	BOTANICAL NAME
	"GREEN CLOUD" SAGE CENIZO	LEUCOPHYLLUM FRTESCENS, "GREEN CLOUD"
	DWARF OLEANDER	NERIUM OLEANDER
	DURANTA	NATIVE TURKS CAP OR SIMILAR

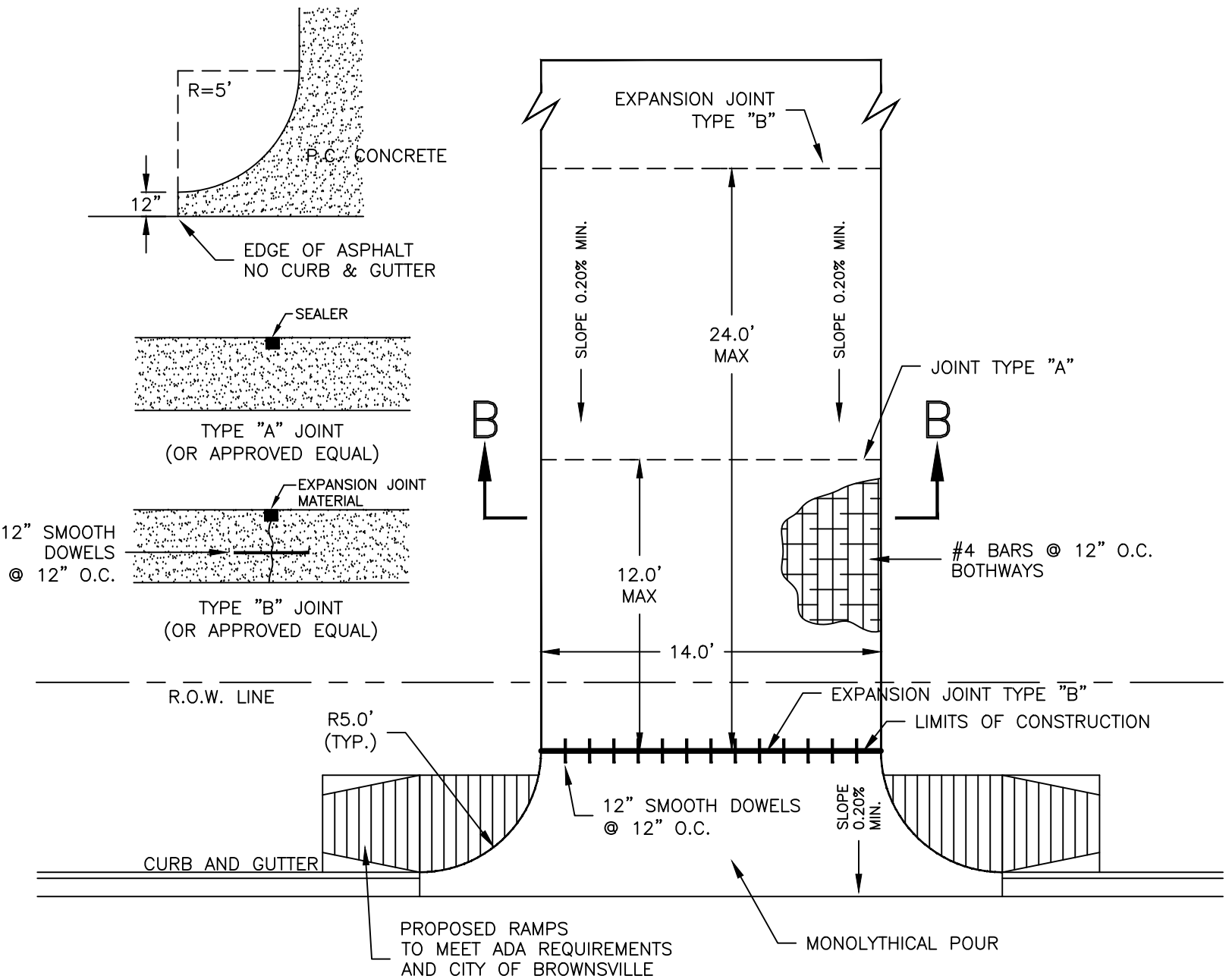
NOTES:
 ALL PLANTS SHALL BE 5 GAL., 18" BUSH HEIGHT (MIN)
 SPACED AT 4-FOOT CENTERS.
 CYPRESS MULCH 3" MINIMUM.
 DRIP WITH 1 ZONE BATTERY CONTROLLER, 1" PVB BACKFLOW PREVENTER, TESTED.



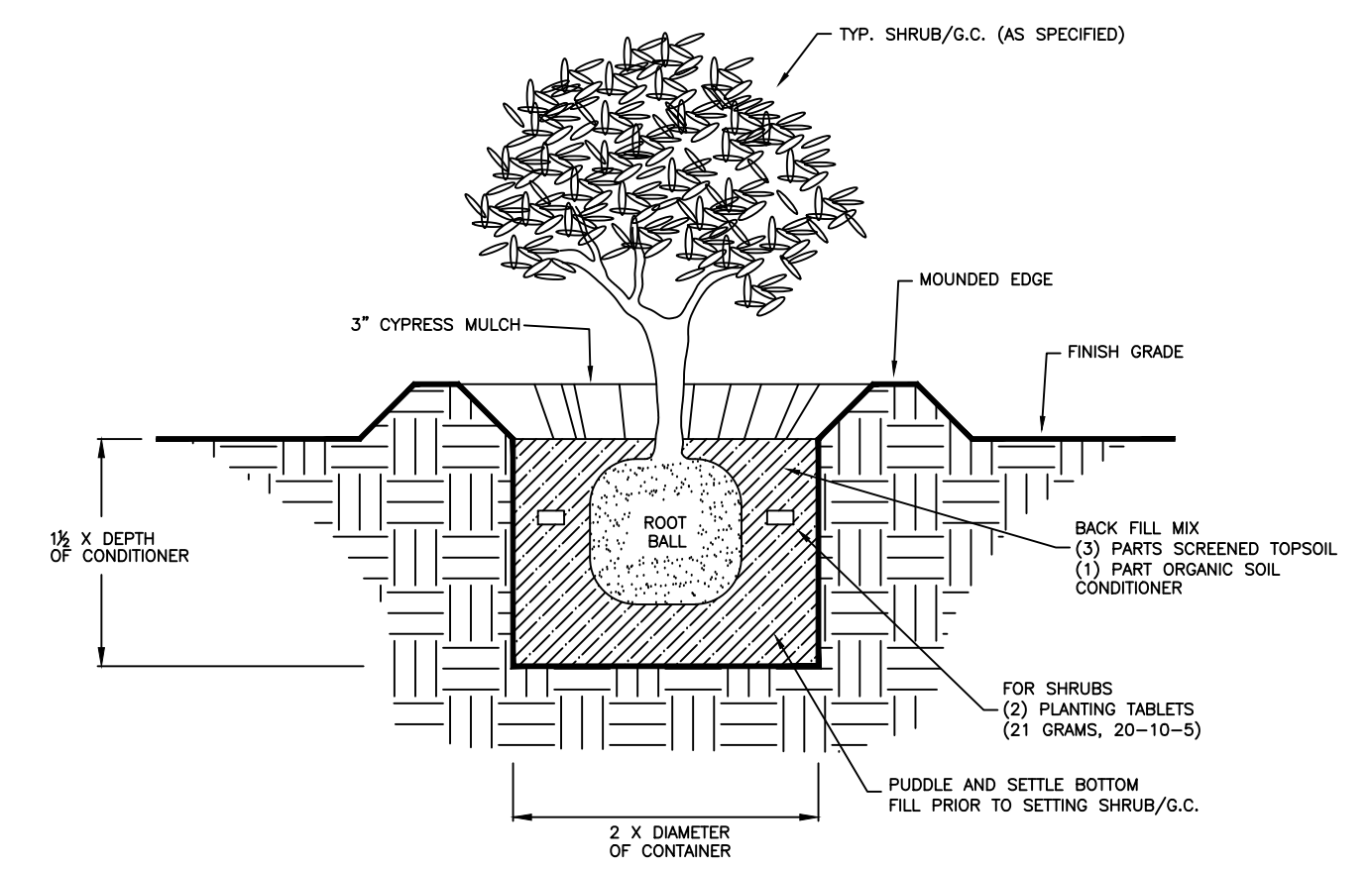
LAWN SPRINKLER INSTALLATION



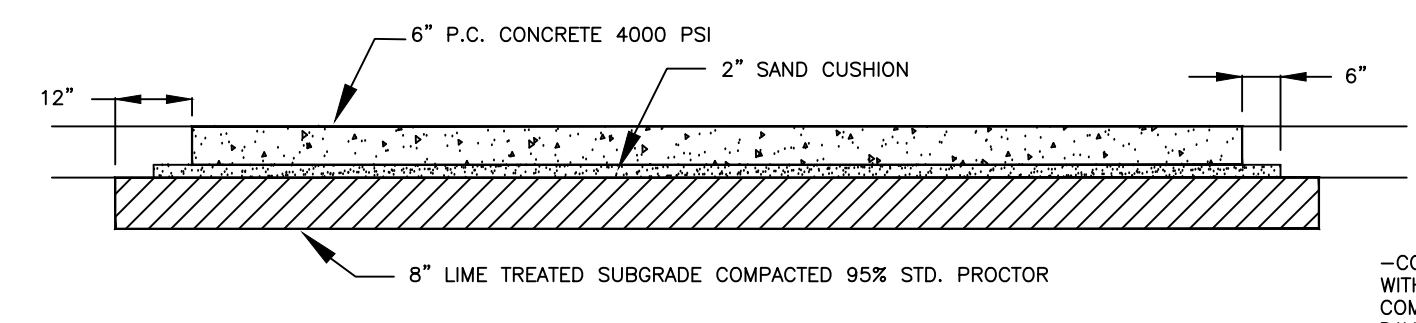
PRESSURE VACUUM BREAKER (PVB) BACKSIPHONAGE PREVENTION ASSEMBLY



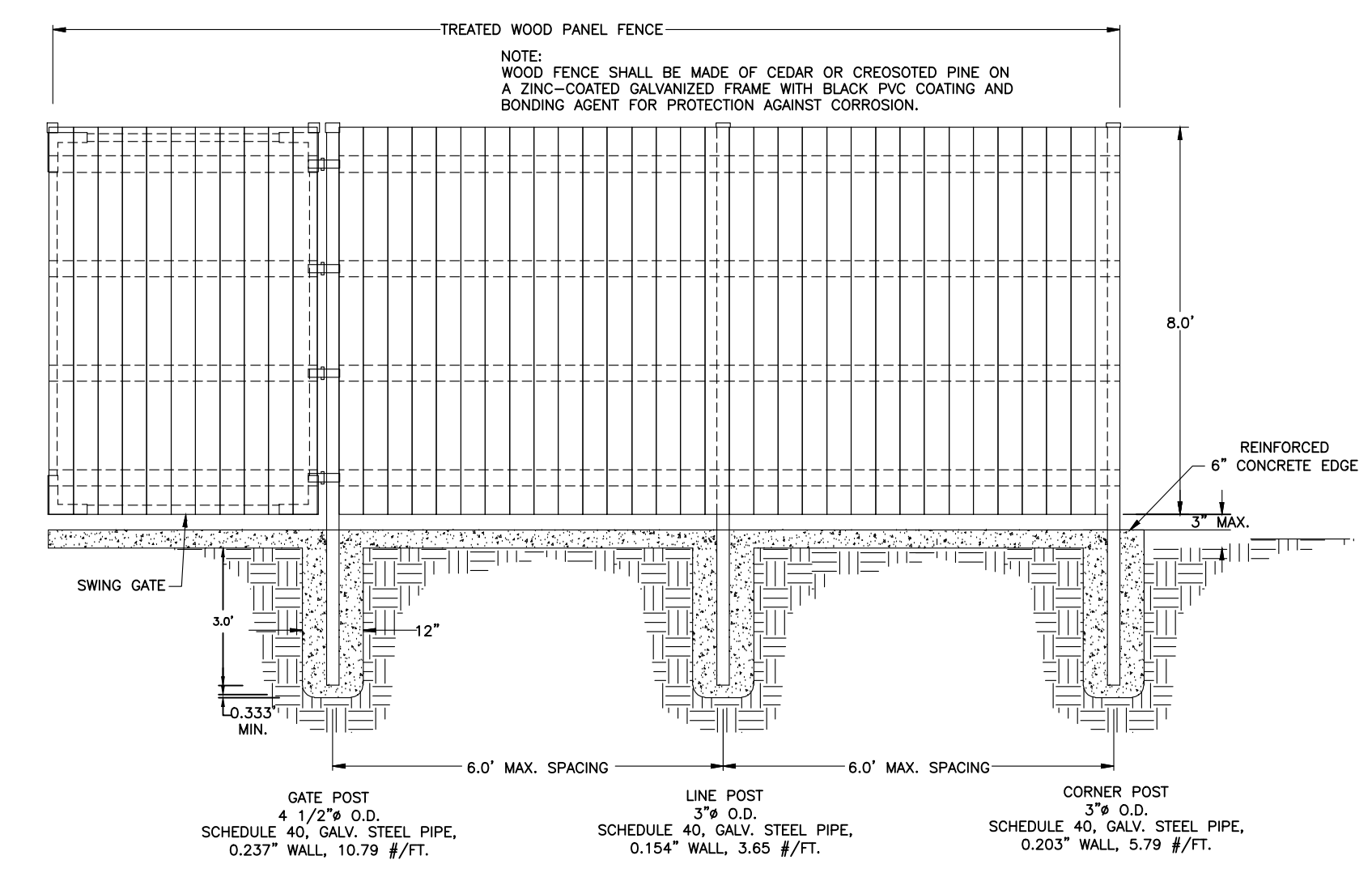
TYPICAL LIFT STATION DRIVEWAY



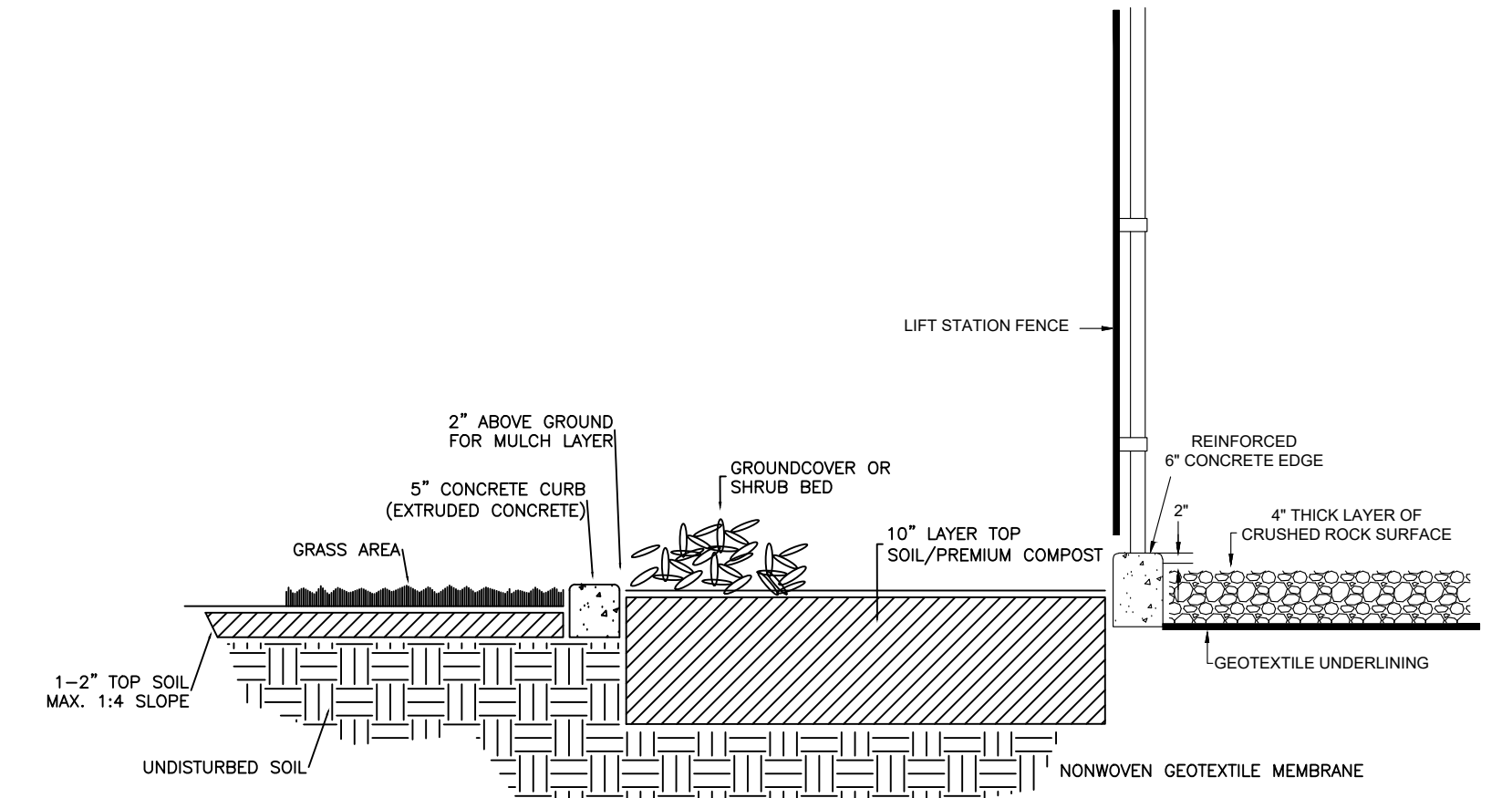
SHRUB/G.C. PLANTING DETAIL



SECTION "B-B"



LIFT STATION FENCE DETAIL



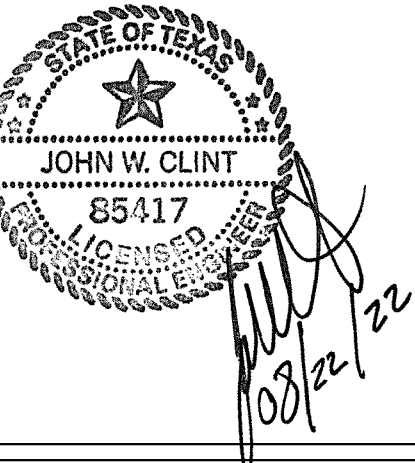
CONCRETE EDGE DETAIL

- NOTES:
- CONCRETE CURBING TO HAVE 1 1/2" DEEP CONTRACTION JOINTS @ 5'-0" SPACING.
 - 2500-3000 PSI COMPRESSIVE STRENGTH, 490 PSI FLEXURAL STRENGTH.
 - PROVIDE TAPERED DRAINAGE POINTS @ 10'-0" O.C. SPACING.
 - USE HALF-INCH POLYPROPYLENE FIBER REINFORCEMENT.
 - NATURAL FINISH AND COLOR.
 - EQUAL TO "CURB APPEAL" EDGING.

LIFT STATION FOR RIVER WOODS
 SUBDIVISION AND SURROUNDING AREAS
 BROWNSVILLE, TEXAS



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ELECTRICAL GENERAL LEGEND

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

PROCESS SWITCHES	RELAYS	MISC	FLOW	POWER (CONTINUED)	COMMUNICATION (CONTINUED)	
FLOAT SWITCH CLOSE ON RISING LEVEL	RELAY COIL a = TYPE CR - CONTROL RELAY TD - TIME DELAY RELAY M - MOTOR STARTER COIL L - MOTOR STARTER COIL - LOW SPEED H - MOTOR STARTER COIL - HIGH SPEED F - MOTOR STARTER COIL - FORWARD R - MOTOR STARTER COIL - REVERSE b = TDON - TIME DELAY ON ENERGIZATION TOOFF - TIME DELAY ON DEENERGIZATION c = TIMING RANGE/SETTING d = DESCRIPTION	SOLENOID	ULTRASONIC DOPPLER	MAG METER	TELECOMMUNICATIONS GROUNDING BUS BAR	
FLOAT SWITCH OPEN ON RISING LEVEL		METER UNIT M = TYPE	MOTOR	ULTRA-SONIC TRANSIT TIME	UTILITY POWER POLE	LINE TYPES
PRESSURE SWITCH CLOSE ON RISING PRESSURE		CIRCUIT BREAKER	DISCONNECT	MAGNETIC FLOW METER	MOTOR ACTUATED VALVE	--- UNDERGROUND CONDUIT FOR POWER
PRESSURE SWITCH OPEN ON RISING PRESSURE		FUSE	TRANSIENT SURGE PROTECTION	FLOAT	LOCAL CONTROL PANEL	--- C --- UNDERGROUND CONDUIT FOR INSTRUMENTATION AND CONTROLS
TEMPERATURE SWITCH CLOSE ON RISING TEMPERATURE		NORMALLY OPEN CONTROL CONTACT	MOTOR WINDING HEATER * = MOTOR TAG I.D.	LEVEL ELECTRODE	UTILITY PULL BOX - PROVIDED BY POWER UTILITY COMPANY (REFER TO NOTE A THIS SHEET)	--- CONDUIT FOR POWER
TEMPERATURE SWITCH OPEN ON RISING TEMPERATURE		NORMALLY CLOSED CONTROL CONTACT	SPACE HEATER	LEVEL TRANSMITTER	POWER BRANCH/FEEDER PULL BOX	--- CONDUIT FOR COMMUNICATIONS
FLOW SWITCH CLOSE ON INCREASE IN FLOW	TIME DELAY SWITCH NORMALLY OPEN TIMED CLOSING	VARISTOR	GAS DETECTOR MONITOR ALARM CONTROLLER	INSTRUMENTATION/COMMUNICATION PULL BOX	--- LIGHTING CIRCUIT	
FLOW SWITCH OPEN ON INCREASE IN FLOW	TIME DELAY SWITCH NORMALLY CLOSED TIMED OPENING	CAPACITOR	GAS DETECTOR SENSOR	LOCAL - OFF - REMOTE CONTROL PANEL	--- NOHE --- NEW OVERHEAD ELECTRICAL PRIMARY LINES (BY OTHERS)	
VIBRATION SWITCH OPEN ON RISING VIBRATION	TIME DELAY SWITCH NORMALLY OPEN TIMED CLOSING	RESISTOR	DUPLEX RECEPTACLE - 20A/125V/1P/3W/G NEMA 5-20R, MOUNT 15" AFF	GENERATOR ANNUNCIATING PANEL	--- NUGE --- NEW UNDERGROUND ELECTRICAL PRIMARY LINES	
VIBRATION SWITCH CLOSE ON RISING VIBRATION	TIME DELAY SWITCH NORMALLY OPEN TIMED OPENING	BATTERY	220 RECEPTACLE - 20A/125V/1P/3W/G NEMA 5-20R, MOUNT 15" AFF	UTILITY TRANSFORMER	--- EXOHE --- EXISTING OVERHEAD ELECTRICAL PRIMARY LINES	
TORQUE SWITCH OPEN ON HIGH TORQUE	TERMINAL BLOCKS	DIODE	DUPLEX RCPT, GFI/WATER PROOF - 20A/125V/1P/3W/G NEMA 5-20R, MOUNT 15" AFF	LIGHTING	--- GROUNDING RING	
TORQUE SWITCH CLOSE ON HIGH TORQUE	TERMINAL BLOCKS	MOTOR OVERLOAD HEATERS	QUADRUPLEX RECEPTACLE (TWO DUPLEX RCPTS. UNDER ONE COVERPLATE), MOUNT 15" AFF	STRIP FLUORESCENT LIGHT FIXTURE		
NORMALLY CLOSED LIMIT SWITCH	TERMINAL IN PLC/PCM PANEL	OVERLOAD CONTACT	ISOLATED GROUND QUADRUPLEX RECEPTACLE (TWO DUPLEX RCPTS. UNDER ONE COVERPLATE), MOUNT 15" AFF	FLUORESCENT, OR HID FIXTURE CLG. OR WALL MTD.		
NORMALLY OPEN LIMIT SWITCH	TERMINAL IN MOTOR CONTROL CENTER	DRAWOUT CONNECTION	SPECIAL PURPOSE RECEPTACLE (NEMA NO. OR RATING AS INDICATED), MOUNT 15" AFF	SINGLE POLE SWITCH, MOUNT 48" AFF		
NORMALLY OPEN HELD CLOSED LIMIT SWITCH	TERMINAL IN LOCAL STARTER CONTROL PANEL	GROUND	JUNCTION BOX - SIZE & MOUNTING AS REQUIRED	THREE WAY SWITCH, MOUNT 48" AFF		
HAND SWITCHES	TERMINAL AT FIELD DEVICE	LIGHTNING ARRESTOR	DISCONNECT SWITCH - 30/-/3 INDICATES 30A, 3-POLE, NONFUSED; 30/30/3 INDICATES 30A, 3-POLE, 30A FUSE. PROVIDE WITH 316 STAINLESS STEEL.	THREE WAY EXPLOSION PROOF SWITCH, MOUNT 48" AFF		
NORMALLY OPEN MOMENTARY PUSHBUTTON	TERMINAL IN RTU	CONTROL POWER TRANSFORMER	CIRCUIT BREAKER DISCONNECT SWITCH - THERMAL MAGNETIC CB IN NEMA 1 ENCL; AMPS/POLES AS INDICATED, PROVIDE WITH 316 STAINLESS STEEL.	PHOTO ELECTRIC CELL MOUNTED AT 14' AFF.		
NORMALLY CLOSED MOMENTARY PUSHBUTTON	TERMINAL IN FIELD PANEL	DIGITAL BUS CONNECTOR • = D - DEVICENET • = PA - PROFIBUS PA • = DP - PROFIBUS DP • = H1 - FOUNDATION FIELDBUS H1 • = H2 - FOUNDATION FIELDBUS H2	DISCONNECT SWITCH - 30/30/3 INDICATES 30A, 3-POLE, 30A FUSE, PROVIDE WITH 316 STAINLESS STEEL.	TIME CLOCK		
THREE POSITION SELECTOR SWITCH x - DENOTES POSITION CONTACTS CLOSED o - DENOTES POSITION CONTACTS OPENED	TERMINAL IN (USER CHOICE)	PANELBOARD	MOTOR STARTER FVNR UNO; NUMBER INDICATES NEMA SIZE	COMMUNICATION		
TWO POSITION SELECTOR SWITCH x - DENOTES POSITION CONTACTS CLOSED o - DENOTES POSITION CONTACTS OPENED	TERMINAL IN (USER CHOICE)	TRANSFORMER	COMBINATION MOTOR CONTROLLER/DISCONNECT SWITCH	TELEPHONE/DATA OUTLET.		
MUSHROOM HEAD PUSHBUTTON	TERMINAL IN (USER CHOICE)	ELAPSED TIME METER	VENDOR CONTROL PANEL	TELEPHONE OUTLET.		
PUSH-PULL PUSHBUTTON MAINTAINED CONTACT	PILOT LIGHTS	LEVEL	THREE SINGLE POLE DEVICE CIRCUIT NUMBERS	DATA OUTLET.		
PADLOCK SWITCH x - DENOTES POSITION CONTACTS CLOSED o - DENOTES POSITION CONTACTS OPENED	PILOT LIGHT a = LENS COLOR R = RED G = GREEN W = WHITE A = AMBER	ULTRASONIC LEVEL METER	MULTI-POLE DEVICE CIRCUIT NUMBERS	ON OR OFF		
PULL CORD SWITCH	PILOT LIGHT a = LENS COLOR R = RED G = GREEN W = WHITE A = AMBER	PRESSURE TRANSMITTER				
STOP-LOCKOUT PUSHBUTTON						
SPRING-RETURN x - DENOTES POSITION CONTACTS CLOSED o - DENOTES POSITION CONTACTS OPENED						

GENERAL ABBREVIATIONS

ABS ABOVE BACK SPLASH	CT CONSTANT TORQUE	G GROUND (EQUIPMENT)	LCP LIGHTNING SURGE ARRESTOR	NIC NOT IN CONTRACT	PP POWER POLE	SP SPARE	UAC UTILITY AUTOMATIC CONTROL
AFF ABOVE FINISHED FLOOR	EC EMPTY CONDUIT	GEC GROUNDING ELECTRODE CONDUCTOR	I/O INPUT/OUTPUT	TYP TYPICAL	PPB POWER/FEEDER PULL BOX	ST(S,T) SHUNT TRIP	WP WEATHERPROOF
BFC BELOW FINISHED CEILING	EGC EQUIPMENT GROUNDING CONDUCTOR	GFI GROUND FAULT INTERRUPTER	MCC MOTOR CONTROL CENTER	EP ELECTRICAL PRIMARY	RCPT(S) RECEPTACLE(S)	SW SWITCH	XFMR TRANSFORMER
C CONDUIT	MFM MULTI-FUNCTIONAL METER	HMI HUMAN / MACHINE INTERFACE	MTD MOUNT OR MOUNTED	NL NIGHT LIGHT	RTU REMOTE TERMINAL UNIT	UF UNDERFLOOR	UNO UNLESS NOTED OTHERWISE
CB CIRCUIT BREAKER	EX EXISTING	IC INTERRUPTING CAPACITY	NC (N.C.) NORMALLY CLOSED	NO (N.O.) NORMALLY OPEN	RW (R,W.) RACEWAY(S)	UG UNDERGROUND	VFD VARIABLE FREQUENCY DRIVE
CLG CEILING	F FUSE	IG ISOLATED GROUND	NF NONFUSED	PL PRIMARY LOOP	PNL PANEL BOARD	WG WIRE GUARD	VT VARIABLE TORQUE
	F.E.M. FIBERGLASS ENCLOSURE MANUFACTURER	IPB INSTRUMENTATION PULL BOX			SO (S.O.) SPACE ONLY		

NOTE A) CONTRACTOR SHALL INCLUDE IN HIS BID TO OWNER, ALL THE REQUIRED WORK AND MATERIAL TO INSTALL ELECTRICAL UTILITIES, WORK AND MATERIAL SHALL INCLUDE BUT NOT BE LIMITED TO; EXCAVATION AND BACKFILL, CONDUIT PVC/RIGID LONG RADIUS ELBOWS, CONCRETE FOUNDATION, AND CONDUIT BUSHINGS. ALL UTILITY COSTS SHALL BE IN CONTRACTOR'S BID, NO CHANGE ORDER REQUESTS WILL BE ALLOWED.



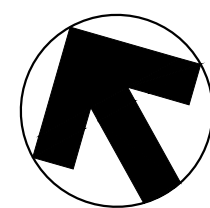
Revision No.	Date	Description



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Sheet Title:	ELECTRICAL GENERAL LEGEND

E0.01
Sheet Number



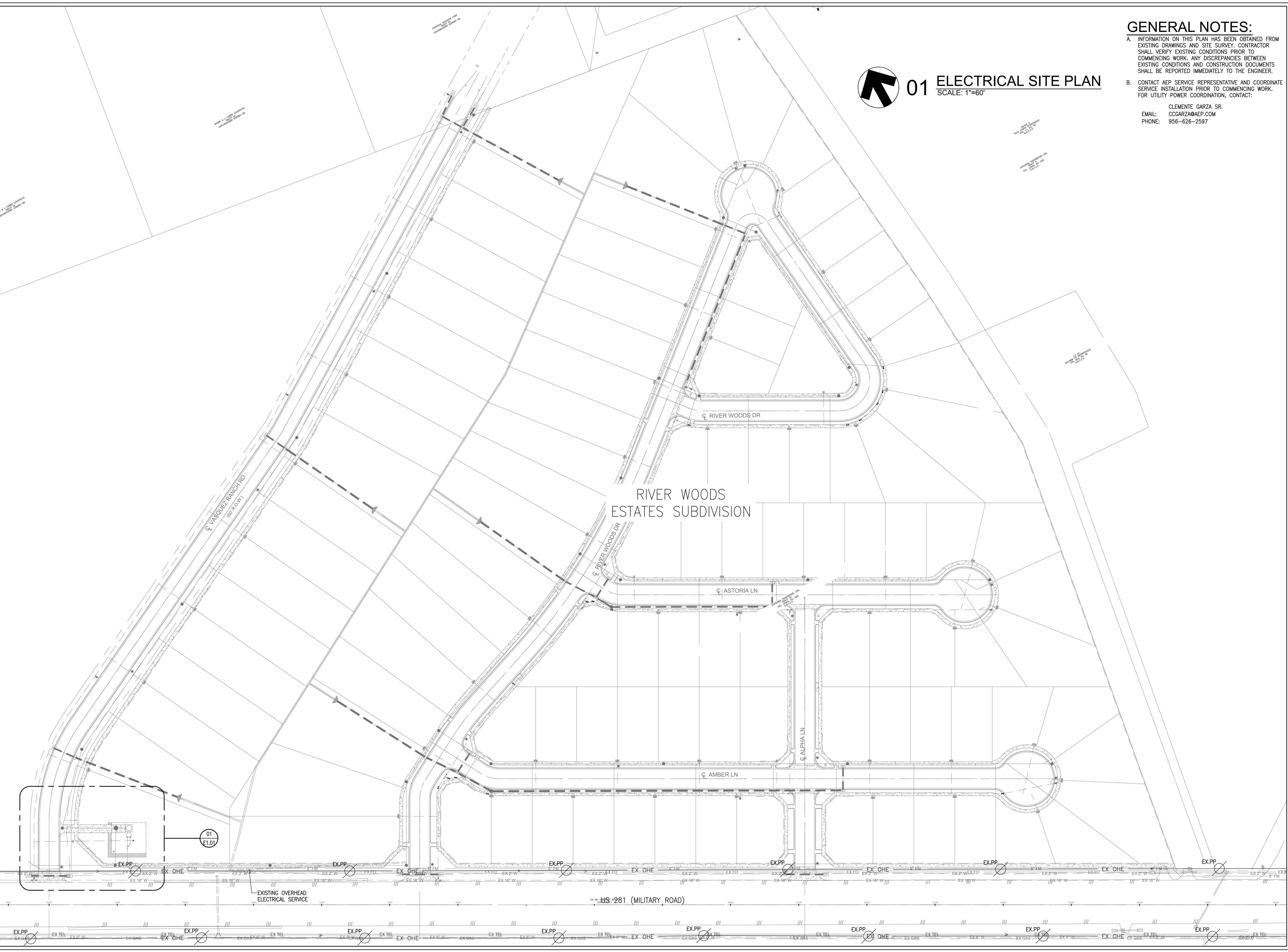
01 ELECTRICAL SITE PLAN

SCALE: 1"=60'

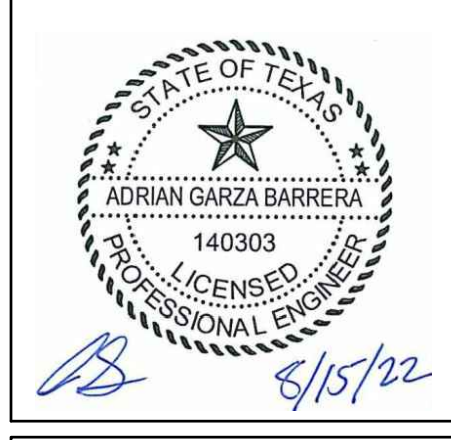
GENERAL NOTES:

- A. INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- B. CONTACT AEP SERVICE REPRESENTATIVE AND COORDINATE SERVICE INSTALLATION PRIOR TO COMMENCING WORK. FOR UTILITY POWER COORDINATION, CONTACT:
 CLEMENTE GARZA SR.
 EMAIL: CCGARZA@AEP.COM
 PHONE: 956-626-2597

**RIVER WOODS ESTATES
SUBDIVISION**
CAMERON COUNTY, TEXAS



Revision No.	Date	Description



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E1.00
Sheet Number

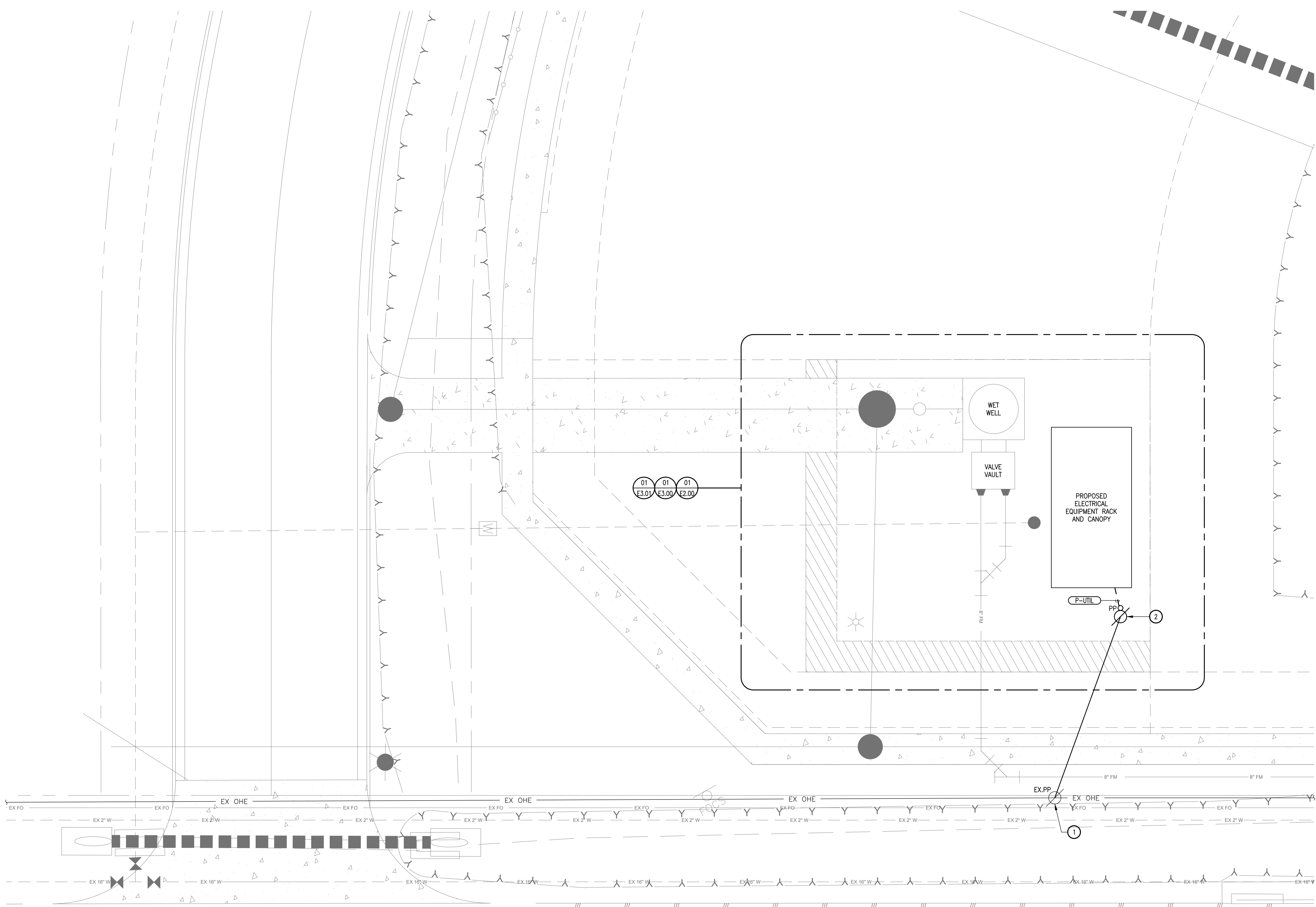
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GENERAL NOTES:

- A. INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- B. CONTRACTOR SHALL KEEP THE ENTIRE CONSTRUCTION SITE CLEAN AT ALL TIMES.
- C. COORDINATION AMONG OTHER CONSTRUCTION DISCIPLINES PRIOR TO COMMENCING WORK IS MANDATORY.
- D. CONTACT AEP SERVICE REPRESENTATIVE AND COORDINATE SERVICE INSTALLATION PRIOR TO COMMENCING WORK. FOR UTILITY POWER COORDINATION, CONTACT:
CLEMENTE GARZA SR.
EMAIL: CCGARZA@AEP.COM
PHONE: 956-626-2597
- F. PROVIDE UNDERGROUND SERVICE LATERAL CONDUIT AND TRENCHING, AND INSTALL PER AEP SERVICE STANDARDS.
- G. INSTALL ALL UNDERGROUND CONDUIT, CONDUCTORS, AND CABLE AS SPECIFIED, PER DIVISION 16.
- H. WHERE UNDERGROUND CONDUIT IS INSTALLED PARALLEL WITH UNDERGROUND YARD PIPING, PROVIDE 10'-0" OF CLEARANCE BETWEEN CONDUIT AND YARD PIPE. COORDINATE WITH CIVIL DRAWINGS PRIOR TO INSTALLATION OF CONDUIT.
- I. INCLUDE ANY UTILITY COST FOR MODIFICATIONS IN BID.

KEY NOTES: ①

- 1. EXISTING ELECTRICAL POWER POLE. COORDINATE WITH AEP FOR NEW 480V, 3-PHASE SERVICE EXTENSION AND POLE MOUNTED TRANSFORMERS.
- 2. PROPOSED NEW ELECTRICAL POWER POLE. COORDINATE WITH AEP FOR RISER POLE REQUIREMENTS FOR TRANSITION TO UNDERGROUND SERVICE.



RIVER WOODS ESTATES
SUBDIVISION

CAMERON COUNTY, TEXAS



Revision No.	Date	Description



Project No.:	45857.001
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Scale:	AS NOTED
Sheet Title	ELECTRICAL SERVICE DISTRIBUTION PLAN
Sheet Number	E1.01

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01 ELECTRICAL SERVICE DISTRIBUTION PLAN
SCALE: 1/8" = 1'-0"

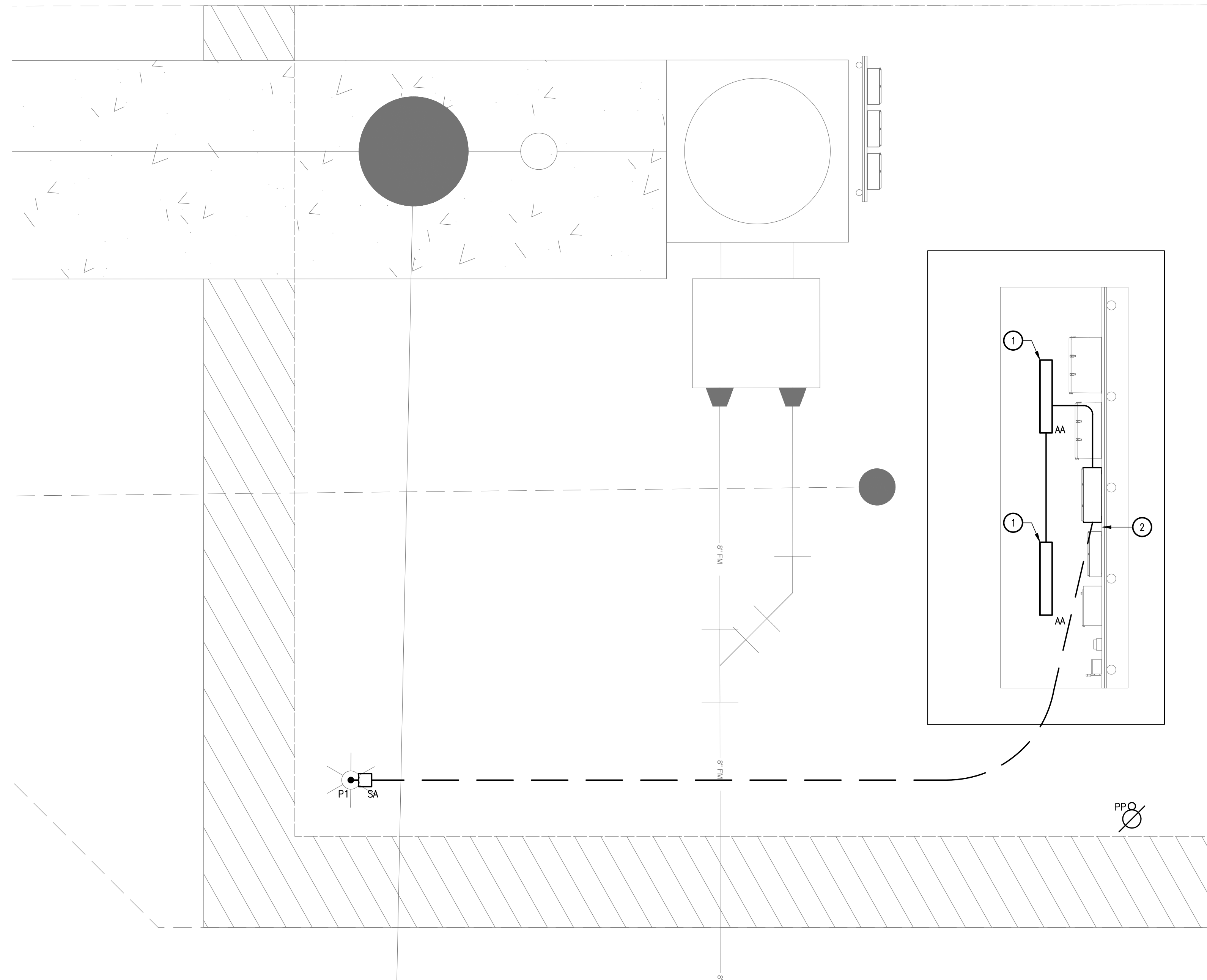
GENERAL NOTES:

- A. ALL PROPOSED SITE LIGHTING CIRCUITS SHALL CONSIST OF 2#10, 1#10G, IN 1"Ø.
- B. INSTALL ALL UNDERGROUND CONDUIT, CONDUCTORS, AND CABLE AS SPECIFIED PER DIVISION 16.
- C. WHERE UNDERGROUND CONDUIT IS INSTALLED PARALLEL WITH UNDERGROUND YARD PIPING, PROVIDE 10-FOOT CLEARANCE BETWEEN CONDUIT AND YARD PIPE. COORDINATE WITH CIVIL DRAWINGS PRIOR INSTALLATION OF CONDUIT.

KEY NOTES: ①

- 1. TYPICAL OF LIGHT FIXTURES 'AA'. MOUNT BELOW CANOPY STRUCTURE FOR ELECTRICAL EQUIPMENT LIGHTING. REFER TO MANUFACTURER RECOMMENDATIONS FOR MOUNTING REQUIREMENTS.
- 2. FURNISH AND INSTALL SINGLE POLE HEAVY DUTY INDUSTRIAL GRADE TOGGLE SWITCH IN WEATHER PROOF ENCLOSURE FOR CANOPY STRUCTURE LIGHTING.

LIGHTING FIXTURE SCHEDULE					
TYPE	MANUF & MODEL NUMBER	LAMPS	VA	VOLTAGE	DESCRIPTION
AA	AZZ - MHDS-07-L2-4-U	LED	3000K	120	IP66 LED STRIP WITH 316 SS HOUSING
S1A	LITHONIA - RSX3-LED-P4-40K-R4-XVOLT-RPA-DOBXD	LED	4000K	120	POLE MOUNTED LED AREA LIGHT
P1	AMERICAN TIMBER & STEEL#06400D4132				40' - CLASS 4 SYP UNFRAMED CCA TREATED POLE



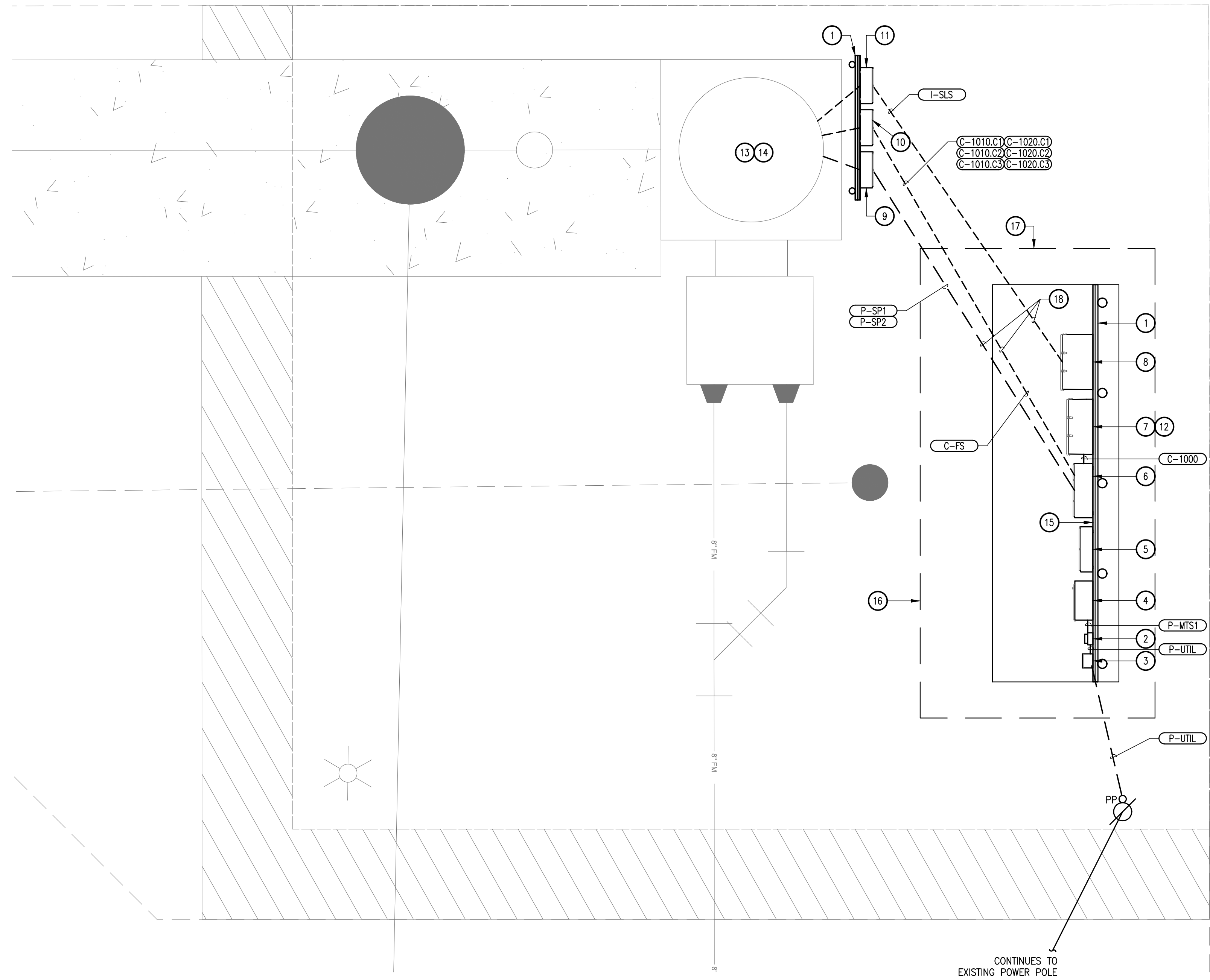
Revision No.	Date	Description



01 ELECTRICAL LIGHTING PLAN
SCALE: 1/4" = 1'-0"

Project No.:	45857.001
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Checked By:	A.G.
Scale:	AS NOTED
Sheet Title	ELECTRICAL LIGHTING PLAN
Sheet Number	E2.00

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01 ELECTRICAL POWER PLAN
 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

- A. REFER TO ONE-LINE DIAGRAM FOR CONDUIT AND WIRE SIZES.
- B. ALL CONDUIT ROUTINGS, AND WIRING TERMINATION ARE SHOWN FOR ESTIMATING PURPOSES ONLY. CONTRACTOR SHALL PROVIDE ALL RACEWAYS, FITTINGS, AND EQUIPMENT NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- C. ALL EXPOSED CONDUIT TO BE GRC/PVC COATED.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AN ARC FLASH STUDY TO BE PERFORMED AND PROVIDE NATIONAL ELECTRICAL CODE (NEC) COMPLIANT LABELS.

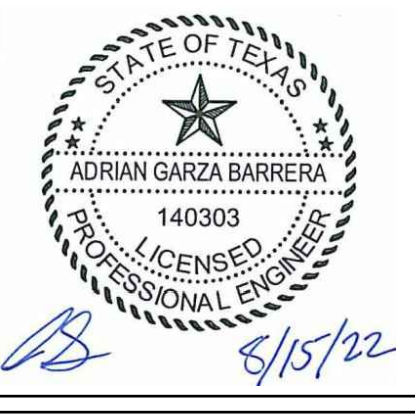
KEY NOTES: ①

1. FURNISH AND INSTALL ELECTRICAL H-FRAME RACK. REFER TO TYPICAL H-FRAME RACK DETAIL E4.00 FOR REQUIREMENTS.
2. NEW UTILITY METER SHALL BE PLACED ON NEW H-FRAME RACK, REFER TO ELECTRICAL RACK DETAIL ON SHEET E4.00.
3. FURNISH AND INSTALL MAIN DISCONNECT SWITCH NEMA 4X, 316 SS, ON ELECTRICAL RACK, REFER TO ELECTRICAL RACK DETAIL. COORDINATE WITH UTILITY COMPANY PRIOR TO CONSTRUCTION.
4. FURNISH AND INSTALL NEW GENERATOR DOCKING STATION NEMA 4X, 316 SS.
5. FURNISH AND INSTALL NEW 30" X 30" X 8" PORTABLE GENERATOR CABLING STORAGE BOX. STORAGE BOX SHALL BE OF NEMA 4X 316 SS WITH 6" INTERNAL STAINLESS STEEL J-HOOK.
6. FURNISH AND INSTALL NEMA 4X 316 SS POWER CONTROL PANEL. PANEL SHALL BE UL 508A LISTED.
7. FURNISH AND INSTALL NEW REMOTE PUMP CONTROL PANEL WITH NEMA 4X 316 SS ENCLOSURE. REFER TO ELECTRICAL RACK DETAIL.
8. FURNISH AND INSTALL NEW PLC CABINET.
9. FURNISH AND INSTALL NEW POWER TERMINAL JUNCTION BOX WITH TERMINAL BLOCK. TERMINAL BLOCK SHALL BE BUCHANAN OR EQUAL. TERMINAL JUNCTION BOX SHALL BE A MINIMUM SIZE OF 24" X 24" WITH SEALED FOR-TONGUE TERMINALS.
10. FURNISH AND INSTALL NEW CONTROLS TERMINAL JUNCTION BOX WITH TERMINAL BLOCK. TERMINAL BLOCK SHALL BE BUCHANAN OR EQUAL.
11. FURNISH AND INSTALL NEW INSTRUMENT TERMINAL JUNCTION BOX WITH TERMINAL BLOCK. TERMINAL BLOCK SHALL BE BUCHANAN OR EQUAL.
12. FURNISH AND INSTALL CABLING REQUIRED FOR CONTROLS PANEL. REFER TO INSTRUMENTATION I/O SCHEDULE.
13. FURNISH AND INSTALL NEW PUMP FLOATS.
14. FURNISH AND INSTALL WET WELL LEVEL TRANSDUCERS.
15. FURNISH AND INSTALL 30A AND 20A GFCI INDUSTRIAL GRADE RECEPTACLES WITHIN WEATHERPROOF ENCLOSURES.
16. FURNISH AND INSTALL ALUMINIUM CANOPY. REFER TO ELECTRICAL TYPICAL H-RACK DETAIL FOR REQUIREMENTS.
17. FURNISH AND INSTALL (1) LED ALARM BEACON THAT IS VAPOR TIGHT, WET LOCATION WITH RED GLOBE COVER. TO BE MOUNTED ABOVE THE CANOPY STRUCTURE AT MINIMUM TOTAL HEIGHT OF 12'. REFER TO ELECTRICAL RACK DETAIL.
18. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC.

**RIVER WOODS ESTATES
 SUBDIVISION**
 CAMERON COUNTY, TEXAS

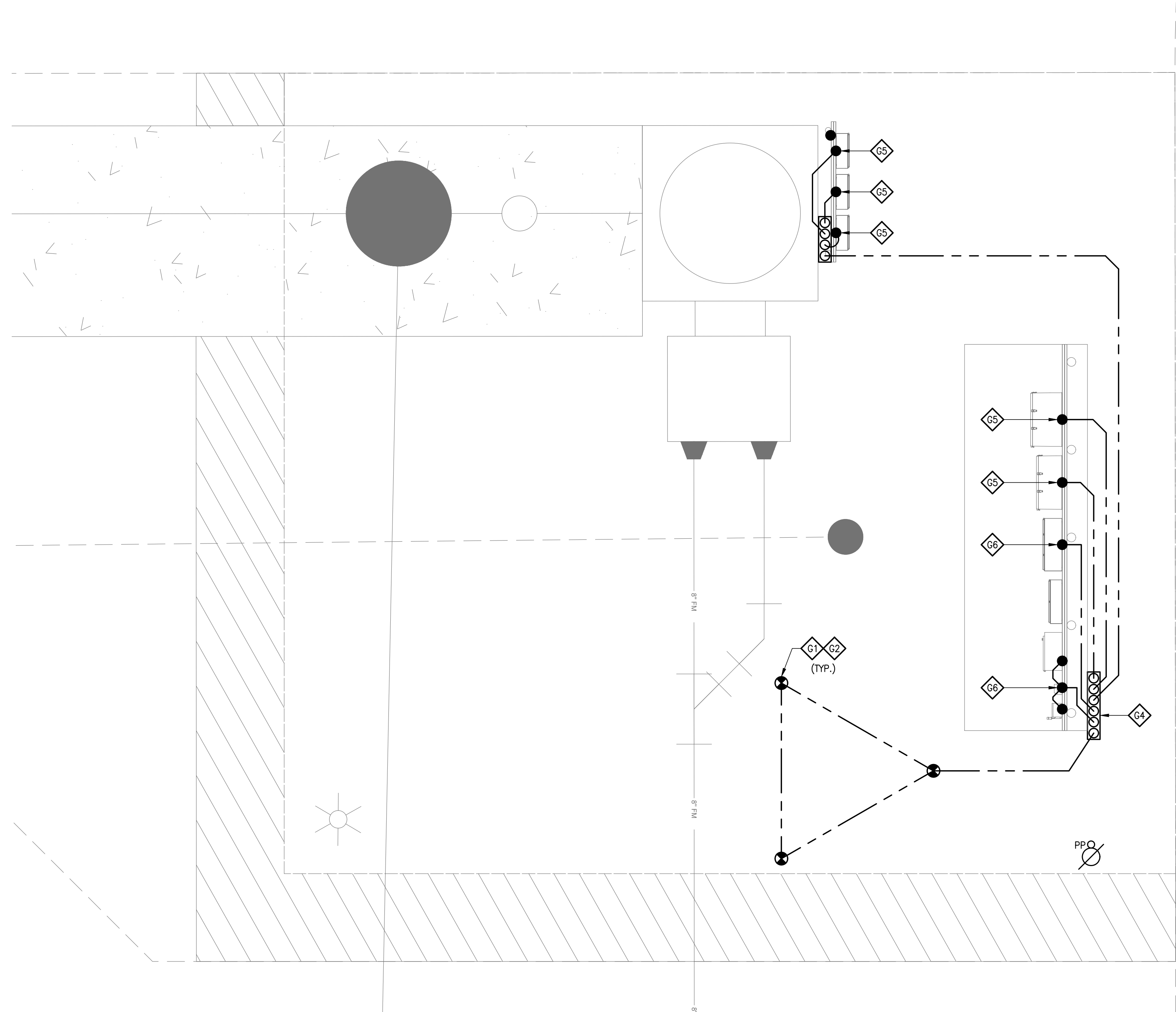


Revision No.	Date	Description



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Sheet Number	E3.00

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GENERAL NOTES:

- A. REFER TO ONE-LINE DIAGRAM FOR CONDUIT AND WIRE SIZES.
- B. ALL CONDUIT ROUTINGS, AND WIRING TERMINATION ARE SHOWN FOR ESTIMATING PURPOSES ONLY. CONTRACTOR SHALL PROVIDE ALL RACEWAYS, FITTINGS, AND EQUIPMENT NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- C. ALL EXPOSED CONDUIT TO BE GRC/PVC COATED.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AN ARC FLASH STUDY TO BE PERFORMED AND PROVIDE NATIONAL ELECTRICAL CODE (NEC) COMPLIANT LABELS.

**RIVER WOODS ESTATES
 SUBDIVISION**
 CAMERON COUNTY, TEXAS



Revision No.	Date	Description

ELECTRICAL GROUNDING LEGEND:

- ◇ LIGHTNING PROTECTION AT TERMINAL
- GROUND ROD
- EQUIPMENT GROUND POINT
- GROUND LOOP THERMOWELD FOR GROUND CONDUCTOR TAP
- ⊞ GROUND BUS BAR
- ◇# GROUNDING DETAIL TAG. REFER TO SHEETS E4.05 & E4.06 FOR GROUNDING DETAILS.



01 ELECTRICAL GROUNDING PLAN
 SCALE: 1/4" = 1'-0"

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E3.01
 Sheet Number

Revision No.	Date	Description



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Drawn By:	J.M.
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Scale:	AS NOTED
Sheet Title	ELECTRICAL ONE-LINE DIAGRAM
Sheet Number	E3.02

GENERAL NOTES:

- A. ELECTRICAL CONTRACTOR SHALL CONTACT AEP SERVICE REPRESENTATIVE AND COORDINATE SERVICE EQUIPMENT INSTALLATION PRIOR TO COMMENCING WORK. FOR UTILITY POWER COORDINATION, CONTACT:
 CLEMENTE GARZA SR.
 EMAIL: CCGARZA@AEP.COM
 PHONE: 956-626-2597
- B. ELECTRICAL CONTRACTOR SHALL PERFORM AN ARC FLASH HAZARD ANALYSIS AND INSTALL ADEQUATE LABELS.
- C. ALL THREE PHASE BREAKERS TO BE INSTALLED WITH A LOCK-OUT HASP. PUMP OVERLOAD RELAYS SHALL BE BIMETALLIC TYPE.

KEY NOTES: ①

1. FURNISH AND INSTALL 1#4 GND. IN 3/4" PVC - SCH 80. CONTRACTOR SHALL INSTALL 2 GROUND RODS FOR EACH MAJOR PANEL RACK ASSEMBLY.
2. FURNISH AND INSTALL NEMA 4X 316 SS, 200A, 480Y/277V, 3PHASE, 4 WIRE TRISTAR MANUAL TRANSFER SWITCH TYPE GDR-01-5-W-LLM WITH ROTARY DOCKING STATION OR EQUAL. PROVIDE WITH 50-FEET OF #3/0 - 5 WIRE BANDED SET WITH MALE AND FEMALE CAMLOCK. PROVIDE WITH 5-FEET OF BANDED PIGTAIL SET WITH FEMALE CAM TO BARE. FURNISH AND INSTALL WITH 200A/3P CIRCUIT BREAKERS.
3. PUMP POWER PANEL FURNISHED BY PUMP SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR.
4. POWER PHASE FAILURE MONITOR.
5. TRANSIENT VOLTAGE SURGE SUPPRESSION.
6. SEAL FITTINGS LISTED FOR CLASS 1, GROUP D, DIVISION 1, BELOW PACKAGE PUMP CONTROL PANEL FOR CONDUITS PENETRATING BARRIER BETWEEN CLASSIFIED AND UNCLASSIFIED AREAS AS PER 2017 NEC 501.15(A).
7. REFERENCE CONTROL PANEL WIRING DIAGRAM SHEET.

LOAD ANALYSIS

LOADS :							
PUMP 1- 25HP	28,267 VA	X	1.00	=	28,267 VA		
PUMP 2 -25HP	28,267 VA	X	1.00	=	28,267 VA		
25% OF LARGEST MOTOR	7,067 VA	X	1.00	=	7,067 VA		
TRANSFORMER	23 KVA			=	22,500 VA		
CONTROL PANEL	3,600 VA	X	1.00	=	3,600 VA		
PLC PANEL	1,200 VA	X	1.00	=	1,200 VA		
WELDING RECPTS.	7,200 VA	X	1.00	=	7,200 VA		
GENERAL RECPTS.	2,400 VA	X	1.00	=	2,400 VA		
LIGHTING	452 VA	X	1.25	=	565 VA		
MISC.	500 VA	X	1.00	=	500 VA		
					NET CALCULATED DEMAND =	86,601 VA	
						④480V, 3PH=	104.16 A

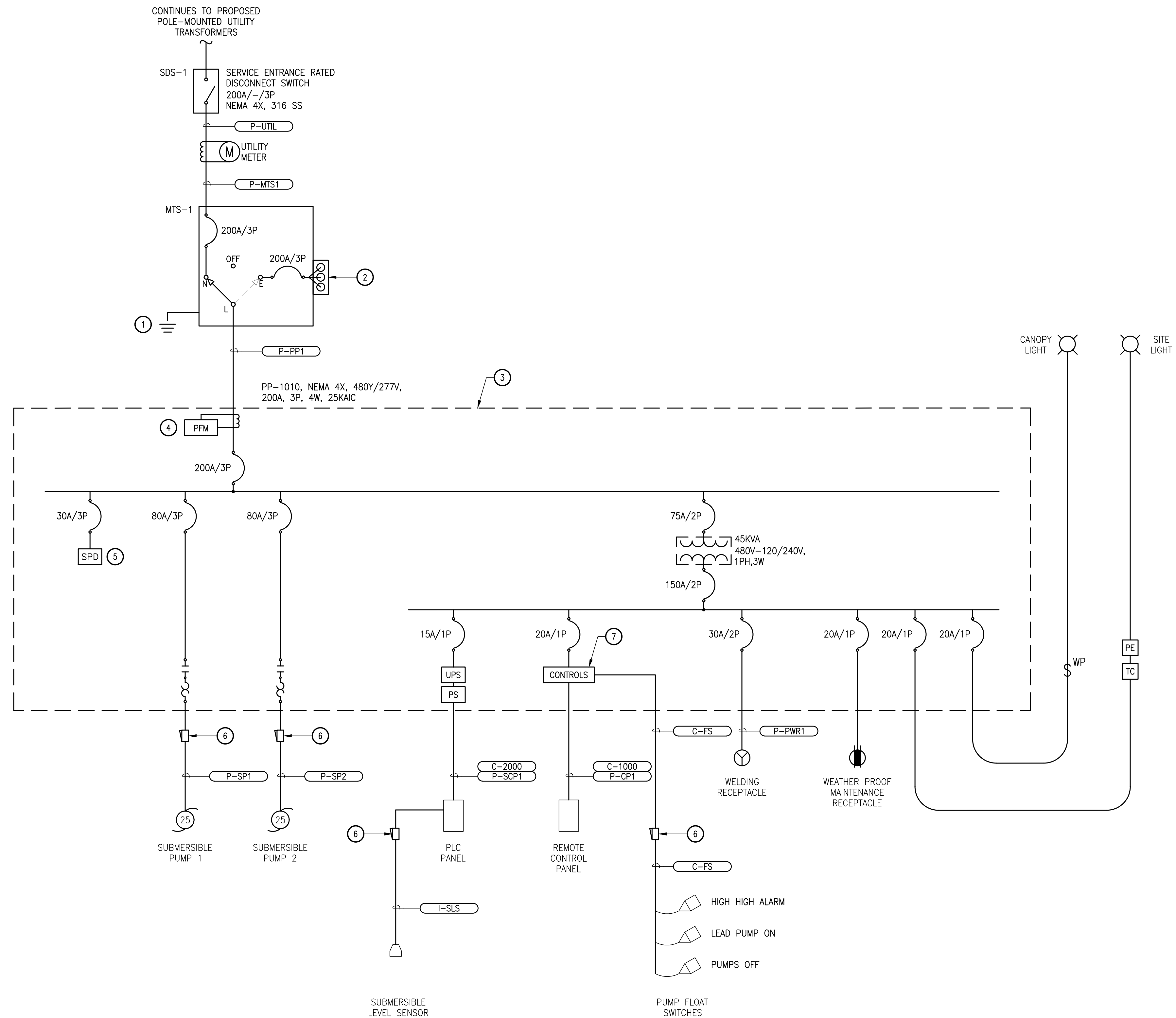
FEEDER / BRANCH CIRCUIT SCHEDULE

MARK	RACEWAY	PHASE CONDUCTORS	NEUTRAL CONDUCTORS	GROUND CONDUCTORS	REMARKS
P-UTIL	-	-	-	-	BPUB UTILITY SERVICE ENTRANCE
P-MTS1	2"	3#3/0	1#3/0	1#6	----
P-PP1	2"	3#3/0	1#3/0	1#6	----
P-SP1	3/4"	3#6	----	1#10	----
P-SP2	3/4"	3#6	----	1#10	----
P-SCP1	3/4"	1#12	1#12	1#12	----
P-CP1	3/4"	1#12	1#12	1#12	----
P-PWR1	3/4"	2#10	1#10	1#10	----

INSTRUMENTATION AND CONTROLS WIRING SCHEDULE

MARK	RACEWAY	CONDUCTORS	GROUND CONDUCTORS	FROM	TO	REMARKS
I-SLS	1"	1-2C/5-#16	1#14G	PLC-1030	PIT-1010	PRESSURE LEVEL TRANSDUCER
C-1010.C1	1"	2#12	1#12G	PP-1010	MWH-1010	
C-1010.C2	1"	2#12	1#12G	PP-1010	ME-1010	MOISTURE ELEMENT
C-1010.C3	1"	2#12	1#12G	PP-1010	TE-1010	TEMPERATURE ELEMENT
C-FS	1"	8#12	1#12G	PP-1010	LE-2010	FLOAT SWITCHES
C-1020.C1	1"	2#12	1#12G	PP-1010	MWH-1020	
C-1020.C2	1"	2#12	1#12G	PP-1010	ME-1020	MOISTURE ELEMENT
C-1020.C3	1"	2#12	1#12G	PP-1010	TE-1020	TEMPERATURE ELEMENT
C-1000	2"	30#14	1#14	PP-1010	RP-1020	
C-2000	2"	30#14	1#14	PP-1010	PLC-1030	

NOTE: CONDUCTORS AND CONDUITS SHOWN ARE FOR MINIMUM SIZE ALLOWED. CONTRACTOR SHALL COORDINATE WITH PUMP CONTROL SUPPLIER, CONDUCTOR, RELAYS, P&IDs, LADDER DIAGRAM AND TYPE OF SIGNAL, INTERFACE REQUIRED FOR A FULL OPERATING SYSTEM
 SPARE CONTROL CONDUCTORS PROVIDED FOR EACH RACEWAY WHERE APPROPRIATE.

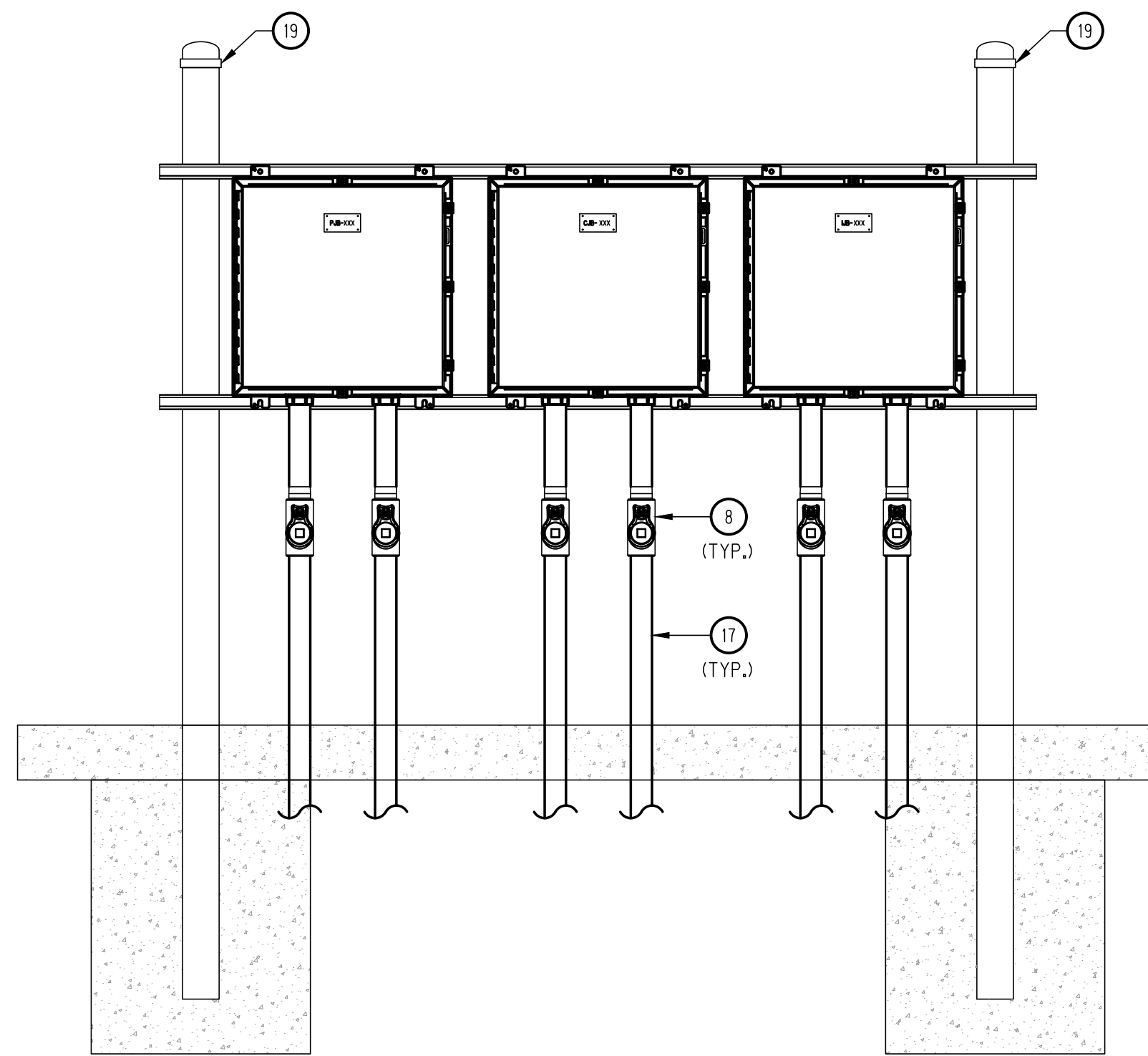


01 ELECTRICAL ONE-LINE DIAGRAM
N.T.S.

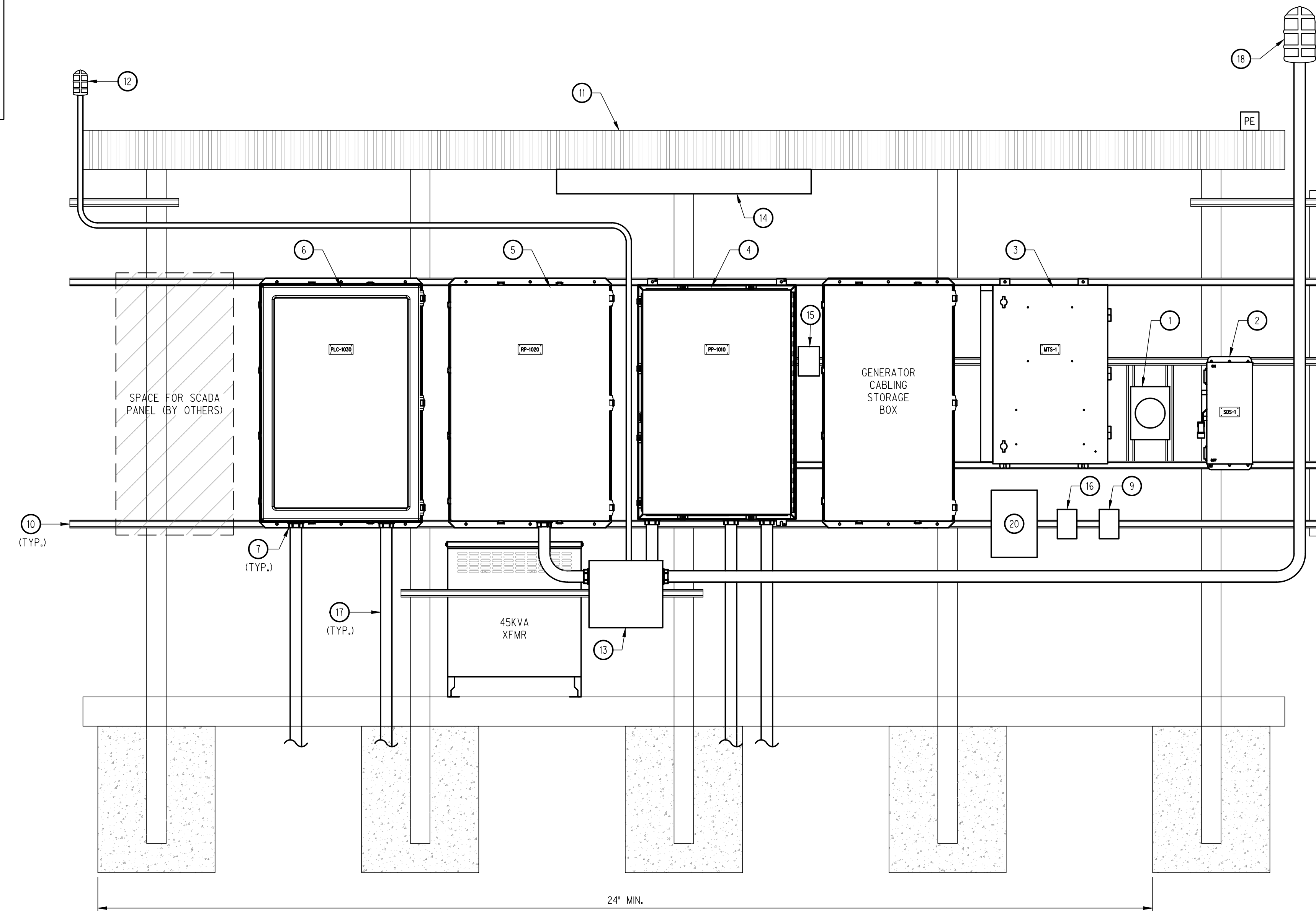
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STRUCTURAL DELEGATED DESIGN

1. CONTRACTOR SHALL OBTAIN COMPREHENSIVE ENGINEERING ANALYSIS BY QUALIFIED PROFESSIONAL STRUCTURAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. EVALUATE EXISTING SOIL CONDITIONS, WIND SPEED FACTORS, AND THE SPECIFIED MATERIALS TO DETERMINE THE STRUCTURE REQUIRED. PROVIDE PROFESSIONALLY SIGNED RECOMMENDATIONS AND/OR DESIGN DOCUMENTS FOR THE FOLLOWING:
 - 1.1. ELECTRICAL H-RACK DETAILS.
 - 1.2. CANOPY DETAILS.
2. CONTRACTOR SHALL PROVIDE STRUCTURAL EXPERT WILL ALL RELEVANT INFORMATION REQUIRED TO MAKE COMPETENT RECOMMENDATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - 2.1. PLANS AND SPECIFICATIONS FROM THIS PACKAGE.
 - 2.2. STRUCTURE'S PHYSICAL DATA (WEIGHT, DIMENSIONS, AND LOCATIONS).
 - 2.3. PLANNED MOUNTING LOCATIONS (SHOP DRAWINGS).
3. EVALUATION SHALL BE COMPLETED PRIOR TO INSTALLATION OF NEW STRUCTURE ON SITE.



02 TYPICAL ELECTRICAL
JUNCTION BOX RACK DETAIL
N.T.S.



01 TYPICAL ELECTRICAL H-RACK DETAIL
N.T.S.

GENERAL NOTES:

- A. CHANNEL CONNECTIONS SHALL BE MADE BY CHANNEL NUTS AND HARDWARE MANUFACTURER.
- B. KNEE BRACE SHALL BE CUT TO SUIT IN THE FIELD AND INSTALLED TO AVOID INTERFERENCES.
- C. PROVIDE ADDITIONAL SUPPORT POST AS REQUIRED.
- D. PROVIDE WITH RACK BOTTOM SUPPORT TO ALLOW RACK AND EQUIPMENT TO BE LEVELED. EQUIPMENT SHALL BE HORIZONTALLY AND VERTICALLY LEVELED; NO EXCEPTIONS. PROVIDE ADDITIONAL SUPPORT HARDWARE AS REQUIRED AT NO ADDITIONAL COST.
- E. ALL HARDWARE SHALL BE OF 316 STAINLESS STEEL MATERIAL, NO EXCEPTIONS.
- F. CONTRACTOR SHALL INCLUDE IN HIS BID A SLOPED CANOPY FOR THE H-RACK.
- G. CONTRACTOR SHALL ROUTE ALL ABOVE GROUND CONDUIT IN ALUMINUM CONDUIT. ALL BELOW GRADE CONDUIT SHALL BE PVC SCH 80.
- H. ENCLOSURE SIDE ACCESSED CONDUIT IS NOT ALLOWED, ONLY BOTTOM ENTRY.
- I. PROVIDE ADDITIONAL SUPPORT POSTS AND UNISTRUT FOR LIFT STATIONS REQUIRING L-SHAPED ELECTRICAL EQUIPMENT H-RACK.

KEY NOTES:

1. UTILITY METER
2. SDS-1: SERVICE DISCONNECT, 316 STAINLESS STEEL, NEMA 4X ENCLOSURE.
3. MTS-1: ROTARY GENERATOR DOCKING STATION, MANUAL TRANSFER SWITCH.
4. PP-1010 POWER CONTROL PANEL ENCLOSURE; HOFFMAN A48H3612556LP, 316 STAINLESS STEEL, NEMA 4X.
5. RP-1020 REMOTE CONTROL PANEL ENCLOSURE; HOFFMAN A48H3612556LP, 316 STAINLESS STEEL, NEMA 4X.
6. PLC-1030 SCADA PANEL ENCLOSURE; HOFFMAN A48H3612556LP, 316 STAINLESS STEEL, NEMA 4X.
7. CONTRACTOR TO USE MYERS HUBS FOR ALL CONDUIT PENETRATIONS INTO ENCLOSURES.
8. CLASS 1 DIV 1, EXPLOSION PROOF SEAL INSTALLED PER NEC. PROVIDE EXPLOSION PROOF FITTING WITH THE FOLLOWING:
 - 8.1. UL LISTED CROUSE HINDS CHICO SPEED SEALER OR EQUAL AS APPROVED BY CONDUIT EYS FITTING MANUFACTURER.
 - 8.2. PROVIDE WITH LABEL AFTER EYS CONDUIT FITTING HAS BEEN PROPERLY FILLED WITH EXPLOSION PROOF SEALANT.
9. CONTRACTOR TO INSTALL A 20A GFCI RECEPTACLE IN A WEATHER-PROOF ENCLOSURE.
10. CONTRACTOR TO INSTALL PROTECTIVE END COVERS ON ALL STRUT.
11. SLOPED ALUMINUM ELECTRICAL EQUIPMENT RACK CANOPY. PROVIDE WITH MINIMUM OF 2-FEET OVERHANG TO SIDES AND BACK OF EQUIPMENT RACK AND 4-FEET OF OVERHANG TO FRONT OF EQUIPMENT RACK.
12. RED ALARM BEACON, INSTALL 3-FEET ABOVE FENCE LINE. SUPPORT RACEWAY WITH C-CHANNEL 316 STAINLESS STEEL UNISTRUT.
13. FURNISH AND INSTALL A 12"x12"x8" 316 SS HINGED JUNCTION BOX.
14. FURNISH AND INSTALL AN LED STRIP LUMINAIRE WITH 316 STAINLESS STEEL HOUSING, IP66, RATED FOR HAZARDOUS LOCATION. REFER TO LIGHT FIXTURE SCHEDULE FOR DETAILS.
15. FURNISH AND INSTALL A WEATHER PROOF LIGHTING SINGLE POLE TOGGLE SWITCH.
16. CONTRACTOR TO INSTALL A 30A 240V, 1-PHASE RECEPTACLE IN A WEATHER-PROOF ENCLOSURE.
17. CONDUIT SHOWN FOR REFERENCE PURPOSES ONLY. QUANTITY OF CONDUITS MAY VARY. REFER TO FEEDER SCHEDULE FOR CONDUIT SIZE AND QUANTITIES.
18. NEW AREA LIGHT. CONNECT TO NEW LIGHTING CONTACTOR.
19. PROVIDE WITH PVC-COATED RIGID END CAPS.
20. LIGHTING CONTACTOR PANEL LC-1. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.

RIVER WOODS ESTATES
SUBDIVISION

CAMERON COUNTY, TEXAS

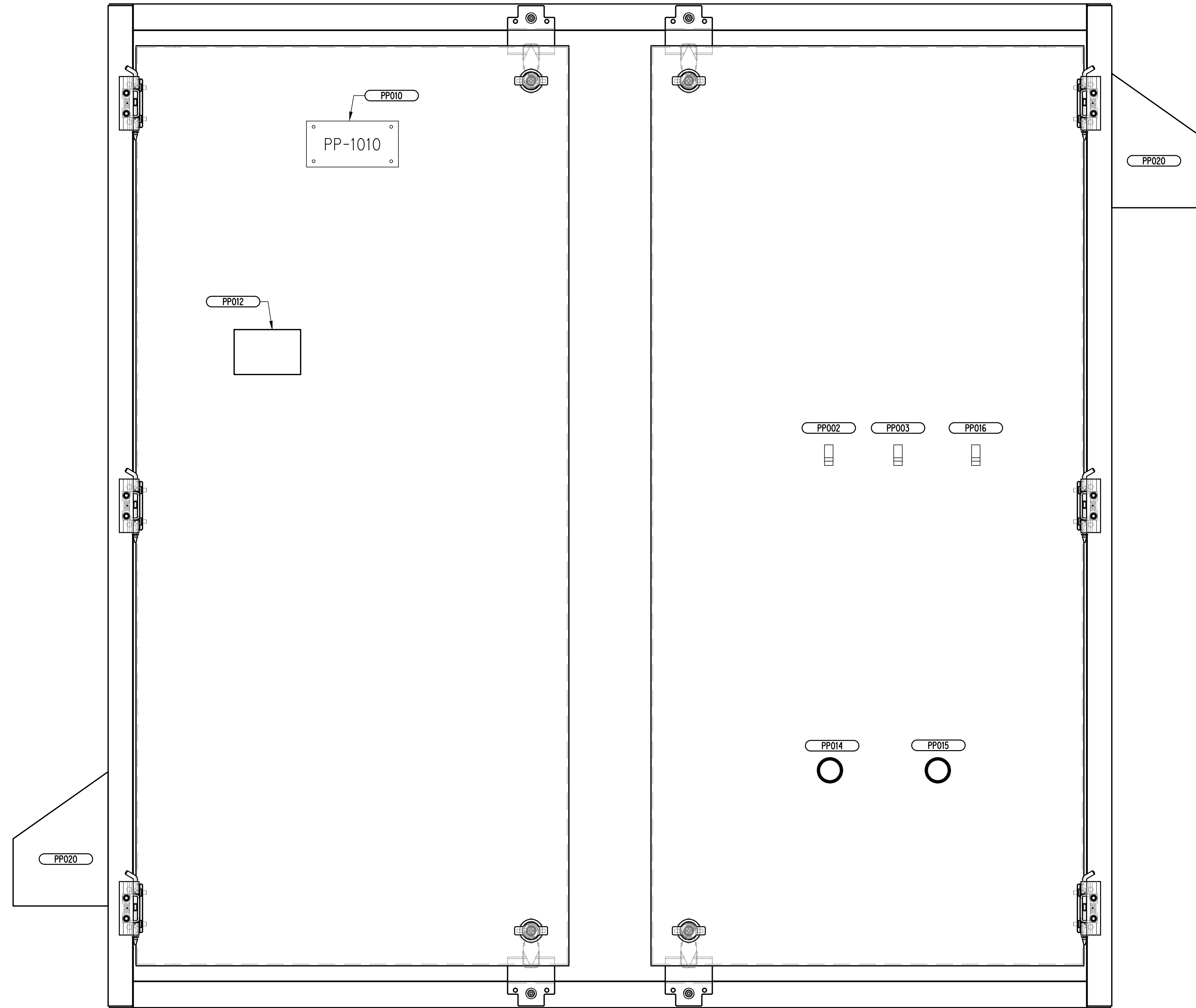


Revision No.	Date	Description



Project No.:	45857.001
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Drawn By:	J.M.
Checked By:	A.G.
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Sheet Title	ELECTRICAL H-RACK DETAILS
Sheet Number	E4.00

File Name: I:\45000a\45857\001\CADD\Sheets\MCA\E401-01-45857.001.dwg
 Current Tab (Layout): ELECTRICAL INDUSTRIAL POWER-STARTER PANEL ENCLOSURE 1 User: AH753
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01 INDUSTRIAL POWER-STARTER PANEL
 ENCLOSURE - INNER DOOR ELEVATION
 N.T.S.

GENERAL NOTES:

1. UTILIZE NEMA 4X, 316 SS ENCLOSURES FOR ALL CONTROL PANELS.
2. UTILIZE ALUMINUM BACK-PANELS IN ALL CONTROL PANELS AND TERMINATION JUNCTION BOXES.
3. UTILIZE ALUMINUM SWING PANELS (WHERE NECESSARY) IN ALL CONTROL PANELS.
4. ALL CONDUIT PENETRATIONS IN ENCLOSURES INSTALLED OUTDOORS SHALL BE BOTTOM ENTRY & EXIT. TOP OR SIDE-ENTRY CONDUITS ARE NOT ALLOWED.
5. UTILIZE TYPE 316 SS FOR ALL HARDWARE AND SUPPORTS INSTALLED OUTDOORS.
6. UTILIZE MULTI-CONDUCTOR CABLES (WITH COLORED PAIRS) FOR ALL LEVEL CONTROL AND FLOATS.
7. LED STROBES SHOULD BE MOUNTED AT LEAST 12-FEET HIGH.
8. COLOR DESIGNATION:
 -GREEN: STOPPED/CLOSED/OFF
 -RED: RUNNING/OPEN/ON
 -AMBER: ALARM
 -WHITE: CABINET POWER.
9. NEW PUMP CONTROL PANELS SHALL HAVE AN INTERIOR FRONT SWING DOOR WHERE ALL CONTROL PUSHBUTTONS AND SWITCHES ARE MOUNTED.
10. NEW PUMP CONTROL PANELS SHALL BE SIZED TO 48X36X12 AT A MINIMUM.
11. ALL NEW LEVEL TRANSMITTERS SHALL BE DROP IN PRESSURE TRANSMITTERS. BASIS OF DESIGN MODEL IS THE CONTEGRA # SLX 130 WITH TEFLON COATING.
12. ELECTRICAL PANELS SHALL BE UL 508A CERTIFIED.
13. THIS DRAWING'S INTENT IS TO DEMONSTRATE DESIGN INTENT REQUIREMENTS. HOWEVER, NOT ALL CABLING, HARDWARE, TERMINUS, AND EQUIPMENT IS SHOWN. PROVIDE WITH A COMPLETE AND FUNCTIONAL SYSTEM. REFER TO SPEC MANUAL FOR ADDITIONAL REQUIREMENTS.

POWER PANEL EQUIPMENT SCHEDULE	
ITEM	DESCRIPTION
PP001	MAIN LUGS
PP002	PUMP CIRCUIT BREAKER NO. 1
PP003	PUMP CIRCUIT BREAKER NO. 2
PP004	
PP005	
PP006	DUPLEX RECEPTACLE GFCI
PP007	3-PHASE POWER MONITOR
PP008	PUMP NO. 1 POWER MONITOR
PP009	PUMP NO. 2 POWER MONITOR
PP010	ENCLOSURE EQUIPMENT TAG
PP011	20A, 120V SINGLE POLE CIRCUIT BREAKER
PP012	PUMP ALTERNATOR
PP013	INTRINSICALLY SAFETY BARRIERS
PP014	PUMP NO. 1 POWER MONITOR RESET
PP015	PUMP NO. 2 POWER MONITOR RESET
PP016	2-POLE TRANSFORMER BREAKER
PP017	TRANSFORMER
PP018	LOAD CENTER
PP019	UPS
PP020	VENTILATOR WITH WEATHERPROOF COVER
PP021	THERMOMETER
PP022	STRIP HEATER

**RIVER WOODS ESTATES
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 CAMERON COUNTY, TEXAS

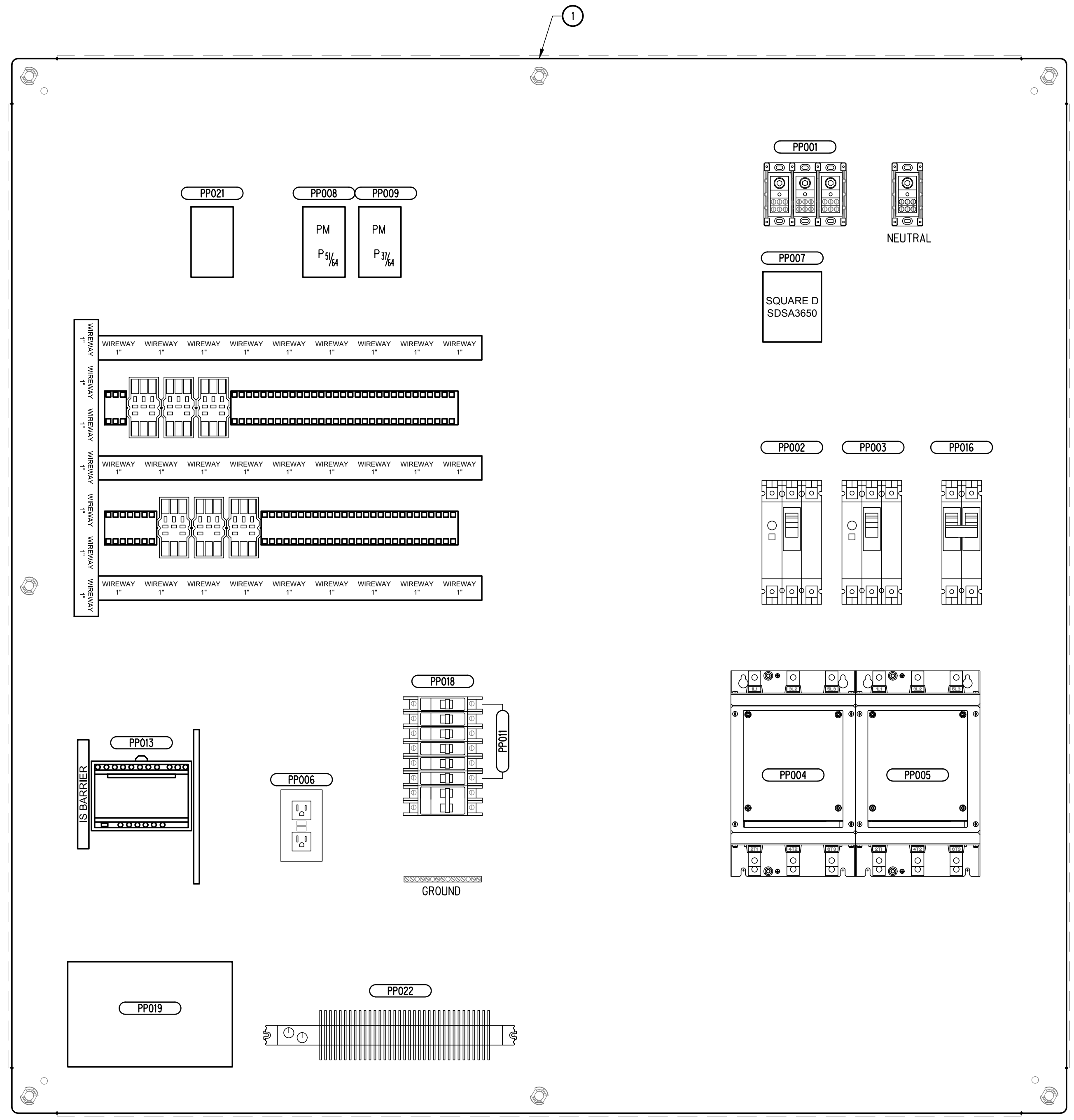


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Sheet Number	E4.01

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01 INDUSTRIAL POWER-STARTER PANEL ENCLOSURE - BACK PANEL ELEVATION
 N.T.S.

KEY NOTES:

- FURNISH AND INSTALL CONDUIT RACEWAY AND CABLING FOR A FULLY FUNCTIONAL SYSTEM. CONTROLS CABLING AND ANALOG SIGNAL CABLING SHALL BE RAN IN SEPARATE CONDUIT. 120VAC POWER CABLING SHALL BE IN ITS OWN DEDICATED CONDUIT.

GENERAL NOTES:

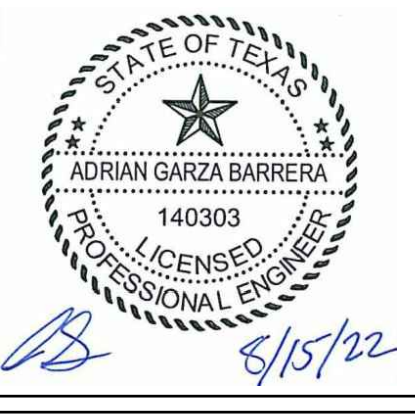
- UTILIZE NEMA 4X, 316 SS ENCLOSURES FOR ALL CONTROL PANELS.
- UTILIZE ALUMINUM BACK-PANELS IN ALL CONTROL PANELS AND TERMINATION JUNCTION BOXES.
- UTILIZE ALUMINUM SWING PANELS (WHERE NECESSARY) IN ALL CONTROL PANELS.
- ALL CONDUIT PENETRATIONS IN ENCLOSURES INSTALLED OUTDOORS SHALL BE BOTTOM ENTRY & EXIT. TOP OR SIDE-ENTRY CONDUITS ARE NOT ALLOWED.
- UTILIZE TYPE 316 SS FOR ALL HARDWARE AND SUPPORTS INSTALLED OUTDOORS.
- UTILIZE MULTI-CONDUCTOR CABLES (WITH COLORED PAIRS) FOR ALL LEVEL CONTROL AND FLOATS.
- LED STROBES SHOULD BE MOUNTED AT LEAST 12-FEET HIGH.
- COLOR DESIGNATION:
 -GREEN: STOPPED/CLOSED/OFF
 -RED: RUNNING/OPEN/ON
 -AMBER: ALARM
 -WHITE: CABINET POWER.
- NEW PUMP CONTROL PANELS SHALL HAVE AN INTERIOR FRONT SWING DOOR WHERE ALL CONTROL PUSHBUTTONS AND SWITCHES ARE MOUNTED.
- NEW PUMP CONTROL PANELS SHALL BE SIZED TO 48X36X12 AT A MINIMUM.
- ALL NEW LEVEL TRANSMITTERS SHALL BE DROP IN PRESSURE TRANSMITTERS. BASIS OF DESIGN MODEL IS THE CONTEGRA # SLX 130 WITH TEFLON COATING.
- ELECTRICAL PANELS SHALL BE UL 508A CERTIFIED.
- THIS DRAWING'S INTENT IS TO DEMONSTRATE DESIGN INTENT REQUIREMENTS. HOWEVER, NOT ALL CABLING, HARDWARE, TERMINUS, AND EQUIPMENT IS SHOWN. PROVIDE WITH A COMPLETE AND FUNCTIONAL SYSTEM. REFER TO SPEC MANUAL FOR ADDITIONAL REQUIREMENTS.

POWER PANEL EQUIPMENT SCHEDULE	
ITEM	DESCRIPTION
PP001	MAIN LUGS
PP002	PUMP CIRCUIT BREAKER NO. 1
PP003	PUMP CIRCUIT BREAKER NO. 2
PP004	PUMP NO. 1 FVNR STARTER
PP005	PUMP NO. 2 FVNR STARTER
PP006	DUPLEX RECEPTACLE GFCI
PP007	3-PHASE POWER MONITOR
PP008	PUMP NO. 1 POWER MONITOR
PP009	PUMP NO. 2 POWER MONITOR
PP010	ENCLOSURE EQUIPMENT TAG
PP011	20A, 120V SINGLE POLE CIRCUIT BREAKER
PP012	PUMP ALTERNATOR
PP013	INTRINSICALLY SAFETY BARRIERS
PP014	PUMP NO. 1 POWER MONITOR RESET
PP015	PUMP NO. 2 POWER MONITOR RESET
PP016	2-POLE TRANSFORMER BREAKER
PP017	TRANSFORMER
PP018	LOAD CENTER
PP019	UPS
PP020	VENTILATOR WITH WEATHERPROOF COVER
PP021	THERMOMETER
PP022	STRIP HEATER

**RIVER WOODS ESTATES
 SUBDIVISION**
 CAMERON COUNTY, TEXAS



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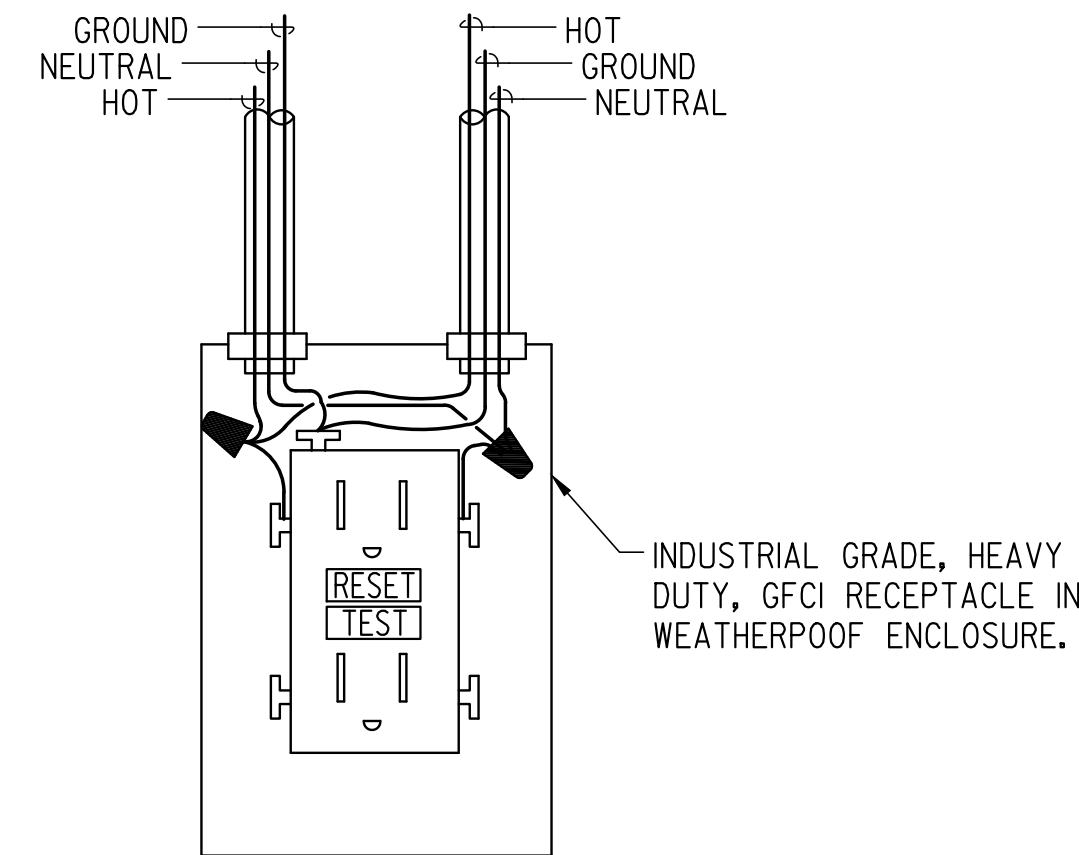


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Sheet Number	E4.02

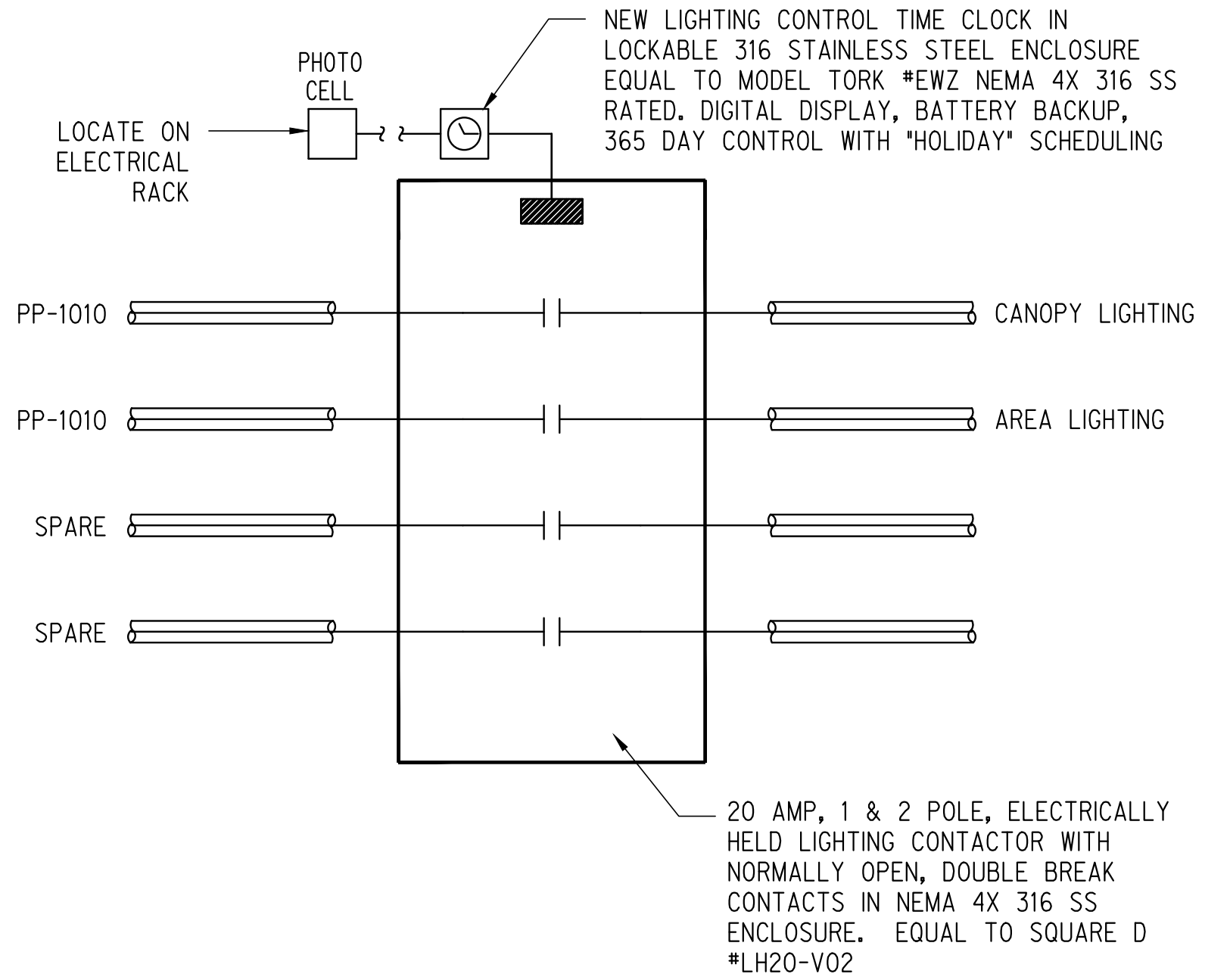
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 Current Tab (Layout): ELECTRICAL DETAILS III User: AH7/53
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GENERAL NOTES

1. WIRE GFCI DEVICE SUCH THAT THE DOWNSTREAM DEVICES ARE NOT AFFECTED BY GROUND FAULT INTERRUPTION, I.E. NON FEED THRU. EACH GFCI DEVICE SHALL BE SELF PROTECTING ONLY.



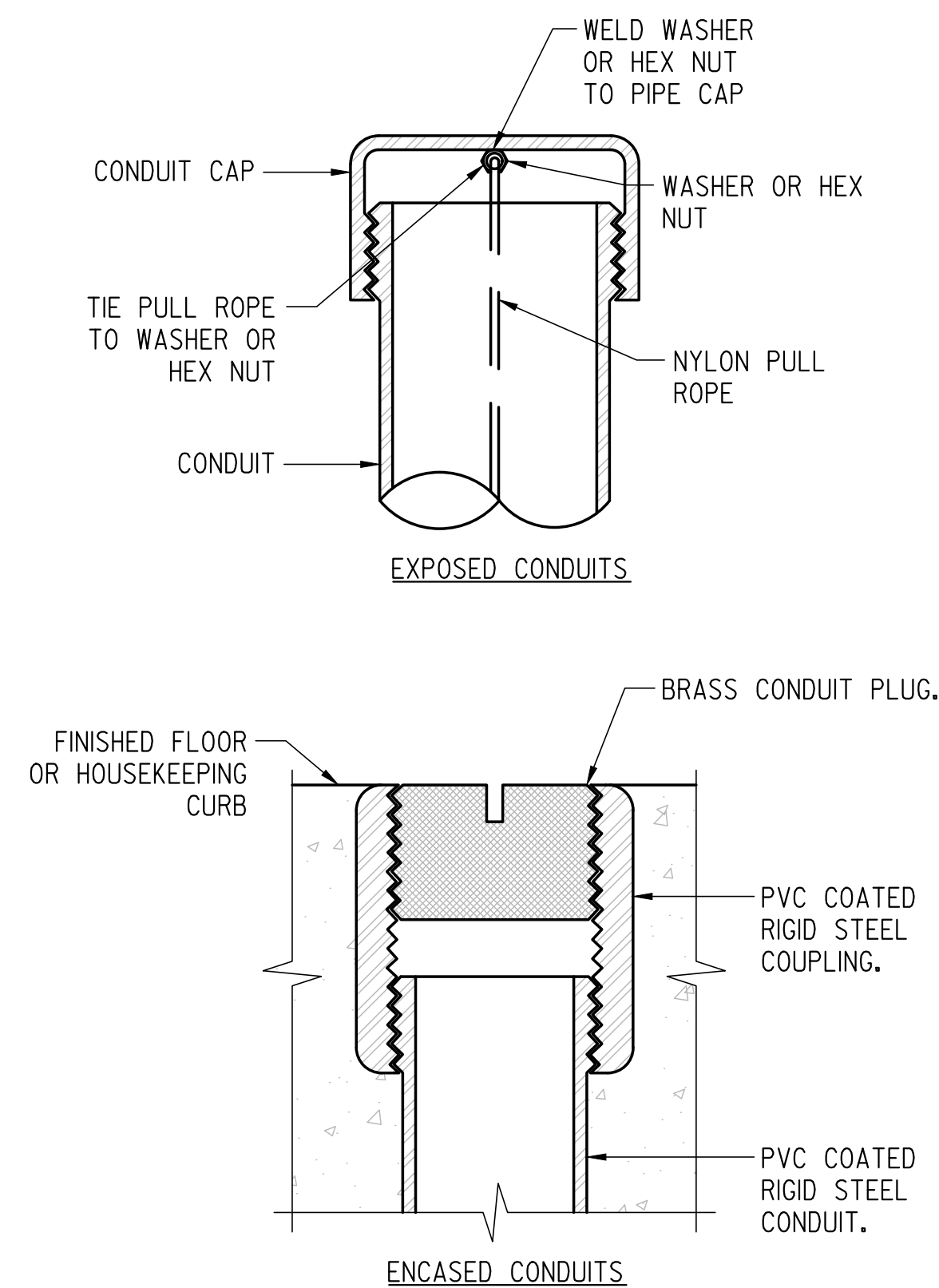
04 GFCI RECEPTACLE - WIRING DIAGRAM
N.T.S.



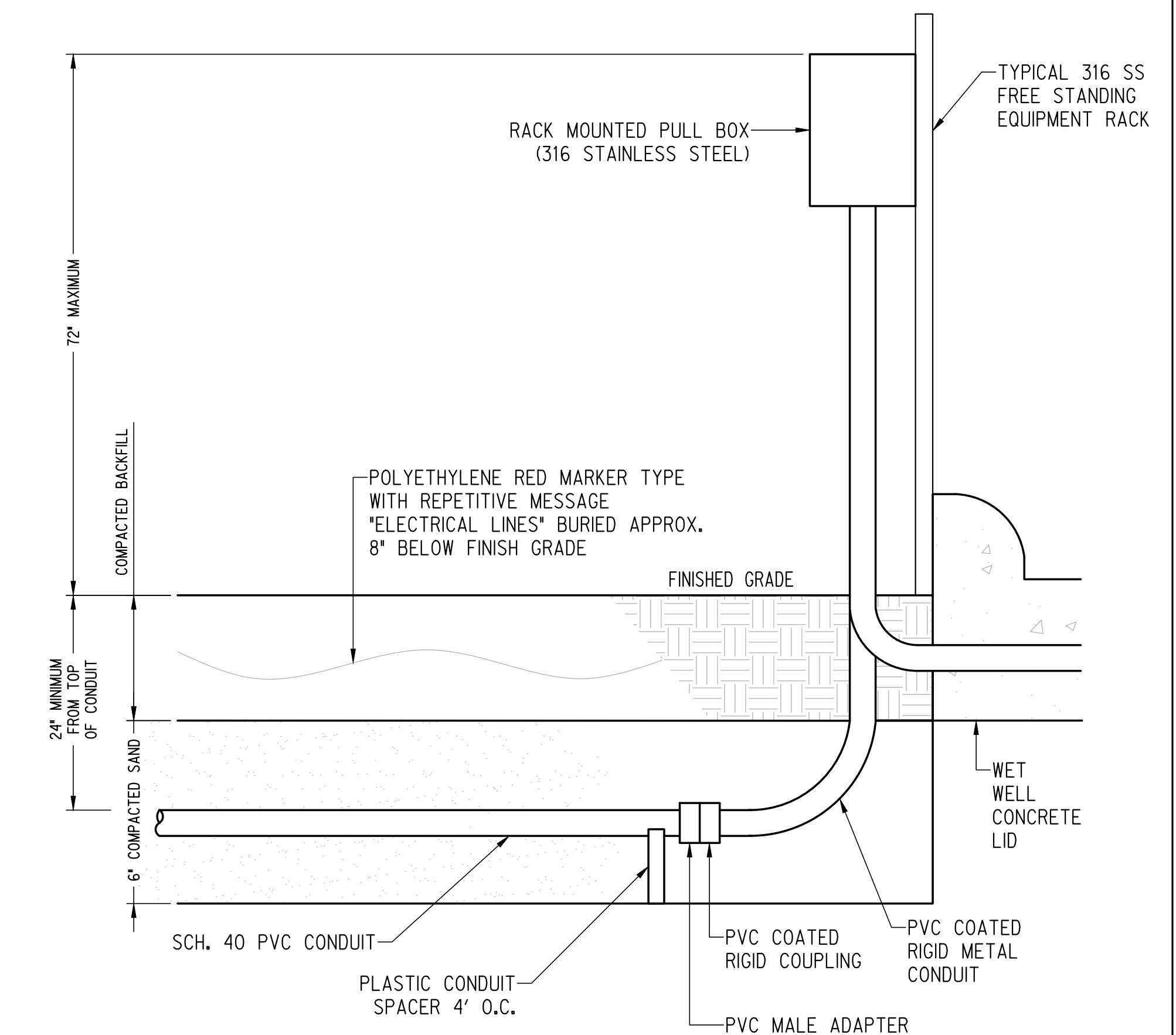
02 LIGHTING CONTACTOR SCHEMATIC - LC-1
N.T.S.

GENERAL NOTES

1. PROVIDE 2" MIN CLEAR BETWEEN ADJACENT CONDUITS.



03 TYPICAL SPARE CONDUIT DETAIL
N.T.S.



01 TYPICAL UNDERGROUND CONDUIT RUN
N.T.S.

**RIVER WOODS ESTATES
SUBDIVISION**
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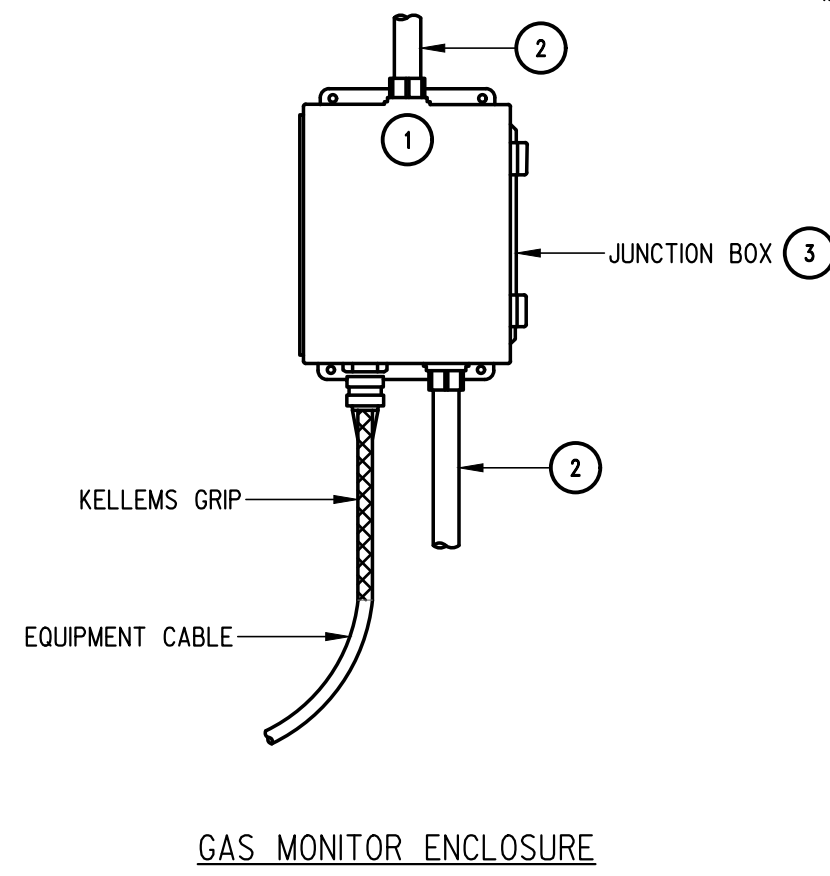
Revision No.	Date	Description



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Scale:	AS NOTED
Sheet Title	ELECTRICAL DETAILS III
Sheet Number	E4.03

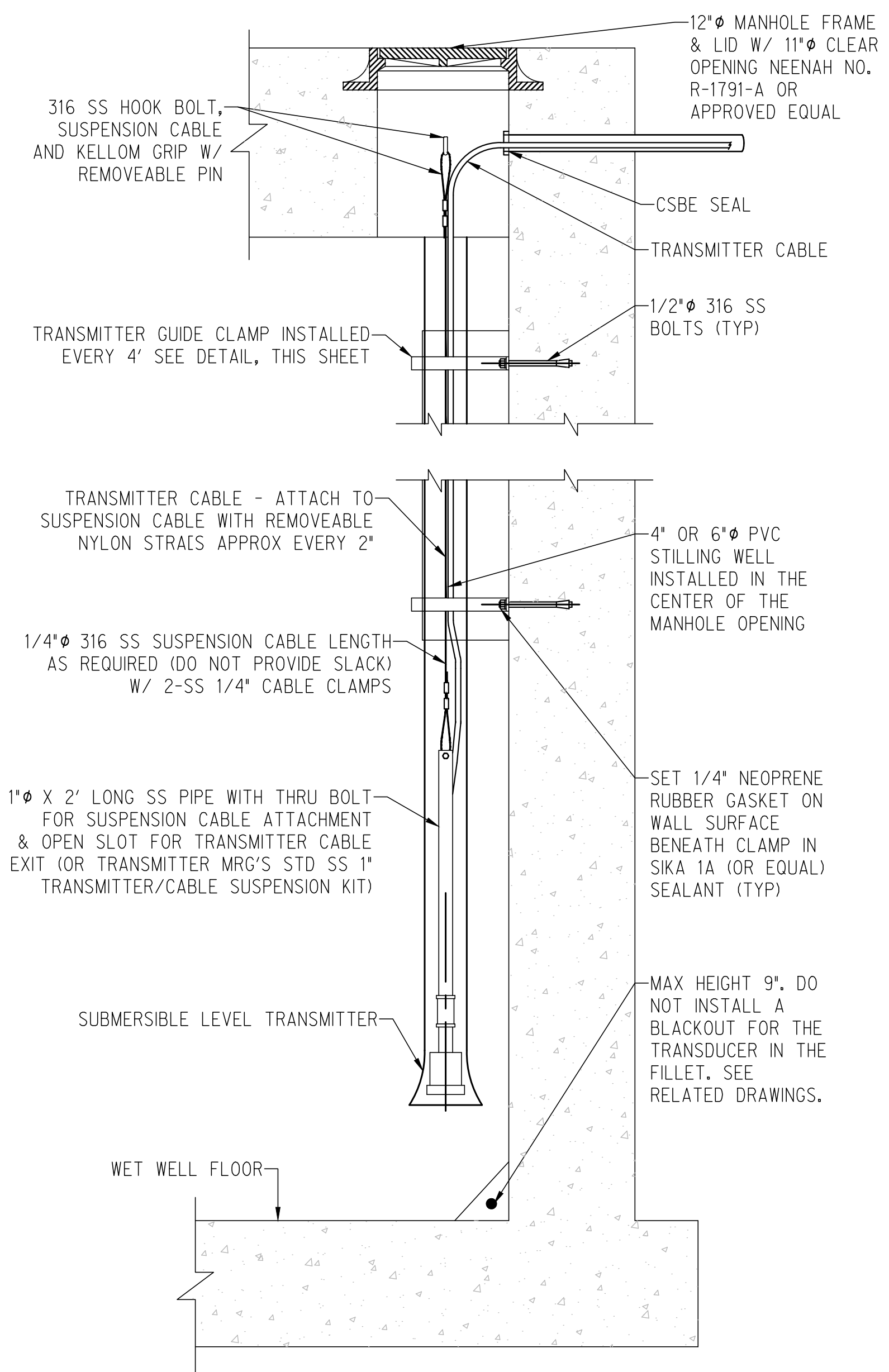
GENERAL NOTES

1. PROVIDE WITH INTERNAL MOUNTING HARDWARE FOR GAS MONITOR UNIT.
2. POWER AND CONTROL CONDUITS. REFER TO THE ELECTRICAL DRAWINGS, CONDUIT AND CABLE SCHEDULE FOR DETAILS.
3. NEMA 4X SS JUNCTION BOX FOR GAS MONITOR. PROVIDE JUNCTION BOX LARGE ENOUGH TO INSTALL THE GAS MONITOR INSIDE.

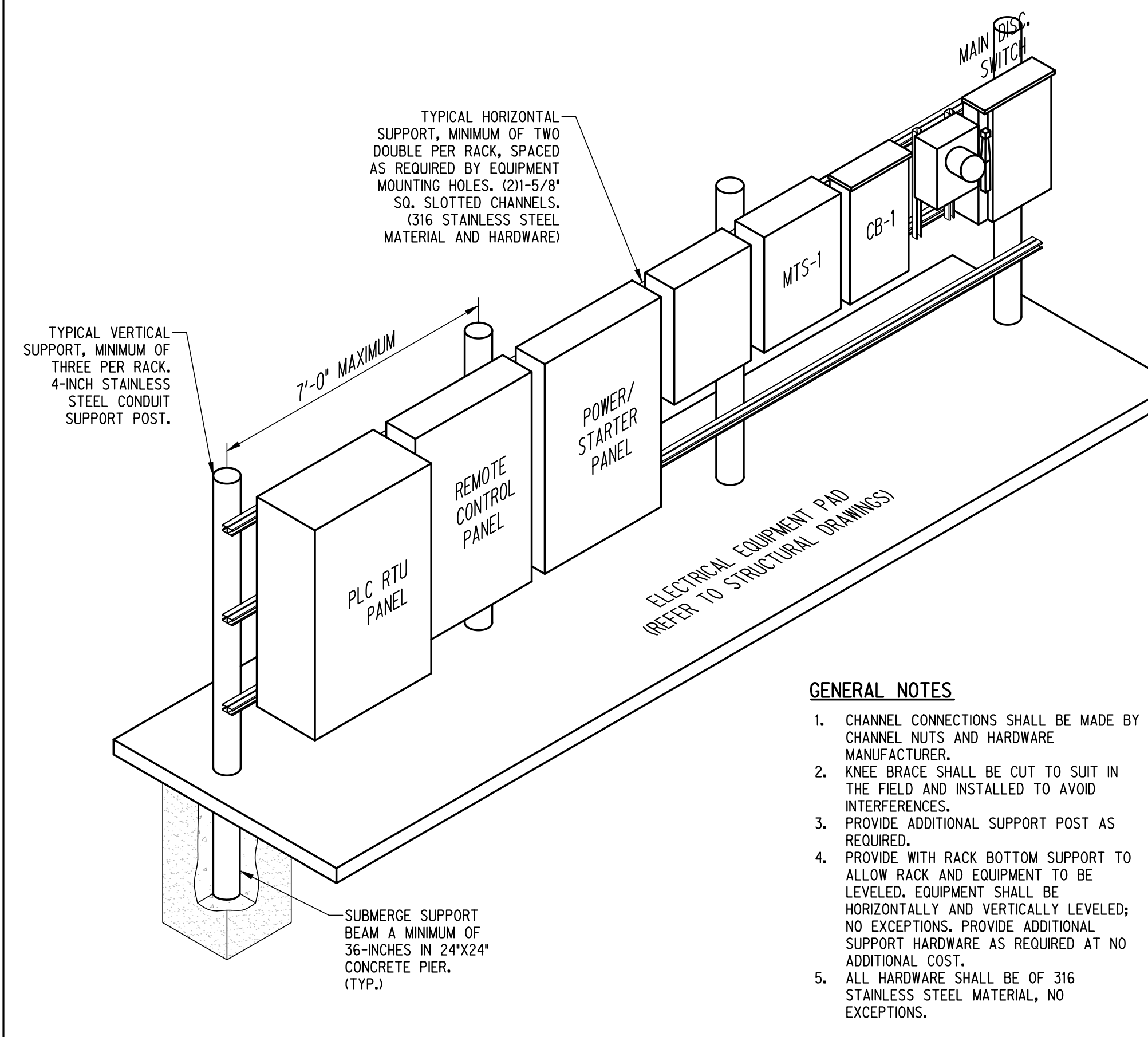


GAS MONITOR ENCLOSURE

04 SUBMERSIBLE EQUIPMENT CABLE CONNECTION
N.T.S.



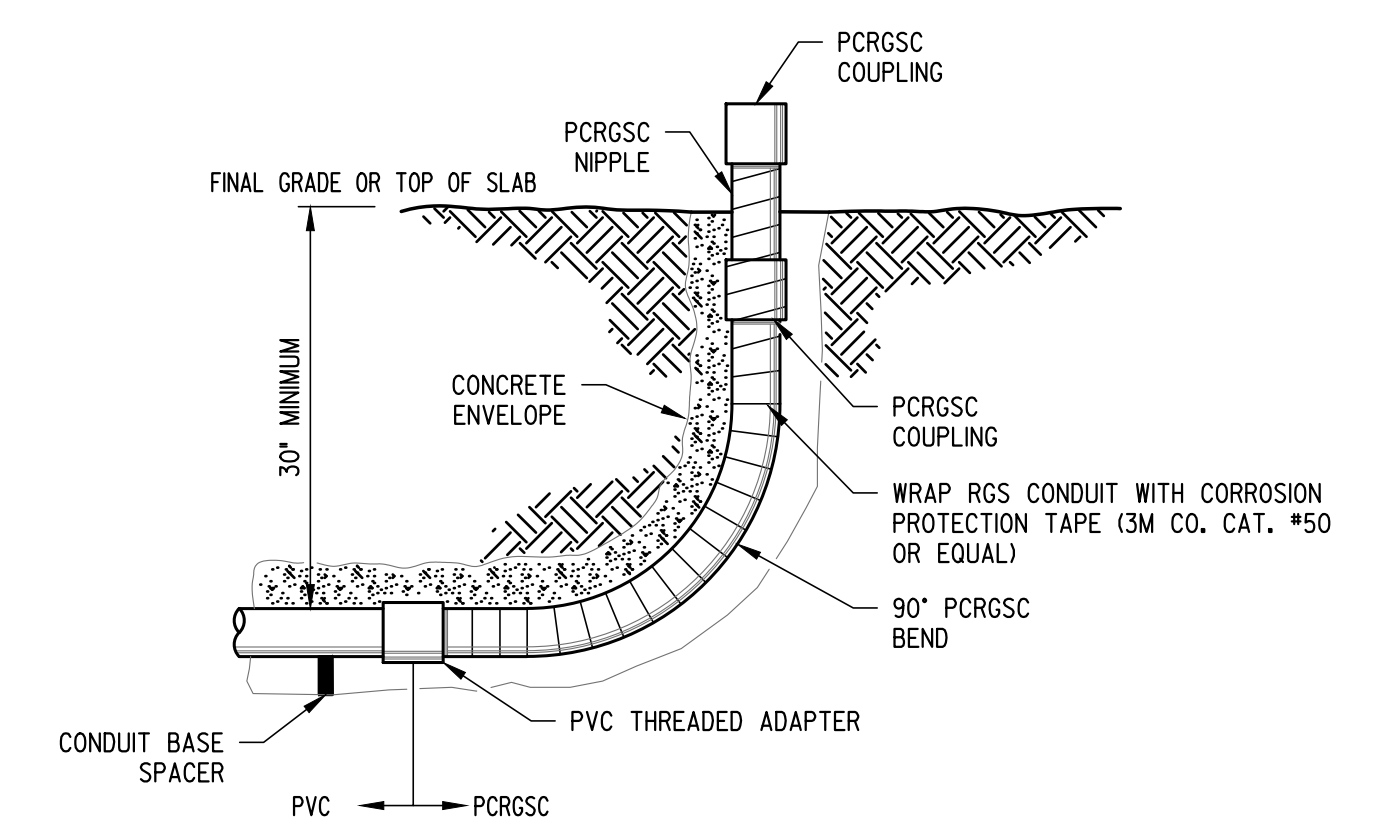
03 LEVEL TRANSMITTER INSTALLATION DETAIL
N.T.S.



GENERAL NOTES

1. CHANNEL CONNECTIONS SHALL BE MADE BY CHANNEL NUTS AND HARDWARE MANUFACTURER.
2. KNEE BRACE SHALL BE CUT TO SUIT IN THE FIELD AND INSTALLED TO AVOID INTERFERENCES.
3. PROVIDE ADDITIONAL SUPPORT POST AS REQUIRED.
4. PROVIDE WITH RACK BOTTOM SUPPORT TO ALLOW RACK AND EQUIPMENT TO BE LEVELED. EQUIPMENT SHALL BE HORIZONTALLY AND VERTICALLY LEVELED; NO EXCEPTIONS. PROVIDE ADDITIONAL SUPPORT HARDWARE AS REQUIRED AT NO ADDITIONAL COST.
5. ALL HARDWARE SHALL BE OF 316 STAINLESS STEEL MATERIAL, NO EXCEPTIONS.

02 TYPICAL EQUIPMENT RACK CONSTRUCTION DETAIL
N.T.S.

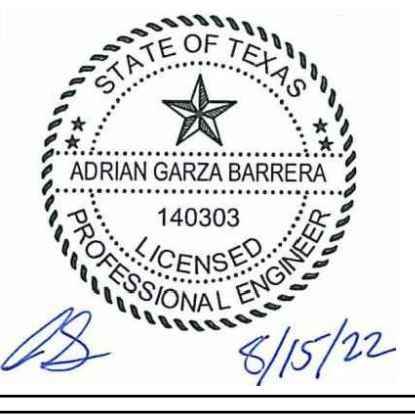


01 TYPICAL CONDUIT STUB-UP DETAIL
N.T.S.

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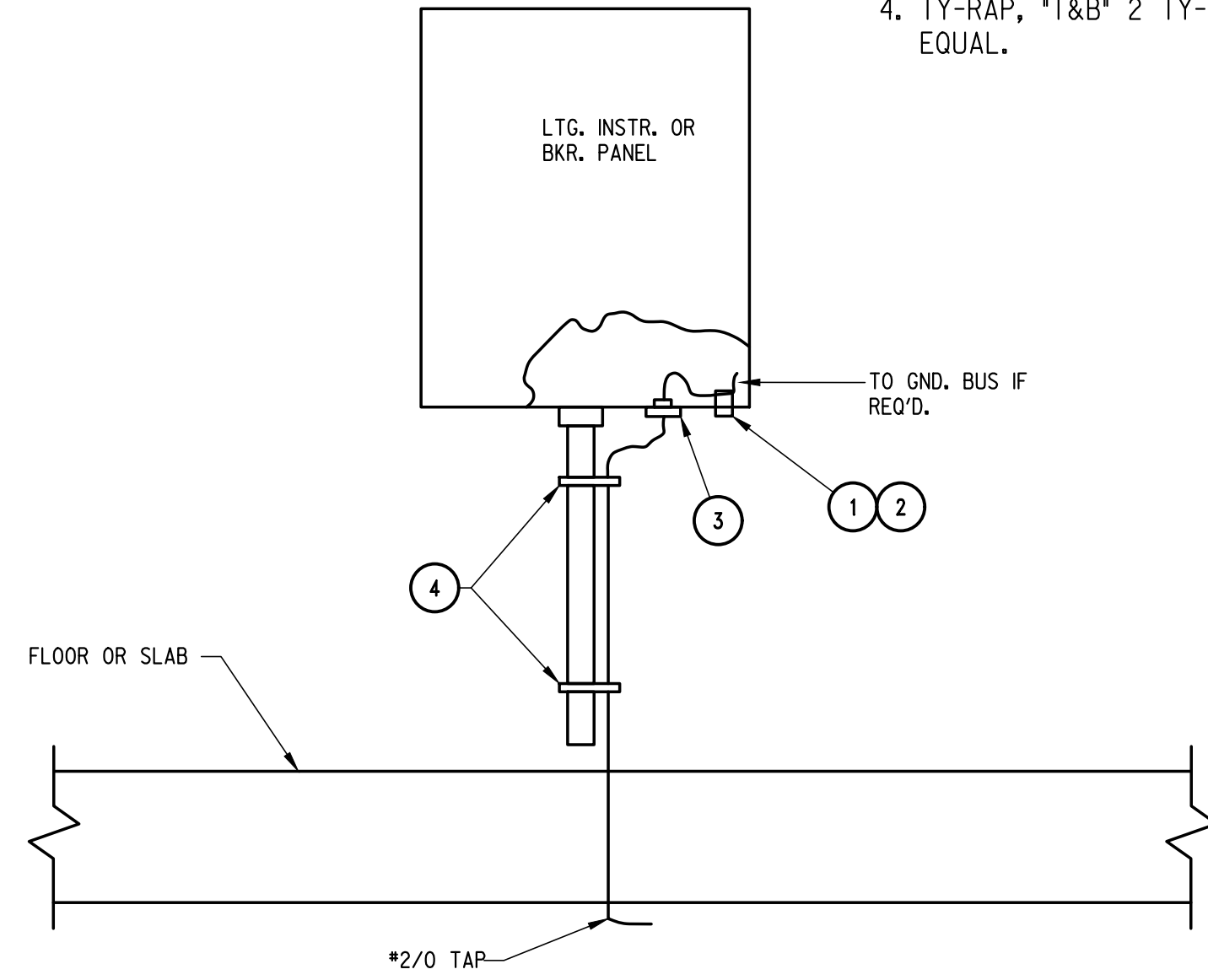


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E4.04
Sheet Number

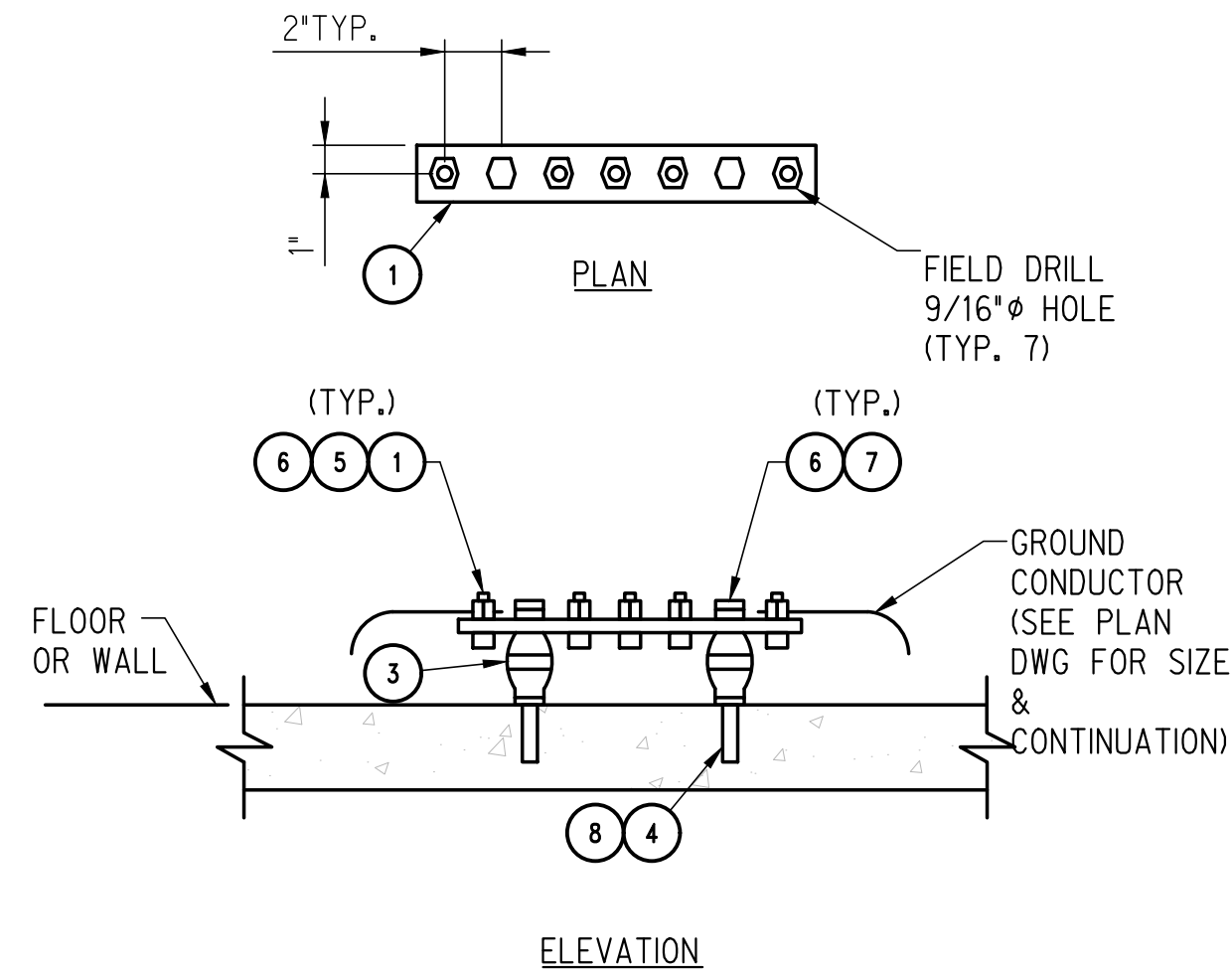
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- KEY NOTES:
 1. SERVIC POST, 'BURNDY' *KC-23B1 OR EQUAL.
 2. NUT, 'BURNDY' DURUM 3/8-16 OR EQUAL.
 3. GROUND WIRE CONNECTOR, 'APPLETON' 7286, 1/2" OR EQUAL.
 4. TY-RAP, 'T&B' 2 TY-527MX OR EQUAL.



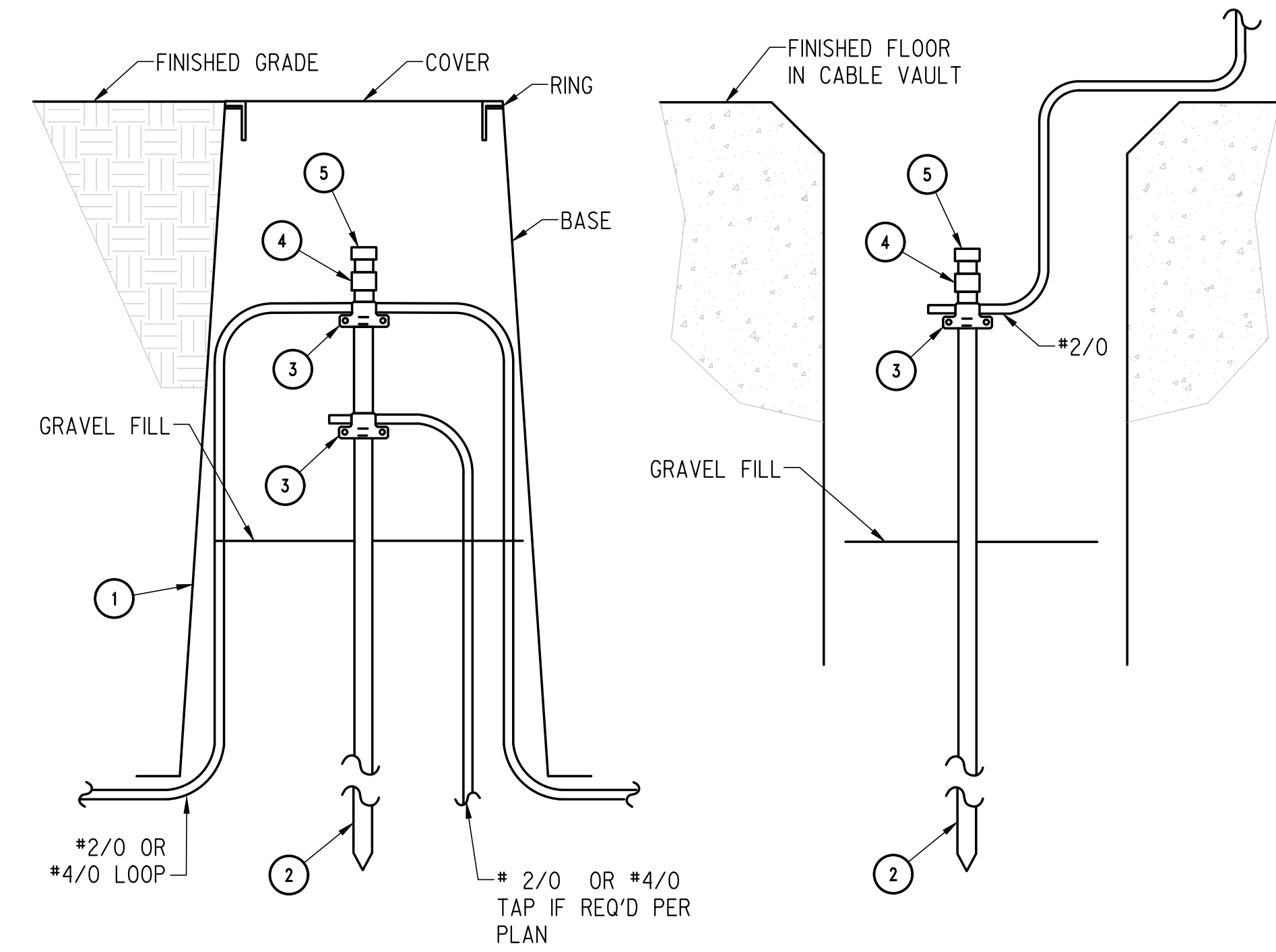
06 - DETAIL G6
 N.T.S.
EQUIPMENT GROUNDING FOR PANELBOARDS

- KEY NOTES:
 1. CONNECTOR, SERVIC POST, 1-#2 THRU #2/0, 1/2" STUD.
 2. BAR, COPPER, 1/4" X 2" X 1'-2"
 3. STANDOFF INSULATOR W/TWO 1/2"-13 X 2 3/4"
 4. EXPANSION ANCHOR, 1/2"-13 X 2 3/4".
 5. NUT, HEX, 1/2"-13, SILICON BRONZE.
 6. LOCKWASHER, 1/2", SILICON BRONZE.



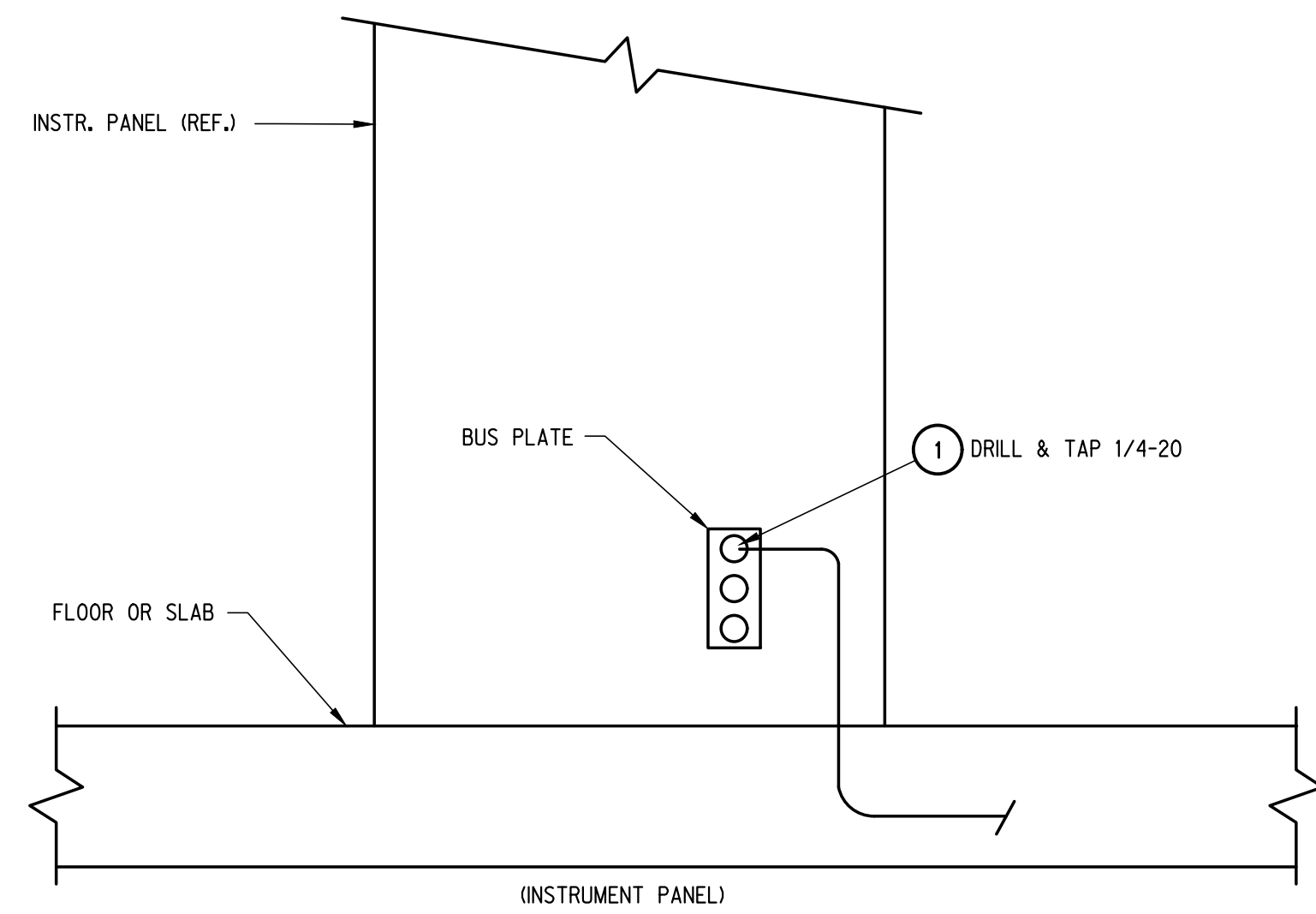
04 GROUNDING BUS BAR DETAIL - DETAIL G4
 N.T.S.

- KEY NOTES:
 1. GRADE LEVEL BURIED CABLE ENCLOSURE, PENCELL, OE-10HHD.
 2. 10'-0" LONG 3/4" GROUND ROD
 3. BOLTED CABLE CONNECTOR BURNDY *C11HD4/0DB OR EQUAL.
 4. 3/4" COUPLING.
 5. DRIVING STUD.



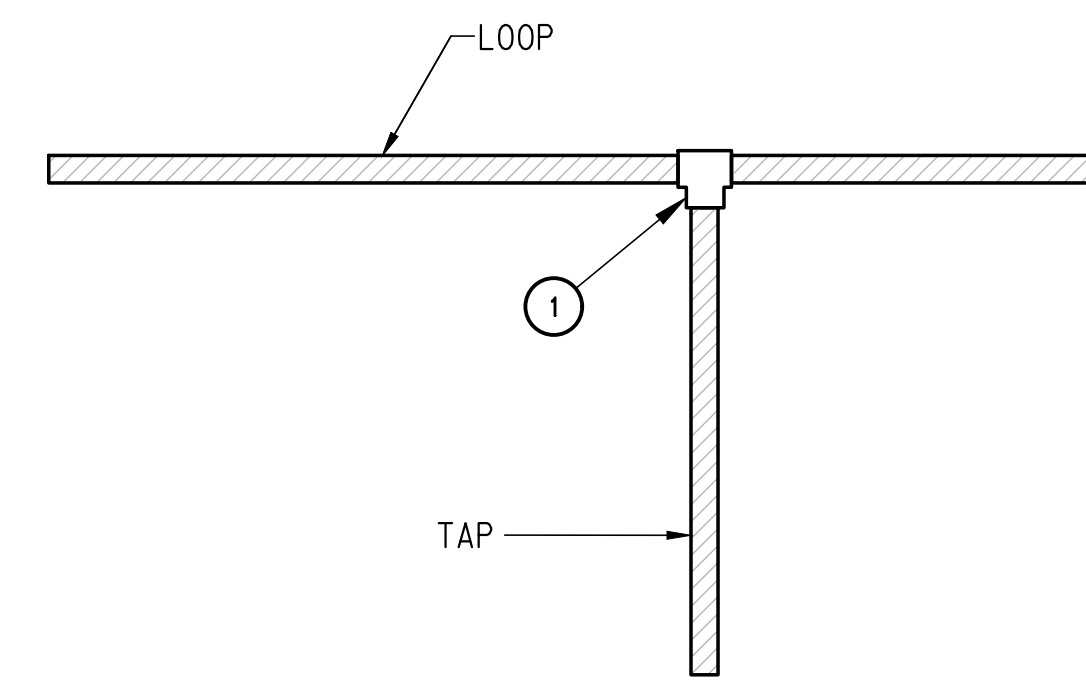
02 GROUNDING TEST WELL DETAIL - DETAIL G2
 N.T.S.

- KEY NOTES:
 1. SERVICE POST, 'BURNDY' *KC17B1 OR EQUAL.



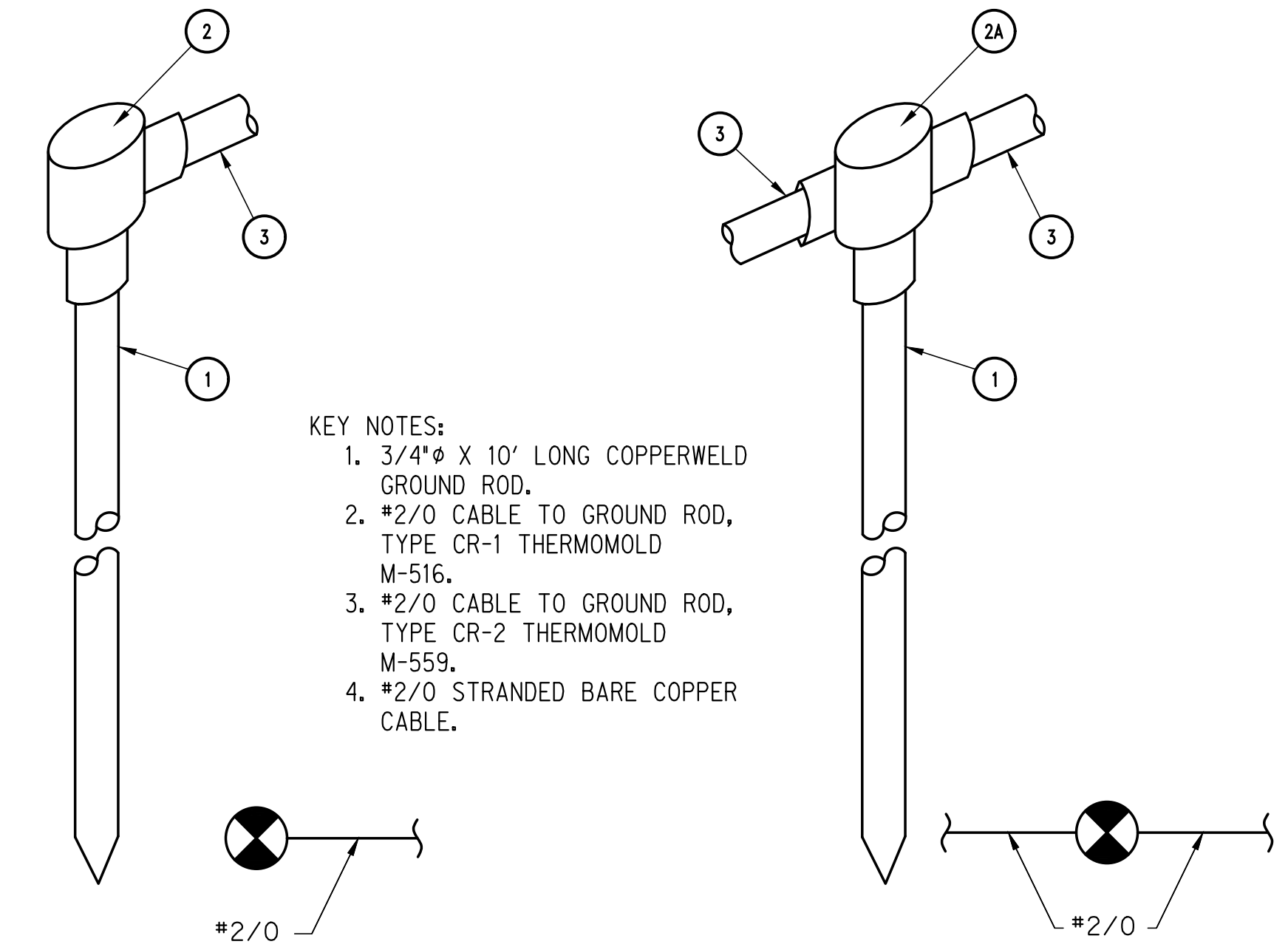
05 INSTRUMENT PANEL GROUNDING - DETAIL G5
 N.T.S.

- KEY NOTES:
 1. THERMOWELD, TYPE CC-2 THERMOMOLD M-235 (#2/0 LOOP-#2 TAP LOOP)



03 GROUNDING LOOP THERMOWELD DETAIL - G3
 N.T.S.

- KEY NOTES:
 1. 3/4" X 10' LONG COPPERWELD GROUND ROD.
 2. #2/0 CABLE TO GROUND ROD, TYPE CR-1 THERMOMOLD M-516.
 3. #2/0 CABLE TO GROUND ROD, TYPE CR-2 THERMOMOLD M-559.
 4. #2/0 STRANDED BARE COPPER CABLE.



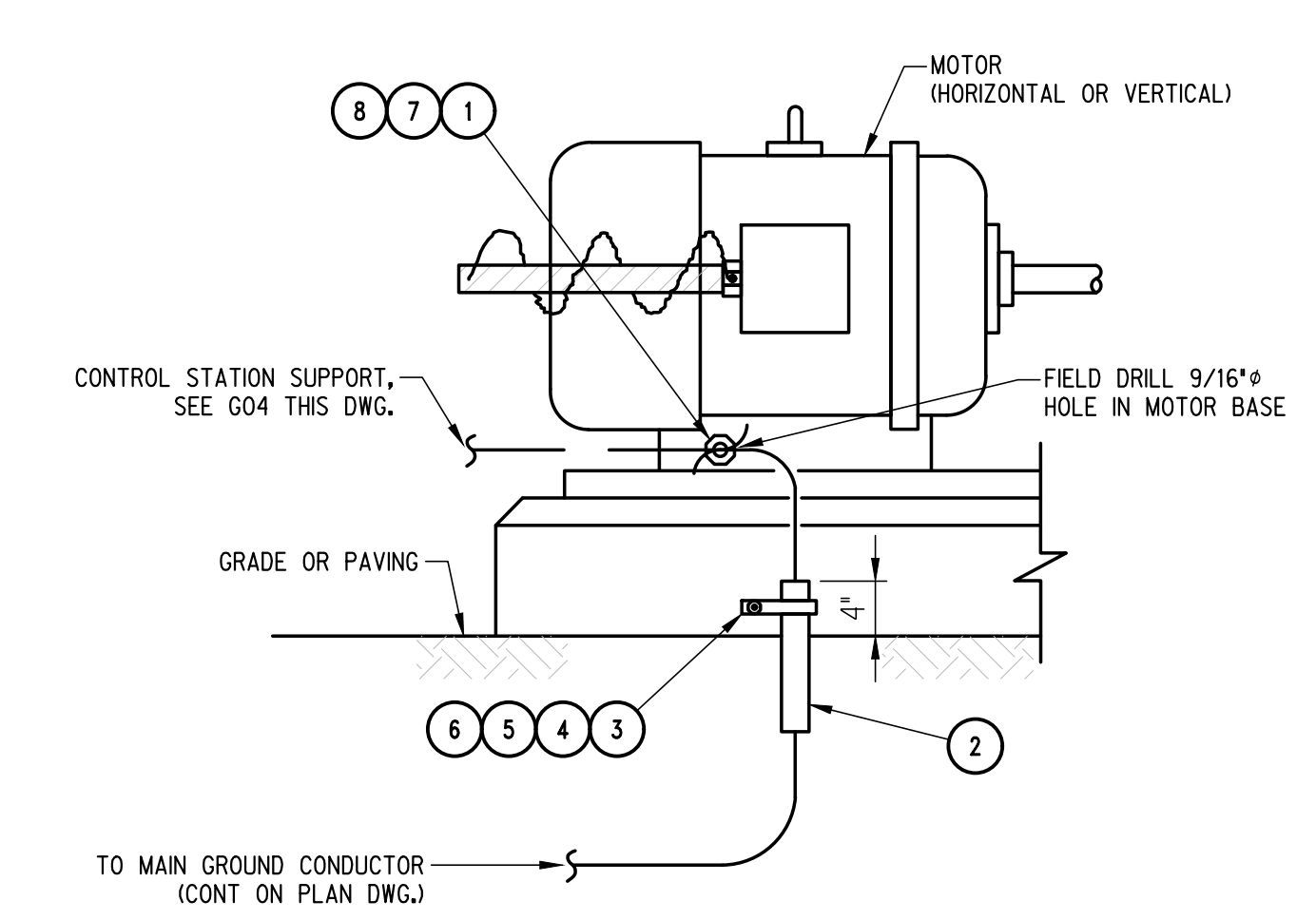
01 GROUNDING ROD DETAIL - G1
 N.T.S.

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01 MOTOR GROUNDING - DETAIL G7
 N.T.S.

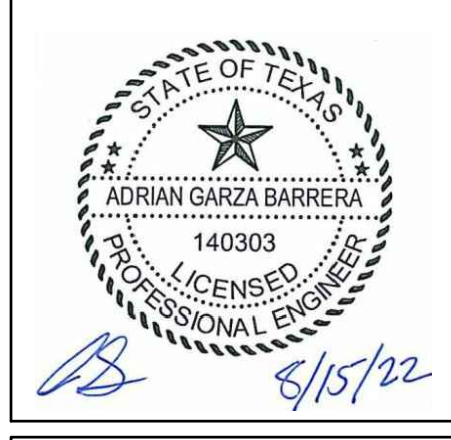


- KEY NOTES:
1. CONN., SERVIT POST, 2-#2 THRU #2/0, 1/2"-13 STUD.
 2. PIPE, PVC, SCH 40, 3/4" X 12".
 3. CONDUIT CLAMP, ONE HOLE, 3/4", IRON MALLEABLE, GALV.
 4. EXPANSION ANCHOR 1/4"-20.
 5. BOLT, MACH., 1/4"-20 X 3/4", STAINLESS STEEL.
 6. LOCKWASHER, 1/4" STAINLESS STEEL.
 7. NUT, HEX, 1/2"-13, SILICON BRONZE.
 8. LOCKWASHER, 1/2", SILICON BRONZE.

**RIVER WOODS ESTATES
 SUBDIVISION**
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INSTRUMENTATION AND CONTROLS GENERAL LEGEND

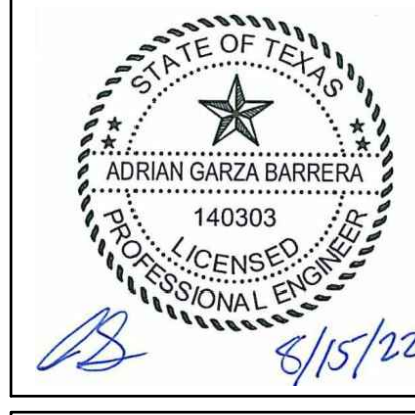
ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL KEY				DEVICE IDENTIFICATION						GENERAL ABBREVIATIONS			
DISCRETE INSTRUMENTS	COMPUTER FUNCTIONS	PROGRAMMABLE LOGIC CONTROLS	SCADA SYSTEM INTERFACE TERMINAL	MEASURED OR INITIATING VARIABLE	ELEMENT	RECORDER	TRANSMITTER	LETTERS INDICATING TRANSMITTER	SWITCH	INDICATOR	GENERAL ABBREVIATIONS	GENERAL ABBREVIATIONS	
LOCATED IN FIELD	LOCATED IN FIELD	LOCATED IN FIELD	LOCATED IN FIELD	A	ANALYSIS	AE	-	AT	AIT	AS	AI	AI	ANALOG INPUT
PRIMARY LOCATION - ACCESSIBLE	PRIMARY LOCATION - ACCESSIBLE	PRIMARY LOCATION - ACCESSIBLE	PRIMARY LOCATION - ACCESSIBLE	B	BURNER, COMBUSTION	BE	-	BT	BIT	BS	BI	A0	ANALOG OUTPUT
PRIMARY LOCATION - INACCESSIBLE	PRIMARY LOCATION - INACCESSIBLE	PRIMARY LOCATION - INACCESSIBLE	PRIMARY LOCATION - INACCESSIBLE	C	---	-	-	-	-	-	-	AS	AIR SUPPLY
AUXILIARY LOCATION - ACCESSIBLE	AUXILIARY LOCATION - ACCESSIBLE	AUXILIARY LOCATION - ACCESSIBLE	AUXILIARY LOCATION - ACCESSIBLE	D	---	-	-	-	-	-	-	ASC	AIR SCOUR
AUXILIARY LOCATION - INACCESSIBLE	AUXILIARY LOCATION - INACCESSIBLE	AUXILIARY LOCATION - INACCESSIBLE	AUXILIARY LOCATION - INACCESSIBLE	E	VOLTAGE	-	-	-	-	-	-	AUX1	RUNNING
				F	FLOW	FE	-	FT	FIT	FS	FI	AUX2	FAILED/FAULT
				G	---	-	-	-	-	-	-	BW	BACKWASH
				H	HAND	-	-	-	-	-	-	COND	CONDUCTIVITY
				I	CURRENT	-	-	-	-	-	-	CPU	CENTRAL PROCESSOR UNIT
				J	POWER	-	-	-	-	-	-	DCU	DISTRIBUTED CONTROL UNIT
				K	TIME	-	-	-	-	-	-	DI	DISCRETE INPUT
				L	LEVEL	LE	-	LT	LIT	LS	LI	DO	DISCRETE OUTPUT
				M	MOISTURE / HUMIDITY	ME	-	MT	MIT	MS	MI	DUR	DURATION
				N	---	-	-	-	-	-	-	EFF	EFFLUENT
				O	---	-	-	-	-	-	-	ENET	ETHERNET / IP
				P	PRESSURE	PE	-	PT	PIT	PS	PI	FC	FAIL CLOSED
				Q	QUANTITY	QE	-	QT	QIT	QS	QI	FLP	FAIL LAST POSITION
				R	RADIATION	-	-	-	-	-	-	FO	FAIL OPEN OR FIBER OPTIC
				S	SPEED	SE	-	ST	SIT	SS	SI	FOE	FIBER OPTIC ETHERNET
				T	TEMPERATURE	TE	-	TT	TIT	TS	TI	FREQ	FREQUENCY
				U	MULTIVARIABLE	-	-	-	-	-	-	FW	FILTER WATER
				V	VIBRATION	VE	-	VT	VIT	VS	VI	HS	HAND SWITCH
				W	WEIGHT	WE	-	WT	WIT	WS	WI	HMI	HUMAN / MACHINE INTERFACE
				X	UNCLASSIFIED	XE	XR	XT	XIT	XS	XI	HSTDBY	HOT STANDBY
				Y	STATUS / EVENT	-	-	-	-	-	-	I/O	INPUT/OUTPUT
				Z	POSITION	ZE	-	ZT	ZIT	ZS	ZI	INF	INFLUENT
												LIO	LOCAL INPUT/OUTPUT
												MC	MOTOR CONTROLLER
												MCC	MOTOR CONTROL CENTER
												ML	MIXED LIQUOR
												MS	MOISTURE SENSOR
												MSH	MOTOR START HIGH
												NC	NORMALLY CLOSED
												NIC	NETWORK INTERFACE CARD
												NO	NORMALLY OPEN
												OFO	OVERHEAD FIBER OPTIC
												OL	OVERLOAD
												OVS	OPERATOR WORK STATION
												PC	PERSONAL COMPUTER
												PLC	PROGRAMMABLE LOGIC CONTROLLER
												PMU	POWER MONITORING UNIT
												PMP	PUMP
												POS	POSITION
												PPM	PUMP PROTECTION MODULE
												PS	POWER SUPPLY
												RAS	RETURN ACTIVATED SLUDGE
												RCP	RELAY CONTROL PANEL
												RTU	REMOTE TERMINAL UNIT
												RW	RAW WATER
												SP	SET POINT
												ST	STORAGE
												TS	TEMPERATURE SENSOR
												TURB	TURBIDITY
												UPS	UNINTERRUPTIBLE POWER SUPPLY
												VFD	VARIABLE FREQUENCY DRIVE
												VSD	VARIABLE SPEED DRIVE
												WAS	WASTE ACTIVATED SLUDGE
												WBW	WASTE BACKWASH
												TSH	TEMPERATURE SWITCH HIGH
												Y1	STATUS RUNNING
												Y2	ALARM FAILED FAULT

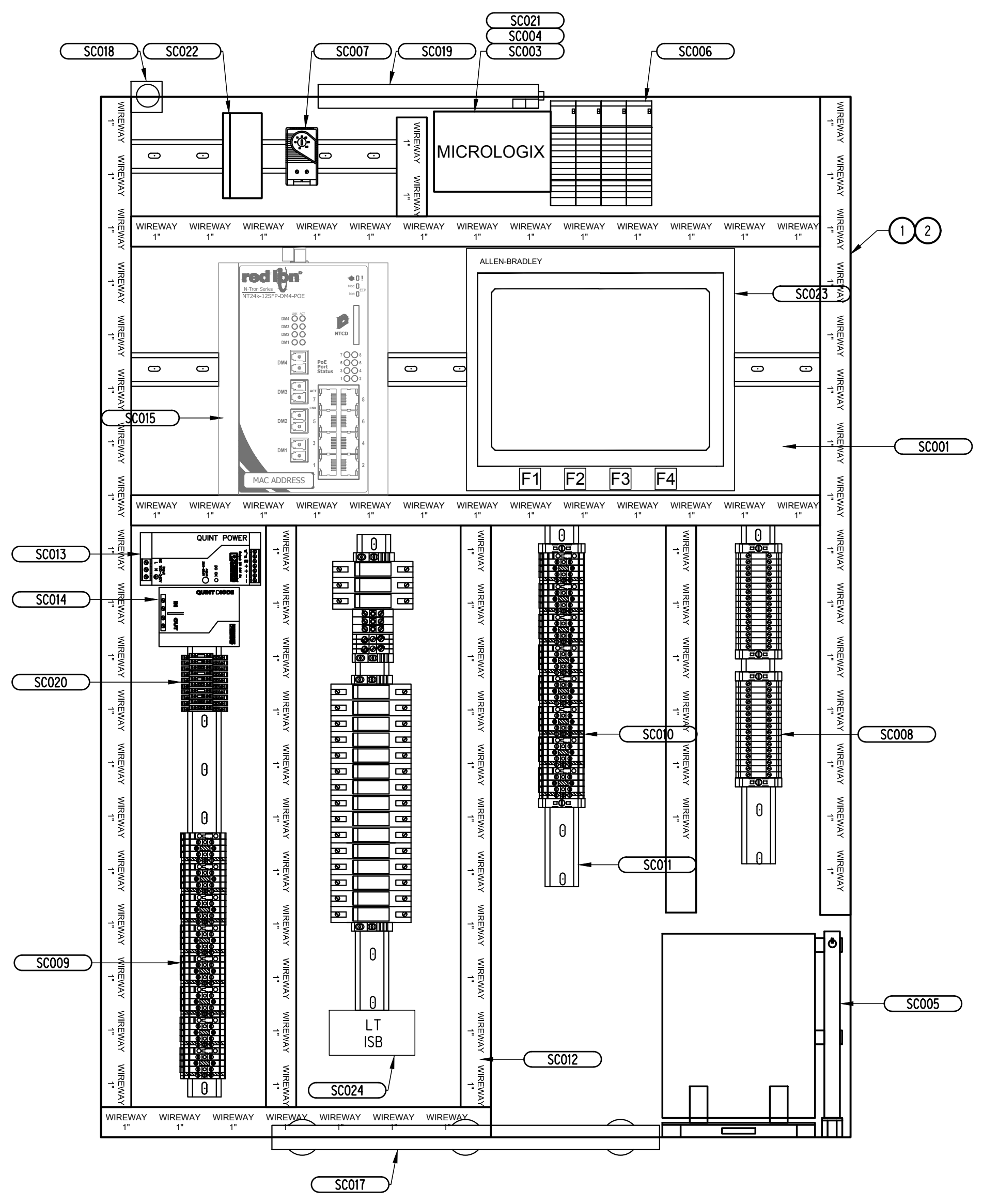
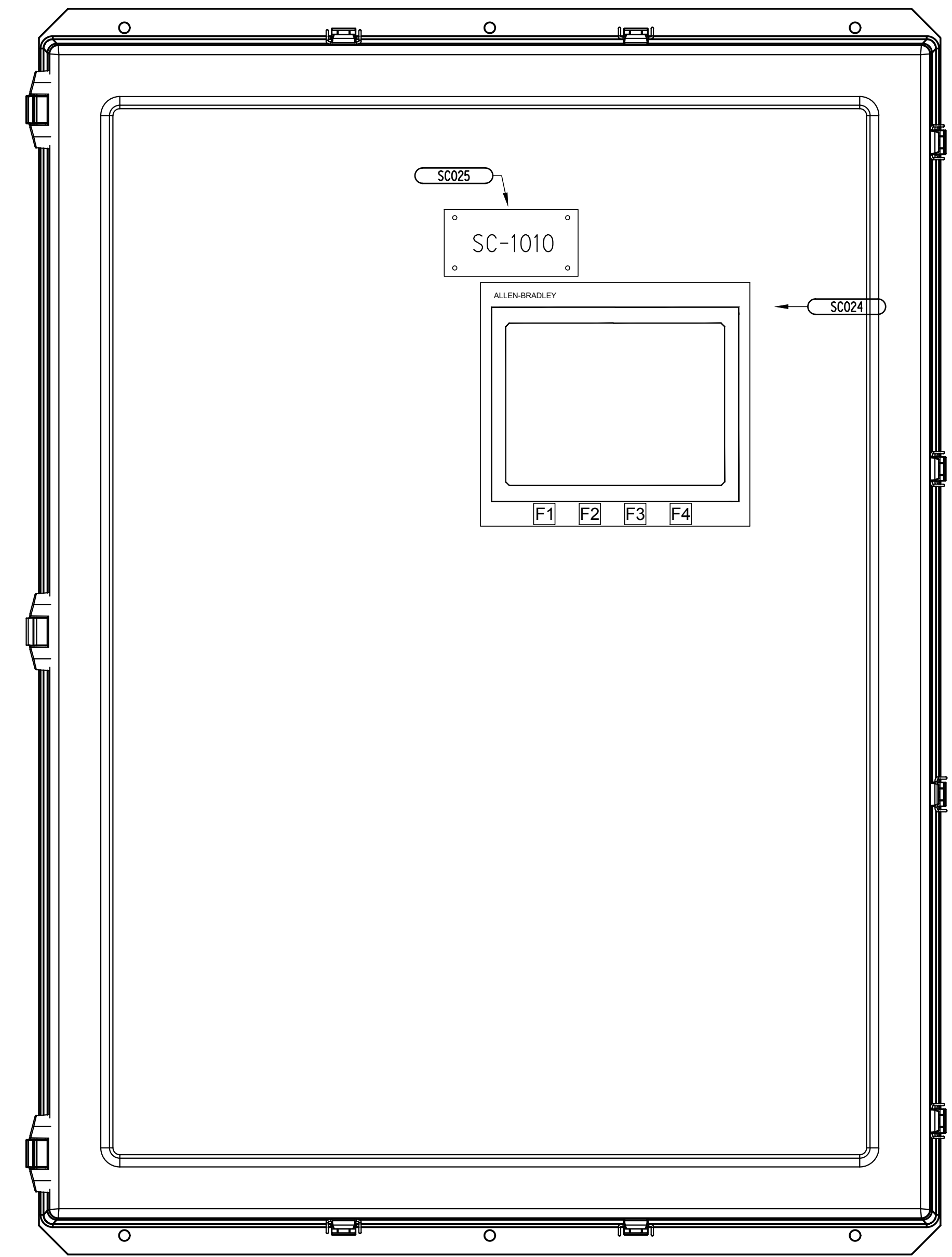
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N0.01	Sheet Number



KEY NOTES:

- VOLTAGE FOR THIS ENCLOSURE SHALL NOT EXCEED 50VAC/DC.
- FURNISH AND INSTALL CONDUIT RACEWAY AND CABLING FOR A FULLY FUNCTIONAL SYSTEM. CONTROLS CABLING AND ANALOG SIGNAL CABLING SHALL BE RAN IN SEPARATE CONDUIT.

GENERAL NOTES:

- UTILIZE NEMA 4X, 316 SS ENCLOSURES FOR ALL CONTROL PANELS. PANELS SHALL BE OF LOCKABLE TYPE.
- UTILIZE ALUMINUM BACK-PANELS IN ALL CONTROL PANELS AND TERMINATION JUNCTION BOXES.
- UTILIZE ALUMINUM SWING PANELS (WHERE NECESSARY) IN ALL CONTROL PANELS.
- ALL CONDUIT PENETRATIONS IN ENCLOSURES INSTALLED OUTDOORS SHALL BE BOTTOM ENTRY & EXIT. TOP OR SIDE ENTRY CONDUITS ARE NOT ALLOWED, EXCEPTION MAY BE MADE TO UTILIZE SIDE-ENTRY CONDUITS IN THE LOWEST 12"-18" OF THE ATS, BELOW THE CONTACTORS AND CONTROL EQUIPMENT.
- UTILIZE TYPE 316 SS FOR ALL HARDWARE AND SUPPORTS INSTALLED OUTDOORS.
- UTILIZE MULTI-CONDUCTOR CABLES (WITH COLORED PAIRS) FOR ALL LEVEL CONTROL AND FLOATS.
- LED STROBES SHOULD BE MOUNTED AT LEAST 12-FEET HIGH.
- PROVIDE WITH ISOLATED I/O.
- COLOR DESIGNATION:
-GREEN: STOPPED/CLOSED-OFF
-RED: RUNNING/OPEN/ON
-AMBER: ALARM
-WHITE: CABINET POWER.
- NEW PUMP CONTROL PANELS SHALL HAVE AN INTERIOR FRONT SWING DOOR WHERE ALL CONTROL PUSHBUTTONS AND SWITCHES ARE MOUNTED.
- NEW PUMP CONTROL PANELS SHALL BE SIZED TO 48X36X12 AT A MINIMUM.
- ALL NEW LEVEL TRANSMITTERS SHALL BE DROP IN PRESSURE TRANSMITTERS. PREFERRED MODEL IS THE XL130 WITH TEFLON COATING.
- ELECTRICAL PANELS TO BE UL 508A CERTIFIED.
- THIS DRAWING'S INTENT IS TO DEMONSTRATE DESIGN INTENT REQUIREMENTS, HOWEVER, NOT ALL CABLING, HARDWARE, TERMINUS, AND EQUIPMENT IS SHOWN. PROVIDE WITH A COMPLETE AND FUNCTIONAL SYSTEM. REFER TO SPEC MANUAL FOR ADDITIONAL REQUIREMENTS.

PLC PANEL SCHEDULE	
ITEM	DESCRIPTION
SC001	ALLUMINUM BACK PANEL
SC002	NOT USED
SC003	PLC POWER SUPPLY
SC004	PLC-MICROLOGIX 1400
SC005	UPS
SC006	ANALOG INPUT MODULES
SC007	CABINET TEMPERATURE TRANSMITTER
SC008	DESCRETE TERMINAL BLOCKS
SC009	ANALOG TERMINAL BLOCKS
SC010	RELAY AND BASE
SC011	DIN RAIL
SC012	WIRE DUCT
SC013	POWER SUPPLY, 24VDC
SC014	REDUNDANCY MODULE
SC015	INDUSTRIAL ETHERNET SWITCH
SC016	NOT USED
SC017	GROUND BAR
SC018	INTRUSION DOOR SWITCH
SC019	CABINET LIGHT WITH DOOR SWITCH
SC020	24VDC POWER DISTRIBUTION TERMINALS
SC021	MICROLOGIX CHASSIS
SC022	COPPER PATCH PANEL
SC023	10" HMI GRAPHIC DISPLAY SCREEN
SC024	LEVEL TRANSDUCER INTRINSICALLY SAFETY BARRIER
SC025	ENCLOSURE EQUIPMENT TAG

01 PLC PANEL ENCLOSURE - TYPICAL ELEVATION
N.T.S.

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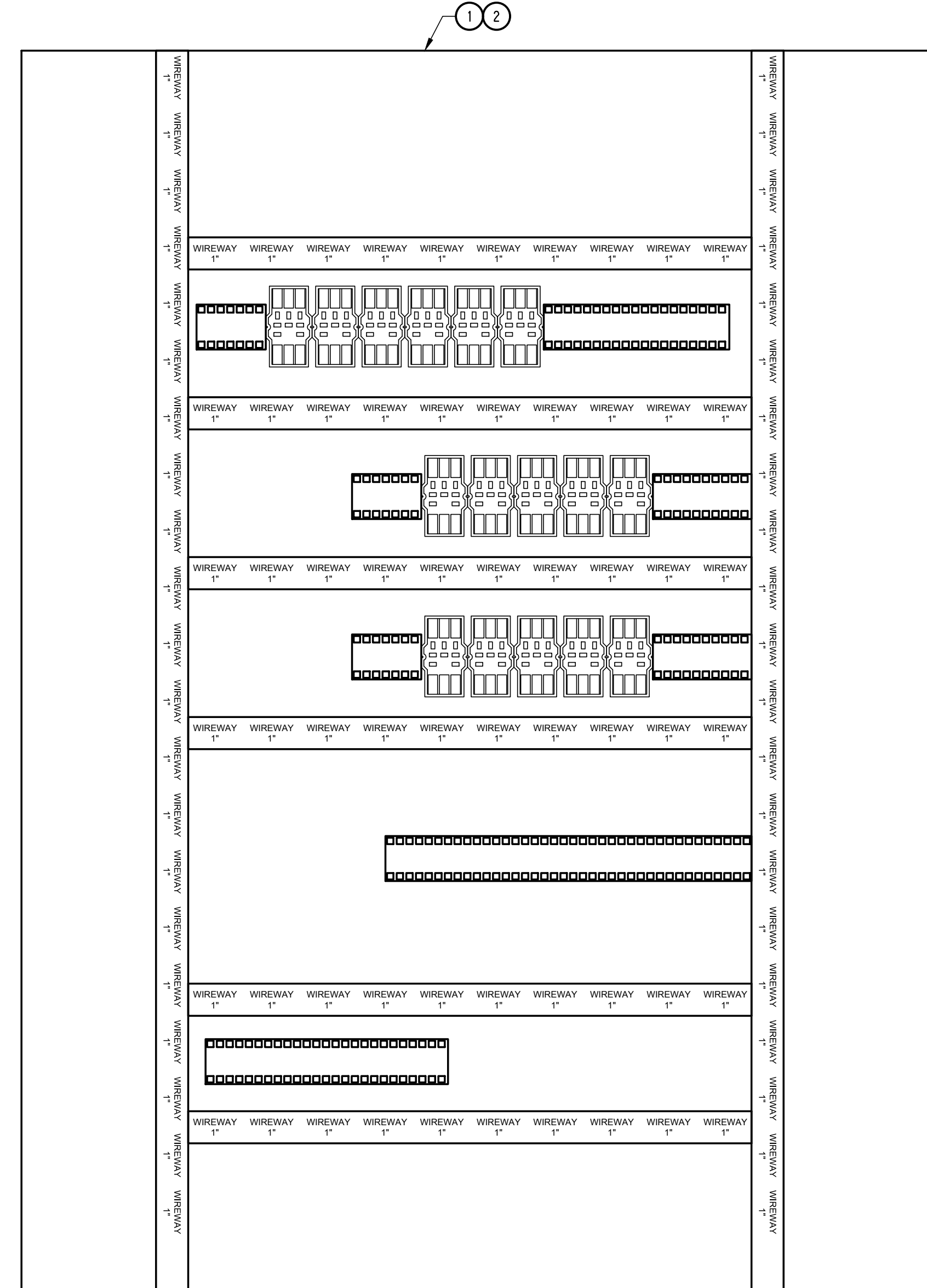
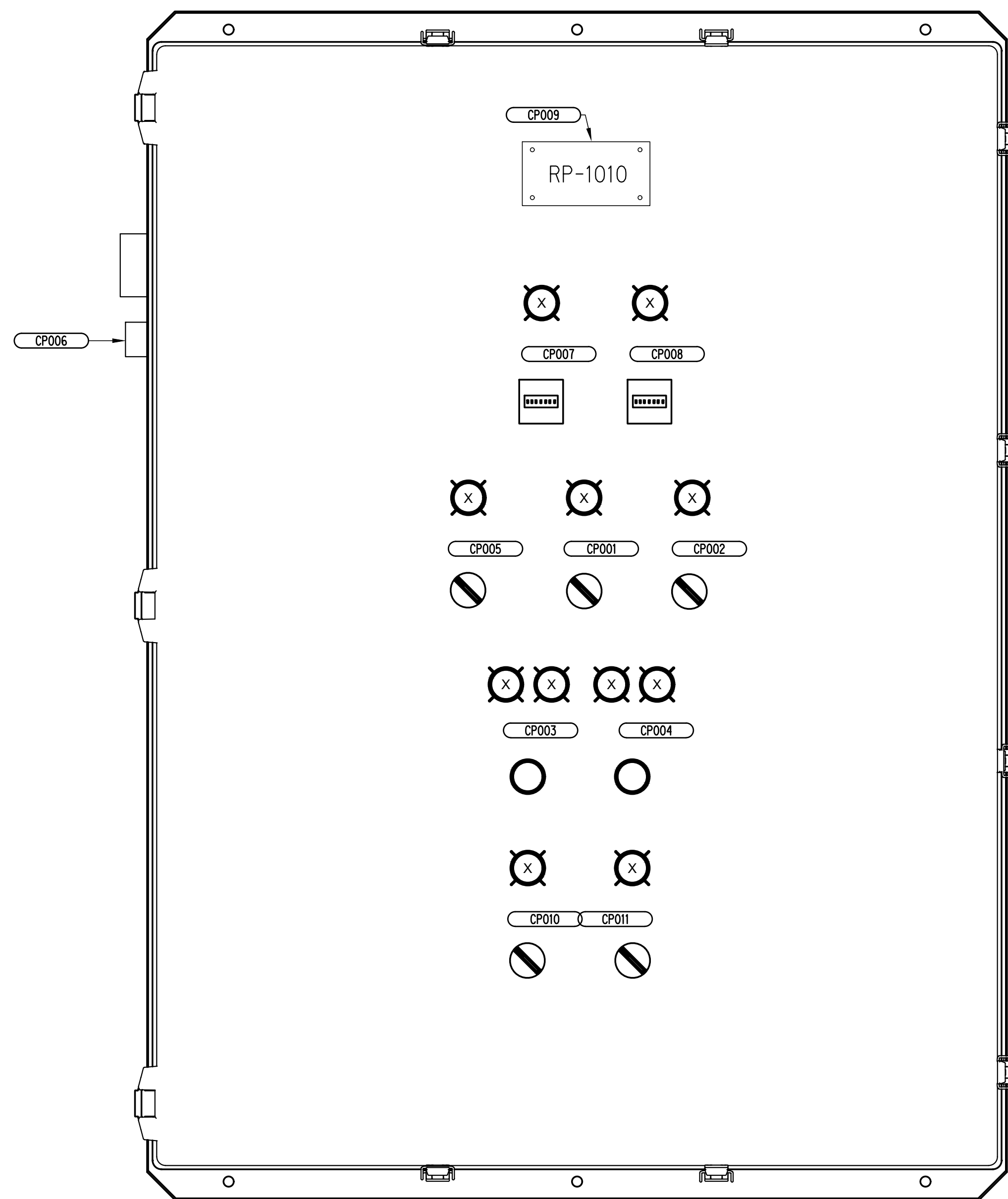
RIVER WOODS ESTATES
SUBDIVISION
CAMERON COUNTY, TEXAS

HALFF
5000 WEST HULLBURY, SUITE 100
DALLAS, TEXAS 75243
TEL: (972) 884-0288
FAX: (972) 884-0288
TYPED FROM #P-312

Revision No.	Date	Description

STATE OF TEXAS
ADRIAN GARZA BARRERA
140303
LICENSED PROFESSIONAL ENGINEER
8/15/22

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Drawn By:	J.M.
Checked By:	A.G.
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Sheet Title	INSTRUMENTATION PLC PANEL ENCLOSURE
N1.01	Sheet Number



KEY NOTES:

- VOLTAGE FOR THIS ENCLOSURE SHALL NOT EXCEED 50VAC/DC.
- FURNISH AND INSTALL CONDUIT RACEWAY AND CABLING FOR A FULLY FUNCTIONAL SYSTEM.

GENERAL NOTES:

- UTILIZE NEMA 4X, 316 SS ENCLOSURES FOR ALL CONTROL PANELS.
- UTILIZE ALUMINUM BACK-PANELS IN ALL CONTROL PANELS AND TERMINATION JUNCTION BOXES.
- UTILIZE ALUMINUM SWING PANELS (WHERE NECESSARY) IN ALL CONTROL PANELS.
- ALL CONDUIT PENETRATIONS IN ENCLOSURES INSTALLED OUTDOORS SHALL BE BOTTOM ENTRY & EXIT. TOP OR SIDE-ENTRY CONDUITS ARE NOT ALLOWED. EXCEPTION MAY BE MADE TO UTILIZE SIDE-ENTRY CONDUITS IN THE LOWEST 12"-18" OF THE ATS, BELOW THE CONTACTORS AND CONTROL EQUIPMENT.
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- ELECTRICAL PANELS TO BE UL 508A CERTIFIED.
- THIS DRAWING'S INTENT IS TO DEMONSTRATE DESIGN INTENT REQUIREMENTS. HOWEVER, NOT ALL CABLING, HARDWARE, TERMINUS, AND EQUIPMENT IS SHOWN. PROVIDE WITH A COMPLETE AND FUNCTIONAL SYSTEM. REFER TO SPEC MANUAL FOR ADDITIONAL REQUIREMENTS.

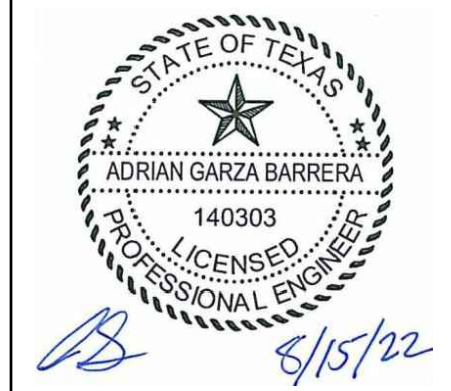
CONTROL PANEL EQUIPMENT SCHEDULE	
ITEM	DESCRIPTION
CP001	HOA PUMP NO. 1
CP002	HOA PUMP NO. 2
CP003	OVERTEMP SEAL FAIL RESET PUMP NO. 1
CP004	OVERTEMP SEAL FAIL RESET PUMP NO. 2
CP005	ACTIVATED RESET FLOAT BACKUP
CP006	ALARM SILENCE
CP007	RUN TIME ELAPSE TIME METER PUMP NO. 1
CP008	RUN TIME ELAPSE TIME METER PUMP NO. 2
CP009	ENCLOSURE EQUIPMENT TAG
CP010	PUMP NO. 1 OVERLOAD RESET
CP011	PUMP NO. 2 OVERLOAD RESET

01 REMOTE CONTROLS INDUSTRIAL PANEL ENCLOSURE - TYPICAL ELEVATION DETAIL
 N.T.S.

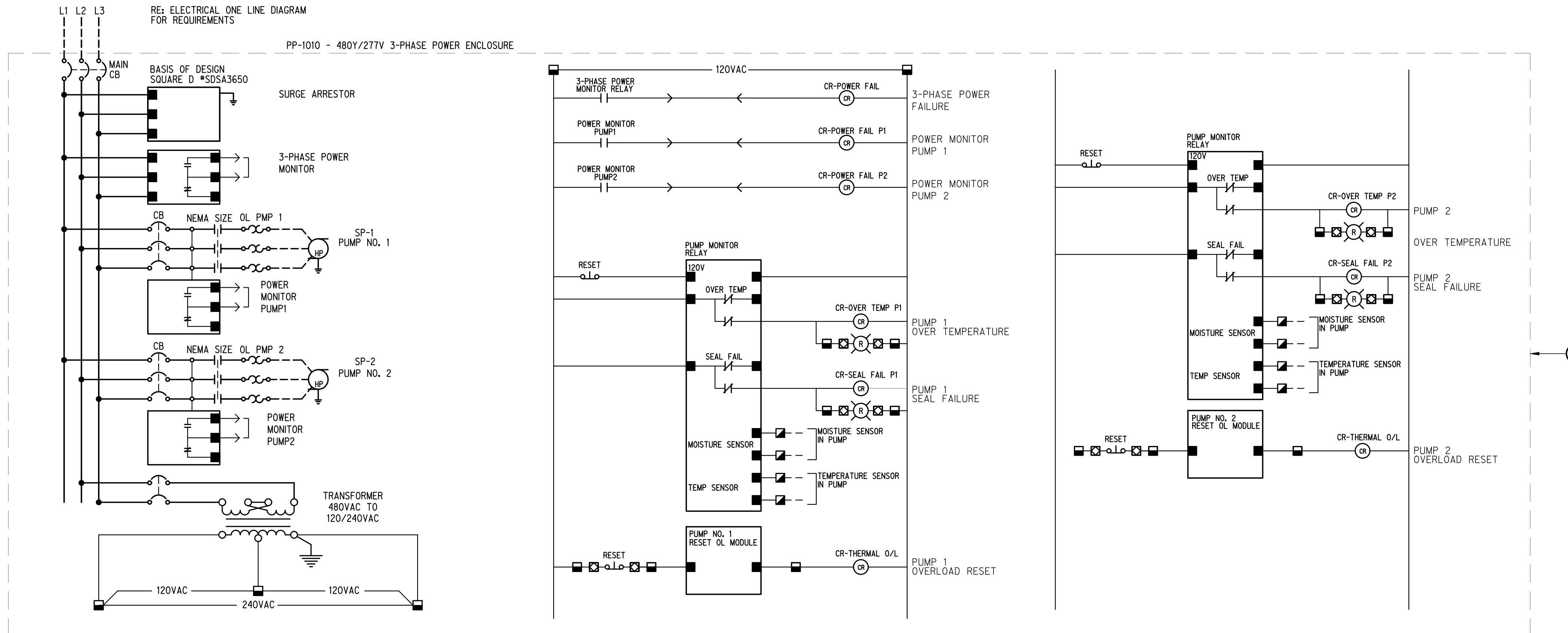
**RIVER WOODS ESTATES
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 CAMERON COUNTY, TEXAS



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Sheet Number	N1.02



01 CONTROLS LADDER DIAGRAM 1
N.T.S.

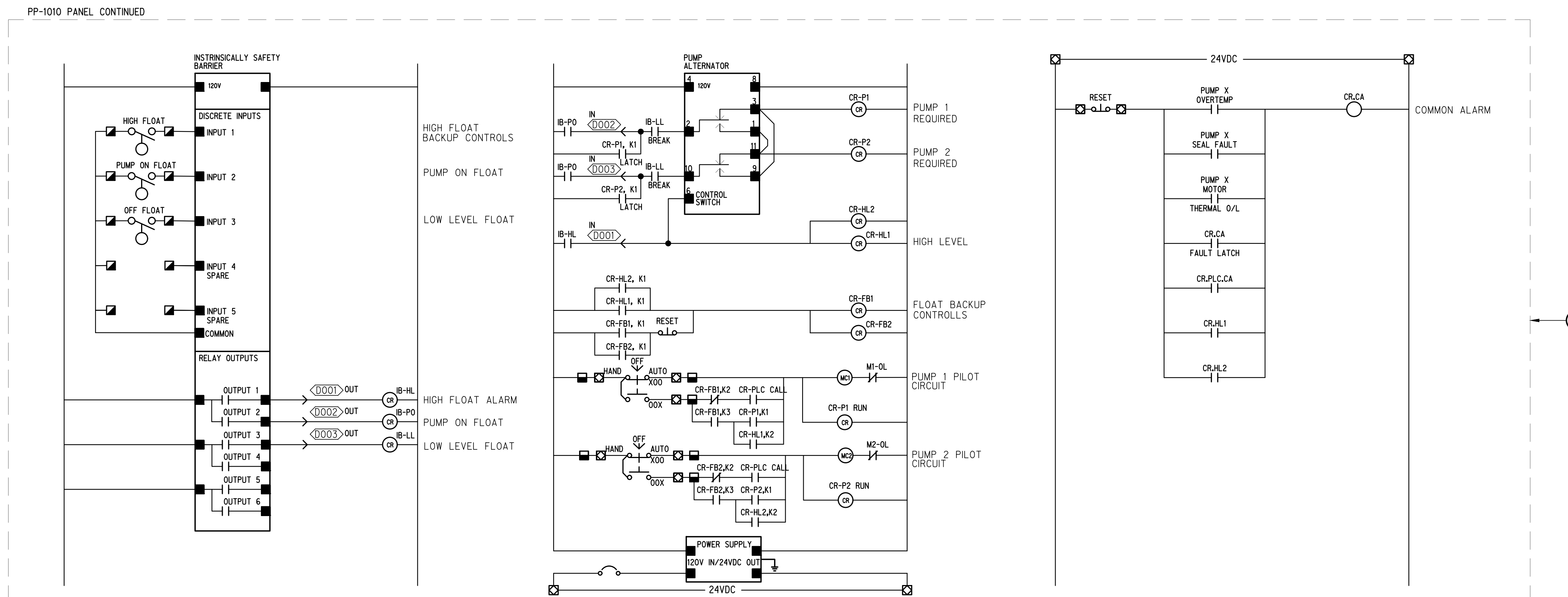
GENERAL NOTES:

- THE CONTROLS LADDER DIAGRAM SCHEMATICS SHOW THE GENERAL REQUIREMENTS FOR CONTROL PANEL CONSTRUCTION, AND PLC. PROVIDE ALL REQUIRED CONTROL DEVICES, CIRCUIT PROTECTION, CONTROL POWER TRANSFORMERS, AND WIRING FOR A COMPLETE AND FUNCTIONAL SYSTEM. CONTROLS SHALL BE PROVIDED WITH FACTORY ACCEPTANCE TEST AND UL508A LISTED.

KEY NOTES:

- FURNISH AND INSTALL ISOLATION INTERPOSING RELAYS FOR PLC I/O AND REMOTE CONTROL PANEL.
- PROVIDE WITH ANALOG SIGNAL ISOLATOR.
- ALL PLC INPUTS AND OUTPUTS SHALL BE WIRED TO ISOLATION RELAYS.

**RIVER WOODS ESTATES
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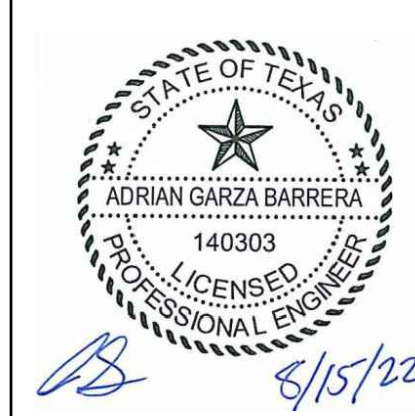


02 CONTROLS LADDER DIAGRAM 2
N.T.S.

TERMINAL BLOCKS LEGEND:

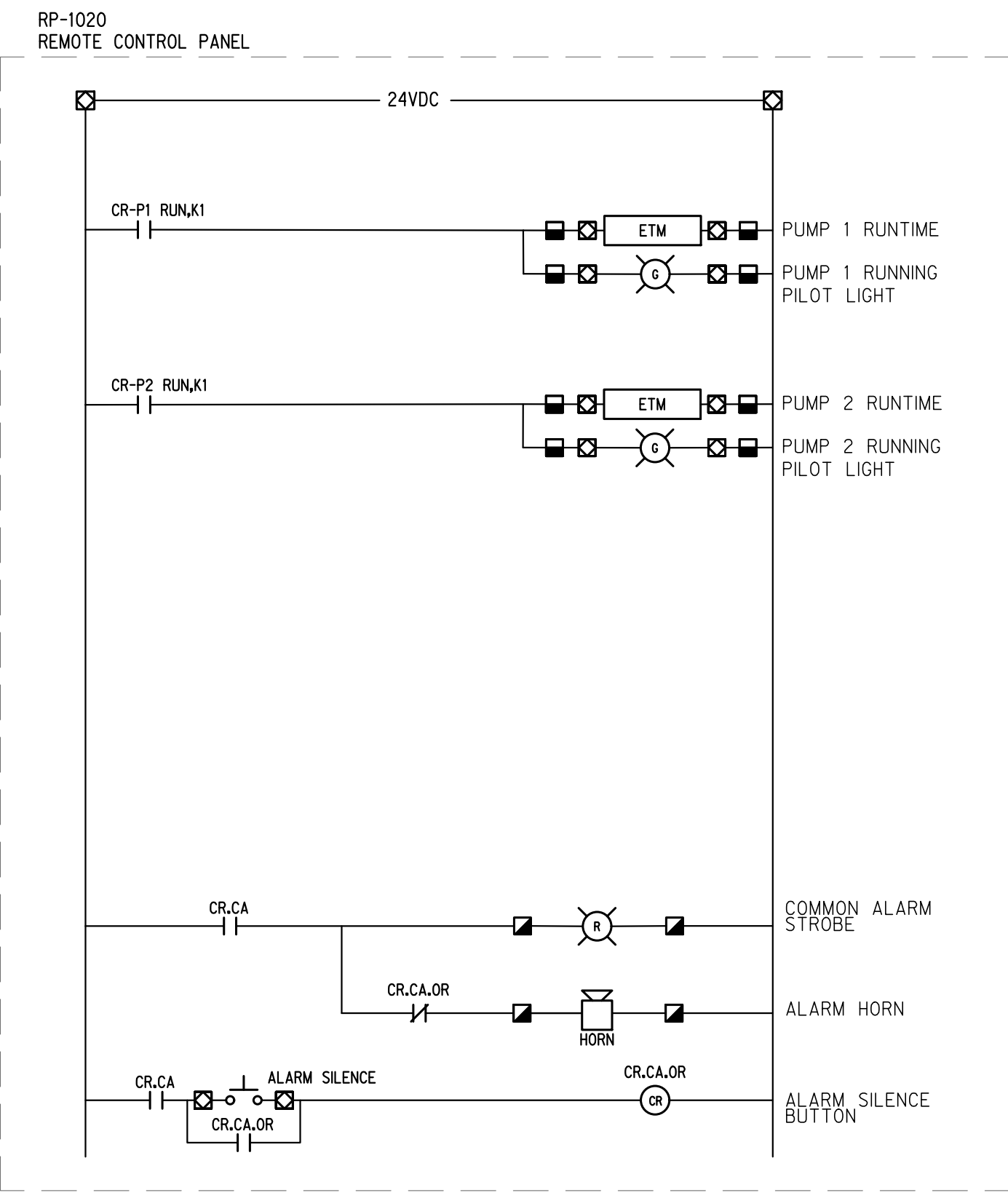
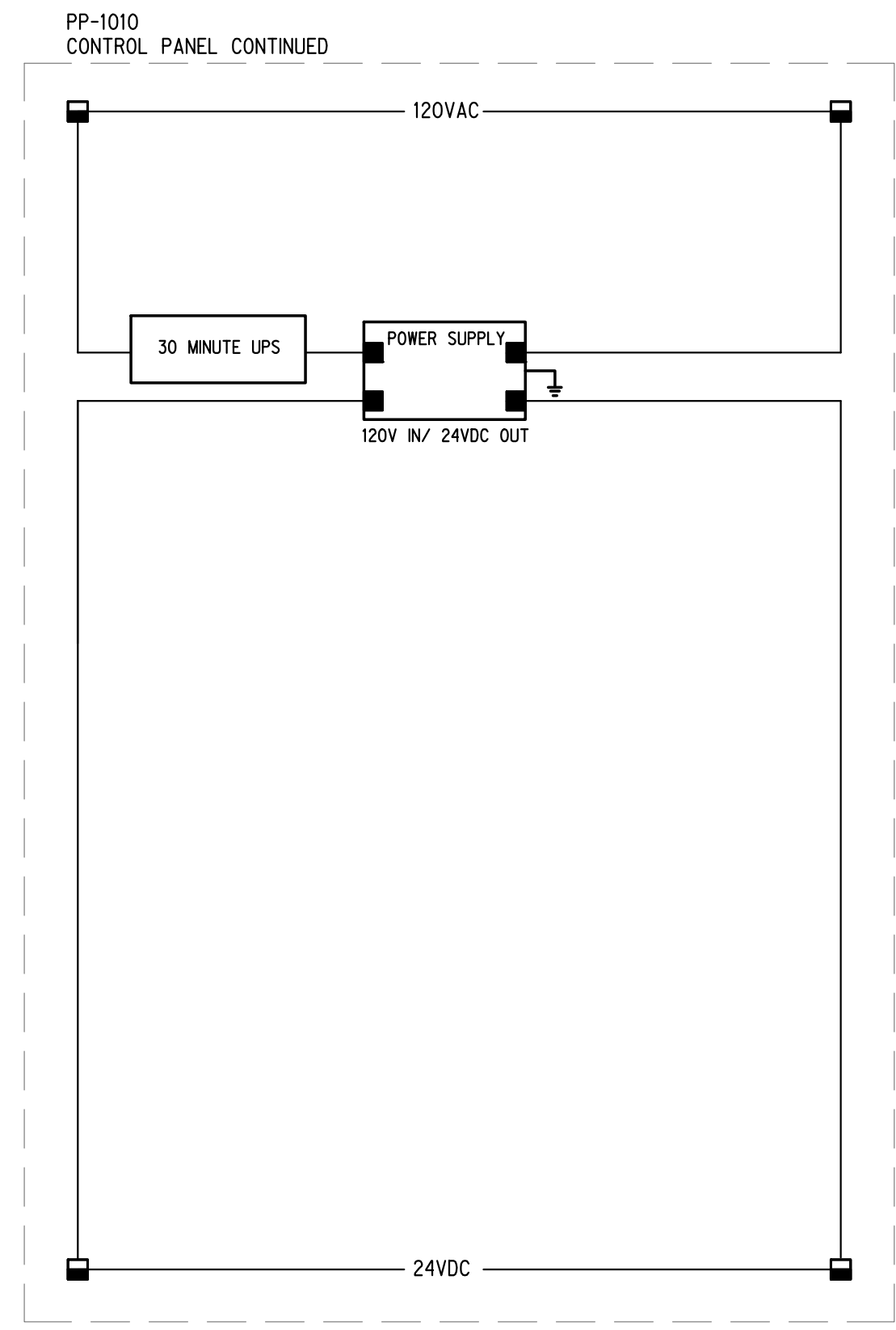
- | | |
|-------------------------------------|----------------------------|
| ■ TERMINAL IN CONTROL DEVICE | ☒ TERMINAL IN REMOTE PANEL |
| ☑ TERMINAL IN FIELD DEVICE | ☐ TERMINAL IN PLC |
| ■ TERMINAL IN CONTROL/STARTER PANEL | ■ TERMINAL IN MCC |

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N1.03	
Sheet Number	

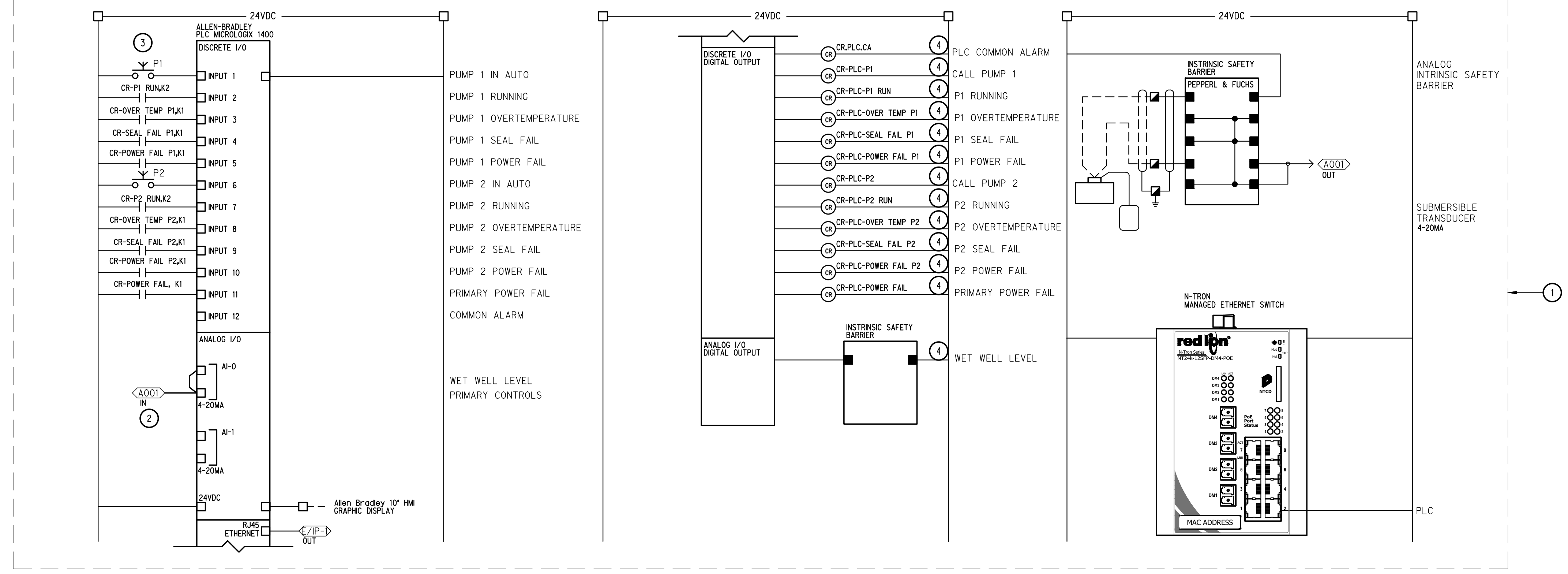
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- GENERAL NOTES:**
- THE CONTROLS LADDER DIAGRAM SCHEMATICS SHOW THE GENERAL REQUIREMENTS FOR CONTROL PANEL CONSTRUCTION, AND PLC. PROVIDE ALL REQUIRED CONTROL DEVICES, CIRCUIT PROTECTION, CONTROL POWER TRANSFORMERS, AND WIRING FOR A COMPLETE AND FUNCTIONAL SYSTEM. CONTROLS SHALL BE PROVIDED WITH FACTORY ACCEPTANCE TEST AND UL508A LISTED.
- KEY NOTES:**
- FURNISH AND INSTALL ISOLATION INTERPOSING RELAYS FOR PLC I/O AND REMOTE CONTROL PANEL.
 - PROVIDE WITH ANALOG SIGNAL ISOLATOR.
 - ALL PLC INPUTS AND OUTPUTS SHALL BE WIRED TO ISOLATION RELAYS.
 - PROVIDE TERMINALS FOR SCADA MONITORING.

01 CONTROLS LADDER DIAGRAM - REMOTE CONTROL PANEL
N.T.S.

PLC-1030
PLC REMOTE TELEMETRY UNIT PANEL - PRIMARY CONTROLS



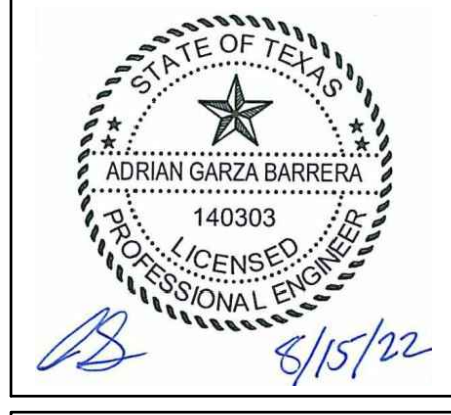
- TERMINAL BLOCKS LEGEND:**
- TERMINAL IN CONTROL DEVICE
 - ☒ TERMINAL IN REMOTE PANEL
 - ☑ TERMINAL IN FIELD DEVICE
 - TERMINAL IN PLC
 - ▣ TERMINAL IN CONTROL/STARTER PANEL
 - ▣ TERMINAL IN MCC

02 PLC PANEL LADDER DIAGRAM
N.T.S.

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