

AVATAR RIVERBEND LP

RIVER BEND CROSSING LIFT STATION

COLORADO SPRINGS, COLORADO

AUGUST 2021

PLAN SET INFORMATION:
100% COMPLETION

FOR PPRBD SUBMITTAL

LEGEND

	PROPERTY LINE		PP FENCE
	SETBACK		PP FITTING
	PP SANITARY SEWER LINE ALIGNMENT		PP VALVE
	PP CONTOURS-MAJOR		PP SPOT ELEVATION
	PP CONTOURS-MINOR		
	PP SEWER LINE		
	PP FORCE MAIN		
	PP GAS LINE		
	PP U.G. ELECTRIC LINE		
	PP WATER LINE		

PRE-EXCAVATION CHECKLIST

- ☐ Gas and Other Utility Lines Shown on Construction Plans
- ☐ Utility Notification Center of Colorado (UNCC)—Call at Least Two (2) Business Days Ahead—1-800-922-1987
- ☐ Utilities Located & Marked on the Ground
- ☐ Employees Briefed on Marking and Color Codes*
- ☐ Employees Trained on Excavation and Safety Procedures for Natural Gas Lines
- ☐ When Excavation Approaches Gas Lines, Employees Must Expose Lines by Careful Probing and Hand-Digging

COLOR CODE FOR MARKING UNDERGROUND UTILITY LINES

	PROPOSED EXCAVATION
	TEMPORARY SURVEY MARKINGS
	ELECTRIC
	GAS, OIL, STEAM
	COMMUNICATION, CATV
	POTABLE WATER
	IRRIGATION, RECLAIMED WATER, SLURRY LINES
	SEWER

COLORADO 811
Always Call Before You Dig 811 or (800) 922-1987

CODE STATEMENT

I. APPLICABLE CODES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- A. PIKES PEAK REGIONAL BUILDING CODE (2017)
- B. INTERNATIONAL BUILDING CODE (2015)
- C. INTERNATIONAL PLUMBING CODE (2015)
- D. INTERNATIONAL MECHANICAL CODE (2015)
- E. INTERNATIONAL FUEL GAS CODE (2015)
- F. INTERNATIONAL ENERGY CONSERVATION CODE (2015)
- G. NATIONAL ELECTRICAL CODE (2017)
- H. ICC/ANSI A117.1 ACCESSIBILITY STANDARD (2009)

II. CODE ABSTRACT:

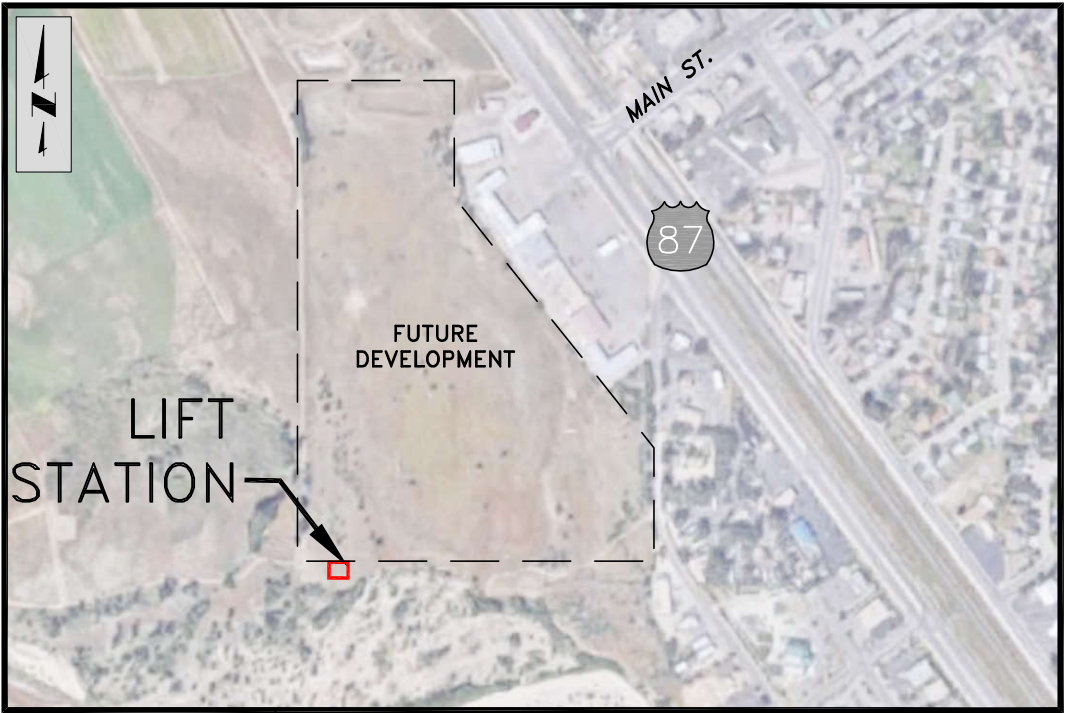
- A. SCOPE
- THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT A PUMP STATION FOR A FUTURE SUBDIVISION. THE BUILDING WILL HOUSE A GENERATOR, ELECTRICAL COMPONENTS, AND CONTROLS EQUIPMENT. ASSOCIATED APPURTENANCES INCLUDE UNDERGROUND SERVICE PIPING, A WET WELL, A TANK, AND MANHOLES.

GENERAL INFORMATION:	
LOCATION:	±1750 FEET FROM HWY 85/87 AND MAIN ST.
ADDRESS:	TBD
OWNER:	AVATAR RIVERBEND LP
EPC PARCEL SCHEDULE #:	6514100034 (TBD)

BUILDING CONSTRUCTION	
TOTAL BUILDING AREA:	339
BUILDING CONSTRUCTION TYPE:	III-B
OCCUPANCY TYPE:	UTILITY/S-1
OCCUPANCY USE:	MUNICIPAL LIFT STATION

SURVEY DATA

TOPOGRAPHY SURVEY DATA SHOWN HEREIN IS PROVIDED BY CATAMOUNT ENGINEERING.



VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.

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JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATION AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY THE CITY OF FOUNTAIN DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.

SIGNATURE BLOCKS

ANY SEWER MAIN, SERVICE LINE, OR APPURTENANCE TO EITHER, THAT IS TO BE RELOCATED OR ADJUSTED BECAUSE OF CONSTRUCTION OR DEVELOPMENT SHALL BE ACCOMPLISHED BY THE DEVELOPER, BUILDER, CONTRACTOR, OR PERSON(S) REQUIRING THE MOVEMENT, RELOCATION, OR ADJUSTMENT. THIS SHALL BE AT NO EXPENSE TO THE **SECURITY SANITATION DISTRICT**.

SECURITY SANITATION PLAN APPROVAL
THESE PLANS AND SPECIFICATIONS ARE ACCEPTED FOR USE IN CONSTRUCTION BY SECURITY SANITATION DISTRICT.

PRINTED NAME: _____

AVATAR RIVERBEND LP RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. AVATAR EQUITIES HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

296.01
PROJECT NO.

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE APPLICABLE GOVERNING AGENCIES.

JAMES P. STARNES, P.E. #52530 PROJECT ENGINEER	DATE
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SIGNATURE BLOCKS CONTINUED

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

ALAN TOTH, CEO AVATAR RIVERBEND, LP 6800 JERICHO TURNPIKE, SUITE 120W #204 SYOSSET, NY 11791	DATE
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COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JENNIFER IRVINE, P.E.
COUNTY ENGINEER / ECM ADMINISTRATOR

DATE

EL PASO COUNTY STANDARD CONSTRUCTION NOTES

1. ALL DRAINAGE AND EROSION CONTROL SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
 - a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
 - c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
 - d. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) – INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) AND MUTCD CRITERIA.
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
SIGNATURE BLOCKS AND
EL PASO COUNTY STANDARD CONSTRUCTION NOTES

REVISIONS				
NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

FOR PPRBD
SUBMITTAL



Project No.: 296.01
Date: 08/20/21
Design: JPS
Drawn: ACH
Check: JPM

G 1

SHEET 1 OF 44

2021/08/20 3:08 PM By: Andrew Hood u:\JDS-Hydro\Project Files\296 Avatar Equities\296.01 River Bend Creek Lift Station\Drawings\Working\29601_Cover.dwg

GENERAL NOTES

1. REFER TO RIVERBEND CROSSING CONSTRUCTION DRAWINGS FILING NO.1 & FILING NO.2 FOR UTILITY CONNECTIONS OUTSIDE OF THE LOT.
2. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT SECURTIY SANITATION DISTRICT (SSD, THE DISTRICT) SPECIFICATIONS.
3. ALL PLANS ON THE JOB SITE SHALL BE SIGNED BY THE DISTRICT AND THE DISTRICT’S ENGINEER. ANY REVISION TO THE PLANS SHALL BE SO NOTED WITH THE OLD DRAWING MARKED NOT VALID.
4. ALL STATIONING IS CENTER LINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE INVERTS UNLESS OTHERWISE NOTED.
5. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE DISTRICT. THE DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
6. ALL OVER–LOT GRADING MUST BE COMPLETED TO WITHIN ONE (1) FOOT OF FINAL GRADE PRIOR TO INSTALLATION OF WATER AND WASTEWATER INFRASTRUCTURE.
7. ALL WATER AND SEWER SERVICE LOCATIONS SHALL BE CLEARLY MARKED ON EITHER THE CURB HEAD OR THE FACE OF THE CURB, WITH AN “S” FOR SEWER AND A “W” FOR WATER.
8. ALL DUCTILE IRON PIPE LESS THAN 12 INCHES AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING. ALL DUCTILE IRON PIPE 12 INCHES AND GREATER AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 300 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING.
9. COMPACTION TESTS SHALL BE 95% MODIFIED PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE DISTRICT OR HIGHER STANDARD AS IMPOSED BY ANOTHER AGENCIES HAVING RIGHT–OF–WAY JURISDICTION. THIS SHALL INCLUDE ALL VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES AND MANHOLES. ALL REPORTS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL.
10. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE DISTRICT SHALL BE NOTIFIED OF ANY DEVIATIONS TO THE LINE AND/OR GRADE AS DEPICTED ON THE PLANS. CONTRACTOR SHALL SUBMIT TO THE DISTRICT AND THE DESIGN ENGINEER OF RECORD A REPORT OF THE FIELD VERIFIED INFORMATION PRIOR TO THE START OF CONSTRUCTION.
11. ALL BENDS SHALL BE FIELD STAKED PRIOR TO THE START OF CONSTRUCTION.
12. BENDS, DEFLECTION & CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER AND WATER LINES TO NO MORE THAN 0.5’ FROM THE DESIGNED ALIGNMENT. CONSTRUCTION STAKES TO BE AT 25’ INTERVALS ALONG CURVES TO ASSURE LOCATION OF PIPE LINE CONSTRUCTION.
13. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION. PROVIDE A REVERSE ANCHOR AT ALL WATER LINE PLUGS.
14. THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
15. ALL CONTRACTORS WORKING ON OR NEAR A WATER OR SEWER FACILITY (TO INCLUDE SERVICE LINES) SHALL HAVE LIABILITY INSURANCE NAMING THE OWNER AS AN ADDITIONAL INSURED AND SHALL PROVIDE A CURRENT COPY OF WORKERS COMPENSATION INSURANCE ON FILE WITH THE OWNER. NO WORK CAN PROCEED WITHOUT CURRENT CERTIFICATES ON FILE AT THE DISTRICTS’ OFFICE.
16. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. A WEEKLY CONSTRUCTION MEETING SHALL BE REQUIRED WITH THE CONTRACTOR, DISTRICT ENGINEER AND ALL OTHER PARTIES AS DEEMED NECESSARY BY THE DISTRICT.
17. COMMENCEMENT OF CONSTRUCTION OF WATER/SEWER SYSTEMS WITHIN SANITATION DISTRICT:

a) PRIOR TO THE START OF CONSTRUCTION, A PRE–CONSTRUCTION MEETING IS REQUIRED A MINIMUM OF 48 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. A REPRESENTATIVE OF THE OWNER OR DEVELOPER, A REPRESENTATIVE OF THE CONTRACTOR AND DESIGN ENGINEER ARE REQUIRED TO ATTEND. CONTACT THE DISTRICT TO SCHEDULE THE PRE–CONSTRUCTION MEETING. NO PRE–CONSTRUCTION MEETING CAN BE SCHEDULED PRIOR TO FOUR (4) SIGNED/APPROVED PLAN SETS ARE RECEIVED BY THE DISTRICT.

b) THE CONTRACTOR IS REQUIRED TO NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.
18. ALL THE WATER AND WASTEWATER TESTING OF FACILITIES ARE TO BE CONSISTENT WITH SECURITY SANITATION DISTRICT UTILITY PLANS AND SPECS:

a) THE CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING.

b) ALL SECTIONS OF WATER LINE ARE TO MEET THE FOLLOWING PRESSURE TESTING REQUIREMENTS
 - TEST 100 % OF ALL LINES
 - MUST PASS PRESSURE TEST TO 200 PSI FOR TWO HOURS (UNLESS OTHERWISE APPROVED ON THE PLANS).

c) ALL SANITARY SEWER FACILITIES ARE TO MEET THE FOLLOWING TESTING REQUIREMENTS
 - ALL LINES SHALL BE JET CLEANED PRIOR TO VACUUM OR PRESSURE TESTING
 - ALL MANHOLES SHALL BE VACUUM TESTED WITH DISTRICT STAFF PRESENT PRIOR TO CCTV INSPECTION.
 - SEWER MAINS TO BE PRESSURE TEST PRIOR TO CCTV INSPECTION
 - ALL LINES SHALL BE CCTV INSPECTED AND VIDEO SHALL TO BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
19. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT THE DISTRICT ACCEPTS THE FACILITY FOR USE. ALL SURFACE IMPROVEMENTS AND RESTORATION SHALL BE COMPLETED WITHIN 30 DAYS OF COMMENCEMENT. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL SURFACE IMPROVEMENTS AND RESTORATION WITHIN 30 DAYS OF COMMENCEMENT OF SERVICE, THE DISTRICT, AT THEIR DISCRETION, MAY ELECT TO COMPLETE THE IMPROVEMENTS AT THE CONTRACTORS COST.
20. FINAL ACCEPTANCE BY THE DISTRICT OF ANY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIES PRIOR TO FINAL ACCEPTANCE SHALL BE 24 MONTHS COMMENCING AFTER PRELIMINARY ACCEPTANCE.
21. ACCEPTANCE:

a) THE DISTRICT MAY GIVE PRELIMINARY ACCEPTANCE ONCE ALL OF THE TESTS ON ALL THE LINES HAVE BEEN COMPLETED AND A WALK–THRU HAS OCCURRED.

b) A SECOND ACCEPTANCE MAY OCCUR ONCE FIRST LIFT OF ASPHALT GOES DOWN AND A SECOND WALK–THRU OF THE SYSTEM OCCURS. IF ALL FACILITIES ARE CLEAN AND ACCESSIBLE, A FINAL ACCEPTANCE MAY OCCUR.
22. ALL WATER AND SEWER MAINS, INCLUDING SERVICE LINES, SHALL HAVE “AS–BUILT” DRAWINGS PREPARED AND APPROVED PRIOR TO PRELIMINARY ACCEPTANCE BY THE DISTRICT.
23. LIFT STATION ADDRESS SIGN SHALL BE PROVIDED BY CONTRACTOR IN TWO LOCATIONS: ON FENCE VISIBLE FROM ROAD AND ON THE NORTH OR EAST SIDE OF THE LIFT STATION BUILDING.
24. INSPECTION FEES: CALL THE DISTRICT (719–495–2500) FOR FEE SCHEDULE.

25. WATER SYSTEM INSTALLATION NOTES

26. ALL WATER AND FORCE MAIN PIPE SHALL BE AWWA C900 PVC, OR EQUAL, PRESSURE CLASS 200. ALL WATER AND FORCE MAIN FITTINGS SHALL HAVE MECHANICAL RESTRAINTS AND THRUST BLOCKS. ALL WATER AND FORCE MAIN PIPE SHALL HAVE A MINIMUM COVER DEPTH OF FIVE AND ONE–HALF (5.5) FEET AND A MINIMUM VERTICAL SEPARATION OF EIGHTEEN INCHES (18”) BETWEEN THE PIPE AND ALL OTHER UTILITIES.
27. IN GENERAL, WATER MAINS SHALL BE DESIGNED TO HAVE TEN FEET (10’) HORIZONTAL SEPARATION FROM POSSIBLE SOURCES OF POLLUTION. WHEN THE HORIZONTAL SEPARATION IS NOT ACHIEVABLE, THEN THE WATER MAIN SHALL BE DESIGNED SO THAT THE BOTTOM OF THE WATER MAIN IS TWO (2) FEET ABOVE THE TOP OF ANY SEWER PIPE. WHEN TWO FEET OF VERTICAL SEPARATION CANNOT BE ACHIEVED, THEN THE WATER MAIN WILL BE CONSTRUCTED IN TWENTY–FOOT (20’) SECTIONS OF DUCTILE IRON WITH NO JOINTS ON THE SEWER PIPE. THE TWENTY–FOOT SECTION SHALL BE CENTERED ABOVE THE SEWER PIPE WITH TEN FEET (10’) TO EACH JOINT. WHEN SEPARATION CAN NOT BE ACHIEVED, CASING MAY BE USED UPON WRITTEN REQUEST TO THE DISTRICT ENGINEER FOR CONSIDERATION.
28. FIRE HYDRANTS SHALL BE OPEN RIGHT WITH 7/8” X 7/8” SQUARE TAPERED ALONG WITH SERVICE CAPS. LUBRICATION TYPE: (GREASE). ACCEPTABLE BRANDS ARE AMERICAN AVK SERIES 2700 (MODERN) AND MUELLER SUPER CENTURION 250.
29. ALL MAIN LINES (PVC & DUCTILE IRON) SHALL BE INSTALLED WITH COATED #12 TRACER WIRE WITH TEST STATIONS AT INTERVALS NO GREATER THAN 50 FT (VALVE BOXES CAN BE USED AT INTERSECTIONS AND SERVICE STUBS).
30. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER LINE WITHOUT SHUTDOWN, OR ELSE NOTIFY THE DISTRICT OF ANY SERVICE SHUTDOWNS NECESSARY TO CONNECT TO EXISTING LINES.
31. IRRIGATION SERVICES SHALL HAVE A STOP AND WASTE CURB STOP VALVE INSTALLED ALONG WITH TRACER WIRE EXTENDING BACK TO THE MAIN LINE.
32. COMMENCEMENT OF USE OF WATER LINES AND/OR SYSTEMS:

c) NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL AFTER THE COMPLETION OF ALL PRESSURE TESTING, FLUSHING, BAC–T TESTING, COMPACTION TESTING, AND AS–BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.

d) NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.

e) ALL EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.

f) WASTEWATER SYSTEM INSTALLATION NOTES
33. SANITARY SEWER LENGTHS ARE MANHOLE CENTER TO MANHOLE CENTER. ALL FORCEMAIN PIPES SHALL BE C900 PVC DR14 OR EQUAL, UNLESS OTHERWISE NOTED. SEWER LINES MAY NOT EXCEED 7% GRADE FOR ANY SIZE WITHOUT PRIOR APPROVAL OF THE DISTRICT. TAPPING SADDLES MAY ONLY BE USED FOR TAPPING PRE–EXISTING MAINS.
34. ALL SANITARY SEWER MANHOLES SHALL BE WRAPPED WITH RU116 – RUBR–NEK JOINT WRAP OR EQUIVALENT AND COATED.
35. ALL SEWER MAINS SHALL BE INSTALLED WITH COATED #12 TRACER WIRE. BRING TRACER WIRE UP THROUGH INSIDE OF MANHOLE ALONG STEP TREADS AND RUN OUT OF MANHOLE BELOW MANHOLE RING (CUT GROOVE IN CONE SECTION OR RISERS TO ALLOW RING TO SIT FLAT).
36. COMMENCEMENT OF USE OF SEWER LINES AND/OR SYSTEMS:

g) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL THE COMPLETION OF ALL JET CLEANING, PRESSURE TESTING, VACUUM TESTING, CCTV INSPECTION, COMPACTION TESTING, AND AS–BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.

h) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, ANY REQUIRED SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.

i) ALL NECESSARY EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.

j) DOWNSTREAM PLUG CAN BE REMOVED ONCE FIRST LIFT OF ASPHALT IS DOWN AND THE ABOVE REQUIREMENTS ARE MET.
37. INSTRUMENTATION AND CONTROLS SHALL BE PROVIDED AND INSTALLED BY TIMBER LINE ELECTRIC AND CONTROLS CORP. SEE CONTACT INFORMATION BELOW.
38. ALL SANITARY PIPE MUST BE NON–BLUE COLOR APPROVED BY ENGINEER AND DISTRICT.
39. MCC MUST BE LOCATED WITHIN LINE OF SIGHT FROM EQUIPMENT. MCC FOR PUMPS TO BE LOCATED/MOUNTED ON NORTH SIDE OF BUILDING.

THE ABOVE GUIDELINES ARE SUBJECT TO CHANGE AT ANY TIME.

CONTACTS:

DRAINAGE
EL PASO COUNTY (719) 520–6300

WATER/WASTEWATER

WATER: (719) 392–3475

WASTEWATER: SECURITY SANITATION DISTRICT
JAY ADRIANSEN (719) 392–7844

INSTRUMENTATION AND CONTROLS
TIMBER LINE ELECTRIC AND CONTROLS CORP
KIM EVEZICH (303) 895–3074

ELECTRIC
FOUNTAIN ELECTRIC (719) 322–2092

GAS
CSU GAS (719) 448–4800

GEOTECHNICAL
RMG (719) 548–0600




CONSULTANTS, INC.
5440 TECH CENTER DR. SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
GENERAL NOTES

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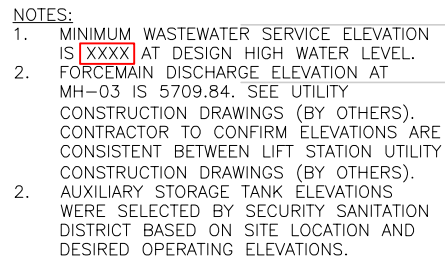
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SHEET 2 OF 44

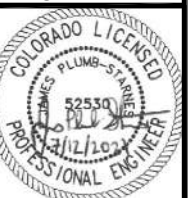


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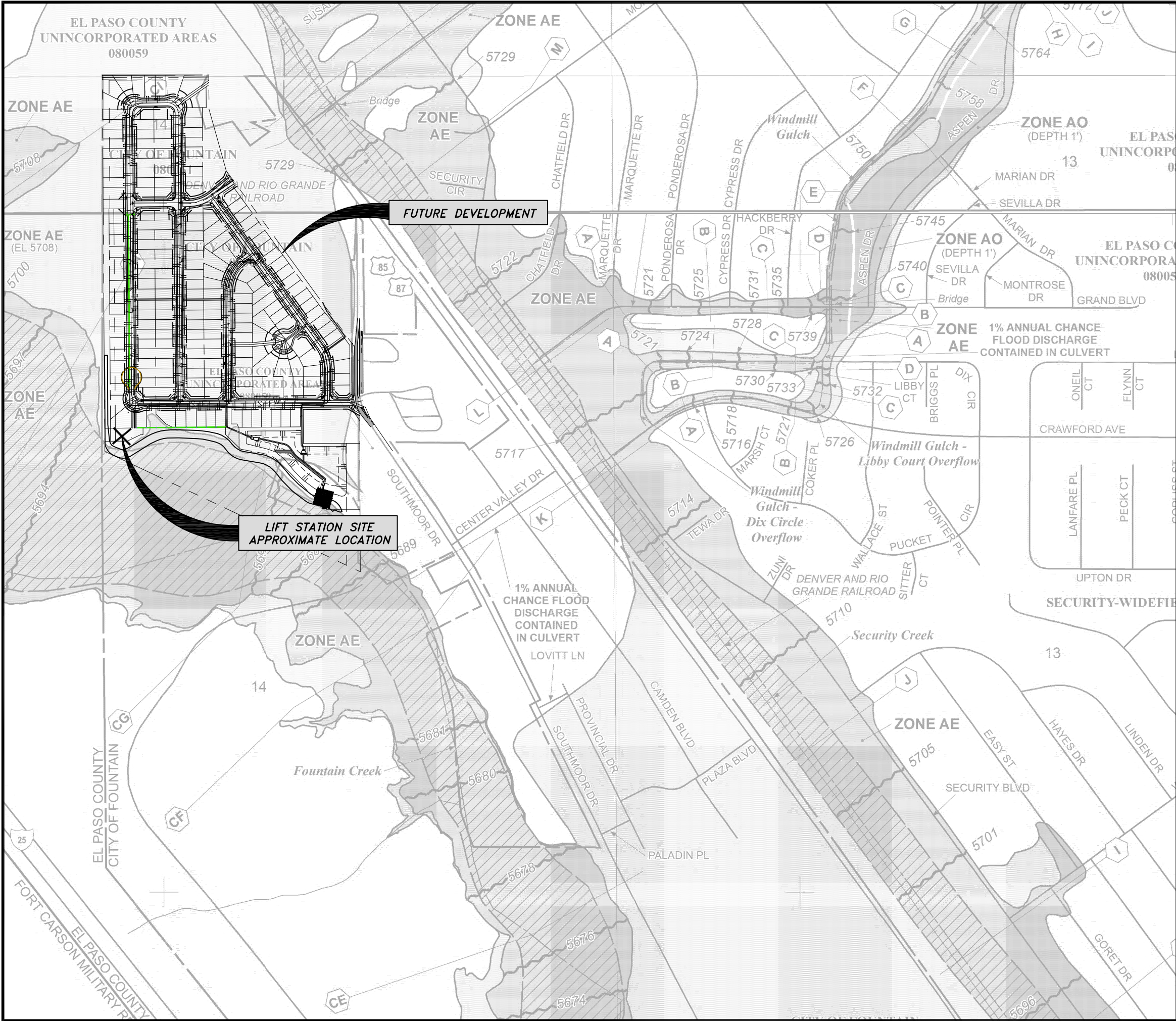
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LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.
ZONE AE Base Flood Elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

FLOODWAY AREAS IN ZONE AE

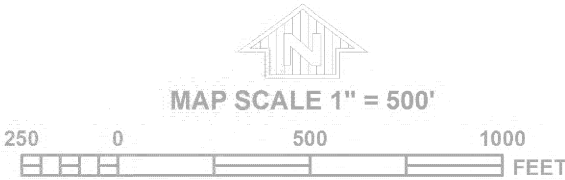
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.



PANEL 0951G

FIRM

FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 951 OF 1300

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
EL PASO COUNTY	080059	0951	G
FOUNTAIN, CITY OF	080061	0951	G

Notice to User: The Map Number shown below should be used when placing map orders: the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 08041C0951G

MAP REVISED DECEMBER 7, 2018

Federal Emergency Management Agency

JDS-HYDRO CONSULTANTS, INC.
5440 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
FEMA FLOOD PLAIN MAP

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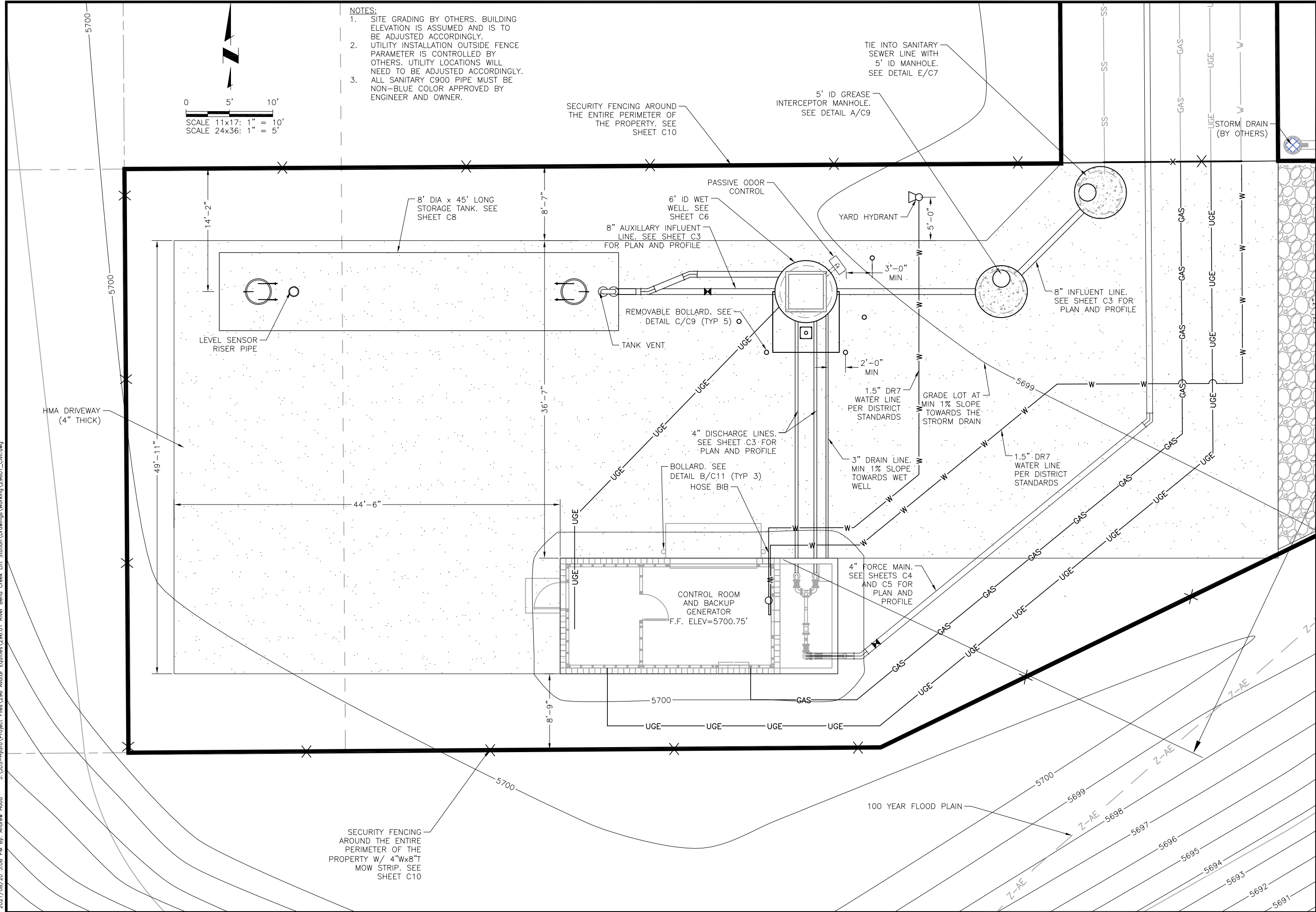
COLORADO LICENSED PROFESSIONAL ENGINEER
JAMES PLUMB-SANFORD
52530
12/11/2018

Project No.: 296.01
Date: 08/20/21
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Drawn: ACH
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SHEET 4 OF 44

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- NOTES:
1. SITE GRADING BY OTHERS. BUILDING ELEVATION IS ASSUMED AND IS TO BE ADJUSTED ACCORDINGLY.
 2. UTILITY INSTALLATION OUTSIDE FENCE PARAMETER IS CONTROLLED BY OTHERS. UTILITY LOCATIONS WILL NEED TO BE ADJUSTED ACCORDINGLY.
 3. ALL SANITARY C900 PIPE MUST BE NON-BLUE COLOR APPROVED BY ENGINEER AND OWNER.

0 5' 10'
SCALE 11x17: 1" = 10'
SCALE 24x36: 1" = 5'

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COLORADO SPRINGS, COLORADO 80919
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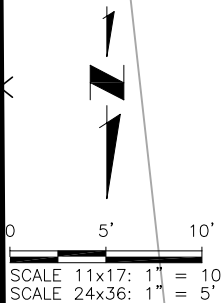
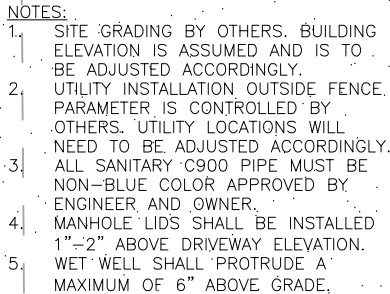
AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
LIFT STATION SITE PLAN

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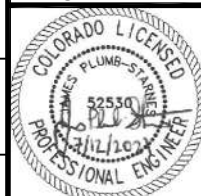
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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
SEWER LINE INFLUENT AND SEWER LINE EFFLUENT
PLAN AND PROFILE

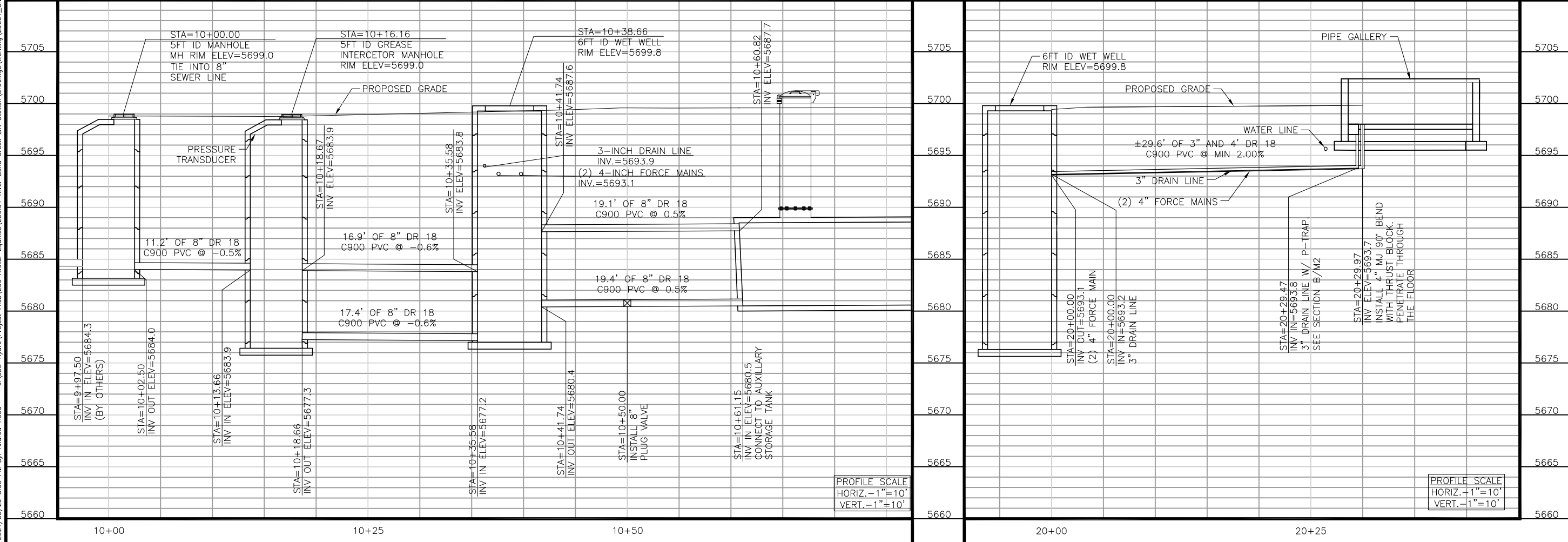
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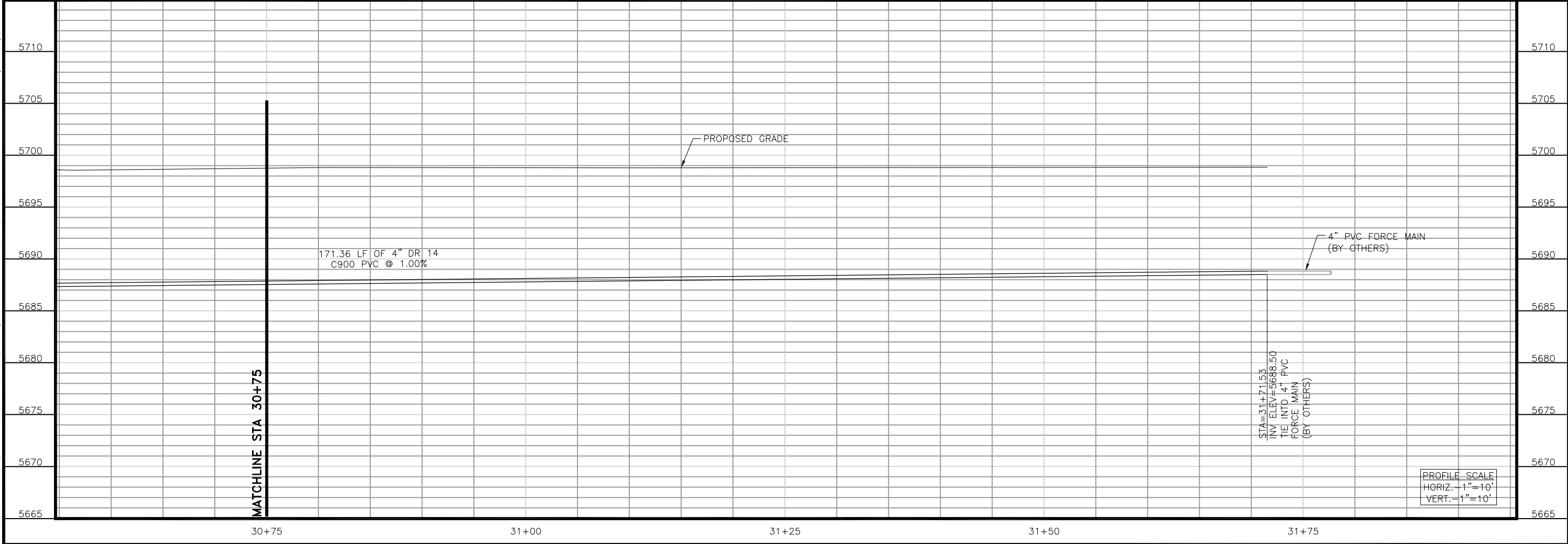
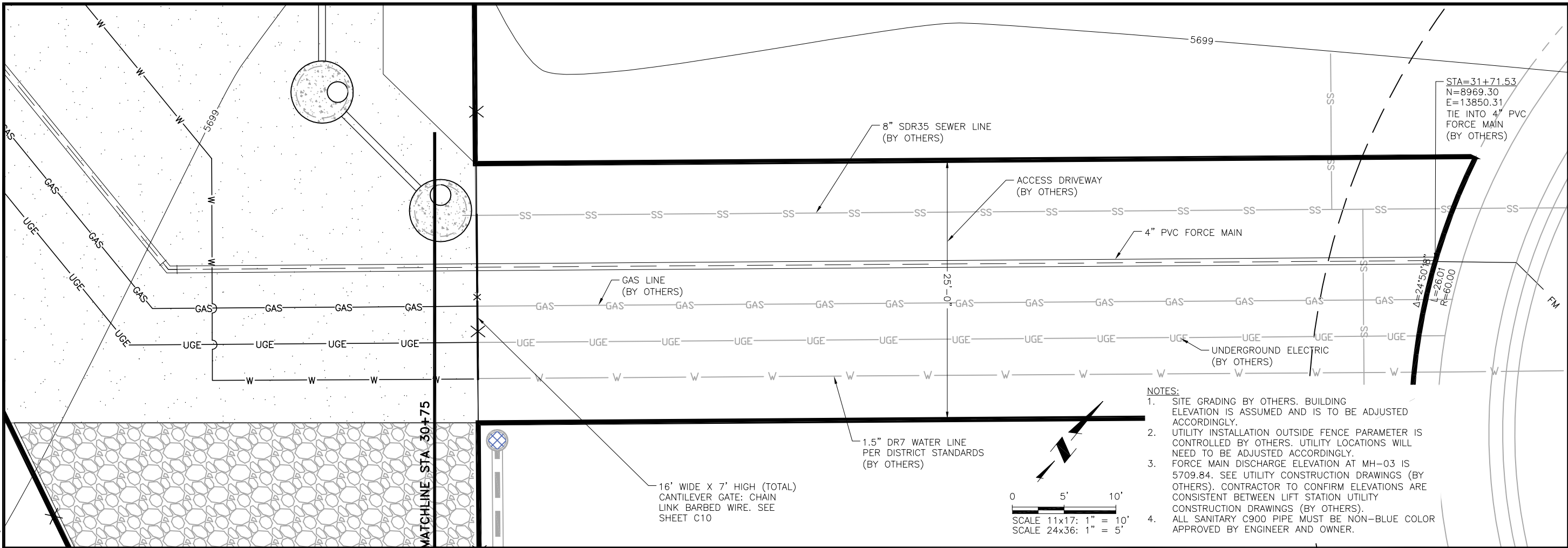


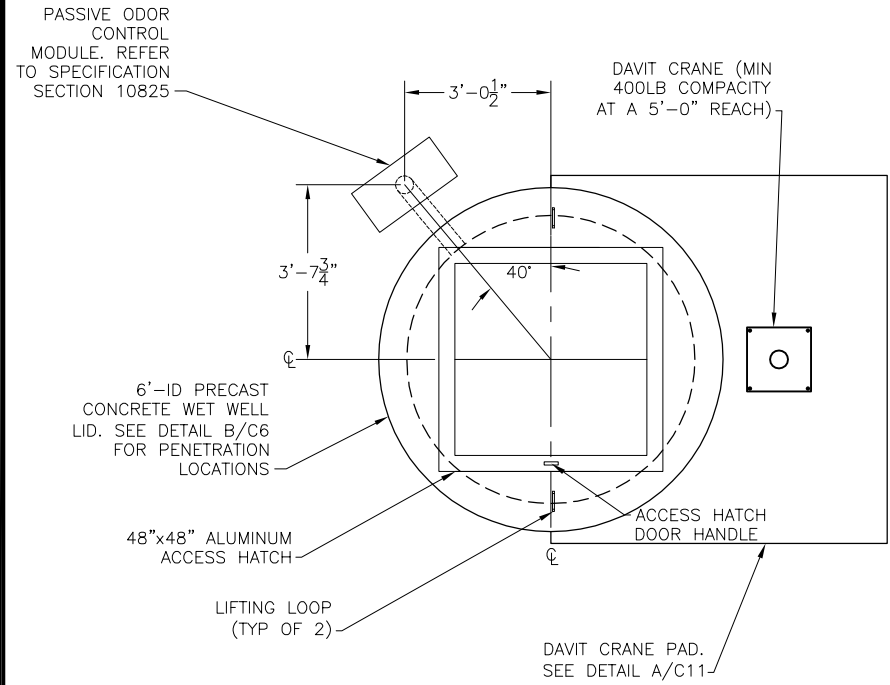
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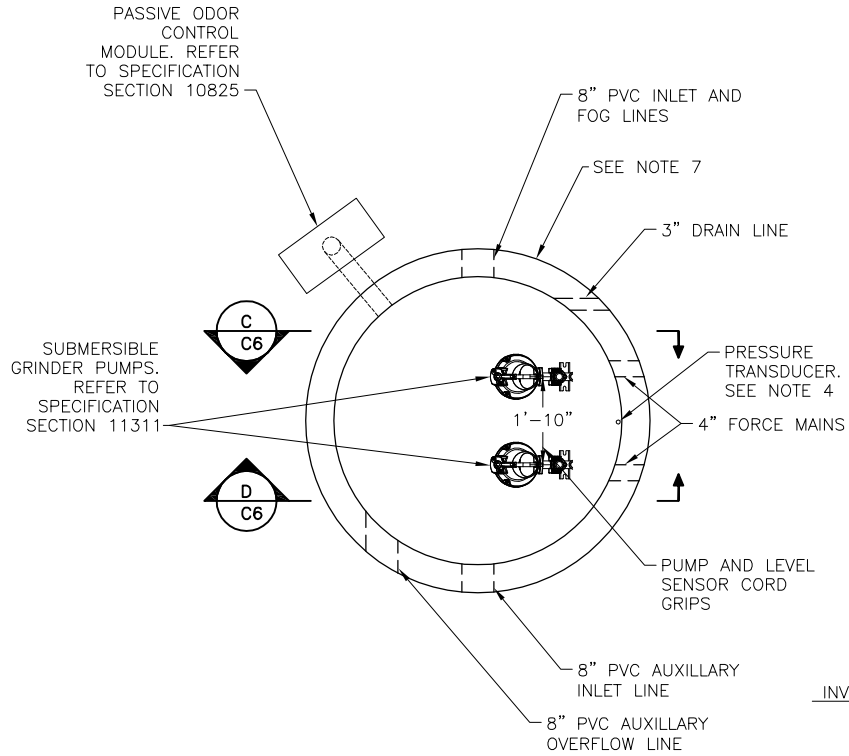
SHEET 7 OF 44



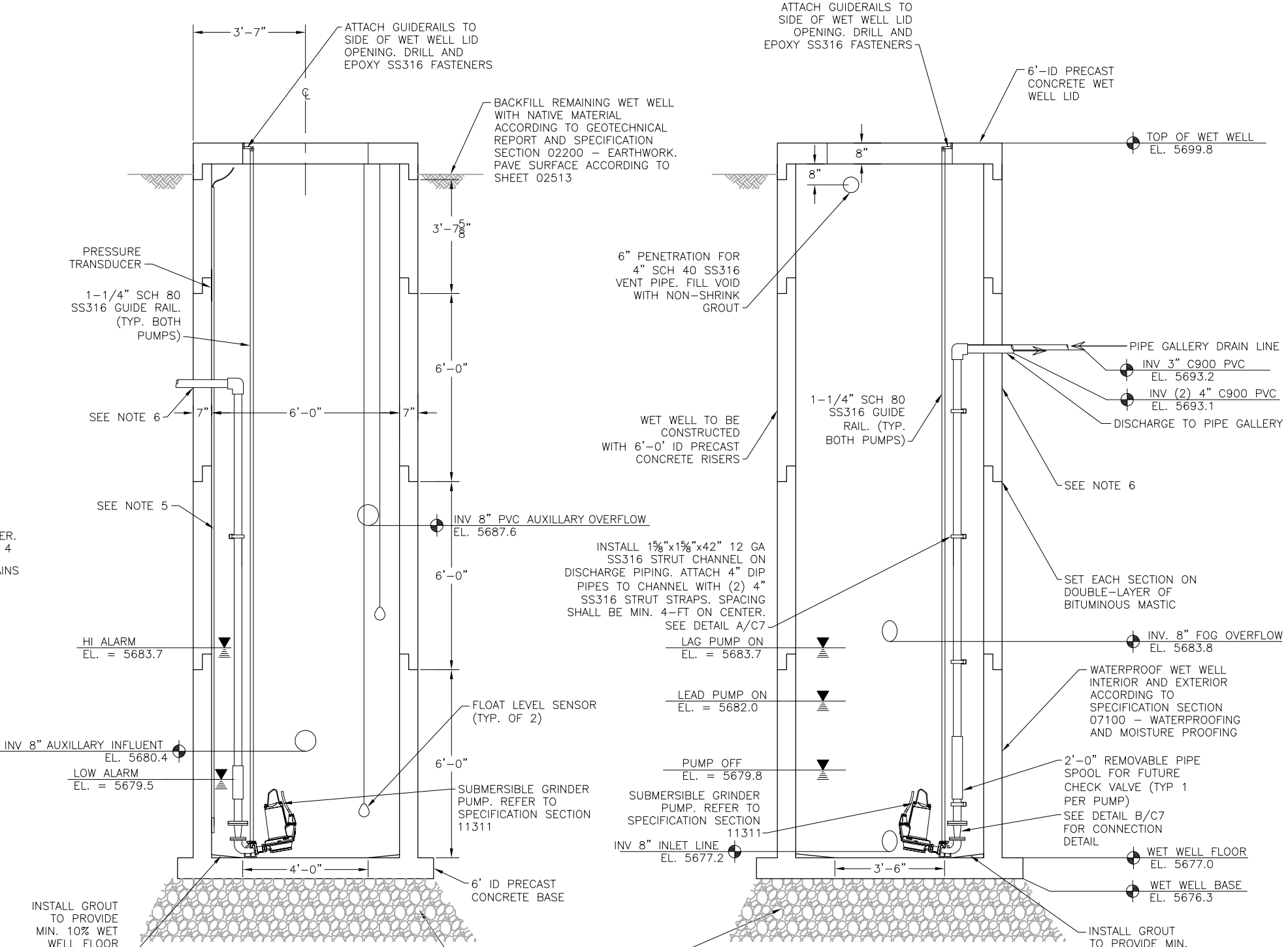




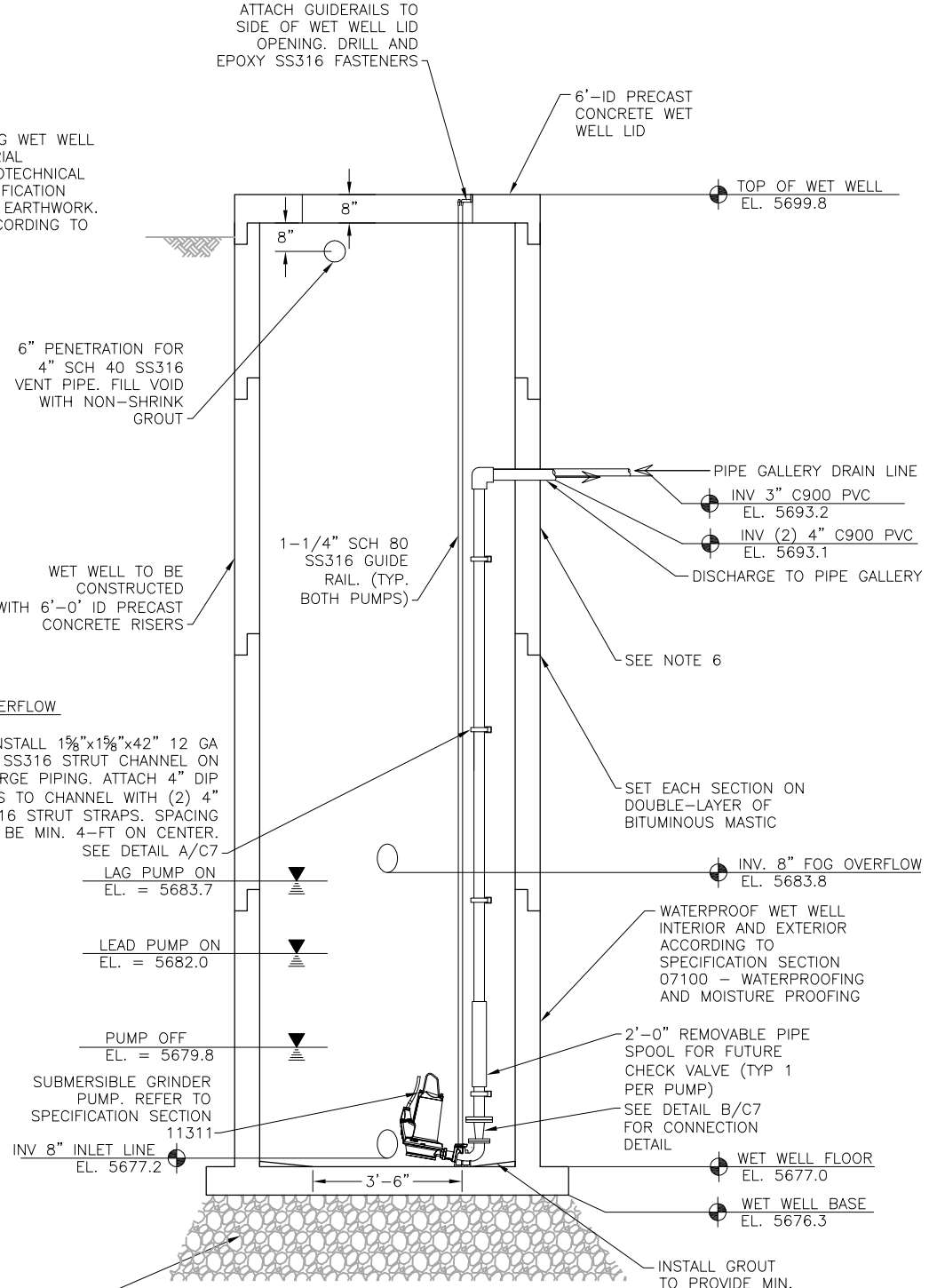
A
C6 WET WELL PLAN
SCALE: 1/4"=1'-0"



B
C6 WET WELL PLAN
SCALE: 1/4"=1'-0"



C
C6 WET WELL SECTION
SCALE: 1/4"=1'-0"



D
C6 WET WELL SECTION
SCALE: 1/4"=1'-0"

- NOTES:
1. ALL EXTERIOR JOINTS SHALL RECEIVE BUTYL RUBBER JOINT WRAP.
 2. ALL FASTENERS WITHIN THE WET WELL SHALL BE 316SS.
 3. NGVD 29 ELEVATION = NAVD 88 ELEVATION (AS SHOWN) - 3.95'.
 4. PRESSURE TRANSDUCER SHALL BE SUPPLIED BY PUMP SUPPLIER ACCORDING TO SPECIFICATION SECTION 18322 - SUBMERSIBLE PUMPS. MANUFACTURER SHALL PROVIDE NECESSARY LENGTH OF POLYURETHANE SENSOR CABLE TO CONNECT TRANSDUCER TO CONTROL PANEL.
 5. INSTALL VERTICAL SECTION OF SCH 40 PVC PIPE AS AN ENCLOSURE FOR PRESSURE TRANSDUCER AND CABLE. SIZE SHALL BE DETERMINED ACCORDING PRESSURE TRANSDUCER DIMENSIONS. PVC PIPE SHALL BE SECURED TO INSIDE OF WET WELL WITH SS316 STRAPS AND FASTENERS.
 6. ALL PIPE PENETRATIONS INTO WET WELL SHALL BE CONSTRUCTED W/ PRESS SEAL AND/OR LINK SEAL OR EQUAL. WET WELL SHALL BE BE SUBJECT TO VACUUM TESTING.
 7. PROVIDE FOR WATERPROOFING OF THE EXTERIOR OF THE STRUCTURE WITH COATING AND JOINT WRAP AT EACH CIRCUMFERENTIAL JOINT TNEUMIC46H413 EPOXY COLDTAR OR EQUAL.
 8. CHECK VALVES OFF DISCHARGE OF WET WELL PUMPS ARE LOCATED IN FLOW METER/VALVE VAULT PER SECURITY SANITATION DISTRICT. SEE P2/P3.
 9. ALL DIP FASTENERS SHALL BE SS316 OR EQUAL.
 10. ACTUAL OVER-EXCAVATION TO BE DETERMINED AT THE TIME OF EXCAVATION BY THE GEOTECHNICAL ENGINEER, RMG. ADDITIONAL OVEREXCAVATION MAY BE REQUIRED BASED ON CONDITIONS AT TIME OF EXCAVATION.

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COLORADO SPRINGS, COLORADO 80919
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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
WET WELL AND DETAILS

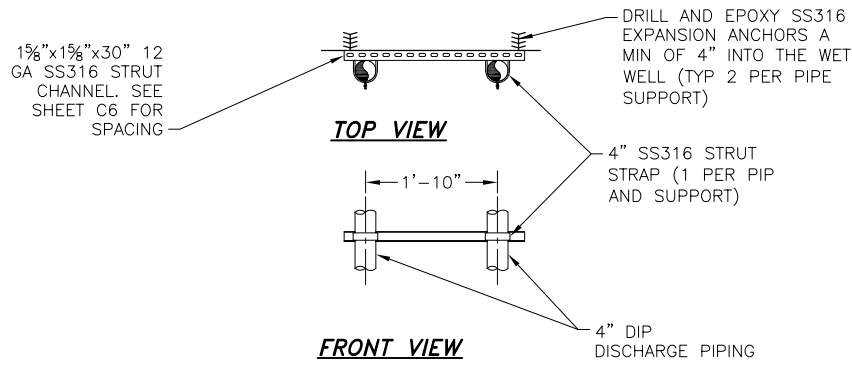
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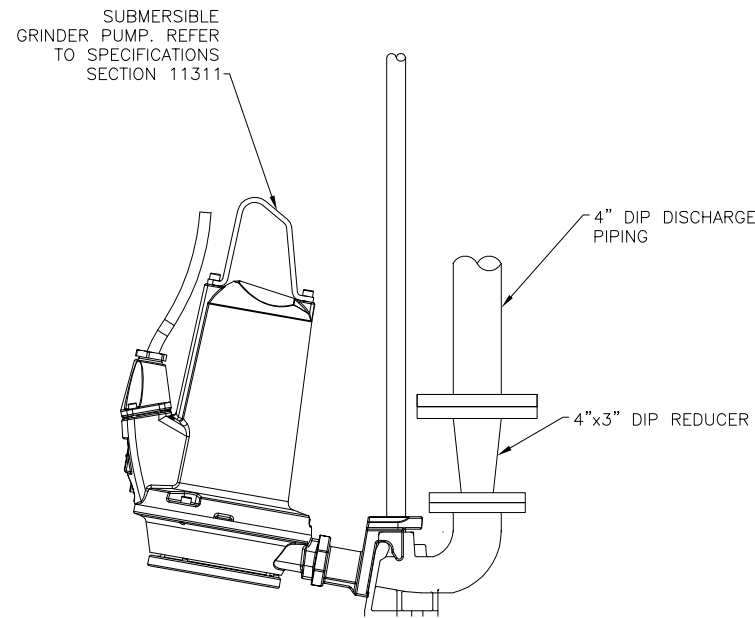


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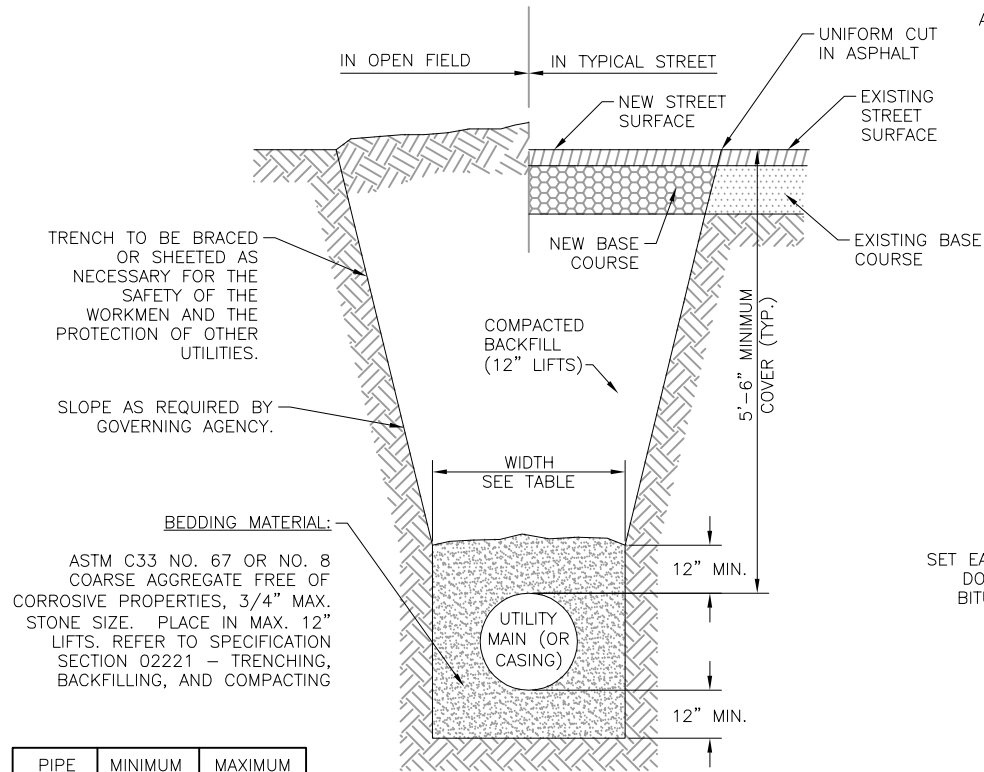


A
C7 **DISCHARGE PIPING SUPPORT DETAIL**
SCALE: N.T.S.



- NOTES:
1. MOUNT GUILD RAIL BASE TO THE BOTTOM OF WET WELL W/ SS316 EXPANSION ANCHORS DRILLED AND EPOXIED 3" INTO THE BOTTOM OF THE WET WELL.
 2. ALL FASTENERS TO BE SS316.

B
C7 **PUMP CONNECTION DETAIL**
SCALE: 1"=1'-0"

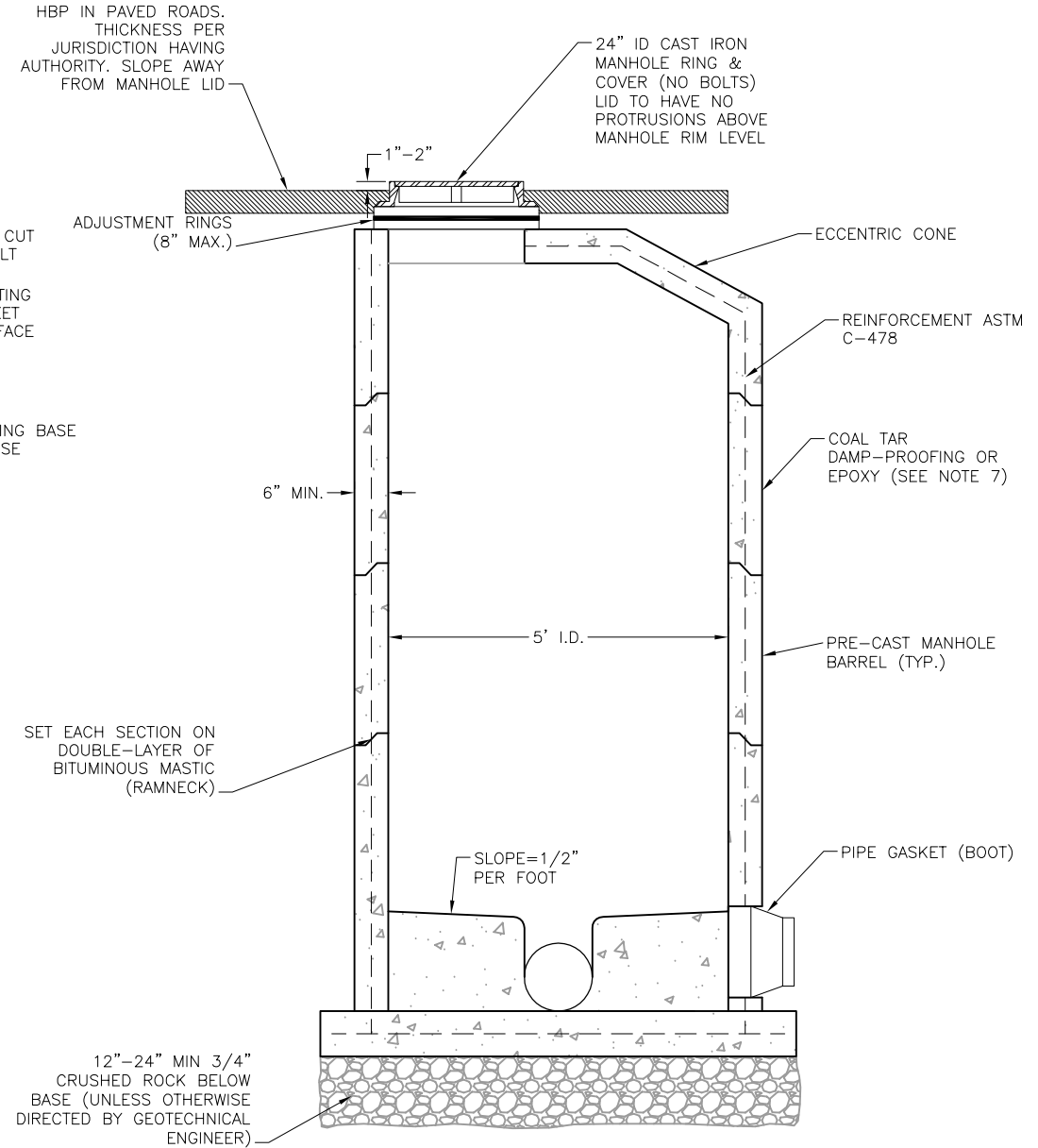
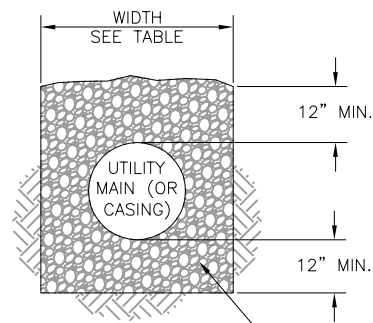


PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
3"	1'-3"	2'-10"
4"	1'-4"	2'-10"
6"	1'-6"	3'-0"
8"	1'-8"	3'-2"
10"	1'-10"	3'-4"
12"	2'-0"	3'-6"
18"	2'-10"	3'-9"
24"	3'-4"	4'-3"

C
C7 **TYPICAL TRENCH SECTION**
SCALE: N.T.S.

NOTE:
AN OVER-EXCAVATED TRENCH SHALL BE REFILLED WITH BEDDING MATERIAL AND THOROUGHLY COMPACTED AS PER THE SPECIFICATIONS.

D
C7 **UNSTABLE TRENCH BEDDING DETAIL**
SCALE: N.T.S.

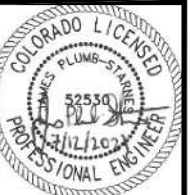


- NOTES:
1. MANHOLE I.D. SHALL BE MINIMUM 5 FEET.
 2. SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING/SHAPING CONCRETE BASE.
 3. PRE-CAST SECTIONS TO CONFORM TO ASTM C-478
 4. STUB-OUTS SHALL EXTEND A MINIMUM OF 6 FEET OUTSIDE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
 5. CONCRETE MANHOLES MAY BE POURED IN PLACE ONLY WITH PRIOR DESIGN AND INSPECTION APPROVAL.
 6. ALL MORTAR GROUT SHALL BE TYPE V CEMENT.
 7. APPLY COAL TAR EPOXY DAMP-PROOFING TO ALL EXTERIOR CONCRETE SURFACES.
 8. CENTER REINFORCING IN BASE POUR BELOW PIPE O.D. AT FLOWLINE.
 9. ALL EXTERIOR JOINTS SHALL RECEIVE BUTYL RUBBER JOINT WRAP.
 10. ACTUAL OVER-EXCAVATION TO BE DETERMINED AT THE TIME OF EXCAVATION BY THE GEOTECHNICAL ENGINEER, RMG. ADDITIONAL OVEREXCAVATION MAY BE REQUIRED BASED ON CONDITIONS AT TIME OF EXCAVATION.

E
C7 **TYPICAL MANHOLE DETAIL**
SCALE: N.T.S.

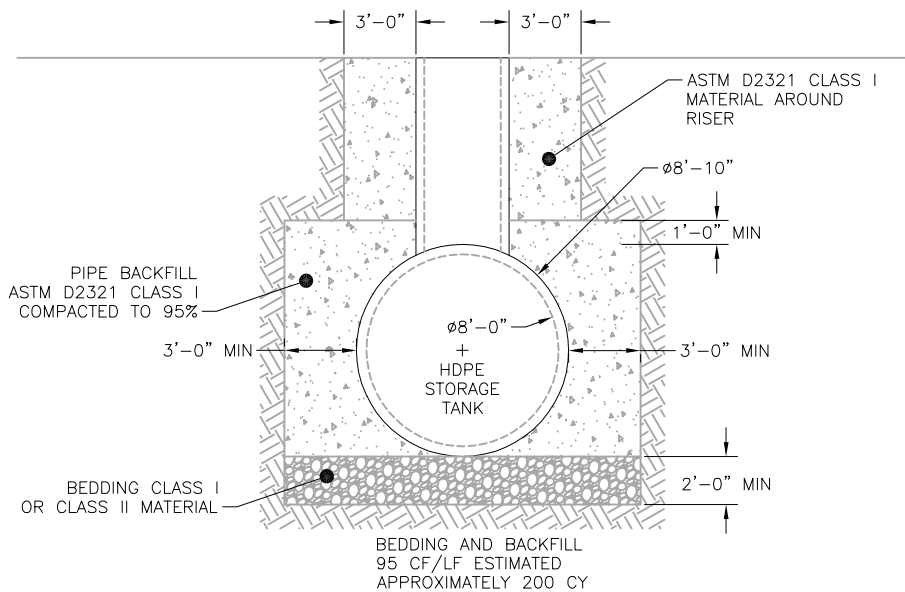
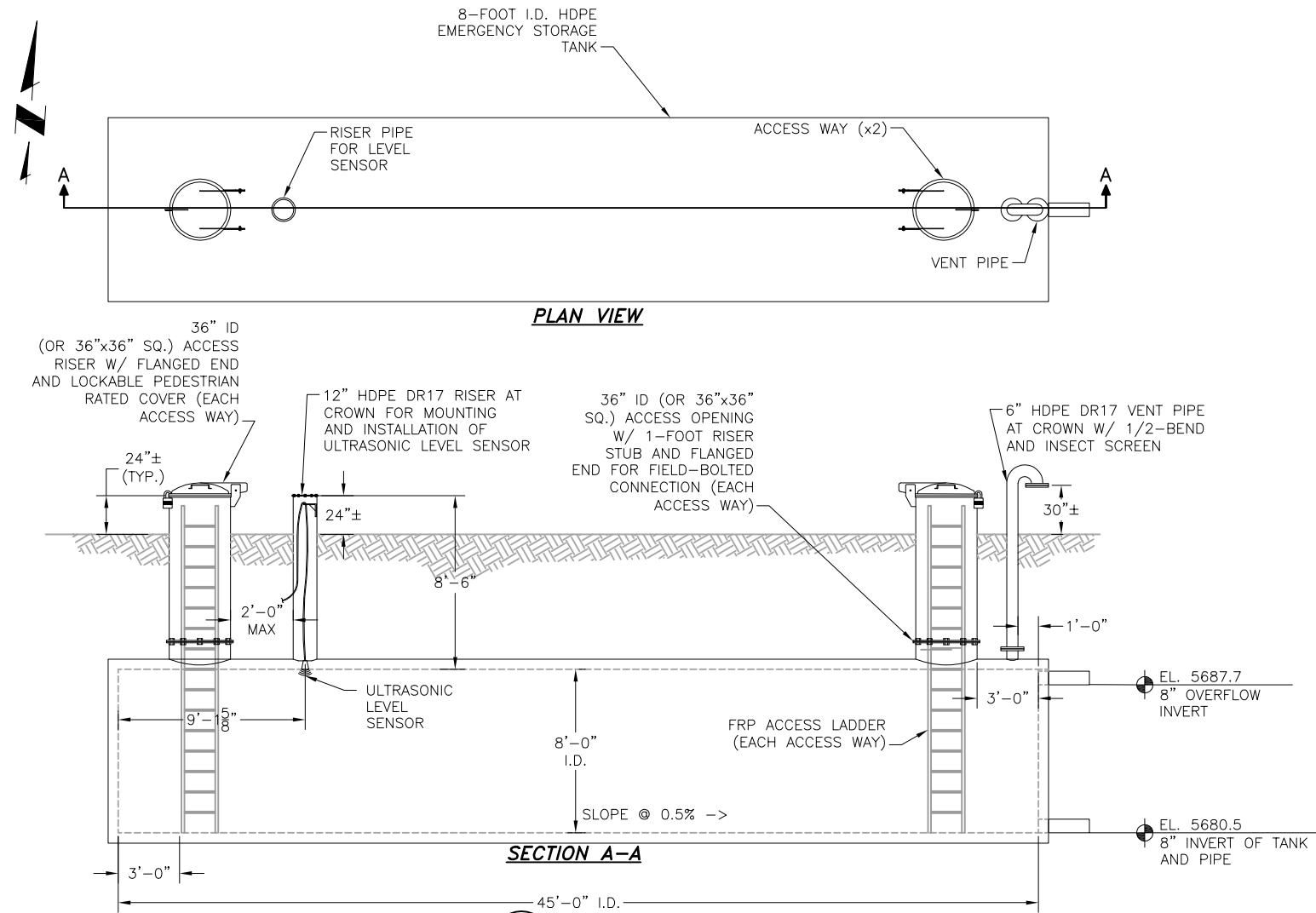
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B
C8 **AUX. STORAGE TANK INSTALLATION DETAIL**
SCALE: N.T.S.

- NOTES:**
- PROVIDE FOR A TRAFFIC BEARING RING AND COVER AROUND THE 36-INCH DIAMETER MANWAY. CONFIRM THAT THE STRUCTURAL INTEGRITY OF THE STRUCTURE CAN ACCEPT TRAFFIC LOADING ON THE HATCHWAY. OTHERWISE, LOCATE THE STRUCTURE IN A MANNER THAT TRAFFIC CAN AVOID THE MANWAY, YET PROVIDE ADEQUATE VEHICULAR ACCESS THROUGH THE PUMP STATION SITE.
 - RISER PIPE FOR LEVEL SENSOR SHALL BE LOCATED 2'-0" OF ACCESS WAY AND ENSURE ULTRASONIC LEVEL SENSOR CAN BE INSTALLED WITHOUT MEASUREMENT INTERFERENCE.
 - ACTUAL OVER-EXCAVATION TO BE DETERMINED AT THE TIME OF EXCAVATION BY THE GEOTECHNICAL ENGINEER, RMG. ADDITIONAL OVEREXCAVATION MAY BE REQUIRED BASED ON CONDITIONS AT TIME OF EXCAVATION.

INSTALLATION NOTES

GENERAL

THE DETAILS PRESENTED ON THIS SHEET ARE APPLICABLE TO A WEHOLITE (ASTM F894) STRUCTURAL POLYETHYLENE MANHOLE AND PIPE SYSTEM MANUFACTURED BY INFRA PIPE SOLUTIONS. (FORMERLY UPONOR INFRA). THE MANUFACTURER SHALL SUBMIT COMPLETE ENGINEERING DESIGN DRAWINGS AND CALCULATIONS FOR THIS SYSTEM PRIOR TO START OF FABRICATION. PLEASE REFER TO THE MANUFACTURER'S INSTALLATION STANDARDS AND DETAILS FOR ADDITIONAL INFORMATION.

EXCAVATION

- DURING TRENCH EXCAVATION, ENSURE THAT THE TRENCH SIDES SHALL BE STABLE UNDER ALL WORKING CONDITIONS. EXCAVATION PRACTICES SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OR PROVINCIAL AND LOCAL REGULATORS.
- THE WIDTH OF THE TRENCH SHALL BE SUFFICIENT TO ACCOMMODATE THE COMPACTION EQUIPMENT TO BE USED IN THE BACKFILL PIPE ZONE, BUT NOT LESS THAN THE LARGER OF THE PIPE OUTSIDE DIAMETER PLUS 16 IN OR 1.25 TIMES THE PIPE OUTSIDE DIAMETER PLUS 12 IN.
- REFER TO ASTM D2321-11 FOR PROPER PLACEMENT AND MOVEMENT OF TRENCH BOXES. IMPROPER MOVEMENT OF TRENCH BOXES CAN AFFECT THE PERFORMANCE OF THE INSTALLATION.

GROUNDWATER

- WHEN GROUNDWATER IS PRESENT IN THE WORK AREA, DEWATER TO MAINTAIN THE STABILITY OF THE IN-SITU AND IMPORTED MATERIALS. MAINTAIN THE GROUND WATER BELOW THE PIPE (OR OTHER FABRICATION) BELOW THE BEDDING AND FOUNDATION MATERIALS. USE, AS APPROPRIATE, SUMP PUMPS, WELL POINTS, DEEP WELLS, GEO-FABRICS, PERFORATED UNDER-DRAINS, OR STONE BLANKETS OF SUFFICIENT THICKNESS TO REMOVE AND CONTROL WATER IN THE TRENCH. DEWATERING IS TO BE MAINTAINED UNTIL FINISHED GRADE IS ACHIEVED OR AS OTHERWISE APPROVED BY THE ENGINEER OF RECORD.
- WHEN EXCAVATING WHILE DEPRESSING GROUND WATER, ENSURE THE GROUND WATER IS BELOW THE BOTTOM OF CUT AT ALL TIMES TO PREVENT WASHOUT FROM BEHIND SHEETING OR SLOUGHING OF EXPOSED TRENCH WALLS.
- BUOYANCY COUNTERMEASURES DETAILED UNDER THIS DESIGN ARE FOR THE PERMANENT CONDITION. DEWATERING IS TO BE MAINTAINED UNTIL FINISHED GRADE IS ACHIEVED OR AS OTHERWISE APPROVED BY THE ENGINEER OF RECORD.

FOUNDATION AND BEDDING

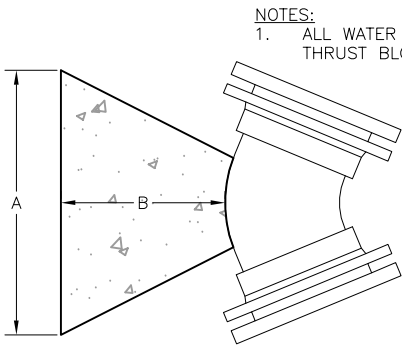
- THE GEOTECHNICAL ENGINEER OF RECORD (GER) IS RESPONSIBLE TO ASSESS THE SUITABILITY OF THE EXISTING SOILS AND TO RECOMMEND THE USE OF IMPORTED FOUNDATION MATERIALS WHERE APPROPRIATE. THE FOUNDATION MUST SUPPORT THE BEDDING, PIPE, EMBEDMENT, BACKFILL, AND ANY LIVE LOADS.
- EXCAVATION FROM MINIMUM 6 INCHES BELOW THE UNIT SHOULD BE FILLED WITH ACCEPTABLE BEDDING MATERIAL AND COMPACTED TO 95% STANDARD PROCTOR DENSITY, OR AS OTHERWISE RECOMMENDED BY THE GER.

BACKFILL

- DO NOT PROCEED WITH BACKFILL AND COMPACTION UNTIL ALL FIELD WELDS AND CONNECTIONS ARE COMPLETE AND TESTED. CHECK THAT ALL REQUIRED CONNECTION PIPING AND SERVICES ARE INSTALLED AND PROPERLY SUPPORTED / PROTECTED DURING THE BACKFILL OPERATION.
- ALL BACKFILL WITHIN THE CRITICAL BACKFILL ZONE TO BE IN ACCORDANCE WITH ASTM D2321 AND MEET CLASS I MATERIAL COMPACTED TO 95% STANDARD PROCTOR. BACKFILL IN TO BE BROUGHT UP IN 8" MAXIMUM LIFTS ON ALL SIDES OF THE SYSTEM.

HDPE-RCP CONNECTIONS

WEHOLITE HDPE STUB TO EXISTING RCP DISSIMILAR MATERIAL MATERIAL BUTT CONNECTION CONNECTION SHALL BE REINFORCED WITH A 4000 PSI CAST IN PLACE CONCRETE COLLAR PROJECTING A MINIMUM OF 12" IN ALL DIRECTIONS OF JOINT. COLLAR TO BE REINFORCED WITH NO. 4 REBAR AT APPROXIMATELY 6" OC EACH WAY, MAINTAINING 2" BAR COVER (TYP). JOINT TO BE WRAPPED WITH BUTYL RUBBER JOINT WRAP MEET OR EXCEEDING ASTM C877 (Type III).



- NOTES:**
- ALL WATER MAINS GREATER THAN 12-INCHES IN DIAMETER SHALL HAVE THRUST BLOCKS DESIGNED AND SHOWN ON THE CONSTRUCTION DOCUMENTS.

NOTE: USE THE FOLLOWING VALUES FOR "C"

PIPE SIZE =	C =
12" & UNDER	1'-6"
16" TO 24"	2'-0"
30" TO 36"	3'-0"
OVER 36"	A, B, & C WILL BE GIVEN IN EACH INSTANCE

VOL. (yds)	A	B if C=1'-6"	B if C=2'-0"	B if C=3'-0"
1/8	2'-6"	0'-10"	N/A	N/A
1/4	2-8"	1'-7"	N/A	N/A
1/2	3'-2"	2'-5"	2'-0"	N/A
3/4	4'-0"	2'-6"	2'-2"	N/A
1	4'-4"	3'-0"	2'-7"	2'-0"
1-1/4	4'-10"	3'-1"	2'-9"	2'-2"

FITTING	4"	6"	8"
TEE	1/8 yd.	1/2 yd.	3/4 yd.
90° BEND	1/8 yd.	3/4 yd.	1-1/4 yd.
45° BEND	1/8 yd.	1/2 yd.	3/4 yd.
22-1/2° BEND	1/8 yd.	1/8 yd.	1/4 yd.
11-1/4° BEND	1/8 yd.	1/8 yd.	1/8 yd.

C
C8 **THRUST BLOCK DETAIL**
SCALE: N.T.S.

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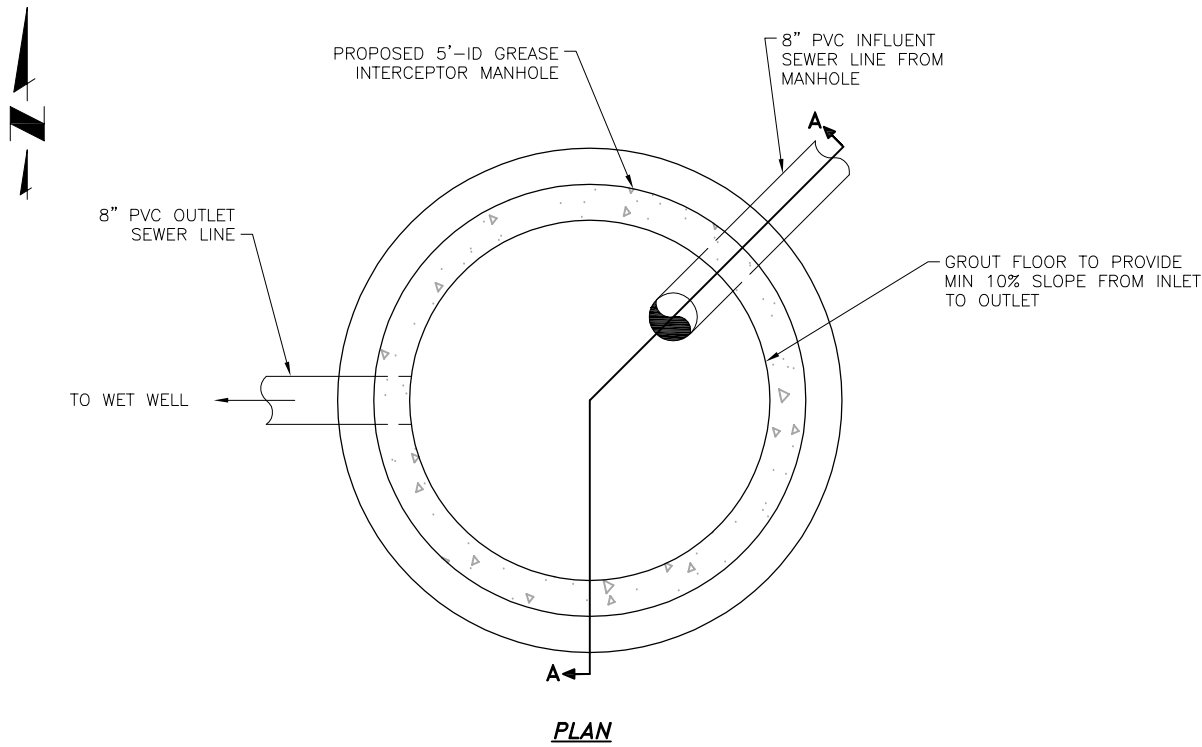
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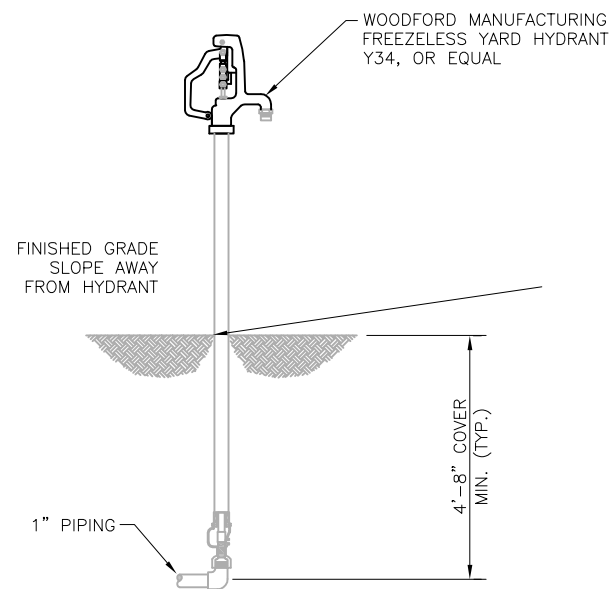
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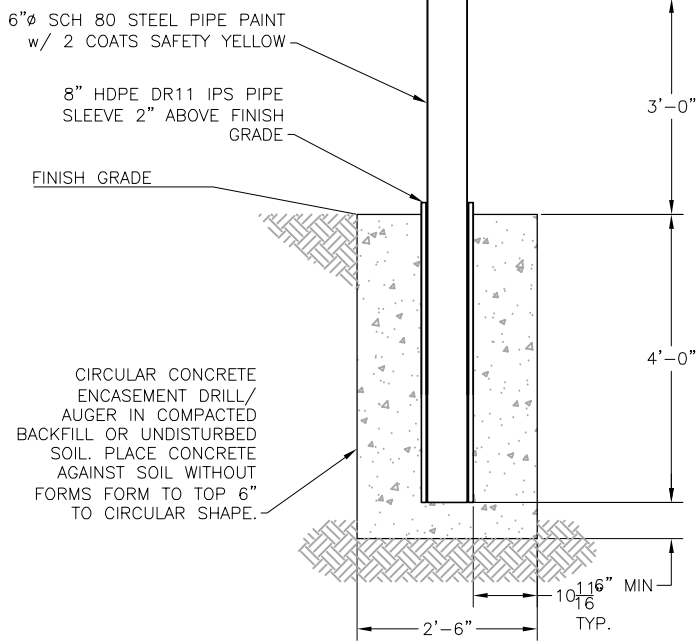


A GREASE INTERCEPTOR MANHOLE
C9 SCALE: N.T.S.

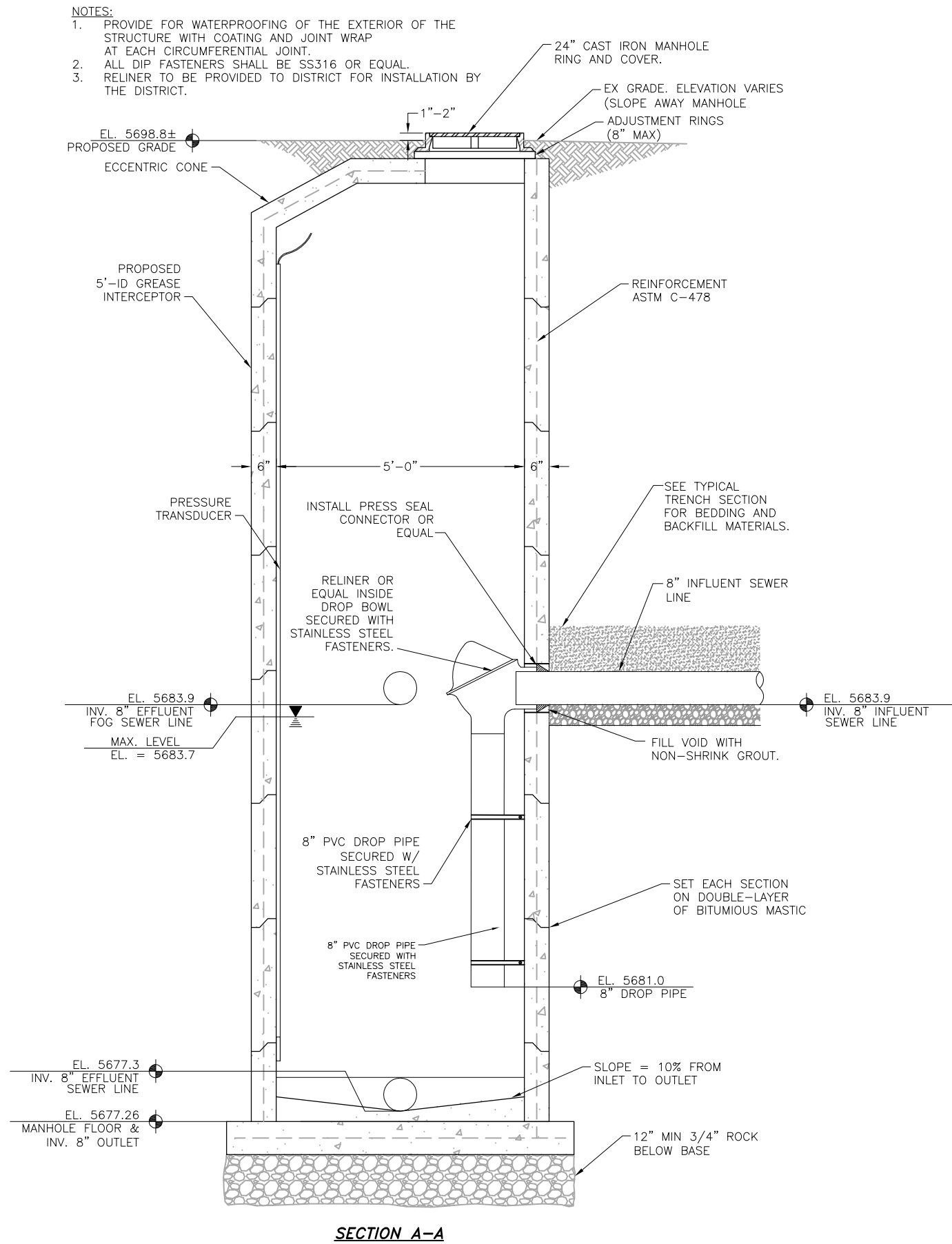
WELDED CAP ON TOP w/ THRU BOLTED 3/4" DIA. LIFTING RING.



B YARD HYDRANT DETAIL
C9 SCALE: N.T.S.



C REMOVABLE BOLLARD DETAIL
C9 SCALE: N.T.S.



- NOTES:
1. PROVIDE FOR WATERPROOFING OF THE EXTERIOR OF THE STRUCTURE WITH COATING AND JOINT WRAP AT EACH CIRCUMFERENTIAL JOINT.
 2. ALL DIP FASTENERS SHALL BE SS316 OR EQUAL.
 3. RELINER TO BE PROVIDED TO DISTRICT FOR INSTALLATION BY THE DISTRICT.

AVATAR RIVERBEND LP
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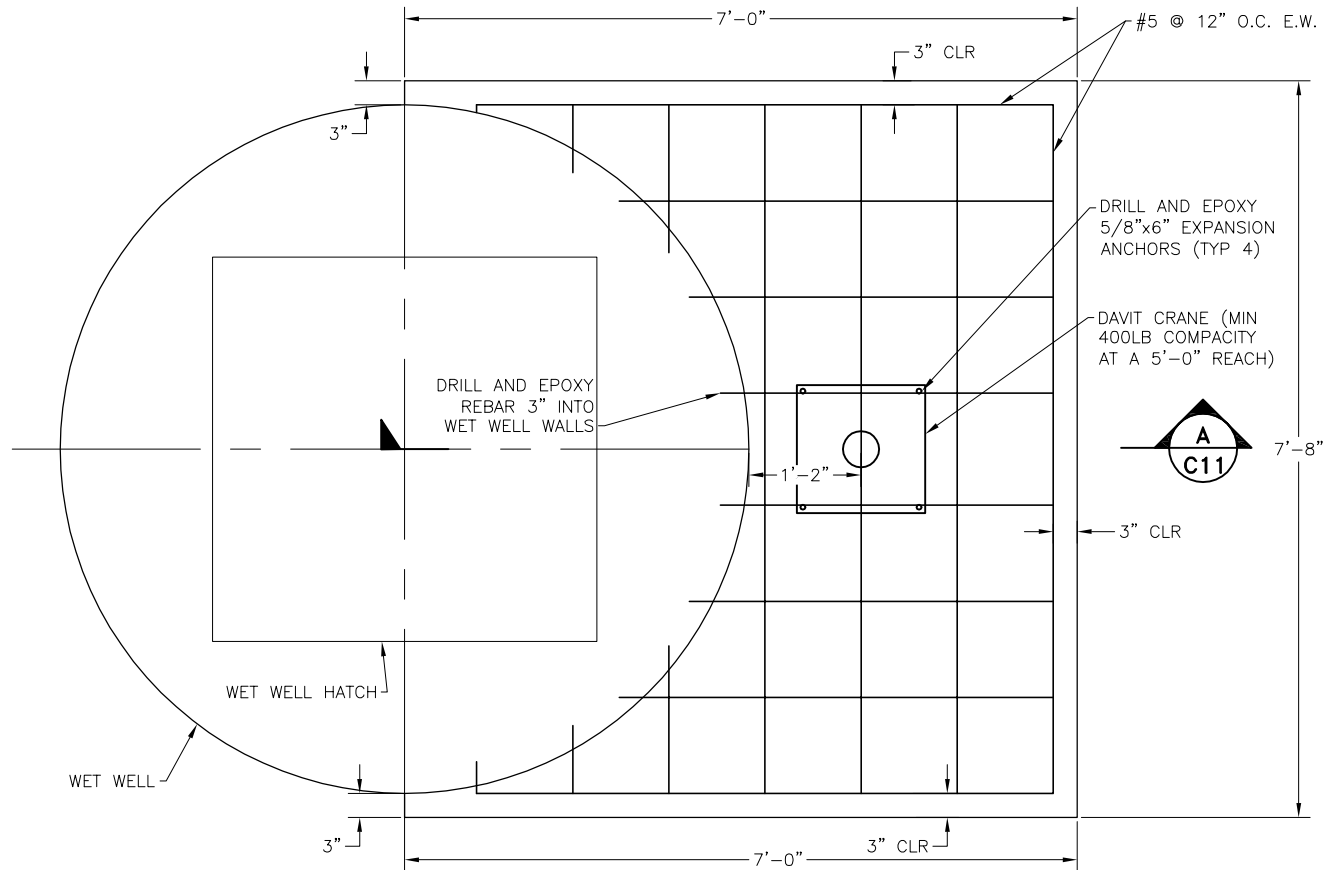
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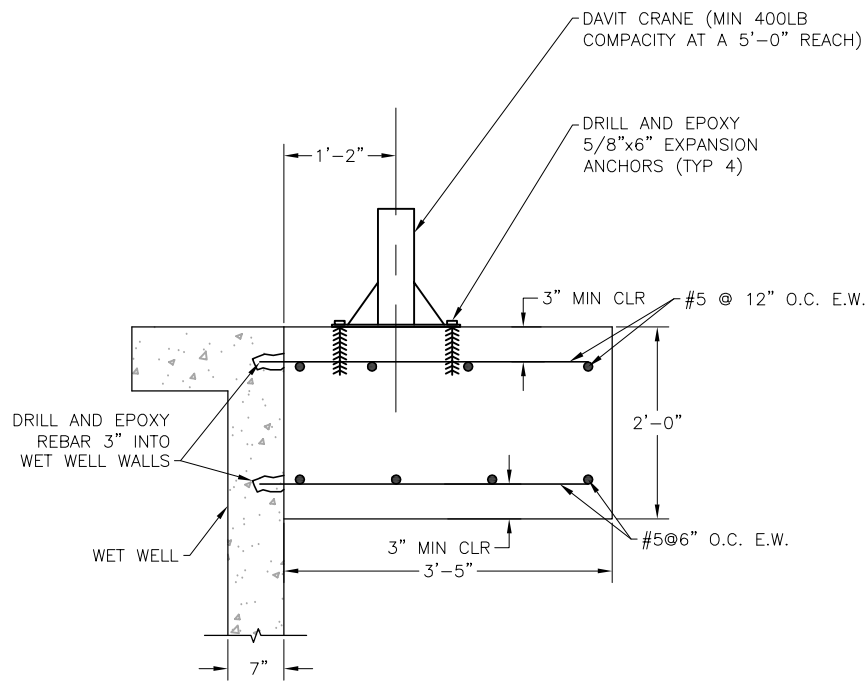


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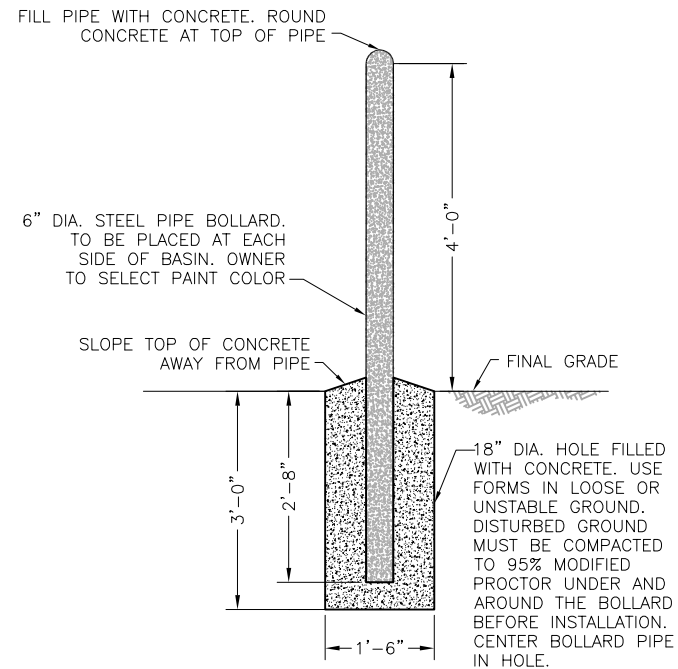
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DAVIT CRANE PAD
SCALE: 1/2"=1'-0"



A SECTION
SCALE: 1/2"=1'-0"



B BOLLARD DETAIL
SCALE: 1/2"=1'-0"

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MISCELLANEOUS:

1. FOUNDATION DESIGN IS IN ACCORDANCE WITH THE SOIL REPORT BY ROCKY MOUNTAIN GROUP, NUMBER 161921, DATED 04/02/18. ALL DEWATERING, COMPACTION AND STRUCTURAL FILL REQUIREMENTS CONTAINED IN THE AFOREMENTIONED REPORT SHALL BE COMPLIED WITH.

2. DESIGN OF FOOTINGS AND WALLS IS BASED ON THE FOLLOWING CRITERIA:

MAXIMUM ALLOWABLE SOIL BEARING PRESSURE.....2500 p.s.f.

TOTAL SOIL UNIT WEIGHT120 p.c.f.

ACTIVE LATERAL EARTH PRESSURE.....40 p.c.f.

3. SOIL BENEATH FOOTINGS, WALLS AND SLABS ON GRADE SHALL BE SOLID, UNDISTURBED, NON-ORGANIC MATERIAL, FREE OF FROST, WATER AND FOREIGN DEBRIS, OR APPROVED STRUCTURAL FILL COMPACTED IN ACCORDANCE WITH THE SOIL REPORT AND SPECIFICATIONS WITH MINIMUM DENSITY AS FOLLOWS:

FOOTINGS, WALLS 95% OF MODIFIED PROCTOR, ASTM D1557.

SLABS 95% OF MODIFIED PROCTOR, ASTM D1557.

ALL SOIL AND FOUNDATION MATERIAL SHALL BE THOROUGHLY MOISTENED BEFORE CONCRETE IS PLACED.

4. SEE CONSTRUCTION DRAWINGS FOR EXTENT OF OVEREXCAVATION AND RECONDITIONING OF FOUNDATION SOILS

5. A REPRESENTATIVE OF THE SOIL ENGINEER SHALL INSPECT THE OPEN EXCAVATION TO DETERMINE THAT THE SOIL TYPE AND CONDITIONS ARE CONSISTENT WITH DESIGN CRITERIA OF THE SOIL REPORT. IF THE SOIL PROPERTIES ARE FOUND TO BE DIFFERENT FROM THIS CRITERIA, THEN THE ENGINEER SHALL BE PROMPTLY NOTIFIED SO THAT THE FOUNDATION DESIGN MAY BE REVIEWED.

6. DESIGN LIVE LOADS ARE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2009 EDITION, AND PIKES PEAK REGIONAL BUILDING CODE, 2011 EDITION, WITH THE FOLLOWING MINIMUM CRITERIA:

LOAD REDUCTION.....NO

CLOSED/OPEN/PARTIAL.....OPEN

WIND LOAD, 3 SECOND GUST WIND SPEED.....130 MPH

(EXPOSURE 'C', COEFFICIENTS PER CHAPTER 16)

IBC SOIL PROFILE.....SC

DEAD LOAD.....5.0 PSF

LIVE LOAD.....20.0 PSF

COLLATERAL LOAD.....0.5 PSF

ROOF SNOW LOAD.....30 PSF

UNBALANCED LOAD AND DRIFTING.....20 PSF

SEISMIC DESIGN CATEGORY.....ZONE B

SEISMIC MAPPED ACCELERATION PARAMETERS.....Ss 0.22

SI 0.06

SEISMIC SITE CLASS.....D

*SEE PLAN SHEETS AND SPECIFICATIONS FOR ADDITIONAL LOADING INFORMATION

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION OF MECHANICAL OPENINGS, FLOOR DRAINS, INSERTS, DEPRESSIONS, BURIED CABLES AND UTILITIES, ETC. WITH ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS.

8. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND NOTIFY ARCHITECT/ENGINEER OF DISCREPANCIES. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.

9. CONTRACTOR SHALL FIELD MEASURE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS OF JOB SITE. IN CASE EXISTING CONDITIONS OR DIMENSIONS VARY FROM THOSE SHOWN ON DRAWING, CONTRACTOR SHALL NOTIFY THE THE ENGINEER SO PROPER ADJUSTMENTS CAN BE MADE.

10. SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH 1 B.C. SECTION 1704 WHEN SUCH INSPECTIONS ARE REQUIRED BY THE BUILDING OFFICIAL. CONTRACTOR SHALL COORDINATE THE WORK SENT OUT WITH THE SPECIAL INSPECTORS WHO ARE SELECTED AND PAID FOR BY THE OWNER.

11. DURING THE ERECTION OF THE BUILDING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARILY BRACING AND SHIMMING TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING LATERAL LOADS AND STOCKPILES OF MATERIALS AND EQUIPMENT. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL STRUCTURAL FRAMING AND DIAPHRAGMS ARE IN PLACE WITH CONNECTIONS COMPLETE.

12. WHERE THE STRUCTURAL DRAWINGS APPEAR TO CONFLICT WITH OSHA REQUIREMENTS, THE STRUCTURAL DRAWINGS REPRESENT FINAL CONDITIONS ONLY; THE OWNER THEN SHALL ADD ALL ERECTION FRAMING BOLTS, STABILIZER PLATES, ETC. THAT MAY BE NECESSARY TO COMPLY WITH OSHA.

CONCRETE:

1. ALL REINFORCED CONCRETE AND MASONRY CONSTRUCTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PIKES PEAK REGIONAL BUILDING CODE, CONSTRUCTION DRAWINGS, SPECIFICATIONS AND CONTRACT DOCUMENT.

2. ALL CONCRETE DESIGN, MATERIALS AND CONSTRUCTION SHALL CONFORM TO ACI STANDARD 318-95, THE INTERNATIONAL BUILDING CODE, 2017 EDITION, THE PIKES PEAK BUILDING CODE 2017, THE CRSI MANUAL OF STANDARD PRACTICE AND THE PROJECT SPECIFICATIONS.

3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS AS FOLLOWS:

FOOTING, WALLS.....4000 p.s.i.

CEMENT TYPE II

SLABS ON GRADE.....4000 p.s.i.

CEMENT TYPE II

STRUCTURAL SLABS.....4000 p.s.i.

CEMENT TYPE II

4. GROUT UNDER BASE PLATES AND BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT WITH A MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS OF 7500 p.s.i.

5. ALL REINFORCING BARS SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615, GRADE 60, AND FREE FROM LOOSE RUST AND SCALE. ALL REINFORCING STEEL TO BE WELDED SHALL BE ASTM A706, GRADE 60. WELDED WIRE FABRIC SHALL BE SMOOTH STEEL WIRE FABRIC CONFORMING TO ASTM A185.

6. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE ACI DETAILING MANUAL, LATEST EDITION. FORMWORK SHALL BE DESIGNED, ERECTED AND REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS.

7. REINFORCEMENT SHALL BE PLACED SO THAT THE FOLLOWING MINIMUM CONCRETE PROTECTION IS PROVIDED, UNLESS NOTED OTHERWISE.

CONCRETE SURFACES POURED AGAINST GROUND.....3" CLEAR

FORMED SURFACES EXPOSED TO GROUND OR WEATHER

BARS #6 AND LARGER.....2" CLEAR

BARS #5 AND LARGER.....1-1/2" CLEAR

SLABS ON GRADE.....AT CENTERS

8. REINFORCEMENT SHALL BE SECURELY TIED AND SHALL BE SUPPORTED WITH METAL CHAIRS OR HUNG FROM FORMS.

9. CONTINUOUS HORIZONTAL BARS AND CORNER BARS IN FOOTINGS, STEM WALLS AND SLABS SHALL BE LAPPED A MINIMUM OF 36 BAR DIAMETERS AT SPLICES. SPLICE LOCATIONS SHALL BE STAGGERED WHERE POSSIBLE.

10. VERTICAL DOWEL BARS IN WALLS AND COLUMNS SHALL BE LAPPED A MINIMUM OF 46 BAR DIAMETERS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

11. TWO (2) ADDITIONAL #5 BARS (ONE EACH FACE) WITH A 2'-0" PROJECTION SHALL BE PLACED DIAGONALLY ACROSS THE CORNERS OF ALL OPENINGS AND VERTICAL STEPS IN WALLS.

12. STEM WALLS BELOW GRADE SHALL HAVE BACKFILL PLACED EQUALLY ON BOTH SIDES UNTIL THE REQUIRED LEVELS ARE REACHED.

CONCRETE (CONT'D):

13. CONTROL AND/OR CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED AT INTERVALS ENCLOSING NO MORE THAN 144 SQUARE FEET WITH A MAXIMUM OF 12 FEET IN ANY ONE DIRECTION. CONSTRUCTION JOINTS SHALL BE FORMED WITH METAL LOAD KEY JOINT.

14. CONSTRUCTION JOINTS (COLD JOINTS) SHALL BE PROVIDED IN WALLS AND GRADE BEAMS WHICH ARE OVER 70 FEET IN A STRAIGHT RUN. WATERSTOPS AND KEYWAYS SHALL BE PROVIDED AT ALL CONSTRUCTION JOINTS WHERE INTERIOR SLABS ON GRADE OCCUR BELOW EXTERIOR GRADE OR AS NOTED ON THE CONSTRUCTION PLANS. ALL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ENGINEER.

15. ALL EXPOSED CONCRETE CORNERS (INCLUDING PUMP PADS, CONCRETE PIPE SUPPORTS, HOUSEKEEPING PADS, ETC.) ARE TO BE CHAMFERED 1/2".

16. DAMP PROOF ALL EXPOSED EXTERIOR SURFACES, BELOW GRADE. SEE SPECIFICATIONS FOR DAMP PROOFING METHODS.

17. ALL EXPANSION JOINTS AND SEAMS TO BE SEALED WITH SELF-LEVELING POLYURETHANE CAULK PER SPECIFICATIONS. USE NON-SAG TYPE POLYURETHANE FOR VERTICAL WALLS.

18. PROVIDE BAR SUPPORTS AND SPACERS TO PLACE ALL BARS IN PROPER LOCATION, AND WIRE ADEQUATELY AT INTERSECTIONS TO HOLD BARS FIRMLY IN POSITION WHILE CONCRETE IS PLACED. VERTICAL DOWELS SHALL BE SUPPORTED IN PLACE PRIOR TO PLACING CONCRETE.

19. BAR SUPPORTS AND SPACERS WHICH REST ON OR AGAINST EXPOSED SURFACE SHALL BE HOT DIPPED GALVANIZED OR PLASTIC COATED.

20. CONTINUOUS BARS SHALL LAP AND DOWELS SHALL PROJECT ADEQUATELY TO PROVIDE A CLASS B SPLICE BUT NOT LESS THAN 12" UNLESS SHOWN OTHERWISE ON DRAWINGS. DO NOT SPLICE NEAR MAXIMUM STRESS LOCATIONS.

21. SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL OPENINGS

MASONRY:

1. ALL MASONRY DESIGN, FABRICATION, MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE LATEST INTERNATIONAL BUILDING CODE EDITION, PIKES PEAK BUILDING CODE 2015, AND ASCE 531, LATEST REVISION.

2. EXTERIOR EXPOSED SURFACE OF ALL MASONRY SHALL BE SPLIT-FACED. INTERIOR SURFACE SHALL BE SMOOTH-FACED. SUBMIT SAMPLE FOR APPROVAL.

3. ALL HOLLOW CONCRETE UNIT (BLOCK) ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, f'm, OF 2000 p.s.i. CONCRETE BLOCK SHALL CONFORM TO TYPE I, SHALL BE MEDIUM WEIGHT AND CONFORM TO ASTM SPECIFICATIONS C-90.

4. ALL MASONRY MORTAR SHALL BE TYPE 'S' WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 p.s.i. MIX DESIGNS SHALL BE SUBMITTED AND APPROVED PRIOR TO ANY MASONRY WORK, OR MORTAR MIXES SHALL BE IN ACCORDANCE WITH THE FOLLOWING ASTM AND BIA MIX PROPORTIONS:

PARTS BY VOLUME OF PORTLAND CEMENT.....1

PARTS BY VOLUME OF HYDRATED LIME.....1/4 TO 1/2

AGGREGATE, MEASURED IN A DAMP, LOOSE CONDITION.....NOT LESS THAN 2-1/4

NOR MORE THAN THREE TIMES THE

SUM OF THE VOLUMES OF THE

CEMENT AND LIME USED

5. HOLLOW UNIT MASONRY SHALL HAVE FULL MORTAR COVERAGE ON THE FACE SHELLS AND ON THE WEBS. SURROUNDING CELLS TO BE FILLED WITH GROUT. VERTICAL HEAD JOINTS SHALL BE WELL BUTTERED FOR A FULL THICKNESS EQUAL TO THE FACE SHELL OF THE UNIT.

6. HORIZONTAL WIRE REINFORCEMENT SHALL BE PLACED IN BED JOINTS AT 16" O.C. VERTICAL SPACING. ADDITIONAL REINFORCEMENT SHALL BE PLACED IN THE FIRST BED JOINT ABOVE AND BELOW OPENINGS AND SHALL EXTEND 2'-0" BEYOND OPENINGS.

7. NOMINAL WIDTH OF JOINT REINFORCEMENT SHALL BE EQUAL TO THE NOMINAL WIDTH OF THE WALL, OR AS DETAILED. JOINT REINFORCEMENT AT CORNERS AND INTERSECTIONS SHALL BE PREFABRICATED UNITS.

8. CONTROL JOINTS SHALL BE PLACED IN ALL MASONRY WALLS AT A MAXIMUM SPACING OF 30'-0" O.C., OR AS NOTED ON THE DRAWINGS. HORIZONTAL WIRE REINFORCEMENT SHALL BE DISCONTINUOUS AT ALL CONTROL JOINTS. BOND BEAM REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONTROL JOINTS. STEP BOND BEAMS AS REQUIRED AND DETAILED TO ACCOMMODATE JOIST BEARINGS, EMBEDDED PLATES, ETC. IN ORDER TO MAINTAIN CONTINUOUS UNOBSTRUCTED ROOF OR FLOOR DIAPHRAGM CONNECTIONS. SEE CONSTRUCTION DRAWINGS FOR LOCATION OF CONTROL JOINT.

9. VERTICAL REINFORCEMENT SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. ALL SPLICES IN VERTICAL REINFORCEMENT SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS INTO THE BLOCK WALL AND SHALL BE GROUTED SOLID. SPLICED BARS SHALL BE SEPARATED BY ONE BAR DIAMETER OR WIRED TOGETHER.

10. PROVIDE ONE FULL HEIGHT BAR AT ALL WALL CORNERS AND WALL ENDS. PROVIDE TWO FULL HEIGHT BARS AT EACH JAMB OF ALL WALL OPENINGS.

11. VERTICAL REINFORCEMENT SHALL BE SECURED IN PLACE IN LOCATION SHOWN ON DRAWINGS AND SHALL BE HELD IN POSITION AT TOP AND BOTTOM.

12. GROUT FOR VERTICAL REINFORCING AND BOND BEAMS SHALL BE PEA-GRAVEL CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS OF 3000 p.s.i., MIX DESIGNS SHALL BE SUBMITTED AND APPROVED PRIOR TO ANY GROUTING.

13. CELLS CONTAINING REINFORCEMENT SHALL BE SOLIDLY FILLED WITH GROUT. GROUT SHALL BE POURED IN LIFTS OF NOT MORE THAN 4'-0", THEN THE GROUT SHALL BE PUDDLED OR VIBRATED INTO PLACE AND SHALL BE STOPPED 1-1/2" BELOW THE TOP OF A COURSE TO FORM A KEY WITH THE NEXT COURSE ABOVE.

14. CONTRACTOR SHALL PROVIDE COATED LINTELS AT THE HEADS OF ALL OPENINGS IN MASONRY WALLS AS NOTED IN THE DRAWINGS AND DETAILS. THE MINIMUM BEARING FOR LINTELS IS 8" EACH SIDE.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL DESIGN, MATERIALS, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC SPECIFICATION, 9th EDITION, THE INTERNATIONAL BUILDING CODE, 2015 EDITION AND THE PROJECT SPECIFICATIONS.

2. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A572, GRADE 50. ALL STEEL PLATE, ANGLES AND BARS SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE NOTED. TUBE STEEL COLUMNS SHALL CONFORM TO ASTM A500, GRADE B. ANCHOR BOLTS SHALL CONFORM TO ASTM A307. HEADED ANCHOR STUDS SHALL CONFORM TO ASTM A108. PROVIDE A SHOP COAT OF RUST INHIBITING PAINT ON ALL STRUCTURAL STEEL.

3. SHOP CONNECTIONS SHALL BE WELDED WITH E70XX ELECTRODES, LOW HYDROGEN AND GROUND SMOOTH WHERE EXPOSED. FIELD CONNECTIONS SHALL BE MADE WITH BOLTS CONFORMING TO ASTM A325 UNLESS OTHERWISE NOTED. FIELD WELDS SHALL BE MADE WITH E70XX ELECTRODES. ALL WELDING SHALL BE DONE BY CERTIFIED, LICENSED WELDERS AND SHALL BE INSPECTED BY THE TESTING AND INSPECTION AGENCY TO ASSURE CONFORMITY WITH DETAILS AND STANDARD PRACTICE.

4. ALL BEAMS BEARING ON CONCRETE MASONRY SHALL BEAR A MINIMUM OF 5" ON 3/4" NON-SHRINK GROUT WITH TWO (2) 5/8" DIAMETER x 1'-0" + 2 ANCHOR BOLTS, UNLESS NOTED OTHERWISE.

WOOD:

1. ALL LUMBER DESIGN, MATERIALS, FABRICATION AND CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2015 EDITION, THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, LATEST EDITION, ALONG WITH ITS SUPPLEMENT OF WOOD DESIGN VALUES, AND THE PROJECT SPECIFICATIONS. ALL FRAMING, ROOFING, SHEATHING, NAILING, BLOCKING, BRACING AND WOOD DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE UNIFIED BUILDING CODE. ALL WOOD CONSTRUCTION SPECIFICATIONS NOT DIRECTLY OUTLINED IN THE DRAWINGS OR SPECIFICATIONS SHALL BE ACCOMMODATED BY THE UBC.

2. ALL DIMENSION LUMBER (2" TO 4" THICK) SHALL BE HEM-FIR #2 OR BETTER, WITH THE FOLLOWING MINIMUM ALLOWABLE STRESSES (NORMAL LOADING CONDITIONS AND SINGLE MEMBER USES):

EXTREME FIBER IN BENDING, Fb.....850 p.s.i.

HORIZONTAL SHEAR, Fv.....75 p.s.i.

COMPRESSION PERPENDICULAR TO GRAIN, Fc405 p.s.i.

COMPRESSION PARALLEL TO GRAIN, Fc.....1,300 p.s.i.

MODULUS OF ELASTICITY, E.....1,300,000 p.s.i.

3. ALL MICROLAM MEMBERS SHALL BE MANUFACTURED BY TRUS-JOINT MACMILLAN WITH THE FOLLOWING MINIMUM ALLOWABLE STRESSES:

EXTREME FIBER IN BENDING, Fb.....2,600 p.s.i.

HORIZONTAL SHEAR, Fv.....285 p.s.i.

MODULUS OF ELASTICITY, E.....1,900,000 p.s.i.

4. ALL PLYWOOD SHEATHING SHALL BEAR THE STAMP OF THE AMERICAN PLYWOOD ASSOCIATION (APA). ORIENTED STRAND BOARD MAY BE SUBSTITUTED FOR PLYWOOD ONLY WITH PRIOR APPROVAL. PLYWOOD SHALL HAVE THE FOLLOWING SPAN RATINGS:

ROOFS

SPAN RATING

5/8" EXPOSURE 1 PLYWOOD

40/20

WALLS (INTERIOR)

1/2" EXPOSURE 1 PLYWOOD

32/16

WALLS (EXTERIOR)

1/2" FIBERBOARD

PER MANUFACTURER

5. DESIGN VALUES USED FOR TRUSSES AND FABRICATED ITEMS SHALL BE SUBMITTED WITH SHOP DRAWINGS.

6. MISCELLANEOUS FRAMING CLIPS, ANCHORS, AND HANGERS SHALL BE PROVIDED AS NECESSARY TO ERECT A RIGID STRUCTURAL FRAMEWORK. WALLS SHALL BE FRAMED SOLID AT ALL BEAM AND COLUMN BEARINGS, SECURELY ANCHORED AT TOP AND BOTTOM.

7. ALL BUILT-UP MEMBERS OF TWO PIECES SHALL BE NAILED TOGETHER WITH A MINIMUM OF FOUR (4) 10d NAILS PER FOOT. ALL BUILT-UP MEMBERS OF MORE THAN TWO PIECES SHALL BE BOLTED TOGETHER WITH 1/2" DIAMETER BOLTS AT 24" O.C. (COUNTERSINK AS REQUIRED) WITH A MINIMUM OF THREE (3) BOLTS PER BEAM.

8. ALL PLYWOOD SHEATHING SHALL BE NAILED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE, UNLESS NOTED OTHERWISE.

PANEL EDGES

INTERMEDIATE SUPPORTS

1/2" FIBERBOARD

PER MANUFACTURER

PER MANUFACTURER

1/2" PLYWOOD

8d AT 6" O.C.

8d AT 10" O.C.

5/8" PLYWOOD

10d AT 6" O.C.

10d AT 10" O.C.

BLOCKING IS REQUIRED AT ALL PANEL JOINTS IN WALLS.

9. BRIDGING AND NAILING SCHEDULES SHALL BE PROVIDED IN ACCORDANCE WITH THE UNIFORM BUILDING CODE, LATEST EDITION.

10. ALL TRUS-JOINT (OR EQUIVALENT) MEMBERS SHALL MEET ICBO PRODUCT ACCEPTANCE NATIONAL EVALUATION REPORT.

11. WHERE USP CONNECTORS ARE NOTED, SIMPSON BRAND EQUIVALENT CONNECTORS MAY BE USED. VERIFY SUBSTITUTIONS WITH ENGINEER.

12. ALL TRUSS JOIST SUSPENDED PIPE HANGERS TO INCLUDE A METAL PLATE CONNECTION SLEEVE AT SUSPENSION POINT. SIZE PER MANUFACTURER RECOMMENDATION.

13. GABLE END WALLS REQUIRE 3"x4" BRACING @ 48" O.C.

14. SEE MANUFACTURER'S RECOMMENDATIONS FOR FASTENER AND NAILING SCHEDULES FOR ALL METAL PLATE CONNECTORS.

AVATAR RIVERBEND LP

RIVER BEND CROSSING LIFT STATION

STRUCTURAL NOTES

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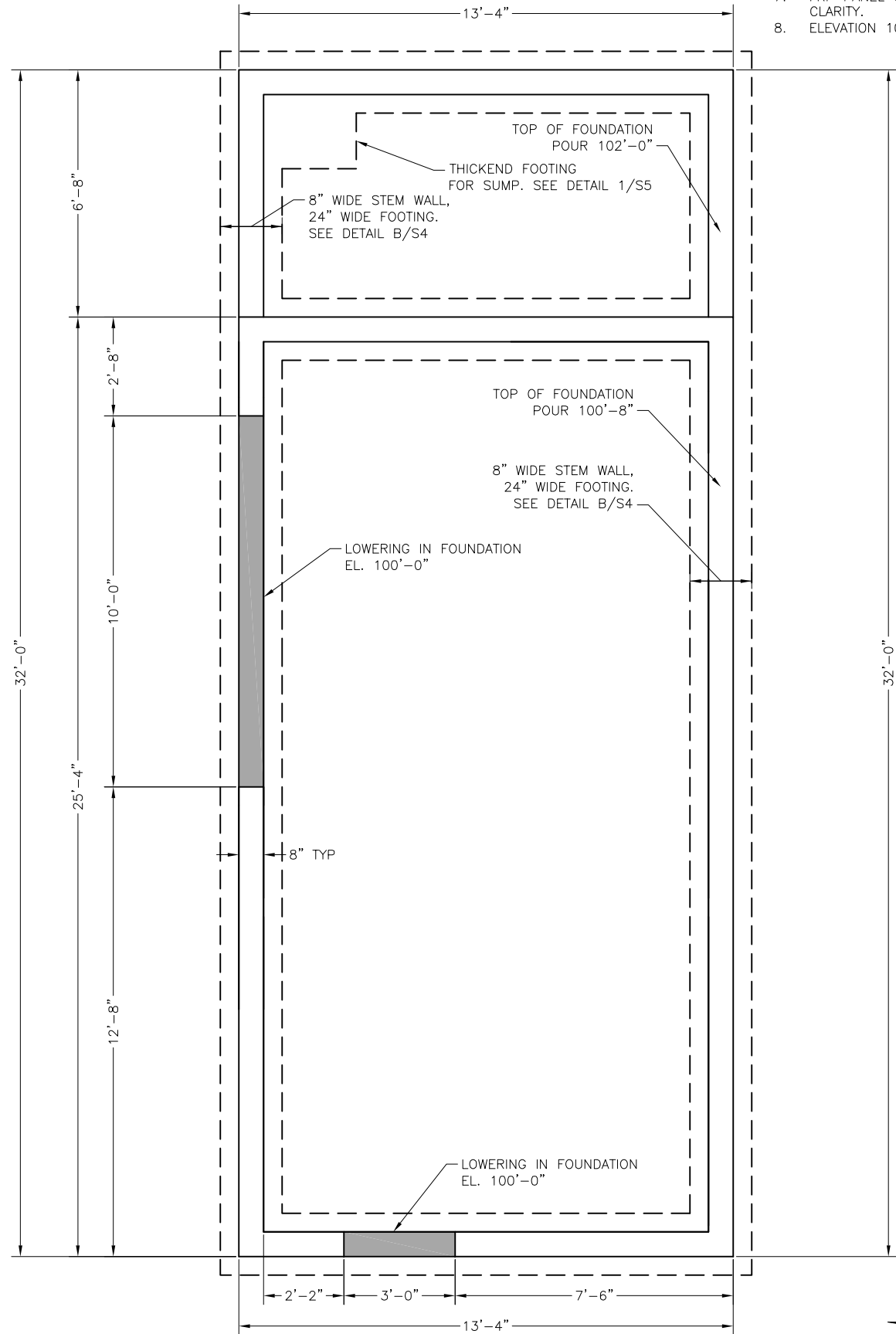
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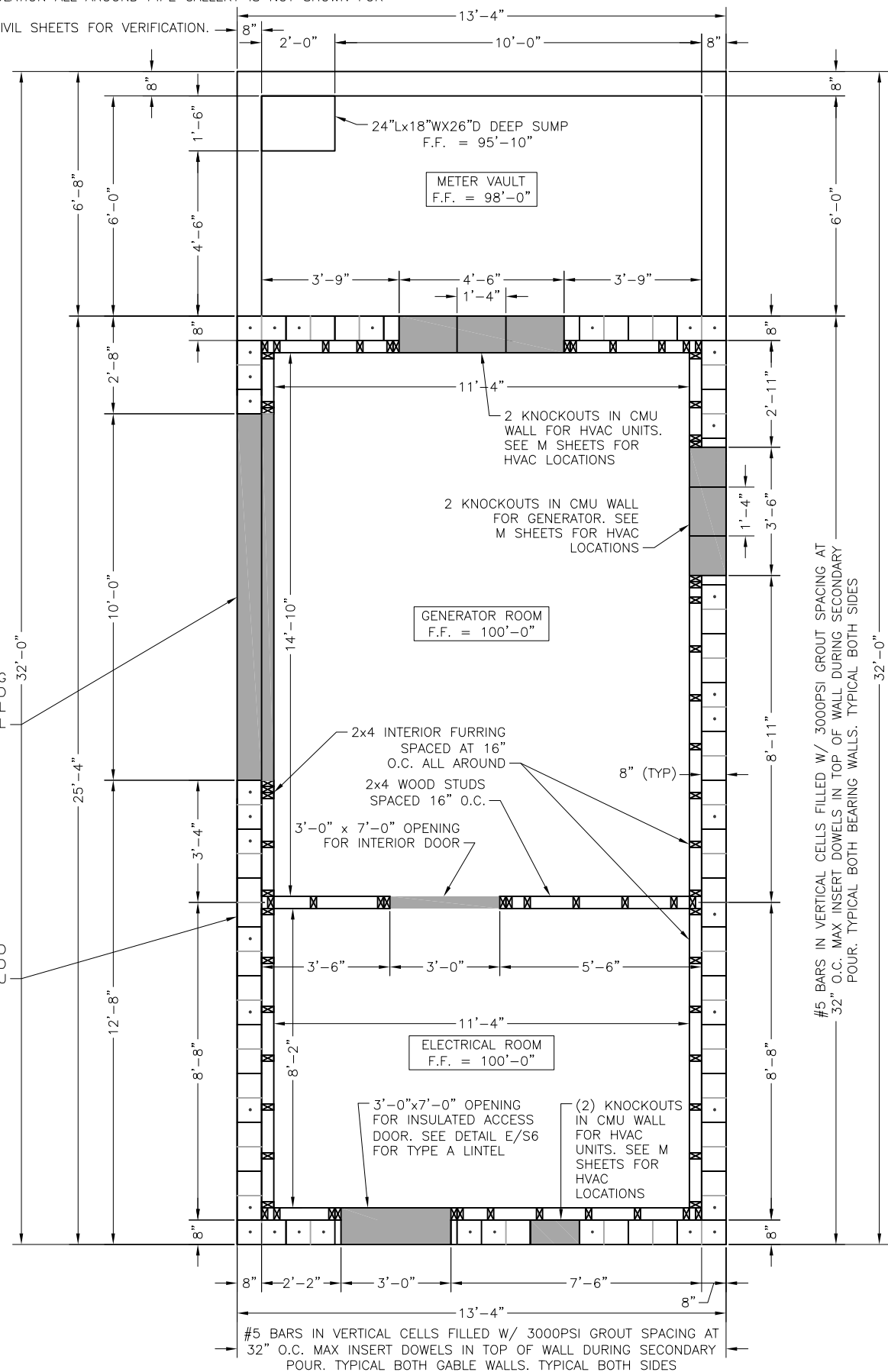
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STRUCTURAL FOUNDATION PLAN
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STRUCTURAL FLOOR PLAN
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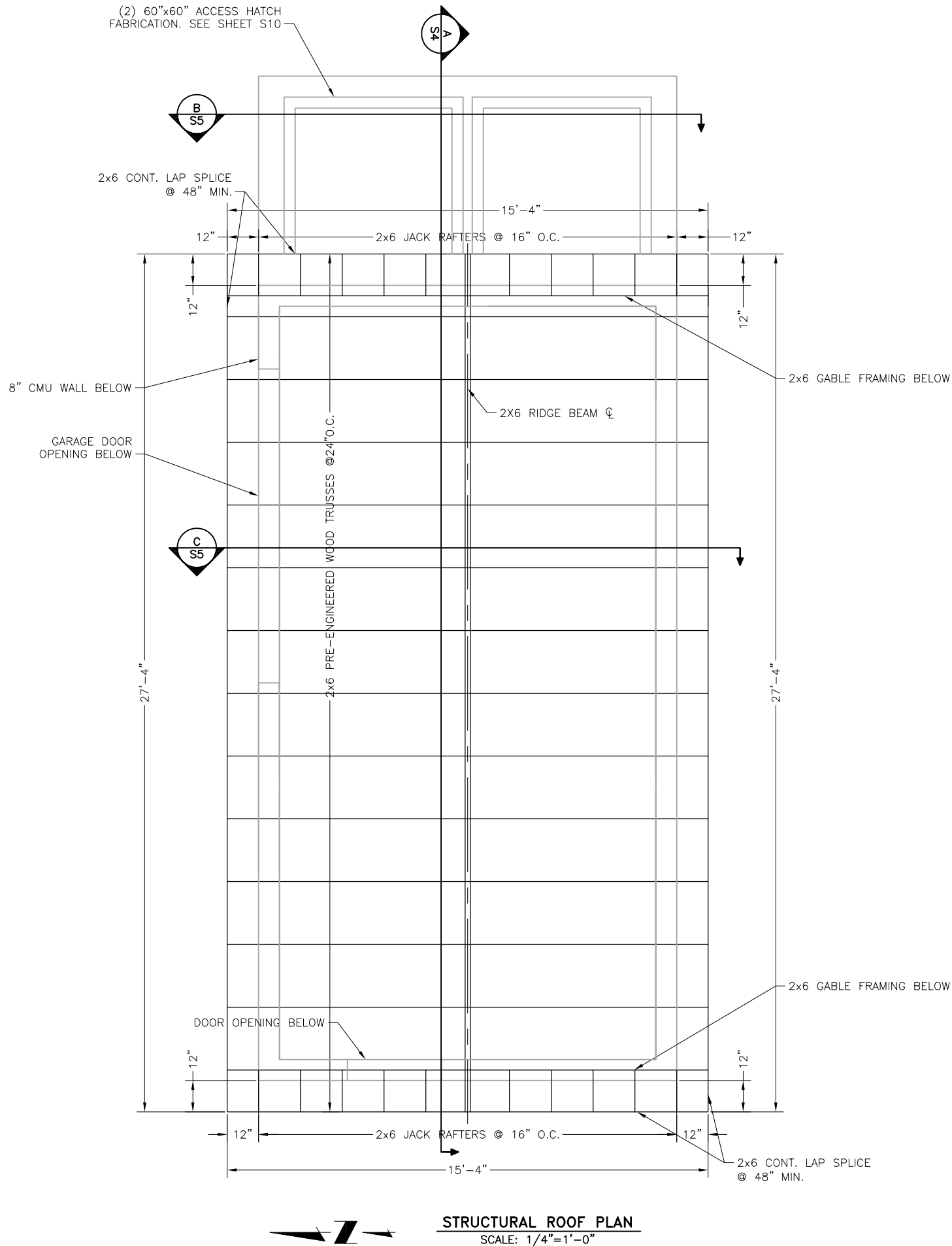
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- NOTES:
1. PRE-ENGINEERED TRUSSES: SEE GENERAL NOTE SET FOR DESIGN LOADS. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS PRIOR TO FABRICATION. TOP (RAFTER) AND BOTTOM CHORD (CEILING JOIST) OF TRUSS SHALL BE 2x6's.
 2. REFER TO TRUSS DESIGN SHEETS FOR TRUSS INFORMATION.
 3. REFER TO DETAIL C/S9 FOR HARDWARE TO RESIST UPLIFT.
 4. REFER TO SHEET S9 FOR JACK RAFTER DETAILS AND RIDGE BEAM DETAIL.

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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
STRUCTURAL ROOF FRAMING PLAN

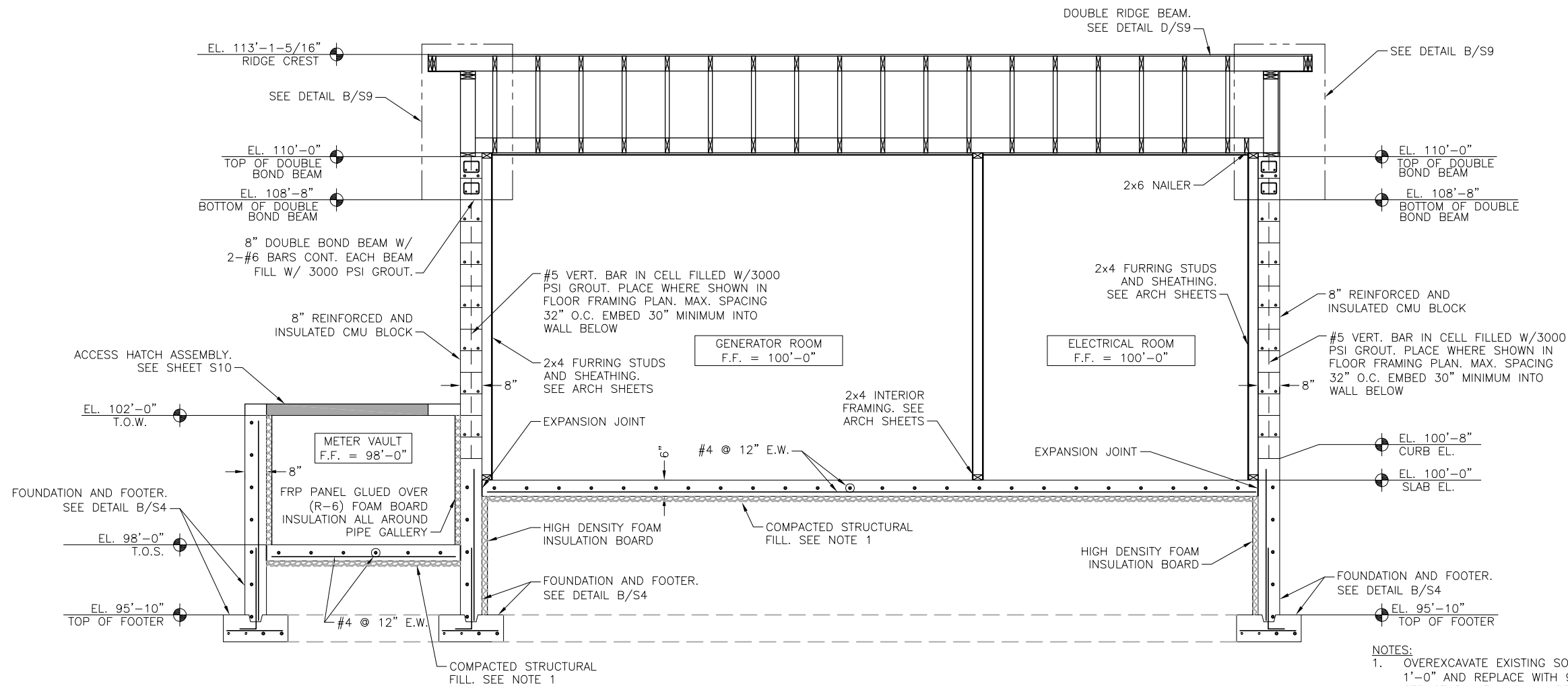
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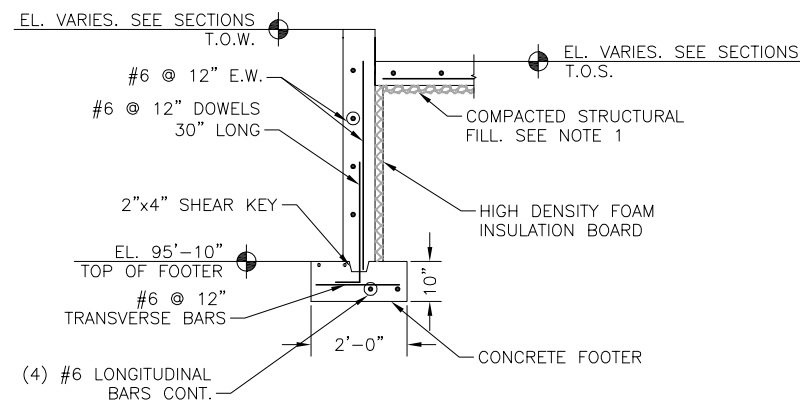


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Date: 08/20/21
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Drawn: ACH
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A
S4 BUILDING SECTION
SCALE: 1/4"=1'-0"



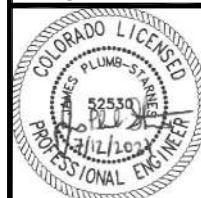
B
S4 FOOTER/FOUNDATION DETAIL
SCALE: 1/4"=1'-0"

NOTES:

- OVEREXCAVATE EXISTING SOILS BELOW FLOOR SLAB 1'-0" AND REPLACE WITH 9" OF STRUCTURAL FILL. STRUCTURAL FILL SHALL BE PLACED PER THE SOILS REPORT. ALSO PROVIDE ONE 3" LAYER OF 3/4" CRUSHED ROCK 6-MIL VAPOR RETARDER BETWEEN CRUSHED ROCK AND SLAB.
- #9 GALVANIZED LADDER JOINT REINFORCEMENTS SHALL BE PROVIDED AT 16" O.C. WITHIN ALL REINFORCED MASONRY WALLS, MATERIALS, AND INSTALLATION TO CONFIRM WITH ACI 531, LATEST VERSION.
- LAP SPLICES AND DEVELOPMENT LENGTHS SHALL BE PER PROVIDED PER SHEET S6
- SEE SHEET S1 FOR COVER REQUIREMENTS, MASONRY REQUIREMENTS, AND DEVELOPMENT LENGTHS.
- ALL CMU WALLS SHALL BE 8" NOMINAL SPLIT-FACED, REINFORCED, AND INSULATED PER SPECIFICATIONS.
- FOR DETAILS CONCERNING DOOR OPENINGS IN WOOD FURRING, SEE SHEET S8.
- ELEVATION 100'-0" IS EQUAL TO 5700.75'. SEE CIVIL SHEETS FOR VERIFICATION.

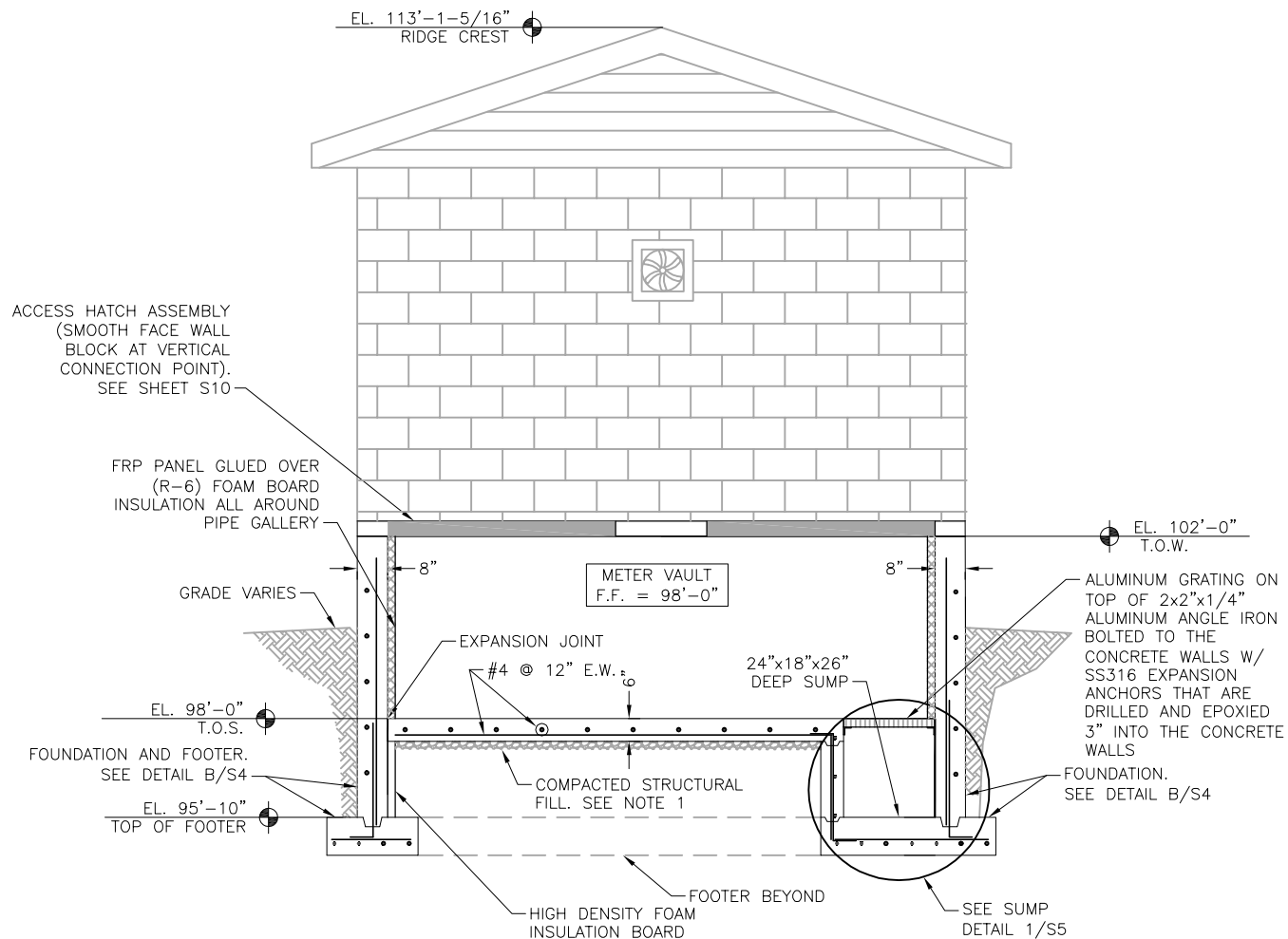
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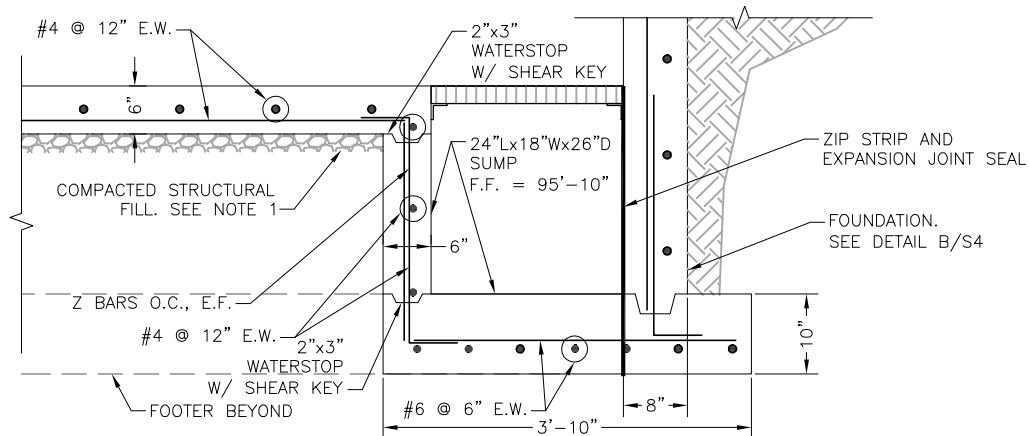


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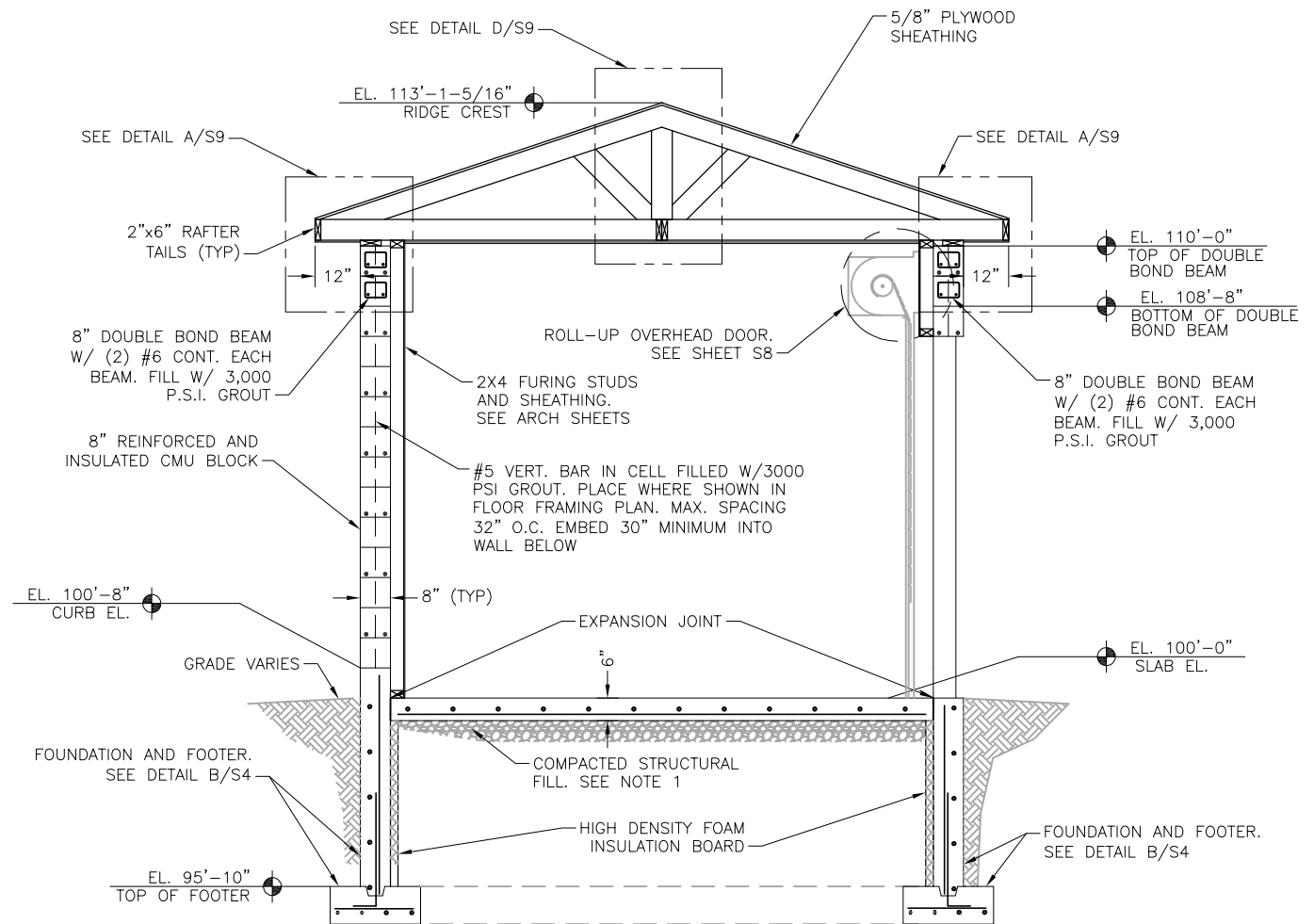
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B
S5 BUILDING SECTION
SCALE: 1/4"=1'-0"



1
S5 SUMP DETAIL
SCALE: 1/2"=1'-0"



C
S5 BUILDING SECTION
SCALE: 1/4"=1'-0"

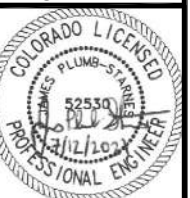
NOTES:

1. OVEREXCAVATE EXISTING SOILS BELOW FLOOR SLAB 1'-0" AND REPLACE WITH 9" OF STRUCTURAL FILL. STRUCTURAL FILL SHALL BE PLACED PER THE SOILS REPORT. ALSO PROVIDE ONE 3" LAYER OF 3/4" CRUSHED ROCK 6-MIL VAPOR RETARDER BETWEEN CRUSHED ROCK AND SLAB.
2. #9 GALVANIZED LADDER JOINT REINFORCEMENTS SHALL BE PROVIDED AT 16" O.C. WITHIN ALL REINFORCED MASONRY WALLS, MATERIALS, AND INSTALLATION TO CONFIRM WITH ACI 531, LATEST VERSION.
3. LAP SPLICES AND DEVELOPMENT LENGTHS SHALL BE PER PROVIDED PER SHEET S6.
4. SEE SHEET S1 FOR COVER REQUIREMENTS, MASONRY REQUIREMENTS, AND DEVELOPMENT LENGTHS.
5. ALL CMU WALLS SHALL BE 8" NOMINAL SPLIT-FACED, REINFORCED, AND INSULATED PER SPECIFICATIONS.
6. ELEVATION 100'-0" IS EQUAL TO 5700.75'. SEE CIVIL SHEETS FOR VERIFICATION.

AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
STRUCTURAL SECTIONS

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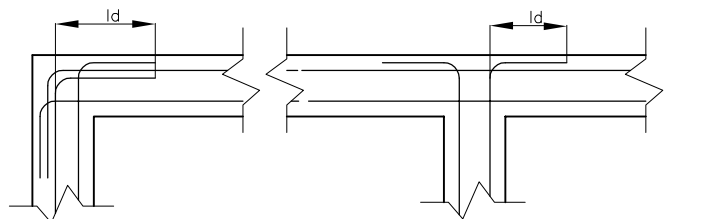
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S5

SPLICE AND DEVELOPMENT LENGTHS

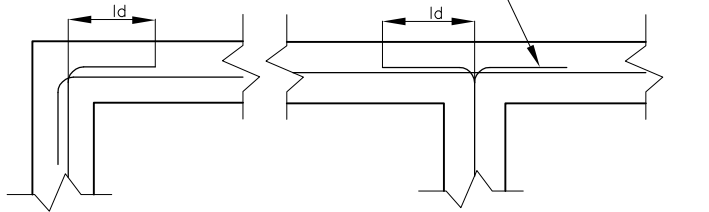
	BEAMS AND COLUMNS					WALLS AND SLABS				
	LENGTH OF LAPPED SPLICES FOR REINF. (INCHES)		LENGTH OF END ANCHORAGE FOR DEVELOPMENT OF REINFORCEMENT (INCHES)			LENGTH OF LAPPED SPLICES FOR REINF. (INCHES)		LENGTH OF END ANCHORAGE FOR DEVELOPMENT OF REINFORCEMENT (INCHES)		
	¹ HOR. BARS	² OTHERS	¹ HOR. BARS	² OTHERS	HOOKS	¹ HOR. BARS	² OTHERS	¹ HOR. BARS	² OTHERS	HOOKS
3	21	16	16	13	6	21	16	16	13	6
4	28	22	22	17	8	28	22	22	17	8
5	35	27	27	21	10	35	27	27	21	10
6	46	36	32	25	12	42	32	32	25	12
7	63	48	38	29	14	63	48	48	37	14
8	82	63	45	35	16	117	90	63	49	16
9	104	80	57	44	18	149	114	80	62	18
10	132	102	73	56	20	189	145	102	78	20
11	152	125	89	69	22	232	178	178	137	22
12	—	—	122	94	38	—	—	243	187	38
13	—	—	178	137	50	—	—	356	274	50

- NOTES:
- HORIZONTAL BARS IN THIS COLUMN MUST HAVE A MINIMUM OF 12" OF CONCRETE THICKNESS BELOW THE BAR. HORIZONTAL BARS IN WALLS ARE ALSO SUBJECT TO THESE STANDARDS.
 - VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAN 12" OF CONCRETE THICKNESS BELOW THE BAR CAN BE CONSIDERED AS "OTHER BARS".
 - STRAIGHT BARS SIZE 7 THROUGH 11 PLACED WITH NO LESS THEN 5 BAR DIAMETER CLEAR SPACING MAY HAVE A DEVELOPMENT LENGTH AND LAP SPLICE LENGTH OF 0.8 TIMES THE LENGTH SHOWN.



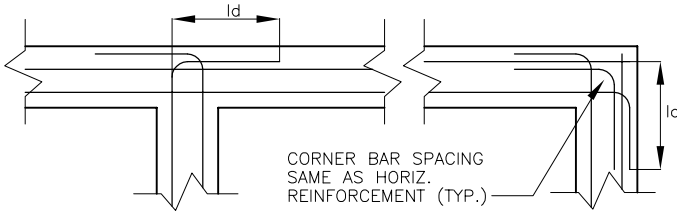
CORNER

INTERSECTION



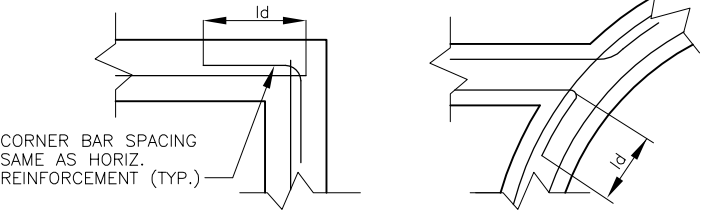
CORNER

INTERSECTION



INTERSECTION

CORNER (OPTIONAL)

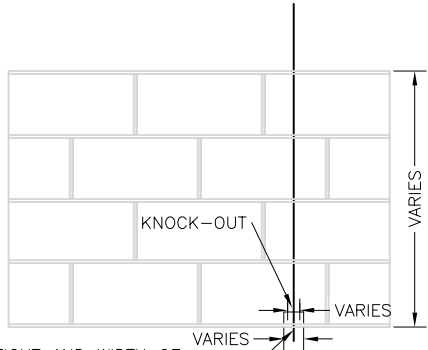


CORNER (OPTIONAL)

CURVED WALL INTERSECTION

A
S6 CONCRETE WALL REINFORCEMENT
SCALE : N.T.S.

- NOTES:
- ALL BENDS SHALL BE 90° HOOKS UNLESS OTHERWISE SPECIFIED IN DRAWING.
 - ID=BAR LAP SPLICE SHALL MEET ACI 318 REQUIREMENTS.

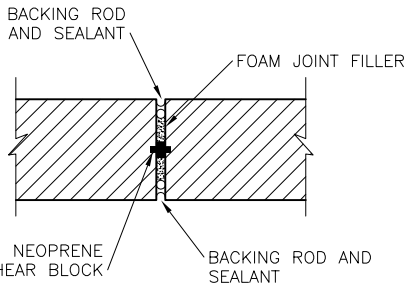


THE HEIGHT AND WIDTH OF THE KNOCK-OUT WILL VARY DEPENDING ON GROUT AGGREGATE, SLUMP AND CONSOLIDATION PROCEDURE

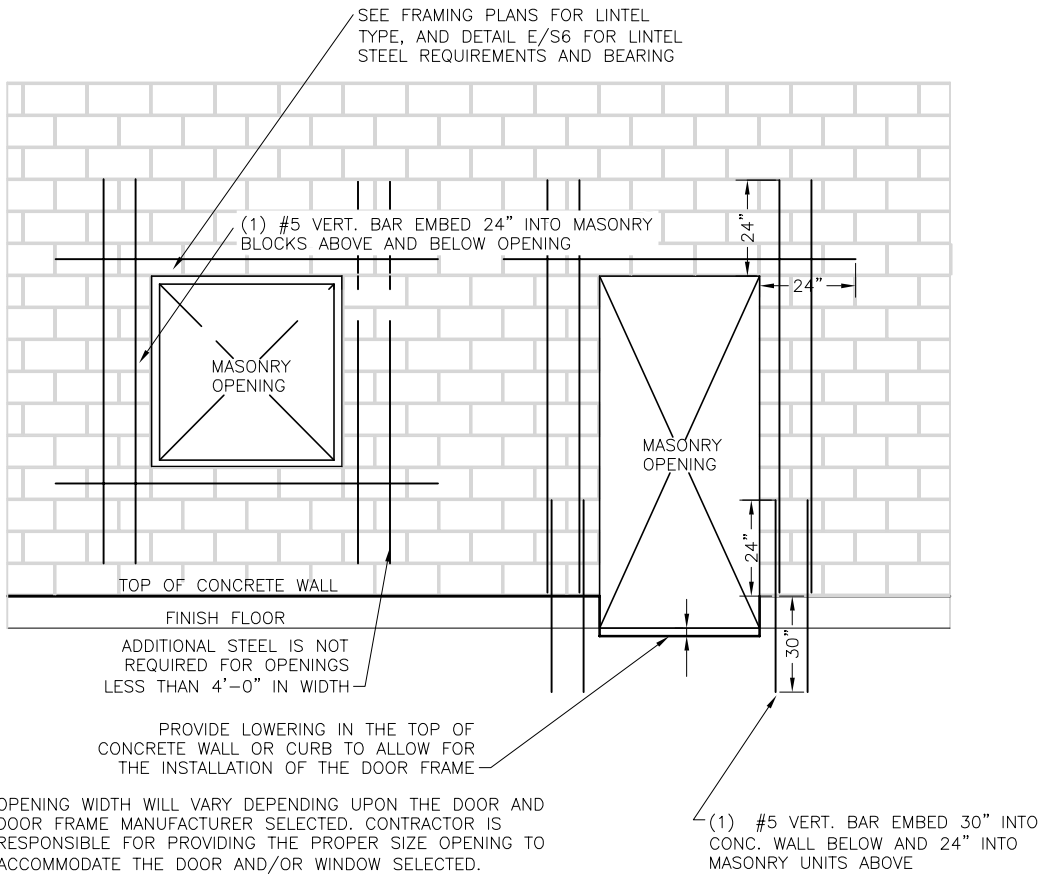
TAPER KNOCK-OUT SO THAT IT CAN BE REMOVED FROM GROUTED CELL AND WHEN REPLACED WILL STAY IN PLACE WITHOUT SUPPORT

- NOTES:
- THE CONTRACTOR MAY SUBMIT ALTERNATIVE GROUTED CELL DRAIN.
 - REMOVE KNOCK-OUT DURING CONSOLIDATION.
 - INSTALL KNOCK-OUT PRIOR TO FINAL SET OF GROUT.

B
S6 GROUTED CELL DRAIN
SCALE: N.T.S.

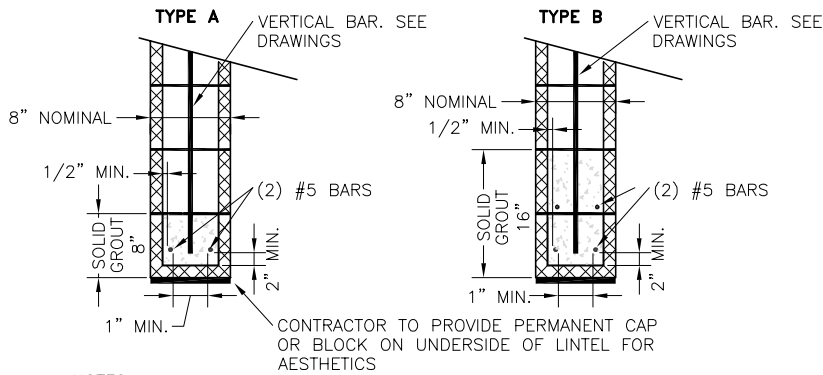


C
S6 MASONRY CONTROL JOINT
SCALE: N.T.S.



- NOTE:
- OPENING WIDTH WILL VARY DEPENDING UPON THE DOOR AND DOOR FRAME MANUFACTURER SELECTED. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE PROPER SIZE OPENING TO ACCOMMODATE THE DOOR AND/OR WINDOW SELECTED.

D
S6 TYPICAL CONCRETE BLOCK MASONRY REINFORCEMENT AT OPENINGS
SCALE: N.T.S.



- NOTES:
- REFER TO DRAWINGS FOR TYPE OF LINTEL SPECIFIED FOR OPENING.
 - PROVIDE A MINIMUM 8" OF BEARING ON EACH END OF LINTEL.
 - WHERE LINTEL AND BOND BEAM ARE AT THE SAME ELEVATION PROVIDE THE MAXIMUM STEEL CALLED OUT IN THE LINTEL OR IN THE BOND BEAM.
 - MINIMUM GROUT COMPRESSIVE STRENGTH 3000 P.S.I.
 - EXPOSED LINTELS ARE TO BE COATED.

E
S6 MASONRY LINTELS
SCALE: N.T.S.

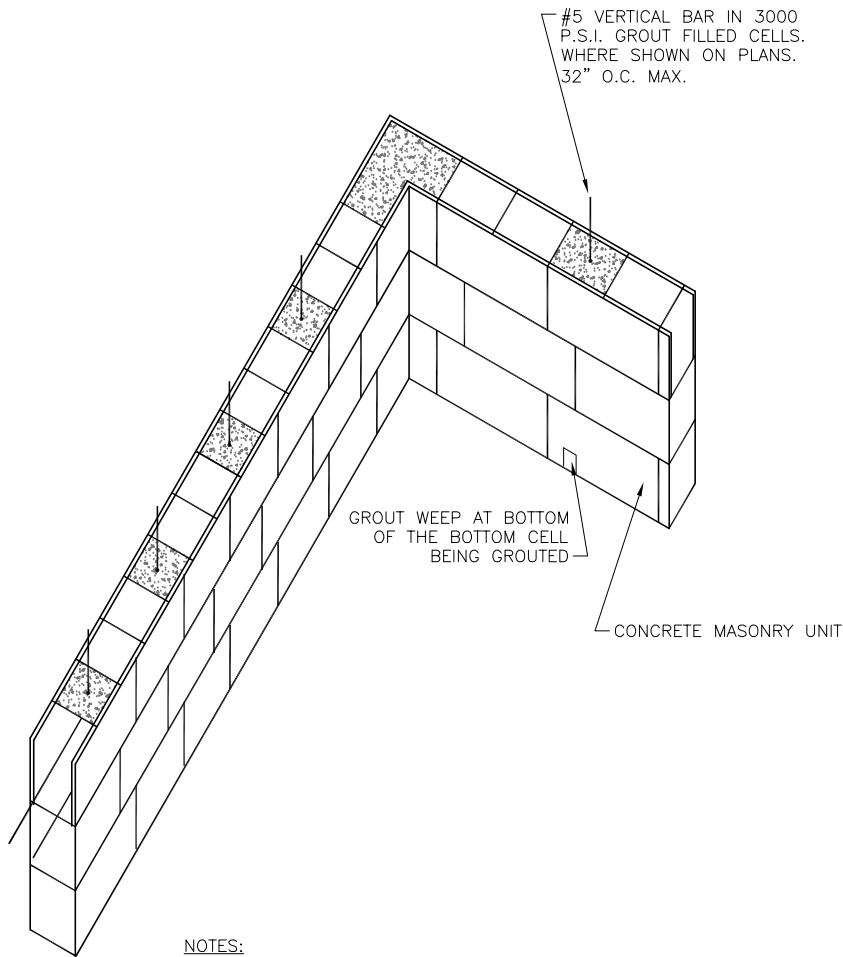
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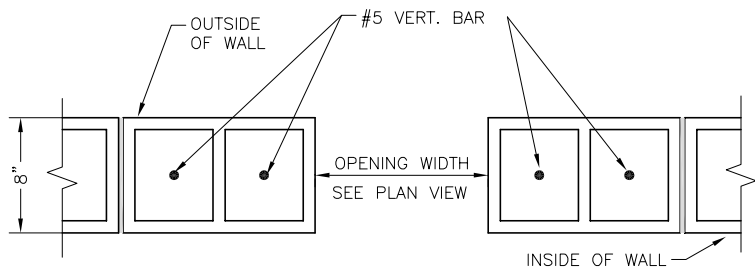
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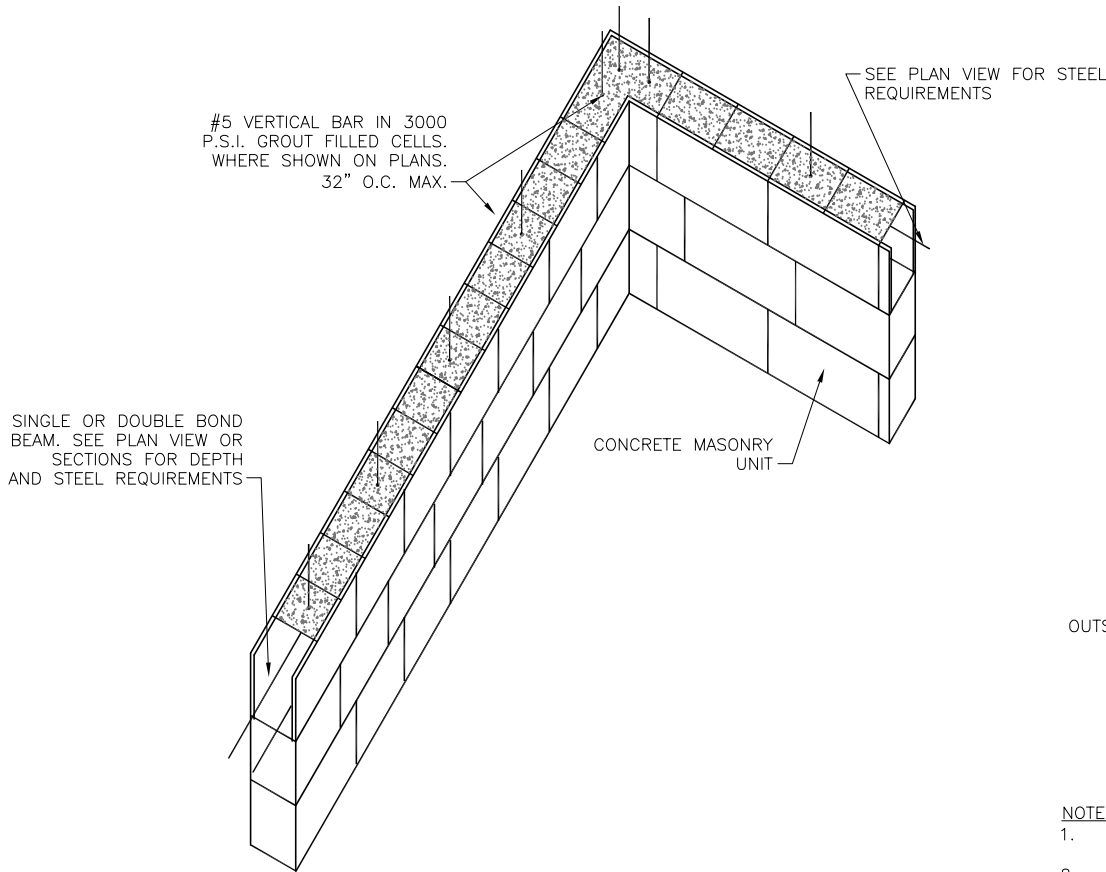
- NOTES:
1. ALL CELLS THAT ARE NOT GROUTED SHALL BE FILLED WITH PERLITE TO PRODUCE A MINIMUM R VALUE OF 9.
 2. PROVIDE A MINIMUM OF 24" LAP ON ALL BARS.
 3. INSERT ALL VERTICAL BARS A MINIMUM OF 30" INTO THE PRIMARY CONCRETE WALL BELOW.
 4. PROVIDE STANDARD CLASS LADDER TYPE DUR-O-WALL JOINT REINFORCEMENT, INCLUDE PREFAB CORNERS AND TEE SECTIONS. PLACE IN ALTERNATE COURSES VERTICALLY AND LAP SPLICES 6".

A
S7 **INTERSECTION SHEAR WALL**
UNBONDED INTERSECTION
SCALE: N.T.S.



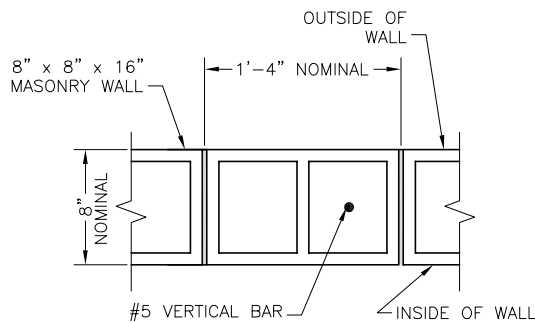
- NOTES:
1. EMBED DOWELS 30" INTO PRIMARY CONCRETE WALL BELOW FOR ALL VERTICAL BARS. LAP VERTICAL BARS MINIMUM 24".
 2. VERTICAL BAR TO BE LOCATED IN CENTER OF GROUTED OPENING. RETAIN IN POSITION USING DUR-O-WALL BAR POSITIONER OR EQUAL.
 3. PROVIDE CLEANOUTS AT BOTTOM OF ALL GROUTED CELLS.
 4. FILL ALL CELLS WITH 3,000 PSI GROUT.

D
S7 **VERTICAL REINFORCED MASONRY CELL**
AT DOORWAY/WINDOW
SCALE: N.T.S.



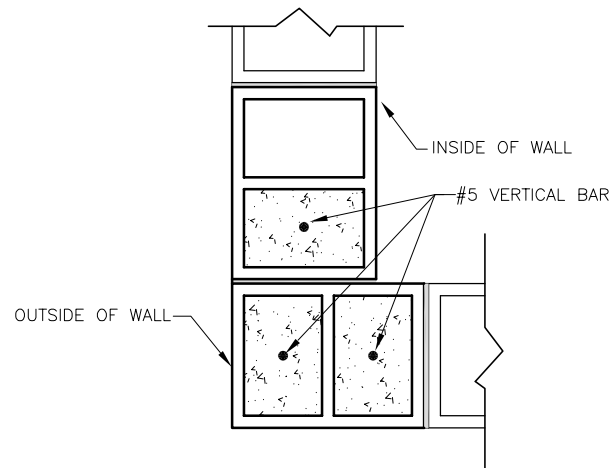
- NOTES:
1. ALL CELLS THAT ARE NOT GROUTED SHALL BE FILLED WITH PERLITE TO PRODUCE A MINIMUM R VALUE OF 9.
 2. PROVIDE A MINIMUM OF 24" LAP ON ALL BARS.

B
S7 **INTERSECTING SHEAR WALLS**
BONDED INTERSECTION
SCALE: N.T.S.



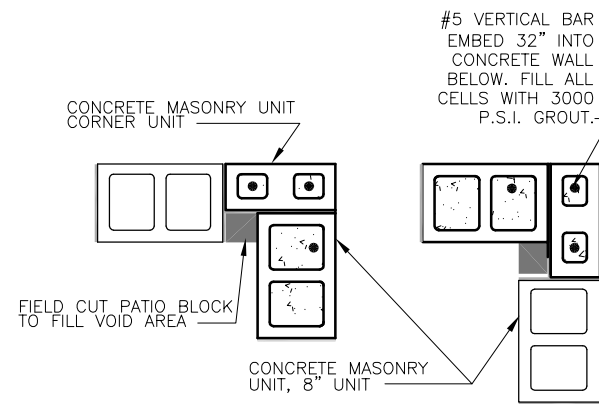
- NOTES:
1. EMBED DOWELS 30" INTO PRIMARY CONCRETE WALL BELOW FOR ALL VERTICAL BARS. LAP VERTICAL BARS MINIMUM 24".
 2. VERTICAL BAR TO BE LOCATED IN CENTER OF GROUTED OPENING. RETAIN IN POSITION USING DUR-O-WALL BAR POSITIONER OR EQUAL.
 3. PROVIDE CLEANOUTS AT BOTTOM OF ALL GROUTED CELLS.
 4. MAXIMUM SPACING BETWEEN REINFORCED CELLS 24" O.C.
 5. FILL ALL CELLS WITH 3,000 PSI GROUT.

E
S7 **VERTICAL REINFORCED MASONRY CELL**
SCALE: N.T.S.



- NOTES:
1. EMBED DOWELS 30" INTO CONCRETE WALL BELOW FOR ALL VERTICAL BARS. LAP VERTICAL BARS MINIMUM 24".
 2. VERTICAL BAR TO BE LOCATED IN CENTER OF GROUTED OPENING. RETAIN IN POSITION USING DUR-O-WALL BAR POSITIONER OR EQUAL.
 3. PROVIDE CLEANOUTS AT BOTTOM OF ALL GROUTED CELLS.

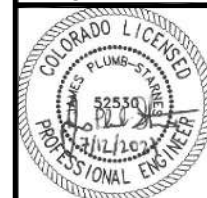
C
S7 **VERTICAL REINFORCED MASONRY CELL**
AT CORNER
SCALE: N.T.S.



F
S7 **CMU CORNER DETAILS FOR 10" AND 12" CMU**
SCALE: N.T.S.

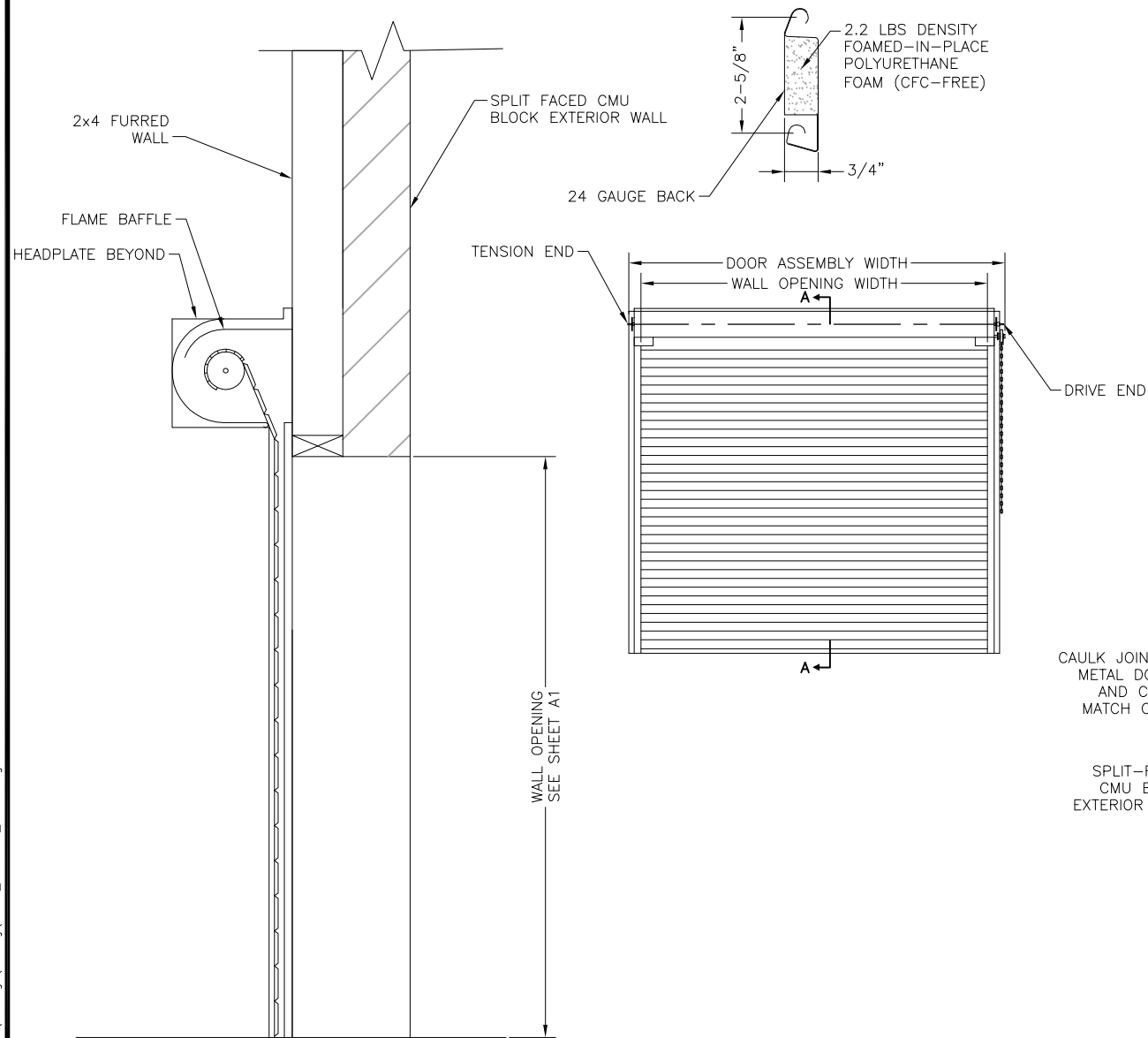
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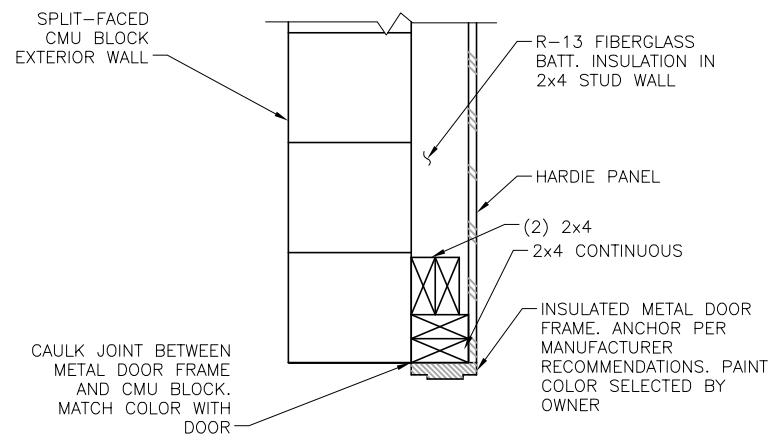
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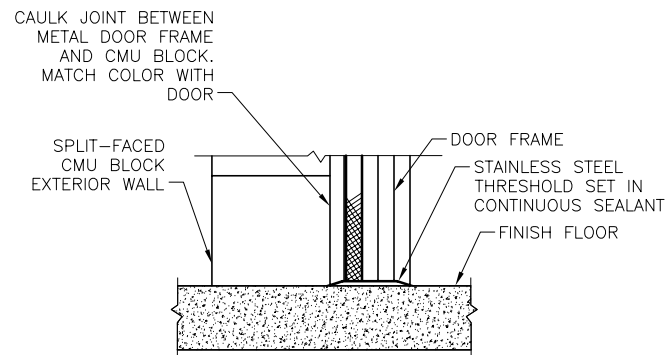


SECTION A-A

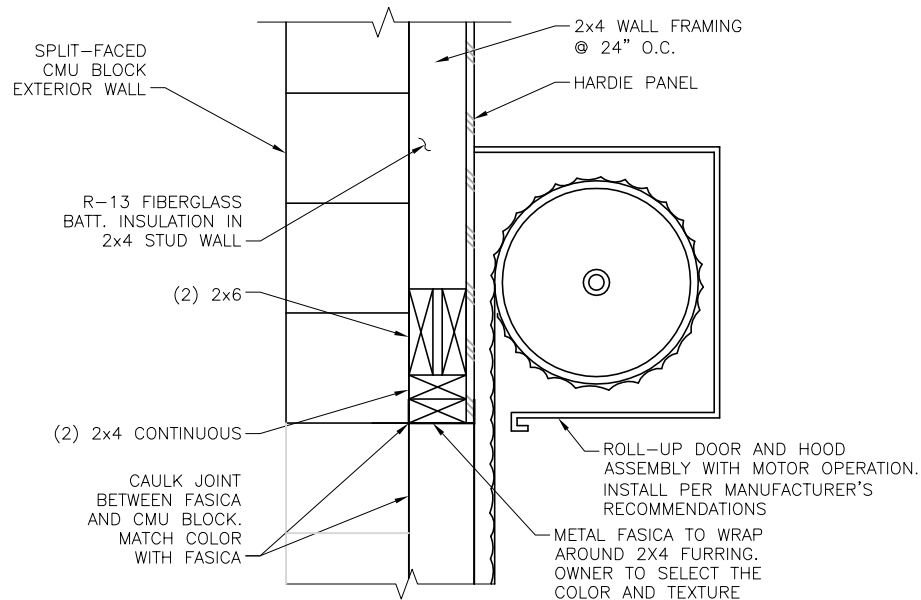
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S8 **ROLL-UP DOOR**
SCALE: N.T.S.



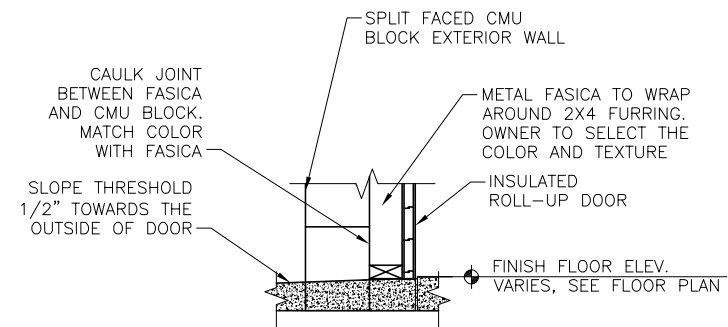
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S8 **DOOR FRAME AT HEADER**
SCALE: N.T.S.



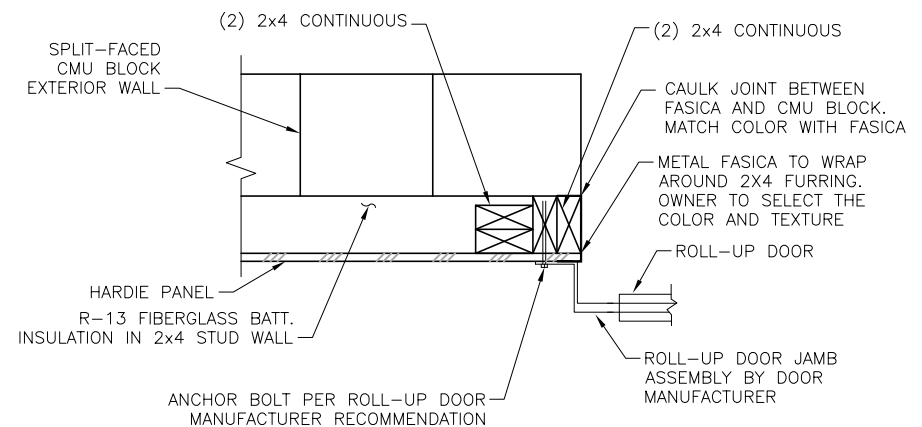
C
S8 **DOOR AT THRESHOLD**
SCALE: N.T.S.



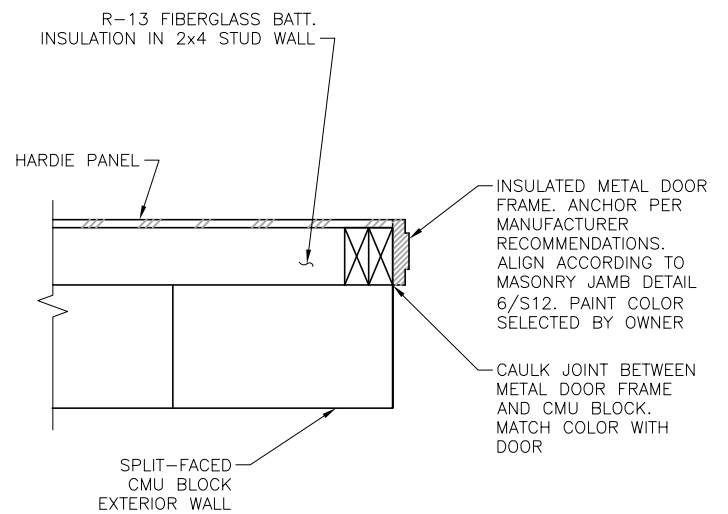
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S8 **ROLL-UP DOOR FRAME AT HEADER**
SCALE: N.T.S.



B
S8 **ROLL-UP DOOR AT THRESHOLD**
SCALE: N.T.S.



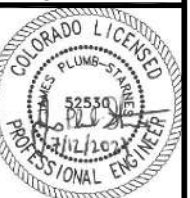
D
S8 **ROLL-UP DOOR FRAME AT WOODEN JAMB**
SCALE: N.T.S.



G
S8 **DOOR FRAME AT WOODEN JAMB**
SCALE: N.T.S.

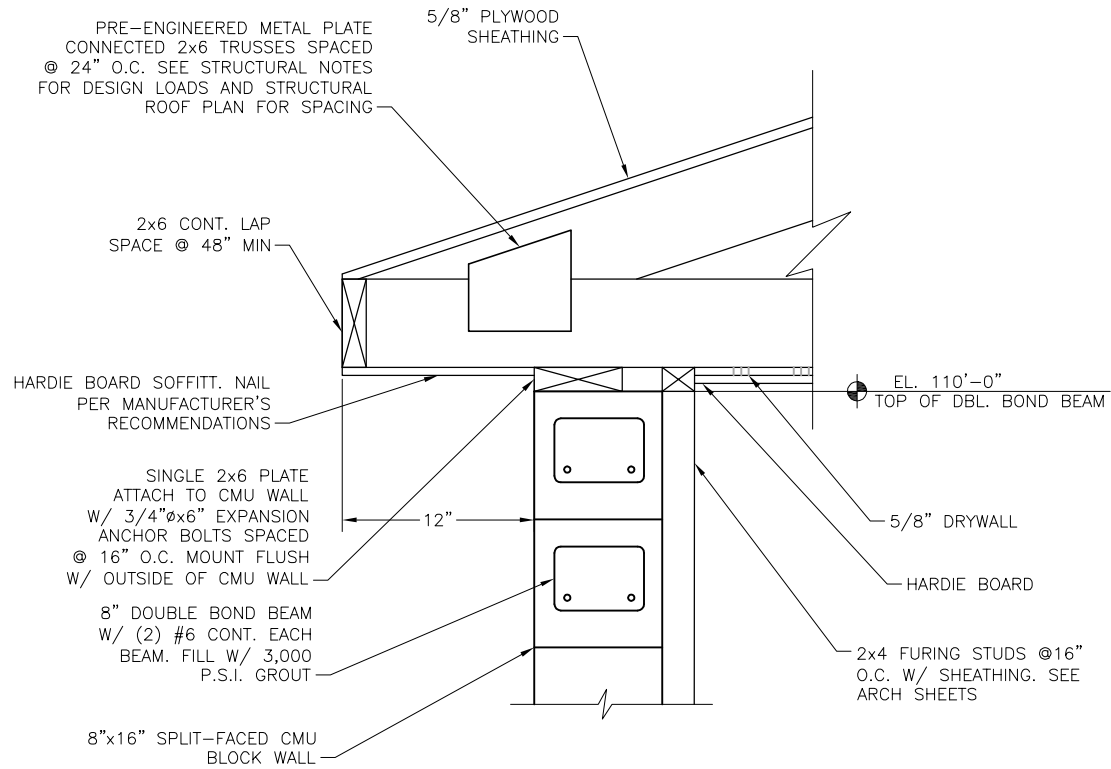
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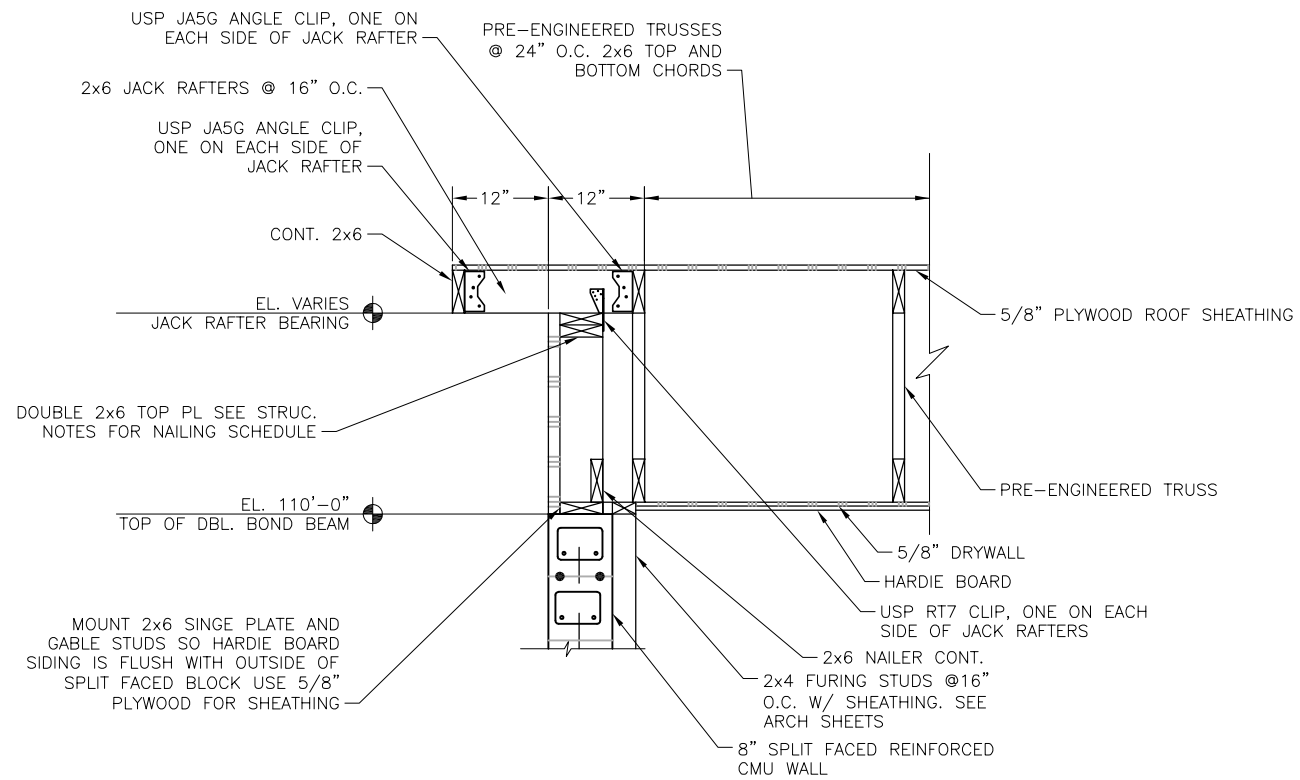


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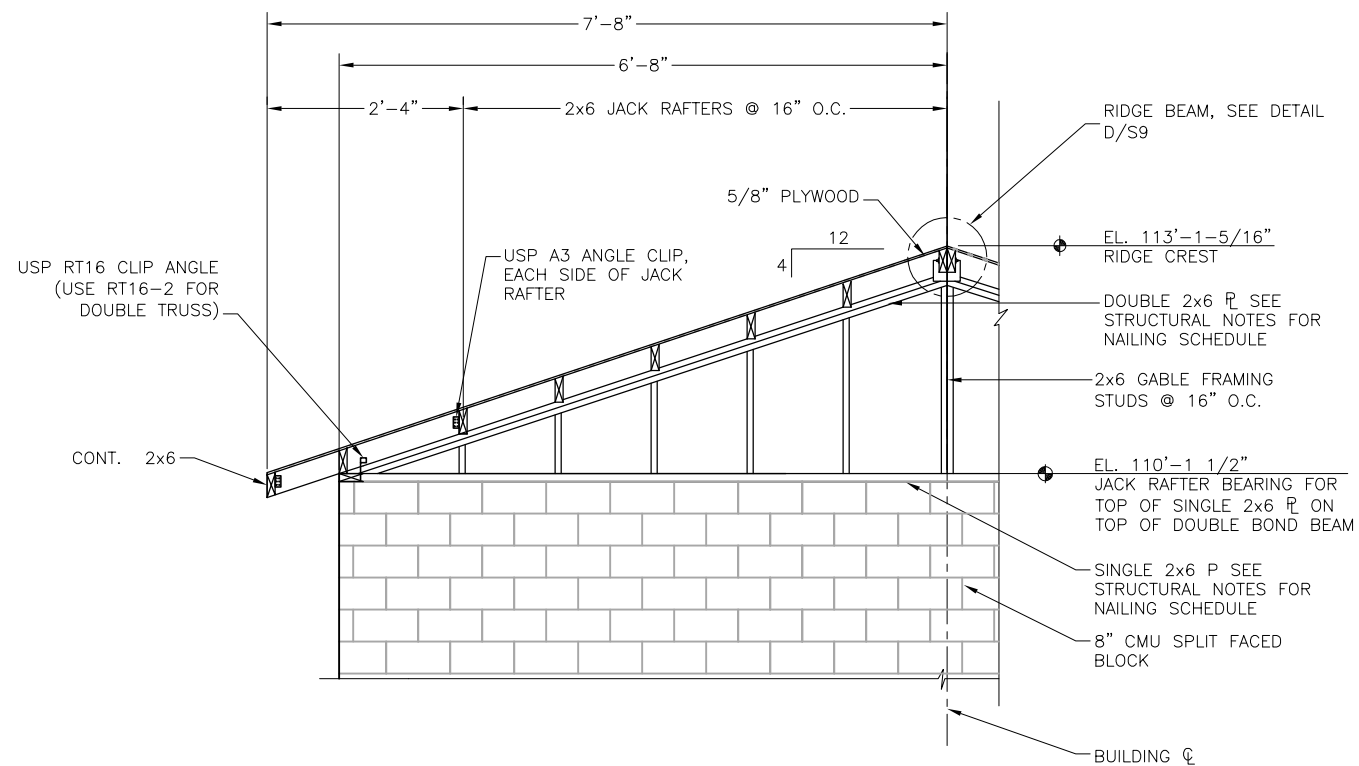
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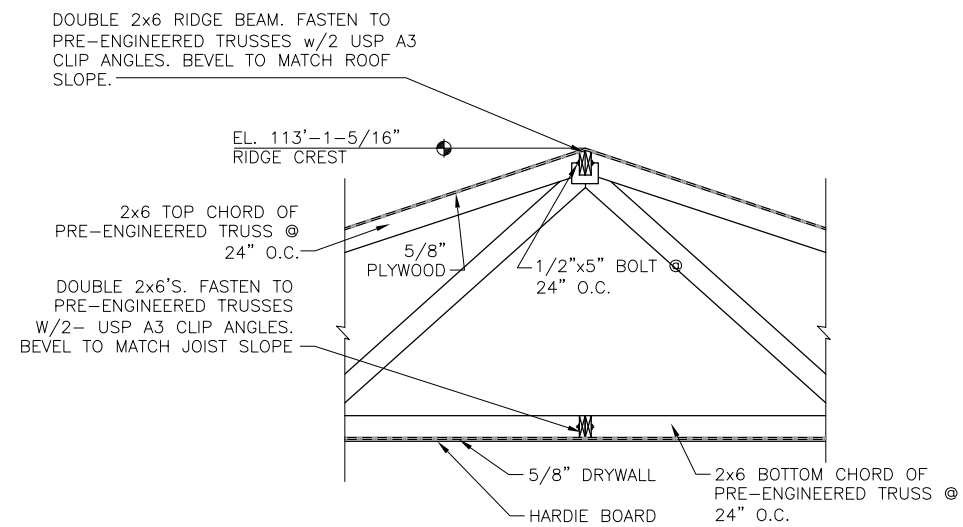
A TYPICAL TRUSS BEARING W/ OVERHANG
S9 SCALE: N.T.S.



B TYPICAL JACK RAFTER DETAIL
S9 SCALE: N.T.S.



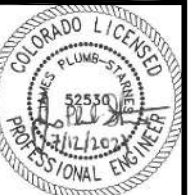
C TYPICAL JACK RAFTER AT GABLE DETAIL
S9 SCALE: N.T.S.



D TYPICAL RIDGE BEAM DETAIL
S9 SCALE: N.T.S.

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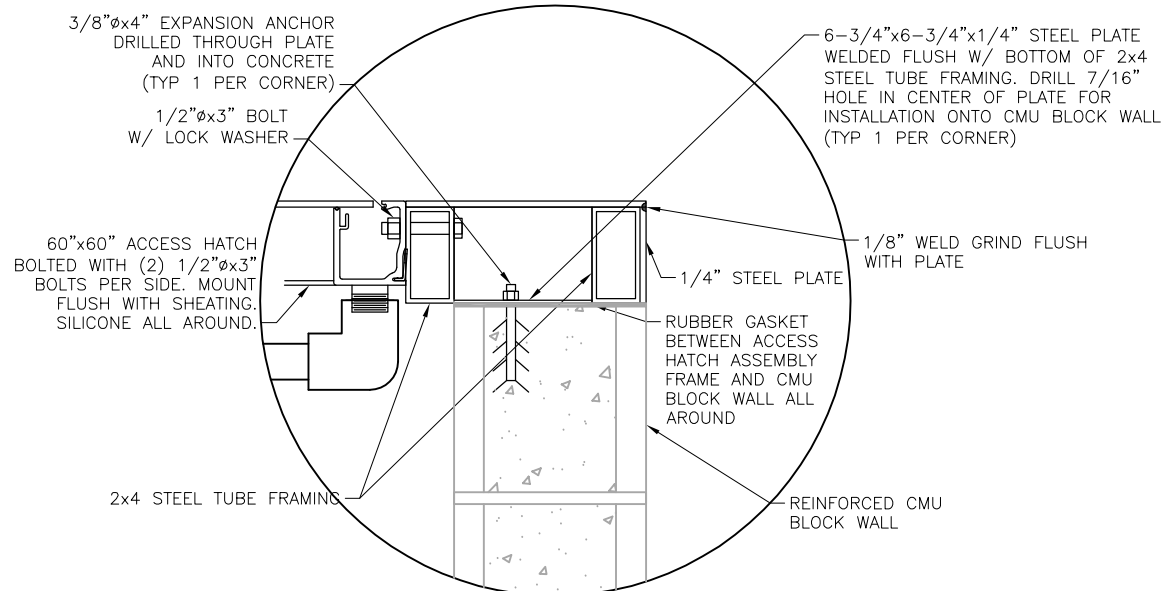
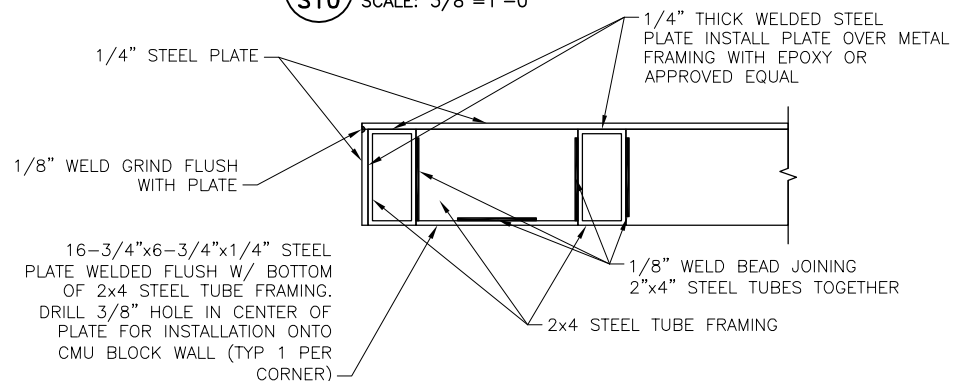
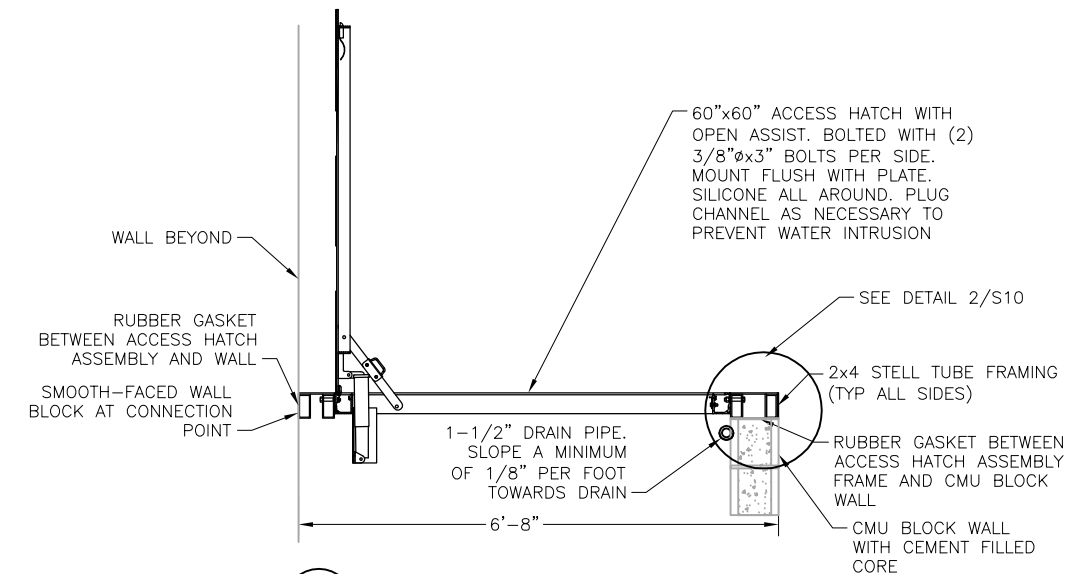
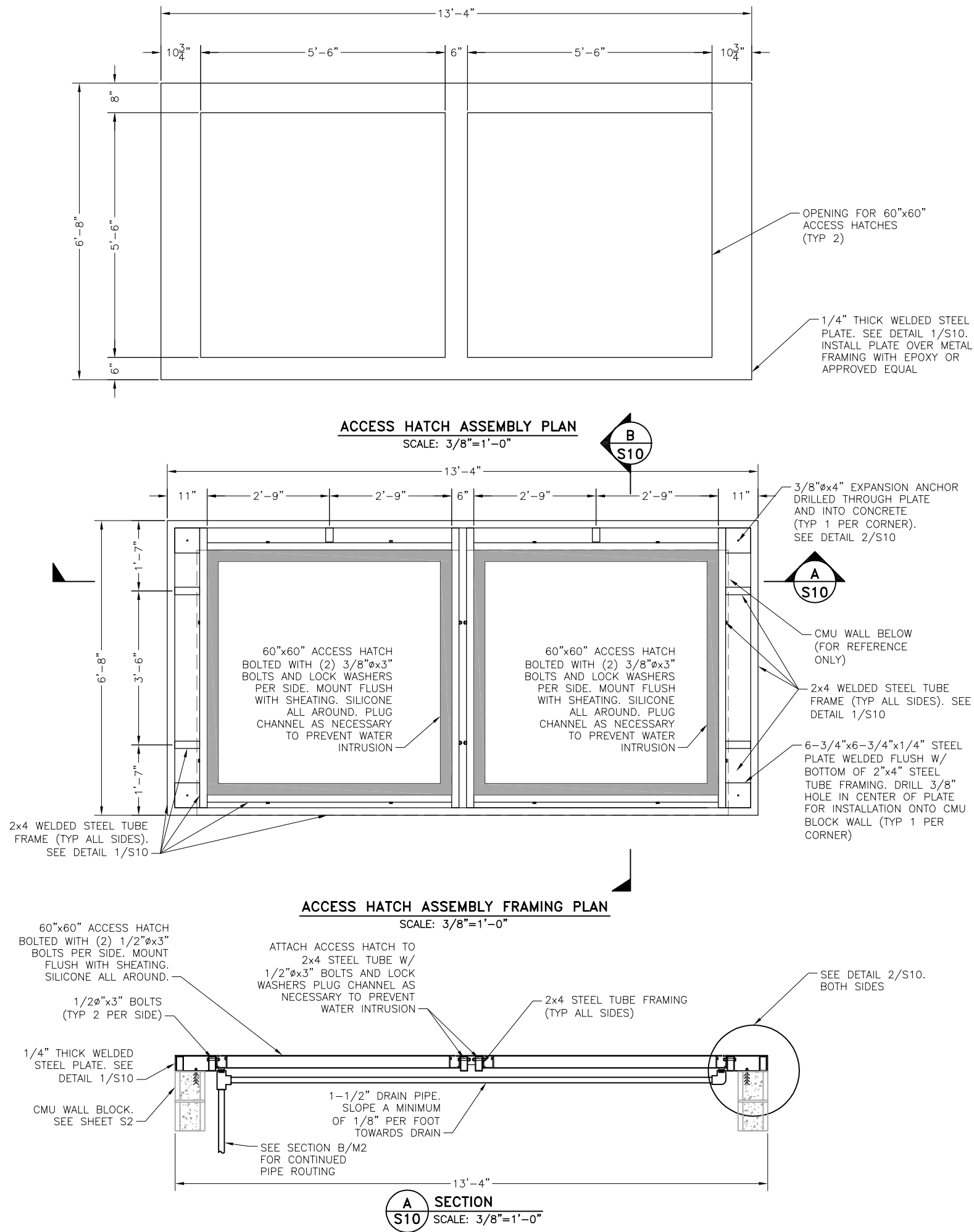
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- NOTES:
- CONTRACTOR MAY PROPOSE AN ALTERNATE FRAMING PLAN TO BE REVIEWED AND CONSIDERED UPON BY ENGINEER.
 - CONTRACTOR TO APPLY SILICONE SEALANT TO ALL GASKETED AREAS.
 - ALL BOLTS ARE TO BE SS316.
 - ACCESS HATCH ASSEMBLY MAY BE MADE FROM ALUMINUM OR STAINLESS STEEL COATED STEEL AFTER ASSEMBLY.

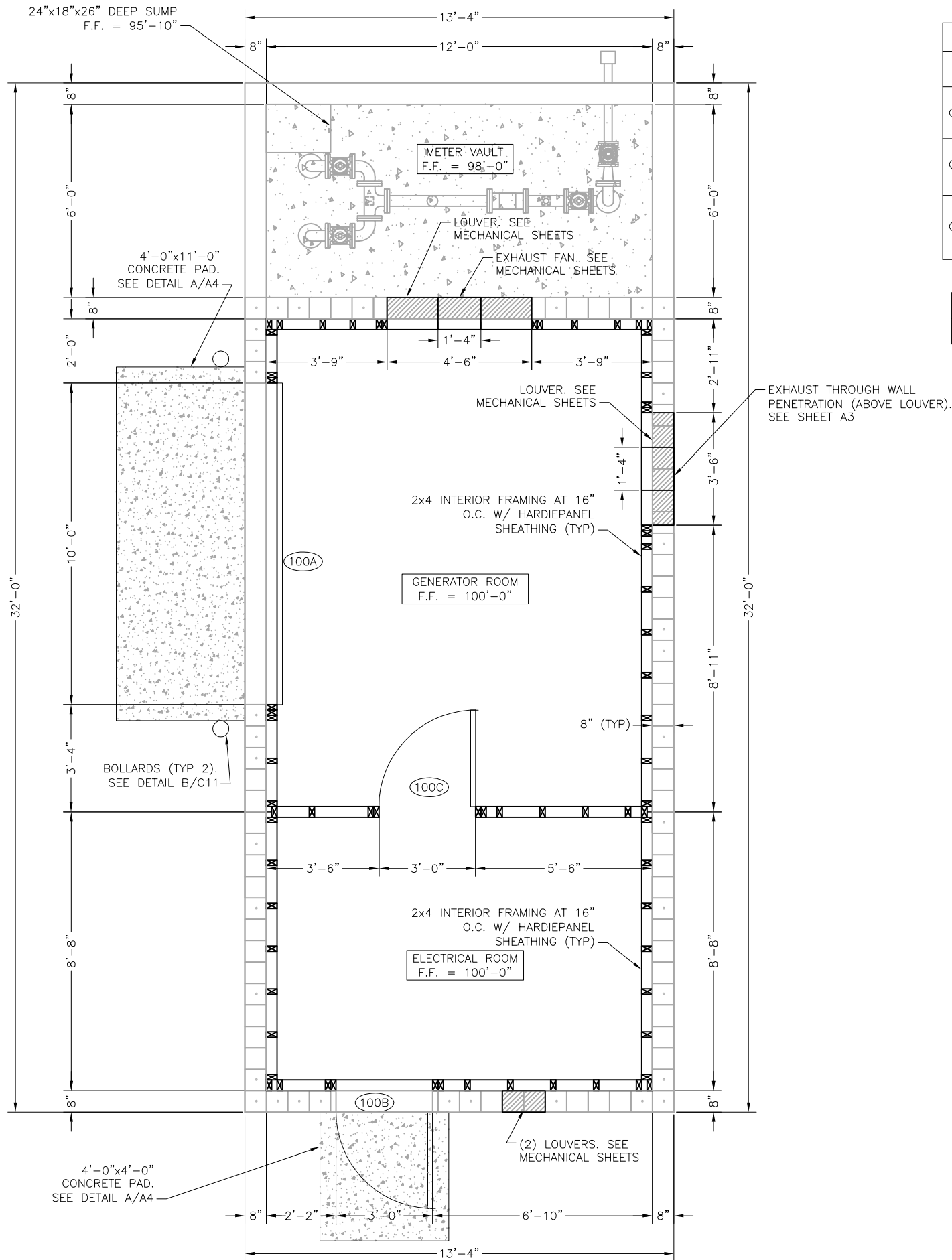
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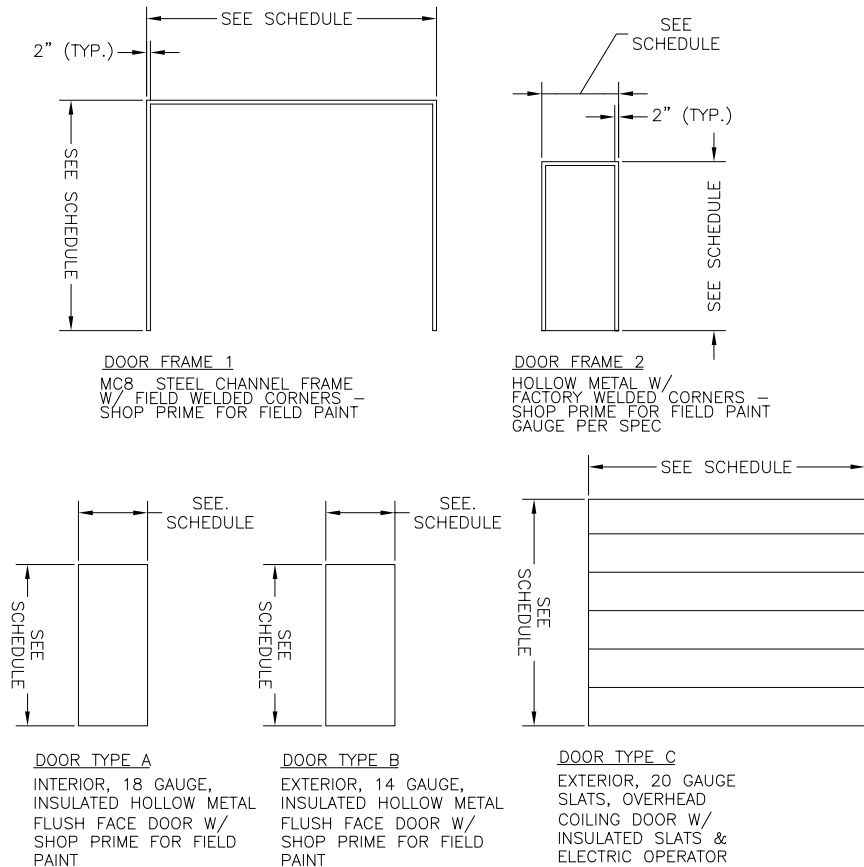


ARCHITECTURAL FLOOR PLAN
SCALE: 1/4"=1'-0"

DOOR/WINDOW SCHEDULE									
PLAN MARK	SIZE (Width x Height)	DOOR			FRAME			*GLAZING TYPE	REMARKS
		TYPE	MAT'L.	FINISH	TYPE	MAT'L.	FINISH		
100A	10'-0" x 8'-0"	C	STL.	PAINT	1	STL.	PAINT		<ul style="list-style-type: none">18" HOOD HEIGHT. INTERIOR, FACE-OF-WALL MOUNT.HARDWARE PER MANUFACTURERMOTOR OPERATED
100B	3'-0" x 7'-0"	B	H.M.	PAINT	2	H.M.	PAINT	A	<ul style="list-style-type: none">EXTERIORHOLD BACK TAMPER RESISTANT HINGESLATCH SHIELD12"x12" OBSERVATION WINDOW
100C	3'-0" x 7'-0"	A	H.M.	PAINT	2	H.M.	PAINT		<ul style="list-style-type: none">INTERIORLOUVERED (26-1/8"x26-1/4" OR APPROVED EQUAL)SEE MECHANICAL SHEETS

*GLAZING LEGEND	
A	INSULATED, LAMINATED, LOW-E

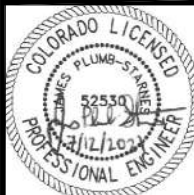
- NOTES:
- OWNER TO SELECT PAINT COLOR FOR ALL PAINTED SURFACES INCLUDING DOORS, TRIM, AND EXTERIOR MATERIALS. SEE SPECS FOR FINISHES.
 - OWNER TO SELECT DOOR HARDWARE FINISH AND COLORS.
 - ALL INTERIOR DOOR AND FRAME PAINT TO MATCH EXTERIOR TRIM PAINT.
 - EXPOSED INTERIOR CONCRETE FLOOR SURFACES SHALL BE COATED WITH A PENETRATING CLEAR WATERPROOFING PER SPECIFICATIONS.
 - ROLL UP DOOR SLAT FINISHES TO BE FACTORY APPLIED POWDER COATING. DO NOT USE PAINTED STEEL.
 - ELEVATION 100'-0" IS EQUAL TO 5700.75'. SEE CIVIL SHEETS FOR VERIFICATION.
 - ALL INTERIOR HARDIEPANEL TO BE CAULKED AND PAINTED. DOORS AND EXTERIOR PENETRATIONS TO BE TRIMMED OUT AS NECESSARY INSIDE THE BUILDING AS WELL. SEE NOTE 1 FOR COLOR SELECTION.



A DOOR/WINDOW SCHEDULE/DETAILS
A1 SCALE: N.T.S.

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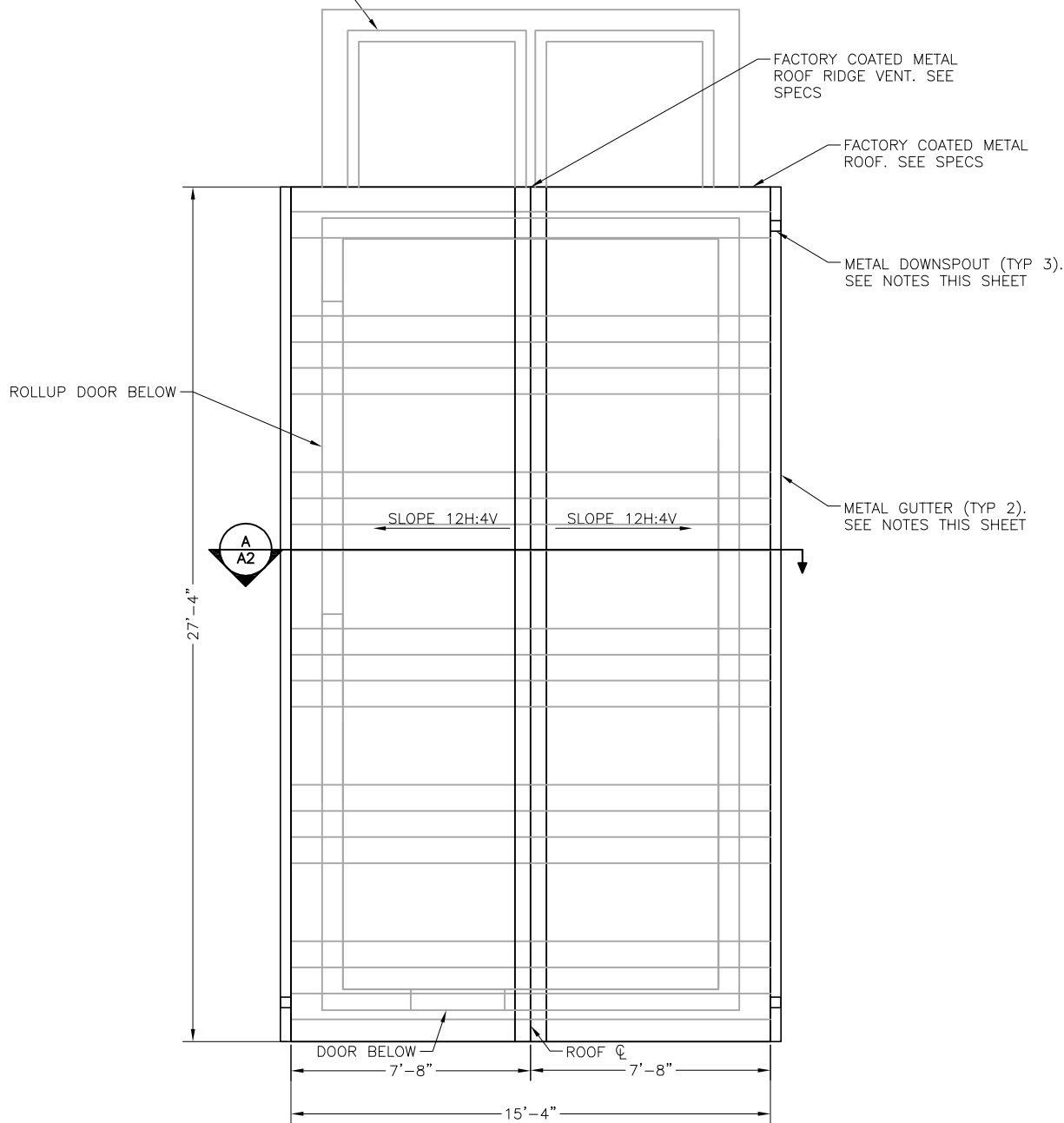
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(2) 60"x60" ACCESS HATCHES
BELOW ON A FABRICATED STEEL
TOP (SMOOTH FACE WALL BLOCK AT
VERTICAL CONNECTION POINT). SEE
SHEET S10

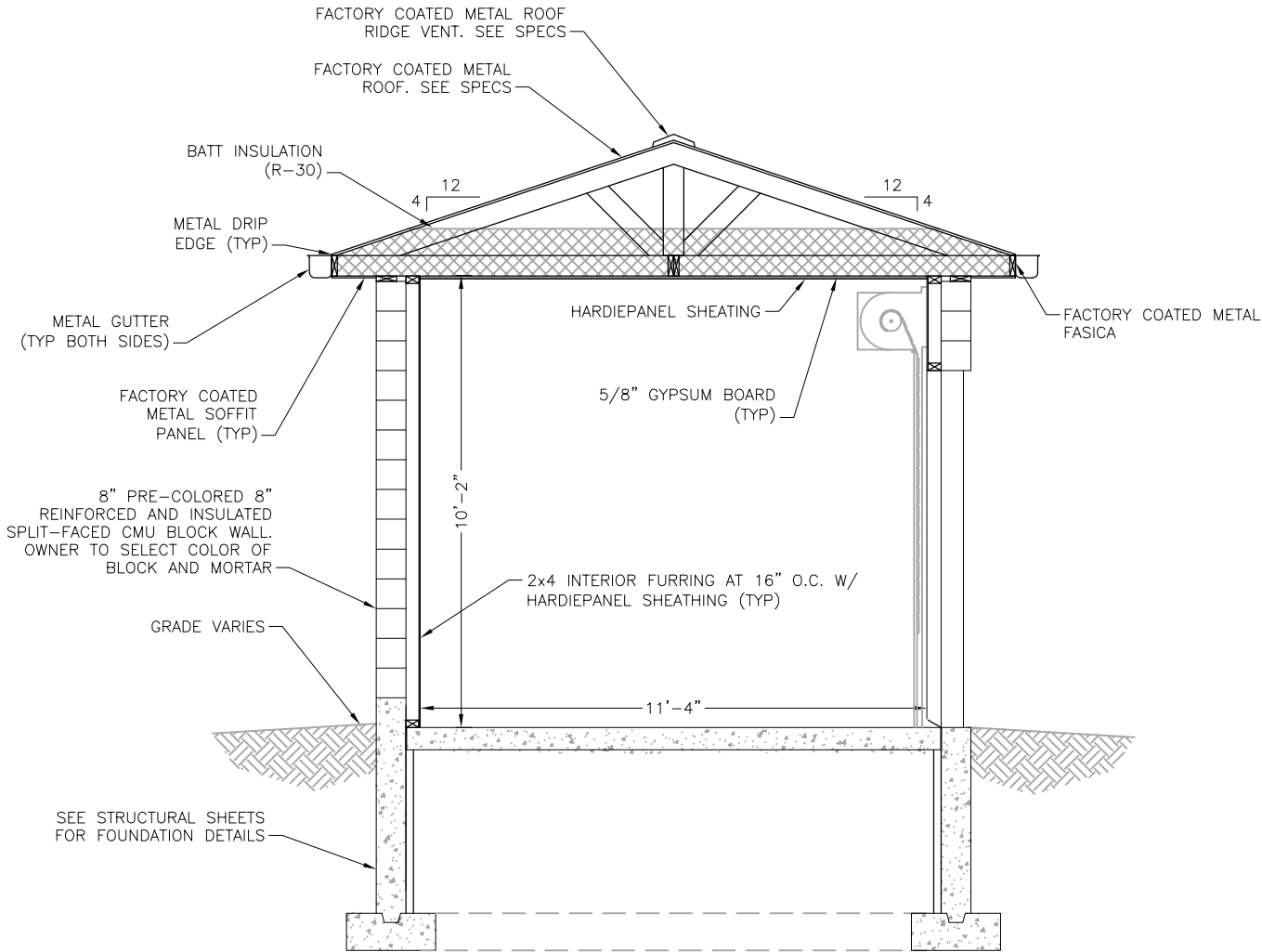


ARCHITECTURAL ROOF PLAN

SCALE: 3/16"=1'-0"

NOTES:

1. OWNER TO SELECT PAINT COLOR FOR ALL PAINTED SURFACES INCLUDING DOORS, TRIM, AND EXTERIOR MATERIALS. SEE SPECS FOR FINISHES.
2. OWNER TO SELECT DOOR HARDWARE FINISH AND COLORS.
3. ALL INTERIOR DOOR AND FRAME PAINT TO MATCH EXTERIOR TRIM PAINT.
4. EXPOSED INTERIOR CONCRETE FLOOR SURFACES SHALL BE COATED WITH A PENETRATING CONCRETE FLOOR SEALER PER SPECIFICATIONS.
5. CONTRACTOR TO VERIFY GENERATOR EXHAUST PENETRATION LOCATION/SIZE WITH GENERATOR MANUFACTURER AND ADJUST EXHAUST PENETRATION LOCATION/SIZE AS NEEDED.
6. SUBMIT SHOP DRAWINGS FOR GUTTERS AND DOWNSPOUTS FOR APPROVAL PRIOR TO FABRICATION.
7. ALL INTERIOR HARDIEPANEL TO BE CAULKED AND PAINTED. DOORS AND EXTERIOR PENETRATIONS TO BE TRIMMED OUT AS NECESSARY INSIDE THE BUILDING AS WELL. SEE NOTE 1 FOR COLOR SELECTION.



A SECTION
A2 SCALE: 1/4"=1'-0"

AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
ARCHITECTURAL ROOF PLAN AND SECTION

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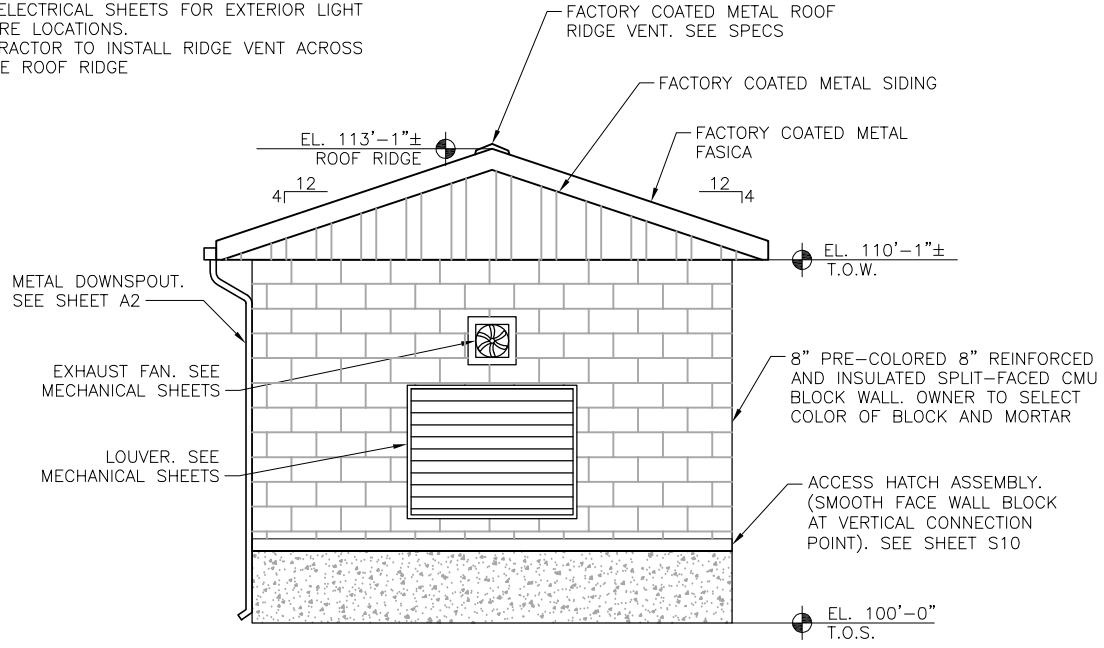


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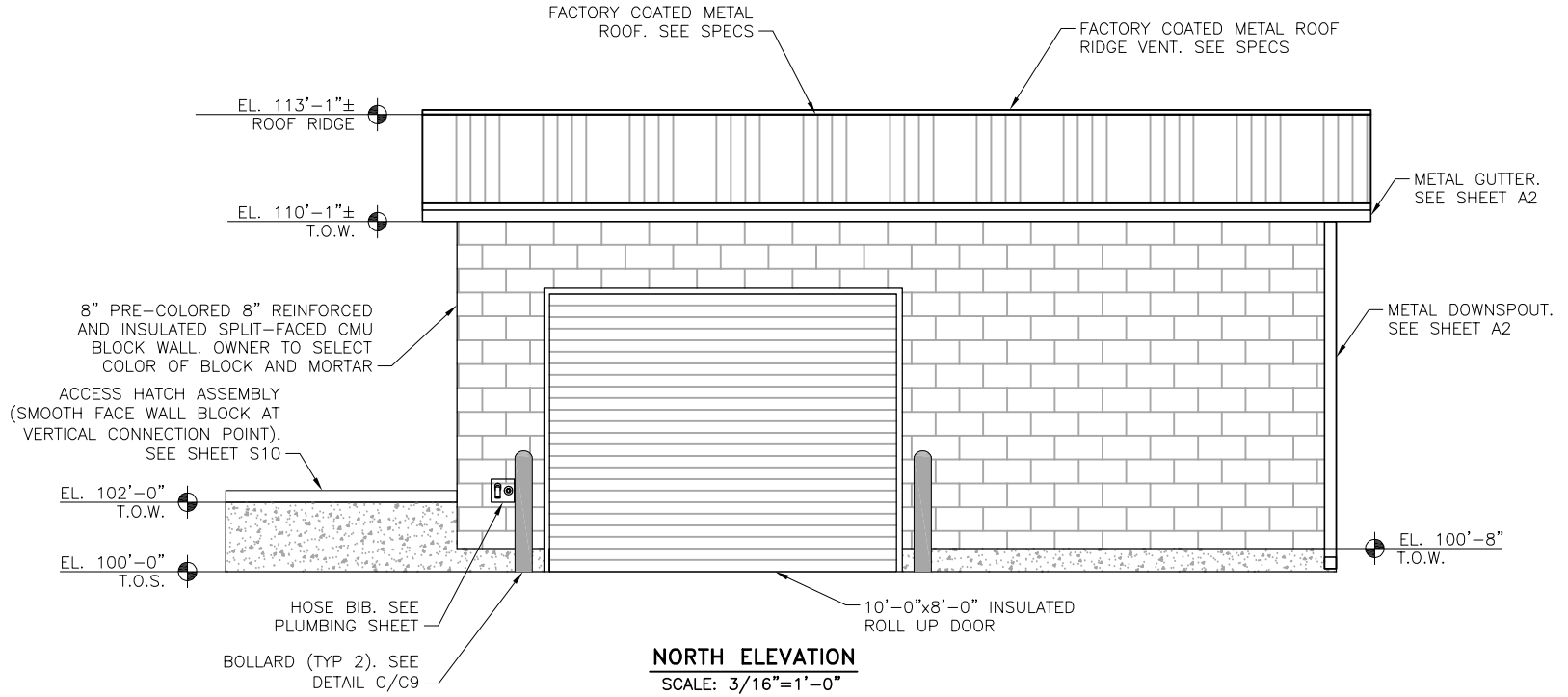
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NOTES:

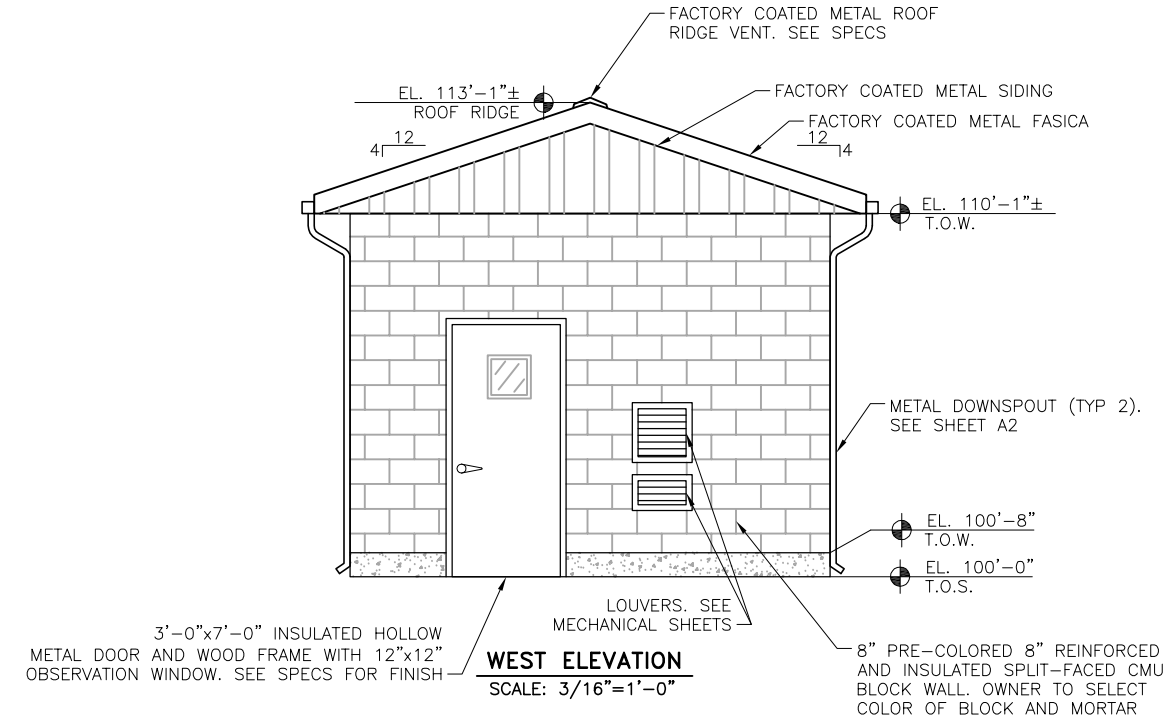
1. OWNER TO SELECT ALL PAINT COLORS. SEE SPECIFICATIONS FOR FINISHES. VERIFY COLOR WITH OWNER PRIOR TO FABRICATION.
2. SUBMIT SHOP DRAWINGS FOR GUTTERS AND DOWNSPOUTS FOR APPROVAL PRIOR TO FABRICATION.
3. SEE ELECTRICAL SHEETS FOR EXTERIOR LIGHT FIXTURE LOCATIONS.
4. CONTRACTOR TO INSTALL RIDGE VENT ACROSS ENTIRE ROOF RIDGE



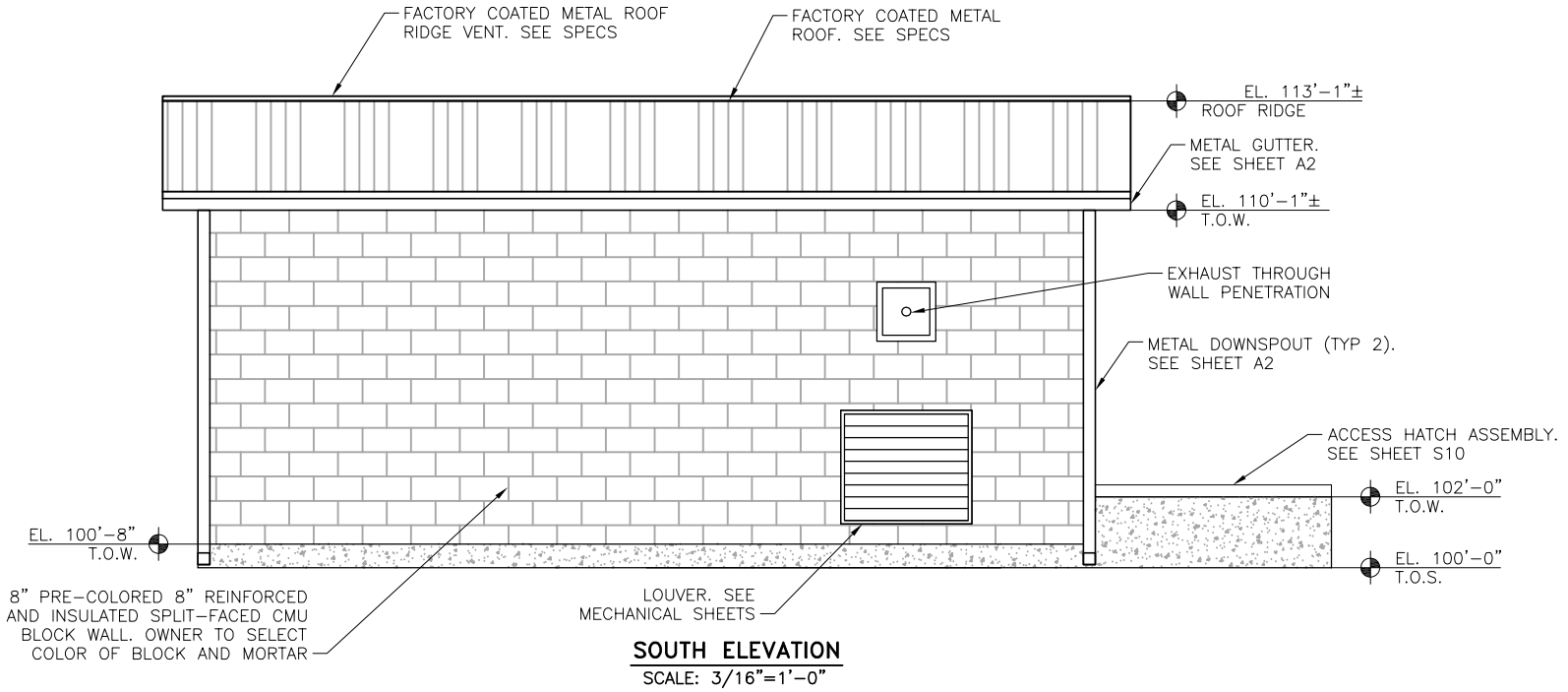
EAST ELEVATION
SCALE: 3/16"=1'-0"



NORTH ELEVATION
SCALE: 3/16"=1'-0"



WEST ELEVATION
SCALE: 3/16"=1'-0"



SOUTH ELEVATION
SCALE: 3/16"=1'-0"

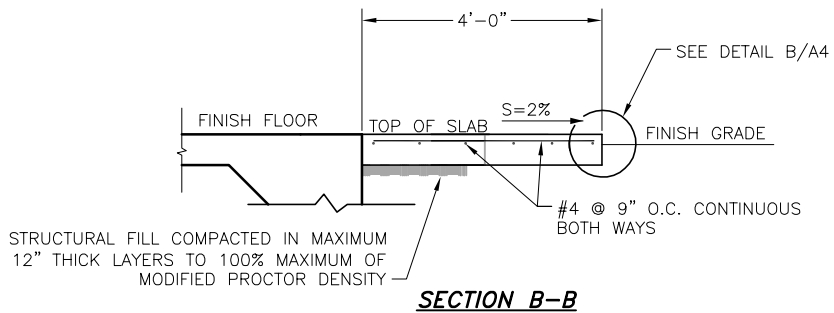
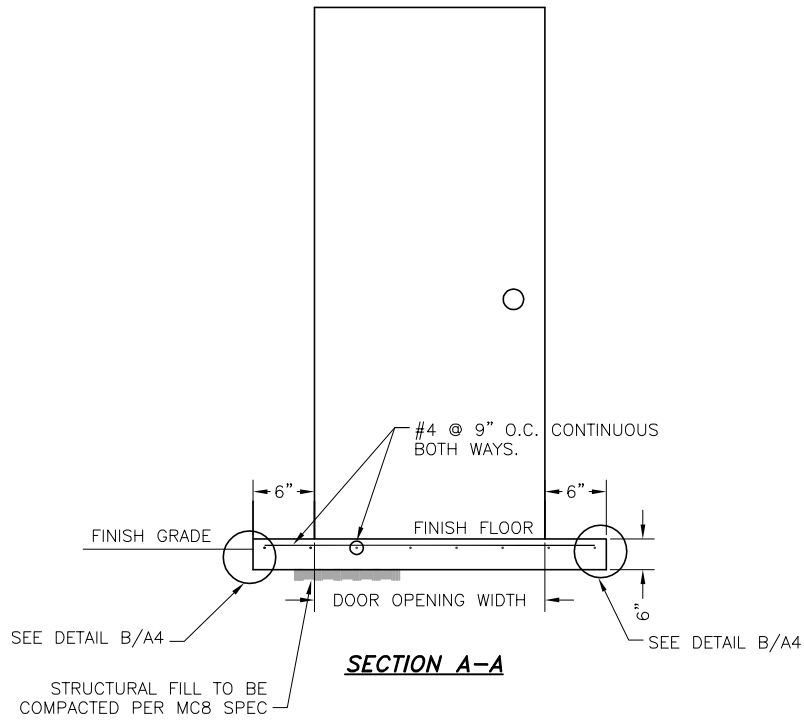
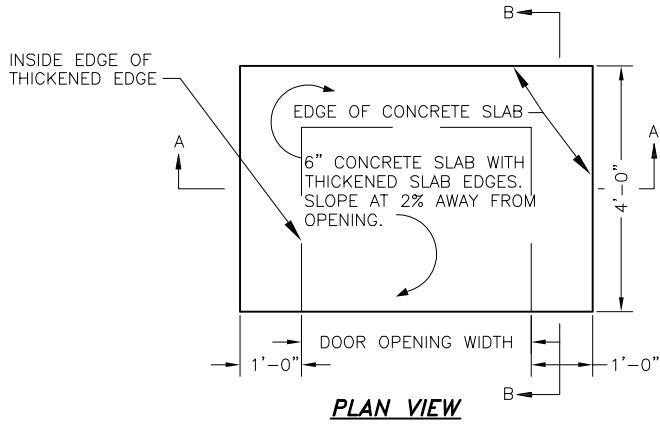
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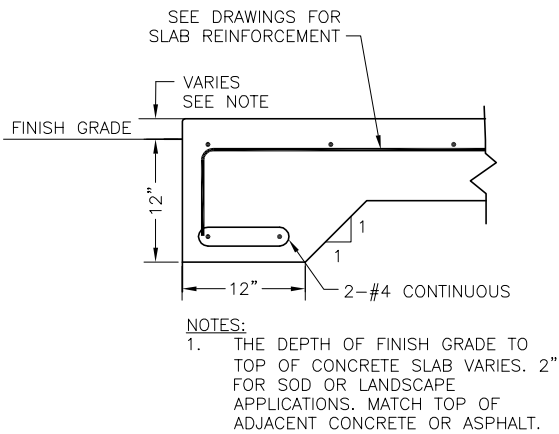


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A
A4 DOORWAY LANDINGS AS SHOWN ON ARCHITECTURAL SHEETS
SCALE: N.T.S.



B
A4 LANDING SLAB EDGE
SCALE: N.T.S.

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5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072
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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
ARCHITECTURAL DETAILS

REVISIONS		DESCRIPTION	BY	APP.	DATE
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A4
SHEET 29 OF 44

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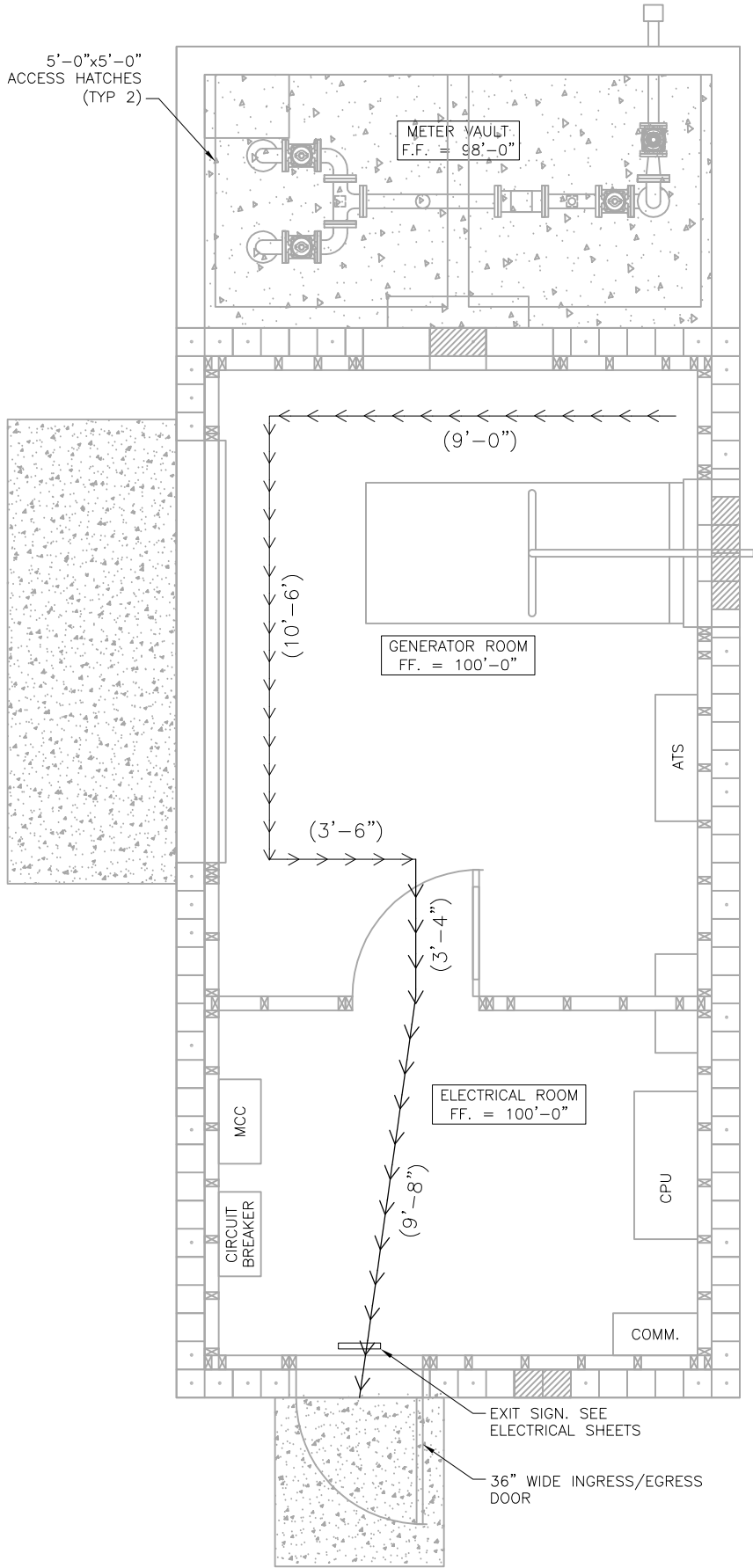
LIFE SAFETY PLAN INFORMATION:

- OCCUPANCY TYPE: UTILITY (S-1)
- NON-SEPARATED OCCUPANCY
- OCCUPANCY LOADING: 338 SF/100 UTILITY = 1
- ALLOWABLE AREA CALCULATION:
 - $A_a = A_t + (N \times I_f)$
 - $A_a = 13,000 + (13,000 \times 0)$
 - $A_a = 13,000$ SQ. FT.
- INCIDENTAL USE AREAS: NONE
- EGRESS WIDTH REQUIREMENTS:
 - REQUIRED:
OCCUPANT LOAD X 0.3 INCHES = 3.6 INCHES
 - PROVIDED:
STAIRS: NONE
EGRESS: 36 INCHES
- MAXIMUM TRAVEL DISTANCE: 52.9'
- MAXIMUM COMMON PATH OF TRAVEL: 21.2'
- BUILDING IS NOT SPRINKLERED
- ITEMS THAT ARE NOT APPLICABLE

FIRE WALLS
FIRE BARRIERS
FIRE PARTITIONS
SMOKE BARRIERS
SMOKE PARTITIONS
RATED ASSEMBLIES

NOTES:

1. FACILITY IS UNMANNED AND WILL BE PERIODICALLY ACCESSED ONLY BY OPERATIONS STAFF.



LIFE SAFETY PLAN
SCALE: 1/4"=1'-0"

AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
LIFE SAFETY PLAN

REVISIONS		DESCRIPTION	BY	APP.	DATE
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NOTES:

1. CHECK VALVE LOCATION DETERMINED BY SECURITY SANITATION DISTRICT.
2. AIR VAC SHALL BE INSTALLED WITH BRASS BALL VALVE THAT ENABLES ISOLATION FROM FORCE MAIN.
3. BADGER M2000 FLOW METER TO BE EQUIPPED W/ REMOTE TRANSMITTER LOCATED INSIDE MAIN BUILDING.
4. ALL PIPE PENETRATIONS SHALL BE CONSTRUCTED W/ PRESS SEAL AND/OR LINK SEAL OR EQUAL.

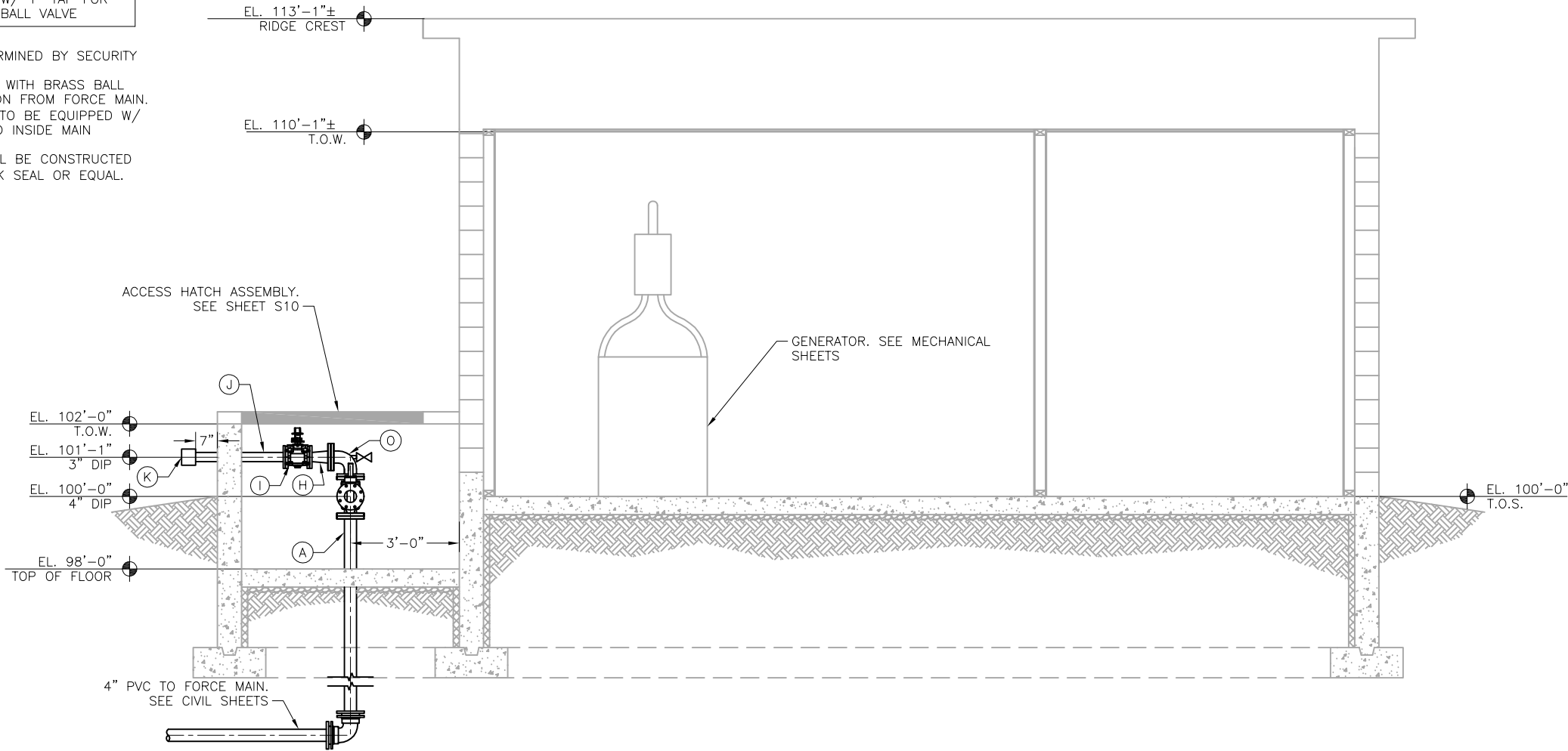


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SCHEDULE		
A	4"	DIP FLxMJ
B	4"	DIP TEE
C	4"	DIP ELBOW
D	4"	PLUG VALVE
E	4"	DIP FLxFL
F	—	PRESSURE SENSOR
G	4"	BADGER M2000 METER
H	4"x3"	CONC. REDUCER
I	3"	PLUG VALVE
J	3"	DIP MNPTxFL
K	3"	CAMLOCK FITTING
L	—	AIR VAC
M	4"	CHECK VALVE
N	—	WATER ON FLOOR DETECTOR
O	4"	DIP ELBOW W/ 1" TAP FOR BRASS BALL VALVE

NOTES:

- CHECK VALVE LOCATION DETERMINED BY SECURITY SANITATION DISTRICT.
- AIR VAC SHALL BE INSTALLED WITH BRASS BALL VALVE THAT ENABLES ISOLATION FROM FORCE MAIN.
- BADGER M2000 FLOW METER TO BE EQUIPPED W/ REMOTE TRANSMITTER LOCATED INSIDE MAIN BUILDING.
- ALL PIPE PENETRATIONS SHALL BE CONSTRUCTED W/ PRESS SEAL AND/OR LINK SEAL OR EQUAL.



A
P2 SECTION
SCALE: 1/4"=1'-0"

JDS-HYDRO CONSULTANTS, INC.
5640 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072

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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
PROCESS SECTION

REVISIONS		DESCRIPTION	BY	APP.	DATE
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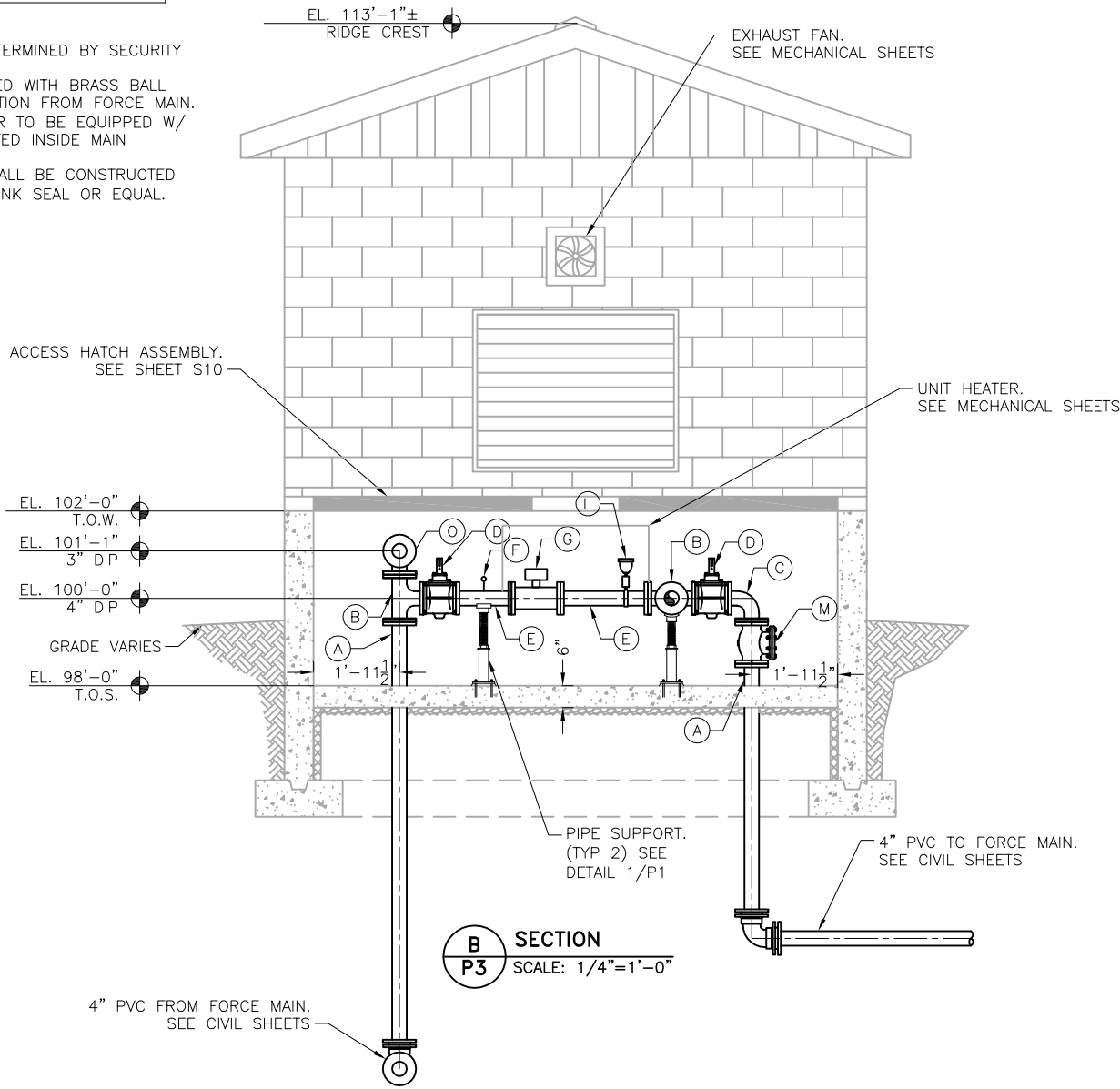
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SCHEDULE		
A	4"	DIP FLxMJ
B	4"	DIP TEE
C	4"	DIP ELBOW
D	4"	PLUG VALVE
E	4"	DIP FLxFL
F	—	PRESSURE SENSOR
G	4"	BADGER M2000 METER
H	4"x3"	CONC. REDUCER
I	3"	PLUG VALVE
J	3"	DIP MNPTxFL
K	3"	CAMLOCK FITTING
L	—	AIR VAC
M	4"	CHECK VALVE
N	—	WATER ON FLOOR DETECTOR
O	4"	DIP ELBOW W/ 1" TAP FOR BRASS BALL VALVE

NOTES:

- CHECK VALVE LOCATION DETERMINED BY SECURITY SANITATION DISTRICT.
- AIR VAC SHALL BE INSTALLED WITH BRASS BALL VALVE THAT ENABLES ISOLATION FROM FORCE MAIN.
- BADGER M2000 FLOW METER TO BE EQUIPPED W/ REMOTE TRANSMITTER LOCATED INSIDE MAIN BUILDING.
- ALL PIPE PENETRATIONS SHALL BE CONSTRUCTED W/ PRESS SEAL AND/OR LINK SEAL OR EQUAL.



JDS-HYDRO

CONSULTANTS, INC.

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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
PROCESS SECTION

REVISIONS		BY	APP.	DATE
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LOUVER SCHEDULE NOTES:

1. BIRD SCREEN AND FASTENERS SHALL BE INCLUDED. FURNISH LOUVER WITH 24-MESH INSECT SCREEN. MIN.
2. AS SPECIFIED OR APPROVED EQUAL.
3. INTERIOR DOOR LOUVER.
4. MOTORIZED, SPRING CLOSED. CONNECTED TO ATS.

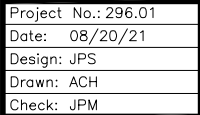
1. FURNISH WITH INTAKE FAN GUARD AND SHUTTER. VARIABLE SPEED, 8" BLADE DIAMETER, 11" SQUARE OPENING. 0.85 FLA, STEEL & ALUMINUM MAKEUP, TEMPERATURE CONTROLLER WITH PROGRAMMABLE THERMOSTAT.

1. FURNISH WITH MANUFACTURER-RECOMMENDED WALL BRACKET. CONTROLLED VIA THERMOSTAT. TEFC MOTOR.
2. CLASS 1, DIV 1

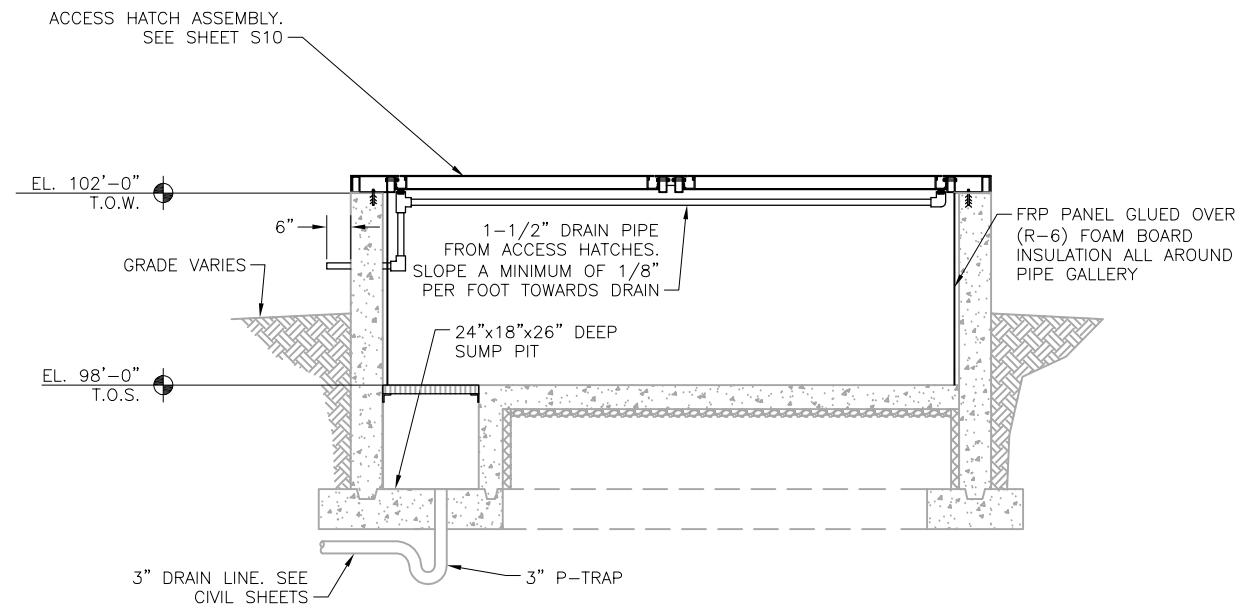
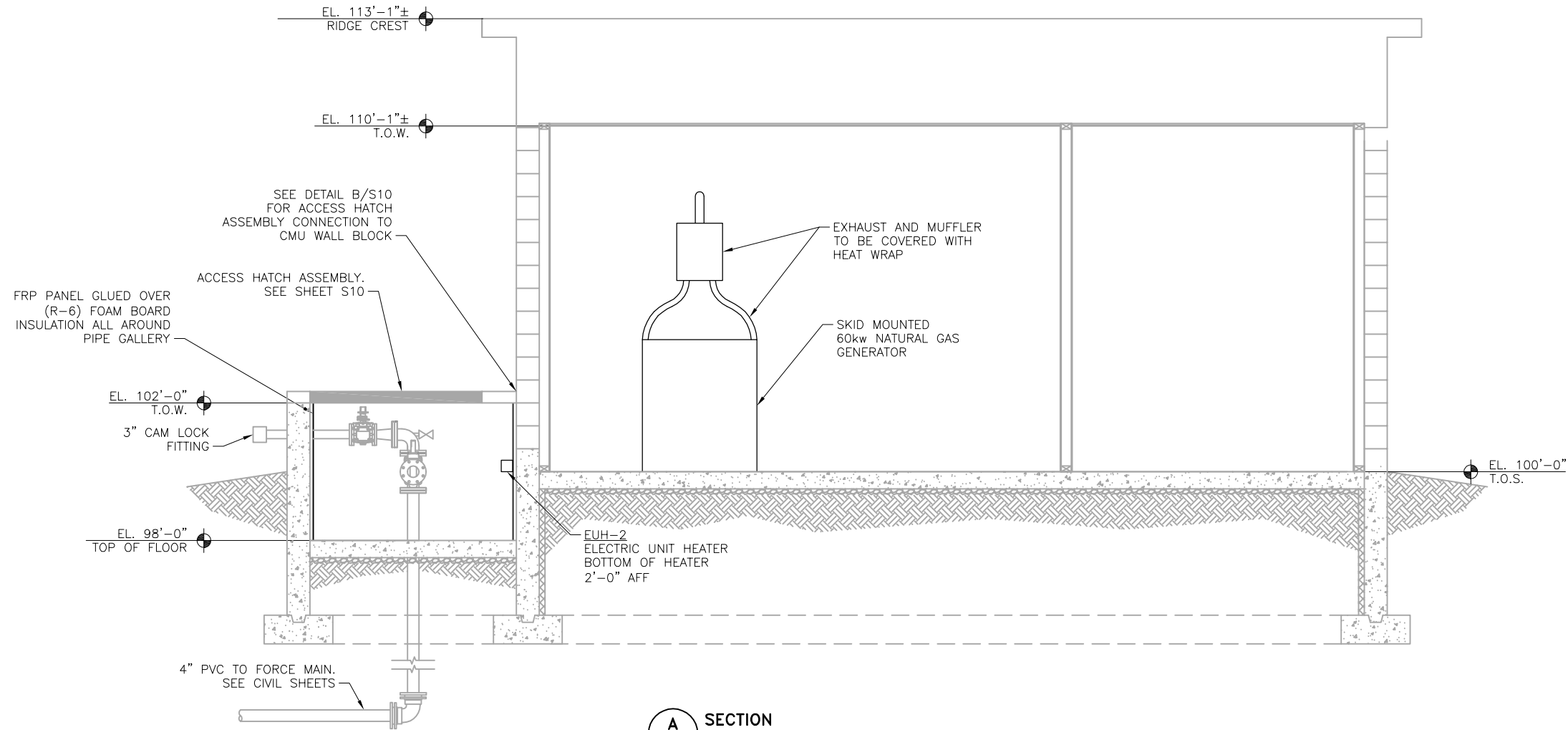
UNIT HEATER SCHEDULE NOTES:
1. AS SPECIFIED OR APPROVED EQUAL.

AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
MECHANICAL FLOOR PLAN AND DETAILS

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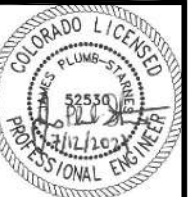
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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
MECHANICAL SECTIONS

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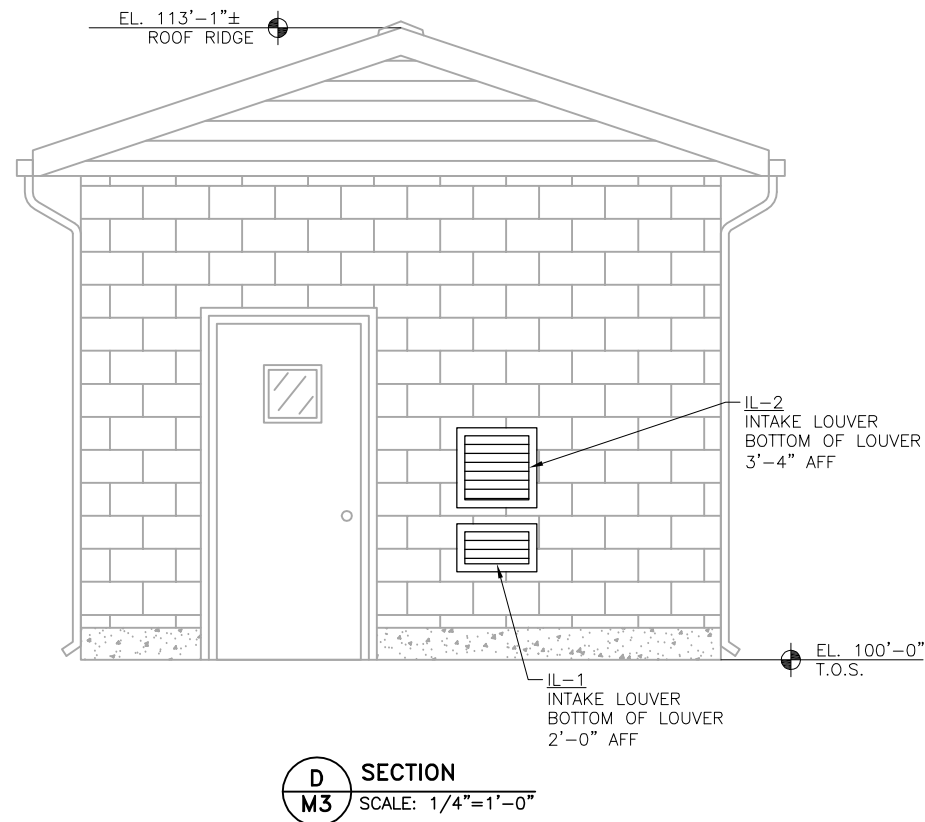
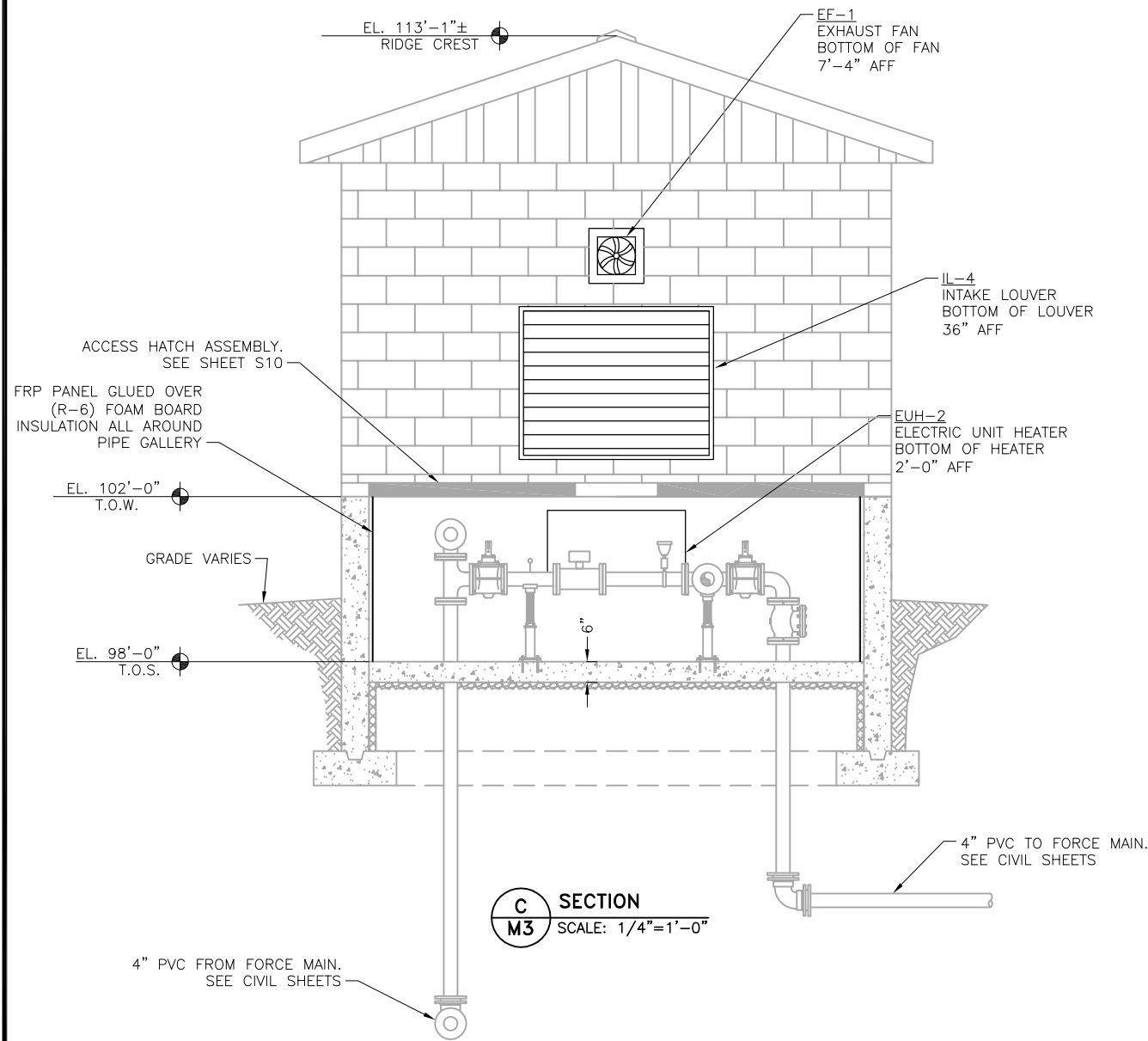
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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
MECHANICAL SECTIONS

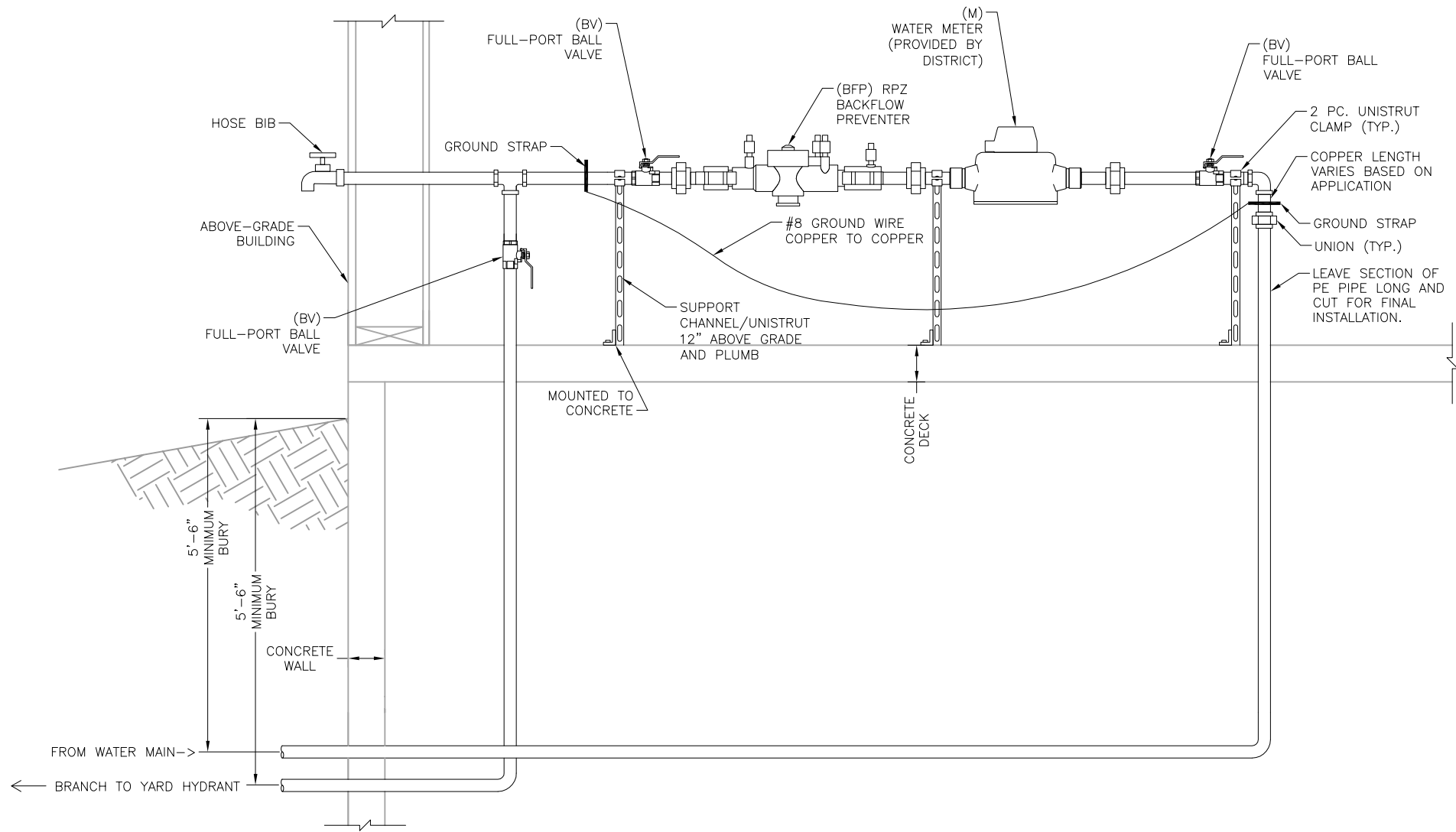
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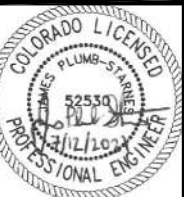


A 1-1/2 INCH METER DETAIL
PL-1 SCALE: N.T.S.

AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
1-INCH METER DETAIL

REVISIONS		DESCRIPTION	BY	APP.	DATE
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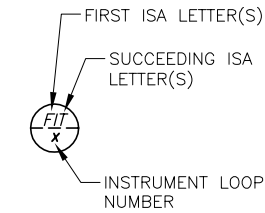
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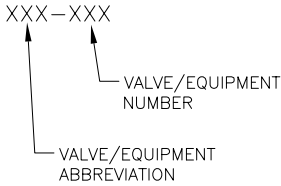
GENERAL NOTES

1. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.

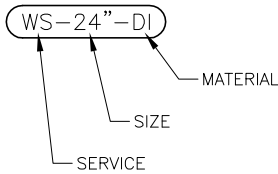
INSTRUMENT IDENTIFICATION TAG NUMBER



EQUIPMENT IDENTIFICATION



LINE IDENTIFICATION



INSTRUMENT IDENTIFICATION TAG LETTER TABLE (ISA)

LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		BINARY	"OR" FUNCTION	INTERLOCK
C	USER'S CHOICE (*)			CONTROL	CLOSE
D	USER'S CHOICE (*)	DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		BACKUP GENERATOR TO BE INTEGRATED WITH AUTOMATIC TRANSFER SWITCH AND PROVIDE POWER TO ENTIRE FACILITY IN THE EVENT OF A MAIN POWER LOSS.
F	FLOW, FLOW RATE	RATIO			
G	USER'S CHOICE (*)		GLASS, GAUGE, VIEWING DEVICE		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER		SCAN		
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE (*)		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED (+)	X AXIS	UNCLASSIFIED (+)	UNCLASSIFIED (+)	UNCLASSIFIED (+)
Y	EVENT, STATE OR PRESENCE	Y AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	
	(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL.			(*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT	

TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

ACCESSORY DEVICES

EXAMPLE: TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT



A	=	ALARM
C	=	CONTROLLER
I	=	INDICATOR
R	=	RECORDER
S	=	SWITCH
T	=	TRANSMITTER
X	=	UNCLASSIFIED

INSTRUMENTATION LEGEND:

	BUTTERFLY VALVE
	GATE VALVE
	PLUG VALVE
	SWING CHECK VALVE
	BALL VALVE
	ELECTRICALLY ACTUATED PLUG VALVE
	PUMP
	FLOW METER
	WATER LEVEL
	TRANSFORMER
	ULTRASONIC LEVEL SENSOR
	LEVEL (FLOAT)
	CENTRIFUGAL PUMP
	CENTRIFUGAL SUBMERSIBLE PUMP

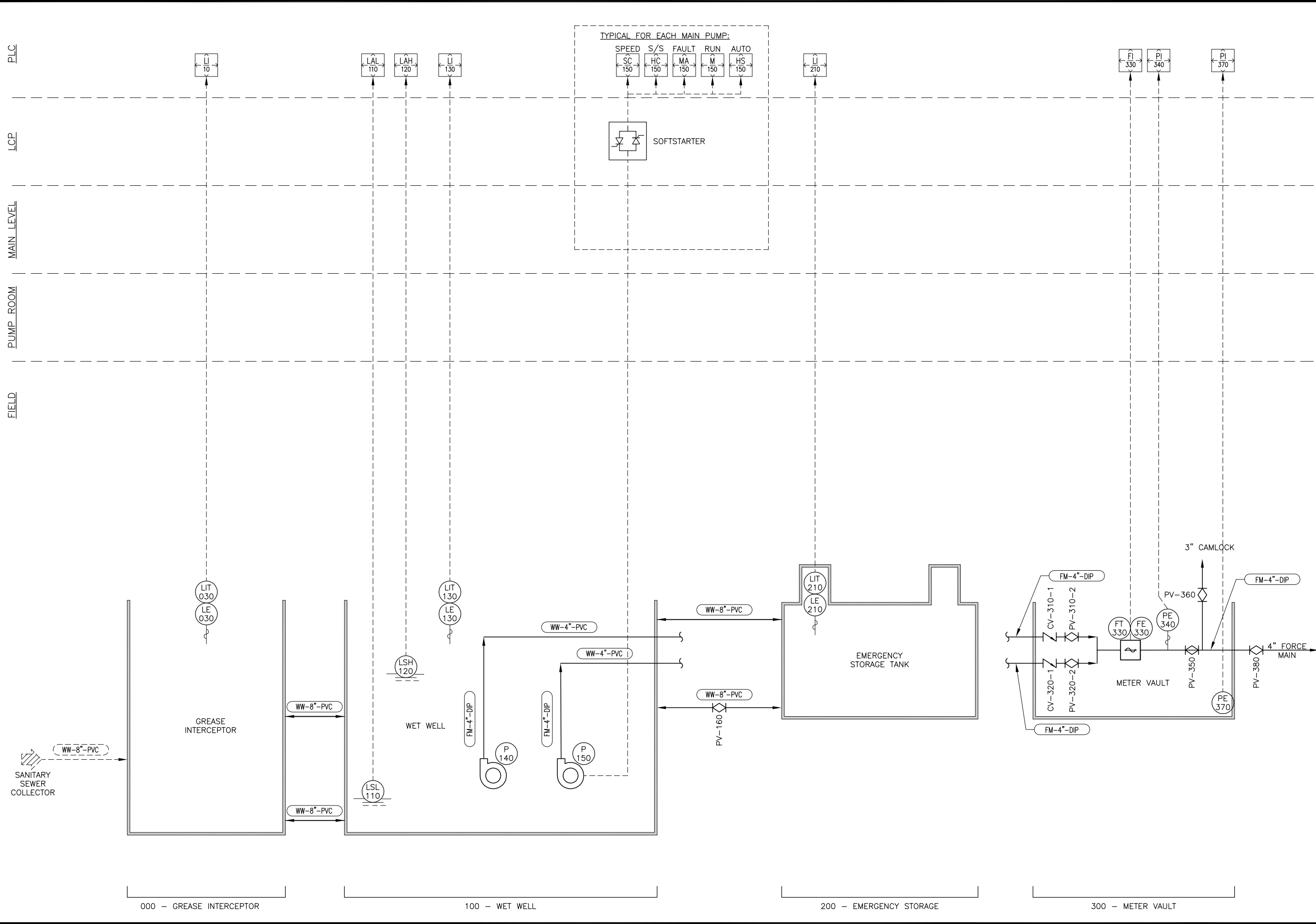
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CONSULTANTS, INC.

5640 TECH CENTER DR., SUITE 100

COLORADO SPRINGS, COLORADO 80919

(719) 227-0072

DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

AVATAR RIVERBEND LP

RIVER BEND CROSSING LIFT STATION

PROCESS AND INSTRUMENTATION

CONTROL DIAGRAM 1

REVISIONS		BY	DATE
NO.	DESCRIPTION		
1			
2			
3			
4			
5			
6			
7			

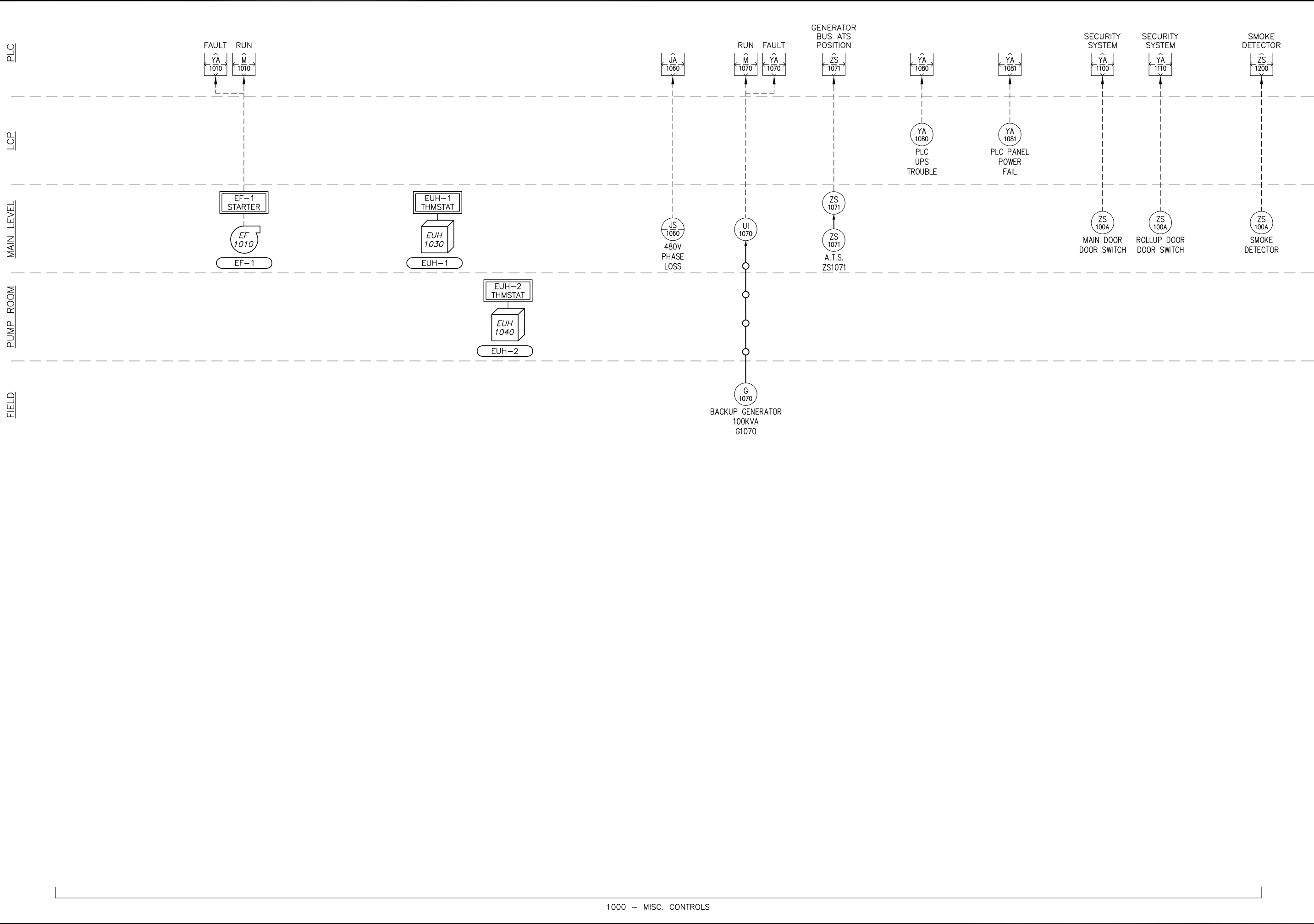
COLORADO LICENSED
PLUMB-SANITARY
ENGINEER
JAMES PLUMB-SANITARY
52530
3/11/10
PROFESSIONAL ENGINEER

Project No.: 296.01
Date: 08/20/21
Design: JPS
Drawn: ACH
Check: JPM


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SHEET 39 OF 44

2021/08/20 3:09 PM By: Andrew Hood J:\JDS-Hydro\Project Files\296 Avatar Equities\296.01 River Bend Creek Lift Station\Drawings\Working\29601_Instrumentation.dwg



1000 - MISC. CONTROLS



JDS-HYDRO CONSULTANTS, INC.
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AVATAR RIVERBEND LP
RIVER BEND CROSSING LIFT STATION
PROCESS AND INSTRUMENTATION
CONTROL DIAGRAM 2

REVISIONS			
NO.	DESCRIPTION	BY	DATE
1			
2			
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4			
5			
6			
7			

FOR PPRBD
SUBMITTAL



Project No.: 296.01
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2021/08/20 3:09 PM By: Andrew Hood J:\JDS-Hydro\Project Files\296 Avatar Equities\296.01 River Bend Creek Lift Station\Drawings\Working\29601_Instrumentation.dwg

GREASE INTERCEPTOR (DESIGNATION 000)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
LEVEL INDICATOR	LE030		INDICATES LEVEL IN MAIN EMERGENCY STORAGE TANK. ULTRASONIC. OUTPUT SIGNAL TO PLC.

WET WELL (DESIGNATION 100)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
LOW LEVEL FLOAT	LSL110		INDICATES LOW LEVEL ALARM IN WET WELL. OUTPUT SIGNAL TO PLC.
HIGH LEVEL FLOAT	LSH120		INDICATES HIGH LEVEL ALARM IN WET WELL. OUTPUT SIGNAL TO PLC.
LEVEL INDICATOR	LE130		INDICATES LEVEL IN WET WELL. PRESSURE TRANSDUCER. OUTPUT SIGNAL TO PLC.

EMERGENCY STORAGE TANK (DESIGNATION 200)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
LEVEL INDICATOR	LE210		INDICATES LEVEL IN MAIN EMERGENCY STORAGE TANK. ULTRASONIC. OUTPUT SIGNAL TO PLC.

METER VAULT (DESIGNATION 300)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
MAIN PUMPS	P150/P160	7.5 HP. EA. THREE-PHASE	VAUGHN SE3P/S3P PUMPS TO SEND WASTEWATER FROM THE WET WELL TO THE RECEIVING TREATMENT FACILITY VIA THE FORCE MAIN. PUMP CONTROLS ARE BASED ON LEVELS IN WET WELL. PUMPS WILL ALTERNATE BETWEEN LEAD AND LAG VIA LOGIC IN THE PLC.
PRESSURE INDICATING TRANSDUCERS	PIT150/PIT160	4~20 mA	ANALOG PRESSURE TRANSDUCERS (IN COMBINATION WITH VISUAL PRESSURE GAUGES) SEND A 4~20 mA SIGNAL TO THE PLC.

- NOTES:
1. COMMUNICATION AND REMOTE CONTROLS BETWEEN LIFT STATION AND DISTRICT SCADA TO BE COORDINATED BY TIMBER LINE ELECTRIC AND CONTROLS CORP. KIM EVEZICH (303) 895-3074.
 2. INSTRUMENTATION AND CONTROLS SHALL BE PROVIDED AND INSTALLED BY TIMBER LINE ELECTRIC CORP.

METER VAULT (DESIGNATION 300) CONTINUED			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
MAGNETIC FLOWMETER	FE330	120VAC	METERS FLOW FROM MAIN PUMPS AND REPORT TO PLC. SIGNAL IS USED TO CONTROL SPEED OF MAIN PUMPS IN ORDER TO ACHIEVE MINIMUM FLUSHING VELOCITIES IN THE FORCE MAIN.
WATER ON FLOOR SENSOR	PE370	12/24V	MONITORS WATER ON FLOOR FOR INDICATION OF LEAKAGE AND OVER PRESSURIZATION.

MISC. CONTROLS (DESIGNATION 1000)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
EXHAUST FAN 1	EF1010	25 W	TO EXHAUST AIR FROM ABOVE-GRADE STRUCTURE. FAN TO BE INTEGRATED WITH MAIN PLC AND LOCAL THERMOSTAT.
UNIT HEATER 1	EUH 1030	2.2 KW	CONTROLLED VIA LOCAL THERMOSTAT
UNIT HEATER 2	EUH 1040	1.8 KW	CONTROLLED VIA LOCAL THERMOSTAT
BACKUP GENERATOR	G1070	60 kw	PROPOSED BACKUP GENERATOR TO BE INTEGRATED WITH NEW AUTOMATIC TRANSFER SWITCH TO PROVIDE POWER TO ENTIRE FACILITY IN THE EVENT OF A MAIN POWER LOSS.
AUTOMATIC TRANSFER SWITCH	ZS1071		PROPOSED AUTOMATIC TRANSFER SWITCH TO AUTOMATICALLY TRANSFER POWER FROM GENERATOR TO LIFT STATION IN THE EVENT OF A MAIN POWER LOSS.
MAIN DOOR SWITCH	YA1100		INDICATES THE PRESENCE OF AN OPEN MAIN DOOR.
COIL DOOR SWITCH	YA1110		INDICATES THE PRESENCE OF AN OPEN GARAGE DOOR.
SMOKE DETCTOR	ZS1200	120VAC	DETECTS SMOKE AND SENDS THE ALERT TO THE PLC.

JDS-HYDRO

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AVATAR RIVERBEND LP

RIVER BEND CROSSING LIFT STATION

PROCESS AND INSTRUMENTATION

CONTROL SCHEDULE

REVISIONS			
NO.	DESCRIPTION	BY	DATE
1			
2			
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7			

FOR PPRBD SUBMITTAL

COLORADO LICENSED

JAMES PLUMB-S-ARE

52530

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PROFESSIONAL ENGINEER

Project No.: 296.01
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SHEET 41 OF 44

SYMBOL	DESCRIPTION
LIGHT FIXTURES	
SEE LIGHT FIXTURE TAG ON PLAN AND REFER TO LIGHT FIXTURE SCHEDULE.	
SWITCHES	
S	TOGGLE SWITCH, 20A, SINGLE POLE, VOLTAGE AS REQUIRED, MOUNTED AT 48" ABOVE FINISHED FLOOR.
SD	OCCUPANCY SENSOR, WALL MTD., 48" AFF. SENSOR SWITCH WSD PDT, OR EQUAL.
SD	OCCUPANCY SENSOR, CEILING MTD. SENSOR SWITCH CMR PDT OR EQUAL.
SD	PHOTOCELL SWITCH, MOUNT ON NORTH FACING EXTERIOR WALL, UNO.
SUBSCRIPTS FOR SWITCHES	
3	THREE-WAY TOGGLE SWITCH
4	FOUR-WAY TOGGLE SWITCH
D	LOW VOLTAGE DIMMER
M	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD
T	ELECTRONIC DIGITAL 24/7 ASTRONOMICAL TIME CLOCK SWITCH
L	LOW VOLTAGE SWITCH
RECEPTACLES	
Ⓢ	DUPLEX RECEPTACLE, 20A, 120V, 3 WIRE GROUNDED, NEMA 5-20R, UNO., MOUNT 18" AFF.
Ⓢ	QUAD RECEPTACLE, 20A, 120V, 3 WIRE GROUNDED, NEMA 5-20R, UNO., MOUNT 18" AFF.
Ⓢ	SIMPLEX RECEPTACLE, 20A, 120V, 3 WIRE GROUNDED, NEMA 5-20R, UNO., MOUNT 18" AFF.
Ⓢ	SPECIAL RECEPTACLE, 220V, TYPE AS INDICATED OR MATCH EQUIPMENT CAP., MOUNT AT HEIGHT AS REQUIRED PER EQUIPMENT.
Ⓢ	DUPLEX RECEPTACLE, 20A, 120V, 3 WIRE GROUNDED, NEMA 5-20R, UNO., WITH 1IE-BAR REMOVED FOR SWITCHING, MOUNT 18" AFF.
Ⓢ	SPECIAL PURPOSE RECEPTACLE, NEMA TYPE AS INDICATED, MOUNT AT HEIGHT AS REQUIRED PER EQUIPMENT.
Ⓢ	DOUBLE GANG, TOMBSTONE STYLE, STAINLESS STEEL, FLOOR BOX WITH DEVICE AS INDICATED.
SUBSCRIPTS FOR RECEPTACLES	
C	CLOCK RECEPTACLE
CE	CEILING FLUSH MOUNTED
IG	ISOLATED GROUND
GFI	GROUND FAULT INTERRUPTER
WR	WEATHER RESISTANT WITH GROUND FAULT INTERRUPTER IN WEATHER PROOF BOX
OC	OVER COUNTER, MOUNT RECEPTACLE MOUNTED 6" ABOVE BACKSLASH
UC	UNDER COUNTER
USB	DUPLEX RECEPTACLE WITH TWO USB CHARGER PORTS (HUBBELL USB20X2W OR EQUAL)
POWER SYMBOLS	
Ⓢ	JUNCTION BOX, FLUSH/SURFACE MTD.
Ⓢ	POWER POLE WITH COMM AND POWER.
Ⓢ	MOTOR
Ⓢ	NON FUSIBLE DISCONNECT SWITCH, RATING AS INDICATED.
Ⓢ	FUSIBLE DISCONNECT SWITCH, RATING AS INDICATED.
Ⓢ	PANELBOARD/LOADCENTER.
Ⓢ	CEILING MOUNTED PAD FAN.
NOTE: NOT ALL SYMBOLS ARE USED. VERIFY ALL CONNECTIONS AND RECEPTACLE TYPES FOR EQUIPMENT FROM APPROVED MECHANICAL AND EQUIPMENT SUBMITTALS PRIOR TO INSTALLATION.	

SYMBOL	DESCRIPTION
COMMUNICATION SYSTEM SYMBOLS	
▼	TELEPHONE OUTLET, WIRING BY OTHERS, UNO, MOUNT 18" AFF.
▼	TELEPHONE OUTLET, WIRING BY OTHERS, UNO, WALL PHONE, MOUNT 48" AFF.
▼	DATA OUTLET, WIRING BY OTHERS, UNO, MOUNT 18" AFF.
▼	DATA/TELEPHONE OUTLET, WIRING BY OTHERS, UNO, MOUNT 18" AFF.
TV	AV/DATA OUTLET FOR TV/MONITOR CONNECTION, WIRING BY OTHERS, WIRING BY OTHERS, UNO, MOUNT 18" AFF.
Ⓢ	LINE VOLTAGE THERMOSTAT, PROVIDED BY MECHANICAL, INSTALLED BY ELECTRICIAN.
ONE-LINE SYMBOLS	
Ⓢ	CIRCUIT BREAKER, FRAME AND TRIP AS INDICATED.
Ⓢ	POWER TRANSFORMER, RATING AS INDICATED.
Ⓢ	GROUND ELECTRODE
Ⓢ	CURRENT TRANSFORMER (CT)
Ⓢ	NON-FUSIBLE SWITCH, RATING AS INDICATED.
Ⓢ	FUSIBLE SWITCH, RATING AND FUSE SIZE AS INDICATED.
Ⓢ	FEEDER SCHEDULE KEY TAG
Ⓢ	UTILITY TRANSFORMER
Ⓢ	UTILITY ELECTRIC METER
Ⓢ	MOTOR WITH DISCONNECT
Ⓢ	MOTOR WITH CONTROLLER AND DISCONNECT
Ⓢ	GENERATOR
Ⓢ	TRANSFER SWITCH
Ⓢ	WEATHERHEAD
Ⓢ	PANELBOARD OR LOADCENTER, IDENTIFICATION, AMPERES AND VOLTAGE.
ABBREVIATIONS	
UNO	UNLESS NOTED OTHERWISE.
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
EWC	ELECTRIC WATER COOLER, PROVIDE GFI PROTECTION
E	EXISTING DEVICE TO REMAIN.
N	NEW DEVICE TO BE INSTALLED.
H	MOUNT DEVICE 6" AFF, HORIZONTALLY.
TP	TAMPER PROOF
SWD	SWITCH RATED BREAKERS
NL	NIGHTLIGHT WIRED FIXTURE

DIVISION 26 SPECIFICATIONS

GENERAL: THESE DRAWINGS REMAIN THE SOLE PROPERTY OF CHAVEZ, TIFFANY AND AYERS ENGINEERING CORPORATION AND MAY BE USED ONLY FOR THE PROJECT AS INDICATED BY NAME AND LOCATION. ANY OTHER USE REQUIRES PRIOR, WRITTEN PERMISSION. THE CONTRACTOR WILL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, TRANSPORTATION, LICENSES, FEES, PERMITS, ETC. TO COMPLETE THE ELECTRICAL WORK DESCRIBED ON THE DRAWINGS. THE CONTRACTOR WILL WARRANT EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE. WARRANTY SHALL INCLUDE REPLACEMENTS OR REPAIRS WITHOUT COST TO THE OWNER DURING THE WARRANTY PERIOD. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) 2017 AND ALL OTHER APPLICABLE LOCAL CODES AND ORDINANCES. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.

USE OF DRAWINGS: DO NOT SCALE FROM THE ELECTRICAL DRAWINGS. FOR EXACT LOCATIONS USE ARCHITECT'S DIMENSIONED DRAWINGS, SHOP DRAWINGS AND FIELD MEASUREMENTS. VERIFY ALL LOCATIONS WITH THE ARCHITECT PRIOR TO ELECTRICAL ROUGH-IN.

WIRING METHODS: ALL WIRING FOR LIGHTING AND POWER SYSTEMS WILL BE IN CONDUIT OR CABLE ASSEMBLIES APPROVED BY THE GOVERNING AUTHORITIES. ALL EXPOSED CABLING SHALL BE IN CONDUIT. CONDUCTOR SIZES SHOWN ARE BASED ON AMPACITIES FOR COPPER CONDUCTORS. UNLESS OTHERWISE NOTED. WHEN APPROVED BY ENGINEER, FEEDERS MAY BE ALUMINUM CONDUCTORS OF EQUIVALENT AMPACITIES. GROUNDING CONDUCTORS SHALL BE PROVIDED FOR ALL CIRCUITS SHOWN ON THE DRAWINGS. PROVIDE BLOCKING AND OTHER NECESSARY SUPPORTS IN WALLS AND CEILINGS FOR MATERIAL AND EQUIPMENT TO BE PROVIDED. BRANCH CIRCUIT NUMBERS SHOWN ON THE DRAWINGS MAY BE REARRANGED WITHIN A GIVEN PANELBOARD TO SUIT THE NEEDS OF THE INSTALLATION. ELECTRICAL BRANCH CIRCUITS SHALL BE BALANCED BETWEEN LINES AND PHASES. MULTIWIRE BRANCH CIRCUITS SHALL HAVE A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNDERGROUND CONDUCTORS AT THE POINT WHERE BRANCH CIRCUITS ORIGINATE (JANULE TIES ARE AN APPROVED MEANS). THE GROUNDING AND UNDERGROUND CONDUCTOR OF EACH MULTIWIRE BRANCH CIRCUIT SHALL BE GROUPED BY WIRE TIES AT ONE LOCATION IN PANELBOARD. ALL PATIENT CARE AREAS SHALL COMPLY WITH NEC 517.13(A)(8) TO INCLUDE LUMINAIRES AND NEC 250.118, CAN NOT BE IN PVC.

UTILITY COORDINATION: PROVIDE ALL COORDINATION WITH THE UTILITY INCLUDING LOAD DATA FORMS AND APPLICATION FOR SERVICE AS APPLICABLE. INSTALLATION OF SERVICE, PRIMARY OR SECONDARY FEEDERS AND METERING SHALL BE PERFORMED IN ACCORDANCE WITH THE UTILITY REQUIREMENTS.

GROUNDING: PROVIDE A COMPLETE GROUNDING SYSTEM AS REQUIRED BY THE NEC AND LOCAL AUTHORITIES HAVING JURISDICTION. ALL BRANCH CIRCUITS SHALL INCLUDE A GROUND CONDUCTOR. USE OF RACEWAY FOR GROUNDING IS NOT PERMITTED. GALVANIZED GROUND RODS ARE NOT PERMITTED.

PANELBOARDS: PROVIDE MINIMUM INTEGRATED EQUIPMENT SHORT CIRCUIT RATING AS INDICATED ON PANEL SCHEDULES. PROVIDE BOLT-ON BREAKERS UNLESS OTHERWISE NOTED. PROVIDE CIRCUIT BREAKERS SHOWN ON THE PANELBOARD SCHEDULES. ALL TERMINATIONS AND LUGS SHALL BE RATED FOR 75-DEGREE CONDUCTORS. PROVIDE TYPEWRITTEN CIRCUIT SCHEDULES TO IDENTIFY PANELBOARD AND EACH BRANCH BREAKER. ACCEPTABLE MANUFACTURERS ARE SQUARE D, SIEMENS AND EATON.

WIRING DEVICES: PROVIDE SPECIFICATION GRADE 15 AND 20-AMPERE SWITCH AND RECEPTACLE DEVICES, AS APPLICABLE. OTHER DEVICES SHALL BE PROVIDED AS INDICATED AND SHALL MATCH PLUG-CONNECTED EQUIPMENT FURNISHED FOR THE PROJECT. DEVICE WALL PLATES SHALL BE SMOOTH, NYLON TYPE AND SHALL BE OFFICE WHITE IN COLOR OR AS OTHERWISE SPECIFIED. DEVICE COLOR SHALL MATCH WALL PLATES. RECEPTACLES IN PATIENT CARE AREAS MUST BE HOSPITAL GRADE.

DISCONNECT SWITCHES: HEAVY DUTY QUICK MAKE, QUICK-BREAK TYPE, NON-FUSED UNLESS OTHERWISE NOTED. PROVIDE MEANS TO LOCK SWITCH IN OFF POSITION WITH PAD-LOCK. ENCLOSURES SHALL BE NEMA TYPE 1 OR NEMA TYPE 3R FOR OUTDOOR INSTALLATION. PROVIDE PERMANENT LABELS FOR DISCONNECTS TO INDICATE EQUIPMENT SERVED.

LIGHTING FIXTURES: SEE LIGHT FIXTURE SCHEDULE. PROVIDE ALL FIXTURES WITH LAMPS AS INDICATED. WHERE REQUIRED, FIXTURES SHALL BE WET OR DAMP LOCATION LABELED. VERIFY MOUNTING HEIGHTS PRIOR TO ELECTRICAL ROUGH-IN. PROVIDE ALL REQUIRED MOUNTING ACCESSORIES REQUIRED FOR PROPER MOUNTING TO SURFACES. SUCH ACCESSORIES TO INCLUDE BUT NOT LIMITED TO SLOPE ADAPTORS, CANOPIES, AND VAULTED CEILING CANOPIES, ETC. PROVIDE DISCONNECTING MEANS FOR LUMINAIRES THAT UTILIZE DOUBLE-ENDED LAMPS AND BALLAST(S) IN ACCORDANCE WITH NEC 410.130(V)(1). ALTERNATES NOT ACCEPTABLE UNLESS NOTED AS "OR EQUAL" ON LIGHT FIXTURE SCHEDULE.

VOICE/DATA: RACEWAY SYSTEM BY CONTRACTOR. ALL RACEWAYS SHALL BE PROVIDED WITH PULLSTRINGS OF MINIMUM OF 400-LB. TEST STRENGTH. ALL EQUIPMENT, RECEPTACLES AND CABLING BY OTHERS. PROVIDE BLANK COVERS OVER ALL UNUSED OUTLETS, CABLES, DEVICES AND CABLE TERMINATION IS BY OTHERS.

FIRE ALARM: DESIGN BUILD CONTRACTOR TO PROVIDE AS REQUIRED PER FIRE AND LOCAL CODES.

ADA MOUNTING HEIGHT REQUIREMENTS

VOLTAGE (L-N):

VOLTAGE (L-L):

PHASES, WIRES:

MINIMUM BUS CAPACITY (A):

MAIN O.C. DEVICE (A):

120

208

3 ϕ 4 W

200 A

200 A

ENCLOSURE TYPE:

MOUNTING:

AIC RATING (A):

NOTES:

NEMA 1

SURFACE

10000

FULLY RATED

CKT NO

DESCRIPTION

TRIP AMPS

POLE

PHASE LOADS (VA)

POLE

TRIP AMPS

DESCRIPTION

CKT NO

1

LIGHTING

20

1

234

98

1

20

EF-1

2

3

OVERHEAD DOOR

20

1

1587

936

2

20

EUH-2

4,6

5

SUMP PUMP RECEPTACLE

20

1

1127

936

2

20

EUH-2

4,6

7

ELECTRICAL ROOM RECEPTACLES

20

1

720

1144

2

20

EUH-1

8,10

9

GENERATOR ROOM RECEPTACLES

20

1

720

1144

2

20

EUH-1

8,10

11,13,15

LOUVERS

20

3

720

1144

2

20

EUH-1

12,14

11,13,15

LOUVERS

20

3

720

1144

2

20

EUH-1

12,14

11,13,15

LOUVERS

20

3

720

1000

1

20

MAGNETIC FLOWMETER

16

17

BLANK

20

1

0

1000

1

20

WATER ON FLOOR SWITCH

18

19

BLANK

0

1

0

1000

1

20

PUMP CONTROL

20

21

BLANK

0

1

0

1080

1

20

CPU RECEPTACLES

22

23

BLANK

0

1

0

1920

1

20

CPU

24

25

BLANK

0

1

0

1080

1

20

COMM RECEPTACLE

26

27

BLANK

0

1

0

0

1

20

SPARE

28

29

BLANK

0

1

0

0

1

0

BLANK

30

31

BLANK

0

1

0

0

1

0

BLANK

32

33

BLANK

0

1

0

0

1

0

BLANK

34

35

BLANK

0

1

0

0

1

0

BLANK

36

37

BLANK

0

1

0

0

1

0

BLANK

38

39

BLANK

0

1

0

0

1

0

BLANK

40

41

BLANK

0

1

1

0

BLANK

42

CONNECTED LOAD PHASE TOTALS (VA)

6140

7187

6847

CONNECTED LOAD (KVA)

DEMAND FACTOR

DEMAND LOAD (KVA)

DEMAND LOAD

20.6 KVA

Motors

1.6

1.25

2.0

SPARE CAPACITY

51.4 KVA

Motors (Largest)

3.6

1.00

3.6

SPARE CAPACITY

142.7 AMPS

Receptacles (0 - 10 KVA)

6.0

1.00

6.0

PHASE BALANCE

Equipment

6.4

1.00

6.4

A TO B

85%

Heating

0.2

1.25

0.2

B TO C

95%

Lighting

0.1

1.25

0.1

C TO A

90%

Lighting - Exterior

TOTAL:

20.2

20.6

LOAD (AMPS):

56.0

57.3

PANEL MDP													
VOLTAGE (L-N):				277		ENCLOSURE TYPE:				NEMA 1			
VOLTAGE (L-L):				480		MOUNTING:				SURFACE			
PHASES, WIRES:				3 φ 4 W		AIC RATING (A):				14000			
MINIMUM BUS CAPACITY (A):				400 A		NOTES:				FULLY RATED			
MAIN O.C. DEVICE (A):				400 A									
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA)						POLE	TRIP AMPS	DESCRIPTION	CKT NO
				A		B		C					
1,3,5	SUBMERSIBLE GRINDER PUMP	20	3	2921	2921					3	20	SUBMERSIBLE GRINDER PUMP	2,4,6
1,3,5	SUBMERSIBLE GRINDER PUMP	20	3			2921	2921			3	20	SUBMERSIBLE GRINDER PUMP	2,4,6
1,3,5	SUBMERSIBLE GRINDER PUMP	20	3					2921	2921	3	20	SUBMERSIBLE GRINDER PUMP	2,4,6
7,9,11	PANEL L1 via Transformer	125	3	6140	0					3	0	BLANK	8,10,12
7,9,11	PANEL L1 via Transformer	125	3			7187	0			3	0	BLANK	8,10,12
7,9,11	PANEL L1 via Transformer	125	3					8847	0	3	0	BLANK	8,10,12
13,15,17	BLANK	0	3	0	0	0				3	0	BLANK	14,16,18
13,15,17	BLANK	0	3			0	0			3	0	BLANK	14,16,18
13,15,17	BLANK	0	3					0	0	3	0	BLANK	14,16,18
19,21,23	BLANK	0	3	0	0					1	0	BLANK	20
19,21,23	BLANK	0	3			0	0			1	0	BLANK	22
19,21,23	BLANK	0	3					0	0	1	0	BLANK	24
				CONNECTED LOAD PHASE TOTALS (VA)									
				11982		13029		12689					
				CONNECTED LOAD (KVA)		DEMAND FACTOR		DEMAND LOAD (KVA)				DEMAND LOAD 39.9 KVA	
Motors				12.6		1.00		12.6				292.6 KVA	
Motors (Largest)				8.8		1.25		11.0				351.9 AMPS	
Receptacles (0 ~ 10 KVA)				3.6		1.00		3.6				88 %	
Equipment				6.0		1.00		6.0				A TO B	
Heating				6.4		1.00		6.4				B TO C 82 %	
Lighting				0.2		1.25		0.2				C TO A 97 %	
Lighting - Exterior				0.1		1.25		0.1				94 %	
TOTAL:				37.7				39.9					
LOAD (AMPS):				45.3				48.1					



CONSULTANTS, INC.
545 EAST PIKES PEAK AVENUE, SUITE 300
COLORADO SPRINGS, COLORADO 80903
(719) 227-0072

DESIGNER: THE CONSULTANT SHALL VERIFY ALL DIMENSIONS, AND ERRORS OR OMISSIONS
SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO
LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

AVATAR EQUITIES
RIVERBEND CROSSING LIFT STATION
ELECTRICAL SITE PLAN

NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

FOR
CONSTRUCTION



Project No.: 296.01
Date: 7/12/2021
Design: JJA
Drawn: EJR
Check: JJA

E2
SHEET E2 OF 3



Chavez Tiffany & Ayers
Engineering Corporation
511 North Nevada Avenue
Colorado Springs, Colorado 80903
P. (719) 636-0021



FLAG NOTES:

1. PROPOSED LOCATION OF CITY TRANSFORMER.
2. UNDERGROUND SECONDARY FROM TRANSFORMER TO INCOMING ELECTRICAL SERVICE. SEE ONE-LINE FOR MORE INFORMATION.
3. UNDERGROUND FROM BUILDING TO WELL.
4. PROVIDE NEMA 3R FUSED DISCONNECTS FOR PUMPS IN WELL. MOUNT DISCONNECTS ON UNISTRUT FRAMING ABOVE. PROVIDE LIQUIDTIGHT FEEDERS TO SUBMERSIBLE PUMPS BELOW.
5. SEE LIGHTING PLAN FOR EXTERIOR LIGHTING CIRCUITS.

ELECTRICAL SITE PLAN
SCALE: 1"=10'-0"



COMcheck Software Version 4.1.1.0
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: River Bend Lift Station
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B X C)
1-Warehouse	288	0.59	171
Total Allowed Watts = 171			

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Warehouse LED 1: S4: Other:	1	4	41	164
Total Proposed Watts = 164				

Interior Lighting PASSES: Design 4% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Project Title: River Bend Lift Station Report date: 03/22/21
Data filename: Z:\SCAinc Projects\River Bend Lift Station\Project Elec\Schedules\River Bend Lift Station IECC Page 1 of 5
2015.cck



Chavez Tiffany & Ayers
Engineering Corporation
611 North Nevada Avenue
Colorado Springs, Colorado 80903
P: (719) 636-0021

LIGHT FIXTURE SCHEDULE									
TYPE	MFGR	CATALOG NO.	LAMPS		MTG	DESCRIPTION	NOTES	VOLTS	TOTAL WATTS
			LUMENS	COLOR TEMP					
S4	LITHONIA OR EQUAL	ZL1D L48 5000LM FST MVOLT 35K 80x	5,000	3500K	SURFACE	4' LENSED LED STRIPLIGHT		120	41
XE	LITHONIA OR EQUAL	LHQM LED G	-	-	UNIVERSAL	THERMOPLASTIC EXIT/EM COMBO UNIT WITH BATTERY BACK-UP		120	7.3
WW1	LITHONIA OR EQUAL	WDGE2 LED P1 40K 80CRI VW MVOLT SRM PIR DDBXD	1200	4000K	WALL/SURFACE 9'-0" AFF	COMPACT LED WALL PACK AND OCCUPANCY SENSOR	A	120	10
WW2	LITHONIA OR EQUAL	DSXW1 LED 10C 700 40K 1FTM MVOLT DDBXD	2808	4000K	WALL/SURFACE 9'-0" AFF	LED WALL PACK WITH FORWARD THROW	B	120	26

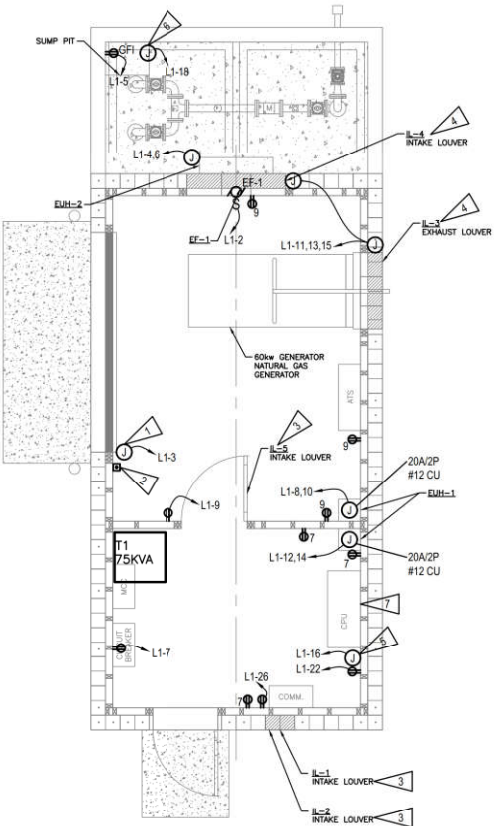
GENERAL NOTES:

NOTES:

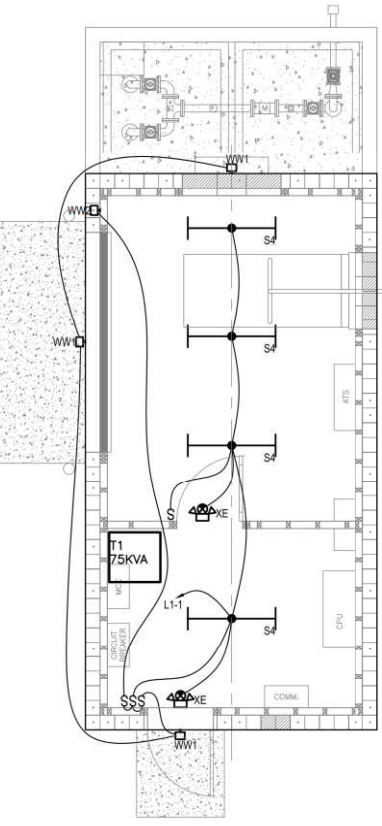
- A. FIXTURE OCCUPANCY SENSOR CAN BE OVERRIDDEN BY STANDARD TOGGLE SWITCH.
- B. LIGHT FIXTURE CONTROLLED BY STANDARD TOGGLE SWITCH.

FLAG NOTES:

1. PROVIDE JUNCTION BOX WITH 120V CIRCUIT CONNECTION FOR OVERHEAD DOOR.
2. PROVIDE BUTTON CONTROL FOR OVERHEAD DOOR.
3. NO ELECTRICAL CONNECTION REQUIRED FOR LOUVER.
4. PROVIDE JUNCTION BOX, CONDUIT, AND WIRE FOR POWER CONNECTION OF LOUVER. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR.
5. PROVIDE JUNCTION BOX WITH 120V CONNECTION FOR MAGNETIC FLOWMETER. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND SUPPLIER.
6. PROVIDE WEATHER PROOF JUNCTION BOX AND 120V CONNECTION FOR WATER-ON-FLOOR SWITCH. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND SUPPLIER.
7. COORDINATE SIZE AND CONNECTION FOR CPU.



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



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



CONSULTANTS, INC.
545 EAST PIKES PEAK AVENUE, SUITE 300
COLORADO SPRINGS, COLORADO 80903
(719) 227-0072

DESIGNER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

AVATAR EQUITIES
RIVERBEND CROSSING LIFT STATION
LIGHTING AND POWER PLANS

REVISIONS	NO.	DESCRIPTION	BY	APP.	DATE
	1				
	2				
	3				
	4				
	5				
	6				
	7				

FOR
CONSTRUCTION



Project No.: 296.01
Date: 7/12/2021
Design: JJA
Drawn: EJR
Check: JJA

E3
SHEET E3 OF 3