

SAN JACINTO RIVER AUTHORITY

HIGHLANDS DIVISION

SIPHON 29 IMPROVEMENTS

CSP NO. 20-0021

CONTRACT NO. 20-0021



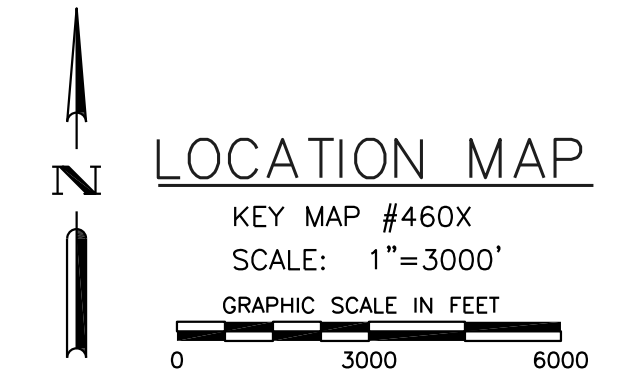
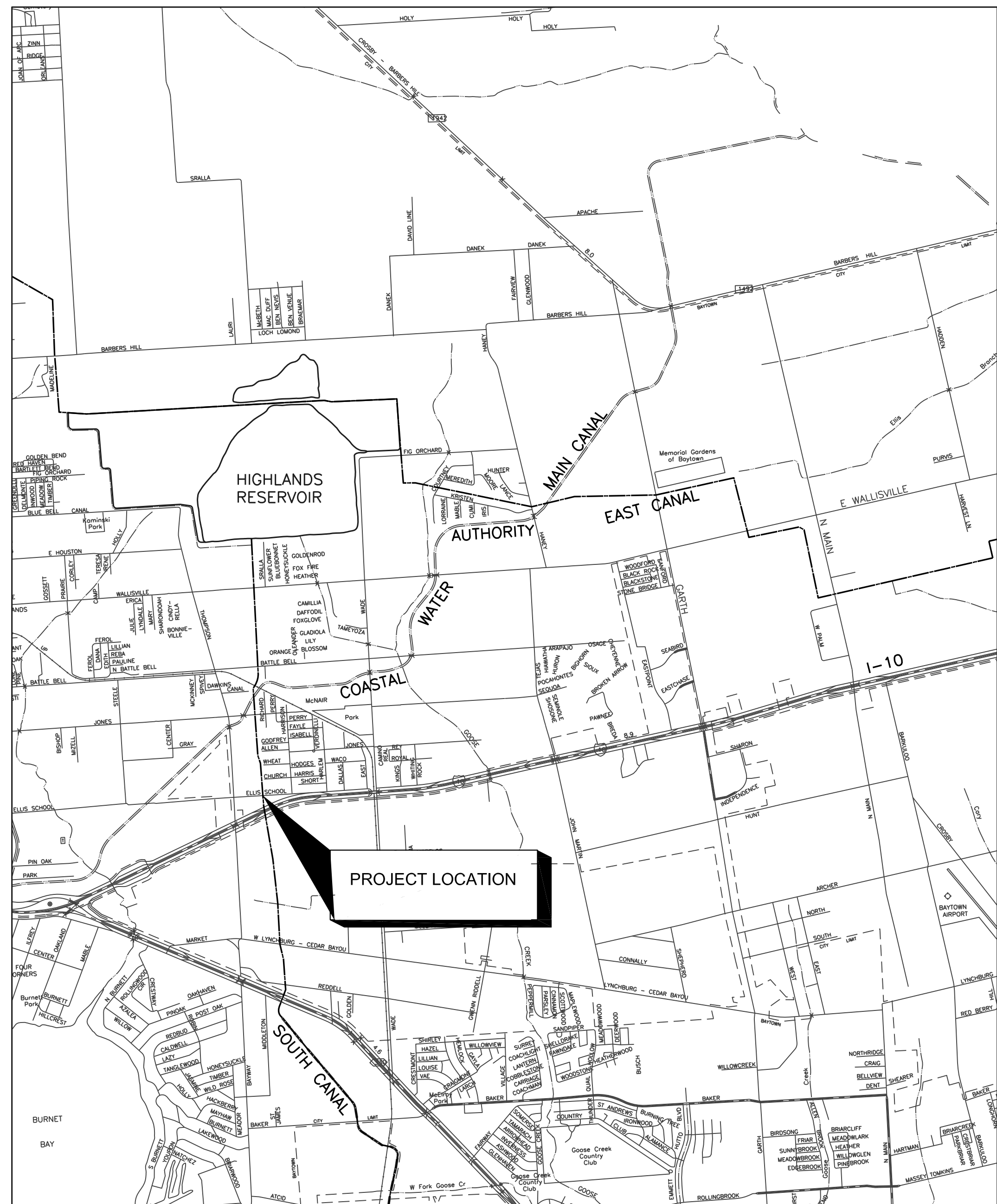
RELEASED FOR PROPOSALS
▲ SUBMITTAL
JUNE 9, 2020

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ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
 (713) 223-4567
 (New Statewide Number Outside Houston)
 1-800-545-6005

48 HOUR NOTICE:
 CONTRACTOR SHALL NOTIFY HARRIS COUNTY
 PRIOR TO COMMENCING CONSTRUCTION AND/OR
 BACKFILLING ANY UTILITIES. CONTRACTOR(S) TO
 CONTACT PUBLIC REVIEW DEPARTMENT @
 (713-274-3931) (public.review@hccpid.org)



TEXAS WATER ENGINEERING, PLLC.
 Texas Registered Engineering Firm F-8482



5/15/20

COVER

SHEET
 SEQ. 1 OF 26

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA\SJRA Siphon 29\Final Design\100 pct CAD Drawings\SJRA-SIPHON 29-HCREVIEWSHT_G-2.dwg LAYOUT: Layout1 DATE: 6/9/20 BY: VICTORIA FOSS

1. PAVING

Table with columns: DESIGN THICKNESS OF PAVING (IN.), STABILIZED SUBGRADE DEPTH (IN.), DESIGN STRENGTH OF CONCRETE (PSI), STEEL SPACING LONG, TRANS, REINFORCE STEEL SIZE (#4 MIN.).

DRIVEWAYS (in H.C. ROW only)

Table with columns: DRWY, WIDTH, MATERIAL, CULVERT?, CULVERT LENGTH, X-STREET, DIST. TO X-STREET.

FIRE APPARATUS ACCESS ROAD

REQUIRED AND SHOWN ON SHEET(S) NOT REQUIRED DUE TO

CURBING

ISLANDS AND MEDIANS REQUIRE STANDARD B CURBING STANDARD B CURBING PROPOSED 4' x 12" CURBING PROPOSED EXCEPT AT MEDIANS AND ISLANDS

TRAFFIC CONSIDERATIONS

NO MEDIAN CUT OR RELOCATION IS PROPOSED MEDIAN MODIFICATIONS ARE SHOWN ON SHEET LEFT / RIGHT TURN LANE NO LEFT / RIGHT TURN LANE IS PROPOSED LEFT / RIGHT TURN LANE IS SHOWN ON SHEET

TRAFFIC CONTROL PLAN

NO WORK IN THE RIGHT OF WAY IS PROPOSED THAT WOULD INTERFERE WITH TRAFFIC FLOW TRAFFIC CONTROL SHOWN ON SHEET TCP-1

TRAFFIC SIGNAL

NO TRAFFIC SIGNAL IS EXISTING / PROPOSED EXISTING TRAFFIC SIGNAL DEVICES (T.C. BOXES AND LOOPS) SHOWN ON SHEET PROPOSED TRAFFIC SIGNAL (BY OTHERS)

TRAFFIC IMPACT ANALYSIS

NO TRAFFIC IMPACT ANALYSIS IS REQUIRED TRAFFIC IMPACT ANALYSIS HAS BEEN APPROVED ON DATE: PLAN TITLE: HCPID PROJECT NO.:

5. DESCRIPTION OF PROPERTY

LEGAL DESCRIPTION: 0.41 AC NORTH OF ELLIS SCHOOL RD AND 1 AC SOUTH OF ELLIS SCHOOL RD WITHIN SJRA ACREAGE: 120' EASEMENT SURVEY & ABSTRACT: WILLIAM HILBUS SURVEY, ABSTRACT 336 ADJACENT ROADS: ELLIS SCHOOL RD.

PLATTING: SUBDIVISION PLAT PROPOSED PLAT / REPLAT RECORDED PLAT / REPLAT PLAT NAME: B. STREETS PROPOSED PUBLIC PRIVATE PUBLIC & PRIVATE NONE

JURISDICTIONS: CITY OF ETJ, CITY OF HOUSTON, NO ETJ

UNOBSTRUCTED VISIBILITY EASEMENT (U.V.E.): REQUIRED AND SHOWN ON SHEET(S) NOT REQUIRED

NOTE: ALL APPROVED FINAL PLATS AND ASSOCIATED CPTOI PERMITS MUST BE INCLUDED WITH PLAN SUBMITTAL CONFORMING SUBDIVISION NON-CONFORMING SUBDIVISION PARTIALLY NON-CONFORMING SUBDIVISION

2. RESIDENTIAL / SUBDIVISION DRAINAGE

PROPOSED DRAINAGE SYSTEM TYPE: STORM SEWER ROADSIDE DITCH LOW IMPACT DEVELOPMENT (LID)

DESIGN METHOD USED: CITY OF HOUSTON YEAR FREQUENCY OTHER:

DRAINAGE SYSTEM OUTFALLS DIRECTLY TO EXISTING: DETENTION POND (APPROVED H.C. PRJ NO.) DETENTION POND MAINTAINED BY: HCFCD DRAINAGE NUTCH UNIT NO. H.C. ROADSIDE DITCH (ROAD NAME): H.C. STORM SEWER (APPROVED H.C. PRJ NO.):

H.C. OUTFALL CALCULATIONS: ROADSIDE DITCH OUTFALL: ALLOWABLE OUTFALL RATE: 0.0027 x LF Frontage = (CFS) PROPOSED OUTFALL RATE: (CFS), CALCULATIONS PROVIDED ON SHEET STORM SEWER OUTFALL: CAPACITY ALLOCATED TO TRACT FROM D.A. MAP: (CFS) FROM DRAINAGE AREA MAP DATED: PREPARED BY: APPROVED H.C. PROJECT NO.: ACTUAL OUTFALL RATE: (CFS), CALCULATIONS PROVIDED ON SHEET

DETENTION PROVIDED BY: DETENTION BASIN IS PART THIS PLAN SET. SERVICE AREA MAP IS ON SHEET REGIONAL DETENTION BASIN SYSTEM (APPROVED H.C. PRJ NO.):

PROPOSED STORM SEWER IS SUBMERGED (AGREEMENT MUST BE PROVIDED). STATIC W.S.E. @ OUTFALL IS

OFFSITE SHEET FLOW: (100 YEAR) OFFSITE SHEET FLOW MAPPING, TOTAL DISCHARGE CALCULATIONS, AND DESIGN ACCOMMODATIONS ARE SHOWN ON SHEET OR, AS PRESENTED IN THE APPROVED DRAINAGE STUDY ENTITLED

NOTE: ALL OFFSITE SHEET FLOW FROM ADJACENT PROPERTIES MUST BE IDENTIFIED AND PROPERLY ACCOUNTED FOR IN THE PROJECT. THE SIGNING ENGINEER HEREBY CERTIFIES THAT THESE AREAS HAVE BEEN ADDRESSED.

3. COMMERCIAL / OTHER SITE DRAINAGE

PROPOSED DRAINAGE AREA: NEW DEVELOPMENT AREA RE-DEVELOPMENT AREA (NET NEW DEVELOPED AREA): LOW IMPACT DEVELOPMENT (LID)

DETENTION VOLUME: NEW AREA: * ACRE FEET DETENTION REQUIREMENT: * (CHANNEL) * (STM SWR) * (RD. DITCH) * OTHER:

PROPOSED DETENTION VOLUME = ACRE FEET PROPOSED DETENTION VOLUME CALCULATIONS ARE SHOWN ON SHEET DETENTION VOLUME PROVIDED BY EXISTING DETENTION POND APPROVED H.C. PROJECT NO. DETENTION POND SERVICE AREA MAP IS PROVIDED ON SHEET

OUTFALL: H.C. ROADSIDE DITCH EXISTING H.C. STORM SEWER OTHER

ROADSIDE DITCH OUTFALL: ALLOWABLE OUTFALL RATE: 0.0027 x LF Frontage = (CFS) PROPOSED OUTFALL RATE: (CFS), CALCULATIONS PROVIDED ON SHEET STORM SEWER OUTFALL: CAPACITY ALLOCATED TO TRACT FROM D.A. MAP: (CFS) FROM DRAINAGE AREA MAP DATED: PREPARED BY: APPROVED H.C. PROJECT NO.: ACTUAL OUTFALL RATE: (CFS), CALCULATIONS PROVIDED ON SHEET

PUMPED DETENTION FACILITIES: VOLUME THAT GRAVITY FLOWS: ACRE FEET VOLUME THAT IS PUMPED: ACRE FEET ENTRANCE VELOCITY INTO ROADSIDE DITCH OR STORM SEWER: PUMP SPECIFICATIONS AND AUTOMATIC SHUTOFF PLAN FOR ROADSIDE DITCH & STORM SEWER OUTFALLS APPEAR ON SHEET

FLOW RESTRICTOR SIZE: OUTFALL PIPE SIZE: RESTRICTOR PIPE SIZE:

NOTE: ALL ROADSIDE DITCH OUTFALLS REQUIRE EROSION CONTROL MEASURES. RIPRAP IS NOT ALLOWED AS AN EROSION CONTROL MEASURE IN HARRIS COUNTY ROW. ALL PUMPED DETENTION OUTFALLS TO ROADSIDE DITCHES REQUIRE MANHOLE W/LADES.

4. WATER AND WASTEWATER

COMMERCIAL PROJECTS: DOES PROPERTY HAVE EXISTING AND/OR PROPOSED UTILITIES? YES NO IF YES, CHECK THE BOX THAT APPLIES TO THIS PROJECT PUBLIC WATER & SANITARY PRIVATE WATER WELL & SEPTIC SYSTEM PUBLIC WATER & PRIVATE SEPTIC SYSTEM PRIVATE WATER WELL & PUBLIC SANITARY

NOTE: PUBLIC UTILITIES REQUIRE A LETTER FROM THE DISTRICT MUNICIPALITY AUTHORIZING SERVICE & CONNECTION. THIS IS REQUIRED FOR PLAN APPROVAL. UTILITY DISTRICT/MUNICIPALITY NAME: NOTE: SEPTIC SYSTEMS REQUIRE H.C. WASTE WATER REVIEW TO H.C. SEPTIC PERMIT REQUEST NO. NOTE: ALL EXISTING AND PROPOSED UTILITIES MUST BE ACCURATELY SHOWN & LABELED ON THE SITE PLANS.

SUBDIVISION PROJECTS: UTILITY DISTRICT/MUNICIPALITY NAME: PRIVATE WATER & WASTE WATER SYSTEMS PRIVATE WATER & INDIVIDUAL OSSF INDIVIDUAL WATER WELL & OSSF

NOTE: A COPY OF TCEQ APPROVAL FOR PRIVATE WATER & WASTE WATER SYSTEMS IS REQUIRED FOR PLAN APPROVAL. UNDERGROUND FIRE LINES MUST BE SUBMITTED TO THE HARRIS COUNTY FIRE PROTECTION GROUP FOR REVIEW AND PERMITTING BY THE UNDERGROUND FIRE LINE CONTRACTOR. CIVIL REVIEW DOES NOT REVIEW OR APPROVE UNDERGROUND FIRE LINES FOR THE FIRE PROTECTION SYSTEMS.

WASTEWATER TREATMENT PLANTS: H.C. WWTP REVIEW: IS THE PROPOSED PROJECT A NEW WWTP SITE OR A REHAB/EXPANSION OF AN EXISTING WWTP SITE? YES NO IF YES, IS A HARRIS COUNTY DOMESTIC WASTEWATER TREATMENT PLANT EXPRESS REVIEW SHEET ATTACHED AND COMPLETED ACCORDING TO INSTRUCTIONS? YES NO REFER TO: WWW.ENGHCTX.NET/PERMITS/WASTEWATER/REGULATIONS-STANDARDS/DETAILS FOR DOMESTIC WWTP FORM

7. FLOOD PLAIN STATUS

GENERAL INFORMATION: FIRM PANEL(S) FOR PROPERTY: Panel 745; Map 48201C0745M FIRM PANEL(S) DATE: JANUARY 6, 2017 STATUS OF PROPERTY ON MAP ENTIRELY LOCATED IN UNSHADED ZONE "X" LOCATED PARTIALLY OR ENTIRELY IN ANY "A" ZONE OR SHADED ZONE "X", DELINEATE FLOODPLAIN BOUNDARY ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT PG. NO. (1% BASE FLOOD LEVEL) (0.2% BASE FLOOD LEVEL) SITE REMOVED FROM FLOODPLAIN BY LOMR, LOMR-F, LOMA CASE NO. REVISED FLOODPLAIN IS SHOWN ON SHEET

ELEVATION INFORMATION: BENCHMARK USED HARRIS COUNTY FLOODPLAIN REFERENCE MARK HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT BENCHMARK (FOR COASTAL AREAS) DESCRIPTION OF BENCHMARK INCLUDING ELEVATION, DATUM AND YEAR OF ADJUSTMENT (2001 ADJ.) HARRIS COUNTY FLOODPLAIN REFERENCE MARKS # 070535, EL. 26.57; #140115, EL. 36.26; HORZ DATUM NAD83, VERT DATUM NAVD 88, 2001 ADJ.

FLOODPLAIN DETERMINATION BASED ON GROUND ELEVATION: PROPERTY LIES ENTIRELY ABOVE THE BASE FLOOD LEVEL AND IN SHADED ZONE "X" PROPERTY LIES PARTIALLY OR ENTIRELY BELOW THE BASE FLOOD LEVEL (APPLIES ONLY TO PORTION OF LAND LOCATED WITHIN FLOODPLAIN AS DELINEATED BY FIRM PANEL)

FLOODPLAIN STORAGE SUMMARY: TOTAL VOLUME OF MATERIAL PROPOSED TO BE MOVED OR PLACED WITHIN THE FIRM DELINEATED FLOODPLAIN (FILL, BASE, CONCRETE, ASPHALT, ETC.): BELOW 0.2% BASE FLOOD ELEVATION (2001 ADJ.) CUBIC YARDS TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN: BELOW 0.2% BASE FLOOD ELEVATION (2001 ADJ.) CUBIC YARDS FILL AREA & VOLUME CALCULATIONS ARE SHOWN ON SHEET

LOMR REQUIRED: CLOMR REQUIRED: VERIFIED BY:

8. CURB RAMPS

A. ARE CURB RAMPS THAT CONNECT TO PUBLIC STREETS PROPOSED IN THIS SET OF PLANS? YES NO

9. LANDSCAPING

REQUIRED AND SHOWN ON SHEET(S) NOT REQUIRED

10. PERMITS REQUIRED

DOES THE PROPERTY HAVE ANY VIOLATIONS? IF SO PLEASE PROVIDE ALL VIOLATION NUMBERS.

STORM WATER QUALITY: SEPTIC (EXISTING) SEPTIC (PROPOSED) CIVIL SITE WORK (PHASE II PERMIT CLASS I (non-floodplain)) CIVIL SITE WORK (PHASE II PERMIT CLASS II (floodplain)) DRIVEWAY WITH CULVERT CURB AND GUTTER

BUILDING PERMITS (NO. OF BUILDINGS =) CRITICAL FACILITY SUBDIVISION INFRASTRUCTURE PHASE II (NO. OF LOTS =) NOTICE OF DETENTION AFFIDAVIT REQUIRED MUD MAINTENANCE AGREEMENT REQUIRED

NOTES: WORK IN HARRIS COUNTY R.O.W. UTILITY WORK LEFT TURN LANE OTHER CONSTRUCTION SIPHON INSTALLATION BENEATH HARRIS COUNTY ROAD (ELLIS SCHOOL RD)

NOTE: A PERMIT IS REQUIRED FOR EACH SCOPE OF WORK ON SITE. A NOTIFICATION IS REQUIRED FOR EACH SCOPE OF WORK IN HC OR HCFCD ROW. REFER TO WWW.ENGHCTX.NET/PERMITS FOR EACH SCOPE OF WORK IN HC OR IN HCFCD ROW.

BENCHMARK REQUIREMENTS FOR PROPOSED BRIDGES AND OR NEW RESIDENTIAL SUBDIVISIONS: When the County Engineer has determined that a new benchmark will be required to be established for the proposed project, the developer shall be required to install a benchmark per section 8.0, part 2 of the Harris County Infrastructure Regulations.

Is a new Benchmark required for this project? (to be determined by Harris County) YES NO If a new Benchmark is required, the proposed benchmark information is shown on sheets

FOR PROJECTS LOCATED IN ANY FLOODPLAIN: Development constructed or placed in accordance with these plans will comply with all provisions of the Regulations of Harris County, Texas for Floodplain Management. No net fill is allowed in the flood plain and no fill is allowed in the floodway.

FOUNDATION NOTES: (Applies to only buildings or building additions requiring a class II permit) All water heaters, furnaces, air conditioning units, electrical distribution panels, and any other mechanical or electrical equipment must be elevated in accordance with Section 4.05 of Harris County Floodplain regulations.

Any electrical circuit serving a light switch or outlet located below the base (100-year) flood elevation shall be dropped from above and be on a separate breaker. All materials used below the (100-year) base flood elevation are on approved FEMA Technical Bulletin 2-08 as Class 5 water-resistant, and approved in accordance with FEMA Technical Bulletin 1-08 for foundation openings.

Critical facilities located in the 0.2% or 500yr floodplain or 1% or 100yr floodplain shall have the lowest floor elevated to 3 feet or more above the 0.2% flood elevation, or 24 inches above the crown of the adjacent road, which ever results in a higher elevation. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.

Access routes elevated to or above the level of the base flood shall be provided to all critical facilities to the extent possible. A completed as-built certificate must be submitted after the structure is complete and before it is occupied. The County Engineer's Office will post a final inspection notice on the structure once all requirements have been met.

No fill may be used to elevate structures in the 1% or 100yr flood plain. Structures may be constructed on an open foundation, such as piers, or on continuous foundation walls with properly sized and located openings. All foundations are required to be designed by a registered professional engineer. All structures shall be designed to withstand a three second gust basic wind speed of 120mph.

Completed "Elevation Certificates to be submitted: one at permitting, a second after the slab is poured or sub-floor is installed and before the framing starts, and a third is required once construction is finished. *PER CURRENT FIRM PANEL to the Harris County Engineering Department, 10555 Northwest Freeway, Suite 120, Houston, TX 77092

HARRIS COUNTY ENGINEERING DEPARTMENT - PERMIT OFFICE NOTE: THE PERMIT MANAGER SIGNATURE REPRESENTS THE FOLLOWING: THE COMPLETION OF REVIEW OF THESE PLANS INTERPOSE NO OBJECTION TO THE PROPOSED DESIGN ON PRIVATE PROPERTY APPROVAL OF WORK IN HARRIS COUNTY MAINTAINED RIGHT OF WAY APPROVAL OF WORK IN PROPOSED HARRIS COUNTY RIGHT OF WAY THAT IS TO BE ACCEPTED BY THE COUNTY

ENGINEER'S CERTIFICATION: I, VICTORIA FOSS, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I AM NOT VIOLATING ANY PROVISION OF THE CURRENT TEXAS ENGINEERING PRACTICE ACT AND RULES CONCERNING THE PRACTICE OF ENGINEERING AND PROFESSIONAL ENGINEERING LICENSURE.

HCCD SIGNATURE BLOCK: ANY VIOLATIONS WILL BE FORWARDED TO THE HARRIS COUNTY DISTRICT ATTORNEY'S OFFICE FOR PROSECUTION. THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS 1 THRU 26. SIGNATURE: Victoria A. Foss DATE: 5/15/20

REVISIONS table with columns: DATE, SHEET NO., DESCRIPTION, P.E. INITIAL, H.C. APPROVED DATE.

HC PROJECT NO.: 2004060058 HCFCD PROJECT NO. SHEET NUMBER 3 OF 26

HARRIS COUNTY ENGINEERING DEPARTMENT REVIEW SHEET

VERSION 19.0 SEPTEMBER 1, 2019



SAN JACINTO RIVER AUTHORITY HIGHLANDS DIVISION



SJRA HIGHLANDS SIPHON 29 IMPROVEMENTS

Table with columns: ISSUE, DATE, DESCRIPTION. Includes entries for 6/9/20 RFP SUBMITAL, SJRA PROJECT NO., FILE NAME: SJRA-SIPHON 29-HCREVIEWSHT_G-2.dwg, DRAWN BY: KC/VF, CHECKED BY: VF, SCALE: AS SHOWN.

GENERAL HARRIS COUNTY EXPRESS REVIEW SHEET

SHEET G-2 SEQ. 3 OF 26

RFP SUBMITTAL

GENERAL NOTES

1. THE FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONSTRUCTION DRAWINGS AS IF THEY WERE WRITTEN ENTIRELY ON EACH SHEET.
2. SCALES NOTED ON DRAWINGS ARE ASSOCIATED WITH FULL SIZE DRAWINGS (22-IN X 34-IN).
3. CONTRACTOR SHALL COORDINATE ALL WORK, RFIs, AND FIELD CHANGES WITH THE CONSTRUCTION MANAGER.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, INCLUDING COUNTY RIGHT OF WAY PERMIT, BONDS, AND INSPECTIONS PRIOR TO START OF CONSTRUCTION WORK. REFER TO WWW.ENG.HCTX.NET FOR REQUIREMENTS.
5. THE CONTRACTOR SHALL PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES, WHETHER OR NOT INDICATED ON THE DRAWINGS.
6. CLEARING PROJECT SITE WITH FIRE IS NOT ALLOWED.
7. NO FIREARMS SHALL BE PERMITTED ON SITE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED SECURITY TO PROTECT HIS/HER PROPERTY, EQUIPMENT, WORK IN PROGRESS AND COMPLETED WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING HIS/HER PROPERTY, EQUIPMENT, WORK IN PROGRESS AND COMPLETED WORK FROM ALL WEATHER CONDITIONS AT NO ADDITIONAL COST TO SJRA.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE SAFETY OF HIS/HER LABORERS (INCLUSIVE OF ALL SUB-CONTRACTORS) FOR THE ENTIRE DURATION OF THE PROJECT.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE DETERRENENTS TO PREVENT THE PUBLIC FROM ACCESSING THE PROJECT SITE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP OF THE SITE AND ADJOINING ACCESS ROADS DURING ALL ASPECTS OF THE CONSTRUCTION. SITE AND IMPACTED ACCESS ROADS SHALL BE CLEAR OF TRASH AT THE END OF CONSTRUCTION EVERY DAY. ALL ACCESS ROADS TO BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO COST TO SJRA UPON COMPLETION OF THE PROJECT.
13. IRON AND STEEL PRODUCTS AND MANUFACTURED GOODS USED FOR THE CONSTRUCTION OF THIS PROJECT MUST BE PRODUCED IN THE UNITED STATES, UNLESS:
 - 13.1. THE PRODUCTS/GOODS ARE NOT AVAILABLE IN SUFFICIENT QUANTITIES, ARE NOT READILY AVAILABLE, OR ARE NOT OF SATISFACTORY QUALITY, OR
 - 13.2. THE USE OF THE PRODUCTS/GOODS WILL INCREASE THE TOTAL COST OF THE PROJECT BY MORE THAN 20 PERCENT.
14. THE CONTRACTOR SHALL COMPLY WITH THE U.S. IRON AND STEEL REQUIREMENTS PROVIDED IN TWDB-1105 OF THE PROJECT SPECIFICATIONS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING STRUCTURES, UTILITIES, TREES, SHRUBS, FENCES, AND OTHER ADJOINING FACILITIES, AND SHALL REPAIR OR REPLACE TO ORIGINAL OR BETTER CONDITION IF DAMAGE IS CAUSED BY CONTRACTOR AT NO COST TO SJRA. THIS ALSO INCLUDES SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES. WHETHER OR NOT INDICATED ON THE DRAWINGS, SOME DIMENSIONS AND ELEVATIONS RELATED TO EXISTING STRUCTURES WERE OBTAINED FROM PREVIOUS SURVEYS AND CONSTRUCTION/RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE AND PRINCIPAL ARCHITECT/ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK.
16. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE TO ENSURE A DRY WORK AREA AT ALL TIMES DURING CONSTRUCTION.
17. CONTRACTOR SHALL PREVENT RUTS OR DAMAGE TO ANY AREA WITHIN THE LIMITS OF CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO ANY PORTION OF THE CANAL SLOPES, LEVEES (CREST AND SLOPES), AND OUTSIDE LEVEE TOES. ALL INCIDENTAL DAMAGE SHALL BE REPAIRED IMMEDIATELY AT NO COST TO OWNER.
18. CONTRACTOR SHALL SEED AND FERTILIZE ALL AREAS TO ESTABLISH GRASS TO OWNER STANDARDS FOR AREAS NOT COVERED BY A STRUCTURE THAT HAVE BEEN DISTURBED BY CONSTRUCTION ACTIVITIES EXCEPT THE CHANNEL BOTTOM AND WHERE PERMANENT STRUCTURAL EROSION MEASURES ARE USED. SEE SPECIFICATION SECTION 32 92 13 - HYDRO-MULCHING.
19. EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO CURRENT HARRIS COUNTY STANDARDS, AT NO COST TO OWNER.
20. NOTIFICATIONS TO HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT ARCHITECTURE AND ENGINEERING DIVISION PERMIT OFFICE REQUIRED PRIOR TO CONSTRUCTION WITHIN HARRIS COUNTY AND HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHTS-OF-WAY. CONTACT HARRIS COUNTY PERMIT OFFICE (713) 316-3562.
21. OBTAIN AND COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL PERMITS AND APPROVALS, WITH ASSISTANCE FROM PRINCIPAL ARCHITECT/ENGINEER AND OWNER'S REPRESENTATIVE, IF NECESSARY.
22. IMMEDIATELY RECONSTRUCT ALL DRAINAGE CHANNELS DISTURBED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION AND UTILIZING SAME FLOW LINES AND HYDRAULIC CAPACITY FOR STORM WATER SYSTEMS.

UTILITY AND PIPELINE COMPANY COORDINATION NOTES

1. EXISTING STRUCTURES, UTILITIES AND PIPELINES (PRIVATE AND PUBLIC) ARE SHOWN FROM AVAILABLE RECORDS AT THE TIME THESE CONSTRUCTION DRAWINGS WERE PREPARED; SEE SHEET C-1 FOR MORE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND VERIFYING THE LOCATION AND DEPTH OF ALL EXISTING STRUCTURES, UTILITIES AND PIPELINES WITHIN THE CONSTRUCTION AREA PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHOULD CONTACT THE HOUSTON AREA UTILITY COORDINATION COMMITTEE 48 HOURS IN ADVANCE OF BEGINNING WORK (713-223-4567). THE CONTRACTOR SHALL INCLUDE COST IN HIS/HER PROPOSAL FOR TEMPORARILY RELOCATING AND REINSTALLING EXISTING STRUCTURES, UTILITIES AND PIPELINES AS REQUIRED FOR CONSTRUCTION OF THE PROPOSED WORK. COST CONSIDERATIONS MUST BE GIVEN FOR BACKFILL, ENCASEMENT, SUPPORTS, RESTRAINTS, FITTINGS, VALVES, HEAT TRACINGS, INSULATION AND ANY TYPICAL OR SPECIAL COATINGS THAT ARE APPLIED TO THE INTERIOR AND/OR EXTERIOR OF THE PIPING AND ITS APPURTENANCES. ANY DAMAGE TO EXISTING STRUCTURES, UTILITIES AND PIPELINES SHALL BE RESTORED TO ORIGINAL CONDITIONS AT NO ADDITIONAL COST TO SJRA. IN ADDITION, CONTRACTOR SHOULD NOTIFY OWNER'S REPRESENTATIVE IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
2. CONTRACTOR SHOULD OBSERVE ANY/ALL ELECTRIC LINES WITHIN THE PROJECT LIMITS. CONTRACTOR SHOULD COORDINATE WITH THE APPROPRIATE UTILITY COMPANY FOR A TEMPORARY POWER SHUTDOWN (SHOULD THE CONTRACTOR'S MEANS AND METHODS NECESSITATE POTENTIAL CONSTRUCTION CONFLICTS OR SAFETY CONCERNS, I.E. ELECTRICAL ARCINGS).
3. EXCAVATION TO TAKE PLACE ADJACENT (WITHIN 5 FEET) TO AND/OR ACROSS EXISTING UTILITIES OR PIPELINES (REMAINING IN PLACE) SHALL BE EXCAVATED BY HAND AND IN SUCH A MANNER AS TO AVOID DAMAGE TO THE EXISTING FACILITIES.
4. EXISTING CONCRETE THRUST BLOCKING THAT CONFLICTS WITH NEW CONSTRUCTION OR MODIFICATION SHALL BE REMOVED BY THE CONTRACTOR. WHEN REMOVED, THE CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINT TO THE EXISTING PIPING SYSTEM, FITTINGS, AND/OR STRUCTURES TO MAINTAIN CONTINUOUS OPERATION. ONCE CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL RESTORE THE PREVIOUSLY EXISTING THRUST BLOCKING TO ITS ORIGINAL CONDITION (UNDISTURBED EARTH). THE ORIGINAL CONDITION SHALL INCLUDE PROPER THRUST RESTRAINT AND COMPACTED BACKFILL AS DESCRIBED IN THE CONTRACT DOCUMENTS.
5. IN LIEU OF CONTRACTOR PROVIDING SUPPORT FOR EXISTING UTILITIES OR PIPELINES, CONTRACTOR MAY REQUEST TO TEMPORARILY RELOCATE THEM AWAY FROM THE WORK AREA AND THEN REINSTALL THEM ONCE NEW CONSTRUCTION IS COMPLETE. CONTRACTOR SHALL SUBMIT A PLAN TO OWNER'S REPRESENTATIVE AND PRINCIPAL ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL FOR ANY PROPOSED TEMPORARY UTILITY OR PIPELINE RELOCATION. THE CONTRACTOR SHALL ADDITIONALLY SECURE THE APPROVAL OF THE APPLICABLE UTILITY OR PIPELINE COMPANY. TEMPORARY UTILITY OR PIPELINE RELOCATIONS SHALL BE ACCOMPLISHED AT NO ADDITIONAL COST TO SJRA AND ASSOCIATED REQUIRED SHUTDOWNS SHALL ADHERE TO SPECIFIED MAXIMUM ALLOWABLE DURATIONS ACCORDING TO UTILITY OWNERS.

CENTERPOINT NOTES

WARNING: OVERHEAD ELECTRICAL LINES

OVERHEAD LINES EXIST ON THE PROPERTY. THE APPROXIMATE LOCATION OF OVERHEAD LINES IS SHOWN ON THESE DRAWINGS, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

- ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN SIX(6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
- OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL (713) 207-2222.

ACTIVITY ON OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY: NO APPROVAL TO USE, CROSS OR OCCUPY CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-6248 OR (713) 207-5769.

CAUTION: UNDERGROUND GAS FACILITIES

LOCATION OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC WHERE APPLICABLE) ARE SHOWN IN APPROPRIATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

- WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 945-8036 OR (713) 945-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713) 656-3552 OR (713) 207-4200.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT (713) 207-2222

NOTICE: FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

STANDARD HCFCD NOTES

1. OBTAIN AND COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL PERMITS AND APPROVALS, WITH ASSISTANCE FROM PRINCIPAL ARCHITECT/ENGINEER, IF NECESSARY. OBTAIN PERMIT (CERTIFICATION) FROM HARRIS COUNTY PRINCIPAL ARCHITECT/ENGINEER TO ENTER HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT-OF-WAY.
2. NOTIFY THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGER IN WRITING AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. SUBMIT THE HCFCD 48 HOUR PRE-CONSTRUCTION NOTIFICATION FORM, A COPY OF THE APPROVED CONSTRUCTION DRAWINGS, AND A COPY OF THE CORPS OF ENGINEERS INDIVIDUAL SECTION 404 PERMIT, IF APPLICABLE, TO HCFCD, 9900 NORTHWEST FREEWAY, HOUSTON, TEXAS 77092, ATTN: PROPERTY MANAGEMENT DEPT. BY HAND DELIVERY, OR FAX TO 713-684-4129 (FAX NUMBER).
3. PRINCIPAL ARCHITECT/ENGINEER SHALL SUBMIT CERTIFICATION LETTER AND RECORD DRAWINGS TO THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT REQUESTING INSPECTION OF ITEMS CONSTRUCTED IN HARRIS COUNTY FLOOD CONTROL DISTRICT'S RIGHT-OF-WAY. PRIOR TO REQUESTING INSPECTION, THE DRAINAGE RIGHT-OF-WAY AND/OR EASEMENTS SHALL BE STAKED AND FLAGGED BY CONTRACTOR.
4. PROTECT, MAINTAIN, AND RESTORE EXISTING BACKSLOPE DRAINAGE SYSTEMS.
5. BACKSLOPE SWALE AND INTERCEPTOR STRUCTURE ELEVATIONS AND LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. FINAL ELEVATIONS AND LOCATIONS SHALL BE FIELD VERIFIED BY THE PRINCIPAL ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
6. ESTABLISH TURF GRASS ON ALL DISTURBED AREAS WITHIN THE CHANNEL OR DETENTION RIGHT-OF-WAY, EXCEPT THE CHANNEL BOTTOM AND WHERE STRUCTURAL EROSION MEASURES ARE USED. MINIMUM ACCEPTANCE CRITERIA ARE 75% COVERAGE OF LIVE BERMUDA GRASS AND NO EROSION OR RILLS DEEPER THAN 4".
7. BACKFILL IN ACCORDANCE WITH HARRIS COUNTY FLOOD CONTROL DISTRICT STANDARD SPECIFICATION, SECTION 02315 - EXCAVATING AND BACKFILLING, OR EQUIVALENT.
8. EXCAVATE CHANNEL FLOWLINE TO DESIGN ELEVATION AS SHOWN ON PLANS AND DOWNSTREAM, AS NECESSARY, TO ENSURE NO WATER REMAINS IN THE FACILITY (STORM SEWER, LATERAL CHANNEL, OR DRY BOTTOM DETENTION BASIN) DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL, SO THE FACILITY WILL FUNCTION AS INTENDED. FOR WET BOTTOM DETENTION BASINS, ENSURE NO WATER IS ABOVE THE DESIGN LEVEL IN THE WET BOTTOM DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL.
9. MAINTAIN FLOW IN CHANNEL DURING CONSTRUCTION AND RESTORE CHANNEL TO ORIGINAL CONDITION.
10. REMOVE ALL EXCAVATED MATERIAL FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT OR DRAINAGE RIGHT-OF-WAY. NO FILL IS TO BE PLACED WITHIN A DESIGNATED FLOOD AREA WITHOUT FIRST OBTAINING A FILL PERMIT FROM THE APPROPRIATE JURISDICTIONAL AUTHORITY.
11. HARRIS COUNTY SPECIFICATIONS REFERENCED IN PREVIOUS NOTES ARE AVAILABLE AT http://www.hcfcd.org/medio/1311/hcfcd_2005_specifications.pdf.

ENVIRONMENTAL NOTES

1. AS PER AN AGREEMENT WITH THE HARRIS COUNTY FLOOD CONTROL DISTRICT, THE AUTHORITY AGREES TO SUBMIT PLANS FOR REVIEW AND OBTAIN ALL NECESSARY PERMITS OR WAIVERS PRIOR TO CONSTRUCTION WITHIN THE 100-YEAR FLOODPLAIN.
2. PRIOR TO CONSTRUCTION OR CLEARING ACTIVITIES WITHIN ANY 100-YEAR FLOODPLAIN, A PERMIT OR WAIVER FROM THE LOCAL FLOODPLAIN ADMINISTRATOR (NATIONAL FLOODPLAIN INSURANCE POLICY) MUST BE OBTAINED.
3. AS PER AN AGREEMENT WITH THE TEXAS PARKS AND WILDLIFE DEPARTMENT (TPWD PROJECT NO. 40191):
 - 3.1. TO ENSURE COMPLIANCE WITH THE MIGRATORY BIRD TREATY ACT, VEGETATION CLEARING WILL OCCUR OUTSIDE THE GENERAL BIRD NESTING SEASON (MARCH TO AUGUST) OR A SURVEY WILL BE CONDUCTED, PRIOR TO CLEARING, FOR ACTIVE NESTS. ANY VEGETATION OR BARE GROUND WITHIN AT LEAST 25 FEET OF OCCUPIED NESTS SHOULD NOT BE DISTURBED UNTIL THE EGGS HAVE HATCHED AND THE YOUNG HAVE FLEDGED. CONSTRUCTION ACTIVITIES SHOULD BE EXCLUDED FROM A MINIMUM ZONE OF 100 METERS SURROUNDING ANY RAPTOR NESTS FROM FEBRUARY 1 THROUGH JULY 15 IN ORDER TO AVOID DISTURBANCE TO RAPTOR NESTS;
 - 3.2. TO ENSURE COMPLIANCE WITH THE BALD AND GOLDEN EAGLE PROTECTION ACT (BGEPA), REFER TO THE UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) NATIONAL BALD EAGLE MANAGEMENT GUIDELINES. WHEN POTENTIAL IMPACTS TO THE BALD EAGLE ARE ANTICIPATED, TPWD RECOMMENDS CONSULTATION WITH USFWS - HOUSTON ECOLOGICAL SERVICES REGARDING COMPLIANCE WITH THE BGEPA AND CONSULTATION WITH TPWD BECAUSE THE BALD EAGLE IS STATE-LISTED AS THREATENED;
 - 3.3. TO ENSURE COMPLIANCE WITH THE TEXAS PARKS AND WILDLIFE CODE, THE AUTHORITY WILL INCORPORATE ACTIONS INTO THE PROJECT TO AVOID IMPACTS TO ALLIGATOR SNAPPING TURTLES. THE AUTHORITY WILL INFORM EMPLOYEES AND CONTRACTORS OF THE POTENTIAL FOR ALLIGATOR SNAPPING TURTLES TO OCCUR WITHIN OR NEAR THE PROJECT CANALS AND HIGHLANDS RESERVOIR.
4. STANDARD EMERGENCY CONDITIONS APPLY FOR THE DISCOVERY OF CULTURAL RESOURCES.
5. STANDARD EMERGENCY CONDITIONS APPLY FOR THE DISCOVERY OF THREATENED AND ENDANGERED SPECIES.

HARRIS COUNTY ESPLANADE OPENINGS AND TURN LANE NOTES

1. THE RELOCATION OF EXISTING TREES, LANDSCAPING, SPRINKLER SYSTEMS, WATER METERS, FIRE HYDRANTS, MANHOLES, AND PIPELINES (IF APPLICABLE) ARE TO BE RE-INSTALLED AS RECOMMENDED BY THE HARRIS COUNTY ENGINEERING DEPARTMENT - PERMIT OFFICE AND/OR THE HARRIS COUNTY PRECINCT
2. ASPHALT ROAD PATCHING TO BE MINIMUM (2) INCHES H.M.A.C. WITH (8) INCH BASE. ROAD WIDENING'S DONE ON ASPHALT ROADWAYS FOR TURN LANES MUST BE OVERLAID FULL WIDTH OF THE ROADWAY FROM BEGINNING TO ENDING TRANSITION.
3. SUBGRADE SHALL BE A MINIMUM OF SIX (6) INCHES FOR ASPHALT AND EIGHT (8) INCHES FOR CONCRETE, OF A MATERIAL AS SPECIFIED BY THE ENGINEER AND APPROVED BY HARRIS COUNTY, AND COMPACTED TO NINETY-FIVE (95) PERCENT STANDARD PROCTOR DENSITY (+/-) TWO (2) PERCENT MOISTURE. CEMENT STABILIZED SAND, AS PRESCRIBED BY HARRIS COUNTY SPECS, MAY BE USED AS AN ALTERNATIVE.
4. ALL SEWERS UNDER OR WITHIN ONE (1) FOOT OF PROPOSED OR FUTURE PAVEMENT SHALL BE BACKFILLED WITH 1-1/2 SACK CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
5. THE CONTRACTOR SHALL NOTIFY THE HARRIS COUNTY ENGINEERING DEPARTMENT - PERMIT OFFICE FORTY-EIGHT (48) HOURS IN ADVANCE OF COMMENCING CONSTRUCTION AT (713) 274-3931 AND WRITTEN NOTIFICATION FORTY-EIGHT (48) HOURS IN ADVANCE OF COMMENCING CONSTRUCTION FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENT.
6. ALL PAVEMENT WORK WILL REQUIRE AN ACCREDITED LAB CERTIFICATION FOR SUBGRADE, CONCRETE COMPRESSIVE STRENGTH, IN PLACE CORE. ASPHALT WORK WILL REQUIRE A SIEVE TEST, SUBGRADE AND BASE COMPACTION RESULTS.
7. PAVING SHALL BE IN ACCORDANCE WITH THE "REGULATIONS OF HARRIS COUNTY, TEXAS FOR THE APPROVAL AND ACCEPTANCE OF INFRASTRUCTURE" RELATING TO THE APPROVAL AND ACCEPTANCE OF IMPROVEMENTS IN SUBDIVISIONS OR RE-SUBDIVISIONS AND/OR AMENDMENTS OF THE SAME.
8. GUIDELINES SET FOR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED.
9. NOTE: "NOTIFICATION(S) ISSUED BY HARRIS COUNTY ENGINEERING DEPARTMENT -PERMIT OFFICE REQUIRED PRIOR TO CONSTRUCTION OF UTILITIES OR TURN LANES WITHIN HARRIS COUNTY RIGHTS-OF-WAY". CONTACT HARRIS COUNTY PERMIT OFFICE AT (713) 274-3931.
10. OWNER OR OWNER'S AGENT TO OBTAIN ALL PERMITS AND NOTIFICATION(S) REQUIRED BY HARRIS COUNTY, TEXAS PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN HARRIS COUNTY ROAD RIGHTS-OF-WAY.



TEXAS WATER ENGINEERING, PLLC.
Texas Registered Engineering Firm F-8482



5/15/20

SAN JACINTO RIVER AUTHORITY HIGHLANDS DIVISION



SJRA HIGHLANDS SIPHON 29 IMPROVEMENTS

Δ	6/9/20	RFP SUBMITAL
ISSUE	DATE	DESCRIPTION
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CHECKED BY: VF		
SCALE:		AS SHOWN

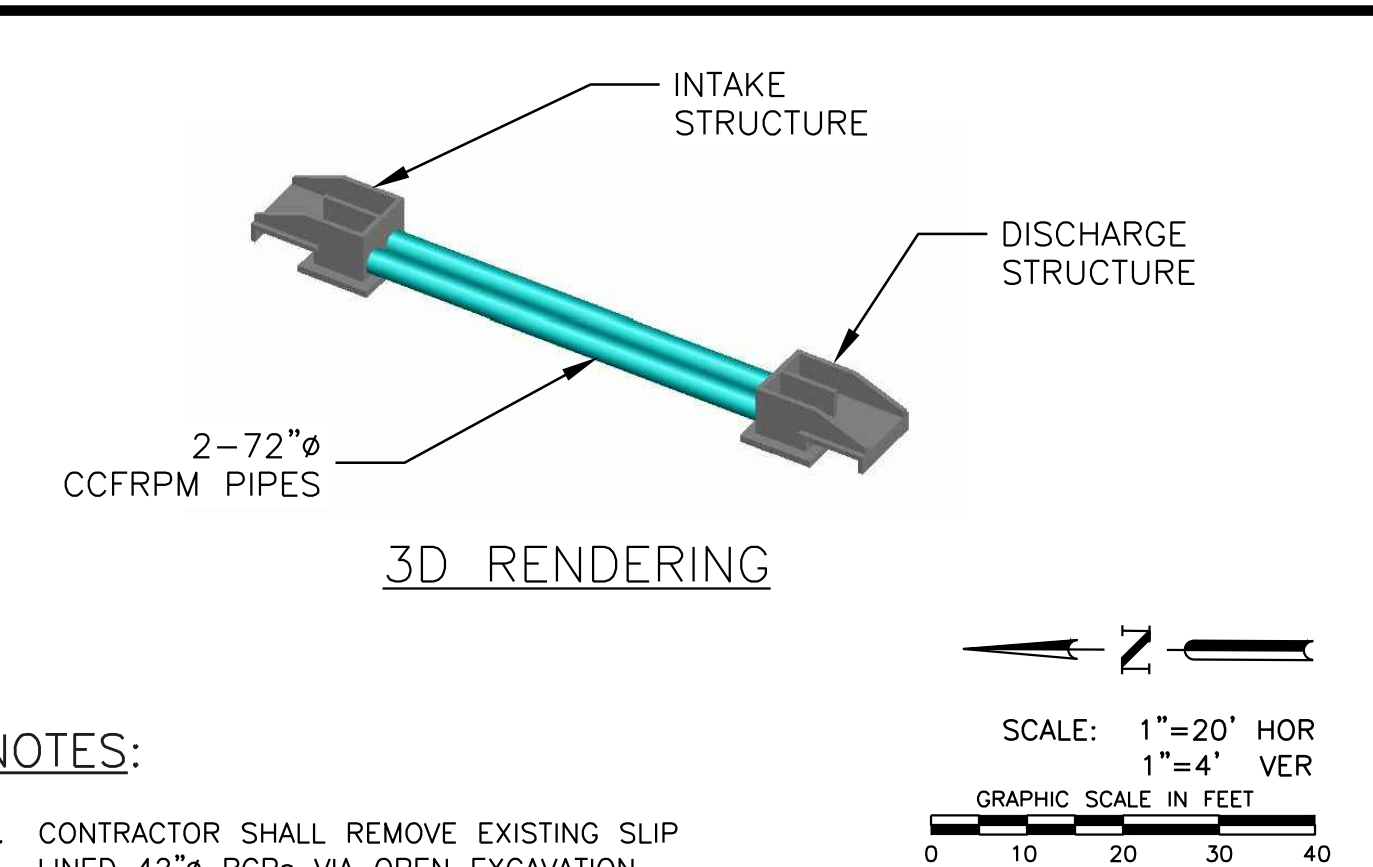
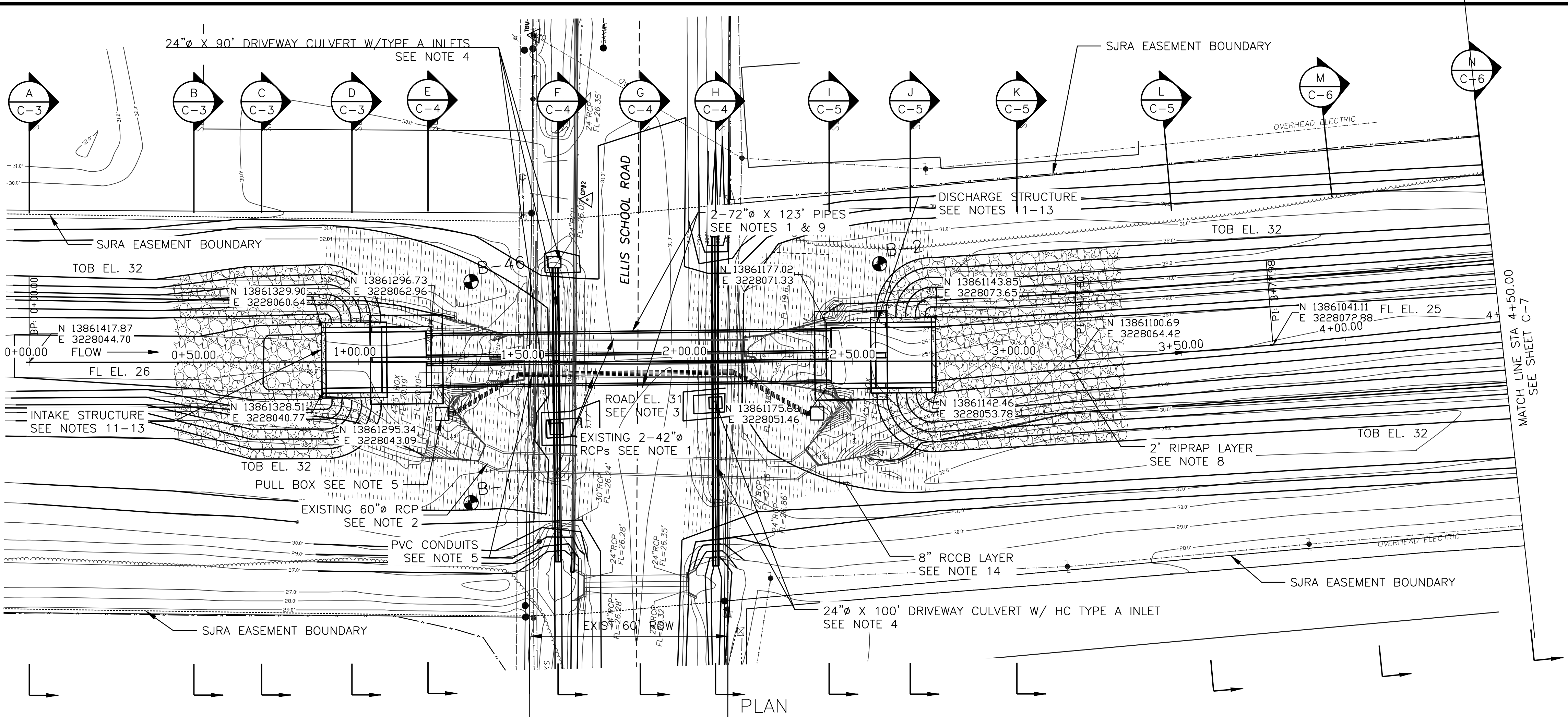
GENERAL GENERAL NOTES

SHEET G-3
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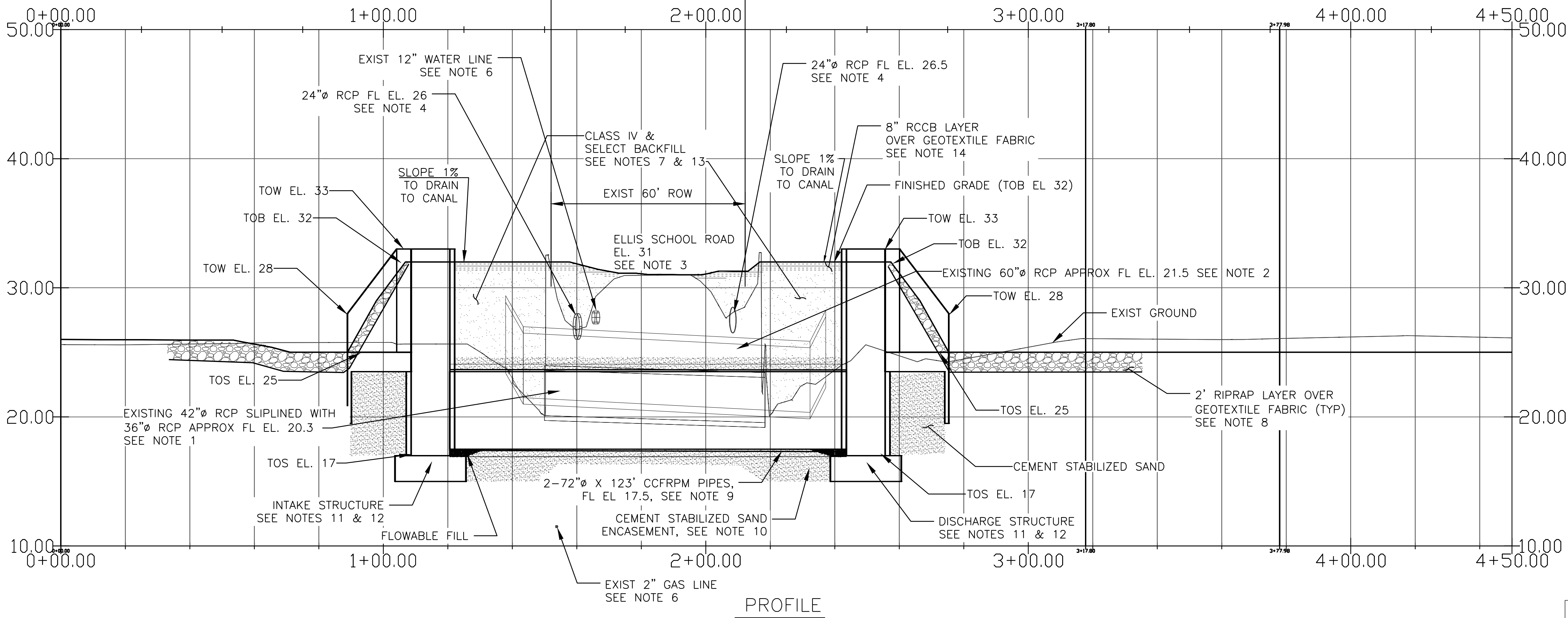
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NOTES:

- CONTRACTOR SHALL REMOVE EXISTING SLIP LINED 42" RCPs VIA OPEN EXCAVATION METHODS AND REPLACE WITH 2-72" CCFRPMs. SEE TCP-2 DETOUR PLAN.
- CONTRACTOR SHALL REMOVE EXISTING 60" RCP VIA OPEN EXCAVATION AND BACKFILL PER SPECIFICATIONS OR GROUT/ABANDON IN PLACE (ALTERNATE PROPOSAL ITEM 1A).
- LIMITS OF ROAD REPAIR WILL DEPEND ON CONTRACTOR'S MEANS AND METHODS AND REMOVAL VS. ABANDONMENT OF EXISTING 60" RCP (SEE ALT PROPOSAL ITEM 1B). SEE SHEET SD-4 FOR ROAD REPAIR DETAILS.
- EXISTING DRIVEWAYS/CULVERTS TO BE REMOVED AS SHOWN ON SHEET C-1 AND REPLACED LONGER CULVERTS/DRIVEWAYS AS SHOWN. HARRIS COUNTY TYPE A INLETS SHALL BE PROVIDED AT 50 FT INTERVALS AS SHOWN AND TO THE NORTH CULVERT TO THE EXISTING CULVERT. SEE SHEET SD-4 FOR DRIVEWAY AND INLET DETAILS.
- 2-1", 3-2" SCHEDULE 40 PVC CONDUITS TO BE INSTALLED ABOVE NEW SIPHON PIPES BENEATH ELLIS SCHOOL RD. CONDUITS AND PULL BOXES NOT SHOWN IN PROFILE VIEW. SEE SHEET C-8 FOR DETAILS.
- UTILITY LOCATION INFORMATION BASED ON BEST AVAILABLE SURVEY INFORMATION AS SHOWN ON SHEET C-1. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN PROJECT VICINITY PRIOR TO COMMENCING WORK.
- SEE SPECIFICATION SECTIONS 31 21 33 - TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES, 31 23 00 - EARTHWORK, 31 23 16.16 - STRUCTURAL EXCAVATION FOR MINOR STRUCTURES, AND 31 24 00.01 - BORROW FOR EARTHWORK REQUIREMENTS.
- SEE SPECIFICATION SECTIONS 31 37 01 - CONCRETE RIPRAP AND 31 38 25 - GEOTEXTILES FOR RIPRAP AND GEOTEXTILE REQUIREMENTS.
- SEE SPECIFICATION SECTION 33 31 13.13 - CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR PIPE FOR PIPE REQUIREMENTS.
- CEMENT STABILIZED SAND TO BE PLACED AROUND PIPE SECTIONS INSTALLED VIA OPEN EXCAVATION AND BENEATH SHALLOW SLABS OF INTAKE/DISCHARGE STRUCTURES FOR LIMITS; SEE SHEETS S-3, S-4, SD-1 AND SPECIFICATION SECTION 31 32 13.16 - CEMENT STABILIZED SAND FOR DETAILS.
- MUD SLABS AND FLOWABLE FILL NOT SHOWN IN CROSS SECTIONS FOR CLARITY. SEE SHEETS S-2 AND S-3.
- GUARDRAIL NOT SHOWN IN CROSS SECTIONS FOR CLARITY. SEE SHEETS SD-1, S-2, AND S-3.
- SELECT BACKFILL SHALL BE PLACED AROUND STRUCTURES AS SHOWN ON SHEETS S-2 AND S-3. CONTRACTOR SHALL PROVIDE ATTERBERG LIMIT TEST RESULTS FOR SELECT BACKFILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 21 33 - TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES PRIOR TO PLACEMENT OF MATERIALS. MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.
- SEE SPECIFICATION SECTIONS 32 11 00.01 - RECYCLED CRUSHED CONCRETE BASE COURSE FOR REQUIREMENTS AND 31 38 25 - GEOTEXTILES FOR RIPRAP AND GEOTEXTILE REQUIREMENTS.



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5/15/20

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
SIPHON 29
IMPROVEMENTS

	6/9/20	RFP SUBMITTAL
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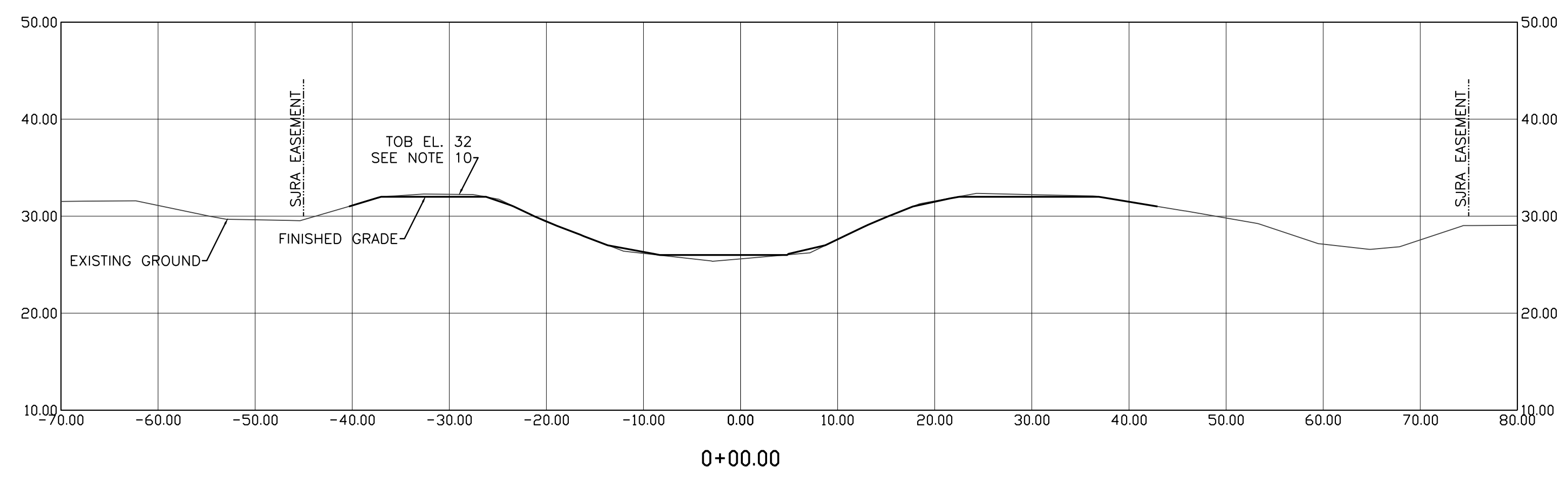
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PLAN & PROFILE

SHEET C-2
SEQ. 7 OF 26

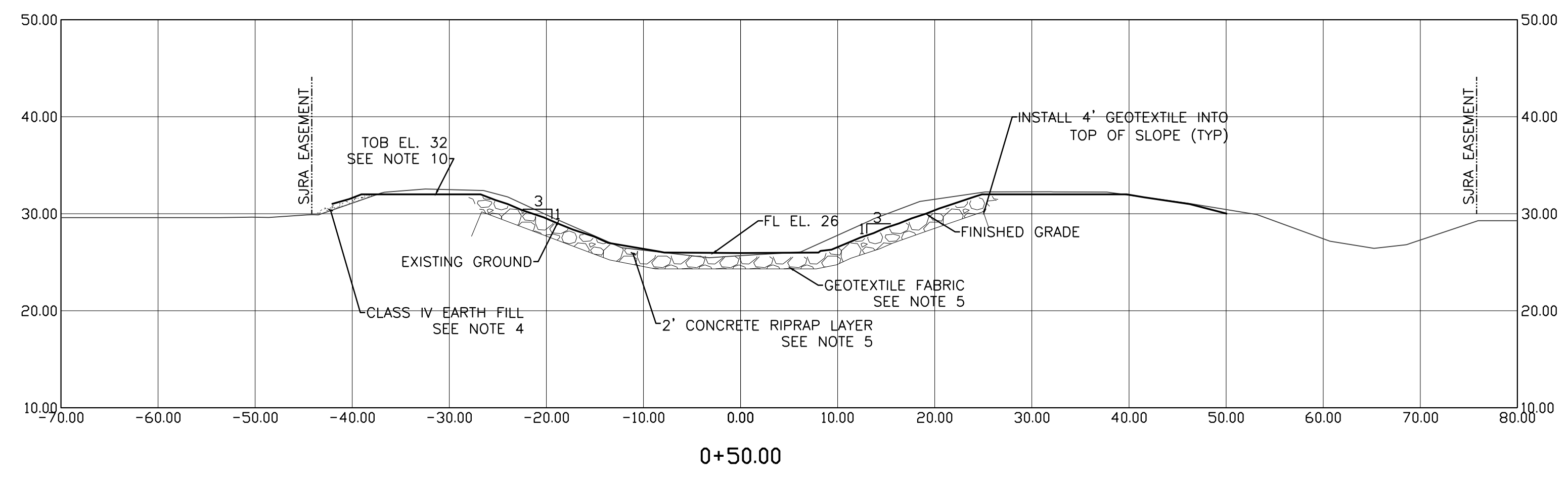
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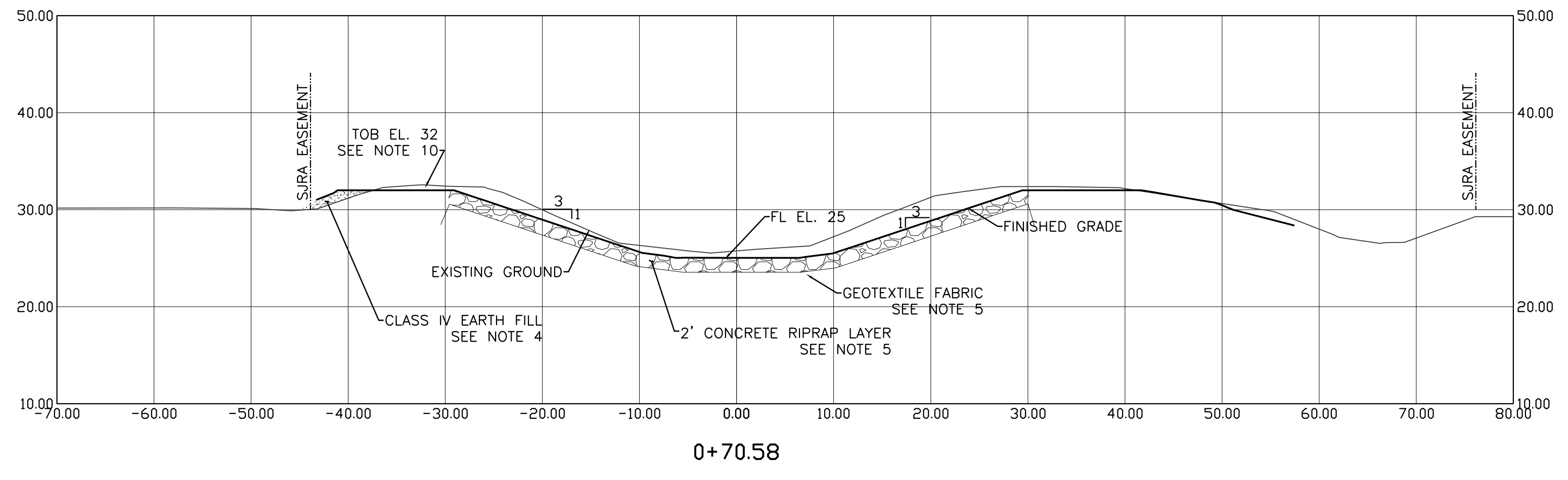
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C-2 1"=10'



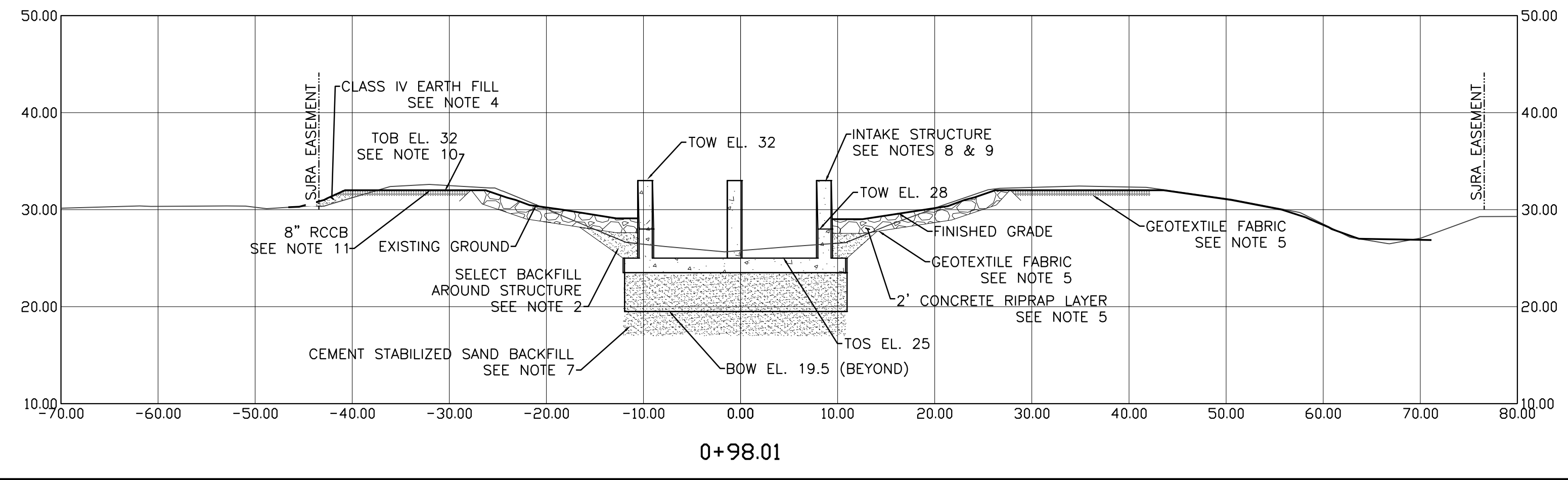
B CROSS SECTION
C-2 1"=10'



C CROSS SECTION
C-2 1"=10'

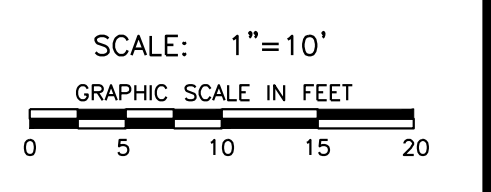


D CROSS SECTION
C-2 1"=10'



NOTES:

- CROSS SECTIONS ARE LOOKING DOWNSTREAM/SOUTH.
- SELECT BACKFILL SHALL BE PLACED AROUND STRUCTURES AS SHOWN ON SHEET S-2 AND S-3. CONTRACTOR SHALL PROVIDE ATTERBERG LIMIT TEST RESULTS FOR SELECT BACKFILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 21 33 - TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES PRIOR TO PLACEMENT OF MATERIALS. MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.
- UTILITY LOCATION INFORMATION BASED ON BEST AVAILABLE SURVEY INFORMATION AS SHOWN ON SHEET C-1. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN PROJECT VICINITY PRIOR TO COMMENCING WORK.
- SEE SPECIFICATION SECTIONS 31 21 33 - TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES; 31 23 00 - EARTHWORK; 31 23 16.16 - STRUCTURAL EXCAVATION FOR MINOR STRUCTURES, AND 31 24 00.01 - BORROW FOR EARTHWORK REQUIREMENTS.
- SEE SPECIFICATION SECTIONS 31 37 01 - CONCRETE RIPRAP AND 31 38 25 - GEOTEXTILES FOR RIPRAP AND GEOTEXTILE REQUIREMENTS. GEOTEXTILE TO BE PLACED BENEATH RIPRAP AND RCCB.
- SEE SPECIFICATION SECTION 33 31 13.13 - CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR PIPE FOR PIPE REQUIREMENTS.
- CEMENT STABILIZED SAND TO BE PLACED AROUND PIPE SECTIONS AND BENEATH SHALLOW SLABS OF STRUCTURES. SEE SHEET SD-1 FOR EARTHWORK, PIPE, AND PIPE TRENCH DETAILS.
- FLOWABLE FILL NOT SHOWN IN CROSS SECTIONS FOR CLARITY. SEE SHEETS S-2 AND S-3.
- GUARDRAIL NOT SHOWN IN CROSS SECTIONS FOR CLARITY. SEE SHEETS S-2 AND S-3.
- PROPOSED TOP OF BANK WIDTH SHALL BE MINIMUM OF 12 FT WITH FINISHED ELEVATION OF 32.
- SEE SPECIFICATION SECTION 32 11 00.01 - RECYCLED CRUSHED CONCRETE BASE COURSE FOR REQUIREMENTS.
- MUD SLAB NOT SHOWN IN CROSS SECTIONS FOR CLARITY. SEE SHEETS S-3 AND S-4.



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**SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION**



SJRA HIGHLANDS
SIPHON 29
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION
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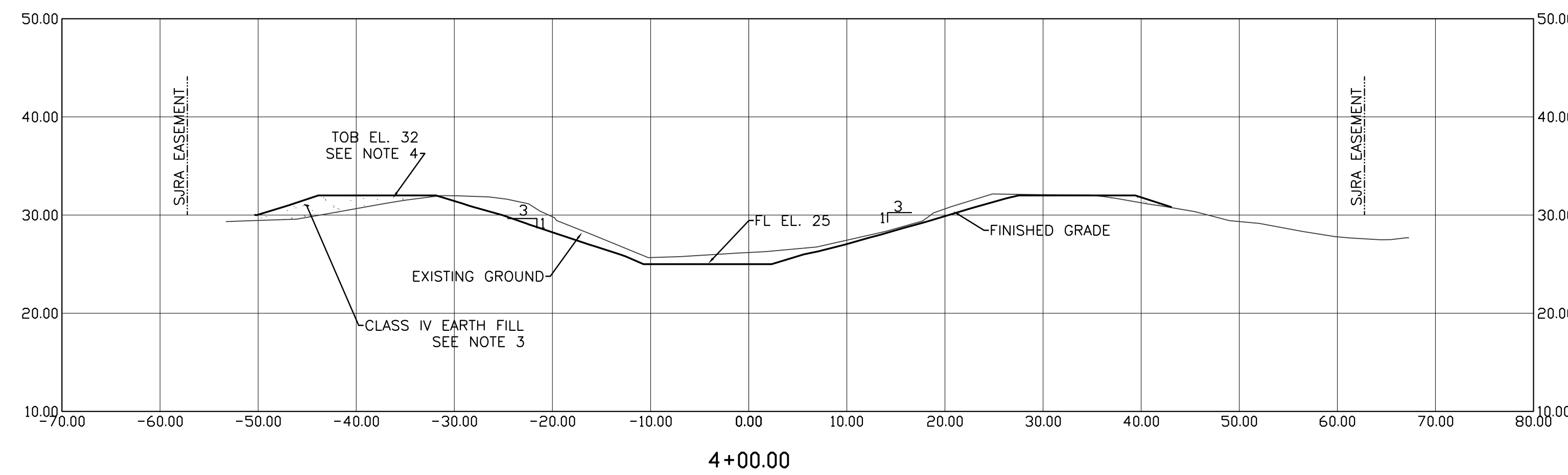
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CROSS SECTIONS 1

SHEET C-3
SEQ. 8 OF 26

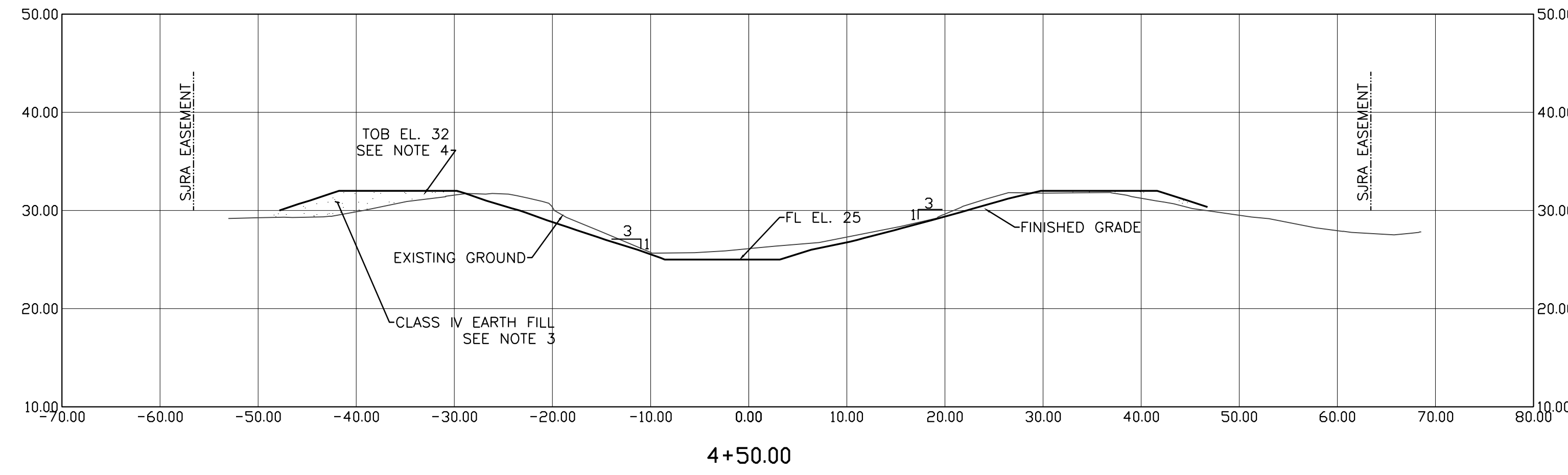
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C-2 CROSS SECTION
1"=10'

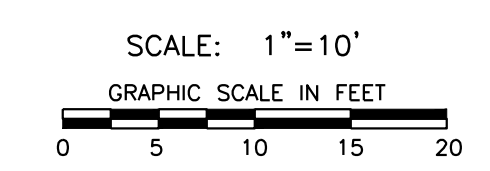


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C-2 CROSS SECTION
1"=10'



NOTES:

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- UTILITY LOCATION INFORMATION IS BASED ON BEST AVAILABLE SURVEY INFORMATION AS SHOWN ON SHEET C-1. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN PROJECT VICINITY PRIOR TO COMMENCING WORK.
- SEE SPECIFICATION SECTIONS 31 21 33 - TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES, 31 23 00 - EARTHWORK, 31 23 16.16 - STRUCTURAL EXCAVATION FOR MINOR STRUCTURES, AND 31 24 00.01 - BORROW FOR EARTHWORK REQUIREMENTS.
- PROPOSED TOP OF BANK WIDTH SHALL BE MINIMUM OF 12 FT WITH FINISHED ELEVATION OF 32.



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HIGHLANDS DIVISION**



SJRA HIGHLANDS
SIPHON 29
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION
▲	6/9/20	RFP SUBMITTAL

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SCALE: AS SHOWN

SIPHON 29
CROSS SECTIONS 4

SHEET C-6
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GENERAL NOTES

- VERIFY ALL DIMENSIONS, ELEVATIONS, AND OPENING SIZES PRIOR TO STARTING WORK.
- REMOVE ALL ABANDONED FOUNDATIONS, UTILITIES, PIPELINES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION.
- FIELD VERIFY ALL EXISTING CONDITIONS, INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. NOTIFY SJRA CONSTRUCTION MANAGER AND PRINCIPAL ARCHITECT/ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK. PROVIDE EXCAVATION SHORING TO PROTECT AND SUPPORT FOUNDATION SOILS UNDER AND ADJACENT TO EXISTING STRUCTURES.
- THE STRUCTURES ARE DESIGNED FOR STABILITY IN THE FINAL CONDITION ONLY. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY DURING CONSTRUCTION.
- PLANS, SECTIONS, AND DETAILS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
- THE GENERAL NOTES AND TYPICAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.
- EXCAVATION SLOPES SHOWN ON DRAWINGS ARE MAXIMUMS. CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION SAFETY.

CONCRETE

- CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITIONS OF ACI 318 AND ACI 350.
- ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS NOTED OTHERWISE, SHALL BE IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315), LATEST EDITION.
- CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, UNLESS OTHERWISE NOTED.
- ALL REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A 615, GRADE 60, DEFORMED. SEE NOTE 13 ON SHEET G-3 FOR TWDB U.S. STEEL REQUIREMENTS.
- CONCRETE CLEAR COVER OVER REINFORCING SHALL BE 3".
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" INSIDE FORMS OR TOOLED TO 3/4" RADIUS ON SLABS UNLESS OTHERWISE NOTED.
- ADDITIONAL CONSTRUCTION JOINTS SHALL HAVE PRIOR APPROVAL OF THE PRINCIPAL ARCHITECT/ENGINEER.
- PENETRATIONS OTHER THAN SHOWN SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE PRINCIPAL ARCHITECT/ENGINEER.
- IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING, TEMPORARY BRACING AND SHORING.
- UNLESS NOTED OTHERWISE, HOOKS SHOWN ON DRAWINGS SHALL BE ASSUMED TO BE STANDARD HOOKS PER ACI 318.
- UNLESS INDICATED OTHERWISE, LAP SPLICES IN BEAMS AND WALLS SHALL BE STAGGERED.
- ALL REINFORCING SHALL BE CONTINUOUS. CONTINUOUS BARS SHALL LAP IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE. ALL REBAR EMBEDMENT LENGTHS SHALL BE 75% OF THE LAP SPlice LENGTH OR AT LEAST 12", UNLESS NOTED OTHERWISE. "TOP BARS" ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BARS (INCLUDING WALLS), "OTHER BARS" ARE ALL BARS OTHER THAN TOP BARS.

REBAR LAP SPlice LENGTHS (INCHES)			
BAR SIZE	MIN. CONCRETE CLEAR COVER	4,000 PSI	
		TOP BARS	OTHER BARS
#3	1.0"	16	16
	1.0"	20	16
#5	1.0"	30	23
	1.5"	25	20
#6	1.0"	41	32
	1.5"	30	24
#7	1.5"	49	38
	2.0"	43	33
#8	1.5"	62	47
	2.0"	49	38
#9	1.5"	76	58
	2.0"	60	47
	2.5"	55	43
#10	1.5"	91	71
	2.0"	75	58
	2.5"	65	51
#11	1.5"	110	85
	2.0"	89	69
	2.5"	81	63

FOUNDATION

- FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH "GEOTECHNICAL INVESTIGATION SAN JACINTO RIVER AUTHORITY HIGHLANDS SOUTH CANAL SIPHON 29 IMPROVEMENTS" DATED MARCH 2019, PREPARED BY AVILES ENGINEERING CORPORATION (REPORT G155-18).
- EXCAVATION, SUBGRADE PREPARATION, AND BACKFILL FOR STRUCTURES SHALL BE AS NOTED BELOW.
 - MAT FOUNDATIONS SHALL BE FOUNDED ON FIRM CLAY. AFTER REMOVAL OF EXISTING STRUCTURES AND PRIOR TO CONSTRUCTION OF NEW FOUNDATIONS, OVER-EXCAVATE BELOW THE PROPOSED SUBGRADE A MINIMUM OF 3 INCHES TO ALLOW PLACEMENT OF A LEAN CONCRETE MUD SLAB. EXCAVATION TO FINAL SUBGRADE DEPTH AND PLACEMENT OF THE MUD SLAB SHALL BE PERFORMED WITHIN THE SAME DAY TO PROTECT THE CLAY FROM WEATHERING.
 - BACKFILL BEHIND THE WALLS WITH COMPACTED SELECT FILL AS SHOWN IN DRAWINGS. ALL BACKFILL SHALL BE FREE OF ORGANIC MATERIAL AND ROCKS LARGER THAN 3".
 - FOUNDATION EXCAVATIONS SHALL BE OBSERVED BY A QUALIFIED LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER. EXCAVATIONS SHALL BE OBSERVED TO CONFIRM THAT LOOSE, SOFT, OR UNDESIRABLE MATERIALS ARE REMOVED, AND THAT THE FOUNDATIONS AND LEAN CONCRETE MUD SLAB FOR THE STRUCTURES WILL BEAR ON SATISFACTORY MATERIAL. IF SILT OR SAND IS ENCOUNTERED AT PROPOSED SLAB BEARING ELEVATION, CONTRACTOR MAY BE REQUIRED TO OVER-EXCAVATE 18 INCHES BENEATH SLAB BEARING ELEVATION AND REPLACE SILT/SAND MATERIAL WITH COMPACTED GRAVEL WRAPPED WITH GEOTEXTILE FABRIC.
 - EXTEND THE LATERAL LIMITS OF THE EXCAVATION A MINIMUM OF 2 FEET BEYOND THE PERIMETER OF THE STRUCTURE FOUNDATION, UNLESS NOTED OTHERWISE.
 - AT STRUCTURES WHERE COMPACTED FILL MAY BE USED TO RAISE EXISTING GRADE ELEVATION BENEATH STRUCTURES, PRIOR TO PLACEMENT OF FILL, SCARIFY THE EXPOSED SUBGRADE TO A DEPTH OF 6 INCHES, ADJUST THE MOISTURE CONTENT AS NECESSARY, AND MAINTAIN IT TO WITHIN THE OPTIMUM MOISTURE CONTENT TO 3 PERCENT ABOVE OPTIMUM AND RECOMPACT THE SOIL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 (STANDARD PROCTOR).
 - BACKFILL MATERIALS SHALL CONSIST OF THE FOLLOWING:
 - SELECT FILL: AS SPECIFIED IN SECTION 31 21 33 - TRENCHING BACKFILLING AND COMPACTING FOR UTILITIES AND 31 24 00.01 - BORROW. PLACE IN MAXIMUM 8 INCH LOOSE LIFTS AND COMPACT TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698, AND AT A MOISTURE CONTENT WITHIN 1 PERCENT BELOW AND 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT.
 - LEAN CONCRETE: AS SPECIFIED IN SECTION 03 31 30 - CONCRETE MATERIALS AND PROPORTIONING.
 - FLOWABLE FILL: AS SPECIFIED IN SECTION 31 23 23.33 - FLOWABLE FILL.
 - DESIGN BEARING PRESSURE (NET) IS 1400 PSF FOR MAT FOUNDATIONS BEARING ON UNDISTURBED FIRM SOIL OR APPROVED ENGINEERED FILL MATERIAL. SUITABLE BEARING MATERIALS SHALL BE VERIFIED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER.
 - THE SUBGRADE MOISTURE CONTENT AND DENSITY SHALL BE MAINTAINED DURING CONSTRUCTION.
- ALL BELOW GRADE ELEMENTS ARE DESIGNED WITH FORMED SIDES. ALL CONCRETE EXPOSED TO VIEW IN THE FINAL CONDITION SHALL BE FORMED.
- DO NOT BACKFILL FOUNDATION WALLS UNTIL THE RESTRAINING SLABS OR ADEQUATE BRACING ARE IN PLACE.
- GRADING AROUND STRUCTURES SHALL BE SUCH AS TO DRAIN ALL WATER AWAY FROM STRUCTURES.

STRUCTURAL STEEL

- SEE NOTE 13 ON SHEET G-3 FOR TWDB U.S. STEEL REQUIREMENTS.
- ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", ANSI/AISC 360-05.
- STEEL MATERIAL SHALL BE IN ACCORDANCE WITH THE FOLLOWING UNLESS NOTED OTHERWISE:
 - WIDE FLANGES: ASTM A992
 - CHANNELS: ASTM A36
 - PIPES: ASTM A53, TYPE E OR S, GRADE B
 - PLATES: ASTM A36
 - MISC: ASTM A36
 - ANCHORS RODS: ASTM F1554, GRADE 36.
- WELDING SHALL BE DONE IN ACCORDANCE WITH "STRUCTURAL WELDING CODE-STEEL", AMERICAN WELDING SOCIETY (AWS D1.1-2000)
- WELDING SHALL BE PERFORMED WITH E70XX LOW-HYDROGEN ELECTRODES.
- NO HOLES SHALL BE CUT THROUGH STEEL FRAMING IN FIELD UNLESS APPROVED BY THE ENGINEER.
- ALL STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED UNLESS NOTED OTHERWISE.

POST-INSTALLED ANCHORS (EXPANSION OR ADHESIVE)

- INSTALL IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII), BUT NOT LESS THAN THAT INDICATED BELOW.
- ADHESIVE ANCHORS SHALL ONLY BE INSTALLED BY CONSTRUCTION PERSONNEL CERTIFIED UNDER ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. SUBMIT CERTIFICATIONS AS RECORD DATA.
- ANCHOR DIAMETER AND EMBEDMENT SHALL BE AS INDICATED.
- HOLES SHALL BE DRILLED USING ROTARY HAMMER DRILLS WITH ANSI MATCHED TOLERANCE CARBIDE-TIPPED DRILL BITS. DRILL BIT DIAMETER SHALL MATCH DIAMETER RECOMMENDED BY MANUFACTURER.
- USE CARE AND CAUTION WHEN INSTALLING TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING STEEL.
- AS INDICATED BLOW HOLES CLEAN WITH COMPRESSED AIR, 80 PSI MINIMUM. START BLOWING WITH NOZZLE AT BACK OF HOLE AND SLOWLY EXTRACT NOZZLE.
- EXPANSION ANCHORS SHALL BE A STUD BOLT TYPE WITH HEX HEAD NUT AND SHALL BE GALVANIZED STAINLESS STEEL 316 UNLESS OTHERWISE NOTED, AND AS NOTED BELOW:
 - ANCHORS SHALL BE HILTI KWIK BOLT TZ, OR AN APPROVED EQUAL.

- BLOW HOLES CLEAN. REPEAT 3 TIMES.
 - DRIVE ANCHOR INTO HOLE WITH A HAMMER AND THEN TIGHTEN TO SPECIFIED TORQUE.
- ADHESIVE ANCHORS SHALL BE DEFORMED REINFORCING BARS (ASTM A615, GR 60) OR STAINLESS STEEL 316, UNLESS OTHERWISE AS NOTED, AND AS NOTED BELOW:
 - ADHESIVE SHALL BE HILTI HIT-RE 500-V3 OR AN APPROVED EQUAL.
 - PRIOR TO INSTALLATION: ALL DEFORMED BARS AND THREADED ROD SHALL BE CLEAN, FREE OF OIL, GREASE, OR OTHER RESIDUE, IN ACCORDANCE WITH MPII.
 - CLEAN HOLES BEFORE INSTALLING ANCHOR PER MPII, BUT NOT LESS THAN THE FOLLOWING:
 - BLOW HOLE CLEAN. REPEAT 3 TIMES.
 - BRUSH HOLE WITH SPECIFIED BRUSH. REPEAT 3 TIMES.
 - BLOW HOLE CLEAN. REPEAT 3 TIMES.
 - INSTALL EPOXY STARTING AT BACK OF HOLE. AS REQUIRED BY MPII, USE MANUFACTURER SUPPLIED PISTON PLUG INJECTION SYSTEM FOR ALL HORIZONTAL AND VERTICALLY INCLINED HOLES.
 - INSTALL ANCHOR SIMULTANEOUSLY TWISTING AND INSERTING INTO HOLE.
 - ALLOW ANCHOR TO SET REQUIRED TIME. DO NOT DISTURB.
 - TIGHTEN NUT. DO NOT OVER-TORQUE.
 - MINIMUM CONCRETE AGE AT TIME OF INSTALLATION: 28 DAYS
 - CONCRETE TEMPERATURE RANGE AT TIME OF INSTALLATION SHALL BE: 41DEG F TO 104DEG F.
 - CONCRETE MOISTURE CONDITION AT TIME OF INSTALLATION: DRY.



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HIGHLANDS DIVISION**



SJRA HIGHLANDS
SIPHON 29
IMPROVEMENTS

Δ	6/9/20	RFP SUBMITTAL
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CHECKED BY: VF VF		
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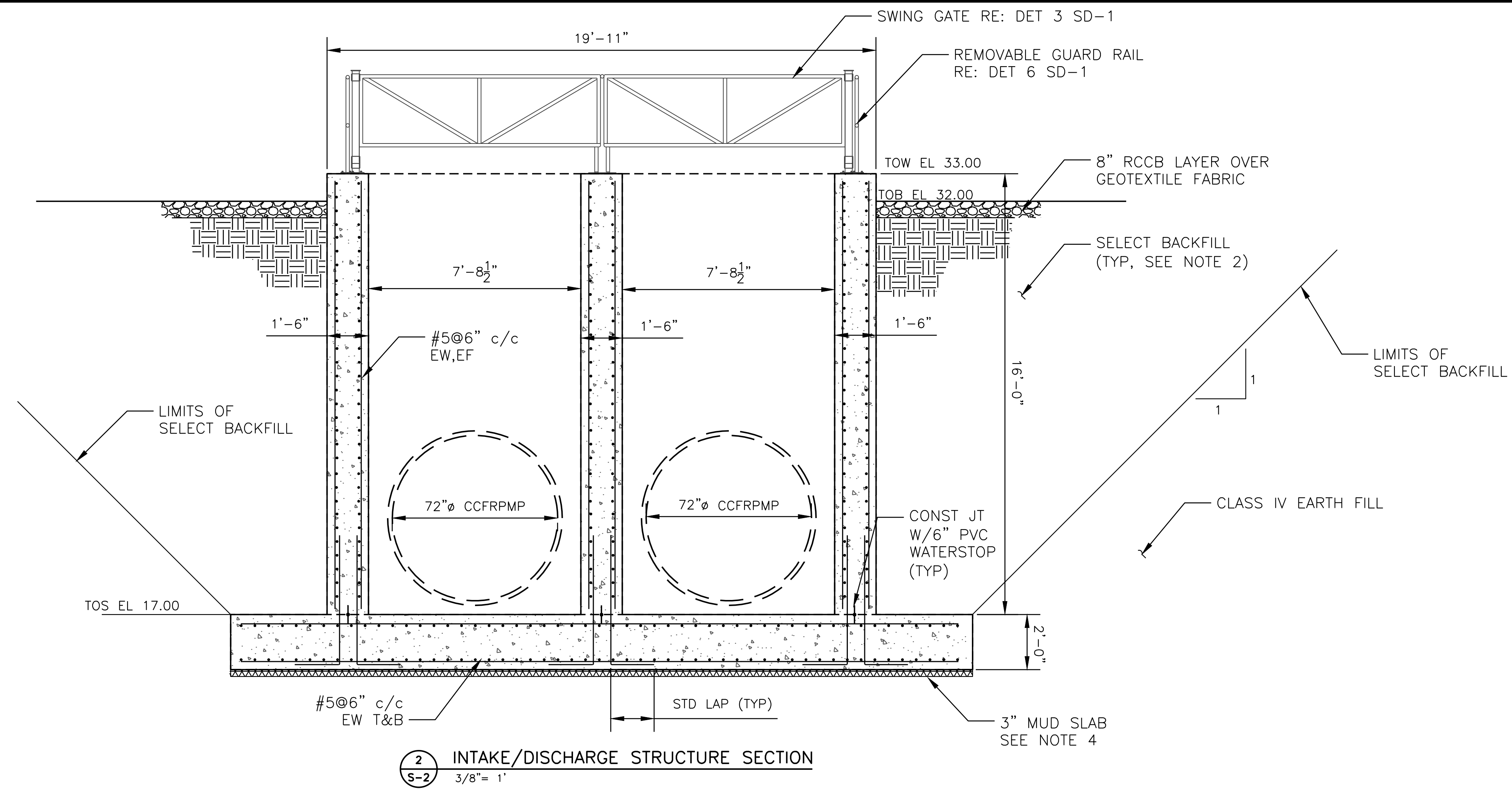
STRUCTURAL
GENERAL NOTES

SHEET S-1

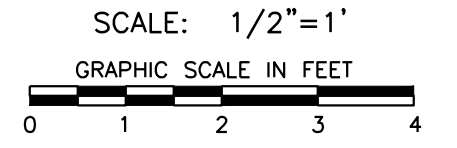
SEQ. 14 OF 26

Δ RFP SUBMITTAL

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2 INTAKE/DISCHARGE STRUCTURE SECTION
3/8" = 1'



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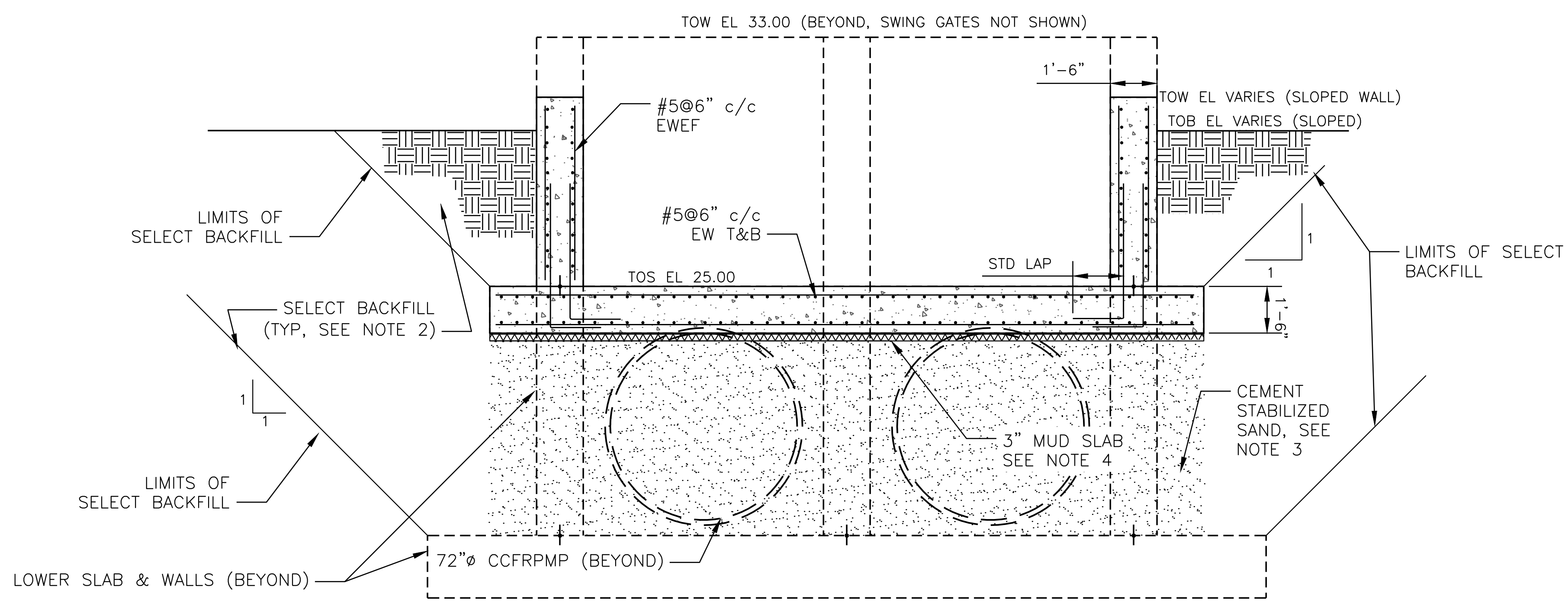


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SIPHON 29
IMPROVEMENTS

- NOTES:
1. INTAKE AND DISCHARGE STRUCTURE ARE MIRROR IMAGE.
 2. SELECT BACKFILL SHALL BE PLACED AROUND STRUCTURES AT 1H:1V SLOPE FROM TOP OF SLAB TO NATURAL GRADE. CONTRACTOR SHALL PROVIDE ATTERBERG LIMIT TEST RESULTS FOR SELECT BACKFILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 21 33 - TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES PRIOR TO PLACEMENT OF BACKFILL. BACKFILL SHALL BE COMPACTED ACCORDING TO SPECIFICATION REQUIREMENTS. SEE EARTHWORK BENCHING DETAIL ON SD-1.
 3. SEE SPECIFICATION SECTION 31 32 13.16 - CEMENT STABILIZED SAND FOR REQUIREMENTS.
 4. SEE SPECIFICATION SECTION 03 31 30 - CONCRETE MATERIALS AND PROPORTIONING FOR LEAN CONCRETE MUD SLAB REQUIREMENTS.



3 INTAKE/DISCHARGE STRUCTURE SECTION
3/8" = 1'

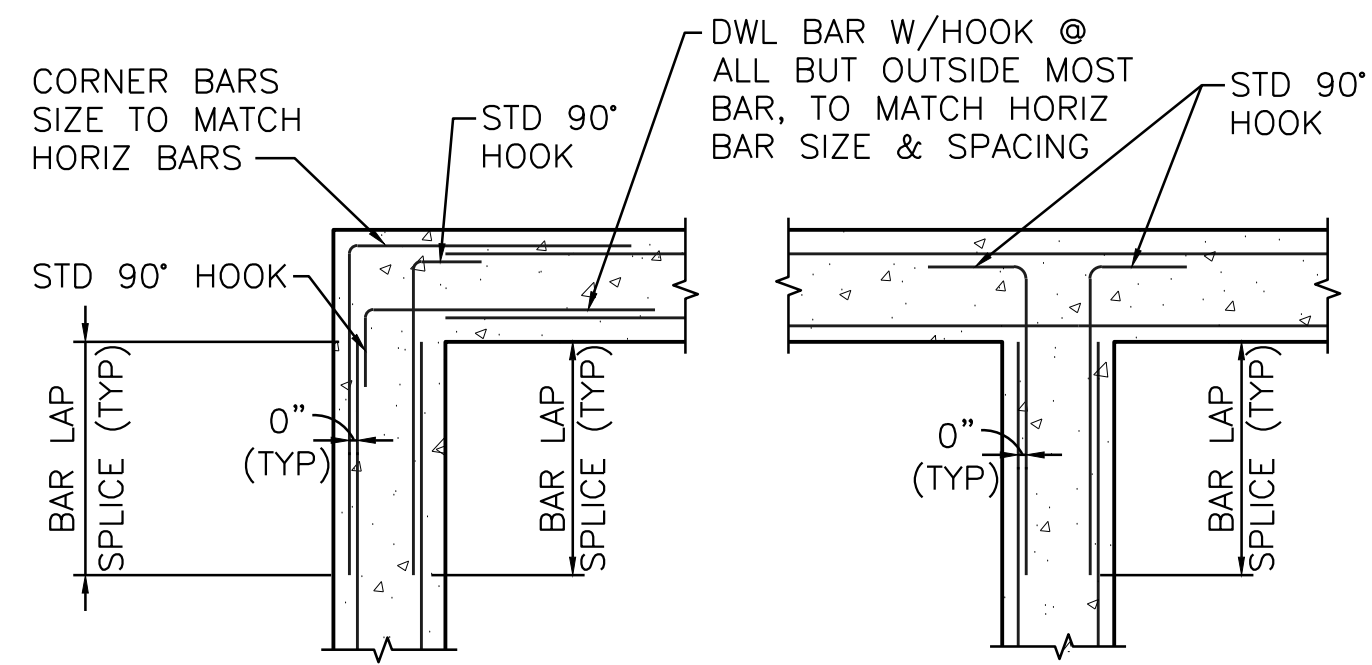
RFP SUBMITTAL

ISSUE	DATE	DESCRIPTION
▲	6/9/20	RFP SUBMITTAL

STRUCTURAL
STRUCTURAL SECTIONS 2

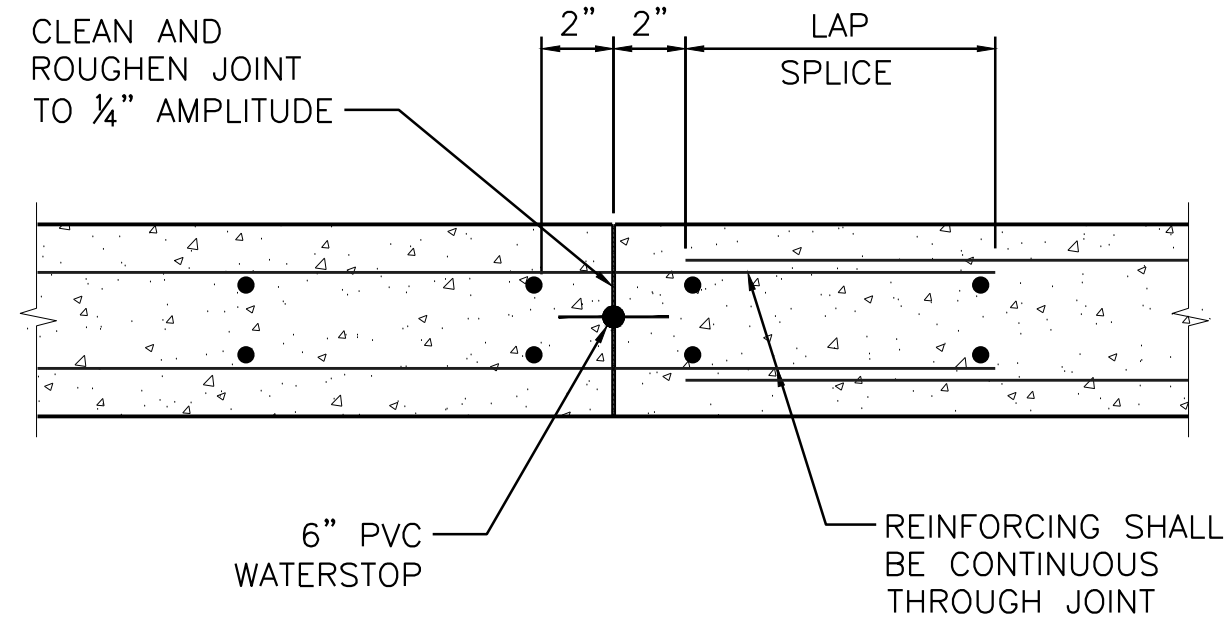
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SEQ. 17 OF 26

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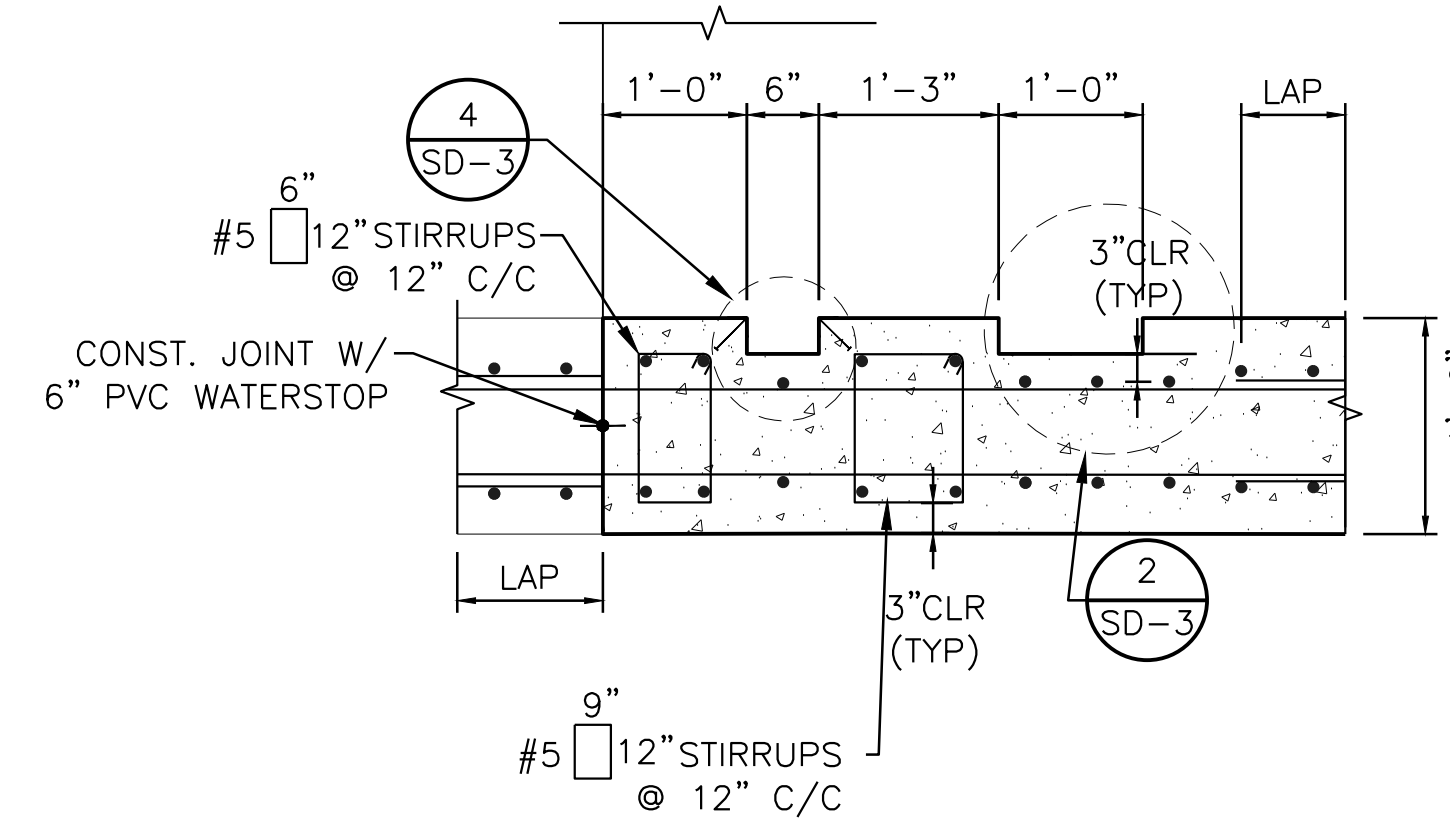


- DETAIL NOTES:**
1. REINFORCING SHOWN APPLIES TO ALL TOP, BOTTOM AND SIDE BARS. ALL REQUIRED BARS ARE NOT SHOWN IN DETAIL.
 2. AT CONTRACTOR'S OPTION, UNLESS NOTED OTHERWISE, ELIMINATE DOWELS AND CORNER BAR AND TERMINATE HORIZONTAL BARS WITH STANDARD HOOKS.

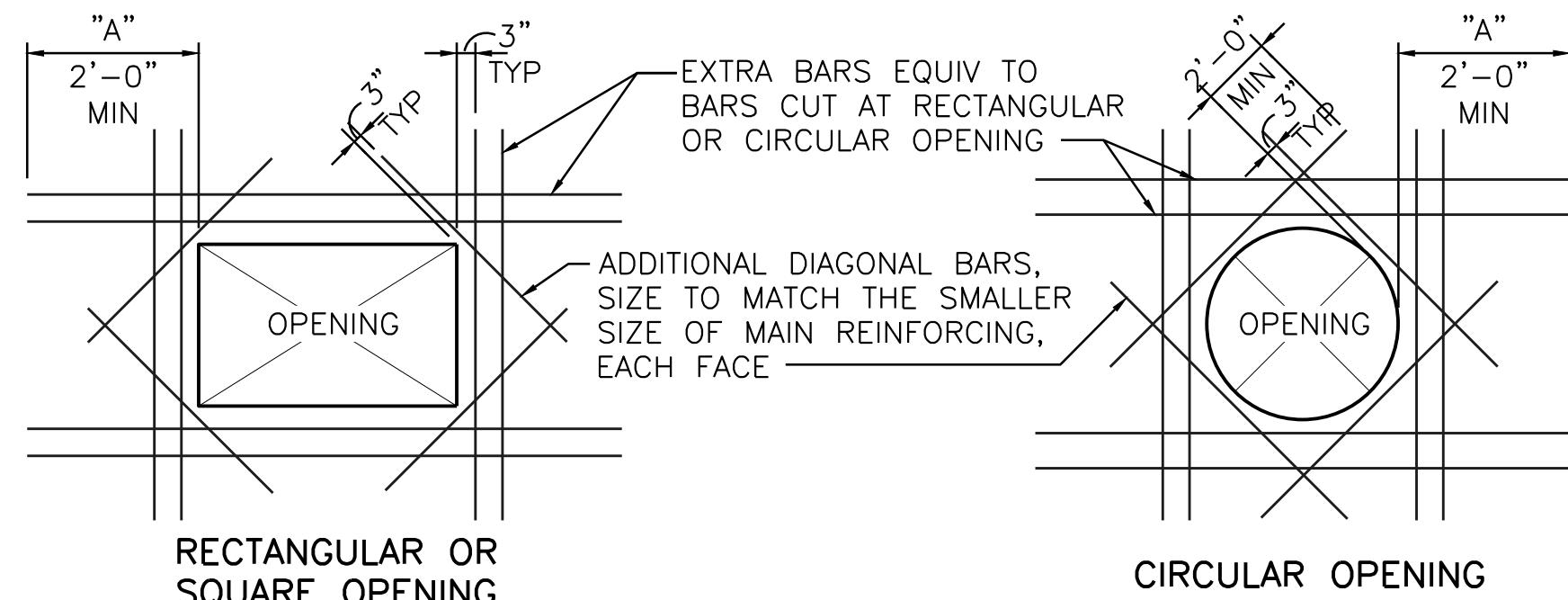
1 CORNER AND INTERSECTION REINFORCEMENT
NOT TO SCALE



2 CONSTRUCTION JOINT
NOT TO SCALE

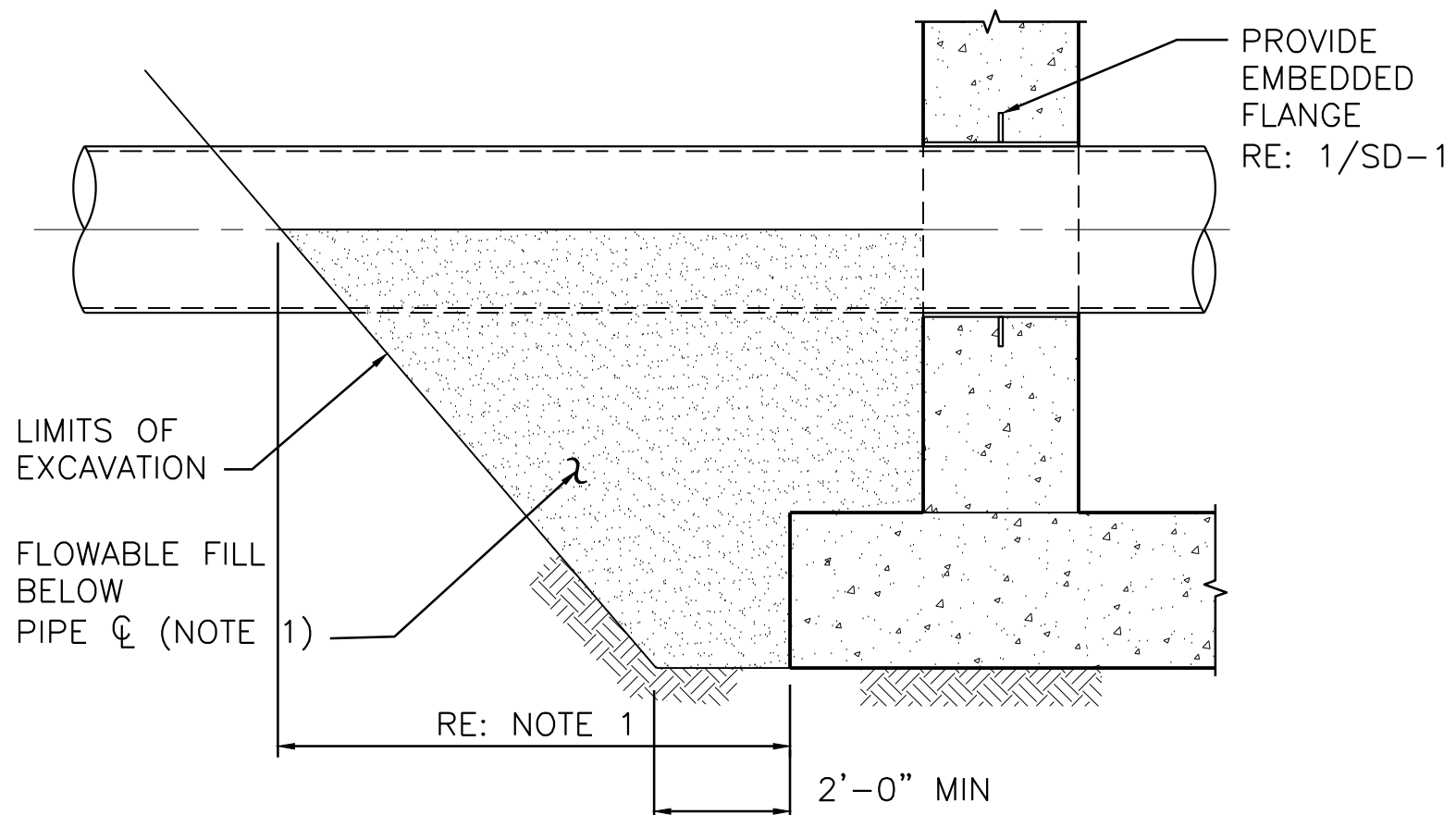


3 STOP LOG SLOT DETAIL OUTER WALL
3/4"=1'-0"



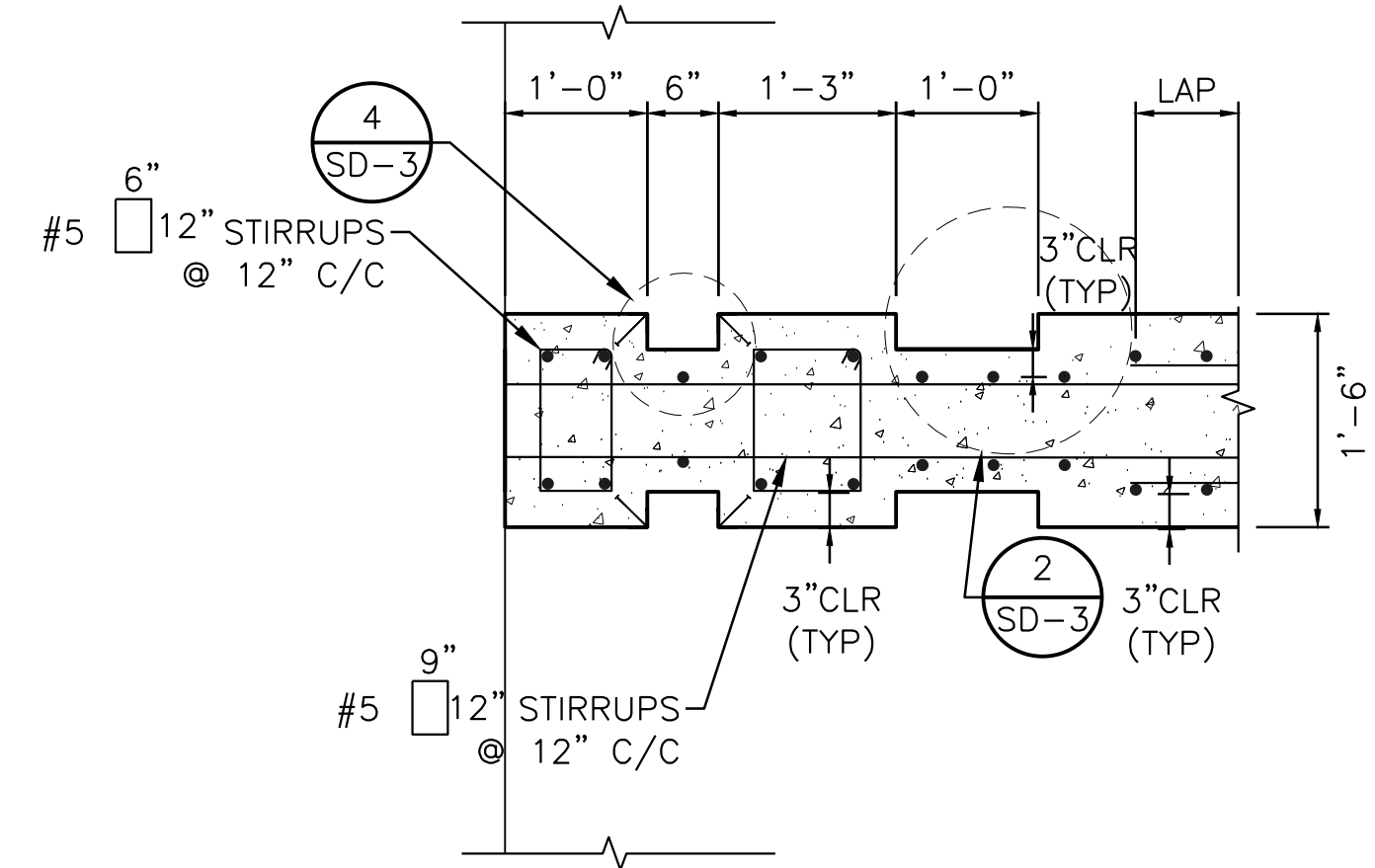
- NOTES:**
1. DISCONTINUE TYPICAL REINFORCING AT OPENING.
 2. PLACE ADDITIONAL BARS IN SAME ORIENTATION AS BARS CUT BY OPENING. PROVIDE EXTRA BARS EQUIVALENT TO NUMBER OF BARS CUT FOR OPENING FOR EACH LAYER OF REINFORCING CUT.
 3. "A" = TOP BAR EMBEDMENT LENGTH (24" MINIMUM). PROVIDE STANDARD HOOK IF FULL EMBEDMENT LENGTH IS NOT POSSIBLE.
 4. REINFORCING STEEL IS TO BE CARRIED ACROSS ALL CONSTRUCTION JOINTS.
 5. ADDITIONAL REINFORCING MAY BE OMITTED ONLY WHERE OPENING IS FRAMED BY BEAMS OR WALLS.
 6. ADDITIONAL REINFORCING NOT REQUIRED WHEN SPECIFIED REINFORCING IS NOT CUT.
 7. ALL REINFORCING SPACING SHALL BE GREATER THAN 3" CENTER TO CENTER.
 8. WHEN BARS CANNOT BE PLACED SUCH THAT FULL LAP LENGTH IS ACHIEVED, BARS SHALL TERMINATE IN STANDARD HOOKS (12X DIAMETER OF BAR).

5 TYPICAL WALL OR SLAB OPENING ADDITIONAL REINFORCEMENT
NOT TO SCALE



- DETAIL NOTE:**
1. FLOWABLE FILL SHALL EXTEND TO THE LIMITS OF THE EXCAVATION, BUT NOT LESS THAN 2' BEYOND THE EDGE OF THE SLAB FOOTING. THE WIDTH OF FILL BELOW PIPE SHALL NOT BE LESS THAN 2'-0" PLUS THE WIDTH OF PIPE OUTSIDE DIAMETER.
 2. DO NOT ENCASE RESTRAINED OR UNRESTRAINED COUPLINGS.

6 TYPICAL PIPE PENETRATION DETAIL
NOT TO SCALE



4 STOP LOG SLOT DETAIL SPLITER WALL
3/4"=1'-0"



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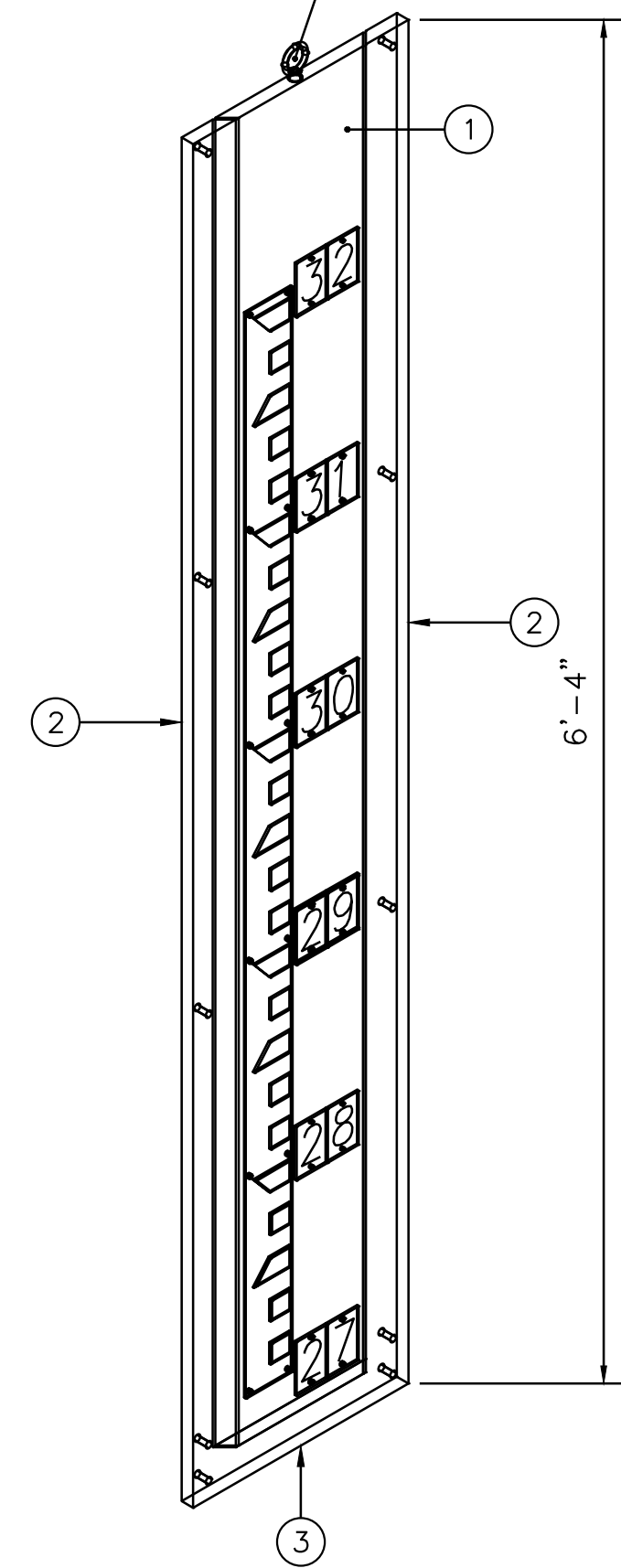
Δ	6/9/20	RFP SUBMITTAL
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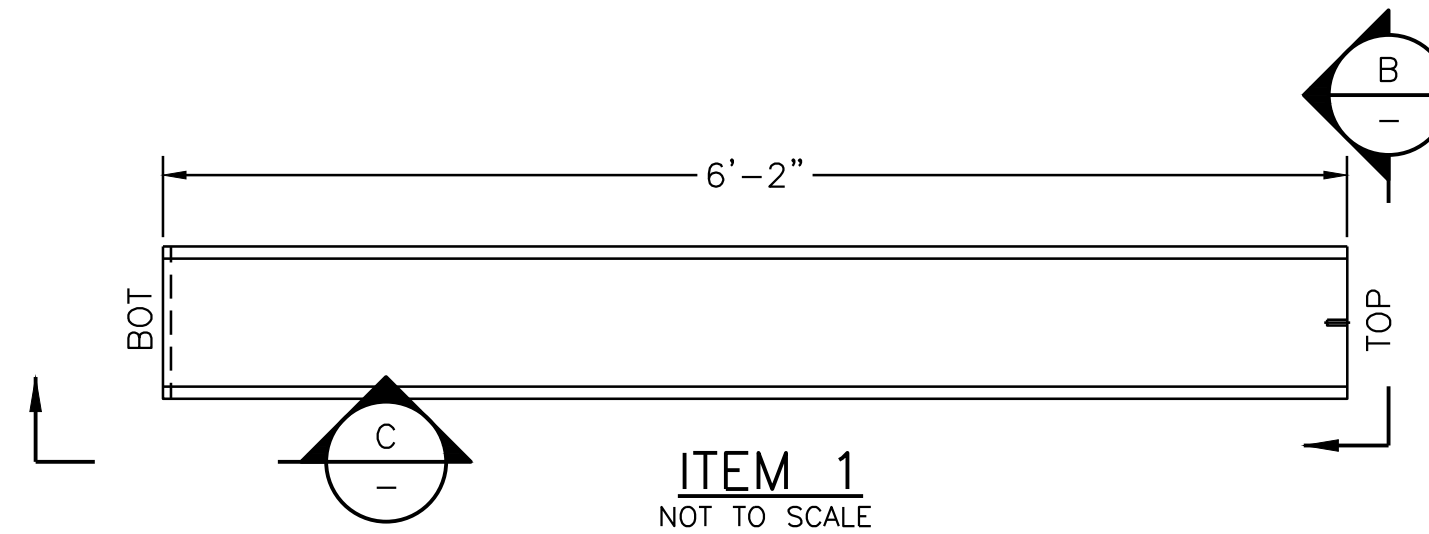
STRUCTURAL		
MISCELLANEOUS		
STRUCTURAL DETAILS		
SHEET	S-5	
SEQ.	18 OF 26	

Δ RFP SUBMITTAL

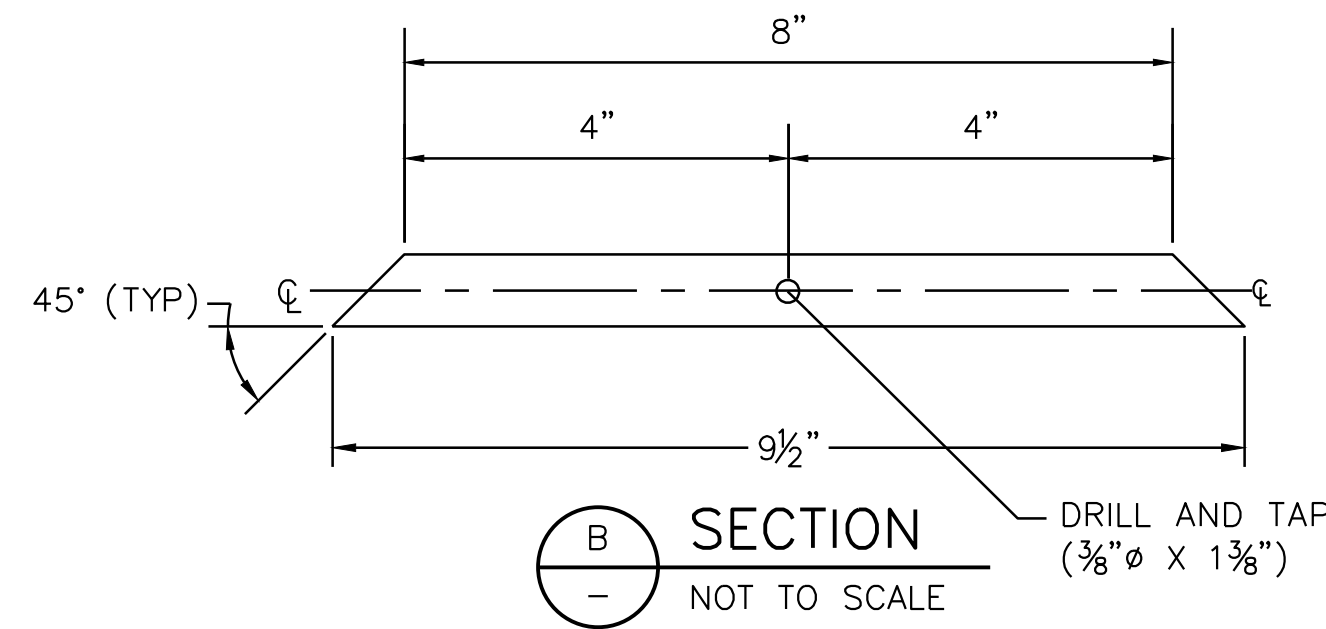
PULL EYE TO FACILITATE REMOVAL FOR MAINTENANCE



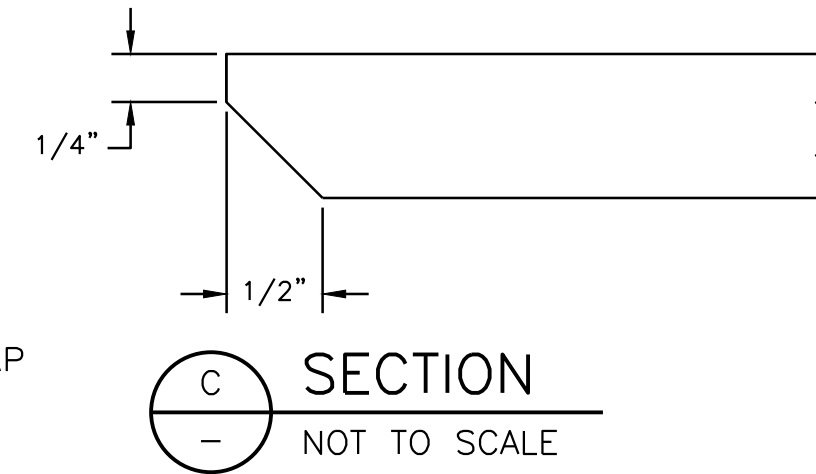
ELEVATION GAUGE
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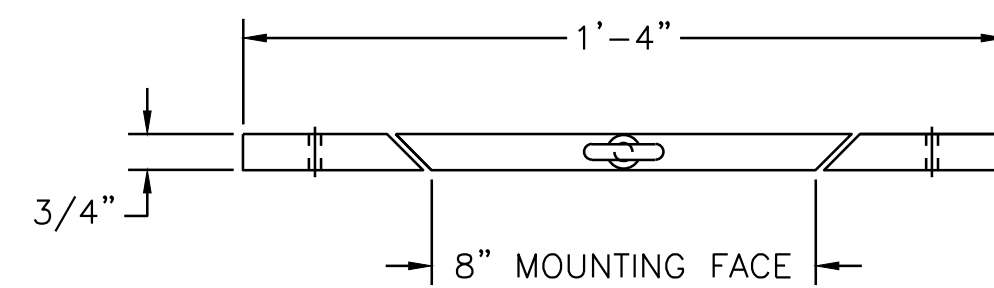
ITEM 1
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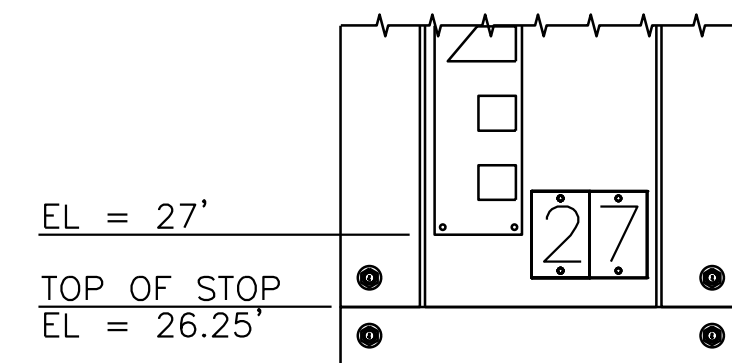
SECTION B
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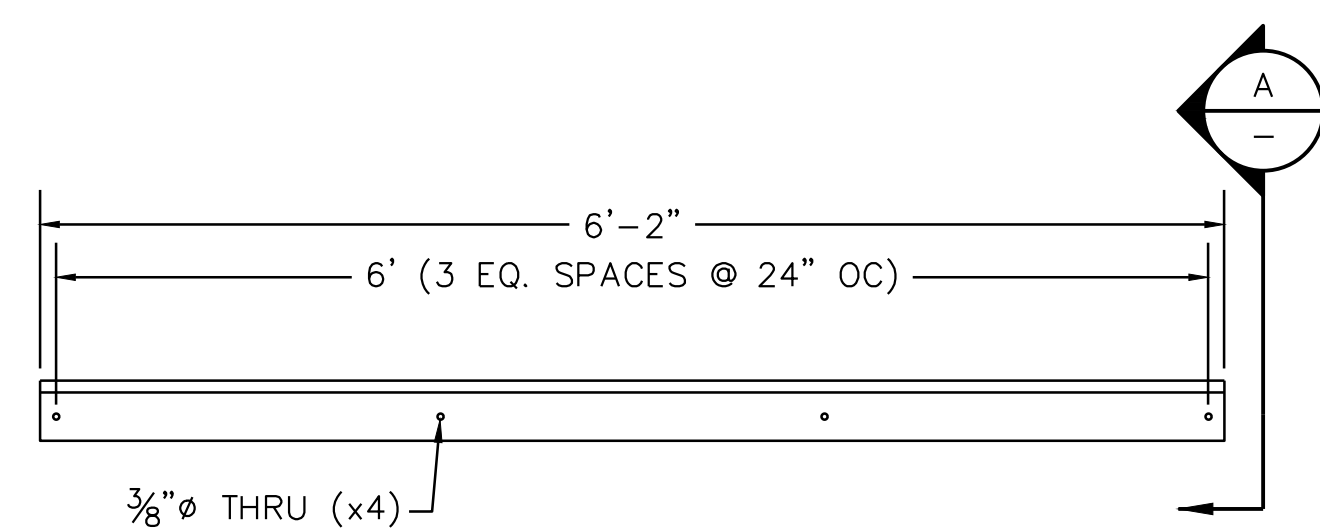
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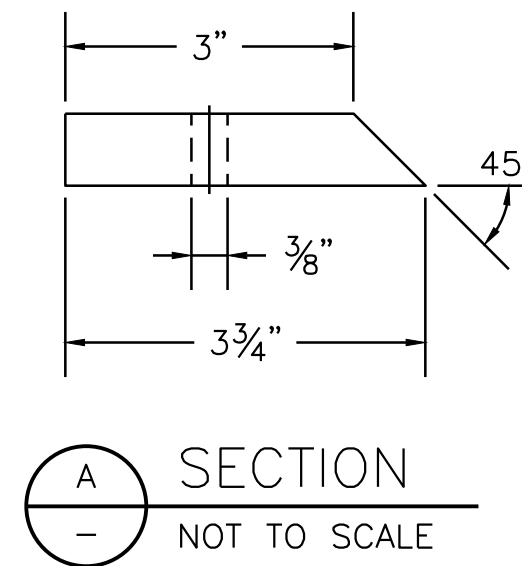
TOP VIEW
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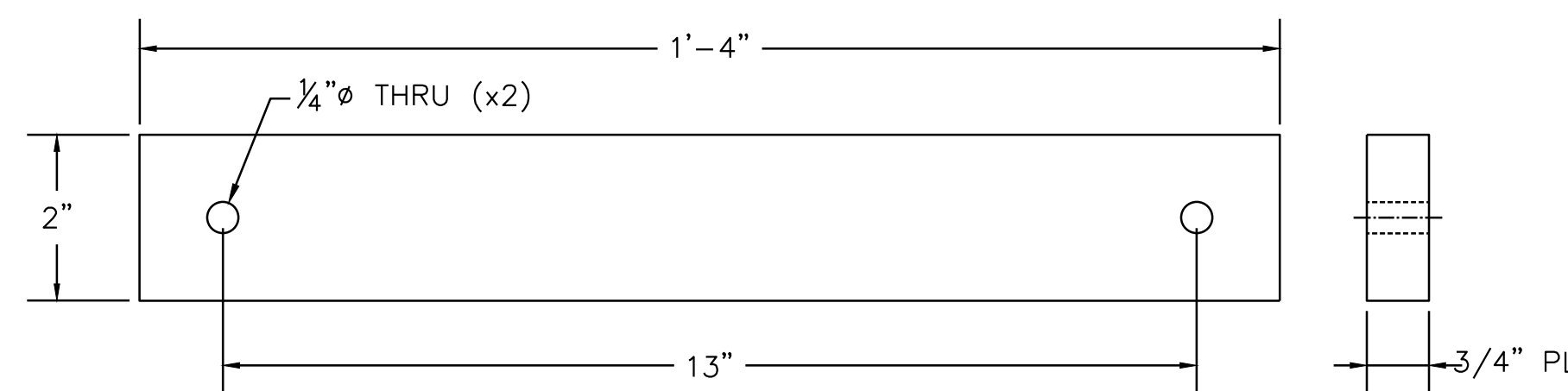
GAUGE BOTTOM
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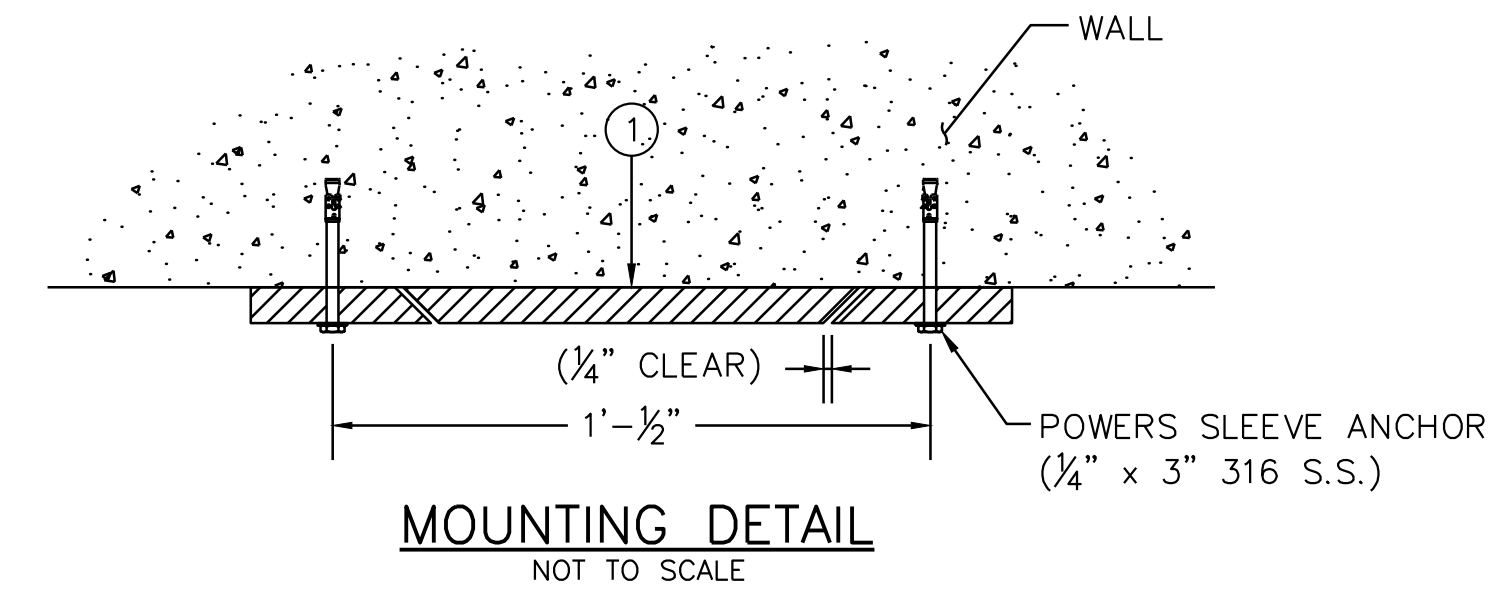
ITEM 2
NOT TO SCALE



SECTION A
NOT TO SCALE



ITEM 3
NOT TO SCALE



MOUNTING DETAIL
NOT TO SCALE

GENERAL NOTES:

1. QUANTITIES SHOWN ARE FOR 2 ELEVATION STAFF GAUGE ASSEMBLIES
2. STAFF GAUGE AND FIGURE PLATES TO BE FASTENED TO HDPE SHEETS USING 316 S.S. SELF-TAPPING PAN HEAD SCREWS W/ RUBBER WASHERS

BILL OF MATERIALS - ELEVATION GAUGE			
ITEM	DESCRIPTION	MATERIAL	QTY
1	3/4" x 9 1/2" x 6'-2" SHEET (BLACK)	HDPE	2
2	3/4" x 3 3/4" x 6'-2" SHEET (BLACK)	HDPE	4
3	3/4" x 2" x 1'-4" SHEET (BLACK)	HDPE	2
4	STYLE E STAFF GAUGE (SW-PN: 15422)	-	2
5	2 x 3 FIGURE PLATE (#0 SW-PN: 15424)	-	2
6	2 x 3 FIGURE PLATE (#1 SW-PN: 15425)	-	2
7	2 x 3 FIGURE PLATE (#2 SW-PN: 15426)	-	8
8	2 x 3 FIGURE PLATE (#3 SW-PN: 15427)	-	6
9	2 x 3 FIGURE PLATE (#7 SW-PN: 15431)	-	2
10	2 x 3 FIGURE PLATE (#8 SW-PN: 15432)	-	2
11	2 x 3 FIGURE PLATE (#9 SW-PN: 15433)	-	2
12	LIFTING EYE BOLT (MM-PN: 8891T88)	316 S.S.	2
13	1/4" x 3" POWERS SLEEVE ANCHOR	316 S.S.	20



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5/15/20

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HIGHLANDS DIVISION**



**SJRA HIGHLANDS
SIPHON 29
IMPROVEMENTS**

6/9/20 RFP SUBMITTAL

ISSUE DATE DESCRIPTION

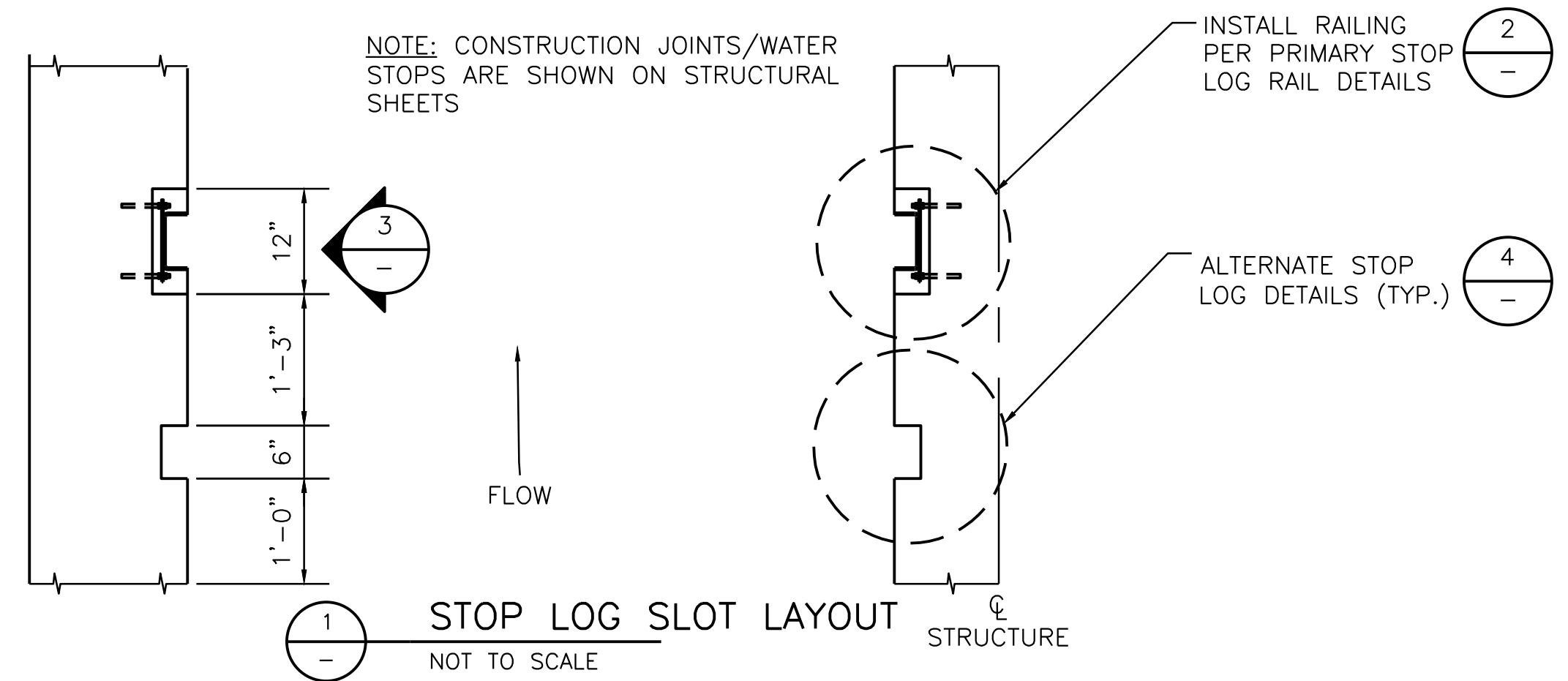
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DETAIL
STAFF GAUGE DETAILS

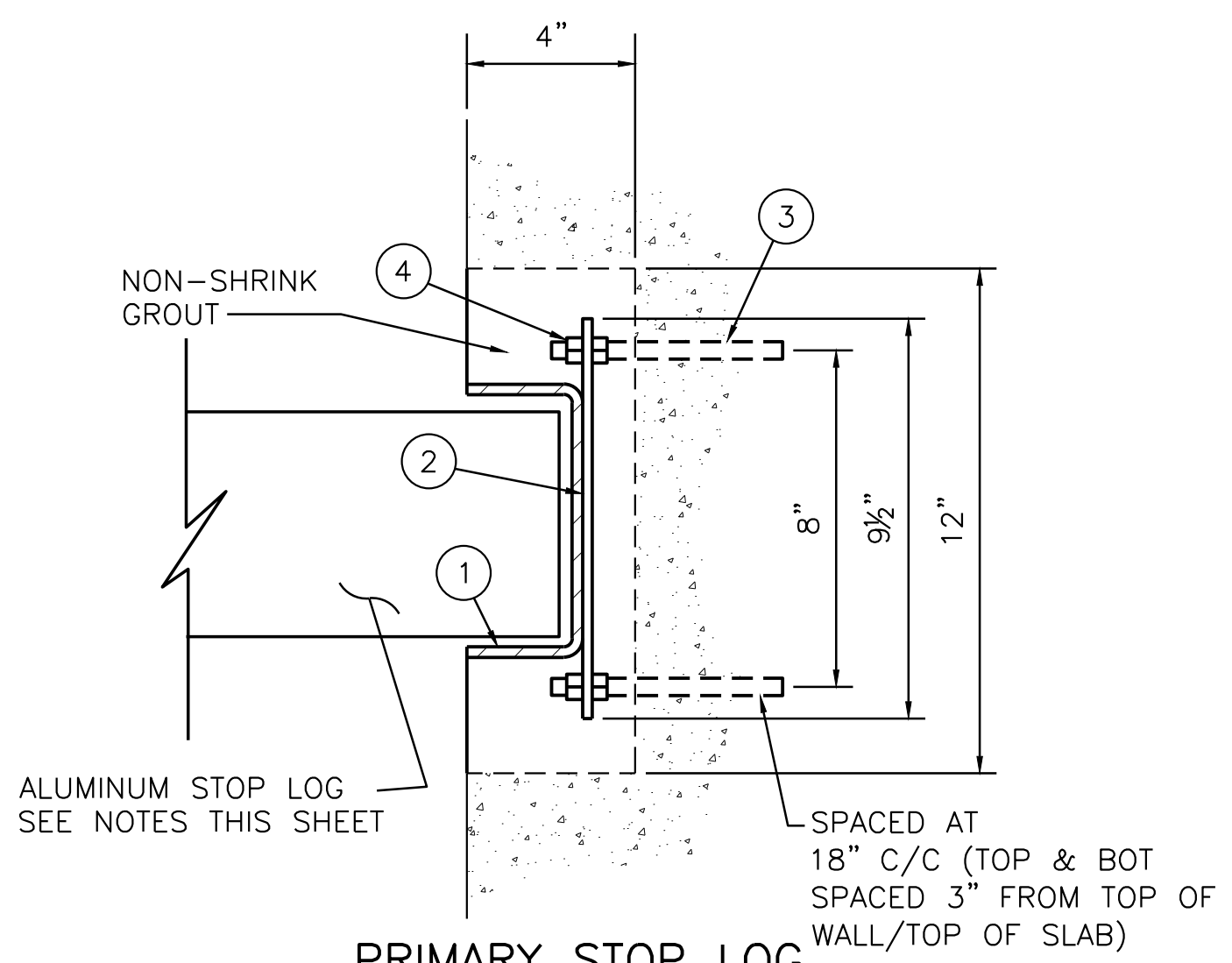
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SEQ. 20 OF 26

RFP SUBMITTAL

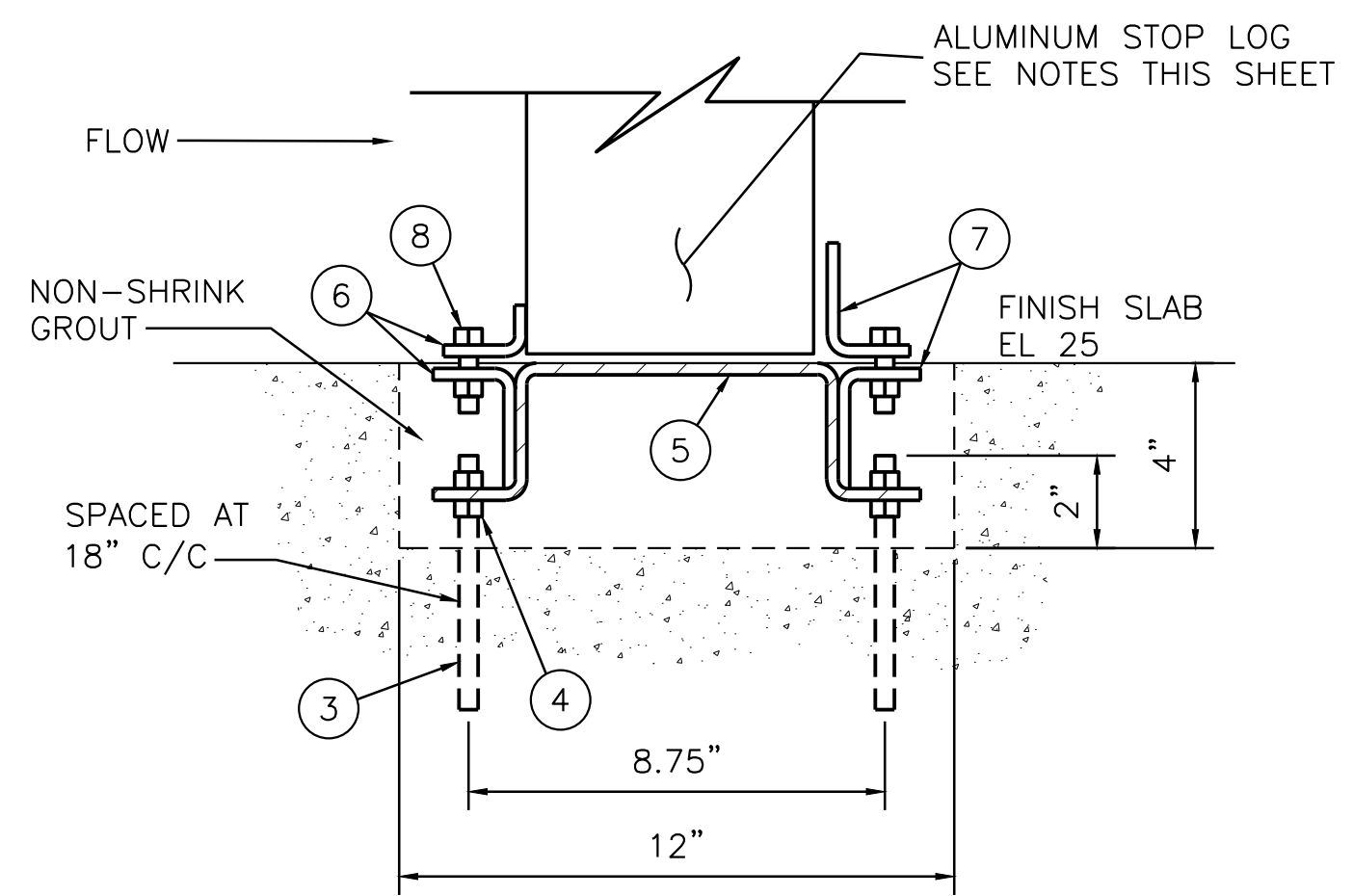
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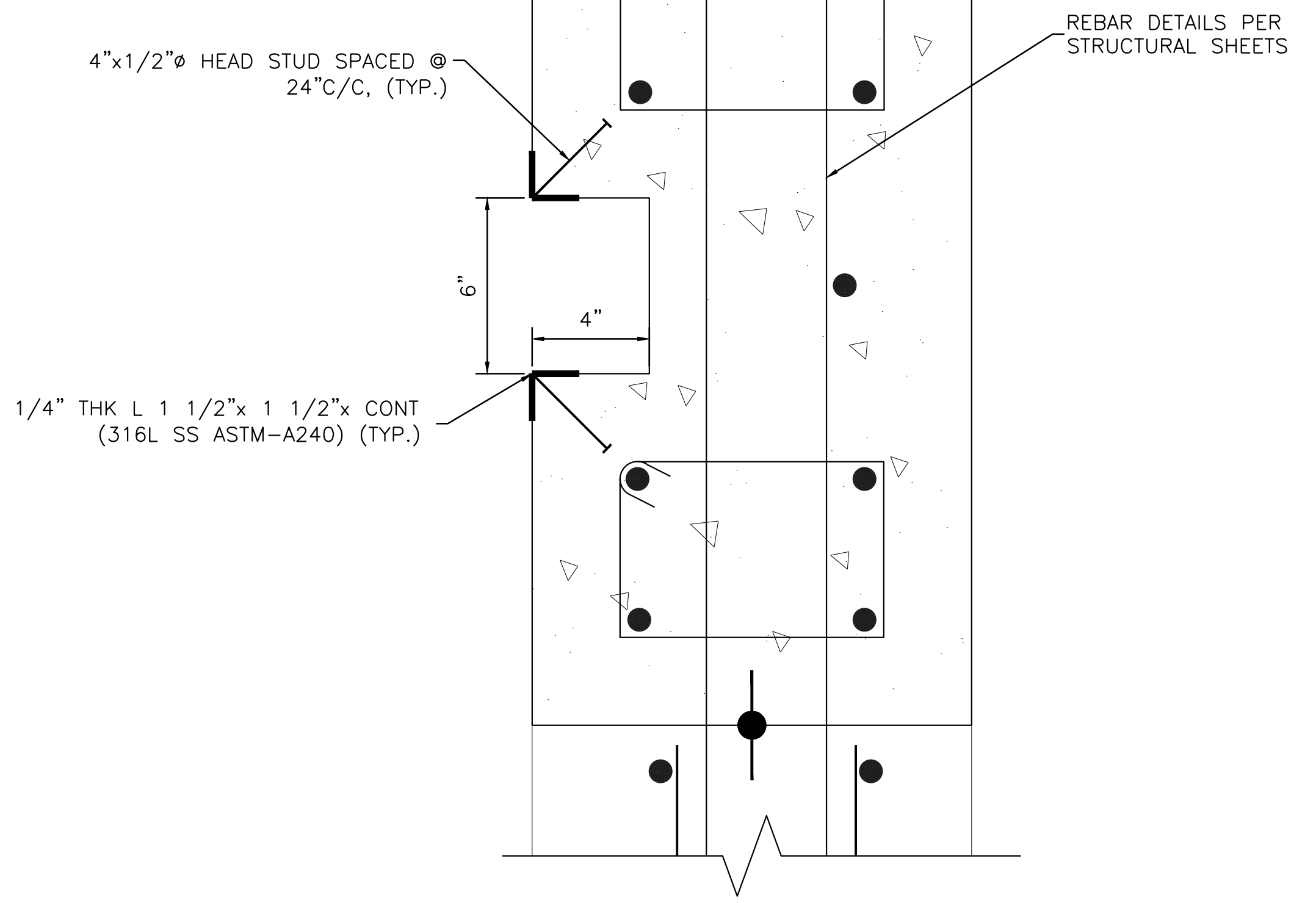
1 STOP LOG SLOT LAYOUT
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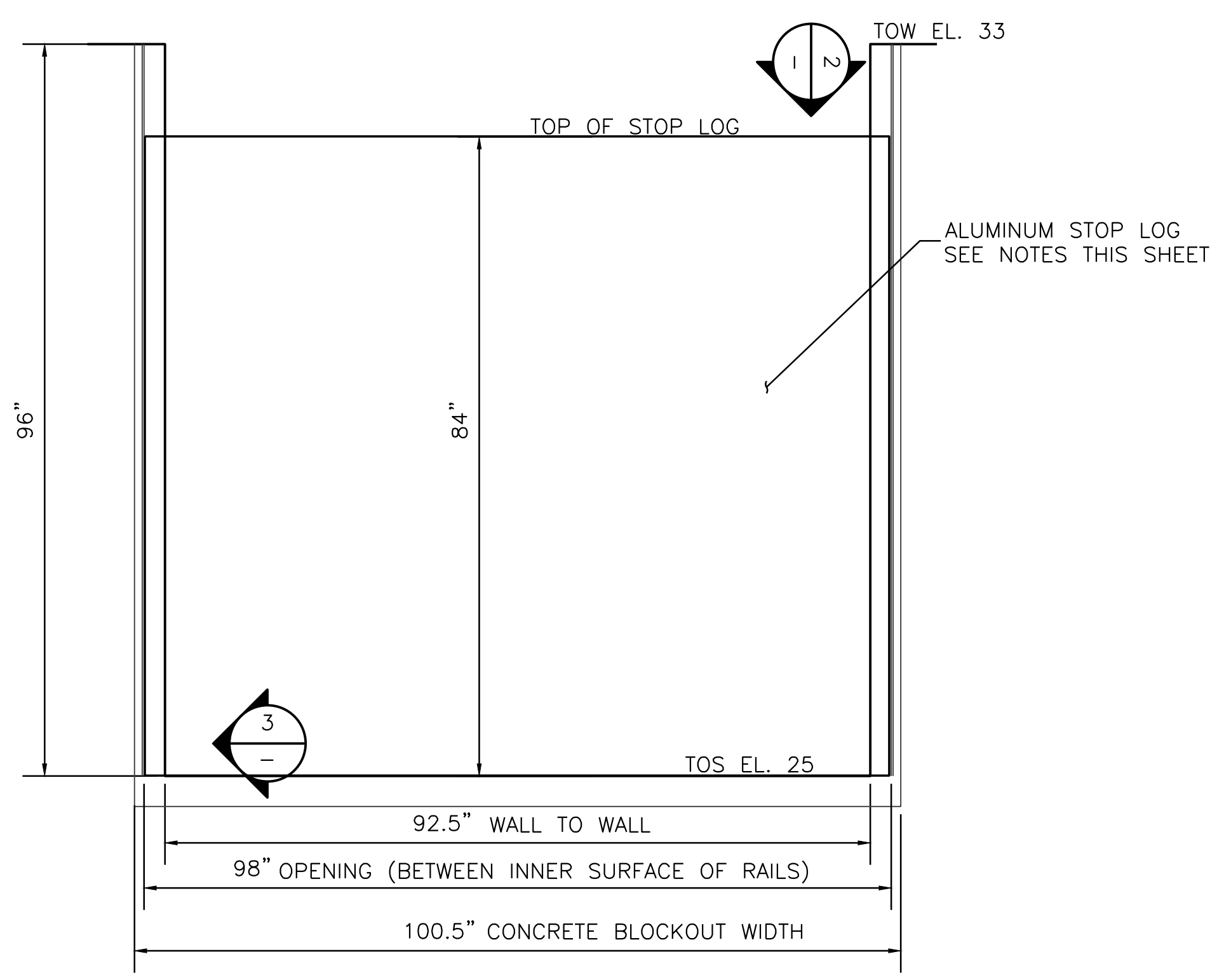
2 PRIMARY STOP LOG WALL RAIL DETAIL
NOT TO SCALE



3 PRIMARY STOP LOG FLOOR RAIL DETAIL
NOT TO SCALE



4 ALTERNATE STOP LOG SLOT DETAIL
NOT TO SCALE



5 STOP LOG ELEVATION VIEW
NOT TO SCALE

PRIMARY STOP LOG RAIL BILL OF MATERIALS			
ITEM	DESCRIPTION	MATERIAL	QTY
1	6 1/2" X 2 3/4" X 1/4" THK X 8'-0" FORMED CHANNEL	304 SS	8
2	1 1/2" X 1/4" X 9 1/2" BAR	304 SS	48
3	3/8" Ø X 7" ANCHOR ROD	304 SS	144
4	3/8" Ø NUTS/W WASHERS	304 SS	288
5	FLUSH RAIL	304 SS	4
6	FLUSH RAIL ATTACHMENT TAB	304 SS	16
7	GUIDE RAIL ATTACHMENT TAB	304 SS	8
8	HEX HEAD BOLT 1 1/2" X 3/8" Ø	304 SS	16

NOTES:

1. PRIMARY STOP LOG RAILINGS AND A QUANTITY OF TWO-(2) STOP LOGS ARE TO BE DESIGNED AND PROVIDED BY WATERMAN INDUSTRIES OR APPROVED EQUAL PER THIS DRAWING AND SPECIFICATION SECTION 05 01 01.02.
2. NEW STOP LOG RAILS AND STOP LOGS FABRICATED FOR THIS PROJECT ARE INTENDED FOR USE WITH STOP LOGS AND RAILS FABRICATED FOR PREVIOUS SIPHON PROJECTS.
3. PRIMARY STOP LOG RAILS ARE TO BE ATTACHED WITHIN FORMED BLOCKOUT LEFT IN WALLS AFTER CONCRETE CONSTRUCTION.
4. ALTERNATE STOP LOG SLOTS ARE TO BE FORMED INTO WALLS AS INDICATED ON THE PLANS.
5. PRIMARY AND ALTERNATE STOP SLOTS AND RAILS SHALL EXTEND TO THE TOP OF WALL.
6. STOP LOGS SHALL BE TESTED FOR FIT AN LEAKAGE IN ACCORDANCE WITH SPECIFICATION SECTION 05 01 01.02 - STOP LOGS.
7. ALL HARDWARE AND FASTENERS SHALL BE TYPE 304 SS ASTM-F593/F594.
8. FORMED & PLATE STEEL SHALL BE TYPE 304L SS ASTM-240.
9. STEEL FLAT & BAR SHAPES SHALL BE TYPE 304L ASTM-276.
10. STOP LOGS SHALL BE FABRICATED OF ALUMINUM PLATE AND EXTRUSION CONFORMING TO ASTM B-221-12 AND B-208 AL 6061-T6.
11. SEALS SHALL BE NEOPRENE RUBBER CONFORMING TO ASTM D-2000.
12. BILL OF MATERIALS SHOWN IS FOR RAILS ONLY AND IS GENERAL IN NATURE AND MAY NOT INCLUDE ALL REQUIRED PARTS; CONTRACTOR SHALL COORDINATE WITH STOP LOG MANUFACTURER FOR DETAILED PARTS AND REQUIREMENTS.
13. STOP LOG SHALL BE DESIGNED FOR MAXIMUM PRESSURE HEAD OF 8 FEET.
14. STOP LOG WEIGHT SHALL NOT EXCEED 800 LBS.



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SAN JACINTO RIVER AUTHORITY
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SJRA HIGHLANDS
SIPHON 29
IMPROVEMENTS

6/9/20 RFP SUBMITAL

ISSUE DATE DESCRIPTION

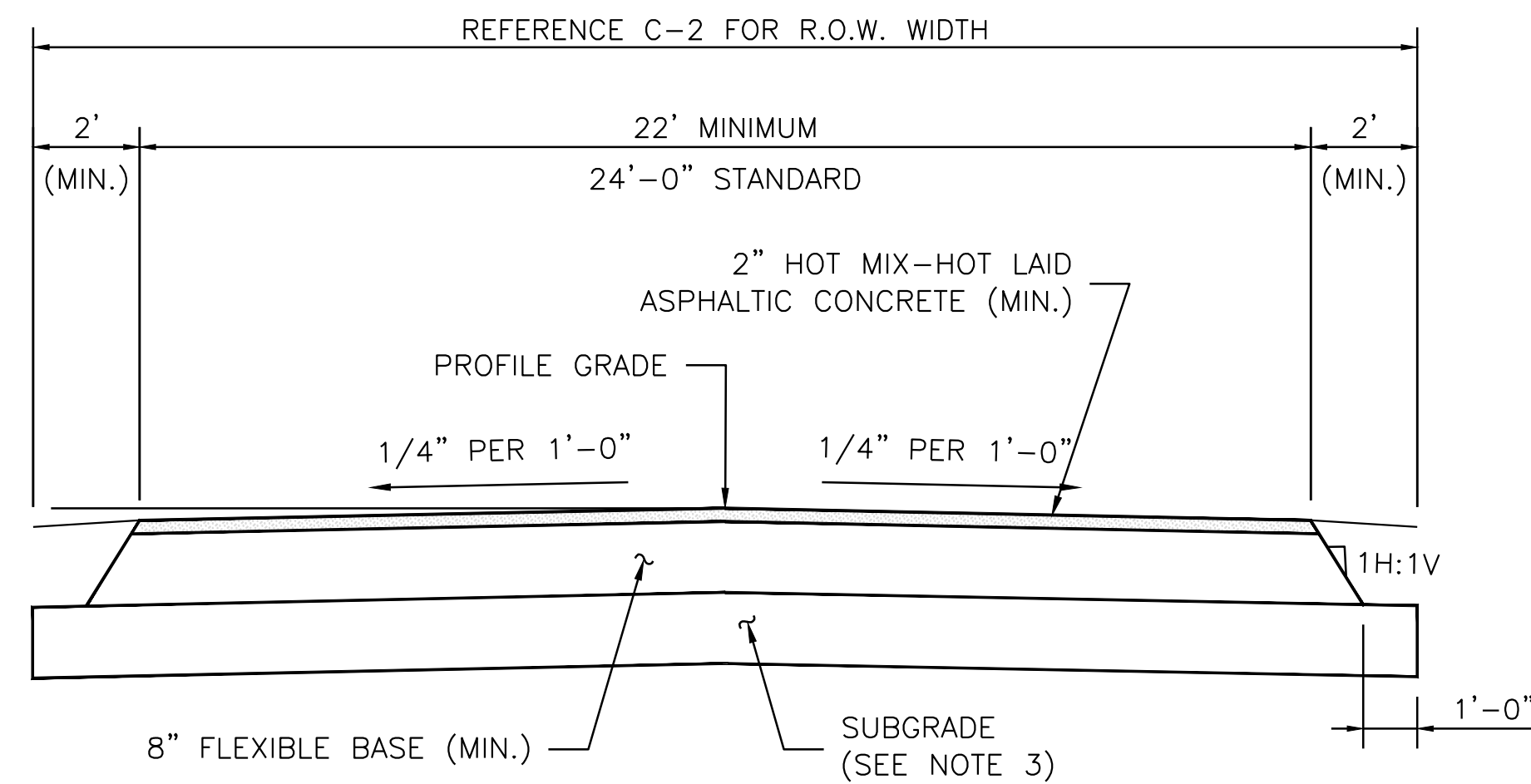
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CHECKED BY: VF
SCALE: AS SHOWN

DETAIL
STOP LOG DETAILS

SHEET SD-3
SEQ. 21 OF 26

RFP SUBMITAL

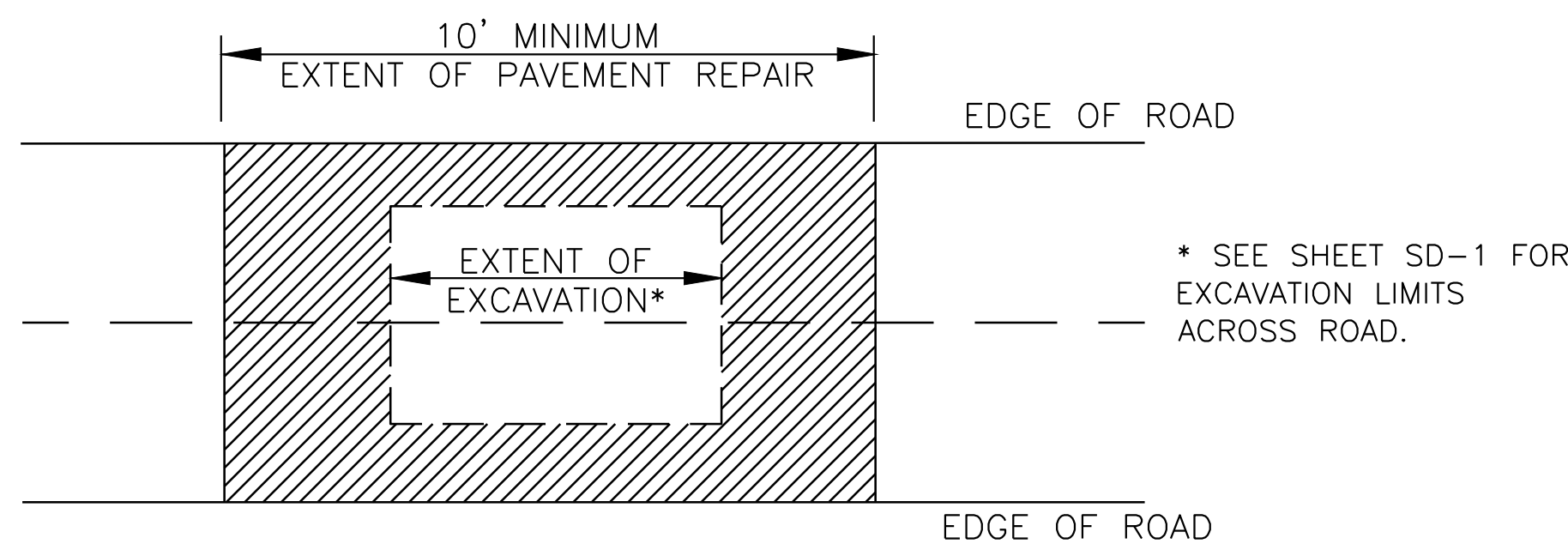
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NOTES:

- PAVEMENT SECTION SHOWN IS INTENDED TO SHOW GENERAL PAVEMENT SECTION. CONTRACTOR SHALL REPLACE PAVEMENT AT ELLIS SCHOOL ROAD TO EXISTING WIDTH AND LOCATION AND RECONSTRUCT AS SHOWN ON SHEETS C-2 THROUGH C-6 AND IN ACCORDANCE WITH SPECIFICATION SECTION 32 12 16 - ASPHALTIC CONCRETE VEHICULAR PAVING.
- PAVEMENT SECTIONS SHALL BE LOCATED WHERE REPAIR IS NECESSARY BASED ON SIPHON CONSTRUCTION, AS SHOWN ON C-2, AND DEPENDING ON CONTRACTOR'S MEANS AND METHODS.
- SCARIFY THE TOP 8 INCHES OF THE EXPOSED SUBGRADE AND STABILIZE WITH AT LEAST 8 PERCENT HYDRATED LIME (BY DRY SOIL WEIGHT). LIME STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 32 11 13.01 - LIME FLY-ASH STABILIZED SUBGRADES. THE PERCENTAGE OF LIME REQUIRED FOR STABILIZATION IS A PRELIMINARY ESTIMATE FOR PLANNING PURPOSES ONLY; LABORATORY TESTING SHOULD BE PERFORMED TO DETERMINE OPTIMUM CONTENTS FOR STABILIZATION PRIOR TO CONSTRUCTION. THE LIME-STABILIZED SOILS SHOULD BE COMPACTED TO 95 PERCENT OF THEIR ASTM D 698 (STANDARD PROCTOR) DRY DENSITY AT A MOISTURE CONTENT RANGING FROM OPTIMUM TO 3 PERCENT ABOVE OPTIMUM.
- SUBGRADE PREPARATION SHOULD EXTEND A MINIMUM OF 2 FEET BEYOND THE PAVED AREA PERIMETERS. EXISTING PAVEMENT AND BASE MATERIAL SHOULD BE REMOVED IN ACCORDANCE WITH SPECIFICATION SECTION 02 41 13.13 - REMOVING EXISTING PAVEMENTS AND STRUCTURES. AFTER PAVEMENT DEMOLITION, A MINIMUM OF 6 INCHES OF SURFACE SOILS, EXISTING VEGETATION, TREES, ROOTS, AND OTHER DELETERIOUS MATERIALS SHOULD BE REMOVED AND WASTED IN GENERAL ACCORDANCE WITH SPECIFICATION SECTION 31 23 16.01 - ROADWAY EXCAVATION. THE EXCAVATION DEPTH SHOULD BE INCREASED WHEN INSPECTION INDICATES THE PRESENCE OF ORGANICS AND DELETERIOUS MATERIALS TO GREATER DEPTHS. THE EXPOSED SOILS SHOULD BE PROOF-ROLLED IN ACCORDANCE WITH ITEM 216 OF THE 2014 TXDOT STANDARD SPECIFICATIONS TO IDENTIFY AND REMOVE ANY WEAK, COMPRESSIBLE, OR OTHER UNSUITABLE MATERIALS; SUCH MATERIALS SHOULD BE REPLACED WITH COMPACTED, COMPETENT, CLAY FILL.

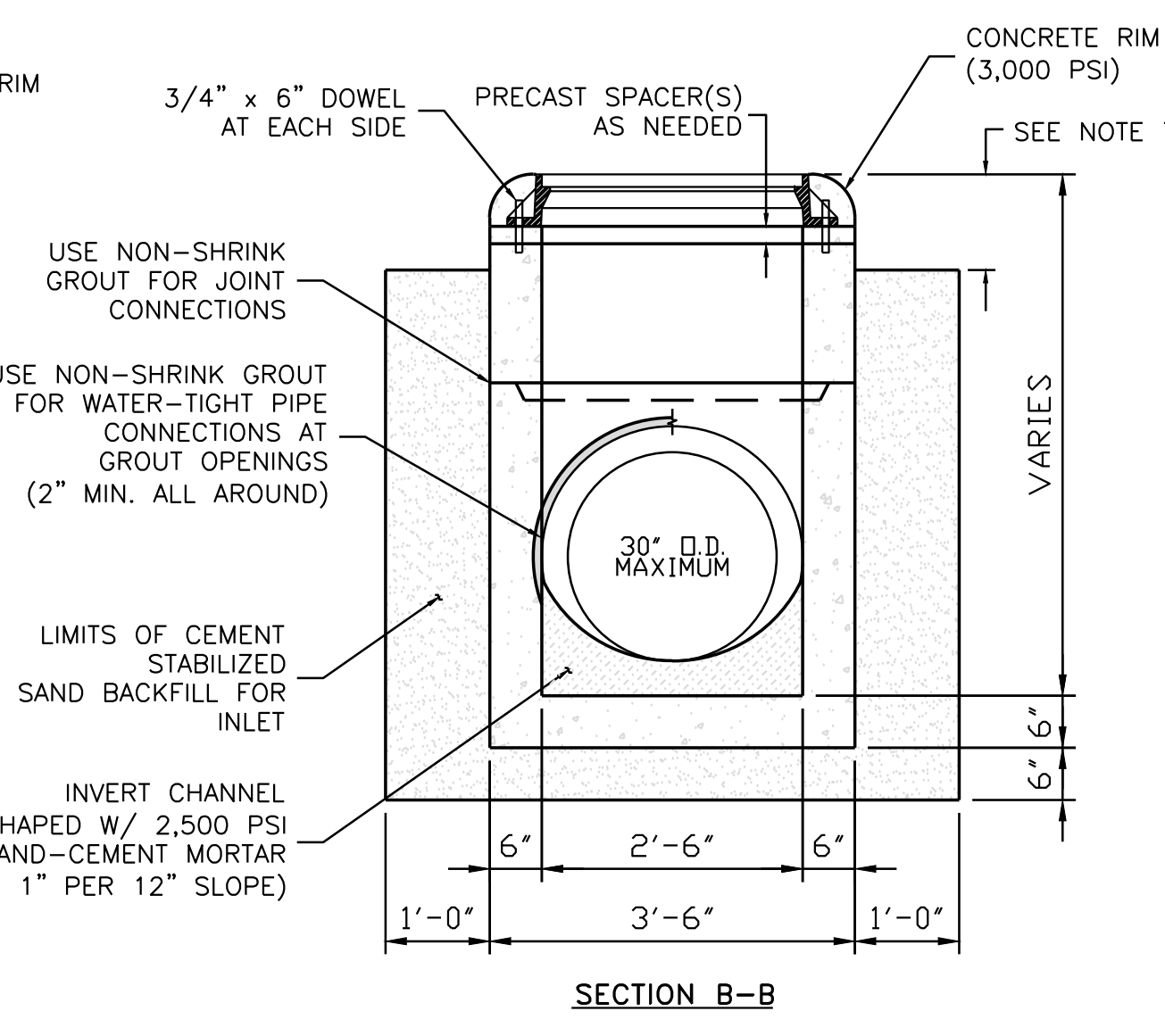
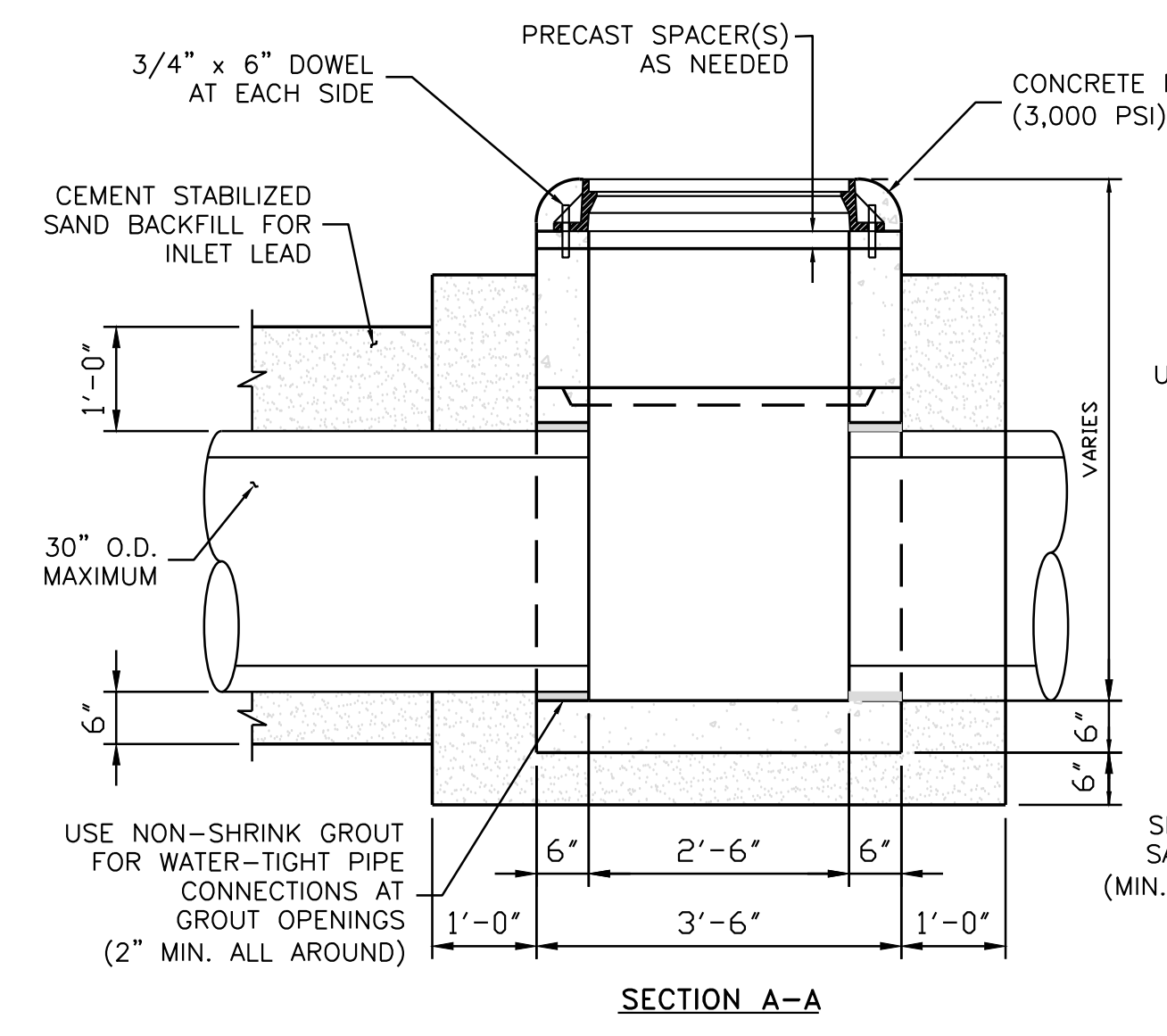
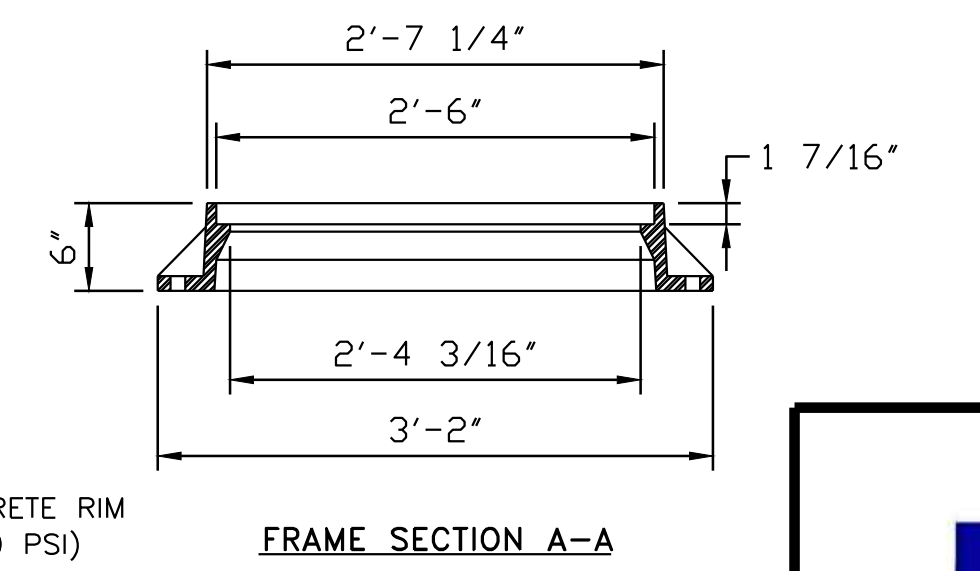
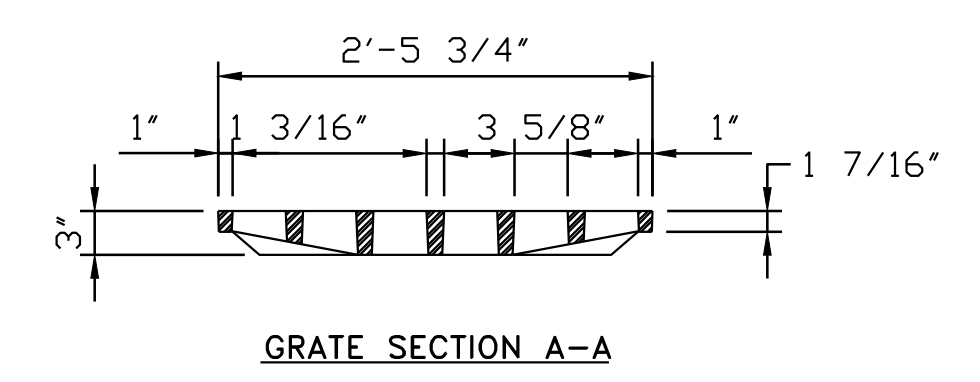
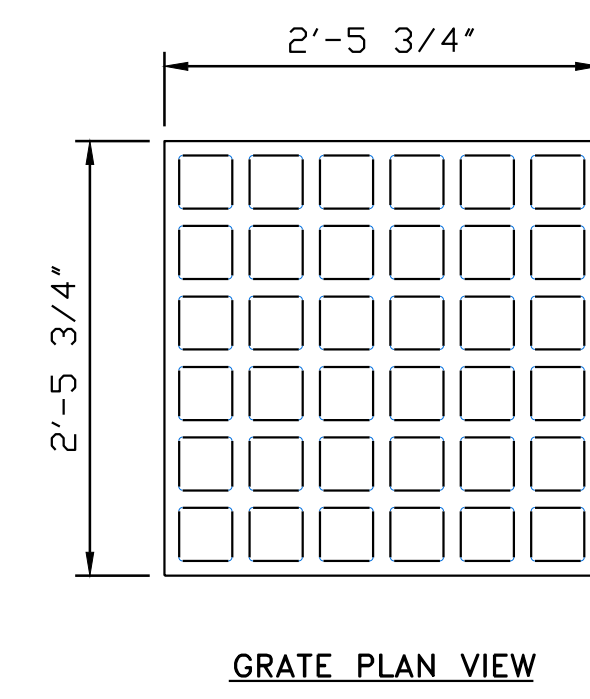
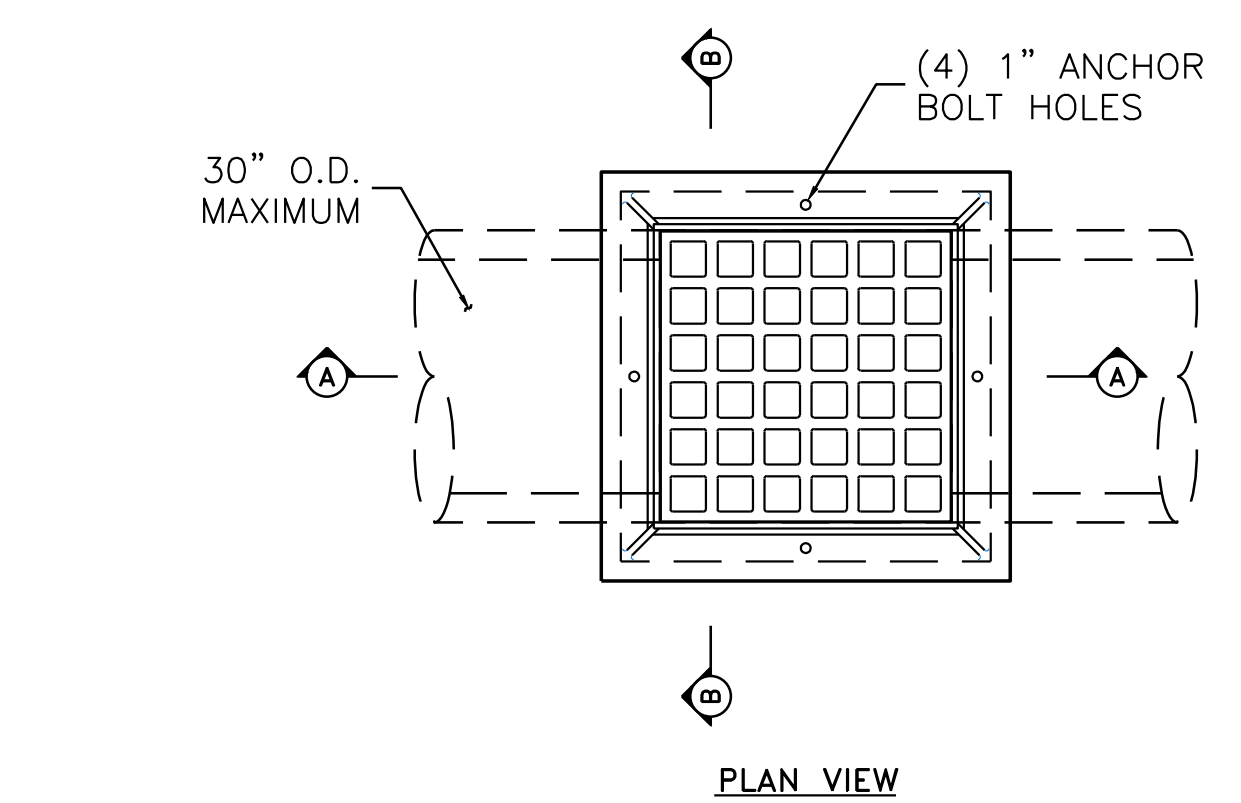
1 ROAD REPAIR DETAIL NOT TO SCALE



4 ROAD REPAIR DETAIL NOT TO SCALE

NOTES:

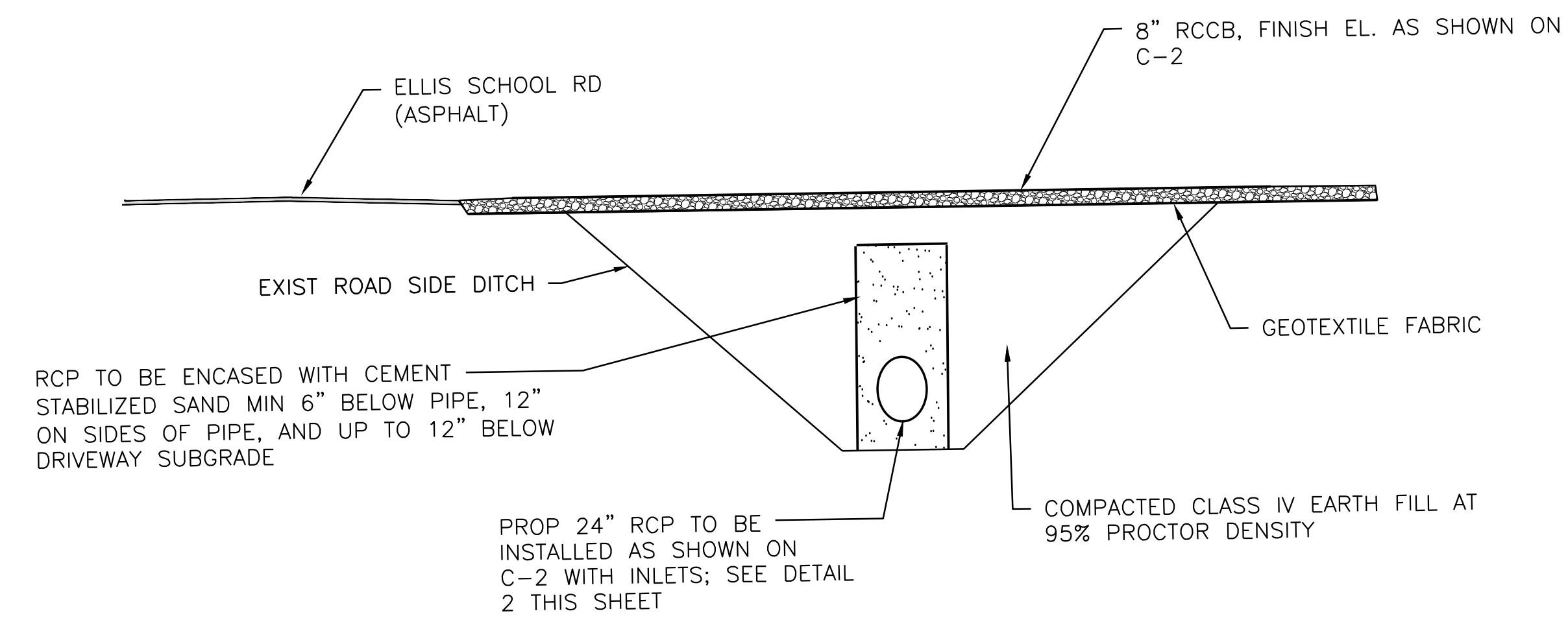
- EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
- FLEXIBLE BASE** - REPLACE BASE TO SAME THICKNESS PLUS TWO INCHES (2") FOR EXTENT OF EXCAVATION. USE APPROVED BASE MATERIAL TYPE PER SPECIFICATIONS.
- SURFACE COURSE** - WIDTH: SURFACE MILL AND OVERLAY FULL WIDTH OF LANE(S) TO NEAREST LANE DIVIDER BEYOND EDGE OF EXCAVATION. LENGTH: MINIMUM LENGTH OF SURFACE MILL ALONG TRAVEL WAY IS 10'. REFER TO PROJECT SPECIFICATIONS FOR REPLACEMENT OF PAVEMENT MARKINGS.



INLET NOTES:

- CONSTRUCTION AND MATERIALS SHALL MEET REQUIREMENTS OF HARRIS COUNTY ITEM 472 "INLETS".
- CONCRETE FOR INLET: MINIMUM 4,000 PSI IN 28 DAYS.
- STRUCTURE TO MEET ASTM C913
- FRAME AND GRATE SHALL BE EAST JORDAN IRON WORKS MODEL V-4880-1 (OPEN AREA 473 SQ IN) OR APPROVED EQ. SHOP DRAWINGS SHALL BE REQUIRED FOR PRECAST CONSTRUCTION OF INLET AND SHALL BE SIGNED AND SEALED BY A LICENSED ENGINEER.
- KNOCK-OUTS ARE NOT PERMISSIBLE FOR PRECAST CONSTRUCTION OF INLET.
- CEMENT STABILIZED SAND SHALL EXTEND TO 12 INCHES BELOW THE SURFACE.

2 HARRIS COUNTY INLET DETAILS NOT TO SCALE



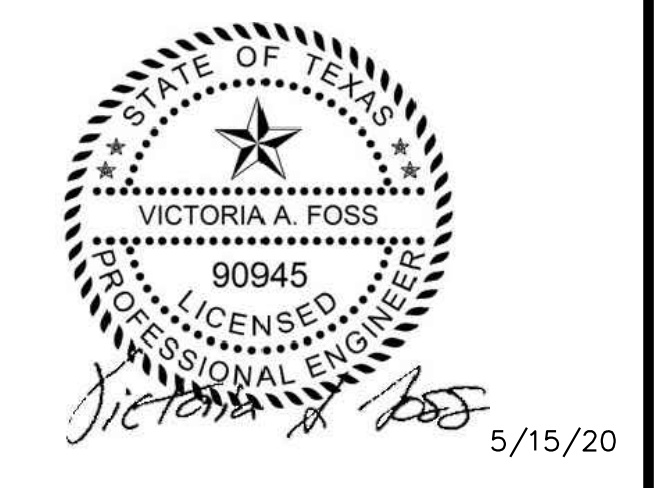
3 TYPICAL DRIVEWAY SECTION NOT TO SCALE

NOTES:

- CULVERTS SHALL NOT BE SET UNTIL GRADE STAKES ARE PROVIDED BY HARRIS COUNTY.
- CULVERTS SHALL NOT BE BACKFILLED UNTIL AN INSPECTION IS CONDUCTED BY HARRIS COUNTY TO DETERMINE THAT THE ELEVATION AND GRADE OF THE CULVERTS HAVE BEEN CORRECTLY SET.
- CULVERTS SHALL BE INSPECTED UPON COMPLETION OF PLACEMENT OF CEMENT STABILIZED BACKFILL AND PRIOR TO COMMENCEMENT OF DRIVEWAY CONSTRUCTION.



TEXAS WATER ENGINEERING, PLLC. Texas Registered Engineering Firm F-8482



SAN JACINTO RIVER AUTHORITY HIGHLANDS DIVISION



SJRA HIGHLANDS SIPHON 29 IMPROVEMENTS

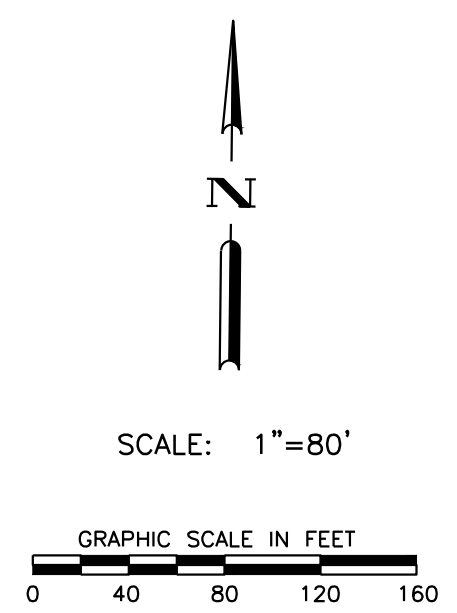
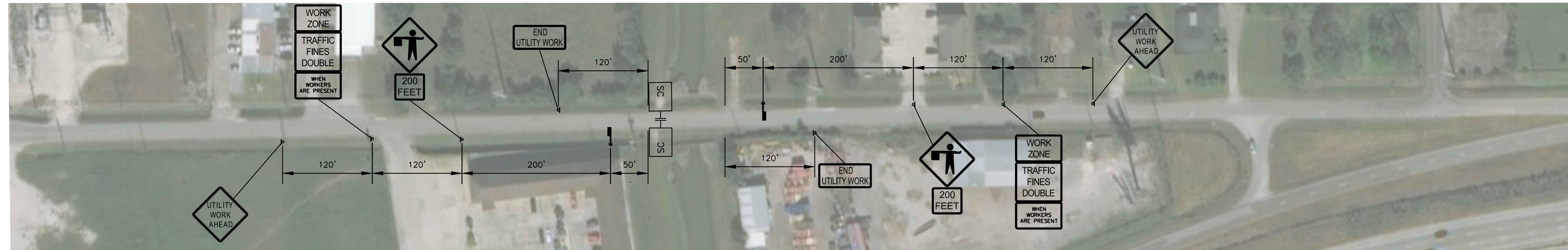
6/9/20	RFP SUBMITTAL	
ISSUE	DATE	DESCRIPTION
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FILE NAME: SJRA-SIPHON 29-ROAD DET_SD-4.dwg		
DRAWN BY: KC/vf		
CHECKED BY: vf		
SCALE:		AS SHOWN

DETAIL ROAD REPAIR, DRIVEWAY AND STORM WATER INLET DETAILS

SHEET SD-4 SEQ. 22 OF 26

RFP SUBMITTAL

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA\SJRA Siphon 29\Final Design\100 pct CAD Drawings\Siphon-29-TCP-TCP-1.dwg LAYOUT: Layout1 DATE: 6/9/20 BY: VICTORIA FOSS


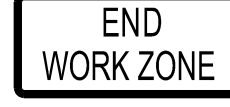


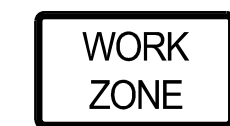

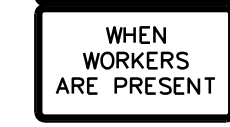





TRAFFIC CONTROL PLAN

1"=80'

ELLIS SCHOOL ROAD POSTED SPEED LIMIT = 30 MPH

LEGEND

-  CW21-7
-  G20-2bT
-  CW20-7
-  CW16-2P
-  G20-5aP
-  R20-5T
-  R20-5aTP

-  SC H STABILIZED CONSTRUCTION ENTRANCE/EXIT. LOCATION TO BE PROPOSED BY CONTRACTOR AND APPROVED BY THE PRINCIPAL ARCHITECT/ENGINEER.
-  p SIGN POST
-  FLAGGER

NOTES:

1. THIS TRAFFIC CONTROL PLAN IS INTENDED FOR USE WHEN ELLIS SCHOOL ROAD IS OPEN FOR TRAFFIC; SEE SHEET TCP-2 FOR ROAD CLOSURE AND DETOUR PLAN FOR WORK THAT REQUIRES CLOSURE OF ELLIS SCHOOL ROAD.
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OCTOBER 2014 (REVISION 2), AND SPECIFICATION SECTION 10 14 53-TRAFFIC SIGNAGE.
3. NO LANES SHALL BE BLOCKED DURING CONSTRUCTION.
4. CONTRACTOR SHALL PROVIDE ON-SITE CERTIFIED FLAGMEN WHEN CONSTRUCTION VEHICLES ARE ENTERING AND EXITING THE PROJECT SITE.
5. CONTRACTOR SHALL NOT SCHEDULE MATERIAL DELIVERIES DURING PEAK TRAFFIC VOLUME TIMES (7:00AM TO 9:00AM AND 3:00PM TO 5:00PM, MONDAY THROUGH FRIDAY).



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**SAN JACINTO RIVER AUTHORITY
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SJRA HIGHLANDS
SIPHON 29
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION
△	6/9/20	RFP SUBMITTAL

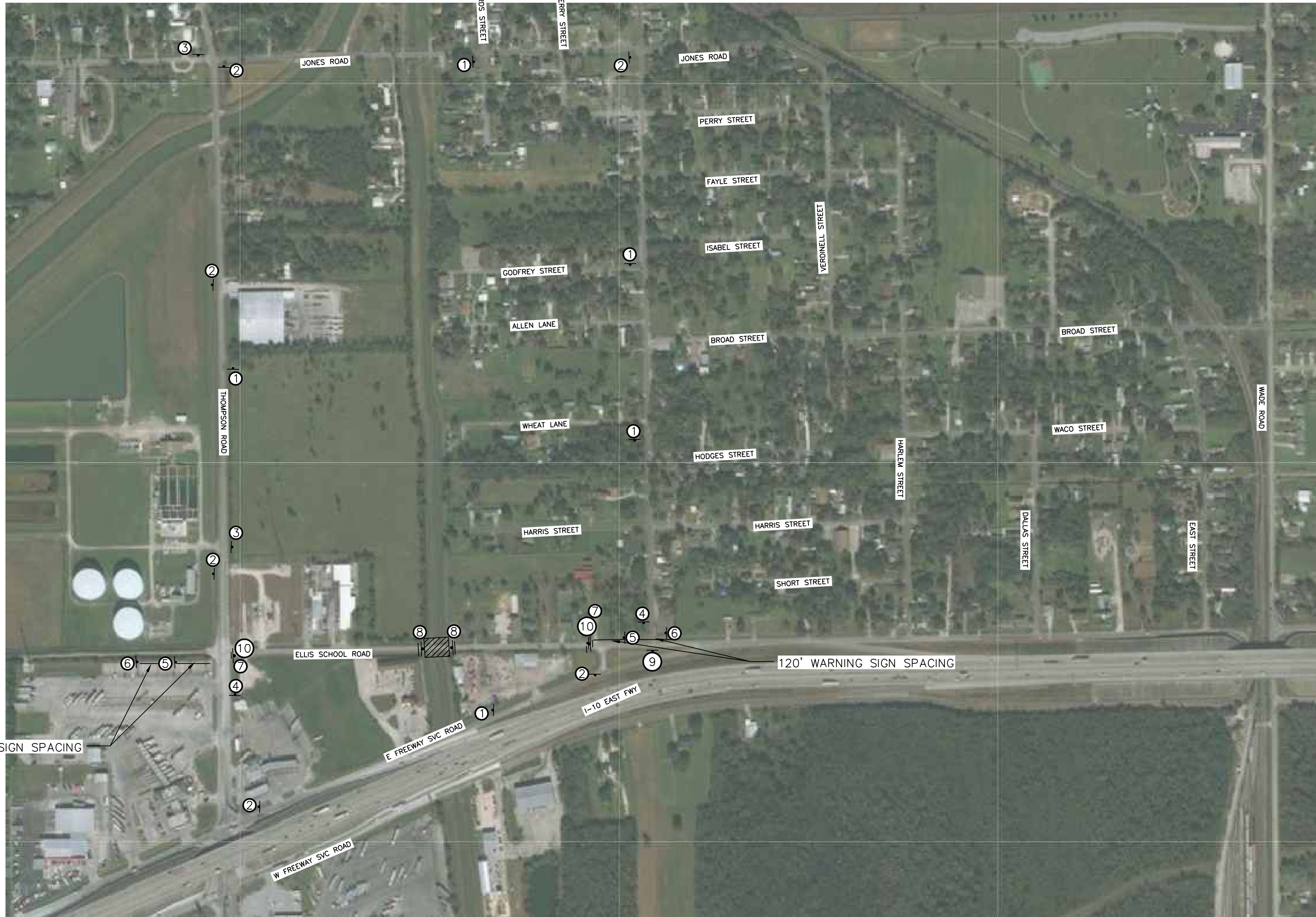
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DRAWN BY: KC/VF
CHECKED BY: VF
SCALE: AS SHOWN

TRAFFIC CONTROL
TRAFFIC CONTROL PLAN

SHEET TCP-1
SEQ. 24 OF 26

△ RFP SUBMITTAL

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA\SJRA Siphon 29\Final Design\100 pct CAD Drawings\Siphon-29-TCP Detour_TCP-2.dwg LAYOUT: TRAFFIC CONTROL PLAN DATE: 6/9/20 BY: VICTORIA FOSS



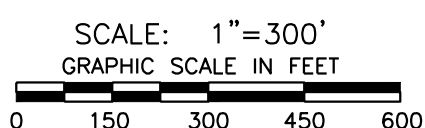
LEGEND

N
 CONSTRUCTION ZONE
 TYPE III BARRICADE
 SIGN POST

- ① ELLIS SCHOOL RD M4-9N
DETOUR 30"x24"
- ② ELLIS SCHOOL RD M4-9N
DETOUR 30"x24"
- ③ ELLIS SCHOOL RD M4-9N
DETOUR 30"x24"
- ④ END DETOUR M4-8a
24"x18"
- ⑤ DETOUR AHEAD CW20-2D
36"x36"
- ⑥ ROAD CLOSED AHEAD CW20-3D
36"x36"
- ⑦ ROAD CLOSED TO THRU TRAFFIC R11-4
60"x30"
- ⑧ ROAD CLOSED R11-2
48"x30"
- ⑨ R3-2
24"x24"
- ⑩ DETOUR M4-10L
48"x18"

- NOTES:**
- SEE SPECIFICATION SECTION 01 55 26 - TRAFFIC CONTROL FOR THE PROPER INSTALLATION OF TRAFFIC SIGNS AND SIGNALS AND SIGN SPACING. DETOUR PLAN SHALL CONFORM TO TXMUTCD REVISION 2.
 - PROVIDE ALL EMERGENCY AGENCIES, SCHOOLS, AND ASSOCIATED HARRIS COUNTY PRECINCTS AND PROVIDE OWNER'S REPRESENTATIVE 30 CALENDAR DAYS NOTICE PRIOR TO IMPLEMENTING THE CLOSURE OF ELLIS SCHOOL ROAD.
 - PLACE TWO ELECTRONIC MESSAGE BOARDS ON EACH SIDE OF ELLIS SCHOOL ROAD A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE OF THE ROAD CLOSURE NOTIFYING THE PUBLIC OF THE ROAD CLOSURE DATES.
 - CONTRACTOR IS PERMITTED TO CLOSE ELLIS SCHOOL RD. UP TO TWO (2) TIMES DURING PROJECT. ELLIS SCHOOL ROAD SHALL BE CLOSED NO MORE THAN 20 CALENDAR DAYS FOR EACH CLOSURE REQUIRED. OUTSIDE THIS MAXIMUM OUTAGE PERIOD, THE CONTRACTOR SHALL NOT INHIBIT SAFE TWO-WAY TRAFFIC THROUGHOUT THE DURATION OF THE PROJECT. NUMBER OF CLOSURES REQUIRED WILL DEPEND ON CONTRACTOR'S MEANS AND METHODS AND IF 60" RCP BYPASS IS REMOVED OR ABANDONED IN PLACE.

TRAFFIC DETOUR PLAN



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5/15/20

**SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION**

SJRA HIGHLANDS
SIPHON 29
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION
▲	6/9/20	RFP SUBMITAL

TRAFFIC CONTROL
DETOUR FOR ELLIS
SCHOOL ROAD CLOSURE

SHEET	TCP-2
SEQ.	25 OF 26

▲ RFP SUBMITAL

