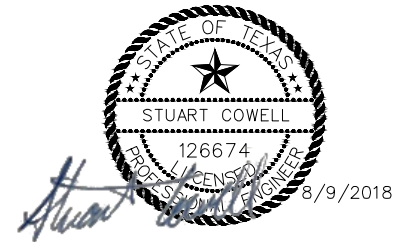


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ELLIOTT BRANCH CITY OF KYLE

WASTEWATER AND RECLAIMED WATERLINE IMPROVEMENTS LJA PROJECT NO: 2173-1702



PROJECT INFORMATION:

OWNER: LEON BARBA, PE CITY ENGINEER CITY OF KYLE CITY HALL 100 W. CENTER ST KYLE, TX 78640	CONTACT: STUART COWELL, P.E. LJA ENGINEERING, INC 5316 HWY 290 WEST, SUITE 150 AUSTIN, TX 78735
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SUBMITTAL PREPARED BY:

LJA Engineering, Inc.
FRN - F-1386

5316 HWY 290 W, STE 150
AUSTIN, TEXAS 78735
(512) 439-4700
TBPE FIRM REGISTRATION: F-1386

CONTACT:
STUART COWELL, PE
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SUBMITTED FOR APPROVAL BY:

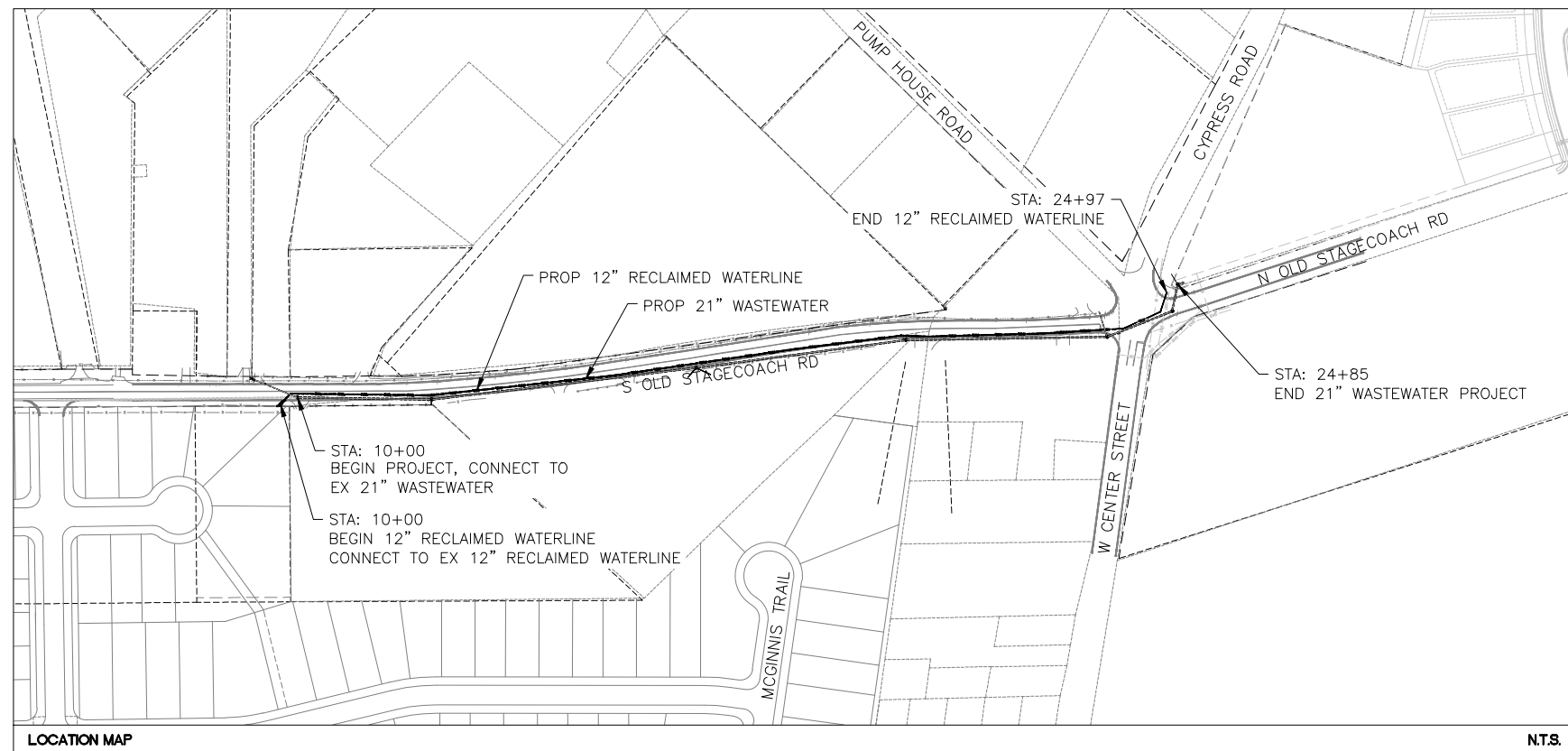
ENGINEER OF RECORD DATE

APPROVED FOR CONSTRUCTION BY:

LEON BARBA, PE DATE

CITY COUNCIL

TRAVIS MITCHELL	MAYOR
DEX ELLISON	COUNCIL MEMBER DISTRICT 1
TRACY SCHEEL	COUNCIL MEMBER DISTRICT 2
SHANE ARABIE	COUNCIL MEMBER DISTRICT 3
ALEX VILLALOBOS	COUNCIL MEMBER DISTRICT 4
DAMON FOGLEY	COUNCIL MEMBER DISTRICT 5
DAPHNE TENORIO	COUNCIL MEMBER DISTRICT 6



LOCATION MAP

NTS.

PROJECT LENGTH

1,495 LF OF 21" WASTEWATER LINE
1,497 LF OF 12" RECLAIMED WATERLINE
2,992 LF TOTAL

NOTES:
GENERAL PERMIT PROGRAM APPROVAL DOES NOT CONSTITUTE UTILITY ALIGNMENT/ASSIGNMENT APPROVAL.

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

CITY OF KYLE GENERAL NOTES:

- ARRANGE A PRE-WORK MEETING BETWEEN REPRESENTATIVES OF THE CITY AND THE CONTRACTOR PRIOR TO BEGINNING WORK. OUTLINE THE PROPOSED WORK AND SUBMIT PLANS FOR PERFORMING THE WORK WHILE PROVIDING SAFE PASSAGE OF TRAFFIC AT ALL TIMES.
- REPAIR ANY DAMAGES INCURRED TO EXISTING FENCES, SIGNS, SIGN POSTS, CURBS, OR ANY OTHER APPURTENANCES CAUSED BY EQUIPMENT OR PERSONNEL TO ITS ORIGINAL CONDITION OR AS DIRECTED BY THE ENGINEER AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL NOTIFY THE CITY'S REPRESENTATIVE AS SOON AS THE ROW IS STAKED AND PRIOR TO CLEARING OPERATIONS. UPON NOTIFICATION, THE CITY'S REPRESENTATIVE WILL SCHEDULE A WALK-THROUGH WITH THE CONTRACTOR AND DESIGNATE ALL TREES AND OTHER FEATURES TO BE PROTECTED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOT BEGIN ANY CLEARING OF THE ROW PRIOR TO THIS WALK-THROUGH. THE DESIGNATED TREES SHALL BE PROTECTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, OR AS DIRECTED BY THE REPRESENTATIVE. NO FENCES SHALL BE REMOVED WITHOUT NOTIFICATION TO THE OBSERVER.
- MAINTAIN THE RIGHT OF WAY IN A SATISFACTORY APPEARANCE AS SHOWN IN THE PLANS AND/OR AS APPROVED BY THE ENGINEER.
- PERFORM WORK EXPEDITIOUSLY DURING DAYLIGHT HOURS. SUBMIT WRITTEN REQUEST TO CITY ENGINEER FOR WEEK-END AND/OR NIGHT TIME WORK. CONFORM TO THE "TEXAS MUTCD" FOR SIGN TYPES WHICH DETAILS ARE NOT SHOWN IN THE PLANS.
- REMOVE ALL EXISTING RAISED PAVEMENT MARKINGS AS THE WORK PROGRESSES OR AS APPROVED BY THE ENGINEER. THE WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE SUBSIDIARY TO THE VARIOUS BID ITEMS. MATERIALS REMOVED BECOME THE PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL.
- MAINTAIN THE ROADWAY SURFACE AND WORK ZONE STRIPING WITHIN THE PROJECT LIMIT WHILE THE TRAFFIC CONTROL PLAN IS IN EFFECT.
- BE AWARE THAT SOME FRANCHISE UTILITY RELOCATIONS WILL BE NECESSARY AND MAY NOT BE COMPLETE PRIOR TO ISSUANCE OF NOTICE TO PROCEED. ADJUST WORK ACCORDINGLY AND COORDINATE WORKSPACE WITH UTILITY RELOCATION CREWS.

CONTROL OF THE WORK:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND APPLICABLE CITY OF KYLE STANDARDS AND TXDOT 2014 SPECIFICATIONS.
- ALL CONCRETE CONSTRUCTED ADJACENT TO THE ROADWAY MUST BE FREE OF STAINS, DIRT, LIMB MARKS, ETC., AT THE TIME OF FINAL ACCEPTANCE. THESE ITEMS INCLUDE BUT ARE NOT LIMITED TO CURB AND GUTTER, WHEEL CHAIR RAMPS, INLETS AND RIPRAP. BLAST CLEANING OF THESE ITEMS WILL BE REQUIRED TO ACHIEVE ACCEPTANCE OF THE PROJECT AND WILL BE CONSIDERED SUBSIDIARY TO THE APPLICABLE BID ITEMS.
- PRIOR TO FINAL ACCEPTANCE, ALL NEW STRUCTURES AND/OR STRUCTURES THAT HAVE BEEN EXTENDED SHALL BE CLEANED OUT BY THE CONTRACTOR. THIS WORK WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.
- CONTRACTOR IS RESPONSIBLE FOR REPLACING DAMAGED BENCH MARKS AND SETTING NEW BENCH MARKS IF EXISTING CANNOT BE MAINTAINED DURING CONSTRUCTION FOR WHATEVER REASON.
- PRIOR TO BEGINNING WORK IN THE AREA OF EXISTING UTILITIES, THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR EXACT LOCATIONS TO PREVENT ANY DAMAGE OR INTERFERENCE WITH PRESENT FACILITIES. THE TEXAS ONE CALL SYSTEM SHALL BE NOTIFIED AT THE FOLLOWING TOLL-FREE NUMBER: (1-800-245-4545) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THIS ACTION SHALL IN NO WAY BE INTERPRETED AS RELIEVING THE CONTRACTOR OF HIS RESPONSIBILITIES, UNDER THE TERMS OF THE CONTRACT AND AS SET OUT IN THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY HIS OPERATIONS, AT NO COST TO THE OWNER AND SHALL RESTORE FACILITIES TO SERVICE IN A TIMELY MANNER.
- IF WORKING NEAR POWER LINES, COMPLY WITH THE APPROPRIATE SECTIONS OF LOCAL LEGAL REQUIREMENTS, TEXAS STATE LAW, AND FEDERAL REGULATIONS RELATING TO THE TYPE OF WORK INVOLVED
- IN THE EVENT OF UNFORESEEN UTILITY ADJUSTMENT, THE CONTRACTOR WILL PROSECUTE THEIR WORK IN SUCH A MANNER AND SEQUENCE AS TO FACILITATE THE ADJUSTMENTS TO BE MADE.
- MARK AND MAINTAIN 100-FOOT STATION INTERVALS FOR THE DURATION OF THE PROJECT, AS DIRECTED. CONSIDER SUBSIDIARY TO PERTINENT ITEMS.
- RECORD DRAWINGS (TWO 11"x17" AND ONE DIGITAL COPY IN PDF FORMAT) AND FINAL ASPHALT TEST REPORT SHALL BE SUBMITTED TO THE CITY PRIOR TO PROJECT ACCEPTANCE.
- CONTRACTOR SHALL PERFORM ALL LAYOUT WORK TO TRANSFER ALL CONTROLS FOR GRADES, LINES, LEVELS AND MEASUREMENTS FROM A MINIMUM OF TWO REFERENCE POINTS PROVIDED BY OWNER. ALL SURVEY WORK WILL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR (RPLS).
- WITHIN 5 WORK DAYS OF THE NOTICE TO PROCEED DATE, OR WITHIN 10 WORKING DAYS OF INITIATING WORK BASED ON THE APPROVED SCHEDULE IN A NEW AREA OF THE PROJECT, THE CONTRACTOR SHALL SURVEY AND STAKE THE LOCATIONS OF ALL PROPOSED IMPROVEMENTS BEHIND THE CURB AND WITHIN THE ROW (EXAMPLES: MANHOLES, STORM INLETS, FIRE HYDRANTS, ETC.), OR ANY OTHER IMPROVEMENTS IDENTIFIED BY THE OWNER'S REPRESENTATIVE, FOR THE PURPOSE OF IDENTIFYING THE NATURE AND LOCATION OF THESE IMPROVEMENTS TO THE ADJACENT PROPERTY OWNER(S). THE OWNER'S REPRESENTATIVE WILL IDENTIFY TO THE CONTRACTOR THE IMPROVEMENTS TO BE STAKED.
- OWNER WILL NOT STAKE FOR CONSTRUCTION AND WILL NOT BE ON SITE FOR SURVEY LAYOUT ACTIVITIES, EXCEPT TO PERFORM QUALITY CONTROL CHECKS.
- THE CONSTRUCTION PLANS WILL INCLUDE HORIZONTAL AND VERTICAL CONTROL POINTS. REFERENCES TO APPROVED BENCHMARKS USED IN ESTABLISHING CONTROLS ON THE DRAWINGS WILL BE PROVIDED BY THE OWNER'S E/A. IN ADDITION, ON BUILDING PROJECTS AND/OR PROJECTS NOT BUILT WITHIN AN EXISTING PUBLIC ROW, A BOUNDARY SURVEY WILL BE SUPPLIED TOGETHER WITH A LEGAL DESCRIPTION OF THE PROPERTY AND ALL EASEMENTS WHERE WORK WILL TAKE PLACE.
- CONTRACTOR SHALL SUBMIT CONSTRUCTION STAKING LAYOUT SHEETS SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF TEXAS. CONTRACTOR SHALL USE A QUALIFICATION BASED SELECTION PROCESS CONSISTENT WITH THE PROFESSIONAL SERVICES PROCUREMENT ACT, CHAPTER 2254.004 OF THE

TEXAS GOVERNMENT CODE, WHEN SECURING THE SERVICES OF A PROFESSIONAL ENGINEER OR REGISTERED PROFESSIONAL LAND SURVEYOR. IT IS A VIOLATION OF STATE LAW TO SOLICIT BIDS FOR THE SERVICES OF A PROFESSIONAL ENGINEER OF REGISTERED PROFESSIONAL LAND SURVEYOR.

- ANY DISCREPANCIES FOUND WITH THE CONSTRUCTION DOCUMENTS' DIMENSIONAL LAYOUT WILL BE CORRECTED. CONTRACTOR SHALL ASSURE THAT THE OWNER'S REPRESENTATIVE AND E/A ARE NOTIFIED SO THAT THE APPROPRIATE ACTIONS ARE TAKEN TO CORRECT THE CONTRACT DRAWINGS.
- ALL WORK SHALL BE DONE TO THE LINES, GRADES AND ELEVATIONS INDICATED ON THE DRAWINGS. INFORMATION CONCERNING BASIC HORIZONTAL AND VERTICAL CONTROL POINTS WILL BE PROVIDED BY THE E/A, LJA ENGINEERING, INC. THESE POINTS SHALL BE USED AS THE DATUM BASIS UNDER THIS CONTRACT.
- ALL WORK TO TRANSFER ALL CONTROLS FOR GRADES, LINES, LEVELS, LAYOUT AND MEASUREMENTS SHALL BE PERFORMED UNDER THE SUPERVISION OF A TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR, PROVIDED BY THE CONTRACTOR. SUCH WORK SHALL CONFORM TO THE STANDARDS FOR CONSTRUCTION STAKING IN THE MOST RECENT EDITION OF THE TEXAS SOCIETY OF PROFESSIONAL SURVEYORS MANUAL OF PRACTICE FOR LAND SURVEYING, CATEGORY 5, SECTIONS 1-12 INCLUSIVE.
- THE OFFSET CENTERLINE STAKES WILL BE SET AT NO GREATER THAN FIFTY (50) FOOT INTERVALS ON BOTH SIDES OF THE RIGHT-OF-WAY. REFERENCES TO LINES AND GRADES AS ESTABLISHED BY THE CONTRACTOR'S SURVEYOR SHALL BE IN REFERENCE TO THESE STAKE LINES. THE CONTRACTOR IS REQUIRED TO PROVIDE A SEALED STATEMENT FROM HIS RPLS THAT THE CONTROLS ARE CORRECT AND THE SITE LAYOUT HAS BEEN DONE BY THEIR PROFESSIONAL STAFF.
- THE CONTRACTOR SHALL PLACE GRADE STAKES AND SUBMIT CONSTRUCTION STAKING LAYOUT SHEETS. THE CONTRACTOR SHALL ALLOW A MINIMUM OF TEN (10) DAYS AFTER SUBMISSION TO THE OWNER'S REPRESENTATIVE FOR REVIEW OF CONSTRUCTION STAKING LAYOUT SHEETS. CONSTRUCTION STAKING LAYOUT SHEETS SHALL INCLUDE, AT A MINIMUM, THE INFORMATION CONTAINED IN THE FORM INCLUDED AT THE END OF THIS SECTION. NO WORK SHALL BE PERFORMED WITHOUT OWNER'S REPRESENTATIVE REVIEW AND RETURN TO CONTRACTOR OF CONSTRUCTION STAKING LAYOUT SHEETS. THE OWNER'S REPRESENTATIVE, E/A AND THE CONTRACTOR SHALL REVIEW THE SURVEY CONTROLS ON THE GROUND.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL ESTABLISH THE ELEVATION TO TOP OF GROUND AT (CENTERLINE OF THE PIPE AS WELL AS CUTS AND) OFFSET STAKES AT THE DISTANCE DEEMED APPROPRIATE BY THE CONTRACTOR TO PRECLUDE DISTURBANCE OF OFFSET STAKES DURING CONSTRUCTION. THE CONTRACTOR SHALL SET ALL BLUE TOPS FOR SUBGRADE AND BASE COURSES ON CENTERLINE AT QUARTER POINTS, AT CURB LINES OR EDGE OF PAVEMENT, AND OTHER POINTS THAT MAY BE INDICATED ON THE DRAWINGS, ALL AT INTERVALS NOT TO EXCEED 50 FEET.
- THE CONTRACTOR SHALL FURNISH, WITHOUT CHARGE, EXPERIENCED PERSONNEL AND SUCH CALIBRATED SURVEY EQUIPMENT, TOOLS, STAKES, AND OTHER MATERIALS THAT THE OWNER'S REPRESENTATIVE MAY REQUIRE IN ESTABLISHING OR CHECKING CONTROL POINTS, OR IN CHECKING SURVEY, LAYOUT, AND MEASUREMENT WORK PERFORMED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL KEEP THE OWNER'S REPRESENTATIVE INFORMED IN A REASONABLE TIME IN ADVANCE OF THE TIMES AND PLACES AT WHICH HE WISHES TO DO WORK, SO THAT ANY CHECKING DEEMED NECESSARY BY THE OWNER MAY BE DONE WITH MINIMUM INCONVENIENCE TO THE E/A AND MINIMUM DELAY TO THE CONTRACTOR. SURVEYING WILL BE COORDINATED BETWEEN THE OWNER'S REPRESENTATIVE AND CONTRACTOR IN A MANNER CONVENIENT TO BOTH.
- DURING LAYOUT, CONTRACTOR SHALL FIELD VERIFY THE ELEVATION AND ALIGNMENT OF ALL TIE-IN POINTS TO EXISTING INFRASTRUCTURE. THIS WORK SHALL BE PERFORMED SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ANY CONFLICTS MAY BE RESOLVED WITHOUT DELAY. ANY WORK DONE WITHOUT BEING PROPERLY LOCATED MAY BE ORDERED REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL CAREFULLY PRESERVE ALL MONUMENTS, BENCHMARKS, REFERENCE POINTS, AND STAKES. IN CASE OF THE DESTRUCTION THEREOF, THE CONTRACTOR SHALL BEAR THE COST OF REPLACEMENT AND SHALL BE RESPONSIBLE FOR ANY MISTAKE OR LOSS OF TIME THAT MAY BE CAUSED. PERMANENT MONUMENTS OR BENCHMARKS, WHICH MUST BE REMOVED OR DISTURBED, SHALL BE PROTECTED UNTIL PROPERLY REFERENCED FOR RELOCATION. THE CONTRACTOR SHALL FURNISH MATERIALS AND ASSISTANCE FOR THE PROPER REPLACEMENT OF SUCH MONUMENTS OR BENCHMARKS.
- THE CONTRACTOR SHALL SATISFY HIMSELF BEFORE COMMENCING WORK AS TO THE MEANING AND CORRECTNESS OF ALL SURVEY CONTROL STAKES, MARKS, ETC., AND NO CLAIM WILL BE ENTERTAINED BY THE OWNER FOR OR ON ACCOUNT OF ANY ALLEGED INACCURACIES, UNLESS THE CONTRACTOR NOTIFIES THE OWNER IN WRITING BEFORE COMMENCING THE AFFECTED WORK.
- AS NEEDED FOR NECESSARY DOCUMENTATION OF THE WORK PROGRESS, THE CONTRACTOR SHALL MAINTAIN AND/OR PROTECT OFFSET OR SURVEY STAKING FOR THE DURATION OF THE PROJECT. ANY RE-STAKING REQUIRED TO MEET THIS REQUIREMENT SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

CONTROL OF MATERIALS:

- SUBMIT ALL FABRICATION AND SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL.
- THE OWNER INTENDS TO TEST MATERIALS FOR QUALITY ASSURANCE. SUCH MINIMUM TESTING IS INTENDED TO INCLUDE ATTERBERG LIMITS, SIEVE ANALYSIS, LIME SERIES; IN-PLACE NUCLEAR DENSITIES; CONCRETE COMPRESSIVE TESTS ON STRUCTURE POURS, REINFORCEMENT INSPECTION; AND DURING DAILY (FULL-PRODUCTION) HOT MIX OPERATIONS - EXTRACTIONS, A/C CONTENT, VMA'S, GRADATIONS, LAB MOLDED DENSITY'S AS WELL AS DENSITY ON CORES TAKEN FROM THE ROADWAY. FOR TESTING OF HOT MIX, THE CONTRACTOR SHALL PROVIDE A CURRENTLY APPROVED HOT MIX DESIGN FROM EITHER THE TXDOT AUSTIN DISTRICT OR CITY OF AUSTIN. CONTACT NAMES AND PHONE NUMBERS SHALL BE PROVIDED FOR VERIFICATION PURPOSES. REJECTION OF ASPHALT CONCRETE PAVEMENT MAY BE REJECTED FOR FAILURE TO MEETING ANY OF THE SPECIFICATION REQUIREMENTS. OWNER SAMPLING AND TESTING DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROVIDE MATERIAL THAT MEETS SPECIFICATIONS.

LEGAL RELATIONS AND RESPONSIBILITIES:

- PROTECT ALL ADJOINING PAVEMENT SECTIONS DURING ALL PHASES OF CONSTRUCTION. ANY DAMAGES INCURRED DUE TO CONTRACTORS OPERATION SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- WHERE EXISTING PAVEMENT ADJOINS NEW PAVEMENT, SAW THE EXISTING PAVEMENT TO A NEAT TRANSVERSE AND/OR LONGITUDINAL LINE TO PERMIT ADEQUATE JOINING. THIS WILL NOT BE

PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.

- REMOVE ALL VEGETATION FROM PAVEMENT EDGES, INTERSECTIONS AND DRIVEWAYS PRIOR TO ACP OPERATIONS. THIS WORK WILL NOT BE PAID FOR DIRECTLY BUT WILL BE SUBSIDIARY TO THE VARIOUS BID ITEMS.
- MANAGE CONSTRUCTION TO MINIMIZE DISRUPTION TO TRAFFIC. MAKE EVERY EFFORT TO ENSURE THE SAFETY AND CONVENIENCE OF THE PUBLIC AND PROPERTY AS PROVIDED IN THE CONTRACT AND AS DIRECTED.
- FOLLOW THE SAFETY PROVISIONS OF ALL APPLICABLE RULES, CODES, AND REGULATIONS. KEEP ALL PORTIONS OF THE HIGHWAY OPEN TO TRAFFIC, UNLESS OTHERWISE SHOWN ON THE PLANS. MAINTAIN THE ROADWAY IN A GOOD AND PASSABLE CONDITION. PROVIDE FOR INGRESS AND EGRESS TO ADJACENT PROPERTY AT END OF EACH WORK DAY. ALL MATERIALS, LABOR AND INCIDENTALS REQUIRED FOR THE CONTRACTOR TO PROVIDE FOR TRAFFIC ACROSS THE HIGHWAY AND FOR ALL WEATHER INGRESS AND EGRESS TO PUBLIC AND PRIVATE PROPERTY SHALL BE CONSIDERED AS INCIDENTAL TO THE VARIOUS BID ITEMS.
- DEVELOP COMMUNICATION WITH ADJACENT LAND OWNERS FOR TEMPORARY DAY OR NIGHT CLOSURES OF DRIVEWAYS AS THE WORK PROGRESSES. PROVIDE MINIMUM OF 48 HOUR NOTICE TO OWNER FOR TEMPORARY CLOSURE OF DRIVEWAY.
- CONTRACTOR MUST MAINTAIN UTILITIES TO RESIDENCES AND BUSINESSES THROUGHOUT THE CONSTRUCTION OF IMPROVEMENTS. INSTALL TEMPORARY UTILITIES TO EXISTING RESIDENCES AND BUSINESSES AS NEEDED. LIMITED STOPAGES OF UTILITY SERVICE ARE ALLOWED FOR FINAL TIE-INS, BUT MUST BE PRE-APPROVED BY CITY INSPECTOR.
- NO OPEN TRENCHES ARE ALLOWED TO REMAIN OVERNIGHT.
- CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE TRENCH AND REPAIR AREA. PAVEMENT AND ASSOCIATED REPAIR QUANTITIES AS INDICATED IN THE PLANS AND BID SCHEDULE ARE PLANNED QUANTITY MEASUREMENTS. AREAS OF REPAIR GREATER THAN THE PLANNED QUANTITY SHALL BE REPAIRED PER THE PLANS AND SPECIFICATIONS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE SUITABLE DRAINAGE OF THE ROADWAY AND ERECT TEMPORARY STRUCTURES AS REQUIRED.
- IF AT ANY TIME DURING CONSTRUCTION, THE APPROVED PLAN OF OPERATION DOES NOT ACCOMPLISH THE INTENDED PURPOSE DUE TO ANY CONDITION AFFECTING THE SAFE HANDLING OF TRAFFIC, IMMEDIATELY MAKE NECESSARY CHANGES, AS DIRECTED, TO CORRECT THE UNSATISFACTORY CONDITIONS.
- STORE ALL EQUIPMENT NOT IN USE IN A MANNER AND AT LOCATIONS THAT WILL NOT INTERFERE WITH THE SAFE PASSAGE OF TRAFFIC.
- PROVIDE QUALIFIED FLAGGERS IN ACCORDANCE WITH THE TXMUTCD FOR THE SAFETY AND CONVENIENCE OF THE TRAVELING PUBLIC AND WORKERS, AS DIRECTED.
- DO NOT PARK EQUIPMENT OR MAKE STOCKPILES WHERE DRIVER SIGHT DISTANCE TO BUSINESSES AND SIDE STREET INTERSECTIONS IS OBSTRUCTED, ESPECIALLY AFTER WORK HOURS. IF IT IS NECESSARY TO PARK WHERE DRIVERS' VIEWS ARE BLOCKED, MAKE EVERY EFFORT TO FLAG TRAFFIC ACCORDINGLY. GIVE THE TRAVELLING PUBLIC FIRST PRIORITY.
- MAINTAIN POSITIVE DRAINAGE FOR PERMANENT, AS WELL AS, TEMPORARY DRAINAGE FOR THE DURATION OF THE PROJECT. THIS WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONSTRUCT TEMPORARY AND PERMANENT DRAINAGE SYSTEMS PRIOR TO THE PLACEMENT OF TEMPORARY PAVEMENT, WHEN POSSIBLE, BUT ABSOLUTELY PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT. BE RESPONSIBLE FOR ANY ITEMS ASSOCIATED WITH THE TEMPORARY/INTERIM DRAINAGE AND ALL RELATED MAINTENANCE. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK. THE ENGINEER WILL HAVE THE FINAL AUTHORITY IN DETERMINING/APPROVING THE ADEQUACY OF ANY TEMPORARY/PERMANENT DRAINAGE FEATURES INSTALLED.
- NO BLASTING ON THIS PROJECT, UNLESS OTHERWISE ALLOWED.

TRENCH SAFETY NOTES:

- IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT WILL BE PROVIDED BY THE CONTRACTOR.
- IN ACCORDANCE WITH THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
- NO CLASSIFICATION OF EXCAVATION MATERIALS WILL BE MADE. EXCAVATION AND TRENCHING WORK SHALL INCLUDE THE REMOVAL AND SUBSEQUENT HANDLING OF ALL MATERIALS, EXCAVATED OR OTHERWISE REMOVED IN PERFORMANCE OF THE CONTRACT WORK, REGARDLESS OF THE TYPE, CHARACTER, COMPOSITION, OR CONDITION THEREOF.

STREET AND DRAINAGE NOTES:

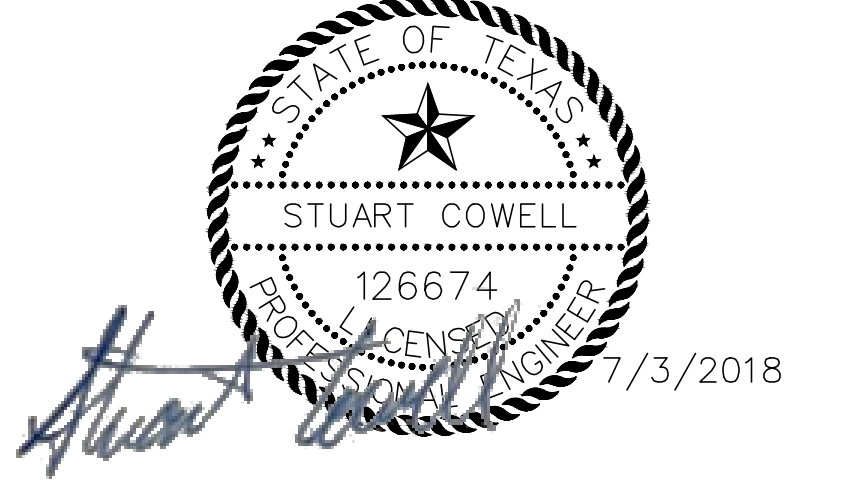


- ALL TESTING SHALL BE DONE BY AN INDEPENDENT LABORATORY AT THE OWNER'S EXPENSE. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. A CITY INSPECTOR SHALL BE PRESENT DURING ALL TESTS. TESTING SHALL BE COORDINATED WITH THE CITY INSPECTOR AND HE SHALL BE GIVEN A MINIMUM OF 24 HOURS' NOTICE PRIOR TO ANY TESTING.
- BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 2" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
- DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
- STREET RIGHTS-OF-WAY SHALL BE GRADED AT A SLOPE OF 1/4" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED. HOWEVER, IN NO CASE SHALL THE WIDTH OF RIGHT-OF-WAY AT 1/4" PER FOOT SLOPE BE LESS THAN 10 FEET UNLESS A SPECIFIC REQUEST FOR AN ALTERNATE GRADING SCHEME IS MADE TO AND ACCEPTED BY THE CITY OF KYLE ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT.
- BARRICADES BUILT TO CITY OF KYLE STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END

STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.

- ALL R.C.P. SHALL BE MINIMUM CLASS III.

WATER AND WASTEWATER NOTES:

- PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C-900, DR 18), OR DUCTILE IRON (AWWA C-150/151, MIN. CLASS 150). WATER SERVICES (2" OR LESS) SHALL BE POLYETHYLENE TUBING (BLACK, 200 PSI, DR 9).
- PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, DR18), OR DUCTILE IRON (AWWA C-150/151, MIN. CLASS 150). PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D2241, D3034, DR-26; F679, PS115).
- UNLESS OTHERWISE ACCEPTED BY THE CITY ENGINEER, DEPTH OF COVER FOR ALL LINES OUT OF THE PAVEMENT SHALL BE 42" MIN., AND DEPTH OF COVER FOR ALL LINES UNDER PAVEMENT SHALL BE A MIN. OF 36" BELOW SUBGRADE.
- ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE (AWWA C-150/151 MIN. CLASS 150).
- ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE AND SEALED WITH DUCT TAPE OR EQUAL ACCEPTED BY THE CITY ENGINEER.
- THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING TO EXISTING LINES.
- ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER, OR OTHER AS INDICATED. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
- THE CONTRACTOR MUST OBTAIN A BULK WATER PERMIT OR PURCHASE AND INSTALL A WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST BE CARRIED AT ALL TIMES BY ALL WHO USE WATER.
- LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE SCHEDULED WITH THE INSPECTOR.
- THE CONTRACTOR SHALL PERFORM STERILIZATION OF ALL POTABLE WATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING TEST GAUGES), SUPPLIES (INCLUDING CONCENTRATED CHLORINE DISINFECTING MATERIAL), AND NECESSARY LABOR REQUIRED FOR THE STERILIZATION PROCEDURE. THE STERILIZATION PROCEDURE SHALL BE MONITORED BY CITY OF KYLE PERSONNEL. WATER SAMPLES WILL BE COLLECTED BY THE CITY OF KYLE TO VERIFY EACH TREATED LINE HAS ATTAINED AN INITIAL CHLORINE CONCENTRATION OF 50 PPM. WHERE MEANS OF FLUSHING IS NECESSARY, THE CONTRACTOR, AT HIS EXPENSE, SHALL PROVIDE FLUSHING DEVICES AND REMOVE SAID DEVICES PRIOR TO FINAL ACCEPTANCE BY THE CITY OF KYLE.

	
	
	
<p>ELLIOTT BRANCH WASTEWATER IMPROVEMENTS GENERAL NOTES</p>	
DESIGN BY: LV DRAWN BY: LV CHECKED BY: SC APPROVED BY: SC PROJECT NO: 2173-1702 DATE: 7/3/18	SCALE HORIZONTAL: N/A VERTICAL: N/A SHEET: 1 OF 2 PAGE: 2

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- 11. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS' NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING OR PRESSURE TESTING.
- 12. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS AUTHORIZED BY THE CITY OF KYLE.
- 13. ALL VALVE BOXES AND COVERS SHALL BE CAST IRON.
- 14. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:
WATER SERVICE - "W" ON TOP OF CURB
WASTEWATER SERVICE - "S" ON TOP OF CURB
VALVE - "V" ON FACE OF CURB

TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF KYLE.
- 15. CONTACT CITY OF KYLE PUBLIC WORKS ADMINISTRATION AT 512-262-3024 FOR ASSISTANCE IN OBTAINING EXISTING WATER AND WASTEWATER LOCATIONS.
- 16. THE CITY OF KYLE FIRE DEPARTMENT SHALL BE NOTIFIED 48 HOURS PRIOR TO TESTING OF ANY BUILDING SPRINKLER PIPING IN ORDER THAT THE FIRE DEPARTMENT MAY MONITOR SUCH TESTING.
- 17. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:
SIEVE SIZEPERCENT RETAINED BY WEIGHT

Sieve Size	Percent Retained By Weight
1/2"	0
3/8"	0-2
#4	40-85
#10	95-100

- 18. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 A.M. AND 6 A.M.
- 19. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 217, AS APPLICABLE. WHENEVER TCEQ AND CITY OF KYLE SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

EROSION AND SEDIMENTATION CONTROL NOTES:

- 1. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF KYLE EROSION AND SEDIMENTATION CONTROL ORDINANCE.
- 2. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
- 3. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. SUCH INSTALLATION SHALL BE REGULARLY INSPECTED BY THE CITY OF KYLE FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.
- 4. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER.
- 5. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.

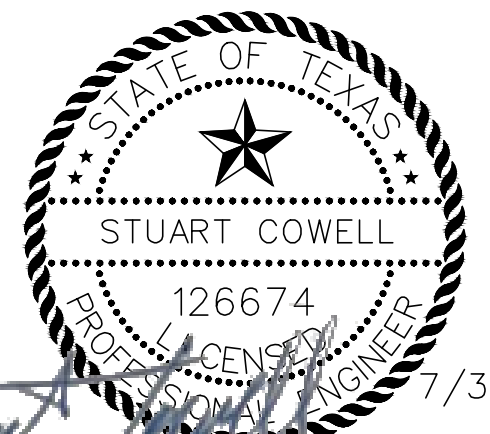
PROSECUTIONS AND PROGRESS:

- 1. FOR THIS PROJECT, CALENDAR DAY CHARGES WILL BE CHARGED. (TIME FOR THIS CALENDAR DAY PROJECT WAS CALCULATED BASED ON A 5-DAY WORKWEEK, MONDAY-FRIDAY, WITH AN AVERAGE OF 21 WORKING DAYS PER MONTH). FOR A CALENDAR DAY CONTRACT, WORKING DAYS WILL BE CHARGED SUNDAY THROUGH SATURDAY, INCLUDING ALL HOLIDAYS, REGARDLESS OF WEATHER CONDITIONS, MATERIAL AVAILABILITY, OR OTHER CONDITIONS NOT UNDER THE CONTROL OF THE CONTRACTOR.
- 2. THE TIME ESTABLISHED FOR THE COMPLETION OF THE WORK IS AN ESSENTIAL ELEMENT OF THE CONTRACT. IF THE CONTRACTOR FAILS TO COMPLETE THE WORK WITHIN THE NUMBER OF DAYS SPECIFIED, DAYS WILL CONTINUE TO BE CHARGED. FAILURE TO COMPLETE THE CONTRACT, OR A SEPARATE WORK ORDER WHEN SPECIFIED IN THE CONTRACT, WITHIN THE NUMBER OF DAYS SPECIFIED, INCLUDING ANY APPROVED ADDITIONAL DAYS, WILL RESULT IN LIQUIDATED DAMAGES FOR EACH DAY CHARGED OVER THE NUMBER OF DAYS SPECIFIED IN THE CONTRACT. THE DOLLAR AMOUNT SPECIFIED IN THE CONTRACT WILL BE DEDUCTED FROM ANY MONEY DUE OR TO BECOME DUE TO THE CONTRACTOR FOR EACH DAY THE CONTRACT OR WORK ORDER REMAINS INCOMPLETE. THIS AMOUNT WILL BE ASSESSED NOT AS A PENALTY, BUT AS LIQUIDATED DAMAGES. THE AMOUNT OF LIQUIDATED DAMAGES FOR THIS PROJECT IS ESTABLISHED AT \$500.00 PER DAY.
- 3. PRIOR TO CONTRACT LETTING, THE CONCEPTUAL CONSTRUCTION SCHEDULE AS DEVELOPED FOR THE CONTRACT TIME DETERMINATION WILL BE MADE AVAILABLE BY THE ENGINEER FOR PROSPECTIVE BIDDERS REVIEW. THE SCHEDULE WILL BE IN HARD COPY FORM AND MADE AVAILABLE FOR COPYING BY THE CONTRACTOR. THIS SUPPLIED SCHEDULE IS FOR INFORMATIONAL PURPOSES ONLY. IT IS THE RESPONSIBILITY OF THE PROSPECTIVE BIDDER TO DETERMINE A CONSTRUCTION SCHEDULE FOR THE WORK IN THIS CONTRACT.
- 4. BEFORE STARTING WORK ON A CONSTRUCTION CONTRACT, PREPARE AND SUBMIT A CRITICAL PATH PROGRESS SCHEDULE (CPM) (SOFTWARE TO BE APPROVED BY CITY PRIOR TO SUBMISSION) BASED ON THE SEQUENCE OF WORK AND TRAFFIC CONTROL PLAN SHOWN IN THE CONTRACT. INCLUDE ALL PLANNED WORK ACTIVITIES AND SEQUENCES AND SHOW CONTRACT COMPLETION WITHIN THE NUMBER OF WORKING DAYS SPECIFIED. INCORPORATE MAJOR MATERIAL PROCUREMENTS, KNOWN UTILITY RELOCATIONS, AND OTHER ACTIVITIES THAT MAY AFFECT THE COMPLETION OF THE CONTRACT IN THE PROGRESS SCHEDULE. SHOW A BEGINNING DATE, ENDING DATE, AND DURATION IN NUMBER OF WORKING DAYS FOR EACH ACTIVITY. DO NOT USE ACTIVITIES EXCEEDING 20 WORKING DAYS, EXCEPT FOR AGREED UPON ACTIVITIES. SHOW AN ESTIMATED PRODUCTION RATE PER WORKING DAY FOR EACH WORK ACTIVITY.
- 5. SUBMIT AN UPDATED PROGRESS SCHEDULE MONTHLY, UNLESS OTHERWISE SHOWN IN THE

- CONTRACT OR AS DIRECTED. UPDATE THE PROGRESS SCHEDULE BY ADDING ACTUAL PROGRESS MADE DURING THE PREVIOUS UPDATE PERIOD, INCLUDING APPROVED CHANGES TO THE SEQUENCE OF WORK AND THE TRAFFIC CONTROL PLAN. IF AN UPDATED PROGRESS SCHEDULE INDICATES THE CONTRACT WILL NOT BE COMPLETED WITHIN THE NUMBER OF WORKING DAYS SPECIFIED, NOTIFY THE ENGINEER IN WRITING WHETHER THE CONTRACTOR WILL REVISE THE PROGRESS SCHEDULE TO MEET THE NUMBER OF WORKING DAYS SPECIFIED OR EXCEED THE NUMBER OF WORKING DAYS SPECIFIED. MEET WITH THE ENGINEER OR ENGINEER'S REPRESENTATIVE ON A WEEKLY BASIS MINIMUM TO GO OVER WORK SCHEDULES AND UPCOMING WORK.
- 6. NOTIFY THE ENGINEER IN WRITING OF PROPOSED MAJOR CHANGES IN THE PROGRESS SCHEDULE. MAJOR CHANGES ARE THOSE THAT MAY AFFECT COMPLIANCE WITH THE CONTRACT REQUIREMENTS OR THAT CHANGE THE CRITICAL PATH OR CONTROLLING ITEM OF WORK. THE ENGINEER RESERVES THE RIGHT TO REJECT THESE PROPOSED CHANGES.
- 7. NO DIRECT COMPENSATION WILL BE MADE FOR FULFILLING THESE REQUIREMENTS, AS THIS WORK IS CONSIDERED SUBSIDIARY TO THE ITEMS OF THE CONTRACT. SCHEDULES ARE SUBJECT TO REVIEW AND ACCEPTANCE.
- 8. FOR THIS PROJECT THE CONTRACTOR WILL BE EXPECTED TO SCHEDULE THIS WORK SO THAT THE BASE PLACEMENT OPERATIONS WILL FOLLOW THE SUBGRADE WORK AS CLOSELY AS PRACTICAL IN ORDER TO REDUCE THE HAZARD TO THE TRAVELING PUBLIC AND PREVENT UNDUE DELAY FROM WET WEATHER.
- 9. IN THE EVENT UTILITY LINES NEEDING UNFORESEEN ADJUSTMENTS ARE ENCOUNTERED DURING CONSTRUCTION OPERATIONS, ALTER OPERATIONS AND CONTINUE TO PROSECUTE THE CONTRACT IN SUCH A MANNER THAT WILL ALLOW UTILITY ADJUSTMENTS TO BE MADE BY OTHERS.
- 10. REFERENCES TO MANUFACTURER'S TRADE NAME OR CATALOG NUMBERS ARE FOR THE PURPOSE OF IDENTIFICATION ONLY. SIMILAR MATERIALS FROM OTHER MANUFACTURERS ARE PERMITTED IF THEY ARE OF EQUAL QUALITY, COMPLY WITH THE SPECIFICATIONS FOR THIS PROJECT, AND ARE APPROVED.
- 11. DO NOT PLACE SURFACE TREATMENTS OR PAVEMENT WHEN IN THE ENGINEER'S PROFESSIONAL JUDGMENT, THE APPARENT GENERAL WEATHER CONDITIONS ARE UNSUITABLE FOR OVERLAY OPERATIONS.
- 12. REMOVE AND REPLACE, AT THE CONTRACTOR'S EXPENSE, AND AS DIRECTED, ALL DEFECTIVE WORK, WHICH WAS CAUSED BY THE CONTRACTOR'S WORKFORCE, MATERIALS, OR EQUIPMENT.
- 13. PERFORM WORK DURING GOOD WEATHER UNLESS OTHERWISE DIRECTED. IF WORK IS PERFORMED AT CONTRACTOR'S OPTION, WHEN INCLEMENT WEATHER IS IMPENDING, AND THE WORK IS DAMAGED BY SUBSEQUENT PRECIPITATION, THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPLACING THE WORK, IF REQUIRED. ACCRUE CONTRACT TIME CHARGES THROUGH THE CONTRACTOR'S COMPLETION OF THE FINAL PUNCH LIST.
- 14. BLADE THE SIDE SLOPES TO REMOVE ALL GRASS FROM THE AREA OF CONSTRUCTION BEFORE PLACING FLEXIBLE BASE ON THAT PORTION OF THE ROADWAY TO BE WIDENED, LEVELED-UP, SEAL COATED/SURFACED TREATED, OR HOT MIX ASPHALTIC CONCRETE PAVEMENT (HMACP) OVERLAID. BLADE THE SOD BACK ONTO THE SIDE SLOPES AFTER THE PROPOSED ITEMS OF WORK HAVE BEEN COMPLETED. CONSIDERED SUBSIDIARY TO PERTINENT ITEMS.
- 15. EQUIP ALL CONSTRUCTION EQUIPMENT USED IN ROADWAY WORK WITH A PERMANENTLY MOUNTED 360° REVOLVING OR STROBE WARNING LIGHT WITH AMBER LENS. LIGHT WILL HAVE A MINIMUM LENS HEIGHT AND DIAMETER OF 5 INCHES AND MOUNTING HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE ROADWAY SURFACE AND BE VISIBLE FROM ALL SIDES. ATTACH AT EACH SIDE OF THE REAR END OF THE CONSTRUCTION EQUIPMENT AN APPROVED ORANGE WARNING FLAG MOUNTED NOT LESS THAN 6 FEET ABOVE THE ROADWAY SURFACE.
- 16. BE AWARE THAT AN INTELLIGENT TRANSPORTATION SYSTEMS (ITS) INFRASTRUCTURE MAY EXIST WITHIN THE LIMITS OF THIS PROJECT AND THAT THE SYSTEM MUST REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. THE EXACT LOCATION OF ITS INFRASTRUCTURE IS NOT KNOWN. CONTACT THE TxDOT AREA ENGINEER'S OR INSPECTION TEAM'S OFFICE FOR THE LOCATION(S) AT LEAST 48 HOURS BEFORE COMMENCING ANY WORK THAT MIGHT AFFECT PRESENT ITS INFRASTRUCTURE USE CAUTION IF WORKING IN THESE AREAS TO AVOID DAMAGING OR INTERFERING WITH EXISTING FACILITIES. REPAIR ANY DAMAGE TO THIS SYSTEM WITHIN 8 HOURS OF OCCURRENCE AT NO COST TO THE DEPARTMENT. IN THE EVENT OF SYSTEM DAMAGE, NOTIFY TxDOT/CTECC AT (512) 974-0883 WITHIN ONE HOUR OF OCCURRENCE. FAILURE OF THE CONTRACTOR TO REPAIR DAMAGE TO ANY INFRASTRUCTURE THAT CONVEYS ANY CORRIDOR INFORMATION TO TxDOT/CTECC WILL RESULT IN THE CONTRACTOR BEING BILLED FOR THE FULL COST OF EMERGENCY REPAIRS. SUPERELEVATE ALL CURVES TO CONFORM TO THE SLOPE(S) OF THE EXISTING CURVES, AS DIRECTED. CONSIDER SUBSIDIARY TO THE PERTINENT ITEMS.
- 17. PROVIDE A SMOOTH, CLEAN SAWCUT ALONG THE EXISTING ASPHALT PAVEMENT STRUCTURE, AS DIRECTED. CONSIDERED SUBSIDIARY TO THE PERTINENT ITEMS.
- 18. SWEEP, MOW, AND REMOVE ALL LITTER ON THE RIGHT OF WAY, WITHIN THE PROJECT LIMITS, TO KEEP THE JOBSITE IN A NEAT AND PRESENTABLE CONDITION AT ALL TIMES.
- 19. REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIAL GENERATED BY THE CONSTRUCTION WORK WITHIN THE PROJECT LIMITS. PERFORM THIS WORK AS DIRECTED. CONSIDER SUBSIDIARY TO THE PERTINENT ITEMS.
- 20. TRIM VEGETATION AROUND SIGNS, IN ROW, AND OTHER OBSTRUCTIONS. CONSIDER SUBSIDIARY TO PERTINENT ITEMS.
- 21. SUPPLY LITTER BARRELS IN ENOUGH NUMBERS AT LOCATIONS AS DIRECTED TO CONTROL LITTER WITHIN THE PROJECT. CONSIDER SUBSIDIARY TO PERTINENT ITEMS.
- 22. USE A SELF-CONTAINED VACUUM BROOM TO SWEEP THE ROADWAY AND KEEP IT FREE OF SEDIMENT DUE TO THE CONSTRUCTION OF THE ROADWAY, AS DIRECTED. CONSIDER SUBSIDIARY TO PERTINENT ITEMS.
- 23. PROTECT ALL AREAS OF THE RIGHT OF WAY, WHICH ARE NOT INCLUDED IN THE ACTUAL LIMITS OF THE PROPOSED CONSTRUCTION AREAS, FROM DESTRUCTION. EXERCISE CARE TO PREVENT DAMAGE TO TREES, VEGETATION, AND OTHER NATURAL SURROUNDINGS. AREAS NOT TO BE DISTURBED WILL BE AS DIRECTED. RESTORE ANY AREA DISTURBED BECAUSE OF THE CONTRACTOR'S OPERATIONS TO A CONDITION AS GOOD AS, OR BETTER THAN, BEFORE THE BEGINNING OF WORK.
- 24. DAMAGE TO EXISTING PIPES AND SET'S DUE TO CONTRACTOR OPERATIONS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
- 25. ALL LOCATIONS USED FOR STORING CONSTRUCTION EQUIPMENT, MATERIALS, AND STOCKPILES OF ANY TYPE, WITHIN THE RIGHT OF WAY, WILL BE AS DIRECTED. USE OF RIGHT OF WAY FOR THESE

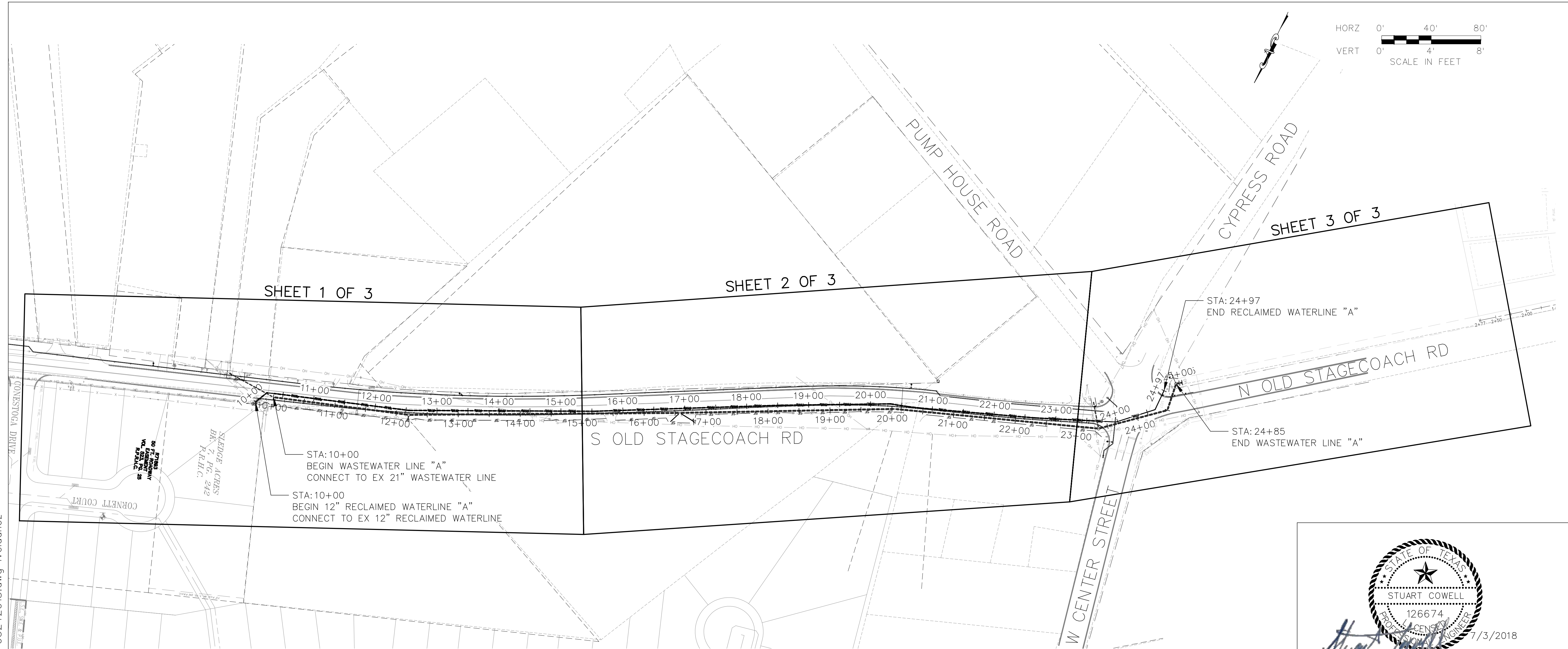
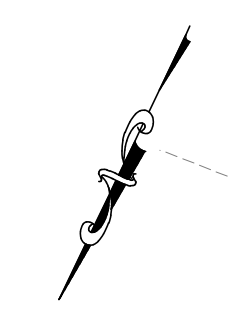
- PURPOSES WILL BE RESTRICTED TO THOSE LOCATIONS WHERE DRIVER SIGHT DISTANCE TO BUSINESSES AND SIDE STREET INTERSECTIONS IS NOT OBSTRUCTED AND AT OTHER LOCATIONS WHERE AN UNSIGHTLY APPEARANCE WILL NOT EXIST. THE CONTRACTOR WILL NOT HAVE EXCLUSIVE USE OF RIGHT OF WAY BUT WILL COOPERATE IN THE USE OF THE RIGHT OF WAY WITH THE CITY/COUNTY AND VARIOUS PUBLIC UTILITY COMPANIES AS REQUIRED.
- 26. THE PROJECT SUPERINTENDENT WILL BE CAPABLE OF SPEAKING ENGLISH AND WILL BE AVAILABLE TO CONTACT AT ALL TIMES WHEN WORK IS BEING PERFORMED, INCLUDING SUBCONTRACTOR WORK. THE SUPERINTENDENT WILL BE AVAILABLE AND ON-CALL 24 HOURS A DAY.
- 27. MEASURE AND PROVIDE ELEVATIONS FOR ALL MINIMUM VERTICAL CLEARANCES FOR ALL STRUCTURES (INCLUDING, BUT NOT LIMITED TO, SIGNAL MAST ARMS, SPAN WIRES, AND OVERHEAD SIGN BRIDGE STRUCTURES) WITHIN THE LIMITS OF THE PROJECT FOR ALL ROADWAY ALIGNMENTS IN ALL DIRECTIONS OF TRAVEL. COORDINATE WITH THE ENGINEER TO TAKE THESE MEASUREMENTS AND OBTAIN PRIOR TO OPENING ROADWAYS TO TRAFFIC UNLESS OTHERWISE APPROVED. THE ENGINEER WILL REPORT ALL MINIMUM VERTICAL CLEARANCE INFORMATION TO THE LOCAL CITY POLICE OFFICE AND CITY ENGINEER.
- 28. FURNISH, TO THE ENGINEER, A LIST OF THE FINAL CENTERLINE ELEVATIONS.
- 29. WHEN DIRECTED, DESIGNATE AN OFFICIAL BACKER/SPOTTER OR "DUMP-MAN" WHO SHALL WEAR SPECIALLY MARKED CLOTHING AND A SPECIALLY MARKED HARD HAT WHICH SPECIFICALLY IDENTIFIES THEM AS THE BACKER/SPOTTER AND IDENTIFIES THAT THEY ARE THE PERSON WHO IS DIRECTING THE BACKING OPERATIONS. THEY SHALL BE IDENTIFIED TO ALL PROJECT PERSONNEL, CONTRACTOR AND CITY, WHEN DUMPING THE VARIOUS PROJECT MATERIALS, THROUGHOUT THE COURSE OF THE PROJECT.
- 30. TRANSPORT ANY SOILS CONTAMINATED DURING CONSTRUCTION OFF OF THE PROPOSED PROJECT, AWAY FROM THE SITE, AND PROPERLY DISPOSE OF OFF-SITE.
- 31. COLLECT WASTEWATER GENERATED ON-SITE BY CHEMICAL TOILETS, TRANSPORT AND DISPOSE OF OFF-SITE, IN A PROPER MANNER.
- 32. SUSPEND ALL ACTIVITIES NEAR ANY SIGNIFICANT RECHARGE FEATURES, SUCH AS SINKHOLES, CAVES, OR ANY OTHER SUBTERRANEAN OPENINGS THAT ARE DISCOVERED DURING CONSTRUCTION OR CORE SAMPLING. DO NOT PROCEED UNTIL THE DESIGNATED GEOLOGIST OR TCEQ REPRESENTATIVE IS PRESENT TO EVALUATE AND APPROVE REMEDIAL ACTION.
- 33. LOCATE ABOVEGROUND STORAGE TANKS KEPT ON-SITE FOR CONSTRUCTION PURPOSES OVER BERMED IMPERVIOUS LINERS AS TO NOT ALLOW ANY LEAKAGE INTO UNDERLYING SOILS. ADDITIONALLY, THE CONTAINMENT WILL BE SIZED TO CAPTURE 150% OF THE TOTAL VOLUME OF FLUIDS STORED ON-SITE WITHIN THE STORAGE AREA.
- 34. NO BLASTING WILL BE ALLOWED WITHIN 300 FEET OF A GEOLOGIC FEATURE OF SIGNIFICANT RECHARGE POTENTIAL, UNLESS OTHERWISE APPROVED. KNOWN LOCATIONS OF THESE FEATURES ARE AVAILABLE FROM THE AREA ENGINEER.
- 35. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF PROPERLY.
- 36. WHERE SILT FENCE CANNOT BE PROPERLY INSTALLED USE TRIANGULAR FILTRATION DIKE OR HAY BALES.
- 37. TRAFFIC LEAVING THE CONSTRUCTION SITE WILL EXIT THROUGH A STABILIZED CONSTRUCTION EXIT AS LOCATED ON THE PLANS. WHEN SOIL HAS COLLECTED ON THE STABILIZED VEHICULAR EXIT TO AN EXTENT WHICH REDUCES ITS INTENDED EFFECTIVENESS, THE SURFACE WILL BE CLEANED AND REESTABLISHED FOR THE PURPOSE.
- 38. MUD/DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
- 39. ENSURE THE CONTRACTOR'S RESPONSIBLE PERSON (CRP) FOR BARRICADES, SIGNS, AND TRAFFIC HANDLING IS AVAILABLE AT ALL TIMES AND ABLE TO RECEIVE INSTRUCTIONS FROM THE ENGINEER OR OWNER. THE CRP SHALL BE A PERSON THAT IS USUALLY AT THE PROJECT SITE DURING NORMAL WORKING HOURS.
- 40. FOR THE PROTECTION OF THE TRAVELING PUBLIC, DIRECT TRAFFIC THROUGH THE WORK AREA USING SIGNS, BARRICADES, AND OTHER DEVICES. REQUIRED SIGNS AND BARRICADES ARE SHOWN ON THE BARRICADE AND CONSTRUCTION STANDARDS AND TRAFFIC CONTROL PLAN SHEETS. THE LATEST EDITION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (TXMUTCD) SHALL ALSO BE USED AS A GUIDE FOR HANDLING TRAFFIC ON THIS PROJECT.
- 41. PROVIDE ADEQUATE FLAGGERS TO PROTECT THE TRAVELING PUBLIC WHEN WORKING ON OR NEAR ROADWAY CARRYING TRAFFIC. ALL FLAGGERS SHALL WEAR HARDHATS AND REFLECTIVE VESTS. USE ADDITIONAL FLAGGERS AT ROADWAY INTERSECTIONS TO DIRECT TRAFFIC ENTERING THE WORK AREA WHEN DEEMED NECESSARY BY THE ENGINEER.
- 42. PROVIDE ONE HIGH-INTENSITY YELLOW, ROTATING DOME-LIGHT ON ALL EQUIPMENT SUCH AS LAY-DOWN MACHINES, ROLLERS, BACKHOES, ROAD GRADERS, LOADERS, ETC. MOUNT LIGHTS HIGH ENOUGH TO BE VISIBLE FROM ALL DIRECTIONS AND OPERATING WHEN EQUIPMENT IS WITHIN 30-FT OF THE TRAVEL WAY. ON ALL OTHER EQUIPMENT SUCH AS TRUCKS, TRAILERS, AND AUTOMOBILES, USE EMERGENCY FLASHERS WHILE WITHIN THE WORK ZONE.
- 43. NOTIFY THE ENGINEER PRIOR TO PLACING ANY MATERIALS OR EQUIPMENT ON THE RIGHT-OF-WAY. LOCATE EQUIPMENT, STOCKPILES, AND OTHER MATERIALS NOT IN USE AS FAR AS POSSIBLE FROM THE DRIVING LANES. ANY EQUIPMENT, STOCKPILES, AND OTHER MATERIALS PLACED WITHIN 30-FT OF THE DRIVING LANES MUST HAVE ADEQUATE SIGNS, BARRICADES, OR OTHER WARNING DEVICES AS APPROVED.
- 44. INSTALL TEMPORARY REGULATORY SIGNAGE AND / OR MODIFY EXISTING SIGNS AS REQUIRED BY THESE PLANS, THE TXMUTCD, AND THE ENGINEER TO MAINTAIN SAFE TRAVEL ADJACENT TO WORK AREAS.
- 45. ALL TYPE III BARRICADES SHALL BE LIGHTED WITH FLASHING AMBER BEACONS DUSK-TO-DAWN. LIGHTS SHALL BE TESTED ON A MINIMUM WEEKLY BASIS.

ABBREVIATIONS		FT	FEET, FOOT
±	APPROXIMATELY		
@	AT	GAL	GALLON(-S)
¢	CENTERLINE	ID	INSIDE DIAMETER; IDENTIFICATION
Δ	DEFLECTION	IN	INCH(-ES)
°	DEGREE	INV	INVERT
=	EQUALS		
'	FEET, FOOT	LF	LINEAR FEET
"	INCH(-ES)	LOC	LOCATION; LIMITS OF CONSTRUCTION
#	NUMBER	LT	LEFT
%	PERCENT		
ABD	ABANDON	MFR	MANUFACTURER
AC	ACRE	MH	MANHOLE
ADJ	ADJUST(-ED, -MENT, -ABLE)	MJ	MECHANICAL JOINT
ADWF	AVERAGE DRY WEATHER FLOW		
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE	OH	OVERHEAD
APPROX	APPROXIMATE (-E, -LY)	PI	POINT OF HORIZONTAL INTERSECTION
ARV	AIR RELEASE VALVE	PROP	PROPERTY; PROPOSED
ASPH	ASPHALT	PSI	POUNDS PER SQUARE INCH
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	PT	POINT; POINT OF TANGENCY
	AVERAGE	PUE	PUBLIC UTILITY EASEMENT
AVG	AVERAGE	PVC	POLYVINYL CHLORIDE
AWWA	AMERICAN WATERWORKS ASSOCIATION	PVI	POINT OF VERTICAL INTERSECTION
		PWWF	PEAK WET WEATHER FLOW
BOC	BACK OF CURB	Q	FLOW OR DISCHARGE
BM	BENCH MARK		
		R	RADIUS
CARV	COMBINATION AIR-VACCUUM RELEASE	ROW	RIGHT-OF-WAY
VALVE		REQD	REQUIRED
CI	CAST IRON	REQT	REQUIREMENT
CL	CENTERLINE	RT	RIGHT
CLSM	CONTROLLED LOW-STRENGTH MATERIAL	SCHED, SCH	SCHEDULE
CO	CLEANOUT	SF	SQUARE FOOT; SILT FENCE
COA	CITY OF AUSTIN	SPEC	SPECIFICATIONS
CONC	CONCRETE	SPL	STANDARD PRODUCT LIST
COORD	COORDINATE	STA	STATION
CU	CUBIC FEET	STL	STEEL
CY	CUBIC YARD	STD	STANDARD
		SY	SQUARE YARD
DIP	DUCTILE IRON PIPE		
DI	DUCTILE IRON	TCEQ	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
DIA	DIAMETER		
EA	EACH	VCP	VITRIFIED CLAY PIPE
ENCASE	ENCASEMENT	VPI	VERTICAL POINT OF INTERSECTION
EP, EOP	EDGE OF PAVEMENT		
ESMT	EASEMENT	WL	WATER LINE
		WM	WATER METER
		WW	WATER VALVE
FH	FIRE HYDRANT	WW	WASTEWATER
FL	FLOWLINE		
FLR	FLOOR	YD	YARD
FOC	FIBER OPTIC CABLE; FACE OF CURB		



ELLIOTT BRANCH
WASTEWATER IMPROVEMENTS
GENERAL NOTES

DESIGN BY:	LV	SCALE	
DRAWN BY:	LV	HORIZONTAL:	N/A
CHECKED BY:	SC	VERTICAL:	N/A
APPROVED BY:	SC	SHEET:	2 OF 2
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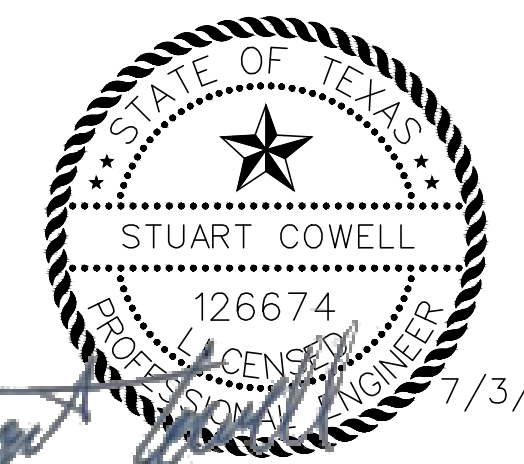


EXISTING UTILITIES LEGEND

- | | | | |
|-------------------|---------------------------|---|-------------------------------|
| — — — — — | EXIST ROADWAY | ⊕ | EXIST ELECTRIC JUNCTION BOX |
| - - - - - | EXIST EASEMENT | ⊞ | EXIST ELECTRIC PULL BOX |
| — w — w — | EXIST WATER LINE | ⊞ | EXIST STREET LIGHT |
| — 8-WW — 8-WW — | EXIST 8" WASTEWATER LINE | ⊞ | EXIST ROAD SIGN |
| — 12-WW — 12-WW — | EXIST 12" WASTEWATER LINE | ⊞ | EXIST UTILITY POLE WITH RISER |
| — 24-WW — 24-WW — | EXIST 24" WASTEWATER LINE | ⊞ | EXIST UTILITY POLE |
| - - - - - | EXIST STORM SEWER LINE | ⊞ | EXIST UTILITY POLE GUY ANCHOR |
| ⊞ | EXIST FIRE HYDRANT | | |
| ⊞ | EXIST WATER VALVE | | |
| ⊞ | EXIST WATER METER | | |
| ○ | EXIST WATERLINE AIR VENT | | |
| ⊞ | EXIST WASTEWATER MANHOLE | | |
| ⊞ | EXIST STORM DRAIN MANHOLE | | |
| ⊞ | EXIST GAS METER | | |
| ⊞ | EXIST GAS VALVE | | |
| ⊞ | EXIST TELECOM PEDESTAL | | |
| ⊞ | EXIST TELCO JUNCTION BOX | | |

PROPOSED UTILITIES LEGEND

- | | |
|-------------------|--------------------------|
| ⊞ | PROPOSED WL GATE VALVE |
| — 8-WW — 8-WW — | PROP 8" WASTEWATER LINE |
| — 21-WW — 21-WW — | PROP 21" WASTEWATER LINE |
| — < — < — | PROP FLOW |
| — RWL — RWL — | PROP RECLAIMED WATERLINE |



LJA Engineering, Inc.
 FRN - F-1386

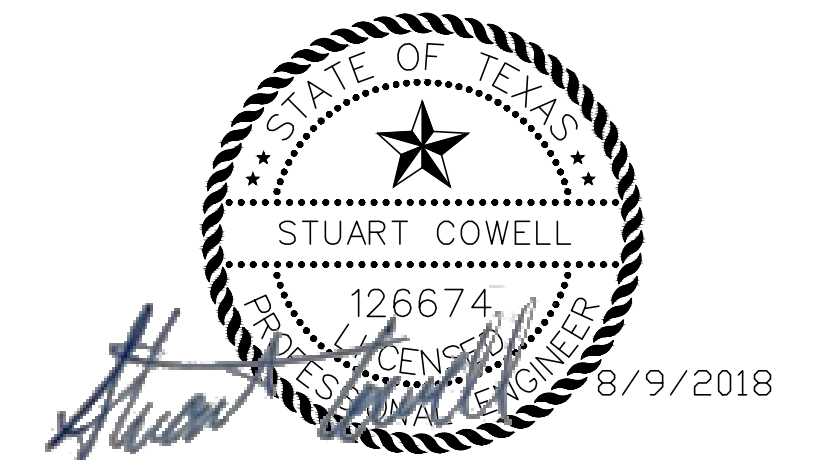
**ELLIOTT BRANCH
 WASTEWATER IMPROVEMENTS
 LEGEND AND PROJECT LAYOUT**

DESIGN BY: LV	SCALE
DRAWN BY: LV	HORIZONTAL: 1"=80'
CHECKED BY: SC	VERTICAL: N/A
APPROVED BY: SC	SHEET: 1 OF 1
PROJECT NO: 2173-1702	PAGE: 4
DATE: 7/3/18	

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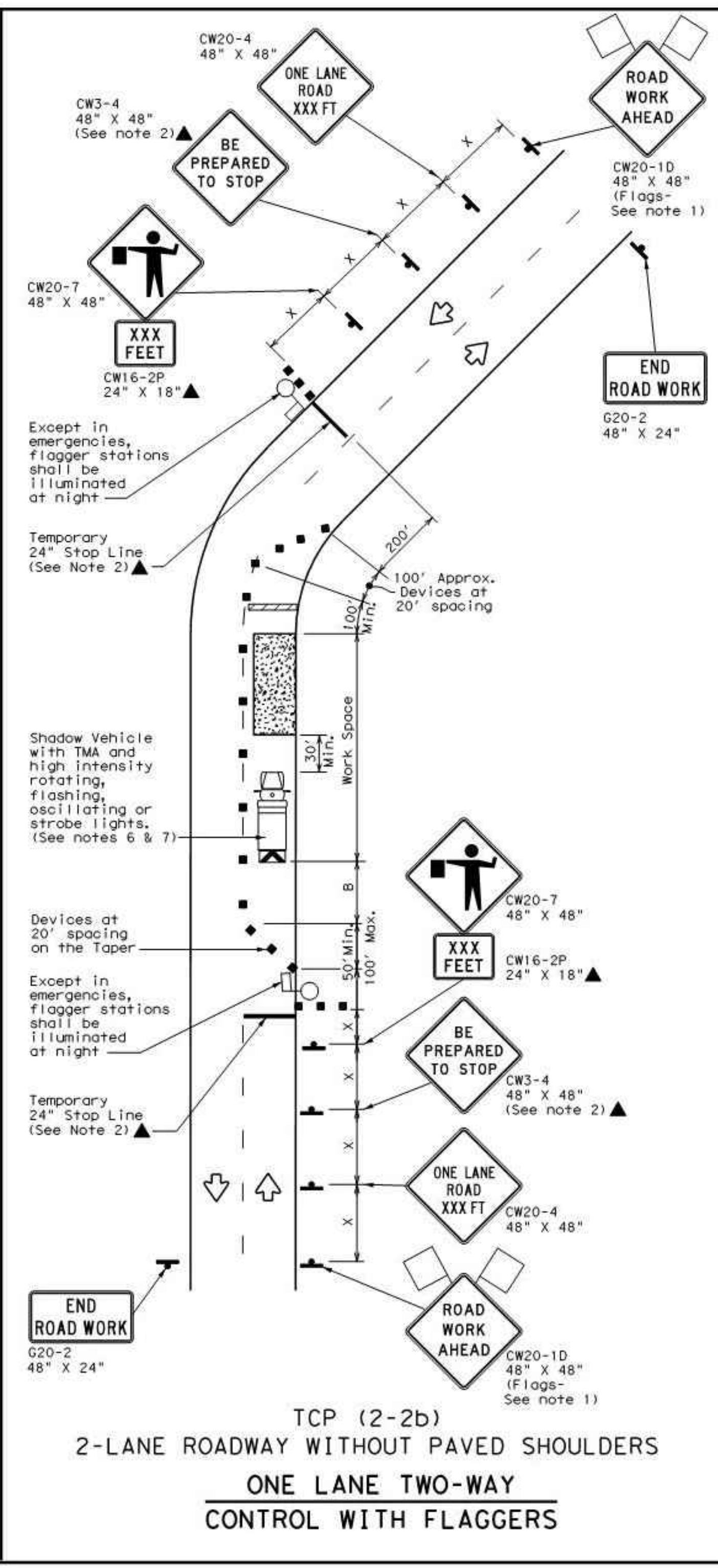
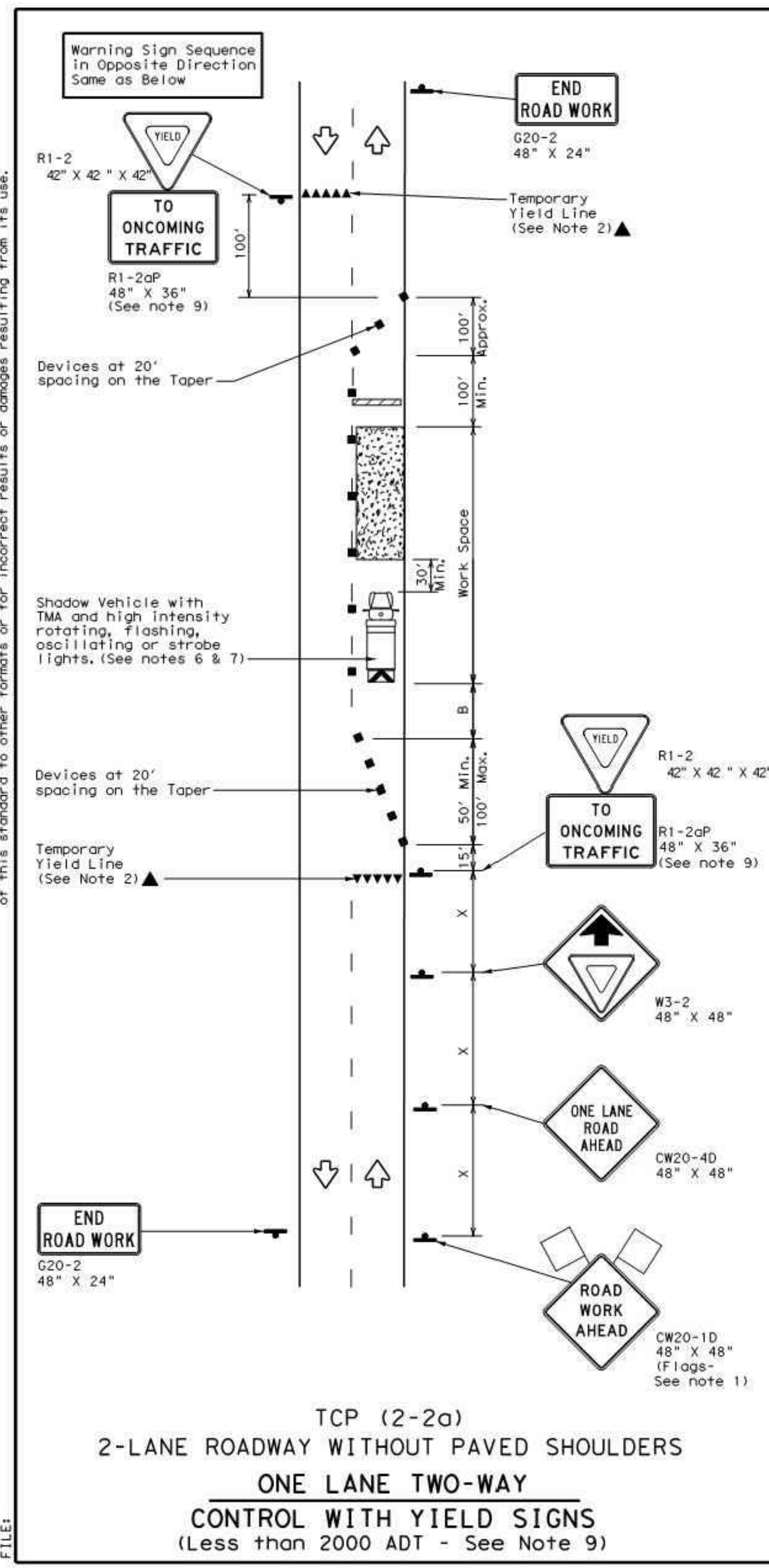
BID ITEM	SPEC SECTION	DESCRIPTION	UNIT	SHEET 12	SHEET 13	SHEET 14	TOTAL
1.01	101S	PREPARING OF ROW	LS				1
1.02	340S	PAVEMENT REPAIR (2-INCHES, TX340 TYPE D, 8" TX247 TYPE A GRADE 2)	SY				982
1.03	430S	P.C. CONCRETE RIBBON CURB REPAIR	LF				1398
1.04	506	STANDARD PRE-CAST MANHOLE WITH PRE-CAST BASE, 60 INCH DIA.	EA	1	2	3	6
1.05	506	EXTRA DEPTH OF MANHOLE, 60-INCH DIA.	VF	3.6	2.6	17	23.2
1.06	506	CONNECT TO EXISTING 21" WASTEWATER LINE	LF	1			1
1.07	509S	TRENCH SAFETY	LF	1045	1600	346	2991
1.08	510	12" RECLAIMED WATER LINE, AWWA C900 IB DR14, PURPLE, BY OPEN CUT (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	LF	544	800	152	1496
1.09	510	CONNECT TO EXISTING 12" RECLAIMED WATER LINE	EA	1			1
1.10	510	DUCTILE IRON FITTINGS	TN	0.6	0.7	0.4	1.7
1.11	510	21" WASTEWATER LINE, ASTM F679 PS 115 PVC, BY OPEN CUT (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	LF	501	800	194	1495
1.12	510	6-INCH CLEANOUT, FITTINGS, 6-INCH DIA. WASTEWATER LINE ASTM 3034 SDR 26, BY OPEN CUT (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	EA	2	2	1	5
1.13	511S	12-INCH GATE VALVE AND INSTALLATION (INLINE VALVE)	EA	1		1	2
1.14	604S	TOPSOIL, BROADCAST SEEDING, AND VEGETATIVE WATERING	SY				697
1.15	642S	SILT FENCE	LF				1533
1.16	700S	MOBILIZATION	LS				1
1.17	803S	TRAFFIC CONTROL PLAN, BARRICADES, SIGNS, & TRAFFIC HANDLING	LS				1
1.18	2511	GRAVEL REPAIR (6" TX247 TYPE A GRADE 2)	SY				64
1.19	1301S	GRANITE GRAVEL DRIVEWAY REPAIR (4")	SY				23



ELLIOTT BRANCH
 WASTEWATER IMPROVEMENTS
 QUANTITIES

DESIGN BY: LV	SCALE
DRAWN BY: LV	HORIZONTAL: N/A
CHECKED BY: SC	VERTICAL: N/A
APPROVED BY: SC	SHEET: 1 OF 1
PROJECT NO: 2173-1702	PAGE: 5
DATE: 8/9/18	

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LEGEND

	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70	700'	770'	840'	70'	140'	800'	475'	730'	
75	750'	825'	900'	75'	150'	900'	540'	820'	

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

- Flags attached to signs where shown, are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
 - The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
 - Flaggers should use two-way radios or other methods of communication to control traffic.
 - Length of work space should be based on the ability of flaggers to communicate.
 - A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
 - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
- TCP (2-2a)**
- The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.
 - The R1-2aP "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.
- TCP (2-2b)**
- Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
 - If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
 - Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

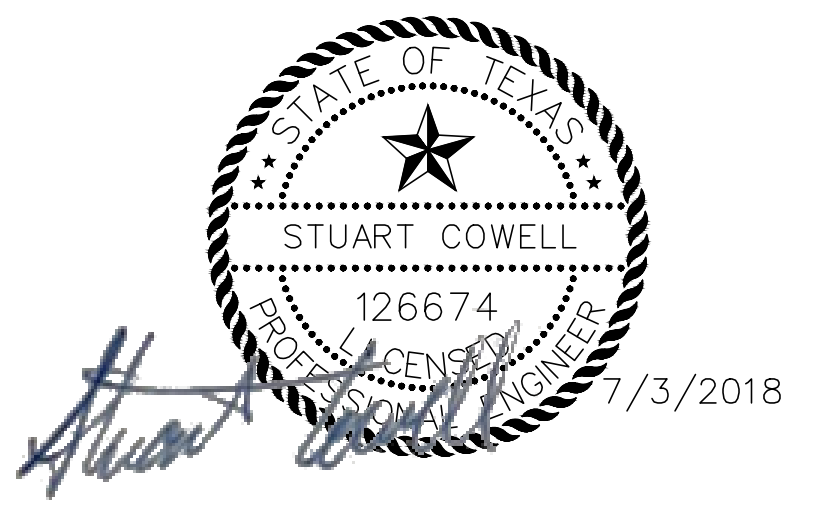
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP (2-2) - 18

FILE#	top2-2-18.dgn	DN	CK	DN	CK
© TxDOT	December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS					
8-95	3-03				
1-97	2-12				
4-98	2-18				
DIST		COUNTY		SHEET NO.	

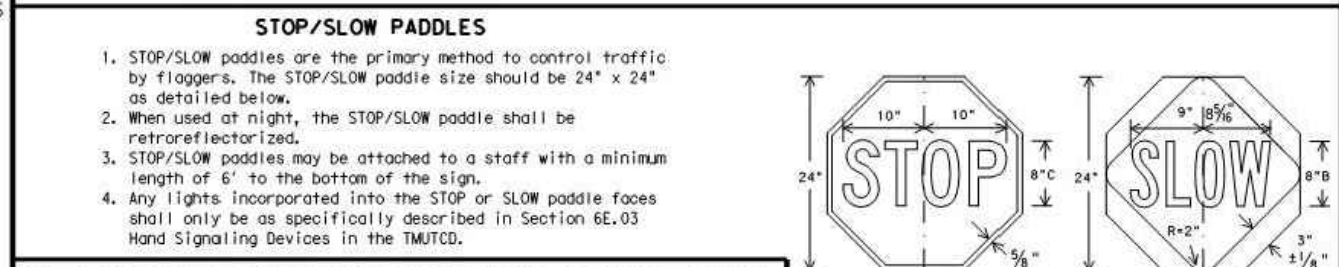
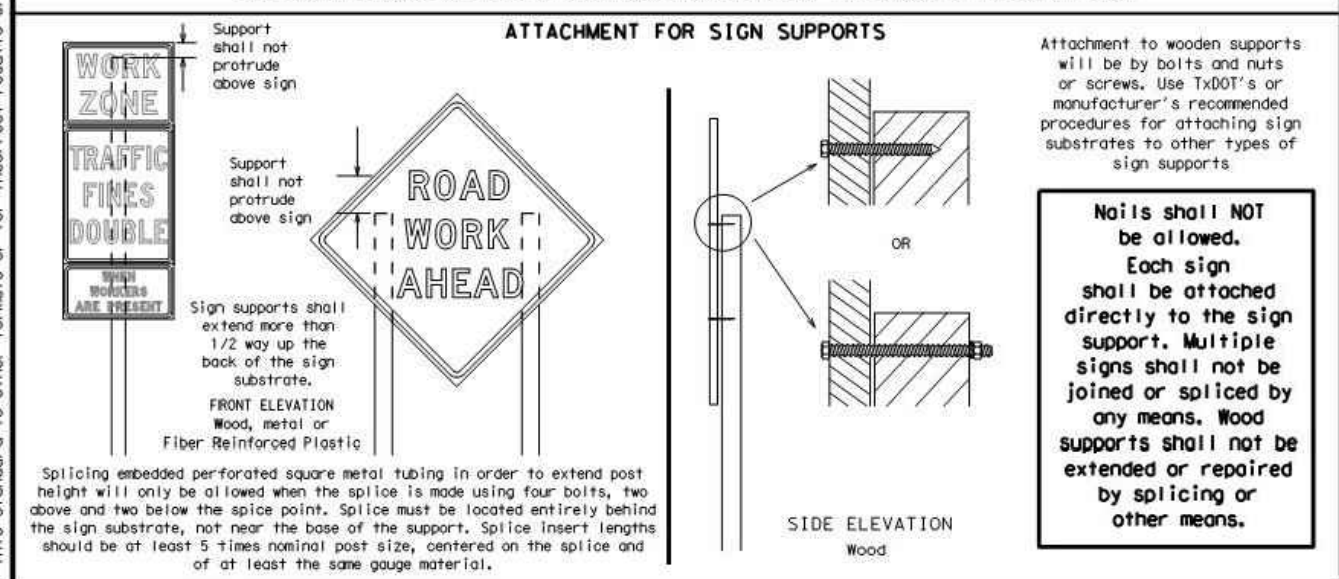
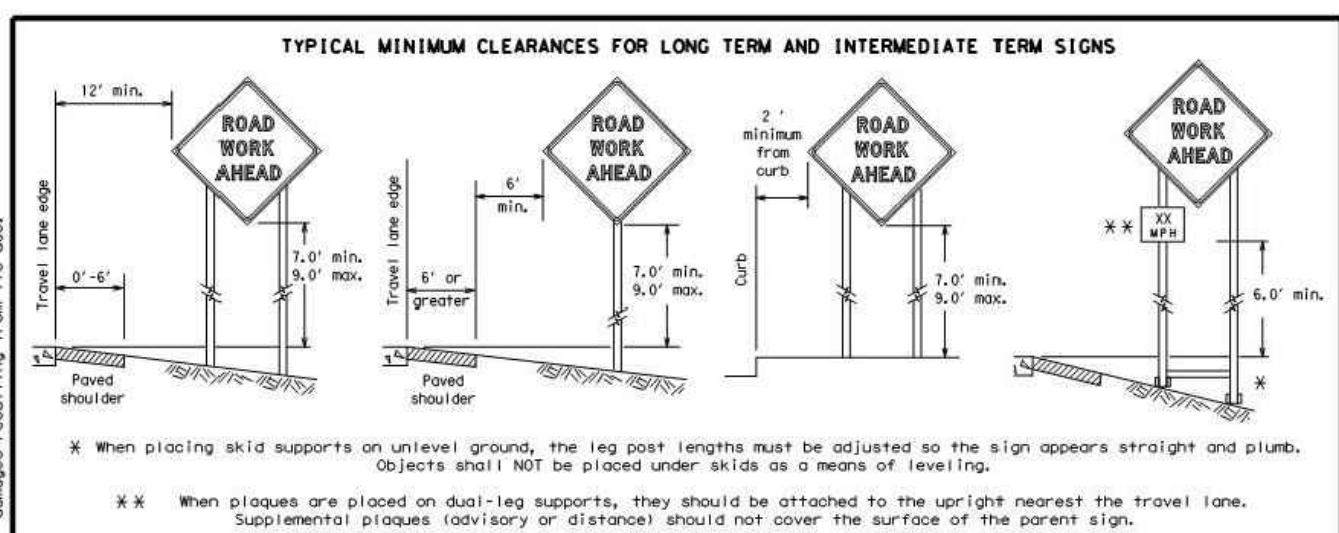
1162



LJA Engineering, Inc.
FRN - F-1386

ELLIOTT BRANCH
WASTEWATER IMPROVEMENTS
TRAFFIC CONTROL DETAILS

DESIGN BY:	LV	SCALE	
DRAWN BY:	LV	HORIZONTAL:	N/A
CHECKED BY:	SC	VERTICAL:	N/A
APPROVED BY:	SC	SHEET:	1 OF 3
PROJECT NO:	2173-1702	PAGE:	6
DATE:	7/3/18		



CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS				
1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.				
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.				
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.				
4. If existing signs are to be relocated to their original position, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standard sheets. This work shall be paid for under the appropriate pay item for relocating existing signs.				
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC Sheets or the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standard sheets. This work shall be paid for under the appropriate pay item for relocating existing signs.				
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.				

DATE: 9-07-13
FILE: bcam-14.dgn

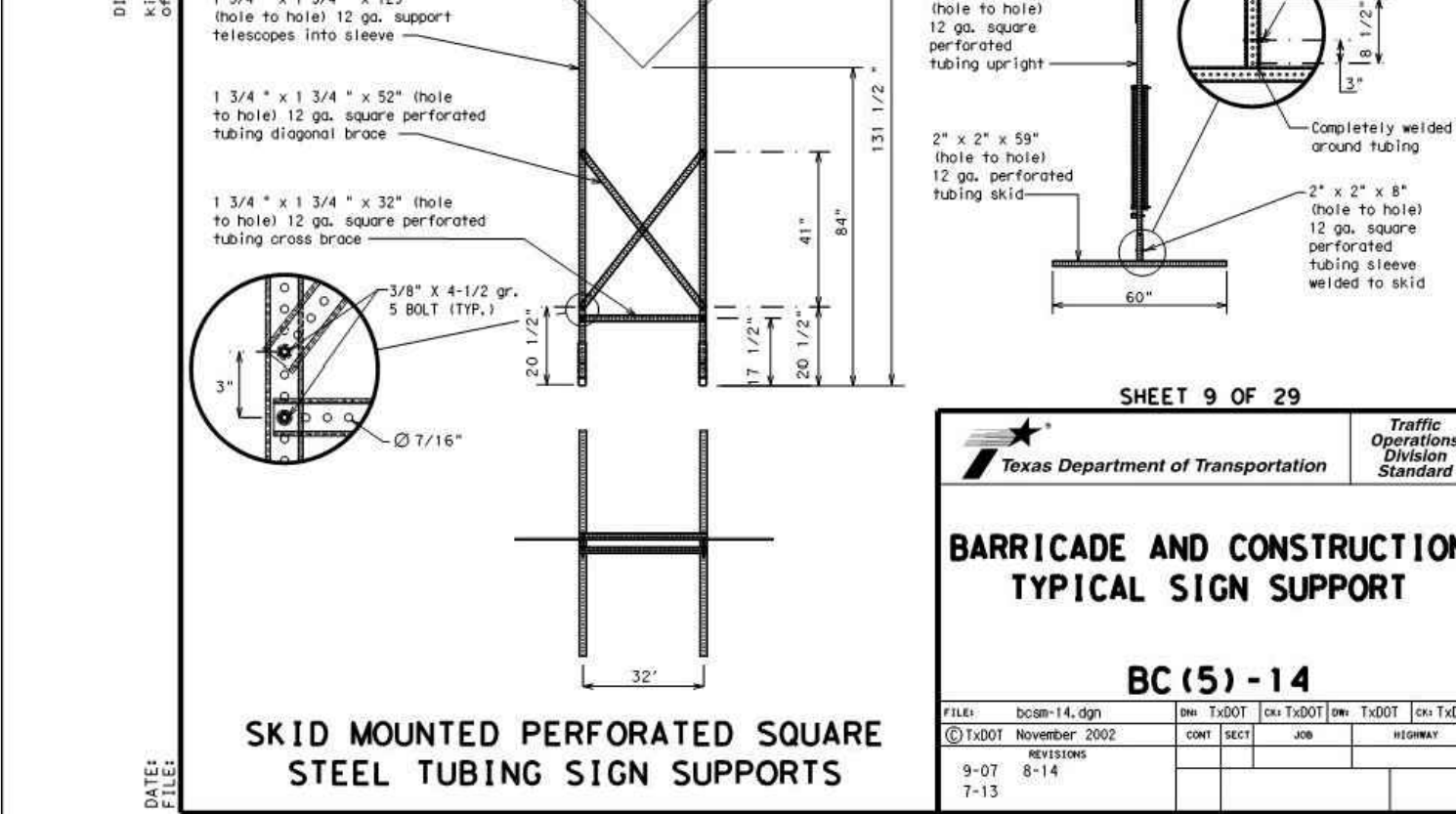
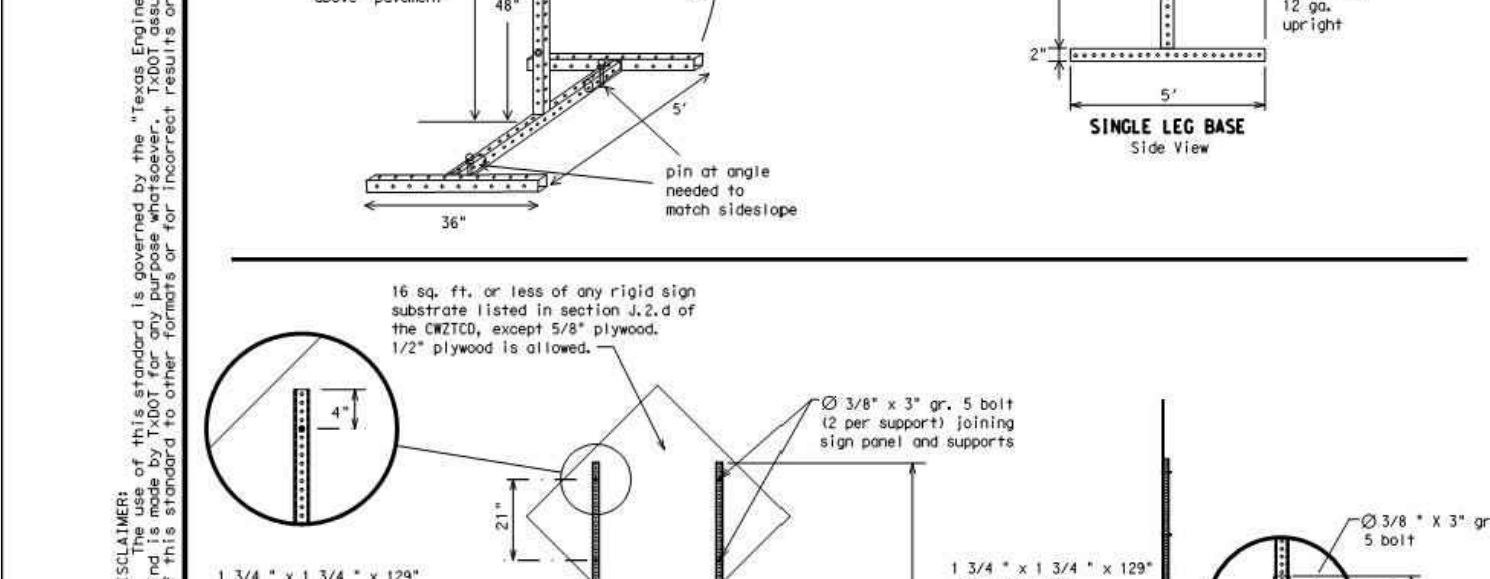
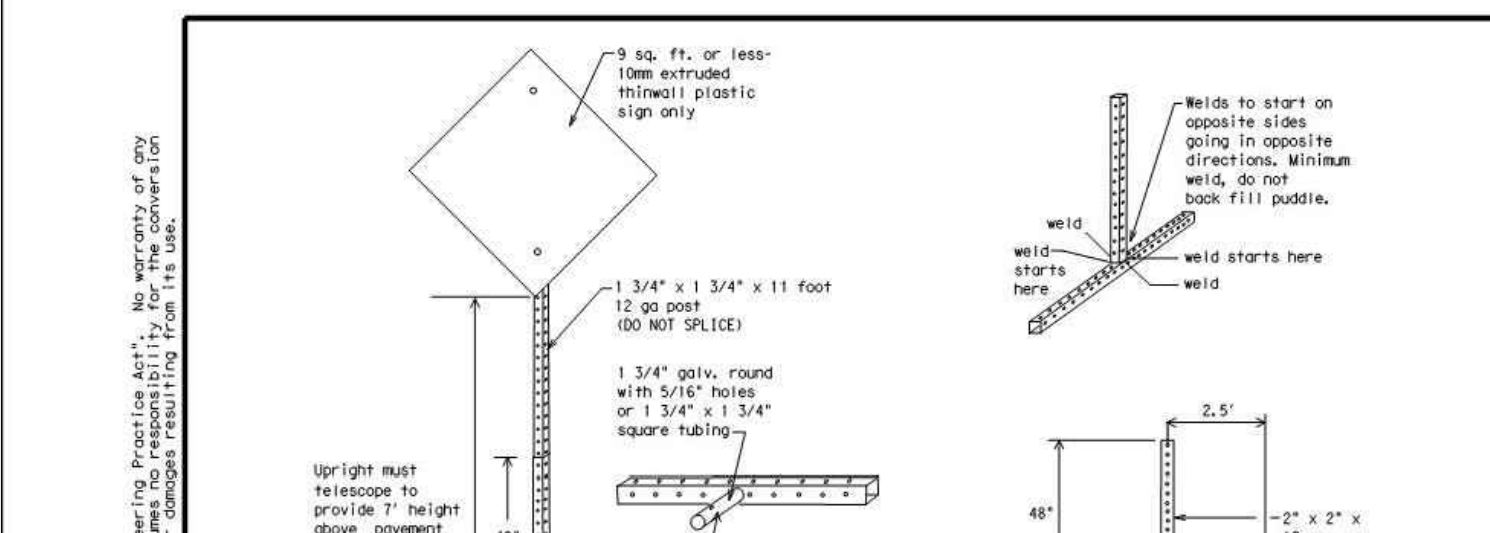
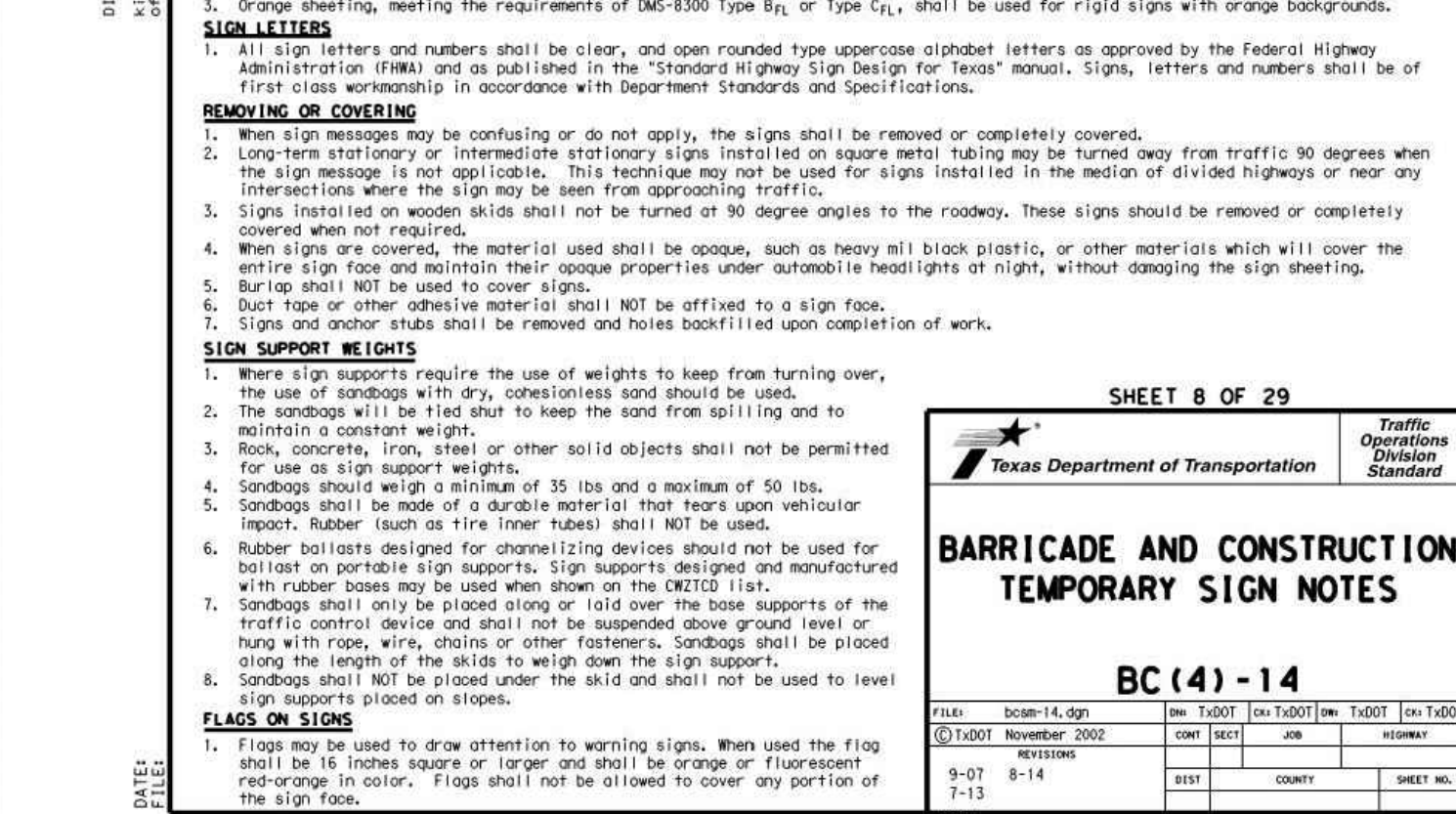
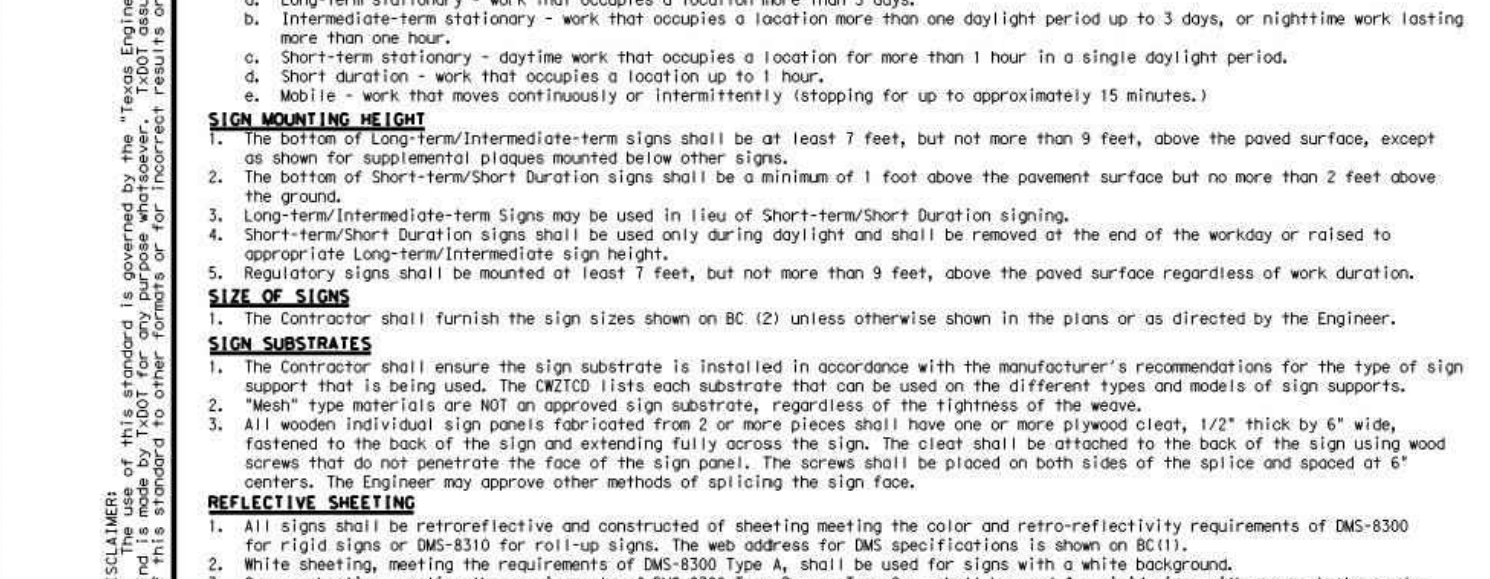
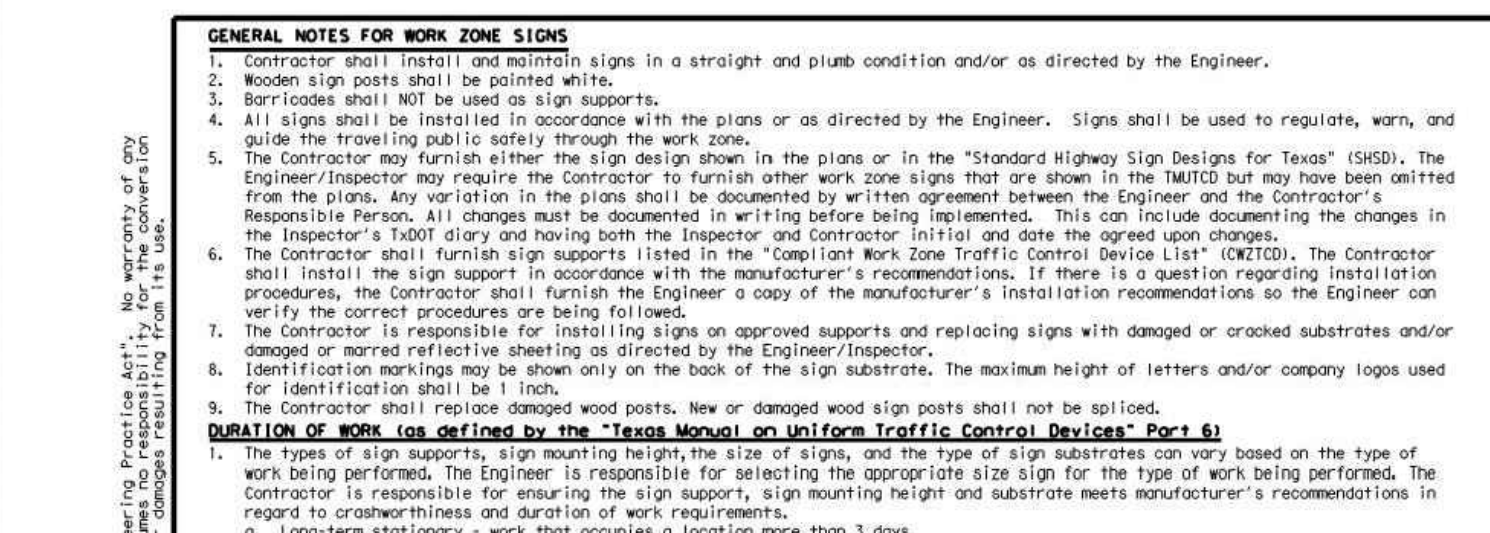
SHEET 7 OF 29

Texas Department of Transportation

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC (4) - 14

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DATE:	9-07-13	REVISION:	NOVEMBER 2002	NOVEMBER 2002	NOVEMBER 2002	NOVEMBER 2002	NOVEMBER 2002	NOVEMBER 2002	NOVEMBER 2002



STATE OF TEXAS

STUART COWELL

126674

REGISTERED PROFESSIONAL ENGINEER

7/3/2018

CITY OF KYLE

ESTABLISHED 1984

LJA Engineering, Inc.

FRN - F-1386

ELLIOTT BRANCH

WASTEWATER IMPROVEMENTS

TRAFFIC CONTROL DETAILS

DESIGN BY: LV
DRAWN BY: LV
CHECKED BY: SC
APPROVED BY: SC
PROJECT NO: 2173-1702
DATE: 7/3/18

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

SHEET: 2 OF 3
PAGE: 7

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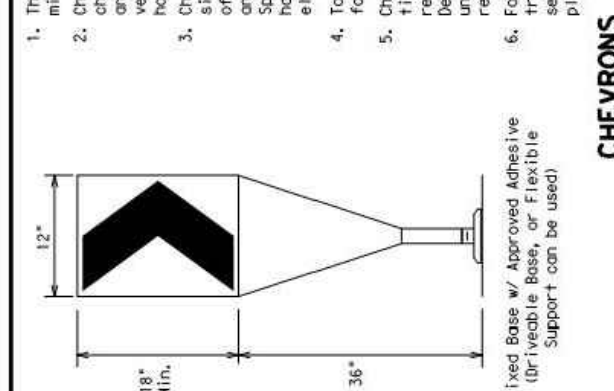
Approved Speed (mph)	Minimum Taper Lengths (ft.)	Suggested Maximum Channelizing Device Spacing (ft.)
30	150'	180'
35	200'	225'
40	250'	275'
45	300'	325'
50	350'	375'
55	400'	425'
60	450'	475'
65	500'	525'
70	550'	575'
75	600'	625'
80	650'	675'

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

L=Length of taper (ft.); W=width of object (ft.); S=Suggested Speed (mph)

GENERAL NOTES

1. Refer to the channelizing devices illustrated on this sheet. (BC(11) may be used in lieu of the devices shown on this sheet.)
2. Channelizing devices shall be used to ensure that spacing and tapering of devices is in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUD).
3. Channelizing devices shall be used to ensure that spacing and tapering of devices is in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUD).
4. The contractor shall maintain devices in a clean condition and replace damaged, non-reflective, faded, or broken devices and bases as required by the manufacturer's instructions.
5. Portable bases shall weigh a minimum of 30 lbs.
6. Channelizing devices shall be prepared in a manner that ensures proper bonding of the reflective sheeting to the device.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surface. The Engineer/Inspector shall approve all applications and materials used for channelizing devices.



CHEVRONS

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change in the direction of travel and provide additional emphasis and guidance for the driver.
3. Chevrons, when used, shall be erected on the outside of a curve, or at the intersection, they shall be in line with the line of travel.
4. Chevrons shall be spaced at intervals of 30 feet, or for at least 500 feet.
5. Chevrons shall be made of a material that is highly reflective and shall be made of a material that is highly reflective.
6. The contractor shall maintain chevrons in a clean condition and replace damaged, non-reflective, faded, or broken chevrons and bases as required by the manufacturer's instructions.
7. The installation and removal of chevrons shall not cause detrimental effects to the final pavement surface. The Engineer/Inspector shall approve all applications and materials used for chevrons.

SHEET 18 OF 29

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

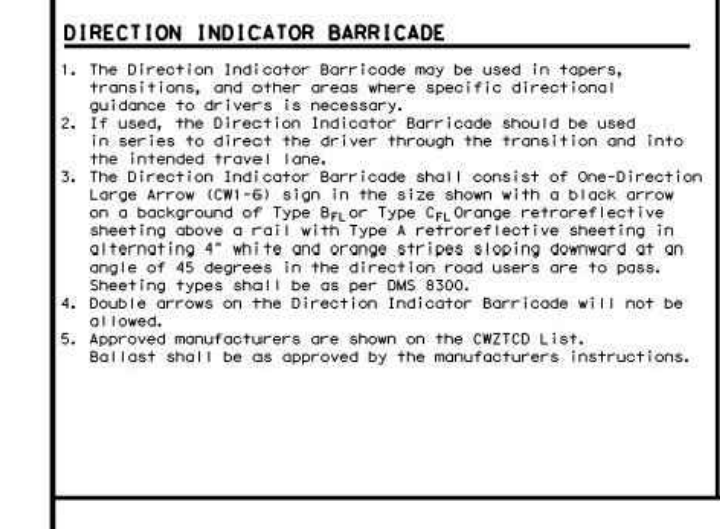
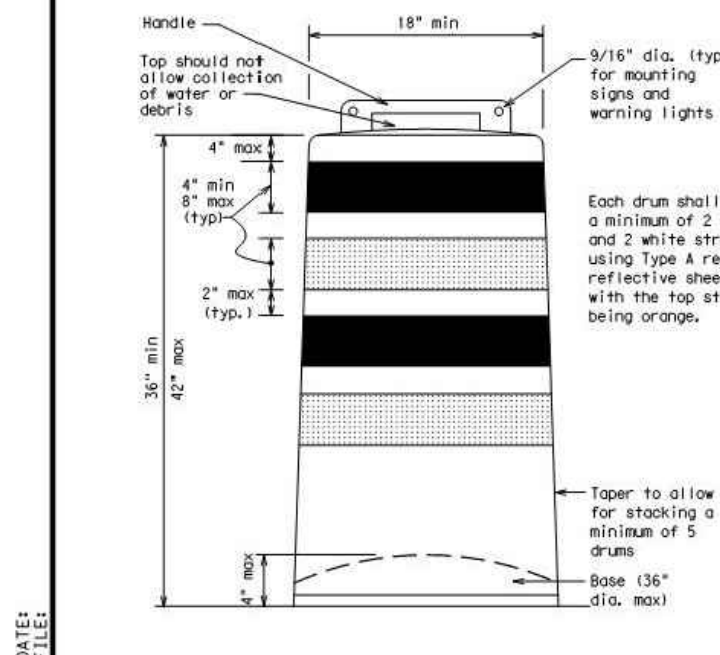
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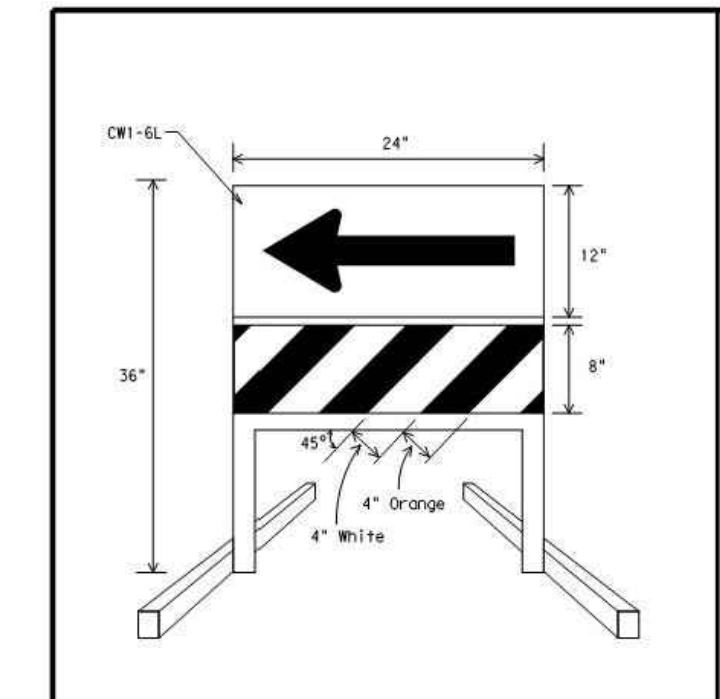
4-03 7-13 REVISIONS JOB SHEET

9-07 8-14 DIST COUNTY SHEET NO.



DIRECTION INDICATOR BARRICADE

1. The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
3. The Direction Indicator Barricade shall consist of One-Direction Large Arrow (OH-1) signs in the size shown with a black arrow on a background of Type B or Type C, orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Spacing tapes shall be as per TMUD 8300.
4. Double arrows on the Direction Indicator barricade will not be allowed.
5. Approved manufacturers are shown on the CMTCD List. Ballast shall be as approved by the manufacturer's instructions.



DETECTABLE PEDESTRIAN BARRICADES

This detail is not intended for use in areas where detectable pedestrian barricades are required. See notes 3 and the CMTCD List for approved detectable pedestrian barricades.

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tapes, ropes, or plastic chain strapping between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades may use 8" nominal barricade rails as shown on BC(10) provided that the top rail includes a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.

SHEET 19 OF 29

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

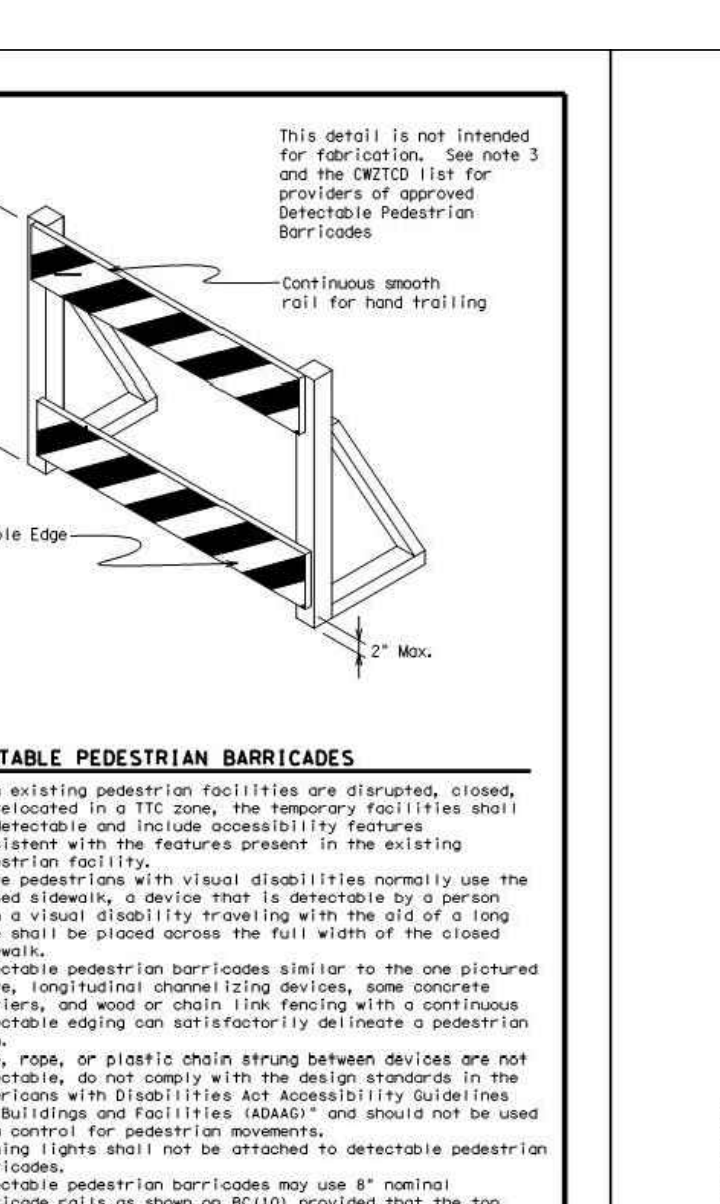
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REV: 11/01 November 2002 DW: TxDOT ON: TxDOT

4-03 7-13 REVISIONS JOB SHEET

9-07 8-14 DIST COUNTY SHEET NO.



VERTICAL PANELS (VP)

1. Vertical Panels (VPs) are normally used to channelize traffic or to delineate areas of traffic.
2. Vertical Panels (VPs) may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
3. Vertical Panels (VPs) shall be used in series to direct the driver through the transition and into the intended travel lane.
4. Vertical Panels (VPs) shall consist of One-Direction Large Arrow (OH-1) signs in the size shown with a black arrow on a background of Type B or Type C, orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Spacing tapes shall be as per TMUD 8300.
5. Approved manufacturers are shown on the CMTCD List. Ballast shall be as approved by the manufacturer's instructions.

SHEET 20 OF 29

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

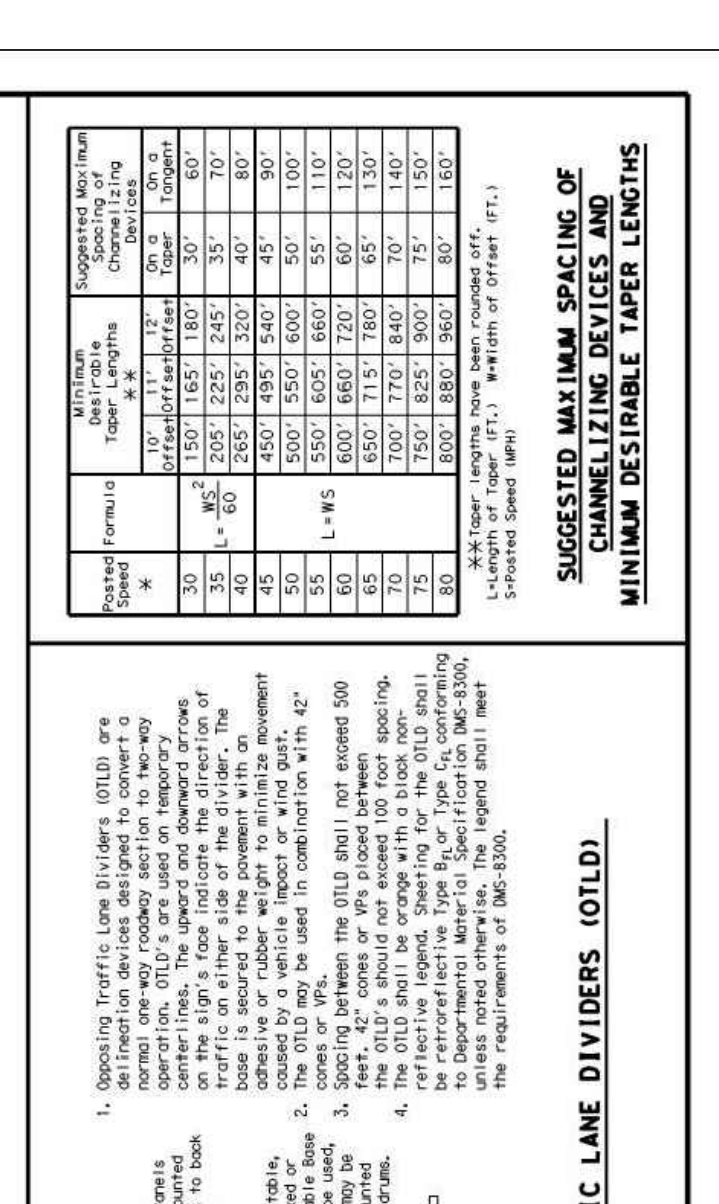
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REV: 11/01 November 2002 DW: TxDOT ON: TxDOT

4-03 7-13 REVISIONS JOB SHEET

9-07 8-14 DIST COUNTY SHEET NO.



WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize traffic, but also to protect the user from the edge of the roadway.
2. Water ballasted systems used to channelize traffic shall be supplemented with retroreflective delineation devices.
3. Water ballasted systems used as barriers shall be placed in accordance with location and installation requirements of the TMUD.
4. Water ballasted systems used as barriers shall not be used for a tapering taper except in low speed (less than 45 MPH) urban areas.
5. When used in a taper in a low speed urban area, the taper shall be delineated one (1) foot length (less than 45 MPH) urban areas.
6. When water ballasted systems used as barriers have built up, they should be maintained as per manufacturer recommendations or fixed to a point outside the taper zone.

SHEET 21 OF 29

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

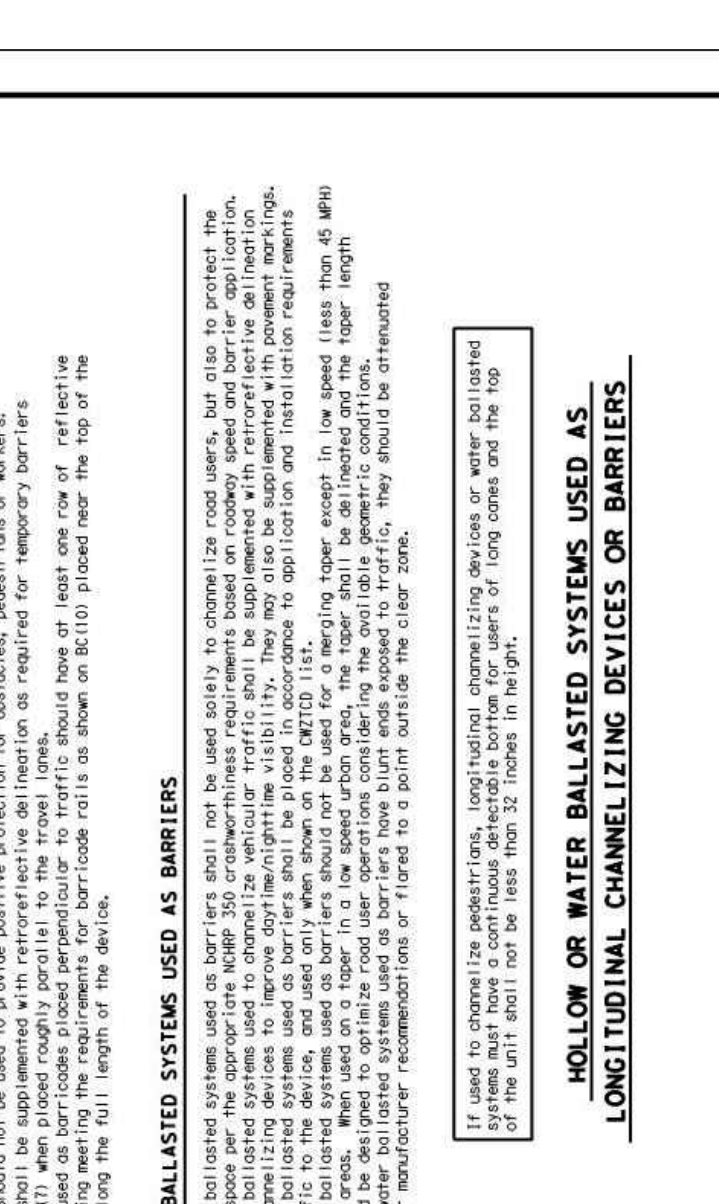
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REV: 11/01 November 2002 DW: TxDOT ON: TxDOT

4-03 7-13 REVISIONS JOB SHEET

9-07 8-14 DIST COUNTY SHEET NO.



HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize traffic, but also to protect the user from the edge of the roadway.
2. Water ballasted systems used to channelize traffic shall be supplemented with retroreflective delineation devices.
3. Water ballasted systems used as barriers shall be placed in accordance with location and installation requirements of the TMUD.
4. Water ballasted systems used as barriers shall not be used for a tapering taper except in low speed (less than 45 MPH) urban areas.
5. When used in a taper in a low speed urban area, the taper shall be delineated one (1) foot length (less than 45 MPH) urban areas.
6. When water ballasted systems used as barriers have built up, they should be maintained as per manufacturer recommendations or fixed to a point outside the taper zone.

SHEET 20 OF 29

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (9) - 14

FILE: bc9-14.dgn DW: TxDOT ON: TxDOT ON: TxDOT

REV: 11/01 November 2002 DW: TxDOT ON: TxDOT

4-03 7-13 REVISIONS JOB SHEET

9-07 8-14 DIST COUNTY SHEET NO.



SHEET 21 OF 29

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

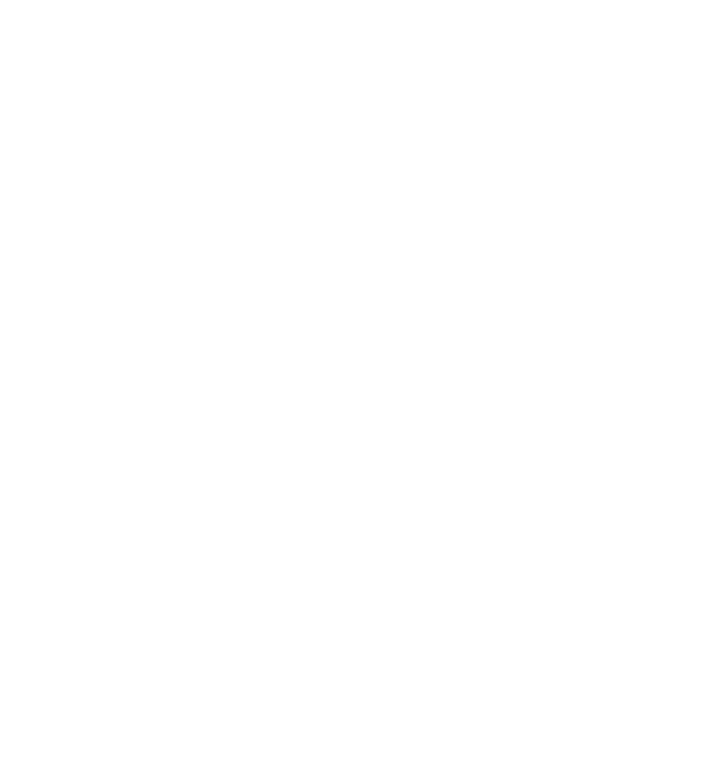
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4-03 7-13 REVISIONS JOB SHEET

9-07 8-14 DIST COUNTY SHEET NO.



STATE OF TEXAS

STUART COWELL

126674

PROFESSIONAL ENGINEER

7/3/2018

CITY OF KYLE

ESTABLISHED 1984

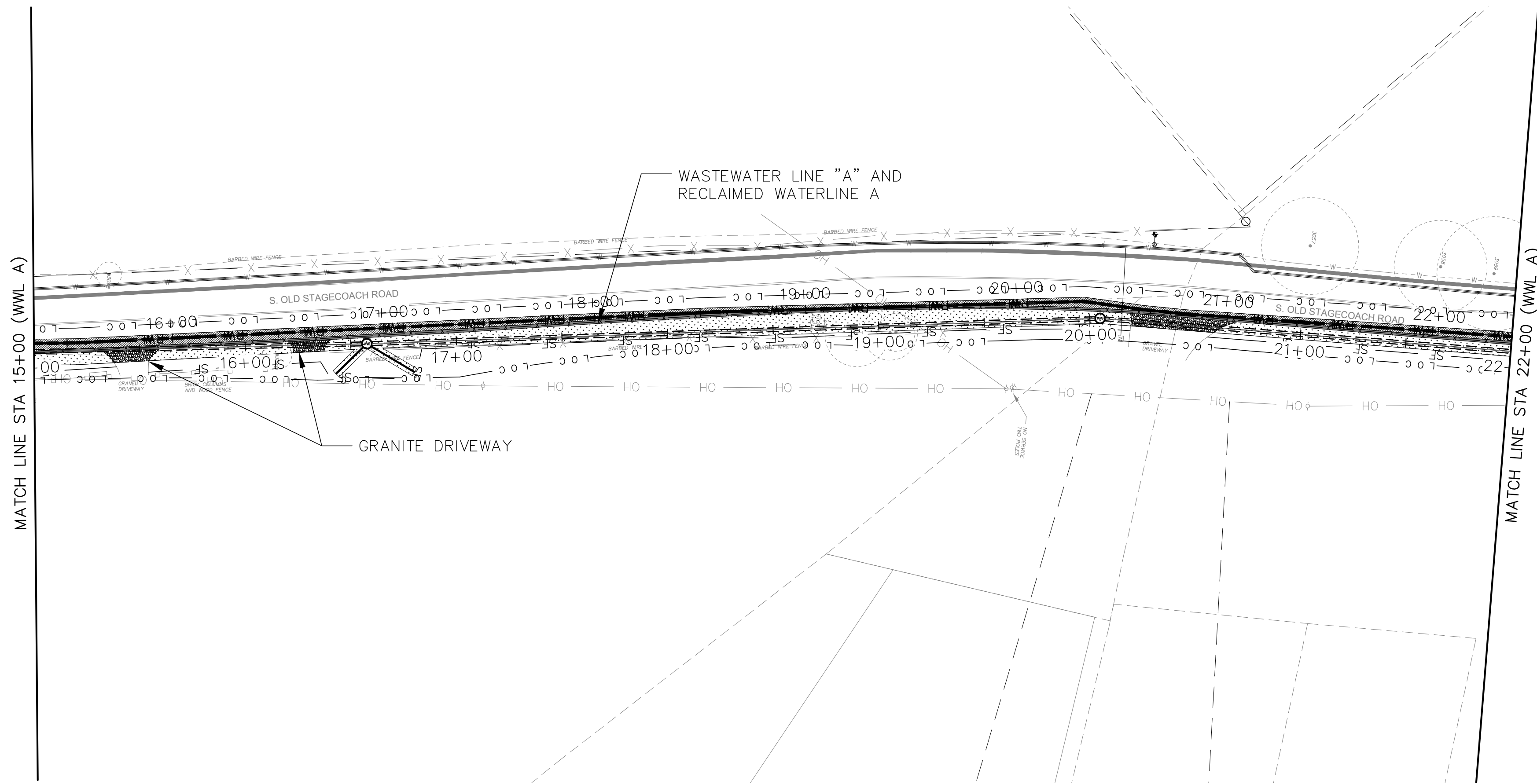
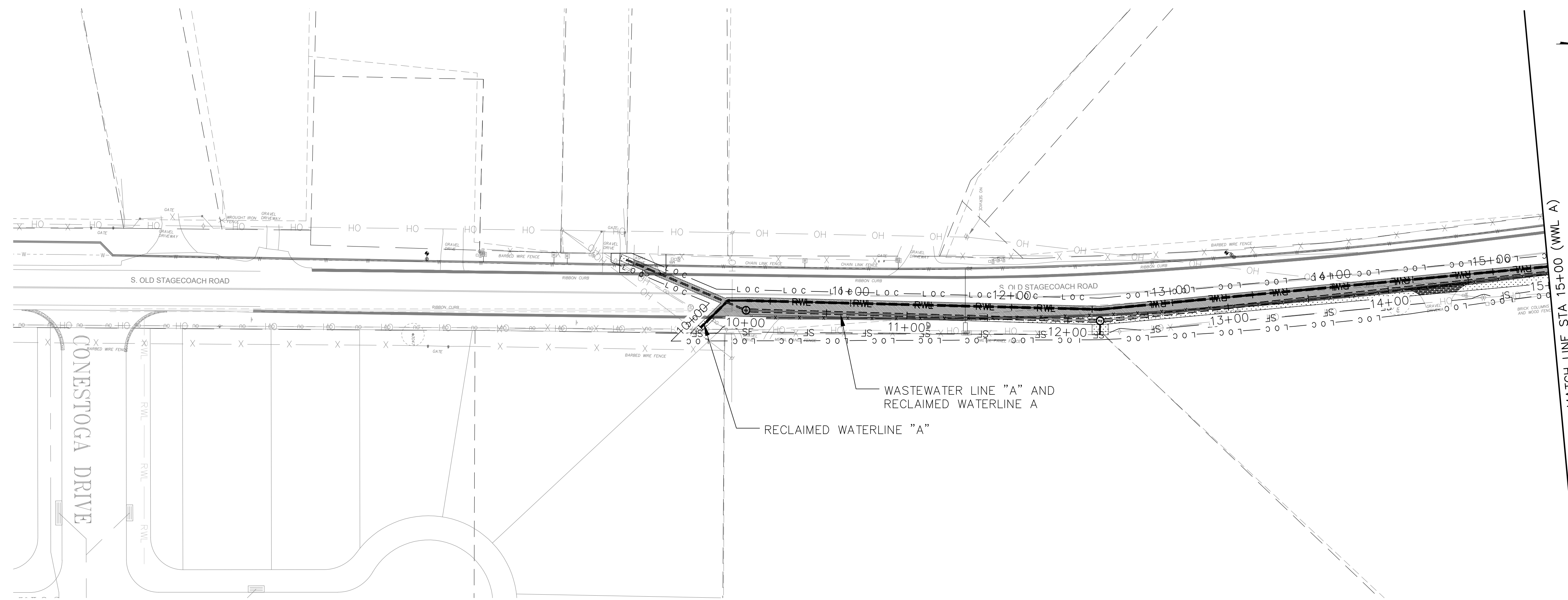
LJA Engineering, Inc.

FRN - F-1386

ELLIOTT BRANCH
WASTEWATER IMPROVEMENTS
TRAFFIC CONTROL DETAILS

DESIGN BY: LV	SCALE: HORIZONTAL: N/A
DRAWN BY: LV	VERTICAL: N/A
CHECKED BY: SC	SHEET: 3 OF 3
APPROVED BY: SC	PAGE: 8
PROJECT NO: 2173-1702	
DATE: 7/3/18	

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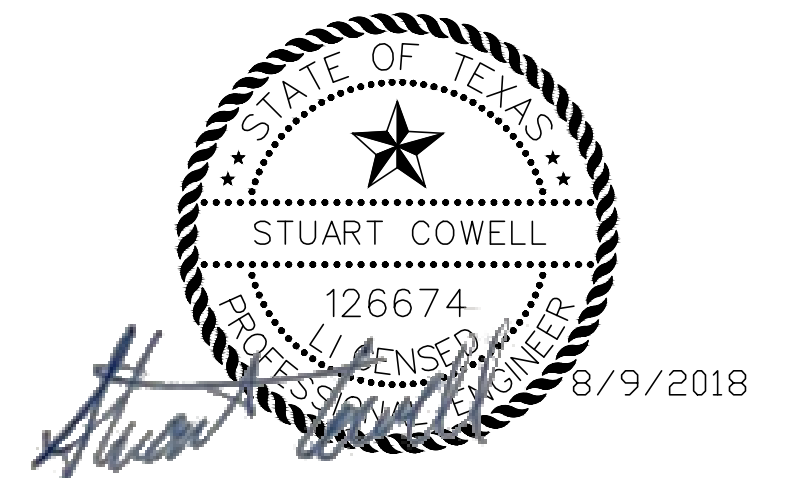
HORZ 0' 40' 80'
 VERT 0' 4' 8'
 SCALE IN FEET

LEGEND

- EXISTING R.O.W.
- 8-WW — 8-WW — EXISTING 8" WASTEWATER
- 12-WW — 12-WW — EXISTING 12" WASTEWATER
- ==>==> PROPOSED 21" WASTEWATER
- === REWL === PROPOSED 12" RECLAIMED WATERLINE
- L o c - L o c - LIMITS OF CONSTRUCTION
- SF - SF - SILT FENCE
- x - x - PROPOSED RIBBON CURB REPAIR
- [Hatched Box] PAVEMENT REPAIR
- [Dotted Box] SEEDING
- [Stippled Box] CONSTRUCTION EXIT/ENTRANCE
- [Circular Pattern Box] GRANITE/GRAVEL DRIVE REPAIR

NOTES:

1. 'J' HOOKS TO BE USED ALONG SF AT A MINIMUM OF 100'. SEE DETAILS ON PAGE 7 FOR ORIENTATION.
2. TREES TO BE REMOVED AS NECESSARY AND APPROVED BY THE CITY OF KYLE. TREE REMOVAL IS SUBSIDIARY TO ROW PREPARATION PAY ITEM.



LJA Engineering, Inc.
 FRN - F-1386

**ELLIOTT BRANCH INTERCEPTOR
 EROSION AND SEDIMENTATION**

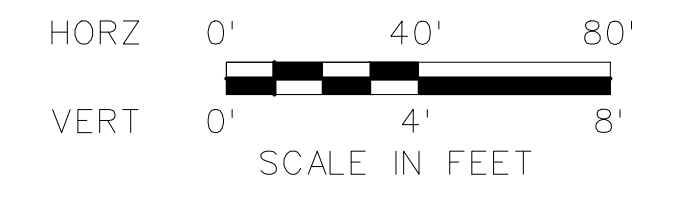
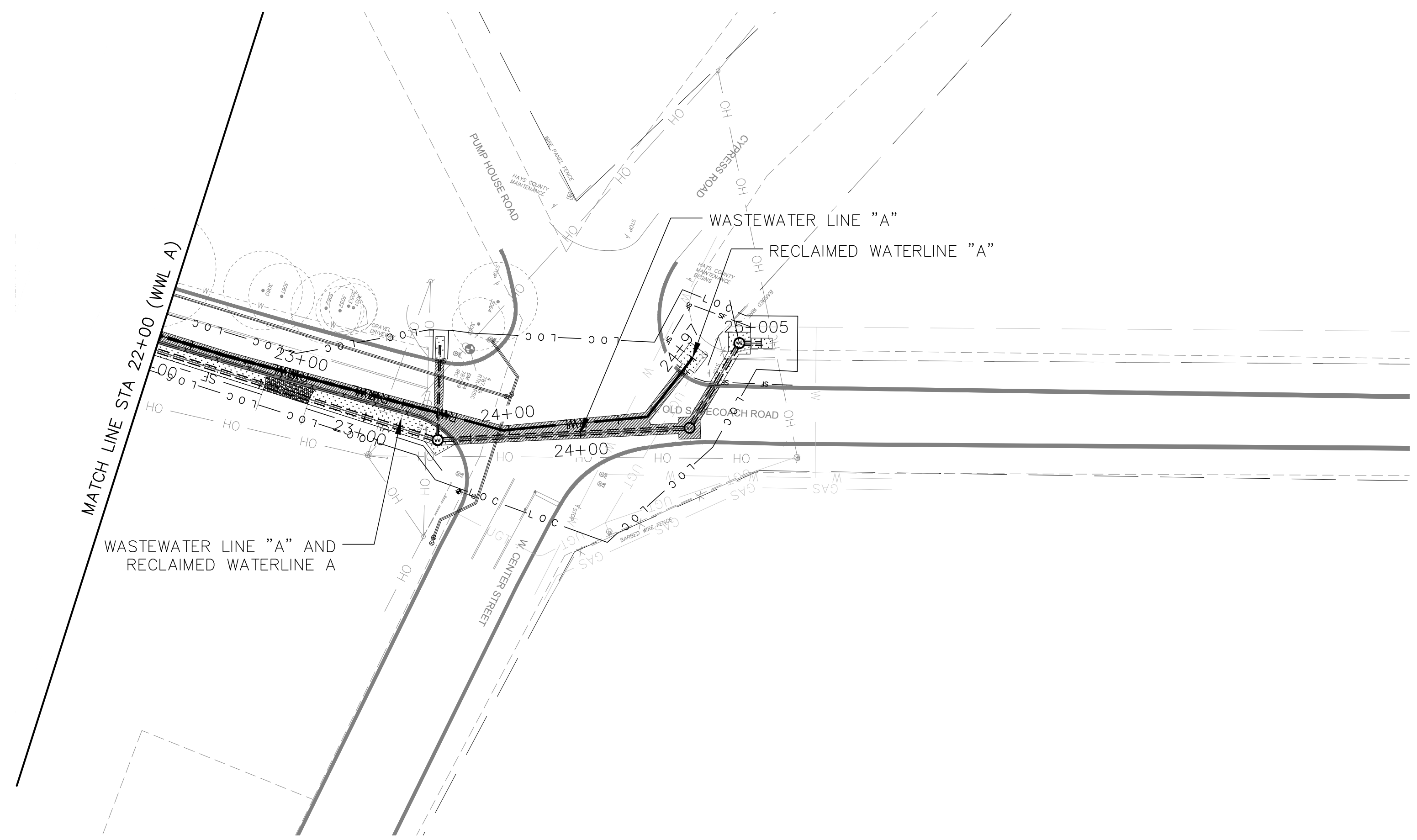
STA 10+00 TO STA 22+00

RESTORATION QUANTITIES	
SILT FENCE	1260
REVEGETATION /SEEDING	639 SQ YD
PAVEMENT REPAIR	768 SQ YD
GRAVEL DRIVE REPAIR	47 SQ YD
RIBBON CURB REPAIR	1239 LF
GRANITE DRIVE REPAIR	23 SQ YD

DESIGN BY: LV
 DRAWN BY: LV
 CHECKED BY: SC
 APPROVED BY: SC
 PROJECT NO: 2173-1701
 DATE: 8/9/18

SCALE
 HORIZONTAL: 1"=40'
 VERTICAL: N/A
 SHEET: 1 OF 2
 PAGE: 9

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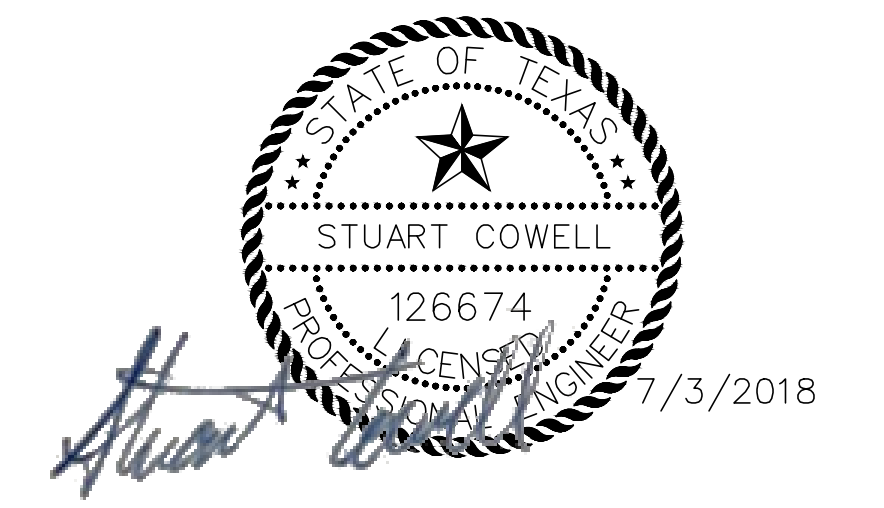
LEGEND

- EXISTING R.O.W.
- 8-WW — 8-WW — EXISTING 8" WASTEWATER
- 12-WW — 12-WW — EXISTING 12" WASTEWATER
- ==> PROPOSED 21" WASTEWATER
- ==> PROPOSED 12" RECLAIMED WATERLINE
- L o c — LIMITS OF CONSTRUCTION
- SF — SF — SILT FENCE
- x — x — PROPOSED RIBBON CURB REPAIR
- [Hatched Box] PAVEMENT REPAIR
- [Dotted Box] SEEDING
- [Stippled Box] CONSTRUCTION EXIT/ENTRANCE

RESTORATION QUANTITIES	
SILT FENCE	273 LF
REVEGETATION/SEEDING	117 SQ YD
PAVEMENT REPAIR	214 SQ YD
GRAVEL DRIVE REPAIR	17 SQ YD
RIBBON CURB REPAIR	159 LF

NOTES:

1. 'J' HOOKS TO BE USED ALONG SF AT A MINIMUM OF 100'. SEE DETAILS ON PAGE 7 FOR ORIENTATION.
2. TREES TO BE REMOVED AS NECESSARY AND APPROVED BY THE CITY OF KYLE. TREE REMOVAL IS SUBSIDIARY TO ROW PREPARATION PAY ITEM.

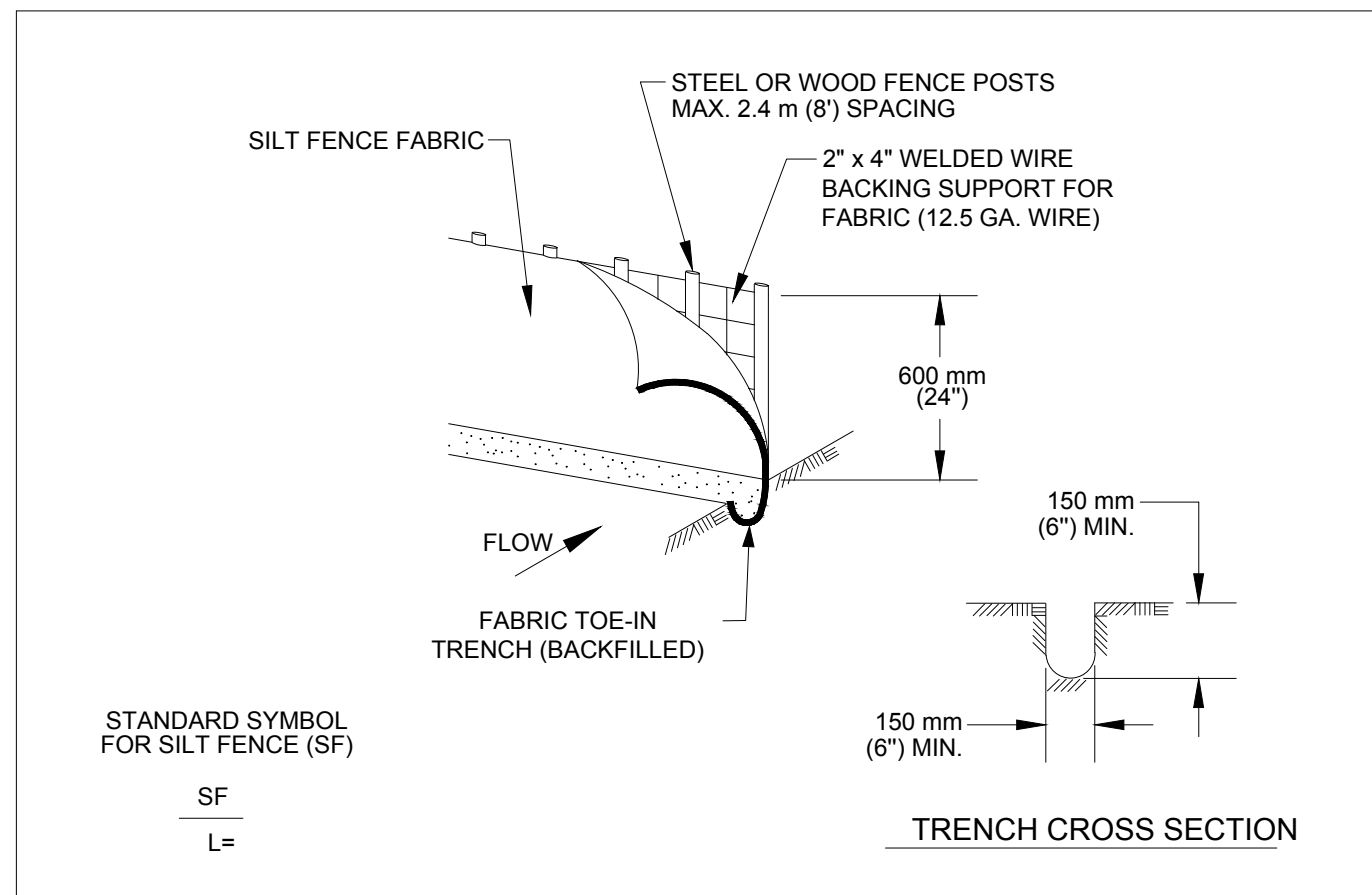


ELLIOTT BRANCH INTERCEPTOR
 EROSION AND SEDIMENTATION

STA 22+00 TO END

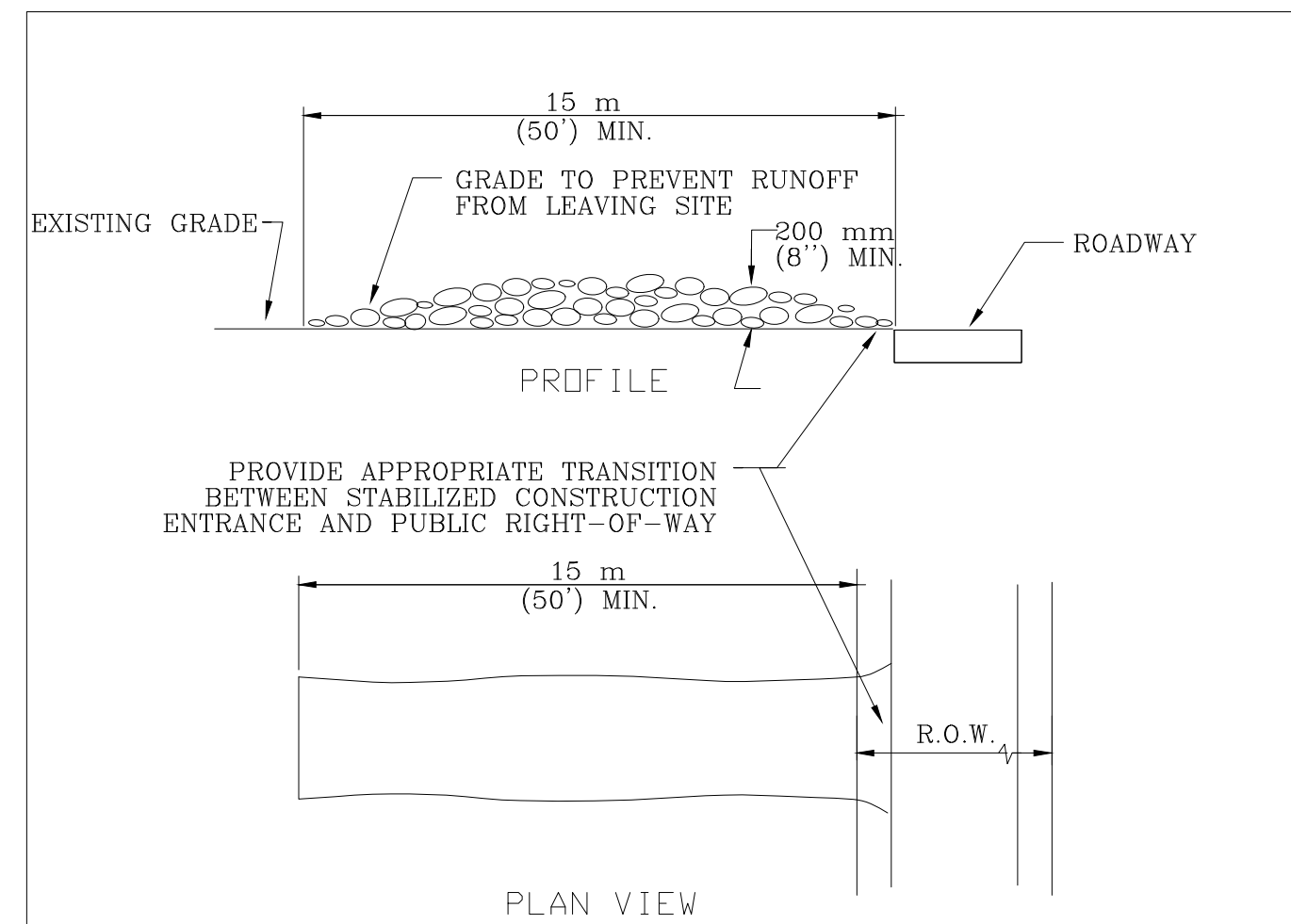
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PROJECT NO: 2173-1701	PAGE: 10
DATE: 7/3/18	

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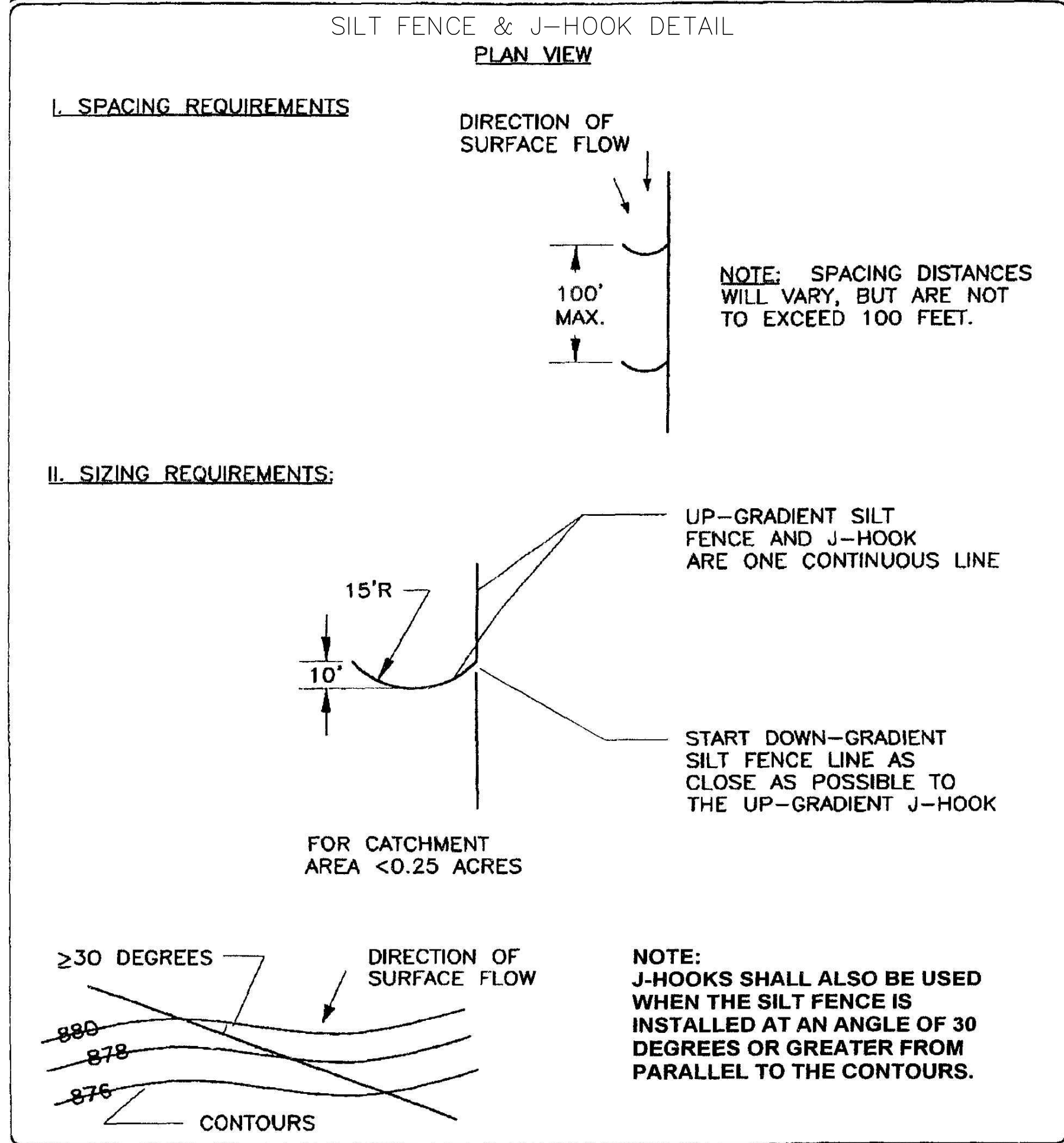
- STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 INCHES) DEPTH, USE STEEL POSTS.
- THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
- THE TRENCH MUST BE A MINIMUM OF 150 mm (6 INCHES) DEEP AND 150 mm (6 INCHES) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
- INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 INCHES). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		SILT FENCE	
RECORD COPY SIGNED BY MORGAN BYARS	09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1

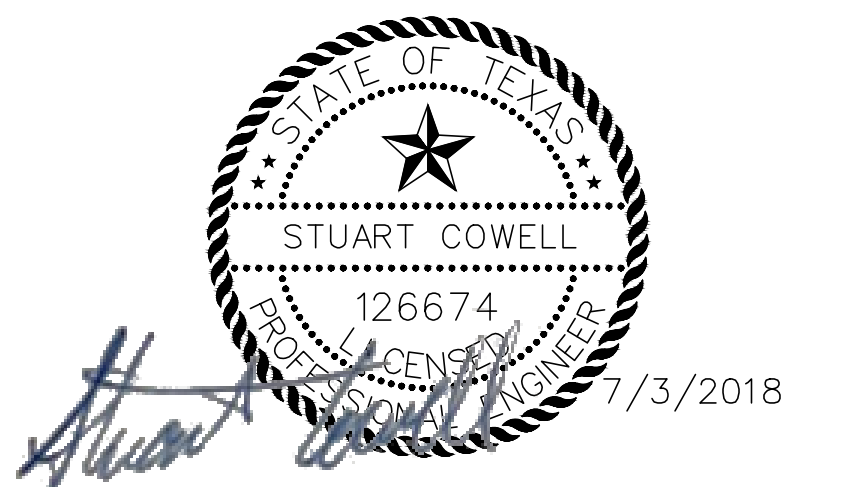


- NOTES:
- STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
 - LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
 - THICKNESS: NOT LESS THAN 200 mm (8").
 - WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
 - WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
 - MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
 - DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY	5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1



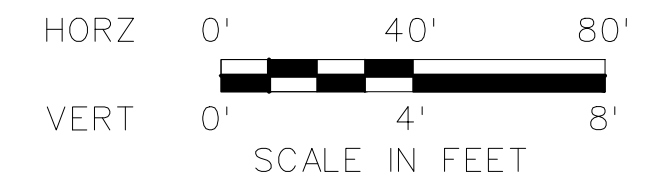
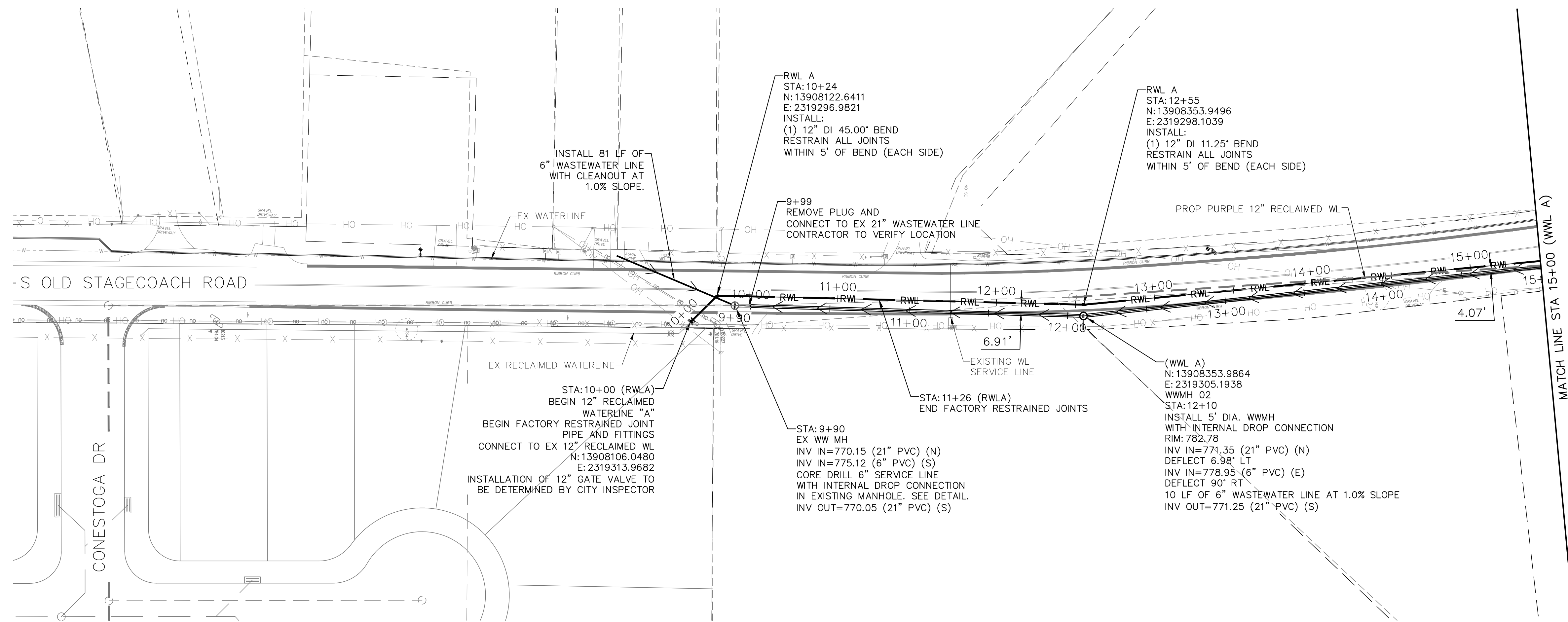
- NOTE: J-HOOKS SHALL ALSO BE USED WHEN THE SILT FENCE IS INSTALLED AT AN ANGLE OF 30 DEGREES OR GREATER FROM PARALLEL TO THE CONTOURS.



ELLIOTT BRANCH INTERCEPTOR
EROSION AND SEDIMENTATION
TYPICAL DETAILS

DESIGN BY: LV	SCALE
DRAWN BY: LV	HORIZONTAL: N/A
CHECKED BY: SC	VERTICAL: N/A
APPROVED BY: SC	SHEET: 1 OF 1
PROJECT NO: 2173-1701	PAGE: 11
DATE: 7/3/18	

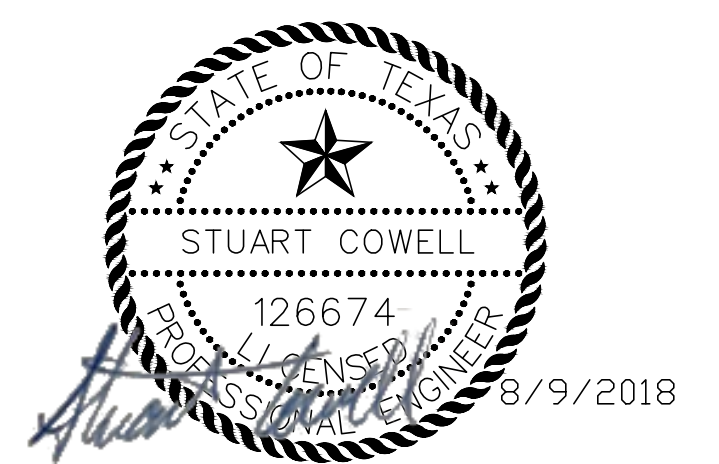
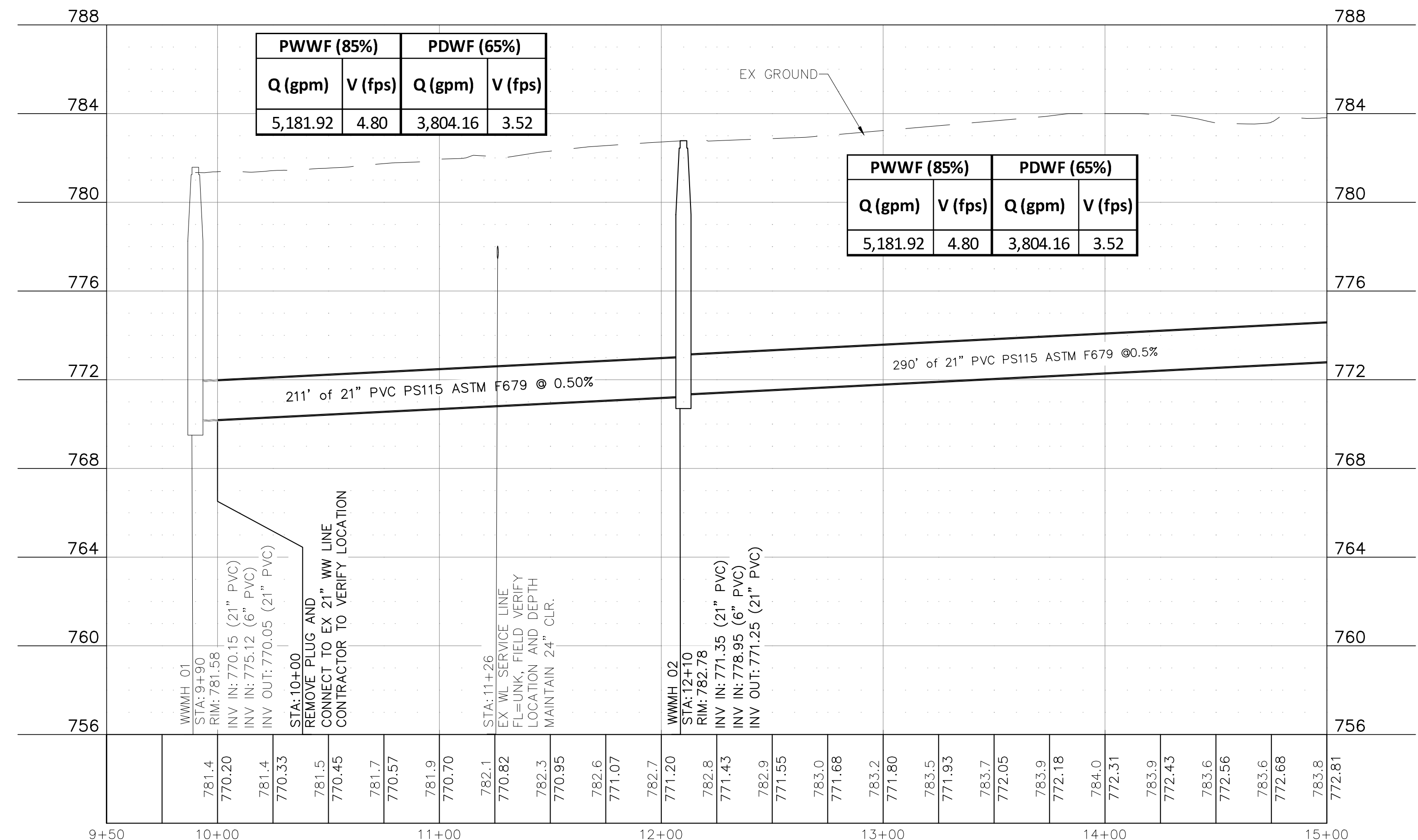
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- GENERAL NOTES:**
1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES MIGHT BE OCCASIONED BY THE FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
 2. EXISTING UTILITIES AND ROW BOUNDARIES HAVE BEEN DEPICTED ACCORDING TO PUBLIC INFORMATION, CITY GIS DATA, AND FIELD INVESTIGATION.
 3. CONTRACTOR TO MAINTAIN 42" OF COVER OVER THE PROPOSED UTILITY AND 24" OF VERTICAL AND HORIZONTAL CLEARANCE FROM ALL EXISTING UTILITIES.
 4. ALL MANHOLES SHALL BE CONSTRUCTED ON PRE-CAST BASES UNLESS SPECIFIED OTHERWISE.
 5. BYPASS PUMPING IS SUBSIDIARY TO CONSTRUCTION/RECONSTRUCTION OF WASTEWATER MANHOLES ON EXISTING WASTEWATER LINES.
 6. ALL MANHOLES TO BE COATED WITH CORROSION RESISTANT EPOXY (80 MIL) THICK AND VACUUM TESTED.
 7. RECLAIMED WATERLINE SHALL BE INSTALLED 4'-0" TO 6'-0" BELOW EXISTING GROUND ELEV.
 8. ALL TREE REMOVALS ARE SUBSIDIARY TO PREPARE ROW BID ITEM.
 9. DAMAGE TO EXISTING FENCES SHALL BE REPAIRED AT CONTRACTORS EXPENSE.

!!!CAUTION!!!
 EXISTING OVERHEAD UTILITIES IN VICINITY. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING NEAR ELECTRONIC FACILITIES.

!!!WARNING!!!
 THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND AVOIDING ALL EXISTING UTILITIES BY CALLING THE "ONE CALL" LOCATOR SERVICE AT 1-800-344-8377 (DIG TESS) OR 1-800-245-4545 TEXAS ONE CALL AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

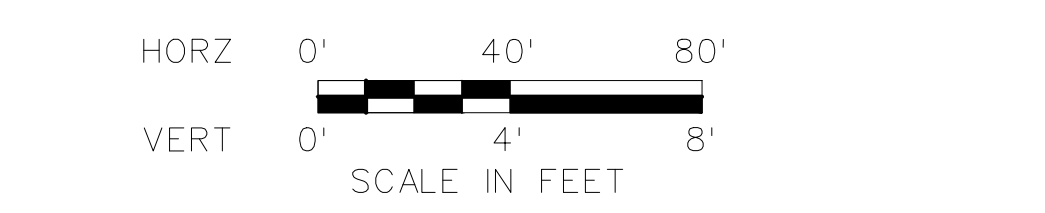
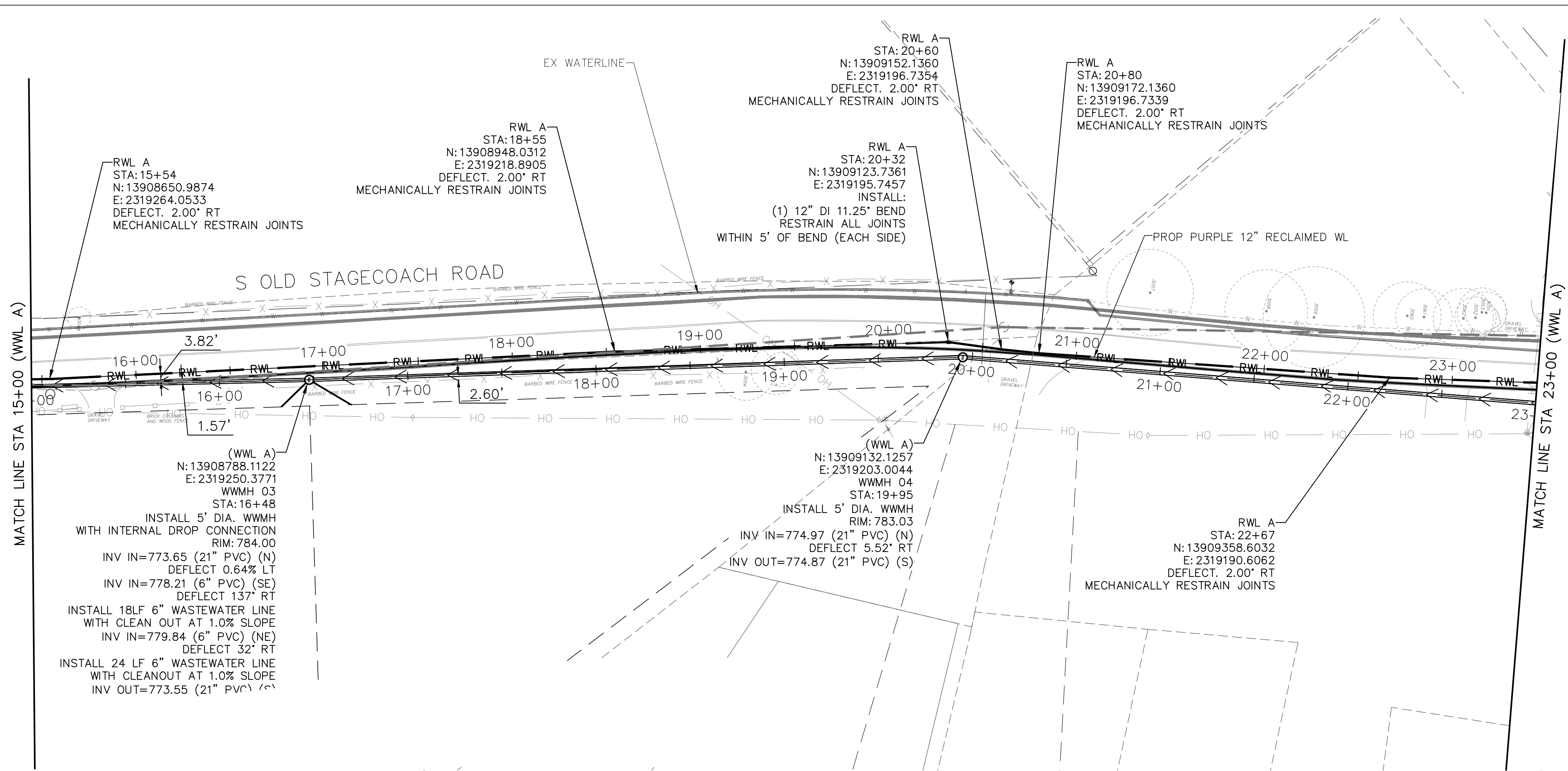


LJA Engineering, Inc.
 FRN - F-1386

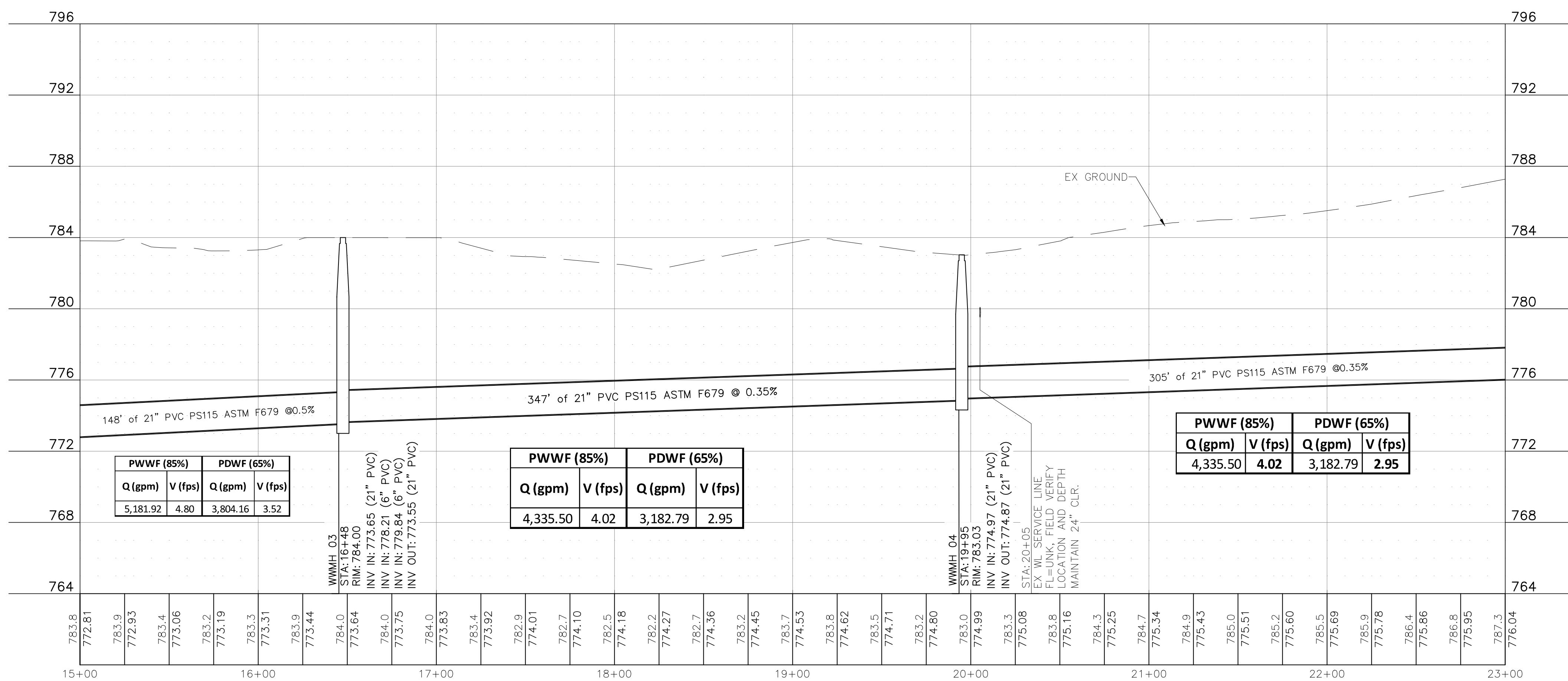
**ELLIOTT BRANCH
 WASTEWATER IMPROVEMENTS
 PLAN AND PROFILE**

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DRAWN BY: LV		HORIZONTAL: 1"=40'	
CHECKED BY: SC		VERTICAL: 1"=4'	
APPROVED BY: SC		SHEET: 1 OF 3	
PROJECT NO: 2173-1702		DATE: 8/9/18	
DATE: 8/9/18		PAGE: 12	

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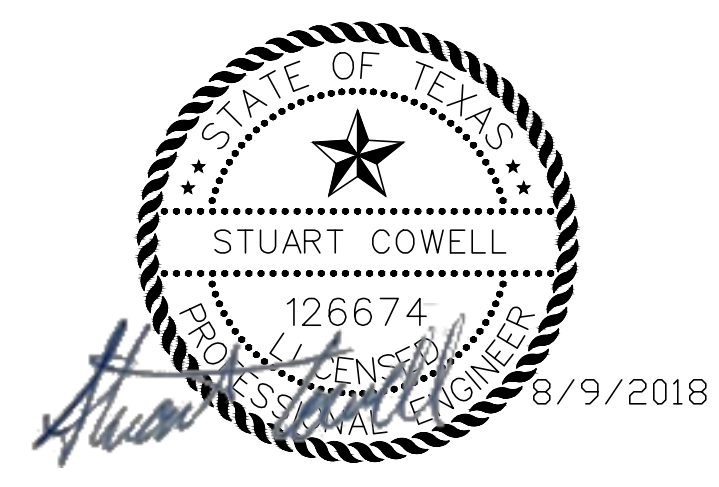
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 2. EXISTING UTILITIES AND ROW BOUNDARIES HAVE BEEN DEPICTED ACCORDING TO PUBLIC INFORMATION, CITY GIS DATA, AND FIELD INVESTIGATION.
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 4. ALL MANHOLES SHALL BE CONSTRUCTED ON PRE-CAST BASES UNLESS SPECIFIED OTHERWISE.
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 8. ALL TREE REMOVALS ARE SUBSIDIARY TO PREPARE ROW BID ITEM.
 9. DAMAGE TO EXISTING FENCES SHALL BE REPAIRED AT CONTRACTORS EXPENSE



PWWF (85%)		PDWF (65%)	
Q (gpm)	V (fps)	Q (gpm)	V (fps)
5,181.92	4.80	3,804.16	3.52

PWWF (85%)		PDWF (65%)	
Q (gpm)	V (fps)	Q (gpm)	V (fps)
4,335.50	4.02	3,182.79	2.95

PWWF (85%)		PDWF (65%)	
Q (gpm)	V (fps)	Q (gpm)	V (fps)
4,335.50	4.02	3,182.79	2.95



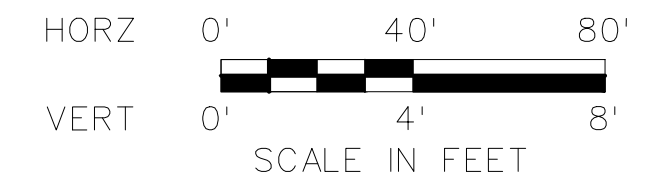
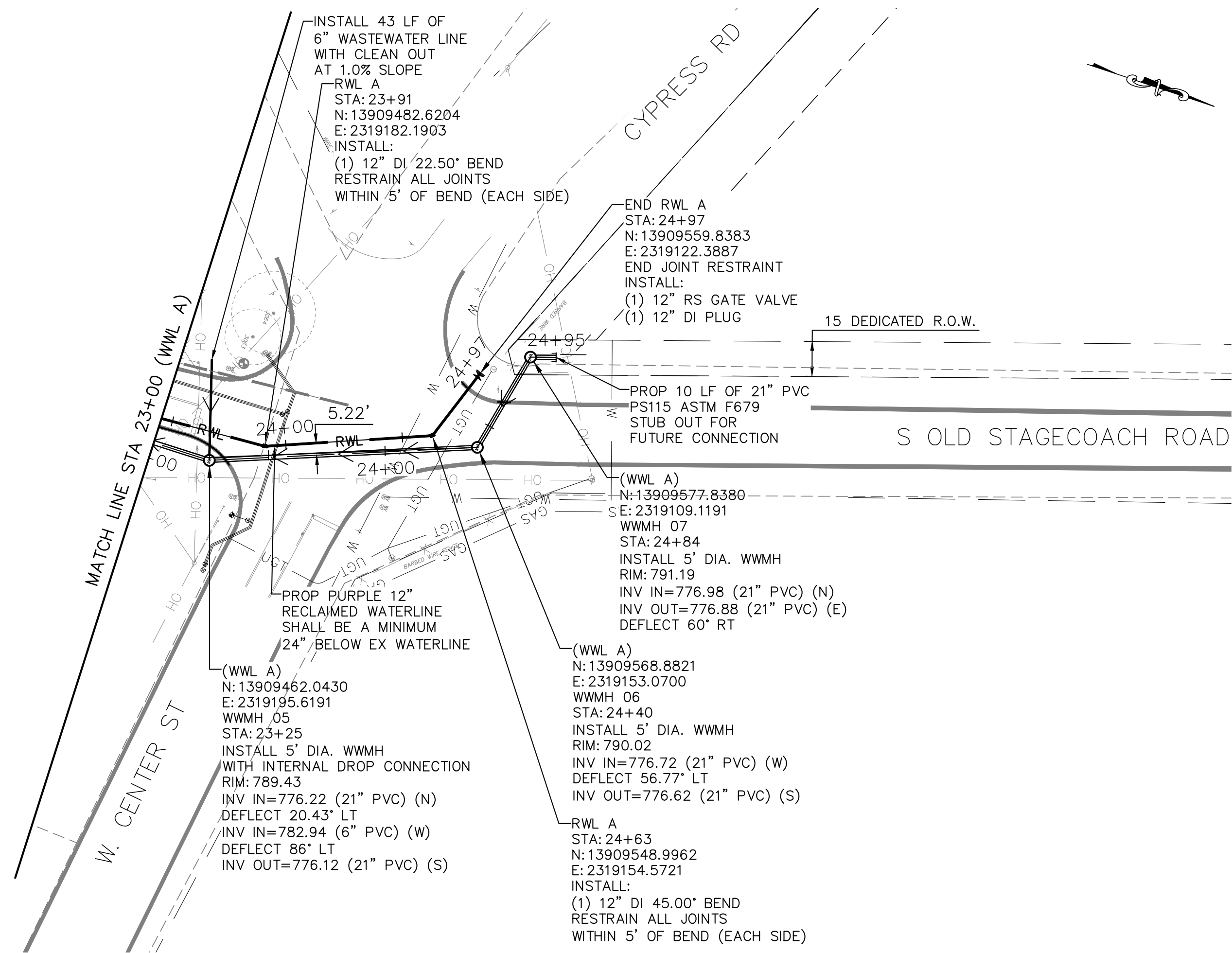
LJA Engineering, Inc.
FRN - F-1386

**ELLIOTT BRANCH
WASTEWATER IMPROVEMENTS
PLAN AND PROFILE**

STA 15+00 TO STA 23+00

DESIGN BY: LV	SCALE
DRAWN BY: LV	HORIZONTAL: 1" = 40'
CHECKED BY: SC	VERTICAL: 1" = 4'
APPROVED BY: SC	SHEET: 2 OF 3
PROJECT NO: 2173-1702	PAGE: 13
DATE: 8/9/18	

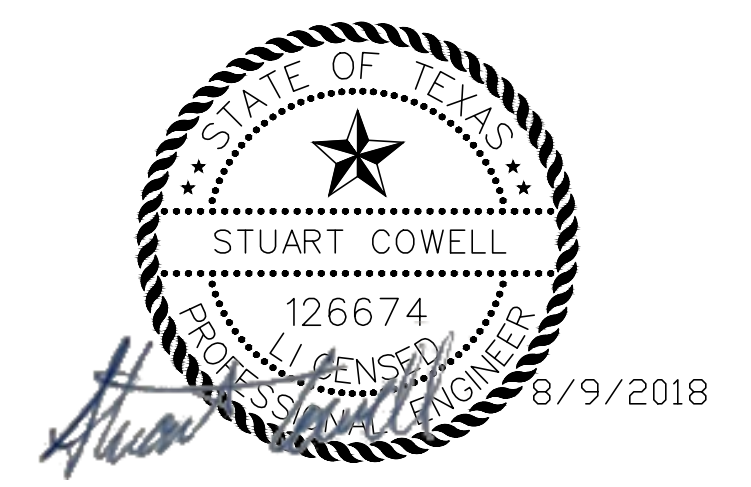
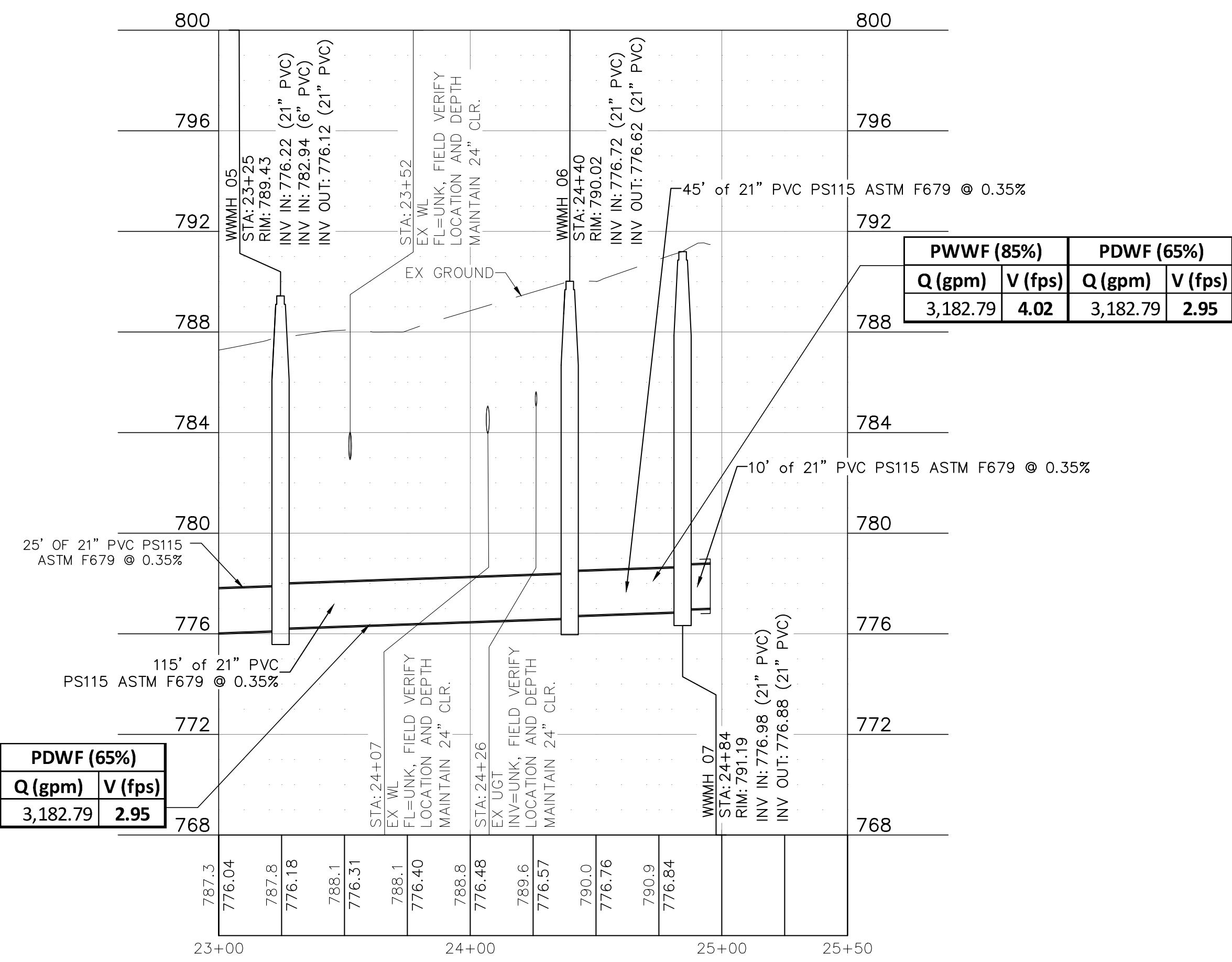
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- GENERAL NOTES:
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 - ALL MANHOLES SHALL BE CONSTRUCTED ON PRE-CAST BASES UNLESS SPECIFIED OTHERWISE.
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 - ALL MANHOLES TO BE COATED WITH CORROSION RESISTANT EPOXY (80 MIL) THICK AND VACUUM TESTED.
 - RECLAIMED WATERLINE SHALL BE INSTALLED 4'-0" TO 6'-0" BELOW EXISTING GROUND ELEV.
 - ALL TREE REMOVALS ARE SUBSIDIARY TO PREPARE ROW BID ITEM.
 - DAMAGE TO EXISTING FENCES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE
 - HARD ROCK IN THIS AREA OF PROJECT. SEE GEOTECHNICAL REPORT.

!!!CAUTION!!!
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!!!WARNING!!!
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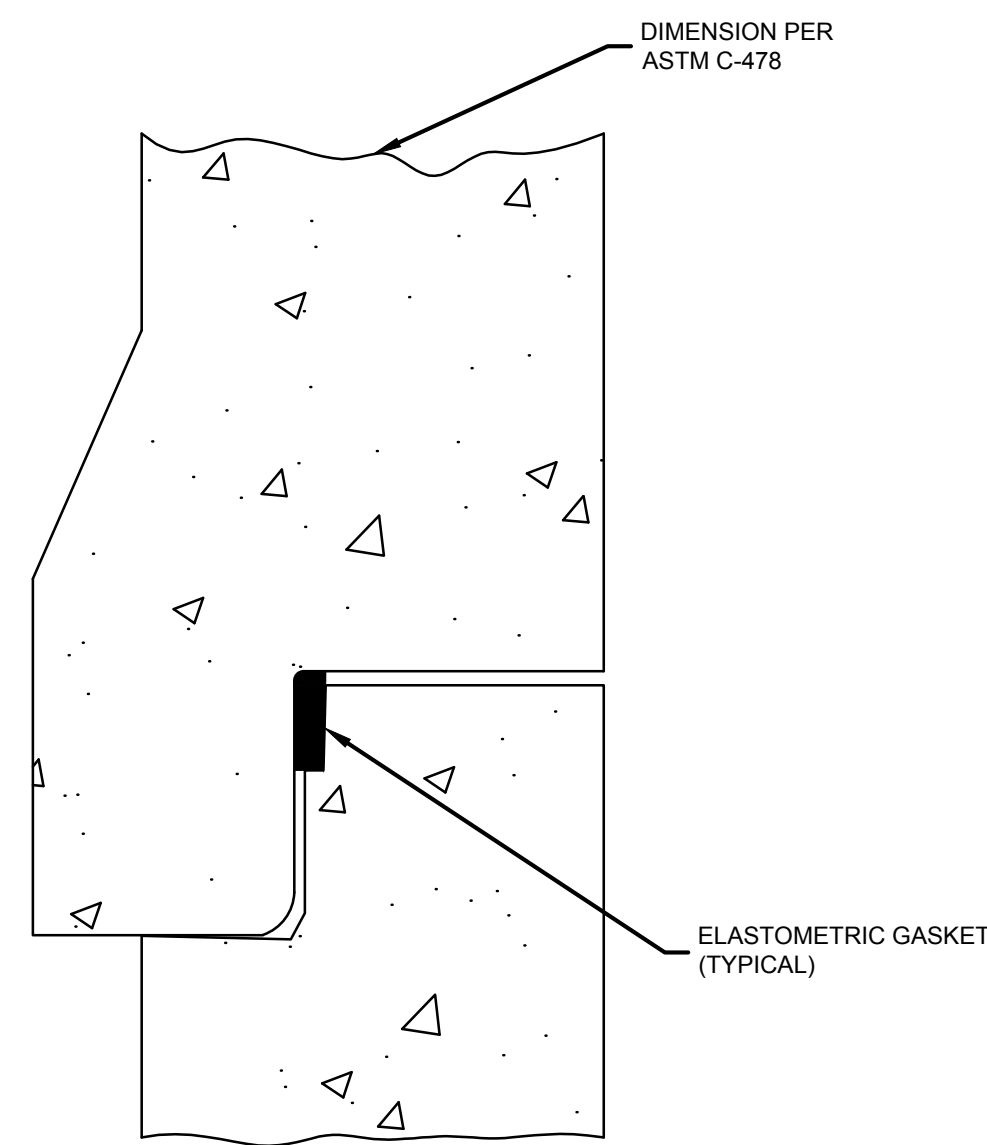


ELLIOTT BRANCH
 WASTEWATER IMPROVEMENTS
 PLAN AND PROFILE

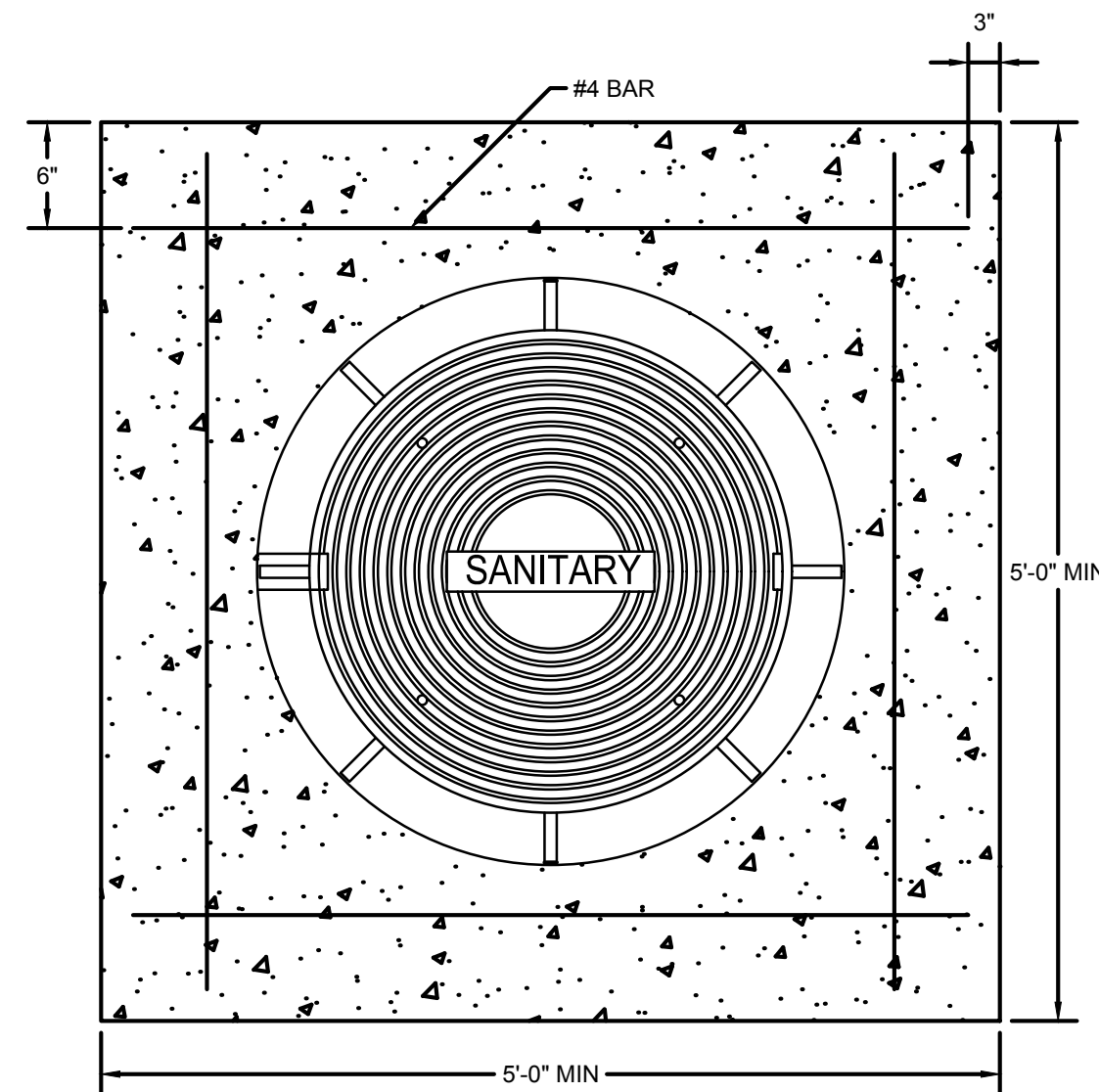
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PROJECT NO: 2173-1702	PAGE: 14
DATE: 8/9/18	


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TYPICAL MANHOLE JOINT
N.T.S.



CONCRETE MANHOLE COLLAR
N.T.S.


CITY OF AUSTIN
STANDARD PRODUCTS LIST
 for
ORGANIC LINING FOR WASTEWATER MANHOLES

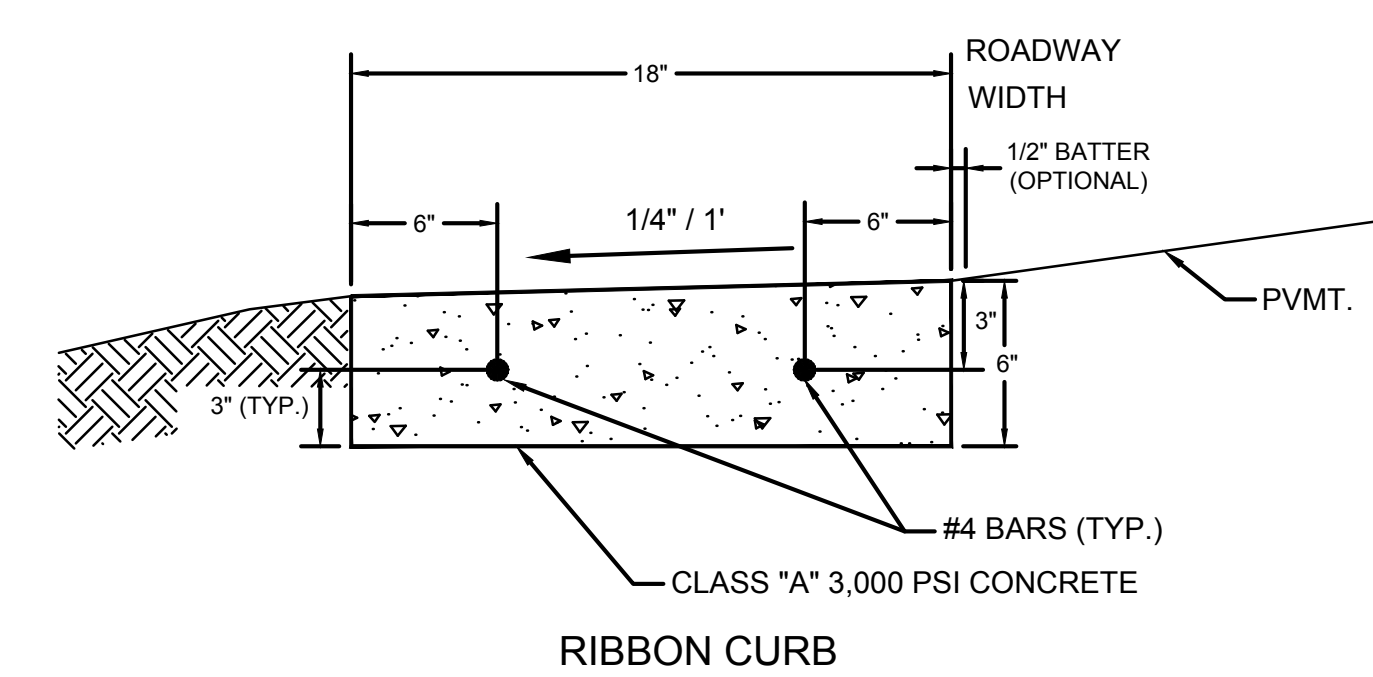
USING DEPARTMENT: Water Utility ISSUED: 05/10/84 REVIEWED: 07/01/11 REVISED: 07/01/11
 PREPARED BY: Bill Flynn, P.E./David Rinn CITY STOCK NUMBER:
 DESCRIPTION: Lining, Corrosion Resistant, spray or brush applied. Material shall be urethane, polyurethane or epoxy. Permitted uses as noted in Product Identification/Comment below. Substrate and surface preparation, application conditions, application equipment, material preparation, and curing shall be in strict accordance with manufacturer's written recommendations (product technical data sheet) unless written documentation from manufacturer requesting variance has been approved by the Austin Water Utility.

LISTING DATE	MANUFACTURER	PRODUCT IDENTIFICATION/COMMENT	APPROVAL
01/02/97	RAVEN CHEMICALS 1024 North Lansing Tulsa, OK 74106	400 Series High Build Epoxy Liner, 80 mils minimum thickness Permitted Uses: See notes 3, 4, 5, and 6 Applicators: Lewis Concrete Restoration, Eric Lewis National Power Rodding Ace Pipe Cleaning, Inc.	R. Lamb N.T.S.
01/02/97	SPRAYROQ, INC. 4707 Alton Court P.O. Box 101717 Birmingham, AL 35210	Spraywall Process, 80 Mils minimum thickness Permitted Uses: See notes 3, 4, 5, 6 Applicator: Fuquay, Inc., John Fuquay	R. Lamb
07/01/97	SEALING SYSTEMS, INC. 23230 West Thomess Blvd. Loretto, MN 55357	Flex-Seal with Primer, 80 mils minimum thickness Permitted Uses: Only in chimney area over grade rings Approved Applicator not required.	R. Lamb

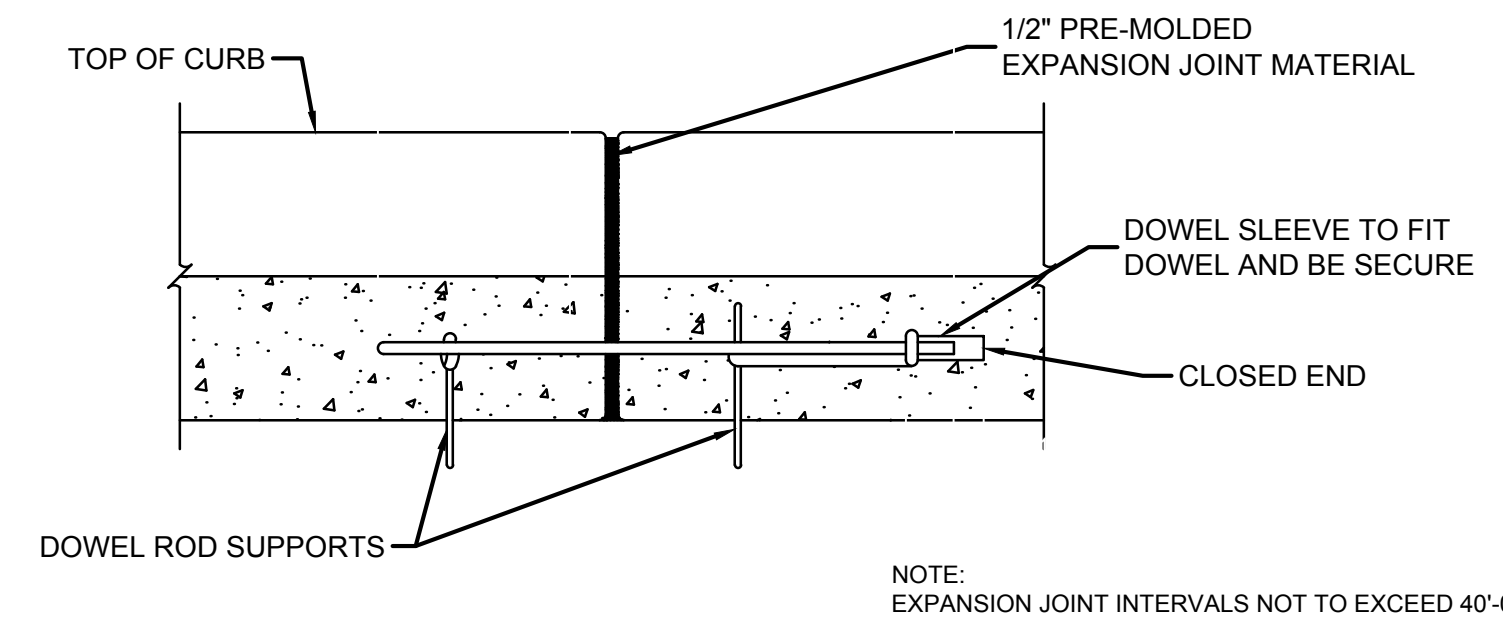
NOTE:

- Lining product used for repair shall be the same as that used in original application. Use of a different product, even if it is compatible with the original lining, requires written approval of the Austin Water Utility.
- The Contractor is responsible for coating application as required for the interior surface of sectional concrete manholes. If shop-coated sections are used, contractor shall apply touch-up as required and shall completely coat the interior of all grade-adjustment rings and invert areas using the same product as applied in the shop.
- Product may be applied to new manholes before wastewater lines are put into use or before hydrostatic testing of wastewater line or manhole, when allowed.
- Product may be applied to new manholes after wastewater lines have been put into use or after hydrostatic testing of wastewater line or manhole, when allowed.
- Product may be applied to existing manholes for rehabilitation. Minimum thickness will increase depending on manhole condition.
- Product may be applied to new lift station wet well before operation.
- Product may not be used, regardless of any other permitted uses, if any part of the manhole or lift station wet well extends below existing groundwater surface.
- When these products are applied to the interior surfaces of manholes that have any portion below groundwater level, the exterior of the manhole must be water-proofed using a flexible membrane as specified on the drawings.

WASTEWATER MANHOLE LINING
N.T.S.



RIBBON CURB

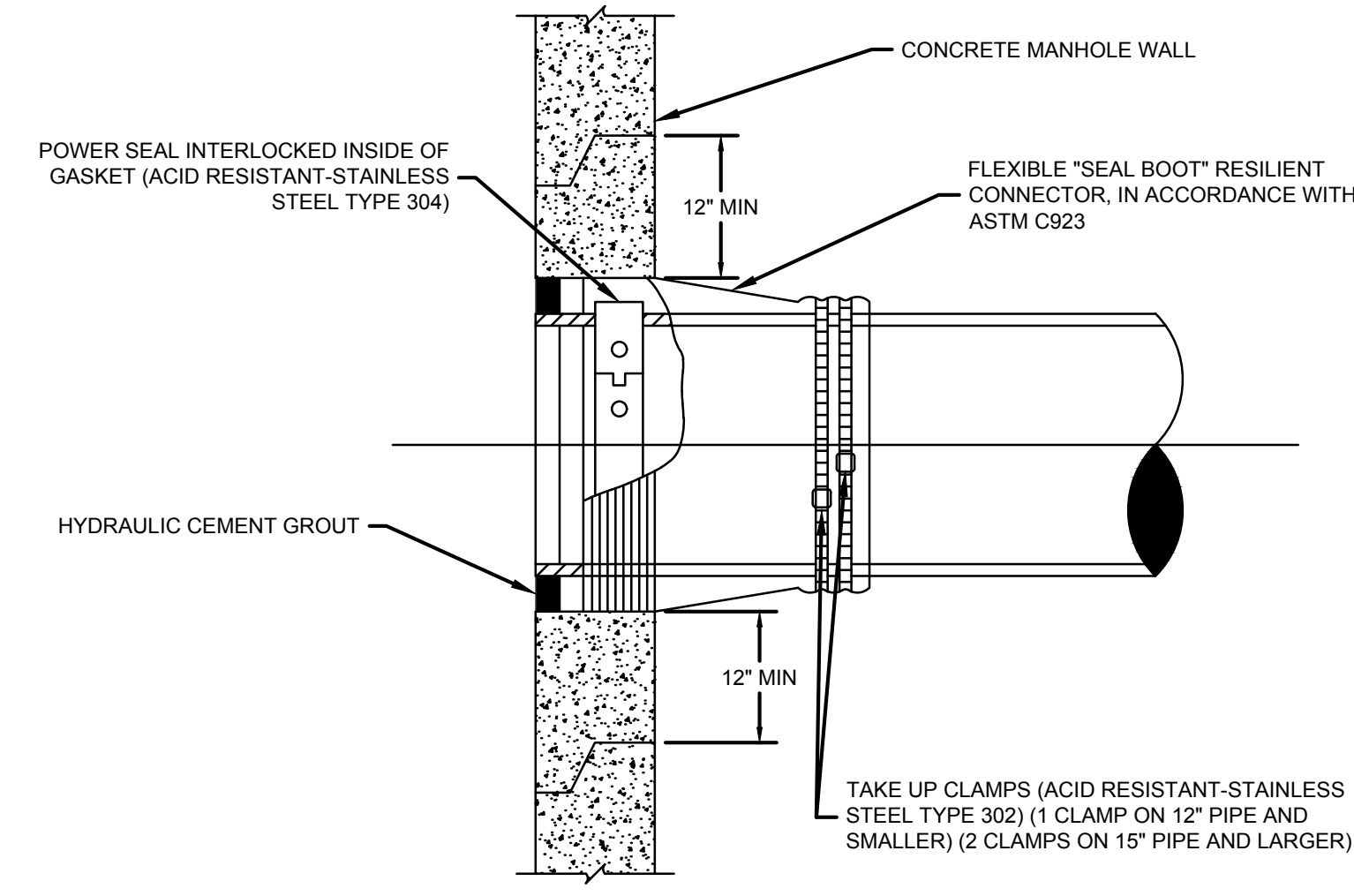


CURB DOWEL DETAIL

NOTE:

- ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752. BROOM FINISH EXPOSED SURFACE.
- CONTRACTION JOINT SPACING 10' MAX.
- EXPANSION JOINTS AS PER STD. ASTM D-1752.
- 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP-RAP.
- TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR THE CITY OF KYLE.
- ALL CONCRETE SHALL BE CLASS 3,000 PSI.
- ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
- ONE OF THE FOLLOWING SCHEMES OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF KYLE.
 - CURB AND GUTTER (REINFORCED) SHALL HAVE LONGITUDINAL REINFORCING BARS AS FOLLOWS: TWO #4.
 - ALL TYPES OF CURB (REINFORCED) SHALL HAVE #4 BAR FOR LONGITUDINAL REINFORCEMENT.
 - REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.

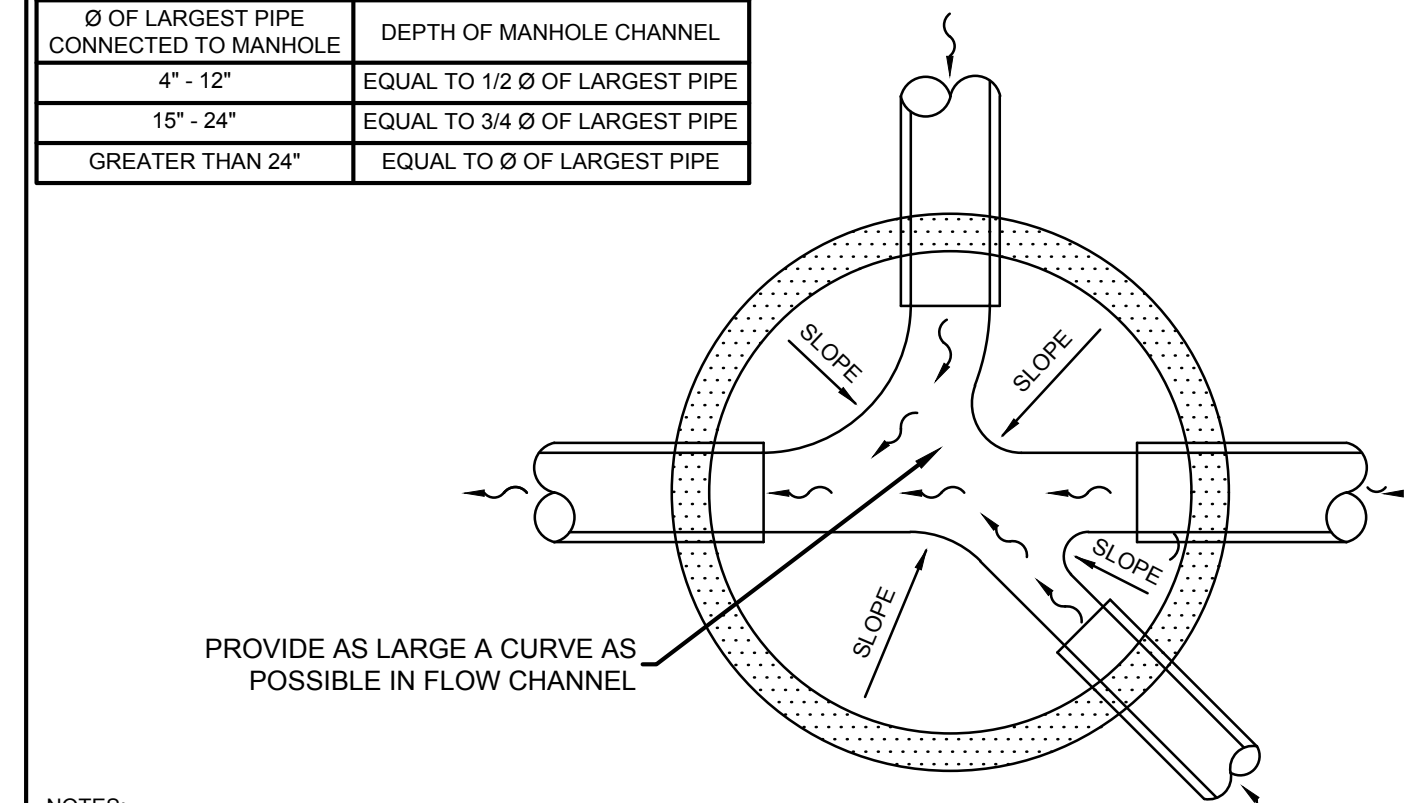
RIBBON CURB DETAIL
N.T.S.



FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR DETAIL
N.T.S.

NOTES:

FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR TO BE A MINIMUM OF 12 INCHES (12") FROM MANHOLE JOINT.



NOTES:

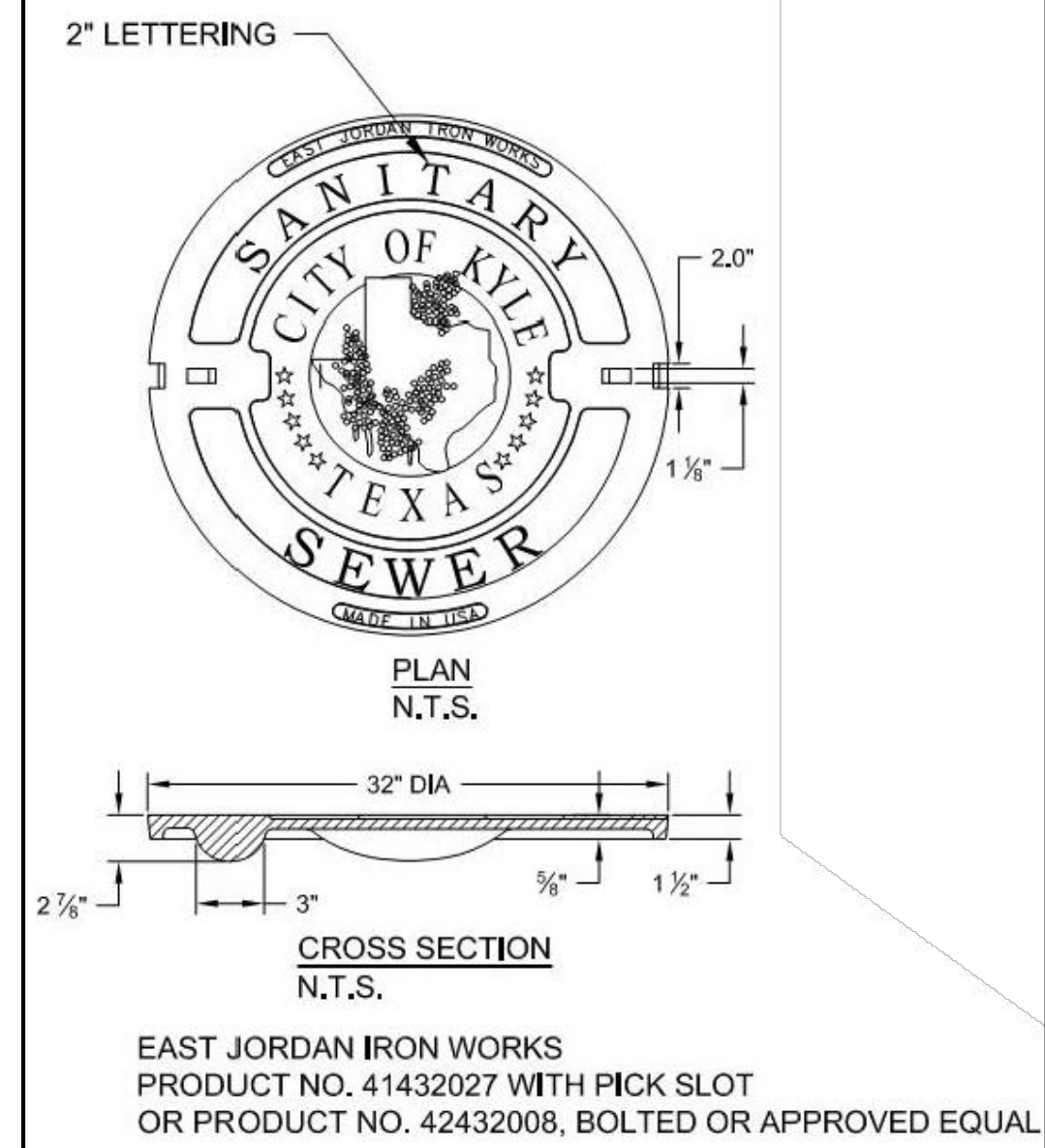
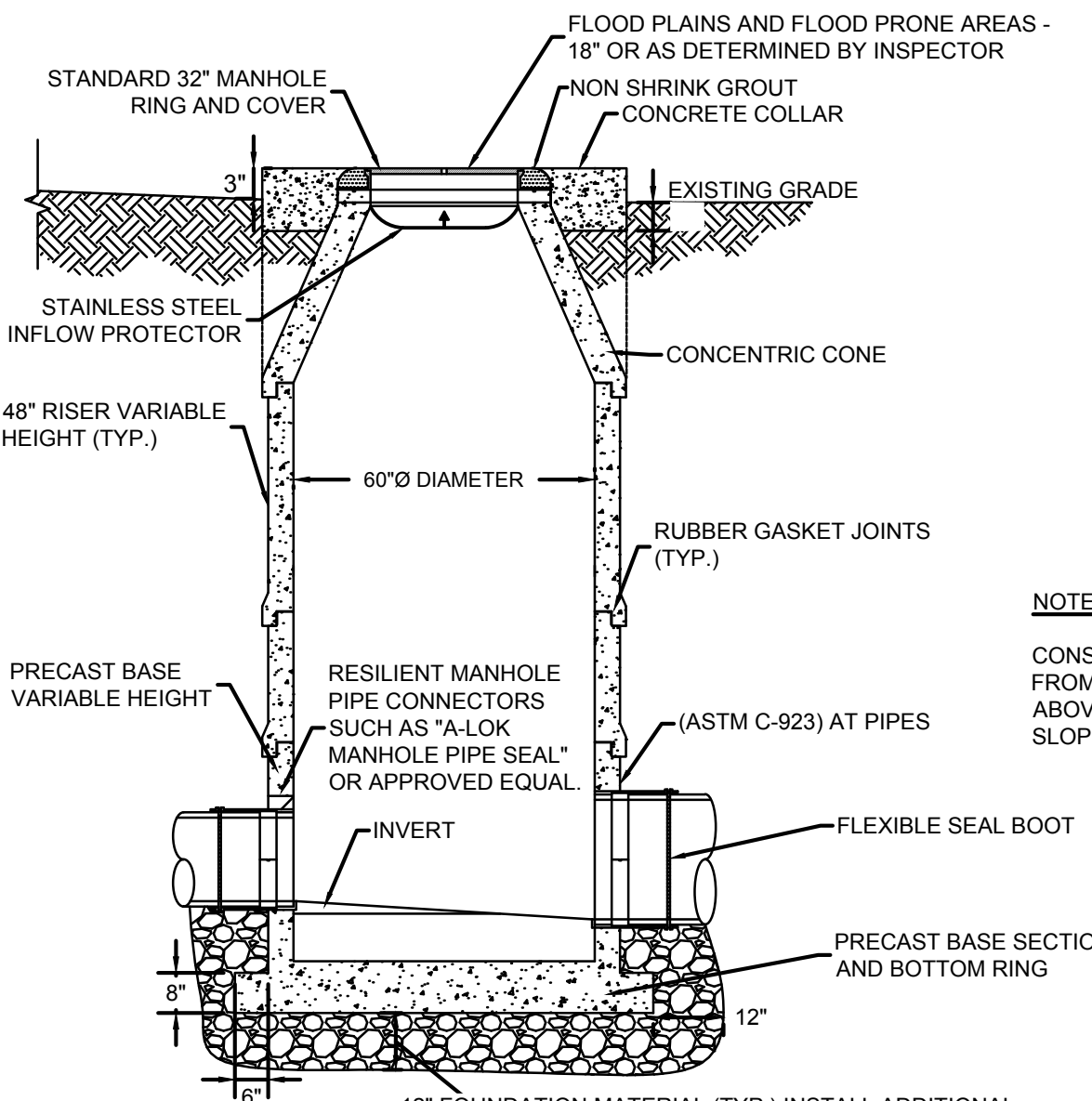
- CONSTRUCT FLOW CHANNEL FOR ALL PIPES ENTERING MANHOLE, INCLUDING SERVICES MAINTAIN A CONSTANT GRADE THROUGHOUT EACH INVERT.
- CENTERLINE OF ALL PIPES ENTERING AND LEAVING MANHOLE SHALL PASS THROUGH CENTER OF MANHOLE.
- CONTRACTOR SHALL GROUT MANHOLE INVERTS AS REQ'D TO ELIMINATE VOIDS AT PIPE PENETRATION FOR FABRICATED MANHOLES.
- CONTRACTOR SHALL BUILD INVERT EDGES HIGH ENOUGH TO SATISFY MANHOLE CHANNEL. SEE MANHOLE CHANNEL TABLE.
- CONCRETE BOTTOMS SHALL BE PRECAST WITH FLOWLINES AS SPECIFIED ON PLANS.
- CIP BOTTOMS ARE ALLOWED WITH PIPES 18" DIAMETER AND LARGER.

MANHOLE BOTTOM DETAIL
N.T.S.

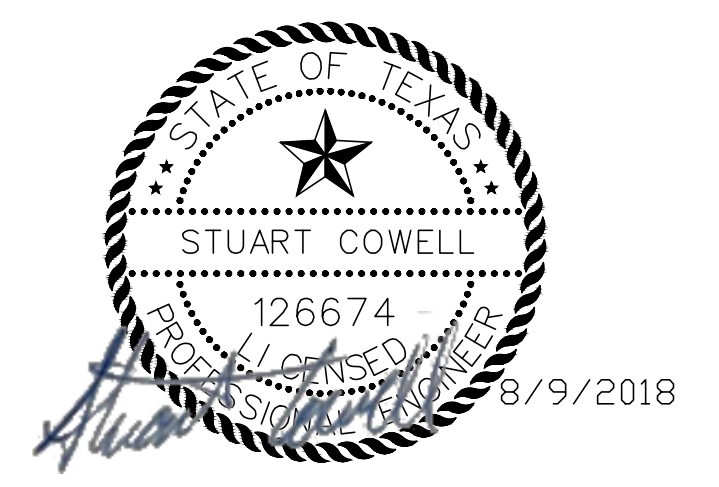
CONCRETE MANHOLE GENERAL NOTES:

- PRECAST RISERS, CONES, FLOORS, GRADE RINGS, AND RINGS AND COVERS SHALL BE MANUFACTURED ACCORDING TO THE MOST RECENT ASTM C-478
- ALL MANHOLE CONSTRUCTION SHALL BE WATERTIGHT. JOINTS SHALL BE RUBBER GASKET MANHOLE SECTIONS WITH PROFILE JOINT AND FORSHEDA 114 JOINT SEALS OR APPROVED EQUALS.
- ANY ERECTION HOLES, STEP HOLES, OR OTHER HOLES THROUGH THE WALL OF THE MANHOLE SHALL BE COVERED WITH 3" NON-SHRINK CONCRETE GROUT.
- GRADE RINGS SHALL BE FORMED WITH TONGUE AND GROOVE OF JUGS AND NOTCHES. GRADE RINGS SHALL BE SET IN MORTAR JOINT COMPOUND.
- WHEN FIELD CONDITIONS REQUIRE HEIGHT TO BE ADJUSTED, ADDITIONAL GRADE RINGS MAY BE USED AS DIRECTED BY THE ENGINEER.
- WHENEVER THE SUBGRADE FOR ANY MANHOLE OR DROP MANHOLE IS OF AN UNSATISFACTORY MATERIAL, UNSATISFACTORY MATERIAL SHALL BE REMOVED AND REPLACED WITH FOUNDATION MATERIAL AND COMPACTED TO THE SATISFACTION OF THE ENGINEER.
- ALL CONCRETE ENCASEMENT IN ROCK SHALL BE POURED AGAINST THE FACE OF THE ROCK. NO PAYMENT WILL BE MADE FOR EXTRA CONCRETE USED IN OVER BREAKAGE OF THE DIMENSIONS AS SHOWN ON THE TYPICAL SECTION OF CONCRETE ENCASEMENT.
- WHENEVER SEWER PIPE IS CONNECTED INTO THE WALL OF A MANHOLE WITHOUT A RESILIENT MANHOLE PIPE CONNECTOR THE FIRST JOINT OF THE SEWER PIPE SHALL BE LOCATED A MAXIMUM OF 12" OUTSIDE THE WALL OF THE MANHOLE. CONNECTION INTO A MANHOLE WITHOUT A RESILIENT CONNECTOR WILL BE USED ONLY UPON APPROVAL OF THE ENGINEER.
- BACKFILL EXCAVATION WITH SELECT FILL COMPACTED IN 8" LAYERS TO 95% OF MAXIMUM DENSITY WITHIN 2% OF OPTIMUM MOISTURE AS DETERMINED BY ASTM D-698.
- INSTALL LINER AS SPECIFIED IN COA STANDARD PRODUCT LIST FOR MATERIAL LINER.
- 5' DIAMETER MANHOLES ARE REQUIRED FOR 18" OR LARGER DIAMETER PIPE LINES.

TYPICAL MANHOLE SECTION
N.T.S.



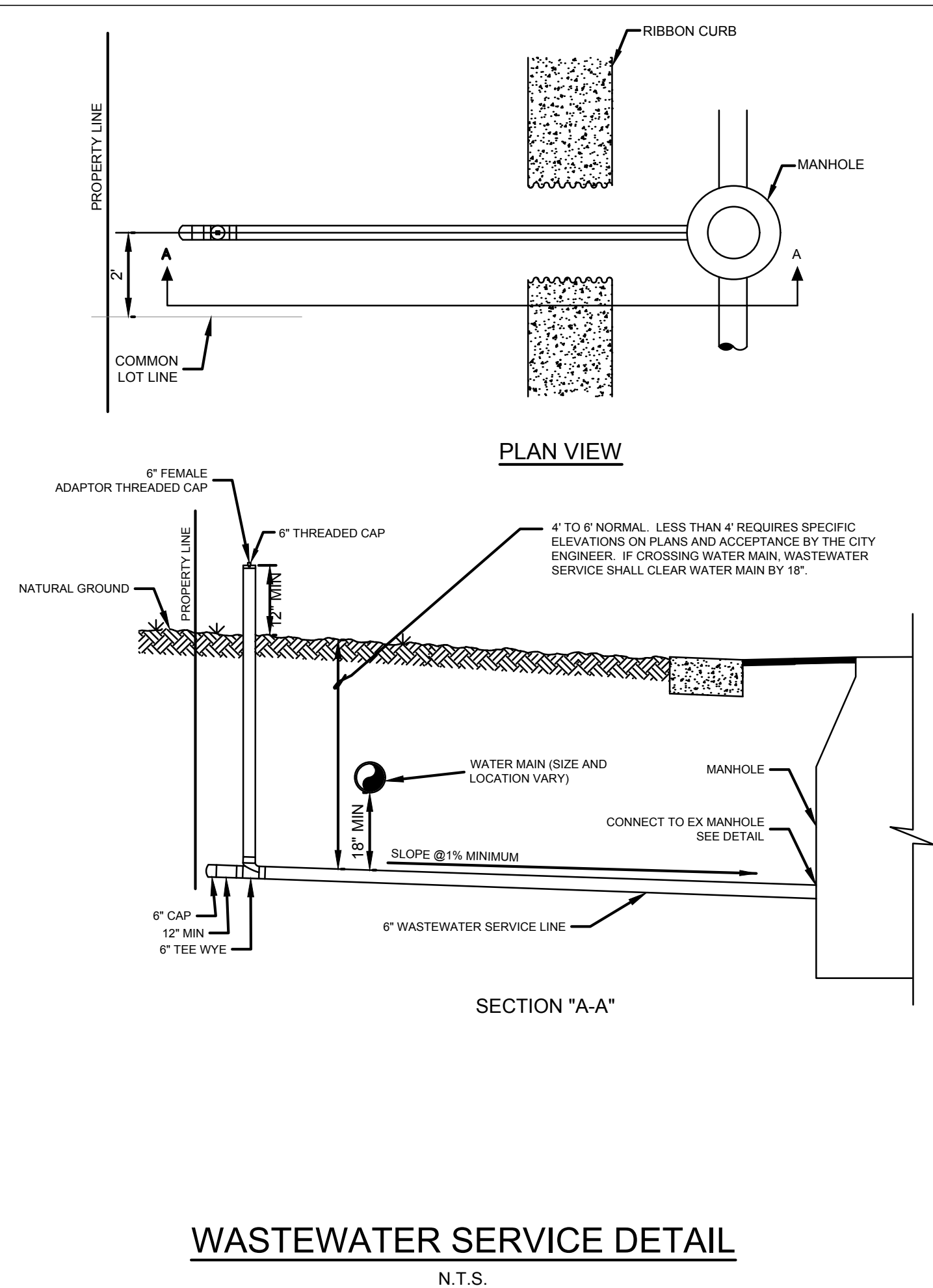
WATERTIGHT MANHOLE COVER
N.T.S.



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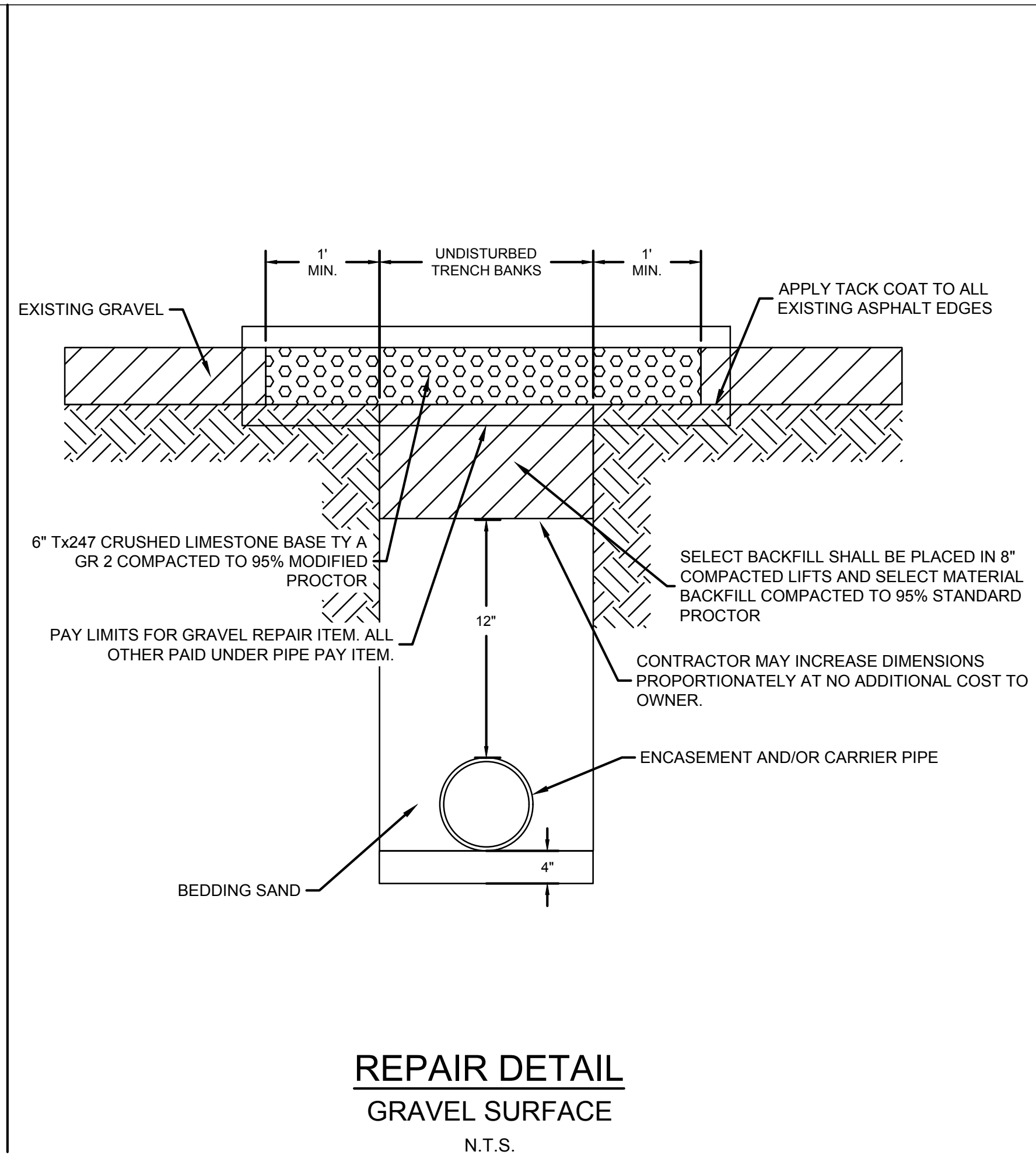
ELLIOTT BRANCH
WASTEWATER/RECLAIMED WATERLINE
STANDARD DETAILS

DESIGN BY: LV	SCALE HORIZONTAL: N/A
DRAWN BY: LV	SCALE VERTICAL: N/A
CHECKED BY: SC	SHEET: 1 OF 3
APPROVED BY: SC	PAGE: 15
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DATE: 8/9/18	



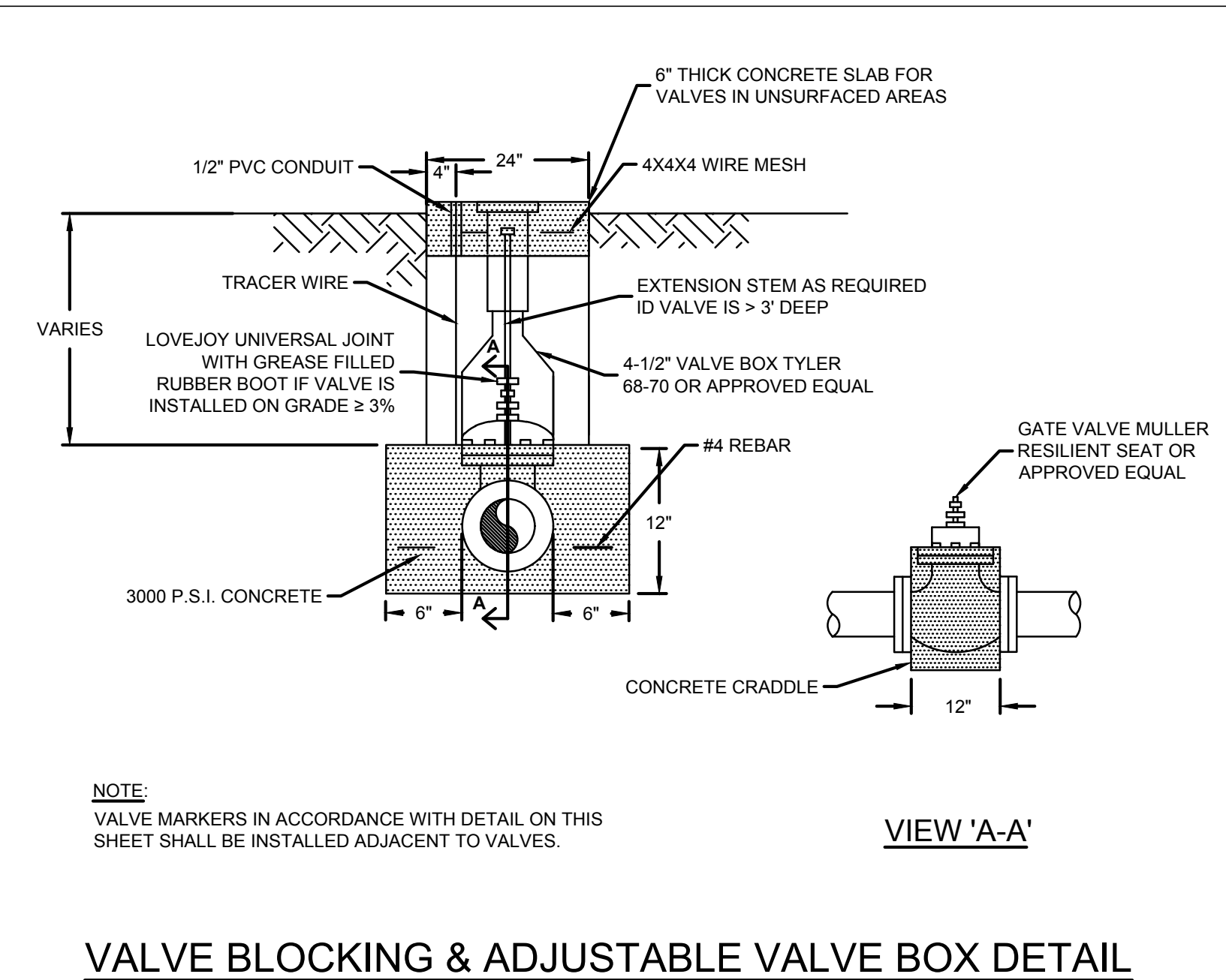
WASTEWATER SERVICE DETAIL

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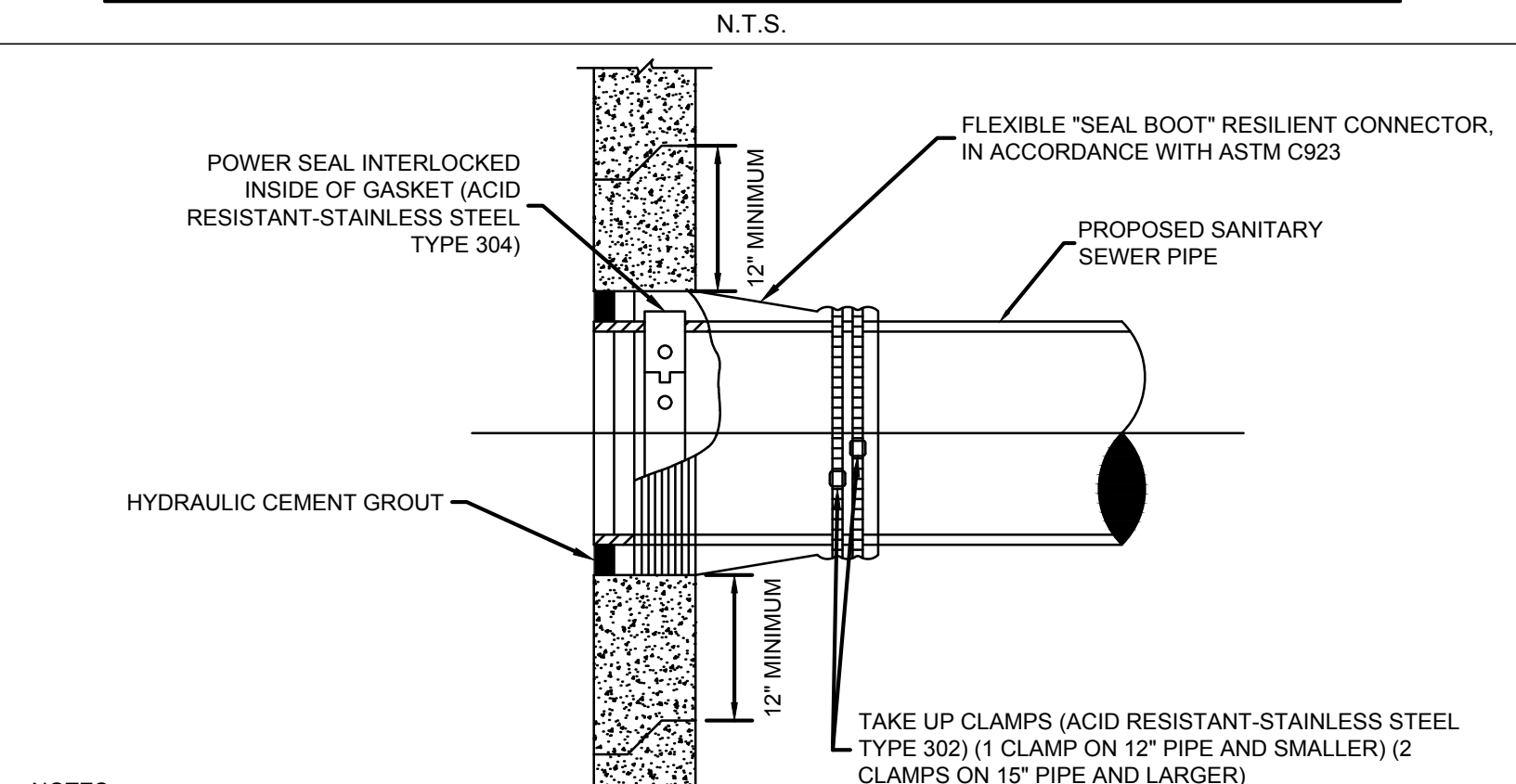


**REPAIR DETAIL
GRAVEL SURFACE**

N.T.S.



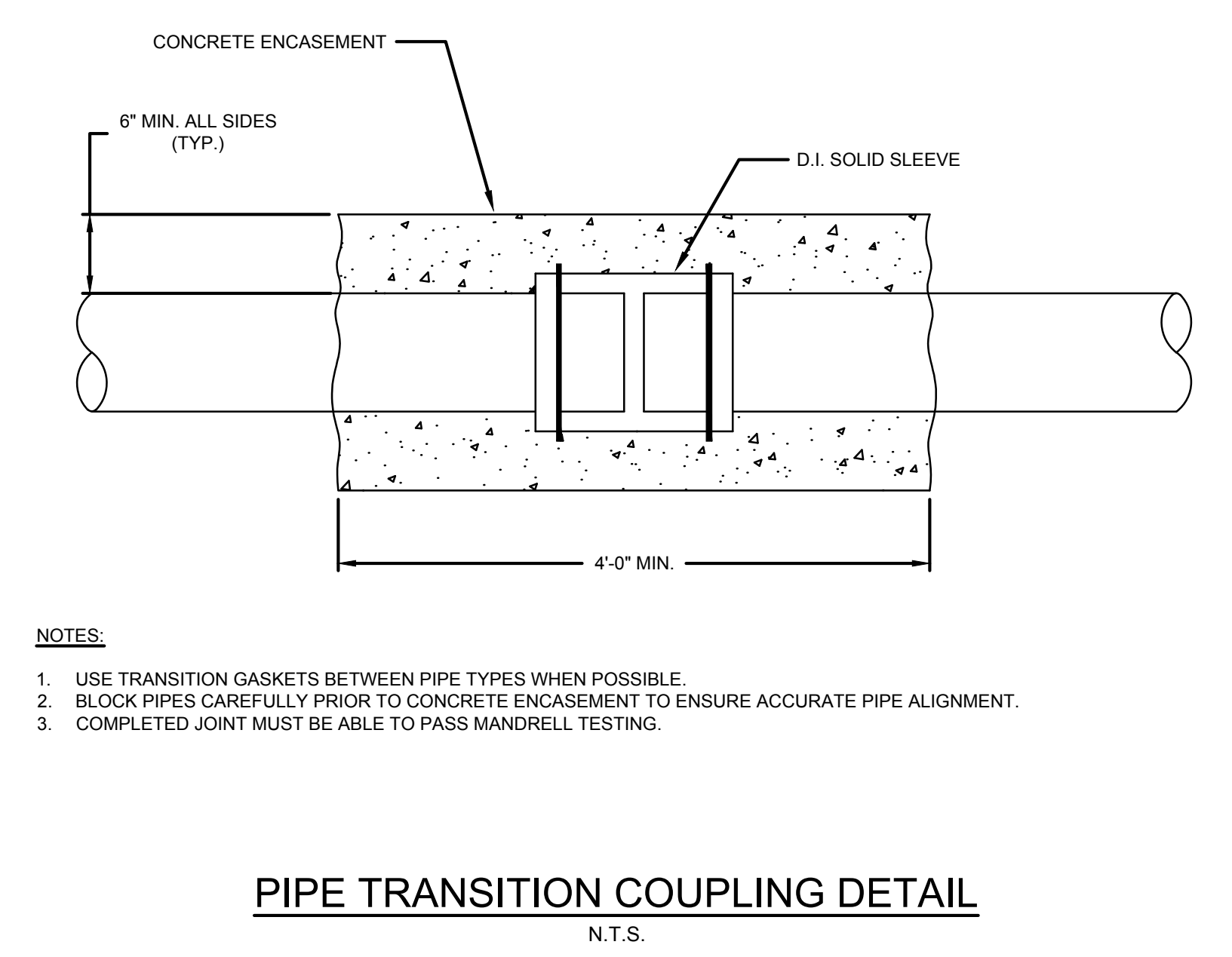
VALVE BLOCKING & ADJUSTABLE VALVE BOX DETAIL



- NOTES:**
- EXISTING MANHOLES TO BE VACUUM TESTED PRIOR TO ANY NEW CONNECTIONS.
 - NEW CONNECTIONS TO HAVE MINIMUM VERTICAL AND HORIZONTAL SEPARATION OF 12" ON THE OUTSIDE FACE OF THE MANHOLE FROM ANY EXISTING PENETRATIONS AND/OR MANHOLE JOINTS.
 - CONNECTIONS MADE INTO EXISTING MANHOLES ARE TO BE CORED AND NOT DRILLED/CHISELED.
 - CUT, SHAPE AND SLOPE NEW INVERT CHANNEL IN THE EXISTING CONCRETE BENCH FOR SMOOTH FLOW FROM THE NEW WASTEWATER CONNECTION.
 - EXISTING MANHOLES TO BE RECOATED AFTER ANY NEW WASTEWATER CONNECTION IS ADDED.

NEW CONNECTION TO EXISTING WASTEWATER MANHOLE

N.T.S.

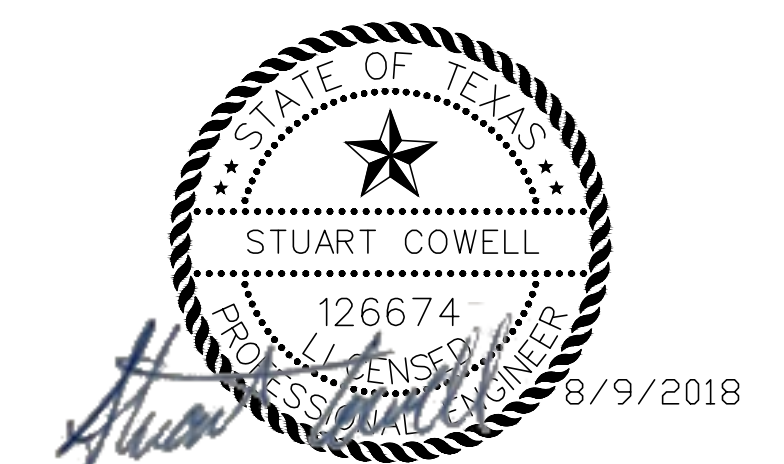


- NOTES:**
- USE TRANSITION GASKETS BETWEEN PIPE TYPES WHEN POSSIBLE.
 - BLOCK PIPES CAREFULLY PRIOR TO CONCRETE ENCASEMENT TO ENSURE ACCURATE PIPE ALIGNMENT.
 - COMPLETED JOINT MUST BE ABLE TO PASS MANDRELL TESTING.

PIPE TRANSITION COUPLING DETAIL

N.T.S.

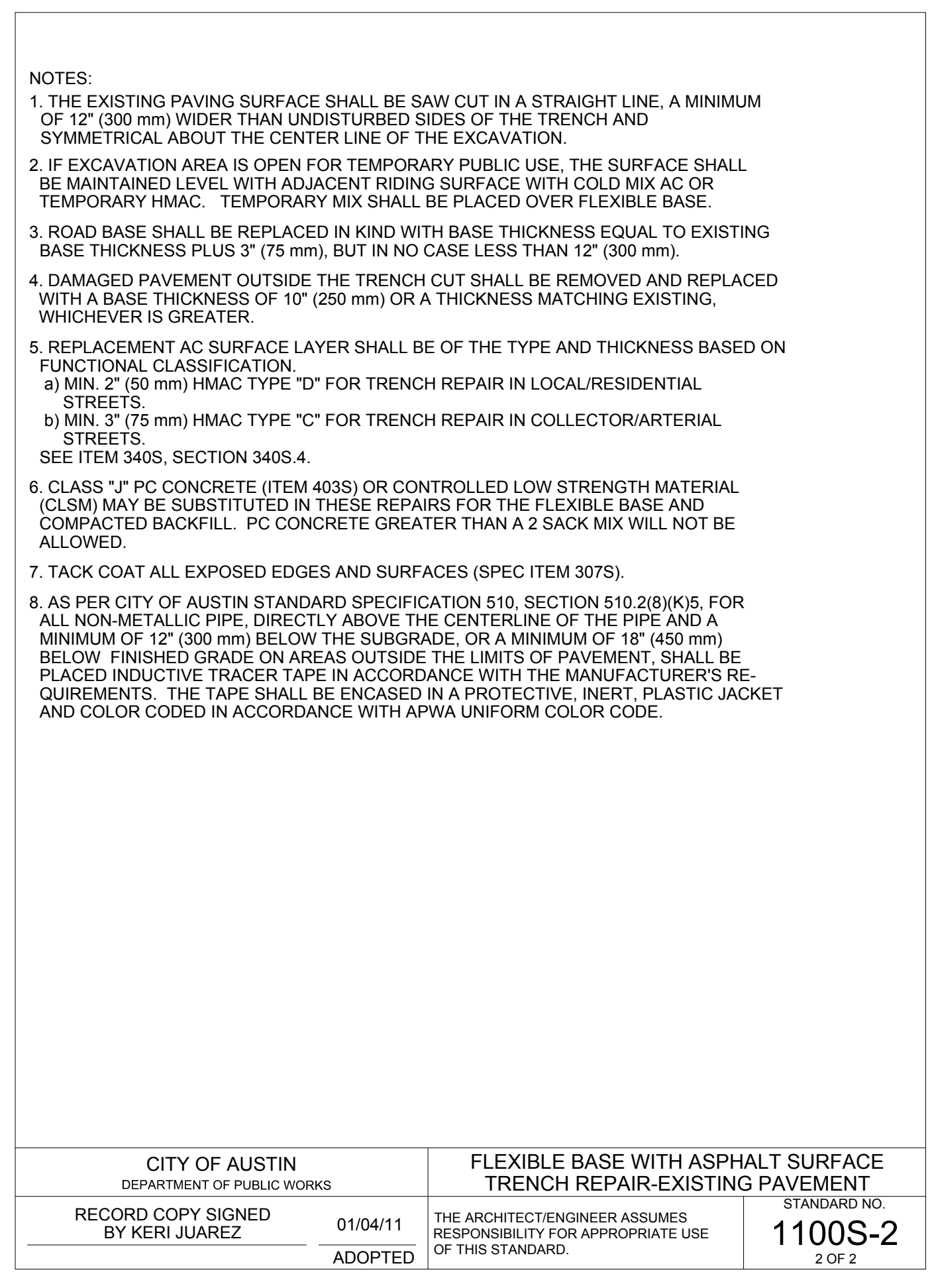
SPACE NOT USED
N.T.S.



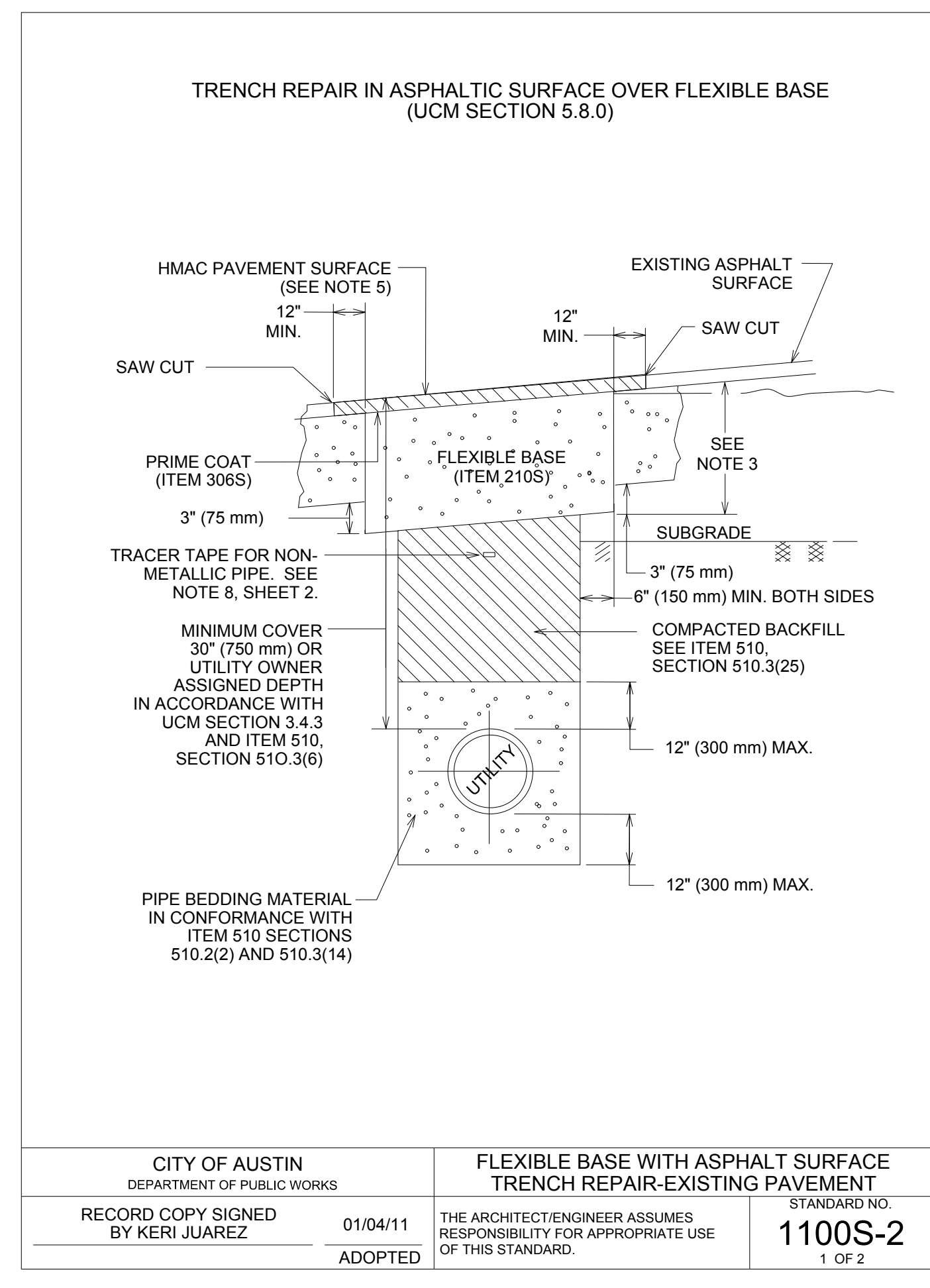
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ELLIOTT BRANCH
WASTEWATER/RECLAIMED WATERLINE
STANDARD DETAILS

DESIGN BY: LV	SCALE
DRAWN BY: LV	HORIZONTAL: N/A
CHECKED BY: SC	VERTICAL: N/A
APPROVED BY: SC	SHEET: 2 OF 3
PROJECT NO: 2173-1702	DATE: 8/9/18
DATE: 8/9/18	PAGE: 16



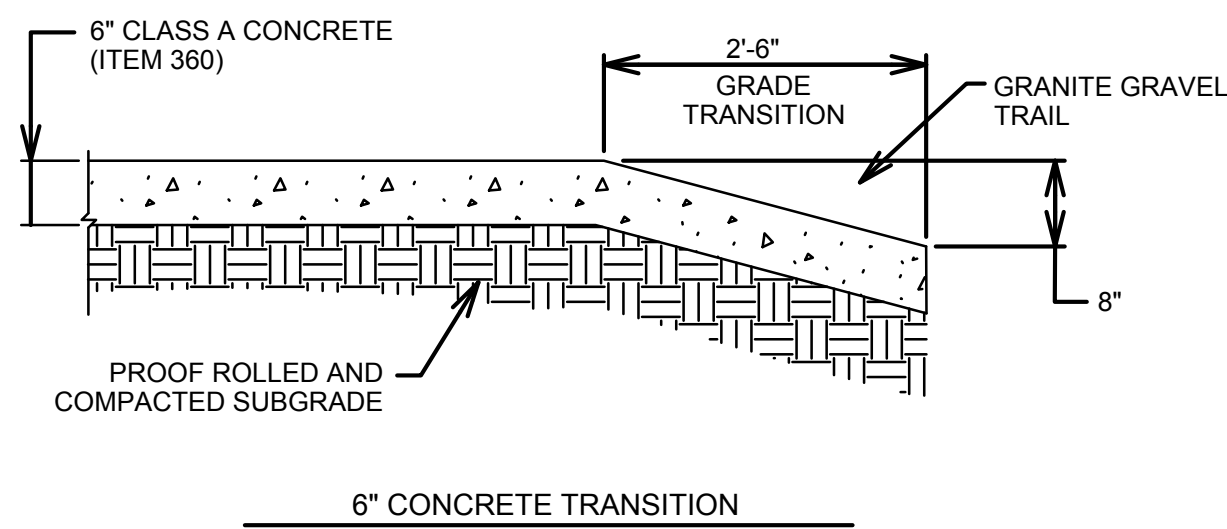
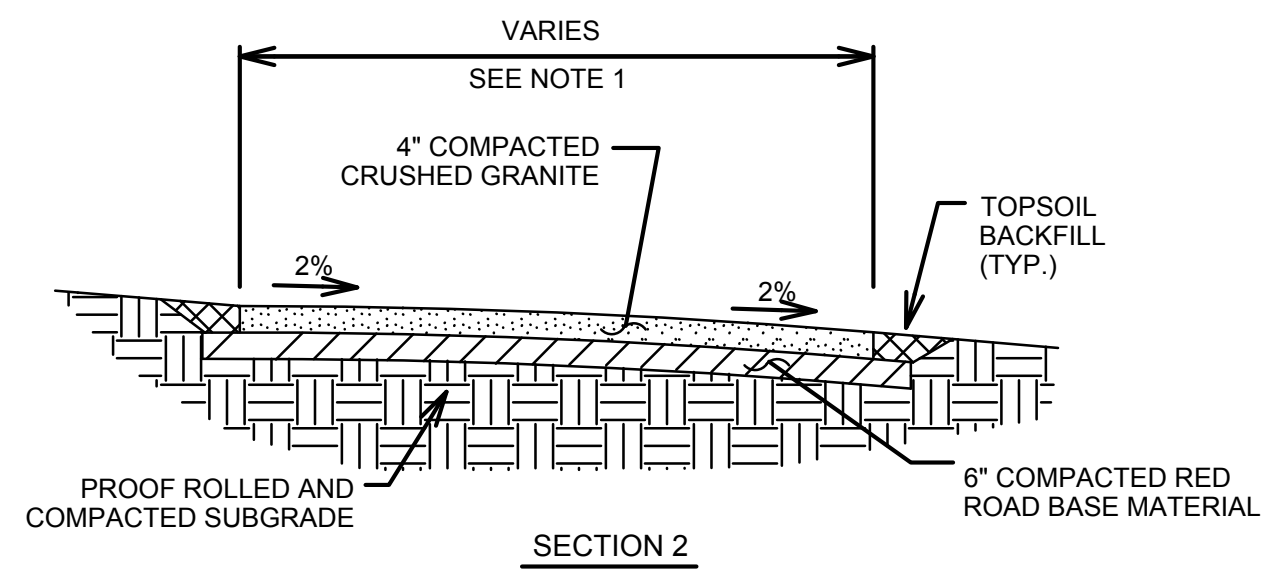
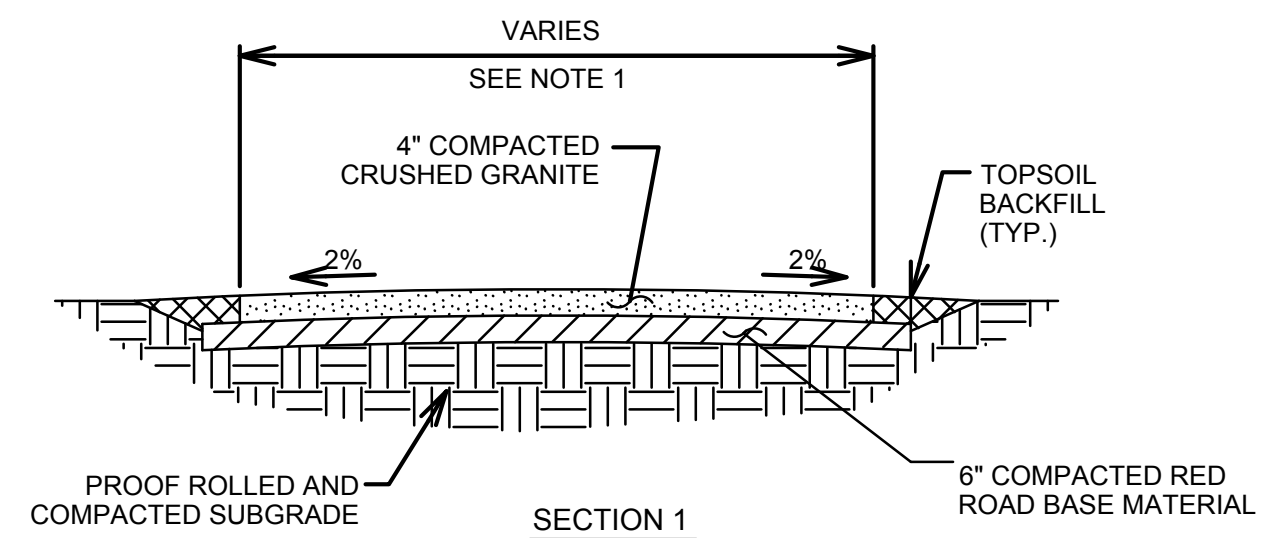
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	FLEXIBLE BASE WITH ASPHALT SURFACE TRENCH REPAIR-EXISTING PAVEMENT	STANDARD NO. 1100S-2 1 OF 2
RECORD COPY SIGNED BY KERI JUAREZ	01/04/11 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	FLEXIBLE BASE WITH ASPHALT SURFACE TRENCH REPAIR-EXISTING PAVEMENT	STANDARD NO. 1100S-2 1 OF 2
RECORD COPY SIGNED BY KERI JUAREZ	01/04/11 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

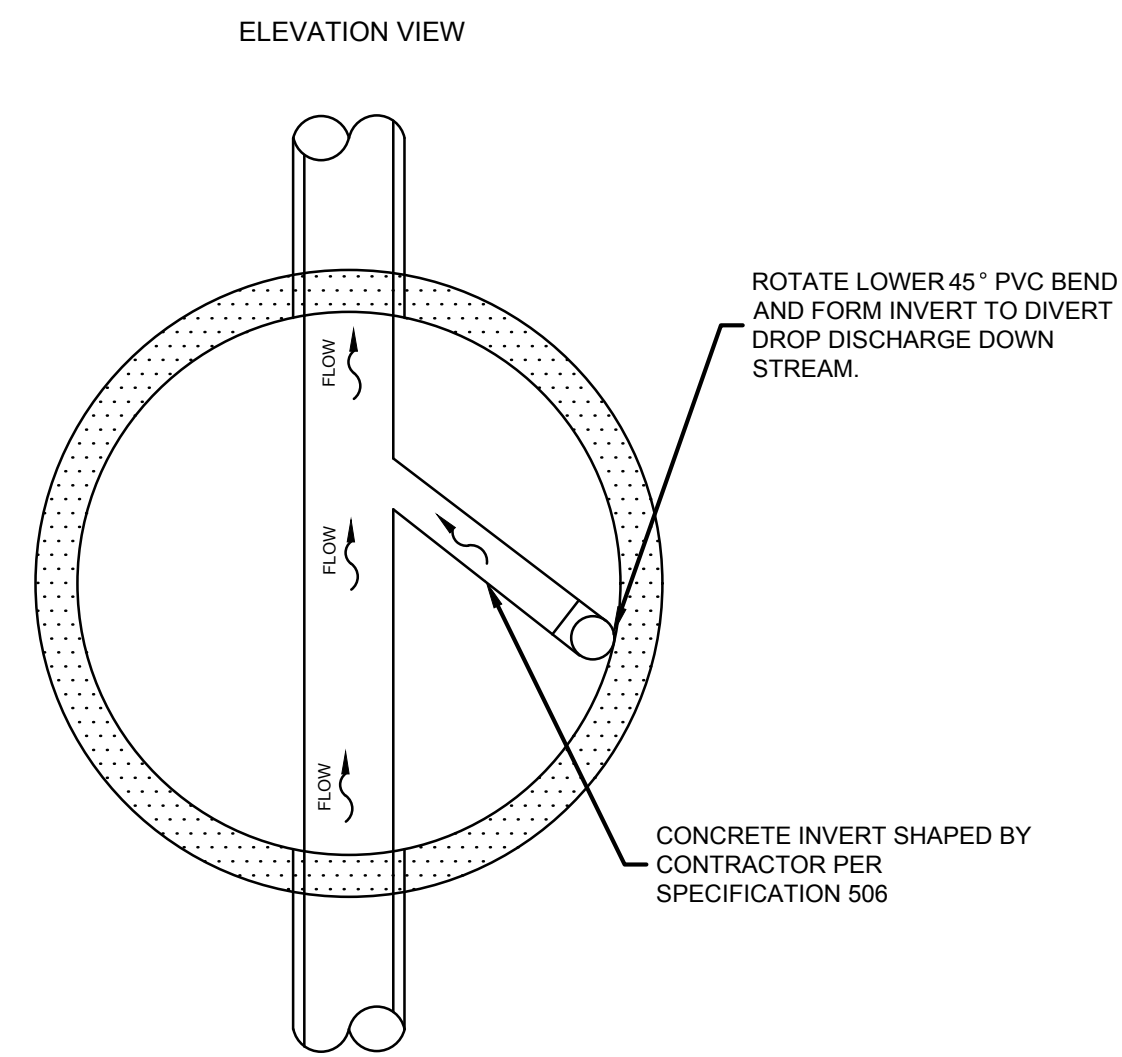
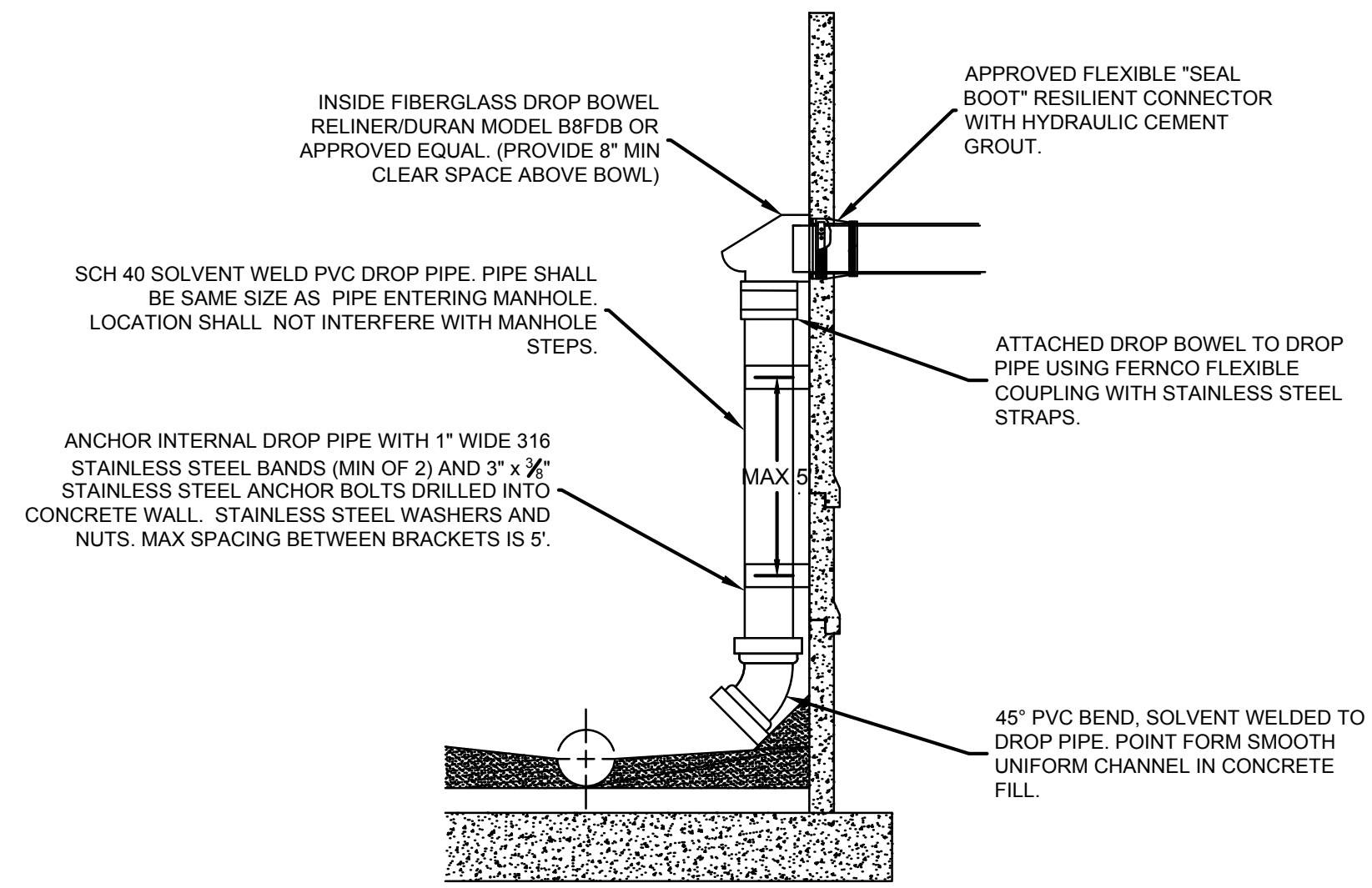
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- NOTES:**
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ENGINEERING DRAWINGS.
 2. EXISTING TREES, PROPERTY AND PUBLIC RIGHT-OF WAYS SHALL BE PROTECTED FROM DAMAGE BY TRUCKS AND/OR EQUIPMENT.
 3. THE GRANITE GRAVEL WEARING COURSE SHALL BE 100 mm (4"), COMPACTED.
 4. THE WEARING MATERIAL SHALL BE COMPRISED OF UNWASHED GRANITE AGGREGATE AND RED CLAY FINES THAT CONFORM TO STANDARD SPECIFICATION ITEM SECTION 1301S.3, "MATERIAL".
 5. UPON COMPLETION OF TRAIL CONSTRUCTION, ALL GRANITE GRAVEL SHALL BE REMOVED FROM ADJOINING HARD SURFACES (I.E. RETAINING CURB/WALL, SIDEWALKS, RUBBER SAFETY SURFACES, PLAYScape DECKS OR RAMPS).
 6. ALL ADJACENT HARD SURFACES, SUCH AS CURBS OR WALKS, SHALL BE INSTALLED PRIOR TO INSTALLATION OF GRANITE GRAVEL.

REPAIR DETAIL
GRANITE GRAVEL SURFACE
 N.T.S.



INTERNAL MANHOLE DROP CONNECTION
 N.T.S.





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ELLIOTT BRANCH
 WASTEWATER/RECLAIMED WATERLINE
 STANDARD DETAILS

DESIGN BY: LV	SCALE
DRAWN BY: LV	HORIZONTAL: N/A
CHECKED BY: SC	VERTICAL: N/A
APPROVED BY: SC	SHEET: 3 OF 3
PROJECT NO: 2173-1702	PAGE: 17
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