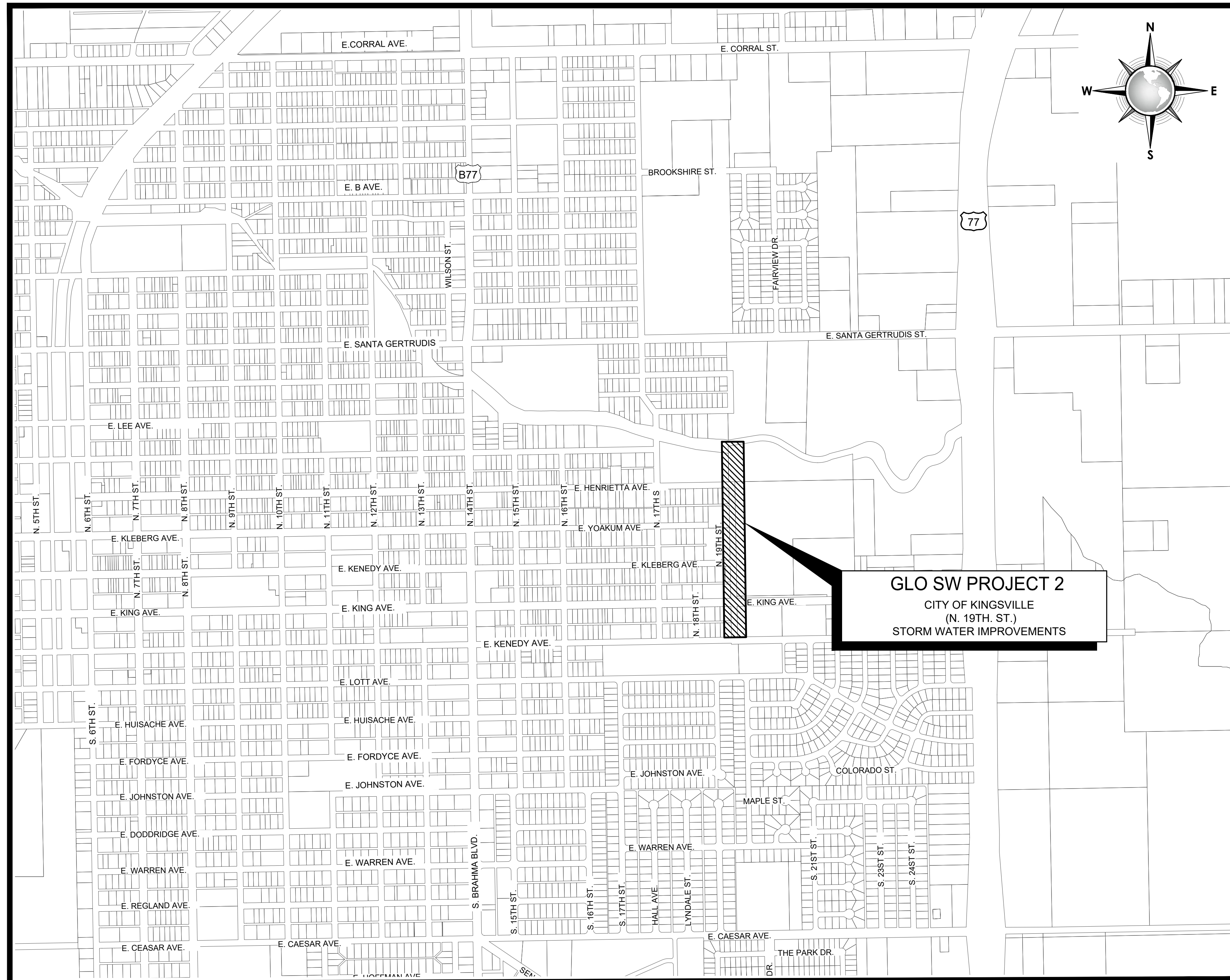
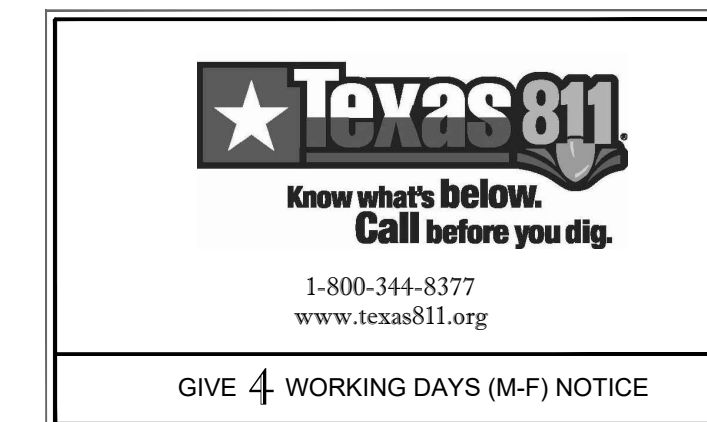


**CITY OF KINGSVILLE**  
**GLO SW PROJECT 2**  
**(N. 19TH ST.)**  
**STORM WATER IMPROVEMENTS**  
 KINGSVILLE, KLEBERG COUNTY, TEXAS  
**(CDBG-MIT GLO CONTRACT NO. 22-085-009-D237)**



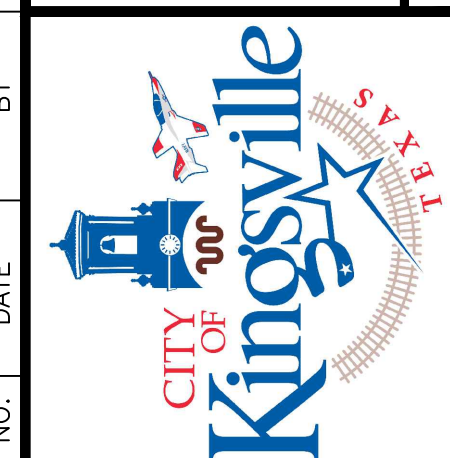
**1** LOCATION MAP  
 T1 | T1 SCALE: 1"=1000'



**CITY OF KINGSVILLE**  
 MAYOR.....SAM FUGATE  
 CITY COMMISSIONER.....HECTOR HINOJOSA  
 CITY COMMISSIONER.....EDNA LOPEZ  
 CITY COMMISSIONER.....NORMA NELDA ALVAREZ  
 CITY COMMISSIONER.....LEO ALARCON  
 CITY MANAGER.....MARK MCLAUGHLIN  
 CITY ENGINEER.....RUTILIO "RUDY" MORA, JR., P.E., CFM

FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\VD-1-T1- TITLE SHEET.dwg LAYOUT NAME: T1 TITLE SHEET PLOTTED: Monday, August 12, 2024 - 2:10pm USER: lizeptda

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**CITY OF KINGSVILLE GLO SW PROJECT 2**  
**(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
 KINGSVILLE, KLEBERG COUNTY, TEXAS  
**TITLE SHEET**

DRAWING NO.  
**T1**  
 SHEET 1 of 39




REVISION NO.	DATE	BY	DESCRIPTION



**SHEET INDEX**

SHEET	DWG. NO.	TITLE
1	T1	TITLE SHEET
2	C1	SHEET INDEX
3	C2	GENERAL NOTES
4	C3	LEGENDS
5	C4	ESTIMATED QUANTITIES
6	C5	PROJECT ALIGNMENT PLAN STA. 0+00 (B.O.P.) TO STA. 20+00 (E.O.P.)
7	C6	PROJECT CONTROL DATA LAYOUTS 1 & 2
8	C7	EXISTING TOPOGRAPHY PLAN STA. 0+00 (B.O.P.) TO STA. 20+00 (E.O.P.)
9	C8	STORM WATER POLLUTION PREVENTION PLAN STA. 0+00 (B.O.P.) TO STA. 20+00 (E.O.P.)
10	C9	DEMOLITION PLAN STA. 0+00 (B.O.P.) TO STA. 20+00 (E.O.P.)
11	C10	STORMWATER PLAN & PROFILE STA. 0+00 (B.O.P.) TO STA. 5+00
12	C11	STORMWATER PLAN & PROFILE STA. 5+00 TO STA. 10+00
13	C12	STORMWATER PLAN & PROFILE STA. 10+00 TO STA. 15+00
14	C13	STORMWATER PLAN & PROFILE STA. 15+00 TO STA. 20+00 (E.O.P.)
15	C14	STORM WATER RUNOFF & CURB INLET CALCULATIONS
16	C15	STORM WATER DETAILS
17	C16	ADVANCE WARNING PLAN
18	C17	TRAFFIC CONTROL PLAN I
19	C18	TRAFFIC CONTROL PLAN II
20	C19	TRAFFIC CONTROL PLAN III
21	C20	RIPRAP DETAILS
22	C21	WATER STANDARD DETAILS I
23	C22	WATER STANDARD DETAILS II
24	C23	WATER STANDARD DETAILS III
25	C24	WATER STANDARD DETAILS IV
26	C25	CURB, GUTTER, AND SIDEWALK STANDARD DETAILS
27	C26	CURB, GUTTER, AND SIDEWALK STANDARD DETAILS II
28	C27	TXDOT - BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS - BC(1)-21
29	C28	TXDOT - BARRICADE AND CONSTRUCTION PROJECT LIMIT - BC(2)-21
30	C29	TXDOT - BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT - BC (3)-21
31	C30	TXDOT - BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES - BC(4)-21
32	C31	TXDOT - BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT - BC(5)-21
33	C32	TXDOT - BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) - BC(6)-21
34	C33	TXDOT - BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS, & ATTENUATOR - BC(7)-21
35	C34	TXDOT- BARRICADE AND CONSTRUCTION CHANNELIZING DEVICE - BC(8)-21
36	C35	TXDOT - BARRICADE AND CONSTRUCTION CHANNELIZING DEVICE - BC(9)-21
37	C36	TXDOT - BARRICADE AND CONSTRUCTION CHANNELIZING DEVICE - BC(10)-21
38	C37	TXDOT - TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURE FENCE & VERTICAL TRACKING - EC(1)-16
39	C38	TXDOT - TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURE EROSION CONTROL LOG - EC(9)-16

FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1 - Drawings\2 - Civil\C1 SHEET INDEX - LAYOUT.dwg - LAYOUT NAME: C1 SHEET INDEX - PLOTTED: Monday, August 12, 2024, - 2:10pm USER: lreppeda

CONSULTANT'S SHEET PROJECT NO. 21107-01B	
	
	
	
<p><b>CITY OF KINGSVILLE GLO SW PROJECT 2</b> <b>(N. 19TH ST.) STORM WATER IMPROVEMENTS</b> KINGSVILLE, KLEBERG COUNTY, TEXAS</p>	
<p align="center"><b>SHEET INDEX</b></p>	
REVISION NO.	DESCRIPTION
DATE	BY
REVISION NO.	DATE
BY	DESCRIPTION
DRAWING NO.	
<p align="center"><b>C1</b></p>	
SHEET 2 of 39	



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1-Drawings\2 - Civi\G2 GENERAL NOTES.dwg LAYOUT NAME: G2 GENERAL NOTES.dwg PLOTTED: Monday, August 12, 2024 2:11 pm USER: lrepedro

## 1. GENERAL NOTES

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH CITY OF KINGSVILLE PUBLIC WORKS SPECIFICATIONS.
- ALL CONSTRUCTION TO BE COORDINATED WITH CITY OF KINGSVILLE.
- CONTRACTOR SHALL OBTAIN ALL REGULATORY PERMITS AND COST TO BE INCIDENTAL TO BID ITEMS.
- ANY FINES AND/OR PENALTIES FOR FAILURE TO MAINTAIN AND/OR IMPLEMENT EROSION AND SEDIMENT CONTROL SHALL BE THE RESPONSIBILITY OF CONTRACTOR.
- CONCRETE SHALL BE SALT CUT WHERE AN EXISTING CONCRETE STRUCTURE IS TO BE PARTIALLY REMOVED.
- THE STORM WATER POLLUTION PREVENTION PLAN SHALL CONSIST OF USING THE BID ITEMS SEEDING, ROCK FILTER DAM AND SILT FENCE AS SHOWN IN THE PLANS AND DETAILS AND PER THE S.W.P.P.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAINING HIS EMPLOYEES AND SUBCONTRACTORS IN THE RECOGNITION AND AVOIDANCE OF UNSAFE CONDITIONS, AND IN THE REGULATIONS AND HAZARDS WHICH APPLY TO THE AREA IN WHICH THE WORK WILL TAKE PLACE.
- ALL SAFETY EXPOSURES OR VIOLATIONS SHALL BE RECTIFIED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PROTECTION OF PERSONS AND PROPERTY, AND FOR PROVIDING SAFE WORKING CONDITIONS THROUGHOUT THE WORK PROGRESS. ALL AREAS ADJACENT TO THE CONSTRUCTION AREA OR AFFECTED BY THE CONSTRUCTION MUST BE PROTECTED FROM DAMAGE, CLEANED, AND RESTORED TO THE ORIGINAL CONDITION AT NO ADDITIONAL EXPENSE TO THE CITY OF KINGSVILLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL CLEARANCES AND PERMITS REQUIRED BY THE LOCAL, STATE FEDERAL ENTITIES AS NECESSARY, PRIOR TO THE COMMENCEMENT OF THE WORK.
- WORK AREAS SHALL BE KEPT, AT ALL TIMES, FREE OF DEBRIS AND NON - HAZARDOUS MATERIAL TO THE SATISFACTION OF CITY OF KINGSVILLE PUBLIC WORK. ALL EXISTING PIPING AND CONDUITS SHALL HAVE TEMPORARY PROTECTION DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE STORAGE OF MATERIALS, PARKING OF VEHICLES, AND RESTRICTIONS OF WORK WITH THE CITY OF KINGSVILLE PUBLIC WORKS, AFTER PROJECT COMPLETION, THE SITE SHALL BE CLEANED UP TO ITS CONDITION PRIOR TO THE START OF THE PROJECT TO THE SATISFACTION OF THE CITY OF KINGSVILLE PUBLIC WORKS.
- THE SEQUENCE OF CONSTRUCTION SHALL BE SCHEDULED AND COORDINATED WITH CITY OF KINGSVILLE PUBLIC WORKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF EXISTING CONDITIONS, AND SHALL PERFORM FIELD MEASUREMENTS PRIOR TO FABRICATION AND/OR PURCHASE OF ANY MATERIAL AND SHALL CONTACT THE ENGINEER SHOULD EXISTING CONDITIONS BE DIFFERENT FROM THE DESIGN DRAWINGS FOR THIS PROJECT. CONFLICTS ARISING DUE TO LACK OF COORDINATION SHALL BE THE RESPONSIBILITY AND AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL NOT FABRICATE OR INSTALL MEMBERS AS SHOWN ON THE DRAWINGS IF THERE ARE DISCREPANCIES OR CONFLICTS BETWEEN THE EXISTING CONDITIONS AND THE INFORMATION SHOWN ON THE DRAWINGS. UNTIL SUCH DISCREPANCIES HAVE BEEN RESOLVED, PRIOR TO FABRICATION OF INSTALLATION, THE CONTRACTOR SHALL IMMEDIATELY CALL SUCH DISCREPANCIES OR CONFLICTS TO THE ATTENTION OF THE ENGINEER BY SUBMITTING A REQUEST FOR INFORMATION (RFI).
- ANY REQUIRED CHANGES TO THE DRAWINGS RESULTING FROM THE ACCEPTANCE OF ALTERNATES AND/OR SUBSTITUTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ALL CONTRACT WORK IN THESE DRAWINGS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING NATIONAL CODES AND STANDARDS:
  - INTERNATIONAL BUILDING CODES, 2021 (IBC2021)
  - AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE 7-05)
  - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
  - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
  - INTERNATIONAL FIRE CODE (IFC 2009)
  - TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2011)
- THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS REMOVED WHICH ARE NOT TO BE REINSTALLED OR SALVAGED ON THE PROJECT. DISPOSAL OF MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- EXCAVATIONS SHALL NOT BE MADE DURING INCLEMENT WEATHER. WATER ACCUMULATION EXCEEDING 1 INCH IN THE EXCAVATIONS SHALL BE PUMPED OUT BEFORE ANY CONCRETE IS PLACED.
- PERMITTING ASSOCIATED WITH THE PROJECT INCLUDES BUT ARE NOT LIMITED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) CONSTRUCTION SITE STORM WATER PERMIT NOTICE OF INTENT (NOI) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES UNDER THE TPDES CONSTRUCTION GENERAL PERMIT (TXR 150000), THIS PERMIT IS REQUIRED FOR CONSTRUCTION ACTIVITIES INCLUDING CLEARING, GRADING, AND EXCAVATION ACTIVITIES THAT DISTURB BEYOND THE LIMITS OF CONSTRUCTION.
- CONTRACTOR SHALL MARK ALL AS-BUILT CONDITIONS ON A DAILY BASIS ON THE PLAN AND SUBMIT TO THE ENGINEER AT END OF PROJECT. AS-BUILT PLANS SHALL BE AVAILABLE ON-SITE AT ALL TIMES FOR INSPECTION.
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE IN ORDER TO BECOME FAMILIAR WITH THE SITE CONDITIONS PRIOR TO COMMENCING ANY WORK. THE CONTRACTOR IS TO RESEARCH THE EXISTING CONDITIONS AND THE PROPOSED WORK TO BECOME FULLY AWARE OF THE INTENT OF THE WORK. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN ALL NECESSARY PERMITS AND PAY ASSOCIATED FEES.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE CHANGES IN DRAINAGE, WATERLINE, AND SANITARY SEWER GRADES TO PERMIT THE LINES TO PASS ALL UNDERGROUND LINES, AS AUTHORIZED BY THE ENGINEER, AND IN ACCORDANCE WITH TCEQ'S "TEXAS ADMINISTRATIVE CODE" CHAPTER 317, APPENDIX E, "SEPARATION DISTANCES"
- DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR MAY ENCOUNTER EXISTING PIPES WHICH ARE NO LONGER IN SERVICE. THE CONTRACTOR MUST EXPLORE AND RESEARCH THE SITUATION AND PROVIDE EVIDENCE TO THE CITY OF KINGSVILLE PUBLIC WORKS REPRESENTATIVE THAT THE EXISTING PIPE IS ABANDONED. ONCE IT IS AGREED THAT THE LINE IS ABANDONED, THEN THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SAID PIPE. THIS GENERALLY APPLIES WHEN REMOVING DRAINAGE CULVERTS. ACTIVE DRAINAGE CULVERTS MUST BE REINSTALLED IF THEY ARE REMOVED FOR THE PURPOSE OF CONSTRUCTION. ANY ABANDONED LINES TO REMAIN IN PLACE SHALL BE FULLY GROUTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION OF EXISTING IMPROVEMENTS ON SITE, INCLUDING ABOVE GROUND AND UNDERGROUND. CONTRACTOR SHALL REMOVE BELOW-GRADE STRUCTURES UP TO THREE FEET BELOW NATURAL GRADE OR TO SUCH DEPTH AS MAY BE REQUIRED TO MAINTAIN SUBSURFACE STABILITY OF THE SOIL.
- CONTRACTOR SHALL BACKFILL ALL VOIDS LEFT BY DEMOLITION AND COMPACT THE DISTURBED SOIL IN A MANNER SUITABLE TO FINAL IMPROVEMENTS.
- ALL DEMOLISHED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- ANY DAMAGE TO EXISTING DRAINAGE, PRIVATE UTILITY, OR OTHER STRUCTURES SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITION AT CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE SAFETY OF THE PEDESTRIANS AND ALL VEHICULAR TRAFFIC FROM CONSTRUCTION RELATED ACTIVITIES DURING THE COURSE OF THIS PROJECT.
- THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNMENTAL ONE-CALL REQUIREMENTS AND OTHER REGULATIONS WITH REGARD TO EXISTING UNDERGROUND UTILITIES, AND OTHER FACILITIES A MINIMUM OF 48 HOURS IN ADVANCE OF CONSTRUCTION.
- ALL OPEN EXCAVATIONS SHALL BE ENCLOSED WITH ORANGE SAFETY FENCE AT ALL TIMES. OPEN ROADWAY EXCAVATIONS SHALL BE CLOSED OVERNIGHT UNLESS APPROVED BY THE ENGINEER. ALL WORK SHALL BE PERFORMED DURING DAYLIGHT HOURS.
- VEGETATION, BROKEN CONCRETE, RC PIPE, AND OTHER UNWANTED MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. THE COST OF ALL HAULING IS CONSIDERED SUBSIDIARY; THEREFORE, NO DIRECT PAYMENT WILL BE MADE TO THE CONTRACTOR.
- THE QUANTITIES OF THE WORK AND MATERIALS SHOWN ON THE PLANS REPRESENT THE WORK TO BE PERFORMED, MATERIALS TO BE FURNISHED, AND ARE FOR THE PURPOSE OF COMPARING THE BIDS ON A UNIFORM BASIS. PAYMENTS WILL BE MADE BY THE CITY OF KINGSVILLE TO THE CONTRACTOR BASED ON WORK PERFORMED OR MATERIALS FURNISHED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL SUBMIT A SUBMITTAL FORM FOR AN APPROVAL OF MATERIALS TO THE ENGINEER PRIOR TO PURCHASING.
- TRENCH EXCAVATION SHALL NOT PRECEDE BACKFILL BY MORE THAN 200 FEET. NO TRENCH SHALL BE LEFT OPEN AFTER NORMAL WORKING HOURS.
- THE DRAWING SHOWS AS MUCH INFORMATION AS CAN BE REASONABLY OBTAINED BY THE SURVEY CREWS AND FROM EXISTING RECORDS REGARDING THE LOCATION AND NATURE OF PIPELINES, STORM SEWER, WATERLINES, SANITARY SEWER, TELEPHONE CONDUITS, ETC. HOWEVER THE ACCURACY AND COMPLETENESS OF SUCH INFORMATION IS NOT GUARANTEED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE SUCH UNDERGROUND FEATURES SUFFICIENTLY IN ADVANCE OF OPERATIONS TO PRECLUDE DAMAGE TO SAME.
- UNDERGROUND UTILITY LINES SHOWN ON THE PLANS CONSTITUTE AN ATTEMPT BY THE ENGINEER TO LOCATE THESE LINES FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL FIELD LOCATE ALL UNDERGROUND UTILITY LINES AND MAKE PROVISIONS FOR THEIR PROTECTION. IN THE EVENT OF DAMAGE TO UNDERGROUND UTILITIES, WHETHER SHOWN OR NOT ON THE DRAWINGS, THE CONTRACTOR SHALL MAKE THE NECESSARY REPAIRS TO PLACE THE FACILITIES BACK IN SERVICE. ALL SUCH REPAIRS SHALL CONFORM TO THE REQUIREMENTS OF THE COMPANY OR AGENCY OPERATING THE FACILITY. DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED IMMEDIATELY TO THE UTILITY AND THE ENGINEER. THE COST OF DAMAGE AND/OR REPAIR TO SAID UTILITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO PAYMENT WILL BE MADE FOR DELAYS DUE TO UTILITY CONFLICTS.
- PRIOR TO THE COMMENCEMENT OF ANY WORK AT PROJECT SITE, CONTRACTOR SHALL VERIFY WITH CITY OF KINGSVILLE PUBLIC WORKS THAT PROPOSED CONSTRUCTION METHODS WILL NOT INTERFERE OR IMPEDE DAILY ACTIVITY OF ANY FOR THE CITY OF KINGSVILLE PUBLIC WORKS ACTIVITIES LOCATED IN THIS SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL THROUGHOUT THE DURATION OF THE CONTRACT IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", TRAFFIC CONTROL PLANS AND BARRICADE AND CONSTRUCTION SHEETS.
- THE CONTRACTOR SHALL NOTIFY PARTIES AFFECTED BY CONSTRUCTION ACTIVITIES A MINIMUM OF 48 HOURS IN ADVANCE OF CONSTRUCTION. THE FOLLOWING ARE TELEPHONE NUMBERS FOR THE ENTITIES MOST LIKELY TO BE AFFECTED:

DIG TESS.....	(800) 344-8377
TEXAS ONE CALL SYSTEM.....	(800) 245-4545
TEXAS EXCAVATION SAFETY SYSTEM.....	(800) 344-8377
LONE STAR NOTIFICATION COMPANY.....	(800) 669-8344
NUECES ELECTRIC COOP.....	(800) NEC-WATT
AMERICAN ELECTRIC POWER (AEP TEXAS).....	(877) 373-4858
SOUTH TEXAS WATER AUTHORITY.....	(361) 592-9323

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY NO OTHER ENTITIES WILL BE AFFECTED.
- REFER TO CONTRACT DOCUMENTS AND BID SPECIFICATIONS FOR MITIGATION MEASURES.

## 2. SITE EXCAVATION AND GRADING

- COMPLETELY REMOVE ALL TREES, SHRUBS, AND STUMPS FROM THE CONSTRUCTION AREA. REMOVE ALL CONCRETE SLABS, CONCRETE WALLS, FOUNDATIONS, ROADWAYS, ETC., ON THE SITE AS REQUIRED TO PROPERLY CONSTRUCT THE PROJECT.
- BEFORE EXCAVATION HAS BEGUN, STRIP THE TOPSOIL AS INDICATED ON PLANS FROM AREAS TO BE EXCAVATED OR OCCUPIED BY ROADS, SIDEWALKS, ETC., AND PILE IN DESIGNATED LOCATIONS WHERE IT WILL NOT INTERFERE WITH BUILDINGS OR UTILITY OPERATIONS. STRIPPED TOPSOIL SHALL BE FREE FROM LARGE STONES AND DEBRIS. USE TOPSOIL FOR FINISH GRADING. EXCESS TOPSOIL MAY BE USED FOR COMMON SITE FILLS IF AN ADEQUATE STOCKPILE IS RETAINED FOR FINISH GRADING.
- ALL EXCAVATION IS TO BE UNCLASSIFIED; I.E., THE REMOVAL OF ALL MATERIALS AS ENCOUNTERED, WITH NO ADDITIONAL PAYMENTS FOR ROCK EXCAVATION EXCEPT FOR CHANGES IN WORK FROM THAT SHOWN ON THE CONTRACT DRAWINGS.
- PERFORM EXCAVATION OF EVERY TYPE OF MATERIAL ENCOUNTERED WITHIN THE LIMITS OF THE PROJECT, TO THE LINES, GRADES AND ELEVATIONS INDICATED AND AS SPECIFIED HEREIN. PERFORM EXCAVATION AND FILLING IN A MANNER AND SEQUENCE THAT WILL PROVIDE DRAINAGE AT ALL TIMES.
- KEEP ALL EXCAVATIONS DRY BY DIVERTING OR PUMPING SEEPAGE OR SURFACE WATER FROM EXCAVATIONS.
- CONSTRUCT FILLS AT THE LOCATION AND TO THE LINES AND GRADES AS INDICATED. THE COMPLETE FILL SHALL CONFORM TO THE SHAPE OF THE TYPICAL SECTIONS INDICATED OR SHALL MEET THE REQUIREMENTS OF THE PARTICULAR CASE. ALL FILL, EXCEPT FILL UNDER THE BUILDING AREA, SHALL BE SOIL FILL. USE SATISFACTORY ON-SITE SOILS REMOVED FROM THE EXCAVATION TO FORM THE FILL. MATERIAL REQUIRED FOR FILLS IN EXCESS OF THAT PRODUCED BY EXCAVATING WITHIN THE GRADING LIMITS SHALL BE TAKEN FROM APPROVED OFF-SITE AREAS SELECTED BY THE CONTRACTOR. PLACE THE MATERIAL IN SUCCESSIVE HORIZONTAL LAYERS 8" IN LOOSE DEPTH AND COMPACT TO A MINIMUM OF 95% OF STANDARD PROCTOR IN ACCORDANCE WITH ASTM D698 AT MOISTURE CONTENTS -1% TO 43% OF OPTIMUM.
- COMPLETE ALL GRADING NECESSARY TO BRING THE ENTIRE AREA UPON THE DRAWINGS TO THE SUBGRADE LEVELS INDICATED ON THE PLANS AND DETAILS. GRADES NOT OTHERWISE INDICATED SHALL BE UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE GIVEN, OR BETWEEN SUCH POINTS AND EXISTING FINISH GRADES. ROUND OFF ABRUPT CHANGES IN SLOPES.
- CONTRACTOR TO VERIFY QUANTITIES SHOWN DURING BID PROCESS TO INSURE THEY ARE SUFFICIENT TO COMPLETE THE PROJECT AS INTENDED AND TO THE LINES AND GRADES SHOWN, AND HE SHALL MAKE ANY ADJUSTMENTS HE DEEMS NECESSARY TO INSURE HE HAS ACCOUNTED FOR SHRINK, SWELL, LOSS, ETC. THE QUANTITIES SHOWN ARE INTENDED AS INFORMATION ONLY TO ASSIST THE CONTRACTOR IN PREPARING HIS LUMP SUM PROPOSAL. CONTRACTOR IS RESPONSIBLE TO COMPLETE THE PROJECT ACCORDING TO THE PLANS AT THE PRICE HE HAS SPECIFIED IN HIS PROPOSAL.
- EXISTING MAILBOXES SHALL BE RELOCATED AS NECESSARY.
- DIRT DEBRIS SHALL BE PROPERTY OF THE CITY OF KINGSVILLE AND DELIVERED TO 348 E. COUNTY ROAD 2130 KINGSVILLE TX. 78383.

## 3. TRAFFIC CONTROL

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A TRAFFIC CONTROL PLAN AND MAINTAIN THE TRAFFIC CONTROL THROUGHOUT THE DURATION OF THE CONTRACT IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE TXDOT STANDARDS SHEETS. CONTRACTOR SHALL COORDINATE WITH CITY OF KINGSVILLE PUBLIC WORKS AND ANY LOCAL EMERGENCY RESPONSE AGENCIES FOR ROAD CLOSURES. SEE SPECIAL NOTE. REFER TO TRAFFIC CONTROL PLANS DRAWINGS C15-C18 & C26-C36.
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND IN ACCORDANCE WITH THE TRAFFIC CONTROL DEVICE STANDARD DETAILS.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES DURING THE COURSE OF THE CONSTRUCTION PERIOD AS REQUIRED BY THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) MANUAL.
- EQUIPMENT AND MATERIALS SHALL NOT BE STORED ON PUBLIC RIGHT-OF-WAY AT ANY TIME DURING THE COURSE OF THE CONSTRUCTION PERIOD. ANY MATERIAL AND EQUIPMENT APPROVED BY THE ENGINEER FOR THE TEMPORARY PLACEMENT ALONG THE PUBLIC RIGHT-OF-WAY SHALL BE ADEQUATELY BARRICADED WITH TYPE II BARRICADES FOR EACH DIRECTION OF TRAVEL AND SHALL NOT BE PLACED WITHIN FIVE (5) FEET OF THE STREET PAVEMENT.
- THE CONTRACTOR SHALL MAINTAIN ALL REGULATORY SIGNS DURING THE CONSTRUCTION PERIOD.
- ALL CONSTRUCTION WARNING SIGNS MAY BE MOUNTED ON PORTABLE DEVICES AND/OR GROUND MOUNTED.
- SHOULD ANY TRAFFIC SIGN, SIGN POST OR ITS FOUNDATION BE DAMAGED, CONTRACTOR SHALL REPORT SUCH INFORMATION IMMEDIATELY TO THE ATTENTION OF THE CITY OF KINGSVILLE PUBLIC WORKS.
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS DURING THE CONSTRUCTION PERIOD.
- ALL SIGNS AND BARRICADES USED FOR LANE CLOSURES AND/OR PROTECTION SHALL BE EQUIPPED WITH FLASHING WARNING LIGHTS IF SUCH SIGNS AND BARRICADES ARE TO BE IN PLACE DURING HOURS OF DARKNESS. ONE LIGHT SHALL BE USED PER SIGN OR BARRICADE.
- ADDITIONAL CHANNELIZING AND OTHER APPROPRIATE TRAFFIC CONTROL DEVICES MAY BE REQUIRED ACCORDING TO THE ENGINEER AND/OR THE DEPARTMENT OF THE CITY OF KINGSVILLE PUBLIC WORKS.
- SAFETY BARRICADE FENCING SHALL BE HIGH DENSITY POLYETHYLENE TENSAR-UX4050 (SB-ORANGE-4"HIGH)
- CONTRACTOR SHALL COORDINATE ANY WORK IN THE PROXIMITY TO THE CITY OF KINGSVILLE PUBLIC WORKS REPRESENTATIVE.
- THE CONTRACTOR SHALL MAINTAIN STREET ACCESS TO THE RESIDENTS OF THE STREETS BEING WORKED.

## 4. STREETS

- ALL STREET DIMENSIONS SHOWN ON PLANS ARE TO THE BACK OF CURBS UNLESS NOTED OTHERWISE.
- STREET MILLING IS MEASURED FROM EDGE TO EDGE THROUGHOUT THE LIMITS OF PAVEMENT CONSTRUCTION UNLESS SPECIFIED IN THE PLAN SHEETS.
- WHERE EXISTING ASPHALT AND CONCRETE ARE TO BE CUT, THESE CUTS SHALL BE VERTICAL AND MADE WITH A SAW.
- PRIOR TO PLACEMENT OF GEORGID AND LIMESTONE BASE, THE EXISTING SUBGRADE SHALL BE PROOF ROLLED AND CEMENT STABILIZED.
- FLEXIBLE BASE SHALL BE TYPE A GRADE 1 CRUSHED LIMESTONE, IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATION (1993) ITEM 247.
- RECYCLED CURBS SHALL BE COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR DENSITY (ASTM D1557) AT NOT LESS THAN 2% BELOW OPTIMUM MOISTURE AND NO MORE THAN 2% ABOVE OPTIMUM MOISTURE.
- PRIME COAT MATERIAL SHALL BE MC-30 APPLIED AT A RATE OF 0.15 GAL/SY.
- TYPES AND RATES FOR SURFACE COURSES SHALL BE:
  - TWO COURSE SURFACE TREATMENT.
- CARE SHALL BE TAKEN TO PROTECT CURB AND GUTTER AND OTHER CONCRETE SURFACES FROM ASPHALT SPLATTER DURING PRIMING AND SEALING OPERATIONS.
- HMACP TRANSITIONS TO EXISTING PAVEMENTS ON COUNTY ROAD 67 INTERSECTION SHALL BE TRANSITIONED OVER TO PRODUCE A SMOOTH RIDE AND SHALL BE CHECKED WITH A STRAIGHT EDGE PRIOR TO COMPLETION. SEE PLANS. LONGITUDINAL HMACP JOINT LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER.
- PRIMING AND HOT-MIX PLACING OPERATIONS SHALL NOT BE CONDUCTED ON DAYS FOR WHICH AN OZONE ADVISORY HAS BEEN ISSUED, EXCEPT FOR REPAIRS.
- REFLECTORIZED PAVEMENT MARKING FOR STOP BAR SHALL BE THERMOPLASTIC AND REFLECTIVE (MAY BE PREFABRICATED).
- HMAC BASE COURSE SHALL FOLLOW COMPLETED FLEXIBLE BASE COURSE WITHIN 5 DAYS.
- EXISTING DRIVEWAYS AND CULVERTS SHALL BE REMOVED AS REQUIRED TO CONSTRUCT NEW IMPROVEMENTS. REMOVAL OF THESE ITEMS IS SUBSIDIARY TO STREET EXCAVATION.
- DRIVEWAY TYPE, SIZE AND LOCATION SHALL BE AS SHOWN ON THE "DRIVEWAY SUMMARY SHEET AND DETAILS".
- MILLINGS SHALL BE THE PROPERTY OF THE CITY OF KINGSVILLE AND DELIVERED TO 1300 E. CORRAL ST., KINGSVILLE, TX 78383

## 5. UTILITIES AND STORM SEWER

- ALL ABANDONED PIPES (OLD WATERLINES, DITCH CULVERTS, SHALLOW UTILITY SERVICES) WITHIN LIMITS OF NEW ROW SHALL BE REMOVED AND PROPERLY DISPOSED. THIS GENERALLY APPLIES TO ALL UNWANTED PIPES THAT ARE WITHIN A FOOT OF SUBGRADE AND DITCH CULVERTS AND ANY ABANDONED LINES TO REMAIN IN PLACE SHALL BE CAPPED AT THE ENDS WHEN CUT FOR PROPOSED CONSTRUCTION, UNLESS OTHERWISE NOTED. THIS ACTIVITY WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO.
- CONTRACTOR SHALL COORDINATE WITH THE CITY OF KINGSVILLE PUBLIC WORKS REPRESENTATIVE, TO EVALUATE IF EXISTING STORM WATER DRAINAGE CULVERT IS SALVAGEABLE. SALVAGED STORM WATER CULVERT SHALL BE REINSTALLED AT DESIGNATED FLOWLINE ELEVATION AS SHOWN ON PLANS. DISPOSAL OF ALL NON-SALVAGEABLE STORM WATER CULVERTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL STORM SEWER PIPE SHALL BE CLASS IV REINFORCED CONCRETE PIPE UNDER DRIVEWAYS AND CLASS V REINFORCED CONCRETE PIPE UNDER STREET. WITH TYPE B WALL AND TONGUE-AND-GROOVE JOINTS PER ASTM C-76 UNLESS NOTED OTHERWISE ON THE DRAWINGS. CLASS V REINFORCED CONCRETE PIPE SHALL BE USED UNDER ROADS.
- ALL EXISTING VALVES AND MANHOLES REQUIRING ADJUSTMENT SHALL BE LOCATED BY STATION AND OFFSET AND TIED TO EXISTING FEATURES THAT WILL REMAIN IN PLACE. ALL EXISTING VALVES AND MANHOLES SHALL BE EXTENDED TO FINISH GRADE. ALL EXISTING UTILITY COVERS TO REMAIN IN SERVICE SHALL BE ADJUSTED TO PAVEMENT GRADE. ALL ADJUSTMENTS WILL BE CONSIDERED SUBSIDIARY AND WILL NOT BE PAID DIRECTLY.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT EXISTING UTILITIES. ALL PIPES AND UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION, WITH NO SEPARATE PAYMENT.
- A PIPE COLLAR SHALL BE USED WHERE PROPOSED STORM SEWER IS TO BE CONNECTED TO EXISTING STORM SEWER. PIPE COLLARS SHALL NOT BE PAID FOR SEPARATELY BUT CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS. PIPE COLLARS SHALL NOT BE REQUIRED AT TONGUE AND GROOVE CONNECTIONS.
- UNLESS SHOWN OTHERWISE IN THE PLANS OR SPECIFICATIONS, DEWATERING OF DITCHES WILL NOT BE PAID FOR DIRECTLY BUT CONSIDERED SUBSIDIARY TO THE ITEMS IT MAY BE ASSOCIATED WITH.
- ALL ACP DESIGNATED FOR REMOVAL SHALL BE DISPOSED OF IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. DISPOSAL OF ACP PIPE WILL NOT BE PAID DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO UTILITY IMPROVEMENTS.

## 6. SANITARY SEWER NOTES

- ALL SEWERS AND MANHOLES SHALL BE TESTED IN ACCORDANCE WITH TCEQ.
- IT IS REQUIRED THAT A CCTV INSPECTION AND REPORT OF THE EXISTING LINES MUST BE SUBMITTED AND APPROVED BY THE CITY OF KINGSVILLE PUBLIC WORKS PRIOR TO ACCEPTANCE.
- NEITHER BLUE PVC PIPE NOR DUCTILE IRON PIPE SHALL BE USED FOR SANITARY SEWERS.
- WHERE NEW SANITARY SEWERS ARE TO BE PLACED ADJACENT TO AN EXISTING WATERLINE AT A LATERAL CLEARANCE OF LESS THAN 9 FEET, THAT SECTION OF SEWER SHALL BE PRESSURE RATED PVC, AWWA DR18 (C905) NON-BLUE COLORED (GREEN COLOR).
- ALL MANHOLES INSTALLED ON THIS PROJECT SHALL BE FIBERGLASS. THE MANHOLE MANUFACTURER SHALL PROVIDE CERTIFICATION AND DESIGN CALCULATIONS TO THE CITY OF KINGSVILLE PUBLIC WORKS SHOWING THAT THE MANHOLES ARE DESIGNED FOR TRAFFIC LOADING (H20 DESIGN VEHICLE) AND THE APPLICABLE SOIL AND HYDROSTATIC PRESSURE LOADING CONDITIONS. MINIMUM WALL THICKNESS SHALL BE 0.50 INCH. IF REQUIRED BY THE MANUFACTURERS DESIGN, HORIZONTAL RIBS AND/OR VERTICAL STIFFENERS MAY BE UTILIZED TO ACHIEVE REQUIRED DESIGN CHARACTERISTICS.
- MANHOLES SHALL BE DESIGNED AND FABRICATED BY CONTAINMENT SOLUTION, INC., OR ENGINEER APPROVED EQUAL.
- THE CONTRACTOR SHALL ENSURE THAT THE SUBGRADE IS PROPERLY COMPACTED, AND BACKFILL IS PLACED PROPERLY, TO PREVENT THE MANHOLE FROM SHIFTING OR SETTLING AFTER INSTALLATION.
- CLEANING OR PURGING OF EXISTING SANITARY SEWER LINES REQUIRED FOR CONNECTING INTO SANITARY SEWER SYSTEM SHALL BE THE CONTRACTORS RESPONSIBILITY.
- ANY ACP DESIGNATED FOR REMOVAL SHALL BE DISPOSED OF IN STRICT ACCORDANCE WITH LOCAL, STATE, & FEDERAL REGULATIONS. DISPOSAL OF ACP PIPE WILL NOT BE PAID DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO UTILITY IMPROVEMENTS.

## SPECIAL NOTE:

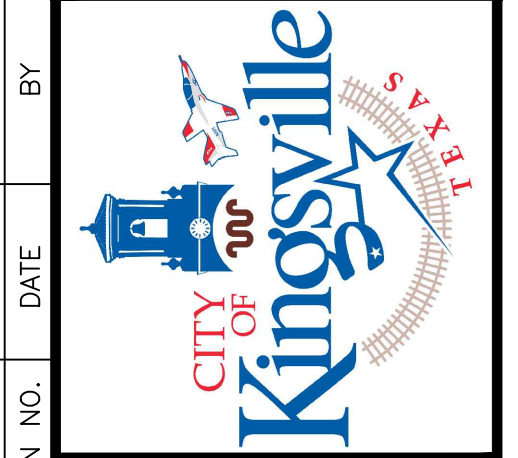
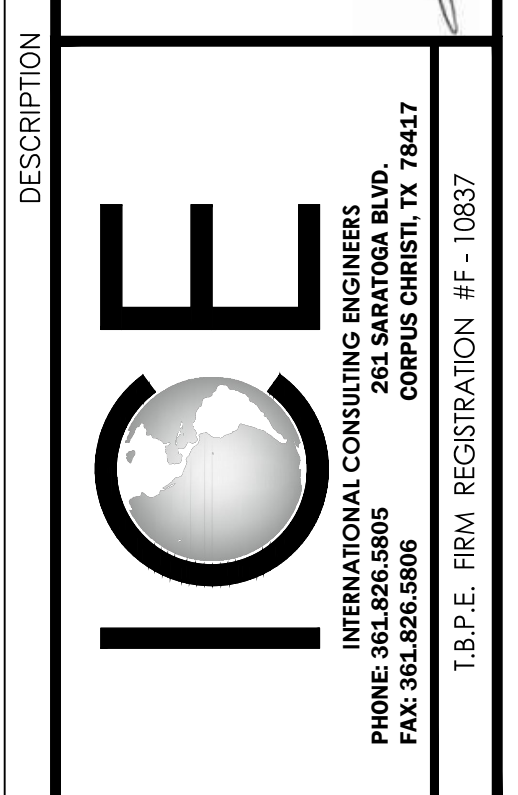
**NOTE:**  
CONTRACTOR TO NOTIFY ALL AGENCIES LISTED BELOW AT LEAST 2 WEEKS  
CITY OF KINGSVILLE PUBLIC WORKS .....(361) 595-8041  
KLEBERG COUNTY SHERIFF'S DEPARTMENT .....(361) 595-8500  
CITY OF KINGSVILLE POLICE .....(361) 592-4311  
CITY OF KINGSVILLE F/DEM'T .....(361) 592-6445  
KINGSVILLE I.S.D .....(361) 592-3387  
TXDOT ALICE AREA OFFICE .....(361) 661-7050

CONTRACTOR SHALL NOTIFY PROPERTY OWNERS AFFECTED BY CONSTRUCTION ACTIVITIES AT LEAST 2 WEEKS PRIOR TO CONSTRUCTION.

## 7. ENVIRONMENTAL

- ALL EFFORTS WILL BE MADE THROUGH PROPER CONSTRUCTION METHODS TO ENSURE DUST CONTROL AND PROPERLY FUNCTIONING EQUIPMENT.
- IF ANY PERSONNEL IDENTIFY AN OBSERVABLE SHEEN OR PETROLEUM ODOR DURING EXCAVATION, "**STOP WORK AUTHORITY**" MUST BE EMPLOYED UNTIL IT IS DETERMINED TO BE SAFE TO PROCEED BY A QUALIFIED PROFESSIONAL.
- DURING CONSTRUCTION, IF DISCOLORED OR STAINED SOIL OR SOIL CONTAINING A CHEMICAL ODOR IS DISCOVERED, WORK SHOULD BE CEASE IN THE IMMEDIATE AREA AND TCEQ SHOULD BE CONTACTED FOR FURTHER INSTRUCTIONS. THESE ARE SIGNS OF CONTAMINATED SOIL.
- DUE TO THE PROXIMITY OF THE PROJECT TO A HISTORIC CLOSED LANDFILL, IT IS RECOMMENDED THAT THE CONTRACTOR UTILIZE AIR MONITORING EQUIPMENT FOR POTENTIAL METHANE GAS MIGRATION AND INCURSION ON ENCLOSED SPACES.
- CONTRACTOR SHALL EMPLOY NATIONWIDE STANDARD CONSERVATION MEASURES SET FORTH BY USFWS.
- PROVIDE CONSTRUCTION WORKERS WITH A LIST OF FEDERAL THREATENED AND ENDANGERED SPECIES AND STATE LISTED RARE SPECIES. IF CONSTRUCTION WORKERS IDENTIFY OR ENCOUNTER THREATENED OR ENDANGERED SPECIES OR STATE LISTED RARE SPECIES, CONSTRUCTION SHOULD CEASE IMMEDIATELY AND TEXAS PARKS & WILDLIFE SHOULD BE CONTACTED FOR GUIDANCE.
- AVOID ACTIVITIES REQUIRING VEGETATION REMOVAL OR DISTURBANCE DURING PEAK BIRD NESTING SEASON (MARCH THROUGH AUGUST) TO PREVENT THE DESTRUCTION OF MIGRATORY BIRDS, NESTS, OR EGGS. WHEN PROJECT ACTIVITIES CANNOT OCCUR OUTSIDE THE BIRD NESTING SEASON, CONDUCT SURVEYS PRIOR TO SCHEDULED ACTIVITY TO DETERMINE IF ACTIVE NESTS ARE PRESENT WITHIN THE AREA OF IMPACT. IF EVIDENCE OF MIGRATORY BIRDS IS FOUND, A QUALIFIED BIOLOGIST WITH USFWS SHOULD BE NOTIFIED.
- THE PROJECT SHALL BE IMPLEMENTED USING BEST MANAGEMENT PRACTICES DESIGNED TO PROTECT IMPROVEMENTS FROM FLOOD DAMAGE.
- THE PROJECT SHALL BE IMPLEMENTED USING BEST MANAGEMENT PRACTICES DESIGNED TO PROTECT NATURAL LANDSCAPES THAT SERVE TO MAINTAIN OR RESTORE NATURAL HYDROLOGY THROUGH INFILTRATION.
- THE CONSULTING ENGINEER SHALL TAKE INTO CONSIDERATION ADDITIONAL SPECIFICATIONS TO MINIMIZE DAMAGE TO AND/OR RESTORE THE NATIVE PLANT SPECIES.
- THE PROJECT SHALL NOT LEAD TO ANY SIGNIFICANT INCREASE IN IMPERMEABLE COVER AND SHALL HAVE NO NEGATIVE IMPACTS ON THE FLOODPLAIN, AS ALL LINES WILL BE SUBSURFACE, AND THE PROJECT AREA WILL BE RESTORED TO PRE-PROJECT CONDITIONS UPON COMPLETION.
- ADDITIONALLY, PRIOR TO CONSTRUCTION, THE PROJECT PLANS WILL MEET ANY APPLICABLE, ADDITIONAL LOCAL FLOODPLAIN REQUIREMENTS SET FORTH BY THE COMMUNITY'S FLOODPLAIN ADMINISTRATOR.
- ALL STATE AND LOCAL FLOODPLAIN PROTECTION PROCEDURES WILL BE FOLLOWED. IF HISTORIC PROPERTIES ARE DISCOVERED OR CULTURAL MATERIALS ARE ENCOUNTERED DURING CONSTRUCTION OR DISTURBANCE ACTIVITIES OR UNANTICIPATED EFFECTS ON HISTORIC PROPERTIES ARE FOUND, WORK SHOULD CEASE IN THE IMMEDIATE AREA AND *THC'S HISTORY PROGRAMS, THC'S ARCHEOLOGY DIVISION,* AND THE *TEXAS GENERAL LAND OFFICE (GLO)* SHOULD BE CONTACTED TO CONSULT ON FURTHER ACTIONS THAT MAY BE NECESSARY TO PROTECT HISTORIC PROPERTIES OR CULTURAL REMAINS. WORK CAN CONTINUE IN AREAS WHERE NO HISTORIC PROPERTIES ARE PRESENT.
- WHILE THERE SHALL BE NO IMPACT TO WETLANDS, BEST MANAGEMENT PRACTICES SHOULD BE USED TO ENSURE EROSION CONTROL AND TO FURTHER PROTECT OFFSITE WETLANDS.
- CONSTRUCTION AND WASTE DISPOSAL ACTIVITIES MUST BE COMPLETED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL PERMITS, STATUTES, AND REGULATIONS.
- ANY DEBRIS OR WASTE DISPOSAL SHOULD BE AT AN APPROPRIATELY AUTHORIZED DISPOSAL FACILITY.
- BEST MANAGEMENT PRACTICES SHALL BE USED TO CONTROL RUNOFF FROM CONSTRUCTION SITES TO PREVENT DETRIMENTAL IMPACT TO SURFACE AND GROUND WATER.

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



REVISION NO. BY DATE DESCRIPTION

CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS  
KINGSVILLE, KLEBERG COUNTY, TEXAS  
GENERAL NOTES

DRAWING NO.

C2

SHEET 3 of 39

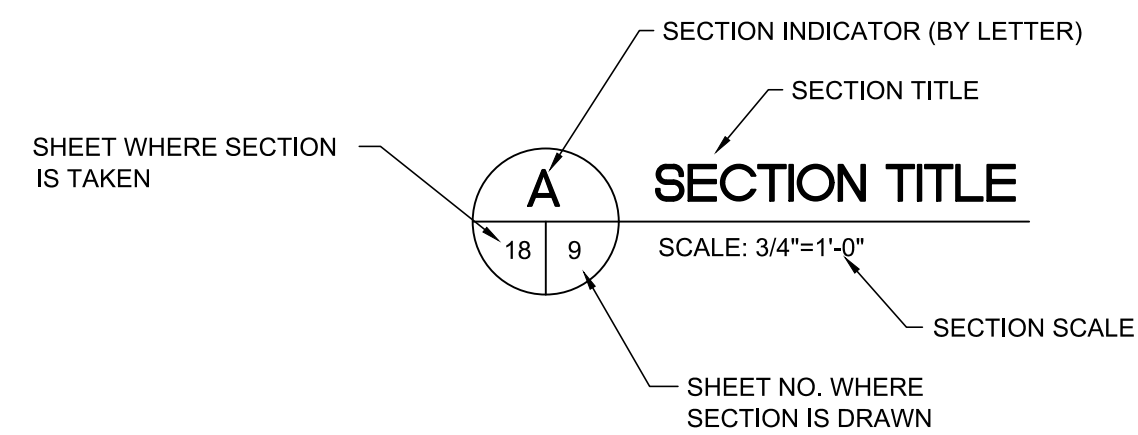
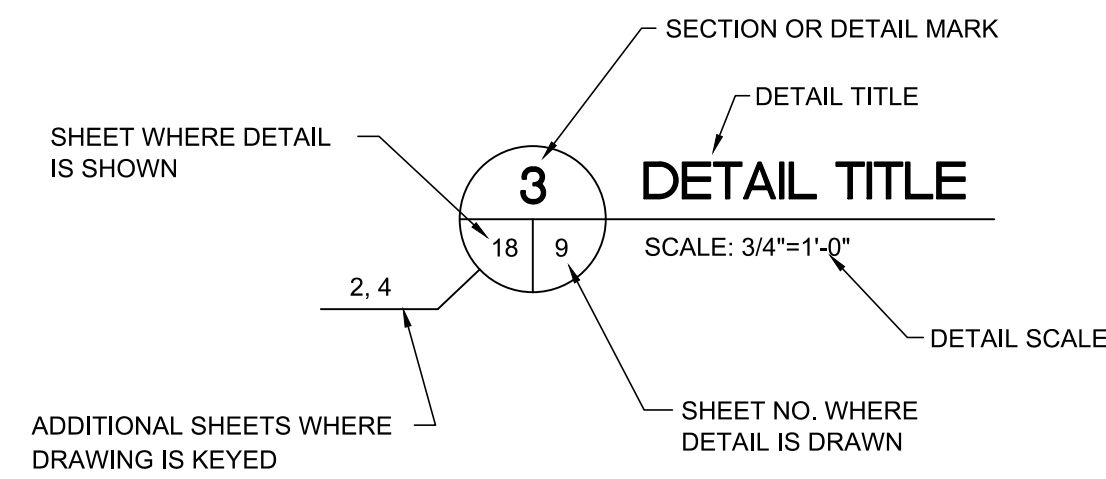
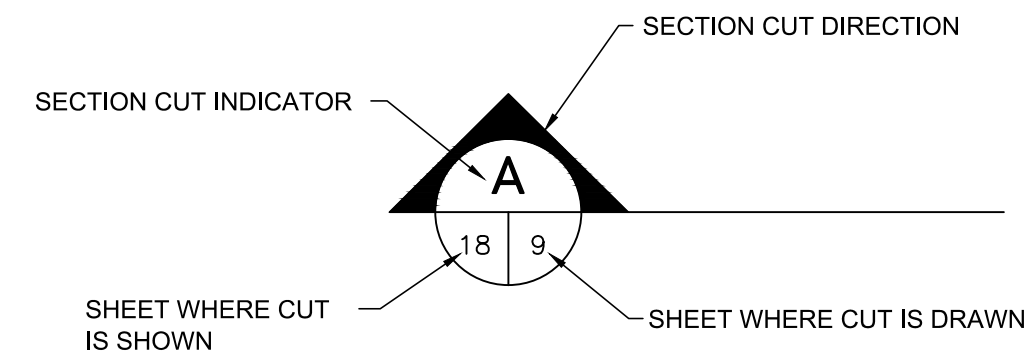
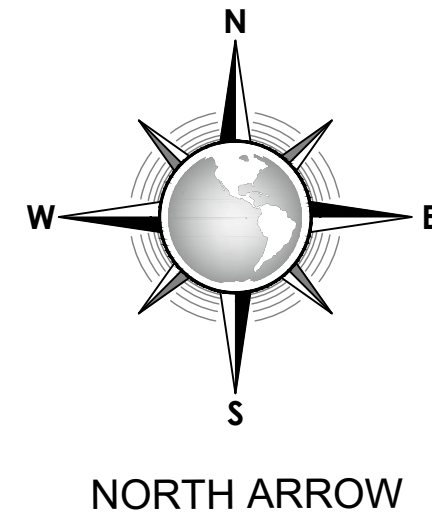


FILE NAME: I:\Projects\2021\Cty of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Drawings\3 - Legends\3 LEGENDS.dwg LAYOUT NAME: C3 LEGENDS PLOTTED: Monday, August 12, 2024 - 2:11pm USER: lrepeda

### TESTING SCHEDULE

DESCRIPTION	RATE	QUANTITY
<b>SOILS:</b>		
STANDARD PROCTOR - SUBGRADE	PER STREET	1
DENSITIES - SUBGRADE (PAVEMENT)	PER 325 SY	1
DENSITIES - SUBGRADE (DRIVEWAY)	PER 5 DRIVEWAYS	1
DENSITIES - SUBGRADE (DITCH BACKFILL)	PER 500 LF PIPE	1
<b>BASE MATERIAL:</b>		
SIEVE ANALYSIS	PER 3000 CY	1
ATTERBURG LIMITS	PER 3000 CY	1
MODIFIED PROCTOR	PER 3000 CY	1
L.A. ABRASION	PER 3000 CY	1
CBR (STANDARD)	PER MATERIAL SOURCE	1
DENSITIES OF COMPACTED BASE (PAVEMENT)	PER 325 SY	1
WET BALL MILL TEST	PER MATERIAL SOURCE	1
TRIAIAL TEST	PER MATERIAL SOURCE	1
<b>HOT-MIX ASPHALT CONCRETE (HMAC):</b>		
EXTRACTION, SIEVE ANALYSIS	PER 500 TONS OR DAY	1
LAB DENSITY & STABILITY	PER 500 TONS OR DAY	1
THEORETICAL DENSITY (RICE METHOD)	PER 500 TONS OR DAY	1
TEMPERATURE - DURING LAY-DOWN	CONTINUOUS AS NEEDED	-
THICKNESS - IN PLACE (CORE)	PER 1000 LF	1
% AIR VOIDS - IN PLACE (CORE)	PER 1000 LF	1
% THEORETICAL DENSITY - IN PLACE (CORE)	PER 1000 LF	1
<b>CONCRETE:</b>		
(UNCONFINED COMPRESSION, 7, 14, & 28 DAY)	PER 4000 SF	1

NOTE: CONTRACTOR TO COORDINATE WITH ENGINEER FOR MATERIAL TESTING AND LOCATION.



### EXISTING LEGEND

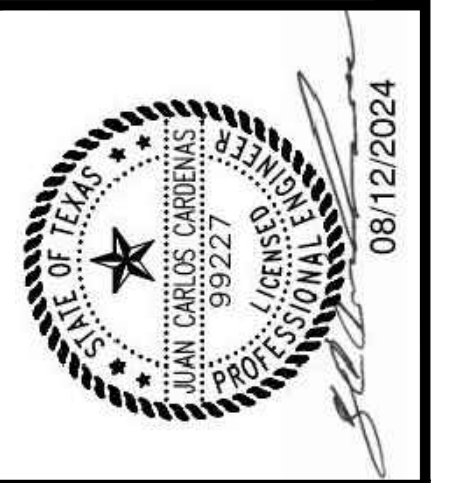
- 2W — 2"Ø WATERLINE
- 4W — 4"Ø WATERLINE
- 6W — 6"Ø WATERLINE
- 8W — 8"Ø WATERLINE
- WW — WASTEWATER
- G — GASLINE
- OE — OVERHEAD ELECTRICAL LINE
- FO — FIBER OPTIC LINE
- — — — — RIGHT OF WAY
- — — — — CENTER OF ROAD
- X — FENCE
- — — — — EXISTING PGL AT CENTERLINE OF STREET
- ⊙ PP — POWER POLE
- ⊙ — GUY POLE
- ☀ — LIGHT POLE
- ⊙ WW — WASTE WATER MANHOLE
- ⊙ ST — STORM WATER MANHOLE
- — — — — REINFORCED CONCRETE PIPE
- ⊙ WM — WATER METER
- ⊙ — SIGN
- 🌳 — TREE
- ⊙ MB — MAILBOX
- ⊙ — FIRE HYDRANT
- ⊙ CO — CLEAN OUT
- ⊙ wv — WATER VALVE
- ▨ — GRAVEL DRIVEWAY
- ▨ — CONCRETE SIDEWALK
- ▨ — ASPHALT

### LEGEND

- — — — — RIGHT OF WAY
- — — — — CENTER OF ROAD
- — — — — PGL AT CENTERLINE OF STREET
- ⊙ ST — STORM WATER MANHOLE
- ▨ — REINFORCED CONCRETE PIPE
- ▨ — CONCRETE SIDEWALK / DRIVEWAY
- ▨ — ASPHALT

- T.O.C. = TOP OF CURB INLET
- FL = FLOWLINE
- RT = RIGHT
- LT = LEFT

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**ICE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.826.5805  
FAX: 361.826.5806  
I.B.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

REVISION NO. \_\_\_\_\_ DATE \_\_\_\_\_ BY \_\_\_\_\_ DESCRIPTION \_\_\_\_\_

DRAWING NO.  
**C3**

SHEET 4 of 39

### LEGENDS



ESTIMATED QUANTITIES SUMMARY - TOTALS			
ITEM	DESCRIPTION	UNIT	QUANTITY
A1	MOBILIZATION / BONDS / INSURANCE	LS	1
A2	TRAFFIC CONTROL	LS	1
A3	SWPP (SEDIMENT CONTROL FENCE)	LF	1819
A4	SWPP (EROSION CONTROL LOG)	LF	36
A5	REMOVE EXISTING DRIVEWAY ASPHALT	SY	28
A6	REMOVE EXISTING DRIVEWAY GRAVEL	SY	28
A7	REMOVE EXISTING 36" RCP	LF	1438
A8	REMOVE EXISTING STORM WATER MANHOLE W/ CURB INLET	EA	1
A9	REMOVE EXISTING HEADWALL	EA	1
A10	REMOVE EXISTING SIGN	EA	4
A11	REPAIR ASPHALT DRIVEWAY	SY	28
A12	REPAIR GRAVEL DRIVEWAY	SY	28
A13	6' X 4' R.C.B.	LF	1430
A14	24"Ø RCP CL III	LF	7
A15	UTILITY ADJUSTMENT	LS	1
A16	5' X 5' JUNCTION BOX	EA	1
A17	CURB INLET	EA	4
A18	HEADWALL	EA	1
A19	RE-INSTALLING EXISTING SIGNS	EA	4

**NOTE:**

- THE ESTIMATED QUANTITIES LISTED ARE FOR INFORMATIONAL PURPOSES AND FOR CONTRACTOR REFERENCE. THE CONTRACTOR IS RESPONSIBLE FOR DELIVERING A FINISHED PROJECT AS DETAILED ON THE PLANS AND SPECIFICATIONS.
- TRENCH EXCAVATION, BACKFILL, AND COMPACTION ARE ALL SUBSIDIARY TO STORMWATER PIPE/BOX, AND JUNCTION BOX/INLET STRUCTURES.
- TIE-IN CONNECTIONS ARE SUBSIDIARY TO JUNCTION BOX/INLET STRUCTURES.
- UTILITY ADJUSTMENTS SHALL INCLUDE ANY AND ALL UTILITIES FOR THE COMPLETION OF THE PROJECT.



**CITY OF KINGSVILLE GLO SW PROJECT 2**  
**(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**ESTIMATED QUANTITIES**

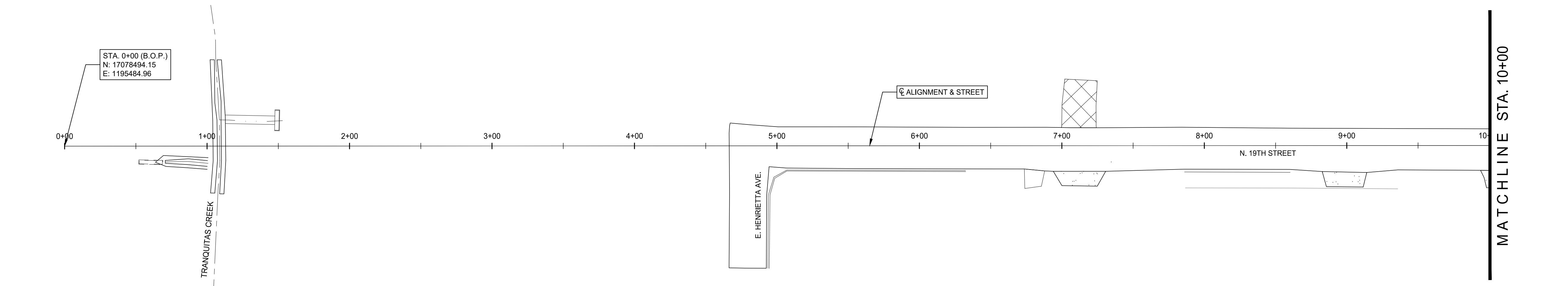
DRAWING NO.  
**C4**

SHEET **5** of **39**

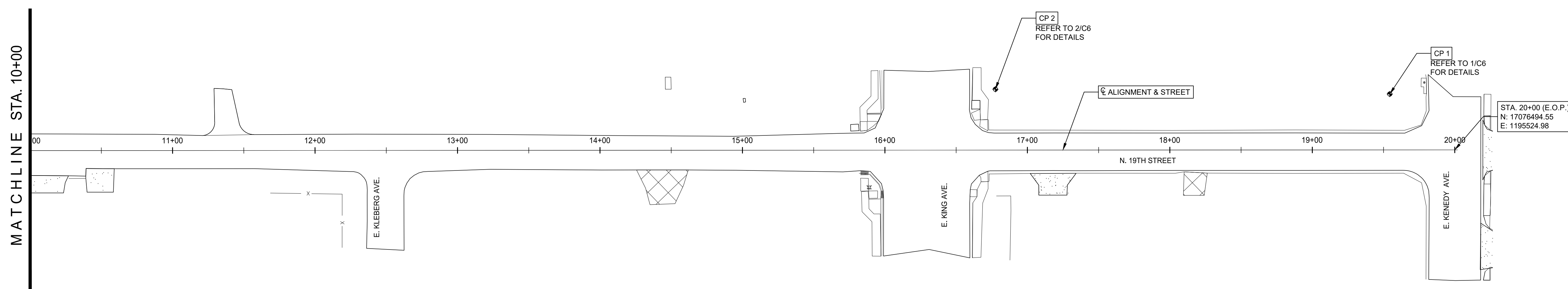
REVISION NO.	DATE	BY	DESCRIPTION



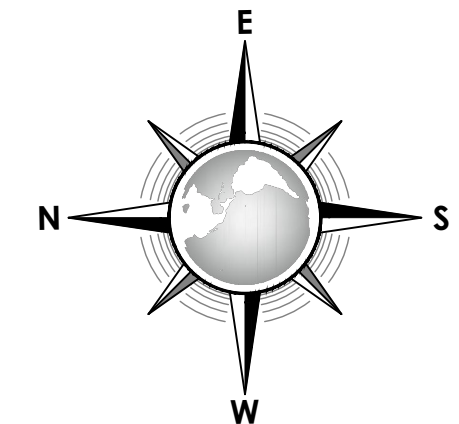
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\C5 PROJECT ALIGNMENT PLAN.dwg LAYOUT NAME: C5 PROJECT ALIGNMENT PLAN PLOTTED: Monday, August 12, 2024 - 2:11pm USER: izepeda



**1**  
C5 C5  
PROJECT ALIGNMENT PLAN  
STA. 0+00 (B.O.P.) TO STA. 10+00  
SCALE: 1"=40'



**2**  
C5 C5  
PROJECT ALIGNMENT PLAN  
STA. 10+00 TO STA. 20+00 (E.O.P.)  
SCALE: 1"=40'



CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.B.P.E. FIRM REGISTRATION #F- 10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**PROJECT ALIGNMENT PLAN  
STA. 0+00 (B.O.P.) TO STA. 20+00 (E.O.P.)**

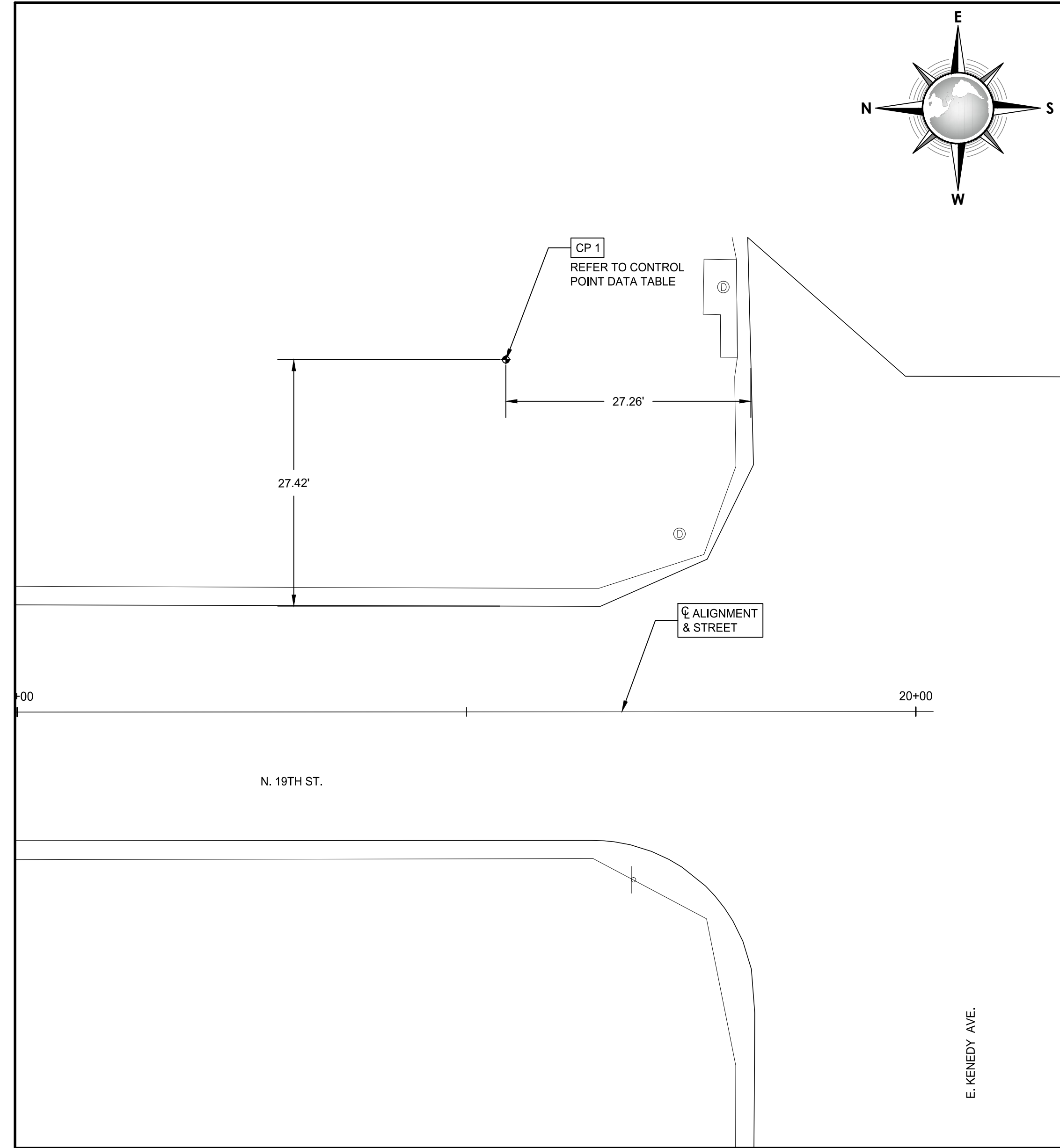
REVISION NO.	DATE	BY	DESCRIPTION

DRAWING NO. **C5**

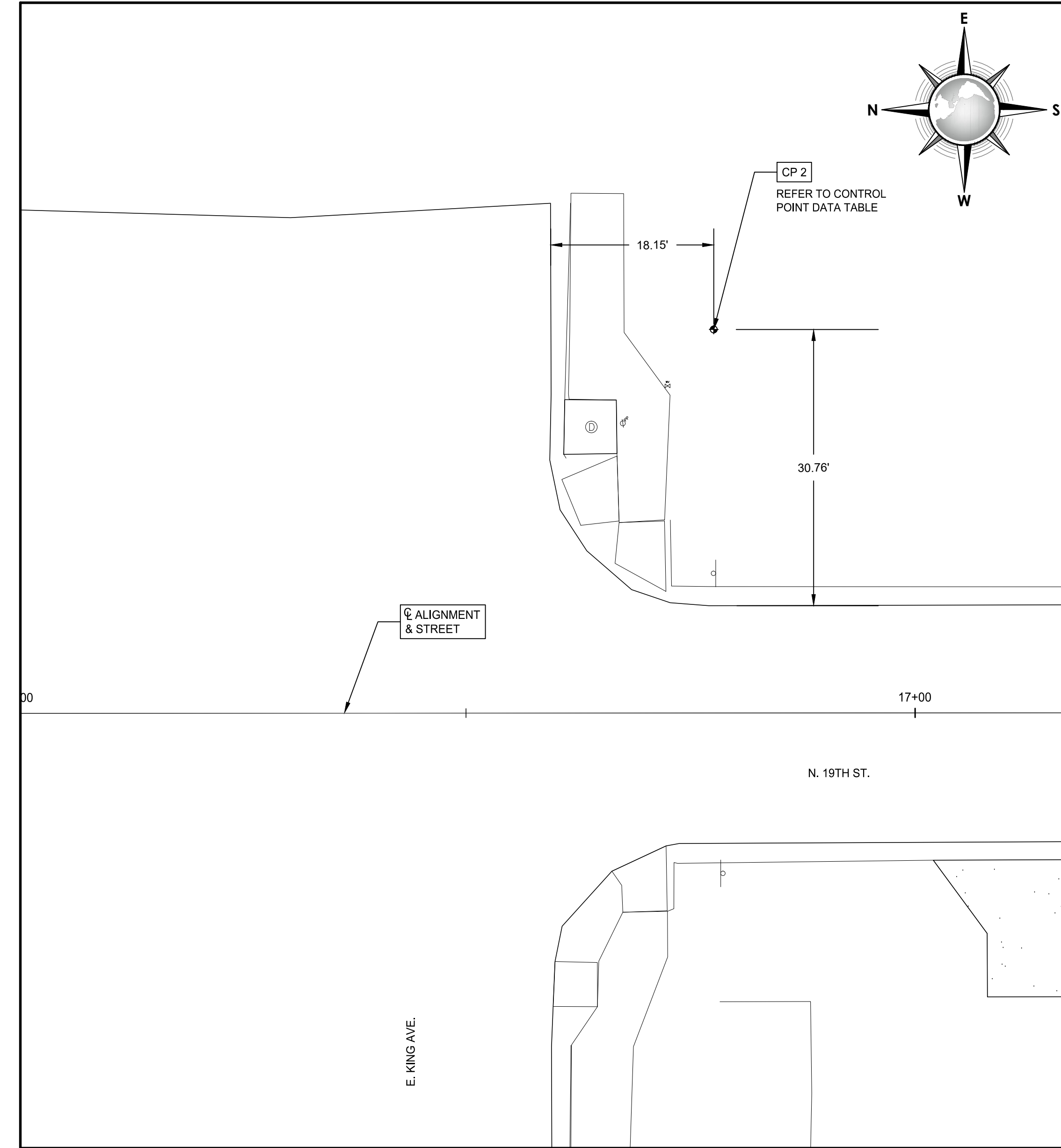
SHEET **6** of **39**



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\CS PROJECT ALIGNMENT PLAN.dwg LAYOUT NAME: CONTROL DATA PLOTTED: Monday, August 12, 2024 - 2:11 pm USER: lzapreda





**1** PROJECT CONTROL DATA LAYOUT 1  
 C6 C6 SCALE: 1"=10'



**2** PROJECT CONTROL DATA LAYOUT 2  
 C6 C6 SCALE: 1"=10'

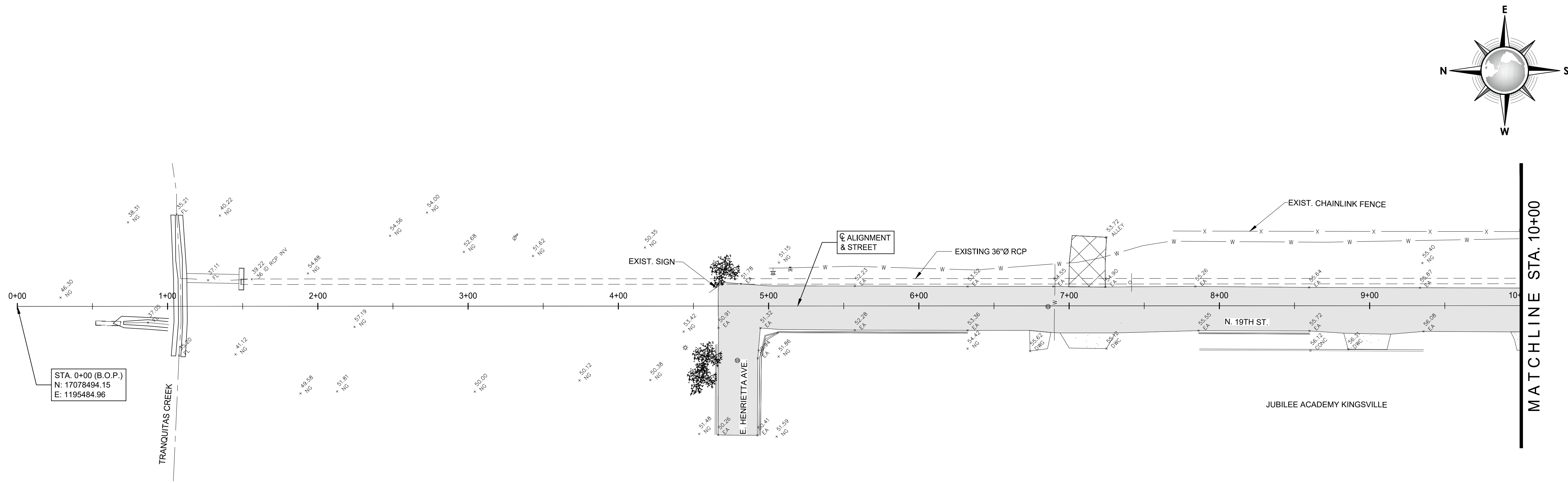
CONTROL POINT DATA				
CONTROL POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP1	SET 5/8" I.R. W/CAP	17076540.92	1195563.27	55.96'
CP2	SET 5/8" I.R. W/CAP	17076817.74	1195561.22	56.41'

SURVEY DATUM	
HORIZONTAL:	NAD 83
VERTICAL:	NAVD 88

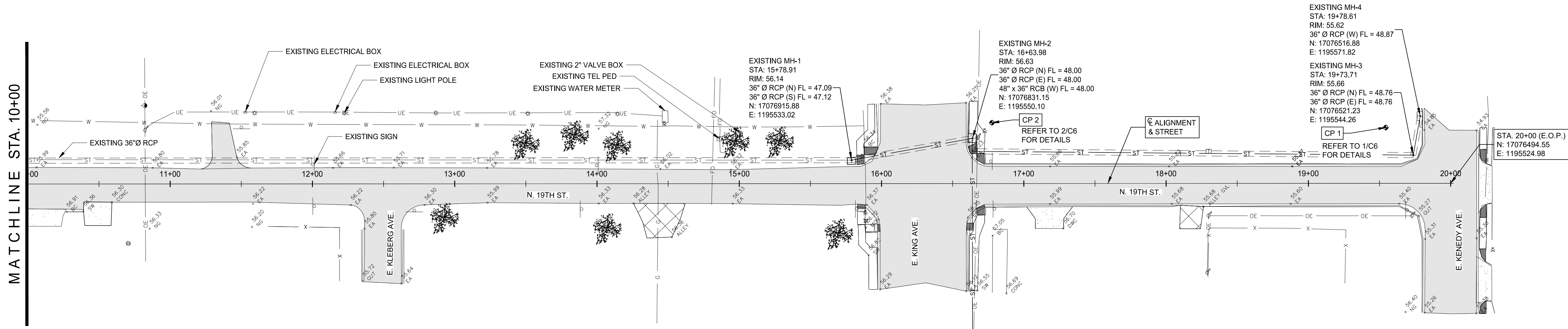
REVISION NO.	DATE	BY	DESCRIPTION
CITY OF KINGSVILLE GLO SW PROJECT 2 (N. 19TH ST.) STORM WATER IMPROVEMENTS KINGSVILLE, KLEBERG COUNTY, TEXAS			CONSULTANT'S SHEET PROJECT NO. 21107-01B
PROJECT CONTROL DATA LAYOUTS 1 & 2			 INTERNATIONAL CONSULTING ENGINEERS 261 SARATOGA BLVD. CORPUS CHRISTI, TX 78417 PHONE: 361.926.5805 FAX: 361.926.5806 I.C.E. FIRM REGISTRATION #F-10837
DRAWING NO. <b>C6</b>			 08/12/2024
SHEET 7 of 39			



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1-Drawings\2 - Civil\CX EXISTING TOPOGRAPHY PLAN.dwg LAYOUT NAME: CX EXISTING TOPOGRAPHY PLAN PLOTTED: Monday, August 12, 2024 - 2:11pm USER: lzapredo



**1**  
EXISTING TOPOGRAPHY PLAN  
STA. 0+00 (B.O.P.) TO STA. 10+00  
SCALE: 1"=40'



**2**  
EXISTING TOPOGRAPHY PLAN  
STA. 10+00 TO STA. 20+00 (E.O.P.)  
SCALE: 1"=40'

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5905  
FAX: 361.926.5906  
I.C.E. FIRM REGISTRATION # - 10837



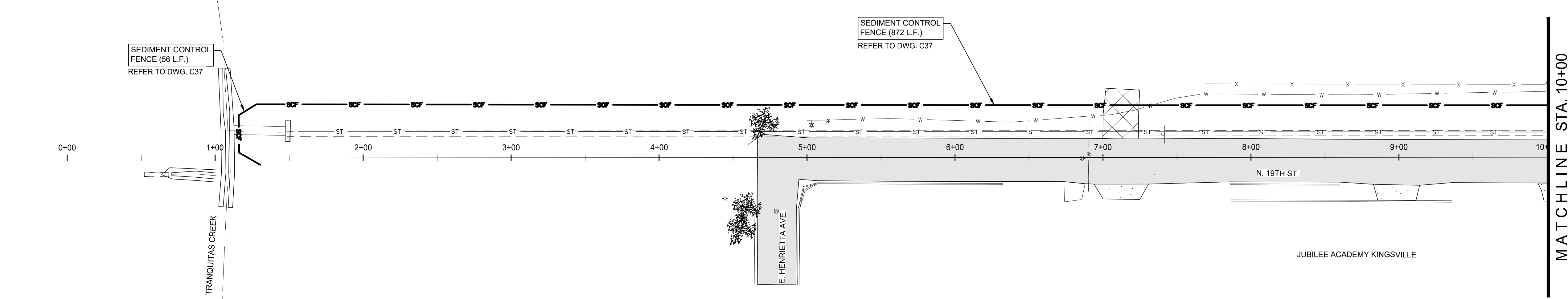
**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**EXISTING TOPOGRAPHY PLAN  
STA. 0+00 (B.O.P.) TO STA. 20+00 (E.O.P.)**

REVISION NO.	DATE	DESCRIPTION	BY
C7		DRAWING NO.	
		SHEET 8 of 39	

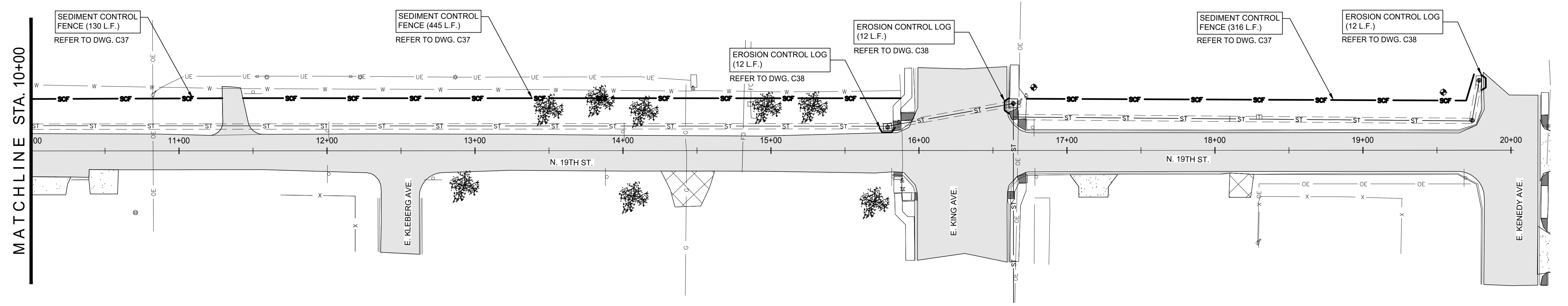


FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\CK SWPPP.dwg LAYOUT NAME: SWPPP PLOTTED: Monday, August 12, 2024 - 2:11pm USER: zezpeda



**1**  
C8 C8  
SCALE: 1"=40'

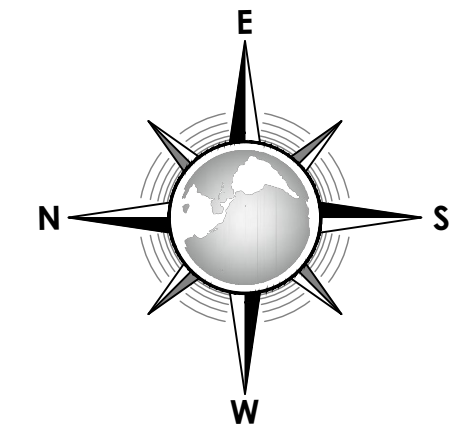
**STORM WATER POLLUTION PREVENTION PLAN  
STA. 0+00 (B.O.P.) TO STA. 10+00**



**2**  
C8 C8  
SCALE: 1"=40'

**STORM WATER POLLUTION PREVENTION PLAN  
STA. 10+00 TO STA. 20+00 (E.O.P.)**

SHEET QUANTITIES SUMMARY			
ITEM	DESCRIPTION	UNIT	QUANTITY
A3	SWPP (SEDIMENT CONTROL FENCE)	LF	1,819
A4	SWPP (EROSION CONTROL LOG)	LF	36



CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**ICE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.C.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**STORM WATER POLLUTION PREVENTION PLAN  
STA. 0+00 (B.O.P.) TO STA. 20+00 (E.O.P.)**

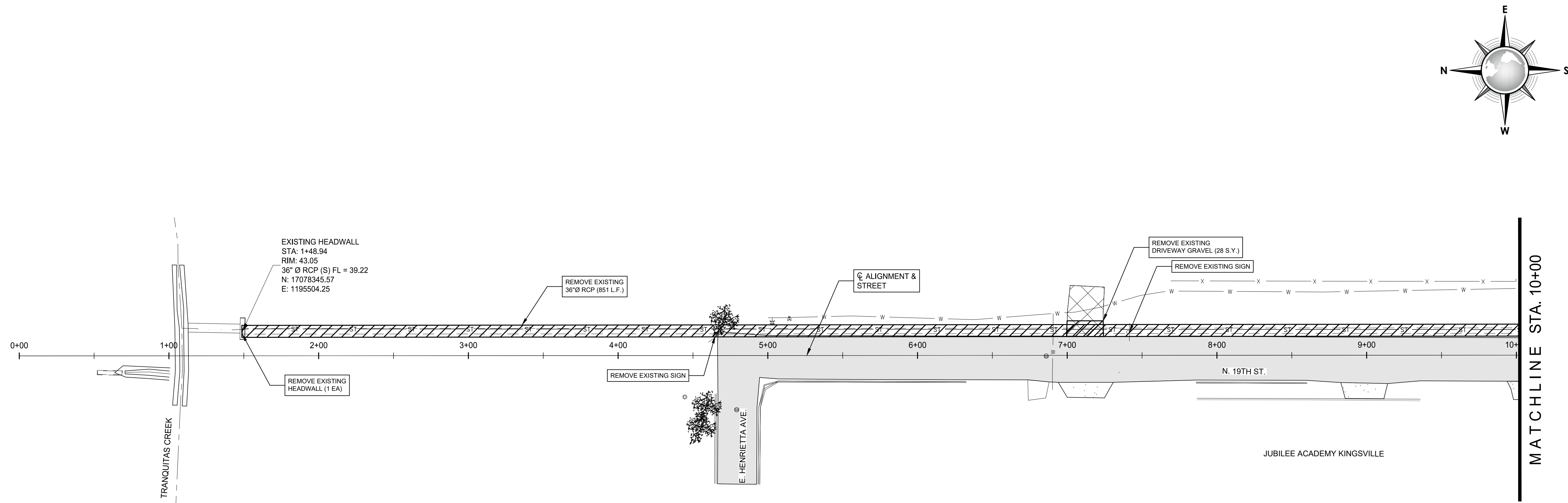
REVISION NO. DATE BY DESCRIPTION

DRAWING NO.  
**C8**

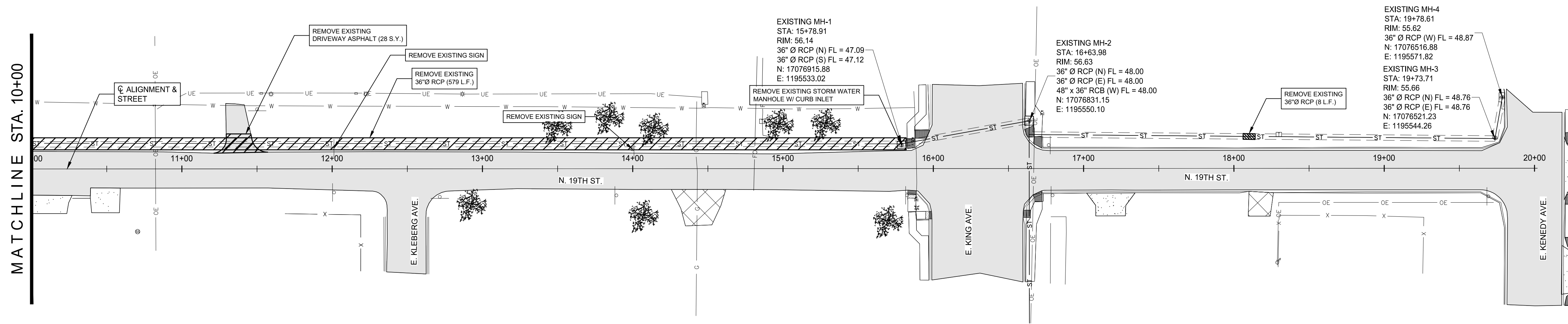
SHEET **9** of **39**



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\CK DEMO & SWPPP.dwg LAYOUT NAME: DEMO PLOTTED: Monday, August 12, 2024 - 2:12pm USER: lrepeda



**1**  
 C9 C9  
 DEMOLITION PLAN  
 STA. 0+00 (B.O.P.) TO STA. 10+00  
 SCALE: 1"=40'



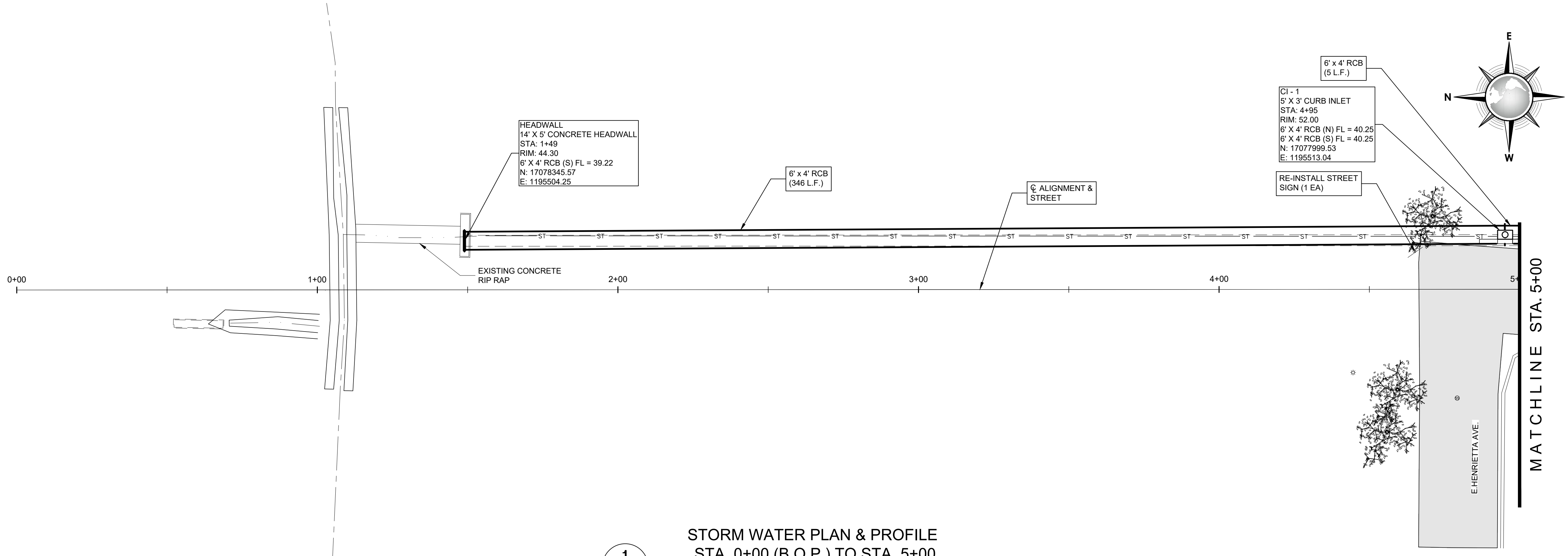
**2**  
 C9 C9  
 DEMOLITION PLAN  
 STA. 10+00 TO STA. 20+00 (E.O.P.)  
 SCALE: 1"=40'

SHEET QUANTITIES SUMMARY			
ITEM	DESCRIPTION	UNIT	QUANTITY
A5	REMOVE DRIVEWAY ASPHALT	SY	28
A6	REMOVE DRIVEWAY GRAVEL	SY	28
A7	REMOVE EXISTING 36"Ø RCP	LF	1,470
A8	REMOVE EXISTING STORM WATER MANHOLE W/ CURB INLET	EA	1
A9	REMOVE EXISTING HEADWALL	EA	1
A10	REMOVE EXISTING SIGN	EA	4

CONSULTANT'S SHEET PROJECT NO. 21107-01B	
	INTERNATIONAL CONSULTING ENGINEERS 261 SARATOGA BLVD. CORPUS CHRISTI, TX 78417 PHONE: 361.926.5805 FAX: 361.926.5806 I.B.P.E. FIRM REGISTRATION #F-10837
	CITY OF KINGSVILLE KINGSVILLE, KLEBERG COUNTY, TEXAS
REVISION NO. _____ DATE _____ BY _____	DESCRIPTION DEMOLITION PLAN STA. 0+00 (B.O.P.) TO STA. 20+00 (E.O.P.)
REVISION NO. _____ DATE _____ BY _____	DRAWING NO. <b>C9</b> SHEET 10 of 39



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1 - Drawings\2 - Civil\CS-08 - P&P.dwg LAYOUT NAME: 1 PLOTTED: Monday, August 12, 2024 2:12pm USER: lizepda

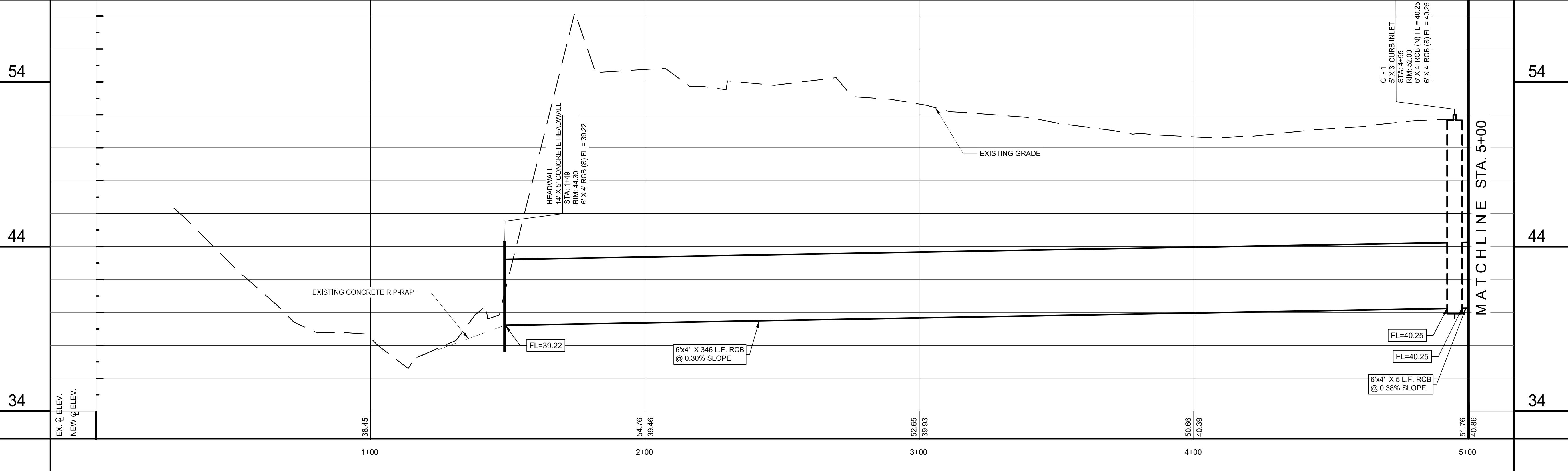


SHEET QUANTITIES SUMMARY			
ITEM	DESCRIPTION	UNIT	QUANTITY
A13	6' x 4' RCB	LF	351
A17	CURB INLET	EA	1
A18	HEADWALL	EA	1
A19	RE-INSTALL STREET SIGN	EA	1

**1**  
C10 C10

0 20 40

SCALE: HORIZ: 1"=20', VERT: 1"=2' (FULL SIZE SHEETS)  
SCALE: HORIZ: 1"=40', VERT: 1"=4' (HALF SIZE SHEETS)



CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**

INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.S.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

STORMWATER PLAN & PROFILE  
STA. 0+00 (B.O.P.) TO STA. 5+00

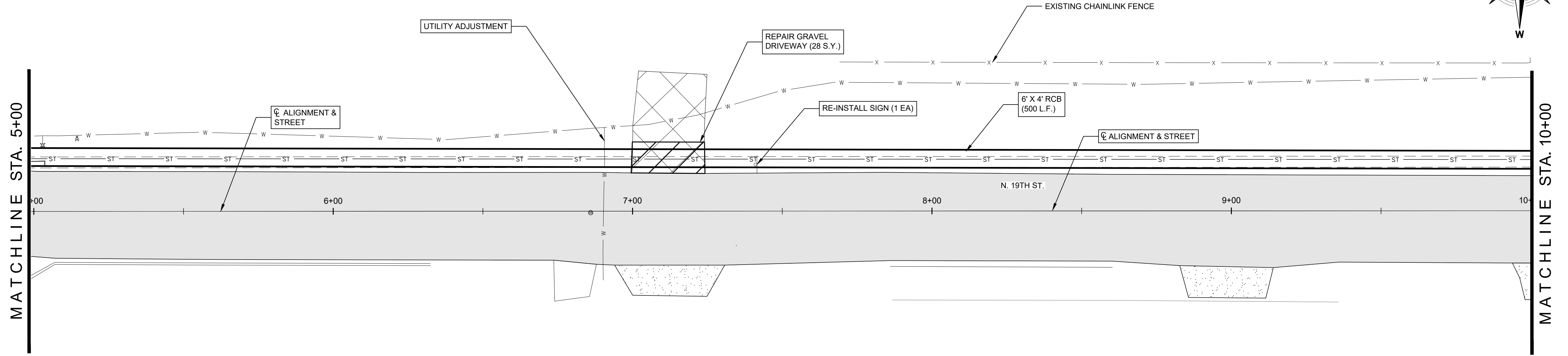
DRAWING NO.  
**C10**

SHEET 11 of 39

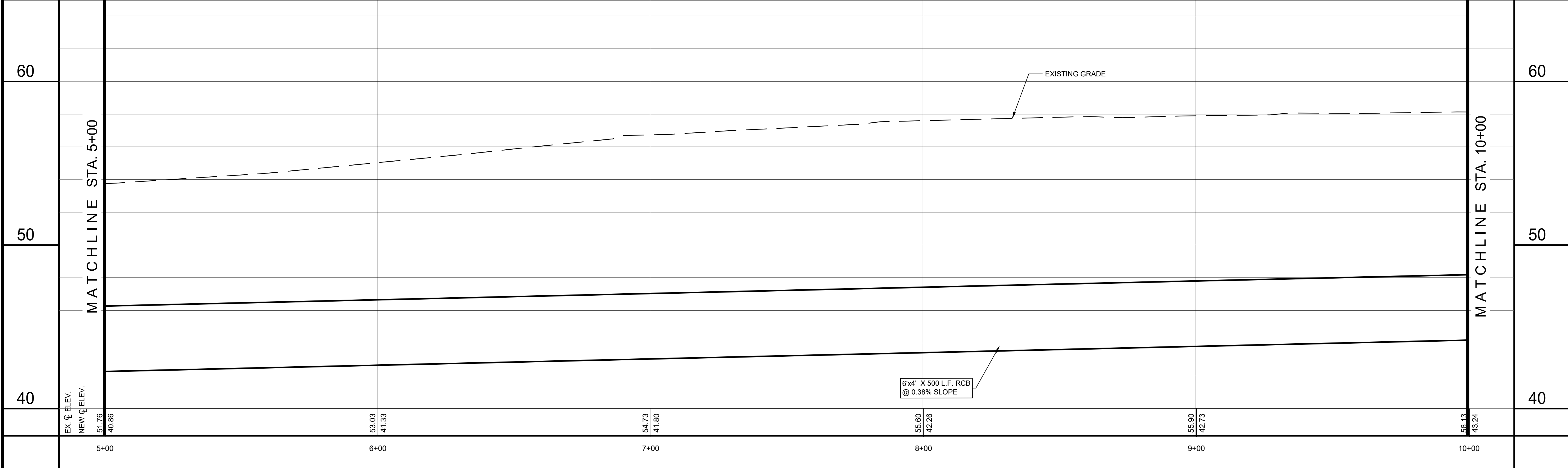
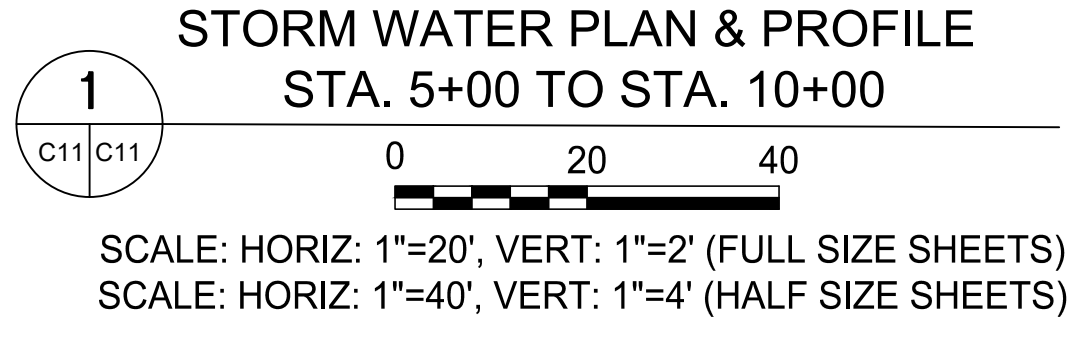
REVISION NO.	DATE	BY	DESCRIPTION



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civi\CS-08 - P&P.dwg - P&P.dwg LAYOUT NAME: 2 - PLOTTED: Monday, August 12, 2024 - 2:12pm USER: lizepeta



SHEET QUANTITIES SUMMARY			
ITEM	DESCRIPTION	UNIT	QUANTITY
A12	REPAIR GRAVEL DRIVEWAY	SY	28
A13	6' X 4' RCB	LF	500
A15	UTILITY ADJUSTMENT	LS	1
A19	RE-INSTALL SIGN	EA	1



CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



08/12/2024

**IOE**

INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.S.P.E. FIRM REGISTRATION #F-10837



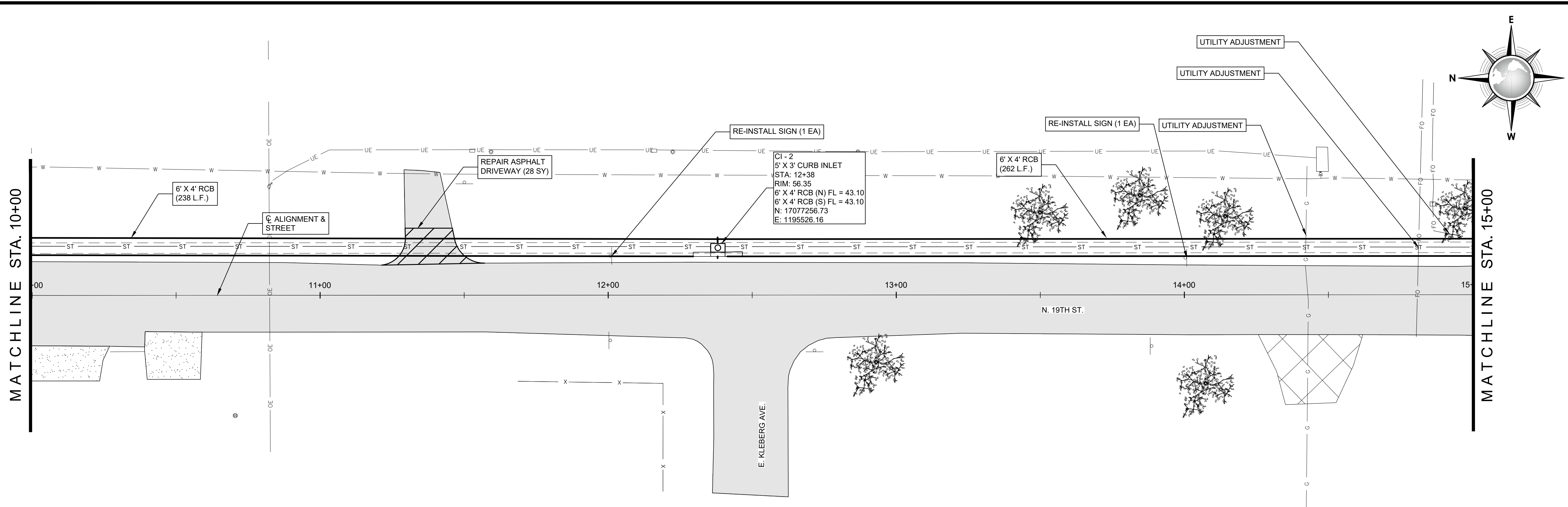
**CITY OF KINGSVILLE GLO SW PROJECT 2**  
**(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**STORMWATER PLAN & PROFILE**  
STA. 5+00 TO STA. 10+00

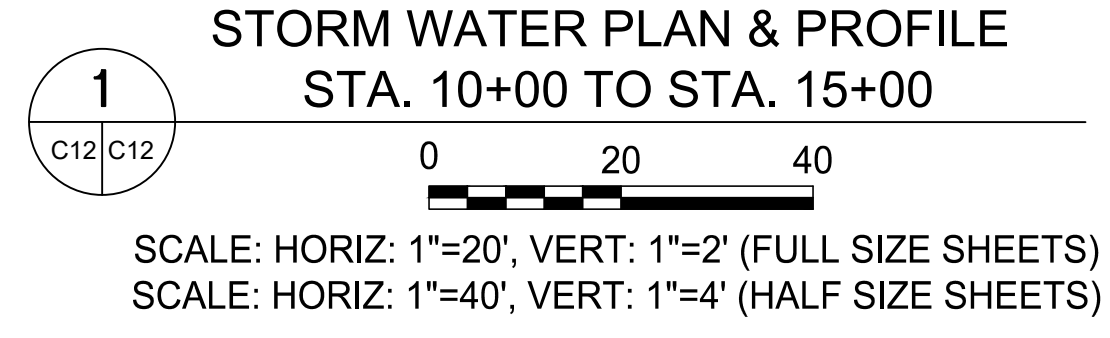
DRAWING NO.  
**C11**

SHEET 12 of 39

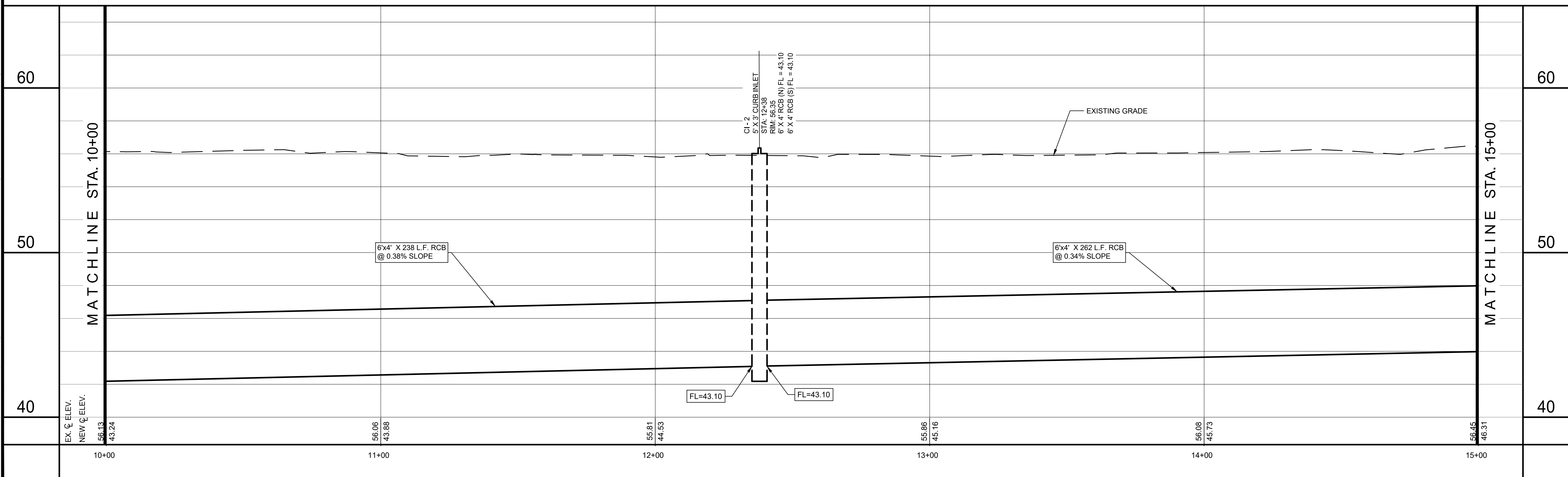
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\CS-08 - P&P.dwg LAYOUT NAME: 3 PLOTTED: Monday, August 12, 2024 - 2:12pm USER: lizepeta



SHEET QUANTITIES SUMMARY			
ITEM	DESCRIPTION	UNIT	QUANTITY
A11	REPAIR ASPHALT DRIVEWAY	SY	28
A13	6' X 4' RCB	LF	500
A15	UTILITY ADJUSTMENT	LS	1
A19	RE-INSTALL SIGN	EA	2



SCALE: HORIZ: 1"=20', VERT: 1"=2' (FULL SIZE SHEETS)  
SCALE: HORIZ: 1"=40', VERT: 1"=4' (HALF SIZE SHEETS)

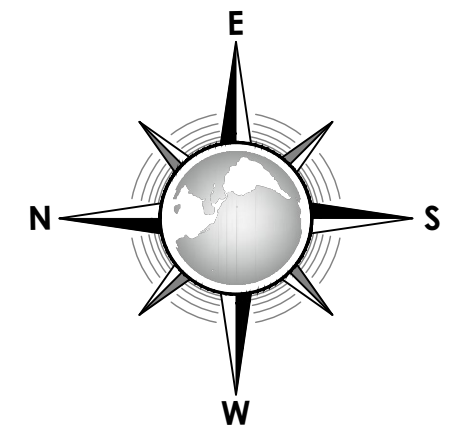
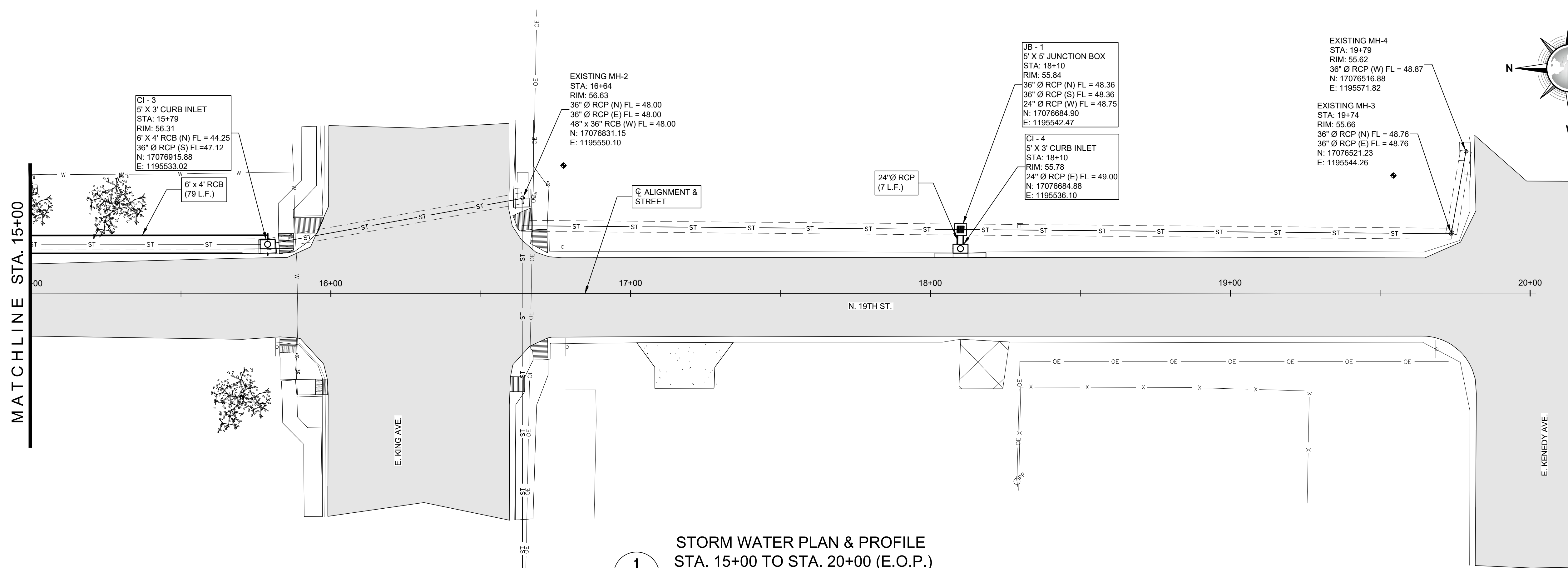


CONSULTANT'S SHEET PROJECT NO. 21107-01B	
INTERNATIONAL CONSULTING ENGINEERS 261 SARATOGA BLVD. CORPUS CHRISTI, TX 78417 PHONE: 361.926.5805 FAX: 361.926.5806 I.B.P.E. FIRM REGISTRATION #F-10837	CITY OF <b>Kingsville</b> TEXAS
REVISION NO. _____ DATE _____ BY _____	DESCRIPTION STORM WATER PLAN & PROFILE STA. 10+00 TO STA. 15+00
DRAWING NO. <h1>C12</h1>	SHEET 13 of 39



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1-Drawings\2 - Civil\CS-08 - P&P.dwg LAYOUT NAME: 4 - PLOTTED: Monday, August 12, 2024 - 2:12pm USER: lizepeta

MATCHLINE STA. 15+00



CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.B.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**STORMWATER PLAN & PROFILE  
STA. 15+00 TO STA. 20+00 (E.O.P.)**

DRAWING NO.  
**C13**

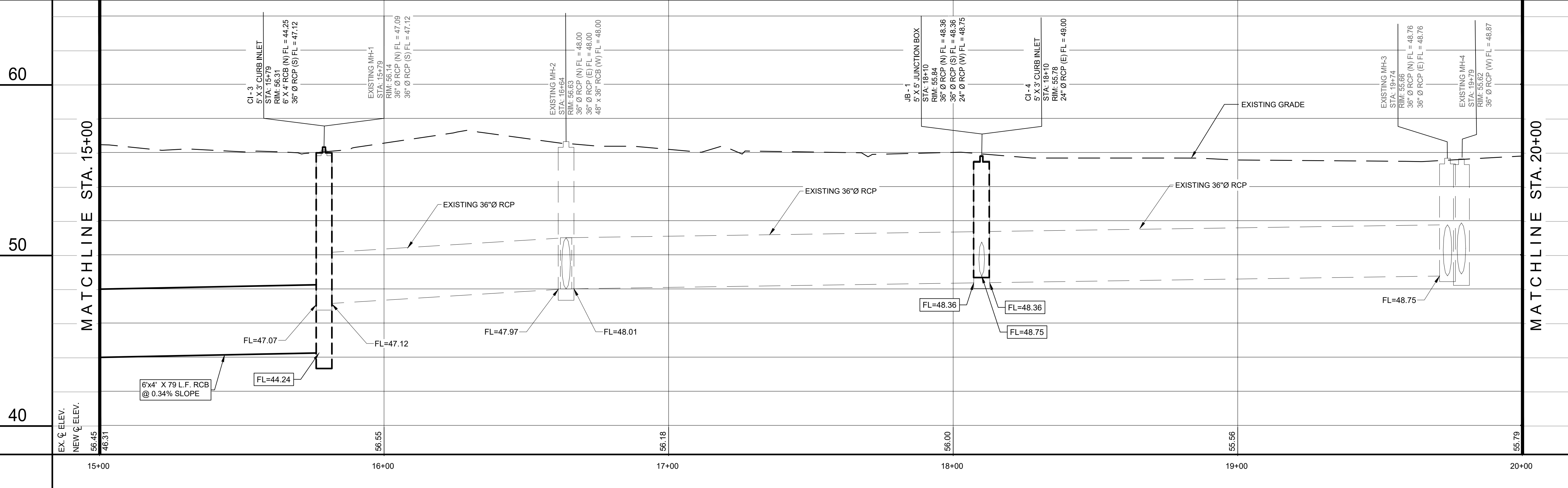
SHEET 14 of 39

SHEET QUANTITIES SUMMARY			
ITEM	DESCRIPTION	UNIT	QUANTITY
A13	6' X 4' RCB	LF	79
A14	24"Ø RCP CL III	LF	7
A16	5' X 5' JUNCTION BOX	EA	1
A17	CURB INLET	EA	2

**1**  
C13 C13

0 20 40

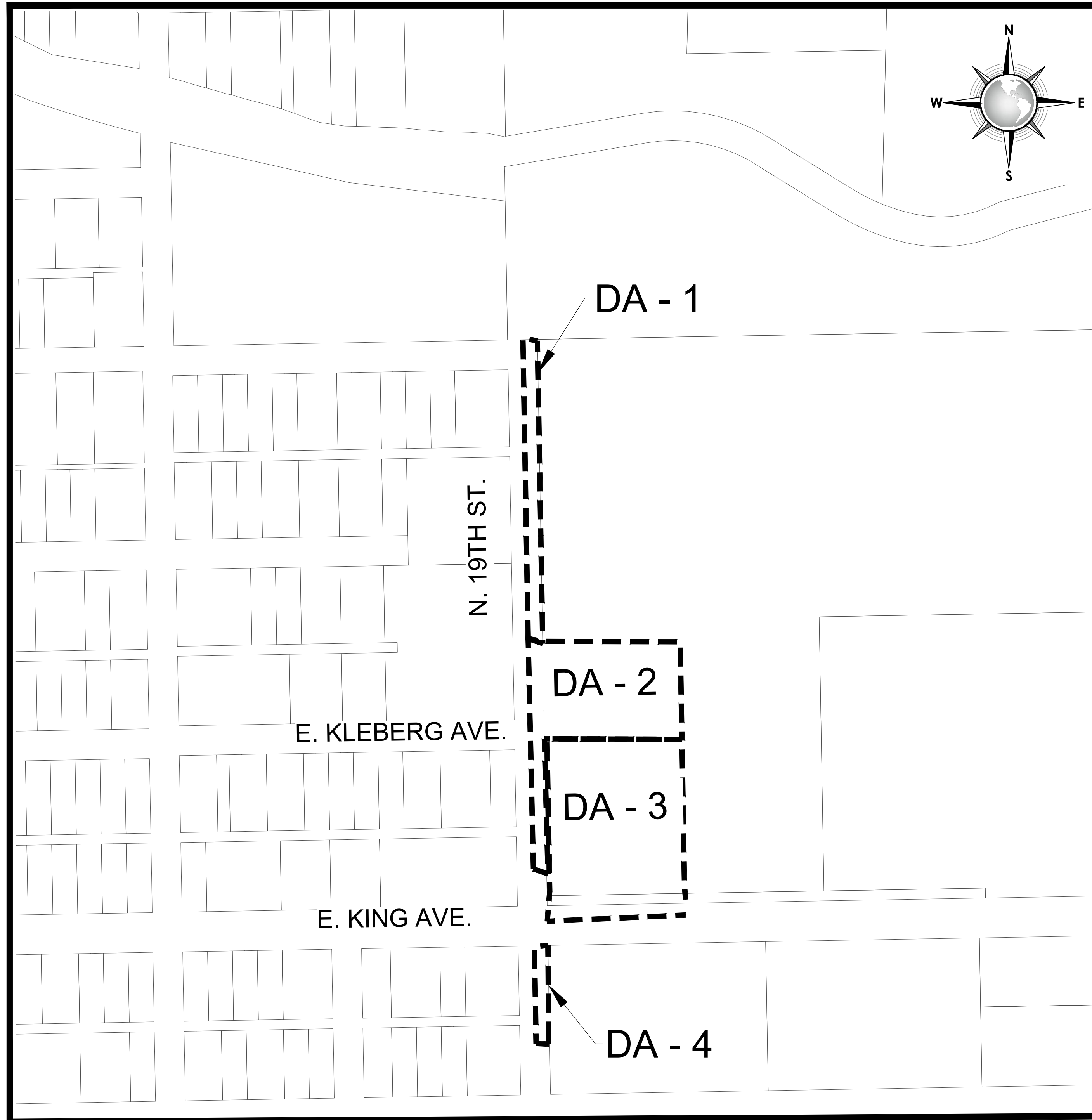
SCALE: HORIZ: 1"=20', VERT: 1"=2' (FULL SIZE SHEETS)  
SCALE: HORIZ: 1"=40', VERT: 1"=4' (HALF SIZE SHEETS)



REVISION NO.	DATE	BY	DESCRIPTION



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\C15- Storm Water Runoff.dwg LAYOUT NAME: T1 TITLE SHEET PLOTTED: Monday, August 12, 2024 - 2:12pm USER: lrepreto



**1** DRAINAGE AREA MAP  
C14 C14 SCALE: 1" = 150'

GLO SW Project 2 - N 19th St.

DRAINAGE CALCULATIONS - RUNOFF SUMMARY																
Drainage Area	Area(Ac)	Area(ft <sup>2</sup> )	Runoff Coeff. (C <sub>T</sub> )	TTC (min)	I <sub>2</sub> (in/hr)	Q <sub>2</sub> (cfs)	I <sub>5</sub> (in/hr)	Q <sub>5</sub> (cfs)	I <sub>10</sub> (in/hr)	Q <sub>10</sub> (cfs)	I <sub>25</sub> (in/hr)	Q <sub>25</sub> (cfs)	I <sub>50</sub> (in/hr)	Q <sub>50</sub> (cfs)	I <sub>100</sub> (in/hr)	Q <sub>100</sub> (cfs)
P2-DA1	0.18677686	8136	0.8	48.63822903	2.514806689	0.375766157	3.172651261	0.474062271	3.673107109	0.548841128	4.268810295	0.637851985	4.817047333	0.719770378	5.085810212	0.759929328
P2-DA2	1.96489899	85591	0.677309025	51.6094429	2.413206717	3.211601246	3.047903055	4.05628295	3.534033296	4.703246372	4.107804086	5.466845681	4.640518239	6.17580502	4.903542506	6.52584924
P2-DA3	1.891253444	82383	0.64007093	57.85586542	2.226523995	2.69528823	2.818494174	3.411889649	3.277711003	3.967788313	3.81099297	4.61334552	4.314560186	5.222931939	4.566300032	5.527672173
P2-DA4	0.044926538	1957	0.8	26.03052581	3.780477005	0.135874995	4.723917155	0.169783395	5.387428768	0.193630819	6.251750039	0.224695589	6.977270159	0.250771675	7.295249857	0.262200257

All assumed values are taken from the Kingsville, TX Code of Ordinances, Ch. XV, Article 3, Sec. 15-3-102: Minimum requirements for drainage reports and plans.

**2** SEC. 15-3-103  
C14 C14

**Curb Inlets**

$Q_{in} = C_w(L + 1.8W)d^{1.5}$  all in cfs

$Q_{in}$  = flow in -> If the flow from an inlet is greater than this value, extensions are needed.

$C_w = 2.3$

L = length of curb opening = 5 ft

W = 1.5 ft

d = 0.5 ft

$Q_{in} = C_w(L + 1.8W)d^{1.5} =$	6.261431 cfs	12.52286	18.78429
		1 extend	2 extend

Drainage Area	Q <sub>10</sub>	Q <sub>10</sub> > Q <sub>in</sub> ?	Extension: # needed
P2-DA1	0.548841	FALSE	0
P2-DA2	4.703246	FALSE	0
P2-DA3	3.967788	FALSE	0
P2-DA4	0.193631	FALSE	0

**3** SEC. 15-3-105  
C14 C14



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.826.5805  
FAX: 361.826.5806  
I.B.P.E. FIRM REGISTRATION #F-10837

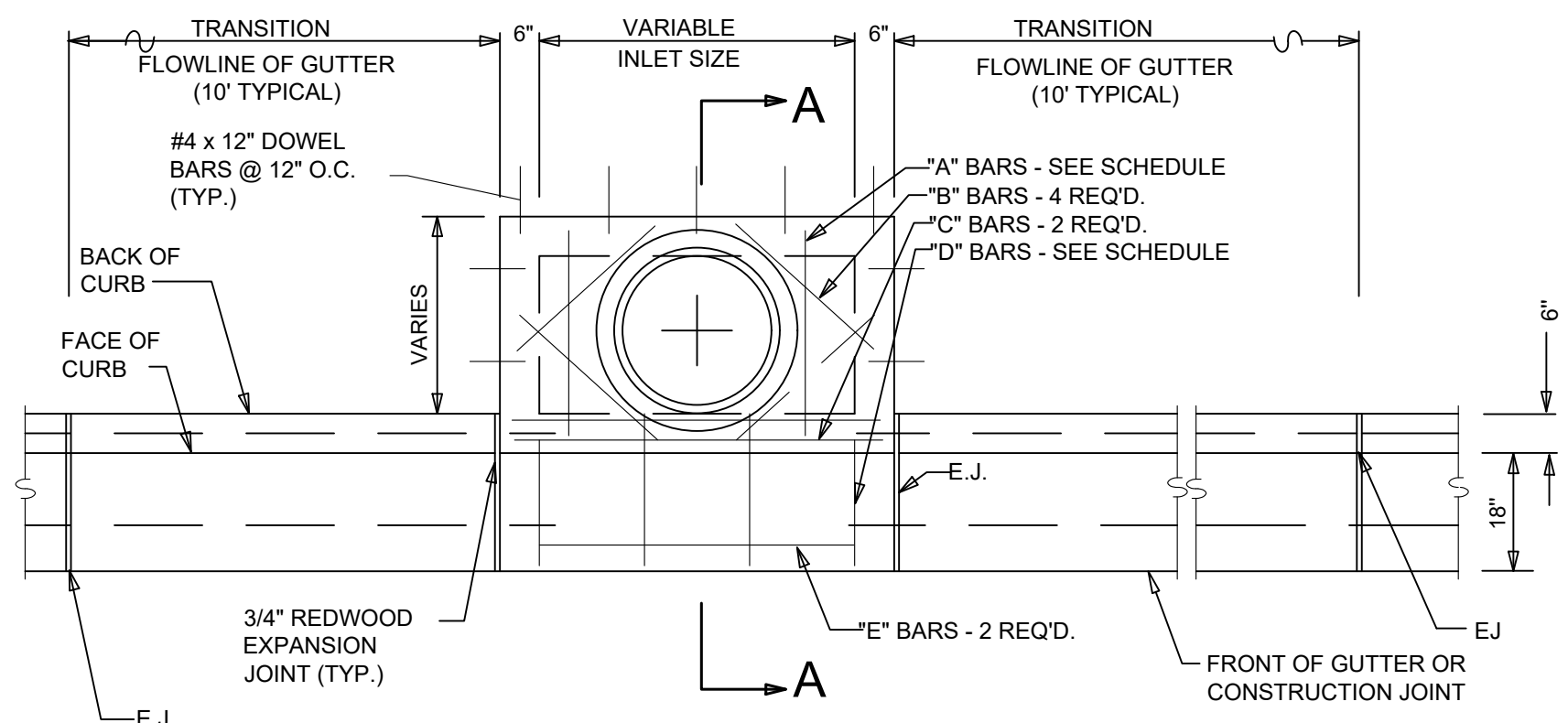


**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**STORM WATER RUNOFF & CURB INLET CALCULATIONS**

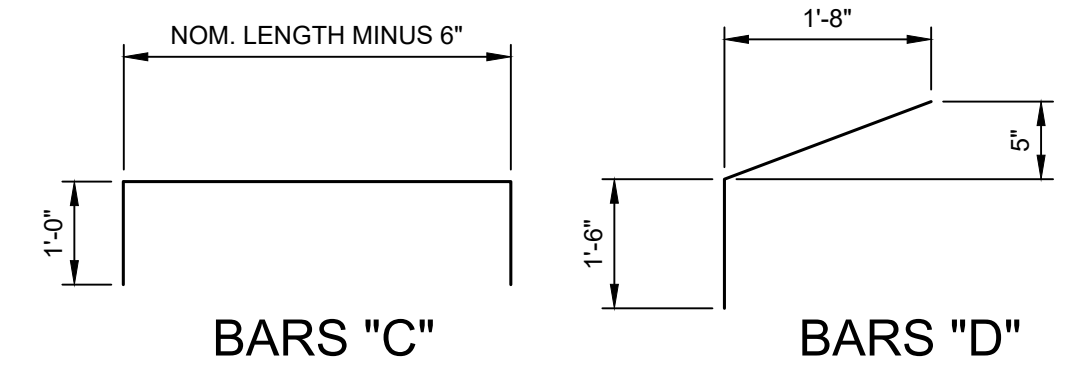
REVISION NO.	DATE	DESCRIPTION	BY





**1 PLAN OF 5' STANDARD INLET**  
C15 C15

- SPECIAL NOTE:**
- CONTRACTOR TO PROVIDE #4 x 12" DOWELS @ 12" O.C. WHERE PROP. SIDEWALK ABUTS INLET. (NO SEPARATE PAYMENT)
  - FOR CURB INLET THROAT EXTENSION DETAILS REFER TO STORM WATER STANDARD DETAIL SHEET 3 OF 3.



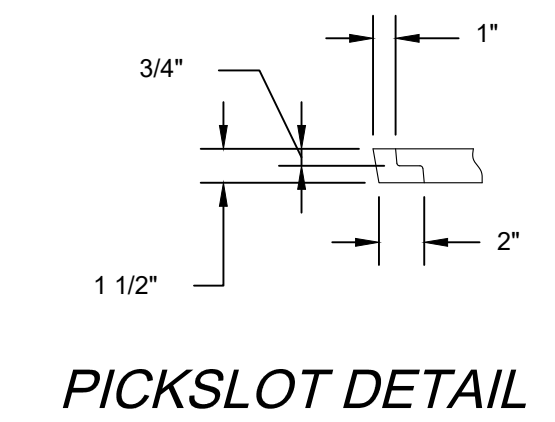
**BARS "C"**      **BARS "D"**

\*\* THROAT OPENINGS SHALL HAVE A 6" X 6" CONCRETE SUPPORT PLACED AT MID-THROAT

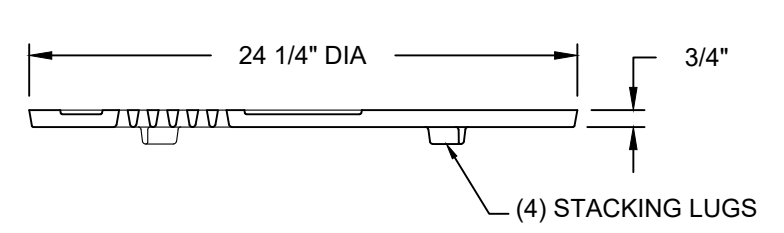
\* NOMINAL LENGTH OF INLET SHALL BE DESIGNATED AS THE CLEAR WIDTH OPENING.

STANDARD CURB INLET STEEL SCHEDULE					
ALL BARS No. 4 PREFORMED					
INLET SIZE (Nom. Length)	NO. REQ'D./LENGTH				
	"A" BARS	"B" BARS	"C" BARS	"D" BARS	"E" BARS
4'	2/a	4/1'-10"	2/5'-6"	4/3'-2"	2/4'-6"
5'	2/a	4/3'-2"	2/6'-6"	4/3'-2"	2/5'-6"
6'	4/a	4/4'-0"	2/7'-6"	6/3'-2"	2/6'-6"
8'	4/a	4/4'-0"	2/9'-6"	6/3'-2"	2/8'-6"
10'	6/a	4/4'-0"	2/11'-6"	7/3'-2"	2/10'-6"
BENDING	STRAIGHT	STRAIGHT	SEE DET.	SEE DET.	STRAIGHT

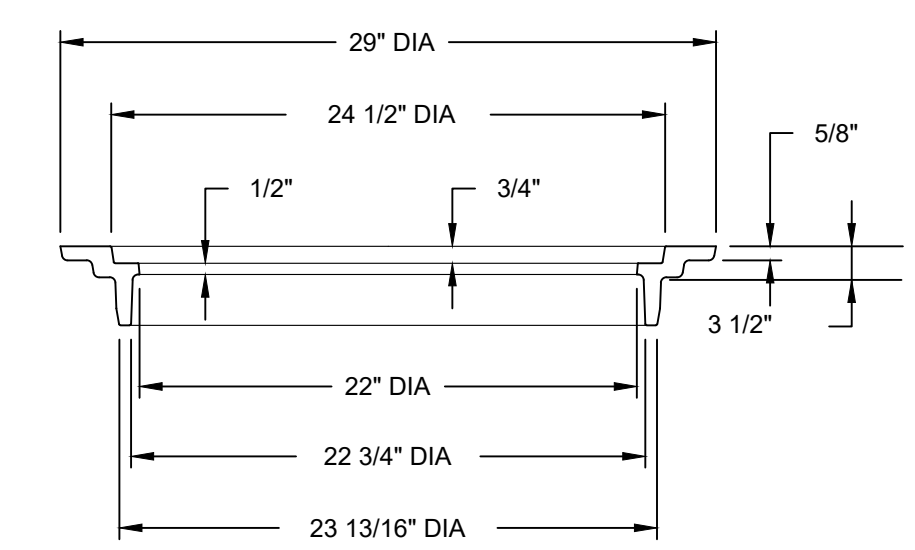
a = O.D. + 8", 2'-8" MIN.      MAX. PIPE I.D. = 48 INCHES



**PICKSLOT DETAIL**



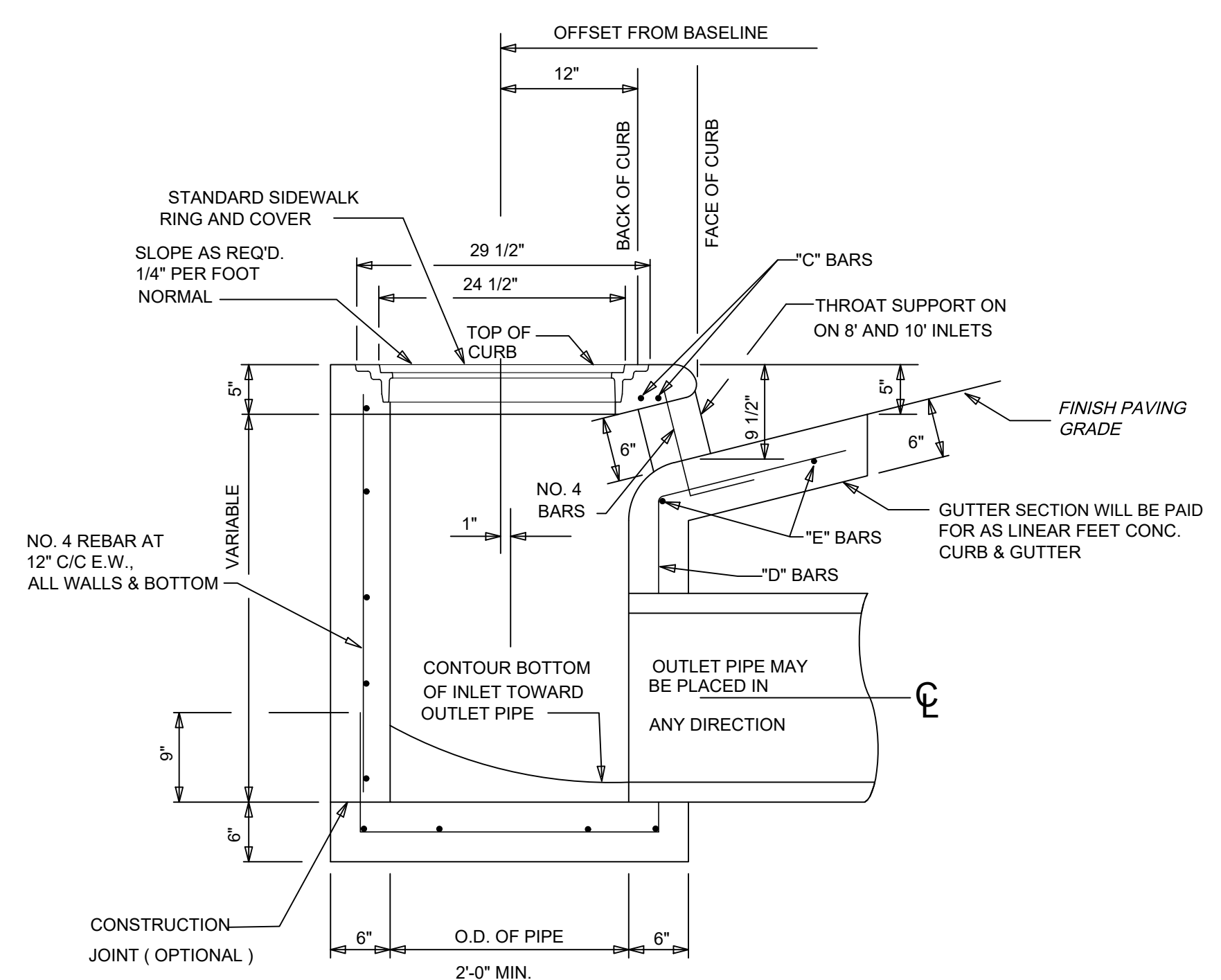
**GRATE SECTION**



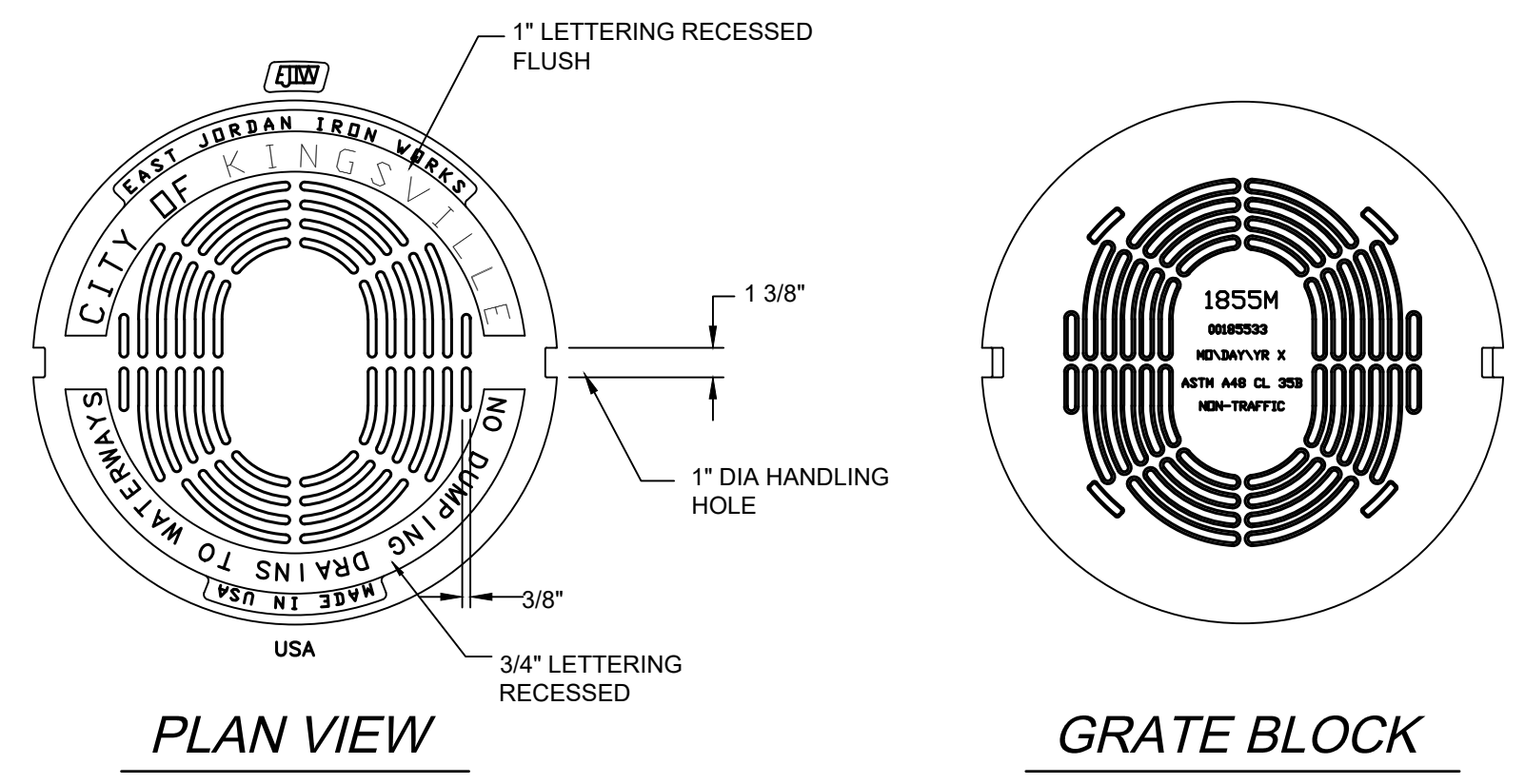
**RING SECTION**

**3 STANDARD INLET AND SIDEWALK MANHOLE RING & COVER CASTING DETAILS**  
C15 C15

- INLET AND SIDEWALK MANHOLE RING & COVER NOTES**
- MANHOLE RING & COVER SHALL BE EAST JORDAN MANHOLE ASSEMBLY FOR LOAD RATING NON-Traffic.
  - THESE DETAILS SHOW GREY-IRON CASTINGS, FILLETED AT ANGLES WITH SHARP AND PERFECT ARISING.
  - CASTING SHALL BE TRUE TO PATTERN, FORM, AND DIMENSIONS, FREE FROM CRACKS, SPONGINESS AND BLOWHOLES.
  - MACHINE SURFACES TO YIELD FIT WHICH WILL NOT RATTLE WITH PASSING TRAFFIC LOAD.
  - TRAFFIC SHALL BE RESTRICTED FROM M.H. FOR 36 HOURS AFTER PLACEMENT OF RING.
  - RING AND COVER SHALL BE DIPPED IN COAL TAR OR ASPHALT.
  - OTHER CASTING PATTERNS FOR RING & COVERS MAY BE SUBMITTED FOR APPROVAL PROVIDED THE PLAN PATTERN OF COVER IS THE SAME AS SHOWN ON THIS SHEET AND PROVIDED OTHER CASTINGS SHALL BE COMPLETELY INTERCHANGEABLE, I.E., THE COVERS OF THIS SHEET SHALL FIT PROPERLY, THE RINGS OF OTHER CASTING DETAILS AND THE COVERS OF OTHER CASTINGS SHALL FIT THE RINGS OF THIS SHEET.
  - MINIMUM WEIGHTS OF FINISHED CASTINGS: THE COVER = 60 POUNDS, THE RING = 135 POUNDS.

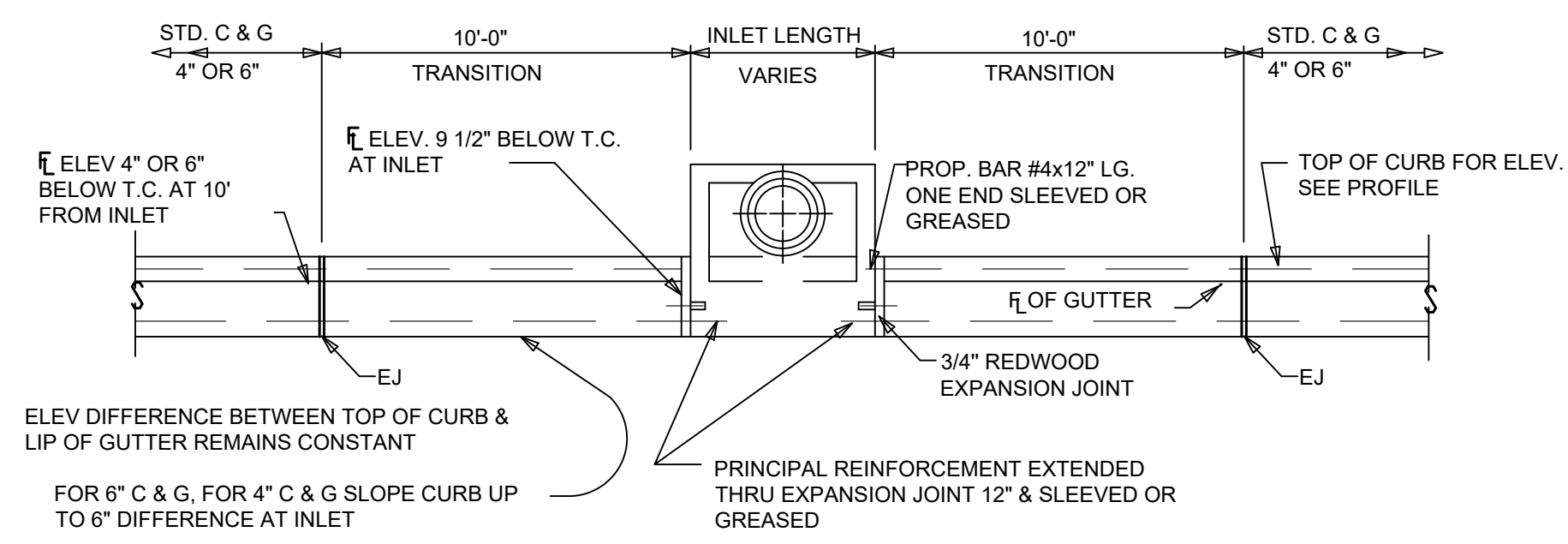


**SECTION A-A**  
NOT TO SCALE

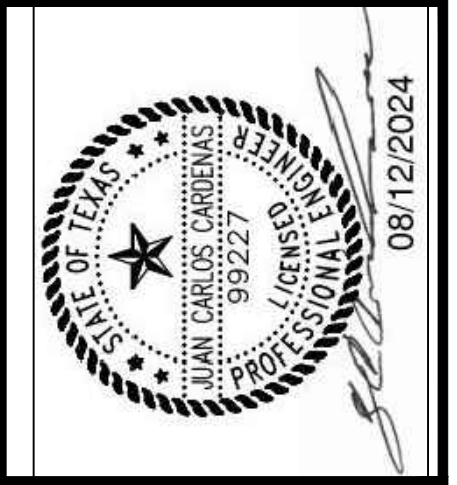


**PLAN VIEW**

**GRATE BLOCK**



**2 FLOWLINE TRANSITION AT INLET FOR 4" OR 6" STD CURB AND GUTTER**  
C15 C15



**IE**

INTERNATIONAL CONSULTING ENGINEERS  
262 S. SARATOGA BLVD.  
CORPUS CHRISTI, TX 78407  
PHONE: 361.826.5805  
FAX: 361.826.5806  
T.B.P.E. FIRM REGISTRATION # - 10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**STORM WATER DETAILS**

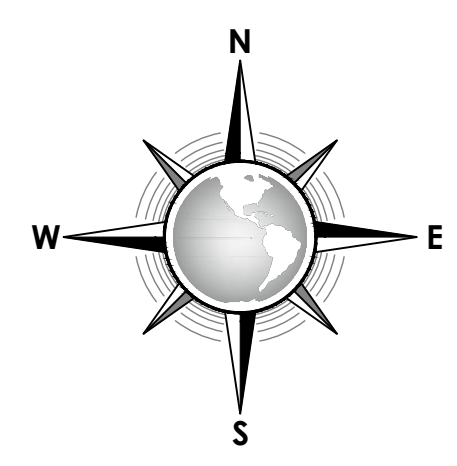
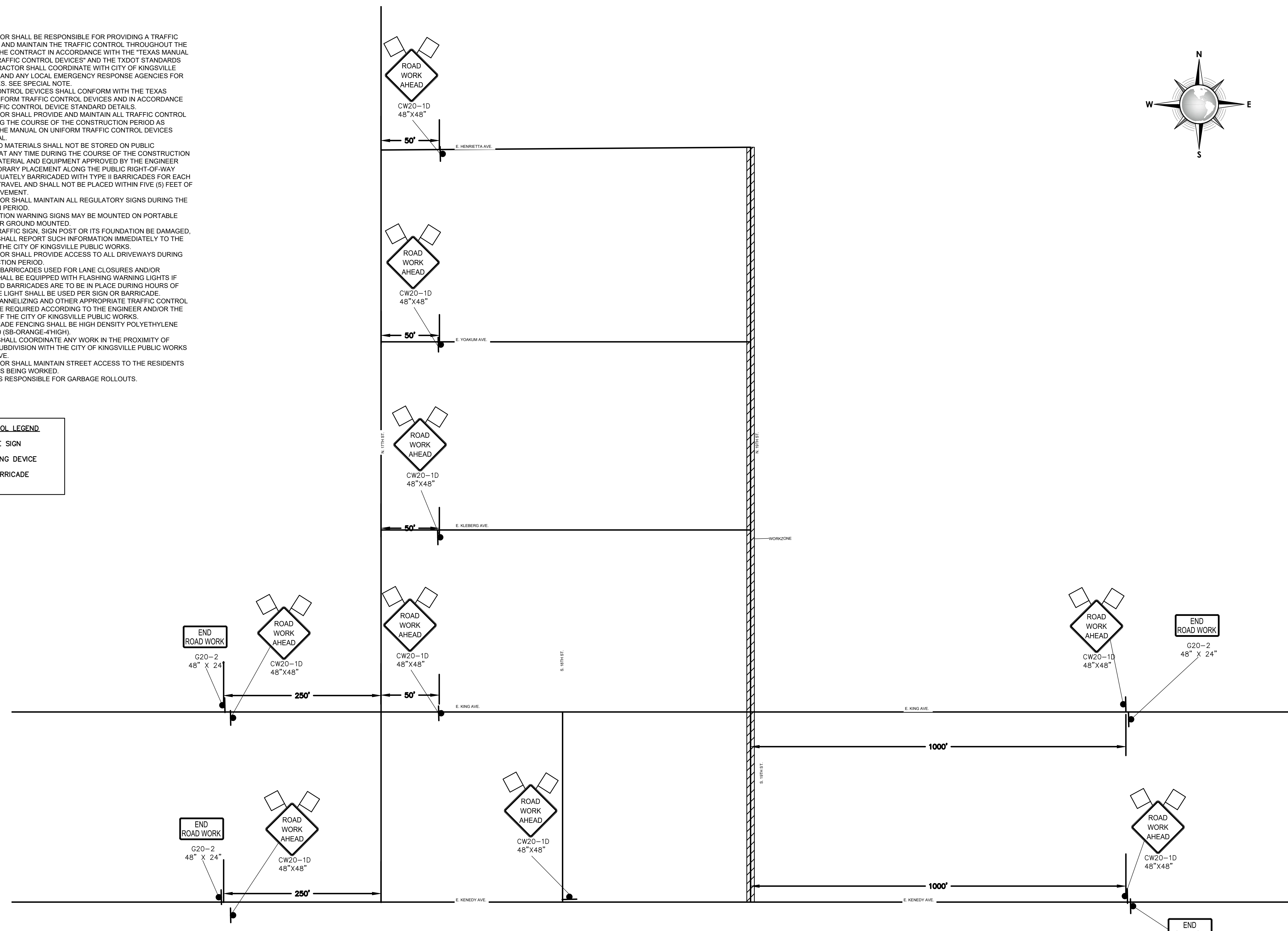
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N. 19TH ST. 1 - Drawings\2 - Chit\220-222-COCC-Storm Water-11.dwg LAYOUT NAME: 1 - PLOTTED: Monday, August 12, 2024 - 2:12pm USER: izpedra



**GENERAL NOTES:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A TRAFFIC CONTROL PLAN AND MAINTAIN THE TRAFFIC CONTROL THROUGHOUT THE DURATION OF THE CONTRACT IN ACCORDANCE WITH THE 'TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' AND THE 'TXDOT STANDARDS SHEETS. CONTRACTOR SHALL COORDINATE WITH CITY OF KINGSVILLE PUBLIC WORKS AND ANY LOCAL EMERGENCY RESPONSE AGENCIES FOR ROAD CLOSURES. SEE SPECIAL NOTE.
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND IN ACCORDANCE WITH THE TRAFFIC CONTROL DEVICE STANDARD DETAILS.
3. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES DURING THE COURSE OF THE CONSTRUCTION PERIOD AS REQUIRED BY THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) MANUAL.
4. EQUIPMENT AND MATERIALS SHALL NOT BE STORED ON PUBLIC RIGHT-OF-WAY AT ANY TIME DURING THE COURSE OF THE CONSTRUCTION PERIOD. ANY MATERIAL AND EQUIPMENT APPROVED BY THE ENGINEER FOR THE TEMPORARY PLACEMENT ALONG THE PUBLIC RIGHT-OF-WAY SHALL BE ADEQUATELY BARRICADED WITH TYPE II BARRICADES FOR EACH DIRECTION OF TRAVEL AND SHALL NOT BE PLACED WITHIN FIVE (5) FEET OF THE STREET PAVEMENT.
5. THE CONTRACTOR SHALL MAINTAIN ALL REGULATORY SIGNS DURING THE CONSTRUCTION PERIOD.
6. ALL CONSTRUCTION WARNING SIGNS MAY BE MOUNTED ON PORTABLE DEVICES AND/OR GROUND MOUNTED.
7. SHOULD ANY TRAFFIC SIGN, SIGN POST OR ITS FOUNDATION BE DAMAGED, CONTRACTOR SHALL REPORT SUCH INFORMATION IMMEDIATELY TO THE ATTENTION OF THE CITY OF KINGSVILLE PUBLIC WORKS.
8. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS DURING THE CONSTRUCTION PERIOD.
9. ALL SIGNS AND BARRICADES USED FOR LANE CLOSURES AND/OR PROTECTION SHALL BE EQUIPPED WITH FLASHING WARNING LIGHTS IF SUCH SIGNS AND BARRICADES ARE TO BE IN PLACE DURING HOURS OF DARKNESS. ONE LIGHT SHALL BE USED PER SIGN OR BARRICADE.
10. ADDITIONAL CHANNELIZING AND OTHER APPROPRIATE TRAFFIC CONTROL DEVICES MAY BE REQUIRED ACCORDING TO THE ENGINEER AND/OR THE DEPARTMENT OF THE CITY OF KINGSVILLE PUBLIC WORKS.
11. SAFETY BARRICADE FENCING SHALL BE HIGH DENSITY POLYETHYLENE TENSAR-UX4050 (SB-ORANGE-4'HIGH).
12. CONTRACTOR SHALL COORDINATE ANY WORK IN THE PROXIMITY OF BLUEBONNET SUBDIVISION WITH THE CITY OF KINGSVILLE PUBLIC WORKS REPRESENTATIVE.
13. THE CONTRACTOR SHALL MAINTAIN STREET ACCESS TO THE RESIDENTS OF THE STREETS BEING WORKED.
14. CONTRACTOR IS RESPONSIBLE FOR GARBAGE ROLLOUTS.

TRAFFIC CONTROL LEGEND	
	WORK ZONE SIGN
	CHANNELIZING DEVICE
	TYPE III BARRICADE



**1**  
C16 C16  
**ADVANCE WARNING PLAN**  
SCALE: N.T.S.

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.C.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2**  
**(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**ADVANCE WARNING PLAN**

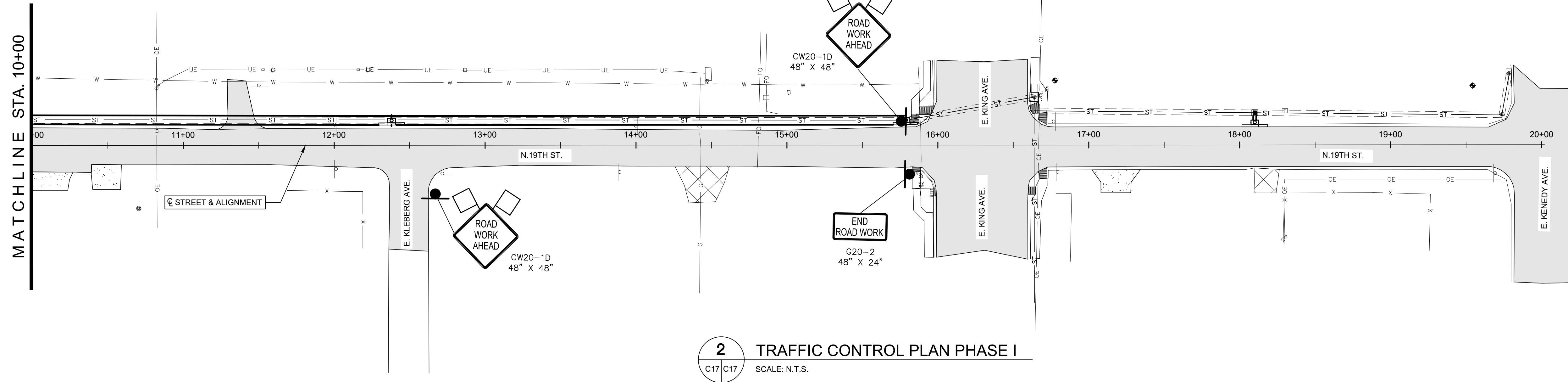
DRAWING NO.  
**C16**

SHEET 17 of 39

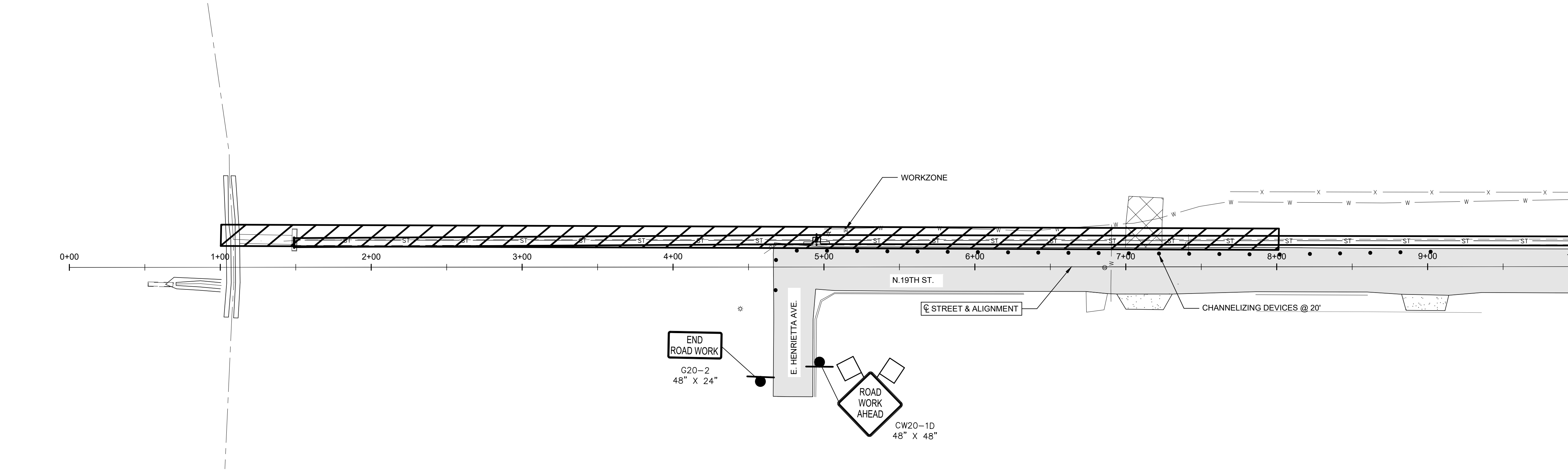
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\Advance Warning.dwg LAYOUT NAME: 1 - PLOTTED: Monday, August 12, 2024 - 2:12pm USER: izepeta



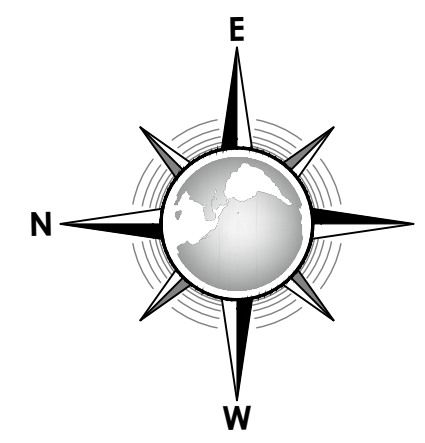
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1-Drawings\2 - Civil\Traffic Control Phase 1.dwg LAYOUT NAME: 1 PLOTTED: Monday, August 12, 2024 - 2:13pm USER: lreppeto



**2** TRAFFIC CONTROL PLAN PHASE I  
C17 C17 SCALE: N.T.S.



**1** TRAFFIC CONTROL PLAN PHASE I  
C17 C17 SCALE: N.T.S.



CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.B.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

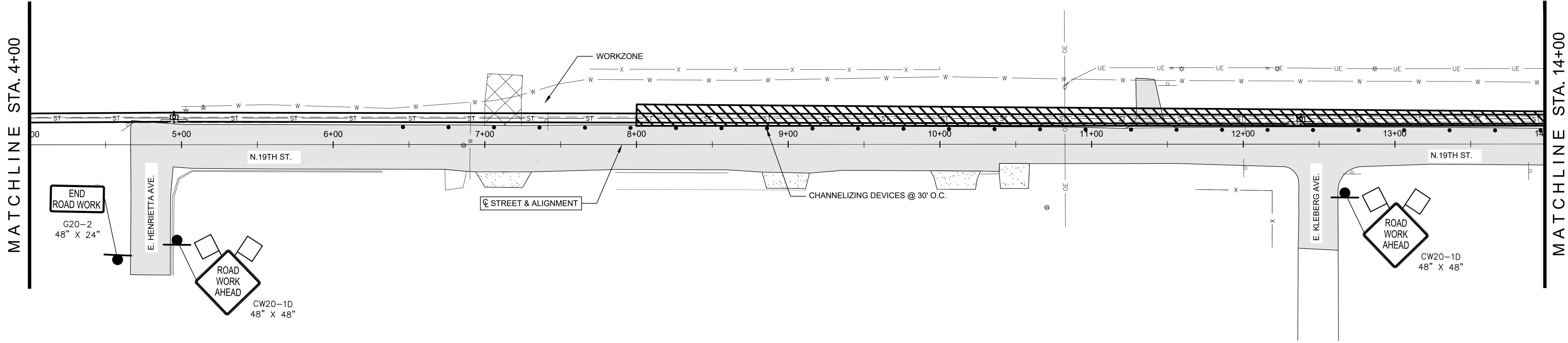
TRAFFIC CONTROL PLAN I

REVISION NO. DATE BY DESCRIPTION

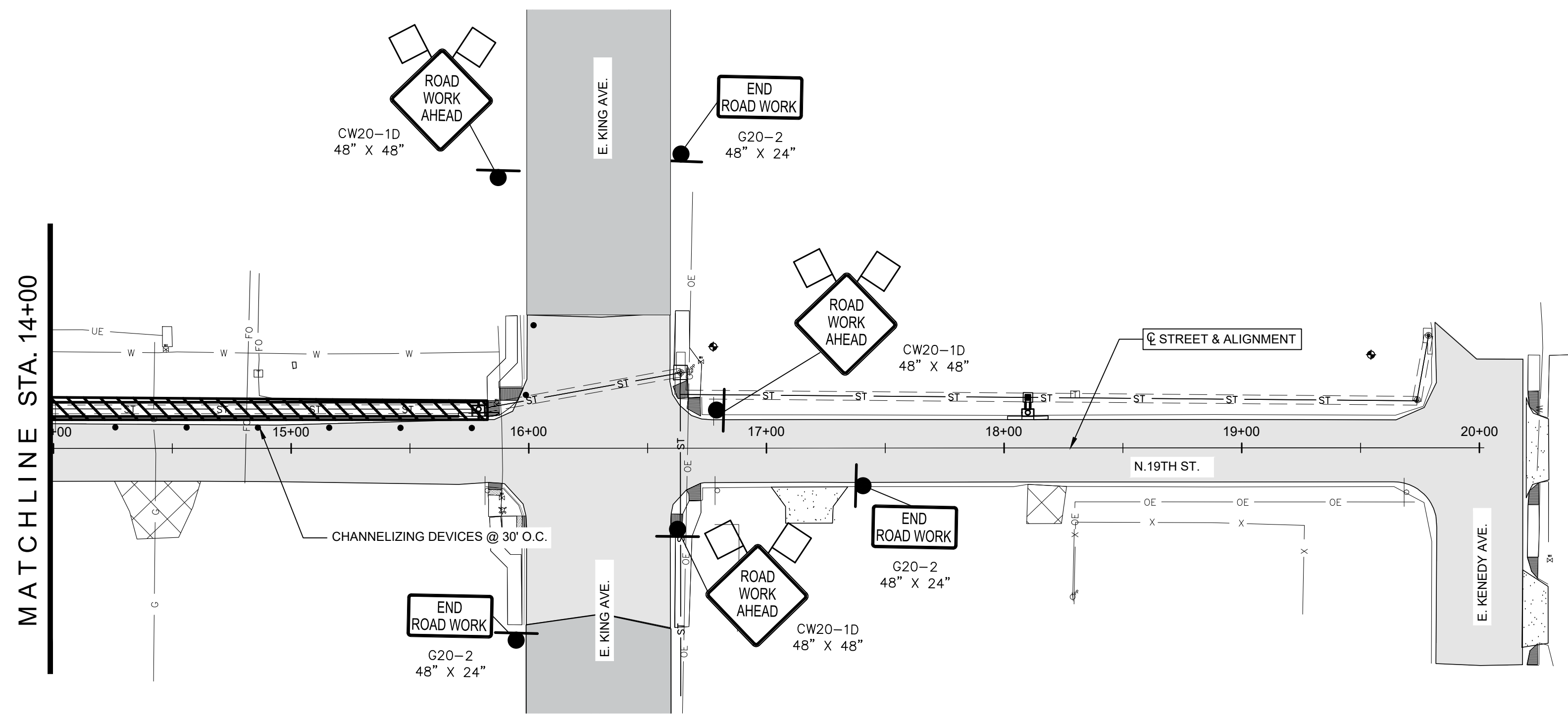
DRAWING NO.  
**C17**

SHEET 18 of 39

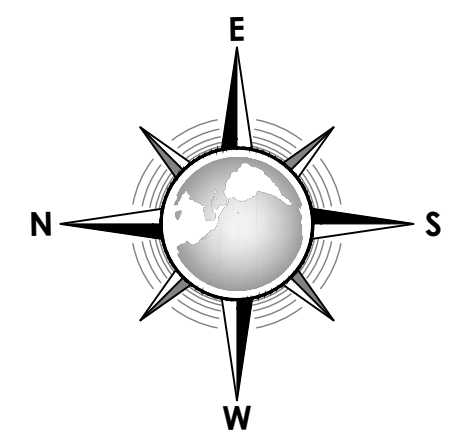
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civil\Traffic Control Phase 2.dwg LAYOUT NAME: 1 PLOTTED: Monday, August 12, 2024 - 2:13pm USER: lreppert



**1** TRAFFIC CONTROL PLAN PHASE II  
C18/C18 SCALE: N.T.S.



**2** TRAFFIC CONTROL PLAN PHASE II  
C18/C18 SCALE: N.T.S.



CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.B.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**TRAFFIC CONTROL PLAN II**

REVISION NO.	DATE	DESCRIPTION

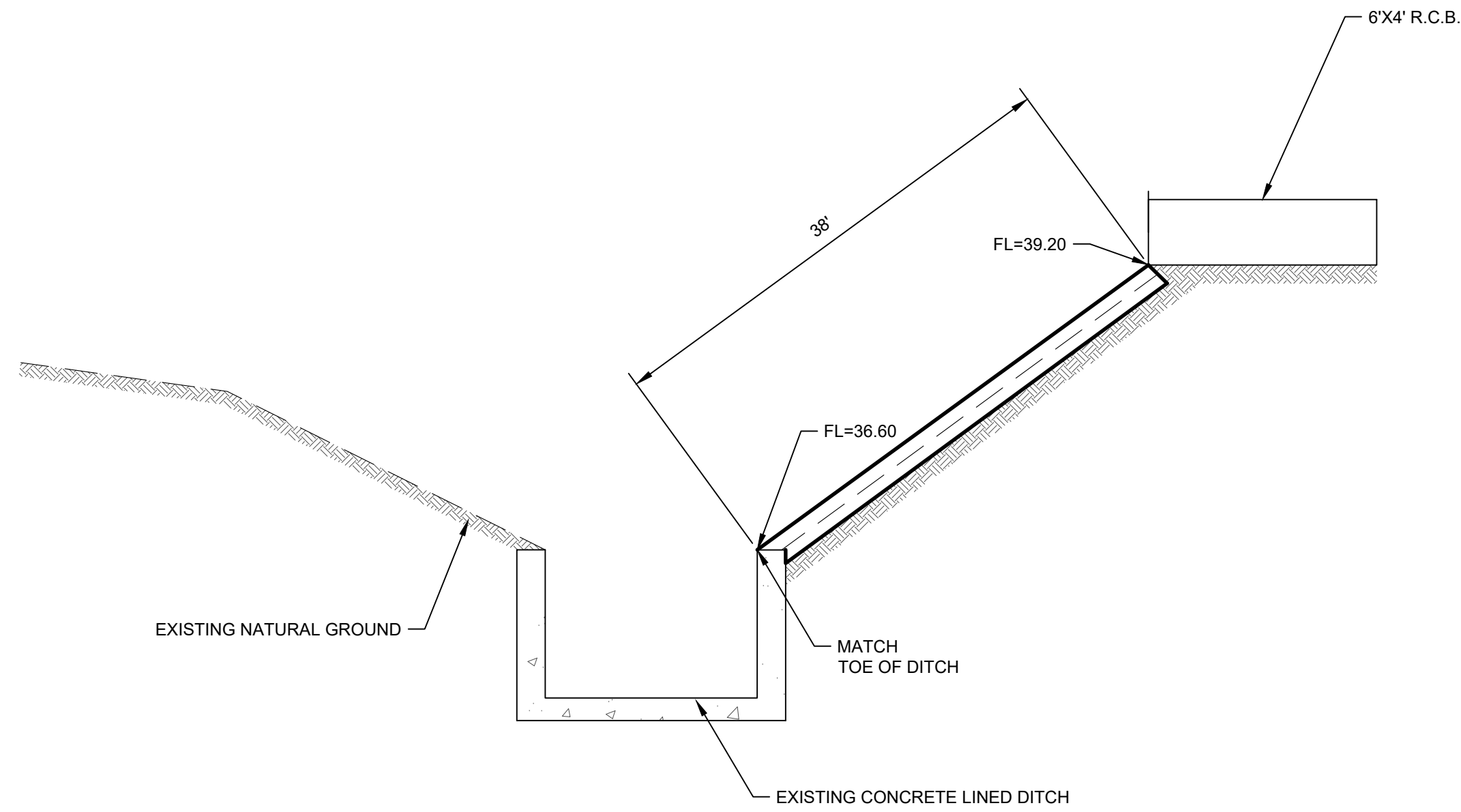
DRAWING NO.  
**C18**

SHEET 19 of 39

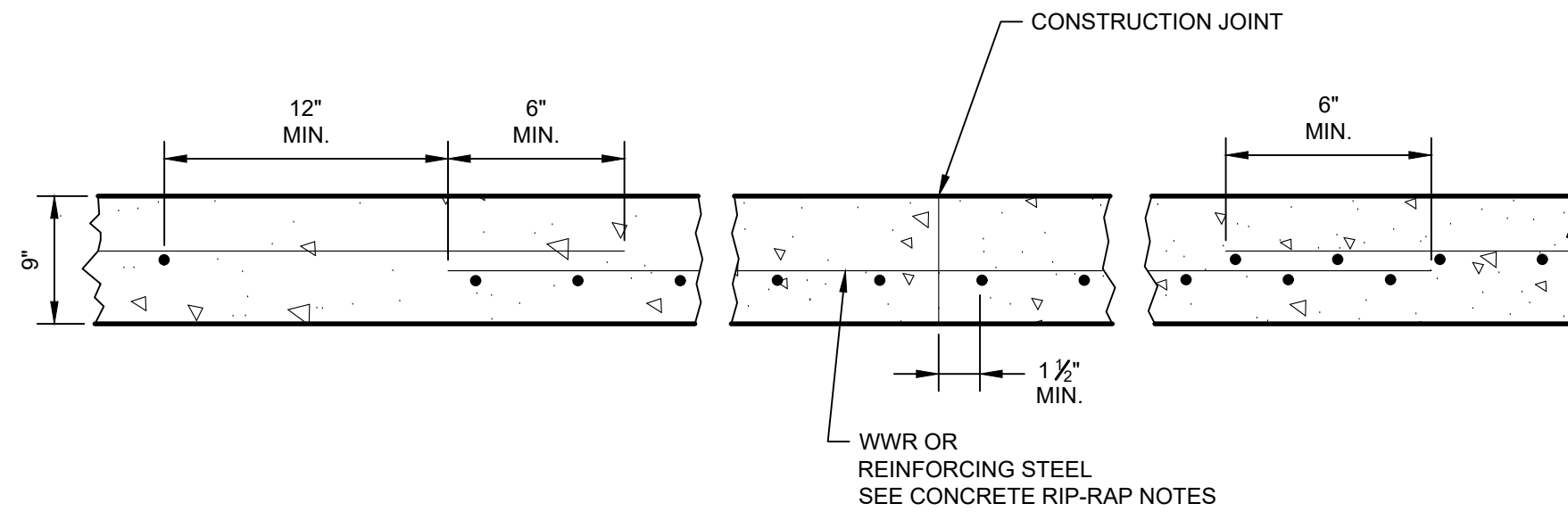




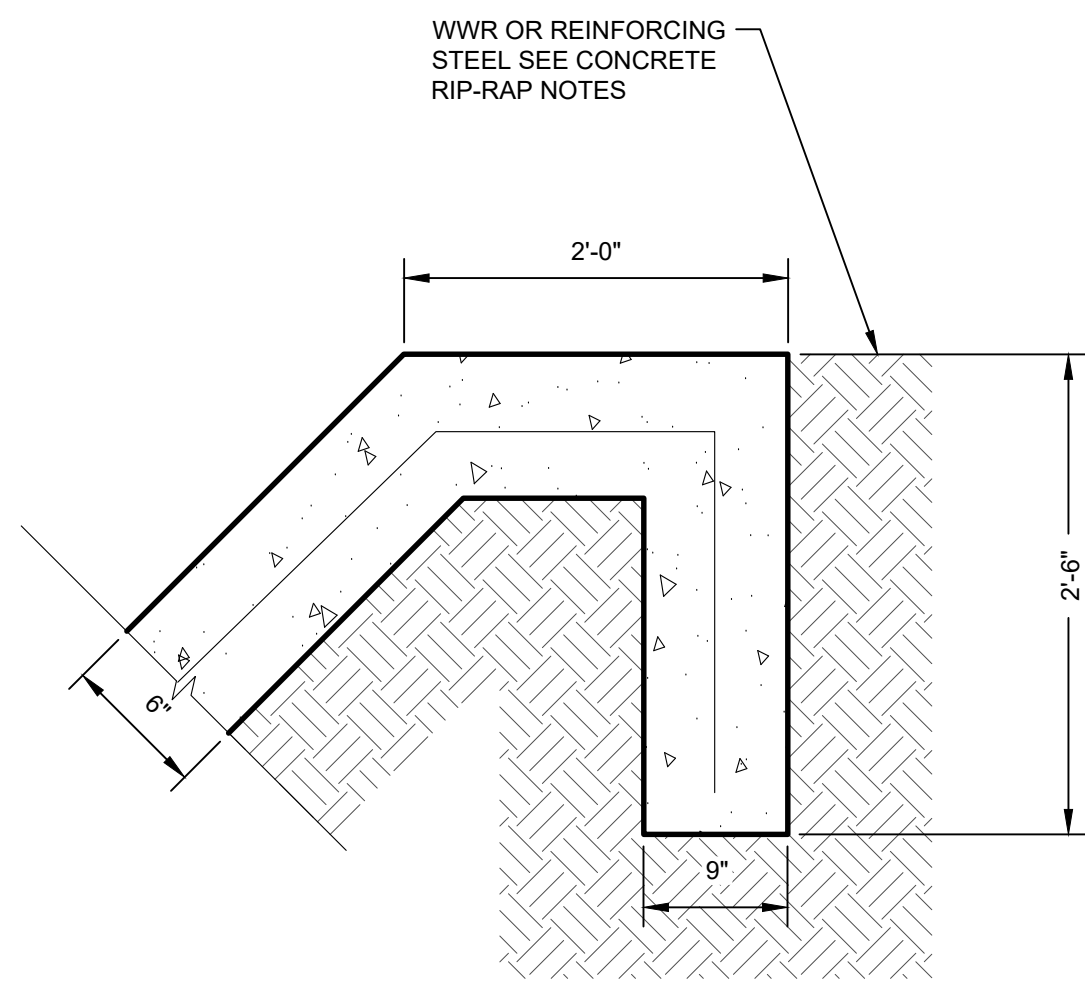
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N 19TH ST\1-Drawings\2 - Civil\RIPRAP DETAILS.dwg LAYOUT NAME: Layout1 PLOTTED: Monday, August 12, 2024 - 2:13pm USER: lzpereda



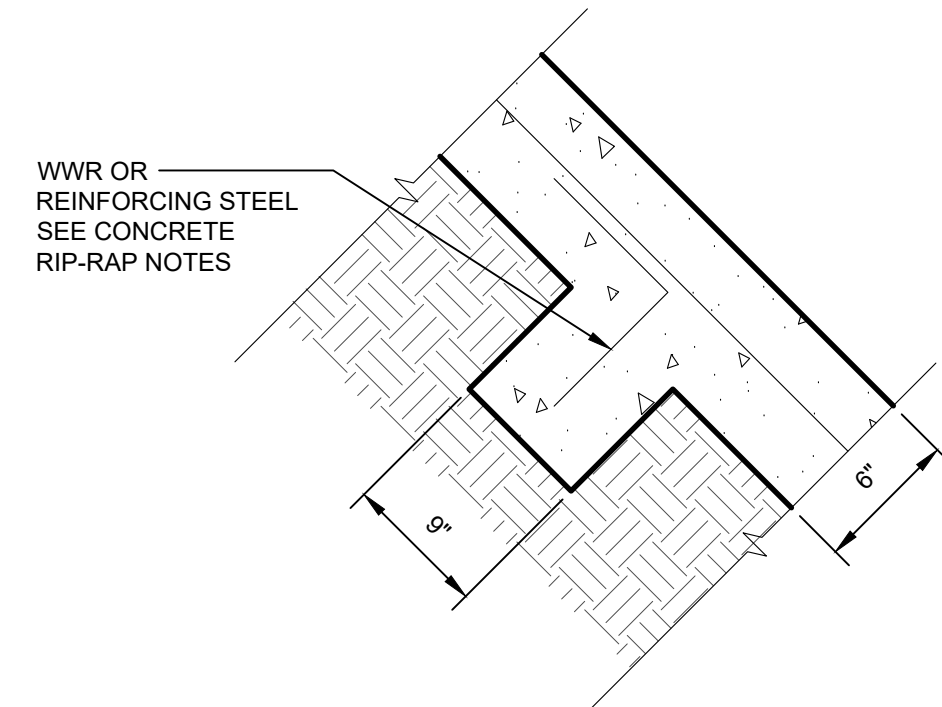
**1** CONCRETE RIP-RAP AT EXISTING CONCRETE LINED DITCH  
SCALE: 1" = 10'



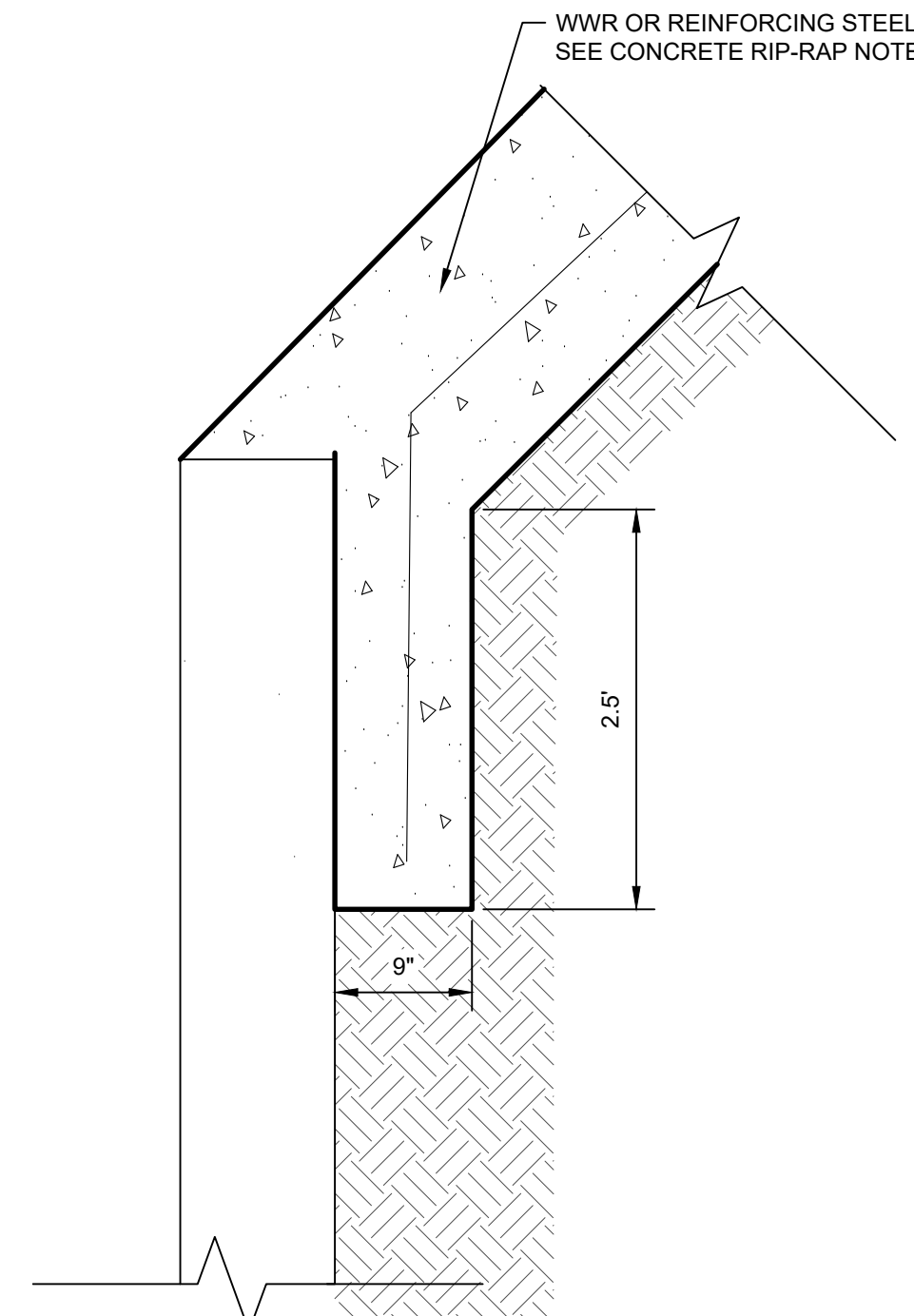
**A** WWR, REINFORCING AND CONSTRUCTION JOINT DETAIL  
SCALE: 1" = 1'-0"



**B** UPPER TOE WALL DETAIL  
SCALE: 1" = 1'-0"



**C** INTERMEDIATE TOE WALL DETAIL  
SCALE: 1" = 1'-0"



**D** INTERIOR TOE WALL DETAIL  
SCALE: 1" = 5'

**CONCRETE RIP-RAP NOTES:**

- CONCRETE RIP-RAP SHALL BE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI UNLESS NOTED ELSEWHERE IN PLANS.
- REINFORCING STEEL
  - ALL REINFORCING STEEL SHALL BE GRADE 60.
  - REINFORCING BARS SHALL BE #4 AT 18" C-C.
  - WELDED WIRE REINFORCEMENT (WWR) SHALL BE 6X6-W2 9XW2 9 SHEETS.
  - COMBINATIONS OF WWR SHEETS AND REINFORCING BARS MAY BE USED IF BOTH ARE PERMITTED.
  - LAP SPLICES SHALL BE A MINIMUM OF 6", MEASURED FROM THE TRANSVERSE WIRE OF WWR AND THE ENDS OF REINFORCING BARS.
- UNLESS SPECIFIED ELSEWHERE IN THE PLANS TO BE ONLY REINFORCING BARS, THE RIP-RAP REINFORCING MAY BE COMPOSED OF REINFORCING BARS, WELDED WIRE REINFORCEMENT SHEETS(WWR), OR ANY SUITABLE COMBINATION OF BOTH TYPES.
- CONSTRUCTION JOINTS SHALL MATCH THOSE IN RETAINING WALL WHEN ADJACENT TO RETAINING WALL OTHERWISE, CONSTRUCTION JOINTS SHALL BE LOCATED AT 50 FOOT INTERVALS AND EXPANSION JOINTS EVERY 30 FEET UNLESS OTHERWISE DIRECTED BY THE RESIDENT PROJECT REPRESENTATIVE.
- DOWEL BAR SHALL BE 1-1/4" DIAMETER SMOOTH STEEL BAR SLEEVED ON ONE SIDE OF EXPANSION JOINT.
- EXPANSION JOINT MATERIAL SHALL BE 1/2" BY 4" ASPHALT IMPREGNATED FIBER BOARD. EXPANSION MATERIAL TO RUN FULL LENGTH OF JOINT.

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.B.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**RIPRAP DETAILS**

REVISION NO. DATE BY DESCRIPTION

DRAWING NO. **C20**

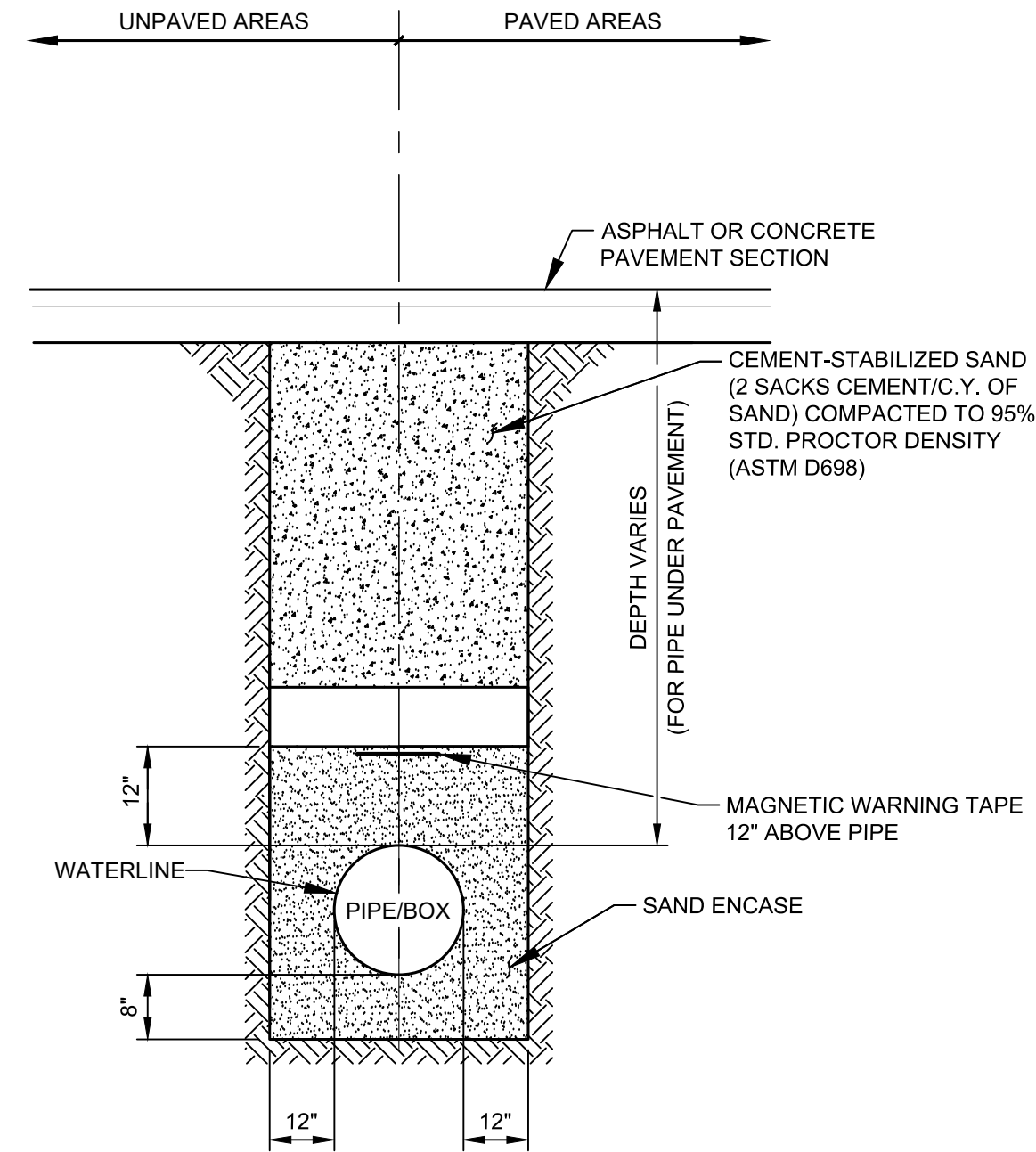
SHEET 21 of 39



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Civi\C24-27 WATER STD DETAILS I\1.dwg LAYOUT NAME: WATER STD DETAILS I - PLOTTED: Monday, August 12, 2024 - 2:13pm USER: lizeptda

### WATER DISTRIBUTION SYSTEM GENERAL NOTES

- PROPOSED WATER DISTRIBUTION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF KINGSVILLE PUBLIC WORKS DEPARTMENT STANDARDS.
- THE CITY RESERVES THE RIGHT TO ACCEPT THE SYSTEM FOR OPERATION AT ANY TIME, BUT THE DATE OF OFFICIAL ACCEPTANCE OF THE SYSTEM WILL BE UPON COMPLETION OF THE PROJECT AND SATISFACTORY TEST RESULTS.
- THE EXISTING SYSTEM SHALL REMAIN IN SERVICE UNTIL THE PROPOSED SYSTEM IS PUT INTO SERVICE. THE CONTRACTOR SHALL PROTECT THE EXISTING SYSTEM UNTIL IT IS TAKEN OUT OF SERVICE.
- THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE PROPOSED SYSTEM.
- TESTING OF LINES (STERILIZATION AND PRESSURED) SHALL BE DONE BY THE CONTRACTOR UNDER THE SUPERVISION OF THE CITY. WATER FOR FILLING THE NEW WATER LINE AND PERFORMING TESTS WILL BE FURNISHED TO THE CONTRACTOR BY THE CITY THROUGH A STANDARD WATER CONSTRUCTION METER CONNECTION. STANDARD WATER CONSTRUCTION METER AND GAUGE WILL BE SUPPLIED BY THE CITY AFTER THE CONTRACTOR HAS PAID ALL APPLICABLE FEES FOR THE WATER CONSTRUCTION METER. ALL WATER DISCHARGE MUST BE DECHLORINATED IN ACCORDANCE WITH TNRCC & NPDES REGULATIONS.
- THE CONTRACTOR SHALL RECOVER AND STOCK-PILE AT A LOCATION DESIGNATED BY THE PUBLIC WORKS INSPECTOR, ALL FIRE HYDRANTS, VALVES, AND FITTINGS THAT ARE TAKEN OUT OF SERVICE. THESE MATERIALS MAY BE SALVAGED BY THE CITY. HOWEVER, ALL ITEMS NOT CLAIMED BY THE CITY PRIOR TO THE FINAL INSPECTION SHALL BE DISPOSED OF BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BEAR ALL COST ASSOCIATED WITH WATERLINE REPAIRS (WHICH RESULT FROM DAMAGE CAUSED BY THE CONTRACTOR) UPON COMPLETION OF PROJECTS. ALL WATER LINES SHALL BE FREE OF ALL PATCHES AND SPLICES.
- ALL PHYSICAL TIES OF THE PROPOSED SYSTEM INTO THE EXISTING WATERLINE SHALL BE RECONNECTED AND BE MADE UNDER SUPERVISION OF THE PUBLIC WORKS INSPECTOR. THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND ALL EQUIPMENT THAT IS REQUIRED TO MAKE TIE-INS. CITY CREWS WILL MAKE TAPS ON CITY MAINS ARRANGED THROUGH CITY INSPECTOR (72 HOUR NOTIFICATION).
- ALL EXISTING SERVICE CONNECTIONS TIED ONTO THE EXISTING WATERLINE SHALL BE RECONNECTED BY THE CONTRACTOR, INCLUDING RELOCATING EXISTING WATER METERS. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY AND COORDINATE WITH THE CITY INSPECTOR SAID RECONNECTIONS / RELOCATIONS IN ADVANCE OF CONSTRUCTION TO AVOID DELAYS. (NO SEPARATE COSTS)
- MINOR LENGTH OF DUCTILE IRON PIPE ADJACENT TO FITTINGS MAY BE REQUIRED AS DIRECTED BY THE CITY INSPECTOR BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. THE CONTRACTOR SHALL USE D.I.P. AS DIRECTED AND SHALL BE PAID AT THE UNIT PRICE BID FOR THE APPROPRIATE SIZE WATERLINE. A MINOR LENGTH IS DEFINED AS A SINGLE LOCATION REQUIRING THE USE OF TWO JOINTS OR LESS.
- MINOR ADJUSTMENTS IN THE LOCATIONS OF FITTINGS, VALVES, FIRE HYDRANTS, ETC. CAN BE ANTICIPATED. THE CONTRACTOR SHALL MAKE SAID MINOR ADJUSTMENTS AS DIRECTED BY THE ENGINEER AND/OR WATER DIVISION INSPECTOR AT NO INCREASE OF CONTRACT PRICE. WATER DIVISION WILL BE NOTIFIED PRIOR TO ALL CHANGES.
- ALL NIPPLES BETWEEN FITTINGS AND VALVES ALONG MAINS SHALL BE DUCTILE IRON.
- ALL DUCTILE IRON PIPES, VALVES, AND FITTINGS SHALL BE WRAPPED WITH (2) THICKNESSES OF 8 MIL. POLYETHYLENE AND SHALL BE RESTRAINED WITH "MEGALUG", MECHANICAL JOINT RESTRAINT OR ENGINEER APPROVED EQUAL AT ALL FITTINGS.
- ALL OFFSETS ARE TO BE DUCTILE IRON PIPE ASSEMBLIES LOCKED TOGETHER BY RETAINER GLANDS. DUCTILE IRON BENDS SHALL BE UTILIZED FOR ANY CHANGES IN ALIGNMENT OR GRADE.
- IF A WATER LINE IS TO BE ABANDONED, THE CONTRACTOR WILL FILL WITH CONTROLLED LOW STRENGTH MATERIAL, "DARAFILL" BRAND OR ENGINEER APPROVED EQUAL. VALVES WILL BE REMOVED OR FILLED AS REQUIRED BY CITY INSPECTOR.
- CONTRACTOR SHALL COORDINATE WITH CITY INSPECTOR AND NOTIFY ALL AFFECTED CUSTOMERS 24 HOURS PRIOR TO KILLOUT OF EXISTING WATER SYSTEM.
- CITY OF PORTLAND PUBLIC WORKS DEPARTMENT STANDARDS CALL FOR MAXIMUM 48" COVER ON WATERLINES. WHEN DEPTHS EXCEED 48" COVER TO AVOID OBSTRUCTION, THE USES OF BENDS COULD BE REQUIRED.
- CONTRACTOR SHALL KEEP ALL EXISTING VALVES ACCESSIBLE DURING ALL PHASES OF CONSTRUCTION.
- ALL NEW WATER MAINS SHALL BE INSTALLED SO THAT PIPE IDENTIFICATION MARKINGS ARE LOCATED ON THE TOP OF THE PIPE.
- ALL SERVICE LINES UNDER PAVEMENT SHALL BE ONE INCH, INSIDE DIAMETER, MINIMUM.
- THE SEPARATION OF WATER AND WASTEWATER LINES AND THE MATERIAL USED SHALL BE IN ACCORDANCE WITH THE "RULES & REGULATIONS FOR PUBLIC WATER SYSTEMS" OF TEXAS NATURAL RESOURCE CONSERVATION COMMISSION AND THE CITY WATER DETAILS.
- WHENEVER WATER & WASTEWATER LINES CROSS, ONE JOINT OF C900 PVC WATER LINE SHALL BE CENTERED OVER THE WASTEWATER LINE IN ADDITION TO ANY REQUIREMENTS AS DICTATED BY ITEM 21 ABOVE.
- CONTRACTOR MAY BE REQUIRED BY THE WATER DIVISION INSPECTOR TO INSTALL CENTERED JOINTS OF DUCTILE IRON PIPE AT WATERLINE CROSSINGS OF EXISTING HAZARDOUS PRODUCT FLOWLINES.



1  
C21 | C21

### TYP. PIPE TRENCHING, BEDDING AND BACKFILL FOR WATERLINE

SCALE: N.T.S.

#### GENERAL NOTES FOR BACKFILL

TABLE 1  
BEDDING AND INITIAL BACKFILL  
(BELOW PIPE TO 12" ABOVE PIPE)

- ALL BEDDING SHALL CONSIST OF THE FOLLOWING OR REFER TO DESIGN ENGINEER REQUIREMENTS:  
GRANULAR BACKFILL CONSISTING OF EITHER NATURAL SAND OR SANDY GRAVEL, OR MATERIAL PRODUCED BY CRUSHING OF NATURAL STONE OR GRAVEL.

MEETING REQUIREMENTS OF ASTM D2487 FOR:  
SP GP  
SW GW  
SP-SM GP-GM  
SW-SM GW-GM

AND IN ADDITION:  
PASSING 1/2" SIEVE - 100%  
PASSING #4 SIEVE - 30% MINIMUM  
PLASTICITY INDEX (PI) - NP TO 10 MAX.

- BACKFILL SHALL BE CEMENT STABILIZED SAND (2 SK/C.Y.) AND SHALL MEET THE FOLLOWING REQUIREMENTS:

SAND GRADATION:  
% PASSING

#4	55-100
#10	40-100
#40	25-100
#200	10-20
PI	NP-10

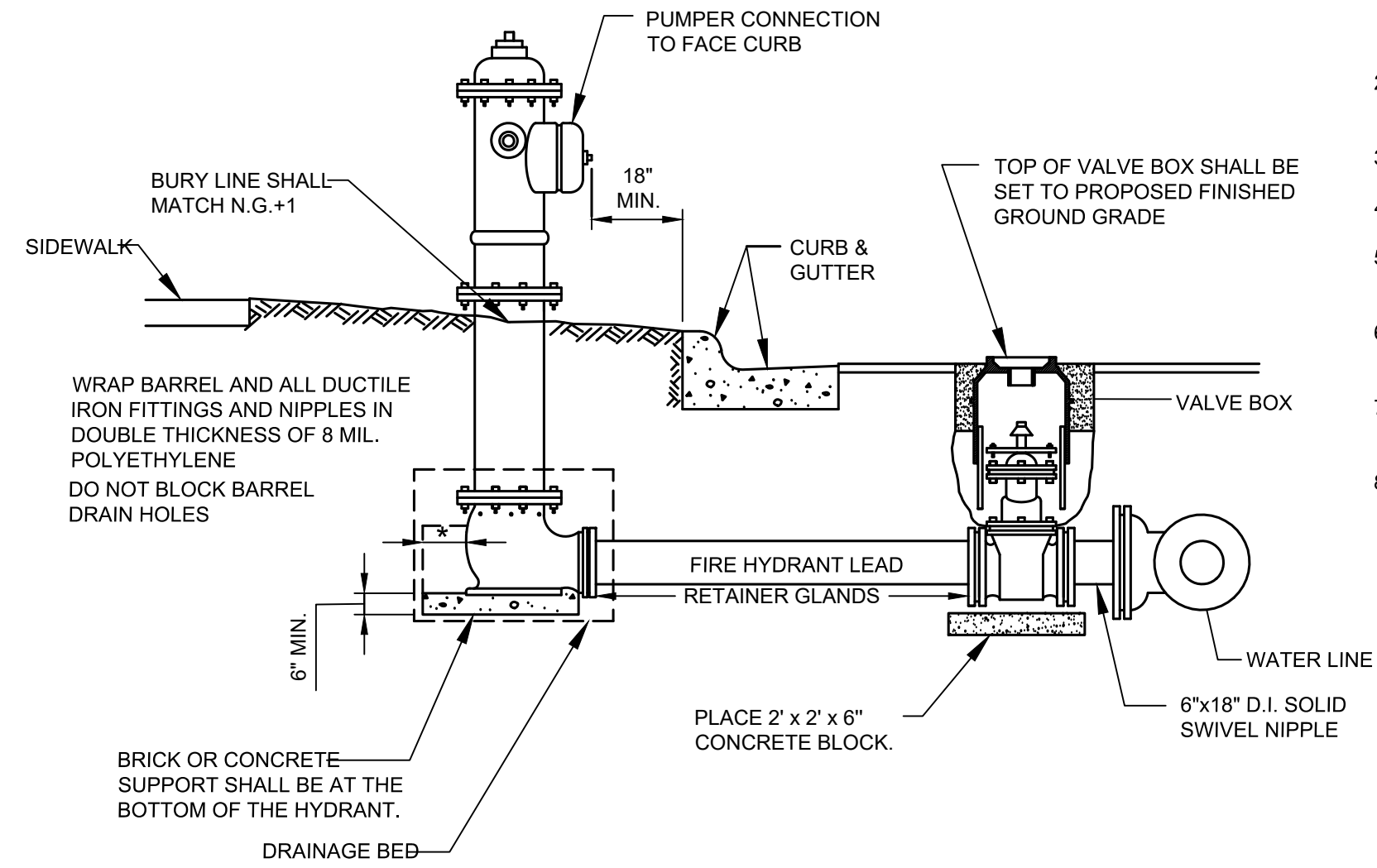
(OR AS PER DESIGN ENGINEER)

COMPACT TO 95% OF D698. MOISTURE TO BE ADJUSTED TO (+/-2%) OF OPTIMUM.

CONSULTANT'S SHEET PROJECT NO. 21107-01B			
		INTERNATIONAL CONSULTING ENGINEERS 261 SARATOGA BLVD. CORPUS CHRISTI, TX 78417 PHONE: 361.926.5805 FAX: 361.926.5806 I.C.E. FIRM REGISTRATION #F-10837	
CITY OF Kingsville 		CITY OF KINGSVILLE GLO SW PROJECT 2 (N. 19TH ST.) STORM WATER IMPROVEMENTS KINGSVILLE, KLEBERG COUNTY, TEXAS WATER STANDARD DETAILS I	
REVISION NO.	DATE	DESCRIPTION	BY
C21		DRAWING NO.	
SHEET 22 of 39			



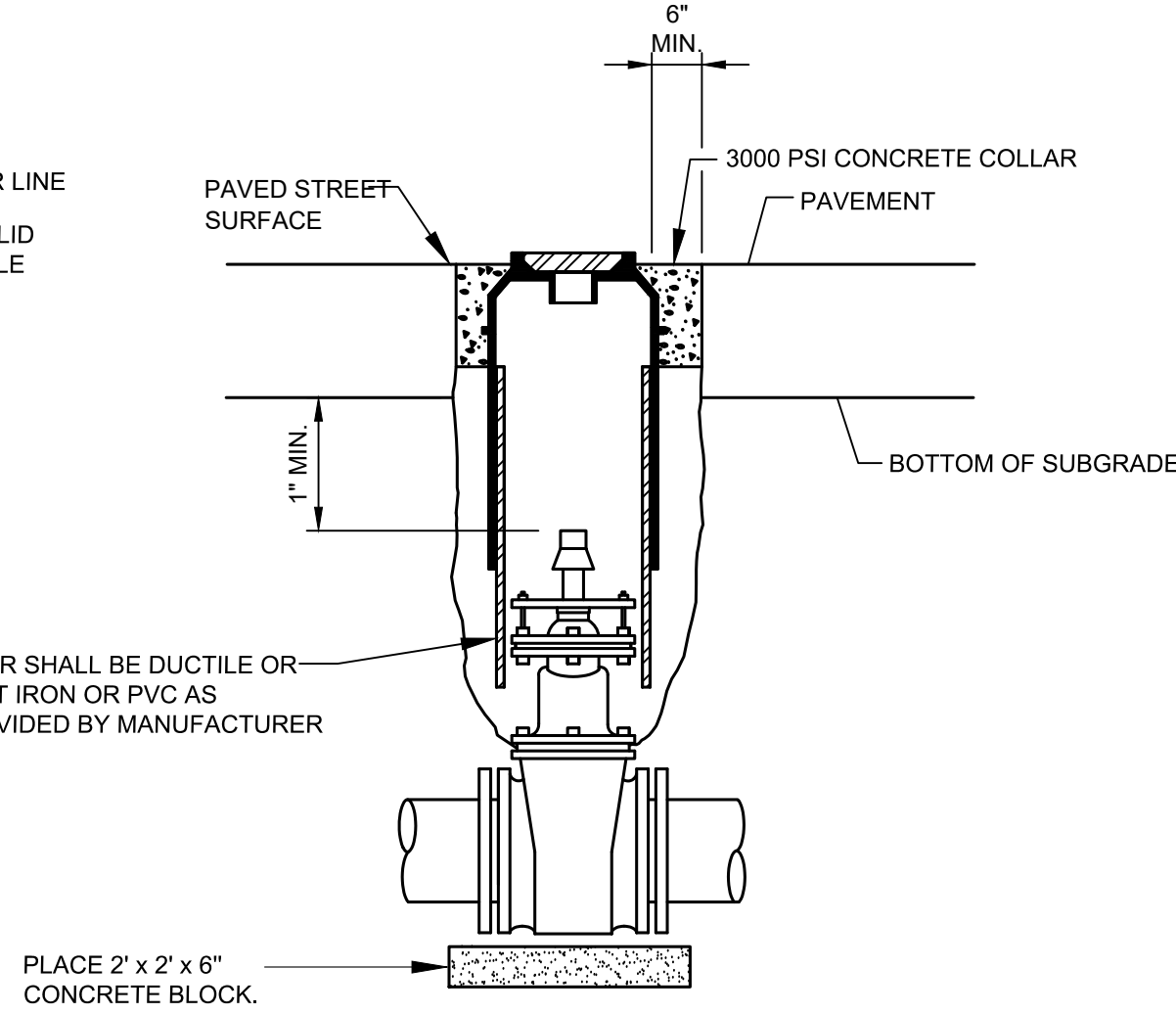
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-DC02 SW N 19TH ST\1-Drawings\2 - Civil\C24-27 WATER STD DETAILS 11\1.dwg - LAYOUT NAME: WATER STD DETAILS II - PLOTTED: Monday, August 12, 2024 - 2:13pm USER: lzspede



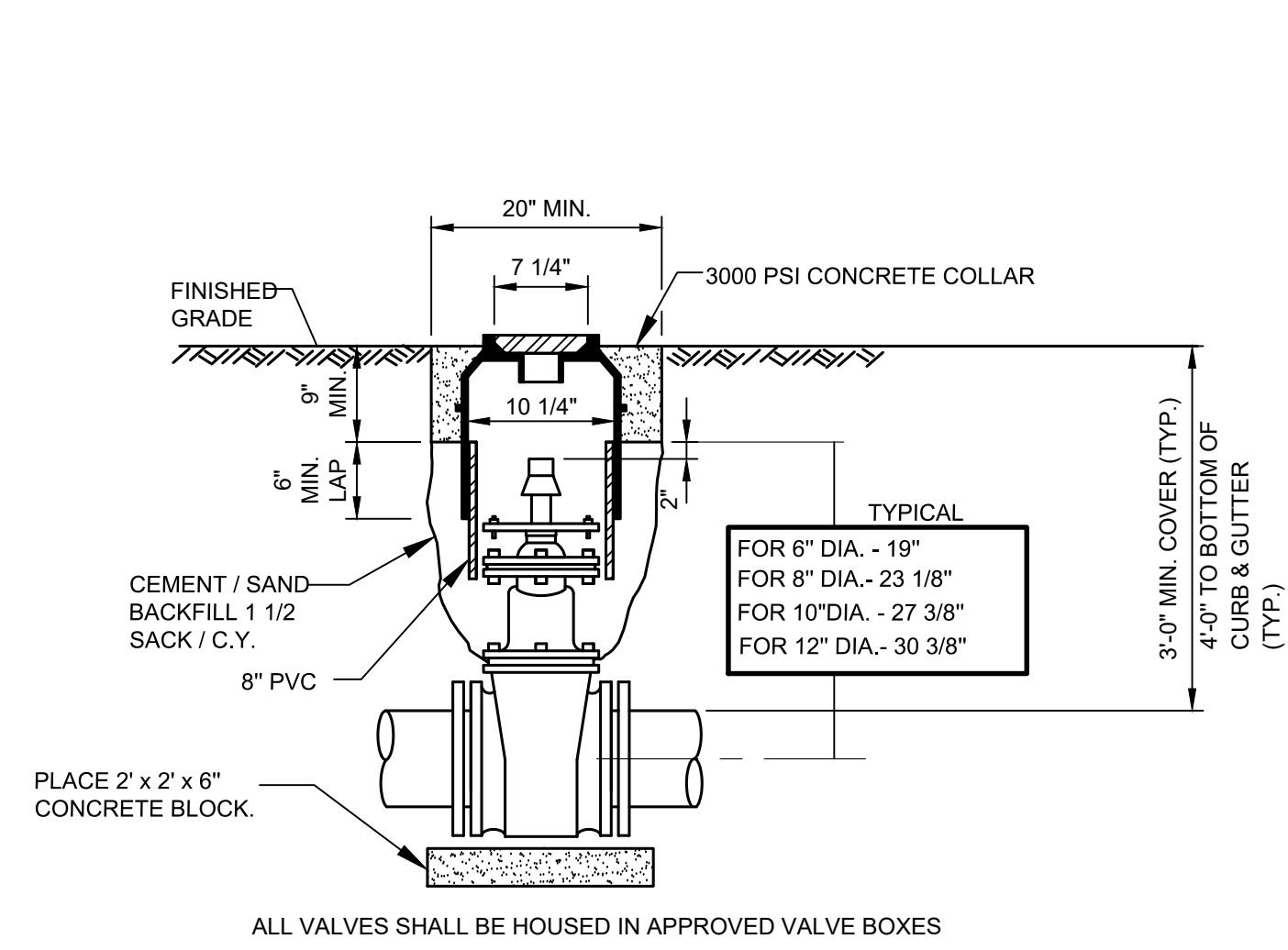
- NOTE:**
1. ANYTHING LESS THAN 20' WILL BE DUCTILE IRON LOCKED TO THE VALVE.
  2. ANYTHING MORE THAN 20' SHALL REQUIRE CONCRETE THRUST BLOCK BEHIND HYDRANT AGAINST UNDISTURBED SOIL.
  3. FIRE HYDRANTS SHALL BE PAINTED RED.

**1** FIRE HYDRANT ASSEMBLY DETAIL (TYPE 1)  
C22 C22 SCALE: N.T.S.

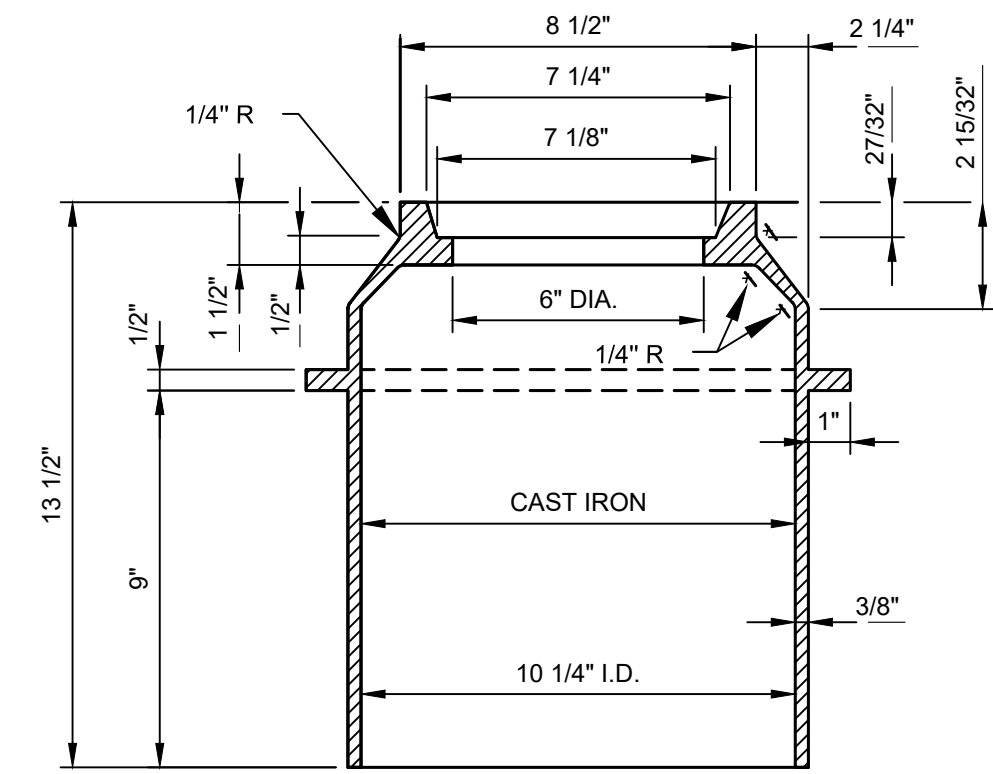
- FIRE HYDRANTS:**
1. DRAINAGE BED SHALL CONSIST OF CRUSHED STONE OR COARSE GRAVEL W/ COARSE SAND. MIN. VOLUME 7 CU. FT., DRAIN BED SHALL EXTEND A MIN. 6" ABOVE DRAIN OUTLET.
  2. ALL FIRE HYDRANT FITTINGS SHALL BE LOCKED TOGETHER BY LOCKING RETAINER GLANDS.
  3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
  4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
  5. LARGE NOZZLE FACES ROAD, UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
  6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
  7. FIRE HYDRANT SHALL BE SET TO MANUFACTURER'S BURY LINE AT PROPOSED/EXISTING GRADE PLUS 1".
  8. NO TAPS ARE TO BE MADE ON FIRE HYDRANT LEAD.



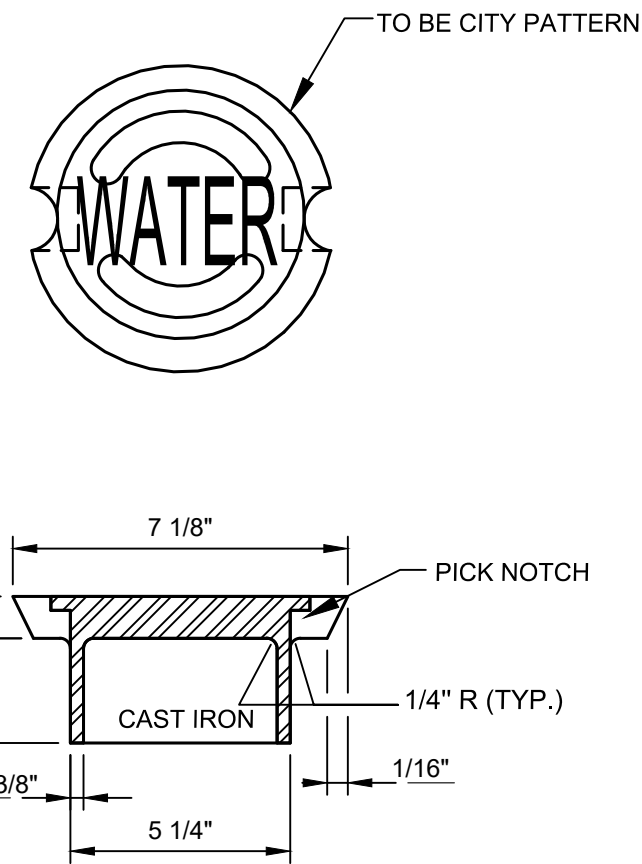
**2** VALVE BOX DETAIL @ PAVEMENT  
C22 C22 SCALE: N.T.S.



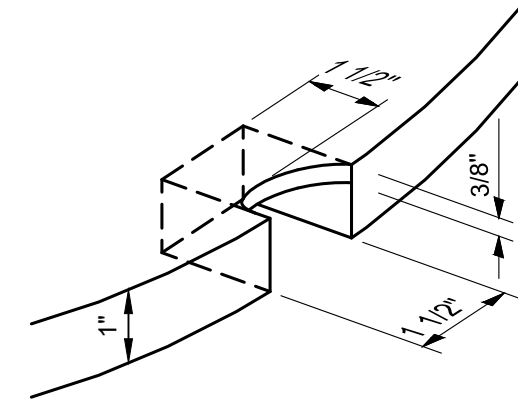
**3** VALVE BOX DETAIL @ NATURAL GROUND  
C22 C22 SCALE: N.T.S.



**4** EXTENSION DETAIL  
C22 C22 SCALE: N.T.S.



**5** LID DETAIL  
C22 C22 SCALE: N.T.S.



**6** PICK NOTCH  
C22 C22 SCALE: N.T.S.

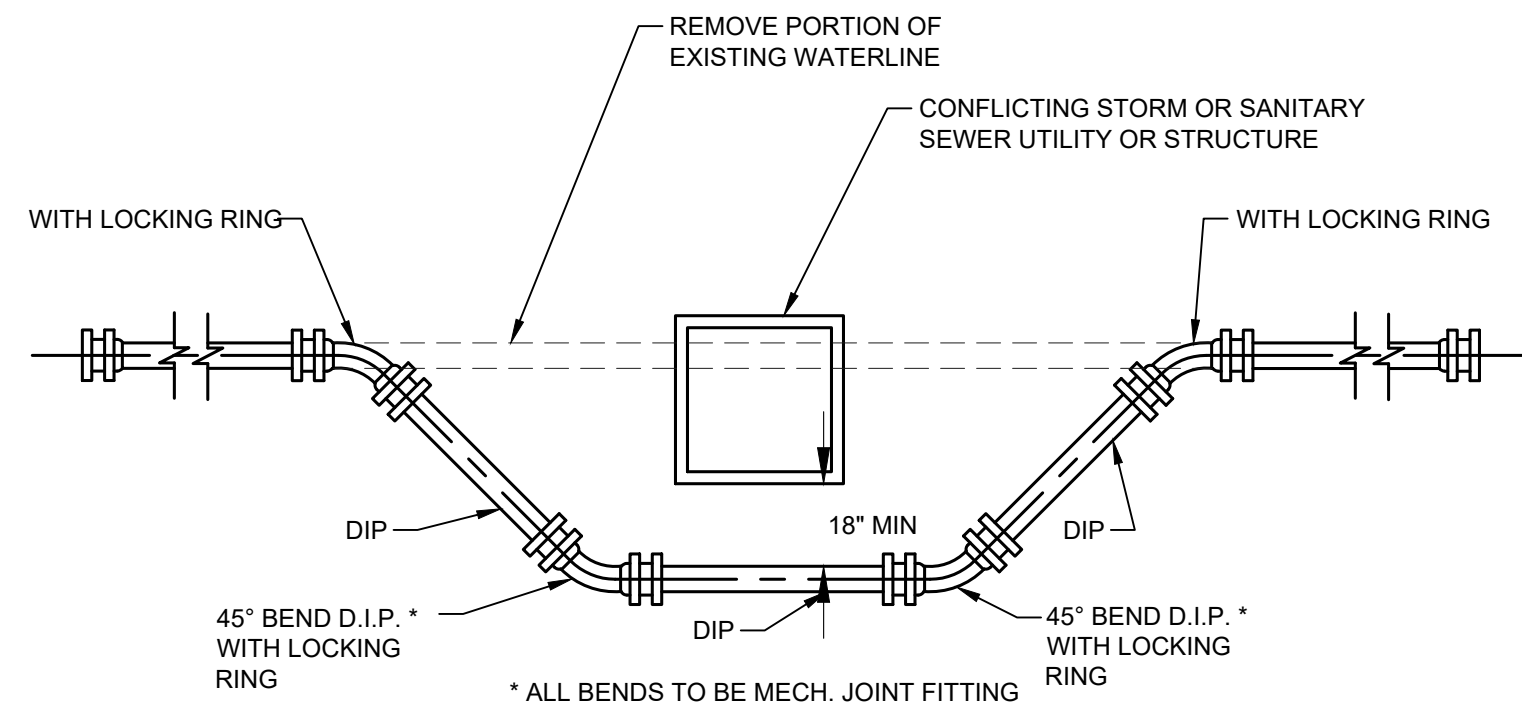


**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**WATER STANDARD DETAILS II**

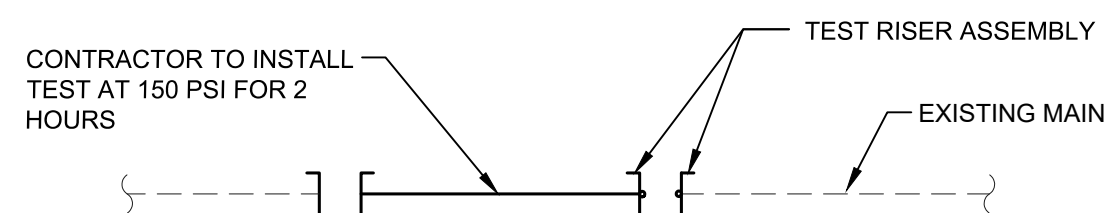


FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1-Drawings\2 - Cn\K24-27 WATER STD DETAILS -IV.dwg LAYOUT NAME: WATER STD DETAILS III PLOTTED: Monday, August 12, 2024 - 2:13pm USER: lizeprets



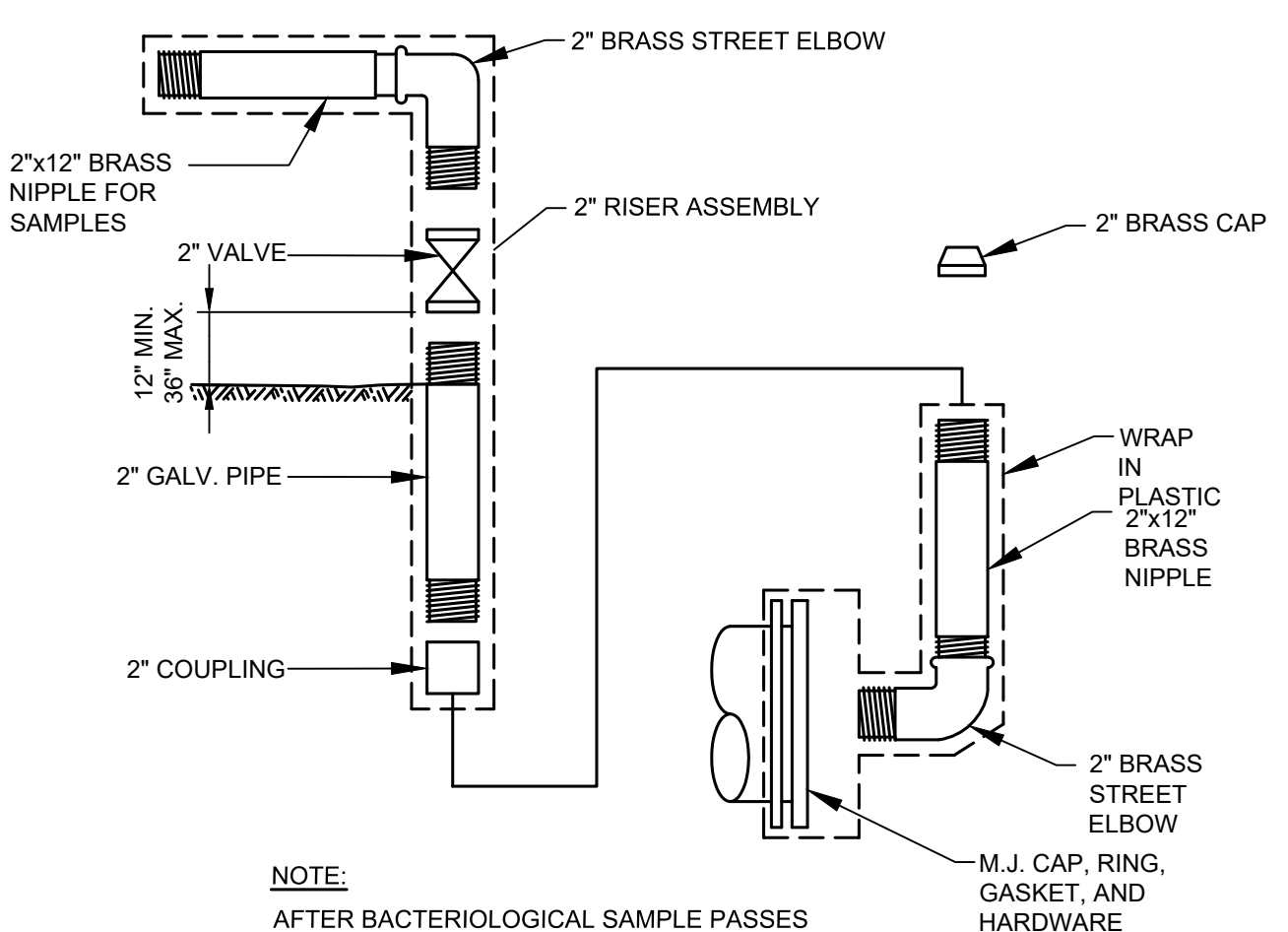
- \* ALL FITTINGS SHALL BE RESTRAINED BY MECHANICAL JOINT RESTRAINT DEVICE "MEGALUG" AS INDICATED BY PLANS AND SPECS., OR ENGINEER APPROVED EQUAL AND CONCRETE THRUST BLOCK, AS DESIGNATED BY WATER DIVISION INSPECTOR
- \* ALL BENDS TO BE MECH. JOINT FITTING
- NOTES:
- ONE 20 FT. SECTION OF NEW SANITARY SEWER PVC PRESSURE PIPE WITH APPROPRIATE ADAPTERS SHALL BE CENTERED UNDER OR OVER THE WATERLINE.
  - CONNECT SEWER LINES WITH ADAPTERS. REFER TO WASTEWATER DETAILS.
  - DETAIL SIMILAR FOR HORIZONTAL ADJUSTMENT AND INSTALLATION.

**1** WATERLINE ADJUSTMENT DETAIL  
C23 C23 SCALE: N.T.S.



- HYDROSTATIC TEST: WATER FOR FILLING THE NEW WATER LINE AND PERFORMING TESTS WILL BE FURNISHED TO THE CONTRACTOR BY THE CITY OF KINGSVILLE PUBLIC WORKS THROUGH A STANDARD WATER CONSTRUCTION METER CONNECTION. STANDARD WATER CONSTRUCTION METER AND GAUGE WILL BE SUPPLIED BY THE CITY AFTER THE CONTRACTOR HAS PAID ALL APPLICABLE FEES FOR THE WATER CONSTRUCTION METER. THE TEST PUMP WITH APPROPRIATE CONNECTION POINTS AS APPROVED BY THE WATER SUPERINTENDENT FOR THE INSTALLATION OF METER AND GAUGE SHALL BE FURNISHED BY THE CONTRACTOR. THE METER SHALL BE DIRECTLY CONNECTED TO THE MAIN OR PIPE BEING TESTED BY THE USE OF COPPER TUBING OR AN APPROVED REINFORCED HOSE. THE METER SHALL BE PROTECTED AGAINST EXTREME PRESSURES BY THE USE OF A ONE (1") INCH SAFETY RELIEF VALVE SET AT THE TEST PRESSURE PLUS TEN POUNDS PER SQUARE INCH AND FURNISHED BY THE CITY (48 HOURS NOTIFICATION).
- BACTERIOLOGICAL TEST: CONTRACTOR SHALL FURNISH AND INSTALL TEST RISER ASSEMBLY. AFTER BACTERIOLOGICAL SAMPLE PASSES TEST, CONTRACTOR SHALL REMOVE TEST RISER ASSEMBLIES AND THE NEW SYSTEM TO EXISTING UNDER THE SUPERVISION OF THE PUBLIC WORKS INSPECTOR. CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT THAT IS REQUIRED TO MAKE TIE / CONNECTION. CONTRACTOR WILL SCHEDULE & COORDINATE WITH PUBLIC WORKS INSPECTOR ON DATE & TIME OF TIE-IN. (24 HOURS NOTIFICATION)
- CONTRACTOR SHALL FURNISH AND INSTALL TAPPING SLEEVE OR SADDLE AND TAPPING GATE VALVE AND VALVE BOX COMPLETE. CITY TO MAKE TAP (72 HOURS NOTIFICATION)

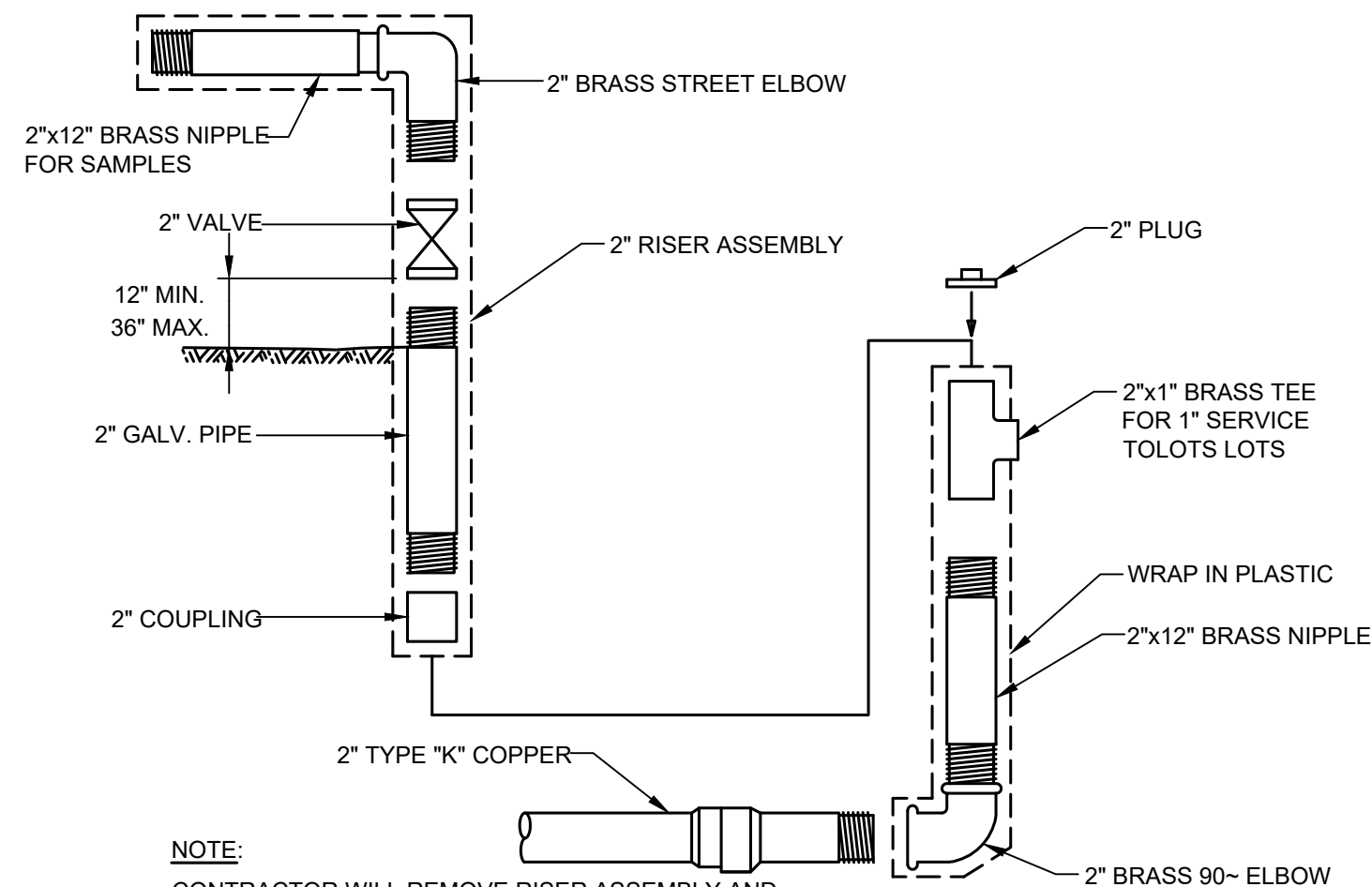
**2** DETAIL "A" TEST RISER ASSEMBLY CONNECTION  
C23 C23 SCALE: N.T.S.



NOTE:  
AFTER BACTERIOLOGICAL SAMPLE PASSES TEST, CONTRACTOR WILL REMOVE RISER ASSEMBLY AND INSTALL 2" BRASS CAP.

**3** DETAIL "B" TEST RISER ASSEMBLY CONNECTION  
C23 C23 SCALE: N.T.S.

FURNISHED AND INSTALLED BY CONTRACTOR



NOTE:  
CONTRACTOR WILL REMOVE RISER ASSEMBLY AND INSTALL 2" BRASS PLUG ON 2"x1" BRASS TEE AFTER SAMPLE PASSES.

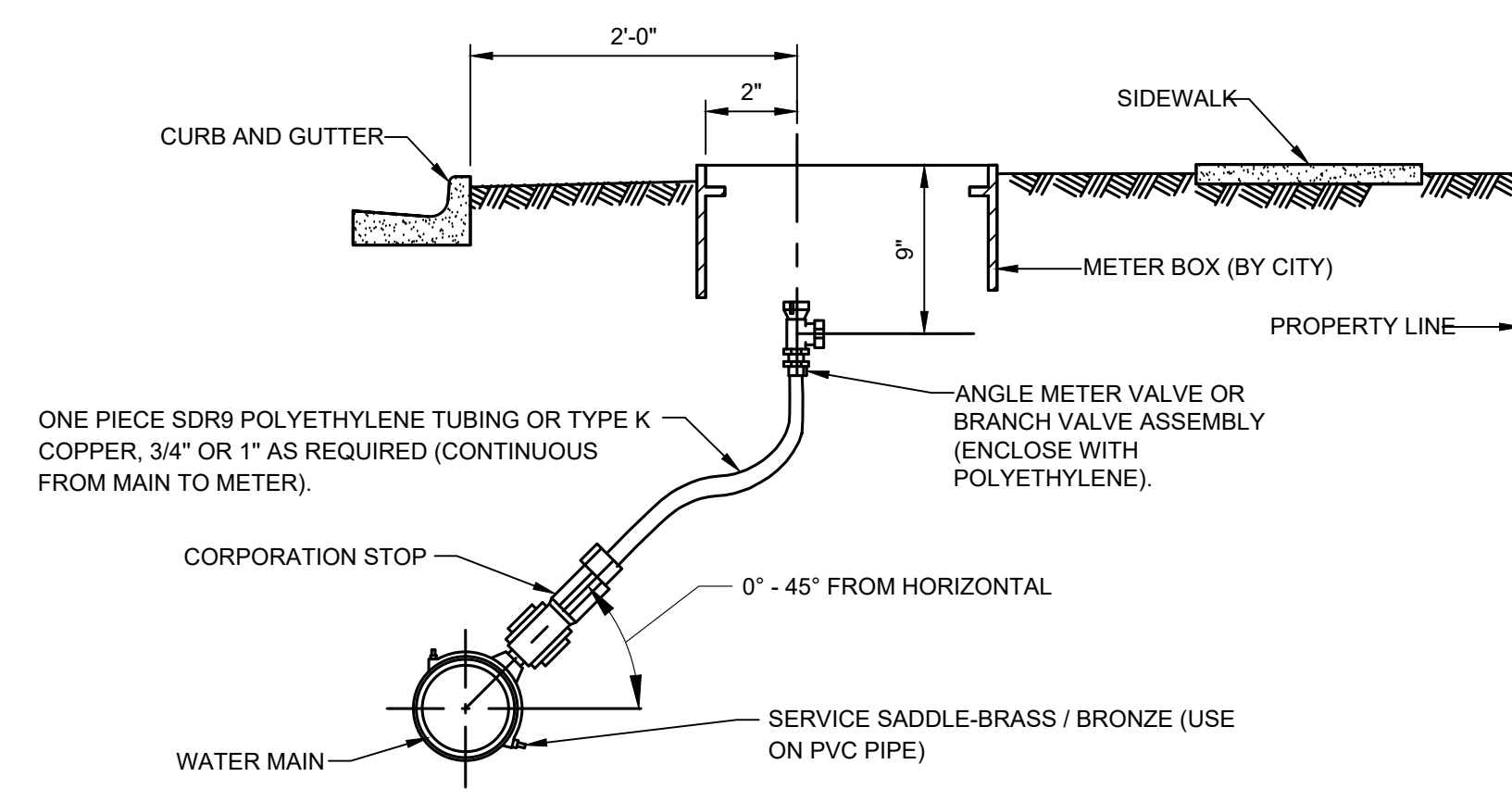
**4** DETAIL "C" TEST RISER ASSEMBLY CONNECTION  
C23 C23 SCALE: N.T.S.

FURNISHED AND INSTALLED BY CONTRACTOR

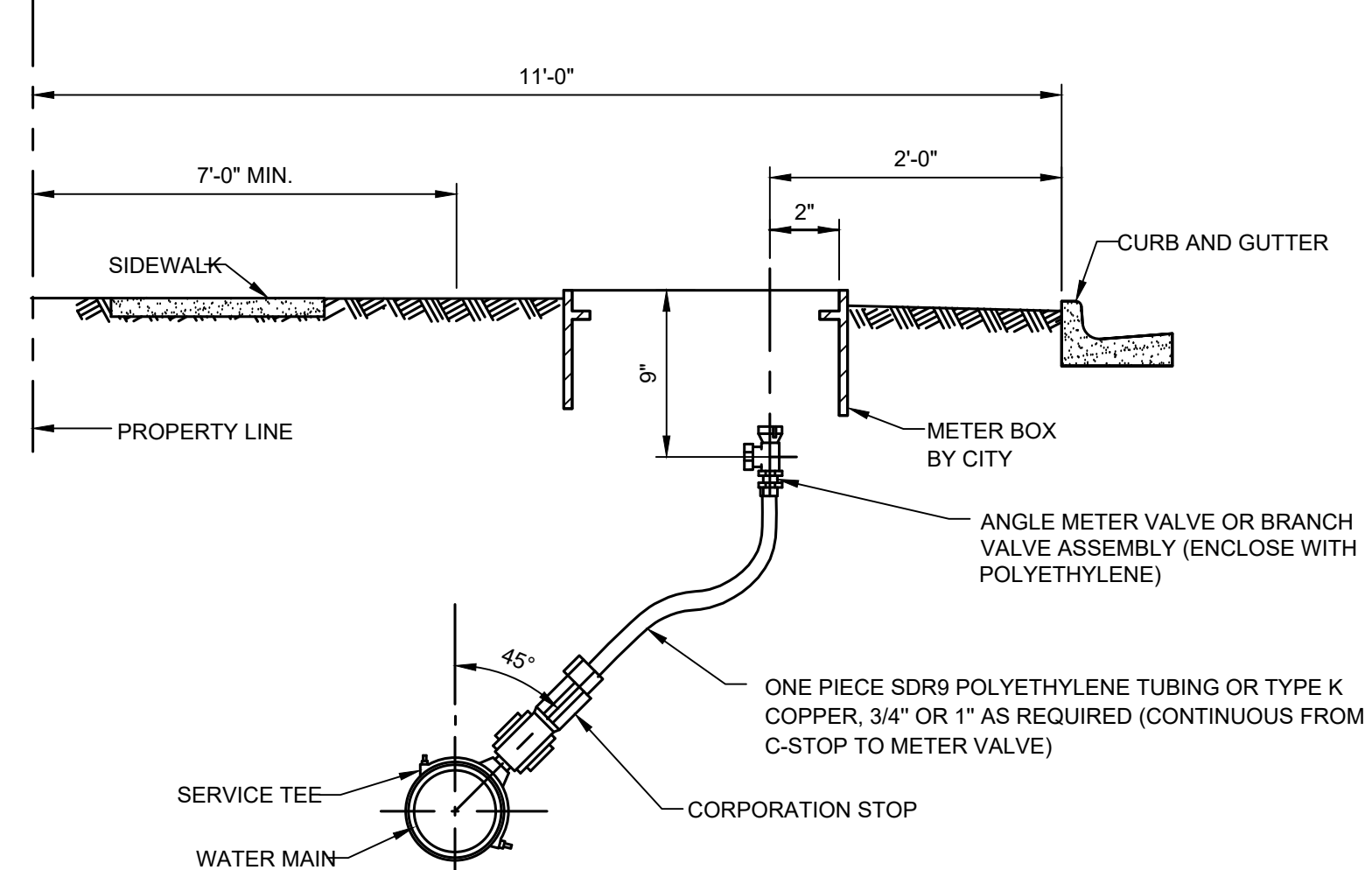
CONSULTANT'S SHEET PROJECT NO. 21107-01B	
INTERNATIONAL CONSULTING ENGINEERS 261 SARATOGA BLVD. CORPUS CHRISTI, TX 78417 PHONE: 361.826.5805 FAX: 361.826.5806 I.C.E. FIRM REGISTRATION #F-10837	
DESCRIPTION	BY
REVISION NO.	DATE
<b>CITY OF KINGSVILLE GLO SW PROJECT 2 (N. 19TH ST.) STORM WATER IMPROVEMENTS</b> KINGSVILLE, KLEBERG COUNTY, TEXAS	
<b>WATER STANDARD DETAILS III</b>	
DESCRIPTION	BY
REVISION NO.	DATE
DRAWING NO.	
<b>C23</b>	
SHEET 24 of 39	



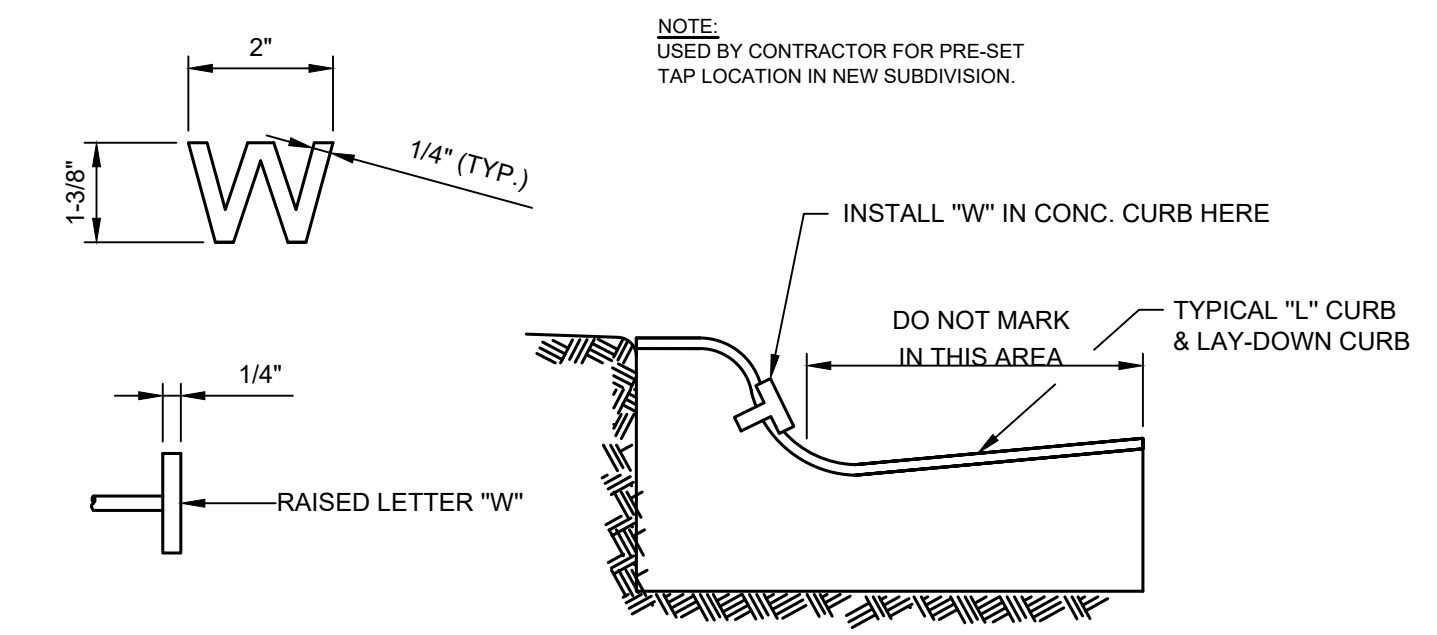
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC002 SW N 19TH ST\1 Drawings\2 - CIVIL\C24-27 WATER STD DETAILS.lay DATE: Monday, August 12, 2024 2:13pm USER: lpezpaco



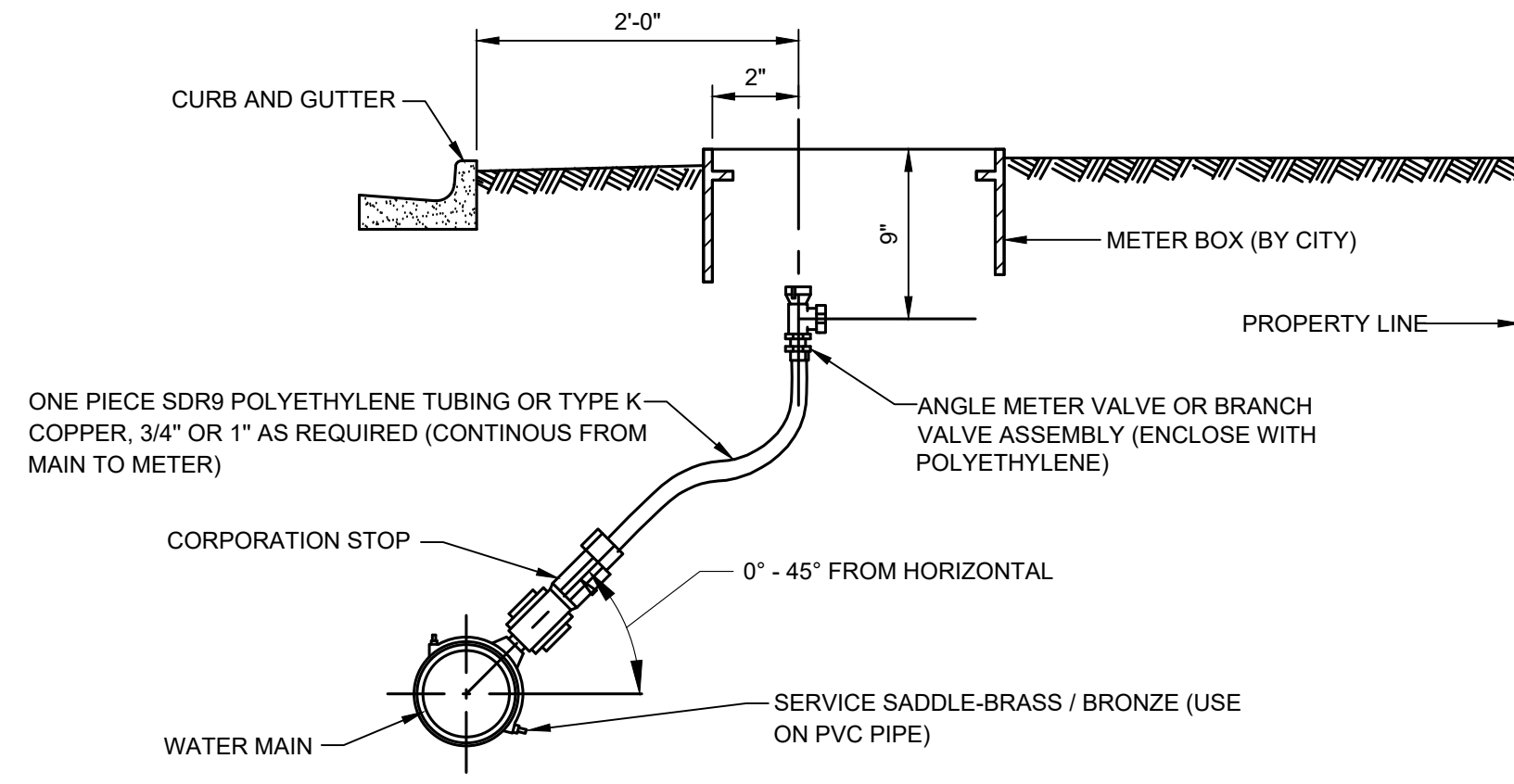
**1 SERVICE WITH SIDEWALK**  
C24 C24 SCALE: N.T.S.



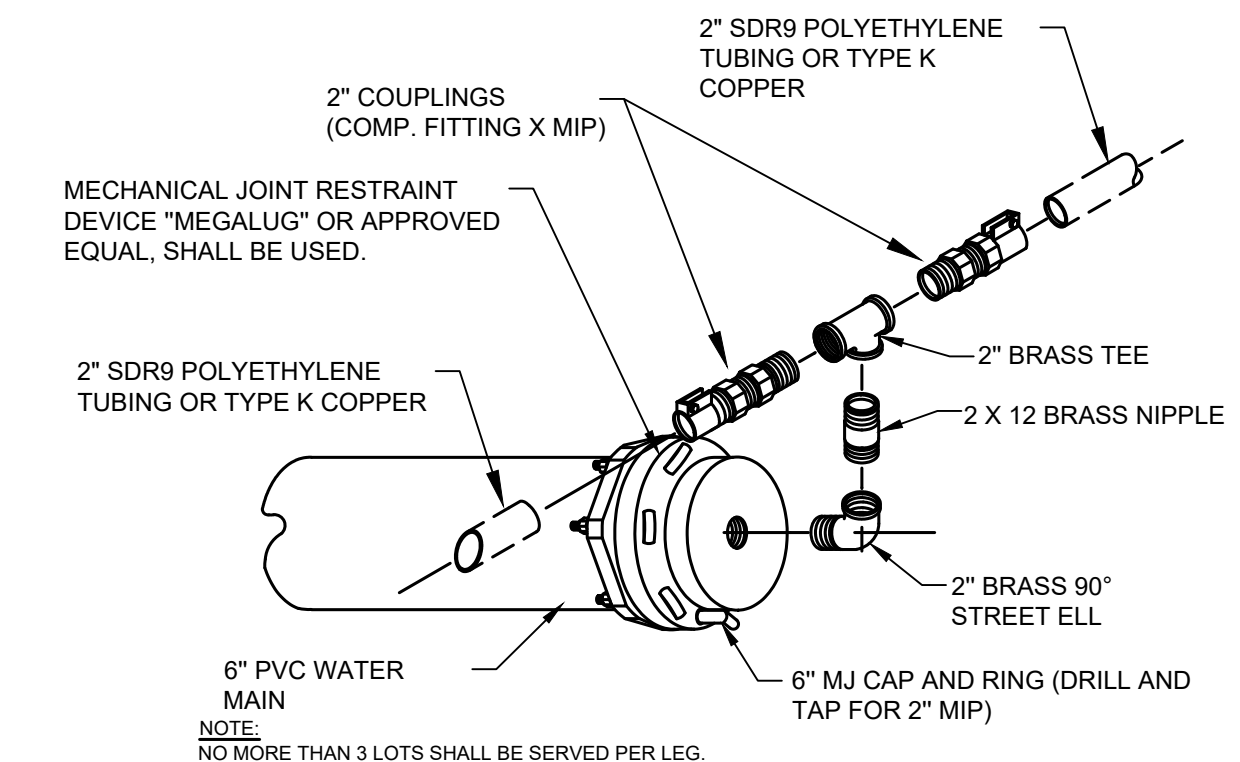
**2 TYPICAL CUL-DE-SAC SERVICE**  
C24 C24 SCALE: N.T.S.



**3 PRE-SET LINE MARKER DETAILS**  
C24 C24 SCALE: N.T.S.



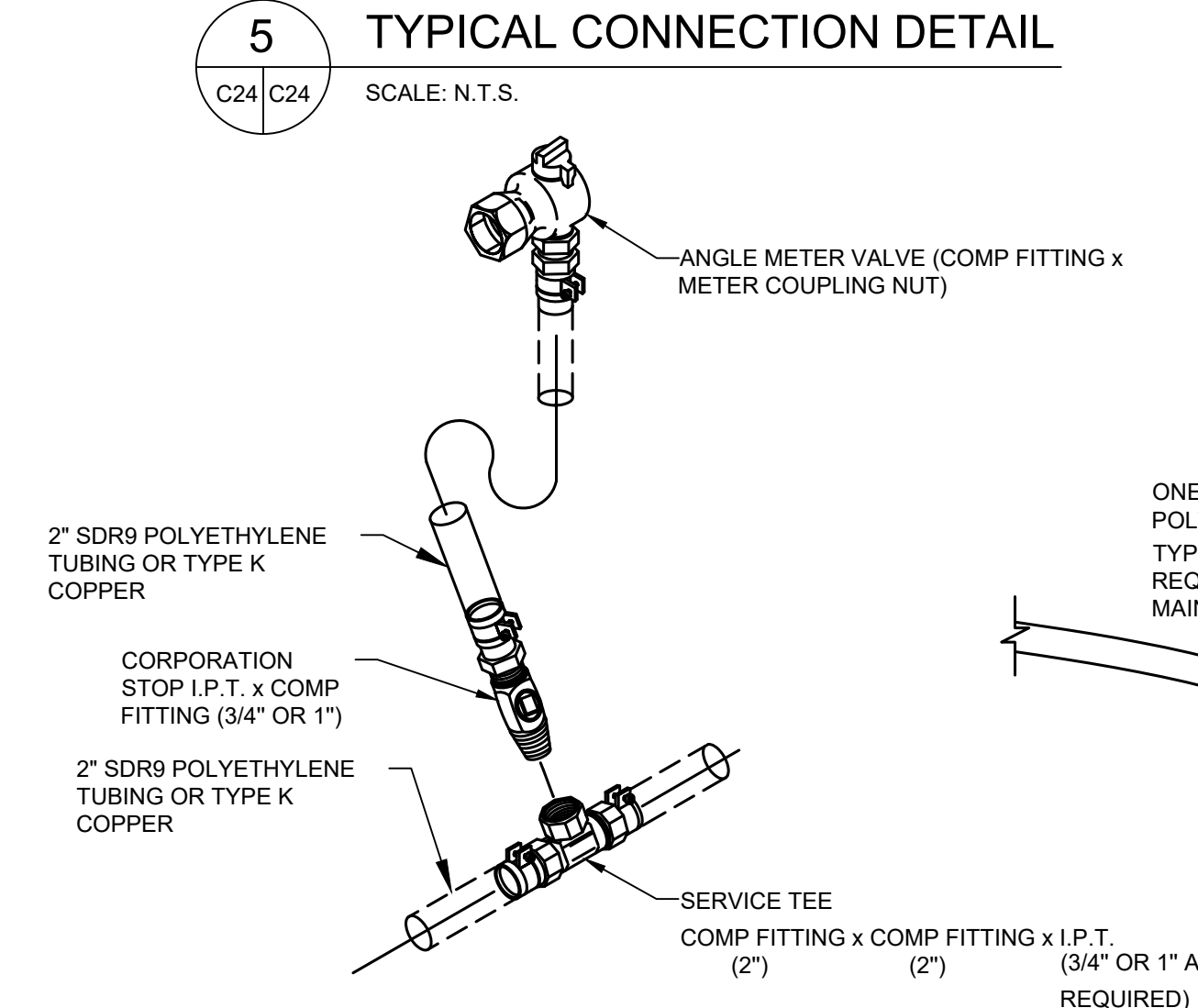
**4 SERVICE WITHOUT SIDEWALK**  
C24 C24 SCALE: N.T.S.



**5 TYPICAL CONNECTION DETAIL**  
C24 C24 SCALE: N.T.S.



**6 BOLLARD DETAIL**  
C24 C24 SCALE: N.T.S.



**7 TYPICAL CONNECTION DETAIL**  
C24 C24 SCALE: N.T.S.



**8 WATER SERVICE LINE ADJUSTMENT DETAIL**  
C24 C24 SCALE: N.T.S.

**SERVICE LINE MATERIALS**

**SERVICE CLAMPS**  
FOR 3/4", 1", 1 1/2" I.P. THREAD TAPS FOR 6" MAINS; 2" I.P. THREAD CLAMP TAP CONNECTION ALLOWED FOR 8" AND LARGER MAINS.

**CORPORATION STOPS**  
3/4", 1", 1 1/2", AND 2" REQUIRED WITH I.P. THREAD INLET BY COPPER COMPRESSION OUTLET WITH CLAMP - CORPORATION STOP REQUIRED AT ALL SERVICE TAPS.

**ONE PIECE SDR9 POLYETHYLENE TUBING OR TYPE K COPPER**  
REQUIRED FOR ALL SERVICE LINES BETWEEN MAIN TO METER - SIZES REQUIRED 3/4", 1", 1 1/2", AND 2" (NO SPLICES ALLOWED)

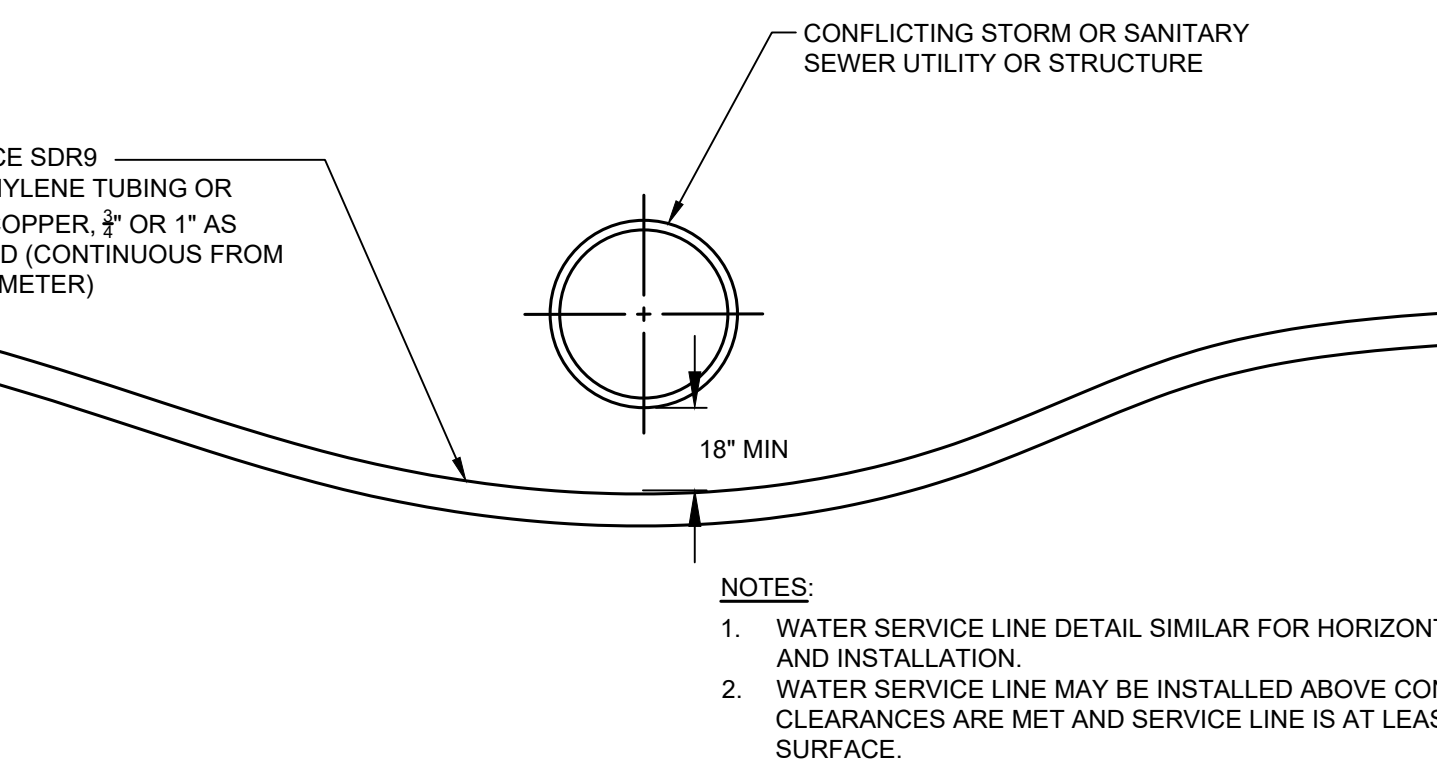
**ANGLE METER STOP**  
REQUIRED AT ALL METERS - SIZES 3/4" & 1" - INSTALL 3/4" UNLESS DIRECTED OTHERWISE - COPPER COMPRESSION W/ CLAMP INLET BY METER COUPLING NUT OUTLET.

**METER**  
METER ADAPTER AND CHECK VALVE  
REQUIRED AT ALL METERS - SIZES 3/4" & 1" - INSTALL 3/4" UNLESS DIRECTED OTHERWISE - METER NUT INLET BY 3/4" MALE I.P. OUTLET.

**ADAPTER COUPLING**  
REQUIRED AT ALL METERS - 3/4" & 1" - FEMALE I.P. BY PVC COMPRESSION.

**METER BOX**  
CAST IRON W/ HOT TAR DIP SHALL BE PROVIDED BY THE CONTRACTOR FOR 3/4" METER SETTINGS. IF EXISTING STRUCTURE DOES NOT HAVE ONE. BOXES FOR LARGER (1" & UP) METER SETTINGS SHALL BE FURNISHED BY THE CITY.

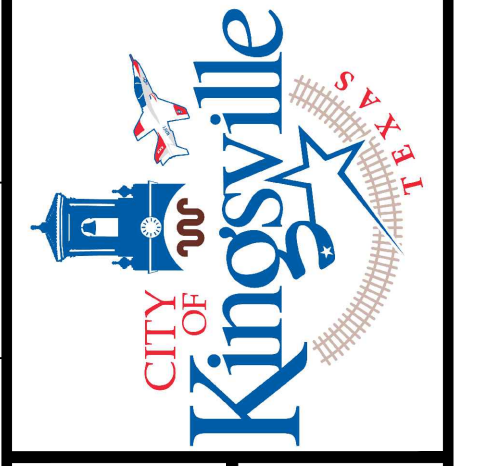
**BRASS FITTINGS**  
BRASS FITTINGS SHALL COMPLY WITH A.W.W.A. C800-66 AND BE WRAPPED IN POLYETHYLENE.



**NOTES:**  
1. WATER SERVICE LINE DETAIL SIMILAR FOR HORIZONTAL ADJUSTMENT AND INSTALLATION.  
2. WATER SERVICE LINE MAY BE INSTALLED ABOVE CONFLICTING LINE IF CLEARANCES ARE MET AND SERVICE LINE IS AT LEAST 3'-0" BELOW SURFACE.



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78447  
PHONE: 361.926.5905  
FAX: 361.926.5906  
T.B.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2**  
**(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**WATER STANDARD DETAILS IV**

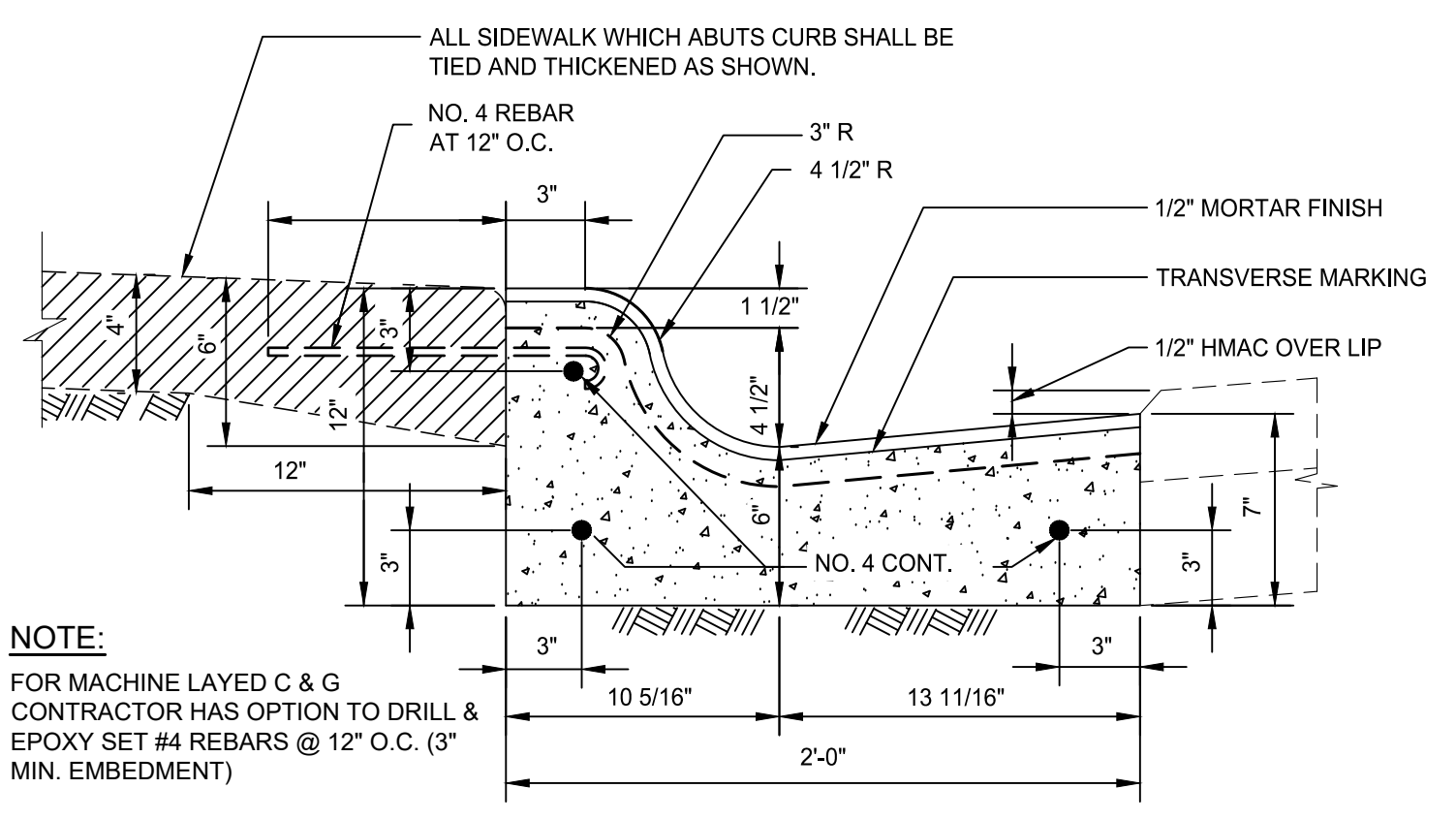
REVISION NO. DATE DESCRIPTION BY

DRAWING NO.  
**C24**

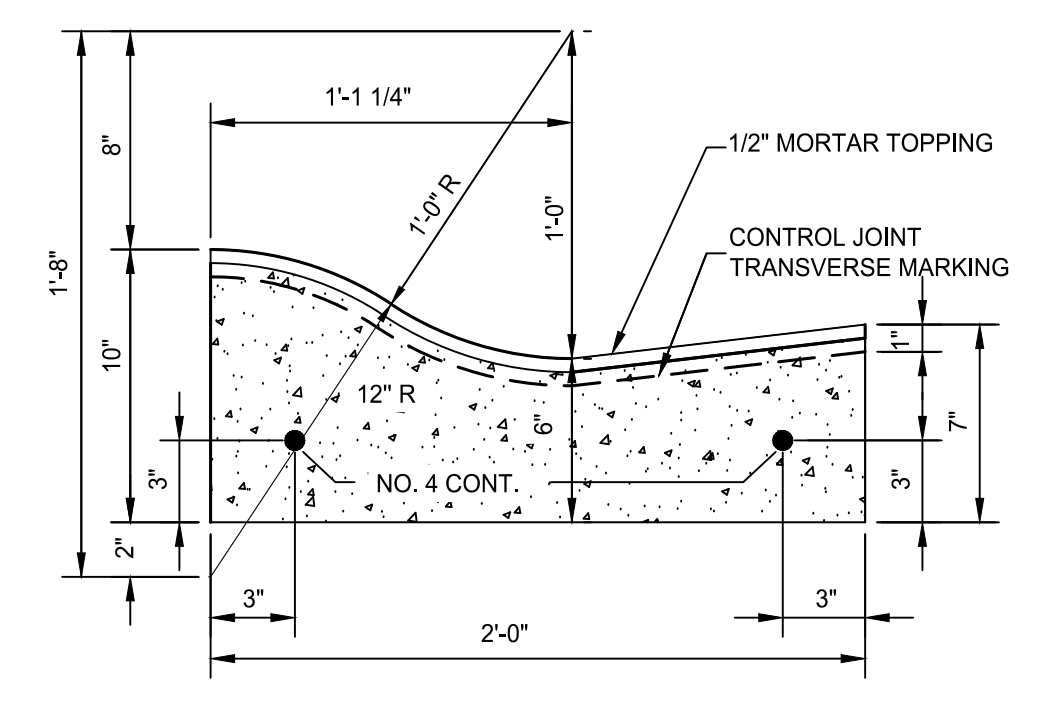
SHEET 25 of 39



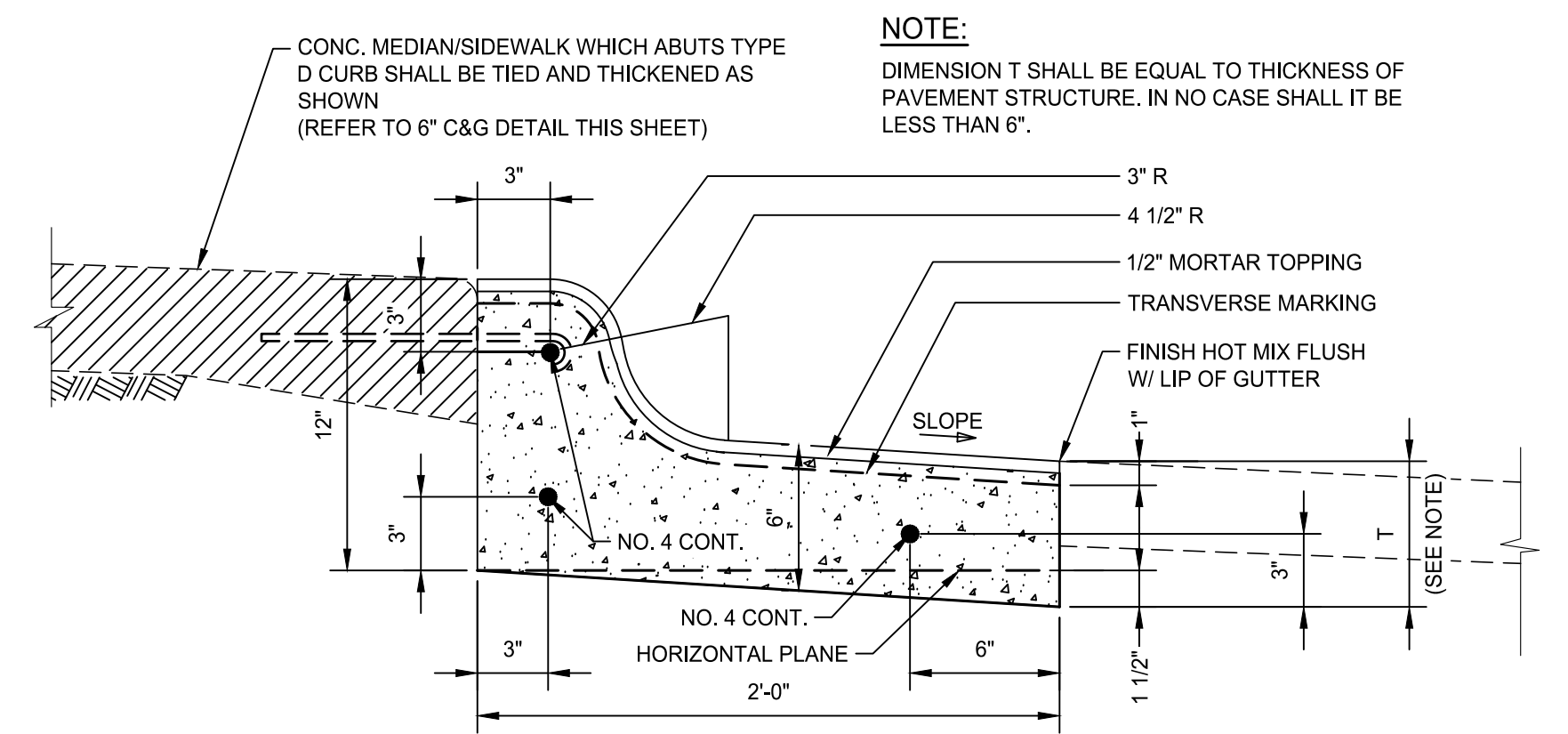
(5-1-2015) FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1-Drawings\2 - Civil\C28-29 - C&G\1-1.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:14pm USER: izereza



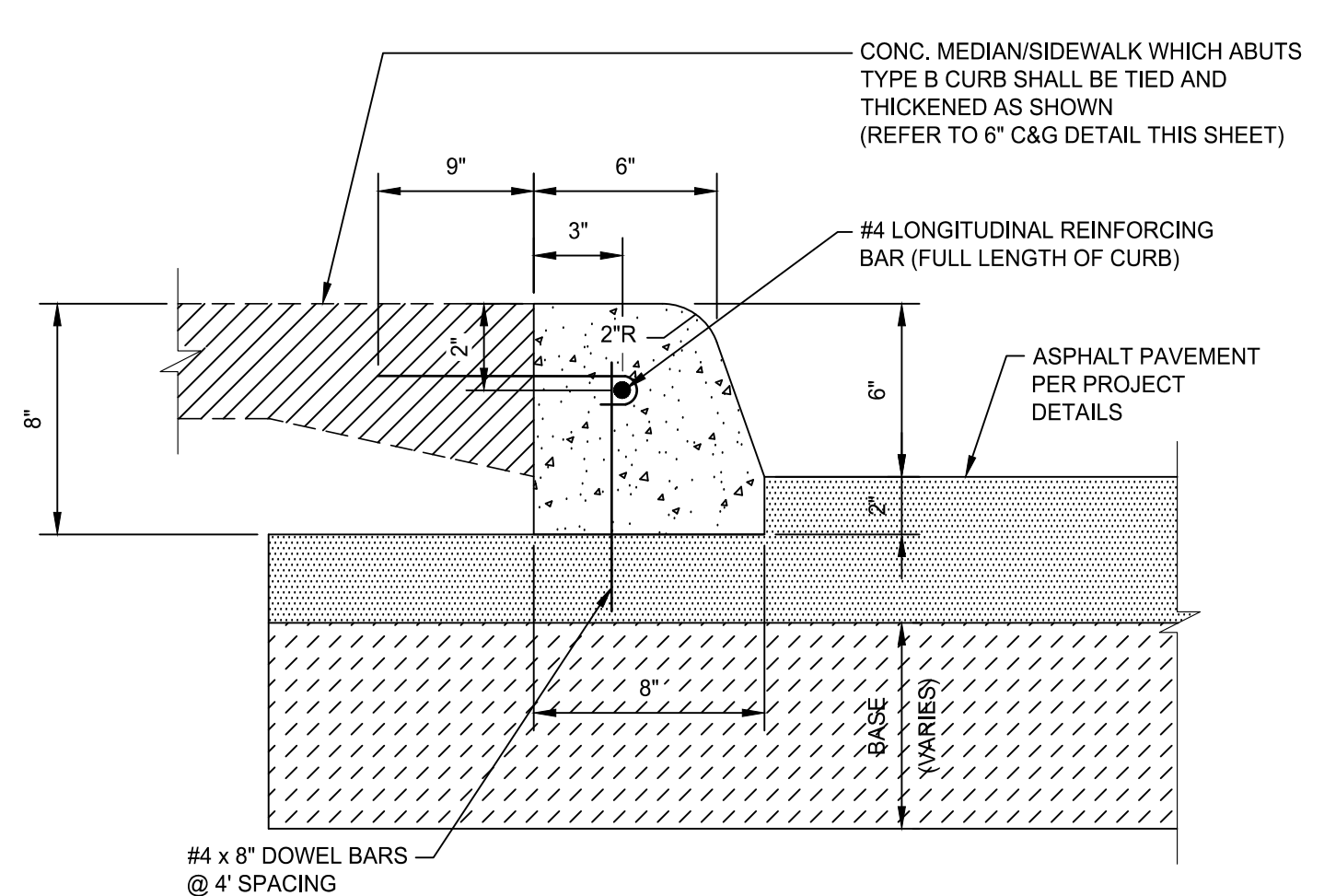
**1** TYPICAL CURB & GUTTER DETAIL  
SCALE: N.T.S.



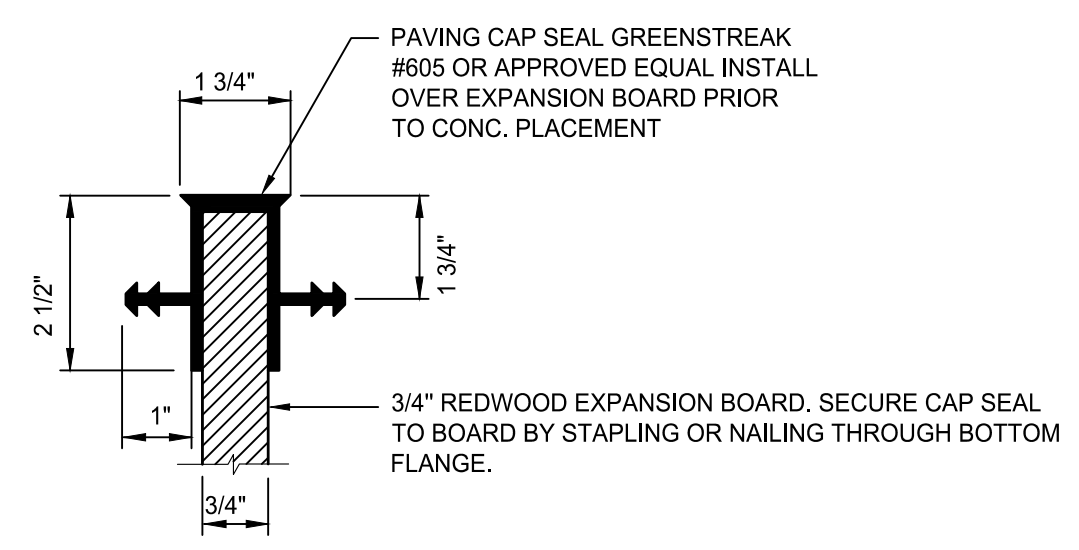
**2** 4" CURB & GUTTER DETAIL  
SCALE: N.T.S.



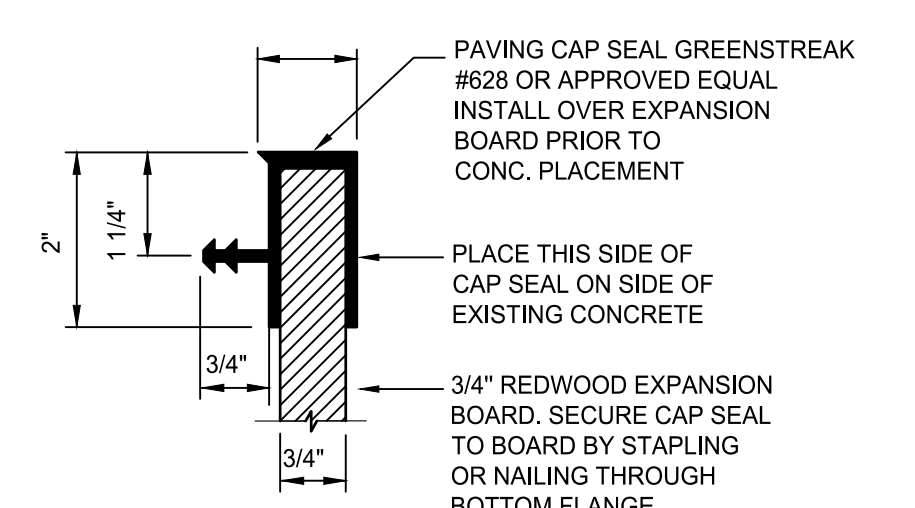
**3** 6" REVERSE CURB & GUTTER DETAIL  
SCALE: N.T.S.



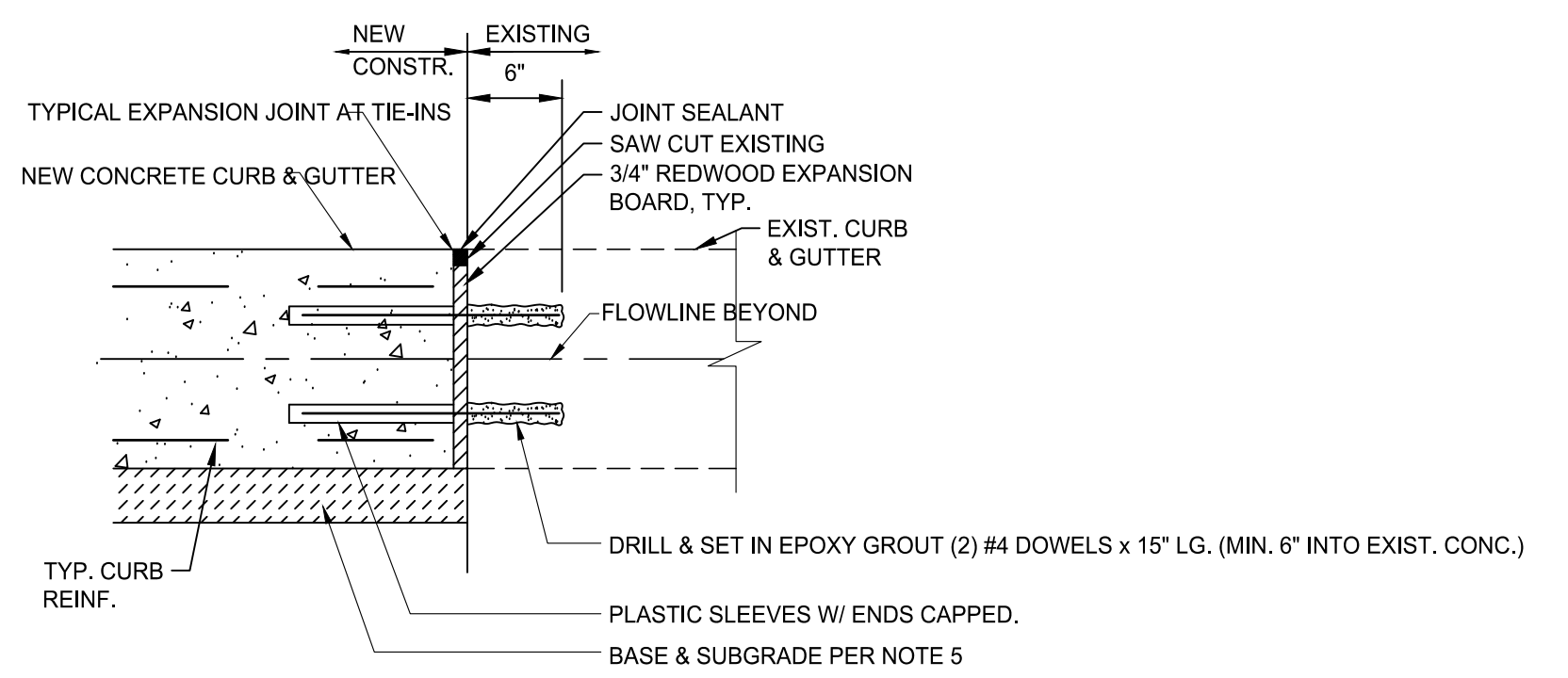
**4** TYPE 'B' HEADER CURB DETAIL  
SCALE: N.T.S.



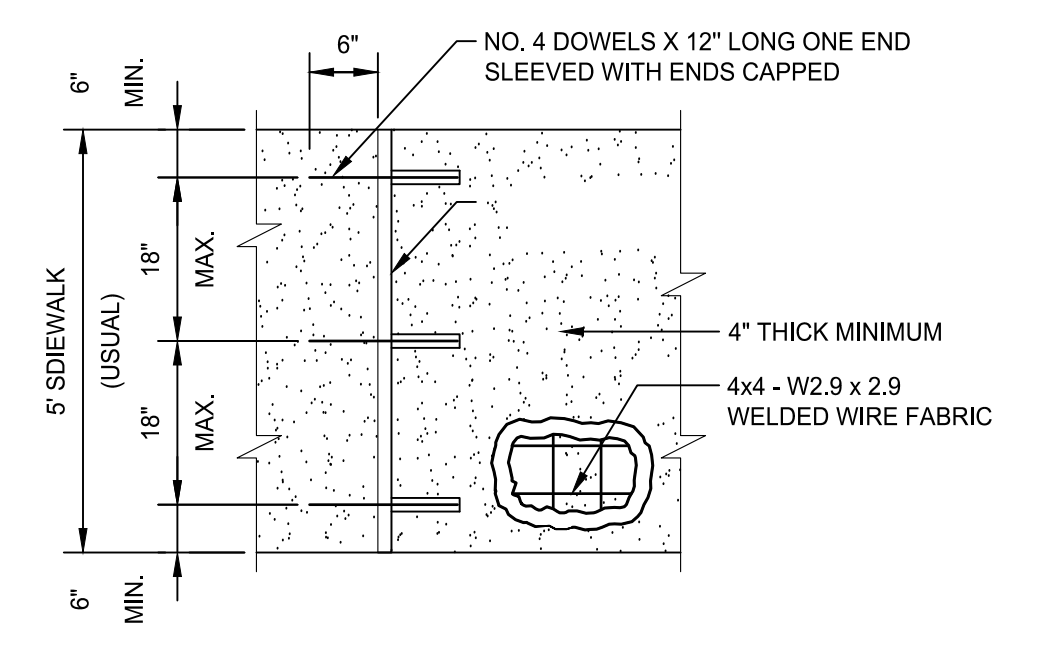
**5** CAP SEAL DETAIL NEW CONC. TO NEW CONC.  
SCALE: N.T.S.



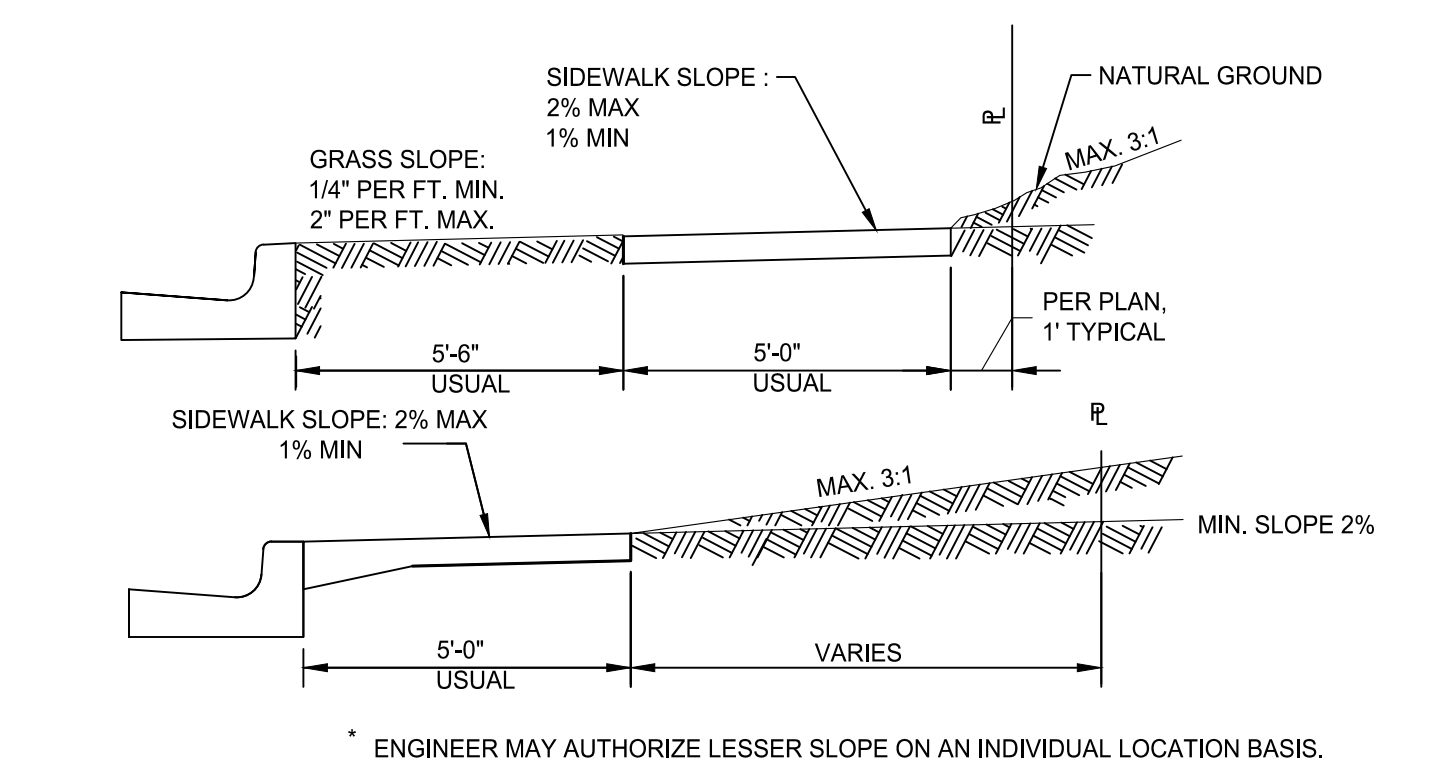
**6** CAP SEAL DETAIL NEW CONC. TO EXIST. CONC.  
SCALE: N.T.S.



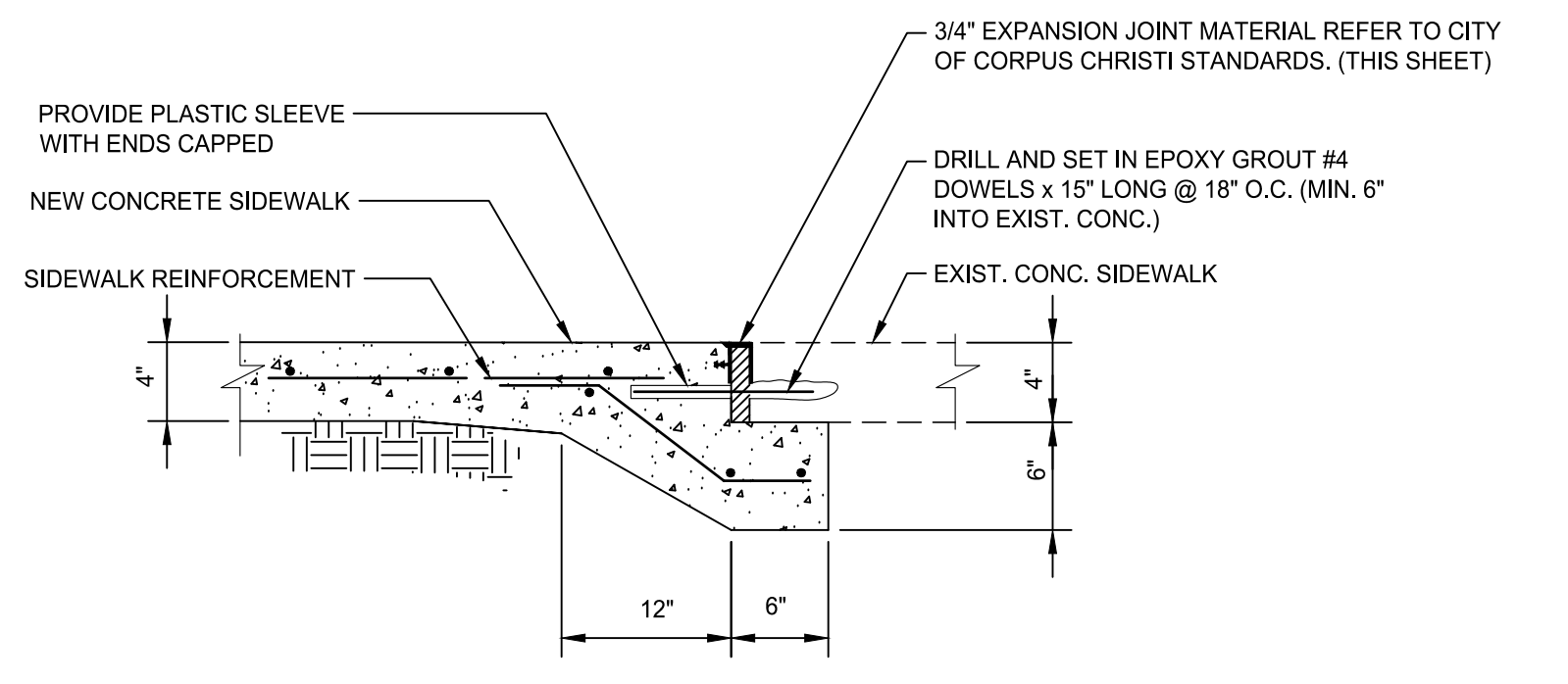
**7** CURB AND GUTTER TIE-IN DETAIL  
SCALE: N.T.S.



**8** PLAN FOR SIDEWALK  
SCALE: N.T.S.



**9** SURFACE & SIDEWALK SLOPE BEHIND CURB  
SCALE: N.T.S.



**10** NEW TO EXISTING SIDEWALK TIE-IN DETAIL  
SCALE: N.T.S.

**NOTE:**  
DIMENSION T SHALL BE EQUAL TO THICKNESS OF PAVEMENT STRUCTURE. IN NO CASE SHALL IT BE LESS THAN 6".

**VALLEY GUTTER NOTE:**  
1. USE OF VALLEY GUTTERS ON CITY STREETS ARE NOT ALLOWED PER CITY STANDARDS. THIS DETAIL IS INCLUDED ONLY FOR ISOLATED OR TEMPORARY USE IN LOCATIONS WHERE NO OTHER DRAINAGE OPTIONS EXIST, AND SHALL ONLY BE USED WITH PRIOR APPROVAL FROM THE CITY.

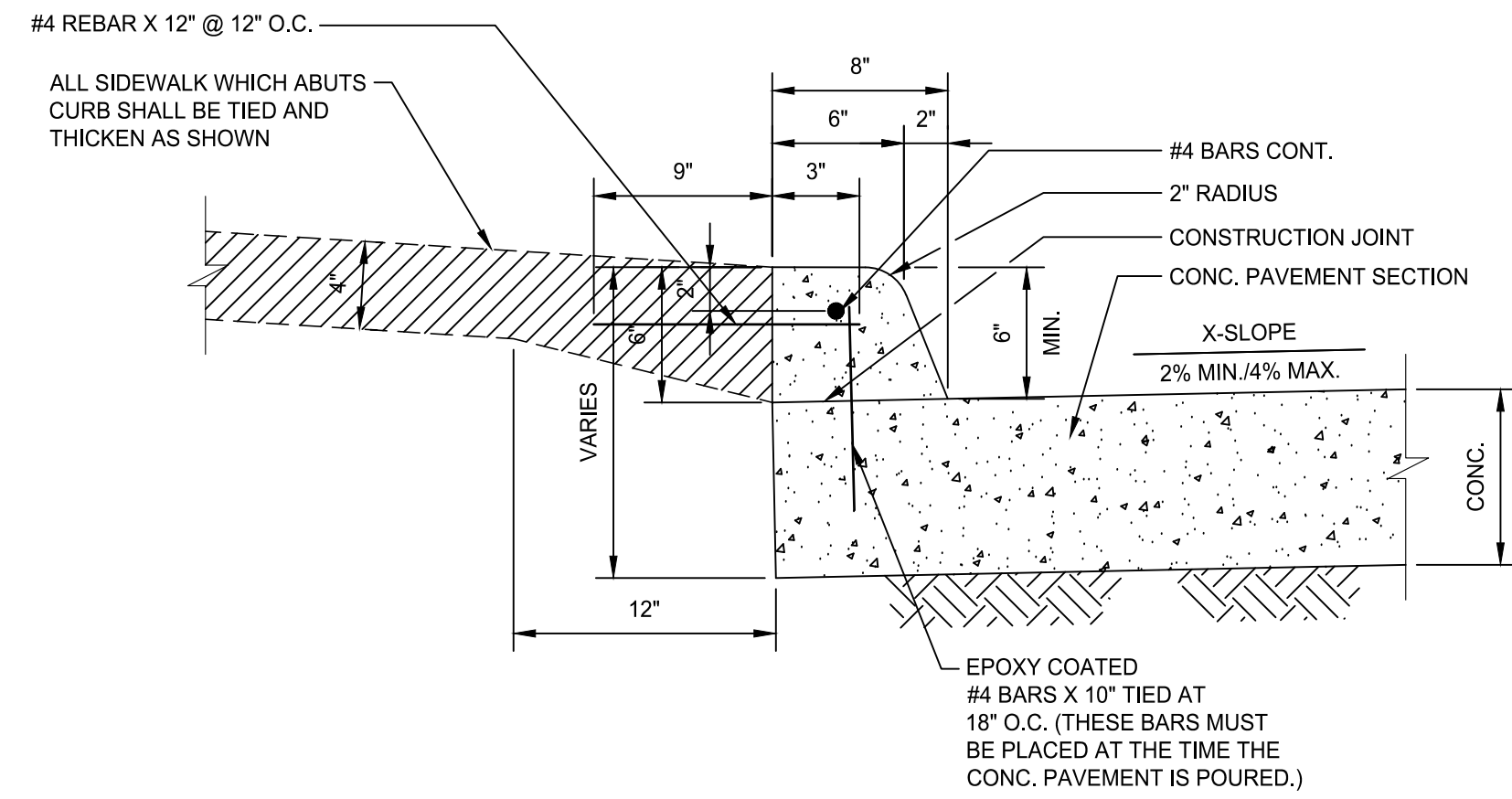
**CURB & GUTTER AND HEADER CURB NOTES:**  
1. ALL CONCRETE CLASS "A" 3,000 P.S.I. ALL STEEL GRADE 60 fy = 60,000 P.S.I., MIN.  
2. TRANSVERSE GROOVES 1/8" WIDE BY 1/2" DEEP SHALL BE MADE IN ALL CURB & GUTTER AND HEADER CURB AT 10' O.C. (MAXIMUM).  
3. 3/4" THICK EXPANSION JOINTS SHALL BE PROVIDED AT 39'-0" CENTERS\* (MAXIMUM). REINFORCEMENT SHALL CONSIST OF THE NO.4 DOWELS X 15" LONG SPACED AS INDICATED. THE NO. 4 DOWEL SHALL BE EXTENDED ACROSS THE JOINT 9 INCHES AND THIS END SHALL BE SLEEVED WITH ENDS CAPPED.  
4. WHERE NEW CURB & GUTTER OR HEADER CURB JOINS EXISTING CURB& GUTTER, TRANSITION THE LAST 10' OF THE NEW TO MATCH THE OLD IN SHAPE.  
5. BASE, SUB-BASE, AND SUBGRADE THICKNESS UNDER CONCRETE CURB& GUTTER TO BE AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND PROJECT DETAILS, PER LOADING DESIGN CONDITIONS. REFER TO THE PROJECT SPECIFIC STREET SECTION(S) AND RELATED PROJECT DETAILS SHOWN ON THE DRAWINGS. BOTH THE TREATED SUBGRADE (8" MINIMUM) AND THE FLEXIBLE BASE (4" MINIMUM) OR EQUIVALENT SHALL EXTEND A MINIMUM OF 1' BEYOND THE BACK OF CURB.  
6. TYPICAL 6" CURB & GUTTER DETAIL IS CITY STANDARD AND SHALL BE USED IN MOST CASES. DETAILS FOR 4" CURB & GUTTER, 6" REVERSE CURB & GUTTER, AND HEADER CURBS ARE SPECIALTY ITEMS AND ARE PROVIDED FOR USE AS NEEDED TO ADDRESS PROJECT SPECIFIC CONDITIONS. USE IS SUBJECT TO CITY APPROVAL.  
7. FINAL ACCEPTANCE OF THE PROJECT SHALL BE CONTINGENT UPON THE CONTRACTOR PROVIDING THE CITY WITH A CERTIFICATION LETTER, FROM THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR), POLICY AND STANDARDS DIVISION, ARCHITECTURAL BARRIERS SECTION, THAT ALL ADA (AMERICANS WITH DISABILITIES ACT) HANDICAP IMPROVEMENTS, AS CONSTRUCTED, COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) OF THE ARCHITECTURAL BARRIERS ACT ARTICLE 9102, TEXAS CIVIL STATUTES.

**SIDEWALK NOTES:**  
1. ALL EXPANSION JOINTS TO BE 3/4" REDWOOD EXPANSION BOARD, UNLESS OTHERWISE NOTED.  
2. ALL CONCRETE CLASS "A", 3,000 psi. ALL STEEL, GRADE 60, fy = 60,000 psi.  
3. CONCRETE TO RECEIVE BROOM FINISH.  
4. TRANSVERSE CONTRACTION JOINTS 1/8" WIDE BY 1/2" DEEP SHALL BE CUT IN ALL SIDEWALKS AT 5'-0" INTERVALS (TYPICAL) OR THE INTERVALS SHALL BE SPACED TO MATCH THE WIDTH OF THE SIDEWALK.

CONSULTANT'S SHEET PROJECT NO. 21107-01B			
		INTERNATIONAL CONSULTING ENGINEERS 261 SARATOGA BLVD. CORPUS CHRISTI, TX 78417 PHONE: 361.926.5805 FAX: 361.926.5806 I.B.P.E. FIRM REGISTRATION #F-10837	
DESCRIPTION	BY	DATE	REVISION NO.
CITY OF KINGSVILLE GLO SW PROJECT 2 (N. 19TH ST.) STORM WATER IMPROVEMENTS KINGSVILLE, KLEBERG COUNTY, TEXAS			
CURB, GUTTER AND SIDEWALK STANDARD DETAILS			
REVISION NO.	DATE	BY	DESCRIPTION
C25			
DRAWING NO.		C25	
SHEET 26 of 39			

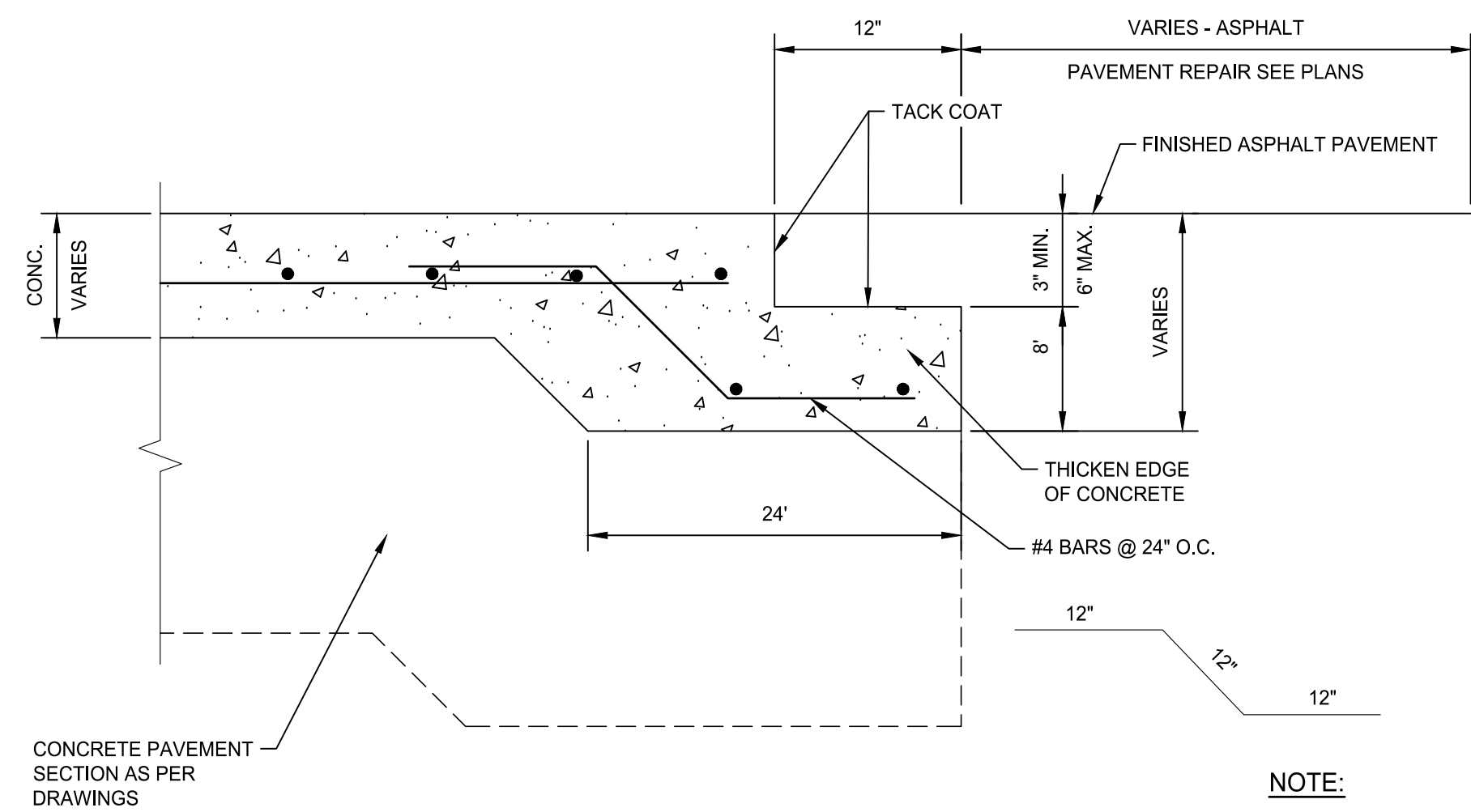


FILE NAME: I:\Projects\2021\City of Kingsville\GLO-DC02 SW N 19TH ST\1-Drawings\2 - C&G\1-1.dwg LAYOUT NAME: PS (2) - C&G\1-1.dwg PLOTTED: Monday, August 12, 2024 - 2:14pm USER: lzapreda



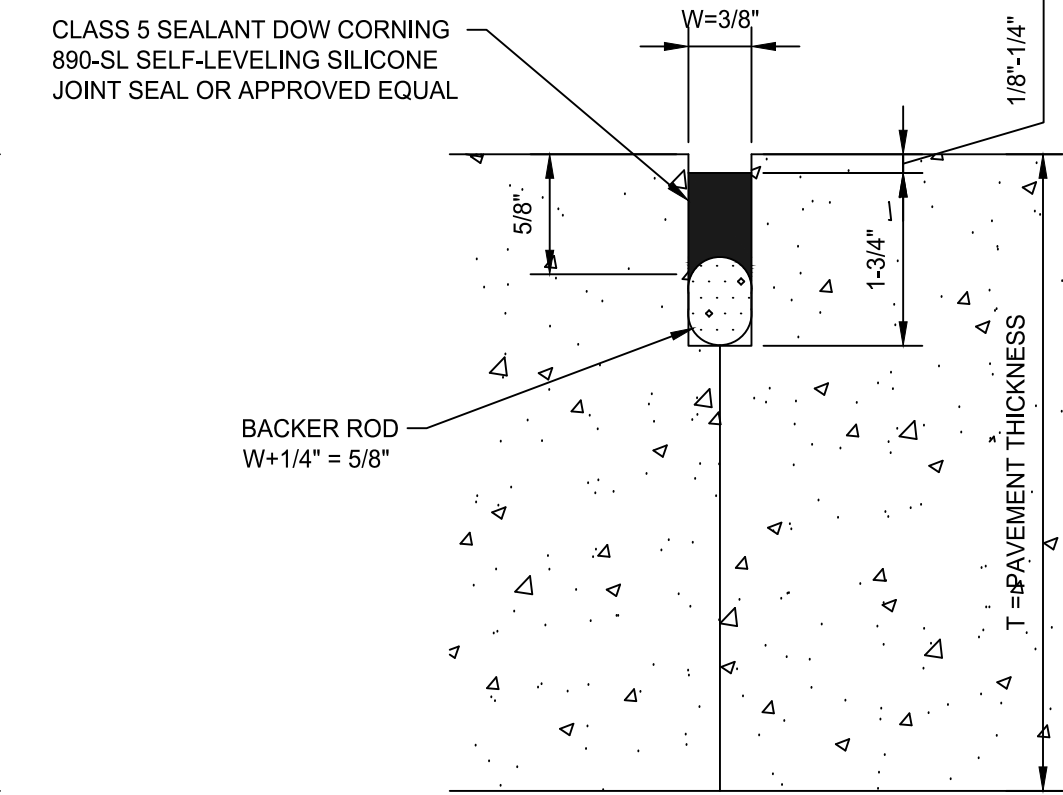
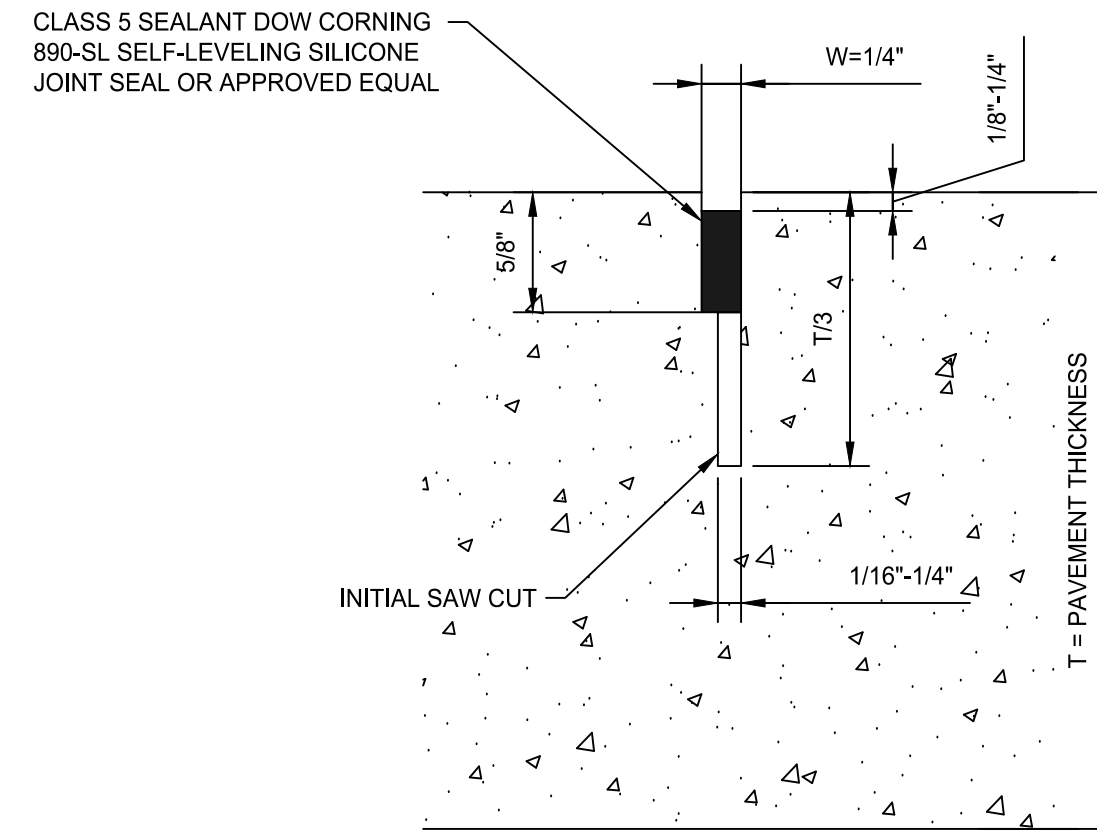
- 6" CURB NOTES:**
1. EXPANSION AND CONSTRUCTION JOINTS OF THE 6" SEPARATE CURB SHALL MATCH THOSE OF THE TIED SIDEWALK AND/OR CONCRETE PAVEMENT, AND SHALL NOT EXCEED 39' O.C. (MAX) SPACING.
  2. TRANSVERSE GROOVES 1/8" WIDE BY 1/2" DEEP SHALL BE MADE AT 10' O.C. (MAXIMUM).
  3. WHERE NEW CURB JOINS EXISTING CURB AND GUTTER, TRANSITION THE LAST 10' OF THE NEW TO MATCH THE OLD IN SHAPE.
  4. EXPANSION JOINTS ON ALL SIDEWALK AND CURB SHALL BE REDWOOD. ALL JOINTS IN 6" SEPARATE CURB SHALL BE SEALED WITH JOINT SEALANT.
  5. TRANSVERSE CONTRACTION JOINTS 1/8" WIDE BY 1/2" DEEP SHALL BE CUT IN ALL SIDEWALKS AT 5'-0" INTERVALS (MAXIMUM).

**1** TYPICAL 6" CURB DETAIL  
C26 C26 SCALE: N.T.S.



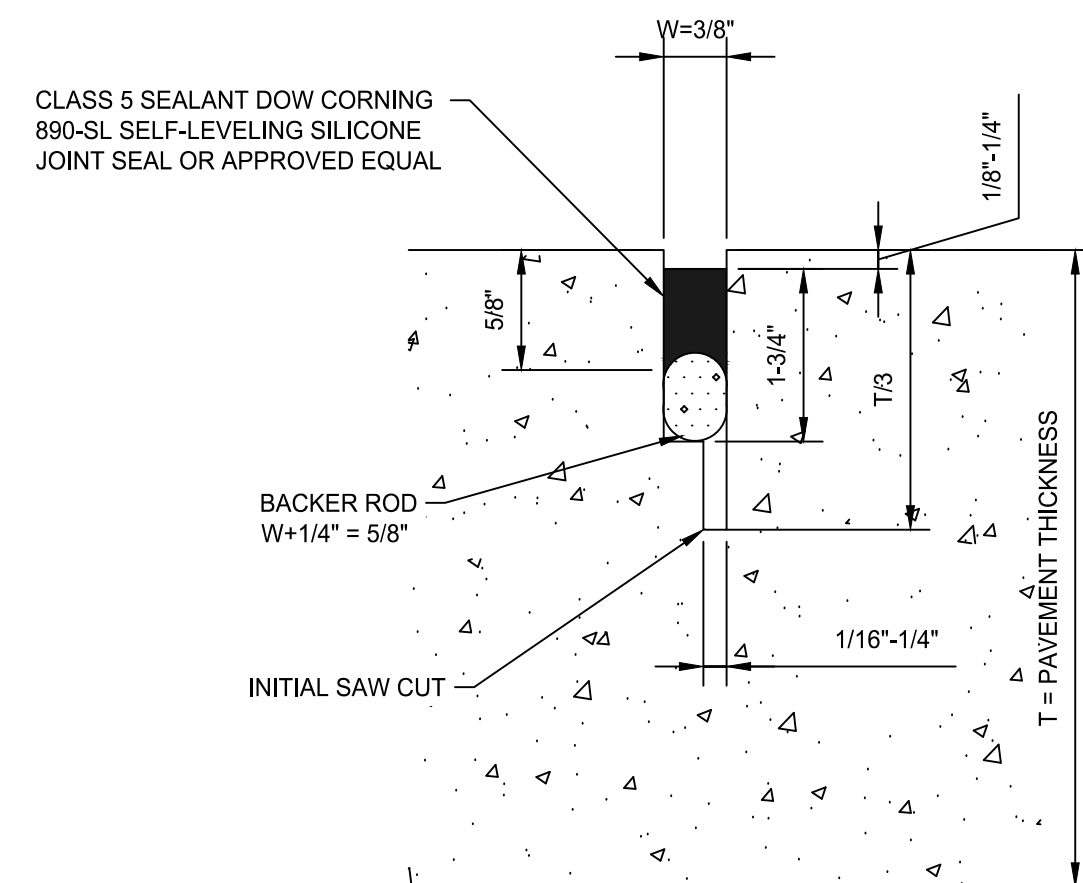
**NOTE:**  
IN NO CASE SHALL THE THICKNESS OF THE ASPHALT OR BASE MATERIAL BE LESS THAN THE THICKNESS OF EXISTING ADJACENT MATERIAL.

**2** CONCRETE TO ASPHALT PAVEMENT SECTION TIE-IN DETAIL  
C26 C26 SCALE: N.T.S.

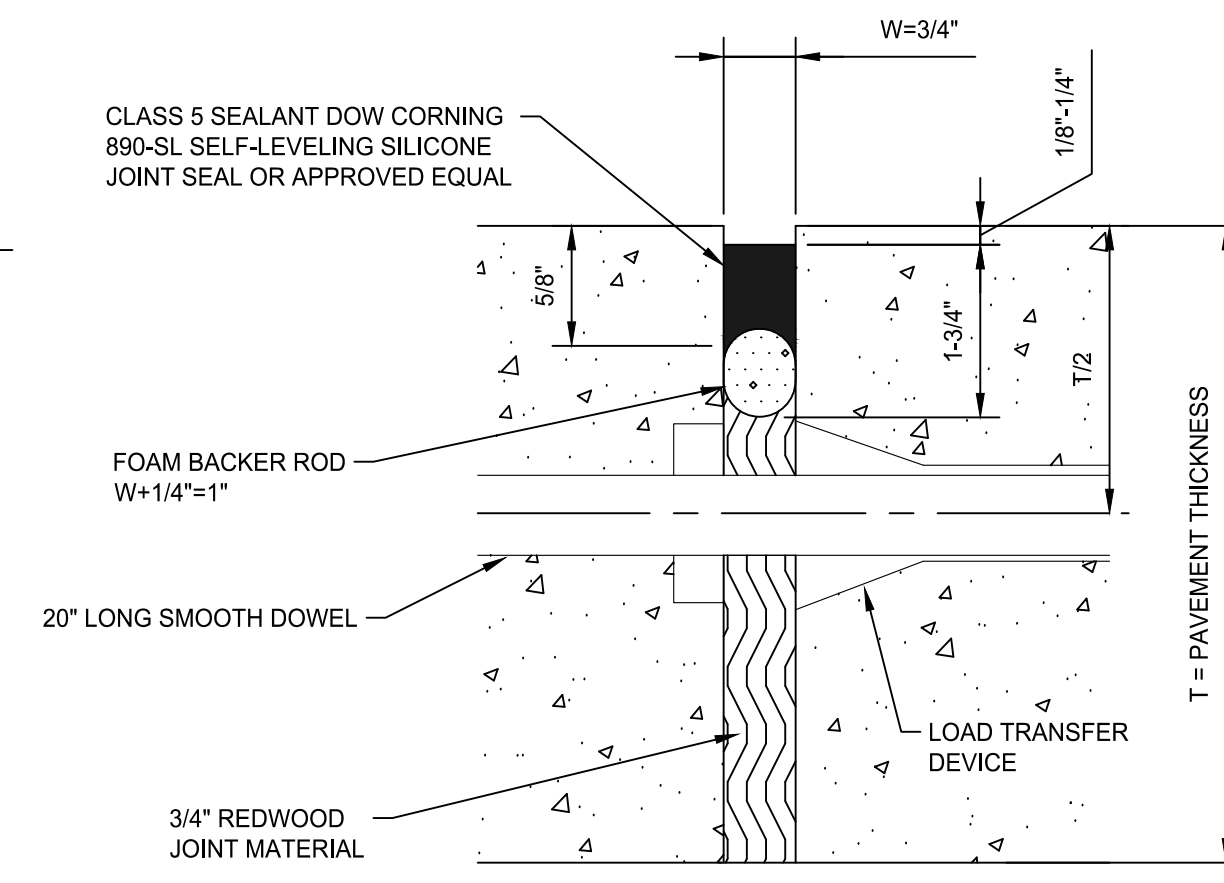


SAWED LONGITUDINAL JOINT

LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT



TRANSVERSE SAWED CONTRACT JOINT



EXPANSION JOINT

**3** JOINT SEALANT COMPOUND  
C26 C26 SCALE: N.T.S.

**GENERAL NOTES:**

1. THE LOCATION OF JOINTS SHALL BE AS SHOWN ELSEWHERE IN THE DRAWINGS.
2. THE JOINT RESERVOIR FOR SEALANT SHALL BE SAWED UNLESS OTHERWISE SHOWN ON THE PLANS FOR THE LONGITUDINAL AND TRANSVERSE CONSTRUCTION AND THE TWO SAWED JOINTS.
3. THE JOINTS SHALL BE CLEANED IN ACCORDANCE WITH THE SEALANT MANUFACTURE'S RECOMMENDATION. PRIOR TO BEGINNING OPERATIONS, THE CONTRACTOR SHALL SUBMIT A STATEMENT FROM THE SEALANT MANUFACTURER SHOWING THE RECOMMENDED EQUIPMENT AND INSTALLATION PROCEDURES TO BE USED.
4. THE SAW CUT FOR THE LONGITUDINAL JOINT SHALL BE ONE FOURTH THE SLAB THICKNESS WHEN CRUSHED LIMESTONE IS USED AS THE COARSE AGGREGATE.



08/12/2024



INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.C.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2**  
**(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**CURB, GUTTER AND SIDEWALK STANDARD DETAILS II**

DRAWING NO.

**C26**

SHEET 27 of 39

REVISION NO.	DATE	BY	DESCRIPTION



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N 19TH ST\1- Drawings\2 - Civil\G42\_02-TXDOT-BC-01-21.dwg LAYOUT NAME: C-54\_1-TXDOT-BC-01-07 PLOTTED: Monday, August 12, 2024 - 2:14pm USER: lizepeta

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

- The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
- The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
- The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
- Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.
- When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
- The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
- All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
- The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.
- Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ limit signs are required. CSJ limit signs are shown on BC(2). The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits. For mobile operations, CSJ limit signs are not required.
- Traffic control devices should be in place only while work is actually in progress or a definite need exists.
- The Engineer has the final decision on the location of all traffic control devices.
- Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY NOTES:

- Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.
- Except in emergency situations, flagger stations shall be illuminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

- Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.
- Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT <a href="http://www.txdot.gov">http://www.txdot.gov</a>
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

SHEET 1 OF 12

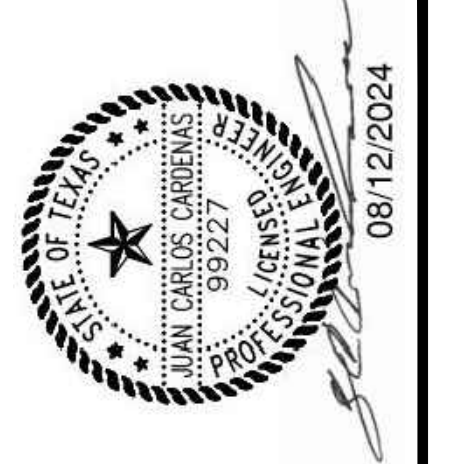


BARRICADE AND CONSTRUCTION  
GENERAL NOTES  
AND REQUIREMENTS

BC(1)-21

FILE:	bc-21.dgn	DN:	TxDOT	CK:	TxDOT	DW:	TxDOT	CK:	TxDOT
© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY				
REVISIONS		DIST		COUNTY		SHEET NO.			
4-03	7-13								
9-07	8-14								
5-10	5-21								
95 1									

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.C.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**TXDOT-BARRICADE AND CONSTRUCTION GENERAL NOTES  
AND REQUIREMENTS - BC(1)-21**

DRAWING NO.  
**C27**  
SHEET 28 of 39

REVISION NO.	DATE	BY	DESCRIPTION





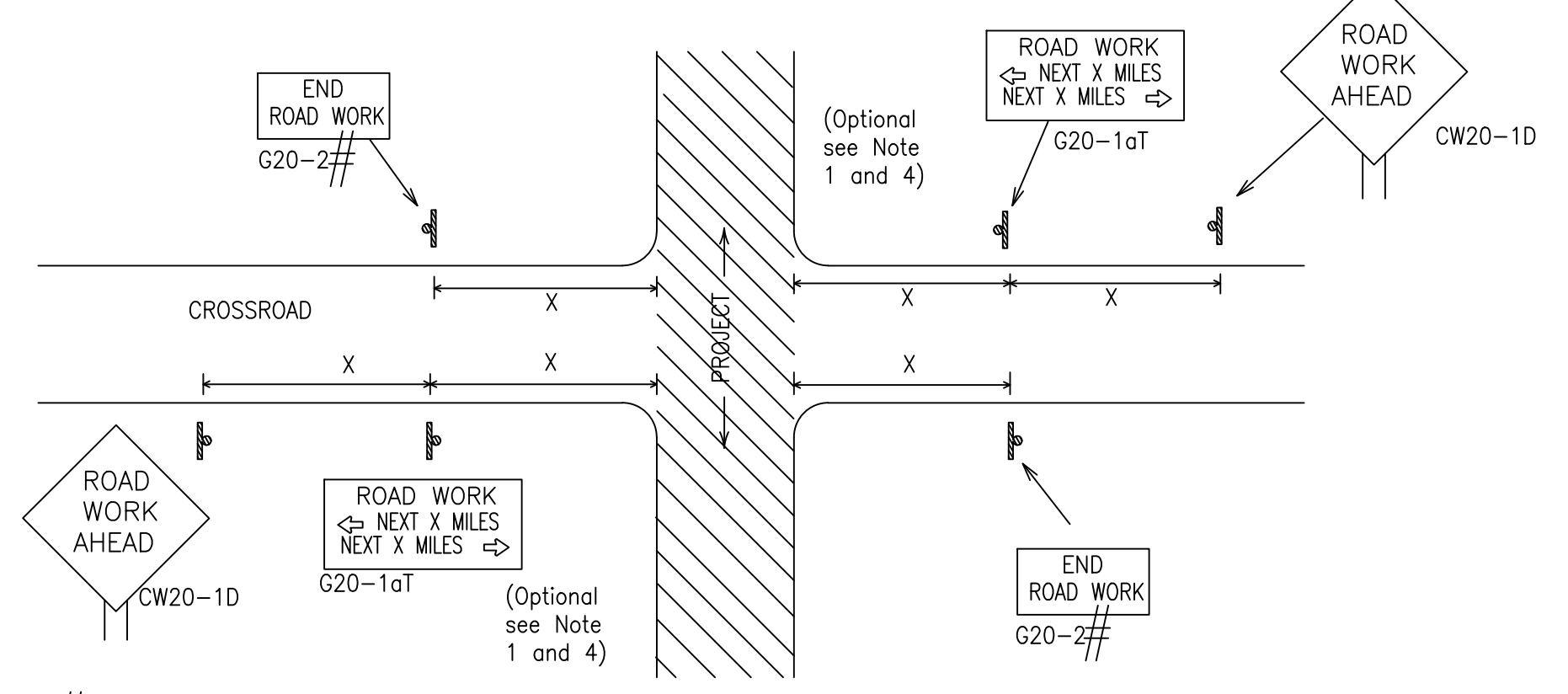
**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**TXDOT- BARRICADE AND CONSTRUCTION  
PROJECT LIMIT - BC(2)-21**

DRAWING NO.  
**C28**

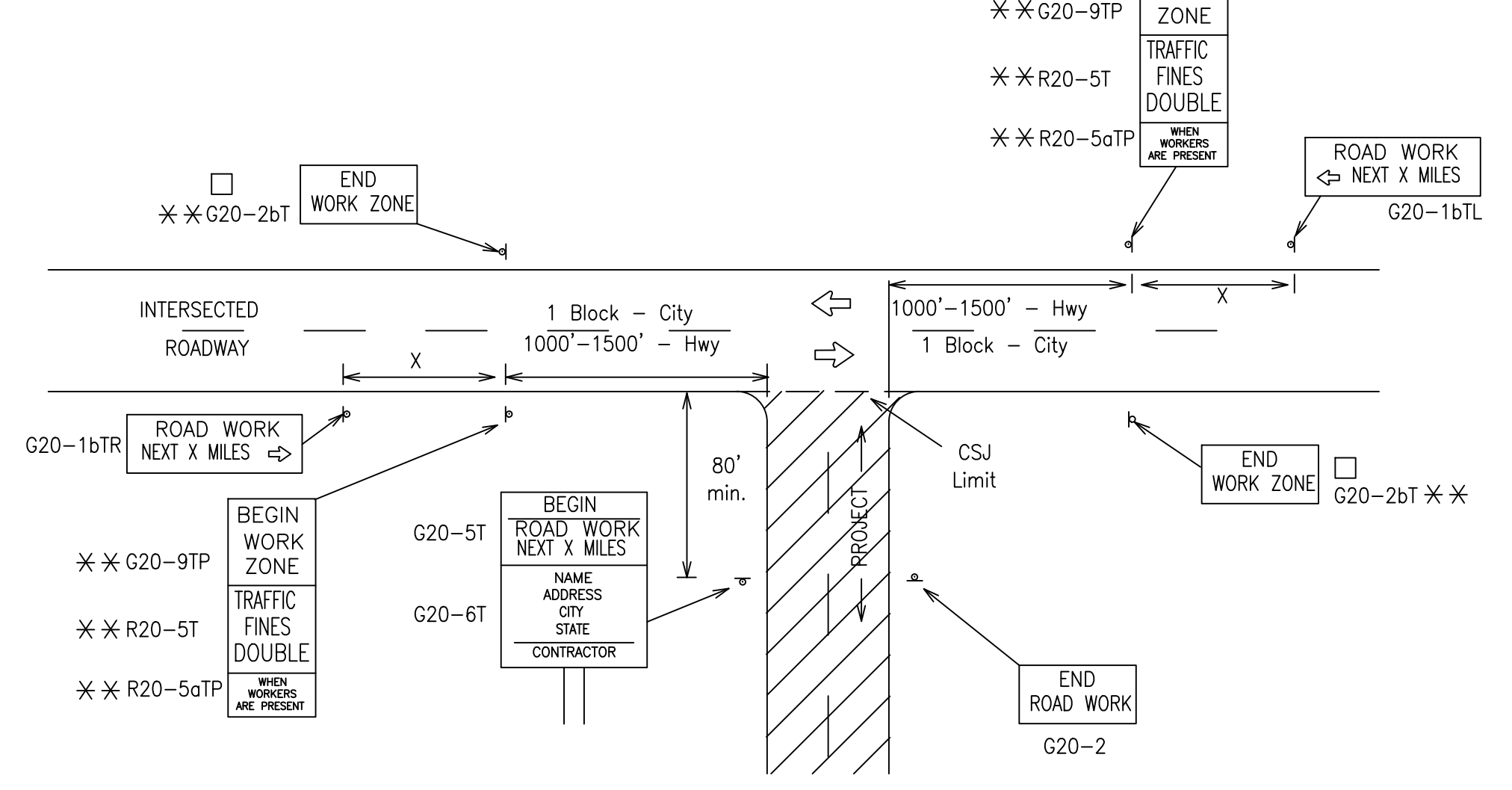
SHEET 29 of 39

TYPICAL LOCATION OF CROSSROAD SIGNS



- # May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)
- The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D) sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
  - The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume as per TMUTCD Part 5. This information shall be shown in the plans.
  - Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
  - The "ROAD WORK NEXT X MILES"(G20-1aT) sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
  - Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
  - When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

- The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
- If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR) signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING 1,5,6

Sign Number or Series	SIZE		SPACING	
	Conventional Road	Expressway/Freeway	Posted Speed	Sign Spacing "X"
CW20 <sup>4</sup>	48" x 48"	48" x 48"	MPH	Feet (Apprx.)
CW21			30	120
CW22			35	160
CW23			40	240
CW25	45	320	50	400
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"	55	500 <sup>2</sup>
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"	60	600 <sup>2</sup>
			65	700 <sup>2</sup>
			70	800 <sup>2</sup>
			75	900 <sup>2</sup>
			80	1000 <sup>2</sup>
			*	* <sup>3</sup>

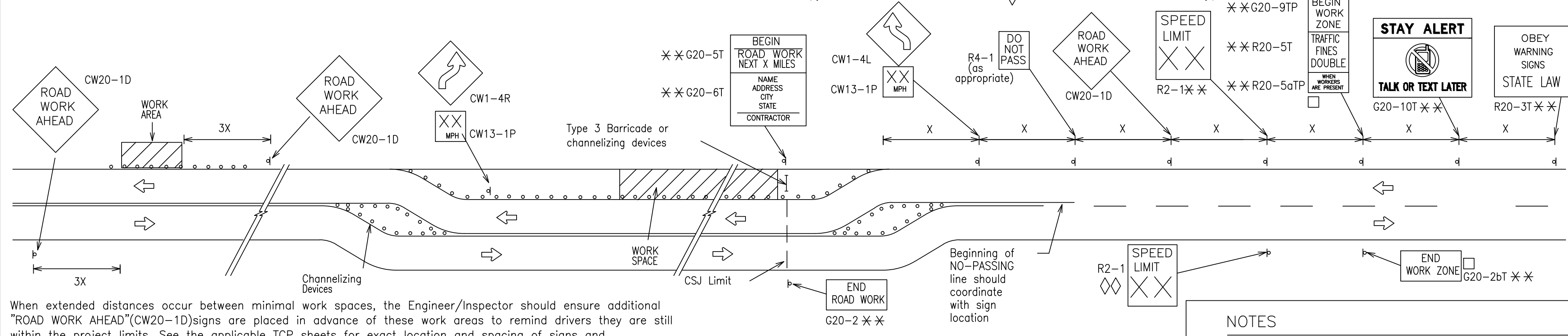
\* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

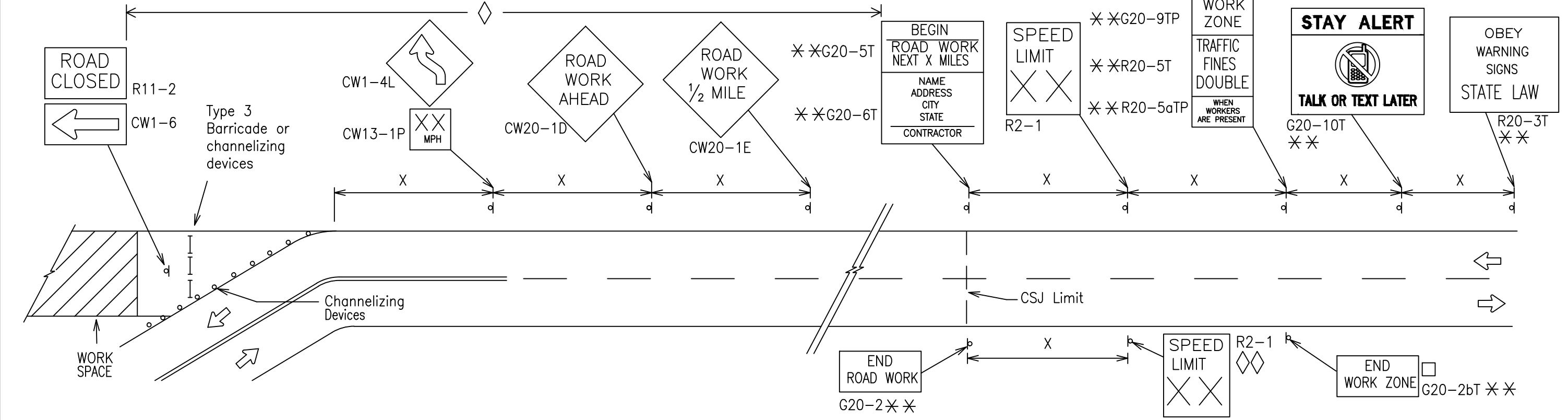
- Special or larger size signs may be used as necessary.
- Distance between signs should be increased as required to have 1500 feet advance warning.
- Distance between signs should be increased as required to have 1/2 mile or more advance warning.
- 36" x 36" "ROAD WORK AHEAD" (CW20-1D) signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".
- Only diamond shaped warning sign sizes are indicated.
- See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D) signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

- The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T) sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.
- The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.
  - CSJ limit signing is required for highway construction and maintenance work, with the exception of mobile operations.
  - Area for placement of "ROAD WORK AHEAD" (CW20-1D) sign and other signs or devices as called for on the Traffic Control Plan.
  - Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND

—	Type 3 Barricade
○ ○ ○	Channelizing Devices
■	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

SHEET 2 OF 12



**BARRICADE AND CONSTRUCTION  
PROJECT LIMIT**

BC(2)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
TXDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY	SHEET NO.	
9-07 8-14				
7-13 5-21				

FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N. 19TH ST\1 - Drawings\2 - Civil\CA3 - BC-02-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:14pm USER: lrepeda

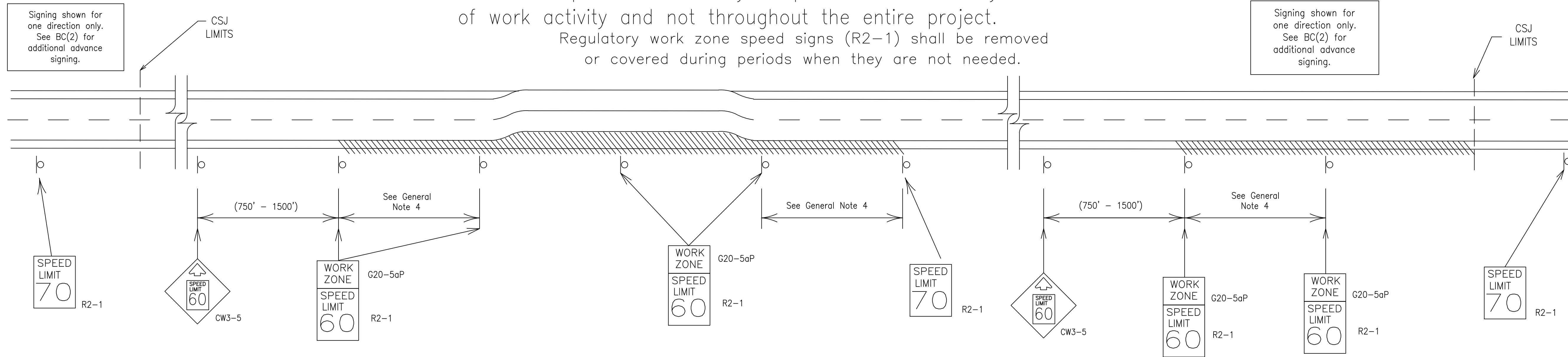


# TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



## GUIDANCE FOR USE:

### LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

- rough road or damaged pavement surface
- substantial alteration of roadway geometrics (diversions)
- construction detours
- grade
- width
- other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

### SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered. (See Removing or Covering on BC(4)).

## GENERAL NOTES

- Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
- Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
- Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
- Frequency of work zone speed limit signs should be:
  - 40 mph and greater 0.2 to 2 miles
  - 35 mph and less 0.2 to 1 mile
- Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
- Fabrication, erection and maintenance of the "ADVANCE SPEED LIMIT"(CW3-5) sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1) signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
- Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
- Techniques that may help reduce traffic speeds include but are not limited to:
  - Law enforcement.
  - Flagger stationed next to sign.
  - Portable changeable message sign (PCMS).
  - Low-power (drone) radar transmitter.
  - Speed monitor trailers or signs.
- Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
- For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

SHEET 3 OF 12



BARRICADE AND CONSTRUCTION  
WORK ZONE SPEED LIMIT

BC(3)-21

FILE:	bc-21.dgn	DN:	TxDOT	CK:	TxDOT	DW:	TxDOT	CK:	TxDOT
©	TxDOT	NOVEMBER	2002	CONT	SECT	JOB	HIGHWAY		
REVISIONS									
9-07	8-14								
7-13	5-21								
		DIST		COUNTY		SHEET NO.			

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.B.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**TXDOT- BARRICADE AND CONSTRUCTION  
WORK ZONE SPEED LIMIT - BC(3)-21**

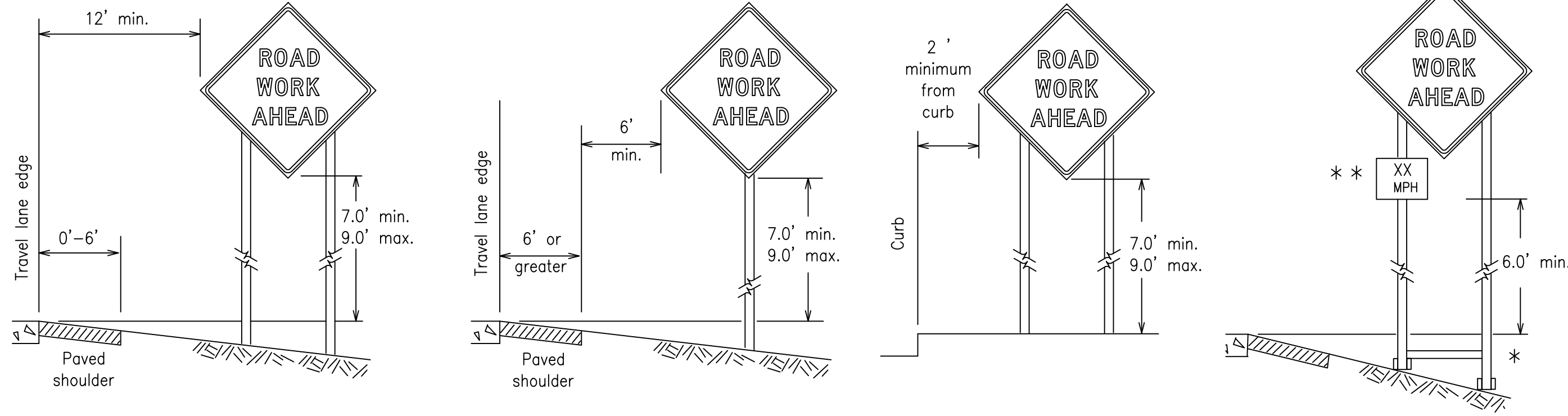
DRAWING NO.  
**C29**  
SHEET 30 of 39

FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N 19TH ST\1-Drawings\2 - Civil\C44 - BC-03-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:14pm USER: izepeda



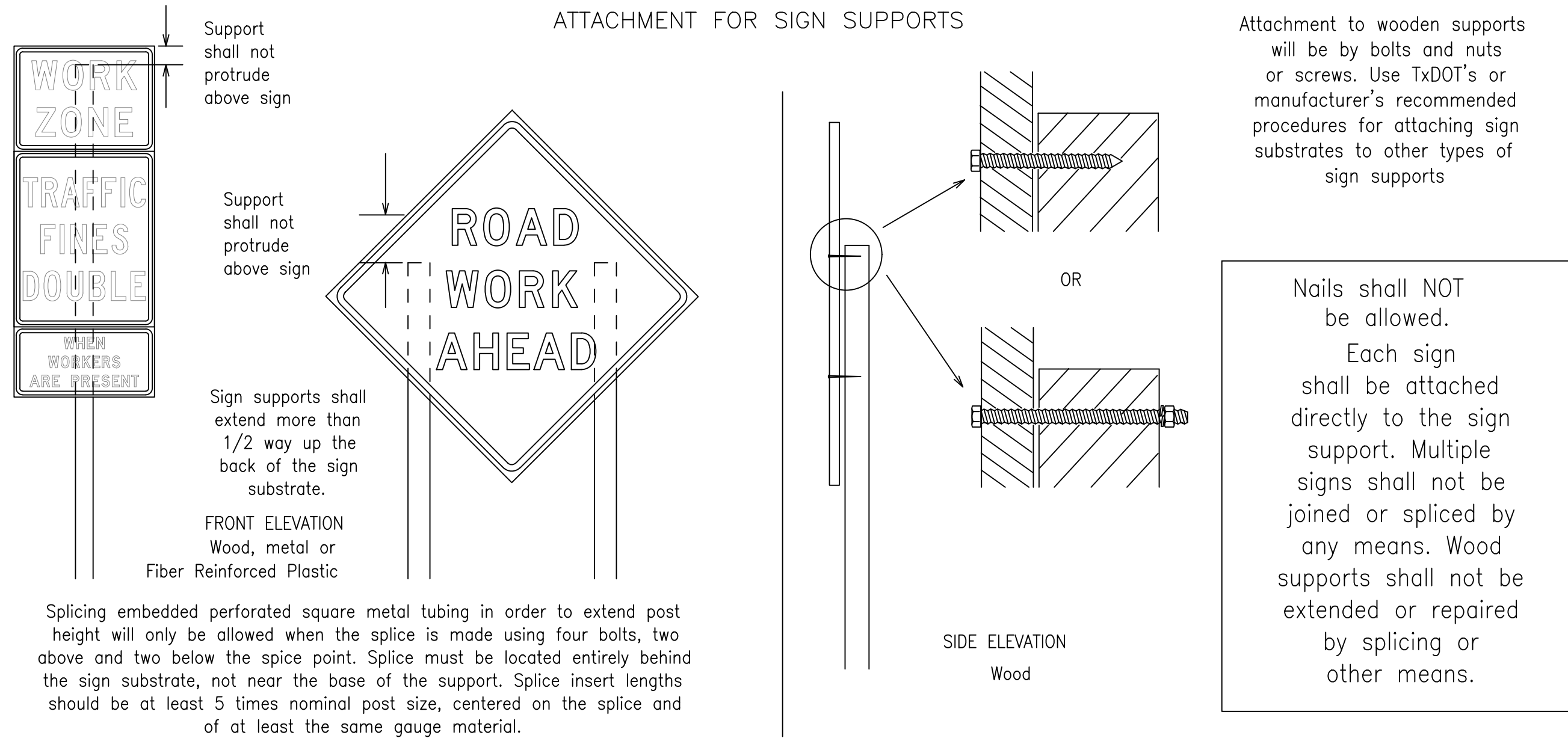
FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N 19TH ST\1-Drawings\2 - Civi\CA5 05-TXDOT-BC-04-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:14pm USER: lrepeda

TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



- \* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.
- \*\* When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS



GENERAL NOTES FOR WORK ZONE SIGNS

- Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
- Wooden sign posts shall be painted white.
- Barricades shall NOT be used as sign supports.
- All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
- The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
- The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD) for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs (TLRS) standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
- The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
- Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
- The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

- The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
  - Long-term stationary - work that occupies a location more than 3 days.
  - Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
  - Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
  - Short, duration - work that occupies a location up to 1 hour.
  - Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

- The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
- The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
- Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
- Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
- Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

- The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

- The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
- "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
- All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

- All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
- White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
- Orange sheeting, meeting the requirements of DMS-8300 Type B or Type C, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

- All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

- When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
- Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
- Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
- When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
- Burlap shall NOT be used to cover signs.
- Duct tape or other adhesive material shall NOT be affixed to a sign face.
- Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

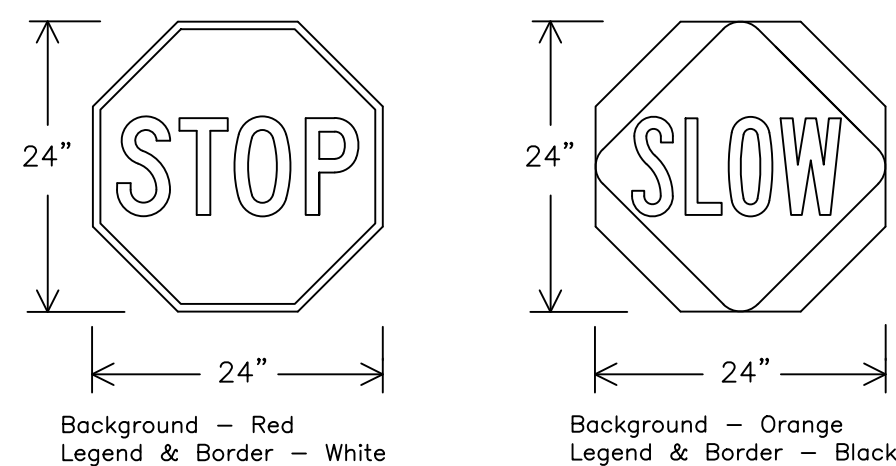
- Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
- The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
- Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
- Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
- Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
- Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
- Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
- Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

- Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

STOP/SLOW PADDLES

- STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
- STOP/SLOW paddles shall be retroreflective when used at night.
- STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
- Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

- 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, specific service (LOGO), 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.
- 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. For details for covering large guide signs see the TS-CD standard.
- When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
- If existing signs are to be relocated on their original supports, 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 Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
- If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
- 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.

SHEETING REQUIREMENTS (WHEN USED AT NIGHT)

USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE B <sub>FL</sub> OR C <sub>FL</sub> SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

SHEET 4 OF 12



BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

FILE:	bc-21.dgn	DN:	TxDOT	CK:	TxDOT	DW:	TxDOT	CK:	TxDOT
© TxDOT	November 2002	CONT:	SECT:	JOB:	HIGHWAY:				
REVISIONS		DIST		COUNTY		SHEET NO.			
9-07	8-14								
7-13	5-21								
QR	1								

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IE**

INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.C.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2**  
(N. 19TH ST.) STORM WATER IMPROVEMENTS  
KINGSVILLE, KLEBERG COUNTY, TEXAS

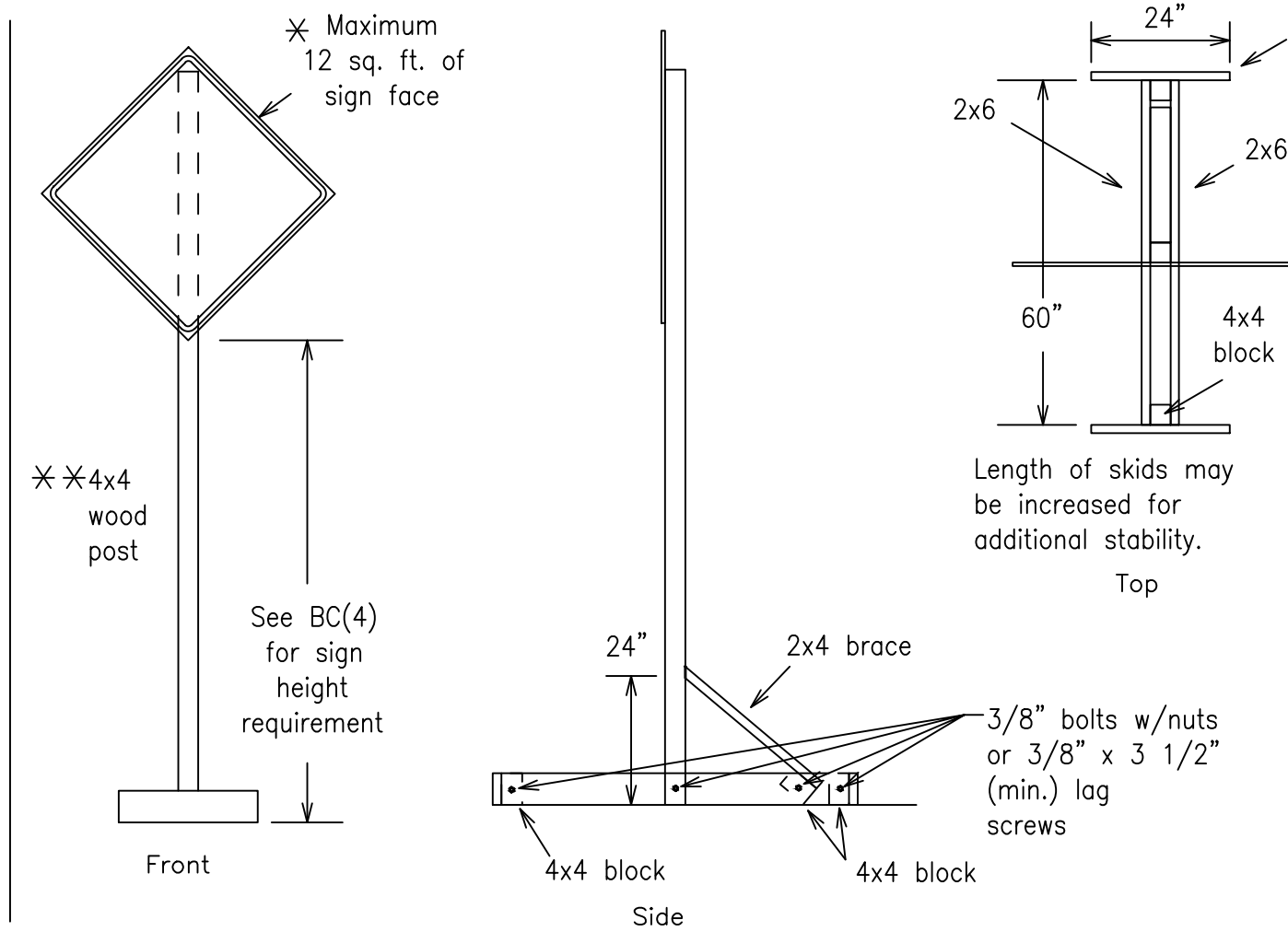
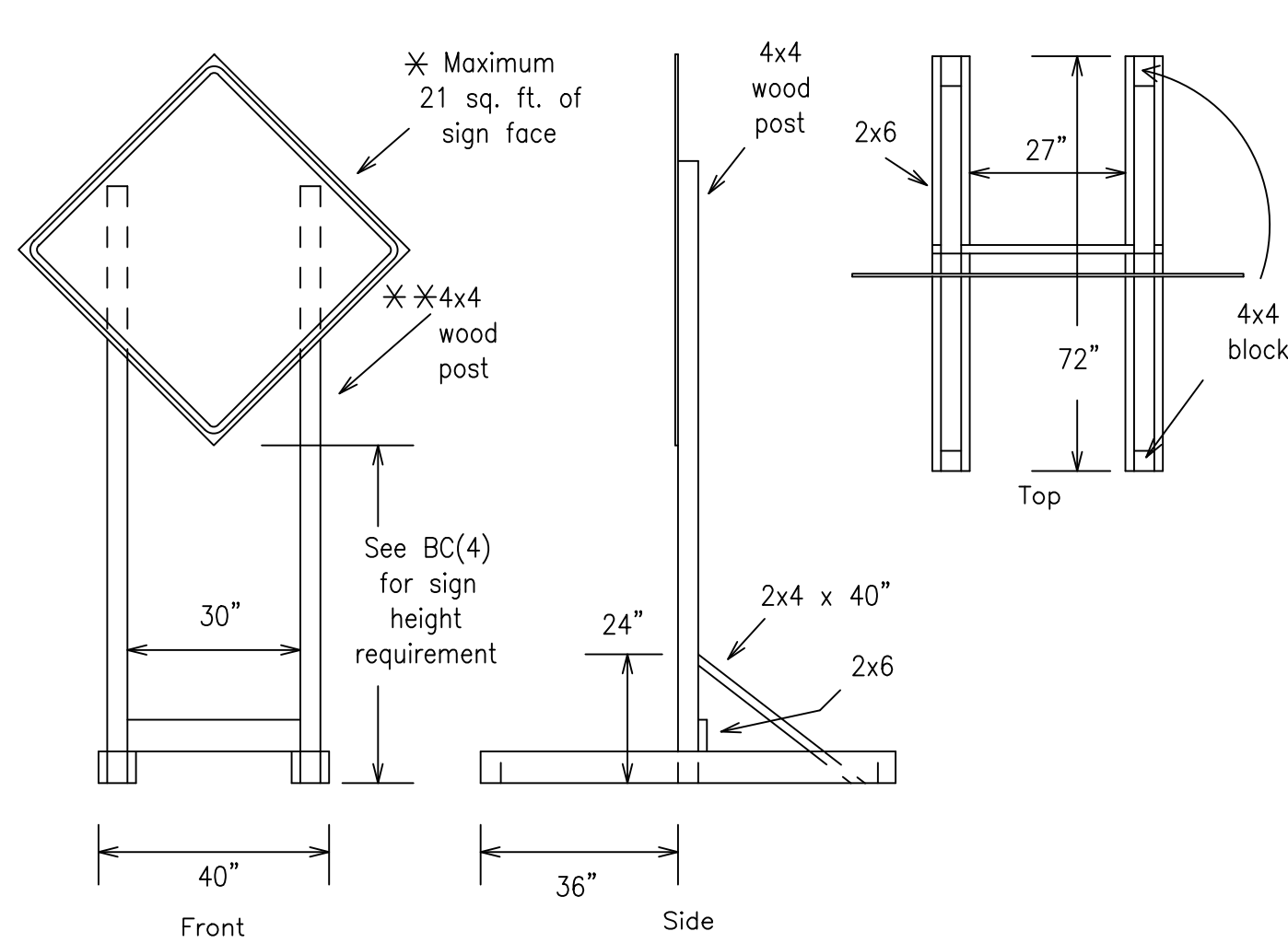
**TXDOT- BARRICADE AND CONSTRUCTION**  
TEMPORARY SIGN NOTES - BC(4)-21

DRAWING NO.  
**C30**

SHEET 31 of 39

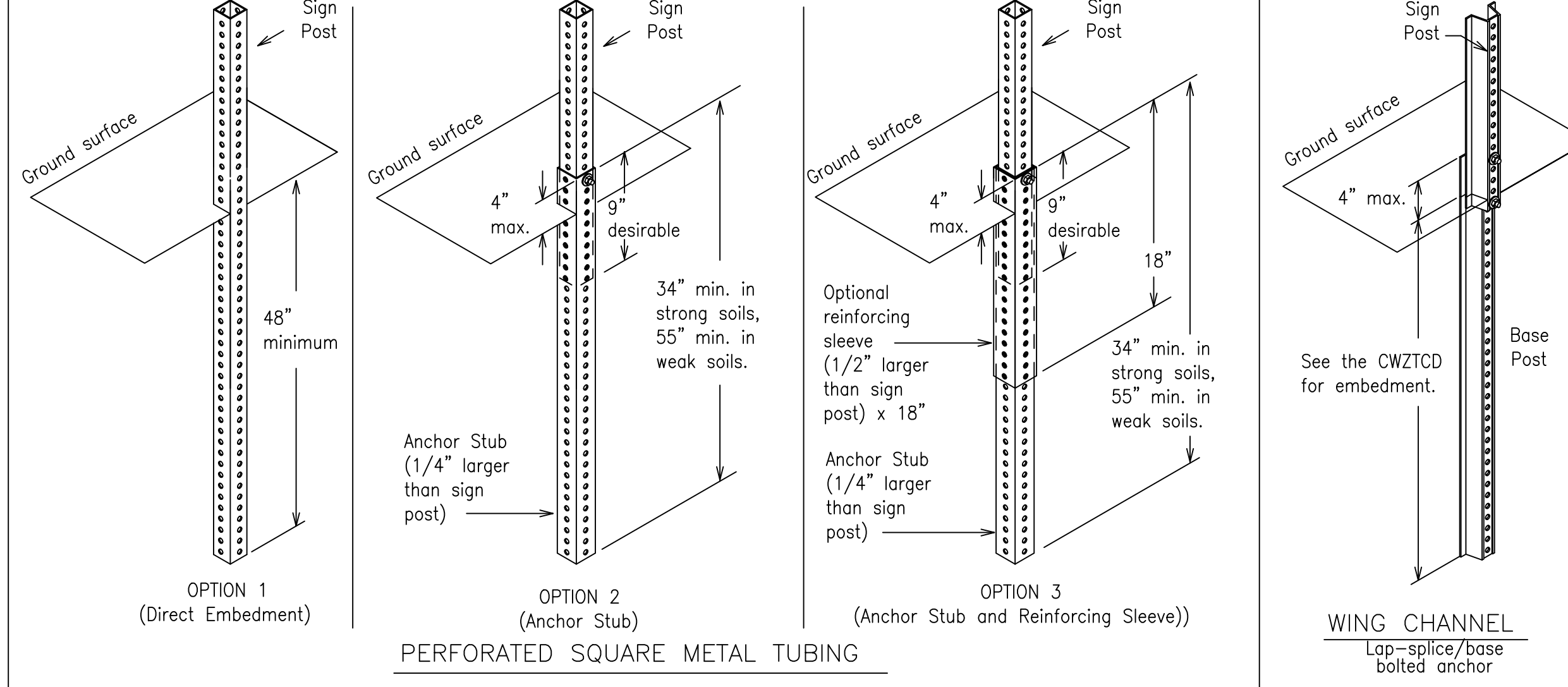


FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N 19TH ST\1-Drawings\2 - Civil\C46 06-TXDOT-BC-05-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:14pm USER: izepeda



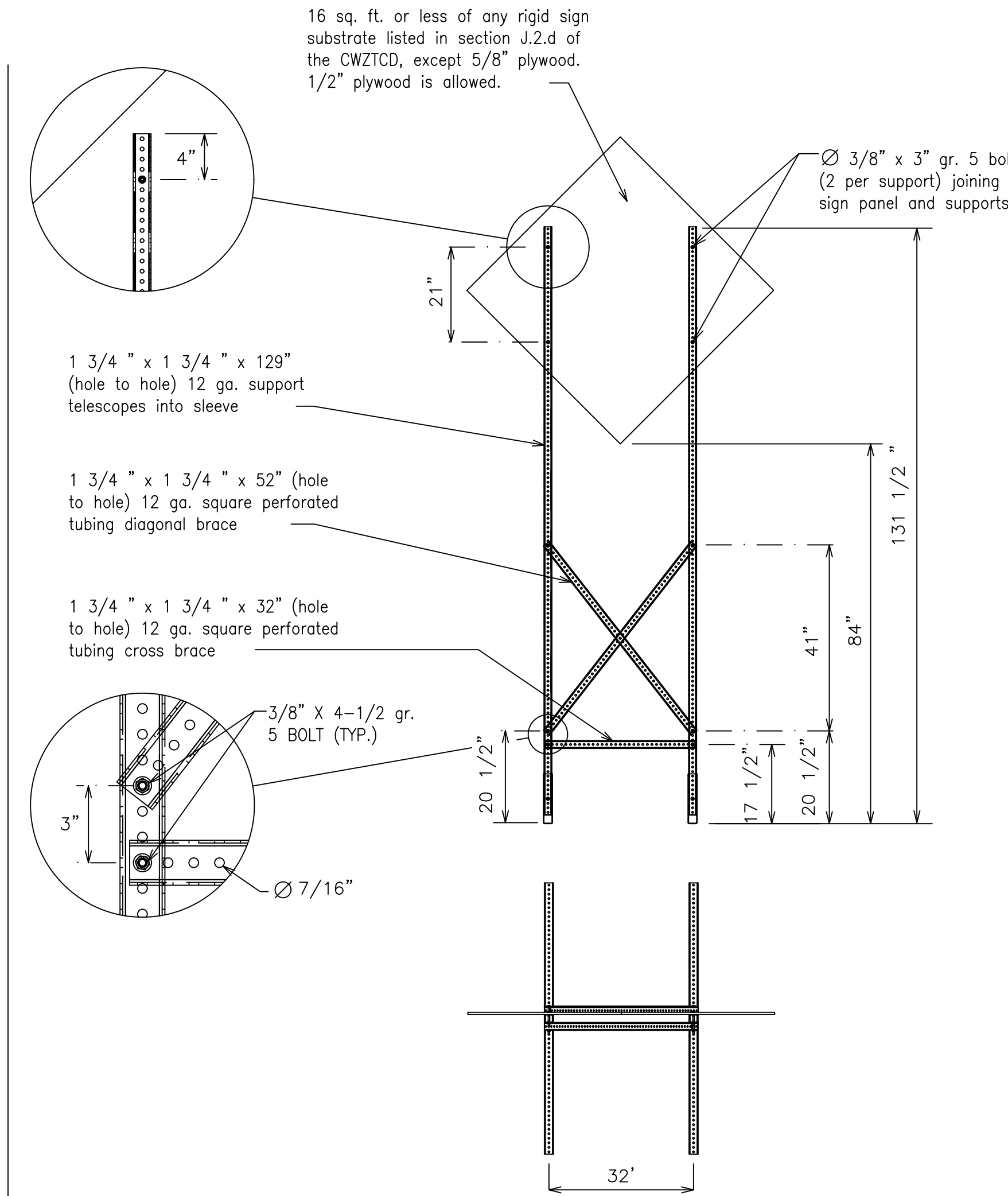
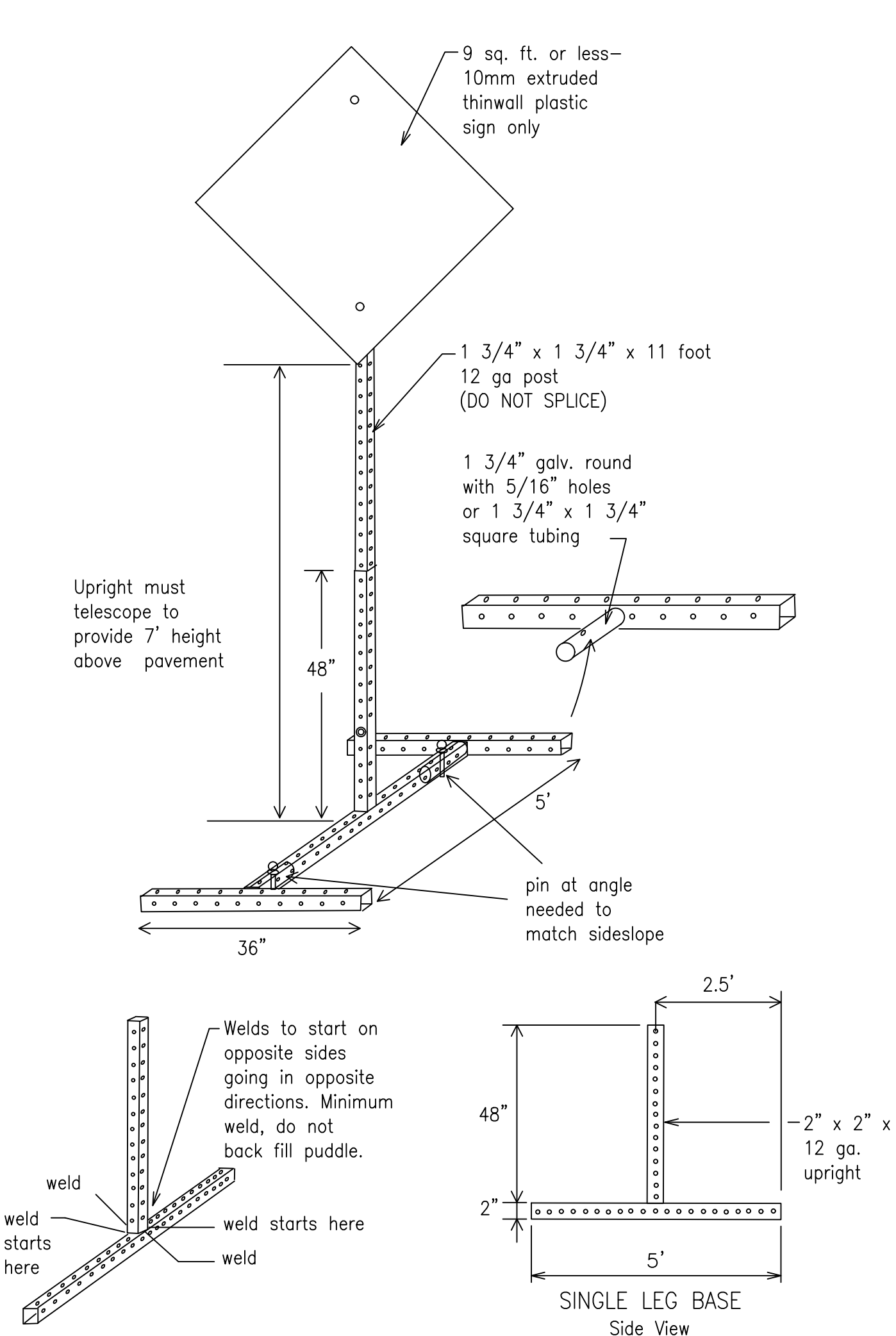
**SKID MOUNTED WOOD SIGN SUPPORTS**

\* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS



**GROUND MOUNTED SIGN SUPPORTS**

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support. The maximum sign square footage shall adhere to the manufacturer's recommendation. Two post installations can be used for larger signs.



**SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS**

\* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

**WEDGE ANCHORS**

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

**OTHER DESIGNS**

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

**GENERAL NOTES**

- Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
- No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
- When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

- \* See BC(4) for definition of "Work Duration."
- \*\* Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.
- See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

SHEET 5 OF 12



**BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT**

BC(5)-21

FILE:	bc-21.dgn	DW:	TxDOT	CK:	TxDOT	DW:	TxDOT	CK:	TxDOT
© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY				
REVISIONS									
9-07	8-14								
7-13	5-21	DIST	COUNTY			SHEET NO.			
99									



**IE**  
 INTERNATIONAL CONSULTING ENGINEERS  
 261 SARATOGA BLVD.  
 CORPUS CHRISTI, TX 78417  
 PHONE: 361.926.5805  
 FAX: 361.926.5806  
 I.C.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2 (N. 19TH ST.) STORM WATER IMPROVEMENTS**  
 KINGSVILLE, KLEBERG COUNTY, TEXAS  
**TXDOT- BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT - BC(5)-21**



WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

**PORTABLE CHANGEABLE MESSAGE SIGNS**

- The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
- Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
- Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
- Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
- Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
- When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
- The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
- The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
- Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
- Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
- Do not use the word "Danger" in message.
- Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
- Do not display messages that scroll horizontally or vertically across the face of the sign.
- The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
- PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
- Each line of text should be centered on the message board rather than left or right justified.
- If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION	WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD	Major	MAJ
Alternate	ALT	Miles	MI
Avenue	AVE	Miles Per Hour	MPH
Best Route	BEST RTE	Minor	MNR
Boulevard	BLVD	Monday	MON
Bridge	BRDG	Normal	NORM
Cannot	CANT	North	N
Center	CTR	Northbound	(route) N
Construction Ahead	CONST AHD	Parking	PKING
CROSSING	XING	Road	RD
Detour Route	DETOUR RTE	Right Lane	RT LN
Do Not	DONT	Saturday	SAT
East	E	Service Road	SERV RD
Eastbound	(route) E	Shoulder	SHLDR
Emergency	EMER	Slippery	SLIP
Emergency Vehicle	EMER VEH	South	S
Entrance, Enter	ENT	Southbound	(route) S
Express Lane	EXP LN	Speed	SPD
Expressway	EXPWY	Street	ST
XXXX Feet	XXXX FT	Sunday	SUN
Fog Ahead	FOG AHD	Telephone	PHONE
Freeway	FRWY, FWY	Temporary	TEMP
Freeway Blocked	FWY BLKD	Thursday	THURS
Friday	FRI	To Downtown	TO DWNTN
Hazardous Driving	HAZ DRIVING	Traffic	TRAF
Hazardous Material	HAZMAT	Travelers	TRVRS
High-Occupancy Vehicle	HOV	Tuesday	TUES
Highway	HWY	Time Minutes	TIME MIN
Hour(s)	HR, HRS	Upper Level	UPR LEVEL
Information	INFO	Vehicles (s)	VEH, VEHS
It Is	ITS	Warning	WARN
Junction	JCT	Wednesday	WED
Left	LFT	Weight Limit	WT LIMIT
Left Lane	LFT LN	West	W
Lane Closed	LN CLOSED	Westbound	(route) W
Lower Level	LWR LEVEL	West Pavement	WET PVMT
Maintenance	MAINT	Will Not	WONT

Roadway designation # IH=number, US=number, SH=number, FM=number

**RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES**

(The Engineer may approve other messages not specifically covered here.)

**Phase 1: Condition Lists**

**Road/Lane/Ramp Closure List**

FREEWAY CLOSED X MILE
ROAD CLOSED AT SH XXX
ROAD CLSD AT FM XXXX
RIGHT X LANES CLOSED
CENTER LANE CLOSED
NIGHT LANE CLOSURES
VARIOUS LANES CLOSED
EXIT CLOSED
MALL DRIVEWAY CLOSED
XXXXXXXXX BLVD CLOSED

**Other Condition List**

FRONTAGE ROAD CLOSED
SHOULDER CLOSED XXX FT
RIGHT LN CLOSED XXX FT
RIGHT X LANES OPEN
DAYTIME LANE CLOSURES
I-XX SOUTH EXIT CLOSED
EXIT XXX CLOSED X MILE
RIGHT LN TO BE CLOSED
X LANES CLOSED TUE - FRI

ROADWORK XXX FT
FLAGGER XXXX FT
RIGHT LN NARROWS XXXX FT
MERGING TRAFFIC XXXX FT
LOOSE GRAVEL XXXX FT
DETOUR X MILE
ROADWORK PAST SH XXXX
BUMP XXXX FT
TRAFFIC SIGNAL XXXX FT

ROAD REPAIRS XXXX FT
LANE NARROWS XXXX FT
TWO-WAY TRAFFIC XX MILE
CONST TRAFFIC XXX FT
UNEVEN LANES XXXX FT
ROUGH ROAD XXXX FT
ROADWORK FRI-SUN
US XXX EXIT X MILES
LANES SHIFT

\* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

**APPLICATION GUIDELINES**

- Only 1 or 2 phases are to be used on a PCMS.
- The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
- A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
- A Location Phase is necessary only if a distance or location is not included in the first phase selected.
- If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
- For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

**FULL MATRIX PCMS SIGNS**

- When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
- When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
- When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
- A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

**Phase 2: Possible Component Lists**

**Action to Take/Effect on Travel List**

MERGE RIGHT
DETOUR NEXT X EXITS
USE EXIT XXX
STAY ON US XXX SOUTH
TRUCKS USE US XXX N
WATCH FOR TRUCKS
EXPECT DELAYS
REDUCE SPEED XXX FT
USE OTHER ROUTES
STAY IN LANE *

FORM X LINES RIGHT
USE XXXXX RD EXIT
USE EXIT I-XX NORTH
USE I-XX E TO I-XX N
WATCH FOR TRUCKS
EXPECT DELAYS
PREPARE TO STOP
END SHOULDER USE
WATCH FOR WORKERS

**Location List**

AT FM XXXX
BEFORE RAILROAD CROSSING
NEXT X MILES
PAST US XXX EXIT
XXXXXXXXX TO XXXXXXXX
US XXX TO FM XXXX

**Warning List**

SPEED LIMIT XX MPH
MAXIMUM SPEED XX MPH
MINIMUM SPEED XX MPH
ADVISORY SPEED XX MPH
RIGHT LANE EXIT
USE CAUTION
DRIVE SAFELY
DRIVE WITH CARE

**\*\* Advance Notice List**

TUE-FRI XX AM-X PM
APR XX-XX X PM-X AM
BEGINS MONDAY
BEGINS MAY XX
MAY X-X XX PM - XX AM
NEXT FRI-SUN
XX AM TO XX PM
NEXT TUE AUG XX
TONIGHT XX PM-XX AM

\*\* See Application Guidelines Note 6.

**WORDING ALTERNATIVES**

- The words RIGHT, LEFT and ALL can be interchanged as appropriate.
- Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
- EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
- Highway names and numbers replaced as appropriate.
- ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
- AHEAD may be used instead of distances if necessary.
- FT and MI, MILE and MILES interchanged as appropriate.
- AT, BEFORE and PAST interchanged as needed.
- Distances or AHEAD can be eliminated from the message if a location phase is used.

SHEET 6 OF 12



BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DM: TxDOT	CR: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS				
9-07 8-14				
7-13 5-21				
100	DIST	COUNTY	SHEET NO.	



**CITY OF KINGSVILLE GLO SW PROJECT 2 (N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

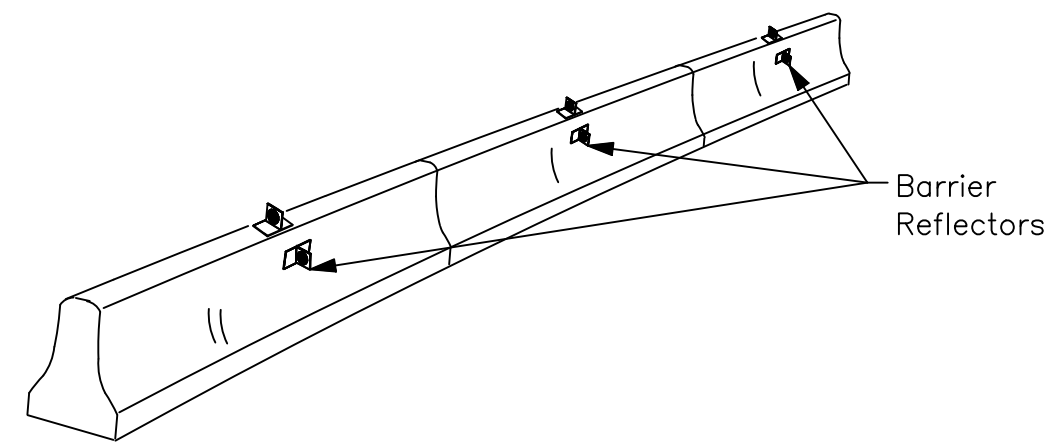
**TXDOT- BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) - BC(6)-21**

FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1- Drawings\2 - Drawings\2 - City\K47 07-TXDOT- BC-06-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:15pm USER: lrepeda

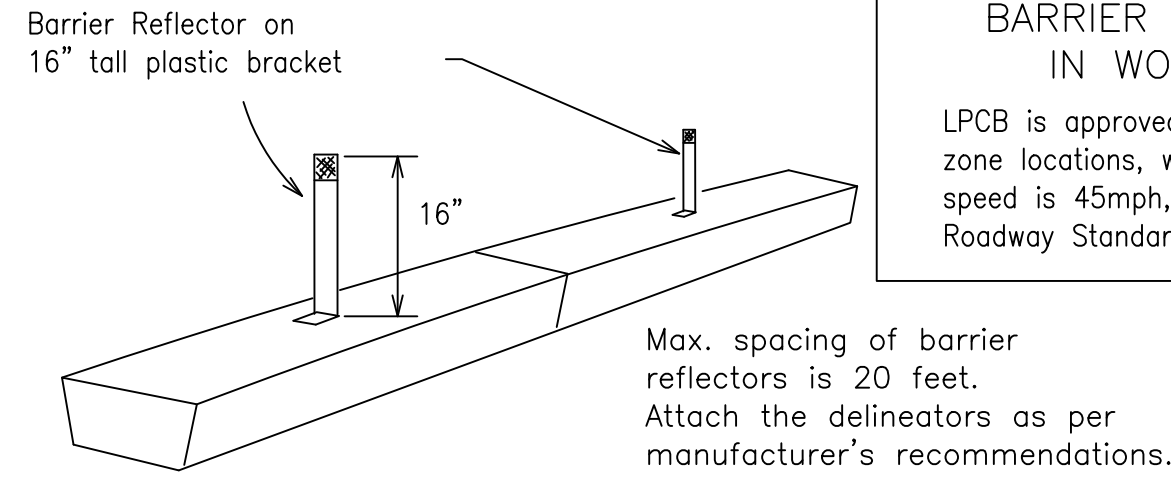


FILE NAME: I:\Projects\2021\Cty of Kingsville\GLO-10002 SW N 19TH ST\1-Drawings\2 - Civil\CA48-08-TDOT-BC-07-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:15pm USER: izrenea

- Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
- Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



CONCRETE TRAFFIC BARRIER (CTB)



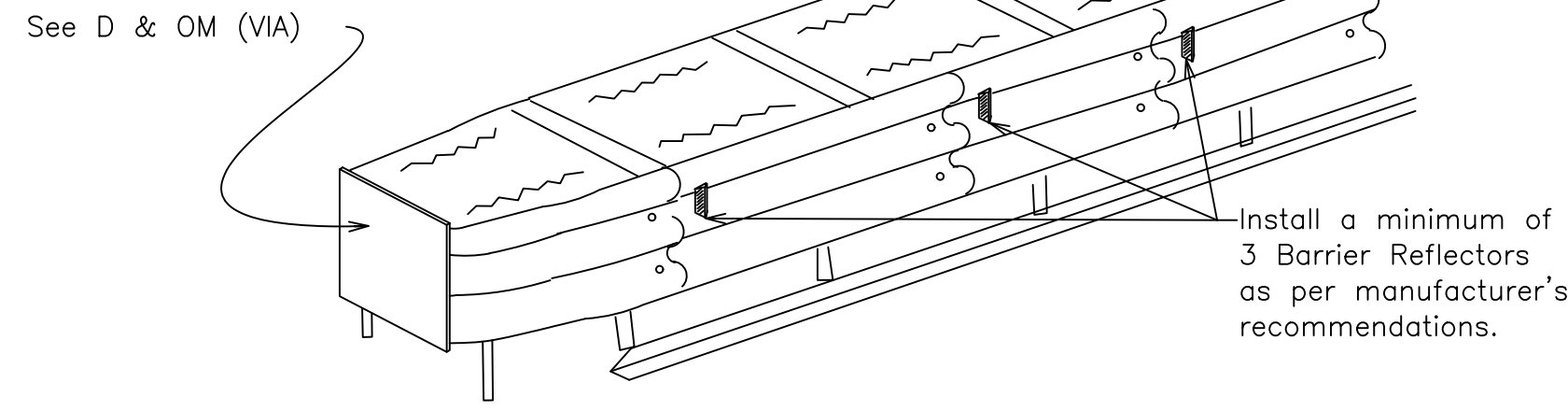
LOW PROFILE CONCRETE BARRIER (LPCB)

**LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES**

LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

- Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
- Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional) while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
- When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
- Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
- Maximum spacing of Barrier Reflectors is forty (40) feet.
- Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
- Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
- Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
- Single slope barriers shall be delineated as shown on the above detail.



DELINEATION OF END TREATMENTS

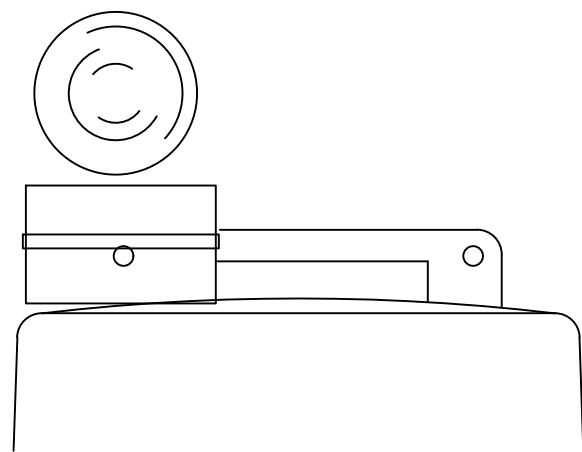
**END TREATMENTS FOR CTB'S USED IN WORK ZONES**

End treatments used on CTB's in work zones shall meet the appropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

**BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS**

**WARNING LIGHTS**

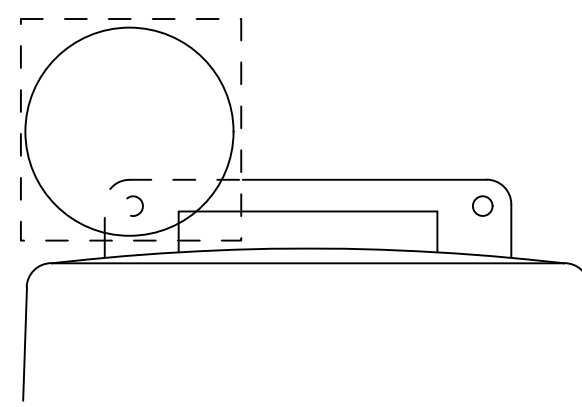
- Warning lights shall meet the requirements of the TMUTCD.
- Warning lights shall NOT be installed on barricades.
- Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B or C sheeting meeting the requirements of Departmental Material Specification DMS-8300.
- Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
- The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
- When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
- When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
- The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.

**WARNING LIGHTS MOUNTED ON PLASTIC DRUMS**

- Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
- Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
- A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
- Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
- Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
- Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
- The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.



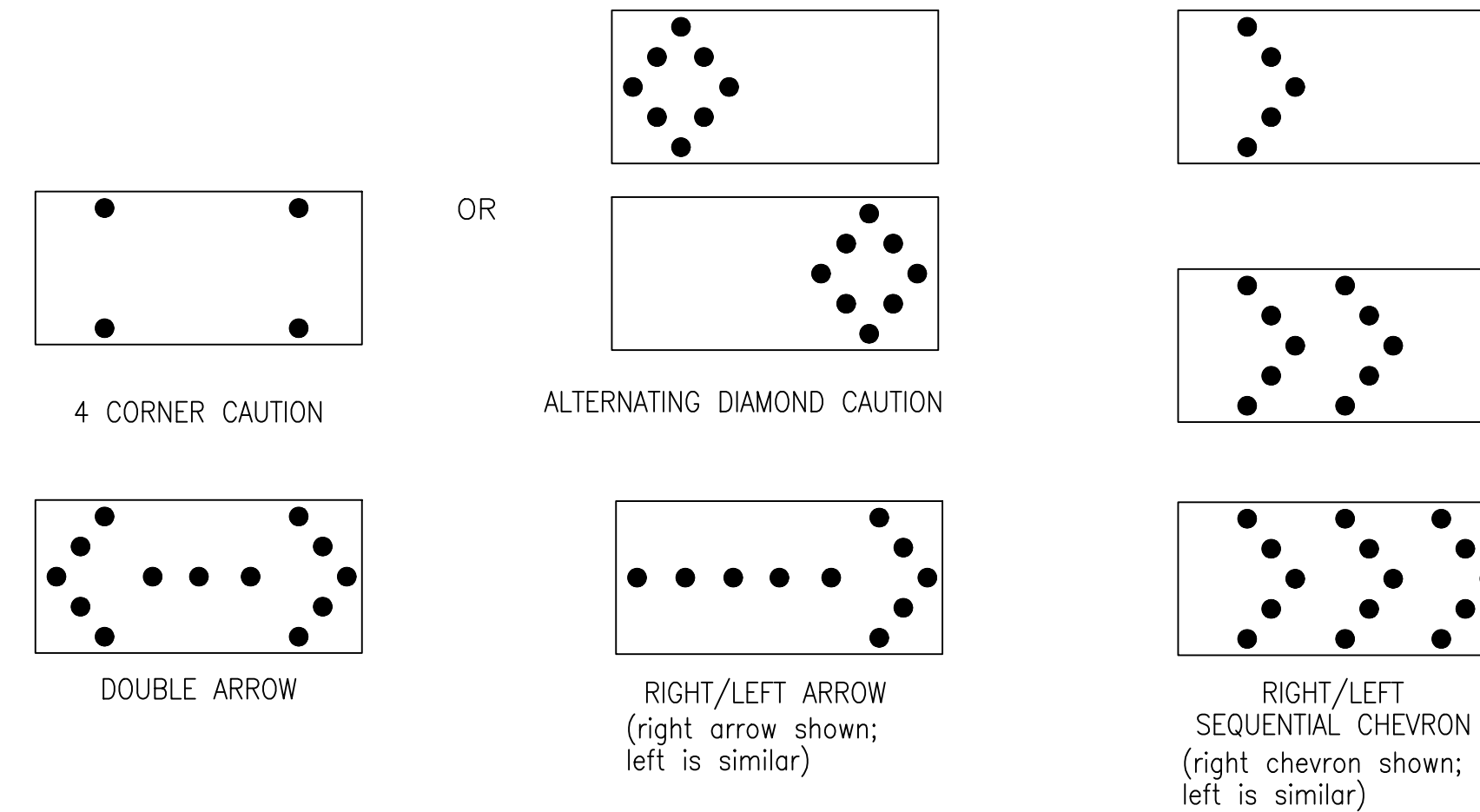
Warning reflector may be round or square. Must have a yellow reflective surface area of at least 30 square inches

**WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS**

- A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
- The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
- The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
- Round reflectors shall be fully reflectorized, including the area where attached to the drum.
- Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
- The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
- When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
- The warning reflector should be mounted on the side of the handle nearest approaching traffic.
- The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

- The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
- Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
- The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board. The Flashing Arrow Board should be able to display the following symbols:



- The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
- The straight line caution display is NOT ALLOWED.
- The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
- Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
- The sequential arrow display is NOT ALLOWED.
- The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
- The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
- A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
- A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
- Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

**ATTENTION**  
Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

**FLASHING ARROW BOARDS**

SHEET 7 OF 12

**TRUCK-MOUNTED ATTENUATORS**

- Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
- Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
- Refer to the CWZTCD for a list of approved TMAs.
- TMAs are required on freeways unless otherwise noted in the plans.
- A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
- The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.



**BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR**

BC(7)-21

FILE:	bc-21.dgn	DN:	TxDOT	CK:	TxDOT	DW:	TxDOT	CK:	TxDOT
© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY				
REVISIONS									
9-07	8-14	DIST		COUNTY	SHEET NO.				
7-13	5-21								

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5905  
FAX: 361.926.5906  
I.C.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBER COUNTY, TEXAS

**TXDOT- BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR - BC(7)-21**

DRAWING NO.

**C33**

SHEET 34 of 39



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N 19TH ST\1-Drawings\2 - Civil\CA9 09-TXDOT-BC-08-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:15pm USER: lrepeda

**GENERAL NOTES**

- For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
- For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
- For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
- Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
- The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

**GENERAL DESIGN REQUIREMENTS**

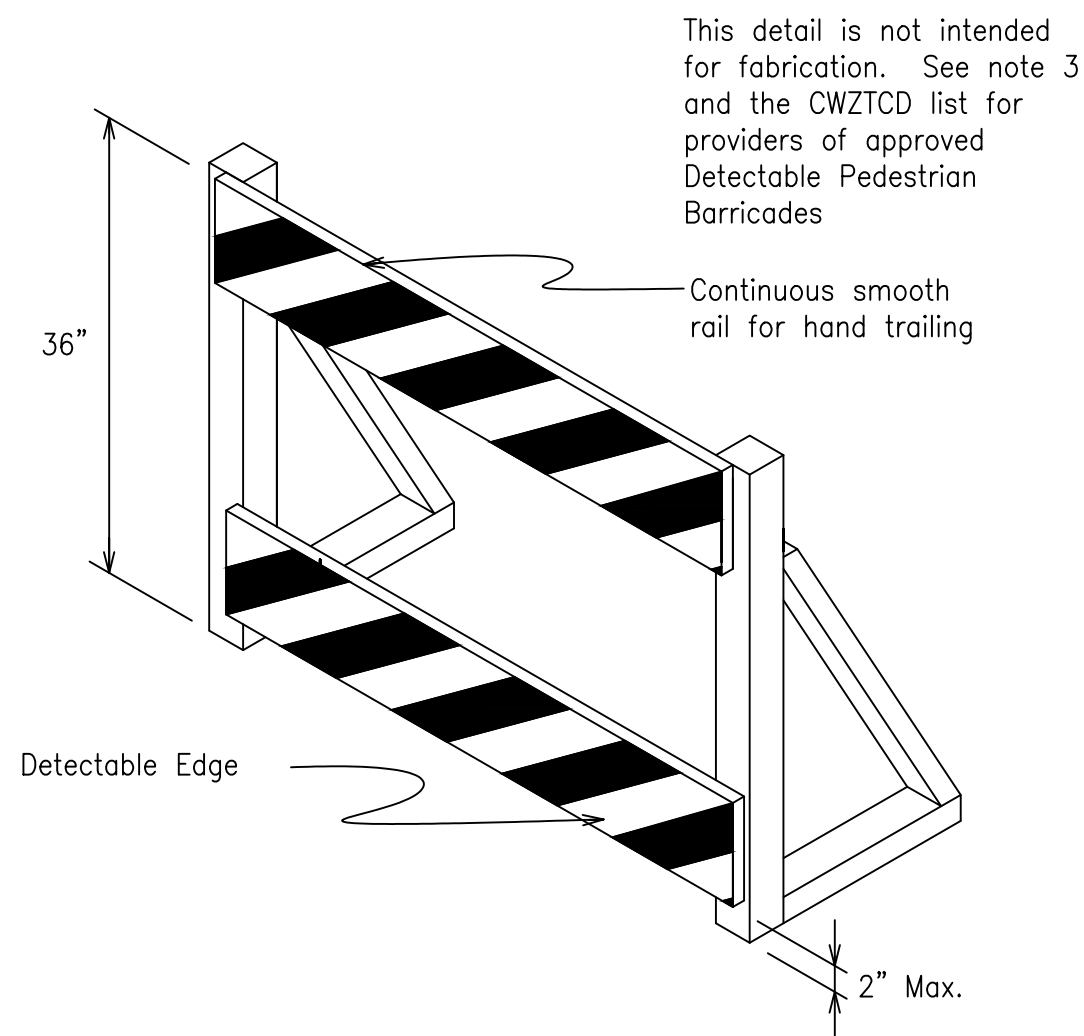
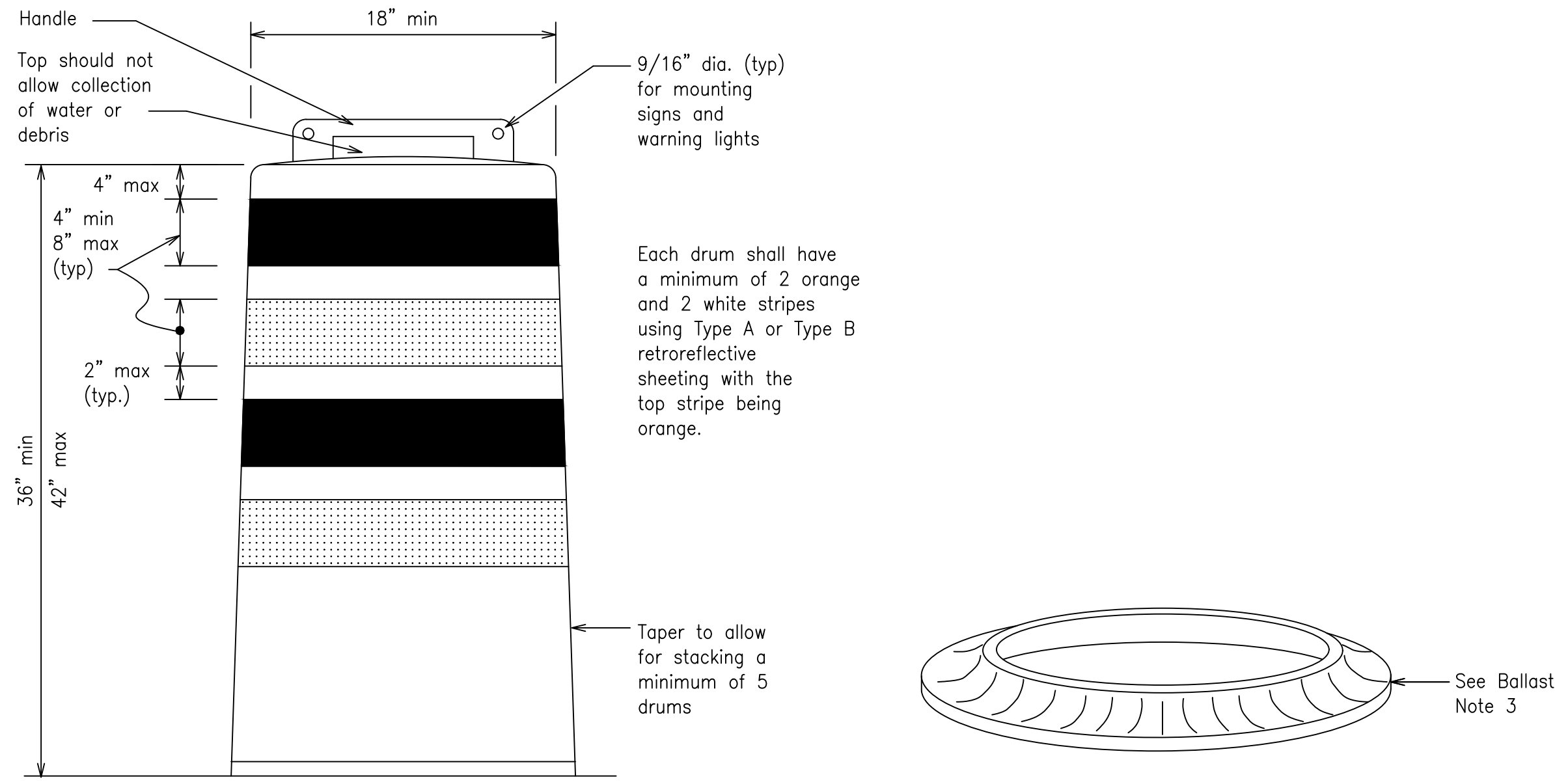
- Pre-qualified plastic drums shall meet the following requirements:
- Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
  - The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
  - Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
  - Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
  - The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
  - The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectORIZED space between any two adjacent stripes shall not exceed 2 inches in width.
  - Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
  - Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
  - Drum body shall have a maximum unballasted weight of 11 lbs.
  - Drum and base shall be marked with manufacturer's name and model number.

**RETROREFLECTIVE SHEETING**

- The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
- The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

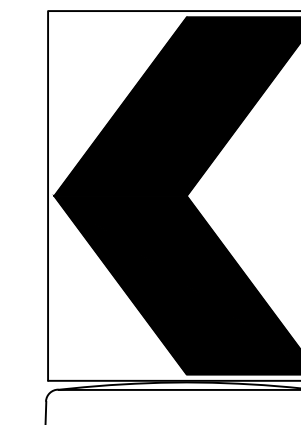
**BALLAST**

- Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
- Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
- Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
- The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
- When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
- Ballast shall not be placed on top of drums.
- Adhesives may be used to secure base of drums to pavement.

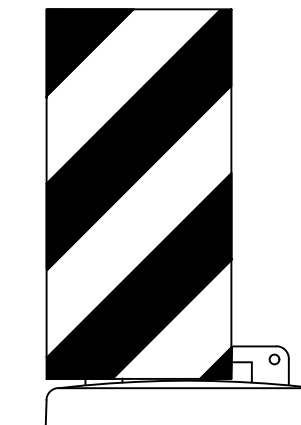


**DETECTABLE PEDESTRIAN BARRICADES**

- 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. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
- Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.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. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.5. Warning lights shall not be attached to detectable pedestrian barricades.
- Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign  
(Maximum Sign Dimension)  
Chevron CW1-8, Opposing Traffic Lane  
Divider, Driveway sign D70a, Keep Right  
R4 series or other signs as approved  
by Engineer



12" x 24"  
Vertical Panel  
mount with diagonals  
sloping down towards  
travel way

Plywood, Aluminum or Metal sign  
substrates shall NOT be used on  
plastic drums

**SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS**

- Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
- Chevrons and other work zone signs with an orange background shall be manufactured with Type B or Type C Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
- Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
- Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
- Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
- Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
- Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations, they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
- R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

SHEET 8 OF 12



**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

BC(8)-21

FILE:	bc-21.dgn	DN:	TxDOT	CK:	TxDOT	DW:	TxDOT	CK:	TxDOT
©	TxDOT	NOVEMBER	2002	CONT	SECT	JOB			HIGHWAY
REVISIONS									
4-03	8-14								
9-07	5-21								
7-13									
		DIST	COUNTY						SHEET NO.

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**ICE**

INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.C.E. FIRM REGISTRATION #F-10837



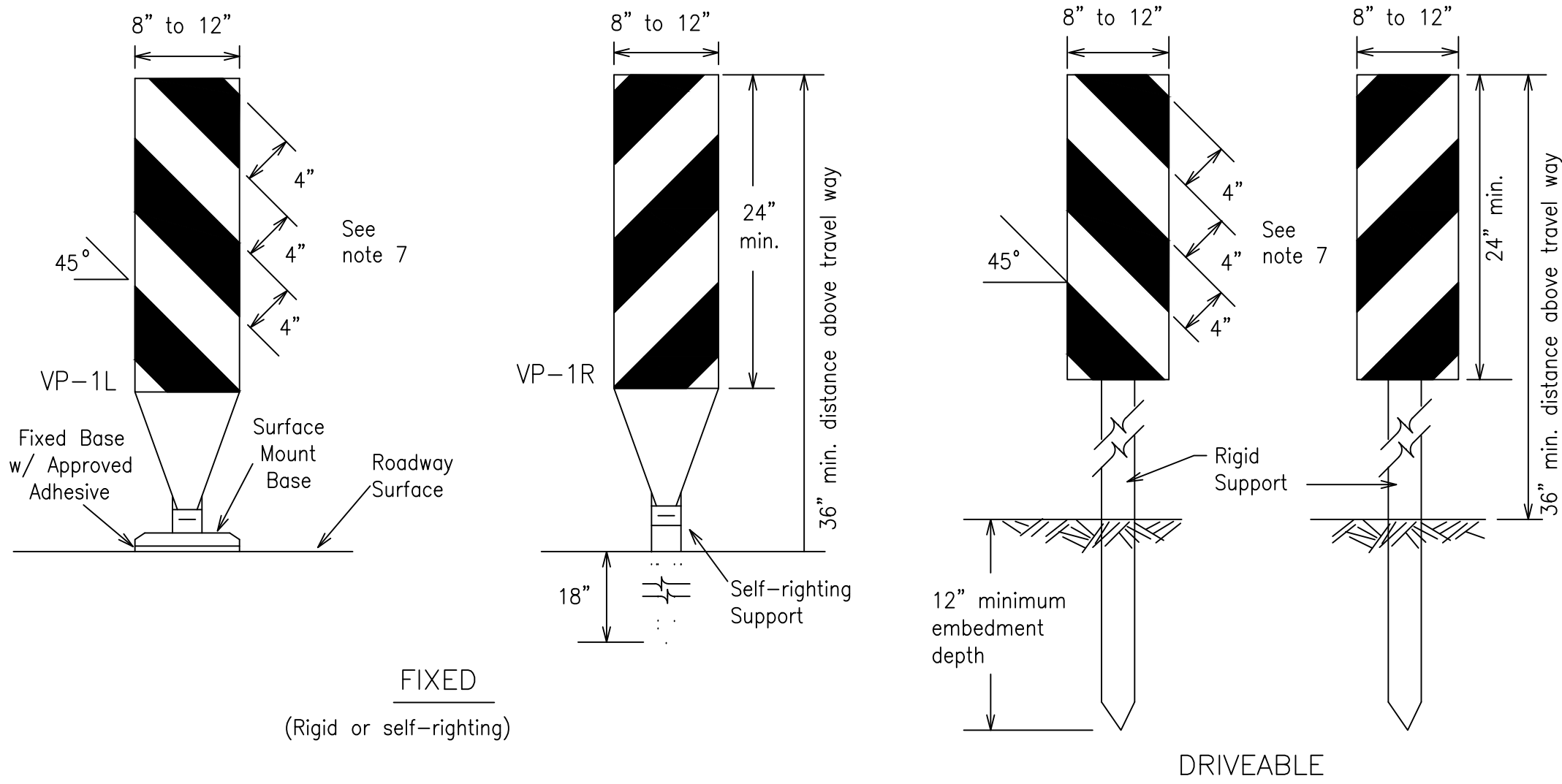
**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

**TXDOT- BARRICADE AND CONSTRUCTION CHANNELIZING  
DEVICE - BC(8)-21**

DRAWING NO.  
**C34**  
SHEET 35 of 39

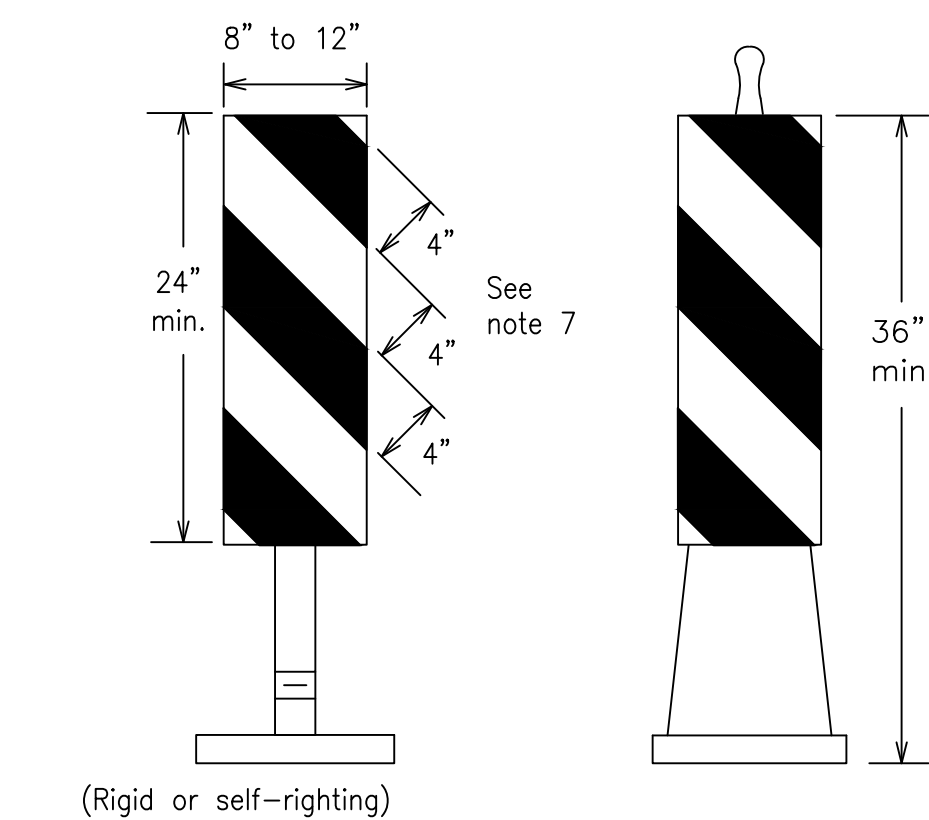


FILE NAME: I:\Projects\2021\City of Kingsville\GLO-LOC02 SW N 19TH ST\1-Drawings\2 - Civil\CSD 10-TXDOT-BC-09-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:15pm USER: izrepeda



**FIXED**  
(Rigid or self-righting)

**DRIVEABLE**

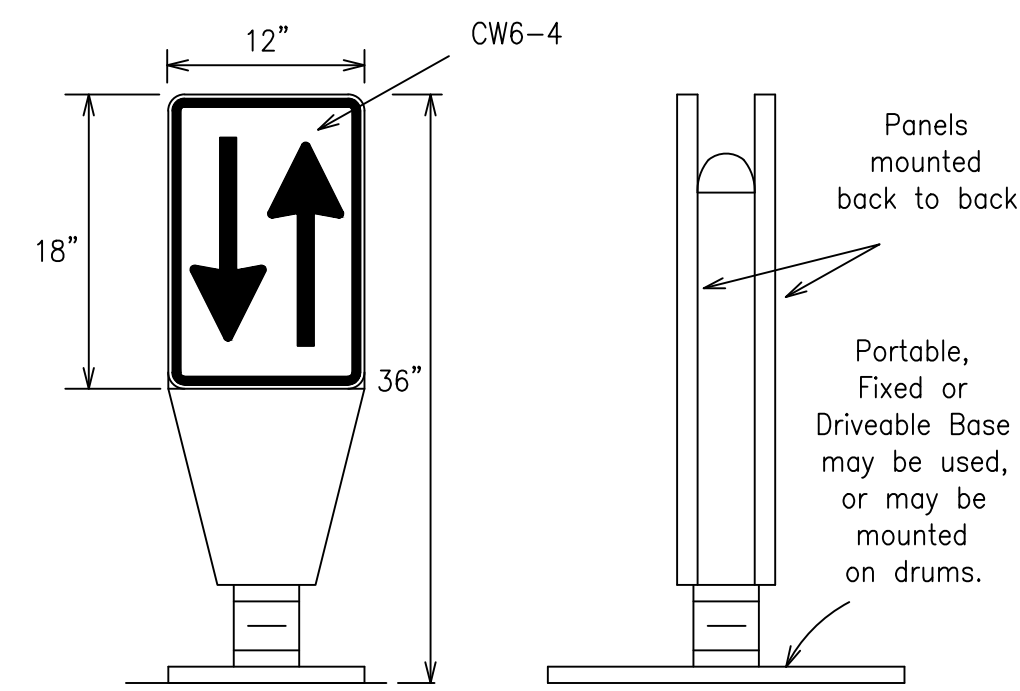


(Rigid or self-righting)

**PORTABLE**

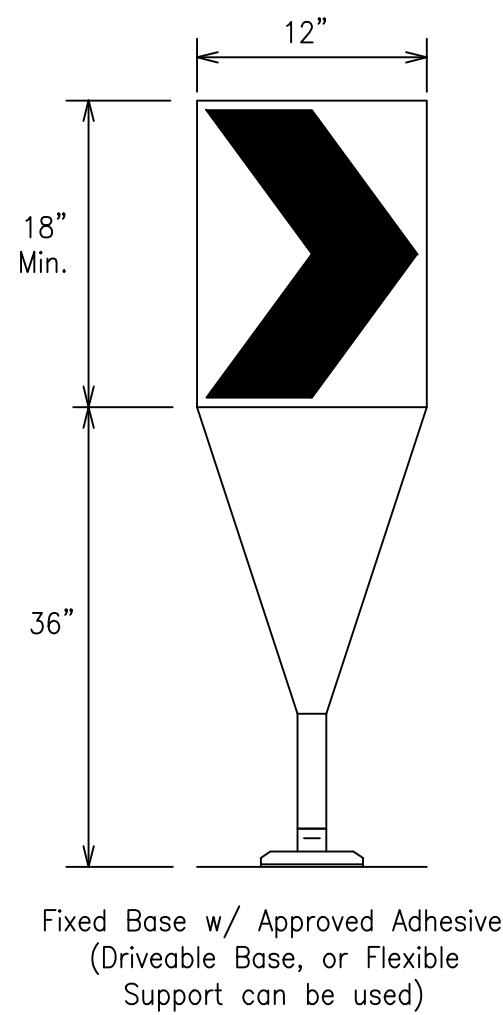
**VERTICAL PANELS (VPs)**

- Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
- VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
- VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
- VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
- Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
- Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.



**OPPOSING TRAFFIC LANE DIVIDERS (OTLD)**

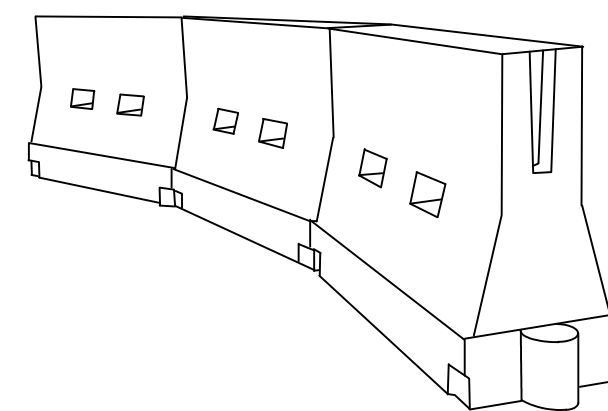
- Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
- The OTLD may be used in combination with 42" cones or VPs.
- Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
- The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B or Type C conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.



Fixed Base w/ Approved Adhesive  
(Driveable Base, or Flexible Support can be used)

- The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
- Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
- To be effective, the chevron should be visible for at least 500 feet.
- Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B or Type C conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
- For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

**CHEVRONS**



**LONGITUDINAL CHANNELIZING DEVICES (LCD)**

- LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
- LCDs may be used instead of a line of cones or drums.
- LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
- LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
- LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10). Place reflective sheeting near the top of the LCD along the full length of the device.

**WATER BALLASTED SYSTEMS USED AS BARRIERS**

- Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate Manual for Assessing Safety Hardware (MASH) crashworthiness requirements based on roadway speed and barrier application.
- Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
- Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
- When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

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

**GENERAL NOTES**

- Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
- Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
- Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
- Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
- The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.

Posted Speed	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40	L=WS	265'	295'	320'	40'	80'
45		450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80	800'	880'	960'	80'	160'	

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

**SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS**

SHEET 9 OF 12



**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

BC(9)-21

FILE:	bc-21.dgn	DN:	TxDOT	CK:	TxDOT	DW:	TxDOT	CK:	TxDOT
© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY				
REVISIONS									
9-07	8-14	DIST		COUNTY	SHEET NO.				
7-13	5-21								

103



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS  
**TXDOT- BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES - BC(9)-21**

DRAWING NO.

**C35**

SHEET 36 of 39

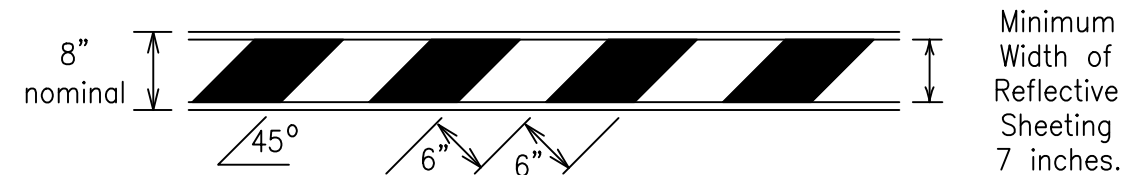


FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N 19TH ST\1-Drawings\2 - Civil\CS1\_11-TXDOT-BC-10-21.dwg LAYOUT NAME: PS PLOTTED: Monday, August 12, 2024 - 2:15pm USER: izreped

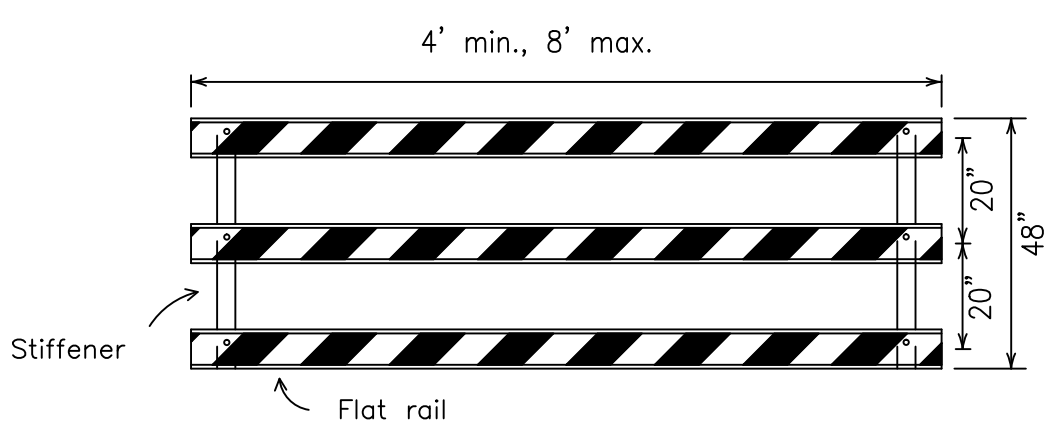
**TYPE 3 BARRICADES**

- Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
- Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
- Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road, striping should slope downward in both directions toward the center of roadway.
- Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
- Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
- Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
- Warning lights shall NOT be installed on barricades.
- Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
- Sheeting for barricades shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.

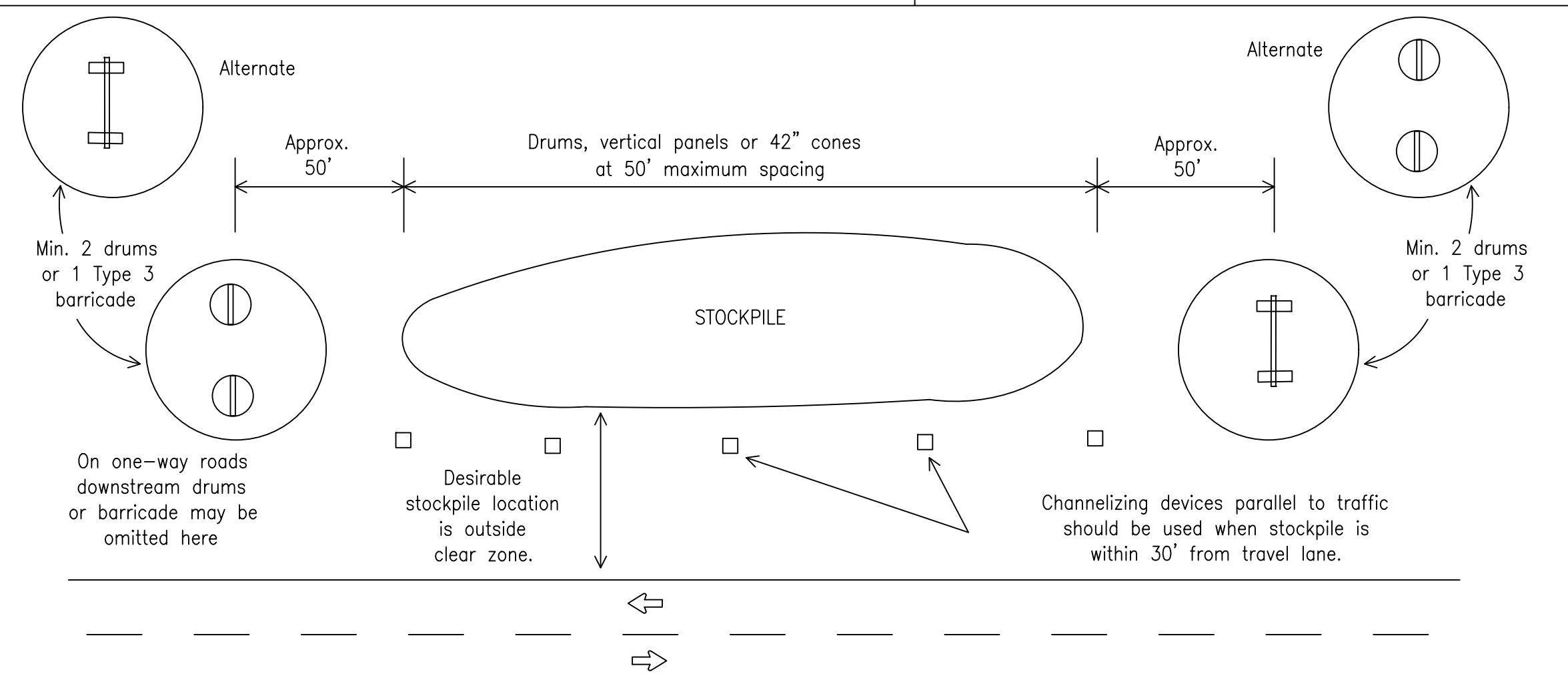


TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



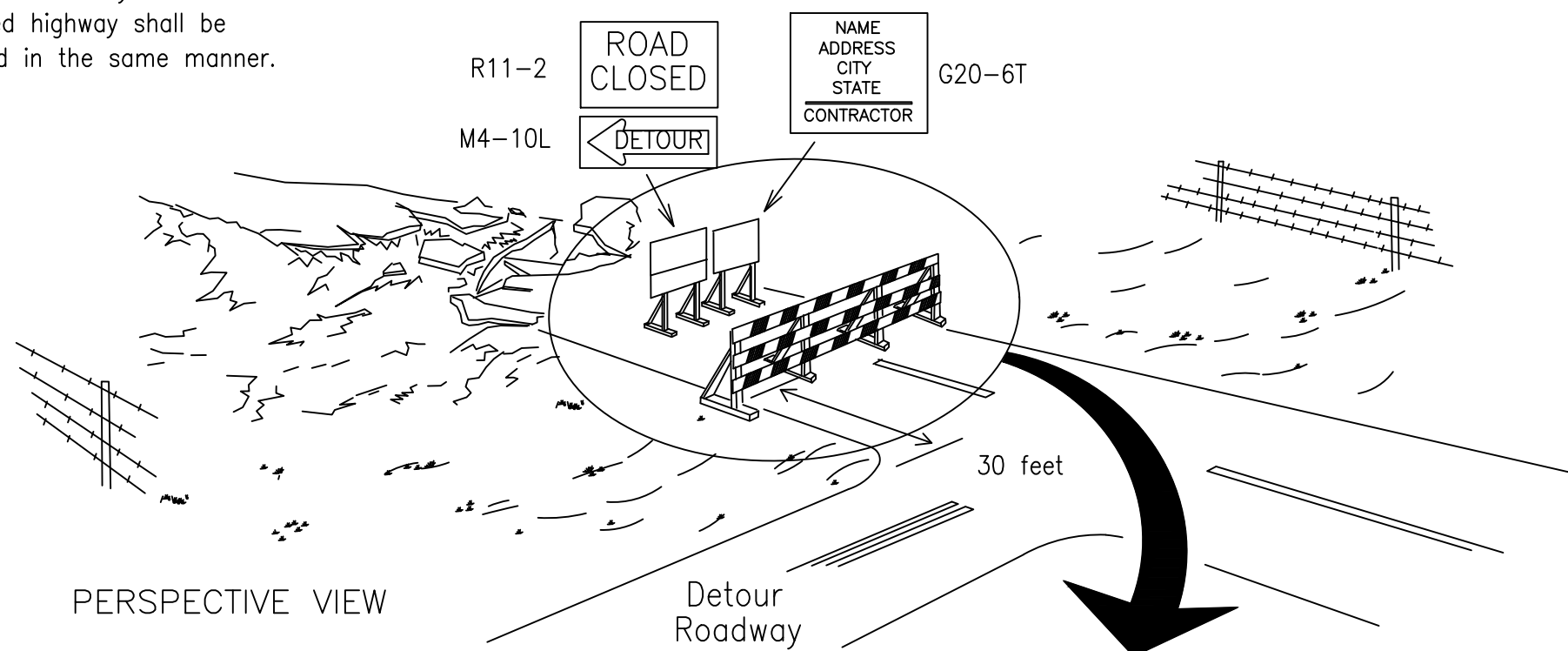
Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

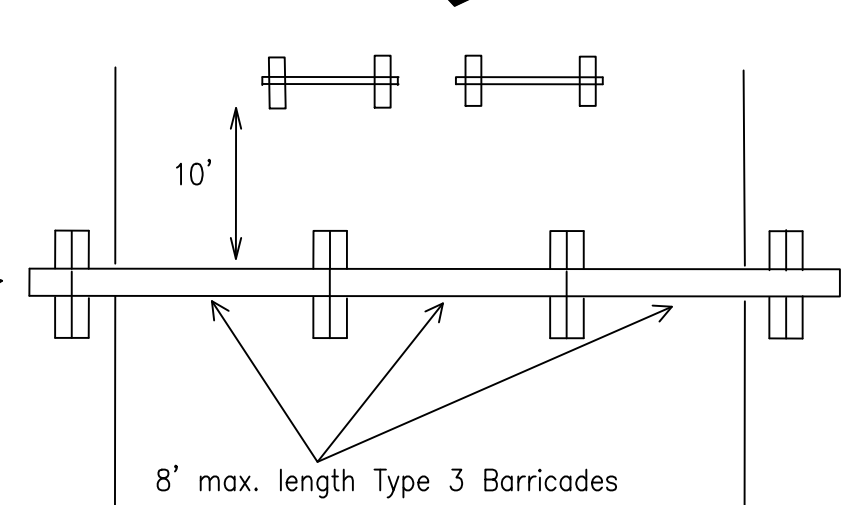
Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

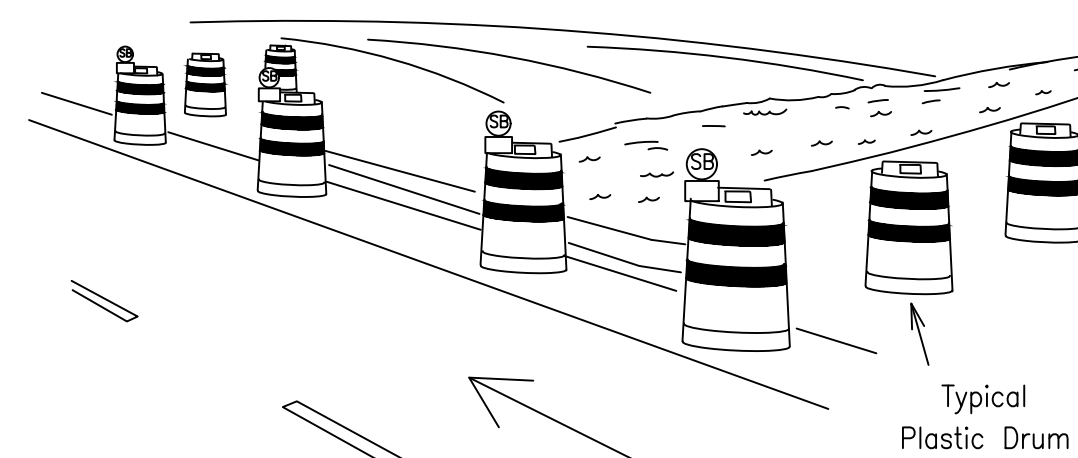
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic. Barricade striping should slant downward in the direction of detour.

- Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
- Advance signing shall be as specified elsewhere in the plans.

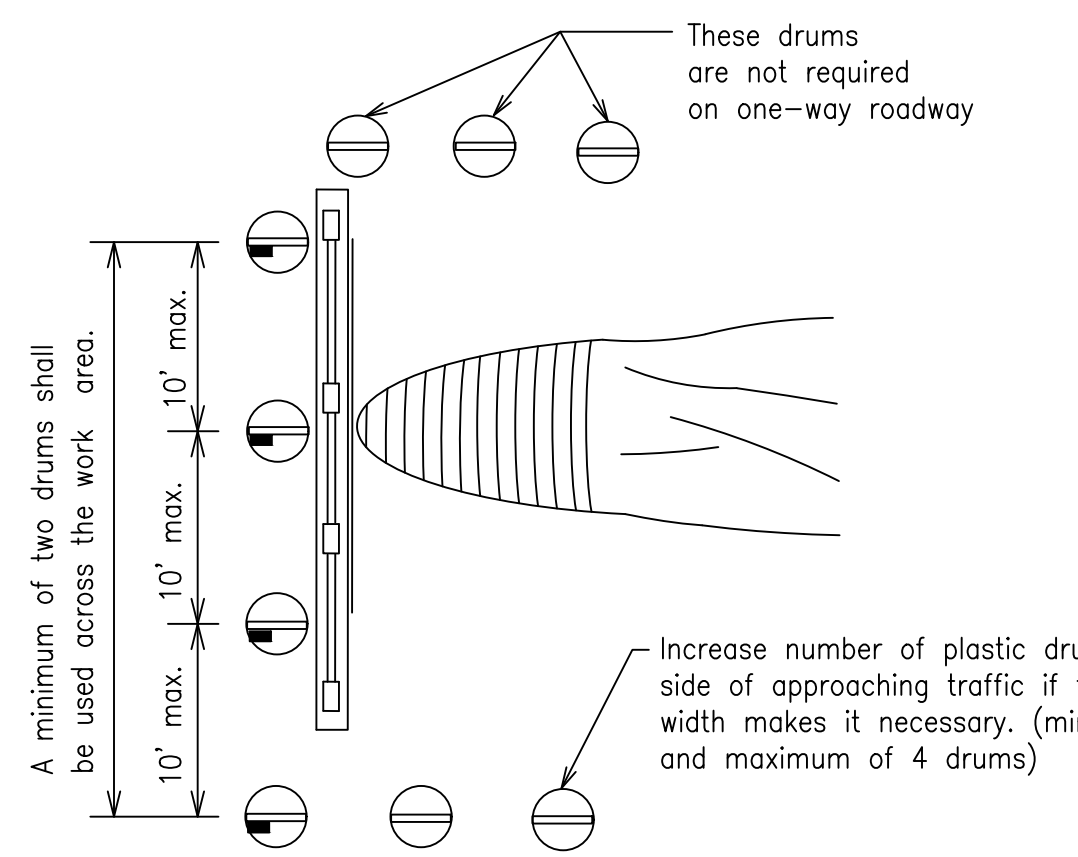


PLAN VIEW

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

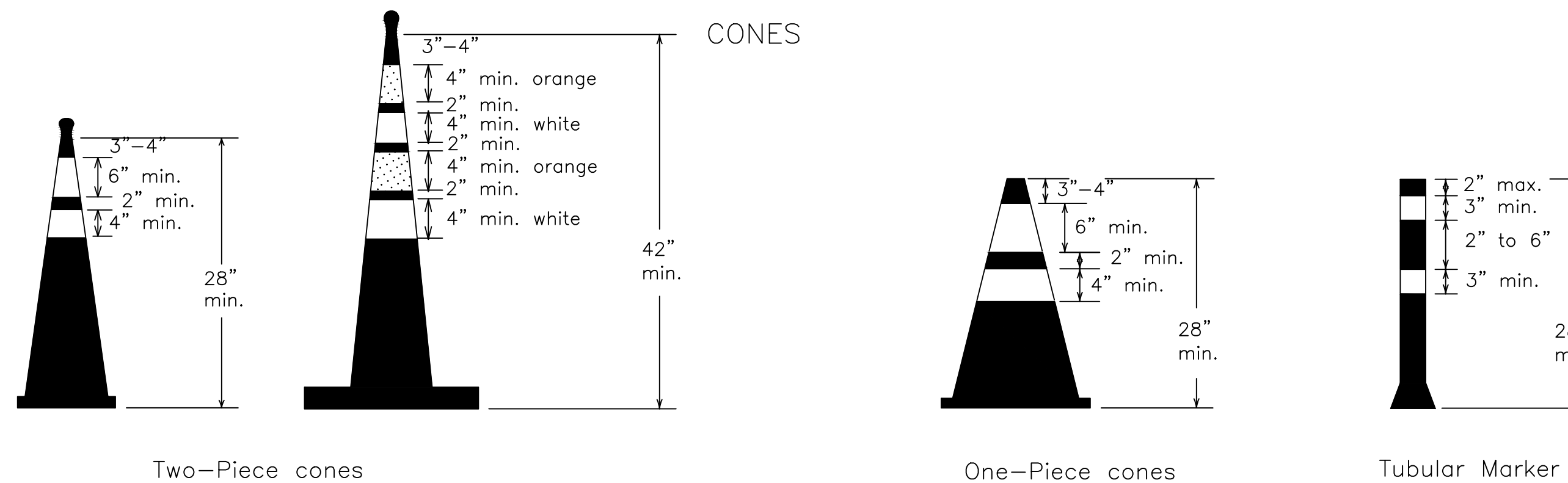


PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS

- Where positive redirection capability is provided, drums may be omitted.
- Plastic construction fencing may be used with drums for safety as required in the plans.
- Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
- When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
- Drums must extend the length of the culvert widening.

LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
	Steady burn warning light or yellow warning reflector



CONES

28" Cones shall have a minimum weight of 9 1/2 lbs.  
42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

- Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
- One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
- Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
- Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
- 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
- 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
- Cones or tubular markers used on each project should be of the same size and shape.

SHEET 10 OF 12



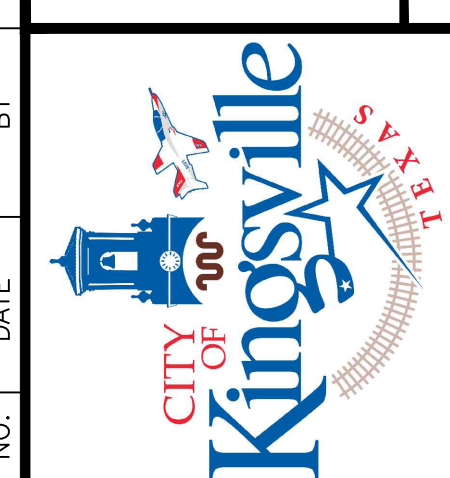
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS				
9-07	8-14			
7-13	5-21			
	DIST	COUNTY	SHEET NO.	

104

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B

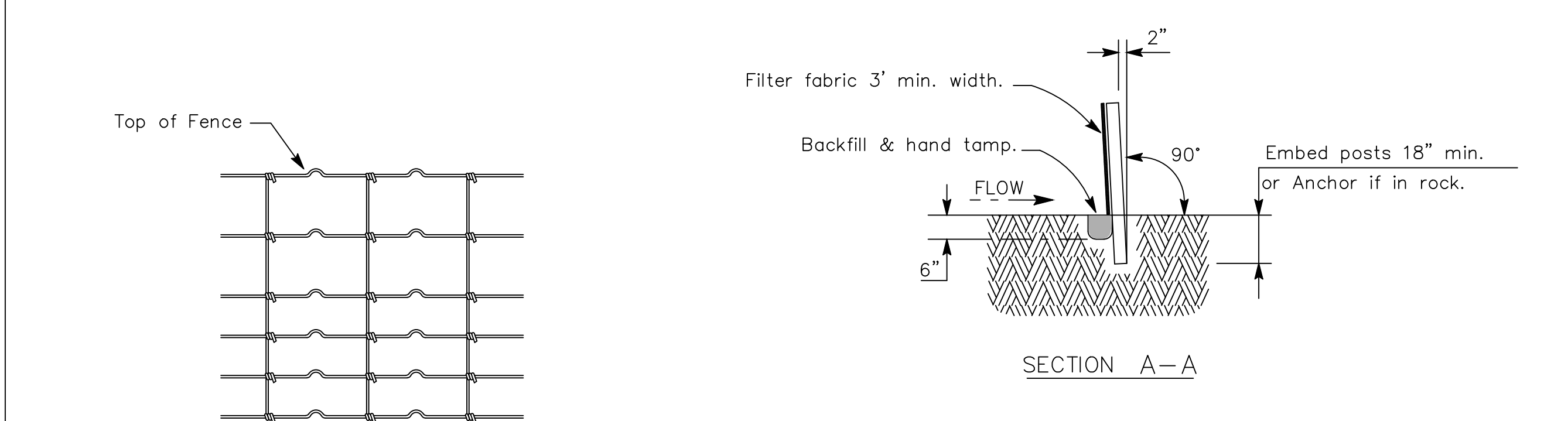
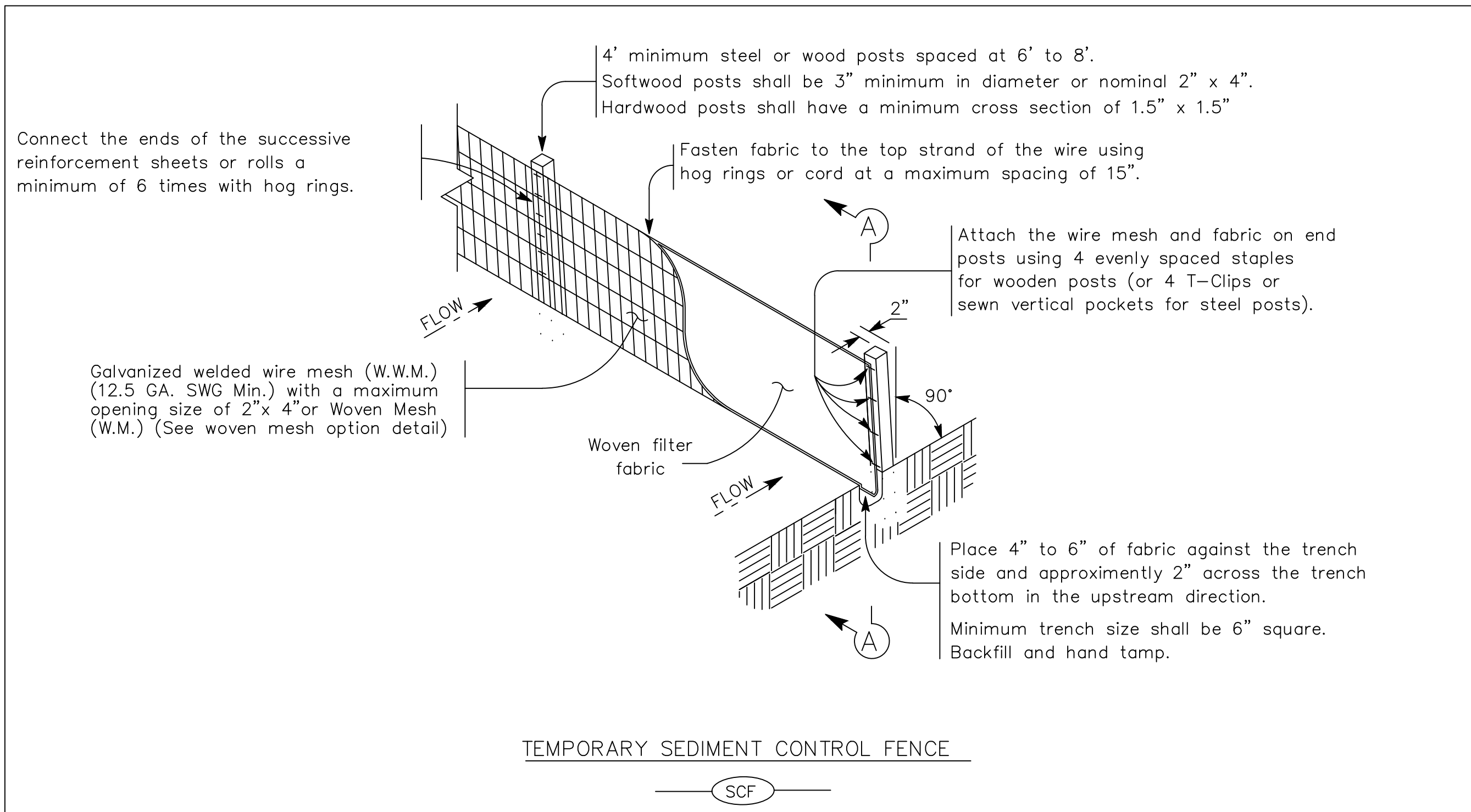


CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS  
KINGSVILLE, KLEBERG COUNTY, TEXAS  
TXDOT- BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES - BC(10)-21

DRAWING NO.  
**C36**  
SHEET 37 of 39



FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N. 19TH ST\1- Drawings\2 - Civil\C41.01 TxDOT STANDARDS - EC(1)-16 EROSION CONTROL DETAILS.dwg LAYOUT NAME: EC(1)-16 EROSION CONTROL DETAILS PLOTTED: Monday, August 12, 2024 - 2:15pm USER: tzepeca



**HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL**

Galvanized hinge joint knot woven mesh (12.5 GA.SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

**SEDIMENT CONTROL FENCE USAGE GUIDELINES**

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT. <sup>2</sup>Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

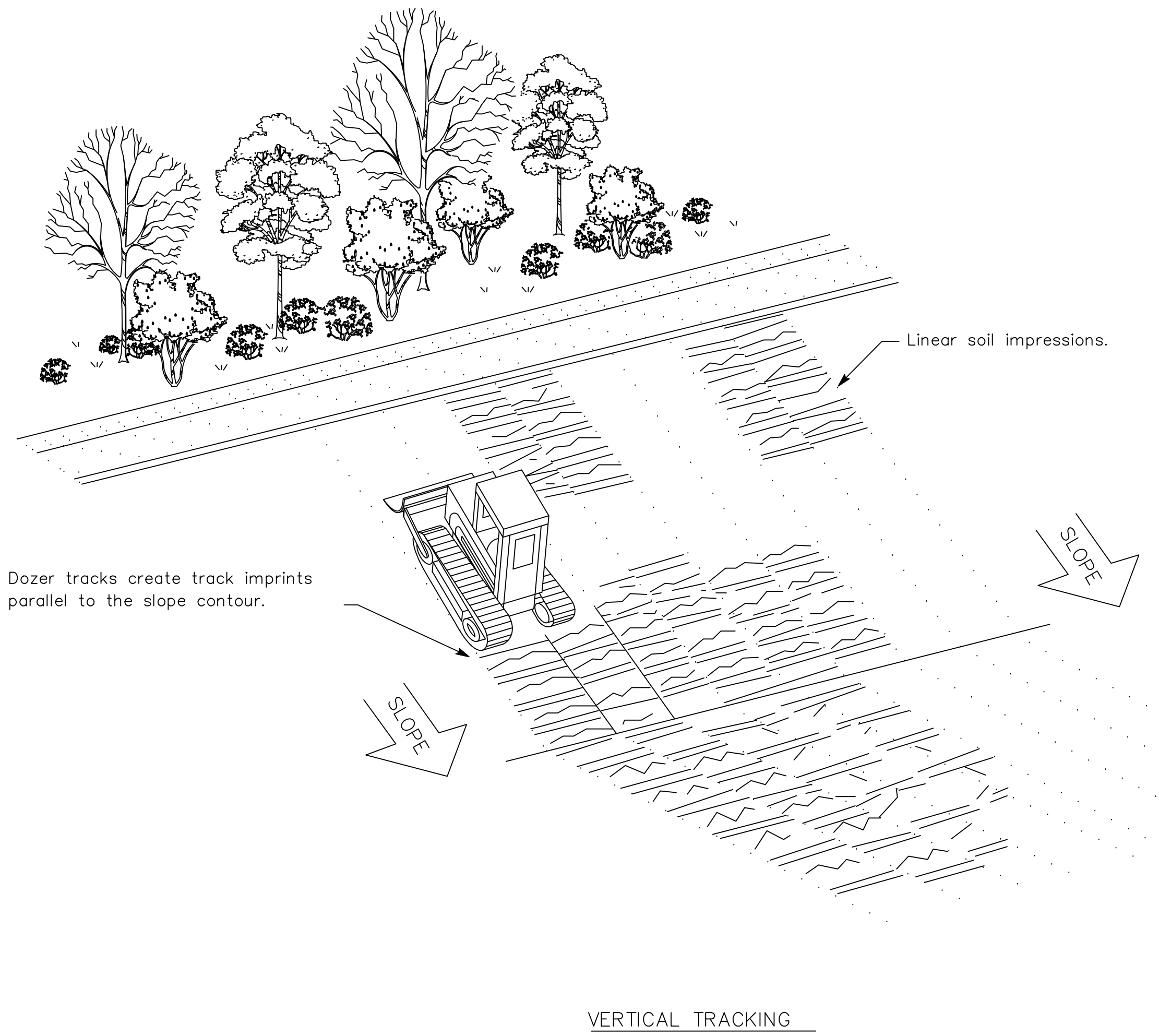
**LEGEND**

Sediment Control Fence

SCF

**GENERAL NOTES**

1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporarily stabilize soil.
3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Install continuous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.



**Texas Department of Transportation** *Design Division Standard*

**TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES FENCE & VERTICAL TRACKING**

**EC(1)-16**

FILE: ec116	DN: TxDOT	CK: KM	DW: VP	DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY	SHEET NO.	

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**IOE**

INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.B.P.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2**  
**(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

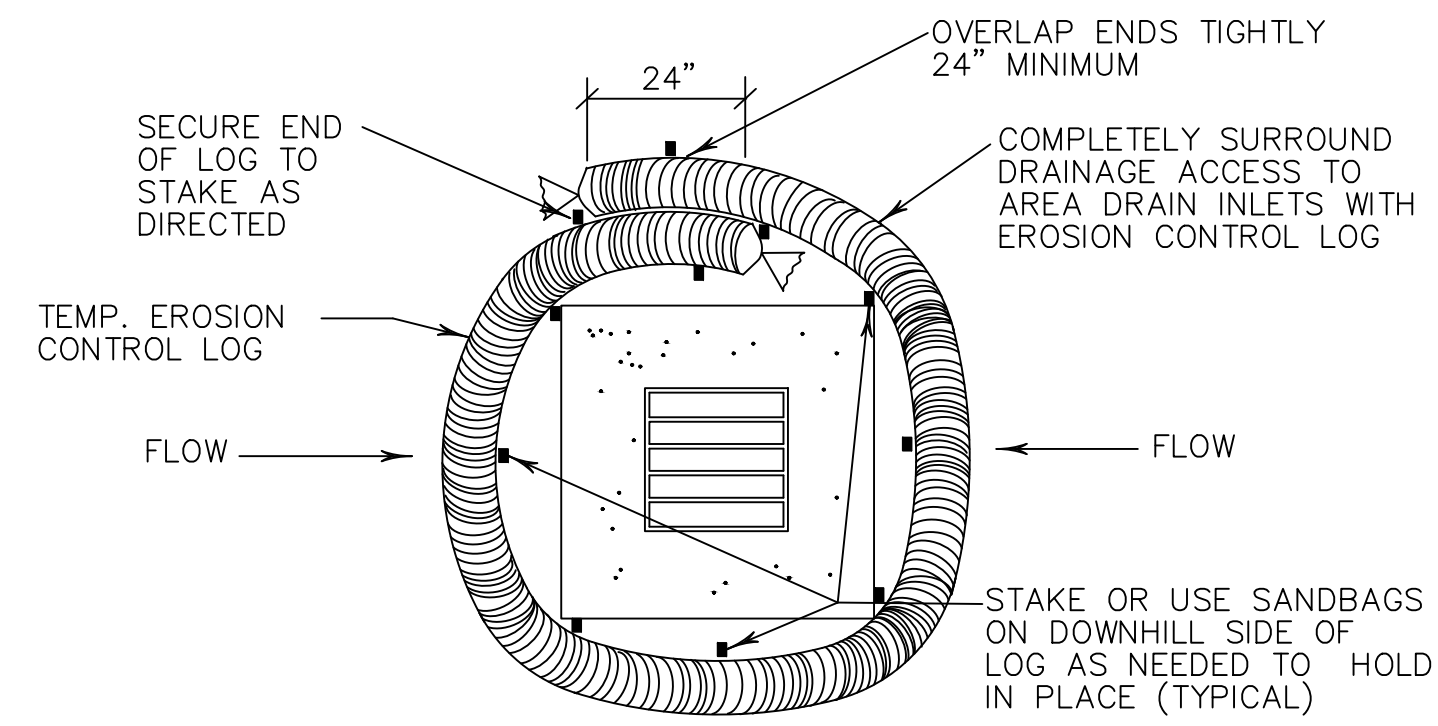
**TXDOT - TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURE FENCE & VERTICAL TRACKING - EC(1)-16**

DRAWING NO.  
**C37**

SHEET 38 of 39

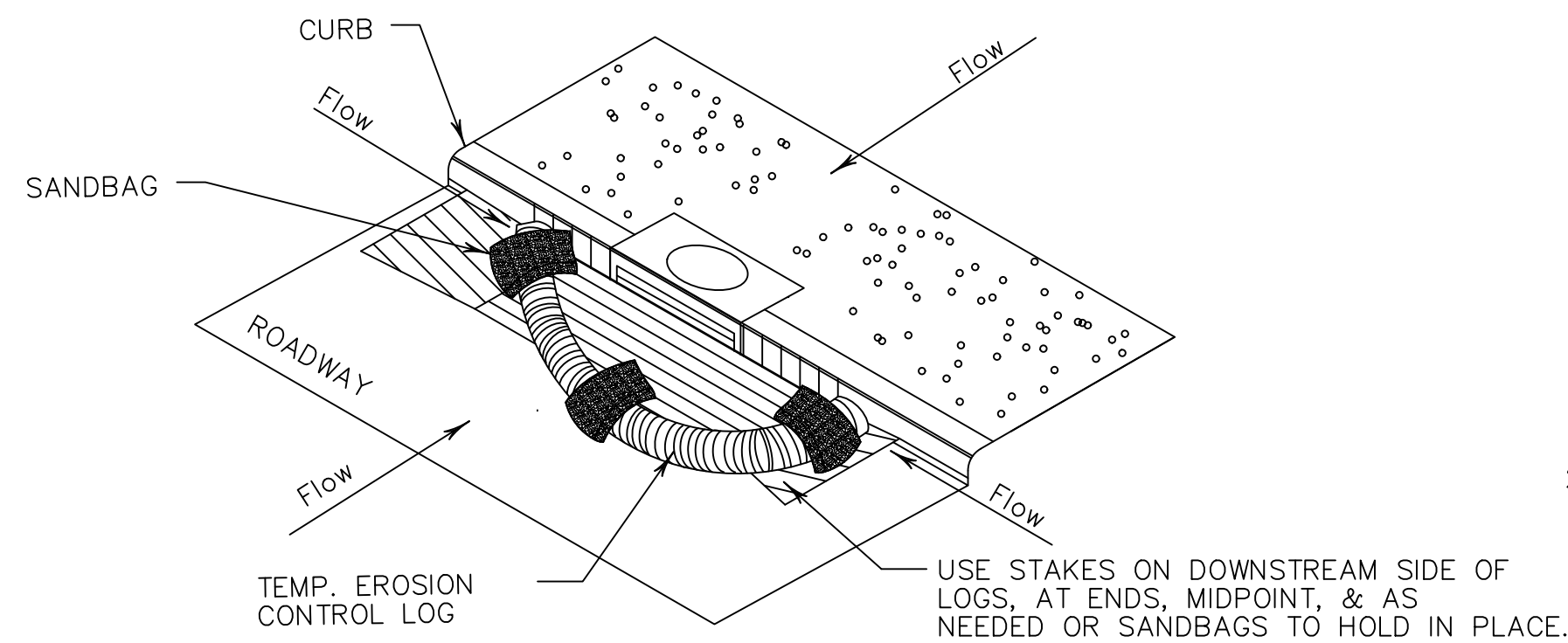


FILE NAME: I:\Projects\2021\City of Kingsville\GLO-10002 SW N 19TH ST\1- Drawings\2 - Civil\C41 01 TxDOT STANDARDS - EC(9)-16 EROSION CONTROL DETAILS.dwg LAYOUT NAME: EROSION CONTROL LOG - PLOTTED: Monday, August 12, 2024 - 2:15pm USER: lzepeda



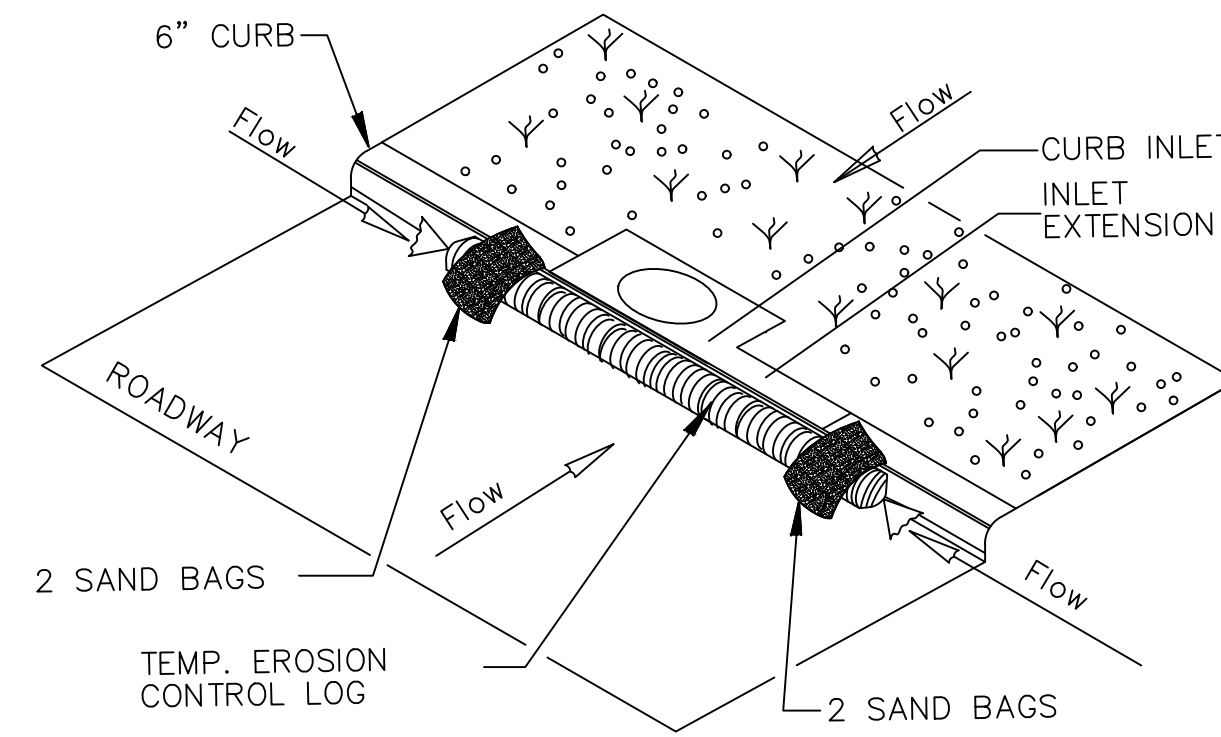
EROSION CONTROL LOG AT DROP INLET

CL-DI



EROSION CONTROL LOG AT CURB INLET

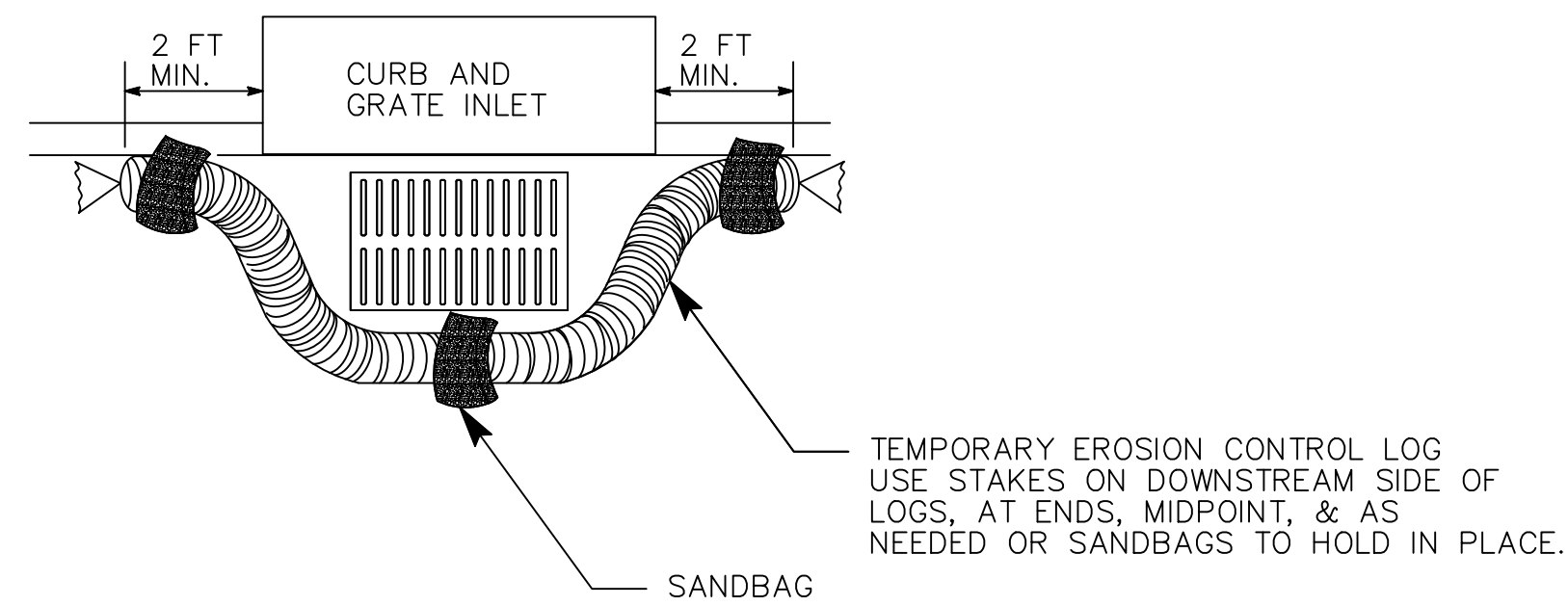
CL-CI



EROSION CONTROL LOG AT CURB INLET

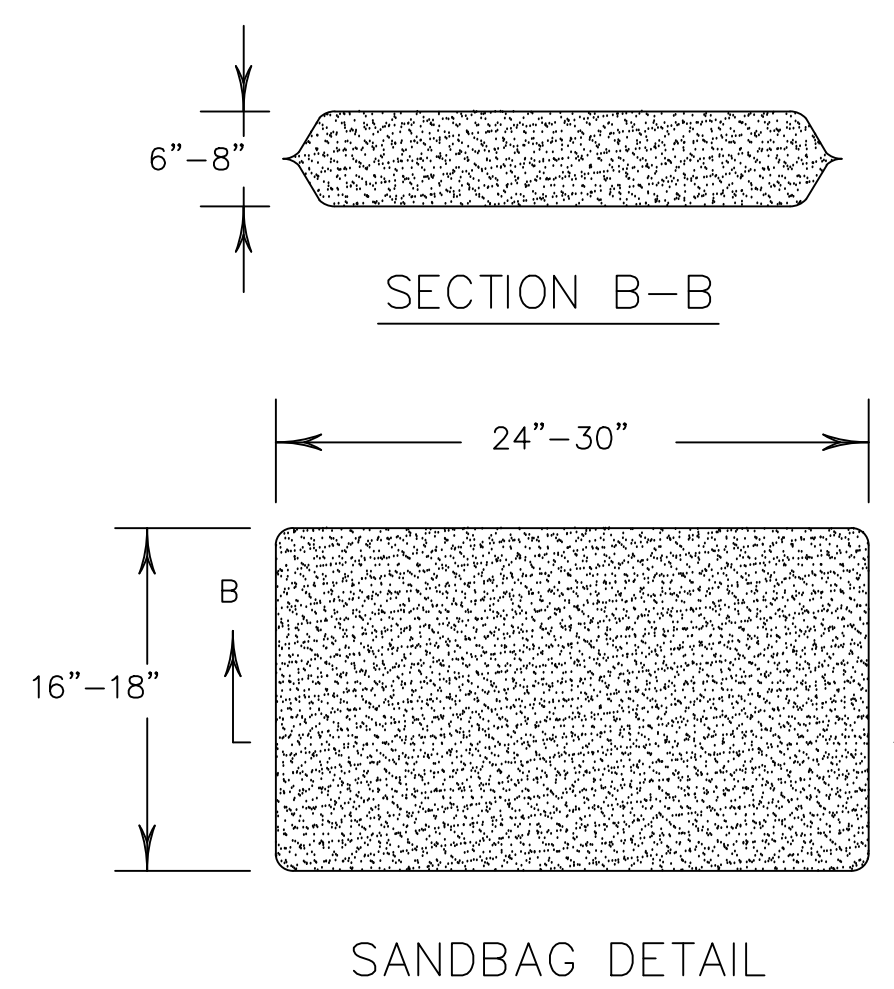
CL-CI

NOTE:  
EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



EROSION CONTROL LOG AT CURB & GRADE INLET

CL-GI



SHEET 3 OF 3

		<i>Design Division Standard</i>	
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES EROSION CONTROL LOG EC(9)-16			
FILE: ec916	DN: TxDOT	CK: KM	DW: LS/PT
© TxDOT: JULY 2016	CONT	SECT	JOB
REVISIONS		HIGHWAY	
		SHEET NO.	

CONSULTANT'S SHEET  
PROJECT NO. 21107-01B



**ICE**  
INTERNATIONAL CONSULTING ENGINEERS  
261 SARATOGA BLVD.  
CORPUS CHRISTI, TX 78417  
PHONE: 361.926.5805  
FAX: 361.926.5806  
I.C.E. FIRM REGISTRATION #F-10837



**CITY OF KINGSVILLE GLO SW PROJECT 2  
(N. 19TH ST.) STORM WATER IMPROVEMENTS**  
KINGSVILLE, KLEBERG COUNTY, TEXAS

TXDOT - TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURE EROSION CONTROL LOG - EC(9)-16

DRAWING NO.  
**C38**  
SHEET 39 of 39