

September 2022



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C:\USERS\WACKLE\TRIHYDRO\CITY OF NEW BRAUNFELS - DOCUMENTS\CADD\COUNTY\INEADWAY\PLANS\7025-CLR-GENERAL NOTES

SCOPE OF WORK:

- PROJECT SCOPE: PRESERVATION OF EXISTING ROADWAY (MILL AND OVERLAY/REPAIR)

GENERAL:

- IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
- THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS. A COPY OF THE CONTRACT DOCUMENTS, PLANS AND SPECIFICATIONS SHALL BE MAINTAINED BY THE CONTRACTOR ON-SITE AT ALL TIMES.
- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SCHEDULE A PRECONSTRUCTION MEETING.
- FOR PUBLIC INFRASTRUCTURE PERMIT OR GRADING PERMIT PROJECTS;
 - FOR INSPECTION YOU MUST CALL BEFORE 12:00 P.M., 48 HOURS PRIOR TO YOUR INSPECTION REQUEST.
 - EACH INSPECTION WILL BE ALLOTTED 1 HOUR UNLESS YOU REQUEST FOR MORE TIME.
 - ONCE YOUR REQUEST HAS BEEN ACCEPTED, YOU WILL RECEIVE A CALL FROM THE CITY OF NEW BRAUNFELS INSPECTOR.
- FOR COMMERCIAL PERMIT (CP) PROJECTS:
 - ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
 - FAXED IN AT 830-608-2117 OR,
 - E-MAILED AT INSPECTIONS@NBTEXAS.ORG.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL OBTAIN ALL PERMITS AND INSPECTIONS REQUIRED TO COMPLETE THE WORK WITH NO ADDITIONAL COMPENSATION.
- THE CONTRACTOR SHALL PROVIDE THE CITY AN EMERGENCY TELEPHONE NUMBER FOR EVENINGS, WEEKENDS, AND HOLIDAYS BY THE FIRST WORKING DAY FOR THE PROJECT. THE CONTRACTOR SHALL RESPOND TO THE CITY STAFF WITHIN TWO HOURS OF THE INITIAL CONTACT.
- CONTRACTOR'S PERSONNEL SHALL WEAR IDENTIFYING CLOTHING OR HATS AT ALL TIMES DURING WORKING HOURS.
- ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED AND PROTECTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH TEXAS EXCAVATION LAWS AND CONTACT TEXAS-811 72 HOURS PRIOR TO DOING ANY WORK IN THE AREA. CONTRACTOR SHALL COORDINATE ALL WORK WITH ADJACENT UTILITIES IN THE AREA INCLUDING BUT NOT LIMITED TO: CENTERPOINT (GAS), NBU ELECTRIC, NBU WATER, AT&T TELEPHONE CO., TIME WARNER CABLE, NEW BRAUNFELS PUBLIC WORKS DEPARTMENT, NEW BRAUNFELS FIRE ADMINISTRATION.
- CONTRACTOR SHALL PRESERVE ALL SURVEY MONUMENTATION AND SITE MARKINGS PROVIDED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE PROJECT.
- CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.
- CONTRACTOR IS REQUIRED TO PREPARE A CONSTRUCTION PHASING PLAN DETAILING LIMITS OF CONSTRUCTION FOR EACH PHASE. PHASING PLAN MUST BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR WILL NOT BE ALLOWED TO WORK OUT OF PHASE UNLESS WRITTEN APPROVAL HAS BEEN OBTAINED FROM THE CITY FOR THE PHASE CHANGE. THIS PLAN MUST INCLUDE TRAFFIC CONTROLS FOR EACH CONSTRUCTION PHASE.
- THE INTENT OF THE CONSTRUCTION DOCUMENTS IS TO DESCRIBE THE WORK AND MATERIALS REQUIRED FOR THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL SUBSIDIARY WORK AND MEANS AND METHODS NECESSARY TO COMPLETE THE PROJECT.
- CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE OWNER AND DESIGN ENGINEER OF DISCREPANCIES BETWEEN THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS. THE MORE STRINGENT REQUIREMENTS SHALL GOVERN UNLESS OTHERWISE DIRECTED IN WRITING BY THE OWNER.
- CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE OWNER AND DESIGN ENGINEER OF DISCREPANCIES BETWEEN THE SITE CONDITIONS AND THESE CONSTRUCTION DOCUMENTS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.

CONSTRUCTION:

- ENGINEER OF RECORD IS RESPONSIBLE TO ENSURE THAT EROSION CONTROL MEASURES AND STORMWATER CONTROL SUFFICIENT TO MITIGATE OFF SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.

DRAINAGE:

- DRAINAGE IMPROVEMENT SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER.

SOILS TESTING:

- PROCTORS SHALL BE SAMPLED FROM ON-SITE MATERIAL (ON-SITE IS DEFINED AS LIMITS OF CONSTRUCTION FOR THIS PLAN SET) AND A COPY OF THE PROCTOR RESULTS SHALL BE DELIVERED TO THE CITY OF NEW BRAUNFELS STREET INSPECTOR PRIOR TO AN DENSITY TESTS.

SITE:

- CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING THE SECURITY AND SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS, OFFICERS, DIRECTORS, OR CONSULTANTS, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.
- CONTRACTOR SHALL INSTALL AND MAINTAIN PROJECT SIGN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS
- ANY ITEMS REQUESTED BY THE OWNER TO BE SALVAGED SHALL BE REMOVED, PROTECTED AND RELOCATED OR REINSTALLED AS DIRECTED BY THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE CONTRACTOR OUTSIDE OF THE DESIGNATED WORK AREA. ANY EXISTING OFF-SITE IMPROVEMENTS THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE OWNER OF THE EXISTING IMPROVEMENTS AT THE CONTRACTOR'S EXPENSE. (NO SEPARATE PAY)
- CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS. THE LOCATION FOR THE DISPOSAL OF CONSTRUCTION MATERIAL WITHIN THE CITY LIMITS SHALL BE APPROVED BY THE CITY OF NEW BRAUNFELS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
- CONTRACTOR IS RESPONSIBLE FOR BEST MANAGEMENT PRACTICES REGARDING DUST, DIRT AND EROSION CONTROL. THE STREET PAVEMENT, ADJACENT DRIVEWAYS, SIDEWALKS, AND WALKWAYS SHALL BE SWEEPED FREE OF MUD AND ALL DEBRIS REMOVED FROM THE WORK AREA DAILY.
- ALL AREAS ADJACENT TO CONSTRUCTION AREAS MUST BE SAFE FOR PEDESTRIAN TRAFFIC BEFORE, DURING, AND AFTER CONSTRUCTION.

EROSION CONTROL:

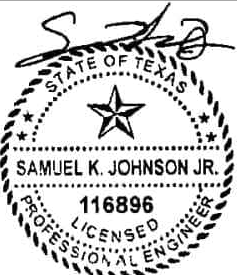
- THE CONTRACTOR IS REQUIRED BY THE FEDERAL CLEAN WATER ACT, USEPA REGULATIONS, TPDES AND NPDES GENERAL PERMIT TO DEVELOP A SITE SPECIFIC STORM WATER POLLUTION PROTECTION PLAN (SWPPP) FOR THE PROJECT WHICH INCLUDES ALL DISTURBED AREAS BY THE CONSTRUCTION INCLUDING BORROW, STAGING AND STORAGE AREAS AND TO SECURE A PERMIT FROM TCEQ. THE SWPPP WITH REQUIRED INSPECTION REPORTS MUST BE KEPT UP TO DATE AND KEPT ON THE CONSTRUCTION SITE AT ALL TIMES. THE CONTRACTOR MUST PREPARE A NOTICE OF INTENT (NOI) AND SECURE A PERMIT FROM TCEQ FOR LARGE CONSTRUCTION SITES OF 5 OR MORE ACRES OF DISTURBED AREA WITH A COPY OF THE NOI AND THE REQUIRED CONSTRUCTION SITE NOTICE POSTED AT THE CONSTRUCTION ENTRANCE IN CLEAR VIEW OF THE PUBLIC DURING THE CONSTRUCTION. FOR LARGE CONSTRUCTION SITES AFTER THE SITE IS 70% OR GREATER STABILIZED SO THAT THERE IS NO FURTHER DANGER OF EROSION AND SEDIMENTATION POLLUTION FROM THE SITE DISTURBED AREAS, THE CONTRACTOR MUST PREPARE AND SUBMIT A NOTICE OF TERMINATION (NOT) TO TCEQ. A COPY OF THE NOI AND NOT MUST BE SUBMITTED TO THE CITY ENGINEER FOR EACH PERMITTED PROJECT. SEE STATE REGULATIONS GENERAL PERMIT TO DISCHARGE WASTE UNDER THE TEXAS POLLUTION DISCHARGE ELIMINATION SYSTEM (TPDES) NO. TX 150000.
- PROVIDE A COPY OF ANY REQUIRED SW3P TO THE CITY PRIOR TO BEGINNING CONSTRUCTION.
- ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL AFTER THE PROPOSED IMPROVEMENTS ARE IN PLACE AND VEGETATION IS ESTABLISHED. THE CONTRACTOR HAS THE ULTIMATE RESPONSIBILITY FOR THE EFFECTIVE CONTROL OF EROSION AND SEDIMENTATION.
- ADJUSTMENTS AND REPAIRS TO THE EROSION CONTROL DEVICES SHALL BE MADE AS NEEDED AT CONTRACTOR'S EXPENSE.
- SEED/SOD SHALL BE FURNISHED TO ESTABLISH GROUND COVER OVER ALL DISTURBED AREAS AS REQUIRED BY THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT WAIT UNTIL COMPLETION OF THE ENTIRE PROJECT BEFORE DOING THIS WORK. THE PROJECT SHALL NOT BE CONSIDERED FOR ACCEPTANCE BY THE CITY UNLESS THE ESTABLISHMENT OF 80% GROUND COVER IS ENSURED.

SIGNING AND PAVEMENT MARKING:

- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATOR AND WARNING SIGNS, STREETS NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.
- THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

FINISHED FLOOR ELEVATION:

- THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

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 Headquarters 1252 Commerce Drive Laramie, Wyoming 82070 (P) 307/746,7474 (F) 307/746,7729 www.trihydro.com New Braunfels Branch Office Texas Engineering Firm F-131 Texas Survey Firm 10194320 1011 West County Line Road New Braunfels, Texas 78130 (P) 830/626,3588 (F) 830/626,3601						
NOTES AND EXPLANATION (1 OF 3)				WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES		
SHEET 3 3 OF 63					REV: 1	

TRAFFIC:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF, IN THE OPINION OF THE ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED. IF THE NEED ARISE, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTORS EXPENSE.
2. THESE NOTES, DO NOT, IN AND OF THEMSELVES, CONSTITUTE A TRAFFIC CONTROL PLAN. IN THE EVENT THAT THESE PLANS DO NOT INCLUDE TRAFFIC CONTROL, OR THAT THE CONTRACTOR WISHES TO VARY FROM TRAFFIC CONTROL INCLUDED WITH THESE PLANS, HE SHALL SUBMIT A TRAFFIC CONTROL PLAN SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS, FOR REVIEW AND APPROVAL BY THE CITY PRIOR TO CONSTRUCTION. PLAN SHALL INCLUDE SIGN AND BARRICADE PLAN CONFORMING TO THE REQUIREMENTS OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CITY'S CONSTRUCTION INSPECTOR AND THE TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT THE TRAFFIC CONTROL DEVICES BEING DEPLOYED.
3. ALL TRAFFIC CONTROL DEVICES, PLACEMENT AND ACTIVITIES SHALL BE AS PER THE LATEST EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TXMUTCD). IF THERE IS ANY CONFLICT BETWEEN THE TXMUTCD AND TRAFFIC CONTROL REQUIREMENTS WITHIN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
4. THE CONTRACTOR SHALL PROVIDE PROPER BARRICADES AND MAINTAIN TRAFFIC FLOW AS PER THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TXMUTCD) AT ALL TIMES.
5. AS WORK PROGRESSES, LOCATION OF TEMPORARY TRAFFIC CONTROL DEVICES WILL BE ADJUSTED AND MODIFIED, AS NECESSARY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL NOTIFY THE TEXAS DEPARTMENT OF TRANSPORTATION PRIOR TO WORKING AT THE INTERSECTION OF ANY STATE OWNED OR MAINTAINED ROADWAY.
7. FOR STREETS LISTED ON THE CITY OF NEW BRAUNFELS MAJOR THOROUGHFARE PLAN AND ALL ROAD CLOSURE REQUESTS, THE CONTRACTOR SHALL SUBMIT AND OBTAIN APPROVAL OF AN ENGINEERED TRAFFIC CONTROL PLAN AND WORK SCHEDULE TO THE CITY FOR APPROVAL TWO WEEKS PRIOR TO COMMENCING WORK.
8. WORK AROUND SCHOOLS SHALL BE SCHEDULED TO ELIMINATE IMPACTS TO THE SCHOOL. LANES SHALL NOT BE CLOSED DURING THE TIME STUDENTS ARE BEING DROPPED OFF AND PICKED UP FROM SCHOOL. WORK WITHIN A SCHOOL ZONE CAN ONLY OCCUR BETWEEN THE HOURS OF 9 AM AND 2 PM.
9. THE CONTRACTOR SHALL MAINTAIN THE FLOW OF TRAFFIC AT ALL TIMES AND PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE, AND COLLECTION OF GARBAGE WHETHER PUBLIC OR PRIVATE.
10. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL COMMERCIAL AND RESIDENTIAL DRIVEWAYS AT ALL TIMES. CONTRACTOR SHALL PROVIDE 48 HOUR MINIMUM NOTICE TO PROPERTY OWNERS AND THE CITY PRIOR TO ANY MODIFICATION TO DRIVEWAY ACCESS.
11. DURING ASPHALT OVERLAY, THE CONTRACTOR SHALL ALLOW RESIDENT TRAFFIC ACCESS TO THE STREET WITH PROPER GUIDANCE, DIRECTION, FLAGMEN AND TRAFFIC CONTROL AND ONLY AT SUCH TIME THAT DAMAGE WILL NOT OCCUR TO THE NEW ASPHALT OVERLAY OR TO THE VEHICLES.

TREE PROTECTION:

1. NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
2. TREE PROTECTION FENCING SHALL BE REQUIRED AND TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
3. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR A ROOT PROTECTION ZONE WILL BE ESTABLISHED AROUND EACH TREE OR ANY VEGETATION TO BE PRESERVED. A ROOT PROTECTION ZONE SHALL BE AN AREA DEFINED BY THE RADIUS EXTENDING OUTWARD FROM THE TRUNK OF TREE A DISTANCE OF ONE (1) FOOT PER DIAMETER INCH OF THE TREE RADIUS AT BREAST HEIGHT (4.5'). AS AN EXAMPLE, A 10-INCH DIAMETER TREE WOULD HAVE A 10-FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE.
4. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. NO CLEAN-OUT AREAS SHALL BE CONSTRUCTED SO THAT THE MATERIAL WILL BE IN OR ADJACENT TO THE ROOT PROTECTION ZONE.
5. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
6. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE WATERING THE ROOT PROTECTION ZONE AND OR WASHING FOLIAGE.
7. NO WIRES, NAILS OR OTHER MATERIALS MAY BE ATTACHED TO THE PROTECTED TREES.
8. TREES, WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION, SHALL BE MITIGATED TO THE CITY'S SATISFACTION.
9. TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION ACTIVITIES MAY BE NEATLY TRIMMED BY THE CONTRACTOR ONLY AFTER APPROVAL FROM THE CITY INSPECTOR. THERE SHALL BE NO SEPARATE PAY FOR ADDITIONAL COST OR EFFORT INCURRED BY THE CONTRACTOR WHERE REQUIRED TO WORK AROUND AND/OR UNDER EXISTING TREES OR FOR THE REMOVAL ADDITIONAL BRANCHES & SHRUBS.
10. SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE CITY STREET INSPECTOR.
11. CONTRACTOR TO PROTECT ALL TREES WITHIN THE PROJECT LIMITS AND TREES OUTSIDE THE PROJECT LIMITS THAT MAY BE IMPACTED BY THE PROJECT.

UTILITIES:

1. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES WHETHER SHOWN OR NOTED ON THE PLANS INCLUDING BUT NOT LIMITED TO EXISTING WATER, SANITARY SEWER, GAS, STORM SEWERS, ELECTRIC AND TELECOMMUNICATION LINES AND SERVICES.
2. IN THE EVENT OF DAMAGE TO UNDERGROUND FACILITIES, WHETHER SHOWN OR NOT IN THE DRAWINGS. THE CONTRACTOR SHALL MAKE NECESSARY REPAIRS TO RESTORE THE FACILITY BACK IN SERVICE AND AT NO COST TO THE OWNER. REPAIRS SHALL CONFORM TO THE REQUIREMENTS OF THE UTILITY OR AGENCY SERVICING THE FACILITY.
3. CONTRACTOR SHALL COORDINATE WITH AND GAIN APPROVAL FROM THE UTILITY COMPANY OWNING THE FACILITY PRIOR TO RELOCATION OR ADJUSTMENT AS REQUIRED FOR CONFORMANCE TO PROJECT ALIGNMENT OR GRADES. ADJUSTMENT OF ALL EXISTING MANHOLES, THAT REMAIN IN SERVICE, TO PROJECT GRADES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
4. OSHA REGULATIONS PROHIBIT OPERATIONS THAT WILL BRING PERSONS OR EQUIPMENT WITHIN 10 FEET OF AN ENERGIZED LINE. WHERE WORKMEN AND/OR EQUIPMENT HAVE TO WORK CLOSE TO AN ENERGIZED ELECTRICAL LINE, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL POWER COMPANY INVOLVED AND MAKE WHATEVER ADJUSTMENTS NECESSARY TO ENSURE THE SAFETY OF THOSE WORKMEN.
5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192 [8], GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
6. THE CONTRACTOR WILL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS GOVERNING EXCAVATION. TRENCH SIDE SLOPES SHALL MEET OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION. SHEETING SHORING AND BRACING SHALL BE REQUIRED IF SIDE SLOPE STANDARDS ARE NOT MET. THE CONTRACTOR SHALL PROVIDE DETAILED PLANS AND SPECIFICATIONS FOR TRENCH SAFETY SYSTEMS THAT MEET CURRENT OSHA STANDARDS FOR TRENCH EXCAVATIONS THAT EXCEED A DEPTH OF FIVE (5) FEET. PLANS MUST BE SEALED BY AN ENGINEER LICENSED BY THE STATE OF TEXAS AND SUBMITTED PRIOR TO BEGINNING CONSTRUCTION.
7. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
8. ALL UTILITY TRENCH FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.
9. ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER.

MILL AND OVERLAY:

1. ASPHALT OVERLAYS SHALL "FILL" UNEVEN SPOTS IN THE PAVEMENT TO CREATE A UNIFORM STREET SECTION. CONTRACT QUANTITIES ESTIMATE A FILL QUANTITY.
2. SHOULD EXISTING BASE MATERIALS BECOME EXPOSED DUE TO MILLING, THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE EXISTING BASE MATERIAL UNTIL IT CAN BE OVERLAID (WITHIN 2 DAYS MAX). EXPOSED FLEXIBLE BASE SHALL BE ROLLED AND PRIME COATED AS DIRECTED BY THE ENGINEER (NO SEPARATE PAY ITEM).
3. AS DIRECTED BY THE ENGINEER, "FEATHER" H.M.A.C INTO DRIVEWAYS TO PREVENT SURFACE FROM PONDING (NO SEPARATE PAY ITEM).
4. ACTUAL DEPTHS OF MILLING ALONG CURB LINES AND ON BRIDGE DECKS SHALL BE AS DIRECTED BY THE ENGINEER. CONCRETE BRIDGE DECKS SHALL NOT BE MILLED.
5. ALL UTILITIES COVERS SHOULD BE ADJUSTED PRIOR TO OVERLAYING FINAL ASPHALT COURSE. IF UTILITY COVERS ARE NOT ADJUSTED PRIOR TO LAYING ASPHALT, CONTRACTOR WILL BE REQUIRED TO SAWCUT AROUND UTILITY COVER AND FILL WITH CONCRETE PER DETAILS SHOWN ON THESE PLANS.
6. IN AREAS OF STREET MILL/OVERLAY AND OVERLAY, EXISTING CURBS ARE TO REMAIN AND SHALL BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
7. ANY ADJUSTMENTS TO EXISTING MANHOLES WILL NEED TO OCCUR BEFORE THE MILL AND OVERLAY WORK IS PERFORMED.
8. THE MILL AND OVERLAY WORK PERFORMED ON THIS PROJECT WILL CORRECT EXISTING ROAD DEFICIENCIES IN THE TYPICAL ROADWAY SECTIONS.

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ROADWAY:

1. ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FLEXIBLE BASE OR FILL/EMBANKMENT MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED EIGHT INCHES (8") LOOSE. THE REQUIRED DENSITY FOR THE FILL/EMBANKMENT MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 132. THE REQUIRED DENSITY FOR THE FLEXIBLE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 247. EACH LAYER OF MATERIAL INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATIONS OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT. UPON COMPLETION OF TESTING, THE GEOTECHNICAL ENGINEER WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THE THE PLACEMENT OF FLEXIBLE BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.
2. CONTRACTOR SHALL PROVIDE 48 HOUR MINIMUM NOTICE TO THE CITY INSPECTOR PRIOR TO ANY WORK REQUIRING MATERIAL TESTING.
3. ASPHALTIC CONCRETE PAVEMENT SHALL BY THE TYPE OF HOT MIX ASPHALT AS DEFINED IN TXDOT'S STANDARD SPECIFICATIONS FOR CURRENT TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES.
4. THE CITY OF NEW BRAUNFELS WILL NOT ACCEPT THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) OR RECYCLED ASPHALT SHINGLES (RAS) IN ASPHALT MIXTURES FOR NEW ROADWAYS. AND DEBRIS INCLUSIONS WITHIN NEW ASPHALT PAVEMENTS WILL RESULT IN ASPHALT REMOVAL AND REPLACEMENT FROM CURB TO CURB FOR LIMITS TO BE DETERMINED BY THE CITY OF NEW BRAUNFELS.
5. THE ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE ASPHALTIC CONCRETE PAVEMENT SUB-SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "B" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE MIXTURE SHALL BE DESIGNED PER THE DESIGN REQUIREMENTS SPECIFIED IN TXDOT ITEM 340 AND SHALL BE COMPACTED TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TXDOT TEST METHOD TEX-227-F. PLACE THE MIXTURE WHEN THE ROADWAY SURFACE TEMPERATURE IS AT OR ABOVE 60° F. COMPLETE ALL COMPACTION OPERATIONS BEFORE THE PAVEMENT TEMPERATURE DROPS BELOW 160° 2F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF ± 0.5 PERCENT FROM A SPECIFIC MIX DESIGN.
6. A TXDOT TYPE II B-B BLUE REFLECTIVE RAISED PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE ROADWAY ADJACENT TO ALL FIRE HYDRANTS. IN LOCATIONS WHERE HYDRANTS ARE SITUATED ON CORNERS, BLUE REFLECTIVE RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON BOTH APPROACHES WHICH FRONT THE HYDRANT. THE RAISED PAVEMENT MARKER SHALL MEET TXDOT MATERIAL EPOXY AND ADHESIVE SPECIFICATIONS.

GROUNDWATER:

1. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEO-TECHNICAL ENGINEER, AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY OF ENGINEER AND PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

RECORD DRAWINGS:

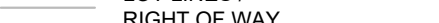
1. AS PER PLATTING ORDINANCE SECTION 118-38M.: WHEN ALL OF THE IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWING" PLANS, AND A DIGITAL COPY OF ALL PLANS (PDF COPY) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISION IN THIS SECTION.

PROJECT LOCATION NOTES:

BEGIN PROJECT:END PROJECT:

LONGITUDE: W098° 07' 56.66"LONGITUDE: W098° 06' 17.80"
LATITUDE: N029° 40' 04.06"LATITUDE: N029° 40' 37.33"

EXPLANATION

EXISTING		PROPOSED	
	ATT MANHOLE		TRAFFIC BOX
	BOLLARD		UTILITY POLE
	BENCHMARK / CONTROL POINT		WATER VALVE
	ELECTRIC METER		WATER METER
	FIRE HYDRANT		LOT LINES / RIGHT OF WAY
	GUY ANCHOR		OVERHEAD ELECTRICAL LINE
	LIGHT POLE		SURFACE CONTOURS
	STORM SEWER MANHOLE		CONCRETE
	SANITARY SEWER MANHOLE		GRASS
			DRAINAGE FLOW DIRECTIONAL ARROW
			MILL & OVERLAY LIMITS
			ROADWAY CENTERLINE
			SURFACE CONTOURS
			CURB RAMP
			REMOVE CURB AND GUTTER
			FULL-DEPTH PAVEMENT RESTORATION
			INSTALL TOPSOIL
			NATURAL GROUND
			RECONSTRUCT CURB AND GUTTER
			REMOVE AND REPLACE SIDEWALK
			REMOVE TOPSOIL

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT	MH	MANHOLE
AC	ACRES	MO	MONTH
AVE	AVENUE	MRK	MARK
BM	BENCHMARK	NBU	NEW BRAUNFELS UTILITY
BRK	BREAK	NO	NUMBER
BS	BACK STOP	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CL	CENTERLINE	PAV	PAVEMENT
CMP	CORRUGATED METAL PIPE	PG	PROPOSED GRADE
CONC	CONCRETE	PLC	PLACE
CONB	CITY OF NEW BRAUNFELS	POS	POSITION
CY	CUBIC YARDS	REFL	REFLECTIVE
DR	DRIVE	RD	ROAD
EX	EXISTING	R.O.W	RIGHT-OF-WAY
FL	FLEXIBLE	SLD	SOLID
FM	FARM-TO-MARKET	STA	STATION
FT	FEET/FOOT	SY	SQUARE YARD
FT AMSL	FEET ABOVE MEAN SEA LEVEL	TCP	TRAFFIC CONTROL PLAN
GAL	GALLON	TMUTCD	TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
HMA	HOT MIX APSHALT	TWLTL	TWO WAY LEFT TURN LANE
H.M.A.C	HIGH MODULUS ASPHALT CONCRETE	TY	TYPE
LF	LINEAR FEET	TYP	TYPICAL
LS	LUMP SUM		

NOTES AND EXPLANATION
(3 OF 3)

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
5
OF 63

REV:
1



DRAWN BY: RK	DESIGNED BY: DV	CHECKED BY: SJ	SCALE: AS SHOWN	DATE: 09/21/2022	PR. NO: 702-409-000	FILE: 702-CLR-GENERAL NOTES
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Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/746,7474 (F) 307/746,7729
www.trihydro.com

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626,3588 (F) 830/626,3601

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM DESCRIPTION	UNIT	OVERALL	SHEET 15	SHEET 16	SHEET 17	SHEET 18	SHEET 19	SHEET 20	SHEET 21	SHEET 22	SHEET 23	SHEET 24	SHEET 25	SHEET 47	SHEET 48	SHEET 49	SHEET 50	SHEET 51	SHEET 52	SHEET 53	SHEET 54	SHEET 55	SHEET 56	TOTAL
COSA 100.1	MOBILIZATION, INSURANCE, AND BOND (10%)	LS	1																						1
TXDOT 104	REMOVING CONC (SIDEWALKS)	SY					42	26	33	12	6	28		5											152
TXDOT 104	REMOVING CONC (CURB & GUTTER)	LF		600	904	192	556	41	39	71	52	42		441											2,938
TXDOT 104	REMOVING CONC (CURB RAMP)	SY					18			28	14			14											74
TXDOT 104	REMOVING CONC (DRIVEWAY)	SY			96																				96
TXDOT 105	REMOVING STAB BASE & ASPH PAV (12")	SY		1,927	3,212	360																			5,499
TXDOT 110	EXCAVATION (ROADWAY)	CY					114							112											226
TXDOT 160	TOPSOIL	SY					126							103											229
TXDOT 162	REVEGETATION	AC					0.03							0.03											0.06
TXDOT 247	FL BS (CMP IN PLC) (TY-A GR 1-2) (FINAL POS)	CY		468	780	88																			1,336
TXDOT 340	TACK COAT	GAL		331	418	273	491	378	487	425	416	424	442	490											4,575
TXDOT 310	PRIME COAT (MC-30)	GAL		675	1,124	126	74							66											2,065
TXDOT 316	ASPH (AC-15P OR AC-10-2TR OR CRS-2P)	GAL		1,055	1,156	1,142	2,213	1,700	2,191	1,911	1,872	1,906	1,987	2,162											19,295
TXDOT 316	AGGR(TY-B GR-4 SAC-B)	CY		21	23	23	43	33	43	37	37	37	39	42											378
TXDOT 341	D-GR HMA TY-D PG 70-22 (LEVEL-UP)	TON		88	105	81	154	116	149	130	128	130	136	146											1,363
TXDOT 341	D-GR HMA(SQ) TY-D SAC-B PG 70-22	TON		583	699	539	1,026	771	993	866	848	864	901	970											9,060
TXDOT 307	D-GR HMA TY-B PG 64-22	TON					92							82											174
TXDOT 354	PLANE ASPH CONC PAV (3" TO 4") (MILLING)	SY		1,004		2,821	5,790	4,722	6,085	5,307	5,198	5,294	5,519	5,817											47,557
TXDOT 479	ADJUSTING MANHOLES (SANITARY)	EA					2	4	3	3	2	4	5	4											27
TXDOT 479	ADJUSTING MANHOLES (WATER VALVE BOX)	EA		1	2		8	5	9	2	1	3	1	5											37
TXDOT 502	BARRICADES, SIGNS, AND TRAFFIC HANDLING	MO	4																						4
TXDOT 506	TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS	LS	1																						1
TXDOT 529	CONC CURB	LF					371							386											757
TXDOT 529	CONC CURB & GUTTER	LF		600	904	192	170	41	39	71	52	42		56											2,167
TXDOT 531	CONC SIDEWALKS	SY					42	26	33	12	6	28		5											152
TXDOT 530	CONC DRIVEWAYS	SY			96																				96
TXDOT S55003	RETROFIT DETECTABLE WARNING SURFACE (CAST IN PLACE)	EA					10	4	2	6	4	4		3											33
TXDOT 531	CURB RAMPS (TY 7)	EA					10	4	2	6	2	4		2											30
TXDOT 531	CURB RAMPS (TY 10)	EA									2			1											3
TXDOT 644	REMOVE SM RD SN SUP&AM (SIGN ONLY)	EA					2						1												3
TXDOT 644	RELOCATE SM RD SN SUP&AM (SIGN ONLY)	EA					2						1												3
TXDOT 7053	RELOCATE EXISTING MAILBOX	EA						1																	1
TXDOT 662	WORK ZONE PAVEMENT MARKERS	LS	1																						1
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF													1,520	3,816	2,000	1,913	1,772	1,850	1,913	1,823	1,962	735	19,304
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF													262	279	188	343	448	162	402	450	83	590	3,207
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF													24	528		238	674	349	193	586	87	51	2,730
TXDOT 666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA													4	3	1		4	2	3	5	1	5	28
TXDOT 666	REFL PAV MRK TY I (Y) (4") (BRK) (100MIL)	LF													1,775	775									2,550
TXDOT 666	REFL PAV MRK TY I (Y) (4") (SLD) (100MIL)	LF													2,055	1,929	31						151		4,166
TXDOT 666	REFL PAV MRK TY I (Y) (MED NOSE) (100MIL)	EA													2	1									3
TXDOT 672	REFL PAV MRKR TY II-B-B	EA													2	1	2	2	2	1	2	1	2		15
TXDOT 672	REFL PAV MRKR TY I-C	EA													33	62	35	42	45	32	45	46	29	39	408
TXDOT 672	REFL PAV MRKR TY II-A-A	EA													82	93	2						8		185

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9/21/22

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: AS SHOWN
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-ESTIMATE QUANT



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/745;7474 (F) 307/745.7729
www.trihydro.com

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626;3588 (F) 830/626;3601

ESTIMATE, QUANTITIES, SUMMARY

**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**

SHEET
6
6 OF 63

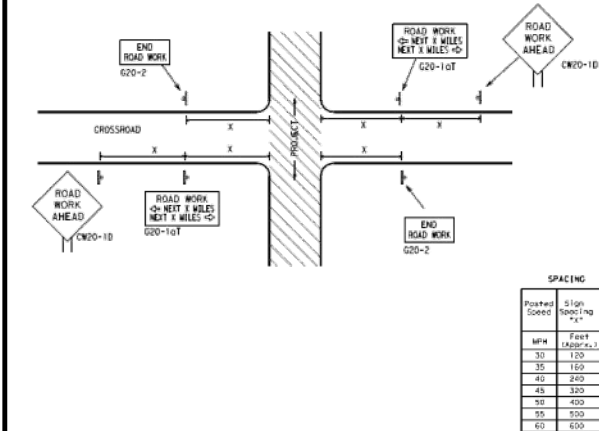
REV:
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TRAFFIC CONTROL GENERAL NOTES

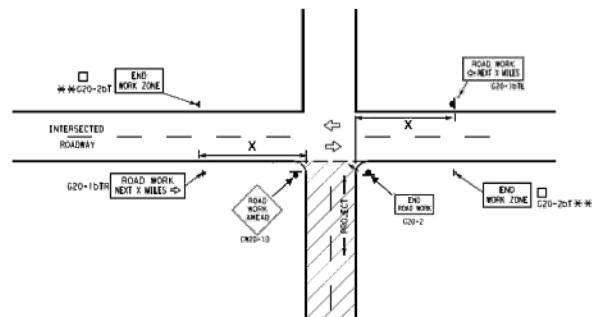
1. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SEE THAT ALL TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED AT THE JOB SITE IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND RELATED INDUSTRY STANDARDS AND REGULATIONS. THESE NOTES, DO NOT, IN AND OF THEMSELVES, CONSTITUTE A TRAFFIC CONTROL PLAN. IN THE EVENT THAT THESE PLANS DO NOT INCLUDE TRAFFIC CONTROL, OR THAT THE CONTRACTOR WISHES TO VARY FROM TRAFFIC CONTROL INCLUDED WITH THESE PLANS, HE SHALL SUBMIT A TRAFFIC CONTROL PLAN SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS, FOR REVIEW AND APPROVAL BY THE CITY PRIOR TO CONSTRUCTION. PLAN SHALL INCLUDE SIGN AND BARRICADE PLAN CONFORMING TO THE REQUIREMENTS OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CITY'S CONSTRUCTION INSPECTOR AND THE TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT THE TRAFFIC CONTROL DEVICES BEING DEPLOYED. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND/OR THE CONSTRUCTION INSPECTOR, THE TRAFFIC CONTROL DEVICES DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE INSPECTOR SHALL HAVE THE OPTION TO STOP CONSTRUCTION OPERATIONS AT NO EXPENSE TO THE CITY UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED BY THE CONTRACTOR.
2. ALL TRAFFIC CONTROL DEVICES, PLACEMENT AND ACTIVITIES SHALL BE AS PER TXDOT TCP STANDARDS AND THE LATEST EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TXMUTCD). IF THERE IS ANY CONFLICT BETWEEN THE TXMUTCD AND TRAFFIC CONTROL REQUIREMENTS WITHIN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
3. THE CONTRACTOR SHALL PROVIDE PROPER BARRICADES AND MAINTAIN TRAFFIC FLOW AS PER TXDOT TCP AND TXMUTCD STANDARDS AT ALL TIMES.
4. AS WORK PROGRESSES, LOCATION OF TEMPORARY TRAFFIC CONTROL DEVICES WILL BE ADJUSTED AND MODIFIED, AS NECESSARY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
5. FOR STREETS LISTED ON THE CITY OF NEW BRAUNFELS MAJOR THOROUGHFARE PLAN AND ALL ROAD CLOSURE REQUESTS, THE CONTRACTOR SHALL SUBMIT AND OBTAIN APPROVAL OF AN ENGINEERED TRAFFIC CONTROL PLAN AND WORK SCHEDULE TO THE CITY TWO WEEKS PRIOR TO COMMENCING WORK.
6. WORK AROUND SCHOOLS SHALL BE SCHEDULED TO ELIMINATE IMPACTS TO THE SCHOOL. LANES SHALL NOT BE CLOSED DURING THE TIME STUDENTS ARE BEING DROPPED OFF AND PICKED UP FROM SCHOOL. WORK WITHIN A SCHOOL ZONE CAN ONLY OCCUR BETWEEN THE HOURS OF 9 AM AND 2 PM.
7. THE CONTRACTOR SHALL MAINTAIN THE FLOW OF TRAFFIC AT ALL TIMES AND PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE, AND COLLECTION OF GARBAGE WHETHER PUBLIC OR PRIVATE.
8. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL COMMERCIAL AND RESIDENTIAL DRIVEWAYS AT ALL TIMES. CONTRACTOR SHALL PROVIDE 48 HOUR MINIMUM NOTICE TO PROPERTY OWNERS AND THE CITY PRIOR TO ANY MODIFICATION TO DRIVEWAY ACCESS.
9. DURING ASPHALT OVERLAY, THE CONTRACTOR SHALL ALLOW RESIDENT TRAFFIC ACCESS TO THE STREET WITH PROPER GUIDANCE, DIRECTION, FLAGMEN AND TRAFFIC CONTROL AND ONLY AT SUCH TIME THAT DAMAGE WILL NOT OCCUR TO THE NEW ASPHALT OVERLAY OR TO THE VEHICLES.
10. ONCE PAVEMENT IS MILLED, CONTRACTOR SHALL NOT ADVANCE TO THE NEXT PHASE UNTIL OVERLAY IS INSTALLED.

TRAFFIC CONTROL SEQUENCE OF CONSTRUCTION

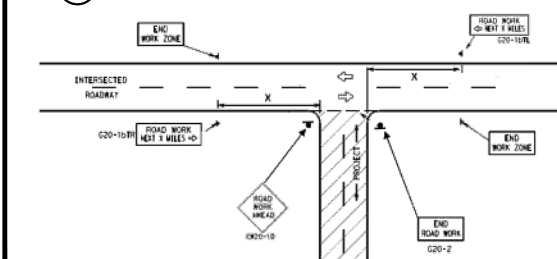
1. PLACE PROJECT ADVANCE WARNING SIGNS AND BARRICADES FOR EACH PHASE. SIGNS TO REMAIN FOR DURATION OF EACH PHASE UNTIL PROJECT COMPLETION. UTILIZE TXDOT TCP (1-4)-18.
2. INSTALL EROSION AND SEDIMENTATION CONTROLS AS NECESSARY AND PER STORM WATER POLLUTION PREVENTION PLAN (SW3P) STANDARDS.
3. IMPLEMENT TCP SETUP ACCORDING TO TCP LAYOUTS, TXMUTCD AND TXDOT STANDARDS.
4. CONSTRUCT ROADWAY RECONSTRUCTION, MILL AND OVERLAY, DRAINAGE AND PEDESTRIAN IMPROVEMENTS, AND INCIDENTAL WORK.
5. REMOVE ALL SW3P DEVICES AS DIRECTED.
6. PERFORM FINAL CLEANUP FOR THAT PHASE AND MOVE TO THE NEXT PHASE UNTIL PROJECT COMPLETION.



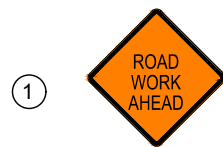
1 TRAFFIC CONTROL AT WALNUT AVE. AND COUNTY LINE RD.
SCALE: N.T.S.



2 TRAFFIC CONTROL AT FM 725 AND COUNTY LINE RD.
SCALE: N.T.S.



3 TRAFFIC CONTROL AT FM 1044 AND COUNTY LINE RD.
SCALE: N.T.S.



CW20-1D
48"x48"



G20-2
36"x18"



G20-1aT



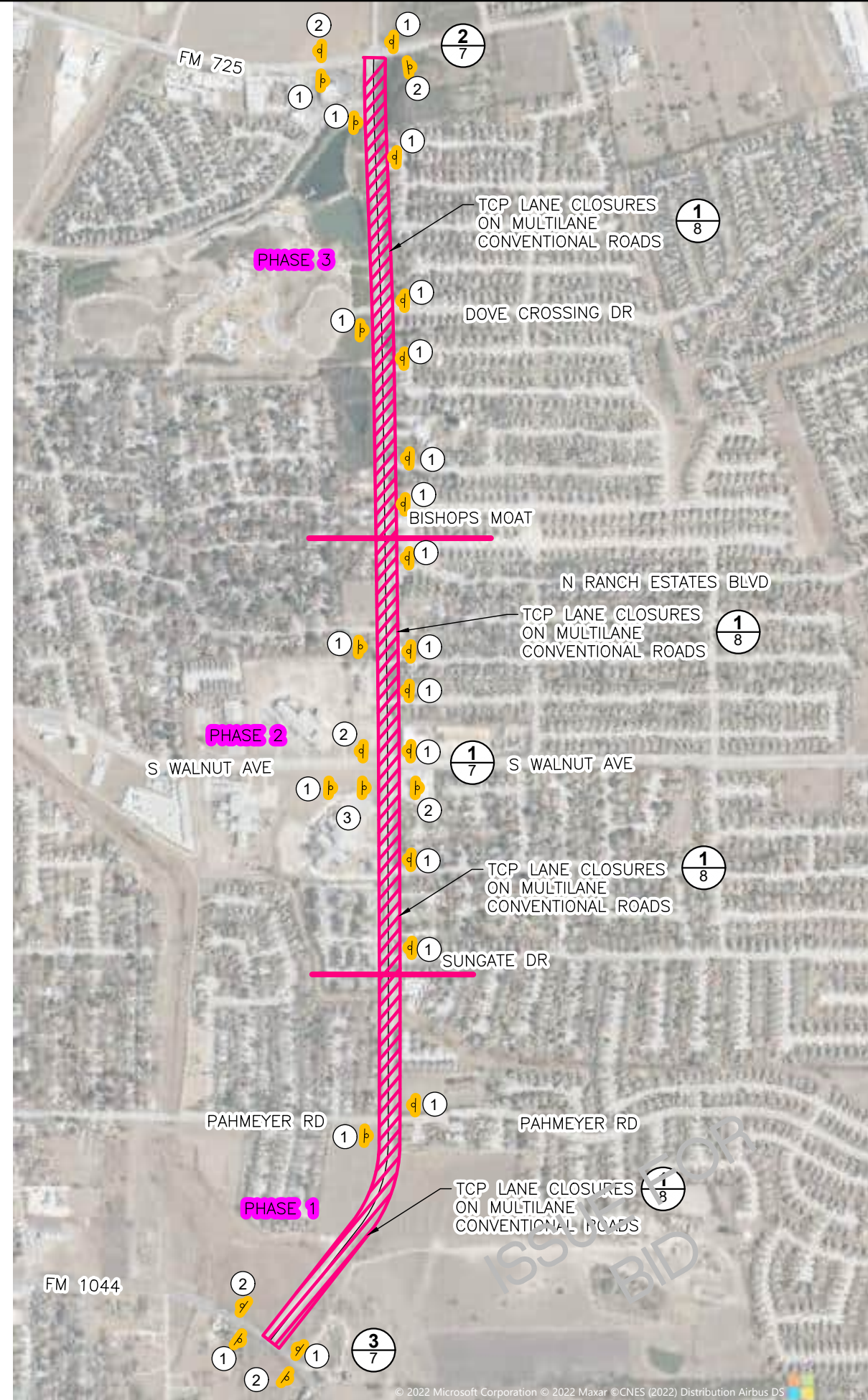
SIGN



TRAFFIC CONTROL LIMITS



0 1,000

[illegible]

9/21/22

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: 1" = 1,000'
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 705-CUR-PHASEG



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/745.7174 (F) 307/745.7729
www.trihydro.com

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626.3588 (F) 830/626.3601

TRAFFIC CONTROL AND PHASING PLAN

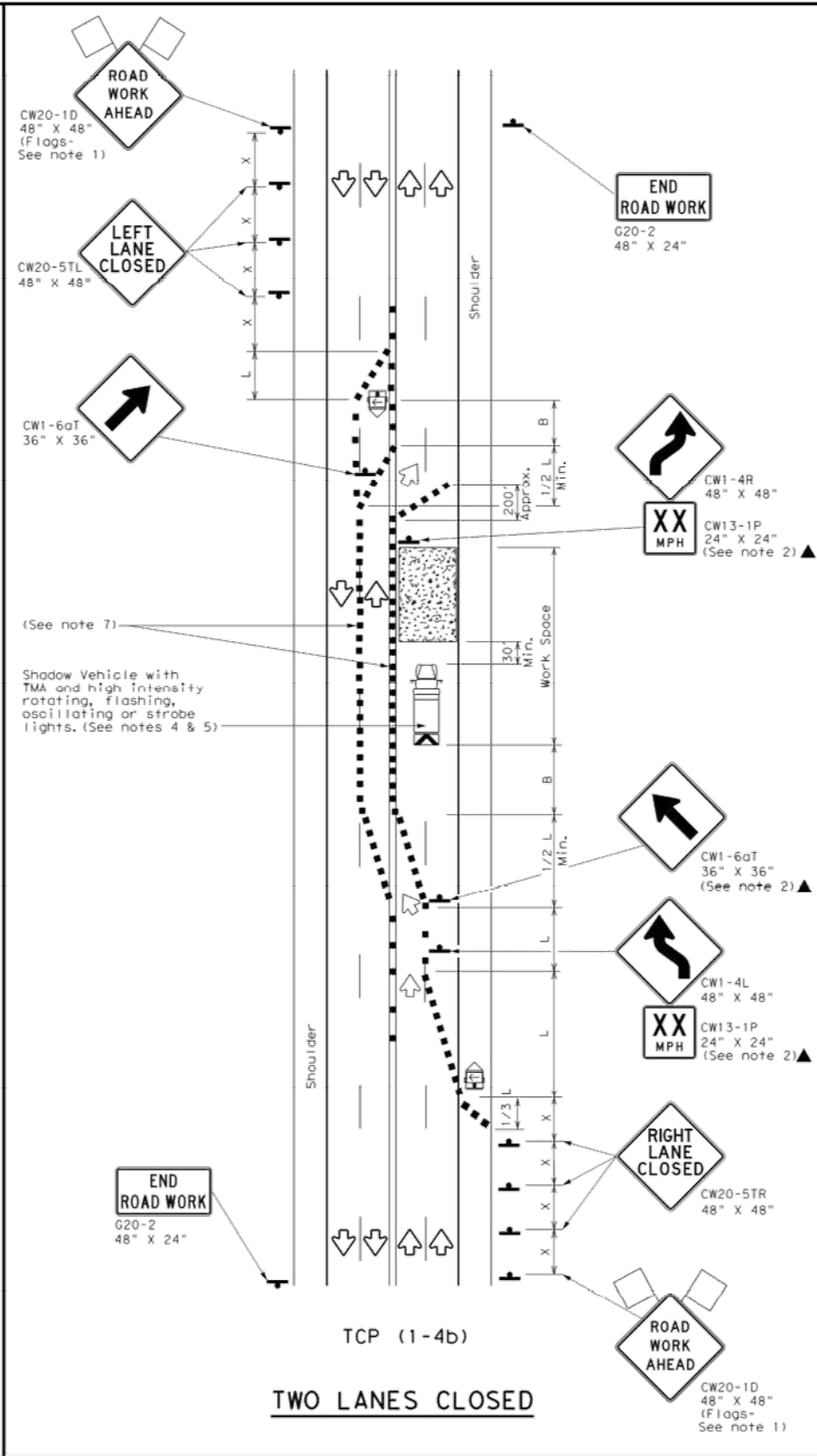
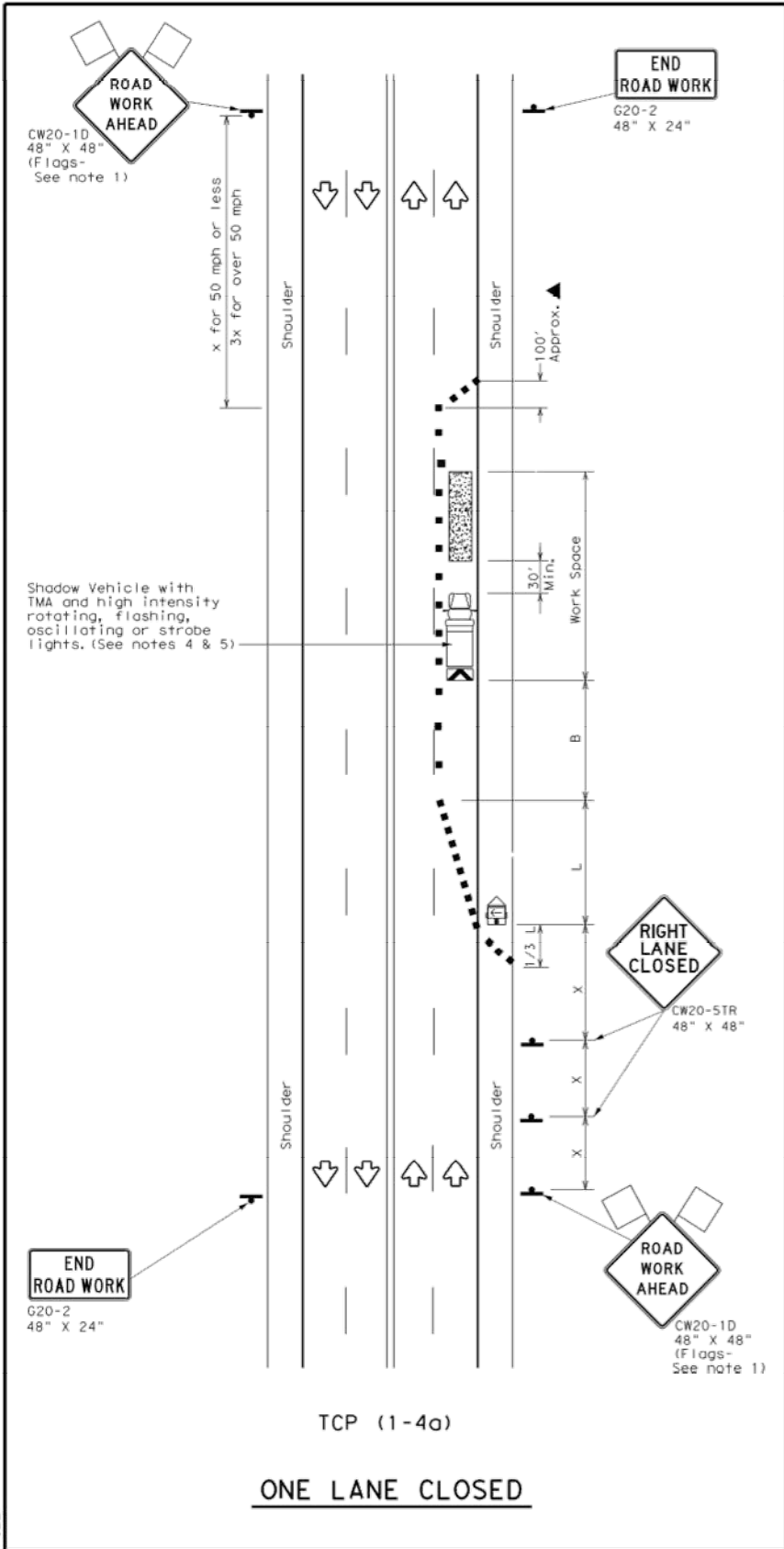
**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**

SHEET
7
7 OF 63

REV:
1

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DATE:
FILE:



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

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

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

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

- GENERAL NOTES**
- Flags attached to signs where shown are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
 - The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
 - A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
 - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
- TCP (1-4a)**
6. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline where needed to protect the work space from opposing traffic with the arrow panel placed in the closed lane near the end of the merging taper.
- TCP (1-4b)**
7. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

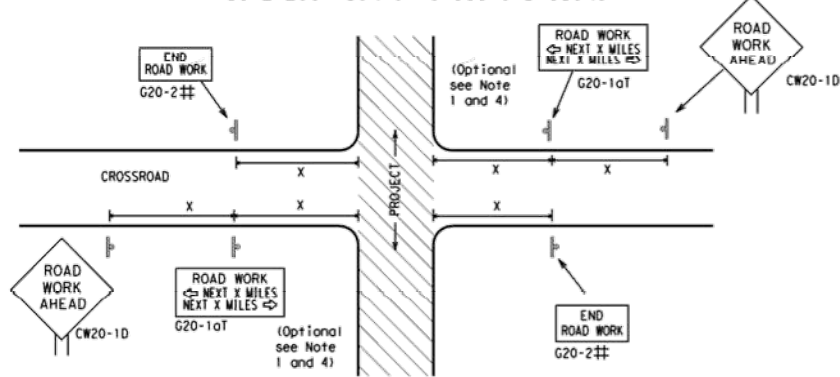
	Traffic Operations Division Standard
TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS	
TCP (1-4) - 18	
FILE: 7025-CLR-18.dgn	CR: 1
© TxDOT December 1985	DR: 1
REVISIONS	JOB
2-94 4-98	HIGHWAY
8-95 2-12	COUNTY
1-97 2-18	SHEET NO.
154	

DRAWN BY: RK	DESIGNED BY: DV	CHECKED BY: SJ	SCALE: NONE	DATE: 09/21/2022	PR. NO: 702-409-000	FILE: 7025-CLR-DETAILS
9/21/22						
New Braunfels Branch Office Texas Engineering Firm F-131 Texas Survey Firm 10194320 1011 West County Line Road New Braunfels, Texas 78130 (P) 830.626.3588 (F) 830.626.3601						
Headquarters 1252 Commerce Drive Laramie, Wyoming 82070 (P) 307.746.7474 (F) 307.746.7729 www.trihydro.com						
TCP - LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS			WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES			
SHEET 8 OF 63			REV: 1			

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DATE: FILE:

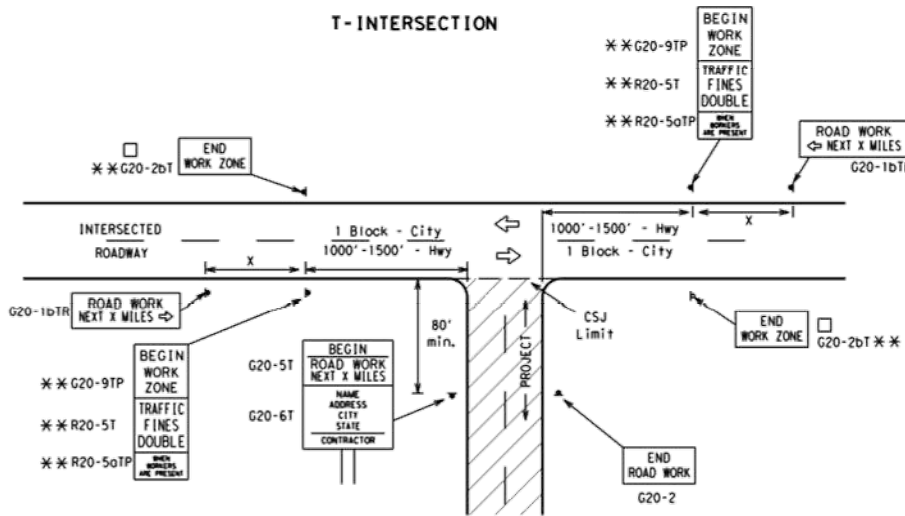
TYPICAL LOCATION OF CROSSROAD SIGNS



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^{4,5,6}

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

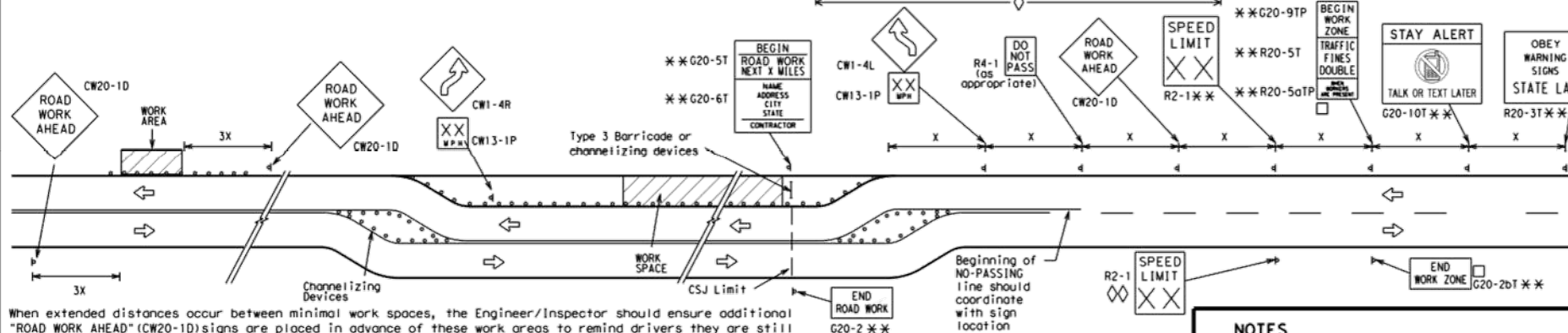
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

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

GENERAL NOTES

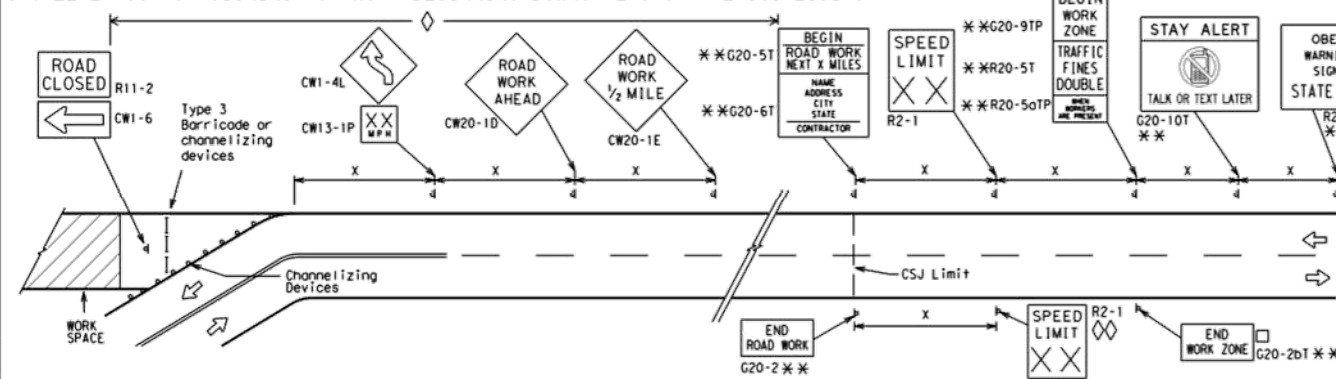
- Special or larger size signs may be used as necessary.
- Distance between signs should be increased as required to have 1500 feet advance warning.
- Distance between signs should be increased as required to have 1/2 mile or more advance warning.
- 36" x 36" "ROAD WORK AHEAD" (CW20-1D) signs may be 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.

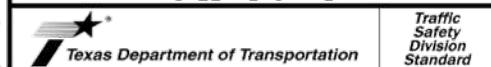
◇ Area for placement of "ROAD WORK AHEAD" (CW20-1D) sign and other signs or devices as called for on the Traffic Control Plan.

◇◇ 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

FILED	TXDOT	CKI	TXDOT	DW	TXDOT	CKI	TXDOT
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07-13	8-14	7-13	5-21				



9/21/22

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CHECKED BY: SJ	SCALE: NONE
DATE: 09/21/2022	PR. NO: 702-409-000
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New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
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BARRICADE AND CONSTRUCTION PROJECT LIMIT

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SHEET
9
OF 63

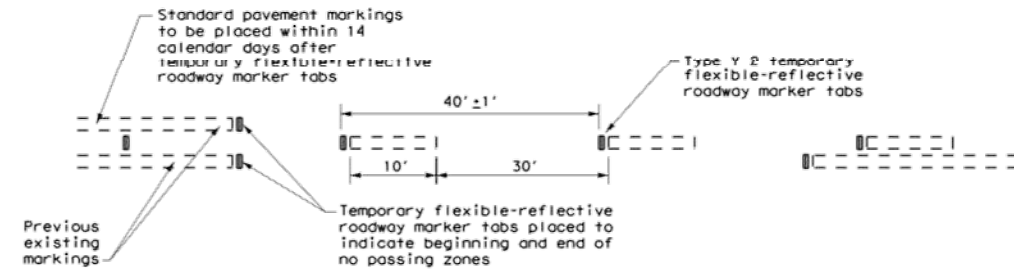
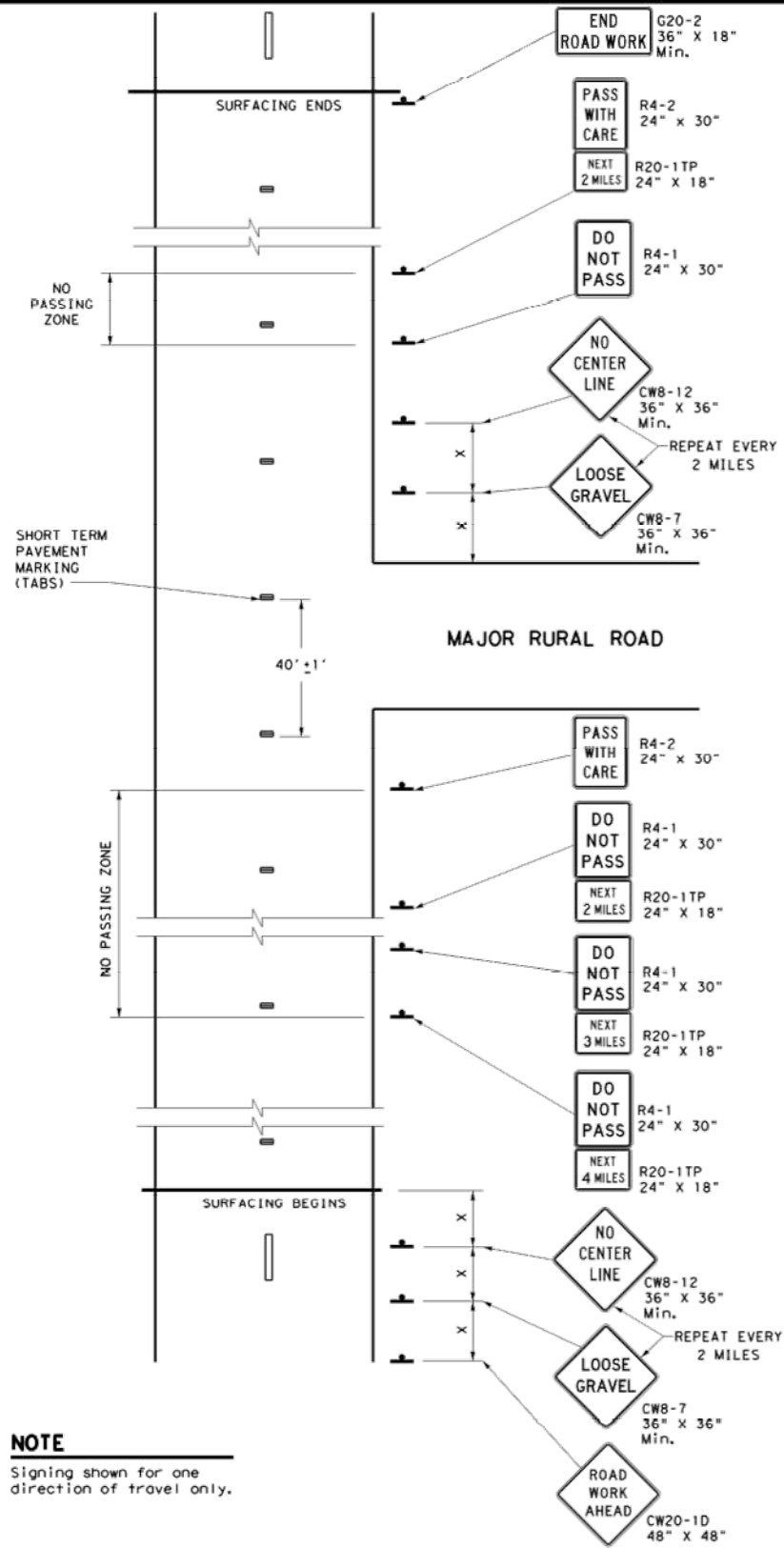
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NOTE
Signing shown for one direction of travel only.

NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS



TABS ON CENTERLINES OF TWO-LANE TWO-WAY ROADS

For seal coat, micro-surface or similar operations

"DO NOT PASS" SIGN (R4-1) and NO-PASSING ZONES

- Prior to the beginning of construction, all currently striped no-passing zones shall be signed with the DO NOT PASS (R4-1) signs and PASS WITH CARE (R4-2) signs placed at the beginning and end of each zone for each direction of travel except as otherwise provided herein. Signs marking these individual no-passing zones need not be covered prior to construction if the signs supplement the existing pavement markings.
- At the discretion of the Engineer, in areas of numerous no-passing zones, several zones may be combined as a single zone. If passing is to be prohibited over one or more lengthy sections, a DO NOT PASS sign and a NEXT XX MILES (R20-1TP) plaque may be used at the beginning of such zones. The DO NOT PASS sign and the NEXT XX MILES plaque should be repeated every mile to the end of the no-passing zone. In areas where there is considerable distance between no-passing zones, the end of the no-passing zone may be signed with a PASS WITH CARE sign and a NEXT XX MILES plaque.
- Depending on traffic volumes and length of sections, it may be desirable to prohibit passing throughout the project to prevent damage to windshield and lights. The DO NOT PASS sign and NEXT XX MILES plaque should be used and repeated as often as necessary for this purpose. Where several existing zones are to be combined into one individual no-passing zone, the sign at the beginning of the zone should be covered until the surfacing operation has passed this location so as not to have the DO NOT PASS sign conflict with the existing pavement markings. Also, unless one day operation completes the entire length of such combined zones, appropriate DO NOT PASS and PASS WITH CARE signs should be placed at the beginning and end of the no-passing zones where the surfacing operation has stopped for the day.
- R4-1 and R4-2 are to remain in place until standard pavement markings are installed.

"NO CENTER LINE" SIGN (CW8-12)

- Center line markings are yellow pavement markings that delineate the separation of travel lanes that have opposite directions of travel on a roadway. Divided highways do not typically have center line markings.
- At the time construction activity obliterates the existing center line markings (low volume roads may not have an existing centerline), a NO CENTER LINE (CW8-12) sign should be erected at the beginning of the work area, at approximately 2 mile intervals within the work area, beyond major intersections and other locations deemed necessary by the Engineer.
- The NO CENTER LINE signs are to remain in place until standard pavement markings are installed.

"LOOSE GRAVEL" SIGN (CW8-7)

- When construction begins, a LOOSE GRAVEL (CW8-7) sign should be erected at each end of the work area and repeated at intervals of approximately 2 miles in rural areas and closer in urban areas.
- The LOOSE GRAVEL signs are to remain in place until the condition no longer exists.

PAVEMENT MARKINGS

- Temporary markings for surfacing projects shall be Temporary Flexible-Reflective Roadway Marker Tabs unless otherwise approved by the Engineer. Tabs are to be installed to provide true alignment for striping crews or as directed by the Engineer. Tabs will be placed at the spacing indicated. Tabs should be applied to the pavement no more than two (2) days before the surfacing is applied. After the surfacing is rolled and swept, the cover over the reflective strip shall be removed.
- Tabs shall not be used to simulate edge lines.
- Tab placement for overlay/inlay operations shall be as shown on the WZ(STPM) standard sheet.

COORDINATION OF SIGN LOCATIONS

- The location of warning signs at the beginning and end of a work area are to be coordinated with other signing typically shown on the Barricade and Construction Standards for project limits to ensure adequate sign spacing.
- Where possible the ROAD WORK AHEAD (CW20-1D), LOOSE GRAVEL (CW8-7), and NO CENTER LINE (CW8-12) signs should be placed in the sequence shown following the OBEY WARNING SIGNS STATE LAW (R20-3T) and the TRAFFIC FINES DOUBLE (R20-5T) sign, and one "X" sign spacing prior to the CONTRACTOR (G20-6T) sign typically located at or near the limits of surfacing. LOOSE GRAVEL and NO CENTER LINE signs will then be repeated as described above.

Posted Speed *	Minimum Sign Spacing "X" Distance
30	120'
35	160'
40	240'
45	320'
50	400'
55	500'
60	600'
65	700'
70	800'
75	900'

* Conventional Roads Only

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

GENERAL NOTES

- The traffic control devices detailed on this sheet will be furnished and erected as directed by the Engineer on sections of roadway where tabs must be placed prior to the surfacing operation which will cover or obliterate the existing pavement markings.
- The devices shown on this sheet are to be used to supplement those required by the BC Standards or others required elsewhere in the plans.
- Signs shall be erected as detailed on the BC Standards or the Compliant Work Zone Traffic Control Devices List (CWZTCD) on supports approved for Long-Term / Intermediate-Term Work Zone Sign Supports.
- When surfacing operations take place on divided highways, freeways or expressways, the size of diamond shaped construction warning signs shall be 48" x 48".
- Signs on divided highways, freeways and expressways will be placed on both right and left sides of the roadway based on roadway conditions as directed by the Engineer.

	Traffic Operations Division Standard
TRAFFIC CONTROL DETAILS FOR SURFACING OPERATIONS	
TCP (7-1)-13	
FILE: 7025-CLR-DETAILS	PROJECT: 7025-CLR-DETAILS
DATE: 4-98	REVISIONS: 1-97 7-13
JOB: 7025-CLR-DETAILS	COUNTY: 7025-CLR-DETAILS
SHEET NO. 1	



9/21/22

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DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/746,7474 (F) 307/746,7729
www.trihydro.com

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626,3588 (F) 830/626,3601

TRAFFIC CONTROL DETAILS FOR SURFACING OPERATIONS

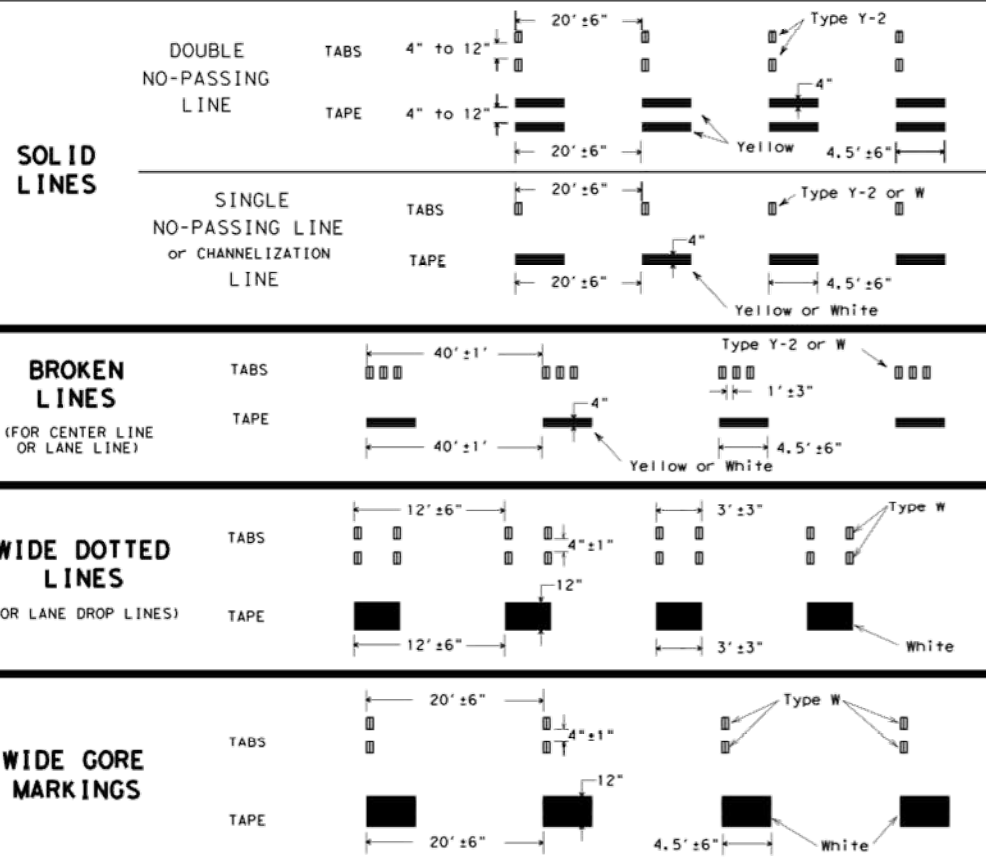
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10
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WORK ZONE SHORT TERM PAVEMENT MARKINGS DETAILS



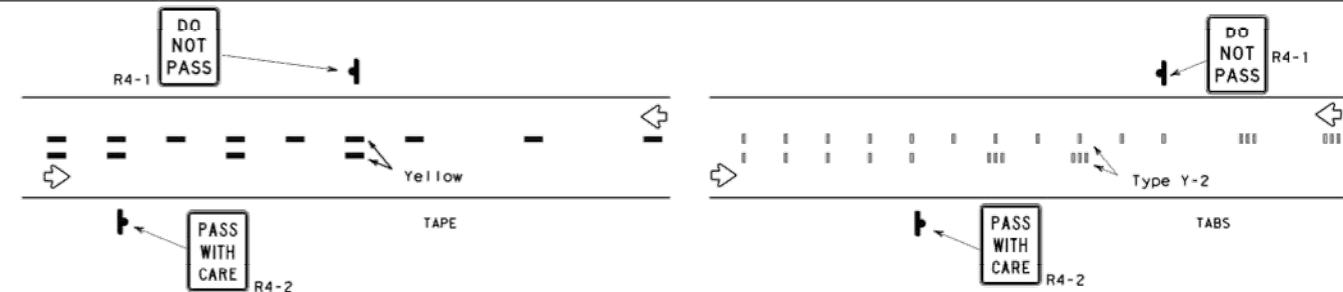
NOTES:

- Short term pavement markings may be prefabricated markings (stick down tape) or temporary flexible-reflective roadway marker tabs unless otherwise specified elsewhere in plans.
- Short term pavement markings shall NOT be used to simulate edge lines.
- Dimensions indicated on this sheet are typical and approximate. Variations in size and height may occur between markers or devices made by manufacturers, by as much as 1/4 inch, unless otherwise noted.
- Temporary flexible-reflective roadway marker tabs will require normal maintenance replacement when used on roadways with an ADT per lane of up to 7500 vehicles with no more than 10% truck mix. When roadways exceed these values, additional maintenance replacement of devices should be planned.
- No segment of roadway open to traffic shall remain without permanent pavement markings for a period greater than 14 calendar days. The Contractor will be responsible for maintaining short term pavement markings until permanent pavement markings are in place. When the Contractor is responsible for placement of permanent pavement markings, no segment of roadway shall remain without permanent pavement markings for a period greater than 14 calendar days unless weather conditions prohibit placement. Permanent pavement markings shall be placed as soon as weather permits.
- For two lane, two-way roadways, DO NOT PASS signs shall be erected to mark the beginning of sections where passing is prohibited and PASS WITH CARE signs shall be erected to mark the beginning of sections where passing is permitted. Signs shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and may be used to indicate the limits of no-passing zones for up to 14 calendar days. Permanent pavement markings should then be placed.
- For low volume two lane, two-way roadways of 4000 ADT or less, no-passing lines may be omitted when approved by the Engineer. DO NOT PASS and PASS WITH CARE signs shall be erected (see note 6).
- For exit gores where a lane is being dropped place wide gore markings or retroreflective channelizing devices to guide motorist through the exit. If channelizing devices are to be used it should be noted elsewhere in the plans. One piece cones are not allowed for this purpose.

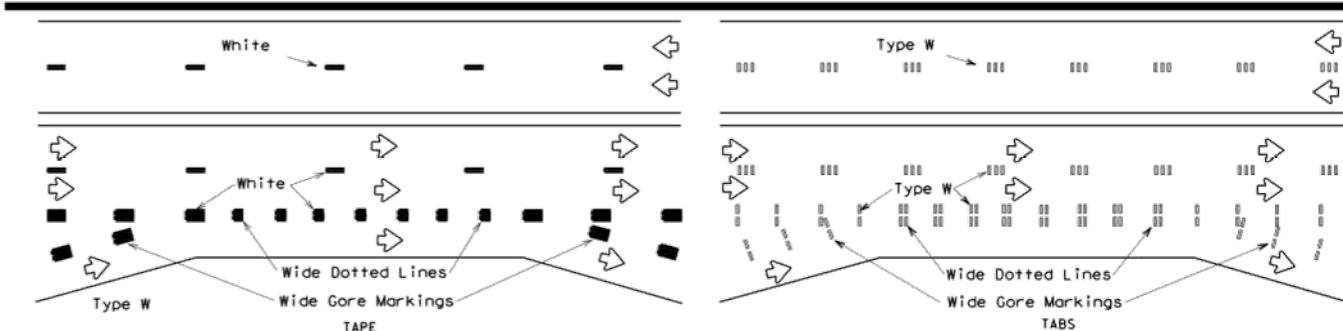
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS (TABS)

- Temporary flexible-reflective roadway marker tabs detailed on this sheet will be designated Type Y-2 (two amber reflective surfaces with yellow body); Type Y (one amber reflective surface with yellow body); and Type W (one white or silver reflective surface with white body). Additional details may be found on BC(111).
- TABS shall meet requirements of Departmental Material Specification DMS-8242.
- When dry, tabs shall be visible for a minimum distance of 200 feet during normal daylight hours and when illuminated by automobile low-beam head light at night, unless sight distance is restricted by roadway geometrics.
- No two consecutive tabs nor four tabs per 1000 feet of line shall be missing or fail to meet the visual performance requirements of Note 3.

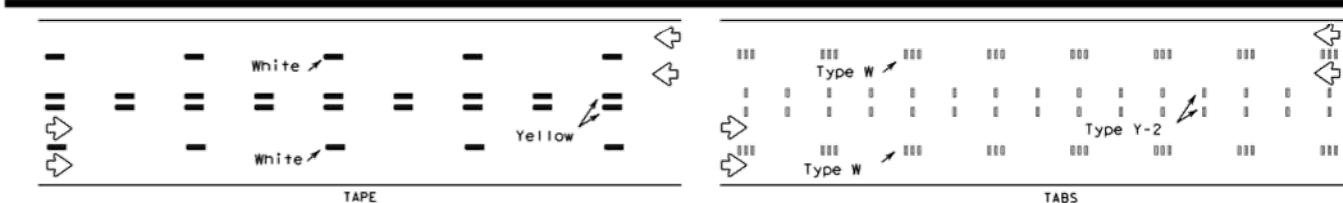
WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS



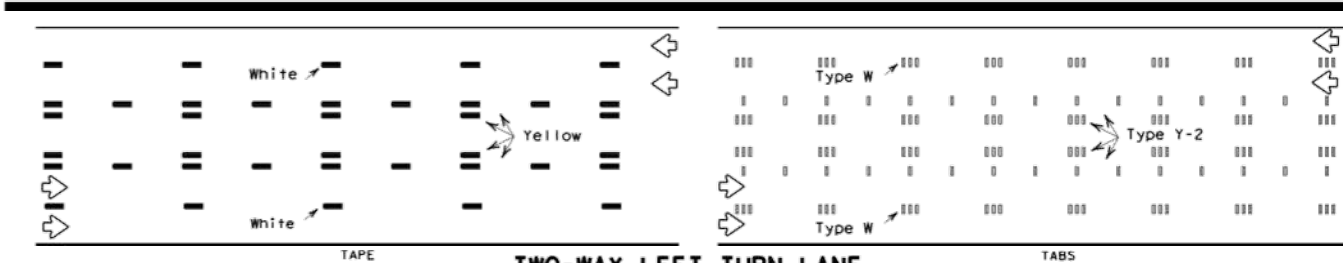
CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO LANE TWO-WAY HIGHWAYS



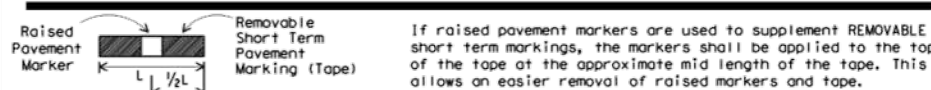
LANE LINES FOR DIVIDED HIGHWAY



LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



TWO-WAY LEFT TURN LANE



PREFABRICATED PAVEMENT MARKINGS

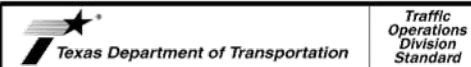
- Temporary Removable Prefabricated Pavement Markings shall meet the requirements of DMS-8241.
- Non-removable Prefabricated Pavement Markings shall meet the requirements of either DMS-8240 "Permanent Prefabricated Pavement Markings" or DMS-8243 "Temporary Construction-Grade Prefabricated Pavement Markings."

RAISED PAVEMENT MARKERS

- All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and DMS-4200.

DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) & MATERIAL PRODUCER LISTS (MPL)

- DMSs referenced above can be found along with embedded links to their respective MPLs at the following website:
http://www.txdot.gov/business/contractors_consultants/material_specifications/default.htm



WORK ZONE SHORT TERM PAVEMENT MARKINGS

WZ (STPM) - 13

FILE: WZ (STPM) - 13.dgn	DATE: April 1992	REV: 1	BY: TxDOT	CHK: TxDOT	DATE: 3-03	REV: 7-13
REVISIONS		JOB		COUNTY		SHEET NO.



9/21/22

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CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS



New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
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WORK ZONE SHORT TERM PAVEMENT MARKINGS

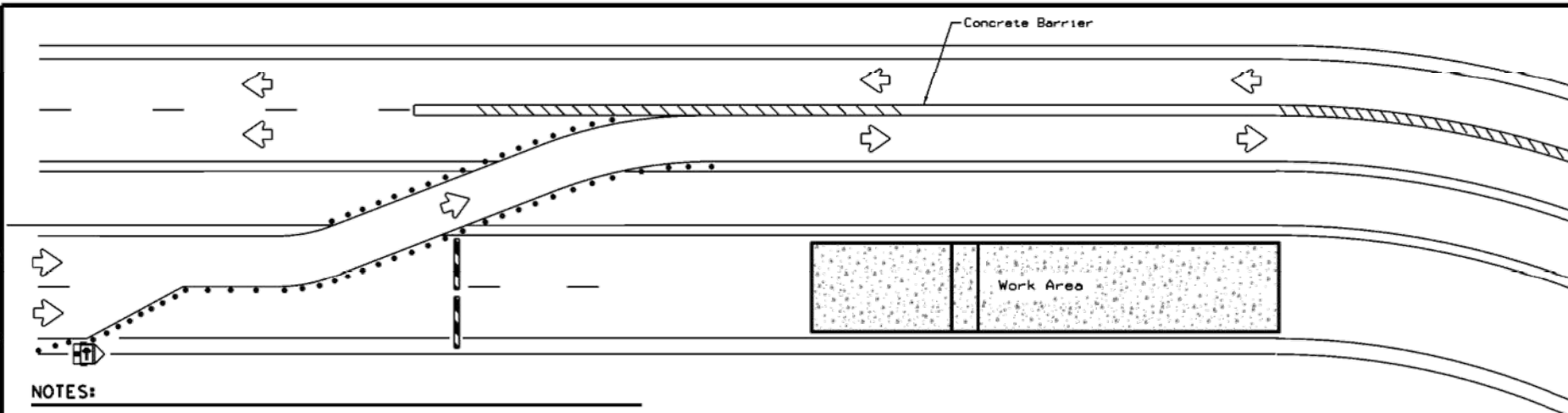
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NOTES:

- Length of Safety Glare screen will be specified elsewhere in the plans.
- The cumulative nominal length of the modular safety glare screen units shall equal the length of the individual sections of temporary concrete traffic barrier on which they are installed so the joint between barrier sections will not be spanned by any one safety glare screen unit.
- Screen Panel/blades will be designed such that reflective sheeting conforming with Departmental Material Specification DMS-8300, Sign Face Materials, Type B or C Yellow, minimum size of 2 inches by 12 inches can be attached to the edge of the panel/blade. The sheeting shall be attached to one glare screen panel/blade per section of concrete barrier not to exceed a spacing of 30 feet. Barrier reflectors are not necessary when panel/blades are installed with reflective sheeting as described.
- Payment for these devices will be under statewide Special Specification "Modular Glare Screens for Headlight Barrier."
- This detail is only intended to show types of locations where Glare Screens would be appropriate. Required signing and other devices shall be as shown elsewhere in the plans.

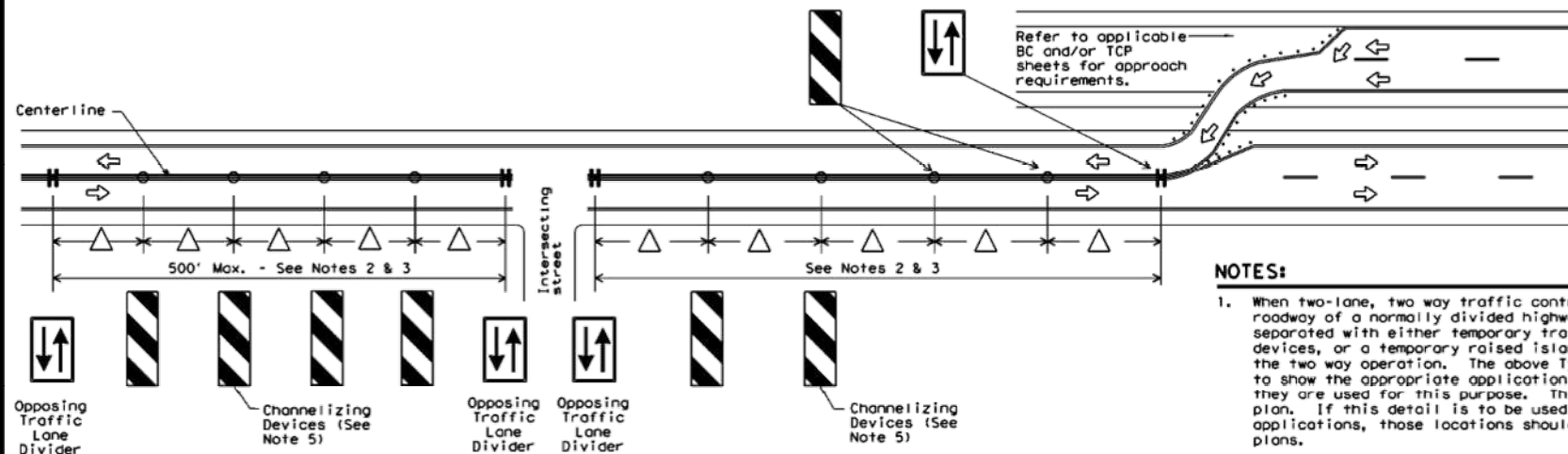
BARRIER DELINEATION WITH MODULAR GLARE SCREENS

LEGEND	
	Type 3 Barrier
	Channelizing Devices
	Trailer Mounted Flashing Arrow Board
	Sign
	Safety glare screen

DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
DELINEATORS AND OBJECT MARKERS	DMS-8600
MODULAR GLARE SCREENS FOR HEADLIGHT BARRIER	DMS-8610

Only pre-qualified products shall be used. A copy of the Compliant Work Zone Traffic Control Devices List* (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:

<http://www.txdot.gov/business/resources/producer-list.html>



VERTICAL PANELS & OPPOSING TRAFFIC LANE DIVIDERS (OTLD) SEPARATING TWO-WAY TRAFFIC ON NORMALLY DIVIDED HIGHWAYS

NOTES:

- When two-lane, two way traffic control must be maintained on one roadway of a normally divided highway, opposing traffic shall be separated with either temporary traffic barriers, channelizing devices, or a temporary raised island throughout the length of the two way operation. The above Typical Application is intended to show the appropriate application of channelizing devices when they are used for this purpose. This is not a traffic control plan. If this detail is to be used for other types of roads or applications, those locations should be stated elsewhere in the plans.
- Space devices according to the Tangent Spacing shown on the Device Spacing table on BC(9) but not exceeding 100'.
- Every fifth device should be an OTLD except when spaced closer to accommodate an intersection. An OTLD should be the first device on each side of intersecting streets or roads.
- Locations where surface mount bases with adhesives or self-righting devices will be required in order to maintain them in their proper position should be noted elsewhere in the plans.
- Channelizing devices are to be vertical panels, 42" cones or tubular markers that are at least 36" tall. Tubular markers used to separate traffic should have a rubber base weighing at least 30 pounds. Tubular markers that are 42" tall or more shall have four bands of reflective material as detailed for 42" cones on BC(10). Tubular markers less than 42" but at least 36" tall shall have three bands of 3" wide white reflective material spaced 2" apart. Reflective material shall meet DMS-8300, Type A.

Texas Department of Transportation		Traffic Operations Division Standard			
TRAFFIC CONTROL PLAN TYPICAL DETAILS					
WZ(TD) - 17					
FILE: WZ(TD) - 17.dgn	TXDOT	CK: TXDOT	DN: TXDOT		
© TxDOT February 1998	JOINT	SC	JOB		
REVISIONS	2-17				
4-98	5-03	7-13			
110					



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/746,7474 (F) 307/746,7729
www.trihydro.com

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626,5588 (F) 830/626,5601

TRAFFIC CONTROL PLAN TYPICAL DETAILS

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
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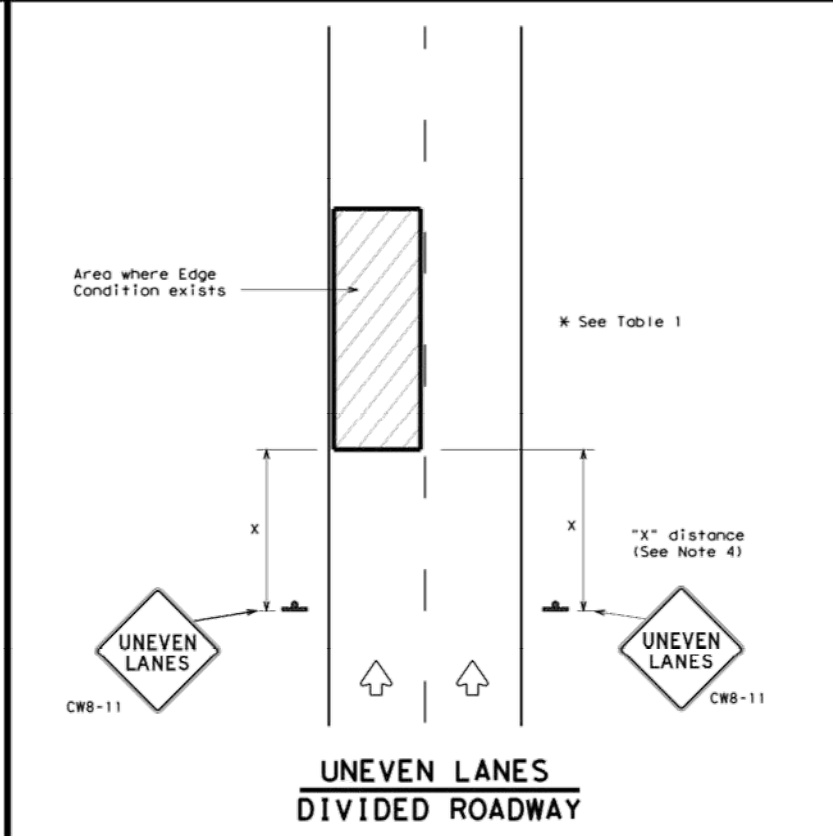
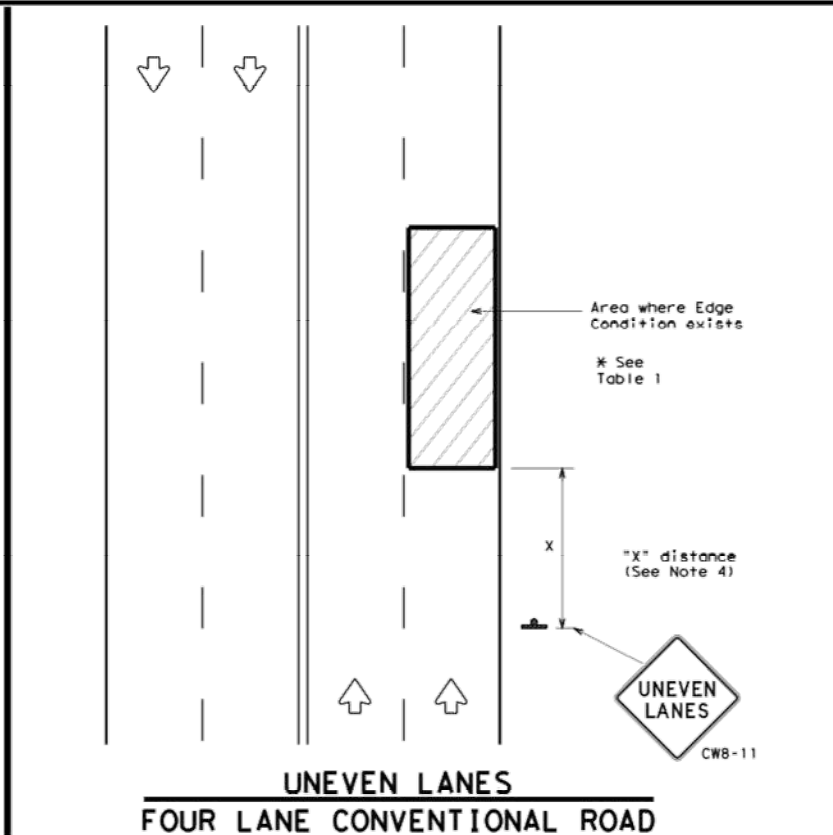
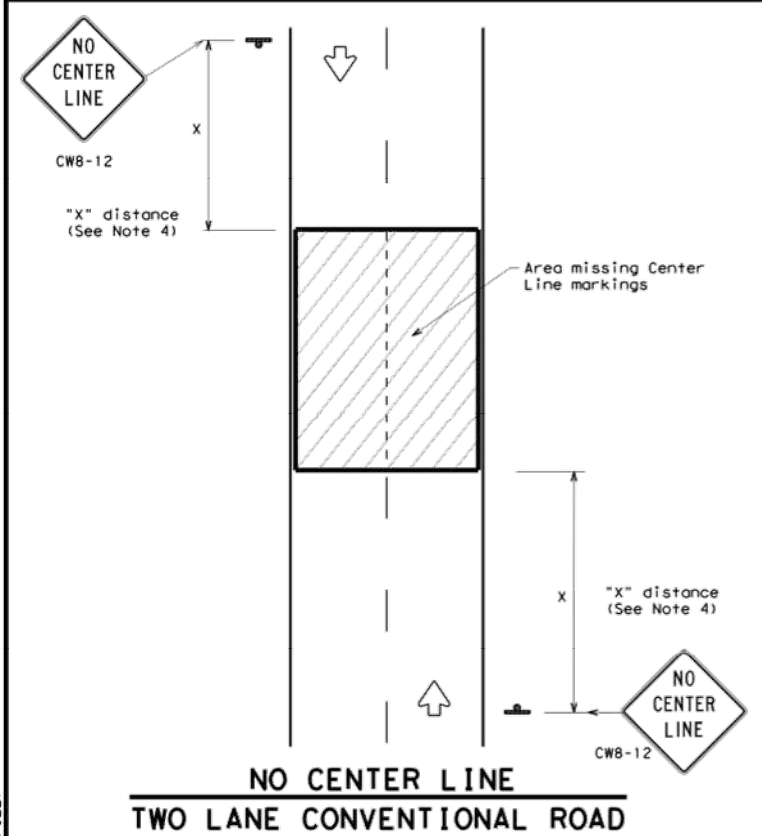
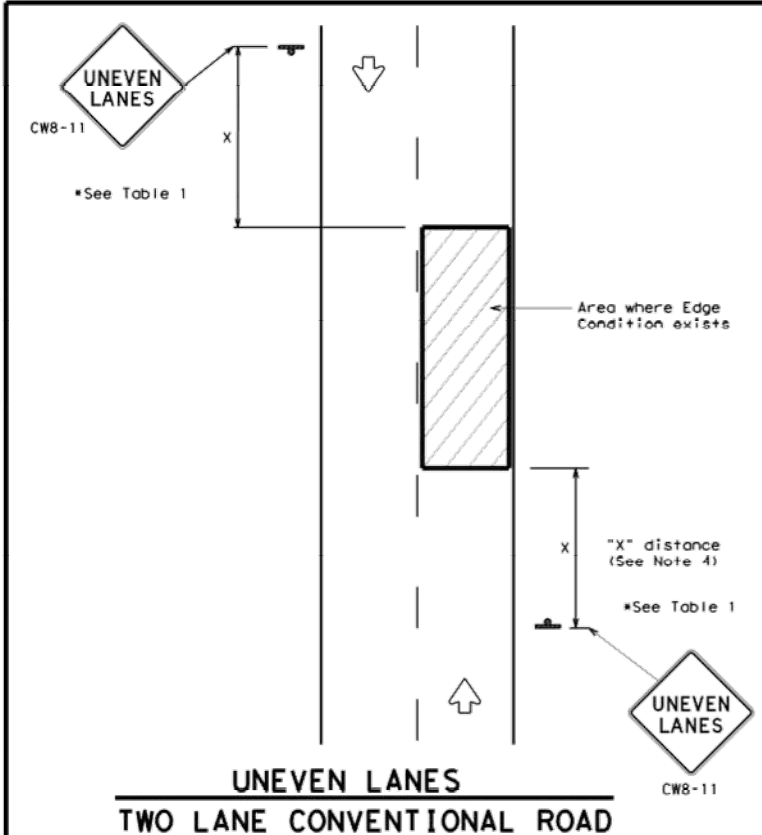


9/21/22

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CHECKED BY: SJ	SCALE: NONE
DATE: 09/21/2022	PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS	

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DEPARTMENTAL MATERIAL SPECIFICATIONS	
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY (REMOVABLE) PREFABRICATED PAVEMENT MARKINGS	DMS-8241
SIGN FACE MATERIALS	DMS-8300

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B _{FL} OR TYPE C _{FL} SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

GENERAL NOTES

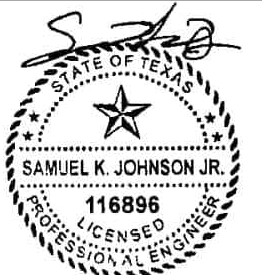
1. If spalling or holes occur, ROUGH ROAD (CW8-8) signs should be placed in advance of the condition and be repeated every two miles where the condition persists.
2. UNEVEN LANES (CW8-11) signs shall be installed in advance of the condition and repeated every mile. Signs installed along the uneven lane condition may be supplemented with the NEXT XX MILES (CW7-3aP) plaque or Advisory Speed (CW13-1P) plaque.
3. NO CENTER LINE (CW8-12) signs and temporary pavement markings as per the WZ(STPM) standard shall be installed if yellow centerlines separating two way traffic are obscured or obliterated. Repeat NO CENTER LINE signs every two miles where the center line markings are not in place. The signs and markings shall remain in place until permanent pavement markings are installed.
4. Signs shall be spaced at the distances recommended as per BC standards.
5. Additional signs may be required as directed by the Engineer. Signs shall remain in place until final surface is applied. Signs shall be considered subsidiary to Item 502 "BARRICADES, SIGNS AND TRAFFIC HANDLING."
6. Signs shall be fabricated and mounted on supports as shown on the BC standards and/or listed on the "Compliant Work Zone Traffic Control Devices" list.
7. Short term markings shall not be used to simulate edge lines.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition.

TABLE 1		
Edge Condition	Edge Height (D)	* Warning Devices
①	Less than or equal to: 1/4" (maximum-planing) 1/2" (typical-overlay)	Sign: CW8-11
②	Less than or equal to 3"	Sign: CW8-11
③	Distance "D" may be a maximum of 3" if uneven lanes with edge condition 2 or 3 are open to traffic after work operations cease. Uneven lanes should not be open to traffic when "D" is greater than 3".	

TRAFFIC CONTROL DURING PLANING, OVERLAY AND LEVELING OPERATIONS ARE SHOWN ELSEWHERE IN THE PLANS.

MINIMUM WARNING SIGN SIZE	
Conventional roads	36" x 36"
Freeways/expressways, divided roadways	48" x 48"

	Traffic Operations Division Standard
SIGNING FOR UNEVEN LANES	
WZ (UL) - 13	
FILE: 7025-CLR-3.dgn	TXDOT: Cx: TXDOT Dk: TXDOT Ck: TXDOT
© TxDOT April 1992	CONT: 54 JOB: HIGHWAY:
REVISIONS	DATE: 8-95 2-98 7-13 1-97 3-03
112	SHEET NO.



9/21/22

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS



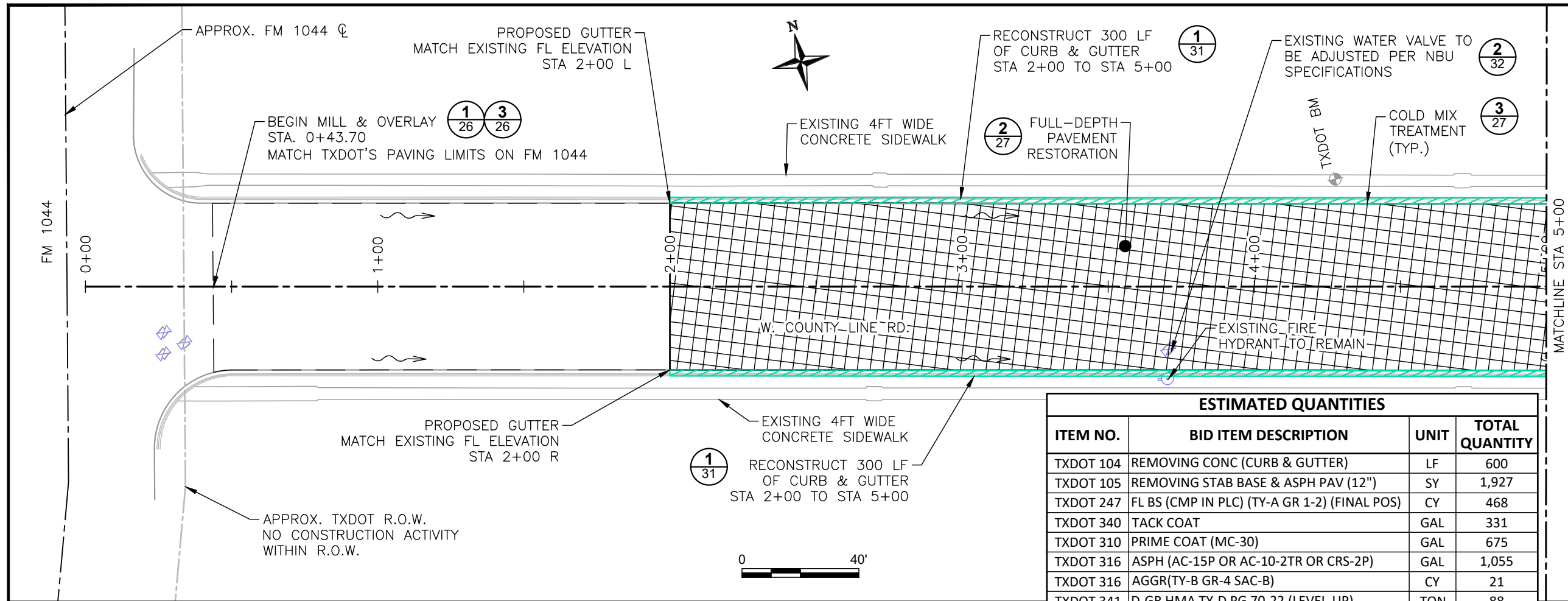
New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
www.trihydro.com

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

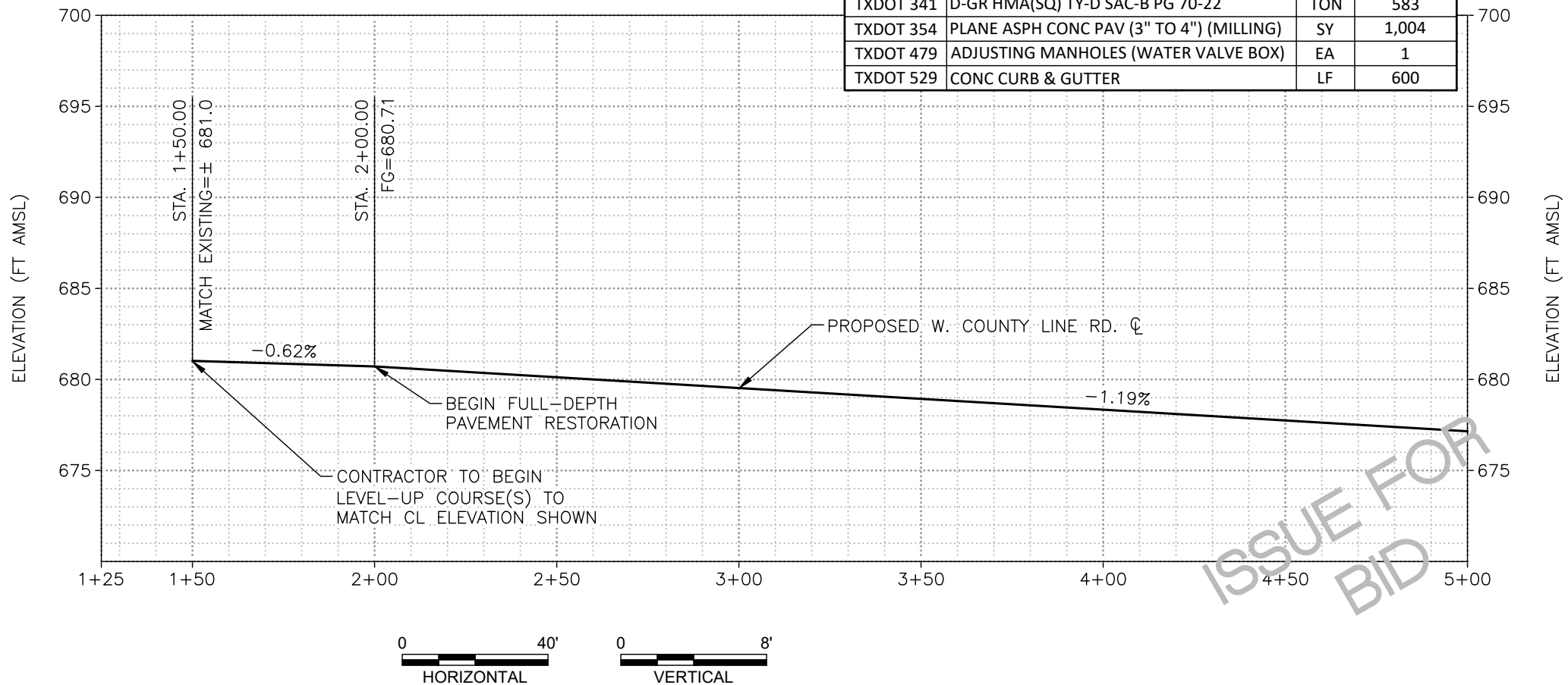
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13 OF 63

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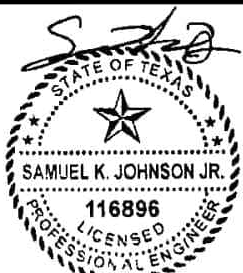
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ESTIMATED QUANTITIES			
ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 104	REMOVING CONC (CURB & GUTTER)	LF	600
TXDOT 105	REMOVING STAB BASE & ASPH PAV (12")	SY	1,927
TXDOT 247	FL BS (CMP IN PLC) (TY-A GR 1-2) (FINAL POS)	CY	468
TXDOT 340	TACK COAT	GAL	331
TXDOT 310	PRIME COAT (MC-30)	GAL	675
TXDOT 316	ASPH (AC-15P OR AC-10-2TR OR CRS-2P)	GAL	1,055
TXDOT 316	AGGR(TY-B GR-4 SAC-B)	CY	21
TXDOT 341	D-GR HMA TY-D PG 70-22 (LEVEL-UP)	TON	88
TXDOT 341	D-GR HMA(SQ) TY-D SAC-B PG 70-22	TON	583
TXDOT 354	PLANE ASPH CONC PAV (3" TO 4") (MILLING)	SY	1,004
TXDOT 479	ADJUSTING MANHOLES (WATER VALVE BOX)	EA	1
TXDOT 529	CONC CURB & GUTTER	LF	600



REV.	DATE	DESCRIPTION	BY	CHK'D
1	09/21/2022	ISSUE FOR BID	MM	SJ



9/21/22

DRAWN BY: RK	DESIGNED BY: DV	CHECKED BY: SJ	SCALE: 1" = 40'	DATE: 09/21/2022	PR. NO: 702-409-000	FILE: 702-CLR-PLAN&PROFILE_HS
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Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626.5588 (F) 830/626.3601
www.trihydro.com

Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/746.7474 (F) 307/746.7729

ROADWAY PLAN & PROFILE
STA 0+00 TO STA 5+00

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
15
15 OF 63

REV:
1

W. COUNTY LINE RD.

EXISTING WATER VALVE LOCATED IN GUTTER

RECONSTRUCT 6 SY OF SIDEWALK; INSTALL PEDESTRIAN CURB RAMP W/ CITY-APPROVED MAT (TYPE 7); RECONSTRUCT 8 LF OF CURB & GUTTER

EXISTING WATER VALVE TO BE ADJUSTED PER NBU SPECIFICATIONS

EXISTING CONCRETE DRIVEWAY

RECONSTRUCT 7 SY OF SIDEWALK; INSTALL PEDESTRIAN CURB RAMP W/ CITY APPROVED MAT (TYPE 7); RECONSTRUCT 11 LF OF CURB & GUTTER

EXISTING WATER VALVES TO BE ADJUSTED PER NBU SPECIFICATIONS

EXISTING SANITARY SEWER MH TO BE ADJUSTED PER NBU SPECIFICATIONS

RECONSTRUCT 13 SY OF SIDEWALK; INSTALL PEDESTRIAN CURB RAMP W/ CITY APPROVED MAT (TYPE 7); RECONSTRUCT 22 LF OF CURB & GUTTER

RELOCATE EXISTING MAILBOX

DO NOT BLOCK ACCESS TO EXISTING MAILBOX

EXISTING CONCRETE DRIVEWAY

EXISTING SANITARY SEWER MH TO BE ADJUSTED PER NBU SPECIFICATIONS

LIMITS OF MILL & OVERLAY

SUNGATE DR.

MATCHLINE STA 30+00

STA 31+00

STA 32+00

STA 33+00

STA 34+00

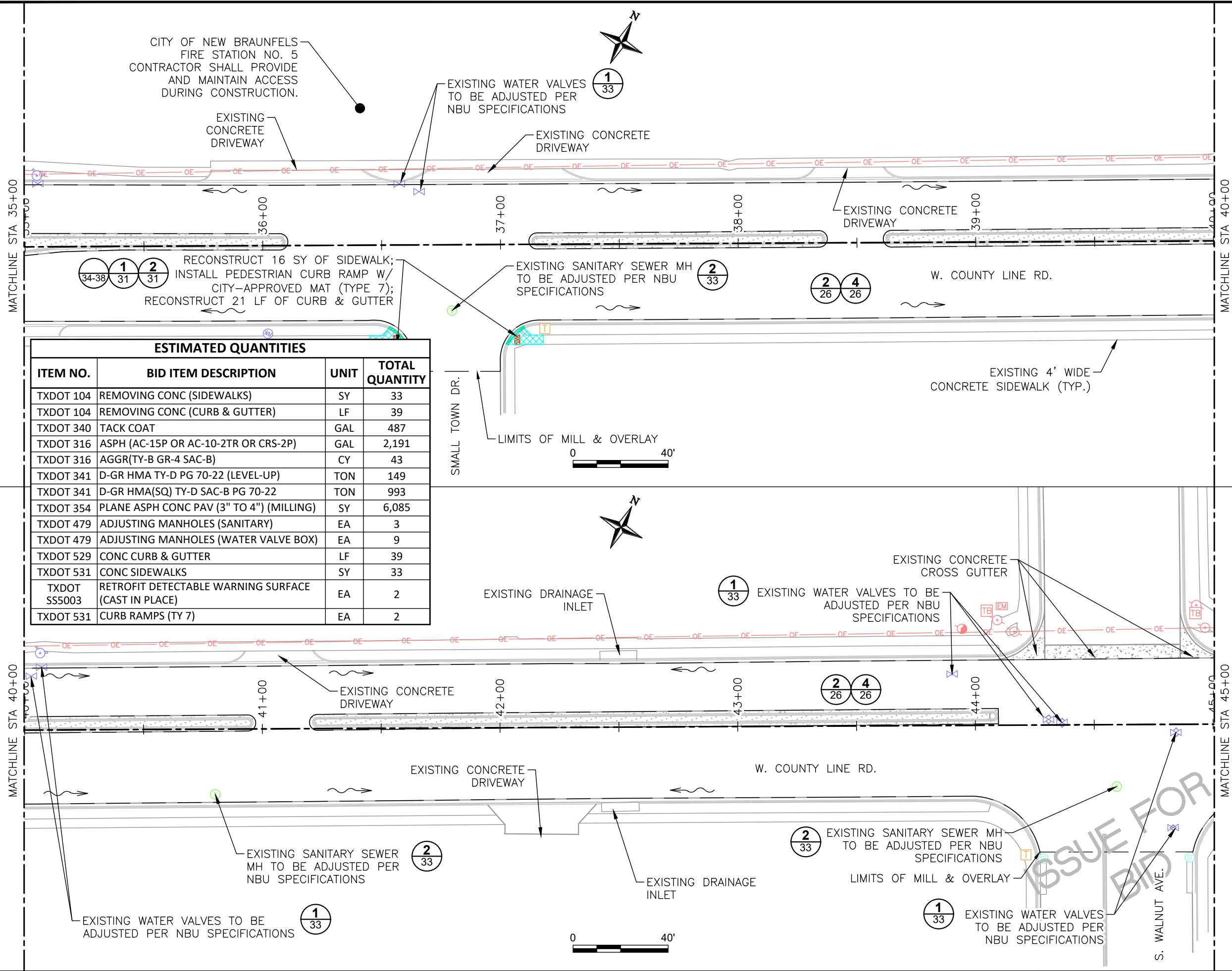
STA 35+00

TXDOT 354	PLANE ASPH CONC PAV (3" TO 4") (MILLING)	SY	4,722
TXDOT 479	ADJUSTING MANHOLES (SANITARY)	EA	4
TXDOT 479	ADJUSTING MANHOLES (WATER VALVE BOX)	EA	5
TXDOT 529	CONC CURB & GUTTER	LF	41
TXDOT 531	CONC SIDEWALKS	SY	26
TXDOT SS5003	RETROFIT DETECTABLE WARNING SURFACE (CAST IN PLACE)	EA	4
TXDOT 531	CURB RAMPS (TY 7)	EA	4
TXDOT 7053	RELOCATE EXISTING MAILBOX	EA	1

ISSUE FOR BID

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19 OF 63		

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RECONSTRUCT 16 SY OF SIDEWALK;
INSTALL PEDESTRIAN CURB RAMP W/
CITY-APPROVED MAT (TYPE 7);
RECONSTRUCT 21 LF OF CURB & GUTTER

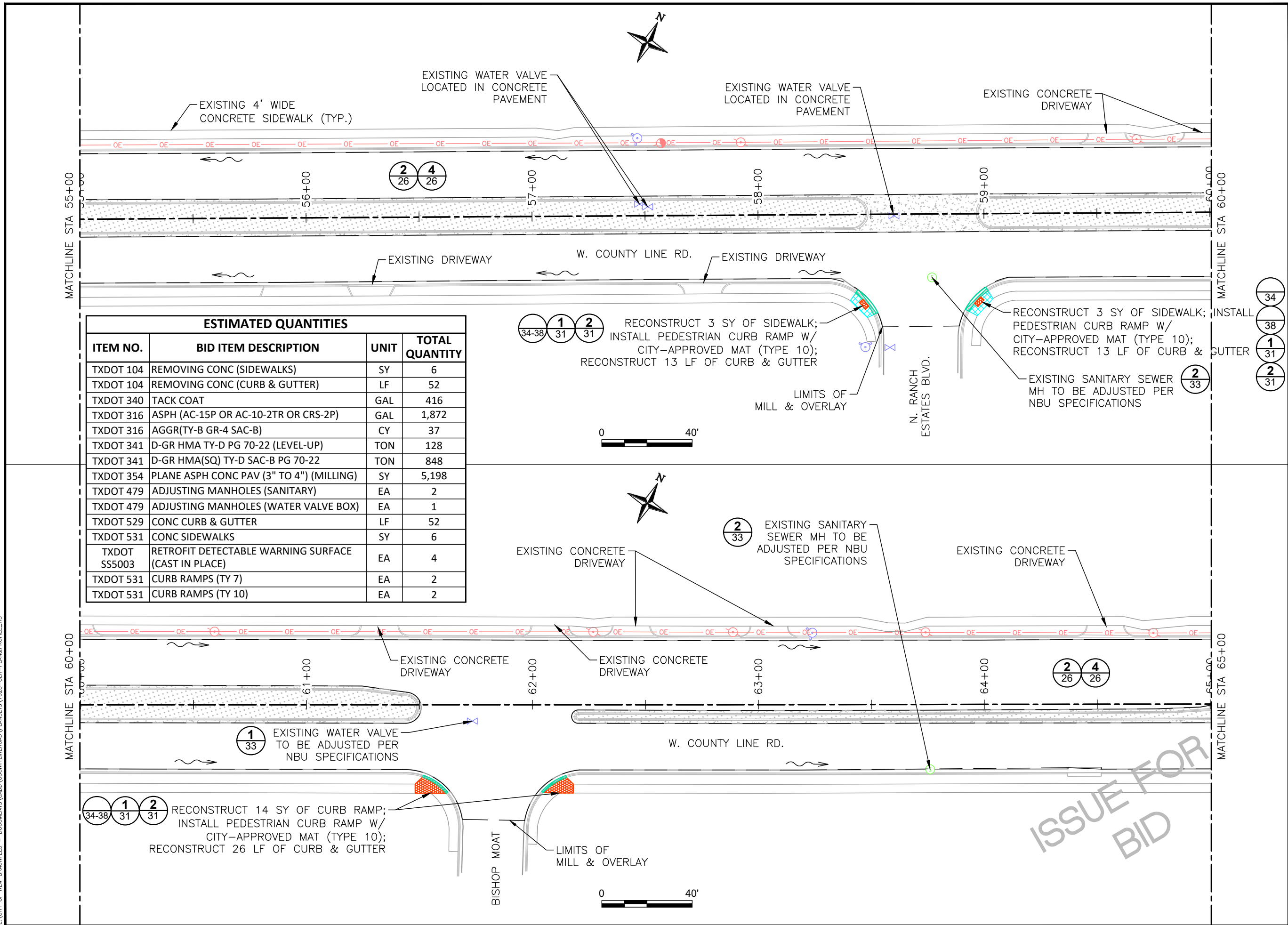
ESTIMATED QUANTITIES

ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 104	REMOVING CONC (SIDEWALKS)	SY	33
TXDOT 104	REMOVING CONC (CURB & GUTTER)	LF	39
TXDOT 340	TACK COAT	GAL	487
TXDOT 316	ASPH (AC-15P OR AC-10-2TR OR CRS-2P)	GAL	2,191
TXDOT 316	AGGR(TY-B GR-4 SAC-B)	CY	43
TXDOT 341	D-GR HMA TY-D PG 70-22 (LEVEL-UP)	TON	149
TXDOT 341	D-GR HMA(SQ) TY-D SAC-B PG 70-22	TON	993
TXDOT 354	PLANE ASPH CONC PAV (3" TO 4") (MILLING)	SY	6,085
TXDOT 479	ADJUSTING MANHOLES (SANITARY)	EA	3
TXDOT 479	ADJUSTING MANHOLES (WATER VALVE BOX)	EA	9
TXDOT 529	CONC CURB & GUTTER	LF	39
TXDOT 531	CONC SIDEWALKS	SY	33
TXDOT SS5003	RETROFIT DETECTABLE WARNING SURFACE (CAST IN PLACE)	EA	2
TXDOT 531	CURB RAMPS (TY 7)	EA	2

DRAWN BY: RK		DESIGNED BY: DV		CHECKED BY: SJ		SCALE: 1" = 40'		DATE: 09/21/2022		PR. NO: 702-409-000		FILE: 702-CLR-PLAN&PROFILE_HS	
Trihydro CORPORATION New Braunfels Branch Office Texas Engineering Firm F-131 Texas Survey Firm 10194320 1011 West County Line Road New Braunfels, Texas 78130 (P) 307746.5588 (F) 830626.3601 www.trihydro.com													
ROADWAY PLAN STA 35+00 TO STA 45+00						WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES							
SHEET 20 20 OF 63										REV: 1			

SHEET 21 21 OF 63	REV: 1
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ESTIMATED QUANTITIES			
ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 104	REMOVING CONC (SIDEWALKS)	SY	6
TXDOT 104	REMOVING CONC (CURB & GUTTER)	LF	52
TXDOT 340	TACK COAT	GAL	416
TXDOT 316	ASPH (AC-15P OR AC-10-2TR OR CRS-2P)	GAL	1,872
TXDOT 316	AGGR(TY-B GR-4 SAC-B)	CY	37
TXDOT 341	D-GR HMA TY-D PG 70-22 (LEVEL-UP)	TON	128
TXDOT 341	D-GR HMA(SQ) TY-D SAC-B PG 70-22	TON	848
TXDOT 354	PLANE ASPH CONC PAV (3" TO 4") (MILLING)	SY	5,198
TXDOT 479	ADJUSTING MANHOLES (SANITARY)	EA	2
TXDOT 479	ADJUSTING MANHOLES (WATER VALVE BOX)	EA	1
TXDOT 529	CONC CURB & GUTTER	LF	52
TXDOT 531	CONC SIDEWALKS	SY	6
TXDOT SS5003	RETROFIT DETECTABLE WARNING SURFACE (CAST IN PLACE)	EA	4
TXDOT 531	CURB RAMPS (TY 7)	EA	2
TXDOT 531	CURB RAMPS (TY 10)	EA	2

DRAWN BY: RK		DESIGNED BY: DV		CHECKED BY: SJ		SCALE: 1" = 40'		DATE: 09/21/2022		PR. NO: 702-409-000		FILE: 702-CURB-ANMPROFILE_HS	
ROADWAY PLAN		STA 55+00 TO STA 65+00		WEST COUNTY LINE ROAD MAINTENANCE		CITY OF NEW BRAUNFELS		COMAL/GUADALUPE COUNTIES		SHEET 22		REV: 1	
22		22 OF 63		1									

STATE OF TEXAS

SAMUEL K. JOHNSON JR.

116896

PROFESSIONAL ENGINEER

9/21/22

Headquarters

1252 Commerce Drive

Laramie, Wyoming 82070

(P) 307/746.7474 (F) 307/746.7729

www.trihydro.com

New Braunfels Branch Office

Texas Engineering Firm F-131

Texas Survey Firm 10194320

1011 West County Line Road

New Braunfels, Texas 78130

(P) 830/626.3588 (F) 830/626.3601

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ESTIMATED QUANTITIES			
ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 104	REMOVING CONC (SIDEWALKS)	SY	28
TXDOT 104	REMOVING CONC (CURB & GUTTER)	LF	42
TXDOT 340	TACK COAT	GAL	424
TXDOT 316	ASPH (AC-15P OR AC-10-2TR OR CRS-2P)	GAL	1,906
TXDOT 316	AGGR(TY-B GR-4 SAC-B)	CY	37
TXDOT 341	D-GR HMA TY-D PG 70-22 (LEVEL-UP)	TON	130
TXDOT 341	D-GR HMA(SQ) TY-D SAC-B PG 70-22	TON	864
TXDOT 354	PLANE ASPH CONC PAV (3" TO 4") (MILLING)	SY	5,294
TXDOT 479	ADJUSTING MANHOLES (SANITARY)	EA	4
TXDOT 479	ADJUSTING MANHOLES (WATER VALVE BOX)	EA	3
TXDOT 529	CONC CURB & GUTTER	LF	42
TXDOT 531	CONC SIDEWALKS	SY	28
TXDOT SS5003	RETROFIT DETECTABLE WARNING SURFACE (CAST IN PLACE)	EA	4
TXDOT 531	CURB RAMPS (TY 10)	EA	4



9/21/22

DRAWN BY: RK

DESIGNED BY: DV

CHECKED BY: SJ

SCALE: 1" = 40'

DATE: 09/21/2022

PR. NO: 702-409-001

FILE: 7025-CLR-PLAN&PROFILE_1



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Laramie, Wyoming 82070
(P) 307/475-7474 (F) 307/475-7729
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New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626-3568 (F) 830/626-3601

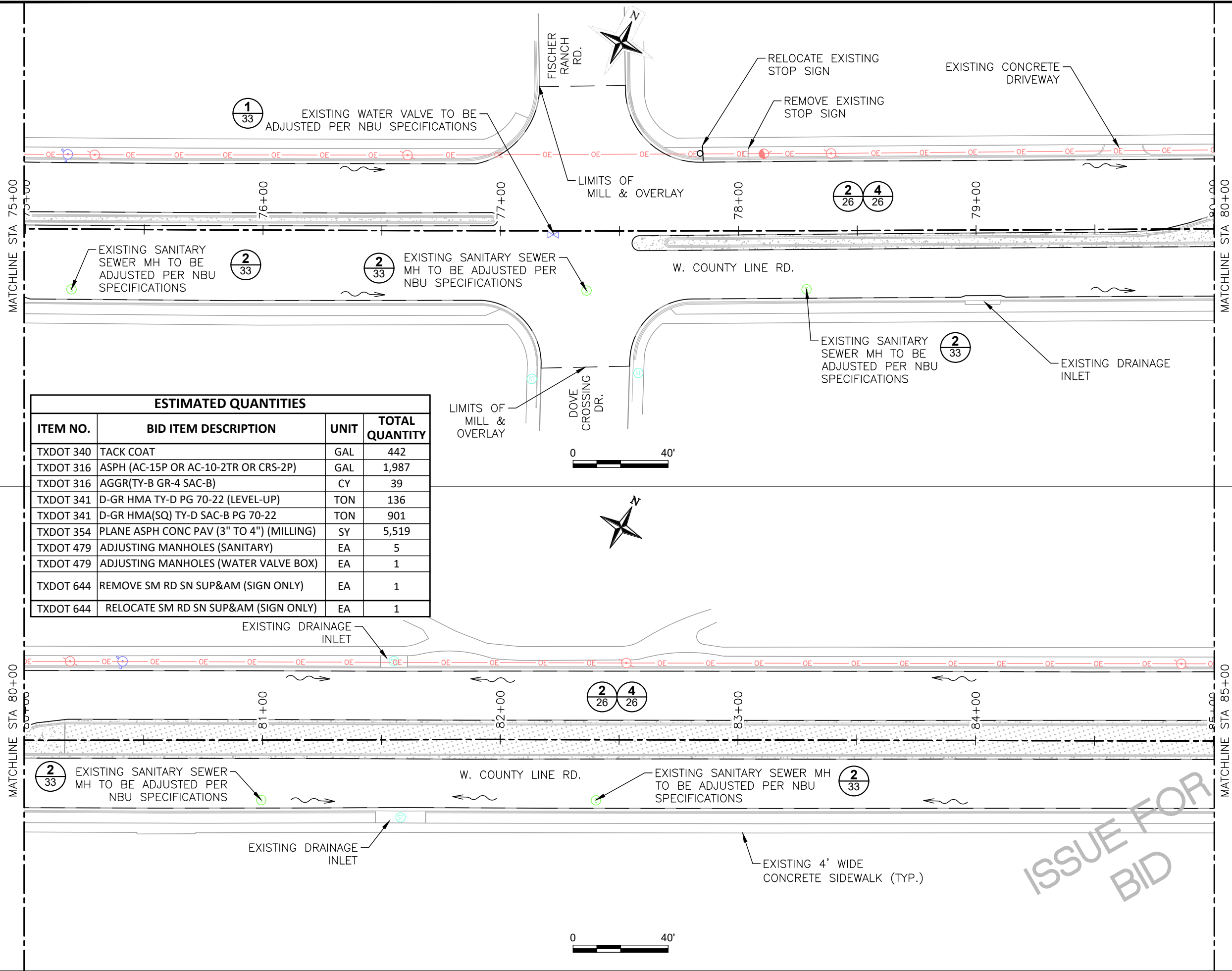
ROADWAY PLAN
STA 65+00 TO STA 75+00

**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**

SHEET
23
23 OF 63

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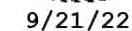


ESTIMATED QUANTITIES			
ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 340	TACK COAT	GAL	442
TXDOT 316	ASPH (AC-15P OR AC-10-2TR OR CRS-2P)	GAL	1,987
TXDOT 316	AGGR(TY-B GR-4 SAC-B)	CY	39
TXDOT 341	D-GR HMA TY-D PG 70-22 (LEVEL-UP)	TON	136
TXDOT 341	D-GR HMA(SQ) TY-D SAC-B PG 70-22	TON	901
TXDOT 354	PLANE ASPH CONC PAV (3" TO 4") (MILLING)	SY	5,519
TXDOT 479	ADJUSTING MANHOLES (SANITARY)	EA	5
TXDOT 479	ADJUSTING MANHOLES (WATER VALVE BOX)	EA	1
TXDOT 644	REMOVE SM RD SN SUP&AM (SIGN ONLY)	EA	1
TXDOT 644	RELOCATE SM RD SN SUP&AM (SIGN ONLY)	EA	1

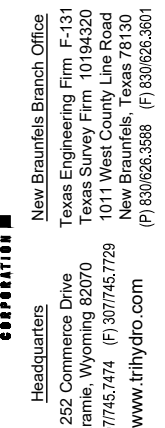
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Headquarters 1252 Commerce Drive Laramie, Wyoming 82070 (P) 307.746.7474 (F) 307.746.7729													
ROADWAY PLAN STA 75+00 TO STA 85+00						WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES							
SHEET 24 24 OF 63						REV: 1							



4 MILL & OVERLAY PROPOSED SECTION - RAISED MEDIAN
SCALE: NONE

[illegible]

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: AS SHOWN
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 705C-CLIP-DETAILS



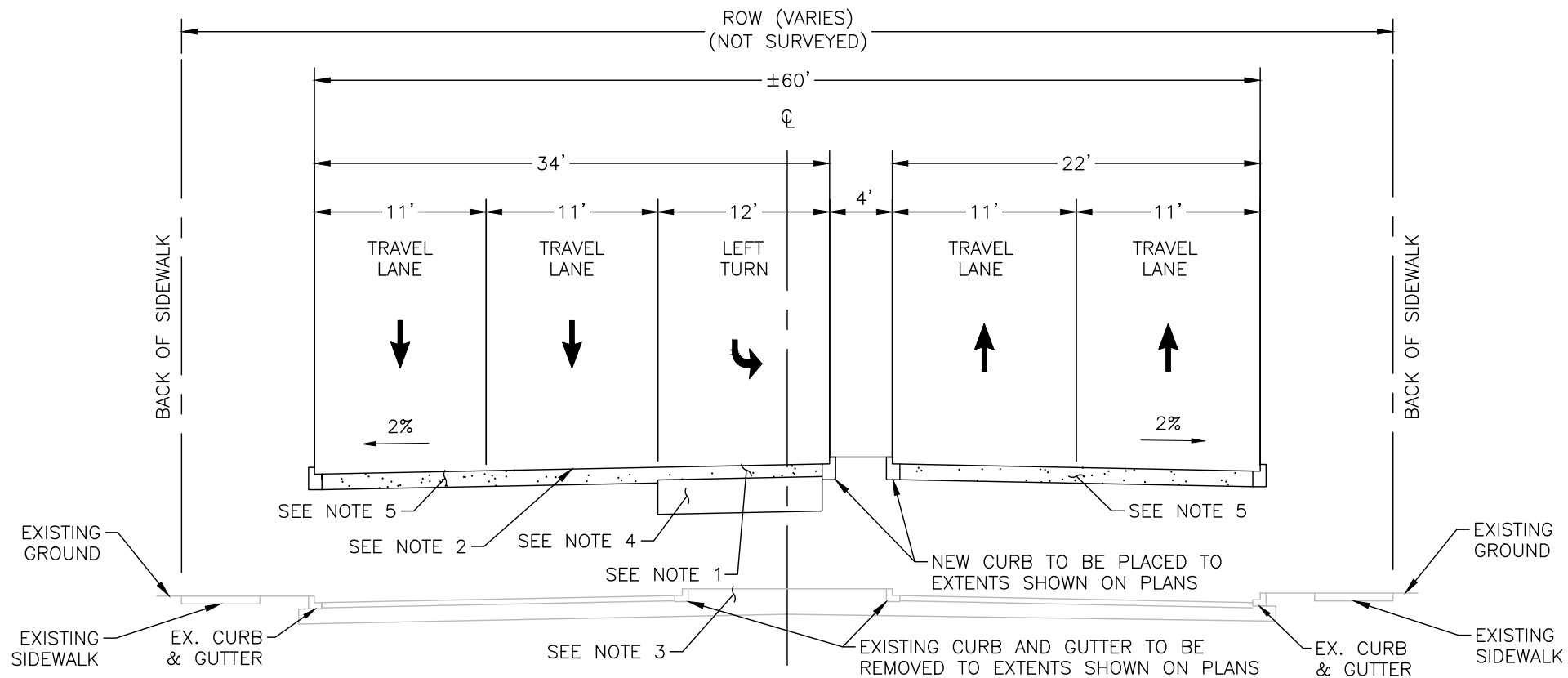
**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**

SHEET
26
26 OF 63

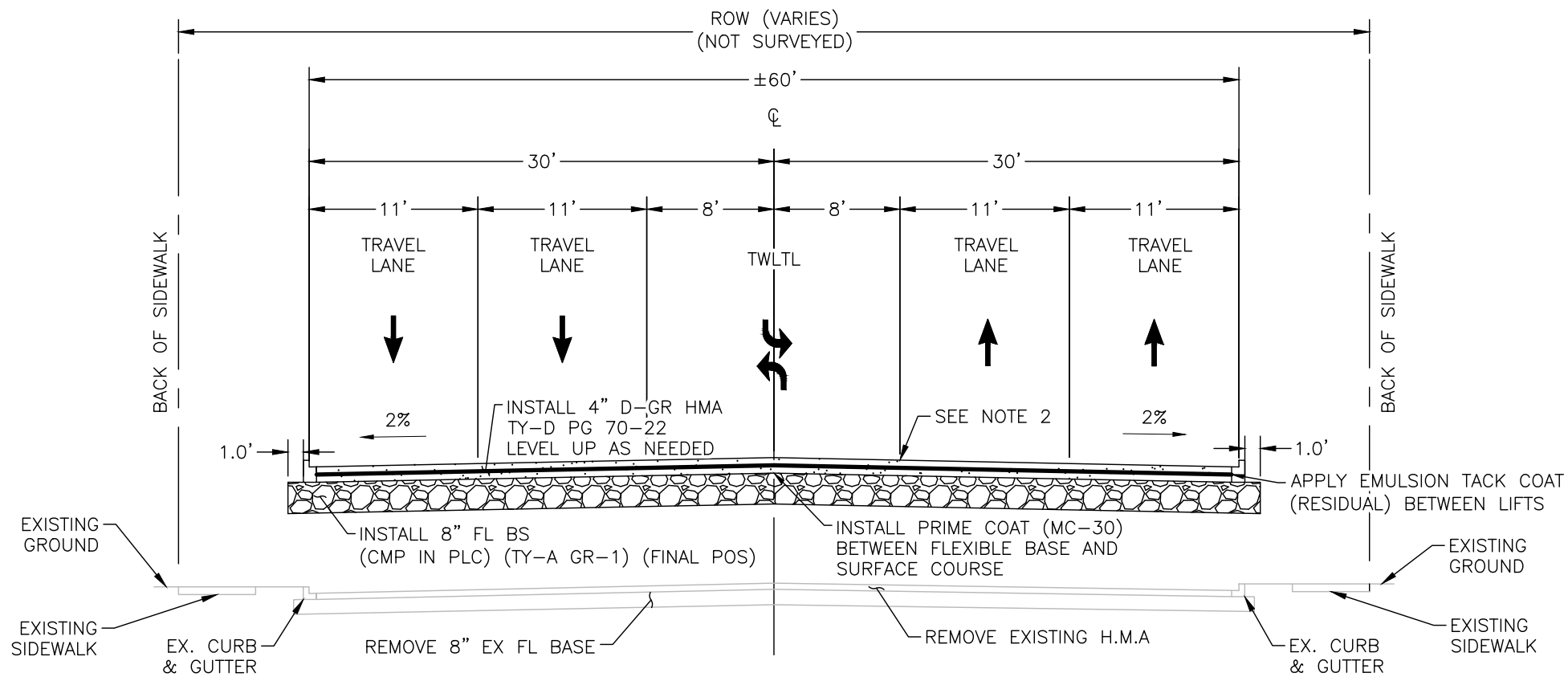
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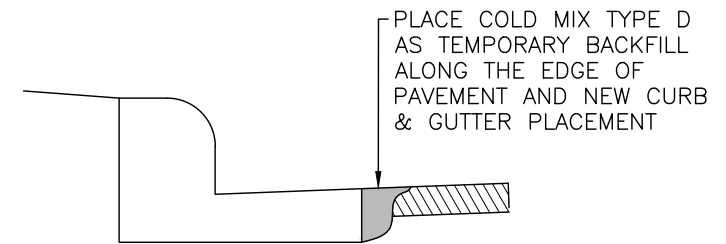
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1 NEW LEFT TURN LANE TYPICAL SECTION - STA. 19+02 TO STA. 21+25 & STA. 87+84 TO STA. 90+16
SCALE: NONE



2 FULL DEPTH PAVEMENT RESTORATION TYPICAL SECTION - STA. 2+00 TO STA. 10+56
SCALE: NONE

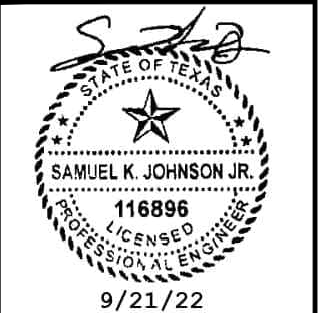


3 NEW CURB AND GUTTER COLD MIX TREATMENT
SCALE: NONE

NOTES:

1. PAVE 2" D-GR HMA TY-D PG 70-22; LEVEL UP AS NEEDED; APPLY EMULSION TACK COAT (RESIDUAL) BETWEEN LIFTS.
2. APPLY SEAL COAT, ASPH (AC-15P OR AC-10-2TR OR CRS-2P) AND AGGR (TY-B GR-4 SAC-B), ON TOP OF SURFACE COURSE.
3. EXCAVATE 10" EXISTING MEDIAN.
4. PAVE 8" D-GR HMA TY-B PG 64-22.
5. 3" MILL AND OVERLAY; LEVEL UP AS NEEDED; OVERLAY WITH 3" D-GR HMA TY-D PG 70-22 APPLY EMULSION TACK COAT (RESIDUAL) BETWEEN LIFTS
6. THE MILL AND OVERLAY WORK PERFORMED ON THIS PROJECT WILL CORRECT EXISTING ROAD DEFICIENCIES IN THE TYPICAL ROADWAY SECTION.
7. CONTRACTOR SHALL IMPROVE THE RIDE QUALITY OF THE ROADWAY USING A COMBINATION OF MILLING AND LEVEL-UP.

REV.	DATE	DESCRIPTION	BY	CHK'D
1	09/21/2022	ISSUE FOR BID	MM	SJ



DRAWN BY: RK	DESIGNED BY: DV	CHECKED BY: SJ	SCALE: AS SHOWN	DATE: 09/21/2022	PR. NO: 702-409-000	FILE: 7025-CLR-DETAILS
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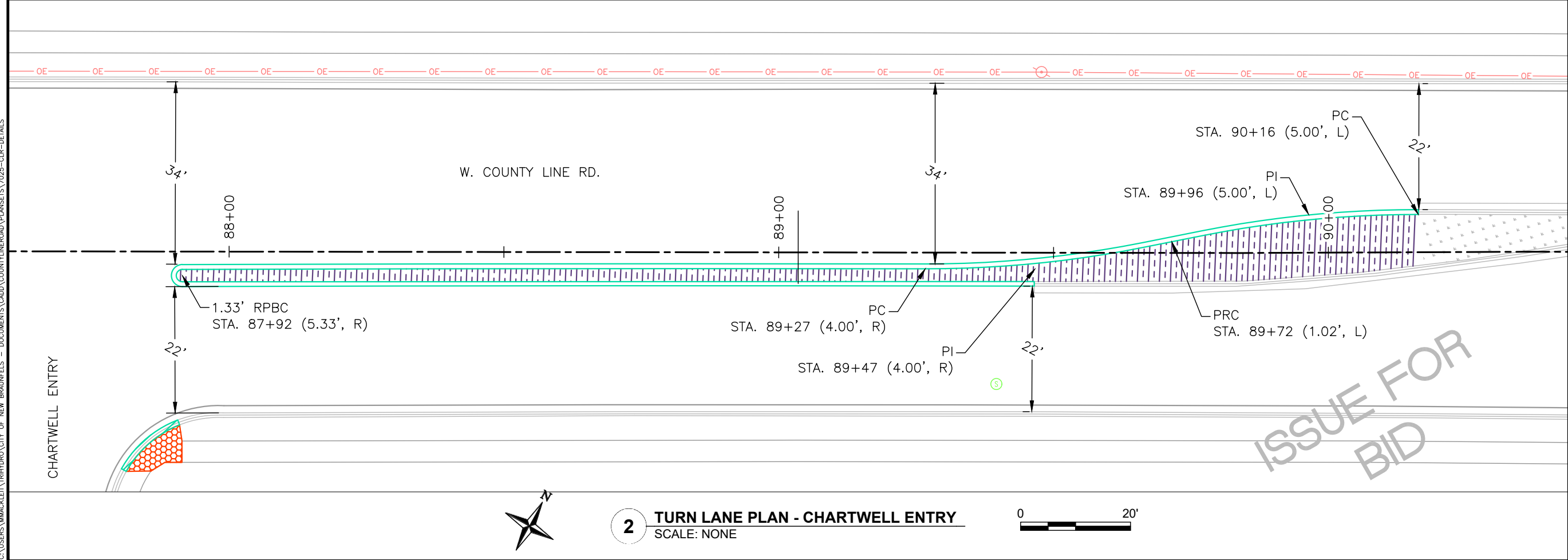
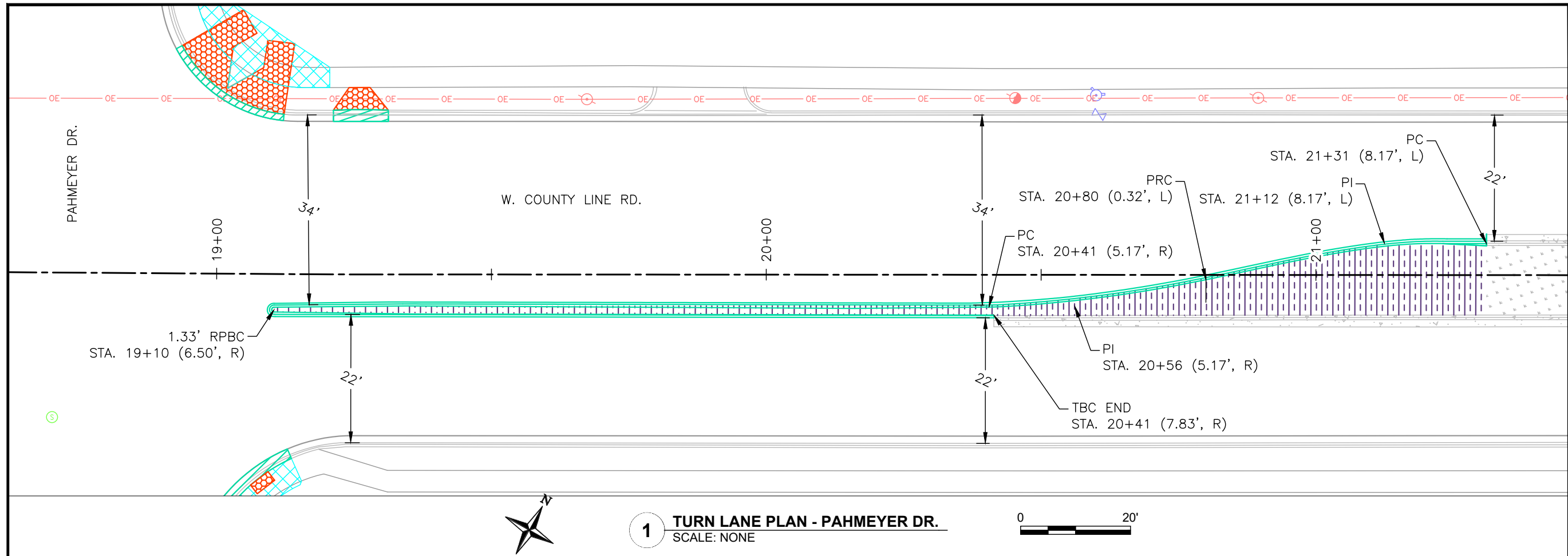
Trihydro
CORPORATION
New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
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(P) 830.626.3588 (F) 830.626.3601
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TYPICAL ROADWAY SECTIONS
(2 OF 2)

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET 27 27 OF 63	REV: 1
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REVISIONS		DATE	DESCRIPTION	BY	CHK'D
1	REV.	09/21/2022	ISSUE FOR BID	MM	SJ



DRAWN BY: RK	DESIGNED BY: DV
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New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601

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Laramie, Wyoming 82070
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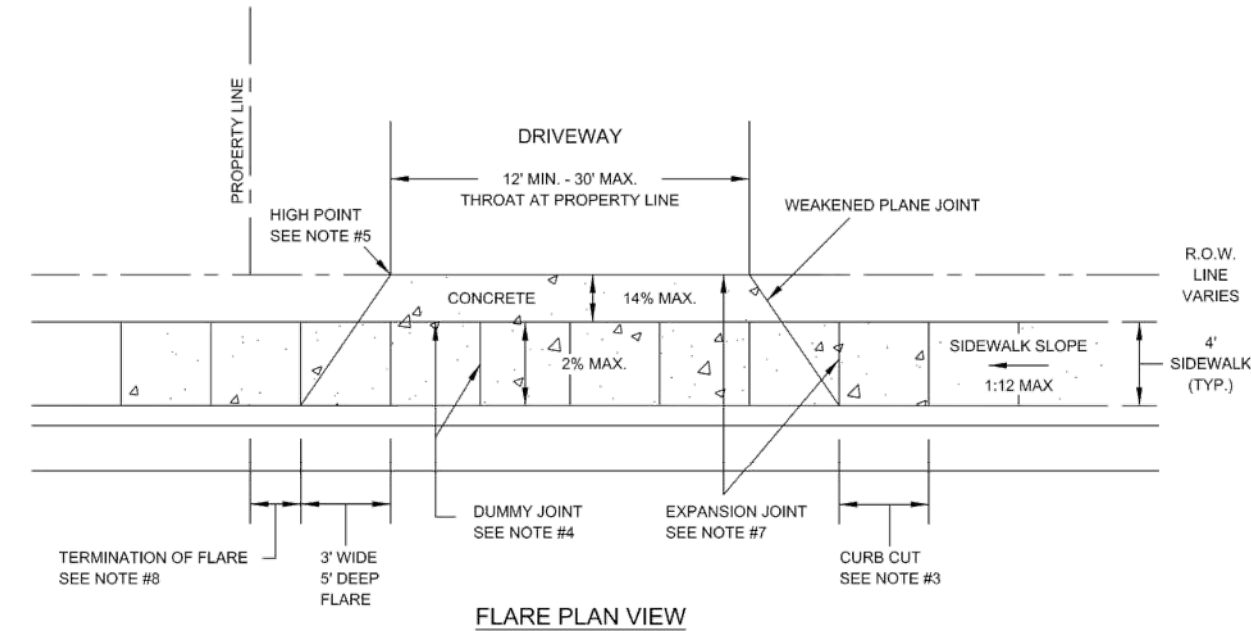
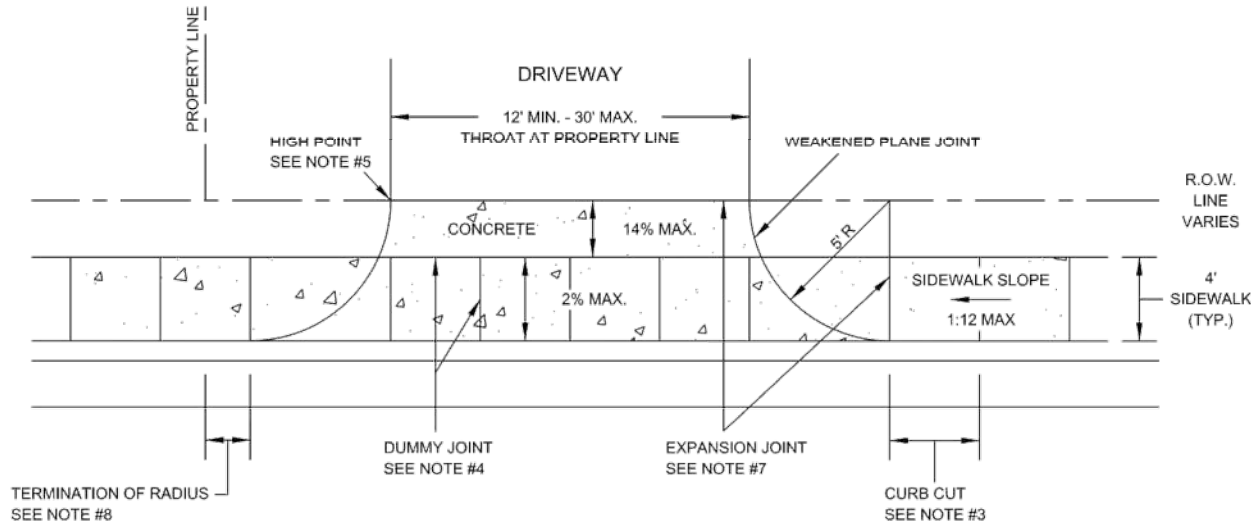
LEFT TURN LANE PLAN
LAYOUTS

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
28
28 OF 63

REV:
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DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)



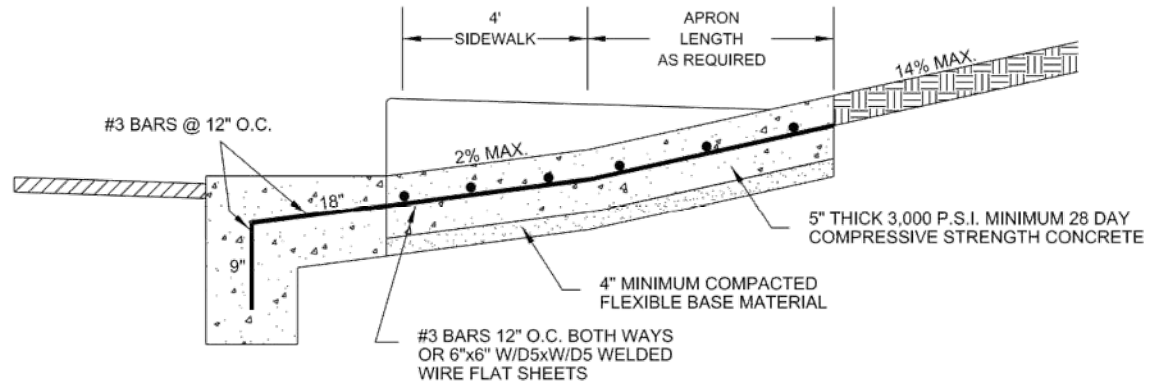
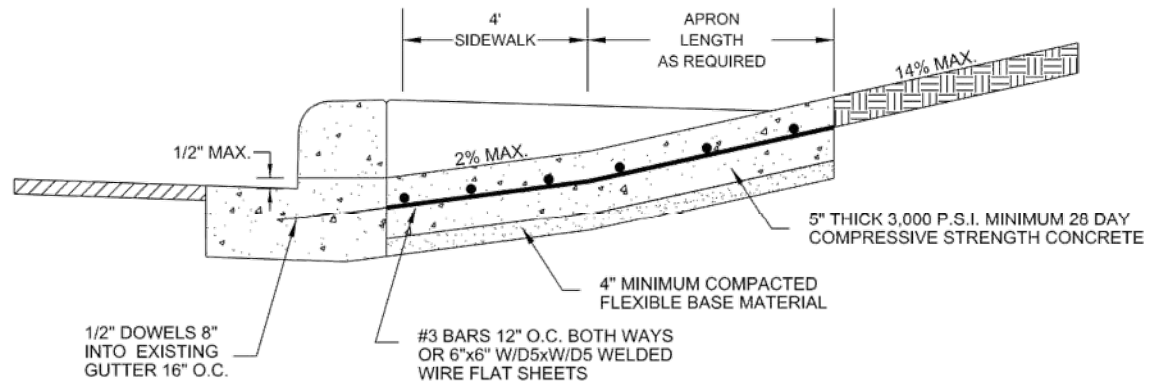
DATE APPROVED: 04/2016 DWG. NO: ST-014.1 SCALE: N.T.S.
DRAWN BY: RAS SHEET: 1 OF 2
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)



ENGINEERING
DEPARTMENT

1 DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY) 1 OF 2
SCALE: NONE

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)



NOTES:

- WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 6" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
- PLACEMENT OF SIDEWALK SHOWN IS TYPICAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED PROVIDED CROSS SLOPE OF SIDEWALK IS NO GREATER THAN 2%.
- CURB CUT LENGTH NO GREATER THAN AS REQUIRED TO MATCH SLOPE OF ADJACENT SIDEWALK.
- DUMMY JOINTS TO BE PROVIDED AT MINIMUM 4-FT. INTERVALS PERPENDICULAR TO THE CURB LINE WITHIN THE SIDEWALK AREA AND PARALLEL TO THE SIDEWALK AREA.
- PROVIDE A MINIMUM 7" HIGH POINT. HIGH POINT HEIGHT SHALL BE MEASURED FROM THE GUTTER FLOW LINE TO THE DRIVEWAY APRON. NOTE HIGH POINT MAY OCCUR OUTSIDE OF ROW.
- DRIVEWAY THROAT TRANSITION MAY OCCUR OUTSIDE OF ROW.
- PROVIDE EXPANSION JOINTS AT ALL SIDEWALK AND DRIVEWAY THROAT JOINTS. EXPANSION JOINTS SHALL BE PLACED USING 1/2" ASPHALTIC MATERIAL WITH 1/2" DOWELS 16" O.C.
- THE TANGENT POINT OF THE DRIVEWAY CURB RETURN AT THE PUBLIC ROADWAY LINE OR FLARE SHALL BE A MINIMUM DISTANCE OF 1' OFF THE PROPERTY PROJECTED PERPENDICULAR TO THE STREET CENTERLINE, EXCEPT SINGLE FAMILY OR ZERO LOT LINE LOTS. ON SINGLE FAMILY ZERO LOT LINE LOTS WHERE THE DRIVE IS ON THE ZERO LOT LINE, THE TANGENT POINT OR FLARE SHALL BE NO GREATER THAN 3' BEYOND THE ADJOINING PROPERTY LINE PROJECTED PERPENDICULAR TO THE STREET CENTERLINE.

DATE APPROVED: 04/2016 DWG. NO: ST-014.2 SCALE: N.T.S.
DRAWN BY: RAS SHEET: 2 OF 2
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)



ENGINEERING
DEPARTMENT

2 DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY) 2 OF 2
SCALE: NONE

REV.	DATE	DESCRIPTION	BY	CHK'D
1	09/21/2022	ISSUE FOR BID	MM	SJ



DRAWN BY: RK	DESIGNED BY: DV	CHECKED BY: SJ	SCALE: NONE	DATE: 09/21/2022	PR. NO: 702-409-000	FILE: 702-CLR-DETAILS
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CORPORATION

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
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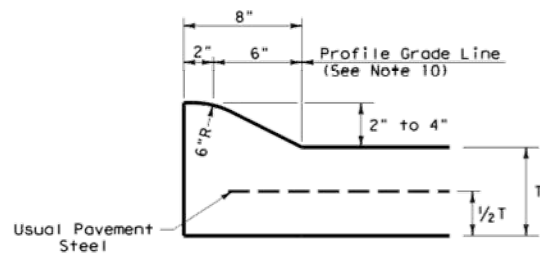
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Laramie, Wyoming 82070
(P) 307.745.7474 (F) 307.745.7729

DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY) DETAIL	WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES
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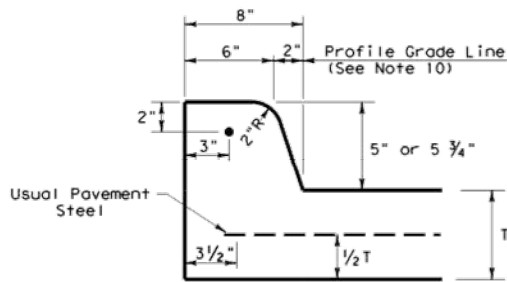
SHEET 29 29 OF 63	REV: 1
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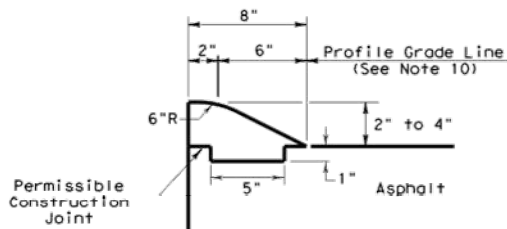
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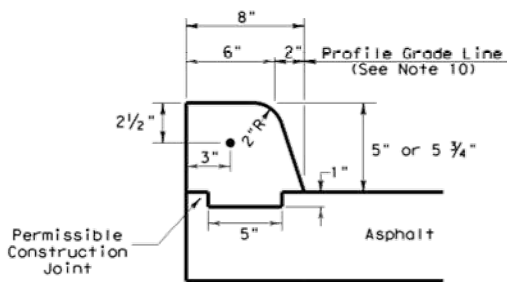
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2" - 4" HEIGHT



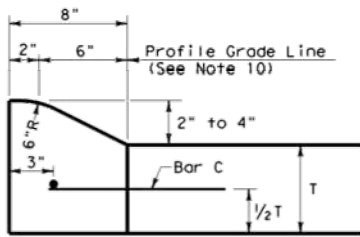
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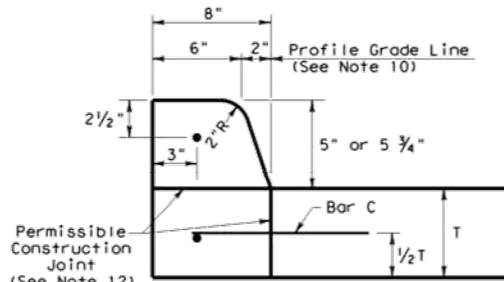
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2" - 4" HEIGHT



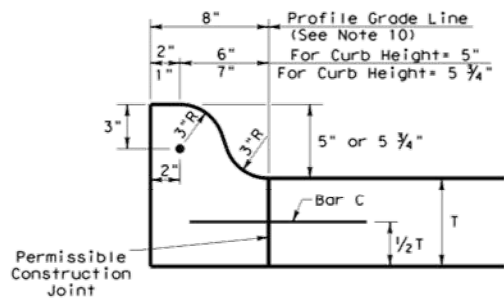
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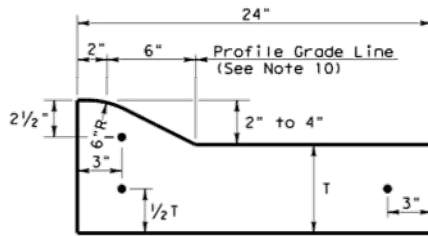
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2" - 4" HEIGHT



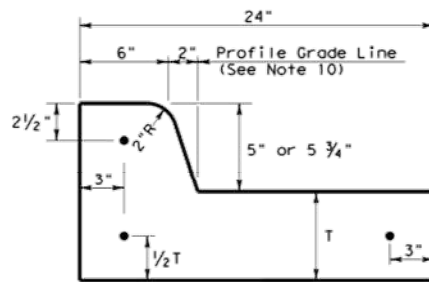
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5" - 5 3/4" HEIGHT



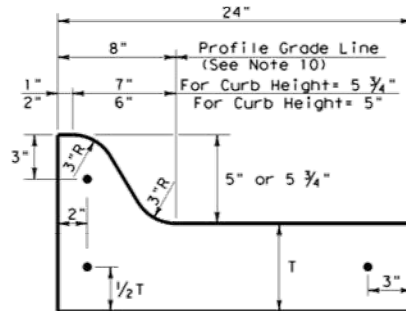
TYPE IIa CURB
5" - 5 3/4" HEIGHT



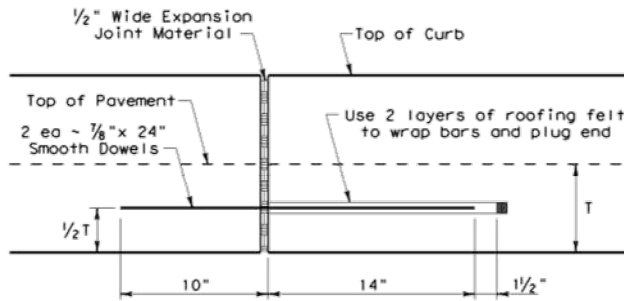
TYPE I CURB AND GUTTER
2" - 4" HEIGHT



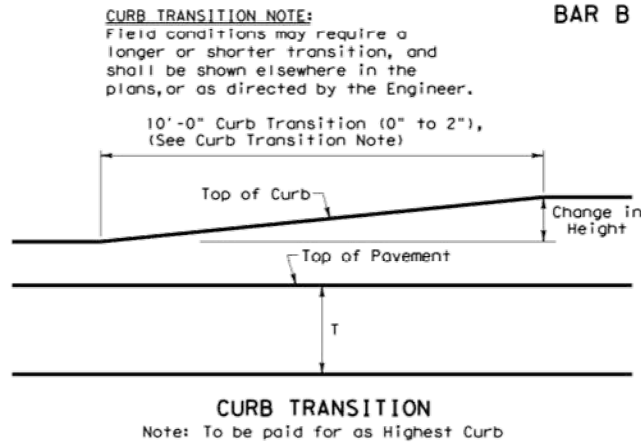
TYPE II CURB AND GUTTER
5" - 5 3/4" HEIGHT



TYPE IIa CURB AND GUTTER
5" - 5 3/4" HEIGHT



EXPANSION JOINT DETAIL

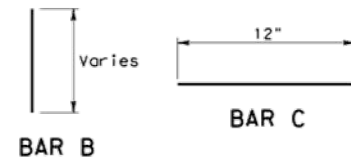


CURB TRANSITION

Note: To be paid for as Highest Curb

GENERAL NOTES

- All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
- Concrete shall be Class A.
- When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of fiber reinforced concrete in lieu of reinforcing steel is acceptable. Use fibers meeting the requirements of DMS 4550, "Fibers for Concrete," and dose fibers in accordance with Material Producers List (MPL) "Fibers for Class A and B Concrete Applications."
- Round exposed sharp edges with a rounding tool, to a minimum radius of 1/4 inch.
- All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
- Where concrete curb is to be placed on existing concrete pavement, Bar B may be drilled and the grouted in place, or may be inserted into fresh concrete.
- Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
- Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C-C.
- Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
- Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
- One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
- When horizontal permissible construction joints are used, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans. Reinforcing steel for curb section shall then conform to that required for concrete curb.
- Bar B used as needed to support curb reinforcing steel during concrete placement.



CURB TRANSITION NOTE:

Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.

Texas Department of Transportation		Design Division Standard	
CONCRETE CURB AND CURB AND GUTTER			
CCCC-21			
FILE: CCCC-21	DATE: FEBRUARY 2021	REV: 1	REVISIONS
DESIGNED BY: DV	CHECKED BY: SJ	SCALE: NONE	DATE: 09/21/2022
PR. NO: 702-409-000		FILE: 702-CLR-DETAILS	



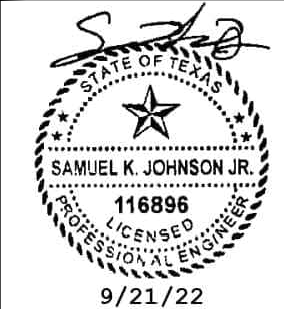
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Texas Survey Firm 10194320
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CONCRETE CURB AND CURB AND GUTTER DETAIL

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
30
30 OF 63

REV:
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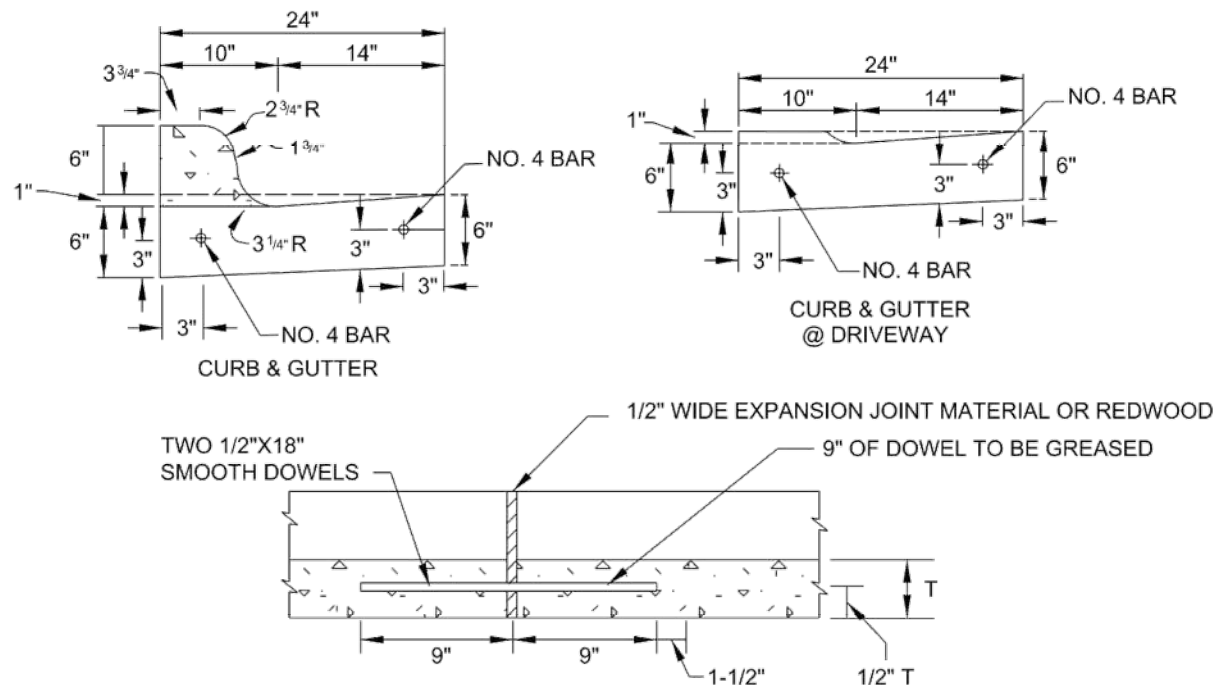


DRAWN BY: RK
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SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 702-CLR-DETAILS

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CURB AND GUTTER



LONGITUDINAL SECTION THRU CURB AND GUTTER
SHOWING TYPICAL EXPANSION JOINT DETAILS.
REINFORCING STEEL SHALL NOT CROSS EXPANSION JOINTS.
STEEL SHALL BE TERMINATED 3" (+ OR -) 1" FROM FACE OF THE JOINT.

NOTES:

1. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 18".
2. CURB AND GUTTER SHALL HAVE FORMED TOOLED OR SAWED CONTRACTION JOINTS AT $\pm 10'$. THE DEPTH OF THESE JOINTS SHALL BE SUFFICIENT TO ENSURE CRACKING AT THE JOINTS.
3. CURB OR CURB AND GUTTER SHALL HAVE EXPANSION JOINTS AT POINTS OF CURVATURE, AT INTERVALS NO GREATER THAN 100' AND AT ALL ADJACENT STRUCTURES.
4. UNLESS OTHERWISE SHOWN, TRANSITIONS BETWEEN CURBS OR CURBS AND GUTTER OF DIFFERING CROSS SECTION SHALL BE ACCOMPLISHED OVER A 10' LENGTH OR AS APPROVED BY THE CITY ENGINEER.
5. ALL CONCRETE TO BE CLASS "A" 3000 PSI CONCRETE.
6. ALL EXPOSED CONCRETE SURFACES TO BE BRUSHED SMOOTH AND UNIFORM.

DATE APPROVED: 07/2008

DWG. NO: ST-013

SCALE: N.T.S.

DRAWN BY: RAS

SHEET: 1 OF 1

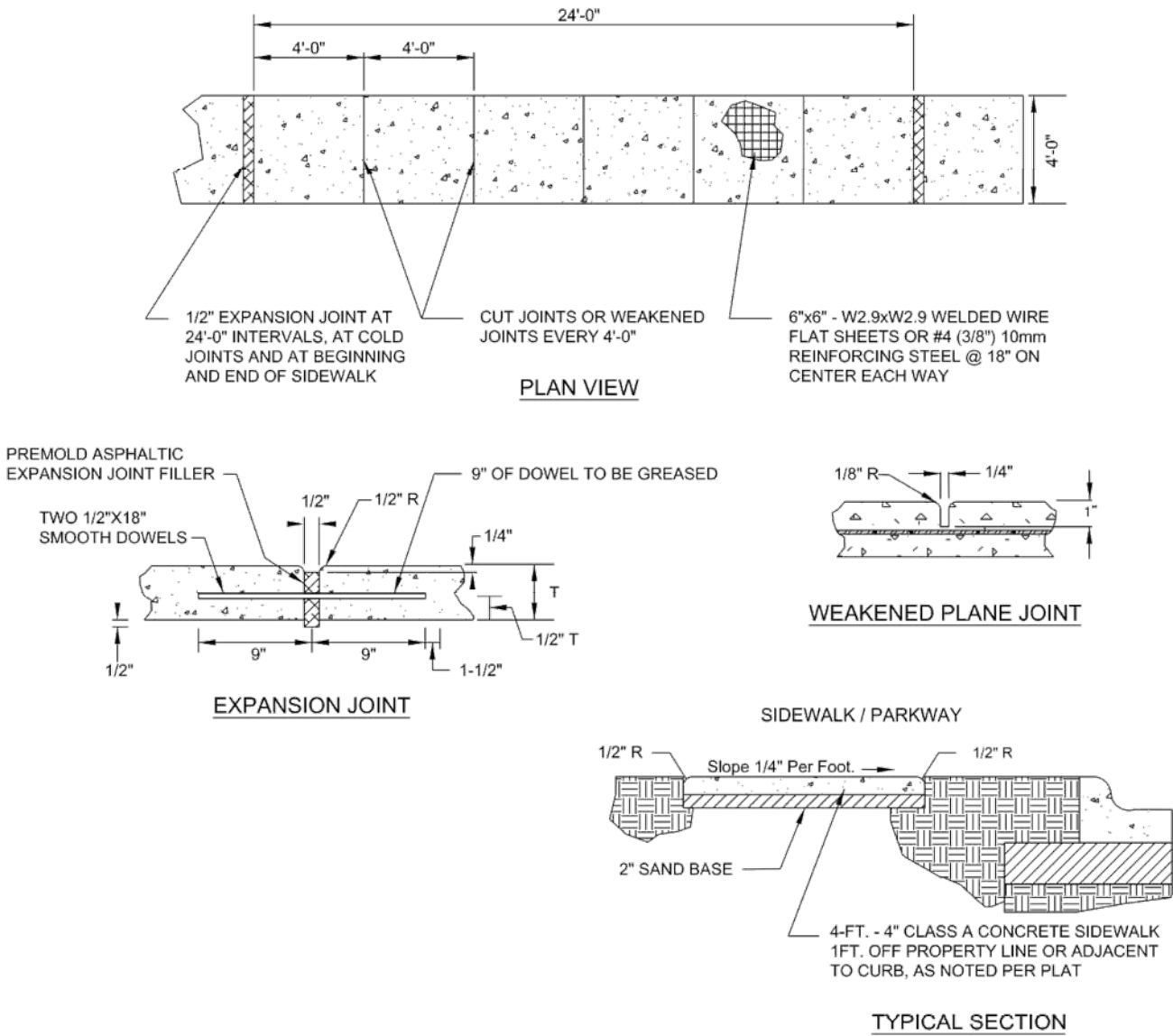
FILENAME: CURB & GUTTER



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1 CURB AND GUTTER
SCALE: NONE

SIDEWALK (RESIDENTIAL)



NOTES:

1. EXPANSION JOINTS ARE TO BE USED BETWEEN CONCRETE DRIVEWAY AND SIDEWALK.
2. SCORED JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY AND ARE TO BE PLACED AT LEAST 1/3 rd. THROUGH THE SLAB THICKNESS.
3. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 07/2008

DWG. NO: ST-016

SCALE: N.T.S.

DRAWN BY: RAS

SHEET: 1 OF 1

FILENAME: SIDEWALK (RESIDENTIAL)



ENGINEERING
DEPARTMENT

2 SIDEWALK (RESIDENTIAL)
SCALE: NONE



9/21/22

DRAWN BY: RK

DESIGNED BY: DV

CHECKED BY: SJ

SCALE: NONE

DATE: 09/21/2022

PR. NO: 702-409-000

FILE: 702-CLR-DETAILS



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Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
www.trihydro.com

Headquarters

1252 Commerce Drive

Laramie, Wyoming 82070

(P) 307.746.7474 (F) 307.746.7729

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CURB & GUTTER AND
SIDEWALK (RESIDENTIAL)
DETAILS

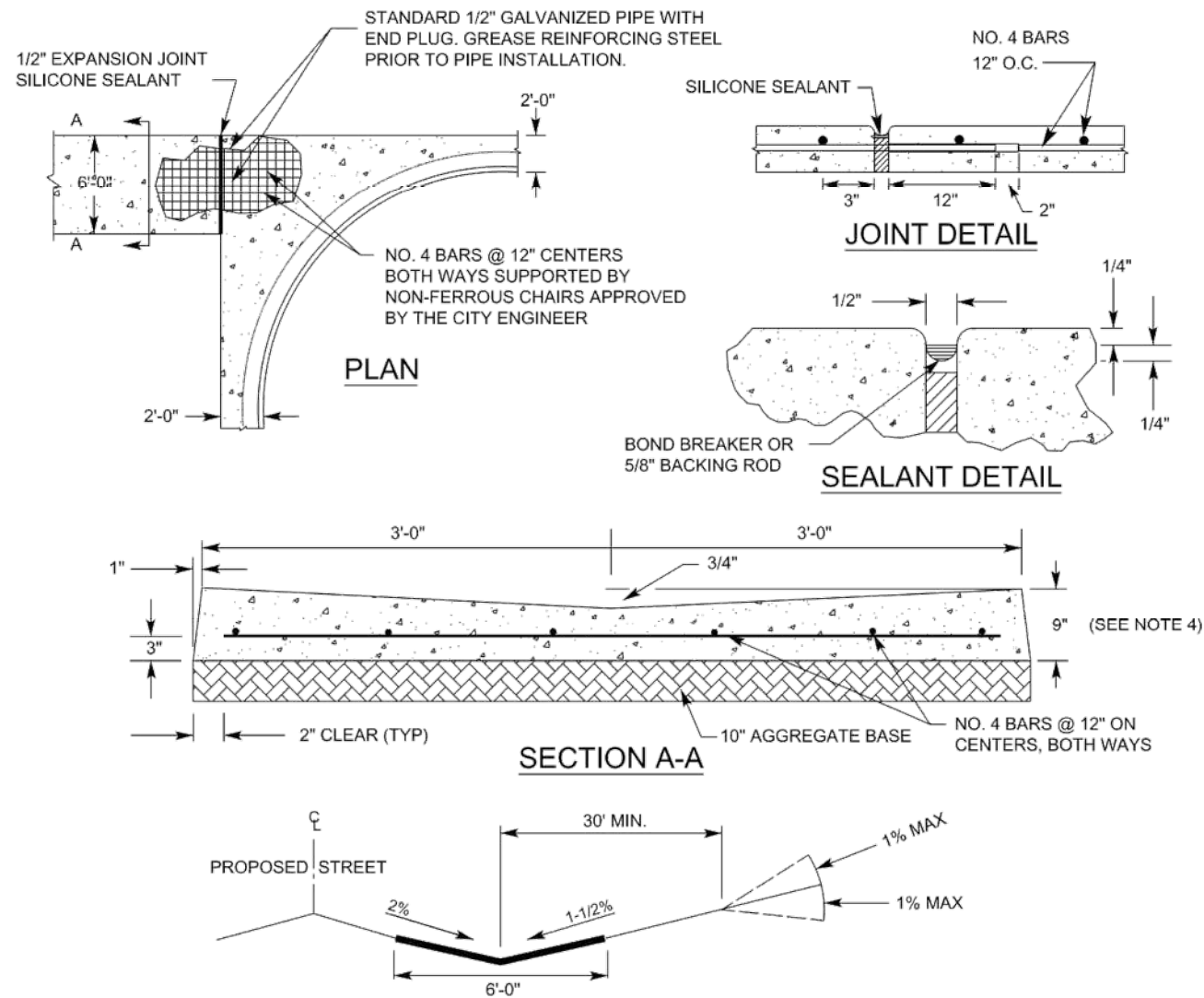
WEST COUNTY LINE ROAD MAINTENANCE
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SHEET
31
31 OF 63

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CROSS GUTTER



TYPICAL PROFILE AT LOCAL RESIDENTIAL STREET INTERSECTION

NOTES:

1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI.
2. FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH CROSS GUTTER LIP.
3. CONSTRUCTION OF CROSS GUTTER IS NOT ALLOWED ACROSS MAJOR COLLECTOR OR ARTERIAL STREETS.
4. ADJACENT SPANDREL SHALL BE 9" THICK CLASS "A" 3,000 PSI CONCRETE.

DATE APPROVED: 07/2008 DWG. NO: ST-020 SCALE: N.T.S.

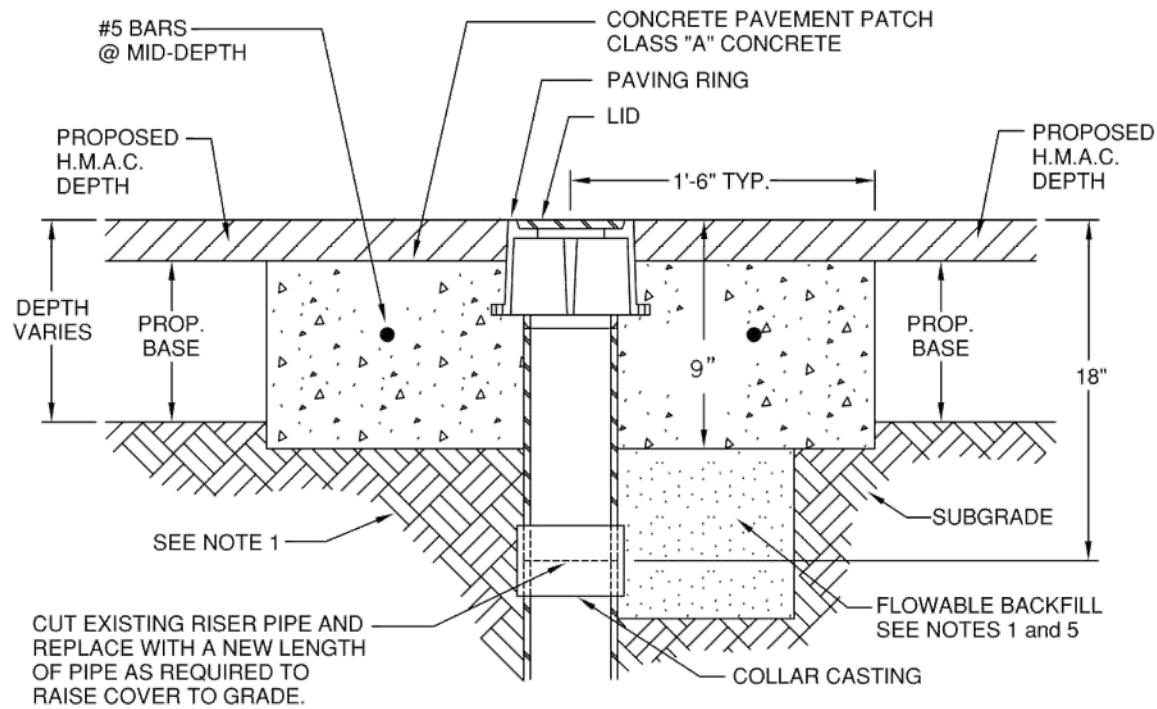
DRAWN BY: RAS SHEET: 1 OF 1

FILENAME: CROSS GUTTER



ENGINEERING
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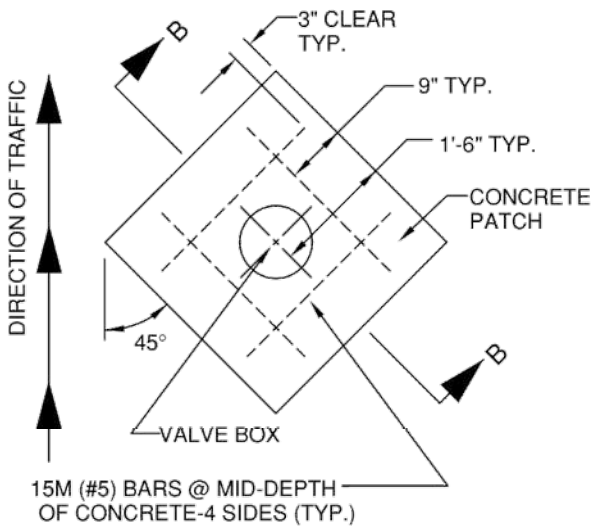
1 CROSS GUTTER
SCALE: NONE



SECTION B-B

NOTES:

1. SUBGRADE SHALL BE COMPACTED AS PER SPECIFICATIONS.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE BASE OF THE VALVE.
4. REMOVE EXISTING RISER PIPE DOWN 18" AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A COLLAR CASTING.
5. WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
6. REINFORCING STEEL SHALL MEET SPECIFICATIONS.



PLAN VIEW



DRAWN BY: JD Amaro
APPROVED BY:

STANDARD DRAWING:

WATER VALVE BOX ADJUSTMENT TO GRADE
WITH CONCRETE AND HMA FOR NEW STREETS

UPDATED: 4-10-03

SCALE: N.T.S.

SHEET: 1 OF 1

DRAWING NO: 233

2 WATER VALVE BOX ADJUSTMENT TO GRADE WITH CONCRETE AND HMA FOR NEW STREETS
SCALE: NONE

REV.	DATE	DESCRIPTION	BY	CHK'D
1	09/21/2022	ISSUE FOR BID	MM	SJ



DRAWN BY: RK	DESIGNED BY: DV	CHECKED BY: SJ	SCALE: NONE	DATE: 09/21/2022	PR. NO: 702-409-000	FILE: 702-CLR-DETAILS
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1011 West County Line Road
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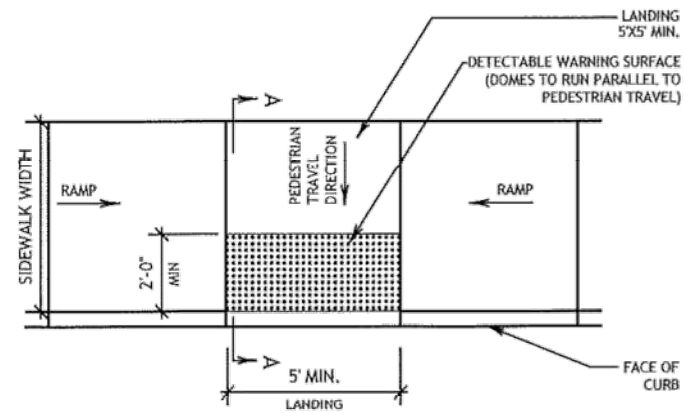
CROSS GUTTER AND
WATER VALVE BOX ADJUSTMENT TO
GRADE WITH CONCRETE AND HMA
FOR NEW STREETS
DETAILS

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
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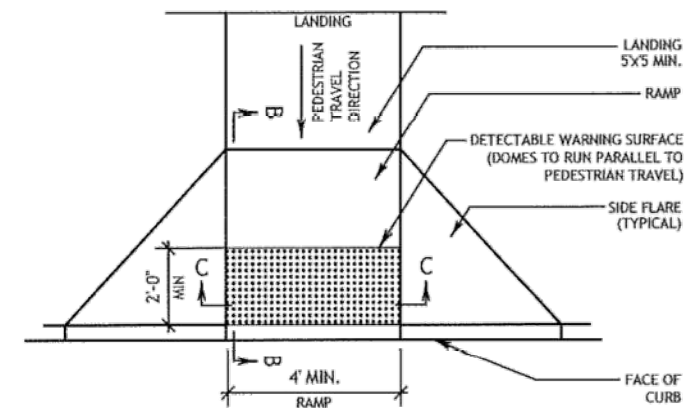
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32
32 OF 63

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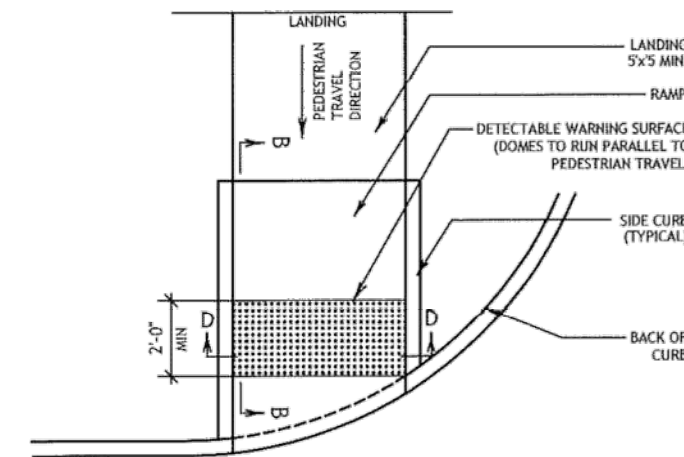


TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING FOR PARALLEL CURB RAMP.



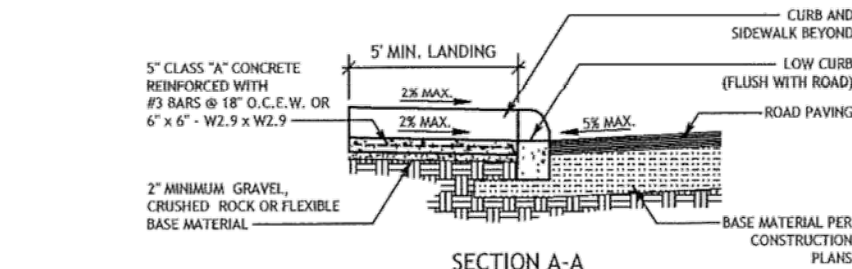
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE FOR PERPENDICULAR CURB RAMP.

TYPE I

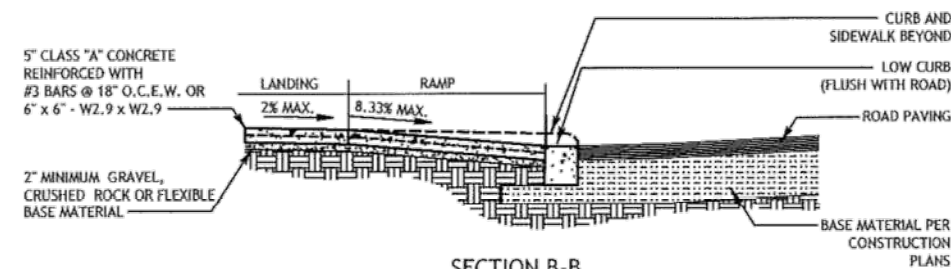


TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN FOR DIRECTIONAL CURB RAMP.

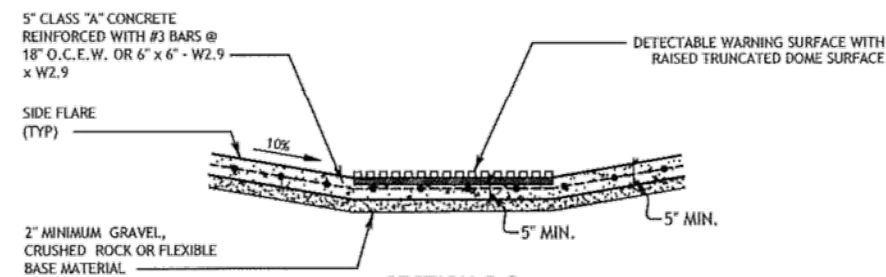
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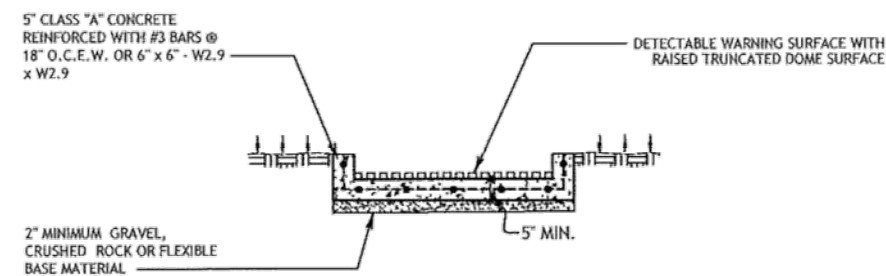
SECTION A-A



SECTION B-B



SECTION C-C



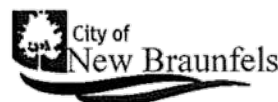
SECTION D-D

CURB RAMP NOTES

1. ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
2. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF CURB RAMP ARE TO BE SHOWN ON THE CONSTRUCTION PLANS. ALL ACCESSIBLE WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE AMERICAN WITH DISABILITIES ACT (ADA) AND TEXAS ACCESSIBILITY STANDARDS (TAS). CITY ENGINEER OR BUILDING OFFICIAL MAY ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
3. THE MINIMUM STANDARD SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 118-49 OF THE NEW BRAUNFELS CODE OF ORDINANCES.
4. ALL LANDINGS WHERE REQUIRED SHALL BE 5'x5' (60"x60") MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
5. RAMP LENGTHS SHALL BE SUFFICIENT TO MAINTAIN A MAXIMUM SLOPE OF 8.33% (1V:12H), MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2% (1V:50H).
6. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY, ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE GRADE OF THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS, AND LANDINGS IN ACCORDANCE WITH CURRENT ADA AND TAS REQUIREMENTS.
7. PROVIDE FLARED RAMP SIDES WITH A MAXIMUM SLOPE OF 10% (1V:10H) MEASURED ALONG THE CURB LINE. CURB RETURNS MAY BE USED IN-LIEU OF SIDE FLARES IN AREAS NOT NORMALLY WALKED ACROSS BY PEDESTRIANS, BECAUSE THE ADJACENT SURFACE IS VEGETATION OR OTHER NON-WALKING SURFACE OR WHERE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
8. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'x4' (48"x48") WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
9. CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, CURB RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
10. EXISTING FEATURES THAT COMPLY WITH CURRENT TAS REQUIREMENTS MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
11. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. PROVIDE CURB RAMPS WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
12. SEPARATE CURB RAMP AND LANDINGS FROM ADJACENT SIDEWALK AND ANY OTHER ELEMENTS WITH PRE-MOLD OR BOARD JOINT OF 1/2" UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
13. PROVIDE A SMOOTH TRANSITION WHERE THE CURB RAMPS CONNECT TO THE STREET.
14. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. $8.33\% - (-2.67\%) = 11\%$). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
15. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
16. ADA RAMP SHALL BE CONSTRUCTED WITH 5' CLASS "A" CONCRETE WITH 2' MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6"x6" - W2.9 x W2.9 WIRE MESH.
17. THE EXTENTS OF ADA COMPLIANCE IN ALTERATIONS SHALL BE WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT AND AS DETERMINED BY THE CITY BUILDING OFFICIAL.

DETECTABLE WARNING NOTES

1. CURB RAMPS OR LANDINGS ABUTTING THE CROSSWALK MUST HAVE A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 705 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES, INCLUDING SIDE FLARES. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
4. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
5. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS AT THE BACK OF CURB. ALIGN THE ROWS OF DOMES TO BE PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
6. DETECTABLE WARNING MATERIALS MUST MEET DOT DEPARTMENTAL MATERIALS SPECIFICATION DMS 4350 AND BE LISTED ON THE MATERIAL PRODUCER LIST. INSTALL PER INSTRUCTIONS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
7. DETECTABLE WARNING PAVERS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL BY THE PUBLIC WORKS DEPARTMENT.



ENGINEERING DIVISION
550 LANDA STREET
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
FAX: 830 626 3600

CURB RAMP STANDARDS

APPROVED DATE: 05/18/2017	DWG. NO.: ST-019	SCALE: AS NOTED
DRAWN BY: RC	CONTACT: GF	SHEET: 1 OF 1

CURB RAMP STANDARDS DETAIL

SHEET
34
34 OF 63

REV:
1



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/746,7474 (F) 307/746,7729
www.trihydro.com

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626,5588 (F) 830/626,5601



DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CL-R-DETAILS

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

ISSUE FOR BID
09/21/2022
DATE
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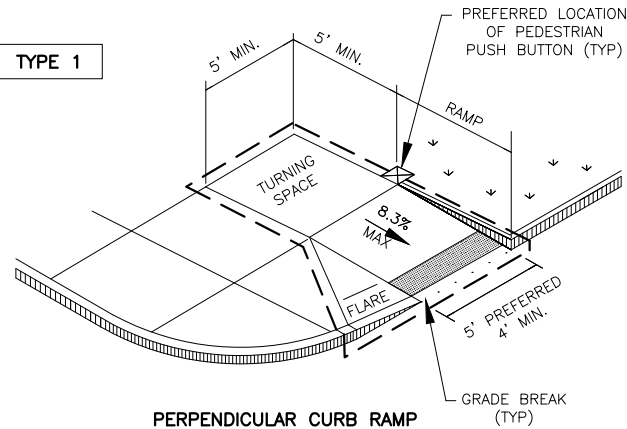
REVISIONS

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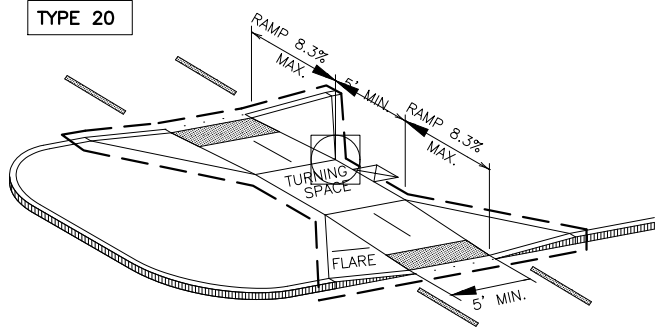
DATE: FILE:

TYPE 1



PERPENDICULAR CURB RAMP

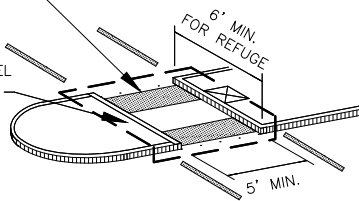
TYPE 20



CURB RAMPS AT MEDIAN ISLANDS

INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.

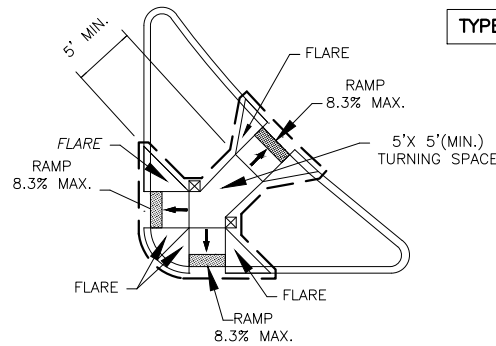
ALIGN CURB PARALLEL WITH CROSSWALK.



NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

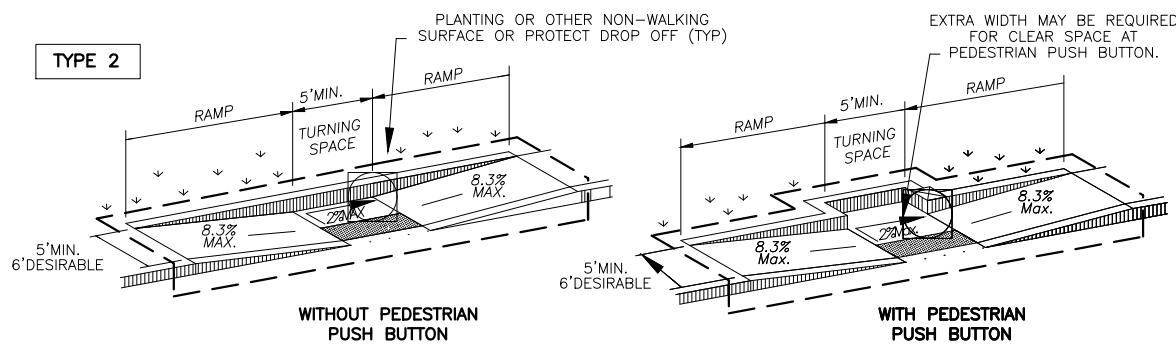
TYPE 21

TYPE 22



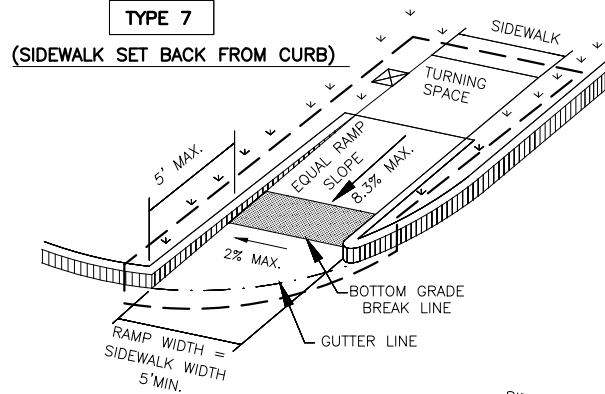
COMBINATION ISLAND RAMPS

TYPE 2

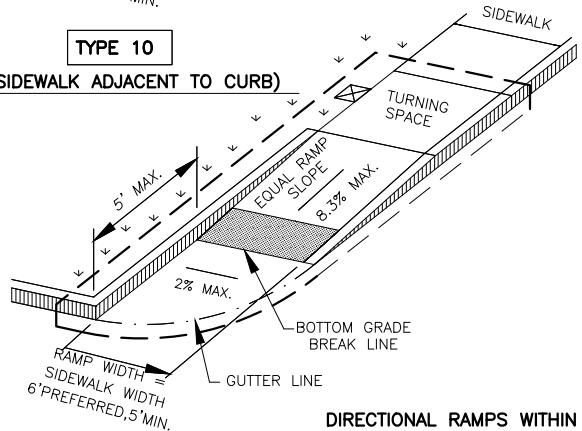


PARALLEL CURB RAMP

TYPE 7



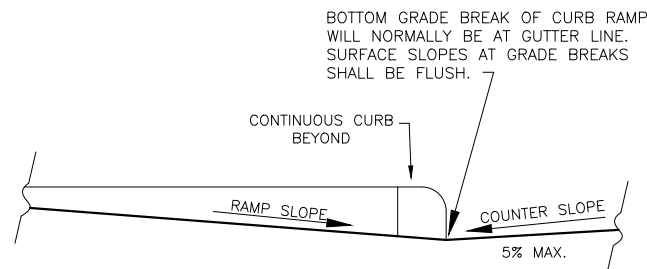
TYPE 10
(SIDEWALK ADJACENT TO CURB)



DIRECTIONAL RAMPS WITHIN RADIUS

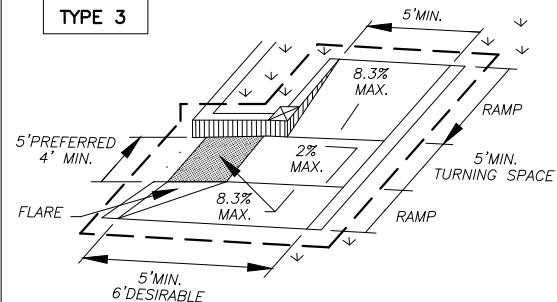
CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.

CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.

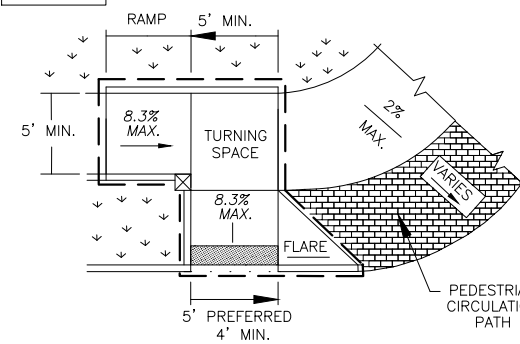


TYPICAL SECTION OF PERPENDICULAR CURB RAMP AT CONNECTION TO ROADWAY

TYPE 3

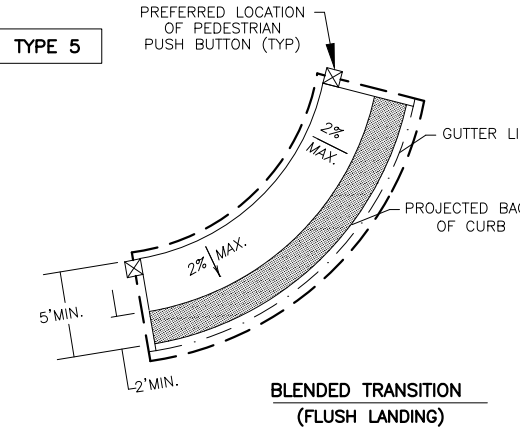


TYPE 6



COMBINATION CURB RAMPS

TYPE 5



BLENDED TRANSITION
(FLUSH LANDING)

NOTES / LEGEND:

SEE GENERAL NOTES ON SHEET 2 OF 4 FOR MORE INFORMATION.

- DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.
- DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.
- DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.
- DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.
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- DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.

Texas Department of Transportation		Design Division Standard	
PEDESTRIAN FACILITIES CURB RAMPS			
PED-18			
FILE: ped18	DATE: MARCH, 2002	DESIGNED BY: TxDOT	CHECKED BY: KM
REVISIONS	REVISIONS	REVISIONS	REVISIONS
1. REVISED 06/2005	2. REVISED 06/2012	3. REVISED 01/2018	4. REVISED 01/2018
LIST	COUNTY	SHEET NO.	



9/21/22

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 702-CLR-DETAILS



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307.746.7474 (F) 307.746.7729
www.trihydro.com

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601

PEDESTRIAN FACILITIES CURB RAMPS
(1 OF 4)

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
35
35 OF 63

REV:
1

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DATE:
FILE:

GENERAL NOTES

CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5'x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicable standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

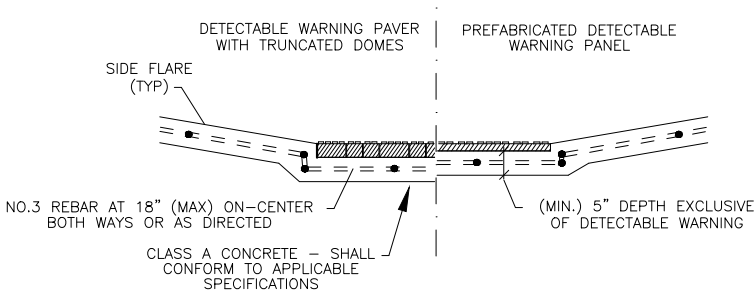
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

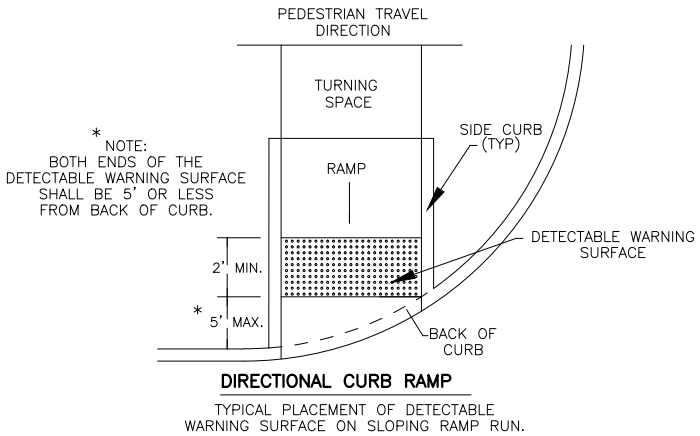
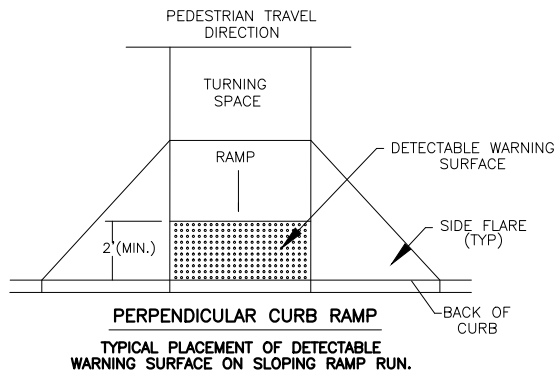
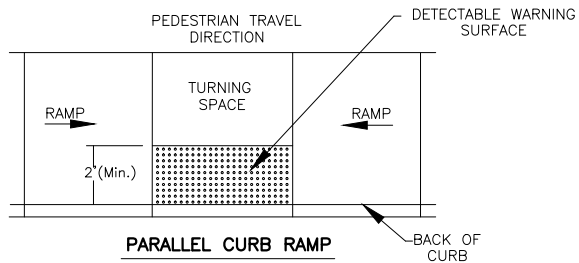
SIDEWALKS

27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.



SECTION VIEW DETAIL
CURB RAMP AT DETECTIBLE WARNINGS

DETECTABLE WARNING SURFACE DETAILS



SHEET 2 OF 4

		Design Division Standard	
PEDESTRIAN FACILITIES CURB RAMPS			
PED-18			
FILE: ped18	DATE: TxDOT: MARCH, 2002	DW:VP	CK:KM
REVISED: 8, 2005	REVISED: 06, 2012	REVISED: 01, 2018	REVISED: 01, 2018
REVISIONS	REVISIONS	REVISIONS	REVISIONS
LIST	COUNTY	SHEET NO.	

PEDESTRIAN FACILITIES CURB RAMPS
(2 OF 4)

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
36
36 OF 63

REV:
1



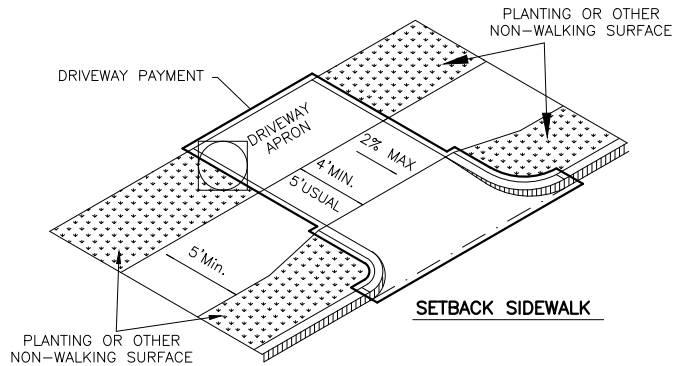
DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 702-CLR-DETAILS

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Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626.3588 (F) 830/626.3601
Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
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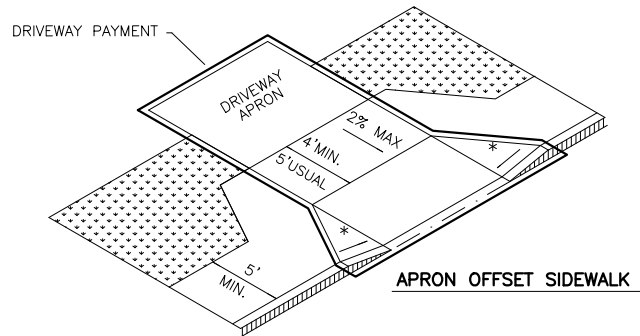
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DATE: FILE:

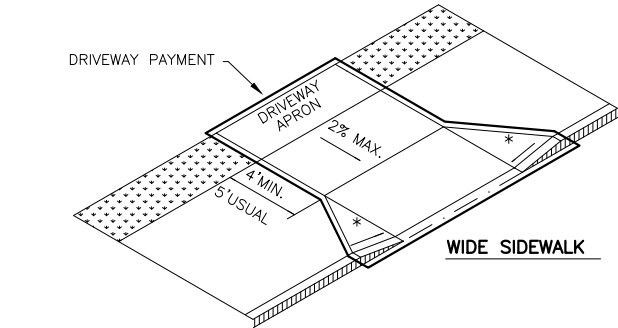
SIDEWALK TREATMENT AT DRIVEWAYS



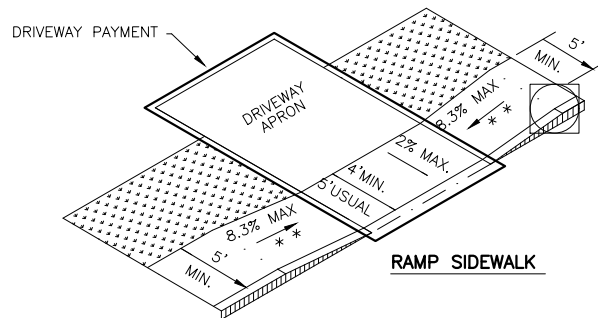
SETBACK SIDEWALK



APRON OFFSET SIDEWALK

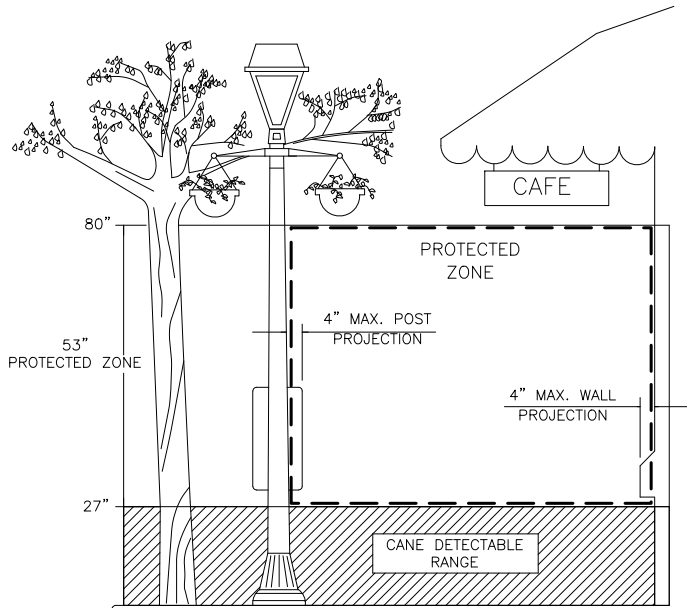


WIDE SIDEWALK



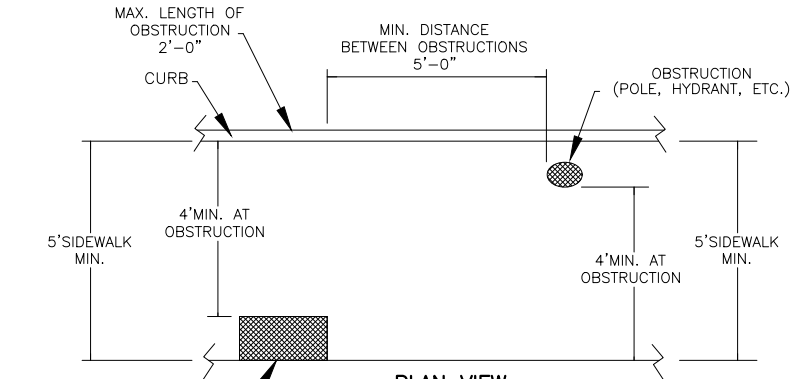
RAMP SIDEWALK

- NOTES:
- * WHERE DRIVEWAYS CROSS THE PEDESTRIAN ROUTE, SIDES SHALL BE FLARED AT 10% MAX SLOPE.
 - * * IF CURB HEIGHT IS GREATER THAN 6 INCHES, USE GRADE LESS THAN OR EQUAL TO 5%. HANDRAIL AND DETECTABLE WARNING ARE NOT REQUIRED.



PROTECTED ZONE

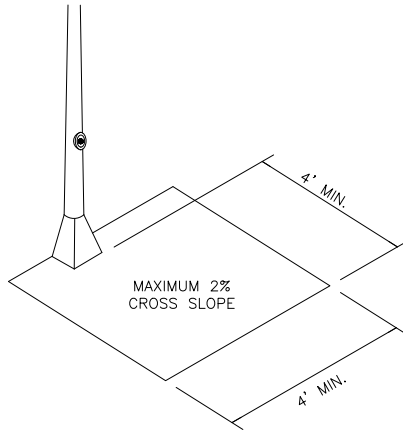
NOTE: IN PEDESTRIAN CIRCULATION AREA, MAXIMUM 4" PROJECTION FOR POST OR WALL MOUNTED OBJECTS BETWEEN 27" AND 80" ABOVE THE SURFACE.



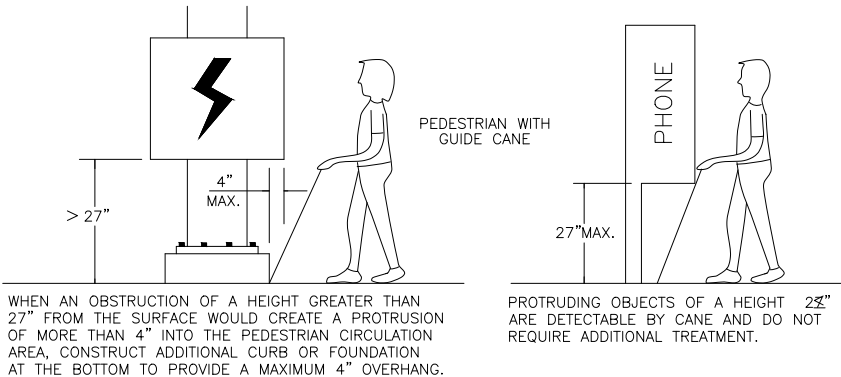
PLAN VIEW

PLACEMENT OF STREET FIXTURES

NOTE: ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' X 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.



CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



DETECTION BARRIER FOR VERTICAL CLEARANCE <80"

SHEET 3 OF 4

Texas Department of Transportation		<i>Design Division Standard</i>	
PEDESTRIAN FACILITIES CURB RAMPS			
PED-18			
FILE: ped18	DATE: MARCH, 2002	DESIGNED BY: TxDOT	DW:VP
REVISIONS	REVISED: 8, 2005	REVISED: 06, 2012	REVISED: 01, 2018
JOB	COUNTY	SHEET NO.	



9/21/22

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Texas Engineering Firm F-131
Texas Survey Firm 10194320
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New Braunfels, Texas 78130
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PEDESTRIAN FACILITIES CURB RAMPS
(3 OF 4)

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

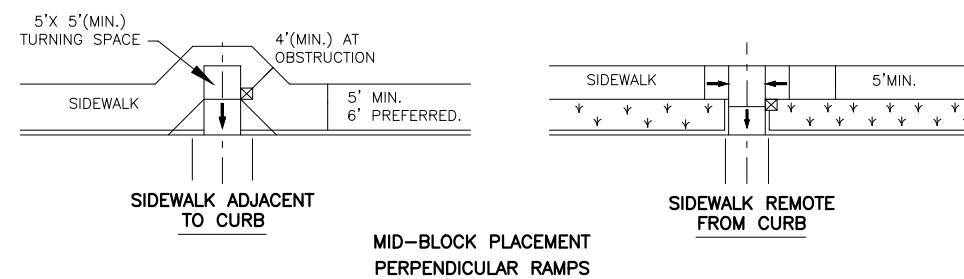
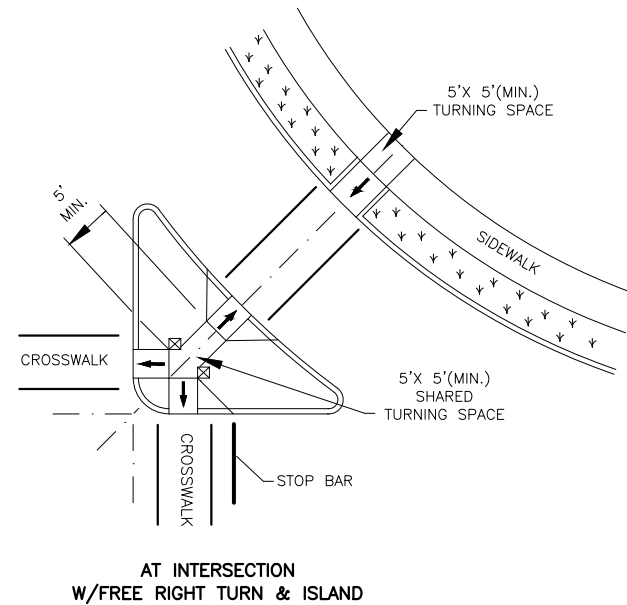
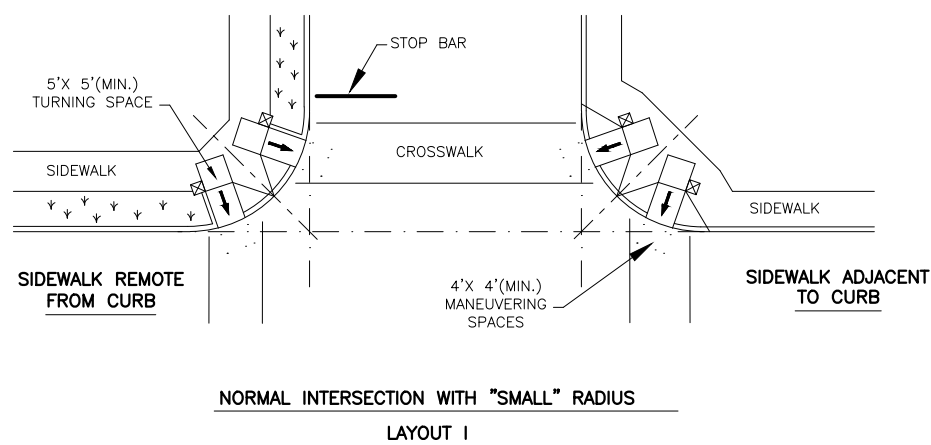
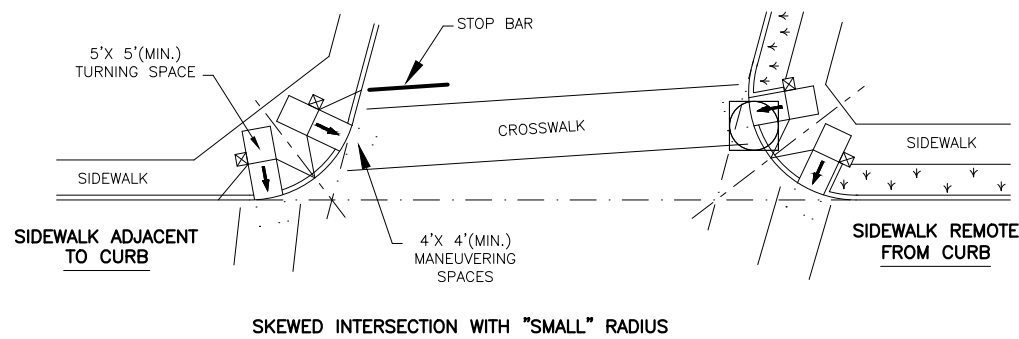
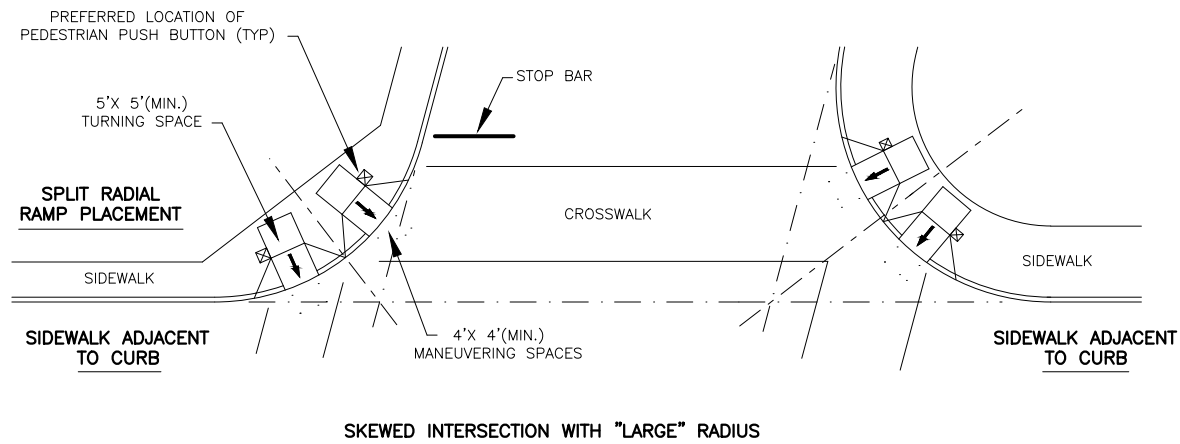
SHEET
37
37 OF 63

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DATE: _____
FILE: _____

TYPICAL CROSSING LAYOUTS
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



LEGEND:

SHOWS DOWNWARD SLOPE.

DENOTES PREFERRED LOCATION OF PEDESTRIAN
PUSH BUTTON (IF APPLICABLE).

DENOTES PLANTING OR NON-WALKING SURFACE
NOT PART OF PEDESTRIAN CIRCULATION PATH.

 Texas Department of Transportation	<i>Design Division Standard</i>															
PEDESTRIAN FACILITIES CURB RAMPS PED-18																
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FILE: PED-18	DATE TxDOT: 01-01-00	DW: VP	CK: KM	CK: PK & J												
© TxDOT: MARCH, 2002	CONT SECT	JOB	HIGHWAY													
REVISED 01/01/00 REVISED 06/01/02 REVISED 01/01/08	LIST	COUNTY	SHEET NO.													

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STATE OF TEXAS
 ★
 SAMUEL K. JOHNSON JR.
 116896
 LICENSED PROFESSIONAL ENGINEER
 9/21/22

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DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7056-CLIP-DETAILS



Tribhydro
CORPORATION

Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/745.7474 (F) 307/745.7729
www.tribhydro.com

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PEDESTRIAN FACILITIES CURB RAMPS
(4 OF 4)

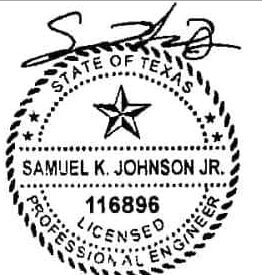
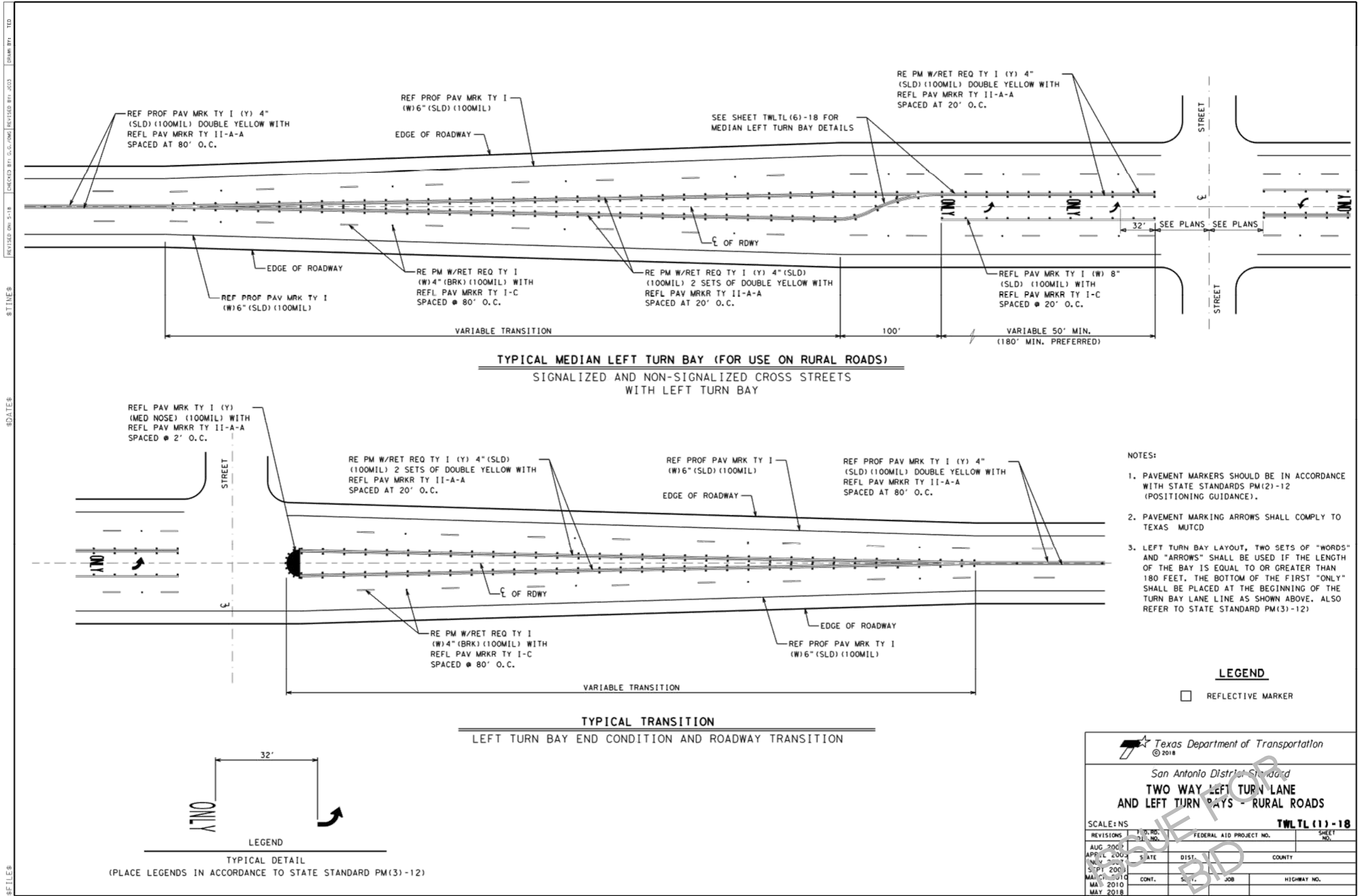
**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**

SHEET
38
38 OF 63

REV:
1

LEVELS DISPLAYED		ACC:
1	12	12
2	13	13
3	14	14
4	15	15
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6	17	17
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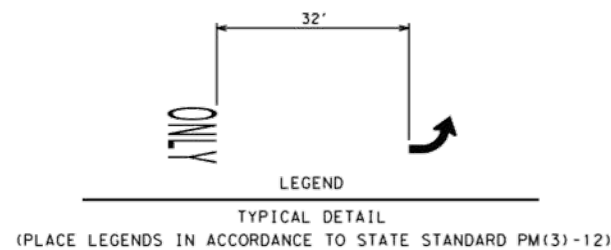
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DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS

Trihydro
New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830-626-3588 (F) 830-626-3601
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Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
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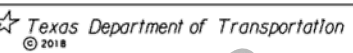
TWO WAY LEFT TURN LANE AND LEFT TURN BAYS - RURAL ROADS

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES



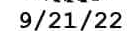
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2. PAVEMENT MARKING ARROWS SHALL COMPLY TO TEXAS MUTCD
3. LEFT TURN BAY LAYOUT, TWO SETS OF "WORDS" AND "ARROWS" SHALL BE USED IF THE LENGTH OF THE BAY IS EQUAL TO OR GREATER THAN 180 FEET. THE BOTTOM OF THE FIRST "ONLY" SHALL BE PLACED AT THE BEGINNING OF THE TURN BAY LANE LINE AS SHOWN ABOVE. ALSO REFER TO STATE STANDARD PM(3)-12)

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San Antonio District Standard
TWO WAY LEFT TURN LANE
LEFT TURN PAYS - URBAN ROADS

SCALE: N=5		TWTL (2) - 18	
REVISIONS	DATE, PROJECT NO.	FEDERAL AID PROJECT NO.	SHEET NO.
AUG 2007			
APRIL 2008	STATE DIST.	COUNTY	
NOV 2008			
SEP 2009			
MARCH 2010	CONT.	JOB	HIGHWAY NO.
MAY 2010			

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PR. NO: 702-409-000
FILE: 7056-CLIP-DETAILS

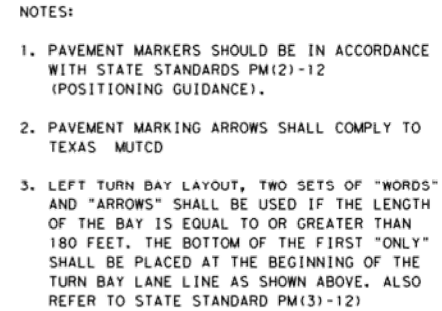


Headquarters
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Texas Engineering Firm F-131
Texas Survey Firm 10194320
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**TWO WAY LEFT TURN LANE AND
LEFT TURN BAYS - URBAN ROADS
(1 OF 5)**

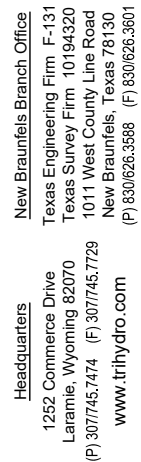
**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**



☐ REFLECTIVE MARKER

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San Antonio District Standard TWO WAY LEFT TURN LANE AND LEFT TURN PAYS - URBAN ROADS	
SCALE: NS	TWLT (3) - 18
REVISIONS AUG 2002 APRIL 2003 MAY 2003 SEPT 2003 MAR 2010 MAR 2010 MAY 2018	FEDERAL AID PROJECT NO. COUNTY HIGHWAY NO.

**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**

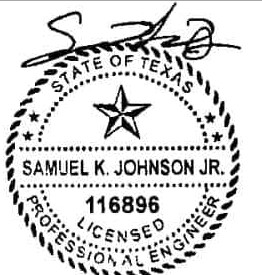
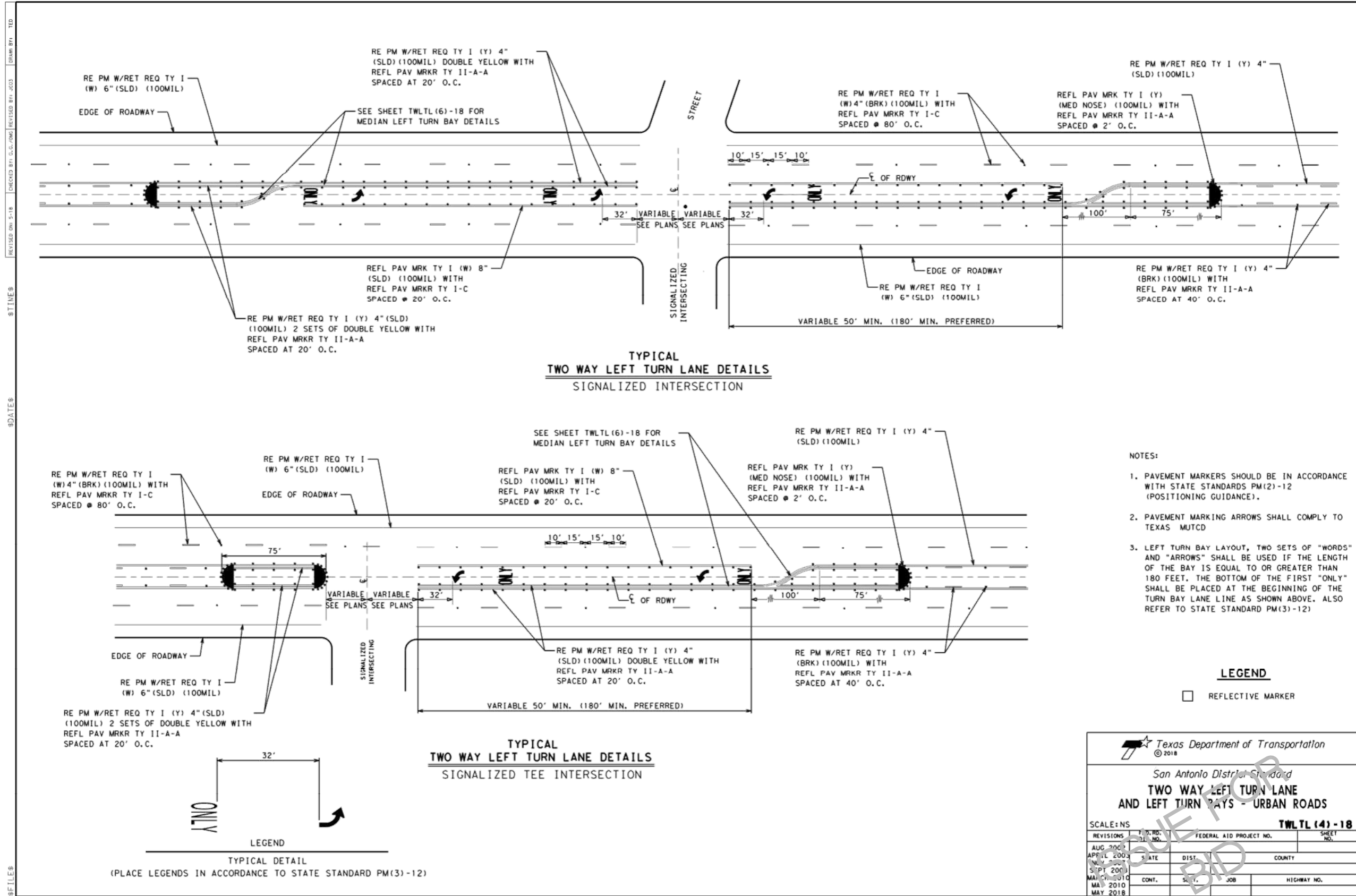
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PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS

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9/21/22

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Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
www.trihydro.com

Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307.746.7474 (F) 307.746.7729

TWO WAY LEFT TURN LANE AND LEFT TURN BAYS - URBAN ROADS
(3 OF 5)

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

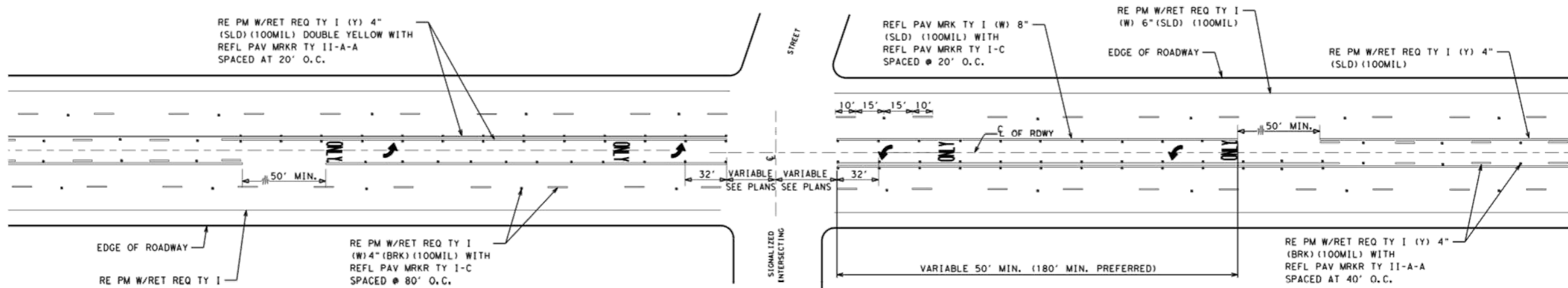
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REVISED ON: 3-18
CHECKED BY: G.C./JMG
REVISOR BY: JCG
DRAWN BY: TED

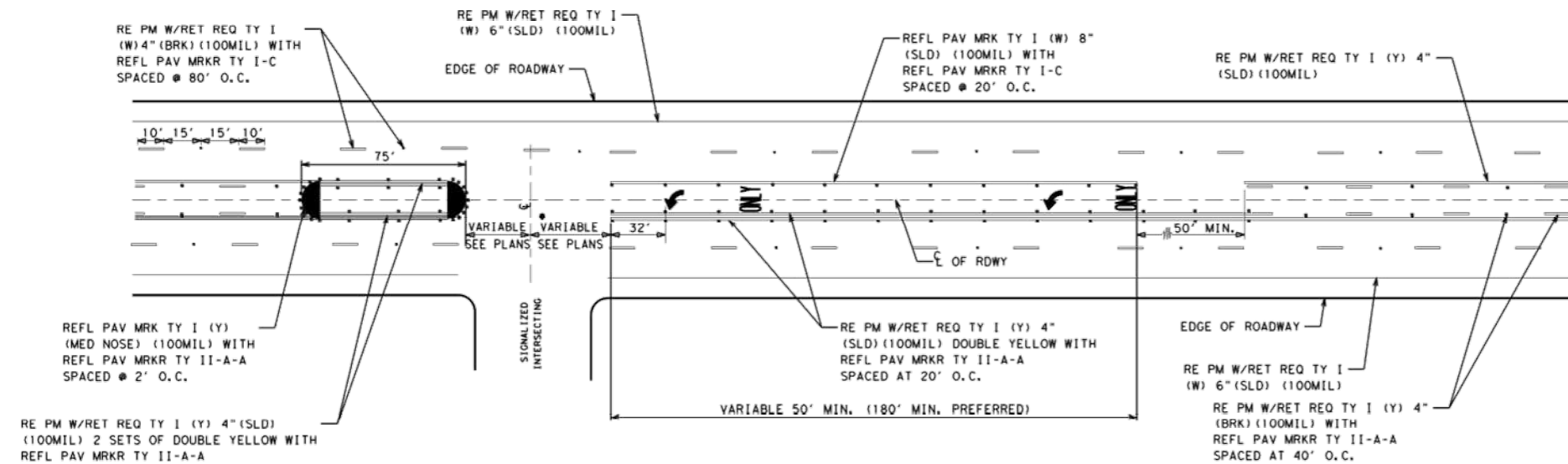
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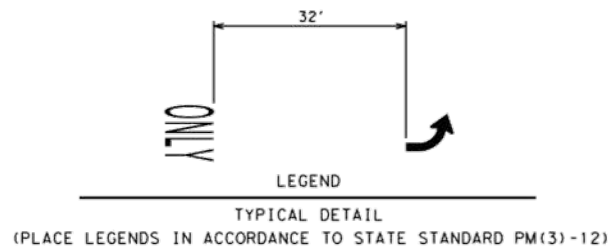
8 FILES



TYPICAL
TWO WAY LEFT TURN LANE DETAILS
SIGNALIZED INTERSECTION



TYPICAL
TWO WAY LEFT TURN LANE DETAILS
SIGNALIZED TEE INTERSECTION



NOTES:

- PAVEMENT MARKERS SHOULD BE IN ACCORDANCE WITH STATE STANDARDS PM(2)-12 (POSITIONING GUIDANCE).
- PAVEMENT MARKING ARROWS SHALL COMPLY TO TEXAS MUTCD
- LEFT TURN BAY LAYOUT, TWO SETS OF "WORDS" AND "ARROWS" SHALL BE USED IF THE LENGTH OF THE BAY IS EQUAL TO OR GREATER THAN 180 FEET. THE BOTTOM OF THE FIRST "ONLY" SHALL BE PLACED AT THE BEGINNING OF THE TURN BAY LANE LINE AS SHOWN ABOVE. ALSO REFER TO STATE STANDARD PM(3)-12)

LEGEND

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San Antonio District Standard			
TWO WAY LEFT TURN LANE AND LEFT TURN BAYS - URBAN ROADS			
TWTLL (5) - 18			
SCALE: NS	1. S.D. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
REVISIONS	DATE	DIST.	COUNTY
AUG 2003			
APRIL 2004			
MAY 2007			
SEPT 2009			
MAY 2010			
MAY 2018			
CONT.	SUB.	JOB	HIGHWAY NO.



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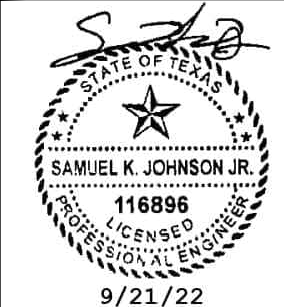
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TWO WAY LEFT TURN LANE AND
LEFT TURN BAYS - URBAN ROADS
(4 OF 5)

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
44
44 OF 63

REV:
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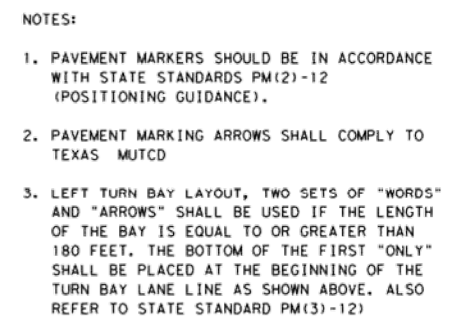


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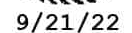
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1	09/21/2022	ISSUE FOR BID	MM	SJ

REVISIONS



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San Antonio District Standard TWO WAY LEFT TURN LANE AND LEFT TURN PAYS - URBAN ROADS	
SCALE: N S	TWL TL (6) - 18
REVISIONS AUG 2007 APRIL 2003 MAY 2007 SEPT 2003 MAR 2010 MAR 2010	FEDERAL AID PROJECT NO. SHEET NO. STATE DIST. COUNTY CONT. CITY JOB HIGHWAY NO.

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SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
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1252 Commerce Drive
Cheyenne, Wyoming 82070
(F) 307/745.7474 (F) 307/745.7729
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New Braunfels Branch Office
Texas Engineering Firm F-131
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1011 West County Line Road
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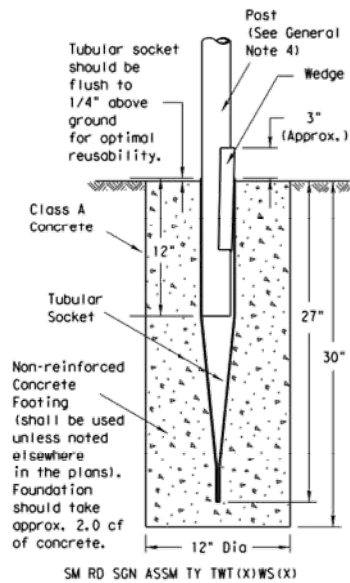
**TWO WAY LEFT TURN LANE AND
LEFT TURN BAYS - URBAN ROADS
(5 OF 5)**

**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**

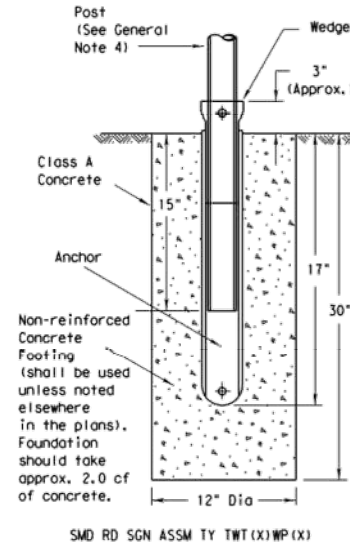
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: FILE:

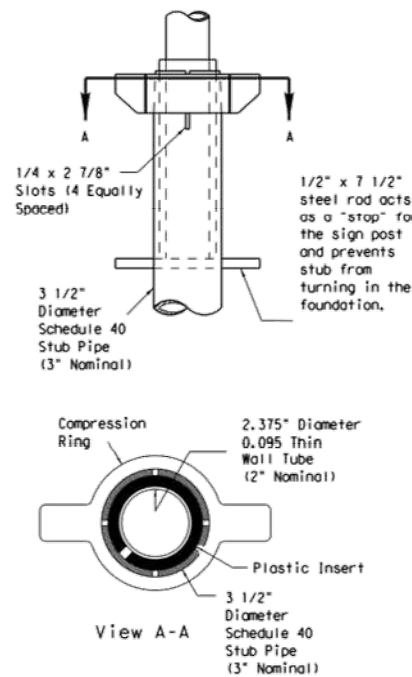
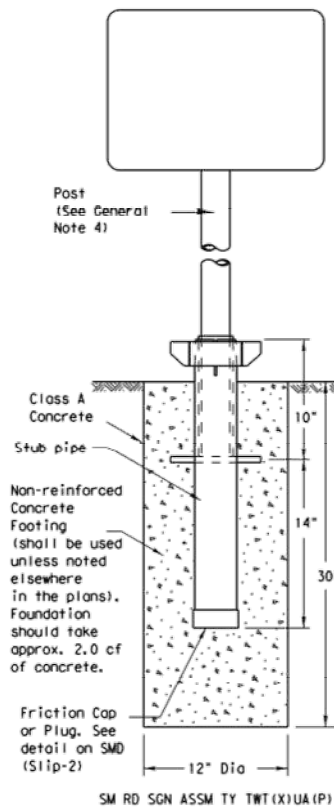
Wedge Anchor Steel System



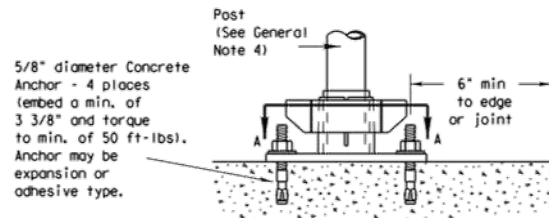
Wedge Anchor High Density Polyethylene (HDPE) System



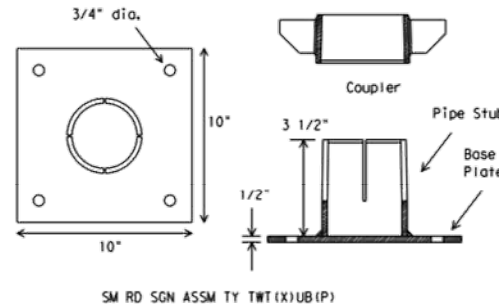
Universal Anchor System with Thin-Walled Tubing Post



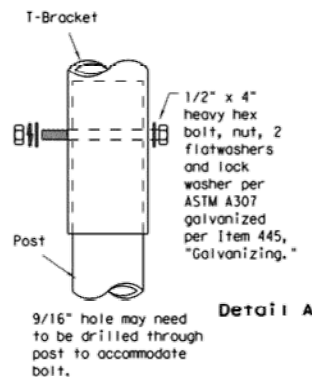
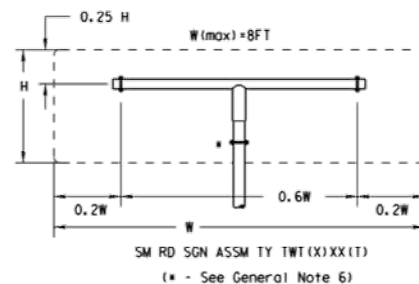
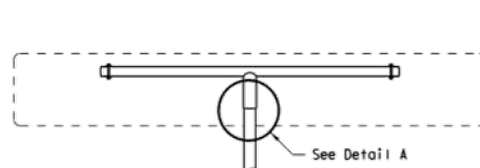
Plastic insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxy and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.



Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post



NOTE
The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

- GENERAL NOTES:
- The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
 - The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
 - Except for posts (13 BWG Tubing), clamps, nuts and bolts, all components shall be prequalified. A list of prequalified vendors may be obtained from the Material Producer List web page. The website address is: http://www.txdot.gov/business/producer_list.htm
 - Material used as post with this system shall conform to the following specifications:
 - 13 BWG Tubing (2.375" outside diameter) (TWT)
 - 0.095" nominal wall thickness
 - Seamless or electric-resistance welded steel tubing
 - Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
 - Other steels may be used if they meet the following:
 - 55,000 PSI minimum yield strength
 - 70,000 PSI minimum tensile strength
 - 18% minimum elongation in 2"
 - Wall thickness (uncoated) shall be within the range of .083" to .099"
 - Outside diameter (uncoated) shall be within the range of 2.369" to 2.381"
 - Galvanization per ASTM 123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recast tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
 - Sign blanks shall be the sizes and shapes shown on the plans.
 - Additional sign clamp required on the "T-bracket" post for 24" high signs. Place clamp at least 3" above bottom of sign when possible.
 - Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
 - See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is: <http://www.txdot.gov/publications/traffic.htm>

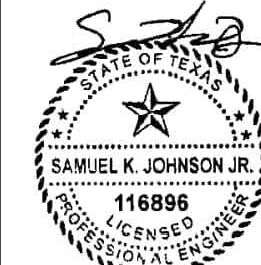
- WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURE
- Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
 - The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
 - Insert tubular socket into concrete until top of socket is approximately 1/4" above the concrete footing.
 - Plumb the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer..
 - Attach the sign to the sign post.
 - Insert the sign post into socket and align sign face with roadway.
 - Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

- UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE
- Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
 - Insert base post in hole to depths shown and backfill hole with concrete.
 - Level and plumb the base post using a torpedo level and allow concrete adequate time to set. The bottom of the slots provided in the stub pipe shall remain above the top of the concrete foundation.
 - Attach the sign to the sign post.
 - Install plastic insert around bottom of post.
 - Insert sign post into base post. Lower until the post comes to rest on steel rod.
 - Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of stub post when optimally installed.
 - Check sign post by hand to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

Texas Department of Transportation
Traffic Operations Division
**SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
WEDGE & UNIVERSAL ANCHOR
WITH THIN WALL TUBING POST**
SMD (TWT) -08

TXDOT	2002	TXDOT	CKI TXDOT	DRI TXDOT	CKI TXDOT
9-08	REVISIONS	DATE	BY	JOB	HIGHWAY
		LIST	COUNTY		SHEET NO.

26E



9/21/22

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/746,7474 (F) 307/746,7729
www.trihydro.com
New Braunfels Branch Office
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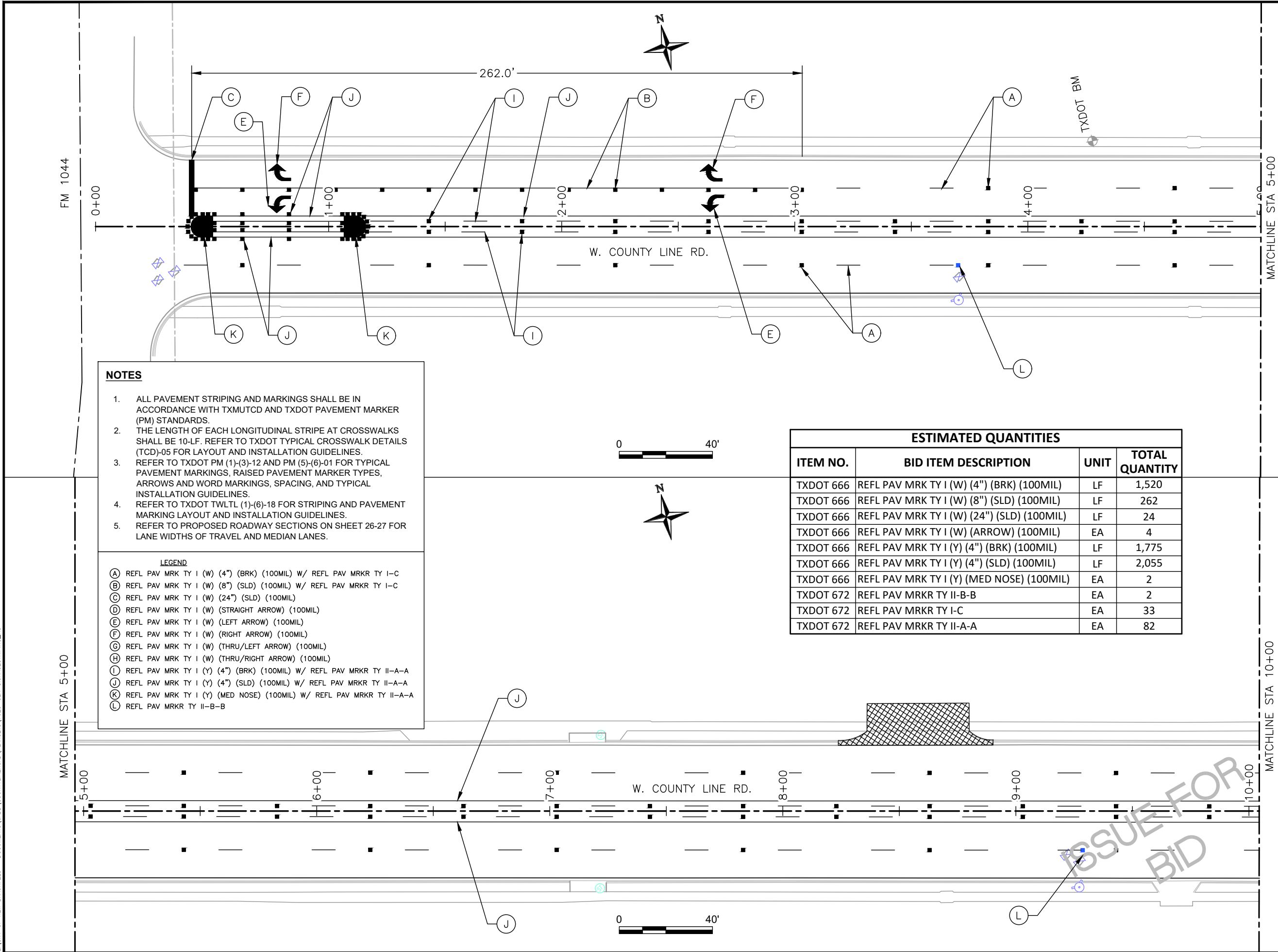
SIGN MOUNTING DETAILS SMALL
ROADSIDE SIGNS WEDGE &
UNIVERSAL ANCHOR WITH THIN
WALL TUBING POST

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
46
46 OF 63

REV:
1

L:\CITY OF NEW BRAUNFELS - DOCUMENTS\CADD\COUNTY\ROAD\PLANSETS\2025-CLP-SIGNAGE\STRIPING_LHS



NOTES

1. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE IN ACCORDANCE WITH TXMUTCD AND TXDOT PAVEMENT MARKER (PM) STANDARDS.
2. THE LENGTH OF EACH LONGITUDINAL STRIPE AT CROSSWALKS SHALL BE 10-LF. REFER TO TXDOT TYPICAL CROSSWALK DETAILS (TCD)-05 FOR LAYOUT AND INSTALLATION GUIDELINES.
3. REFER TO TXDOT PM (1)-(3)-12 AND PM (5)-(6)-01 FOR TYPICAL PAVEMENT MARKINGS, RAISED PAVEMENT MARKER TYPES, ARROWS AND WORD MARKINGS, SPACING, AND TYPICAL INSTALLATION GUIDELINES.
4. REFER TO TXDOT TWLTL (1)-(6)-18 FOR STRIPING AND PAVEMENT MARKING LAYOUT AND INSTALLATION GUIDELINES.
5. REFER TO PROPOSED ROADWAY SECTIONS ON SHEET 26-27 FOR LANE WIDTHS OF TRAVEL AND MEDIAN LANES.

LEGEND

- (A) REFL PAV MRK TY I (W) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY I-C
- (B) REFL PAV MRK TY I (W) (8") (SLD) (100MIL) W/ REFL PAV MRKR TY I-C
- (C) REFL PAV MRK TY I (W) (24") (SLD) (100MIL)
- (D) REFL PAV MRK TY I (W) (STRAIGHT ARROW) (100MIL)
- (E) REFL PAV MRK TY I (W) (LEFT ARROW) (100MIL)
- (F) REFL PAV MRK TY I (W) (RIGHT ARROW) (100MIL)
- (G) REFL PAV MRK TY I (W) (THRU/LEFT ARROW) (100MIL)
- (H) REFL PAV MRK TY I (W) (THRU/RIGHT ARROW) (100MIL)
- (I) REFL PAV MRK TY I (Y) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRK TY I (Y) (4") (SLD) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (K) REFL PAV MRK TY I (Y) (MED NOSE) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-B-B

ESTIMATED QUANTITIES

ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF	1,520
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF	262
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF	24
TXDOT 666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	4
TXDOT 666	REFL PAV MRK TY I (Y) (4") (BRK) (100MIL)	LF	1,775
TXDOT 666	REFL PAV MRK TY I (Y) (4") (SLD) (100MIL)	LF	2,055
TXDOT 666	REFL PAV MRK TY I (Y) (MED NOSE) (100MIL)	EA	2
TXDOT 672	REFL PAV MRKR TY II-B-B	EA	2
TXDOT 672	REFL PAV MRKR TY I-C	EA	33
TXDOT 672	REFL PAV MRKR TY II-A-A	EA	82

DRAWN BY: RK		DESIGNED BY: DV		CHECKED BY: SJ		SCALE: 1" = 40'		DATE: 09/21/2022		PR. NO: 702-409-000		FILE: 702-CUR-SIGNAGE\STRIPING_LHS	
9/21/22													
Headquarters 1252 Commerce Drive Laramie, Wyoming 82070 (P) 307/746,7474 (F) 307/746,7729 www.trihydro.com New Braunfels Branch Office Texas Engineering Firm F-131 Texas Survey Firm 10194320 1011 West County Line Road New Braunfels, Texas 78130 (P) 830/626,3588 (F) 830/626,3601													
ROADWAY PAVEMENT MARKINGS STA 0+00 TO STA 10+00						WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES							
SHEET 47 47 OF 63						REV: 1							

L:\CITY OF NEW BRAUNFELS - DOCUMENTS\CADD\COUNTY\INROAD\PLANSETS\2025-CLP-SIGNAGESTRIPING_LHS

NOTES

1. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE IN ACCORDANCE WITH TXMUTCD AND TXDOT PAVEMENT MARKER (PM) STANDARDS.
2. THE LENGTH OF EACH LONGITUDINAL STRIPE AT CROSSWALKS SHALL BE 10-LF. REFER TO TXDOT TYPICAL CROSSWALK DETAILS (TCD)-05 FOR LAYOUT AND INSTALLATION GUIDELINES.
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5. REFER TO PROPOSED ROADWAY SECTIONS ON SHEET 26-27 FOR LANE WIDTHS OF TRAVEL AND MEDIAN LANES.

LEGEND

- (A) REFL PAV MRK TY I (W) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY I-C
- (B) REFL PAV MRK TY I (W) (8") (SLD) (100MIL) W/ REFL PAV MRKR TY I-C
- (C) REFL PAV MRK TY I (W) (24") (SLD) (100MIL)
- (D) REFL PAV MRK TY I (W) (STRAIGHT ARROW) (100MIL)
- (E) REFL PAV MRK TY I (W) (LEFT ARROW) (100MIL)
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- (G) REFL PAV MRK TY I (W) (THRU/LEFT ARROW) (100MIL)
- (H) REFL PAV MRK TY I (W) (THRU/RIGHT ARROW) (100MIL)
- (I) REFL PAV MRK TY I (Y) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRK TY I (Y) (4") (SLD) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (K) REFL PAV MRK TY I (Y) (MED NOSE) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (C) REFL PAV MRKR TY II-B-B

ESTIMATED QUANTITIES

ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF	3,816
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF	279
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF	528
TXDOT 666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	3
TXDOT 666	REFL PAV MRK TY I (Y) (4") (BRK) (100MIL)	LF	775
TXDOT 666	REFL PAV MRK TY I (Y) (4") (SLD) (100MIL)	LF	1,929
TXDOT 666	REFL PAV MRK TY I (Y) (MED NOSE) (100MIL)	EA	1
TXDOT 672	REFL PAV MRKR TY II-B-B	EA	1
TXDOT 672	REFL PAV MRKR TY I-C	EA	62
TXDOT 672	REFL PAV MRKR TY II-A-A	EA	93



9/21/22

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: 1" = 40'
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 702-CUR-SIGNAGESTRIPING_LHS



New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
www.trihydro.com

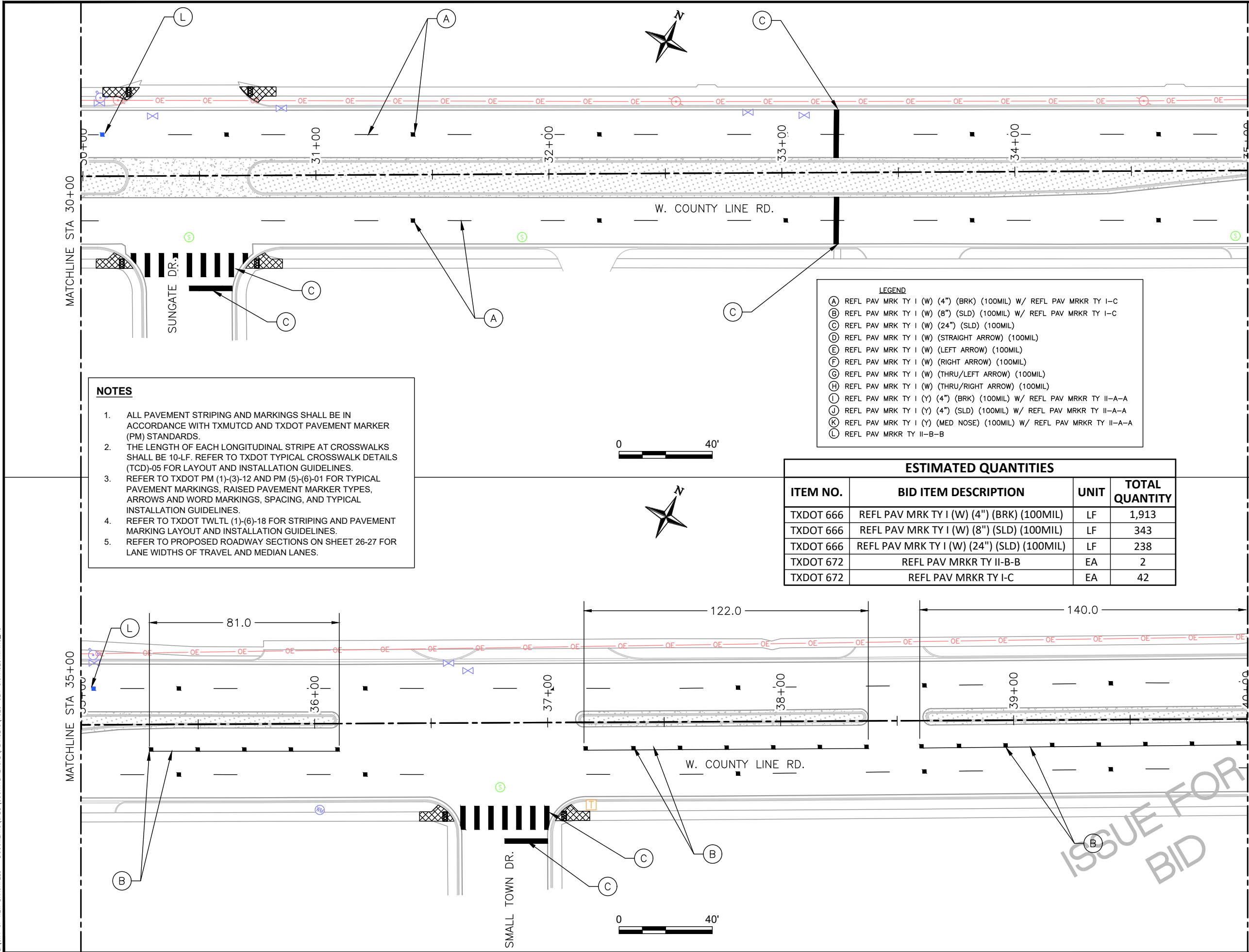
ROADWAY PAVEMENT MARKINGS
STA 10+00 TO STA 20+00

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
48
48 OF 63

REV:
1

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- NOTES**
- ALL PAVEMENT STRIPING AND MARKINGS SHALL BE IN ACCORDANCE WITH TXMUTCD AND TXDOT PAVEMENT MARKER (PM) STANDARDS.
 - THE LENGTH OF EACH LONGITUDINAL STRIPE AT CROSSWALKS SHALL BE 10-LF. REFER TO TXDOT TYPICAL CROSSWALK DETAILS (TCD)-05 FOR LAYOUT AND INSTALLATION GUIDELINES.
 - REFER TO TXDOT PM (1)-(3)-12 AND PM (5)-(6)-01 FOR TYPICAL PAVEMENT MARKINGS, RAISED PAVEMENT MARKER TYPES, ARROWS AND WORD MARKINGS, SPACING, AND TYPICAL INSTALLATION GUIDELINES.
 - REFER TO TXDOT TWLTL (1)-(6)-18 FOR STRIPING AND PAVEMENT MARKING LAYOUT AND INSTALLATION GUIDELINES.
 - REFER TO PROPOSED ROADWAY SECTIONS ON SHEET 26-27 FOR LANE WIDTHS OF TRAVEL AND MEDIAN LANES.

- LEGEND**
- (A) REFL PAV MRK TY I (W) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY I-C
 - (B) REFL PAV MRK TY I (W) (8") (SLD) (100MIL) W/ REFL PAV MRKR TY I-C
 - (C) REFL PAV MRK TY I (W) (24") (SLD) (100MIL)
 - (D) REFL PAV MRK TY I (W) (STRAIGHT ARROW) (100MIL)
 - (E) REFL PAV MRK TY I (W) (LEFT ARROW) (100MIL)
 - (F) REFL PAV MRK TY I (W) (RIGHT ARROW) (100MIL)
 - (G) REFL PAV MRK TY I (W) (THRU/LEFT ARROW) (100MIL)
 - (H) REFL PAV MRK TY I (W) (THRU/RIGHT ARROW) (100MIL)
 - (I) REFL PAV MRK TY I (Y) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY II-A-A
 - (J) REFL PAV MRK TY I (Y) (4") (SLD) (100MIL) W/ REFL PAV MRKR TY II-A-A
 - (K) REFL PAV MRK TY I (Y) (MED NOSE) (100MIL) W/ REFL PAV MRKR TY II-A-A
 - (L) REFL PAV MRKR TY II-B-B

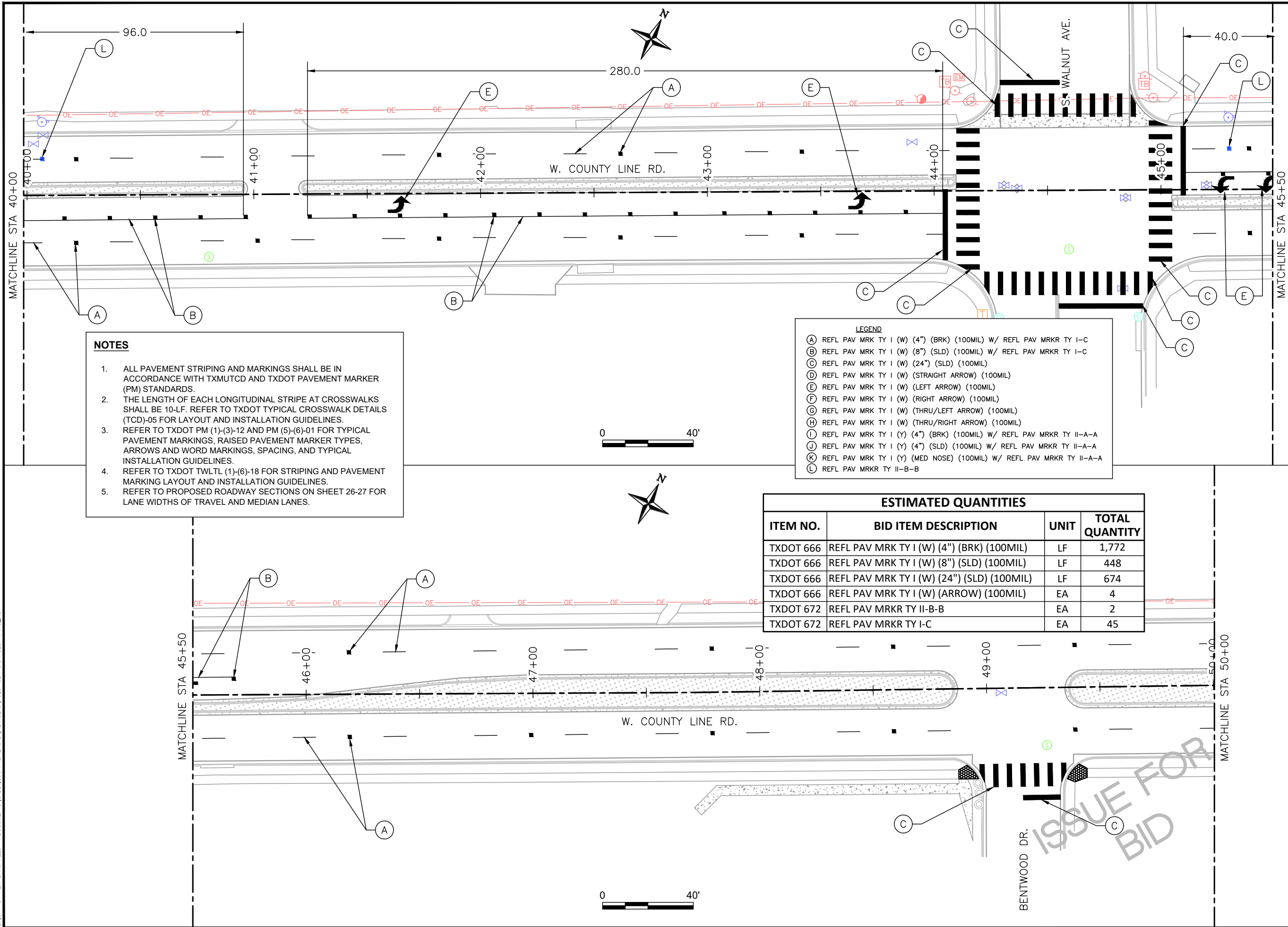
ESTIMATED QUANTITIES			
ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF	1,913
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF	343
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF	238
TXDOT 672	REFL PAV MRKR TY II-B-B	EA	2
TXDOT 672	REFL PAV MRKR TY I-C	EA	42

MATCHLINE STA 35+00

MATCHLINE STA 40+00

		REV.		DESCRIPTION		BY	CHK'D
		1	09/21/2022	ISSUE FOR BID	MM	SJ	
DRAWN BY: RK		DESIGNED BY: DV		CHECKED BY: SJ		SCALE: 1" = 40'	
DATE: 09/21/2022		PR. NO: 702-409-000		FILE: 702-CUR-SIGNAGESTRIPING_LHS			
		ROADWAY PAVEMENT MARKINGS		WEST COUNTY LINE ROAD MAINTENANCE		SHEET	
		STA 30+00 TO STA 40+00		CITY OF NEW BRAUNFELS		50	
				COMAL/GUADALUPE COUNTIES		REV: 1	
						50 OF 63	

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NOTES

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- REFER TO PROPOSED ROADWAY SECTIONS ON SHEET 26-27 FOR LANE WIDTHS OF TRAVEL AND MEDIAN LANES.

LEGEND

- (A) REFL PAV MRK TY I (W) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY I-C
- (B) REFL PAV MRK TY I (W) (8") (SLD) (100MIL) W/ REFL PAV MRKR TY I-C
- (C) REFL PAV MRK TY I (W) (24") (SLD) (100MIL)
- (D) REFL PAV MRK TY I (W) (STRAIGHT ARROW) (100MIL)
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- (G) REFL PAV MRK TY I (W) (THRU/LEFT ARROW) (100MIL)
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- (I) REFL PAV MRK TY I (Y) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (J) REFL PAV MRK TY I (Y) (4") (SLD) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (K) REFL PAV MRK TY I (Y) (MED NOSE) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-B-B

ESTIMATED QUANTITIES

ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF	1,772
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF	448
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF	674
TXDOT 666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	4
TXDOT 672	REFL PAV MRKR TY II-B-B	EA	2
TXDOT 672	REFL PAV MRKR TY I-C	EA	45



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/746,7474 (F) 307/746,7729
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ROADWAY PAVEMENT MARKINGS
STA 40+00 TO STA 50+00

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
51
51 OF 63

REV:
1

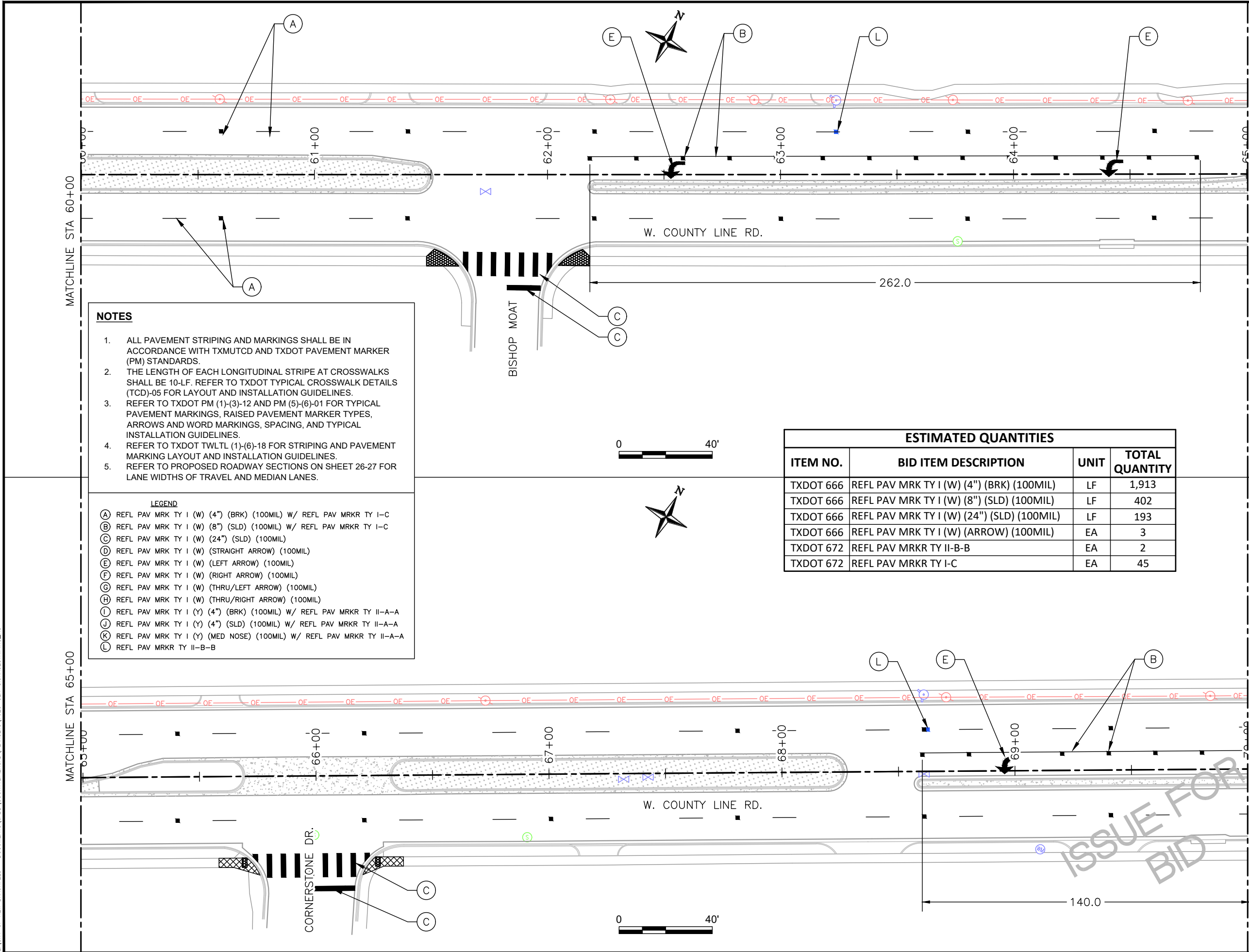
DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: 1" = 40'
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 702-CLR-SIGNAGESTRIPING_HS



REVISIONS			
REV.	DATE	DESCRIPTION	BY
1	09/21/2022	ISSUE FOR BID	MM
			SJ
			CHK'D

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NOTES

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LEGEND

- (A) REFL PAV MRK TY I (W) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY I-C
- (B) REFL PAV MRK TY I (W) (8") (SLD) (100MIL) W/ REFL PAV MRKR TY I-C
- (C) REFL PAV MRK TY I (W) (24") (SLD) (100MIL)
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- (H) REFL PAV MRK TY I (W) (THRU/RIGHT ARROW) (100MIL)
- (I) REFL PAV MRK TY I (Y) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (J) REFL PAV MRK TY I (Y) (4") (SLD) (100MIL) W/ REFL PAV MRKR TY II-A-A
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- (L) REFL PAV MRKR TY II-B-B

ESTIMATED QUANTITIES

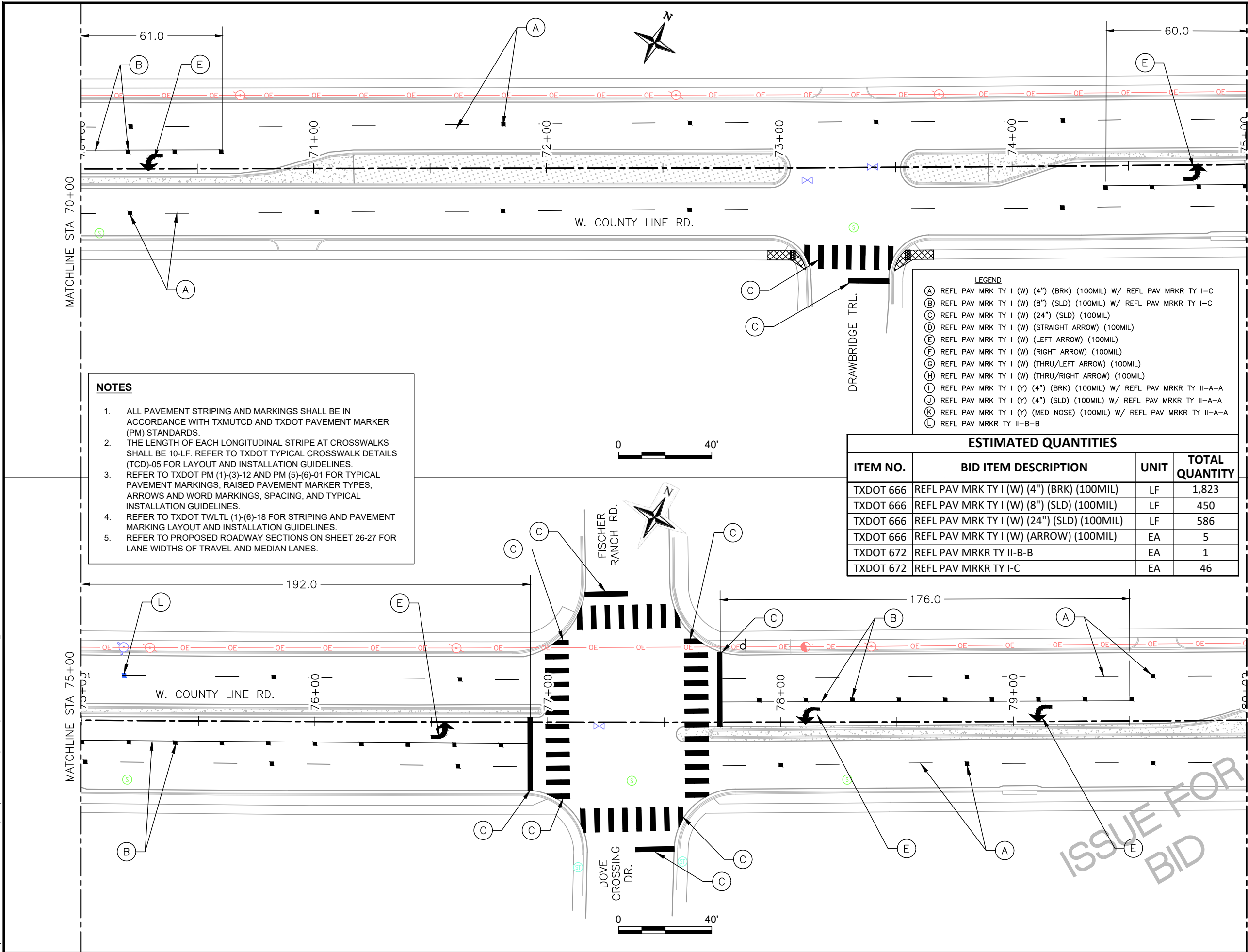
ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF	1,913
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF	402
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF	193
TXDOT 666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	3
TXDOT 672	REFL PAV MRKR TY II-B-B	EA	2
TXDOT 672	REFL PAV MRKR TY I-C	EA	45

MATCHLINE STA 65+00

MATCHLINE STA 70+00

DRAWN BY: RK		DESIGNED BY: DV		CHECKED BY: SJ		SCALE: 1" = 40'		DATE: 09/21/2022		PR. NO: 702-409-000		FILE: 702-CLR-SIGNAGESTRIPING_LHS	
New Braunfels Branch Office Texas Engineering Firm F-131 Texas Survey Firm 10194320 1011 West County Line Road New Braunfels, Texas 78130 (P) 830.626.3588 (F) 830.626.3601 www.trihydro.com													
HEADQUARTERS 1252 Commerce Drive Laramie, Wyoming 82070 (P) 307.746.7474 (F) 307.746.7729													
ROADWAY PAVEMENT MARKINGS STA 60+00 TO STA 70+00						WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES							
SHEET 53 53 OF 63						REV: 1							

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NOTES

1. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE IN ACCORDANCE WITH TXMUTCD AND TXDOT PAVEMENT MARKER (PM) STANDARDS.
2. THE LENGTH OF EACH LONGITUDINAL STRIPE AT CROSSWALKS SHALL BE 10-LF. REFER TO TXDOT TYPICAL CROSSWALK DETAILS (TCD)-05 FOR LAYOUT AND INSTALLATION GUIDELINES.
3. REFER TO TXDOT PM (1)-(3)-12 AND PM (5)-(6)-01 FOR TYPICAL PAVEMENT MARKINGS, RAISED PAVEMENT MARKER TYPES, ARROWS AND WORD MARKINGS, SPACING, AND TYPICAL INSTALLATION GUIDELINES.
4. REFER TO TXDOT TWLTL (1)-(6)-18 FOR STRIPING AND PAVEMENT MARKING LAYOUT AND INSTALLATION GUIDELINES.
5. REFER TO PROPOSED ROADWAY SECTIONS ON SHEET 26-27 FOR LANE WIDTHS OF TRAVEL AND MEDIAN LANES.

LEGEND

- (A) REFL PAV MRK TY I (W) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY I-C
- (B) REFL PAV MRK TY I (W) (8") (SLD) (100MIL) W/ REFL PAV MRKR TY I-C
- (C) REFL PAV MRK TY I (W) (24") (SLD) (100MIL)
- (D) REFL PAV MRK TY I (W) (STRAIGHT ARROW) (100MIL)
- (E) REFL PAV MRK TY I (W) (LEFT ARROW) (100MIL)
- (F) REFL PAV MRK TY I (W) (RIGHT ARROW) (100MIL)
- (G) REFL PAV MRK TY I (W) (THRU/LEFT ARROW) (100MIL)
- (H) REFL PAV MRK TY I (W) (THRU/RIGHT ARROW) (100MIL)
- (I) REFL PAV MRK TY I (Y) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (J) REFL PAV MRK TY I (Y) (4") (SLD) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (K) REFL PAV MRK TY I (Y) (MED NOSE) (100MIL) W/ REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-B-B

ESTIMATED QUANTITIES

ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF	1,823
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF	450
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF	586
TXDOT 666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	5
TXDOT 672	REFL PAV MRKR TY II-B-B	EA	1
TXDOT 672	REFL PAV MRKR TY I-C	EA	46



9/21/22

DRAWN BY: RK	DESIGNED BY: DV
CHECKED BY: SJ	SCALE: 1" = 40'
DATE: 09/21/2022	PR. NO: 702-409-000
FILE: 702-CLR-SIGNAGESTRIPING_LHS	



Headquarters
1252 Commerce Drive
Laramie, Wyoming 82070
(P) 307/746.7474 (F) 307/746.7729
www.trihydro.com

New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830/626.3588 (F) 830/626.3601

ROADWAY PAVEMENT MARKINGS
STA 70+00 TO STA 80+00

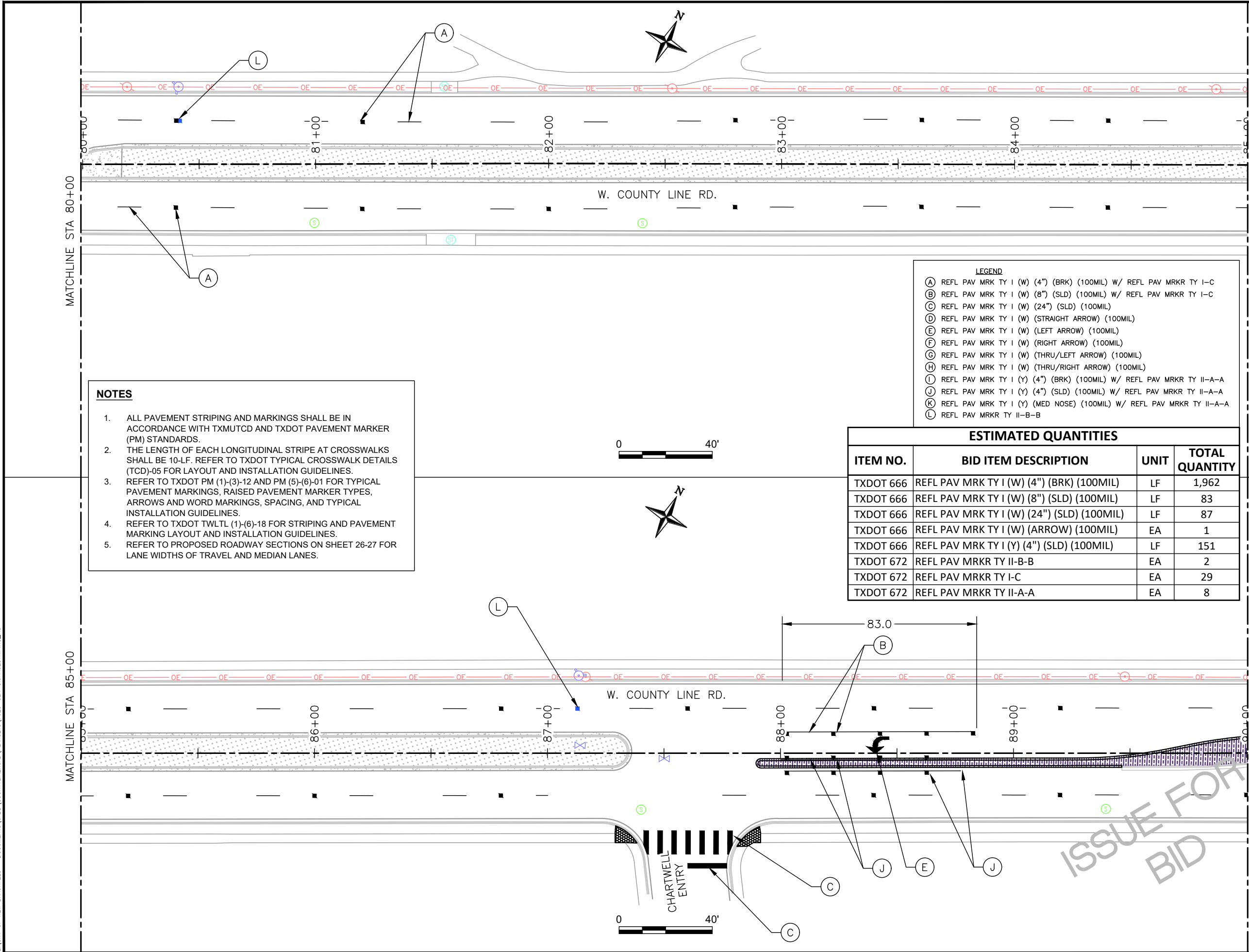
WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
54
54 OF 63

REV:
1

REV.	DATE	DESCRIPTION	BY	CHK'D
1	09/21/2022	ISSUE FOR BID	MM	SJ

L:\CITY OF NEW BRAUNFELS - DOCUMENTS\CADD\COUNTY\INROAD\PLANSETS\2025-CLP-SIGNAGE\STRIPING_LHS



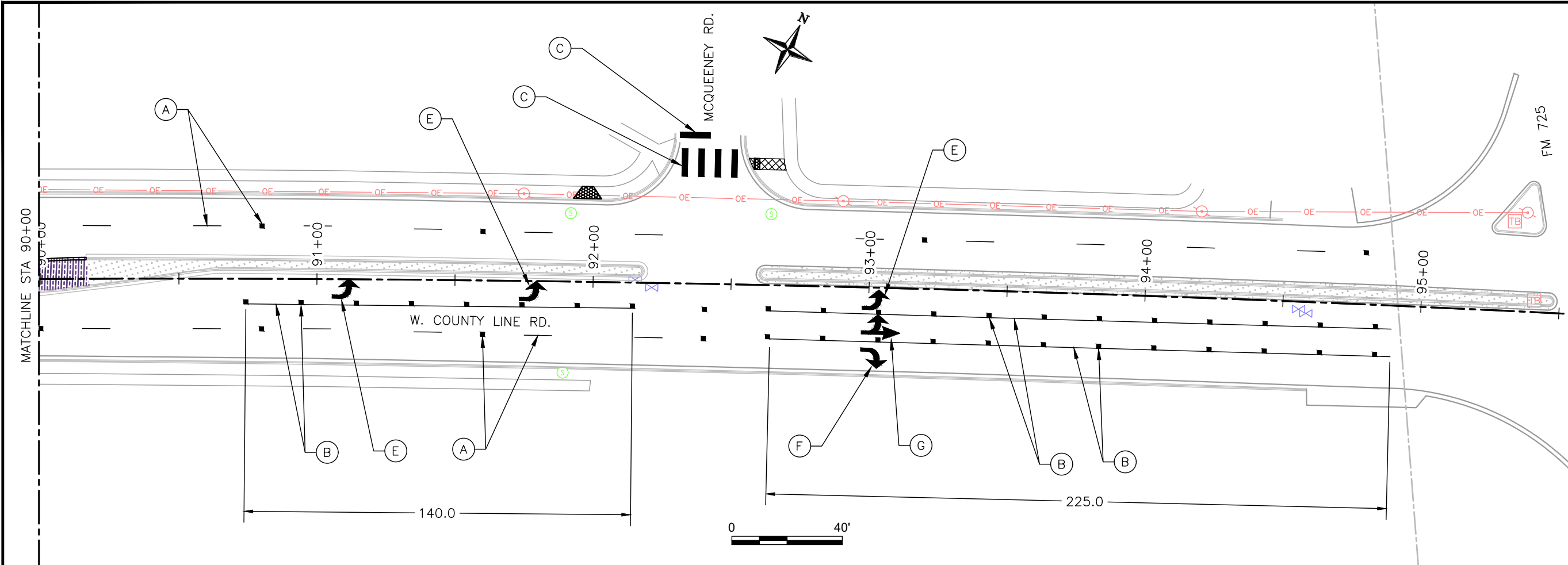
- NOTES**
- ALL PAVEMENT STRIPING AND MARKINGS SHALL BE IN ACCORDANCE WITH TXMUTCD AND TXDOT PAVEMENT MARKER (PM) STANDARDS.
 - THE LENGTH OF EACH LONGITUDINAL STRIPE AT CROSSWALKS SHALL BE 10-LF. REFER TO TXDOT TYPICAL CROSSWALK DETAILS (TCD)-05 FOR LAYOUT AND INSTALLATION GUIDELINES.
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 - REFER TO PROPOSED ROADWAY SECTIONS ON SHEET 26-27 FOR LANE WIDTHS OF TRAVEL AND MEDIAN LANES.

- LEGEND**
- (A) REFL PAV MRK TY I (W) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY I-C
 - (B) REFL PAV MRK TY I (W) (8") (SLD) (100MIL) W/ REFL PAV MRKR TY I-C
 - (C) REFL PAV MRK TY I (W) (24") (SLD) (100MIL)
 - (D) REFL PAV MRK TY I (W) (STRAIGHT ARROW) (100MIL)
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 - (H) REFL PAV MRK TY I (W) (THRU/RIGHT ARROW) (100MIL)
 - (I) REFL PAV MRK TY I (Y) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY II-A-A
 - (J) REFL PAV MRK TY I (Y) (4") (SLD) (100MIL) W/ REFL PAV MRKR TY II-A-A
 - (K) REFL PAV MRK TY I (Y) (MED NOSE) (100MIL) W/ REFL PAV MRKR TY II-A-A
 - (L) REFL PAV MRKR TY II-B-B

ESTIMATED QUANTITIES			
ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF	1,962
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF	83
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF	87
TXDOT 666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	1
TXDOT 666	REFL PAV MRK TY I (Y) (4") (SLD) (100MIL)	LF	151
TXDOT 672	REFL PAV MRKR TY II-B-B	EA	2
TXDOT 672	REFL PAV MRKR TY I-C	EA	29
TXDOT 672	REFL PAV MRKR TY II-A-A	EA	8



DRAWN BY: RK		DESIGNED BY: DV		CHECKED BY: SJ		SCALE: 1" = 40'		DATE: 09/21/2022		PR. NO: 702-409-000		FILE: 702-CUR-SIGNAGE\STRIPING_LHS						
ROADWAY PAVEMENT MARKINGS STA 80+00 TO STA 90+00		WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES		SHEET 55 55 OF 63		REV: 1		9/21/22 <table border="1"><thead><tr><th colspan="2">REVISIONS</th></tr><tr><th>REV.</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>1</td><td>ISSUE FOR BID</td></tr></tbody></table>					REVISIONS		REV.	DESCRIPTION	1	ISSUE FOR BID
REVISIONS																		
REV.	DESCRIPTION																	
1	ISSUE FOR BID																	



LEGEND

- (A) REFL PAV MRK TY I (W) (4") (BRK) (100MIL) W/ REFL PAV MRKR TY I-C
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NOTES

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ESTIMATED QUANTITIES

ITEM NO.	BID ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
TXDOT 666	REFL PAV MRK TY I (W) (4") (BRK) (100MIL)	LF	735
TXDOT 666	REFL PAV MRK TY I (W) (8") (SLD) (100MIL)	LF	590
TXDOT 666	REFL PAV MRK TY I (W) (24") (SLD) (100MIL)	LF	51
TXDOT 666	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	5
TXDOT 672	REFL PAV MRKR TY I-C	EA	39



9/21/22

DRAWN BY: RK
DESIGNED BY: DV
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ROADWAY PAVEMENT MARKINGS
STA 90+00 TO STA 95+50

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

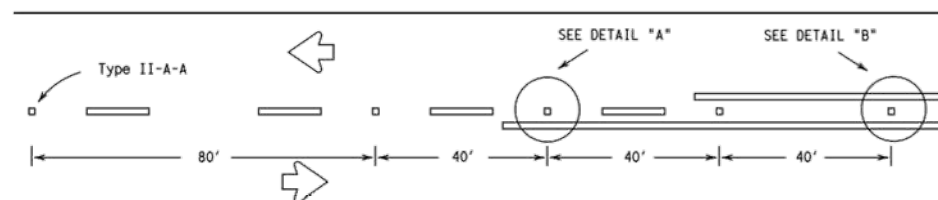
SHEET
56
56 OF 63

REV:
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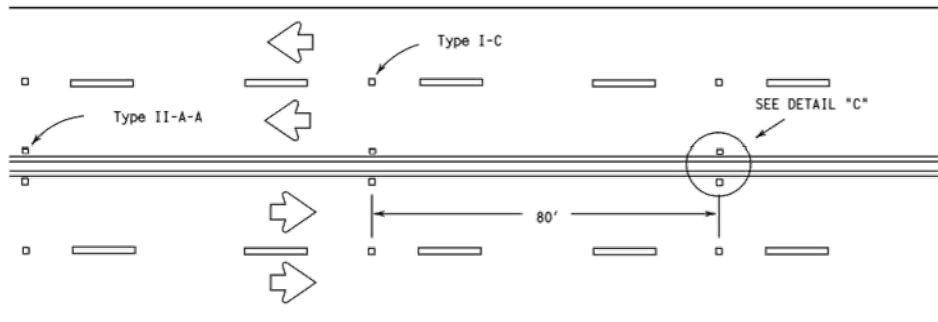
ISSUE FOR
BID

TYPICAL STANDARD PAVEMENT MARKINGS	WEST COUNTY LINE ROAD MAINTENANCE CITY OF NEW BRAUNFELS COMAL/GUADALUPE COUNTIES	SHEET		REV:	
		57		1	
		57 OF 63			
		 Trihydro CORPORATION			
		Headquarters 1252 Commerce Drive Laramie, Wyoming 82070 (P) 307/745,7474 (F) 307/745,7729 www.trihydro.com New Braunfels Branch Office Texas Engineering Firm F-131 Texas Survey Firm 10194320 1011 West County Line Road New Braunfels, Texas 78130 (P) 830/626,3588 (F) 830/626,3601			
DRAWN BY: RK DESIGNED BY: DV CHECKED BY: SJ SCALE: NONE DATE: 09/21/2022 PR. NO: 702-409-000 FILE: 7025-CLB-DETAILS		 9/21/22			
		1		REV.	
		09/21/2022		DATE	
		ISSUE FOR BID		DESCRIPTION	
				REVISIONS	

REFLECTIVE RAISED PAVEMENT MARKERS
FOR VEHICLE POSITIONING GUIDANCE

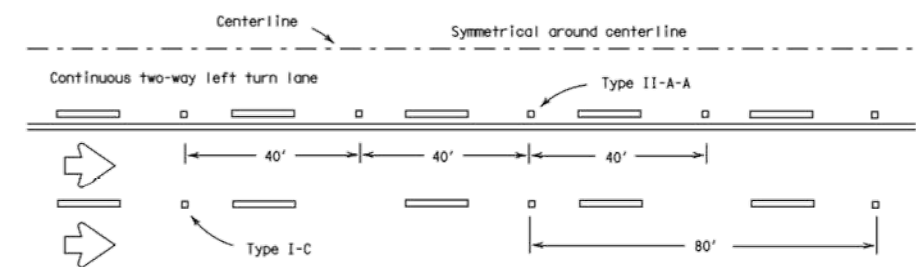


CENTERLINE FOR ALL TWO LANE ROADWAYS

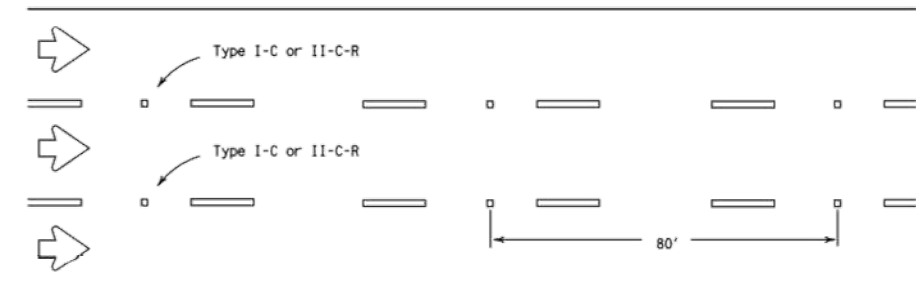


CENTERLINE & LANE LINES
FOR FOUR LANE TWO-WAY HIGHWAYS

Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.

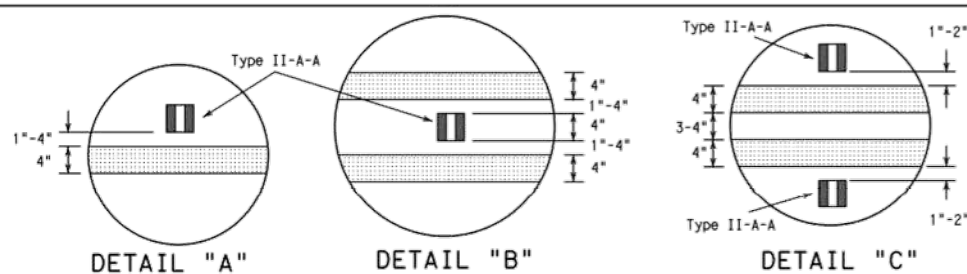


CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

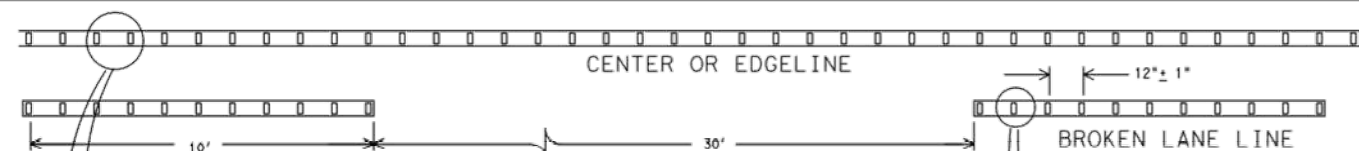
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.



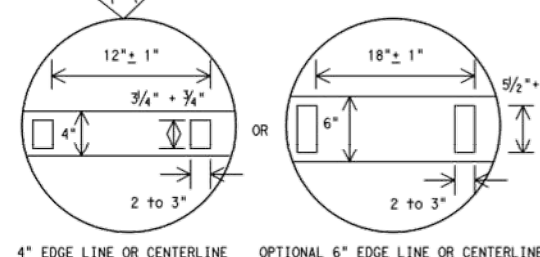
DETAIL "A"

DETAIL "B"

DETAIL "C"



REFLECTORIZED PROFILE
PATTERN DETAIL
USING REFLECTIVE PROFILE PAVEMENT MARKINGS



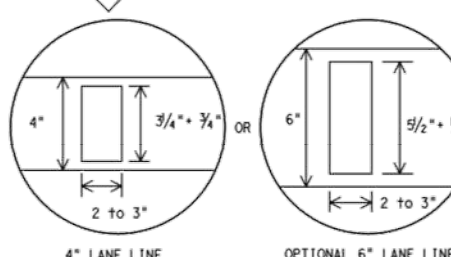
4" EDGE LINE OR CENTERLINE

OPTIONAL 6" EDGE LINE OR CENTERLINE

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTE:

Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.



4" LANE LINE

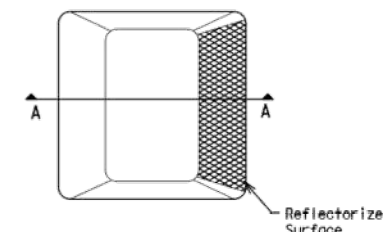
OPTIONAL 6" LANE LINE

GENERAL NOTES

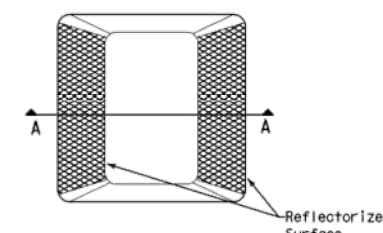
- All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
- On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

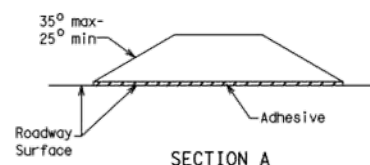
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



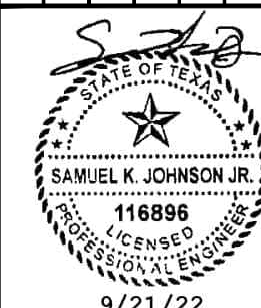
RAISED PAVEMENT MARKERS

Texas Department of Transportation
Traffic Operations Division

POSITION GUIDANCE USING
RAISED MARKERS
REFLECTORIZED PROFILE
MARKINGS

PM(2)-12

DATE: 09/21/2022	BY: TJD	CHK: TJD	CHK: TJD	CHK: TJD
REVISIONS	DATE	BY	CHK	DESCRIPTION
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9/21/22

DRAWN BY: RK	DESIGNED BY: DV	CHECKED BY: SJ	SCALE: NONE	DATE: 09/21/2022	PR. NO: 702-409-000	FILE: 702-CL-DETAILS
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POSITION GUIDANCE USING
RAISED MARKERS
REFLECTORIZED PROFILE
MARKINGS

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

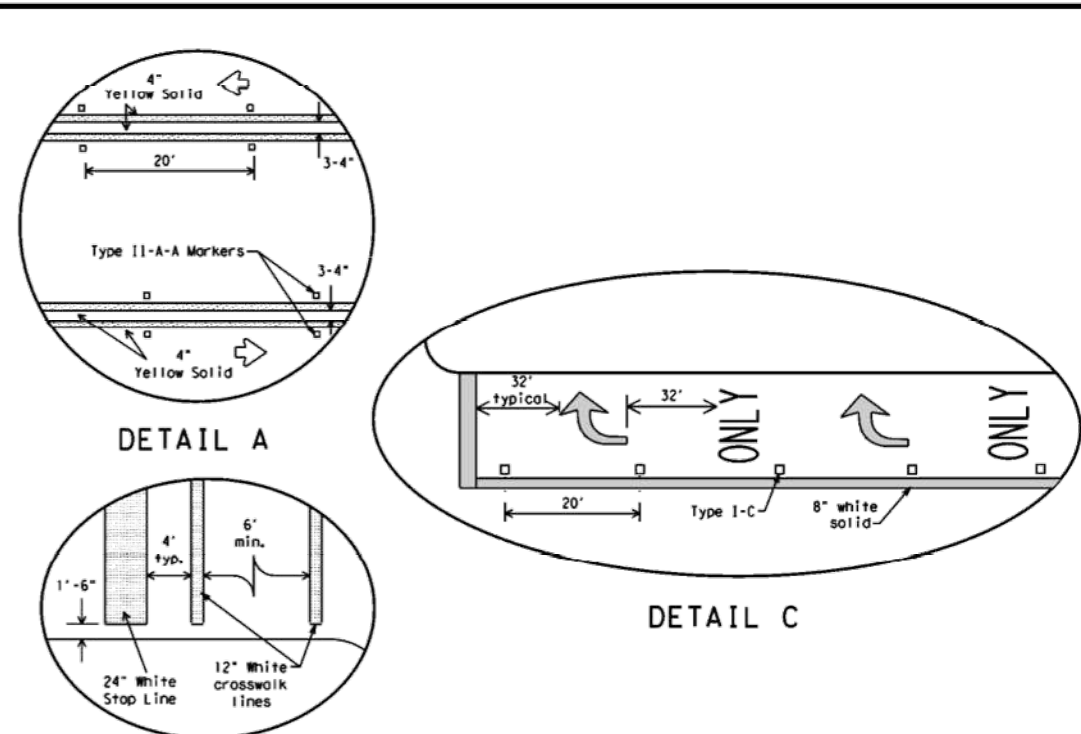
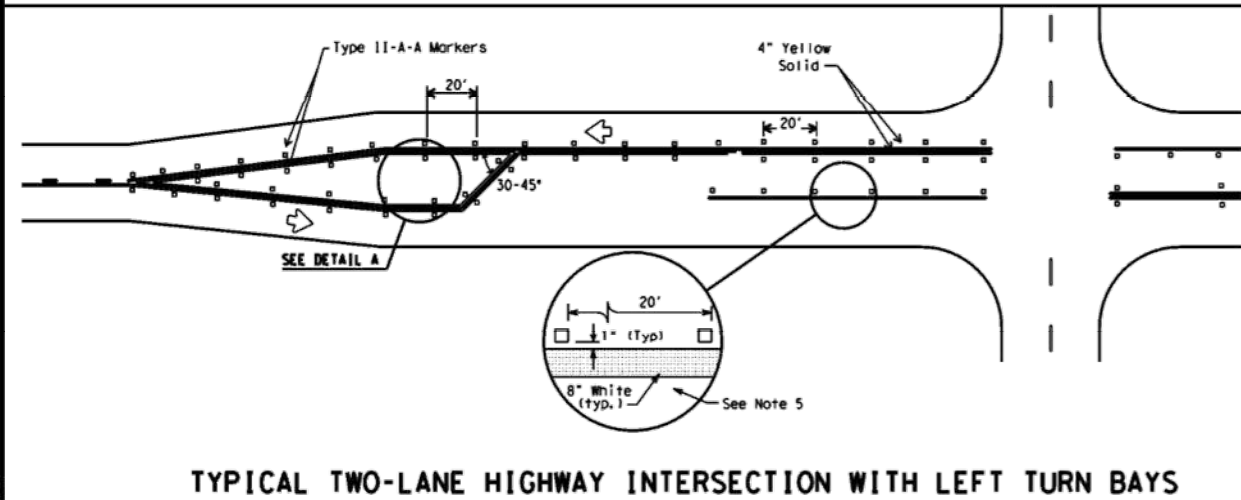
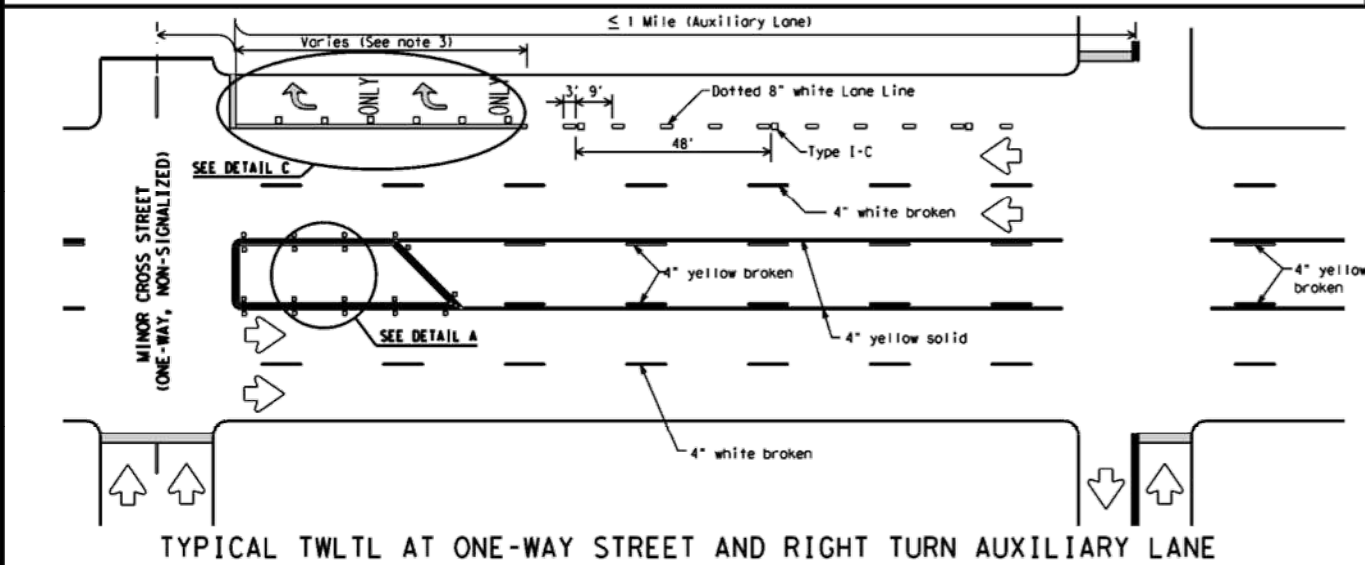
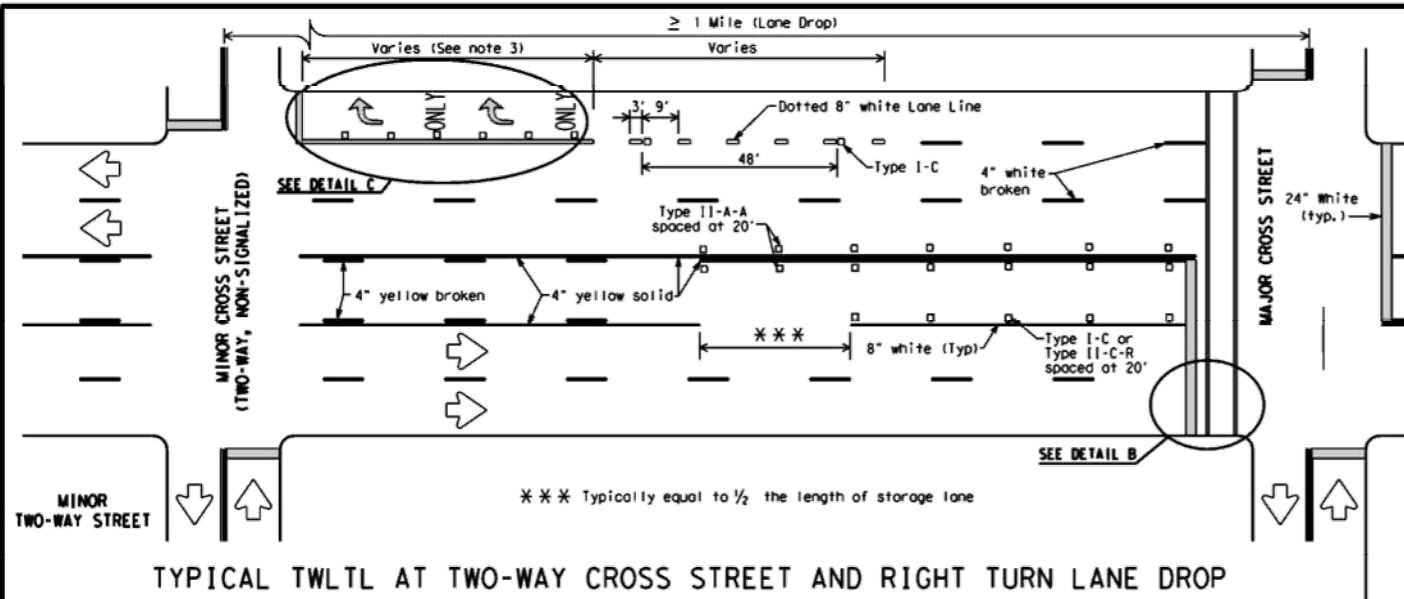
SHEET
58
58 OF 63

REV:
1

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DATE: FILE:

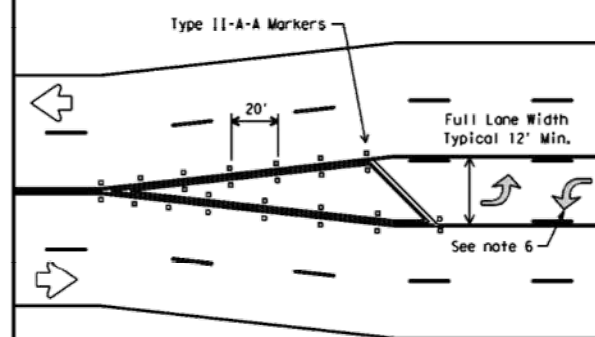


Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

DETAIL B

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

- Refer elsewhere in plans for additional RPM placement and details.
- Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows as shown in the Standard Highway Sign Designs for Texas.
- When lane used word and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
- Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used.
- Raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Raised pavement marker Type II-C-R with divided highways and raised medians.
- A two-way left-turn (TWLTL) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

Texas Department of Transportation
Traffic Operations Division

PAVEMENT MARKINGS FOR
TWO-WAY LEFT TURN LANES
DIVIDED HIGHWAYS AND
RURAL LEFT TURN BAYS
PM(3)-12

TXDOT	1998	TXDOT	CKI	TXDOT	DM	TXDOT	CKI	TXDOT
PROVISIONS	SC	JOB	HIGHWAY	LIST	COUNTY	SHEET NO.		

22C



9/21/22

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS



New Braunfels Branch Office
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Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
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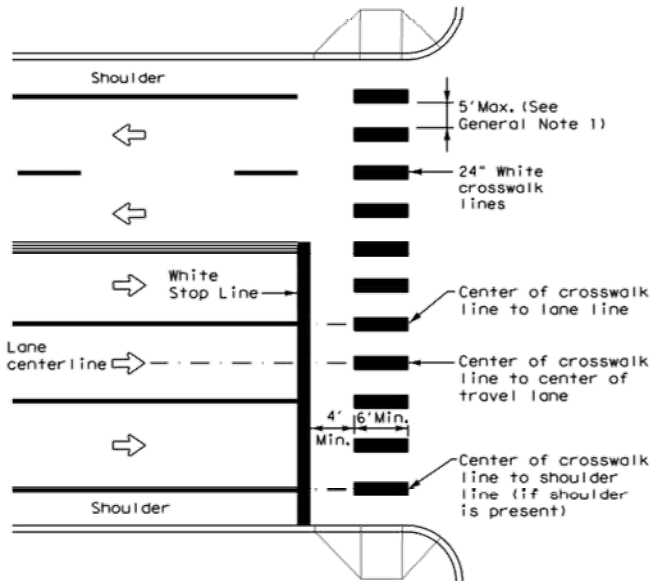
PAVEMENT MARKINGS FOR
TWO-WAY LEFT TURN LANES
DIVIDED HIGHWAYS AND RURAL
LEFT TURN BAYS
WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
59
59 OF 63

REV:
1

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DATE: FILE:



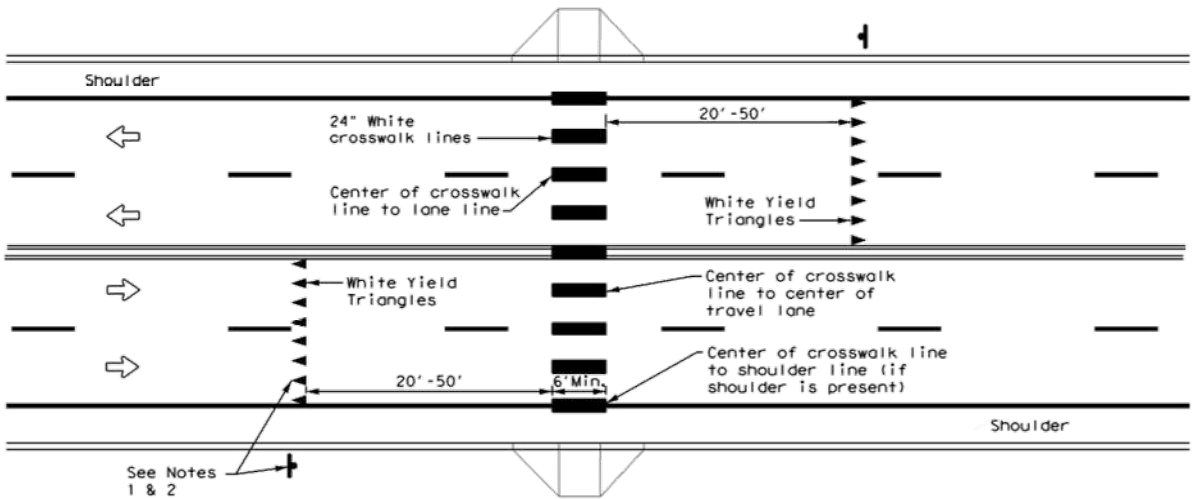
HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

GENERAL NOTES

1. Longitudinal crosswalk lines should not be placed in the wheel path of vehicles. Center the crosswalk lines on travel lanes, lane lines, and shoulder lines (if present).
2. A minimum 6" clear distance shall be provided to the curb face. If the last crosswalk line falls into this distance it must be omitted.
3. For divided roadways, adjustments in spacing of the crosswalk lines should be made in the median so that the crosswalk lines are maintained in their proper location across the travel portion of the roadway.
4. At skewed crosswalks, the crosswalk lines are to remain parallel to the lane lines.
5. Each crosswalk shall be a minimum of 6' wide.
6. The High-Visibility Longitudinal Crosswalk is the preferred crosswalk pattern on State Highways. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used. All crosswalk designs and dimension shall comply with the "Texas Manual on Uniform Traffic Control Devices."
7. Final placement of Stop Bar/Yield Triangles and Crosswalk shall be approved by the Engineer in the field.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



UNSIGNALIZED MID BLOCK HIGH-VISIBILITY LONGITUDINAL CROSSWALK

NOTES

1. Use yield triangles with "Yield Here to Pedestrians" signs at unsignalized mid block crosswalks.
2. Use stop bars with "Stop Here on Red" signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

	Texas Department of Transportation	Traffic Safety Division Standard
CROSSWALK PAVEMENT MARKINGS		
PM(4) - 20		
FILE: 7025-CLR-DETAILS	CK: 1	DR: 1
DATE: 09/21/2022	JOB: 7025-CLR-DETAILS	HIGHWAY: 7025-CLR-DETAILS
REVISIONS	COUNTY: 7025-CLR-DETAILS	SHEET NO: 7025-CLR-DETAILS

CROSSWALK PAVEMENT MARKINGS

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
60
60 OF 63

REV:
1



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Texas Engineering Firm F-131
Texas Survey Firm 10194320
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DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS



9/21/22

REV.	DATE	DESCRIPTION	BY	CHK'D
1	09/21/2022	ISSUE FOR BID	MM	SJ

REVISIONS

LEVELS DISPLAYED											
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STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

STANDARD
PAVEMENT MARKINGS
WORDS

PM(5) -01

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DESIGNED BY	GRB	DESIGNED BY	FDN	DESIGNED BY	CAL
CHECKED BY		CHECKED BY		CHECKED BY	
DATE	6/1/2011	DATE		DATE	
CONTROL		CONTROL		CONTROL	
SECTION		SECTION		SECTION	
JOB		JOB		JOB	
REVISION		REVISION		REVISION	

22G



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(P) 307/746.7474 (F) 307/746.7729
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Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
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STANDARD PAVEMENT
MARKINGS (WORDS)

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET
61
61 OF 63

REV:
1

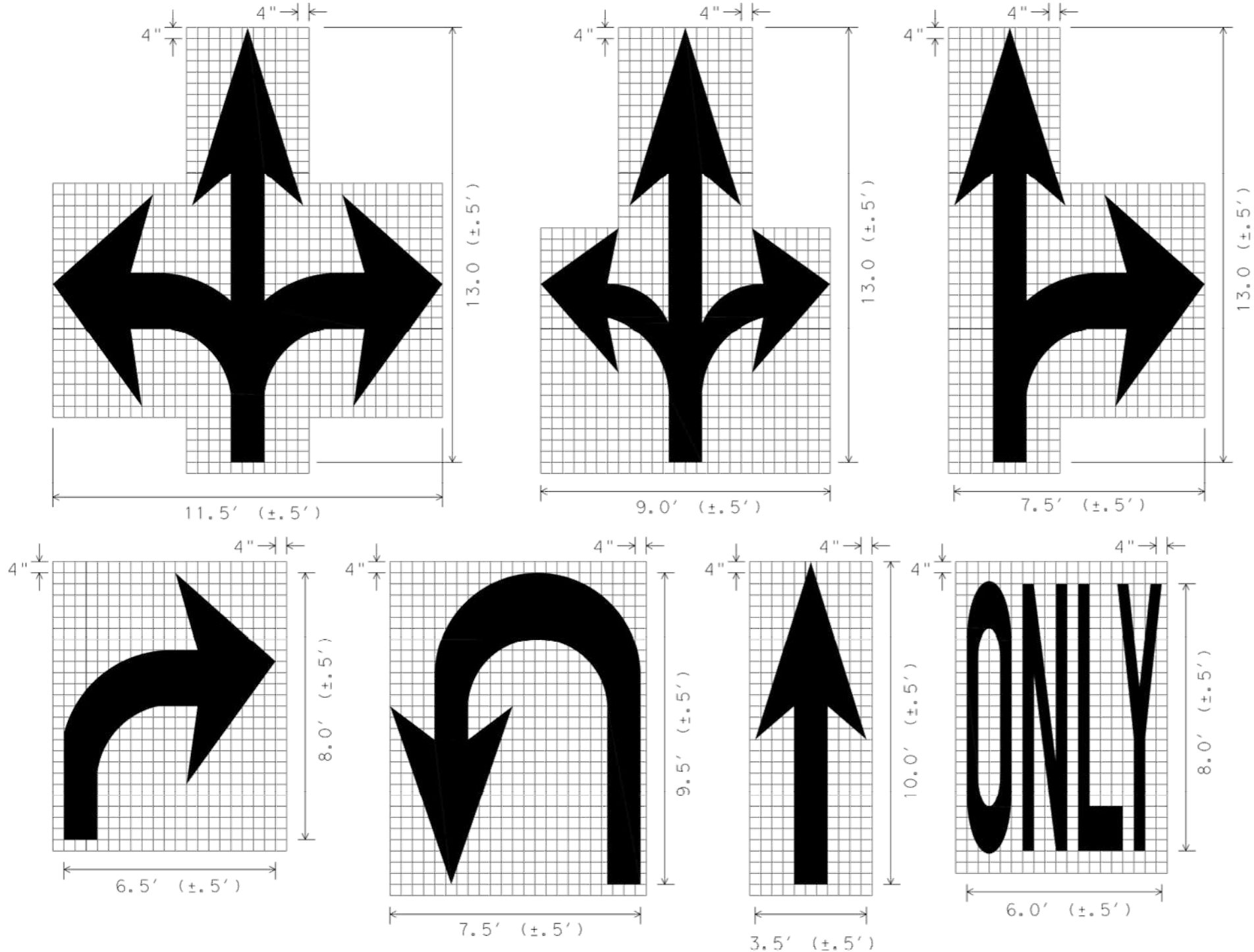
9/21/22

DRAWN BY: RK
DESIGNED BY: DV
CHECKED BY: SJ
SCALE: NONE
DATE: 09/21/2022
PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS

REV.	DATE	DESCRIPTION	BY	CHK'D
1	09/21/2022	ISSUE FOR BID	MM	SJ

LEVELS DISPLAYED											
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1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12

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- GENERAL NOTES;
1. Minimum 8 foot white markings should be used, unless otherwise noted. If message consists of more than one word, it should be placed with first word nearest the driver.
 2. These details are standard size for normal installation; sizes may be reduced approximately one-third for low speed urban conditions; larger sizes may be needed for freeways, above average speed conditions or other critical locations.
 3. The longitudinal space between markings should be at least four times the height of the markings, on low speed roads, but should not exceed ten times the height under any condition.
 4. Markings considered appropriate for use when warranted include the following:
 - A. Regulatory
 - STOP
 - RIGHT (LEFT) TURN ONLY
 - 25 MPH
 - SYMBOL ARROWS
 - B. Warning
 - STOP AHEAD
 - SIGNAL AHEAD
 - SCHOOL
 - SCHOOL X-ING
 - PED X-ING
 - R X R (see RCPM standard)
 - C. Guide
 - US XXX
 - ROUTE XXX
 - STATE XXXOther words or symbols may be necessary under certain conditions.
 5. Uncontrolled use of pavement markings can result in driver confusion. Word and symbol markings should be no more than three lines.
 6. The word "STOP" shall not be used on the pavement unless accompanied by a Stop line and Stop sign. The word "STOP" shall not be placed on the pavement in advance to a stop line, unless every vehicle is required to stop at all times.
 7. Pavement markings should generally be no more than one lane in width, with School messages being the exception. For details of School and School crossing pavement markings, refer to Part VII of the "Texas Manual on Uniform Traffic Control Devices".
 8. Spacing between letters should be approximately 4 inches. The width of letters may vary depending on the width of the travel lanes.
 9. Lane-Use arrow markings may be used to convey either guidance or mandatory messages. Arrows used to convey a mandatory movement must be accompanied by standard signs and the pavement marking word "ONLY".
 10. Pavement markings are to be located as specified elsewhere in the plans.

SPACING BETWEEN LINES OF PAVEMENT MARKINGS	
MPH	SPACING
≤ 45	MINIMUM 4 TIMES THE LETTER HEIGHT
> 45	MINIMUM - 4 TIMES THE LETTER HEIGHT MAXIMUM - 10 TIMES THE LETTER HEIGHT

**STANDARD PLANS**
Texas Department of Transportation
Traffic Operations Division

**STANDARD
PAVEMENT MARKINGS
(ARROWS)**

PM(6) -01

© TxDOT March 2011	DRW: GRB	DM: FDN	CK: CAL
PROJECT: 6	FEDERAL AID PROJECT		SHEET
CORR:	CONTROL:	SECTION:	JOB:
			SECTION:

22H



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Laramie, Wyoming 82070
(P) 307/746,7474 (F) 307/746,7729
www.trihydro.com

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Texas Engineering Firm F-131
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1011 West County Line Road
New Braunfels, Texas 78130
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**STANDARD PAVEMENT
MARKINGS (ARROWS)**

**WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES**

DRAWN BY:	RK
DESIGNED BY:	DV
CHECKED BY:	SJ
SCALE:	NONE
DATE:	09/21/2022
PR. NO:	702-409-000
FILE:	7025-CLR-DETAILS

REV.	DATE	DESCRIPTION
1	09/21/2022	ISSUE FOR BID

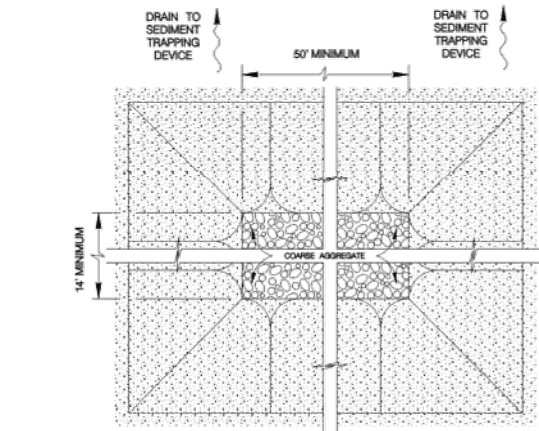
BY	CHK'D
MM	SJ



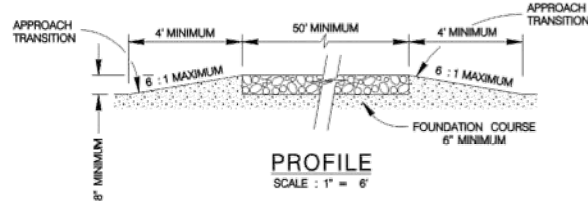
9/21/22

REVISIONS

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PLAN
SCALE : 1" = 6'

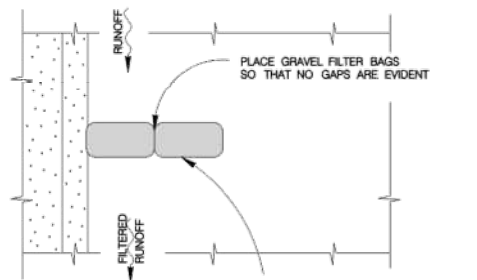


PROFILE
SCALE : 1" = 6'

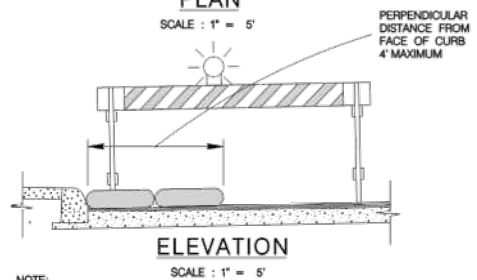
GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT - TYPE 1



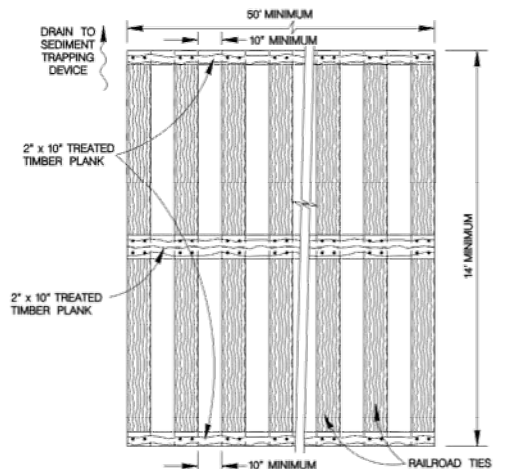
PLAN
SCALE : 1" = 5'



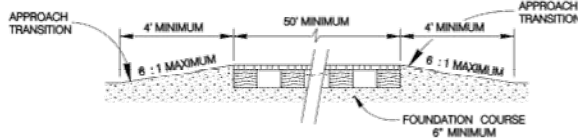
ELEVATION
SCALE : 1" = 5'

NOTE: STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER, FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

GRAVEL FILTER BAGS



PLAN
SCALE : 1" = 6'

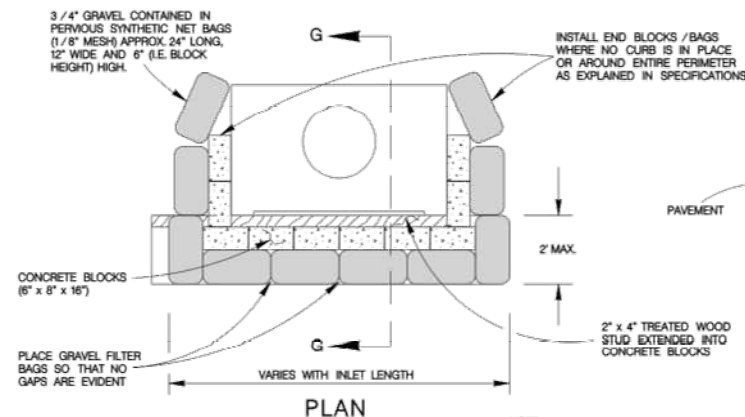


PROFILE
SCALE : 1" = 6'

GENERAL NOTES

1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1/2" x 6" MIN. LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
6. THE CONSTRUCTION EXIT SHOULD BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

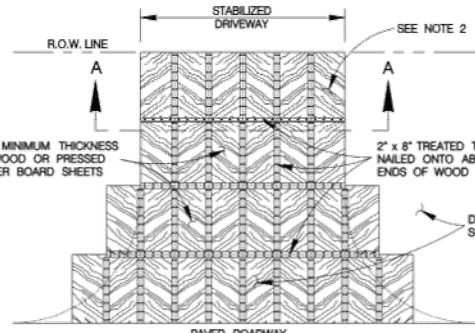
CONSTRUCTION EXIT - TYPE 2



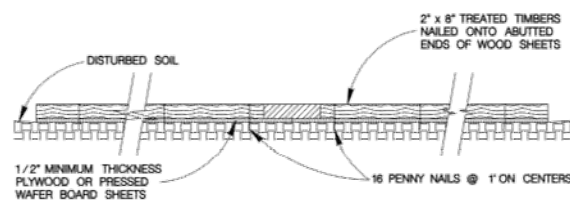
PLAN
SCALE : 1" = 5'

NOTE: GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND.

CURB INLET GRAVEL FILTER



PLAN
SCALE : 1" = 20'

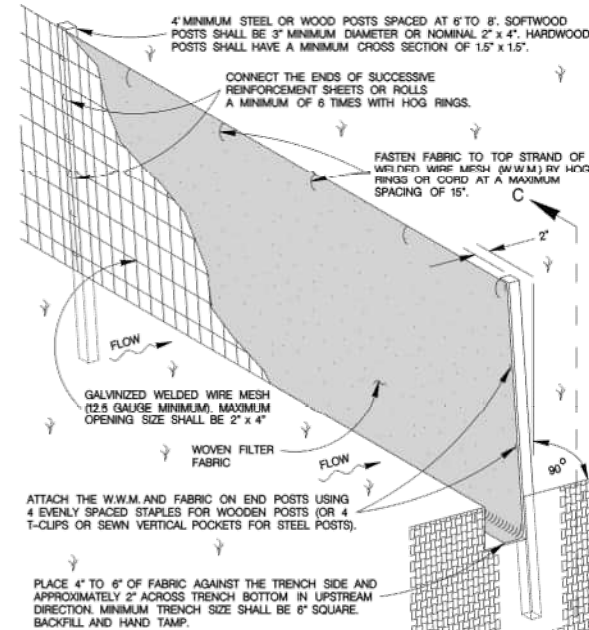


SECTION A-A
SCALE : 1" = 2'

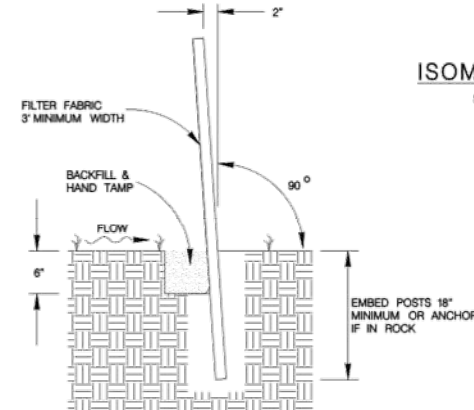
GENERAL NOTES

1. THE LENGTH OF THE TYPE 3 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. THE TYPE 3 CONSTRUCTION EXIT MAY BE CONSTRUCTED FROM OPEN GRADED CRUSHED STONE WITH A SIZE OF 2 TO 4 INCHES SPREAD A MINIMUM OF 4 INCHES THICK TO THE LIMITS SHOWN ON THE PLANS.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT - TYPE 3



ISOMETRIC VIEW
SCALE : 1" = 2'



SECTION C-C
SCALE : 1" = 2'

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 RUN-OFF. 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 THRU RATE OF 100 GPM /FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

GENERAL NOTES

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

TEMPORARY SEDIMENT CONTROL FENCE

JANUARY 2005
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

DATE: _____
DRAWN BY: V. VASQUEZ DSGN. BY: _____ CHKD. BY: _____ SHEET NO.: _____ OF _____

REV.	DATE	DESCRIPTION	CHK'D
1	09/21/2022	ISSUE FOR BID	SJ
			MM
			BY

STATE OF TEXAS
SAMUEL K. JOHNSON JR.
116896
LICENSED PROFESSIONAL ENGINEER
9/21/22

DRAWN BY: RK	DESIGNED BY: DV
CHECKED BY: SJ	SCALE: NONE
DATE: 09/21/2022	PR. NO: 702-409-000
FILE: 7025-CLR-DETAILS	

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New Braunfels Branch Office
Texas Engineering Firm F-131
Texas Survey Firm 10194320
1011 West County Line Road
New Braunfels, Texas 78130
(P) 830.626.3588 (F) 830.626.3601
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Headquarters
1252 Commerce Drive
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TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

WEST COUNTY LINE ROAD MAINTENANCE
CITY OF NEW BRAUNFELS
COMAL/GUADALUPE COUNTIES

SHEET 63 63 OF 63	REV: 1
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