

CONT	SECT	JOB	HIGHWAY
0114	17	010	SL 109
DIST	COUNTY		SHEET NO.
AUS	BASTROP		1

# STATE OF TEXAS DEPARTMENT OF TRANSPORTATION

## PLANS OF PROPOSED STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT NUMBER:

F 2022(815)

CSJ: 0114-17-010

NET PROJECT LENGTH= 4028.33 FT  
0.763 MI

### BASTROP COUNTY

#### SL 109

FROM: 11th ST  
TO: W CLEVELAND ST

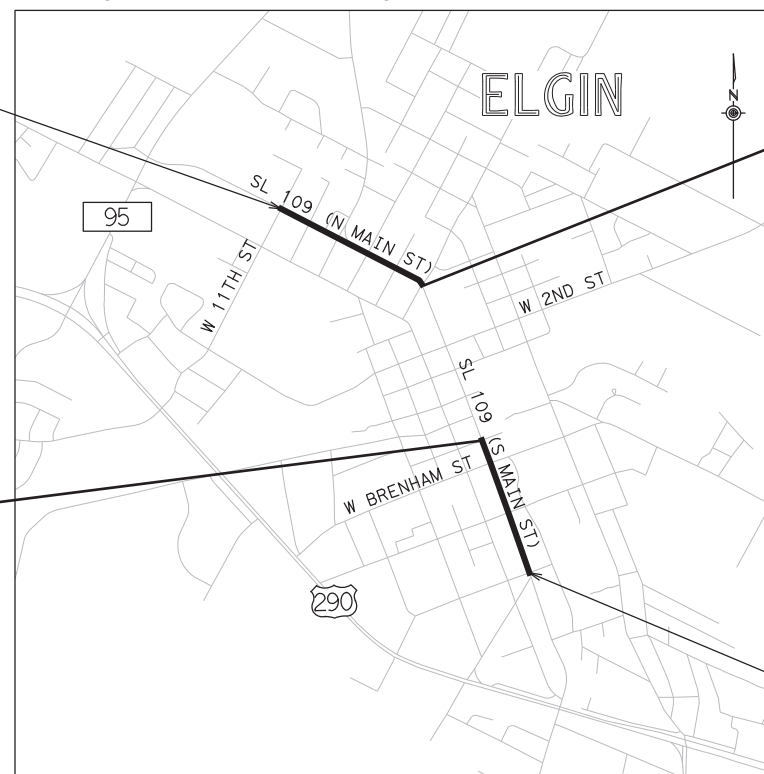
CONSTRUCTION OF PEDESTRIAN, SIDEWALKS & CURB RAMPS  
CONSISTING OF REPAIR AND REPLACE EXISTING PEDESTRIAN  
FACILITIES AND INSTALL NEW FACILITIES

BEGIN PROJECT  
BEGIN CONSTRUCTION  
LATITUDE: 30° 21' 15.57" N  
LONGITUDE: -97° 22' 40.13" W

BEGIN EXCEPTIONS  
AT LEXINGTON RD.

END EXCEPTIONS  
AT W AUSTIN ST.

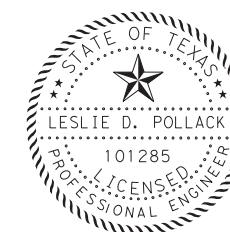
END PROJECT  
END CONSTRUCTION  
LATITUDE: 30° 20' 28.40" N  
LONGITUDE: -97° 22' 05.13" W



LOCATION MAP NOT TO SCALE

EXCEPTIONS: YES  
BEGIN EXCEPTION AT LEXINGTON RD.  
END EXCEPTION AT W AUSTIN ST.

EQUATIONS: NONE  
RAILROAD CROSSING: NONE



DESIGN SPEEDS: N/A  
ADT: N/A

2020: 6,095 VPD  
2040: 8,533 VPD

#### FINAL PLANS

DATE OF LETTING: \_\_\_\_\_

DATE WORK BEGAN: \_\_\_\_\_

DATE WORK COMPLETED AND ACCEPTED: \_\_\_\_\_

FINAL CONTRACT COST: \$ \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

LIST OF APPROVED CHANGE ORDERS:

**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754

PREPARED BY:  
HDR ENGINEERING, INC.  
TBPE FIRM NO. F-754

*Leslie D. Pollack*

05/24/2022

LESLIE D. POLLACK  
PROJECT MANAGER

DATE

Registered Accessibility Specialist  
(RAS) Inspection Required

TDLR No. EABPRJ TABS2022017946

SUBMITTED FOR LETTING: 5/27/2022

DocuSigned by:  
*Diana K. Schulzes P.E.*  
6775445255A3482...  
AREA ENGINEER

RECOMMENDED FOR LETTING: 5/28/2022

DocuSigned by:  
*Dwayne M. Hillman, P.E.*  
198012497A804A0...  
DISTRICT DESIGN ENGINEER

APPROVED FOR LETTING: 5/28/2022

DocuSigned by:  
*Heather Ashby-Nguyen*  
8912AF18F45A416...  
TRANSPORTATION PLANNING & DEVELOPMENT

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION ON NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, MAY 2012).

SHEET NUMBERS DESCRIPTION

**I. GENERAL**

- 1 TITLE SHEET
- 2 INDEX OF SHEETS
- 3, 3A-3F GENERAL NOTES
- 4, 4A ESTIMATE AND QUANTITY
- 5 - 7 SUMMARY SHEET
- 8 PROJECT LAYOUT

**II. TRAFFIC CONTROL PLAN**

*TRAFFIC CONTROL STANDARDS*

- 9 - 20 \* BC (1)-21 - BC (12)-21
- 21 \* TCP (1-1)-18
- 22 \* TCP (1-2)-18
- 23 \* TCP (1-3)-18
- 24 \* TCP (1-4)-18
- 25 \* TCP (2-1)-18
- 26 - 27 \* WZ (BTS-1)-13 - WZ (BTS-2)-13
- 28 \* WZ (UL)-13
- 29 \* WZ (RS)-22

**III. ROADWAY PLANS**

- 30 - 31 SURVEY CONTROL INDEX SHEET
- 32 - 40 N MAIN ST REMOVAL PLAN
- 41 - 48 S MAIN ST REMOVAL PLAN
- 49 - 57 N MAIN ST SIDEWALK PLAN
- 58 - 65 S MAIN ST SIDEWALK PLAN
- 66 - 69 SIDEWALK DETAILS
- 70 ASSET MAINTENANCE

*ROADWAY STANDARDS*

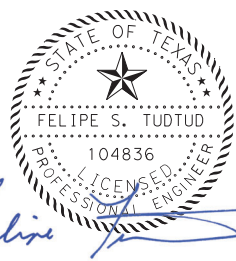
- 71 \* DWMB-22 (AUS)
- 72 \* MCPSWMD-19 (AUS)
- 73 \* CCCG-21
- 74 - 77 \* PED-18
- 78 - 80 \* PRD-13
- 81 - 84 \* MB (1)-21 - MB (4)-21
- 85 \* MB-14 (2)
- 86 \* MB-14 (2A)
- 87 \* MB-14 (2B)
- 88 \* PM (1)-20
- 89 \* PM (4)-22
- 90 \* SMD (GEN)-08
- 91 \* SMD (SLIP-1)-08
- 92 \* SMD (SLIP-2)-08
- 93 \* SMD (SLIP-3)-08

**IV. ENVIRONMENTAL**

- 94 EPIC
- 95 SW3P
- 96 SW3P GENERAL LAYOUT

*ENVIRONMENTAL STANDARDS*



- 97 - 99 \* EC (9)-16
- 100 \* TPD-19 (AUS)
- 101 \* PRWPD-20 (AUS)



05/24/2022

\* THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

PENTABLE: 10331291-ElgIn.tbl  
 DATE: 5/24/2022 TIME: 4:50:13 PM SCALE: 1:1  
 PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ElgInIndex01.dgn

NO.	DATE	REVISION	APPROVED
 HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
 Texas Department of Transportation © 2022			
<b>CURB RAMP PROGRAM</b>  <b>INDEX OF SHEETS</b>			
SHEET 1 OF 1			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	SEE TITLE SHEET		SL 109
CHECK	STATE	DISTRICT	COUNTY
CHECK	TEXAS	AUS	BASTROP
CHECK	CONTROL	SECTION	JOB
	0114	17	010
			<b>2</b>



GENERAL NOTES: Version: March 7, 2022

Item	Description	**Rate
3076	<b>Dense-Graded Hot-Mix Asphalt and Superpave</b>	110 LB/SY/IN
3085	<b>UnderSeal Course</b>	0.20 GAL/SY

\*\* For Informational Purposes Only

**The following standard detail sheet or sheets have been modified:**

**Modified Standards**

## **GENERAL**

Contractor questions on this project are to be addressed to the following individual(s):

Bastrop Area [Diana.Schulze@txdot.gov](mailto:Diana.Schulze@txdot.gov)  
Bastrop Area [Tanli.Sun@txdot.gov](mailto:Tanli.Sun@txdot.gov)

Contractor questions and request for documents will be accepted through email, phone, and in person by the above individuals. Response and documents will be posted to TxDOT's Public FTP at the following Address:

<https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/>

References to manufacturer's trade name or catalog numbers are for the purpose of identification only. Similar materials from other manufacturers are permitted if they are of equal quality, comply with the specifications for this project, and are approved.

If work is performed at Contractor's option, when inclement weather is impending, and the work is damaged by subsequent precipitation, the Contractor is responsible for all costs associated with replacing the work, if required.

Equip all construction equipment used in roadway work with highly visible omnidirectional flashing warning lights.

Provide a smooth, clean sawcut along the existing asphalt or concrete pavement structure, as directed. Consider subsidiary to the pertinent Items.

Construct all manholes/valves to final pavement elevations prior to the placement of final surface. If the manholes/valves are going to be exposed to traffic, place temporary asphalt around the manhole/valve to provide a 50:1 taper. The asphalt taper is subsidiary to the ACP work.

The contractor will be responsible for any sweeping above and beyond the normal maintenance required to keep fugitive sediment off the roadway as directed by the Engineer. This work will be subsidiary to other pertinent items.

Damage to existing pipes and SET's due to Contractor operations will be repaired at Contractor's expense.

All locations used for storing construction equipment, materials, and stockpiles of any type, within the right of way, will be as directed. Use of right of way for these purposes will be restricted to those locations where driver sight distance to businesses and side street intersections is not obstructed and at other locations where an unsightly appearance will not exist. The Contractor will not have exclusive use of right of way but will cooperate in the use of the right of way with the city/county and various public utility companies as required.

### ITEM 5 – CONTROL OF THE WORK

Place construction stakes at intervals of no more than 100 ft. This work is subsidiary.

#### **Precast Alternate Proposals.**

When a precast or cast-in-place concrete element is included in the plans, a precast concrete alternate may be submitted in accordance with “Standard Operating Procedure for Alternate Precast Proposal Submission” found online at <https://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/bridge.html#design>. Acceptance or denial of an alternate is at the sole discretion of the Engineer. Impacts to the project schedule and any additional costs resulting from the use of alternates are the sole responsibility of the Contractor.

#### **Electronic Shop Drawing Submittals.**

Submit electronic shop drawing submittals according to the current Guide to Electronic Shop Drawing Submittal <https://www.txdot.gov/business/resources/specifications/shop-drawings.html> (TxDOT.gov Business > Resources - General > Shop Drawings). Pre-approved producers can be found online at TxDOT.gov > Business > Resources - Material Producer List. Use the following contact list for all submittals that are not required to be sent to Bridge Division and to copy the Engineer for all submittals to the Bridge Division.

#### Submittal Contact List

Bastrop Area                      [Diana.Schulze@txdot.gov](mailto:Diana.Schulze@txdot.gov)                      AUS\_BA-ShopReview@txdot.gov

### ITEM 6 - CONTROL OF MATERIALS

Give a minimum of 1 business day notice for materials, which require inspection at the Plant.

### ITEM 7 – LEGAL RELATIONS AND RESPONSIBILITIES

TxDOT will coordinate with TDLR regarding pedestrian elements and sidewalks. The contractor will procure and provide all permits, licenses, and inspections; pay all charges, fees, and taxes regarding TDLR rules governing industrialized housing and buildings.

No significant traffic generator events identified.

Refer to the Environmental Permits, Issues and Commitments (EPIC) plan sheets for additional requirements and permits.

When any abandoned well is encountered, cease construction operations in this area and notify the Engineer who will coordinate the proper plugging procedures. A water well driller licensed in the State of Texas must be used to plug a well.

Perform maintenance of vehicles or equipment at designated maintenance sites. Keep a spill kit on-site during fueling and maintenance. This work is subsidiary.

Maintain positive drainage for permanent and temporary work for the duration of the project. Be responsible for any items associated with the temporary or interim drainage and all related maintenance. This work is subsidiary.

Locate aboveground storage tanks kept on-site for construction purposes in a contained area as to not allow any exposure to soils. The containment will be sized to capture 150% of the total capacity of the storage tanks.

**Work within a USACE Jurisdictional Area.**

Do not initiate activities within a U.S. Army Corps of Engineers (USACE) jurisdictional area that have not been previously evaluated by the USACE as part of the permit review of this project. Such activities include, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. Obtain written approval from the Engineer for activities not specifically addressed in the plans. Provide a signed sketch and description of the location 60 business days prior to begin work at the location. Complete and return any forms provided by TxDOT. Approval of the work is not guaranteed. Unapproved work is not a compensable impact.

**Work over or near Bodies of Water (lakes, rivers, ponds, creeks, dry waterways, etc.).**

Keep on site a universal spill kit adequate for the body of water and the work being performed. Debris is not allowed to fall into the ordinary high-water level (OHWL). Debris that falls into the OHWL must be removed at the end of each work day. Debris that falls into the floodway must be removed at the end of each work week or prior to a rain event. Install and maintain traffic control devices to maintain a navigable corridor for water traffic, except during bridge demo and beam placement. This work is subsidiary.

Obtain written approval from the Engineer for temporary fill or crossings not specifically addressed in the plans. Provide a signed sketch of the location 60 business days prior to begin work at the location. Complete and return any forms provided by TxDOT. Approval of the work is not guaranteed. Unapproved work is not a compensable impact.

**Migratory Birds and Bats.**

Migratory birds and bats may be nesting within the project limits and concentrated on roadway structures such as bridges and culverts. Remove all old and unoccupied migratory bird nests from any structures, trees, etc. between September 16 and February 28. Prevent migratory birds from re-nesting between March 1 and September 15. Prevention shall include all areas within 25 ft. of proposed work. All methods used for the removal of old nesting areas and the prevention of re-nesting must be submitted to TxDOT 30 business days prior to begin work. This work is subsidiary.

If active nests are encountered on-site during construction, all construction activity within 25 ft. of the nest must stop. Contact the Engineer to determine how to proceed.

**Tree and Brush Trimming and Removal.**

Work will be conducted September 16 thru February 28. Work conducted outside this timeframe will require a bird survey. Submit a survey request to TxDOT 30 business days prior to begin work.

No extension of time or compensation will be granted for a delay or suspension due to the above bird, bat and tree/brush requirements.

**Law Enforcement Personnel.**

Submit charge summary and invoices using the Department forms.

Patrol vehicles must be clearly marked to correspond with the officer's agency and equipped with appropriate lights to identify them as law enforcement. For patrol vehicles not owned by a law enforcement agency, markings will be retroreflective and legible from 100 ft. from both sides and the rear of the vehicle. Lights will be high intensity and visible from all angles.

No payment will be made for law enforcement personnel needed for moving equipment or payment for drive time to/from the event site. A minimum number of hours is not guaranteed. Payment is for work performed. If the Contractor has a field office, provide an office location for a supervisory officer when event requires a supervising officer. This work is subsidiary.

A maximum combined rate of \$70 per hour for the law enforcement personnel and the patrol vehicle will be allowed. Any scheduling fee is subsidiary per Standard Specification 502.4.2.

Cancel law enforcement personnel when the event is canceled. Cancellation, minimums or "show up" fees will not be paid when cancellation is made 12 hours prior to beginning of the event. Failure to cancel within 12 hours will not be cause for payment for cancellation, minimums, or "show up" time. Payment of actual "show up" time to the event site due to cancellation will be on a case by case basis at a maximum of 2 hours per officer.

Alterations to the cancellation and maximum rate must be approved by the Engineer or pre-determined by official policy of the officers governing authority.

**ITEM 8 – PROSECUTION AND PROGRESS**

Working days will be charged in accordance with 8.3.1.4, "Standard Workweek."

**ITEM 100 - PREPARING RIGHT OF WAY**

Prep ROW must not begin until accessible trees designated for preservation have been protected, items listed in the EPIC have been addressed, and SW3P controls installed in accessible areas.

Backfill material will be Type B Embankment using ordinary compaction.

Follow Item 752.4 Work Methods and Item 752 general notes when removing or working on or near trees and brush.

Unless shown otherwise in the plans or a designated non-mow area, perform trimming or removal for areas within 30 ft. of edge of pavement under construction. Trim or remove to provide minimum of 5 ft. of horizontal clearance and 7 ft. of vertical clearance for the following: sidewalks, paths, guard fence, rails, signs, object markers, and structures. Trim to provide a minimum of 14 ft. vertical clearance under all trees. This work is subsidiary.

Any removals not specifically paid for will be subsidiary to Preparing Right of Way

**ITEM 105 – REMOVING TREATED AND UNTREATED BASE AND ASPHALT PAVEMENT**

Existing typical is based on information available. This typical may not account for all maintenance work such as overlays or pavement repairs. A change in material type or thickness does not warrant additional payment. Payment is full compensation for removing all material to the depth specified.

**ITEM 110 – EXCAVATION**

The Engineer will define unsuitable material.

Excavation will not be paid for directly but will be subsidiary to other pertinent items.

**ITEM 132 – ALL EMBANKMENT**

The Engineer will define unsuitable material. Material which the Contractor might deem to be unsuitable due to moisture content will not be considered unsuitable material.

Prior to begin embankment of existing area, correct or replace unstable material to a depth of 6 in. below existing grade. Embankment areas will be inspected prior to beginning work.

Rock or broken concrete produced by the project is allowed in earth embankments. The size of the rock or broken concrete will not exceed the layer thickness requirements in Section 132.3.4., “Compaction Methods.” The material will not be placed vertically within 5 ft. of the finished subgrade elevation.

Embankment placed vertically within 5 ft. of the finished subgrade elevation or within the edges of the subgrade and treated with lime, cement, or other calcium based additives must have a sulfate content less than 3000 ppm. Allow 5 business days for testing. Treatment of sulfate material 3000 ppm to 7000 ppm requires 7 days of mellowing and continuous water curing, in accordance TxDOT guidelines for Treatment of Sulfate-Rich Soils and Bases in Pavement Structures (9/2005). Material over 7000 ppm is not allowed.

Contractor to use Embankment Type B using Ordinary Compaction method

Embankment will not be paid for directly but will be subsidiary to other pertinent items.

**ITEM 160 - TOPSOIL**

Off-site topsoil will have a minimum PI of 25.

No Sandy Loam allowed.

Obtain approval of the actual depth of the topsoil sources for both on-site and off-site sources. Construct topsoil stockpiles of no more than five (5) feet in height.

It is permissible to use topsoil dikes for erosion control berms within the right of way, as directed.



Seed or track slopes within 14 days of placement.

Salvage topsoil from sites of excavation and embankment. Maximum salvage depth is 6 inches.

Windrowing of topsoil obtained from the Right of Way (ROW) is not allowed.

**ITEM 162 – SODDING FOR EROSION CONTROL**

Provide common Bermuda. Provide St. Augustine if the adjacent grass is St. Augustine.

**ITEM 168 – VEGETATIVE WATERING**

Water all areas of project to be seeded or sodded.

Maintain the seedbed in a condition favorable for the growth of grass. Watering can be postponed immediately after a rainfall on the site of ½ inch or greater, but will be resumed before the soil dries out. Continue watering until final acceptance.

Vegetative watering rates and quantities are based on ¼ inch of watering per week over a 3-month watering cycle. The actual rates used and paid for will be as directed and will be based on prevailing weather conditions to maintain the seedbed.

Obtain water at a source that is metered (furnish a current certification of the meter being used) or furnish the manufacturer's specifications showing the tank capacity for each truck used. Notify the Engineer, each day that watering takes place, before watering, so that meter readings or truck counts can be verified.

**ITEM 300s – SURFACE COURSES AND PAVEMENTS**

Asphalt season is May 1 thru September 15. The latest work start date for asphalt season is August 1.

If an under seal is not provided, furnish a tack coat. Apply tack coat at 0.08 GAL/SY (residual). Apply non-tracking tack coat using manufacturer recommend rates.

**ITEMS 341, 344, & 3076 THRU 3082 - HOT-MIX ASPHALT PAVEMENT**

Use a device to create a maximum 3H:1V notched wedge joint on all longitudinal joints of 2 in. or greater. This work is subsidiary.

Prior to milling, core the existing pavement to verify thickness. This work is subsidiary.

Ensure placement sequence to avoid excess distance of longitudinal joint lap back not to exceed one day's production rates.

Submit any proposed adjustments or changes to a JMF before production of the new JMF.

Tack every layer. Do not dilute tack coat. Apply it evenly through a distributor spray bar.

Provide a minimum transition of 10' for intersections, 10' for commercial driveways, and 6' for residential driveways unless otherwise shown on the plans.

Irregularities will require the replacement of a full lane width using an asphalt paver. Replace the entire subplot if the irregularities are greater than 40% of the subplot area.

**ITEMS 3076 & 341/3078 - DENSE-GRADED HOT-MIX ASPHALT**

Use the SGC for design and production testing of all mixtures. Design all Dense-Graded Type D mixtures as a surface mix, maximum 15% RAP and no RAS.

When using substitute binders, mold specimens for mix design and production at the temperature required for the substitute binder used to produce the HMA.

The Hamburg Wheel minimum number of passes for PG 64 or lower is reduced to 7,000. The Engineer may accept Hamburg Wheel test results for production and placement if no more than 1 of the 5 most recent tests is below the specified number of passes and the failing test is no more than 2,000 passes below the specified number of passes.

**ITEM 354 - PLANING AND TEXTURING PAVEMENT**

Contractor retains ownership of salvaged materials.

Mill and fill the work area during each shift unless otherwise shown on the plans.

Taper permanent transverse faces 50 ft. per 1 in. Taper temporary transverse faces 25 ft. per 1 in. Taper permanent longitudinal faces 6 ft. per 1 in. HMA may be used as temporary tapers. Provide minimum 1 in. butt joints at bridge ends and paving ends. This work is subsidiary.

Milled surfaces directly covered by a mat thickness of 1 in. or less shall produce a milled texture with a ridge to valley depth (RVD) no greater than 0.25 in. (6.5 mm).

**ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES**

Unless shown on the plans, the following backfill will apply to cutting and restoring flexible pavement. Backfill with cement-stabilized backfill. The cement-stabilized backfill is subsidiary. Cap the backfill with Type B hot-mix to a depth equal to the adjacent hot-mix. At locations where the backfill surface is final, place 1-1/2 in. Type D for the surface. The minimum hot-mix depth will be 4 in.

Saw-cut the pavement at the edge of the excavation. This work is subsidiary.

**ITEM 432 - RIPRAP**

Mow strip riprap will be 4 in. and all other riprap will be 5 in. unless otherwise shown on the plans or in the pay items. Fiber reinforcement is not allowed except in mow strip for cable barrier if foundation and mow strip are placed monolithically.

Saw-cut existing riprap then epoxy 12 in. long No. 3 or No. 4 bars 6 in. deep at a maximum spacing of 18 in. in each direction to tie new riprap to existing riprap. This work is subsidiary.

#### **ITEM 496 - REMOVING STRUCTURES**

No debris is allowed to fall into a body of water. Debris that falls into the water must be removed at the end of each work day. Debris that falls into the floodway must be removed at the end of each work week or prior to a rain event.

#### **ITEM 502 - BARRICADES, SIGNS, AND TRAFFIC HANDLING**

For roadways without defined allowable closure times, nighttime lane closures will be allowed from 7 P to 6 A with approval by Engineer. Unless stated, daytime or Friday night lane closures will not be allowed and one lane in each direction will remain open at all times for all roadways.

No full closures are allowed.

No closures will be allowed on the weekends, working day prior, and working day after the National Holidays defined in the Standard Specifications, Good Friday, and Easter weekend. Closures the Sunday of the Super Bowl will not be allowed from 1 P to 11 P. No closures will be allowed on Friday and the weekends for projects within 20 miles of Formula 1 at COTA, ACL Fest, SXSW, ROT Rally, UT home football games (includes games not on a Friday or weekend), sales tax holiday, Dell Match Play (includes Thursday) or other special events that could be impacted by the construction. All lanes will be open by noon of the day before these special events.

To account for directional traffic volumes, begin and end times of closures may be shifted equally by the Engineer. The closure duration will remain. Added compensation is not allowed.

Submit an emailed request for a lane closure (LCN) to TxDOT. The email will be submitted in the format provided. Receive concurrence prior to implementation. Submit a cancellation of lane closures a minimum of 18 hours prior to implementation. Blanket requests for extended periods are not allowed. Max duration of a request is 2 weeks prior to requiring resubmittal.

Provide 2 hour notice prior to implementation and immediately upon removal of the closure.

Submit the request a minimum of 48 hours prior to the closure and by the following deadline immediately prior to the closure: 11A on Tuesday or 11A on Friday. For all roadways: Submit request for traffic detours and full roadway closures 168 hours prior to implementation. Submit request for nighttime work 96 hours to implementation date.

Cancellations of accepted closures (not applicable to full closures or detours) due to weather will not require resubmission in accordance with the above restrictions if the work is completed during the next allowable closure time.

Closures that conflict with adjacent contractor will be prioritized according to critical path work per latest schedule. Conflicting critical path or non-critical work will be approved for first LCN submitted. Denial of a closure due to prioritization or other reasons will not be reason for time suspension, delay, overhead, etc.

Cover, relocate or remove existing signs that conflict with traffic control. Install all permanent signs, delineation, and object markers required for the operation of the roadway before opening to traffic. Use of temporary mounts is allowed or may be required until the permanent mounts are installed or not impacted by construction. Maintain the temporary mounts. This work is subsidiary.

Meet with the Engineer prior to lane closures to ensure that sufficient equipment, materials, devices, and workers will be used. Take immediate action to modify traffic control, if at any time the queue becomes greater than 20 minutes. Have a contingency plan of how modification will occur. Consider inclement weather prior to implementing the lane closures. Do not set up traffic control when the pavement is wet.

Place a 28-inch cone, meeting requirements of BC (10), on top of foundations that have protruding studs. This work is subsidiary.

Edge condition treatment types must be in accordance with the TxDOT standard. Installation and removal of a safety slope is subsidiary.

To determine a speed limit or an advisory speed limit, submit a request to TxDOT 60 business days prior to manufacture of the sign.

The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Do not begin work before sunrise or end work after sunset unless authorized by the Engineer, and remove all equipment from the roadway before sundown.

The project is broken out into 2 segments

- a. north – from 11<sup>th</sup> Street to Lexington Rd
- b. south – from Austin St to Cleveland St

Perform any erosion control measures such as seeding or sodding before starting another segment, unless otherwise authorized by the Engineer.

Work around existing culverts, signs, mailboxes, object markers and delineators unless otherwise shown on the plans or directed by the Engineer. Any damages resulting from the Contractor's operation shall be repaired by the Contractor to the satisfaction of the Engineer. The Contractor shall not have two (2) work zones at the same time unless otherwise authorized by the Engineer.

**ITEM 506 - TEMPORARY EROSION, SEDIMENTATION, AND ENV CONTROLS**

If SW3P plan sheets are not provided, place the control measures as directed.

Install, maintain, remove control measures in areas of the right of way utilized by the Contractor that are outside the limits of disturbance required for construction. Permanently stabilize the area. This work is subsidiary.

Erosion control measures must be initiated immediately in areas where construction activities have ceased and will not resume for a period exceeding 14 calendar days. Vertical track all exposed soil, stockpiles, and slopes. Re-track after each rain event or every 14 days, whichever occurs first. Sheep foot roller is allowed for vertical tracking. This work is subsidiary.

Unless a specific pay item is provided in the plans, the installation of the 6:1 or flatter for RFD side slopes in the safety zone will be subsidiary to pertinent bid items.

**ITEM 531 – CONCRETE SIDEWALK**

Reinforcement will be in accordance with Item 432.3.1 unless shown on the plans. Fiber reinforcement is not allowed. Class A and B Concrete are allowed to use Coarse Aggregate Grades 1-8. Expansion joints will be placed every 40 ft. Expansion joints must be 1" wide asphalt board and flush with the surface. The bottom of the joint shall be at half the depth of the concrete. Sidewalk cross slope must not exceed 1.5%.

Unless shown on the plans or in the pay items, all concrete will be 5 in. thick and have 2 in. sand, base, or RAP bedding. Furnish base meeting the requirement for any type or grade in accordance with Item 247. Base compressive strengths are waived. RAP must be 100% passing a 1 in. sieve. Bedding must be placed using ordinary compaction.

If roots are encountered verify with the Engineer prior to accommodating or removing 2 in. diameter or larger roots. Root removal must be in accordance with Item 752.4.2. Roots may remain in the bedding or base. For improvements within 6 in. of a root, the concrete thickness may be reduced by 1 in. and the bedding increased by 1 in. to minimize impacts to the roots. Adjust bedding and surface profile to provide a 1 in. bedding cushion around the roots. The surface profile may be adjusted to the extent allowed by ADA. This work is subsidiary.

**ITEM 530 – INTERSECTIONS, DRIVEWAYS, AND TURNOUTS**

Notify property owners a minimum of 48 hr. in advance of beginning work on their driveway. Provide a list of each notification and contact prior to each closure. Only close driveways for

reconstruction if duration and alternate access are approved. Install and maintain material across a work zone as temporary access. Temporary access must not have grade breaks that exceed 8%. This work is subsidiary.

Grade breaks must not exceed 8%. Sidewalk crossing slope will be 1.5% and 5 ft. wide with width reduction in approved locations.

For ACP or SURF TREAT, the pavement structure will match the adjacent roadway unless detailed on the plans. HMA, including surface, may use a maximum allowable amount of 40% RAP and 5% RAS for private driveways, public driveways for 2-lane roadways or smaller, and turnouts. Blending of 2 or more sources is allowed. Furnish base meeting the requirement for any type or grade in accordance with Item 247. Compressive strengths for flexible base are waived. Base must be placed using ordinary compaction.

For CONC, the pavement structure will be 6 in. thick and have 3 in. base bedding unless detailed on the plans. Furnish base meeting ACP or SURF TREAT requirements. Class A concrete is required and may use Coarse Aggregate Grades 1-8. Expansion joints will be placed every 20 ft.

Expansion joints will be constructed as detailed in the latest TxDOT Concrete Curb and Curb and Gutter Standard. Reinforcement will be in accordance with concrete riprap for Item 432.3.1., unless specified on the plans.

#### **ITEM 644 – SMALL ROADSIDE SIGN ASSEMBLIES**

Triangular slip base that use set screws to secure the post will require 1 of the set screws to penetrate the post by drilling a hole in the post at the location of the screw. All set screws shall be treated with anti-seize compound.

#### **ITEM 666 - RETROREFLECTORIZED PAVEMENT MARKINGS**

Notify the Engineer at least 24 hr. before beginning work.

When the raised portion of a profile marking is placed as a separate operation from the pavement marking, the raised portion must be placed first then covered with TY I.

#### **ITEM 677 - ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS**

Dispose of removed materials and debris at locations off the right of way.

Elimination using a pavement marking will not be allowed in lieu of methods listed in specification.

Remove pavement markings on concrete surfaces by a blasting method. Flail milling will be allowed when total quantity of removal on concrete surfaces is less than 1000 ft.

Strip seal is only method allowed on seal coat surface unless project includes placement of a new surface. If total quantity of removal on a seal coat surface is less than 2000 ft., elimination using a pavement marking is allowed if a test section is approved by the Engineer. Test section shall demonstrate the thermo marking color matches the existing pavement color.



Remove pavement markings outside the limits of the new surface by a blasting method.

Use a TRAIL or a non-retroreflective paint to cover stripe remnants that remain after elimination. The test requirements for these materials are waived. The paint color shall be adjusted to resemble the existing pavement color. Installation and maintenance is subsidiary.

**ITEM 734 - LITTER REMOVAL**

Complete Litter Removal Cycles along the Roadway for the length of the project, as directed. Subsidiary to other pertinent items.

Complete Litter Removal Cycles prior to any mowing cycles. Subsidiary to other pertinent items.

Remove all litter on the right of way, within project limits. Subsidiary to other pertinent items.

**ITEM 752 – TREE AND BRUSH REMOVAL**

Follow Item 752.4 Work Methods and Item 752 general notes when removing or working on or near trees and brush even if Item 752 is not included as a pay item.

Flailing equipment is not allowed. Burning brush is not allowed in urban areas or on ROW. Use hand methods or other means of removal if doing work by mechanical methods is impractical.

Prior to begin tree pruning, send email confirmation to the Engineer that training and demonstration of work methods has been provided to the employees. This work is subsidiary.

Shredded vegetation may be blended, at a rate not to exceed 15 percent by volume, with Item 160 if the maximum dimension is not greater than 2 in.

**ITEM 3085 – UNDERSEAL COURSE**

The minimum application rates are listed in Table UC. The target shear bond strengths are listed in Table UCS. The informational test cores shall be taken once a shift for first 5 lots of placement or a change to placement method of bonding course, bonding material, or hot mix material. The remaining informational test cores shall be taken once every 3 lots for surface mix. Informational tests are not required for non-surface mix beyond the first 5 lots unless there is a change to placement method of bonding course, bonding material, or hot mix material. Results from these informational tests will not be used for specification compliance.

Table UC

Material	Minimum Application Rate (gal. per square yard)
TRAIL – Hot Asphalt	0.15
Spray Applied Underseal Membrane	0.20
Seal Coat – Tier II emulsion	0.25

**County:** BASTROP  
**Highway:** SL 109

**Sheet:**  
**Control:** 0114-17-010

Seal Coat – Tier II asphalt	0.23
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Table UCS

Material	Minimum Shear Strength (psi)
SMA – Stone-Matrix Asphalt	60.0
PFC – Permeable Friction Course	40.0
All Other Materials	40.0

#### ITEM 5 – CONTROL OF THE WORK

Place construction stakes at intervals of no more than 100 ft. This work is subsidiary.

##### **Precast Alternate Panels.**

When a precast or cast-in-place concrete element is included in the plans, a precast concrete alternate may be submitted in accordance with “Standard Operating Procedure for Alternate Precast Proposal Submission” found online at <https://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/bridge.html#design>. Acceptance or denial of an alternate is at the sole discretion of the Engineer. Impacts to the project schedule and any additional costs resulting from the use of alternates are the sole responsibility of the Contractor.

##### **Electronic Shop Drawing Submittals.**

Submit electronic shop drawing submittals according to the current [Guide to Electronic Shop Drawing Submittal](https://www.txdot.gov/business/resources/specifications/shop-drawings.html) (<https://www.txdot.gov/business/resources/specifications/shop-drawings.html> (TxDOT.gov Business > Resources - General > Shop Drawings)). Pre-approved producers can be found online at TxDOT.gov > Business > Resources - Material Producer List. Use the following contact list for all submittals that are not required to be sent to Bridge Division and to copy the Engineer for all submittals to the Bridge Division.

##### Submittal Contact List

Bastrop Area      Diana.Schulze@txdot.gov      AUS\_BU-ShopReview@txdot.gov

#### ITEM 6 - CONTROL OF MATERIALS

Give a minimum of 1 business day notice for materials, which require inspection at the Plant.

#### ITEM 7 – LEGAL RELATIONS AND RESPONSIBILITIES

TxDOT will coordinate with TDLR regarding pedestrian elements and sidewalks. The contractor will procure and provide all permits, licenses, and inspections; pay all charges, fees, and taxes regarding TDLR rules governing industrialized housing and buildings.

No significant traffic generator events identified.

Refer to the Environmental Permits, Issues and Commitments (EPIC) plan sheets for additional requirements and permits.

When any abandoned well is encountered, cease construction operations in this area and notify the Engineer who will coordinate the proper plugging procedures. A water well driller licensed in the State of Texas must be used to plug a well.

Perform maintenance of vehicles or equipment at designated maintenance sites. Keep a spill kit on-site during fueling and maintenance. This work is subsidiary.

Maintain positive drainage for permanent and temporary work for the duration of the project. Be responsible for any items associated with the temporary or interim drainage and all related maintenance. This work is subsidiary.

Locate aboveground storage tanks kept on-site for construction purposes in a contained area as to not allow any exposure to soils. The containment will be sized to capture 150% of the total capacity of the storage tanks.

##### **Work within a USACE Jurisdictional Area.**

Do not initiate activities within a U.S. Army Corps of Engineers (USACE) jurisdictional area that have not been previously evaluated by the USACE as part of the permit review of this project. Such activities include, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. Obtain written approval from the Engineer for activities not specifically addressed in the plans. Provide a signed sketch and description of the location 60 business days prior to begin work at the location. Complete and return any forms provided by TxDOT. Approval of the work is not guaranteed. Unapproved work is not a compensable impact.

##### **Work over or near Bodies of Water (lakes, rivers, ponds, creeks, dry waterways, etc.).**

Keep on site a universal spill kit adequate for the body of water and the work being performed. Debris is not allowed to fall into the ordinary high-water level (OHWL). Debris that falls into the OHWL must be removed at the end of each work day. Debris that falls into the floodway must be removed at the end of each work week or prior to a rain event. Install and maintain traffic control devices to maintain a navigable corridor for water traffic, except during bridge demo and beam placement. This work is subsidiary.

Obtain written approval from the Engineer for temporary fill or crossings not specifically addressed in the plans. Provide a signed sketch of the location 60 business days prior to begin work at the location. Complete and return any forms provided by TxDOT. Approval of the work is not guaranteed. Unapproved work is not a compensable impact.

##### **Migratory Birds and Bats.**

Migratory birds and bats may be nesting within the project limits and concentrated on roadway structures such as bridges and culverts. Remove all old and unoccupied migratory bird nests from any structures, trees, etc. between September 16 and February 28. Prevent migratory birds from re-nesting between March 1 and September 15. Prevention shall include all areas within 25 ft. of proposed work. All methods used for the removal of old nesting areas and the prevention of re-nesting must be submitted to TxDOT 30 business days prior to begin work. This work is subsidiary.

If active nests are encountered on-site during construction, all construction activity within 25 ft. of the nest must stop. Contact the Engineer to determine how to proceed.

##### **Tree and Brush Trimming and Removal.**

Work will be conducted September 16 thru February 28. Work conducted outside this timeframe will require a bird survey. Submit a survey request to TxDOT 30 business days prior to begin work.

law enforcement agency, markings will be retroreflective and legible from 100 ft. from both sides and the rear of the vehicle. Lights will be high intensity and visible from all angles.

No payment will be made for law enforcement personnel needed for moving equipment or payment for drive time to/from the event site. A minimum number of hours is not guaranteed. Payment is for work performed. If the Contractor has a field office, provide an office location for a supervisory officer when event requires a supervising officer. This work is subsidiary.

A maximum combined rate of \$70 per hour for the law enforcement personnel and the patrol vehicle will be allowed. Any scheduling fee is subsidiary per Standard Specification 502.4.2.

Cancel law enforcement personnel when the event is canceled. Cancellation, minimums or "show up" fees will not be paid when cancellation is made 12 hours prior to beginning of the event. Failure to cancel within 12 hours will not be cause for payment for cancellation, minimums, or "show up" time. Payment of actual "show up" time to the event site due to cancellation will be on a case by case basis at a maximum of 2 hours per officer.

Alterations to the cancellation and maximum rate must be approved by the Engineer or pre-determined by official policy of the officers governing authority.

#### **ITEM 8 – PROSECUTION AND PROGRESS**

Working days will be charged in accordance with 8.3.1.4, "Standard Workweek."

#### **ITEM 100 - PREPARING RIGHT OF WAY**

Prep ROW must not begin until accessible trees designated for preservation have been protected, items listed in the EPIC have been addressed, and SW3P controls installed in accessible areas.

Backfill material will be Type B Embankment using ordinary compaction.

Follow Item 752.4 Work Methods and Item 752 general notes when removing or working on or near trees and brush.

Unless shown otherwise in the plans or a designated non-mow area, perform trimming or removal for areas within 30 ft. of edge of pavement under construction. Trim or remove to provide minimum of 5 ft. of horizontal clearance and 7 ft. of vertical clearance for the following: sidewalks, paths, guard fence, rails, signs, object markers, and structures. Trim to provide a minimum of 14 ft. vertical clearance under all trees. This work is subsidiary.

Any removals not specifically paid for will be subsidiary to Preparing Right of Way

#### **ITEM 105 – REMOVING TREATED AND UNTREATED BASE AND ASPHALT PAVEMENT**

Existing typical is based on information available. This typical may not account for all maintenance work such as overlays or pavement repairs. A change in material type or thickness does not warrant additional payment. Payment is full compensation for removing all material to the depth specified.

#### **ITEM 110 – EXCAVATION**

The Engineer will define unsuitable material.

Excavation will not be paid for directly but will be subsidiary to other pertinent items.

#### **ITEM 132 – ALL EMBANKMENT**

The Engineer will define unsuitable material. Material which the Contractor might deem to be unsuitable due to moisture content will not be considered unsuitable material.

Prior to begin embankment of existing area, correct or replace unstable material to a depth of 6 in. below existing grade. Embankment areas will be inspected prior to beginning work.

Rock or broken concrete produced by the project is allowed in earth embankments. The size of the rock or broken concrete will not exceed the layer thickness requirements in Section 132.3.4., "Compaction Methods." The material will not be placed vertically within 5 ft. of the finished subgrade elevation.

Embankment placed vertically within 5 ft. of the finished subgrade elevation or within the edges of the subgrade and treated with lime, cement, or other calcium based additives must have a sulfate content less than 3000 ppm. Allow 5 business days for testing. Treatment of sulfate material 3000 ppm to 7000 ppm requires 7 days of mellowing and continuous water curing, in accordance TxDOT guidelines for Treatment of Sulfate-Rich Soils and Bases in Pavement Structures (9/2005). Material over 7000 ppm is not allowed.

Contractor to use Embankment Type B using Ordinary Compaction method

Embankment will not be paid for directly but will be subsidiary to other pertinent items.

#### **ITEM 160 - TOPSOIL**

Off-site topsoil will have a minimum PI of 25.

No Sandy Loam allowed.

Obtain approval of the actual depth of the topsoil sources for both on-site and off-site sources. Construct topsoil stockpiles of no more than five (5) feet in height.

It is permissible to use topsoil dikes for erosion control berms within the right of way, as directed. Seed or track slopes within 14 days of placement.

Salvage topsoil from sites of excavation and embankment. Maximum salvage depth is 6 inches.

Windrowing of topsoil obtained from the Right of Way (ROW) is not allowed.

#### **ITEM 162 – SODDING FOR EROSION CONTROL**

Provide common Bermuda. Provide St. Augustine if the adjacent grass is St. Augustine.

County: BASTROP  
Highway: SL 109

Sheet:  
Control: 0114-17-010

#### ITEM 168 – VEGETATIVE WATERING

Water all areas of project to be seeded or sodded.

Maintain the seedbed in a condition favorable for the growth of grass. Watering can be postponed immediately after a rainfall on the site of ½ inch or greater, but will be resumed before the soil dries out. Continue watering until final acceptance.

Vegetative watering rates and quantities are based on ¼ inch of watering per week over a 3-month watering cycle. The actual rates used and paid for will be as directed and will be based on prevailing weather conditions to maintain the seedbed.

Obtain water at a source that is metered (furnish a current certification of the meter being used) or furnish the manufacturer's specifications showing the tank capacity for each truck used. Notify the Engineer, each day that watering takes place, before watering, so that meter readings or truck counts can be verified.

#### ITEM 300s – SURFACE COURSES AND PAVEMENTS

Asphalt season is May 1 thru September 15. The latest work start date for asphalt season is August 1.

If an under seal is not provided, furnish a tack coat. Apply tack coat at 0.08 GAL/SY (residual). Apply non-tracking tack coat using manufacturer recommend rates.

#### ITEMS 341, 344, & 3076 THRU 3082 - HOT-MIX ASPHALT PAVEMENT

Use a device to create a maximum 3H:1V notched wedge joint on all longitudinal joints of 2 in. or greater. This work is subsidiary.

Prior to milling, core the existing pavement to verify thickness. This work is subsidiary.

Ensure placement sequence to avoid excess distance of longitudinal joint lap back not to exceed one day's production rates.

Submit any proposed adjustments or changes to a JMF before production of the new JMF.

Tack every layer. Do not dilute tack coat. Apply it evenly through a distributor spray bar.

Provide a minimum transition of 10' for intersections, 10' for commercial driveways, and 6' for residential driveways unless otherwise shown on the plans.

Irregularities will require the replacement of a full lane width using an asphalt paver. Replace the entire subplot if the irregularities are greater than 40% of the subplot area.

County: BASTROP  
Highway: SL 109

Sheet: 3C  
Control: 0114-17-010

#### ITEMS 3076 & 341/3078 - DENSE-GRADED HOT-MIX ASPHALT

Use the SGC for design and production testing of all mixtures. Design all Dense-Graded Type D mixtures as a surface mix, maximum 15% RAP and no RAS.

When using substitute binders, mold specimens for mix design and production at the temperature required for the substitute binder used to produce the HMA.

The Hamburg Wheel minimum number of passes for PG 64 or lower is reduced to 7,000. The Engineer may accept Hamburg Wheel test results for production and placement if no more than 1 of the 5 most recent tests is below the specified number of passes and the failing test is no more than 2,000 passes below the specified number of passes.

#### ITEM 354 - PLANING AND TEXTURING PAVEMENT

Contractor retains ownership of salvaged materials.

Mill and fill the work area during each shift unless otherwise shown on the plans.

Taper permanent transverse faces 50 ft. per 1 in. Taper temporary transverse faces 25 ft. per 1 in. Taper permanent longitudinal faces 6 ft. per 1 in. HMA may be used as temporary tapers. Provide minimum 1 in. butt joints at bridge ends and paving ends. This work is subsidiary.

Milled surfaces directly covered by a mat thickness of 1 in. or less shall produce a milled texture with a ridge to valley depth (RVD) no greater than 0.25 in. (6.5 mm).

#### ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES

Unless shown on the plans, the following backfill will apply to cutting and restoring flexible pavement. Backfill with cement-stabilized backfill. The cement-stabilized backfill is subsidiary. Cap the backfill with Type B hot-mix to a depth equal to the adjacent hot-mix. At locations where the backfill surface is final, place 1-1/2 in. Type D for the surface. The minimum hot-mix depth will be 4 in.

Saw-cut the pavement at the edge of the excavation. This work is subsidiary.

#### ITEM 432 - RIPRAP

Mow strip riprap will be 4 in. and all other riprap will be 5 in. unless otherwise shown on the plans or in the pay items. Fiber reinforcement is not allowed except in mow strip for cable barrier if foundation and mow strip are placed monolithically.

Saw-cut existing riprap then epoxy 12 in. long No. 3 or No. 4 bars 6 in. deep at a maximum spacing of 18 in. in each direction to tie new riprap to existing riprap. This work is subsidiary.

#### ITEM 496 - REMOVING STRUCTURES

No debris is allowed to fall into a body of water. Debris that falls into the water must be removed at the end of each work day. Debris that falls into the floodway must be removed at the end of each work week or prior to a rain event.



### ITEM 502 - BARRICADES, SIGNS, AND TRAFFIC HANDLING

For roadways without defined allowable closure times, nighttime lane closures will be allowed from 7 P to 6 A with approval by Engineer. Unless stated, daytime or Friday night lane closures will not be allowed and one lane in each direction will remain open at all times for all roadways.

No full closures are allowed.

No closures will be allowed on the weekends, working day prior, and working day after the National Holidays defined in the Standard Specifications, Good Friday, and Easter weekend. Closures the Sunday of the Super Bowl will not be allowed from 1 P to 11 P. No closures will be allowed on Friday and the weekends for projects within 20 miles of Formula 1 at COTA, ACL Fest, SXSW, ROT Rally, UT home football games (includes games not on a Friday or weekend), sales tax holiday, Dell Match Play (includes Thursday) or other special events that could be impacted by the construction. All lanes will be open by noon of the day before these special events.

To account for directional traffic volumes, begin and end times of closures may be shifted equally by the Engineer. The closure duration will remain. Added compensation is not allowed.

Submit an emailed request for a lane closure (LCN) to TxDOT. The email will be submitted in the format provided. Receive concurrence prior to implementation. Submit a cancellation of lane closures a minimum of 18 hours prior to implementation. Blanket requests for extended periods are not allowed. Max duration of a request is 2 weeks prior to requiring resubmittal.

Provide 2 hour notice prior to implementation and immediately upon removal of the closure.

Submit the request a minimum of 48 hours prior to the closure and by the following deadline immediately prior to the closure: 11A on Tuesday or 11A on Friday. For all roadways: Submit request for traffic detours and full roadway closures 168 hours prior to implementation. Submit request for nighttime work 96 hours to implementation date.

Cancellations of accepted closures (not applicable to full closures or detours) due to weather will not require resubmission in accordance with the above restrictions if the work is completed during the next allowable closure time.

Closures that conflict with adjacent contractor will be prioritized according to critical path work per latest schedule. Conflicting critical path or non-critical work will be approved for first LCN submitted. Denial of a closure due to prioritization or other reasons will not be reason for time suspension, delay, overhead, etc.

Cover, relocate or remove existing signs that conflict with traffic control. Install all permanent signs, delineation, and object markers required for the operation of the roadway before opening to traffic. Use of temporary mounts is allowed or may be required until the permanent mounts are installed or not impacted by construction. Maintain the temporary mounts. This work is subsidiary.

Meet with the Engineer prior to lane closures to ensure that sufficient equipment, materials, devices, and workers will be used. Take immediate action to modify traffic control, if at any time the queue becomes greater than 20 minutes. Have a contingency plan of how modification will occur. Consider inclement weather prior to implementing the lane closures. Do not set up traffic control when the pavement is wet.

Place a 28-inch cone, meeting requirements of BC (10), on top of foundations that have protruding studs. This work is subsidiary.

Edge condition treatment types must be in accordance with the TxDOT standard. Installation and removal of a safety slope is subsidiary.

To determine a speed limit or an advisory speed limit, submit a request to TxDOT 60 business days prior to manufacture of the sign.

The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Do not begin work before sunrise or end work after sunset unless authorized by the Engineer, and remove all equipment from the roadway before sundown.

The project is broken out into 2 segments

- a. north – from 11<sup>th</sup> Street to Lexington Rd
- b. south – from Austin St to Cleveland St

Perform any erosion control measures such as seeding or sodding before starting another segment, unless otherwise authorized by the Engineer.

Work around existing culverts, signs, mailboxes, object markers and delineators unless otherwise shown on the plans or directed by the Engineer. Any damages resulting from the Contractor's operation shall be repaired by the Contractor to the satisfaction of the Engineer. The Contractor shall not have two (2) work zones at the same time unless otherwise authorized by the Engineer.

### ITEM 506 - TEMPORARY EROSION, SEDIMENTATION, AND ENV CONTROLS

If SW3P plan sheets are not provided, place the control measures as directed.

Install, maintain, remove control measures in areas of the right of way utilized by the Contractor that are outside the limits of disturbance required for construction. Permanently stabilize the area. This work is subsidiary.



Erosion control measures must be initiated immediately in areas where construction activities have ceased and will not resume for a period exceeding 14 calendar days. Vertical track all exposed soil, stockpiles, and slopes. Re-track after each rain event or every 14 days, whichever occurs first. Sheep foot roller is allowed for vertical tracking. This work is subsidiary.

Unless a specific pay item is provided in the plans, the installation of the 6:1 or flatter for RFD side slopes in the safety zone will be subsidiary to pertinent bid items.

#### **ITEM 531 – CONCRETE SIDEWALK**

Reinforcement will be in accordance with Item 432.3.1 unless shown on the plans. Fiber reinforcement is not allowed. Class A and B Concrete are allowed to use Coarse Aggregate Grades 1-8. Expansion joints will be placed every 40 ft. Expansion joints must be 1" wide asphalt board and flush with the surface. The bottom of the joint shall be at half the depth of the concrete. Sidewalk cross slope must not exceed 1.5%.

Unless shown on the plans or in the pay items, all concrete will be 5 in. thick and have 2 in. sand, base, or RAP bedding. Furnish base meeting the requirement for any type or grade in accordance with Item 247. Base compressive strengths are waived. RAP must be 100% passing a 1 in. sieve. Bedding must be placed using ordinary compaction.

If roots are encountered verify with the Engineer prior to accommodating or removing 2 in. diameter or larger roots. Root removal must be in accordance with Item 752.4.2. Roots may remain in the bedding or base. For improvements within 6 in. of a root, the concrete thickness may be reduced by 1 in. and the bedding increased by 1 in. to minimize impacts to the roots. Adjust bedding and surface profile to provide a 1 in. bedding cushion around the roots. The surface profile may be adjusted to the extent allowed by ADA. This work is subsidiary.

#### **ITEM 530 – INTERSECTIONS, DRIVEWAYS, AND TURNOUTS**

Notify property owners a minimum of 48 hr. in advance of beginning work on their driveway. Provide a list of each notification and contact prior to each closure. Only close driveways for reconstruction if duration and alternate access are approved. Install and maintain material across a work zone as temporary access. Temporary access must not have grade breaks that exceed 8%. This work is subsidiary.

Grade breaks must not exceed 8%. Sidewalk crossing slope will be 1.5% and 5 ft. wide with width reduction in approved locations.

For ACP or SURF TREAT, the pavement structure will match the adjacent roadway unless detailed on the plans. HMA, including surface, may use a maximum allowable amount of 40% RAP and 5% RAS for private driveways, public driveways for 2-lane roadways or smaller, and turnouts. Blending of 2 or more sources is allowed. Furnish base meeting the requirement for any type or grade in accordance with Item 247. Compressive strengths for flexible base are waived. Base must be placed using ordinary compaction.

For CONC, the pavement structure will be 6 in. thick and have 3 in. base bedding unless detailed on the plans. Furnish base meeting ACP or SURF TREAT requirements. Class A concrete is required and may use Coarse Aggregate Grades 1-8. Expansion joints will be placed every 20 ft.

Expansion joints will be constructed as detailed in the latest TxDOT Concrete Curb and Gutter Standard. Reinforcement will be in accordance with concrete riprap for Item 432.3.1., unless specified on the plans.

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Triangular slip base that use set screws to secure the post will require 1 of the set screws to penetrate the post by drilling a hole in the post at the location of the screw. All set screws shall be treated with anti-seize compound.

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Remove pavement markings on concrete surfaces by a blasting method. Flail milling will be allowed when total quantity of removal on concrete surfaces is less than 1000 ft.

Strip seal is only method allowed on seal coat surface unless project includes placement of a new surface. If total quantity of removal on a seal coat surface is less than 2000 ft., elimination using a pavement marking is allowed if a test section is approved by the Engineer. Test section shall demonstrate the thermo marking color matches the existing pavement color.

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Use a TRAIL or a non-retroreflective paint to cover stripe remnants that remain after elimination. The test requirements for these materials are waived. The paint color shall be adjusted to resemble the existing pavement color. Installation and maintenance is subsidiary.

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Complete Litter Removal Cycles along the Roadway for the length of the project, as directed. Subsidiary to other pertinent items.

Complete Litter Removal Cycles prior to any mowing cycles. Subsidiary to other pertinent items.

Remove all litter on the right of way, within project limits. Subsidiary to other pertinent items.

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CONTROLLING PROJECT ID 0114-17-010

DISTRICT Austin  
HIGHWAY SL 109

COUNTY Bastrop

# Estimate & Quantity Sheet

CONTROL SECTION JOB				0114-17-010		TOTAL EST.	TOTAL FINAL
PROJECT ID				A00183139			
COUNTY				Bastrop			
HIGHWAY				SL 109			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL		
	100-6002	PREPARING ROW	STA	39.000		39.000	
	104-6017	REMOVING CONC (DRIVEWAYS)	SY	125.000		125.000	
	104-6029	REMOVING CONC (CURB OR CURB & GUTTER)	LF	116.000		116.000	
	104-6036	REMOVING CONC (SIDEWALK OR RAMP)	SY	490.000		490.000	
	104-6044	REMOVING CONC (FLUME)	SY	6.000		6.000	
	105-6011	REMOVING STAB BASE AND ASPH PAV (2"-6")	SY	841.000		841.000	
	160-6003	FURNISHING AND PLACING TOPSOIL (4")	SY	1,332.000		1,332.000	
	162-6002	BLOCK SODDING	SY	1,332.000		1,332.000	
	168-6001	VEGETATIVE WATERING	MG	22.000		22.000	
	334-6080	HMCL ACP TY-D AC-1.5	TON	2.000		2.000	
	354-6001	PLAN & TEXT ASPH CONC PAV(0" TO 1")	SY	139.000		139.000	
	420-6007	CL A CONC (FLUME)	CY	3.000		3.000	
	432-6041	RIPRAP (SPECIAL)	CY	4.000		4.000	
	450-6052	RAIL (HANDRAIL)(TY F)	LF	256.000		256.000	
	500-6001	MOBILIZATION	LS	1.000		1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3.000		3.000	
	506-6001	ROCK FILTER DAMS (INSTALL) (TY 1)	LF	160.000		160.000	
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	160.000		160.000	
	506-6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	970.000		970.000	
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	970.000		970.000	
	506-6040	BIODEG EROSN CONT LOGS (IN STL) (8")	LF	3,882.000		3,882.000	
	506-6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	3,882.000		3,882.000	
	529-6008	CONC CURB & GUTTER (TY II)	LF	166.000		166.000	
	529-6016	CONC CURB (TY F1)	LF	365.000		365.000	
	530-6004	DRIVEWAYS (CONC)	SY	649.000		649.000	
	530-6005	DRIVEWAYS (ACP)	SY	228.000		228.000	
	531-6002	CONC SIDEWALKS (5")	SY	1,300.000		1,300.000	
	531-6004	CURB RAMPS (TY 1)	EA	6.000		6.000	
	531-6010	CURB RAMPS (TY 7)	EA	15.000		15.000	
	560-6001	MAILBOX INSTALL-S (TWG-POST) TY 1	EA	9.000		9.000	
	644-6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	4.000		4.000	
	644-6068	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	2.000		2.000	
	666-6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	839.000		839.000	
	666-6182	REFL PAV MRK TY II (W) 24" (SLD)	LF	839.000		839.000	
	677-6001	ELIM EXT PAV MRK & MRKS (4")	LF	32.000		32.000	
	677-6005	ELIM EXT PAV MRK & MRKS (12")	LF	340.000		340.000	
	677-6007	ELIM EXT PAV MRK & MRKS (24")	LF	68.000		68.000	

DISTRICT	COUNTY	CCSJ	SHEET
Austin	Bastrop	0114-17-010	4



# Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0114-17-010

DISTRICT Austin  
HIGHWAY SL 109

COUNTY Bastrop

CONTROL SECTION JOB				0114-17-010		TOTAL EST.	TOTAL FINAL
PROJECT ID				A00183139			
COUNTY				Bastrop			
HIGHWAY				SL 109			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL		
	678-6008	PAV SURF PREP FOR MRK (24")	LF	839.000		839.000	
	1004-6001	TREE PROTECTION	EA	21.000		21.000	
	3076-6051	D-GR HMA TY-D PG76-22 (LEVEL-UP)	TON	10.000		10.000	
	3085-6001	UNDERSEAL COURSE	GAL	28.000		28.000	
	18	EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS	1.000		1.000	
		CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000		1.000	
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000		1.000	
		OTHER: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000		1.000	
		LAW ENFORCEMENT: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000		1.000	



PENTABLE: 10331291-E\ign.tbl  
 DATE: 5/24/2022 TIME: 4:50:17 PM SCALE: 1:1

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: E\ign-SUM01.dgn

LOCATION	100 6002	104 6017	104 6029	104 6036	104 6044	105 6011	160 6003	162 6002	168 6001*	334 6080*	354 6001	420 6007	432 6041
	PREPARING ROW	REMOVING CONC (DRIVEWAYS)	REMOVING CONC (CURB OR CURB & GUTTER)	REMOVING CONC (SIDEWALK OR RAMP)	REMOVING CONC (FLUME)	REMOVING STAB BASE AND ASPH PAV (2"-6")	FURNISHING AND PLACING TOPSOIL (4")	BLOCK SODDING	VEGETATIVE WATERING	HMCL ACP TY-D AC-1.5	PLAN & TEXT ASPH CONC PAV (0" TO 1")	CL A CONC (FLUME)	RIPRAP (SPECIAL)
	STA	SY	LF	SY	SY	SY	SY	SY	MG	TON	SY	CY	CY
N MAIN ST REMOVAL PLAN 1 OF 9	2	-	-	18	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 2 OF 9	2	-	-	11	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 3 OF 9	2	30	-	60	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 4 OF 9	2	-	-	30	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 5 OF 9	2	18	-	90	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 6 OF 9	2	27	-	66	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 7 OF 9	2	13	-	66	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 8 OF 9	2	21	-	56	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 9 OF 9	2	-	-	60	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 1 OF 8	2	-	26	20	-	149	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 2 OF 8	2	-	90	13	-	190	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 3 OF 8	2	-	-	-	-	52	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 4 OF 8	2	-	-	-	-	39	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 5 OF 8	2	16	-	-	-	57	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 6 OF 8	2	-	-	-	-	175	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 7 OF 8	2	-	-	-	6	138	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 8 OF 8	2	-	-	-	-	41	-	-	-	-	-	-	-
N MAIN ST SIDEWALKS PLAN 1 OF 9	-	-	-	-	-	-	7	7	1	1	-	-	-
N MAIN ST SIDEWALKS PLAN 2 OF 9	-	-	-	-	-	-	10	10	1	-	-	-	-
N MAIN ST SIDEWALKS PLAN 3 OF 9	-	-	-	-	-	-	44	44	1	-	-	-	-
N MAIN ST SIDEWALKS PLAN 4 OF 9	-	-	-	-	-	-	30	30	1	-	-	-	-
N MAIN ST SIDEWALKS PLAN 5 OF 9	-	-	-	-	-	-	66	66	1	-	-	-	-
N MAIN ST SIDEWALKS PLAN 6 OF 9	-	-	-	-	-	-	40	40	1	-	-	-	1
N MAIN ST SIDEWALKS PLAN 7 OF 9	-	-	-	-	-	-	56	56	1	-	-	-	-
N MAIN ST SIDEWALKS PLAN 8 OF 9	-	-	-	-	-	-	56	56	1	-	-	-	-
N MAIN ST SIDEWALKS PLAN 9 OF 9	-	-	-	-	-	-	40	40	1	-	-	-	-
S MAIN ST SIDEWALKS PLAN 1 OF 8	-	-	-	-	-	-	30	30	1	1	139	-	-
S MAIN ST SIDEWALKS PLAN 2 OF 8	-	-	-	-	-	-	164	164	2	-	-	2	1
S MAIN ST SIDEWALKS PLAN 3 OF 8	-	-	-	-	-	-	172	172	2	-	-	-	-
S MAIN ST SIDEWALKS PLAN 4 OF 8	-	-	-	-	-	-	168	168	2	-	-	-	-
S MAIN ST SIDEWALKS PLAN 5 OF 8	-	-	-	-	-	-	152	152	2	-	-	-	-
S MAIN ST SIDEWALKS PLAN 6 OF 8	-	-	-	-	-	-	72	72	1	-	-	-	-
S MAIN ST SIDEWALKS PLAN 7 OF 8	-	-	-	-	-	-	94	94	1	-	-	1	1
S MAIN ST SIDEWALKS PLAN 8 OF 8	-	-	-	-	-	-	131	131	2	-	-	-	1
PROJECT TOTALS	39	125	116	490	6	841	1,332	1,332	22	2	139	3	4

NOTE:  
 1. ITEM 334 6080 WILL BE USED TO PATCH ANY DAMAGE TO THE EXISTING PAVEMENT.



\* INDEFINITE QUANTITIES TO BE APPROVED BY THE ENGINEER.

NO.	DATE	REVISION	APPROVED
 HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
 Texas Department of Transportation © 2022			
<b>CURB RAMP PROGRAM</b>  <b>SUMMARIES</b>			
SHEET 1 OF 3			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	SEE TITLE SHEET		SL 109
CHECK	STATE	DISTRICT	COUNTY
CHECK	TEXAS	AUS	BASTROP
CHECK	CONTROL	SECTION	JOB
	0114	17	010
			<b>5</b>

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: E:\gpr\SUM02.dgn  
 PENTABLE: 10331291-E\gpr.tbl  
 DATE: 5/24/2022 TIME: 4:50:19 PM SCALE: 1:1

LOCATION	450 6052*	529 6008	529 6016	530 6004*	530 6005*	531 6002	531 6004	531 6010	560 6001	644 6001	644 6068	666 6048	666 6182
	RAIL (HANDRAIL) (TY F) LF	CONC CURB & GUTTER (TY I) LF	CONC CURB (TY F) LF	DRIVEWAYS (CONC) SY	DRIVEWAYS (ACP) SY	CONC SIDEWALKS (5") SY	CURB RAMPS (TY 1) EA	CURB RAMPS (TY 7) EA	MAILBOX INSTALL-S (TWG-POST) TY 1 EA	IN SM RD SN SUP&AM TY10BWG (1) S A (P) EA	RELOCATE SM RD SN SUP&AM TY 10BWG EA	REFL PAV MRK TY I (W) 24" (SLD) (100MIL) LF	REFL PAV MRK TY I (W) 24" (SLD) LF
N MAIN ST REMOVAL PLAN 1 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 2 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 3 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 4 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 5 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 6 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 7 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 8 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 9 OF 9	-	-	-	-	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 1 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 2 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 3 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 4 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 5 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 6 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 7 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 8 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-
N MAIN ST SIDEWALKS PLAN 1 OF 9	-	-	-	-	-	18	1	-	-	-	-	-	-
N MAIN ST SIDEWALKS PLAN 2 OF 9	-	-	-	-	-	18	-	-	-	-	-	40	40
N MAIN ST SIDEWALKS PLAN 3 OF 9	-	-	-	30	-	80	-	-	-	-	-	-	-
N MAIN ST SIDEWALKS PLAN 4 OF 9	-	-	-	-	-	58	-	-	-	-	-	38	38
N MAIN ST SIDEWALKS PLAN 5 OF 9	-	-	-	18	-	124	-	-	-	-	-	-	-
N MAIN ST SIDEWALKS PLAN 6 OF 9	-	-	-	38	-	93	4	-	-	-	-	64	64
N MAIN ST SIDEWALKS PLAN 7 OF 9	-	-	-	13	-	104	-	-	-	-	-	30	30
N MAIN ST SIDEWALKS PLAN 8 OF 9	-	-	-	21	-	108	-	-	-	-	-	31	31
N MAIN ST SIDEWALKS PLAN 9 OF 9	-	-	-	-	-	75	-	-	-	-	-	60	60
S MAIN ST SIDEWALKS PLAN 1 OF 8	-	59	-	134	-	46	1	-	-	-	-	90	90
S MAIN ST SIDEWALKS PLAN 2 OF 8	-	107	-	105	-	76	-	5	1	2	1	191	191
S MAIN ST SIDEWALKS PLAN 3 OF 8	-	-	-	52	-	107	-	-	3	-	-	-	-
S MAIN ST SIDEWALKS PLAN 4 OF 8	-	-	105	39	-	113	-	-	3	-	-	-	-
S MAIN ST SIDEWALKS PLAN 5 OF 8	-	-	57	73	-	80	-	8	2	2	1	295	295
S MAIN ST SIDEWALKS PLAN 6 OF 8	32	-	-	81	94	46	-	-	-	-	-	-	-
S MAIN ST SIDEWALKS PLAN 7 OF 8	63	-	59	4	134	65	-	-	-	-	-	-	-
S MAIN ST SIDEWALKS PLAN 8 OF 8	161	-	144	41	-	89	-	2	-	-	-	-	-
PROJECT TOTALS	256	166	365	649	228	1,300	6	15	9	4	2	839	839

\* INDEFINITE QUANTITIES TO BE APPROVED BY THE ENGINEER.

NO.	DATE	REVISION	APPROVED
 HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
 Texas Department of Transportation © 2022			
<b>CURB RAMP PROGRAM</b>  <b>SUMMARIES</b>			
SHEET 2 OF 3			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	SEE TITLE SHEET		SL 109
CHECK	STATE	DISTRICT	COUNTY
CHECK	TEXAS	AUS	BASTROP
CHECK	CONTROL	SECTION	JOB
	0114	17	010
			<b>6</b>





PENTABLE: 10331291-Elign.tbl  
 DATE: 5/24/2022 TIME: 4:50:20 PM SCALE: 1:1

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: Elign-SUM03.dgn

LOCATION	677 6001	677 6005	677 6007	678 6008	1004 6001	3076 6051	3085 6001
	ELIM EXT PAV MRK & MRKS (4")	ELIM EXT PAV MRK & MRKS (12")	ELIM EXT PAV MRK & MRKS (24")	PAV SURF PREP FOR MRK (24")	TREE PROTECTION	D-GR HMA TY-D PG76-22 (LEVEL-UP)	UNDERSEAL COURSE
	LF	LF	LF	LF	EA	TON	GAL
N MAIN ST REMOVAL PLAN 1 OF 9	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 2 OF 9	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 3 OF 9	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 4 OF 9	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 5 OF 9	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 6 OF 9	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 7 OF 9	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 8 OF 9	-	-	-	-	-	-	-
N MAIN ST REMOVAL PLAN 9 OF 9	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 1 OF 8	-	86	19	-	-	-	-
S MAIN ST REMOVAL PLAN 2 OF 8	-	-	15	-	-	-	-
S MAIN ST REMOVAL PLAN 3 OF 8	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 4 OF 8	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 5 OF 8	16	84	-	-	-	-	-
S MAIN ST REMOVAL PLAN 6 OF 8	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 7 OF 8	-	-	-	-	-	-	-
S MAIN ST REMOVAL PLAN 8 OF 8	-	-	-	-	-	-	-
N MAIN ST SIDEWALKS PLAN 1 OF 9	-	-	-	-	-	-	-
N MAIN ST SIDEWALKS PLAN 2 OF 9	-	-	-	40	-	-	-
N MAIN ST SIDEWALKS PLAN 3 OF 9	-	-	-	-	-	-	-
N MAIN ST SIDEWALKS PLAN 4 OF 9	-	-	-	38	-	-	-
N MAIN ST SIDEWALKS PLAN 5 OF 9	-	-	-	-	3	-	-
N MAIN ST SIDEWALKS PLAN 6 OF 9	-	-	-	64	3	-	-
N MAIN ST SIDEWALKS PLAN 7 OF 9	-	-	-	30	7	-	-
N MAIN ST SIDEWALKS PLAN 8 OF 9	-	-	-	31	-	-	-
N MAIN ST SIDEWALKS PLAN 9 OF 9	-	-	-	60	1	-	-
S MAIN ST SIDEWALKS PLAN 1 OF 8	-	86	19	90	-	10	28
S MAIN ST SIDEWALKS PLAN 2 OF 8	-	-	15	191	-	-	-
S MAIN ST SIDEWALKS PLAN 3 OF 8	-	-	-	-	1	-	-
S MAIN ST SIDEWALKS PLAN 4 OF 8	-	-	-	-	-	-	-
S MAIN ST SIDEWALKS PLAN 5 OF 8	16	84	-	295	-	-	-
S MAIN ST SIDEWALKS PLAN 6 OF 8	-	-	-	-	-	-	-
S MAIN ST SIDEWALKS PLAN 7 OF 8	-	-	-	-	1	-	-
S MAIN ST SIDEWALKS PLAN 8 OF 8	-	-	-	-	5	-	-
<b>PROJECT TOTALS</b>	<b>32</b>	<b>340</b>	<b>68</b>	<b>839</b>	<b>21</b>	<b>10</b>	<b>28</b>

NOTES:  
 1. TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS QUANTITIES WERE BASED ON PERCENTAGE OF PROJECT LENGTH. CONTRACTOR TO LAYOUT ENVIRONMENTAL CONTROL MEASURES BASED ON SW3P GENERAL LAYOUT SHEET OR AS DIRECTED BY ENGINEER.  
 \* INDEFINITE QUANTITIES TO BE APPROVED BY THE ENGINEER.

LOCATION	506 6001*	506 6011*	506 6038*	506 6039*	506 6040*	506 6043*
	ROCK FILTER DAMS (INSTALL) (TY 1)	ROCK FILTER DAMS (REMOVE)	TEMP SEDMT CONT FENCE (INSTALL)	TEMP SEDMT CONT FENCE (REMOVE)	BIODEG EROSN CONT LOGS (INSTL) (8")	BIODEG EROSN CONT LOGS (REMOVE)
	LF	LF	LF	LF	LF	LF
SW3P GENERAL LAYOUT	160	160	970	970	3,882	3,882

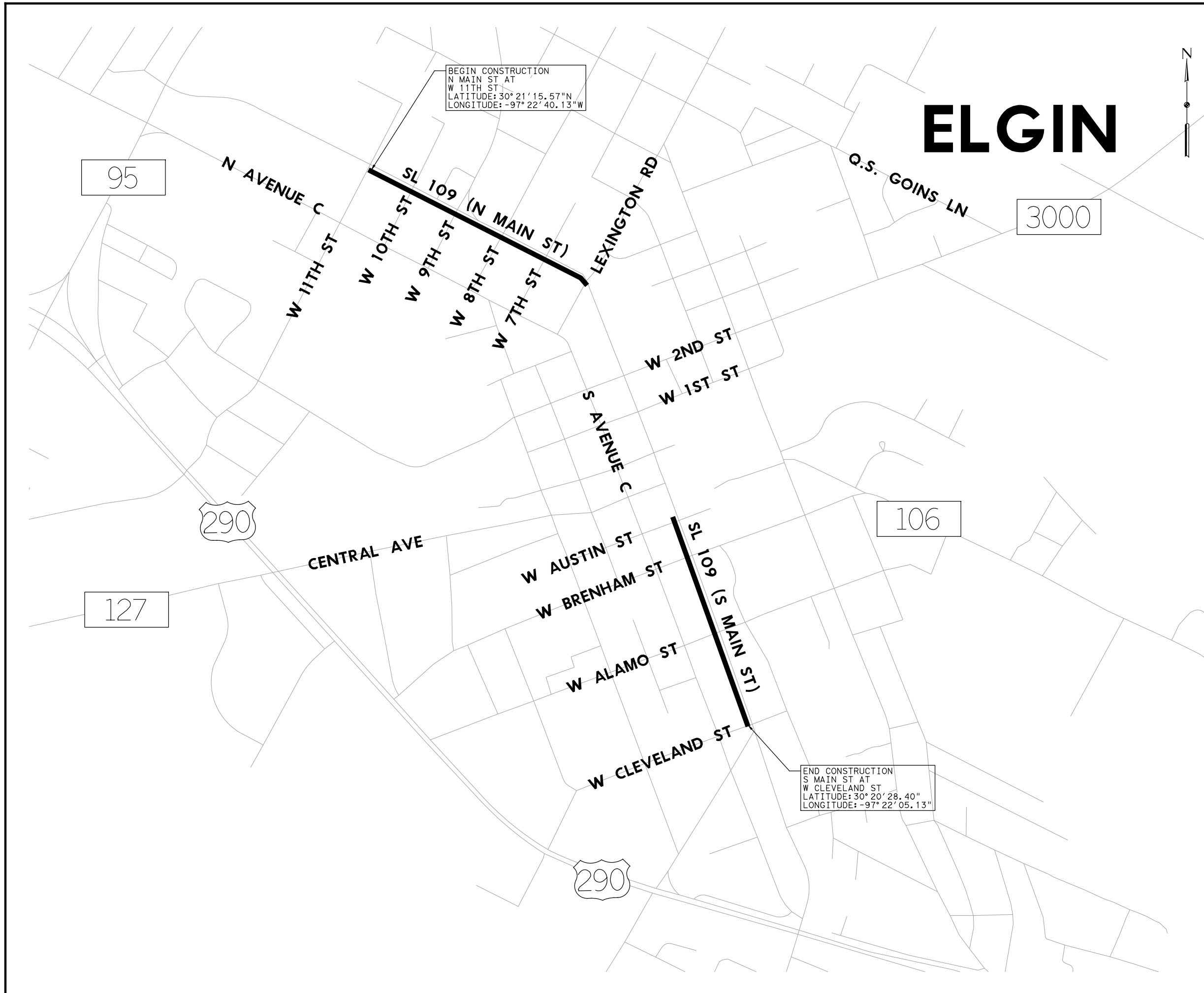
NO.	DATE	REVISION	APPROVED
 HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
 Texas Department of Transportation © 2022			
<b>CURB RAMP PROGRAM</b>  <b>SUMMARIES</b>			
SHEET 3 OF 3			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	SEE TITLE SHEET		SL 109
CHECK	STATE	DISTRICT	COUNTY
CHECK	TEXAS	AUS	BASTROP
CHECK	CONTROL	SECTION	JOB
CHECK	0114	17	010

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: Elgin-ProjectLay01.dgn

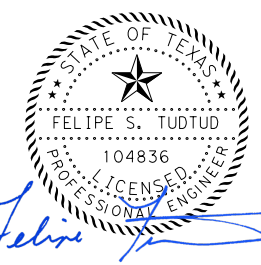
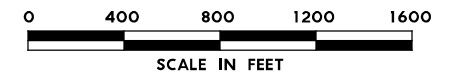
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DATE: 5/24/2022 TIME: 15:02:22 PM

SCALE: 1:800



# ELGIN



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



## CURB RAMP PROGRAM PROJECT LAYOUT

SHEET 1 OF 1

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS		SEE TITLE SHEET		SL 109
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	8
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

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**BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:**

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

**WORKER SAFETY NOTES:**

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

**COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES**

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

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

SHEET 1 OF 12



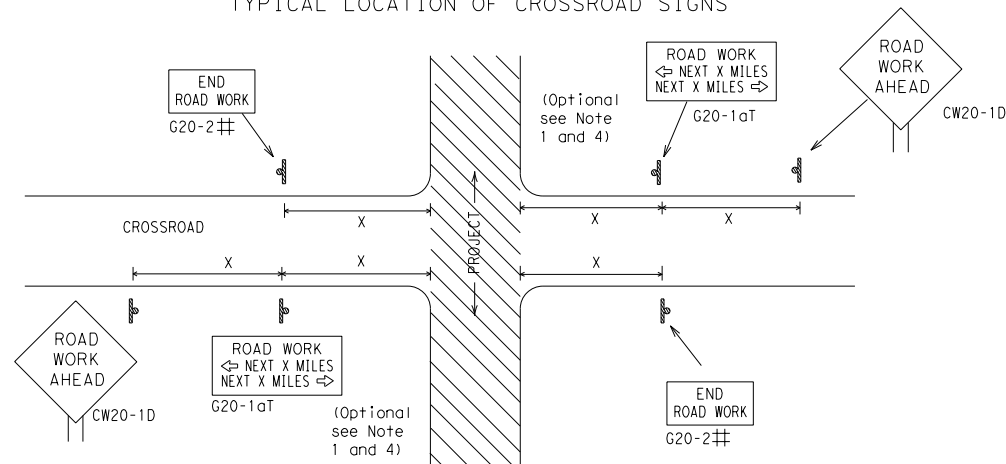
**BARRICADE AND CONSTRUCTION  
GENERAL NOTES  
AND REQUIREMENTS**

**BC(1)-21**

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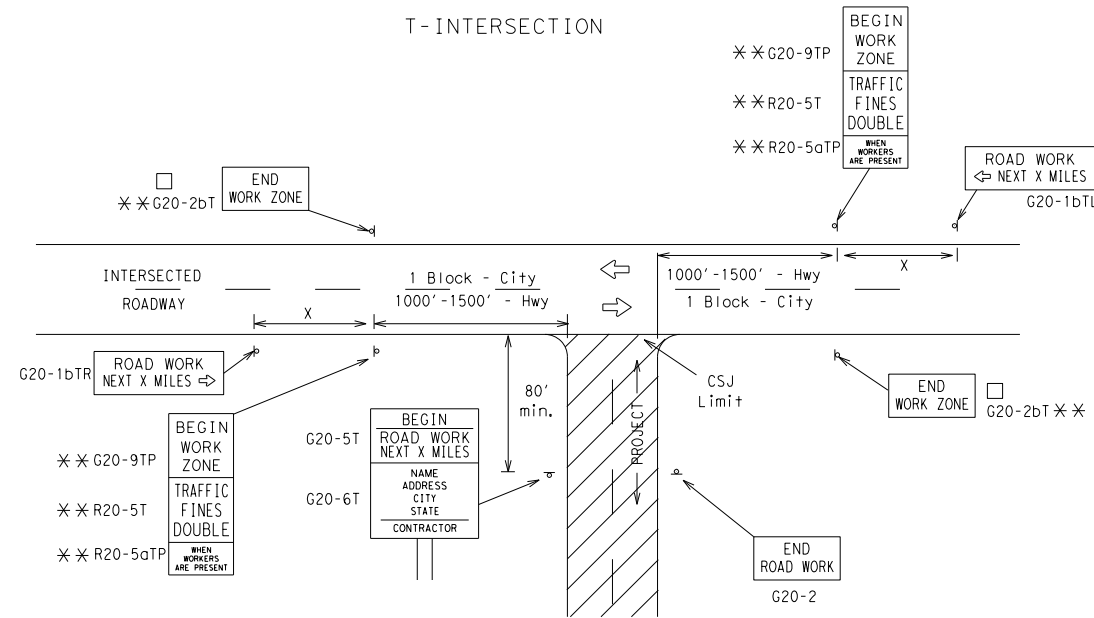
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TYPICAL LOCATION OF CROSSROAD SIGNS



- ## 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<sup>1,5,6</sup>

Sign Number or Series	SIZE		SPACING	
	Conventional Road	Expressway/Freeway	Posted Speed MPH	Sign Δ Spacing "x" Feet (Apprx.)
CW20 <sup>4</sup>	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	48" x 48"	48" x 48"	60	600 <sup>2</sup>
			65	700 <sup>2</sup>
			70	800 <sup>2</sup>
			80	1000 <sup>2</sup>
*			*	* <sup>3</sup>

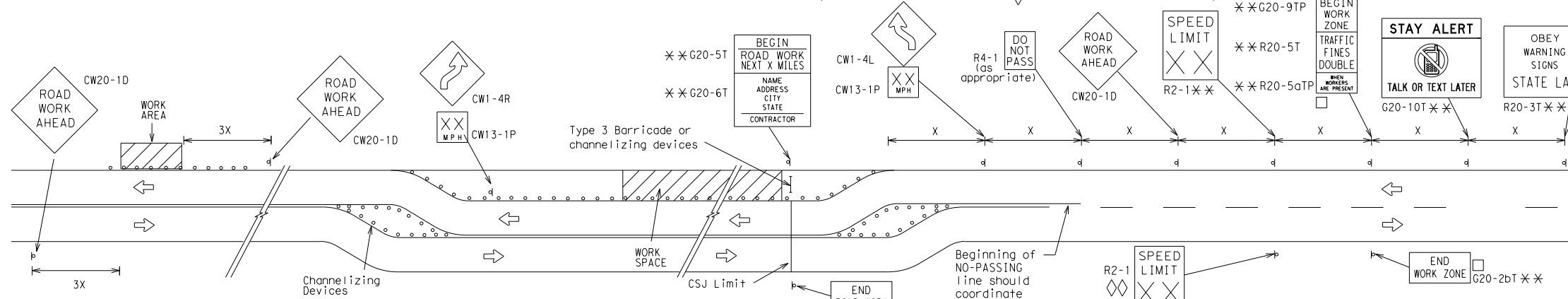
\* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

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

GENERAL NOTES

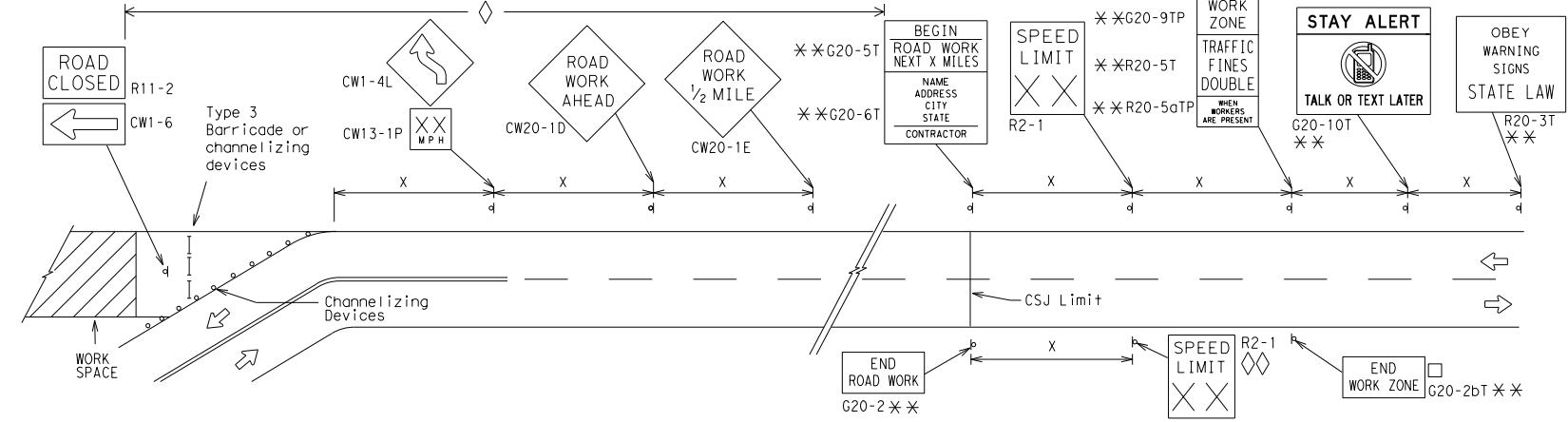
- Special or larger size signs may be used as necessary.
- Distance between signs should be increased as required to have 1500 feet advance warning.
- Distance between signs should be increased as required to have 1/2 mile or more advance warning.
- 36" x 36" "ROAD WORK AHEAD" (CW20-1D) signs may be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

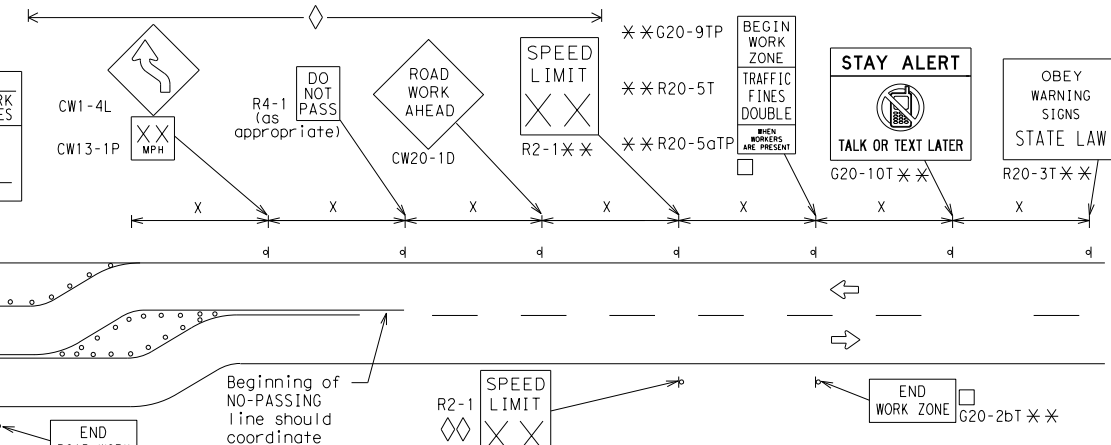


When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD" (CW20-1D) signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing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

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



SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT 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**

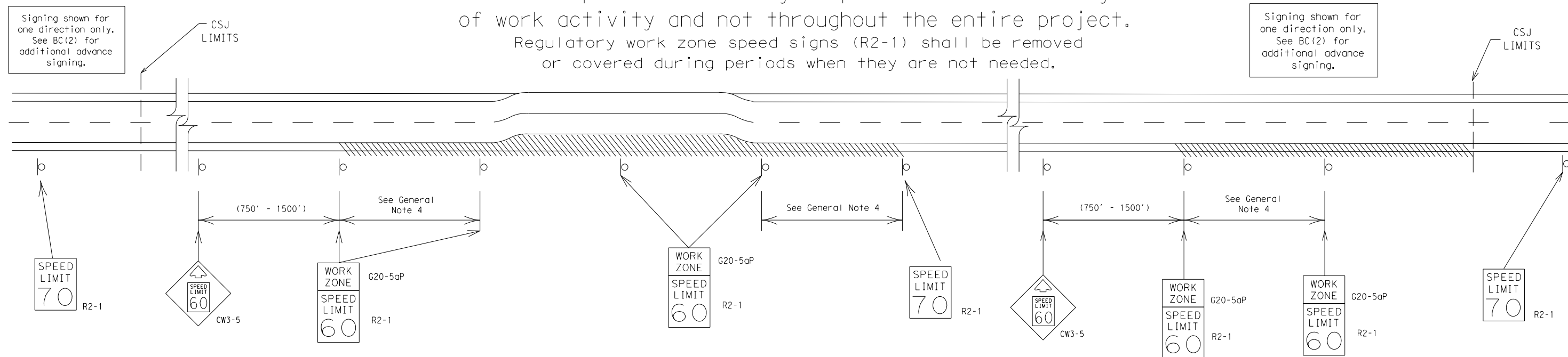
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# TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

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

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project. Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



## GUIDANCE FOR USE:

### LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

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

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

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

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

### SHORT TERM WORK ZONE SPEED LIMITS

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

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

## GENERAL NOTES

- Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
- Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
- Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
- Frequency of work zone speed limit signs should be:
 

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

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SHEET 3 OF 12



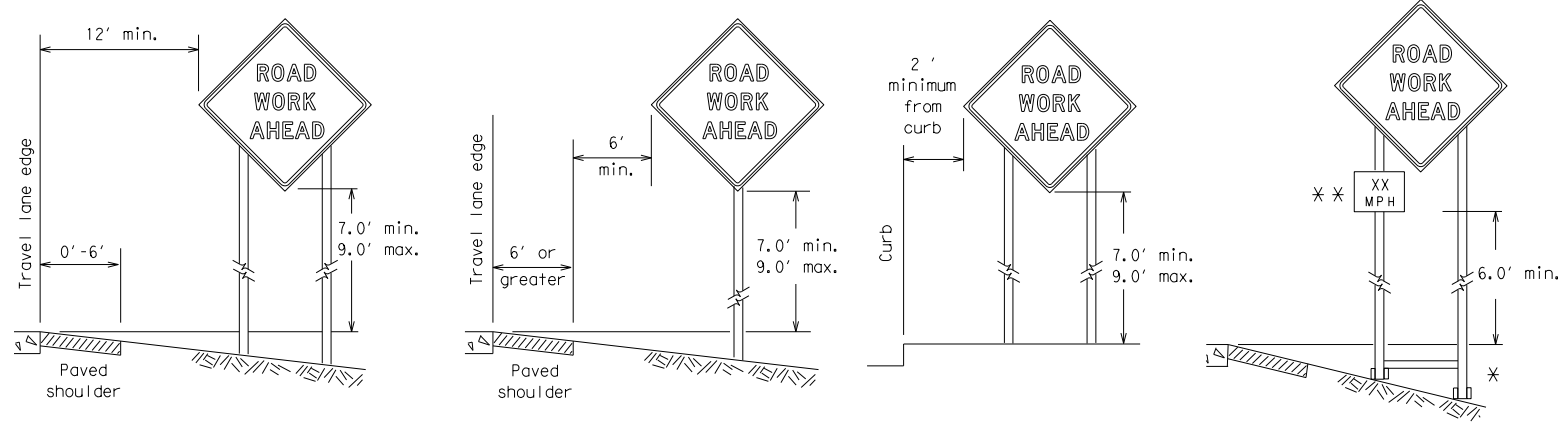
## BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

### BC(3)-21

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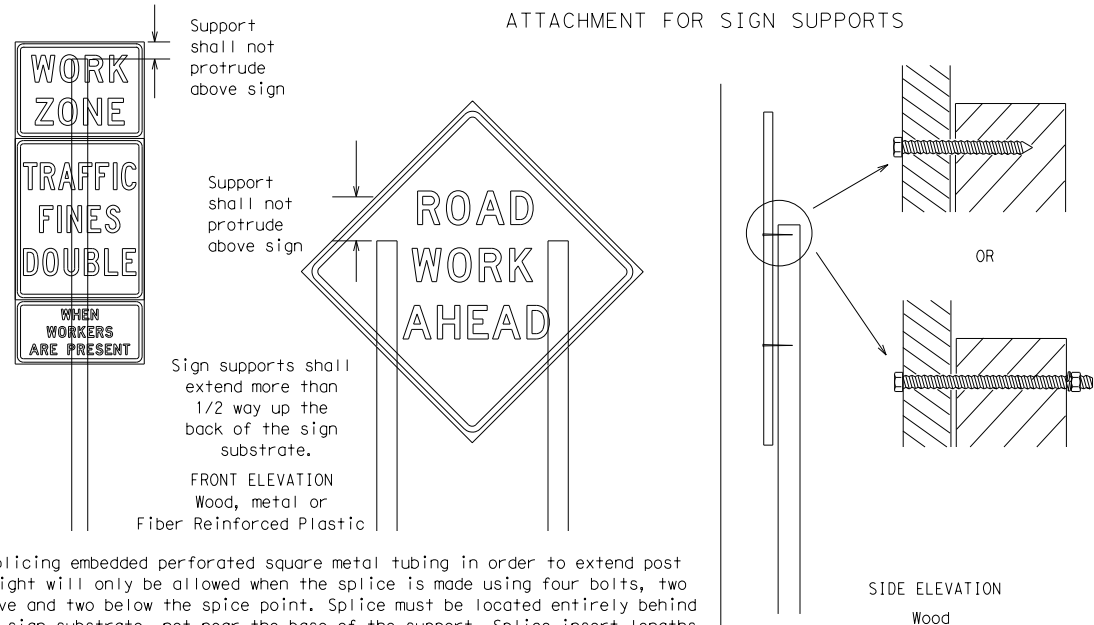
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



\* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

\*\* When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS



Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the splice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

GENERAL NOTES FOR WORK ZONE SIGNS

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

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

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

SIGN MOUNTING HEIGHT

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

SIZE OF SIGNS

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

SIGN SUBSTRATES

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

REFLECTIVE SHEETING

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

SIGN LETTERS

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

REMOVING OR COVERING

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

SIGN SUPPORT WEIGHTS

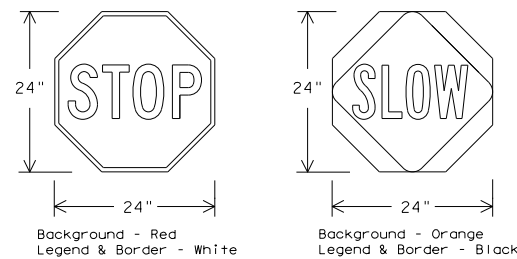
- Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
- The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
- Rock, concrete, iron, steel or other solid objects shall not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

FLAGS ON SIGNS

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

STOP/SLOW PADDLES

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



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

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

- Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, specific service (LOGO), or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
- When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
- When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
- If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
- If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
- Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

SHEET 4 OF 12



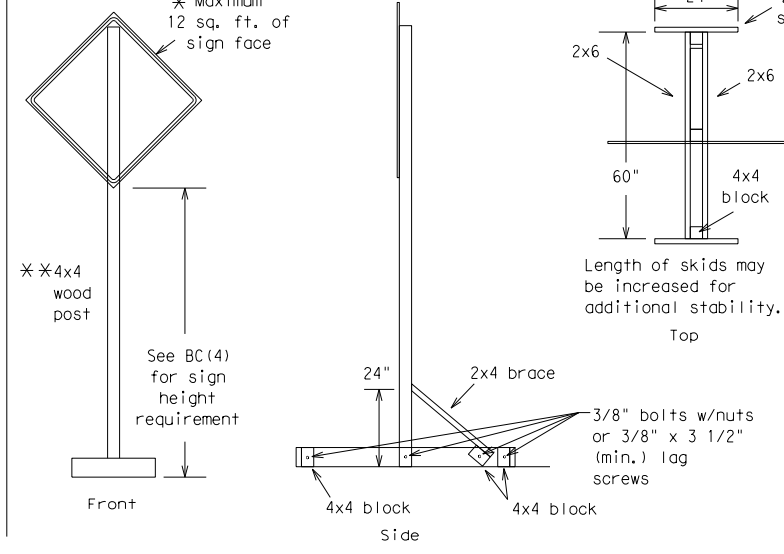
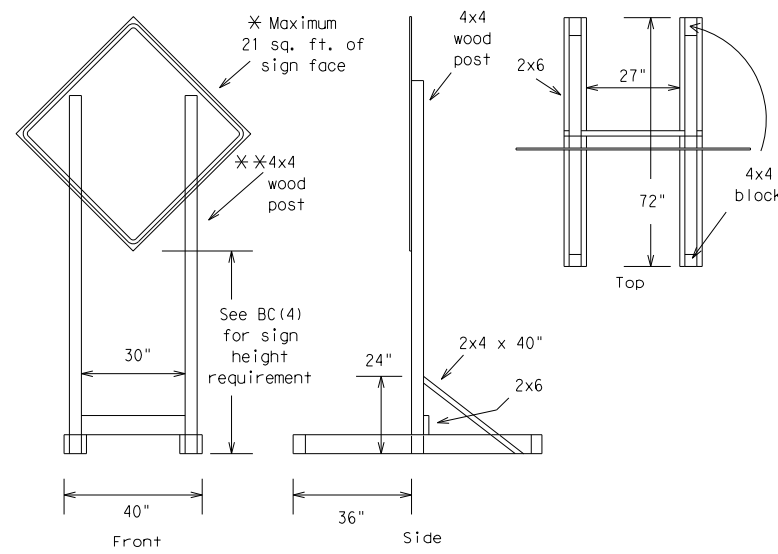
BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

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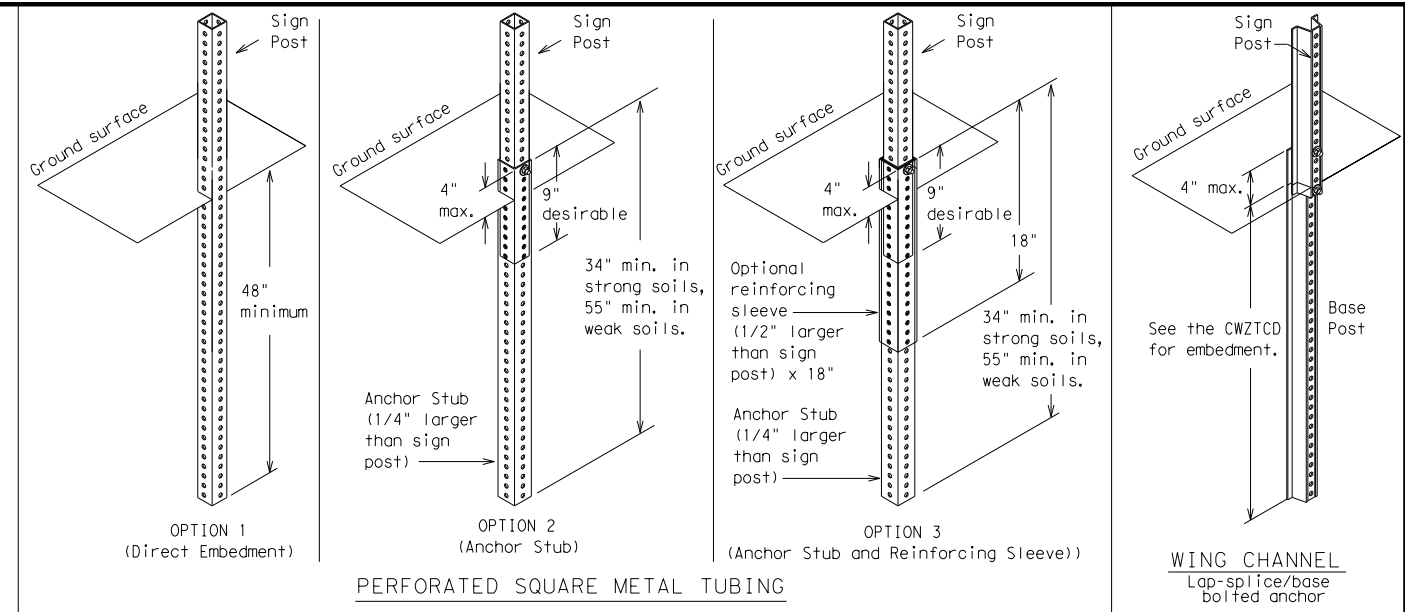
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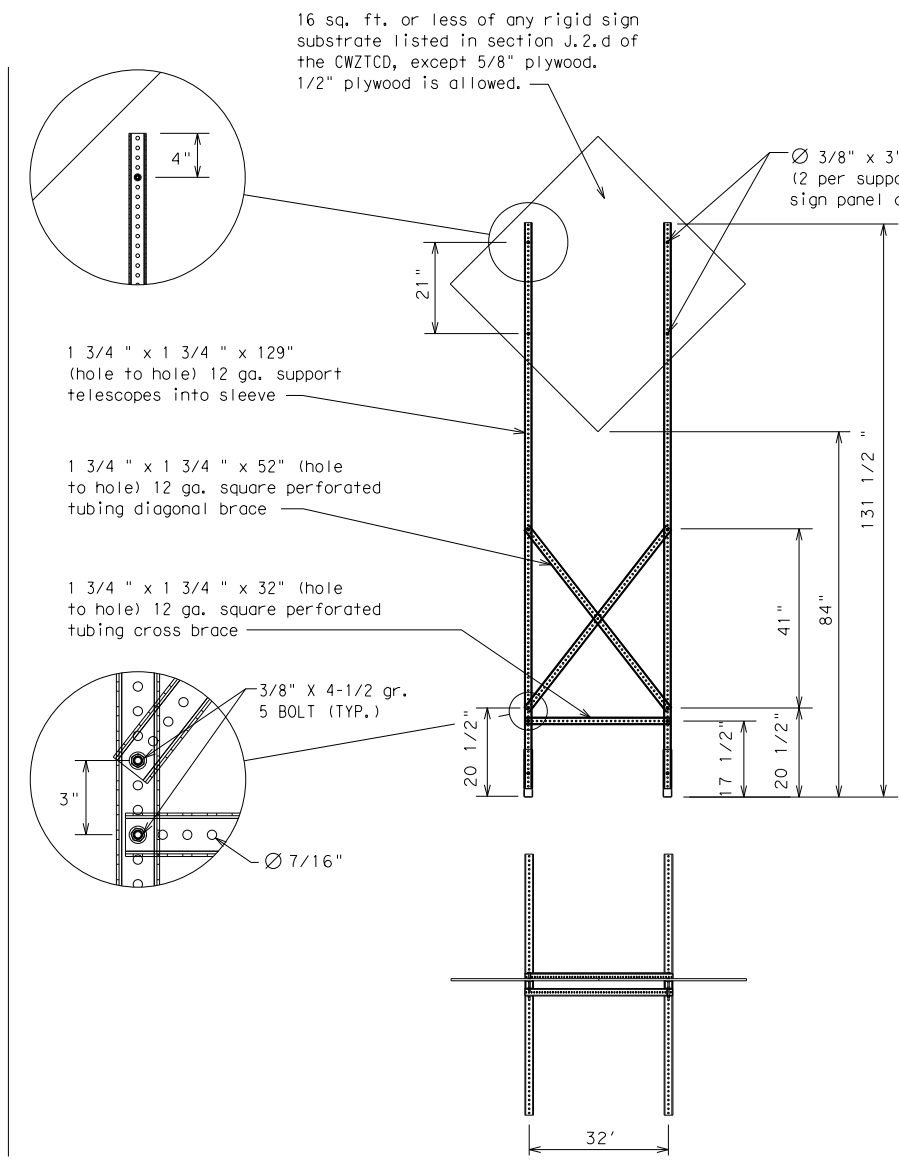
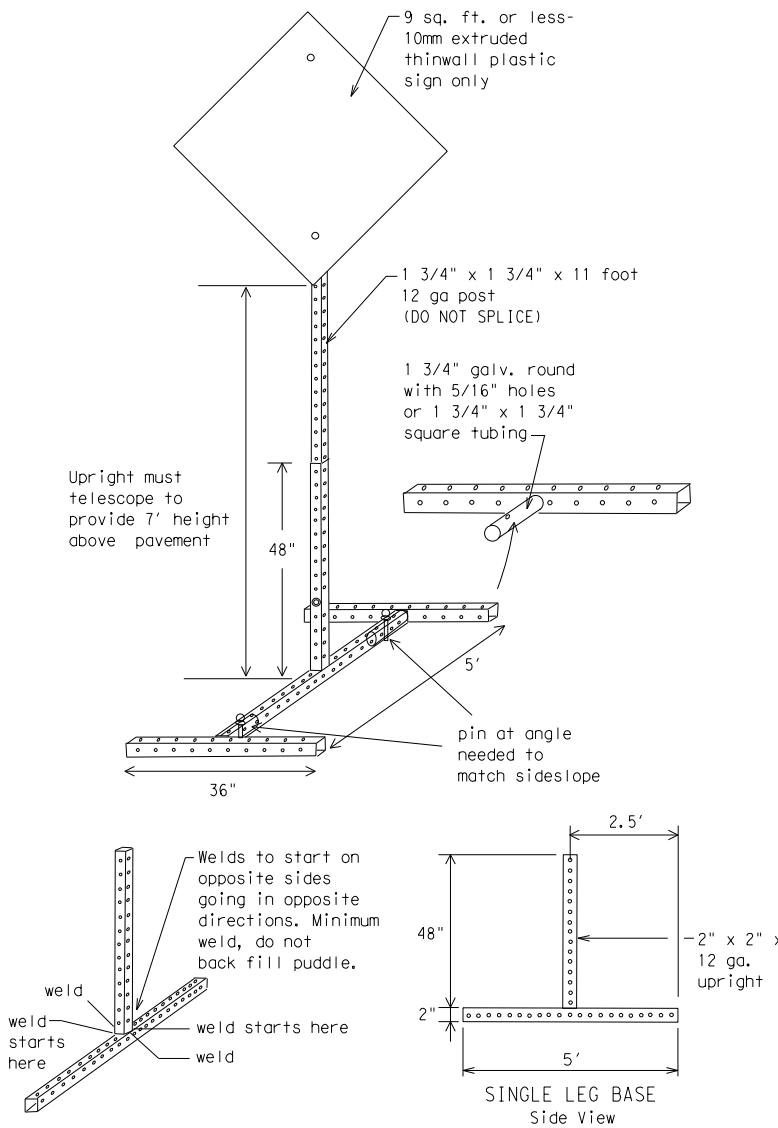
### SKID MOUNTED WOOD SIGN SUPPORTS

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



### GROUND MOUNTED SIGN SUPPORTS

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



### SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

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

### WEDGE ANCHORS

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

### OTHER DESIGNS

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

### GENERAL NOTES

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

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

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## BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

### BC(5)-21

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

# RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

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

## PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

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

## Phase 1: Condition Lists

### Road/Lane/Ramp Closure List

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

### Other Condition List

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

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

## Phase 2: Possible Component Lists

### Action to Take/Effect on Travel List

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

### Location List

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

### Warning List

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

### \*\* Advance Notice List

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

\*\* See Application Guidelines Note 6.

## APPLICATION GUIDELINES

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

## WORDING ALTERNATIVES

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

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

## FULL MATRIX PCMS SIGNS

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

SHEET 6 OF 12

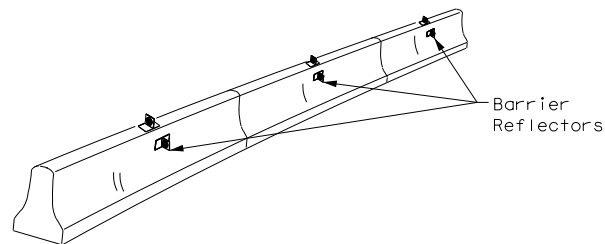
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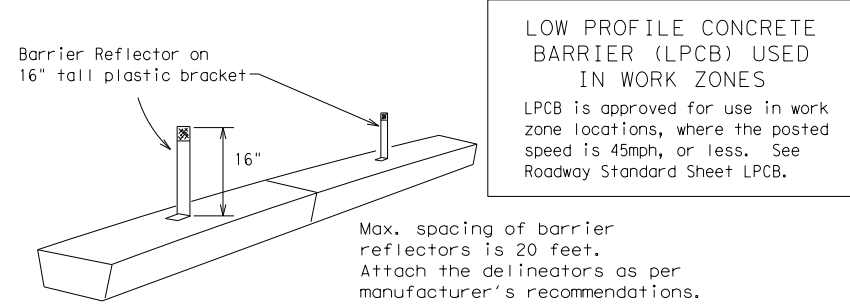
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- Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
- Color of Barrier Reflectors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



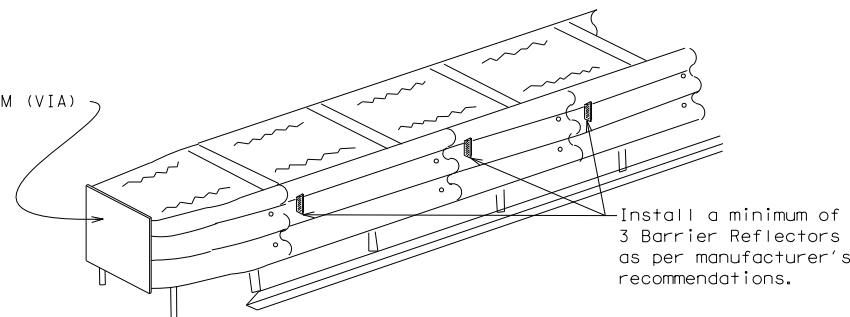
CONCRETE TRAFFIC BARRIER (CTB)

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



**LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES**  
LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

LOW PROFILE CONCRETE BARRIER (LPCB)



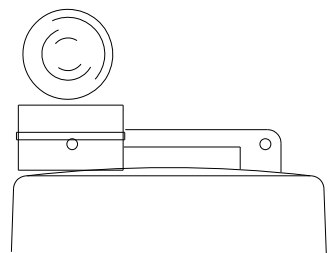
DELINEATION OF END TREATMENTS

**END TREATMENTS FOR CTB'S USED IN WORK ZONES**  
End treatments used on CTB's in work zones shall meet the appropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

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

**WARNING LIGHTS**

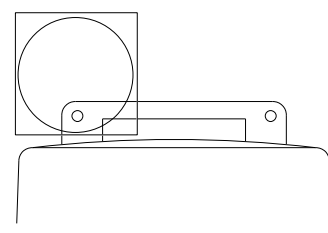
- Warning lights shall meet the requirements of the TMUTCD.
- Warning lights shall NOT be installed on barricades.
- Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet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



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

**WARNING LIGHTS MOUNTED ON PLASTIC DRUMS**

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



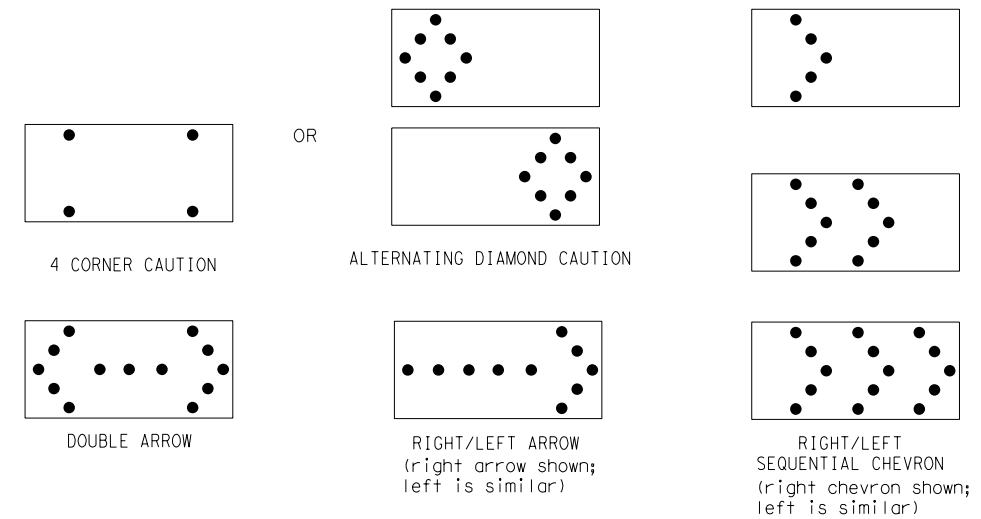
Warning reflector may be round or square. Must have a yellow reflective surface area of at least 30 square inches

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

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

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

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



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

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

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

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

**FLASHING ARROW BOARDS**

**TRUCK-MOUNTED ATTENUATORS**

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

**Texas Department of Transportation**  
Traffic Safety Division Standard

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

BC(7)-21

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**GENERAL NOTES**

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

**GENERAL DESIGN REQUIREMENTS**

Pre-qualified plastic drums shall meet the following requirements:

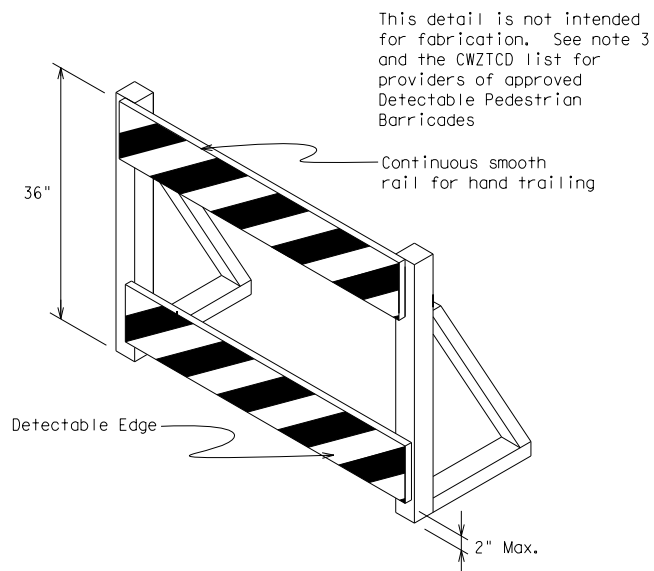
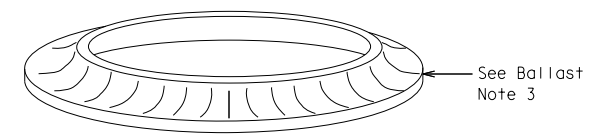
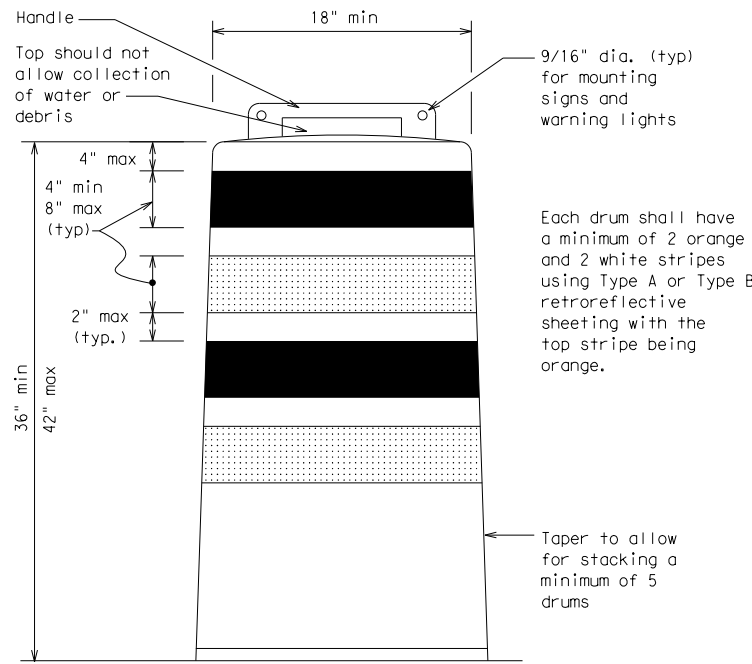
- Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
- The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents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

**RETROREFLECTIVE SHEETING**

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

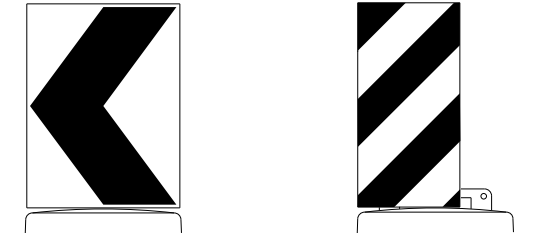
**BALLAST**

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



**DETECTABLE PEDESTRIAN BARRICADES**

- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
- Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.
- Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
- Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.
- Warning lights shall not be attached to detectable pedestrian barricades.
- Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign (Maximum Sign Dimension)  
 Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer  
 12" x 24" Vertical Panel  
 mount with diagonals sloping down towards travel way

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

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

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



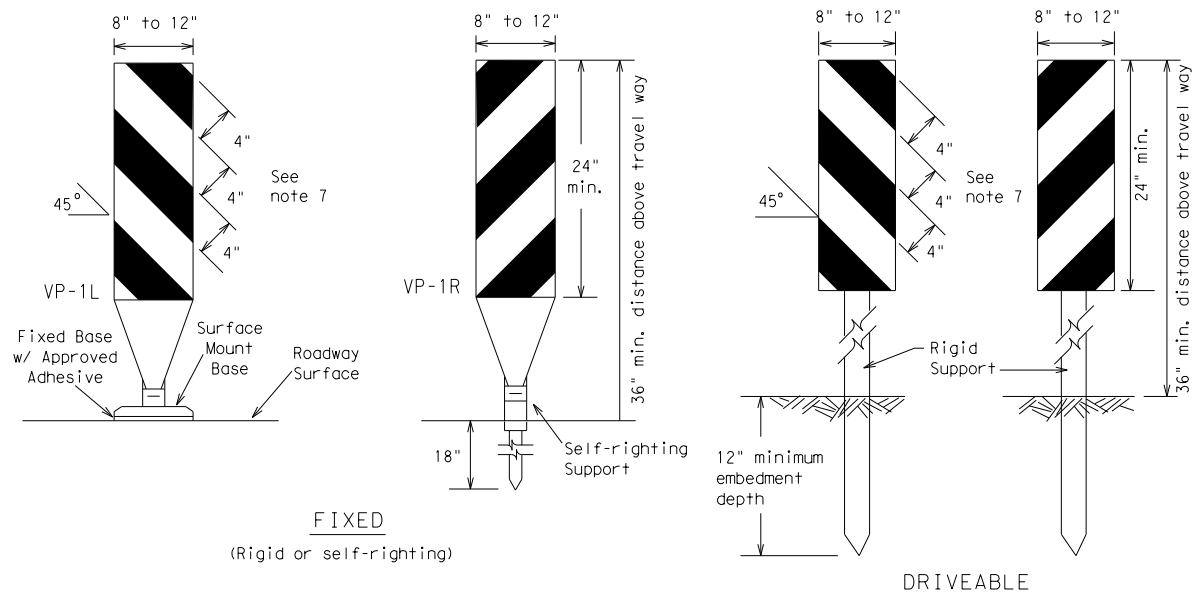
**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

**BC(8)-21**

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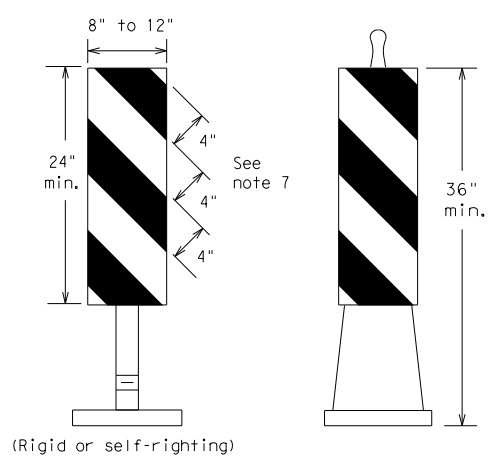
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**FIXED**  
(Rigid or self-righting)

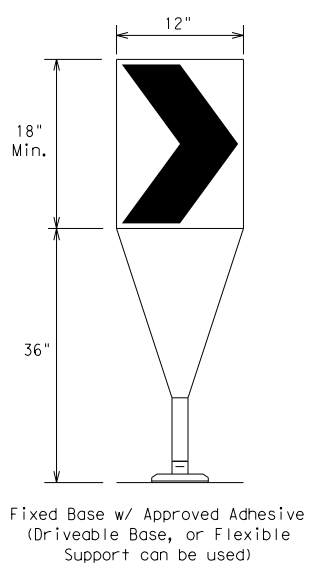
**DRIVEABLE**



**PORTABLE**

**VERTICAL PANELS (VPs)**

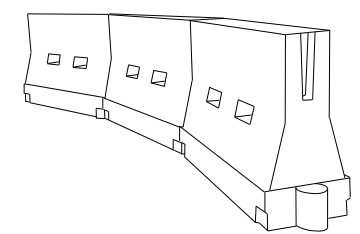
- Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
- VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is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



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

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

**CHEVRONS**



**LONGITUDINAL CHANNELIZING DEVICES (LCD)**

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

**WATER BALLASTED SYSTEMS USED AS BARRIERS**

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

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

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

**GENERAL NOTES**

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

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

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

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

SHEET 9 OF 12



**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

BC (9) - 21

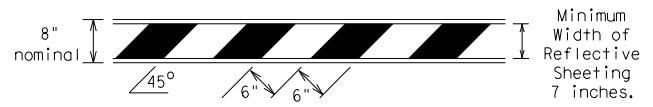
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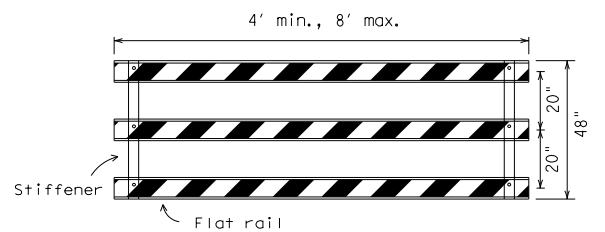
**TYPE 3 BARRICADES**

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

Barricades shall NOT be used as a sign support.

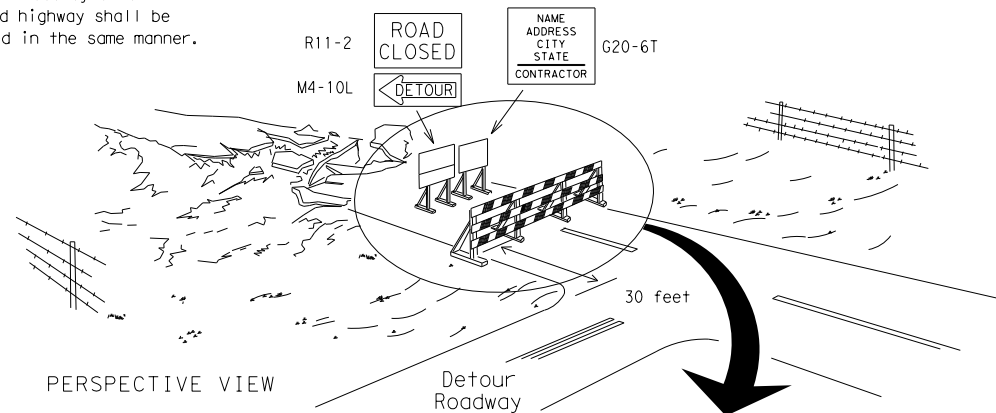


**TYPICAL STRIPING DETAIL FOR BARRICADE RAIL**



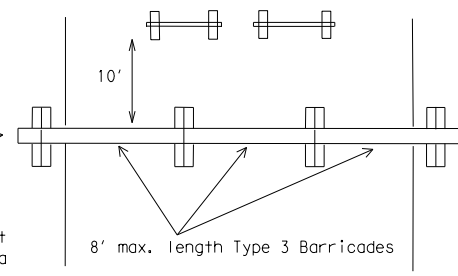
**TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES**

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



PERSPECTIVE VIEW

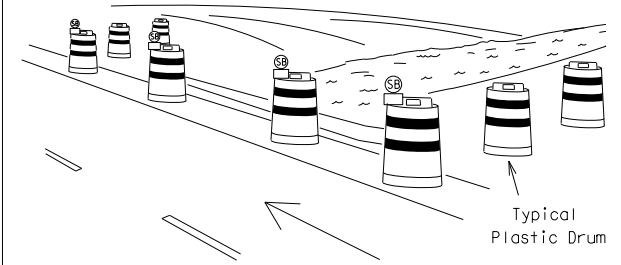
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic. Barricade striping should slant downward in the direction of detour.



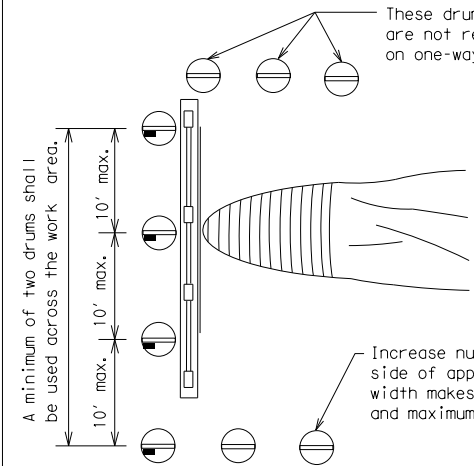
PLAN VIEW

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

**TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION**



PERSPECTIVE VIEW



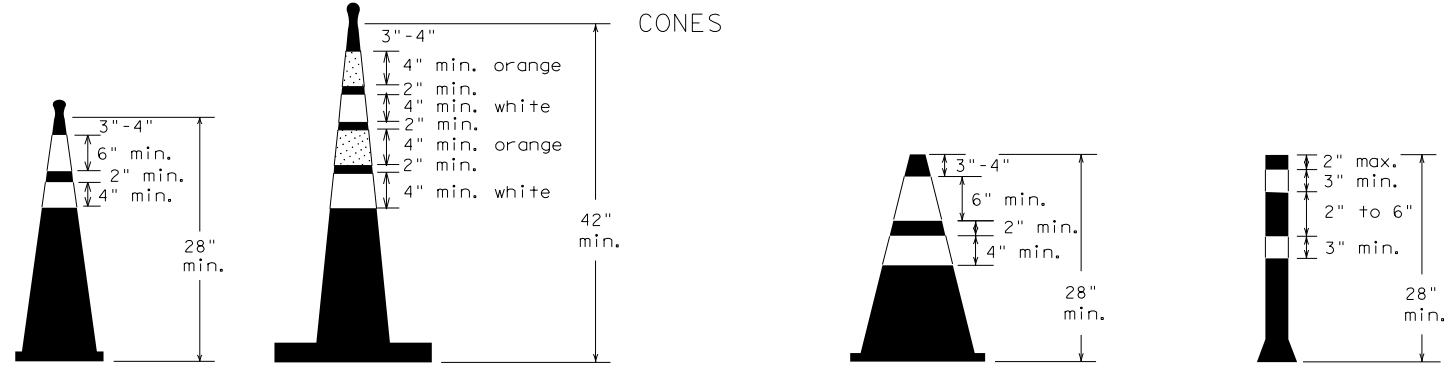
PLAN VIEW

Increase number of plastic drums on the side of approaching traffic if the crown width makes it necessary. (minimum of 2 and maximum of 4 drums)

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

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

**CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS**

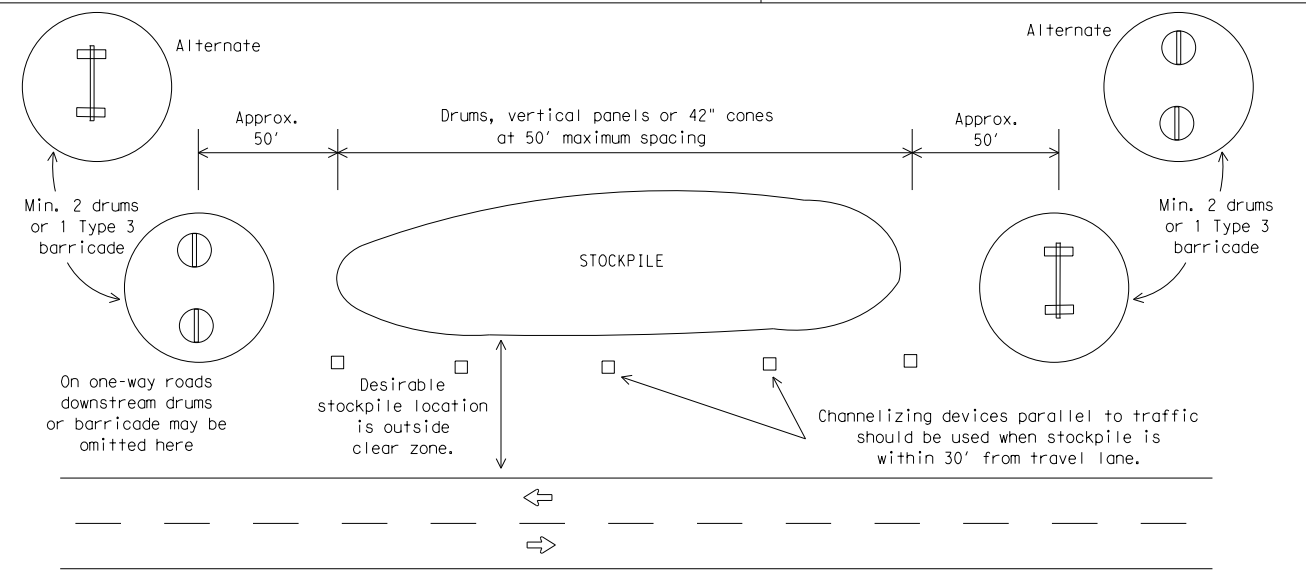


Two-Piece cones

One-Piece cones

Tubular Marker

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



**TRAFFIC CONTROL FOR MATERIAL STOCKPILES**

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

**BC(10)-21**

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WORK ZONE PAVEMENT MARKINGS

GENERAL

- The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
- Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- Additional supplemental pavement marking details may be found in the plans or specifications.
- Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
- When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
- When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
- All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

- Raised pavement markers are to be placed according to the patterns on BC(12).
- All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

- Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
- Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

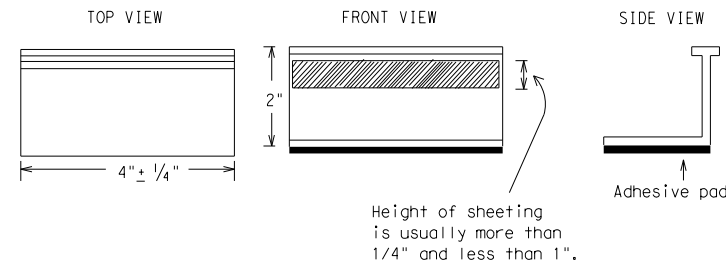
MAINTAINING WORK ZONE PAVEMENT MARKINGS

- The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
- Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
- The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
- Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

- Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
- The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
- Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
- The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
- Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
- Blast cleaning may be used but will not be required unless specifically shown in the plans.
- Over-painting of the markings SHALL NOT BE permitted.
- Removal of raised pavement markers shall be as directed by the Engineer.
- Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
- Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

- Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
- Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
  - Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
  - Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
- Small design variances may be noted between tab manufacturers.
- See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

- Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
- All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
- Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:  
 YELLOW - (two amber reflective surfaces with yellow body).  
 WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

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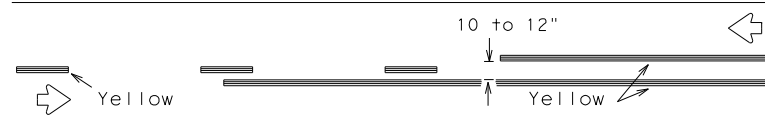


BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

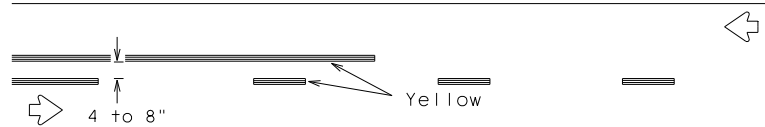
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## PAVEMENT MARKING PATTERNS

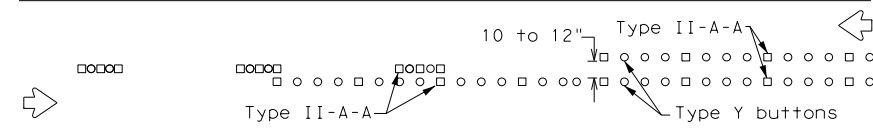


REFLECTORIZED PAVEMENT MARKINGS - PATTERN A

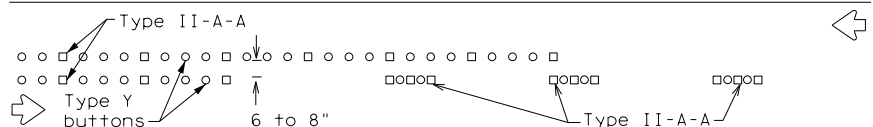


REFLECTORIZED PAVEMENT MARKINGS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer. Prefabricated markings may be substituted for reflectORIZED pavement markings.

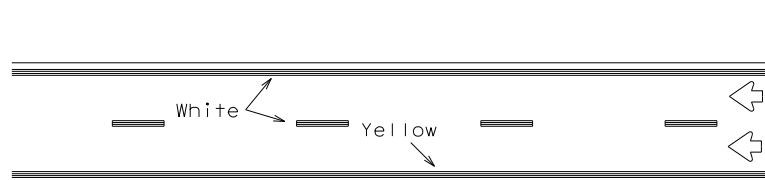


RAISED PAVEMENT MARKERS - PATTERN A



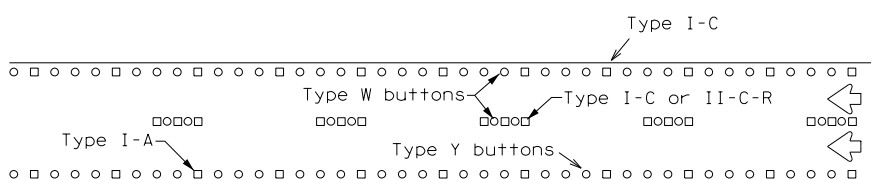
RAISED PAVEMENT MARKERS - PATTERN B

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



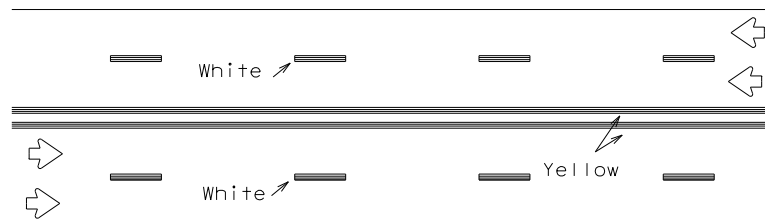
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectORIZED pavement markings.



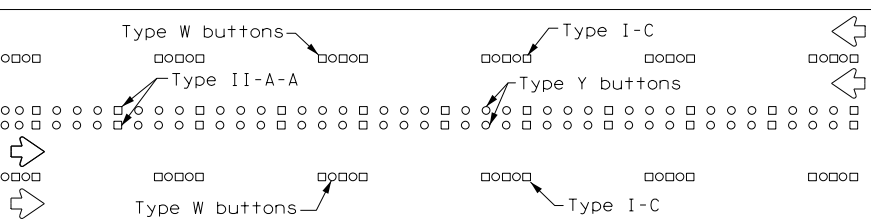
RAISED PAVEMENT MARKERS

## EDGE & LANE LINES FOR DIVIDED HIGHWAY



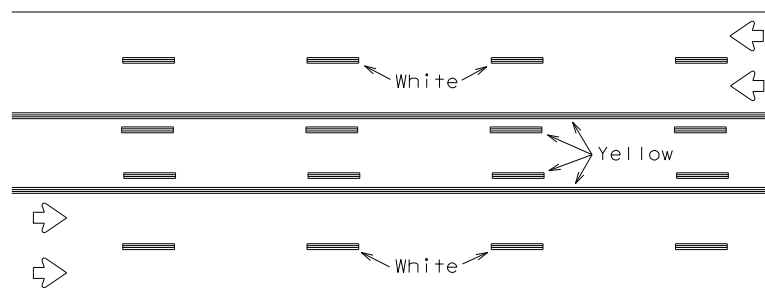
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectORIZED pavement markings.



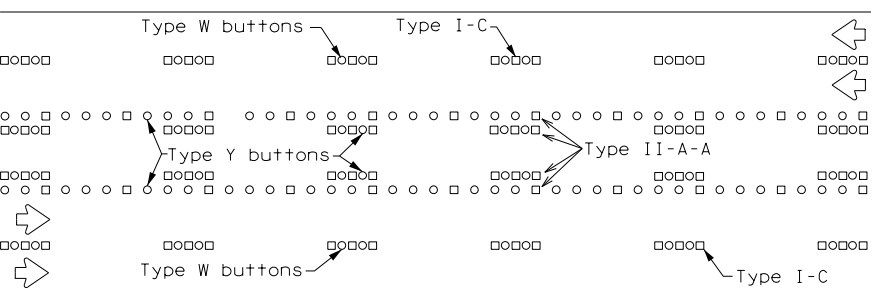
RAISED PAVEMENT MARKERS

## LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS

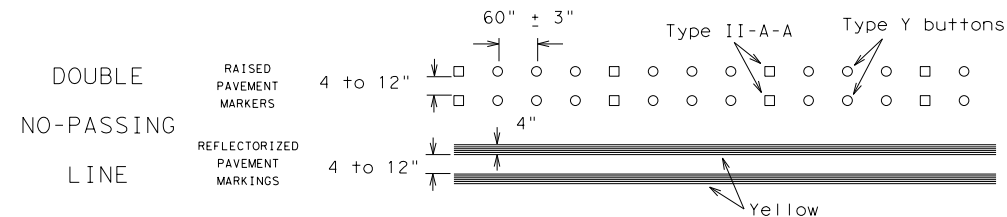
Prefabricated markings may be substituted for reflectORIZED pavement markings.



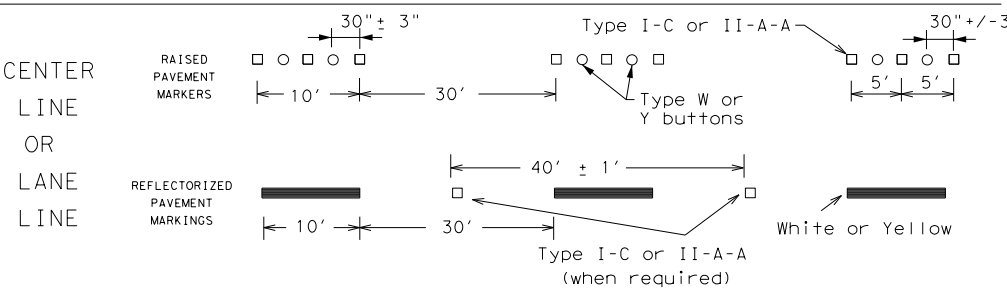
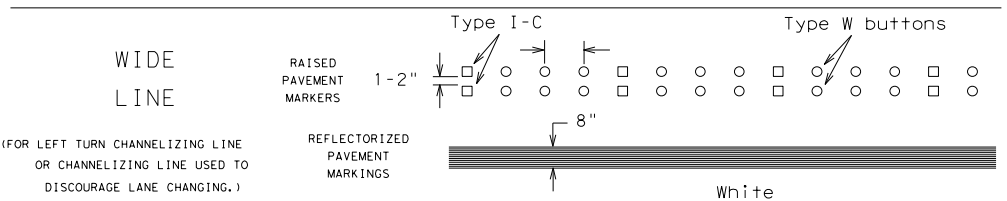
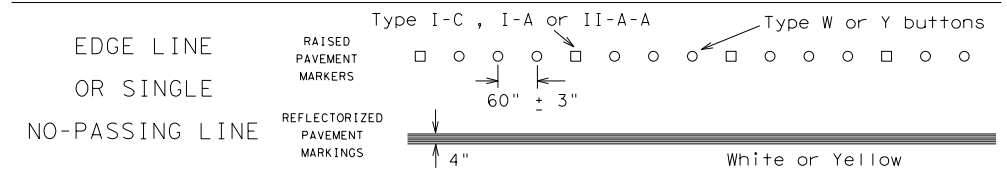
RAISED PAVEMENT MARKERS

## TWO-WAY LEFT TURN LANE

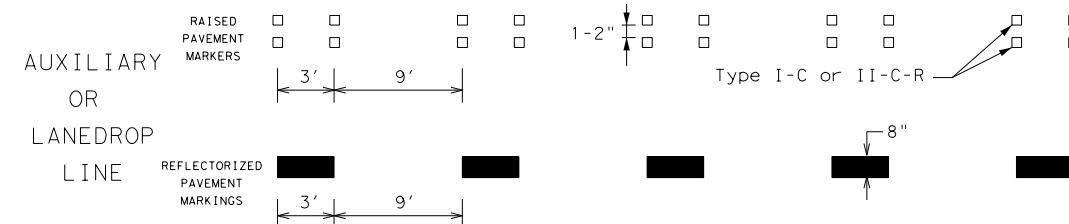
## STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS



### SOLID LINES

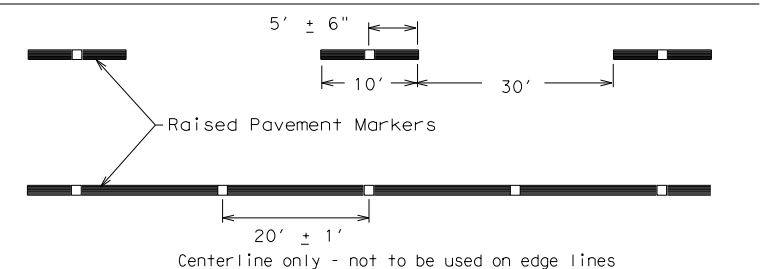


### BROKEN LINES



### REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



SHEET 12 OF 12



## BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
1-97 9-07 5-21	DIST	COUNTY	SHEET NO.	
2-98 7-13	AUS	BASTROP	20	
11-02 8-14				

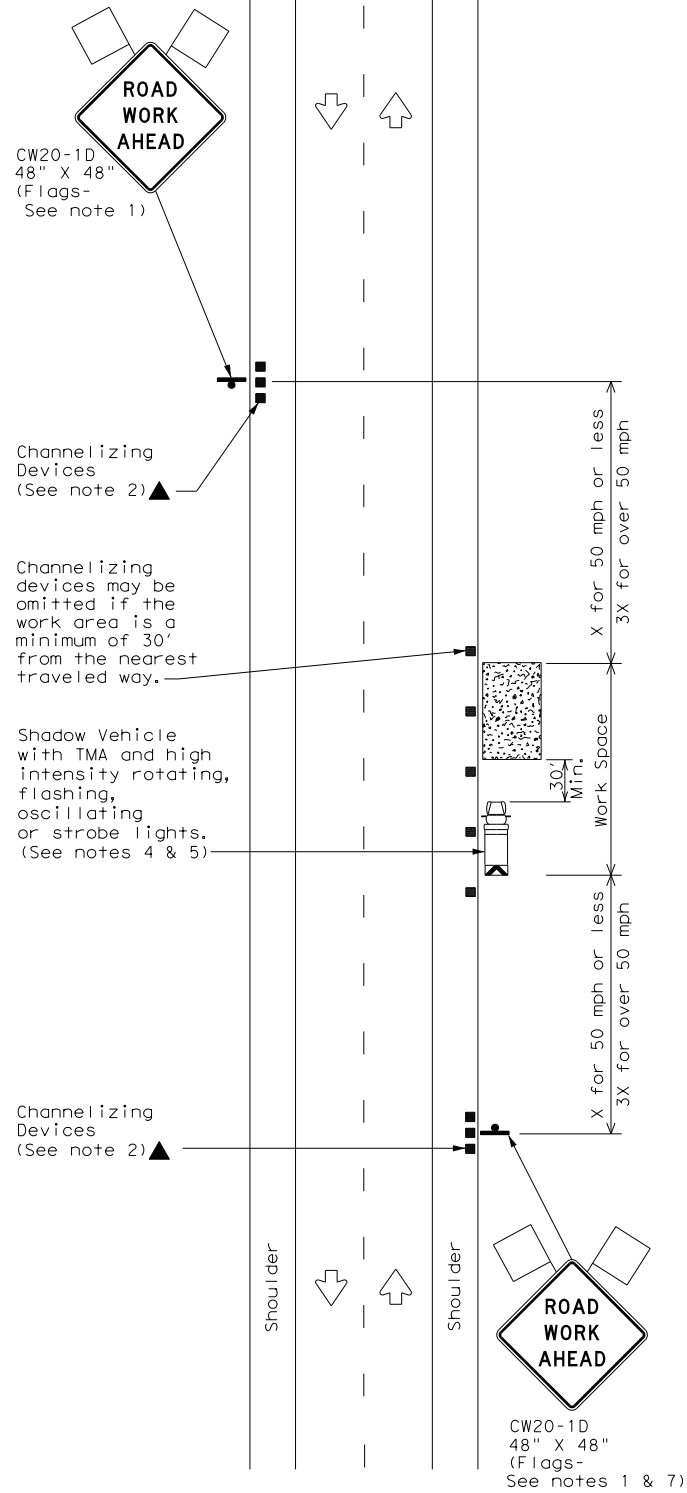
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

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Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

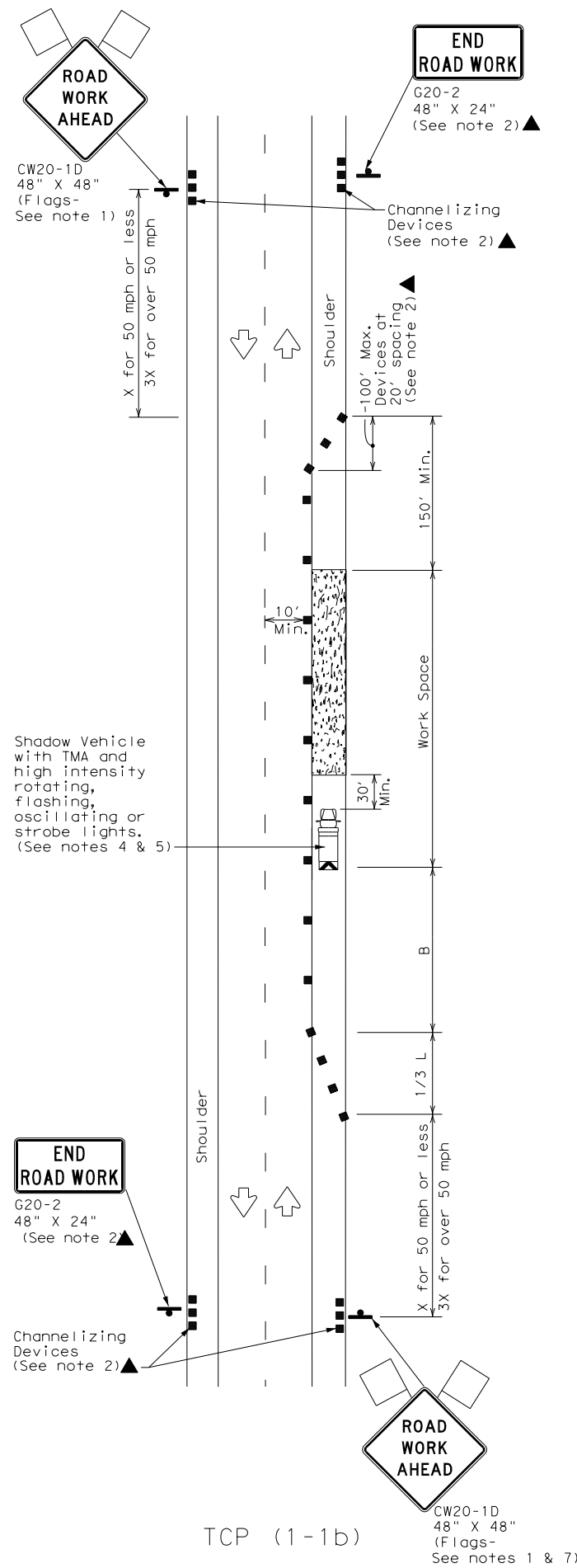
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

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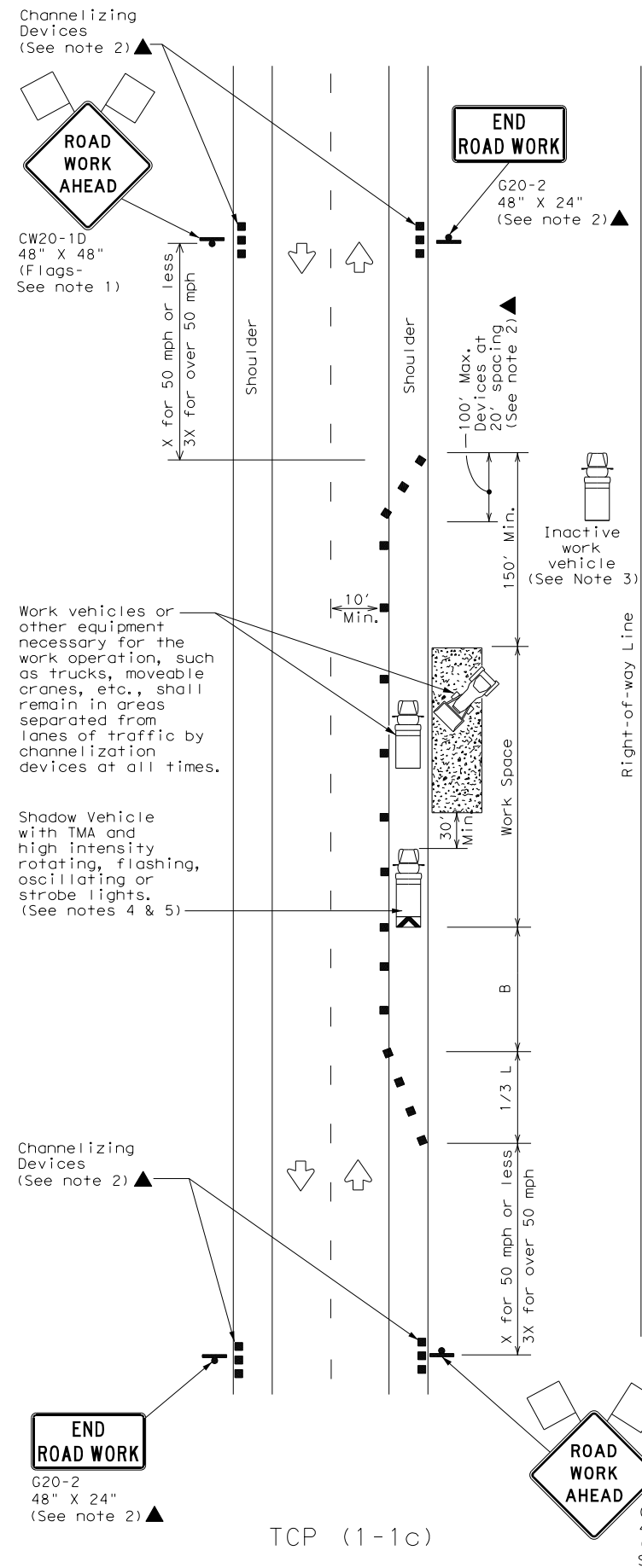
TCP (1-1a)

WORK SPACE NEAR SHOULDER  
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER  
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER  
Conventional Roads

LEGEND

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
		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.
  - Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
  - 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.
  - See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
  - CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.



TRAFFIC CONTROL PLAN  
CONVENTIONAL ROAD  
SHOULDER WORK

TCP (1-1)-18

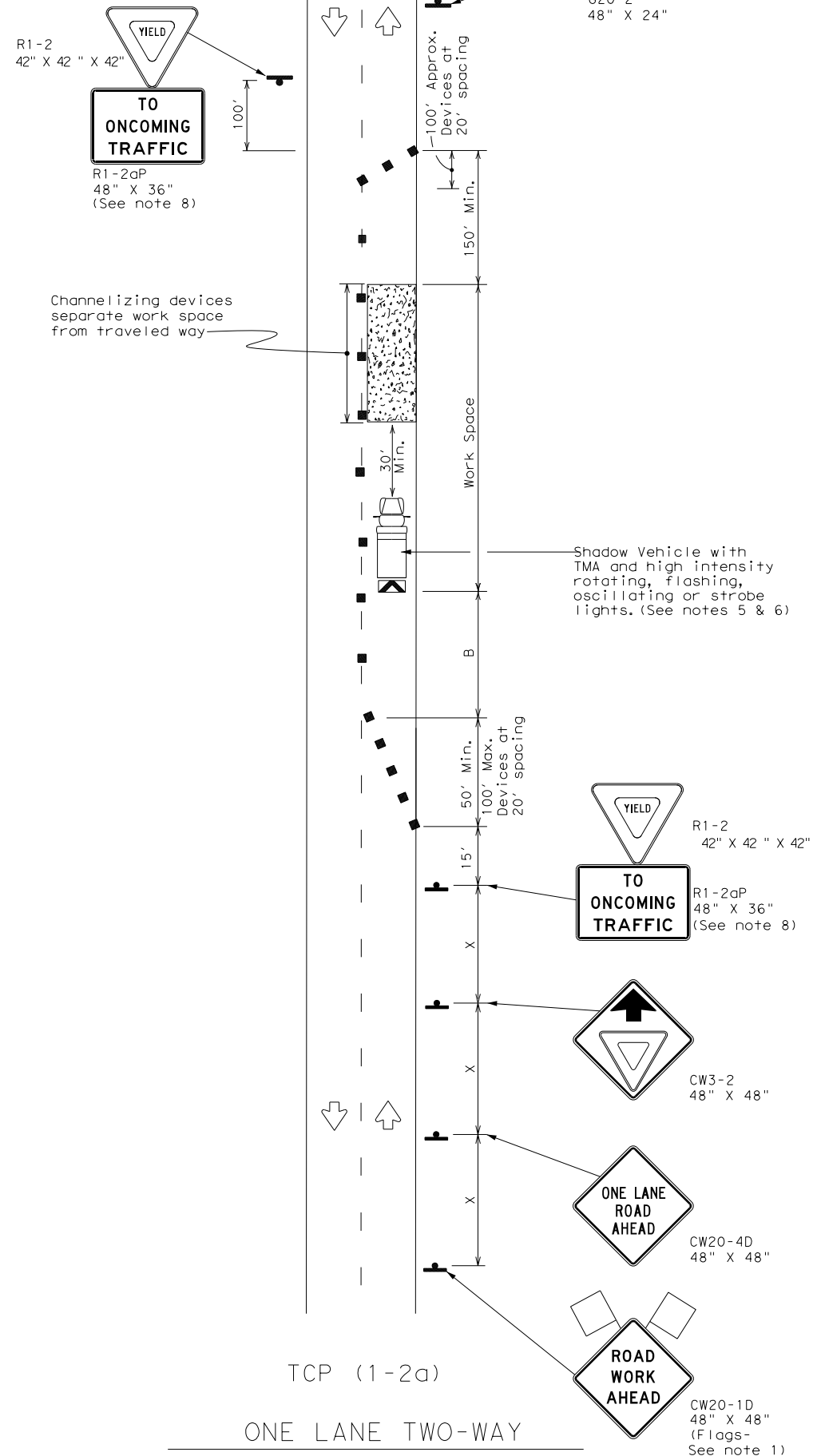
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© TxDOT December 1985	CON:	SECT:	JOB:	HIGHWAY:
REVISIONS	0114	17	010	SL 109
2-94 4-98	DIST:	COUNTY:	SHEET NO.:	
8-95 2-12	AUS	BASTROP	21	
1-97 2-18				



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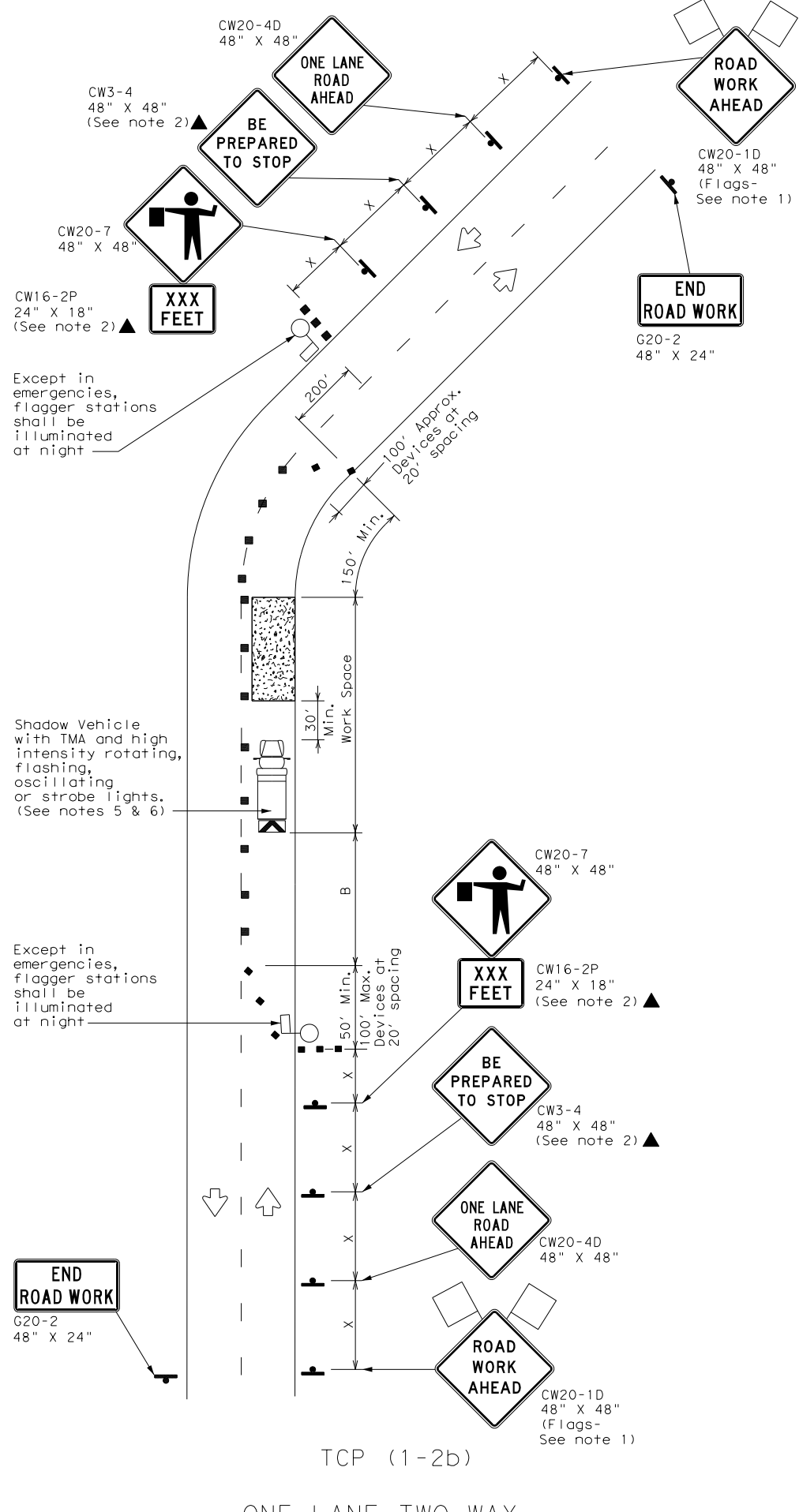
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Warning Sign Sequence in Opposite Direction Same as Below



TCP (1-2a)

ONE LANE TWO-WAY  
CONTROL WITH YIELD SIGNS  
(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY  
CONTROL WITH FLAGGERS

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

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

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

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

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
  - The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
  - Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign 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 (1-2a)
- R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
  - R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.
- TCP (1-2b)
- Flaggers should use two-way radios or other methods of communication to control traffic.
  - Length of work space should be based on the ability of flaggers to communicate.
  - If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
  - Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
  - Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.



TRAFFIC CONTROL PLAN  
ONE-LANE TWO-WAY  
TRAFFIC CONTROL

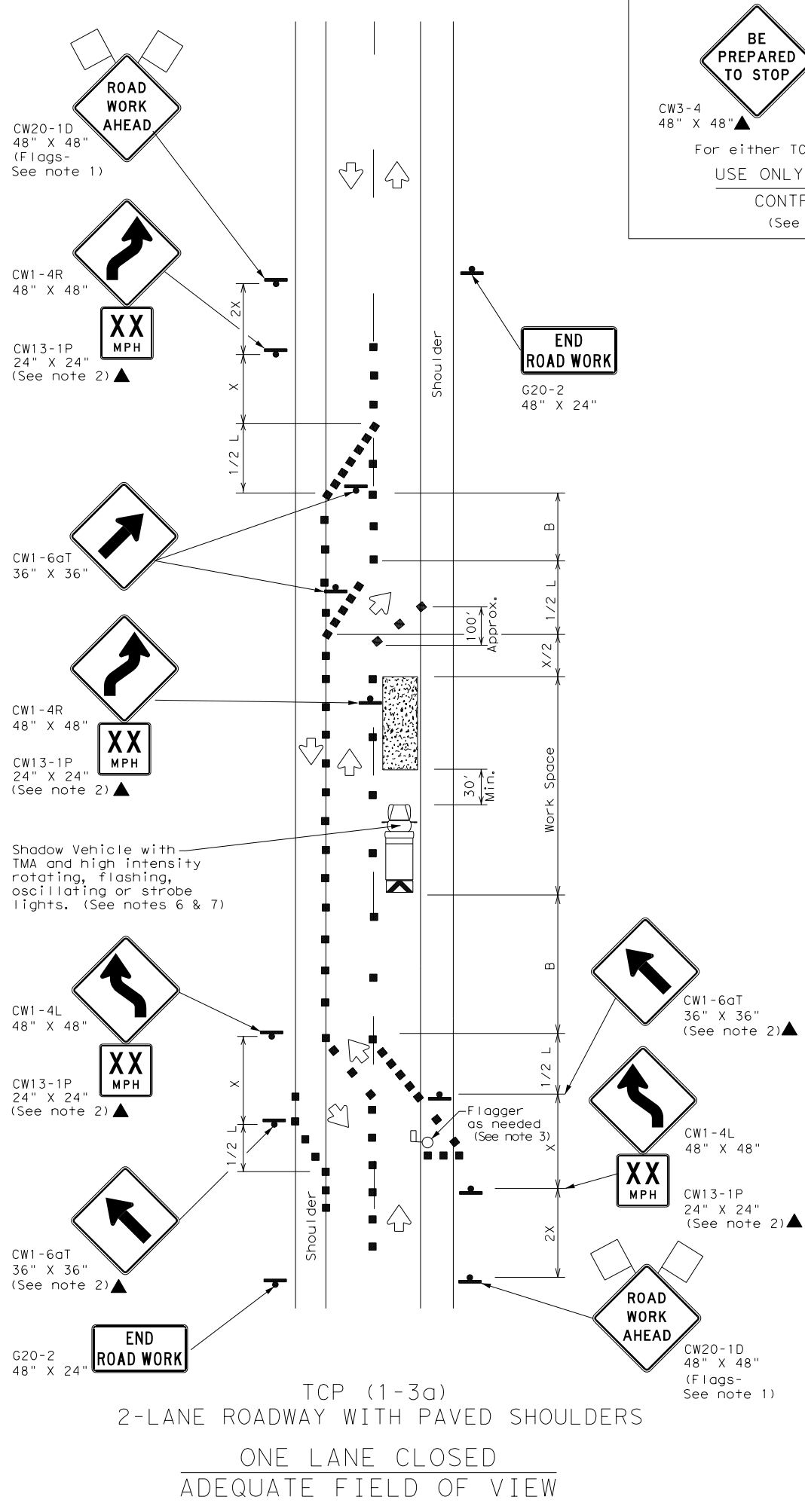
TCP (1-2)-18


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© TxDOT December 1985	CON:	SECT:	JOB:	HIGHWAY:
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4-90 4-98	DIST:	COUNTY:	SHEET NO.:	
2-94 2-12	AUS	BASTROP	22	
1-97 2-18				

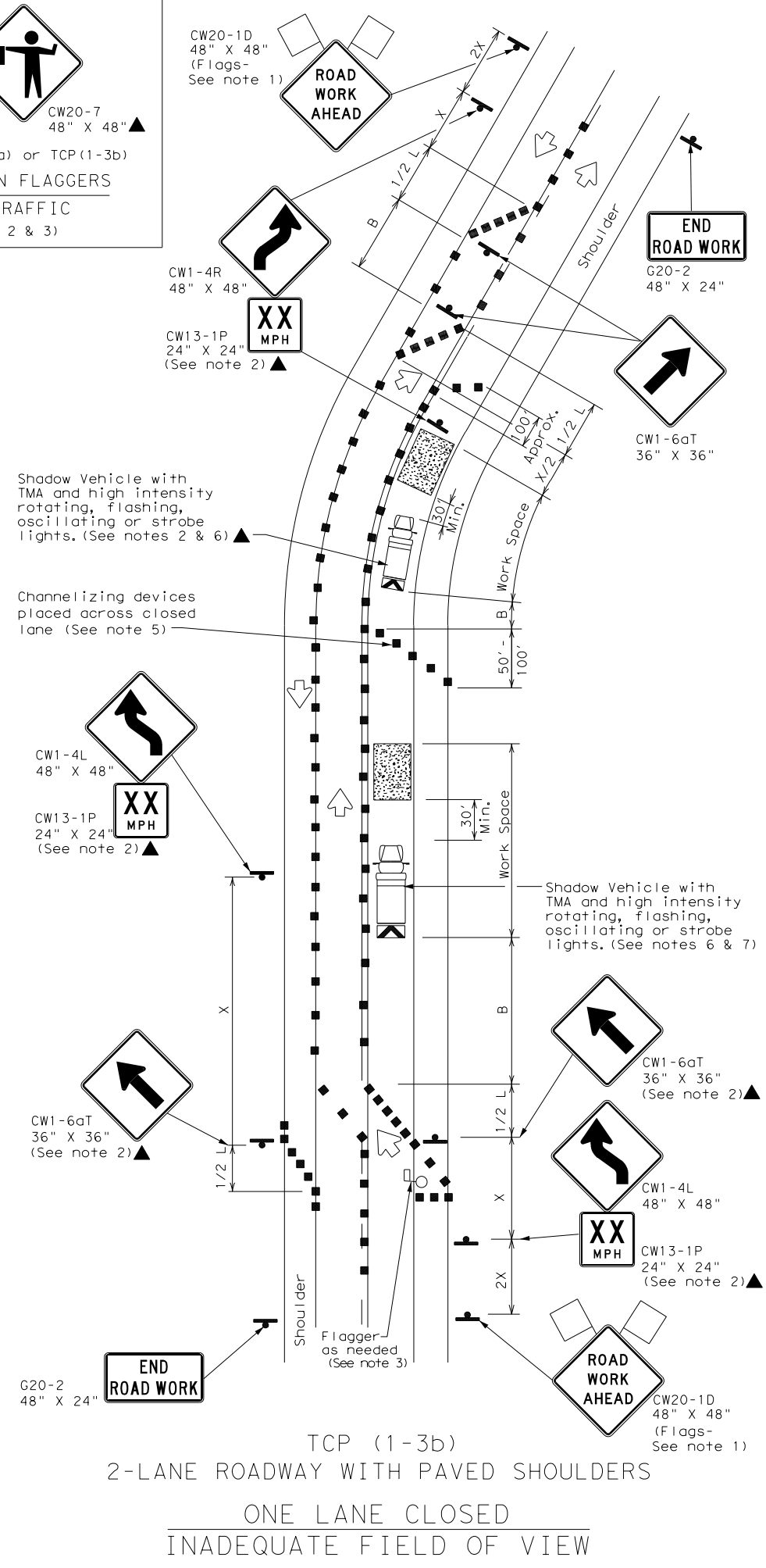


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









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**BE PREPARED TO STOP**   
CW3-4 48" X 48" ▲ CW20-7 48" X 48" ▲  
For either TCP(1-3a) or TCP(1-3b)  
**USE ONLY WHEN FLAGGERS CONTROL TRAFFIC**  
(See Notes 2 & 3)



**LEGEND**

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS / 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.
  - Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Additional flaggers may be positioned in advance of traffic queues to alert traffic to reduce speed.
  - DO NOT PASS, PASS WITH CARE and construction regulatory speed zone signs may be installed downstream of the ROAD WORK AHEAD signs.
  - When the work zone is made up of several work spaces, channelizing devices should be placed laterally across the closed lane to re-emphasize closure. Laterally placed channelizing devices should be repeated every 500 to 1000 feet in urban areas and every 1/4 to 1/2 mile in rural areas.
  - 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.
  - 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 speed 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 area of conflicting markings not the entire work zone.

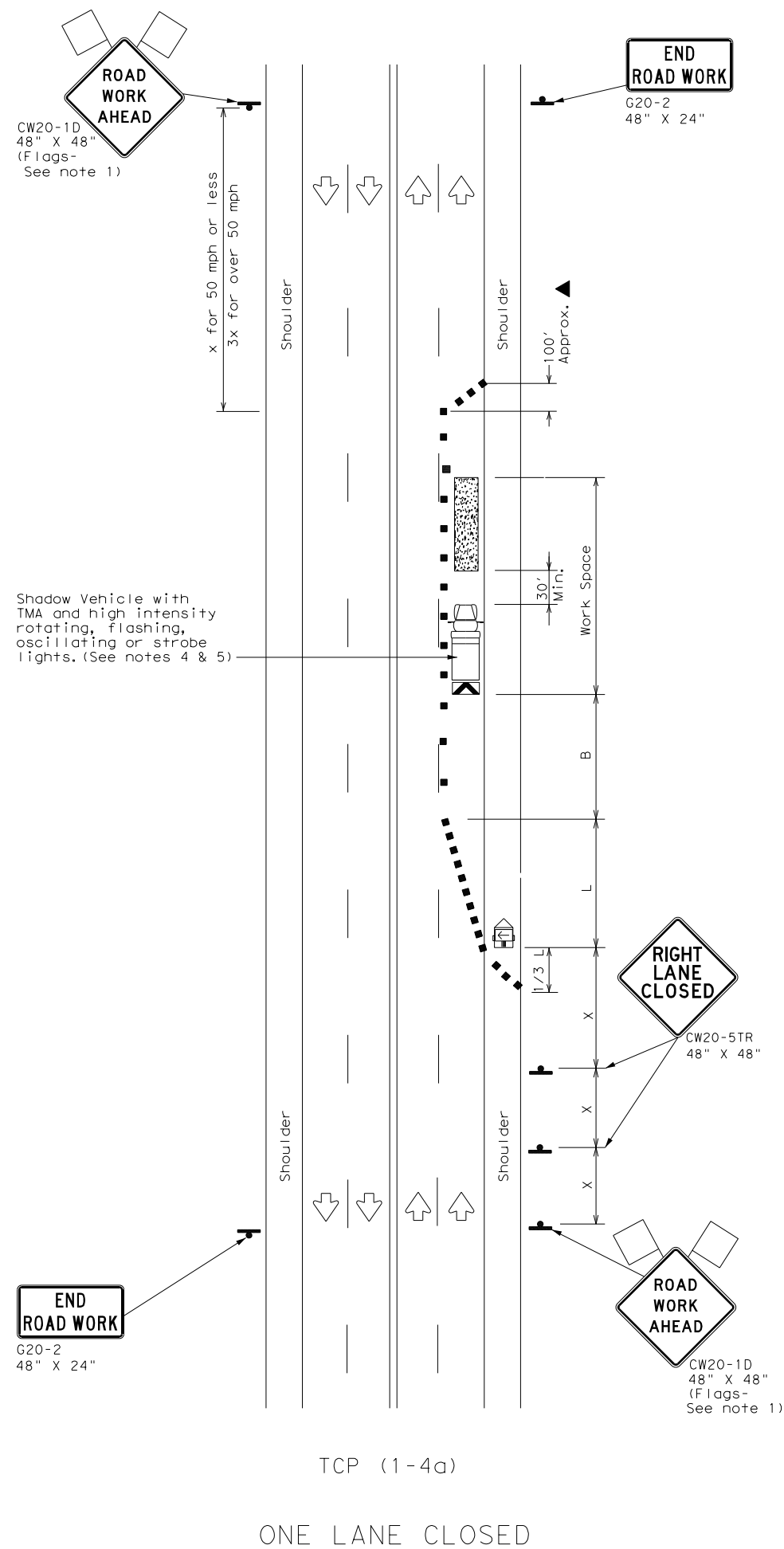
**Texas Department of Transportation** **Traffic Operations Division Standard**

**TRAFFIC CONTROL PLAN**  
**TRAFFIC SHIFTS ON**  
**TWO LANE ROADS**  
**TCP (1-3)-18**

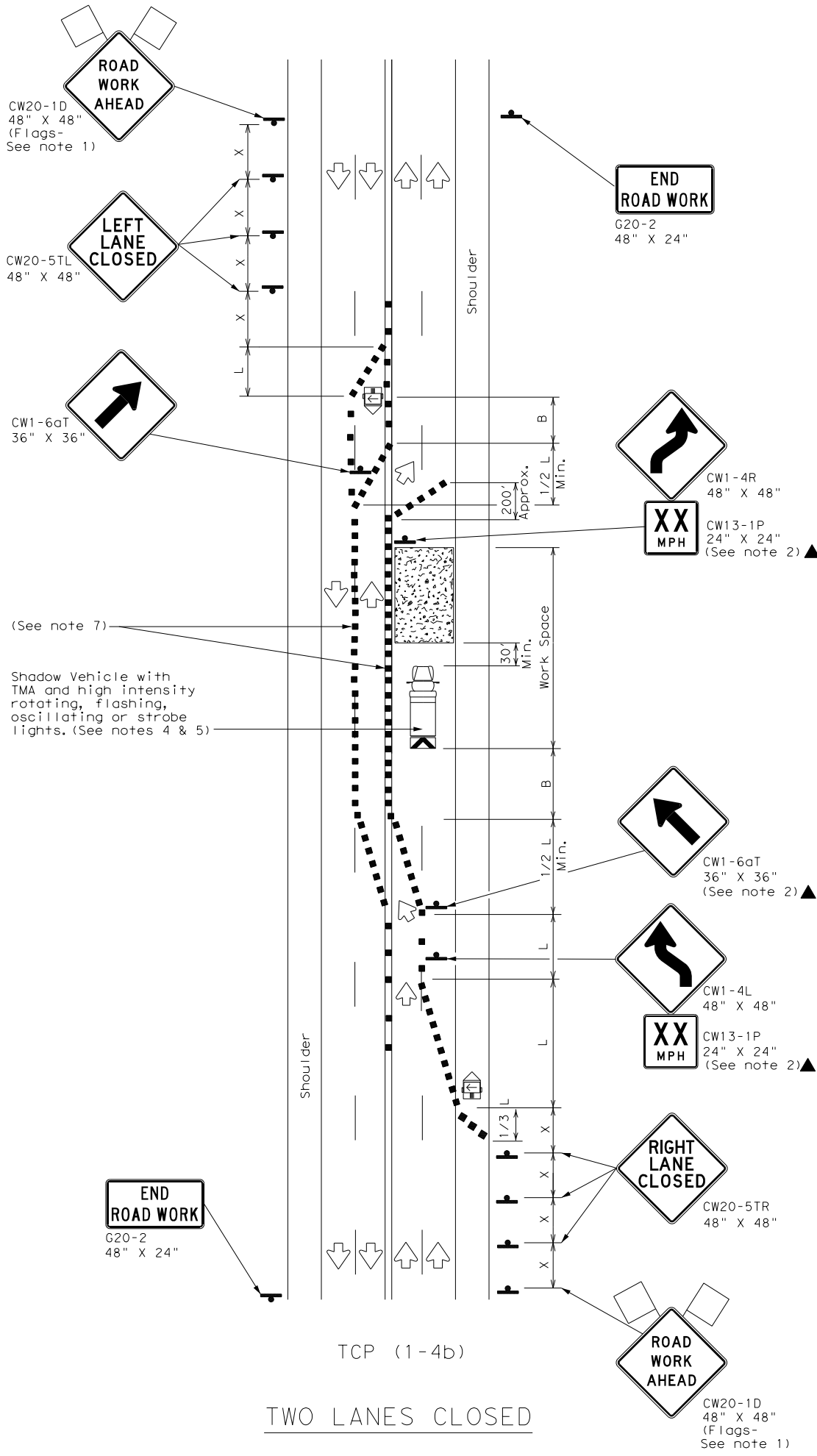
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© TxDOT December 1985	CON:	SECT:	JOB:	HIGHWAY:
REVISIONS	0114	17	010	SL 109
2-94 4-98				
8-95 2-12				
1-97 2-18	DIST:	COUNTY:	SHEET NO.:	
	AUS	BASTROP	23	

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TCP (1-4a)  
**ONE LANE CLOSED**



TCP (1-4b)  
**TWO LANES CLOSED**

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space "B"
		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)**
- 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)**
- 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.

**Texas Department of Transportation**  
*Traffic Operations Division Standard*

**TRAFFIC CONTROL PLAN**  
**LANE CLOSURES ON MULTILANE**  
**CONVENTIONAL ROADS**

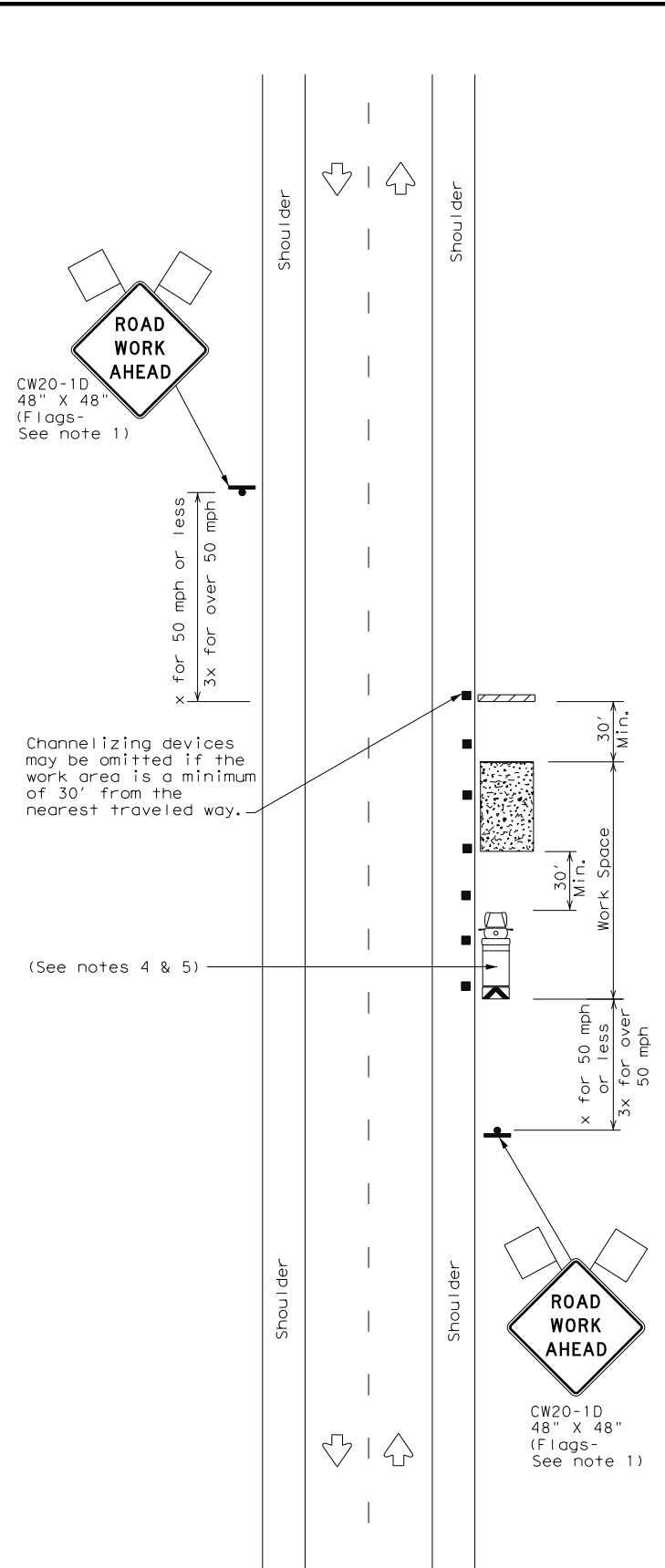
**TCP (1-4)-18**

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© TxDOT	December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS		0114	17	010	SL 109
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8-95	2-12	AUS	BASTROP	24	
1-97	2-18				

154

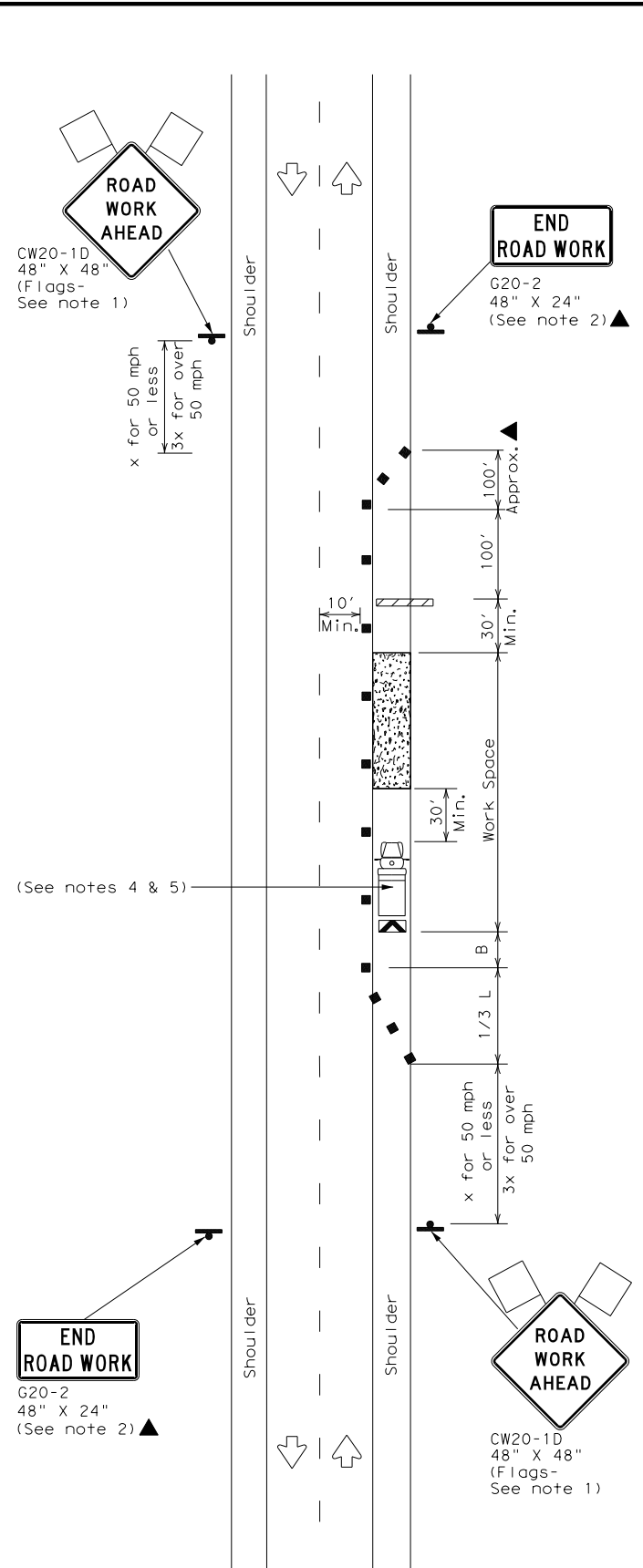
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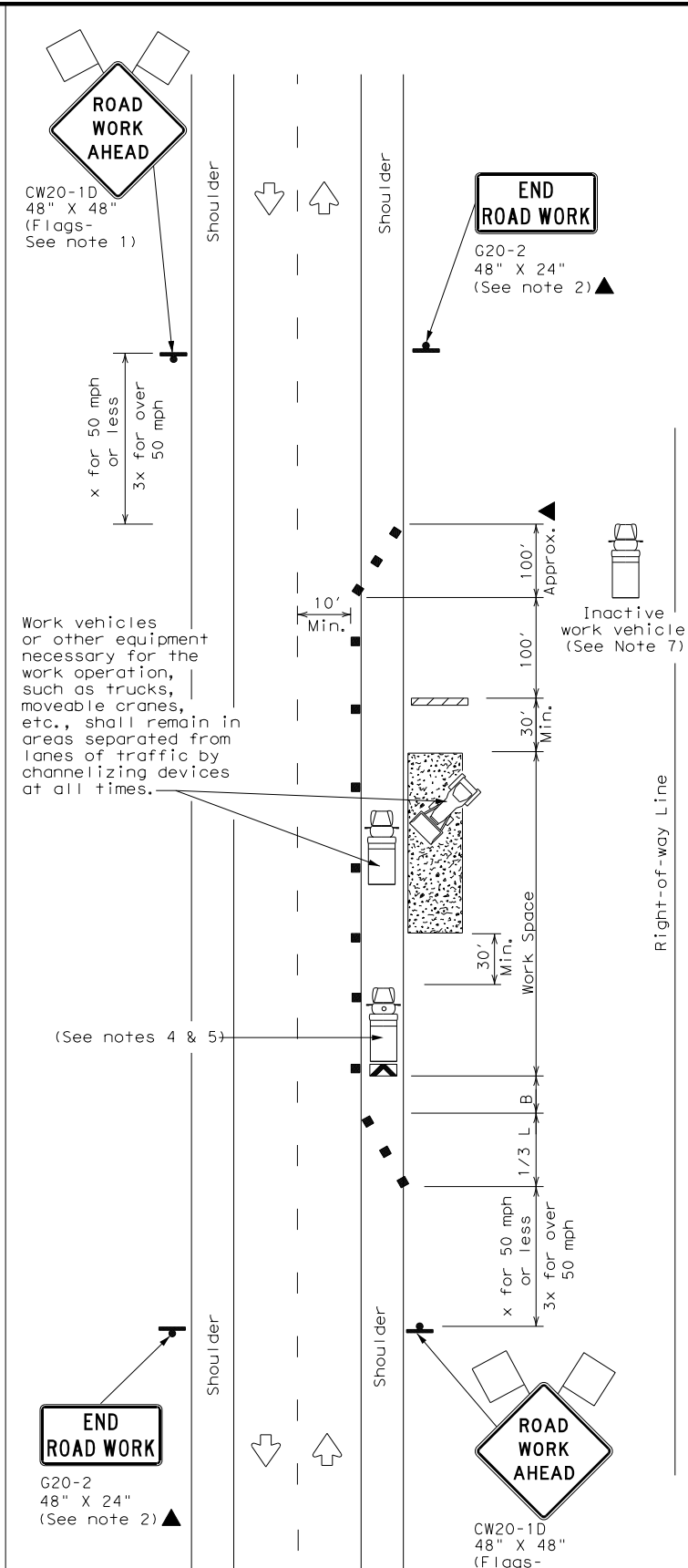
TCP (2-1a)

WORK SPACE NEAR SHOULDER  
Conventional Roads



TCP (2-1b)

WORK SPACE ON SHOULDER  
Conventional Roads



TCP (2-1c)

WORK VEHICLES ON SHOULDER  
Conventional Roads

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
		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
	✓	✓	✓	✓

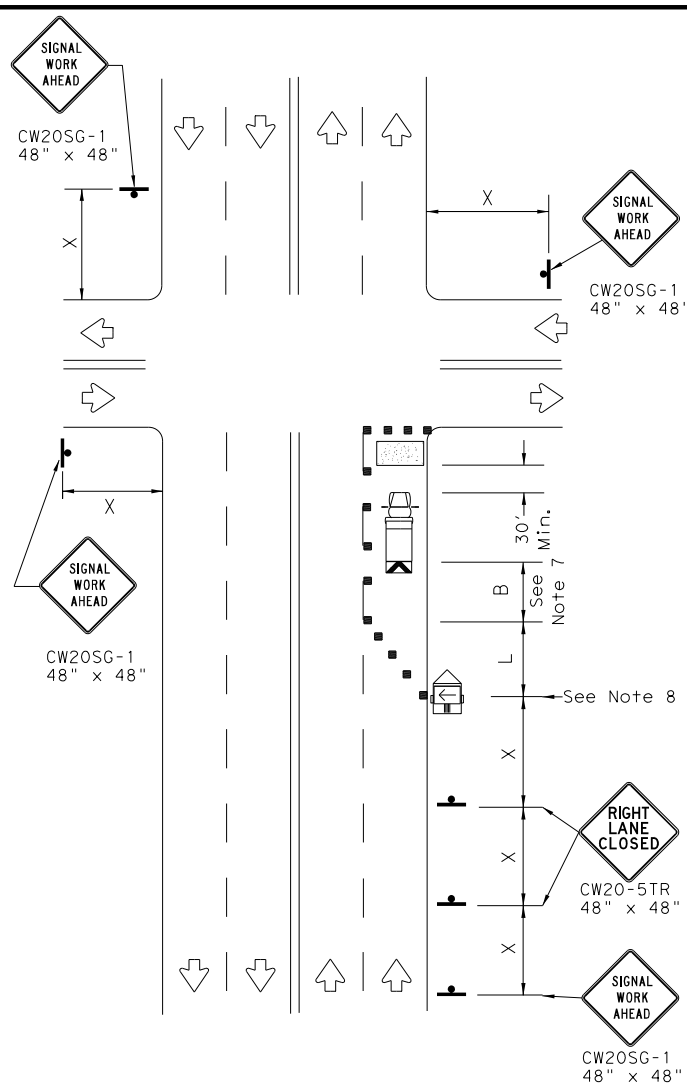
GENERAL NOTES

- 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 in the plans, or for routine maintenance work, when approved by the Engineer.
- Stockpiled material should be placed a minimum of 30 feet from nearest traveled way.
- Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
- See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
- Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
- CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

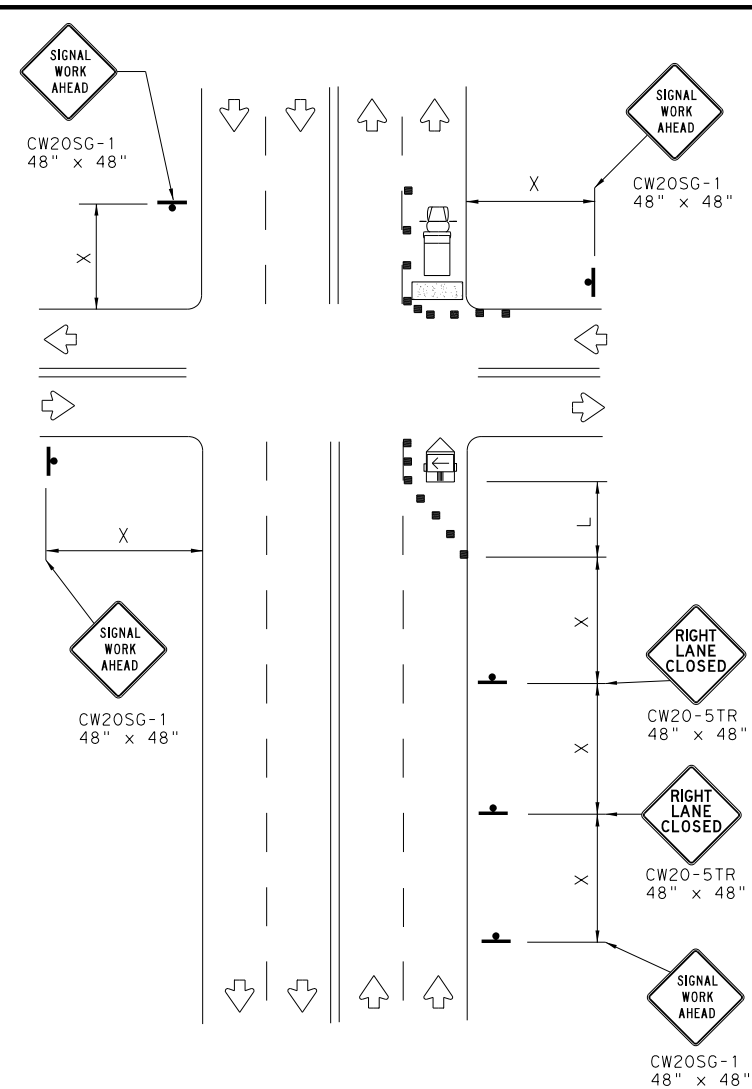
		<b>Traffic Operations Division Standard</b>	
TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK			
<b>TCP (2-1) - 18</b>			
FILE: tcp2-1-18.dgn	DN:	CK:	DW:
© TxDOT December 1985	CON:	SECT:	HIGHWAY:
REVISIONS		0114	17
2-94 4-98		010	
8-95 2-12		SL 109	
1-97 2-18		DIST:	SHEET NO.
		AUS	BASTROP 25

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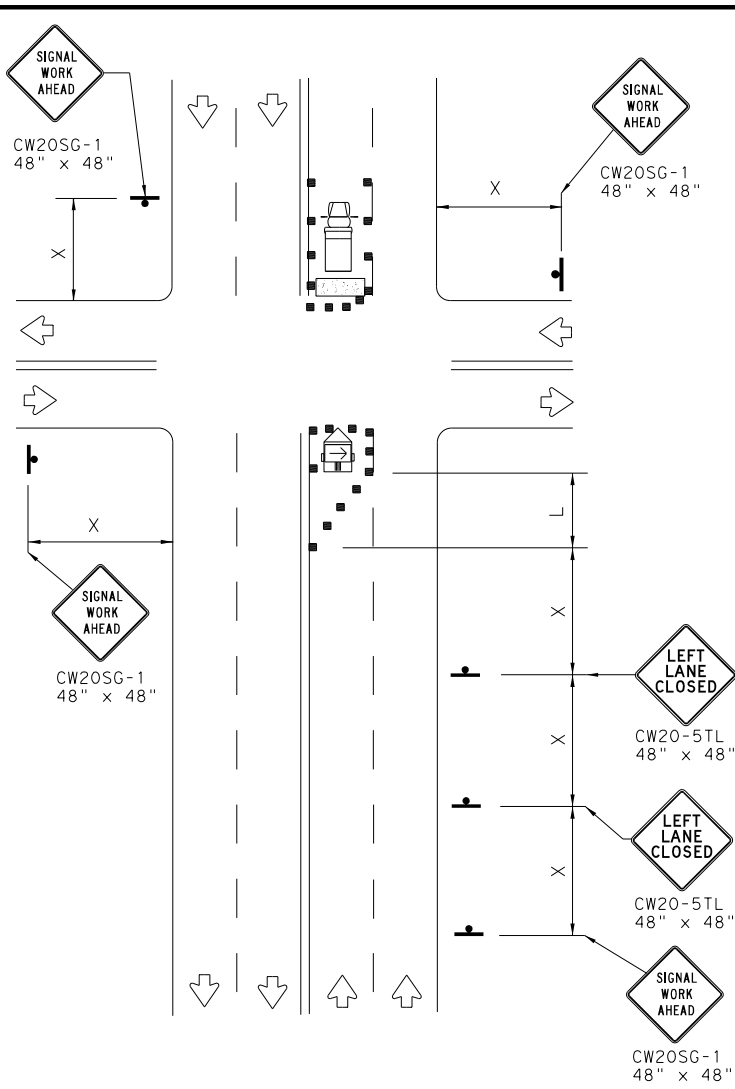
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NEAR SIDE LANE CLOSURE  
SHORT DURATION OR SHORT TERM STATIONARY



FAR SIDE RIGHT LANE CLOSURE  
SHORT DURATION OR SHORT TERM STATIONARY



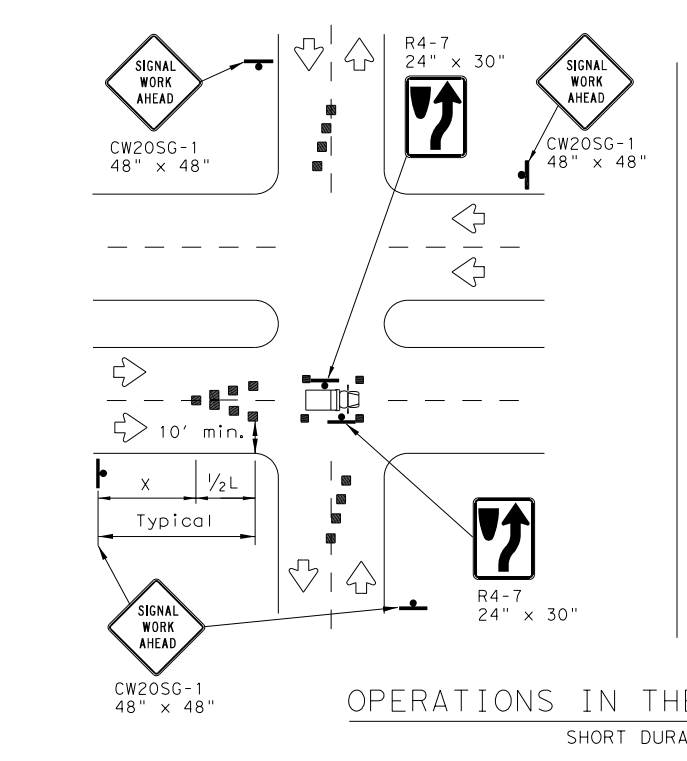
FAR SIDE LEFT LANE CLOSURE  
SHORT DURATION OR SHORT TERM STATIONARY

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

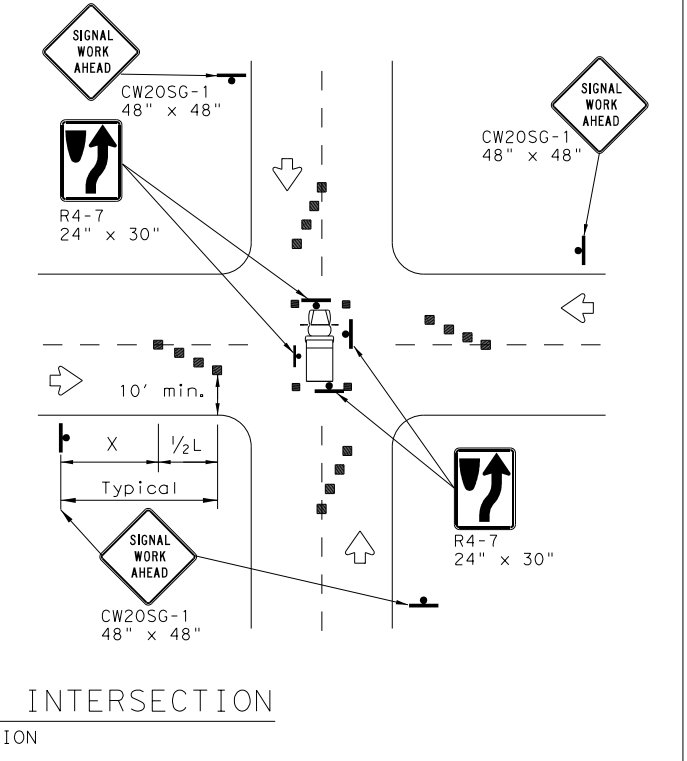
Posted Speed *	Formula	Minimum Desirable Taper Lengths * X			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
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)

WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.



OPERATIONS IN THE INTERSECTION  
SHORT DURATION



GENERAL NOTES

- The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, vertical panels or barricades will be required when the device must be left unattended at night.
- Obstructions or hazards at the work area shall be clearly marked and delineated at all times.
- Flaggers and Flagger Symbol (CW20-7) signs may be required according to field conditions.
- Vehicles parked in roadway shall be equipped with at least two high intensity rotating, flashing, oscillating or strobe type lights.
- High level warning devices (flag trees) may be used at corners of the vehicle.
- When work operations are performed on existing signals, the signals may be placed in flashing red mode when approved by the engineer. If existing signals do not have power, All-Way Stop (R1-1 and R1-3P) signs may be implemented when approved by the engineer.
- For Short-Term Stationary work the buffer space "B" from the above table should be used if field conditions permit. For Short Duration (less than 1 hour) any buffer space provided will enhance the safety of the setup.
- The arrow board at this location may be omitted for Short Duration work if the work vehicle has an arrow board in operation. As an option, the arrow board may be placed at the end of the taper in the closed lane if space is not available at the beginning of the taper.
- Signs and devices for the NEAR SIDE LANE CLOSURE may be altered for a left lane closure by using a LEFT LANE CLOSED (CW20-5TL) and adding channelizing devices on the centerline to protect the work space from opposing traffic.



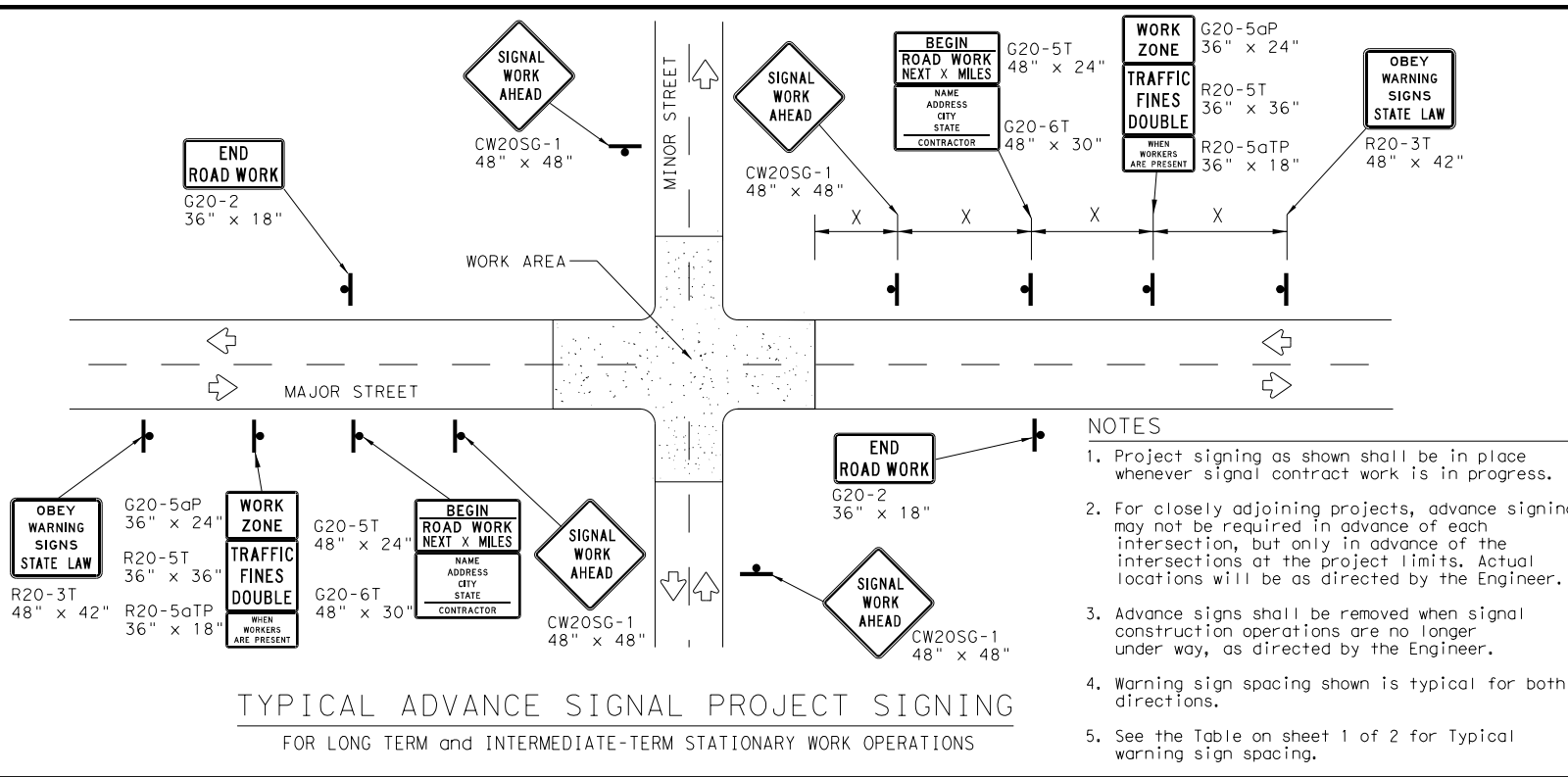
TRAFFIC SIGNAL WORK  
TYPICAL DETAILS

WZ(BTS-1)-13

FILE: wzbts-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
2-98 10-99 7-13	DIST	COUNTY	SHEET NO.	
4-98 3-03	AUS	BASTROP	26	

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**TYPICAL ADVANCE SIGNAL PROJECT SIGNING**  
FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

- NOTES**
1. Project signing as shown shall be in place whenever signal contract work is in progress.
  2. For closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. Actual locations will be as directed by the Engineer.
  3. Advance signs shall be removed when signal construction operations are no longer under way, as directed by the Engineer.
  4. Warning sign spacing shown is typical for both directions.
  5. See the Table on sheet 1 of 2 for Typical warning sign spacing.

**GENERAL NOTES FOR WORK ZONE SIGNS**

1. Signs shall be installed and maintained in a straight and plumb condition.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer.
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD).
7. The Contractor shall furnish sign supports and substrates listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD), installed as per the manufacturer's recommendations.
8. Temporary signs that have damaged or cracked substrates and/or damaged or marred reflective sheeting shall be replaced as directed by the Engineer.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1".
10. Damaged wood posts shall be replaced. Splicing wood posts will not be allowed.

**DURATION OF WORK**

1. Work zone durations are defined in Part 6, Section 66.02 of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

**SIGN MOUNTING HEIGHT**

1. Sign height of Long-term/Intermediate-term warning signs shall be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be as shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

**REMOVING OR COVERING**

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered, unless otherwise approved by the Engineer.
2. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night without damaging the sign sheeting. Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shall be removed and holes back filled upon completion of the work.

**REFLECTIVE SHEETING**

1. All signs shall be retroreflective and constructed of sheeting meeting the requirements of the DMS and color usage table shown on this sheet.

**SIGN SUPPORT WEIGHTS**

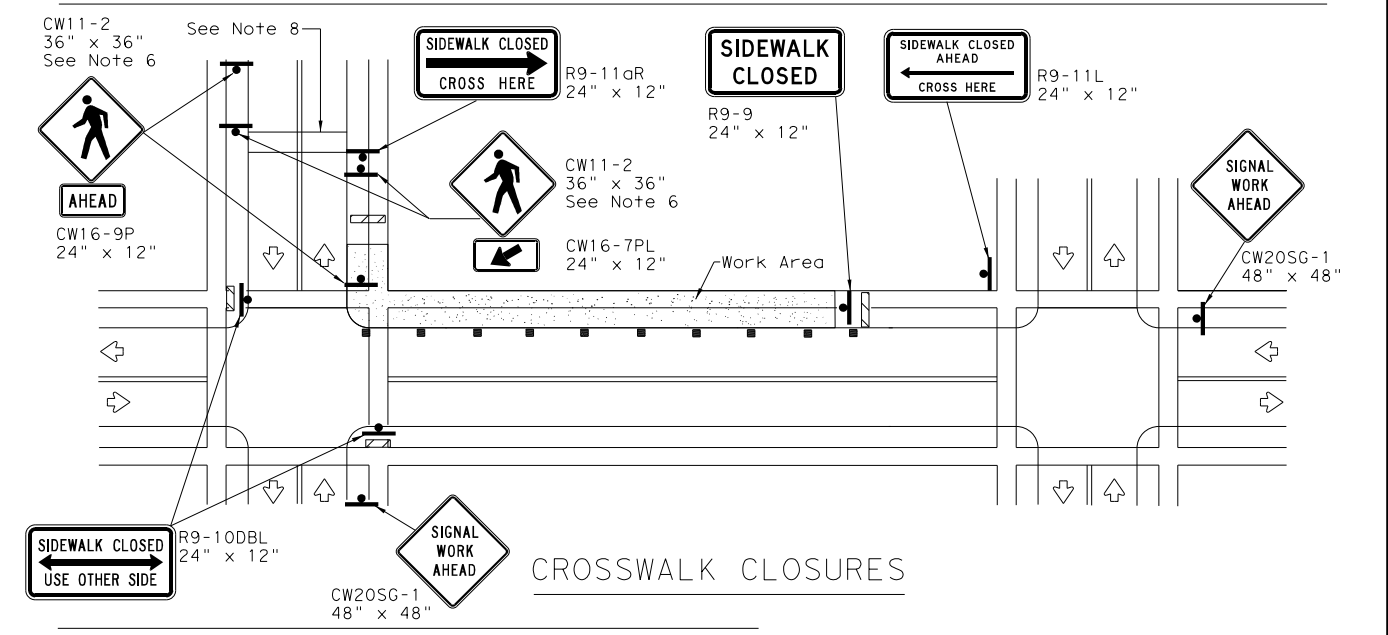
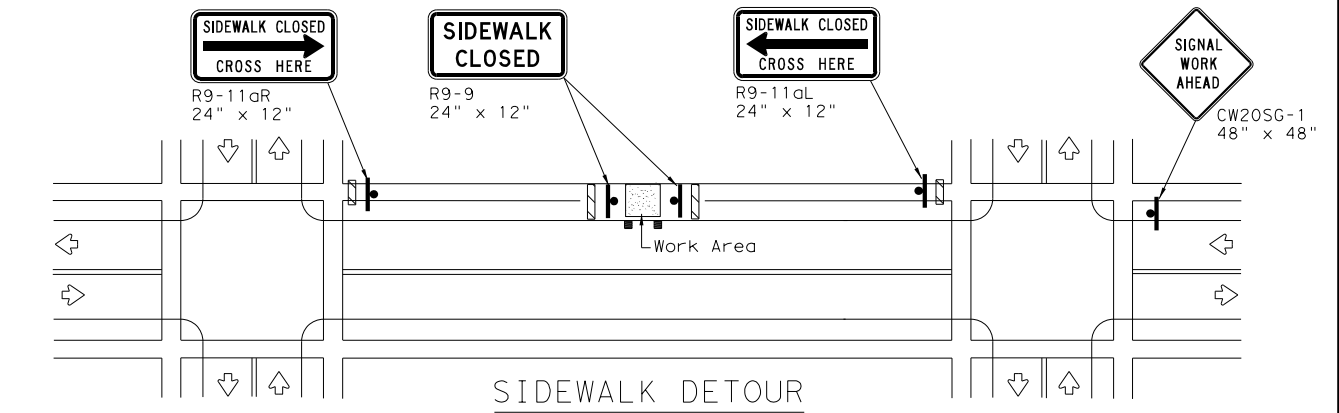
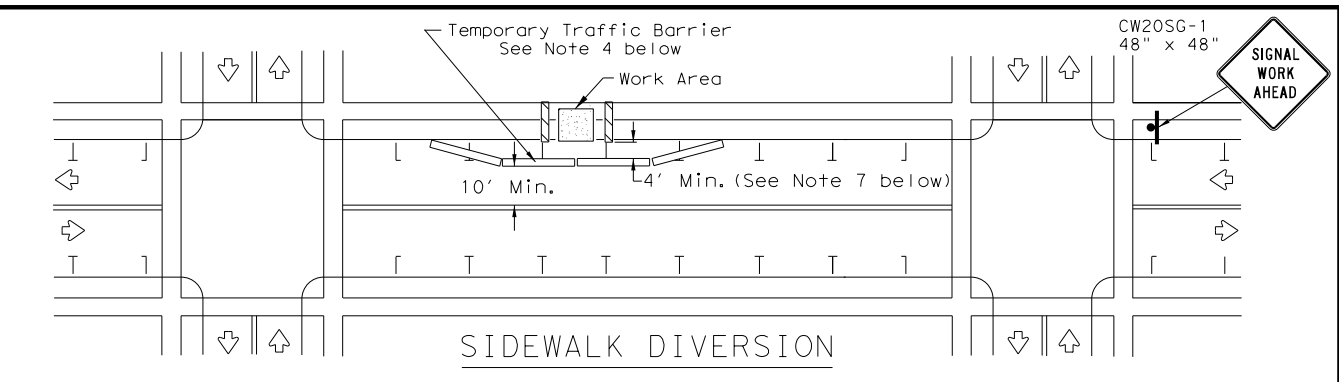
1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless material.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support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

LEGEND	
	Sign
	Channelizing Devices
	Type 3 Barricade

DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
FLEXIBLE ROLL-UP REFLECTIVE SIGNS	DMS-8310

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B <sub>FL</sub> OR TYPE C <sub>FL</sub> SHEETING
WHITE	BACKGROUND	TYPE A SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

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/txdot\\_library/publications/construction.htm](http://www.txdot.gov/txdot_library/publications/construction.htm)



**PEDESTRIAN CONTROL**

1. Holes, trenches or other hazards shall be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer.
2. "CROSSWALK CLOSURES" as detailed above will require the Engineer's approval prior to installation.
3. R9 series signs shown may be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices may be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shall be as per BC(9) and manufacturer's recommendations.
5. Location of devices are for general guidance. Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical.
8. Pavement markings for mid-block crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.



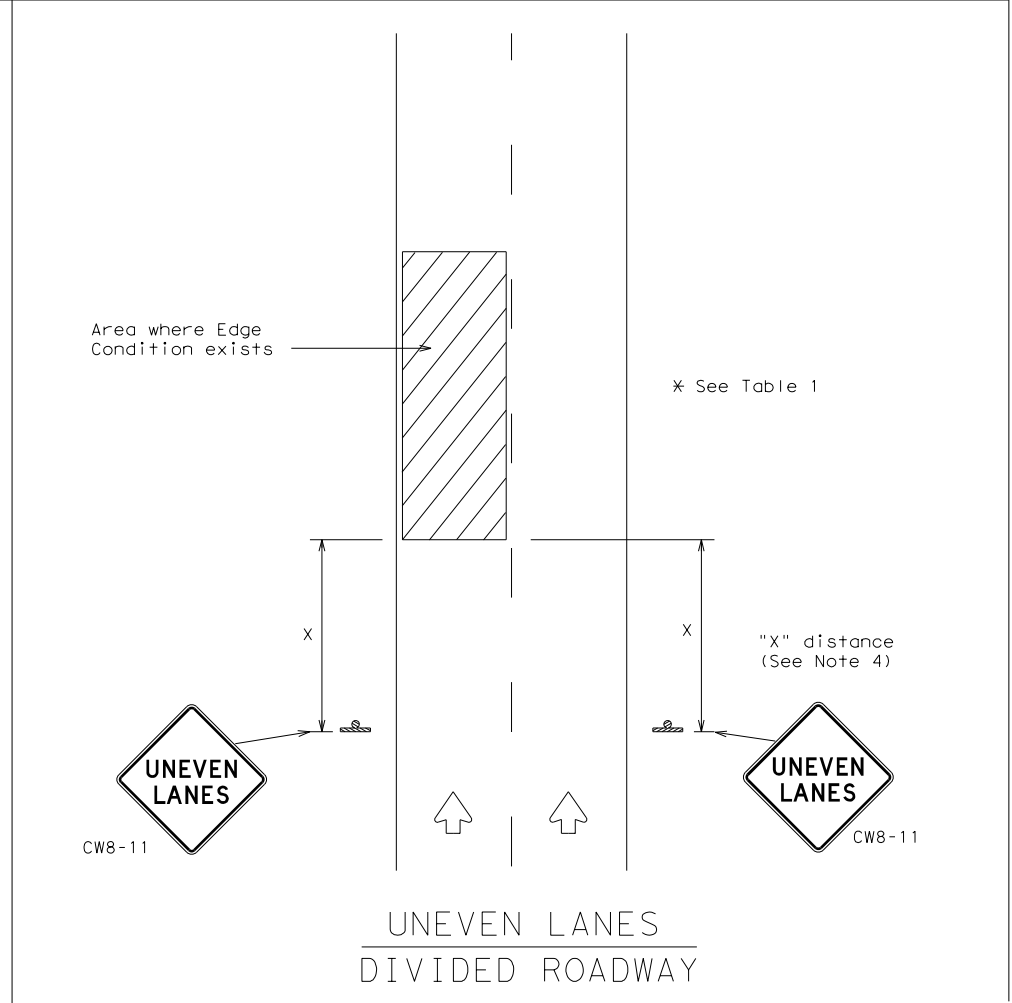
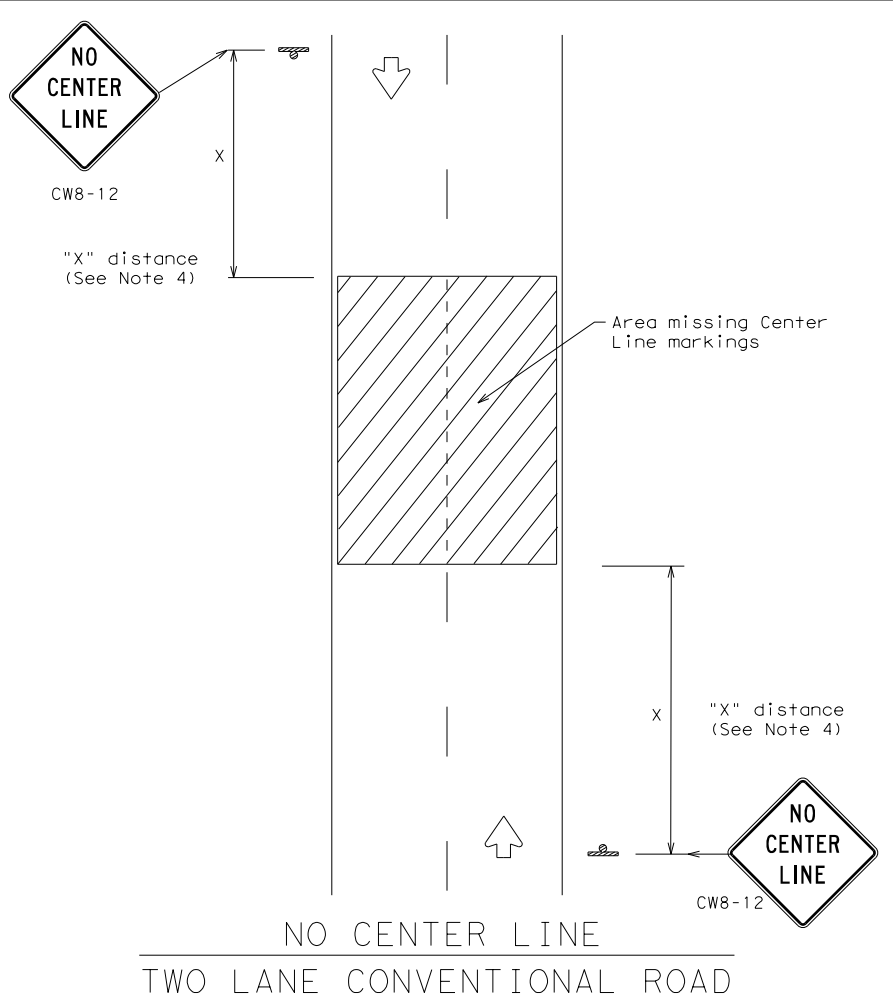
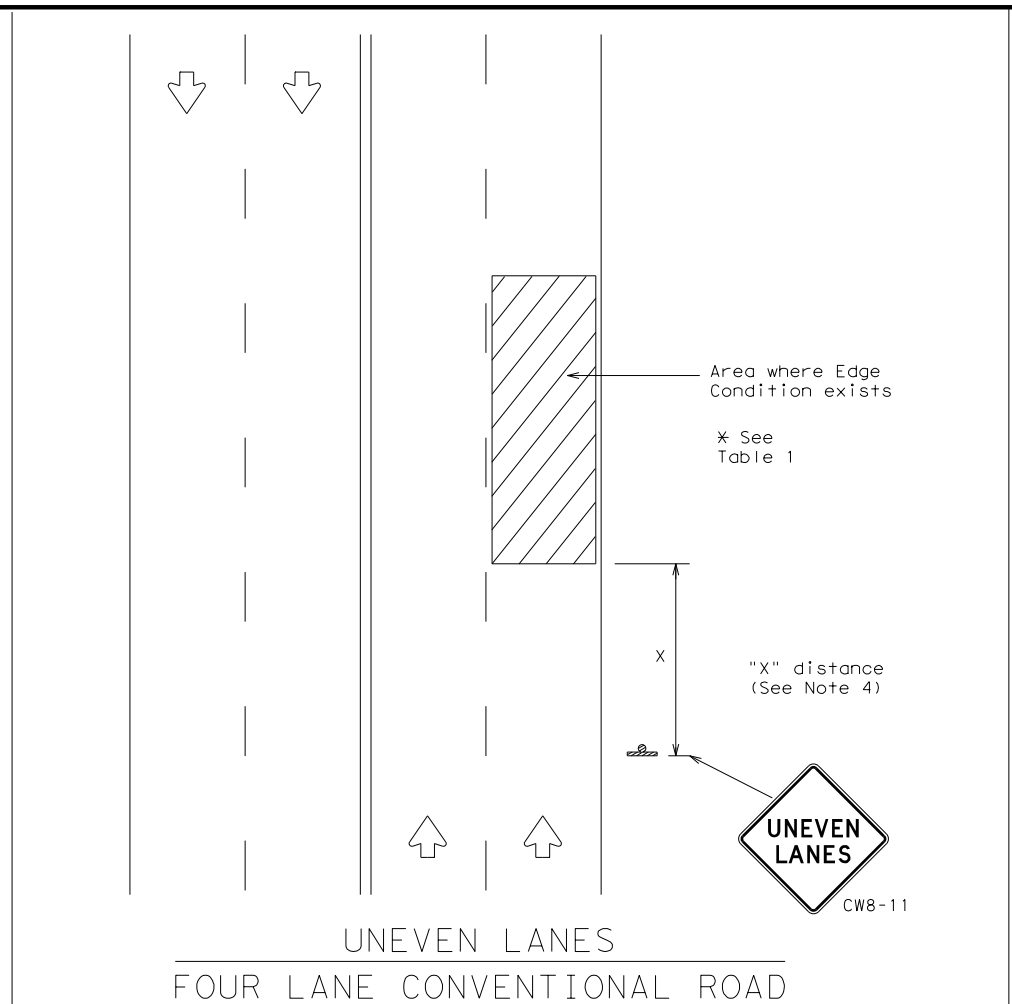
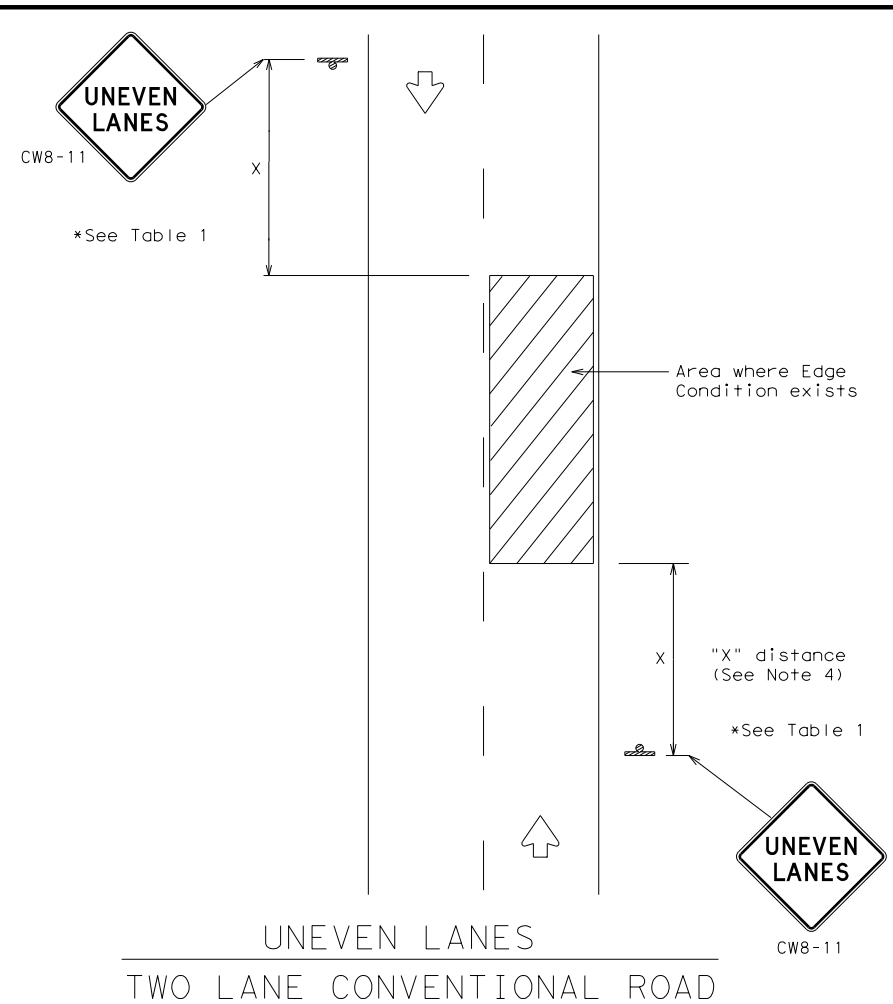
**TRAFFIC SIGNAL WORK BARRICADES AND SIGNS**

**WZ (BTS-2) - 13**

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© TxDOT	April 1992	CONT	SECT	JOB	HIGHWAY				
REVISIONS		0114	17	010	SL 109				
2-98	10-99	7-13	DIST		COUNTY	SHEET NO.			
4-98	3-03	AUS		BASTROP		27			

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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 <sub>FL</sub> OR TYPE C <sub>FL</sub> 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.

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"



SIGNING FOR UNEVEN LANES

WZ (UL) -13

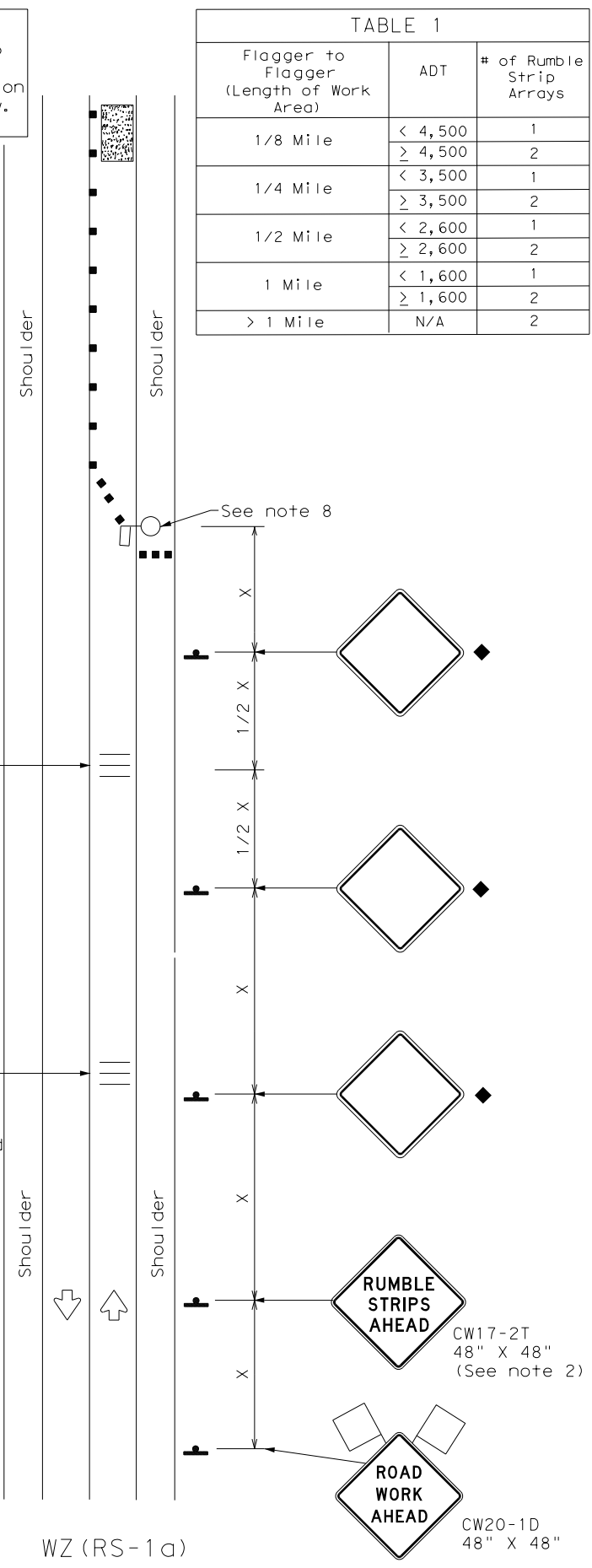
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© TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
8-95 2-98 7-13	DIST	COUNTY	SHEET NO.	
1-97 3-03	AUS	BASTROP	28	

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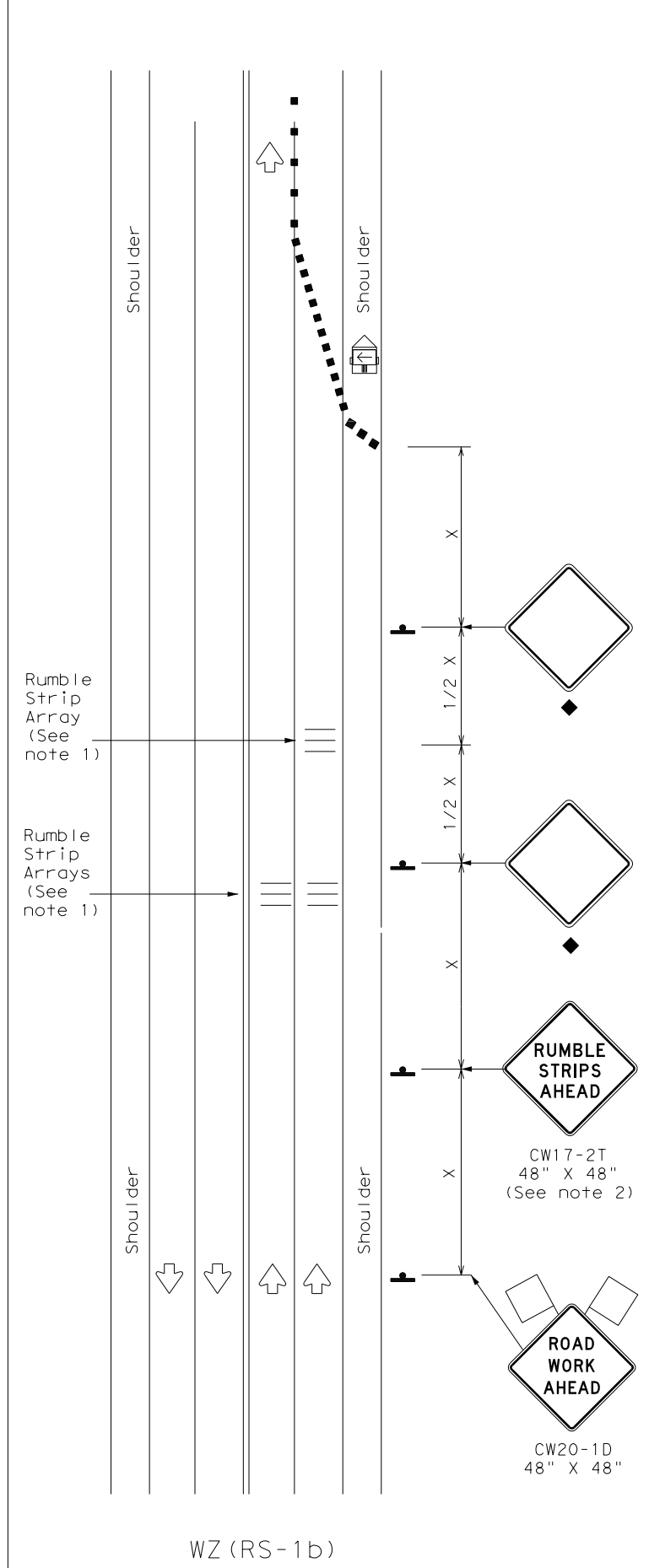
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Warning sign and rumble strip sequence in opposite direction is same as below.

Flagger to Flagger (Length of Work Area)	ADT	# of Rumble Strip Arrays
1/8 Mile	< 4,500	1
	≥ 4,500	2
1/4 Mile	< 3,500	1
	≥ 3,500	2
1/2 Mile	< 2,600	1
	≥ 2,600	2
1 Mile	< 1,600	1
	≥ 1,600	2
> 1 Mile	N/A	2



RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



RUMBLE STRIPS FOR LANE CLOSURE ON CONVENTIONAL ROADWAY

GENERAL NOTES

- Each Rumble Strip Array should consist of three rumble strips spaced center to center at the spacing shown in Table 2, placed transverse across the lane at locations shown.
- The CW17-2T "RUMBLE STRIPS AHEAD" sign should be located after the CW20-1D "ROAD WORK AHEAD" sign and spaced as shown. If traffic is observed to be queuing, or is expected to queue beyond the Rumble Strips, the CW17-2T sign and the first Rumble Strip Array may be located upstream of the CW20-1D sign as necessary to provide needed warning.
- Temporary Rumble Strips will be considered subsidiary to Item 502, and shall be a product listed on the Compliant Work Zone Traffic Control Devices.
- Remove Temporary Rumble Strips before removing the advanced warning signs.
- Temporary Rumble Strips should not be used on horizontal curves, loose gravel, soft or bleeding asphalt, heavily rutted pavements or unpaved surfaces.
- Temporary Rumble Strips shall be installed and maintained as per manufacturer's recommendations.
- This standard sheet shall be used in conjunction with other appropriate TCP standard, TMUTCD typical application or project specific detail for the project.
- The one-lane two-way application may utilize a flagger, an Automated Flagger Assistance Device (AFAD) or a Portable Traffic Signal (PTS).
- Replace defective Temporary Rumble Strips as directed by the Engineer.
- Temporary Rumble Strips may be used on freeways or expressways based on engineering judgment and written direction from the Engineer.

Speed	Approximate distance between strips in an array
≤ 40 MPH	10'
> 40 MPH & ≤ 55 MPH	15'
= 60 MPH	20'
≥ 65 MPH	* 35' +

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
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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)

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

◆ Signs are for illustrative purposes only. Signs required may vary depending on the TCP, TMUTCD Typical Application, or project specific details for the project.  
 \* For posted speeds in excess of 65 MPH, it is recommended that spacing is increased as speed limits increase. Increasing space between rumble strips will improve effectiveness.

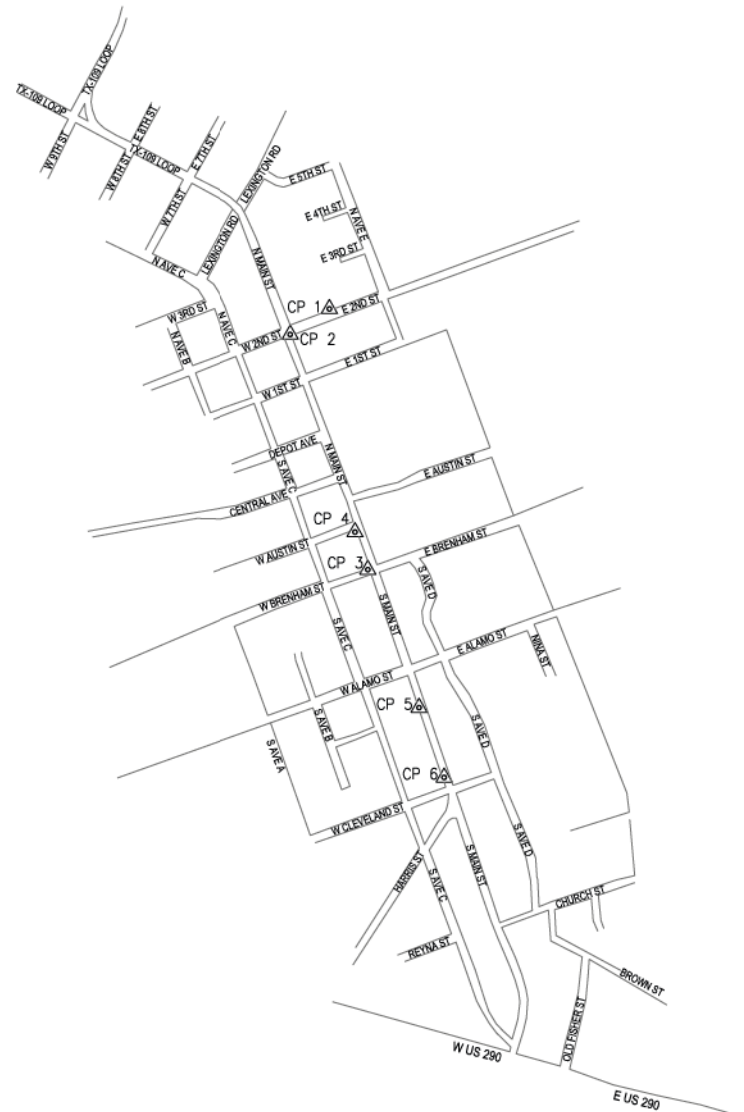
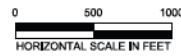
Texas Department of Transportation  
 Traffic Safety Division Standard

## TEMPORARY RUMBLE STRIPS

### WZ (RS) - 22

FILE: wzrs22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
2-14 1-22	DIST	COUNTY	SHEET NO.	
4-16	AUS	BASTROP	29	

SURVEY CONTROL INDEX SHEET

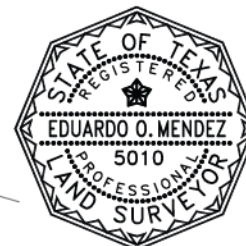


1. THE COORDINATES SHOWN ARE BASED ON TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD 83, (2011)(EPOCH: 2010.0000), SCALED TO SURFACE USING A SURFACE ADJUSTMENT FACTOR OF 1.00003. (SURFACE DISTANCE = GRID DISTANCE X 1.00003).

2. UNITS: U.S. SURVEY FEET.

3. VERTICAL BASIS: NAVD 88(GEOID 18), ELEVATIONS WERE ESTABLISHED UTILIZING A NGS OPUS SOLUTION.

PRIMARY CONTROL POINT SURFACE COORDINATES				
POINT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	10103714.53	3231208.42	579.14	5/8" IRON ROD
2	10103551.83	3230958.67	581.53	MAG
3	10102051.90	3231453.11	554.55	SPINDLE
4	10102291.70	3231371.81	555.59	MAG
5	10101170.51	3231780.04	561.22	SPINDLE
6	10100725.49	3231940.03	564.24	5/8" IRON ROD



*Eduardo O. Mendez*

04/22/2022



305 East Humble Dr.  
Suite 200  
Austin, Texas 78752  
P: 512.453.2767  
F: 512.453.1734  
TRP/ELS Firm Registration  
No. 210065600

Texas Department of Transportation				
CD	CDM	CDI	CDJ	CDK
ID#1	ID#2	ID#3	ID#4	ID#5
AUS	BASTROP	1 OF 2		

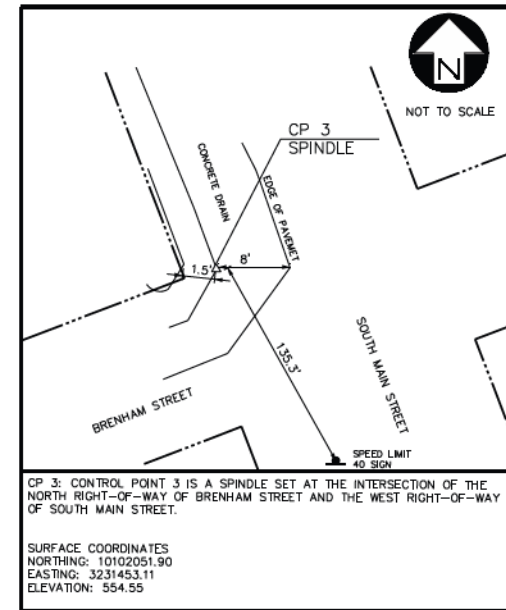
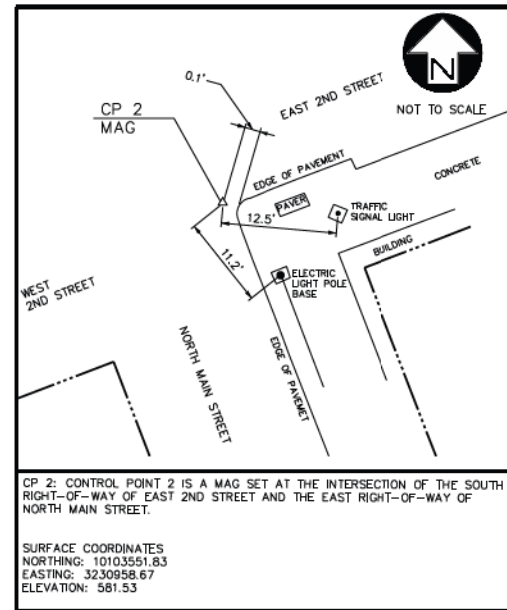
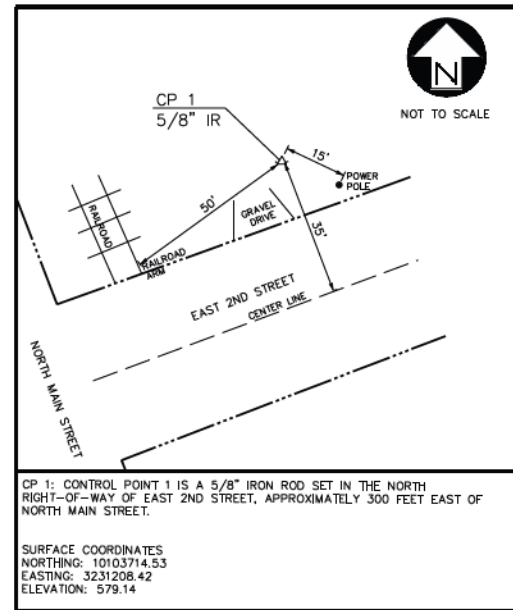
NO.	DATE	BY	REVISIONS

NO.	DATE	REVISION	APPROVED
HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
© 2022			
<b>CURB RAMP PROGRAM</b> <b>SURVEY CONTROL INDEX SHEET</b>			
SHEET 1 OF 2			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	SEE TITLE SHEET		SL 109
CHECK	STATE	DISTRICT	COUNTY
CHECK	TEXAS	AUS	BASTROP
CHECK	CONTROL	SECTION	JOB
CHECK	0114	17	010
			<b>30</b>

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: E:\gpr\SURV\CON\01.dgn  
 PENTABLE: 10331291-E\gpr.tbl  
 DATE: 5/24/2022 TIME: 4:50:56 PM SCALE: 1:1



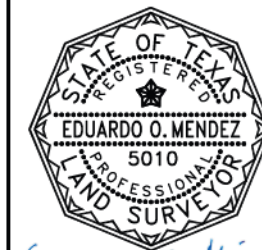
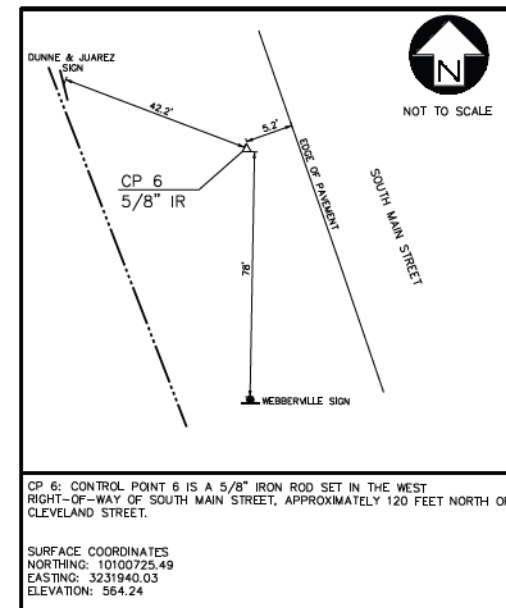
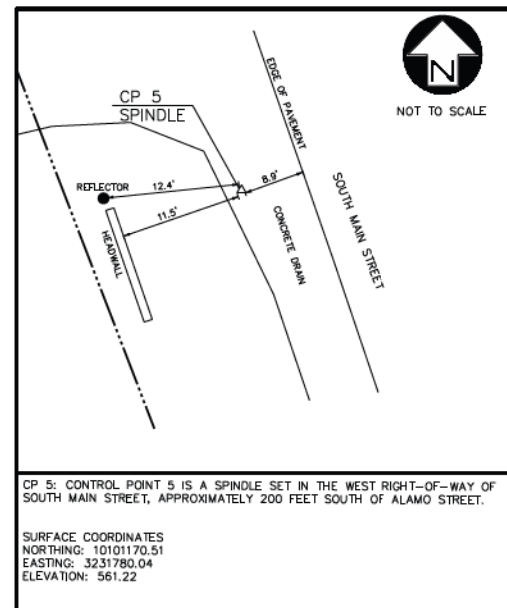
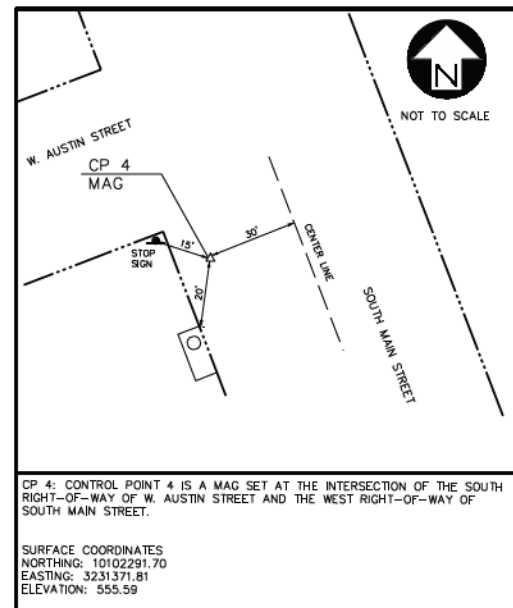
HORIZONTAL AND VERTICAL CONTROL SHEET



1. THE COORDINATES SHOWN ARE BASED ON TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD 83, (2011)(EPOCH: 2010.0000), SCALED TO SURFACE USING A SURFACE ADJUSTMENT FACTOR OF 1.00003. (SURFACE DISTANCE = GRID DISTANCE X 1.00003).

2. UNITS: U.S. SURVEY FEET.

3. VERTICAL BASIS: NAVD 88(GEOD 18), ELEVATIONS WERE ESTABLISHED UTILIZING A NGS OPUS SOLUTION.



*Eduardo O. Mendez* 04/22/2022



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Suite 200  
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TBPELS Firm Registration  
No. 210065500

Texas Department of Transportation  
COUNTY DISTRICT JOB DISTRICT  
001 0001 0001  
AUS BASTROP 2 OF 2

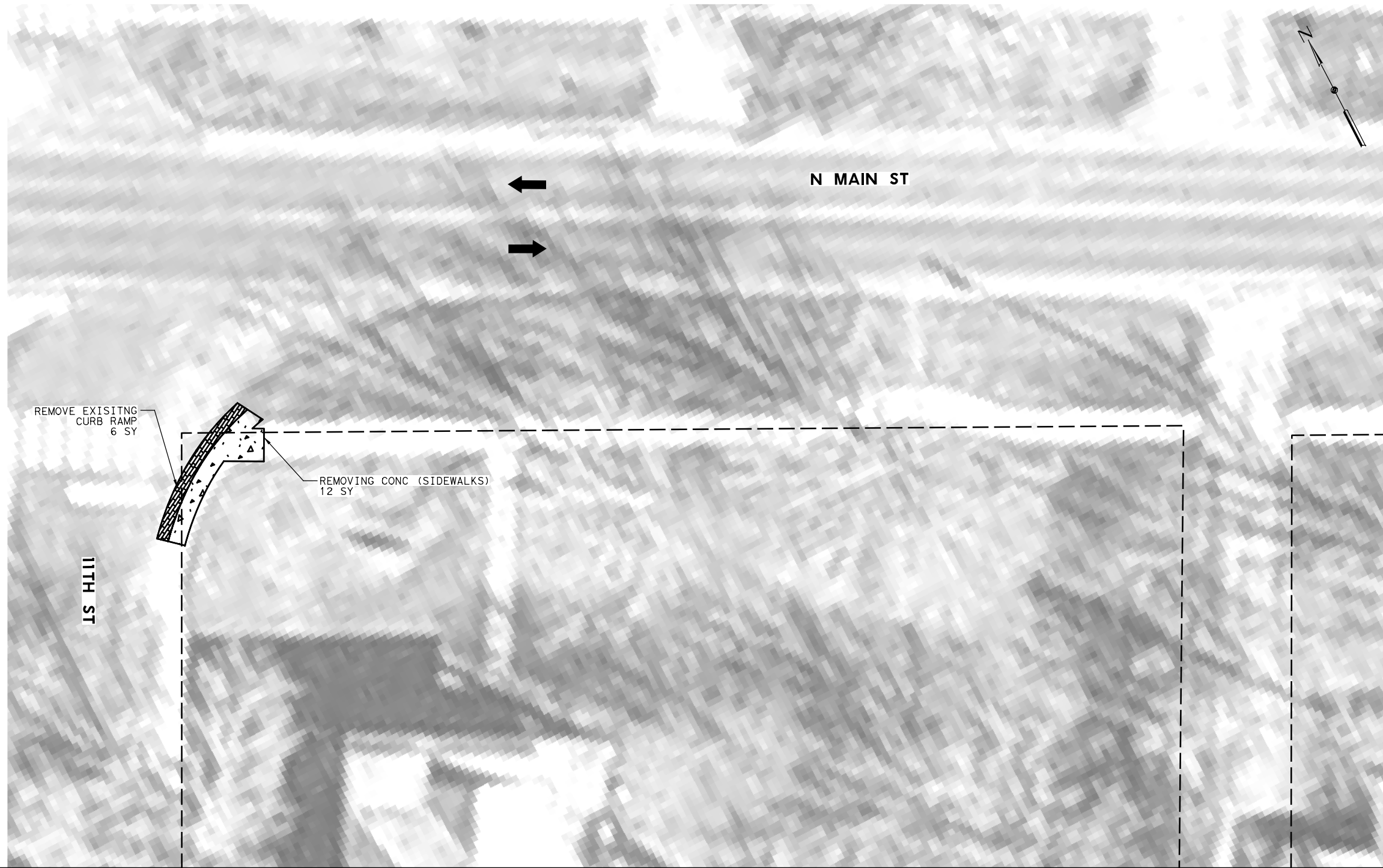
NO.	DATE	BY	REVISIONS

NO.	DATE	REVISION	APPROVED
 HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
 Texas Department of Transportation © 2022			
<b>CURB RAMP PROGRAM</b> <b>SURVEY CONTROL INDEX SHEET</b>			
SHEET 2 OF 2			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	SEE TITLE SHEET		SL 109
CHECK	STATE	DISTRICT	COUNTY
CHECK	TEXAS	AUS	BASTROP
CHECK	CONTROL	SECTION	JOB
CHECK	0114	17	010
			<b>31</b>

PENTABLE: 10331291-E1g1n.tbl  
 DATE: 5/24/2022 TIME: 15:05:58 PM SCALE: 1:1  
 PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZ60N  
 FILE: E1g1n-SURVCON02.dgn

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 DATE: 5/24/2022 TIME: 15:03 PM SCALE: 1:20

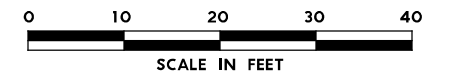
PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-N-RM01.dgn



LEGEND

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- TRAVEL LANE
- REMOVE SIDEWALK
- DRIVEWAY REMOVE

MATCH LINE  
SEE SHEET 33



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 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**N MAIN ST  
REMOVAL PLAN**

NOTES:  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

SCALE: 1" = 20' SHEET 1 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
AB	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	<b>32</b>
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

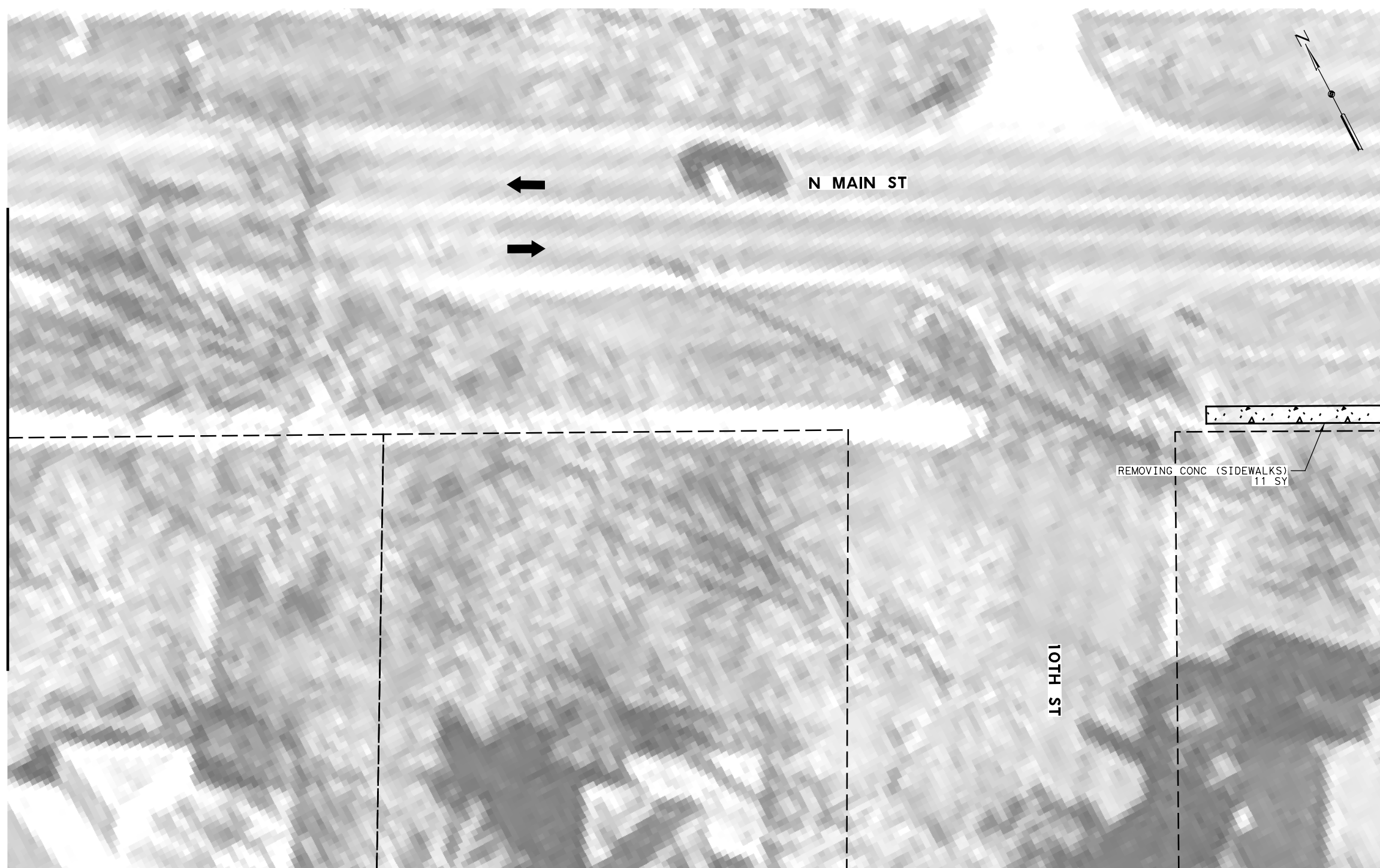


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 DATE: 5/24/2022 TIME: 4:51:06 PM SCALE: 1:20

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-N-RM02.dgn

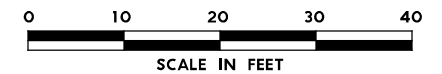
MATCH LINE  
SEE SHEET 32

MATCH LINE  
SEE SHEET 34



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



NO.	DATE	REVISION	APPROVED

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**N MAIN ST  
REMOVAL PLAN**

SCALE: 1" = 20' SHEET 2 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
AB	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	<b>33</b>
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

**NOTES:**

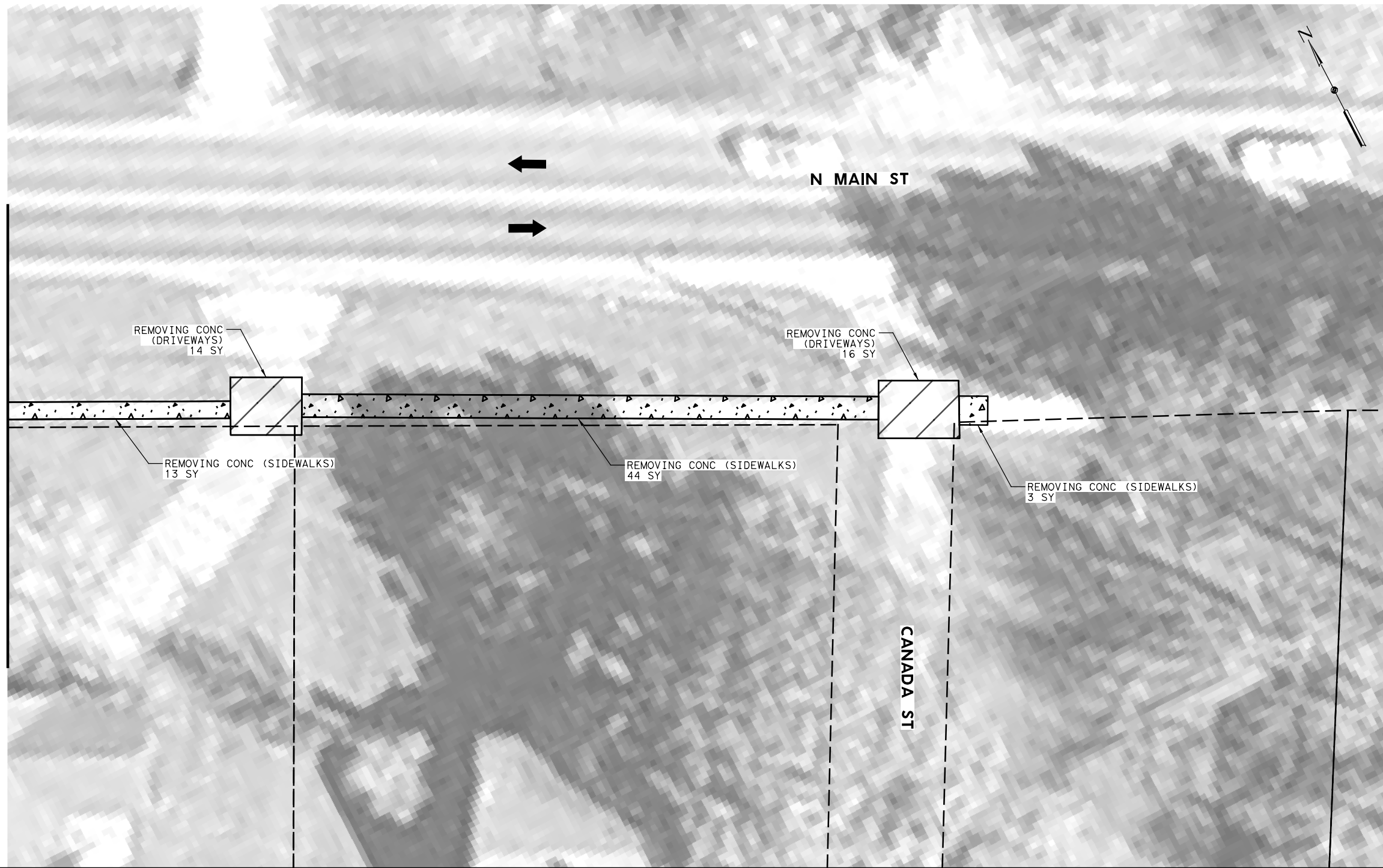
1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

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 DATE: 5/24/2022 TIME: 1:51:08 PM SCALE: 1:20

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 USER: LGOMEZGONZ  
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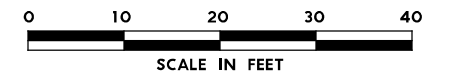
MATCH LINE  
SEE SHEET 33

MATCH LINE  
SEE SHEET 35



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



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**CURB RAMP PROGRAM**

**N MAIN ST  
REMOVAL PLAN**

SCALE: 1" = 20' SHEET 3 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
AB	TEXAS	AUS	BASTROP	34
CHECK	CONTROL	SECTION	JOB	
CHECK	0114	17	010	

**NOTES:**  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.



PENTABLE: 10331291-Elgin.tbl  
 DATE: 5/24/2022 TIME: 1:51:42 PM SCALE: 1:20

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 USER: LGOMEZGONZ  
 FILE: ELG-N-RM04.dgn

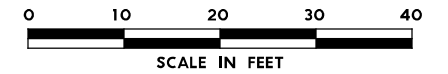
MATCH LINE  
SEE SHEET 34

MATCH LINE  
SEE SHEET 36



LEGEND

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- TRAVEL LANE
- REMOVE SIDEWALK
- DRIVEWAY REMOVE



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 Round Rock, Texas 78681  
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**CURB RAMP PROGRAM**

**N MAIN ST  
REMOVAL PLAN**

SCALE: 1" = 20' SHEET 4 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
AB	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	<b>35</b>
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

NOTES:

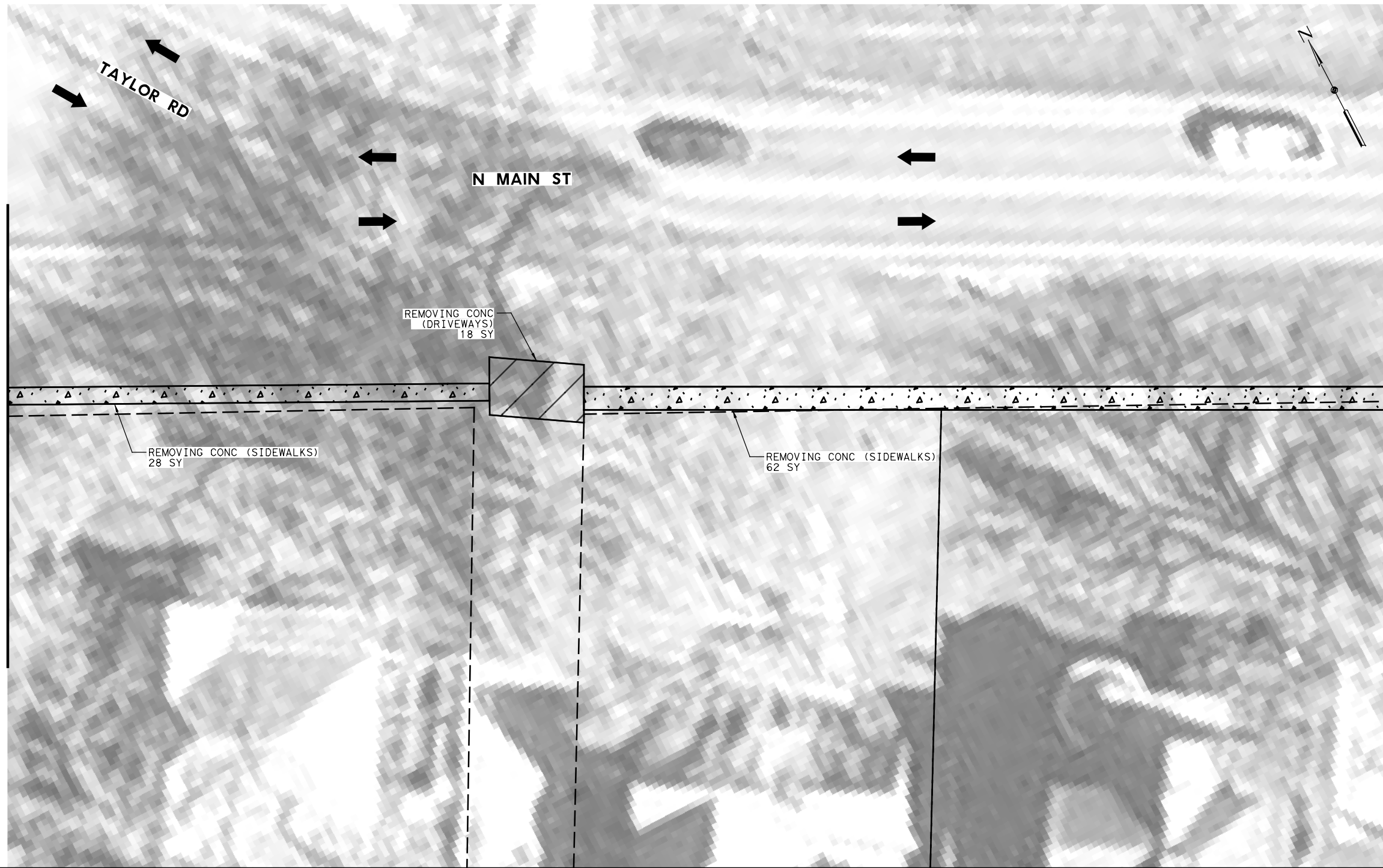
- ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

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 DATE: 5/24/2022 TIME: 4:51:16 PM SCALE: 1:20

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-N-RM05.dgn

MATCH LINE  
SEE SHEET 35

MATCH LINE  
SEE SHEET 37



LEGEND

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- TRAVEL LANE
- REMOVE SIDEWALK
- DRIVEWAY REMOVE



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 Round Rock, Texas 78681  
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**CURB RAMP PROGRAM**

**N MAIN ST  
REMOVAL PLAN**

SCALE: 1" = 20' SHEET 5 OF 9

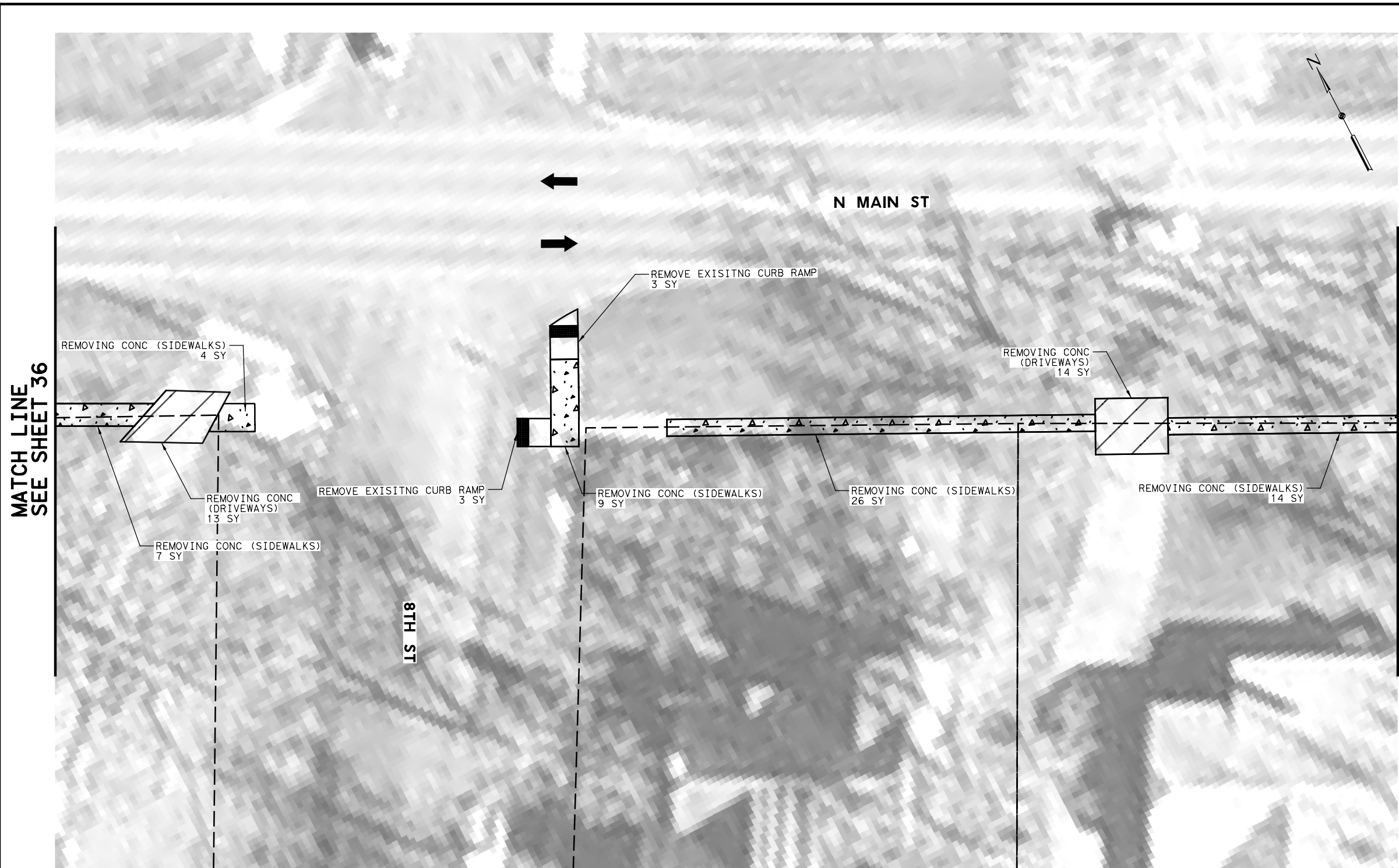
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS		STATE	DISTRICT	COUNTY
AB		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
		0114	17	010
				<b>36</b>

NOTES:  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.



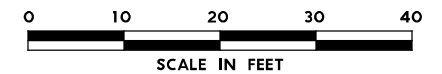
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 DATE: 5/24/2022 TIME: 4:51:20 PM SCALE: 1:20

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-N-RM06.dgn



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



STATE OF TEXAS  
 FELIPE S. TUTUD  
 104836  
 LICENSED PROFESSIONAL ENGINEER  
 05/24/2022

NO.	DATE	REVISION	APPROVED

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 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754

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**N MAIN ST  
 REMOVAL PLAN**

SCALE: 1" = 20' SHEET 6 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS		STATE	DISTRICT	COUNTY
AB		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
		0114	17	010

**37**

**NOTES:**

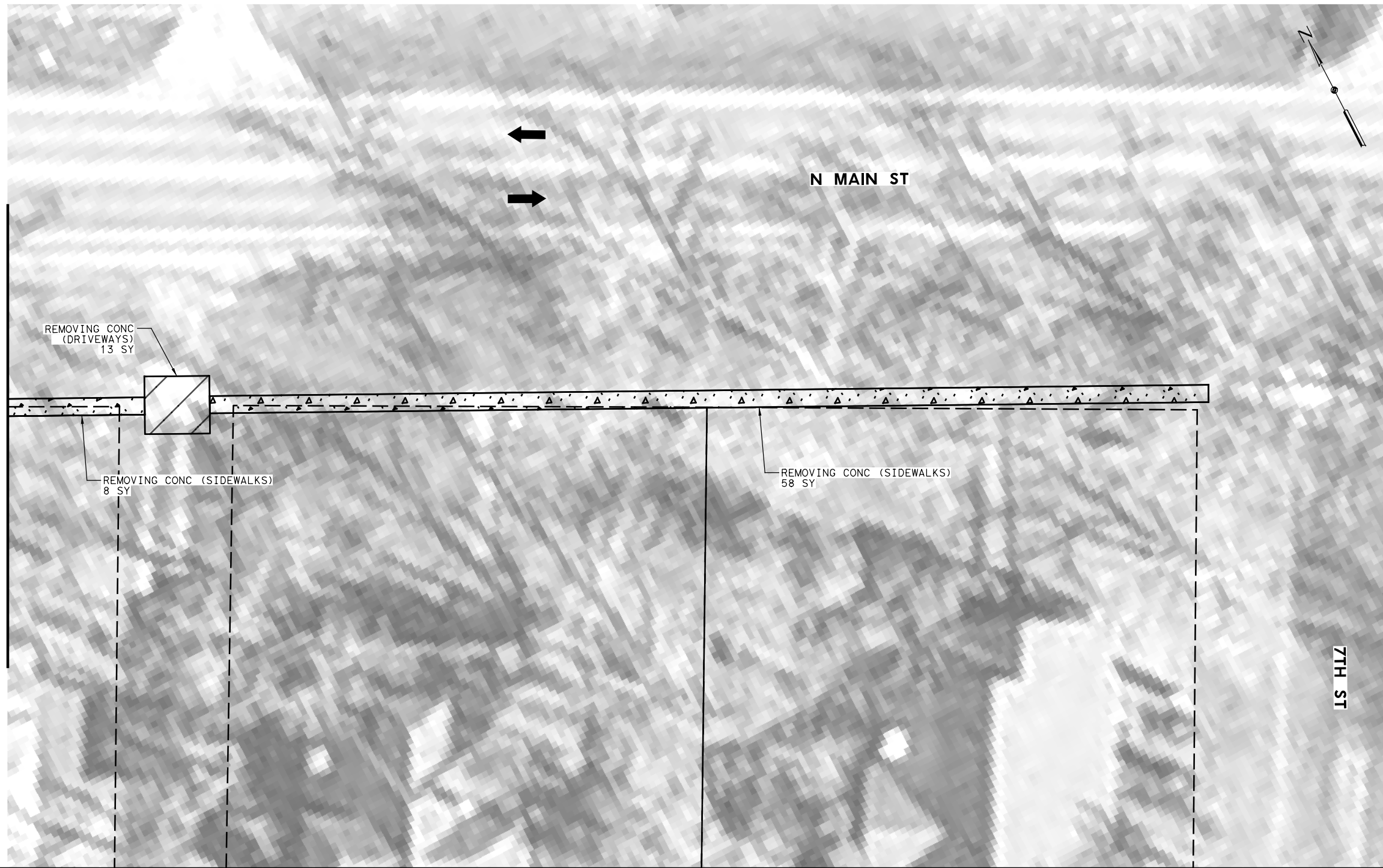
1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

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 DATE: 5/24/2022 TIME: 15:124 PM SCALE: 1:20

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-N-RM07.dgn

MATCH LINE  
SEE SHEET 37

MATCH LINE  
SEE SHEET 39



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



Professional Engineer Seal for Felipe S. Tudtud, License No. 104836, State of Texas. Signature and date 05/24/2022.

NO.	DATE	REVISION	APPROVED

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 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754

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**N MAIN ST  
REMOVAL PLAN**

SCALE: 1" = 20' SHEET 7 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS		STATE	DISTRICT	COUNTY
AB		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
		0114	17	010
CHECK				<b>38</b>

NOTES:  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

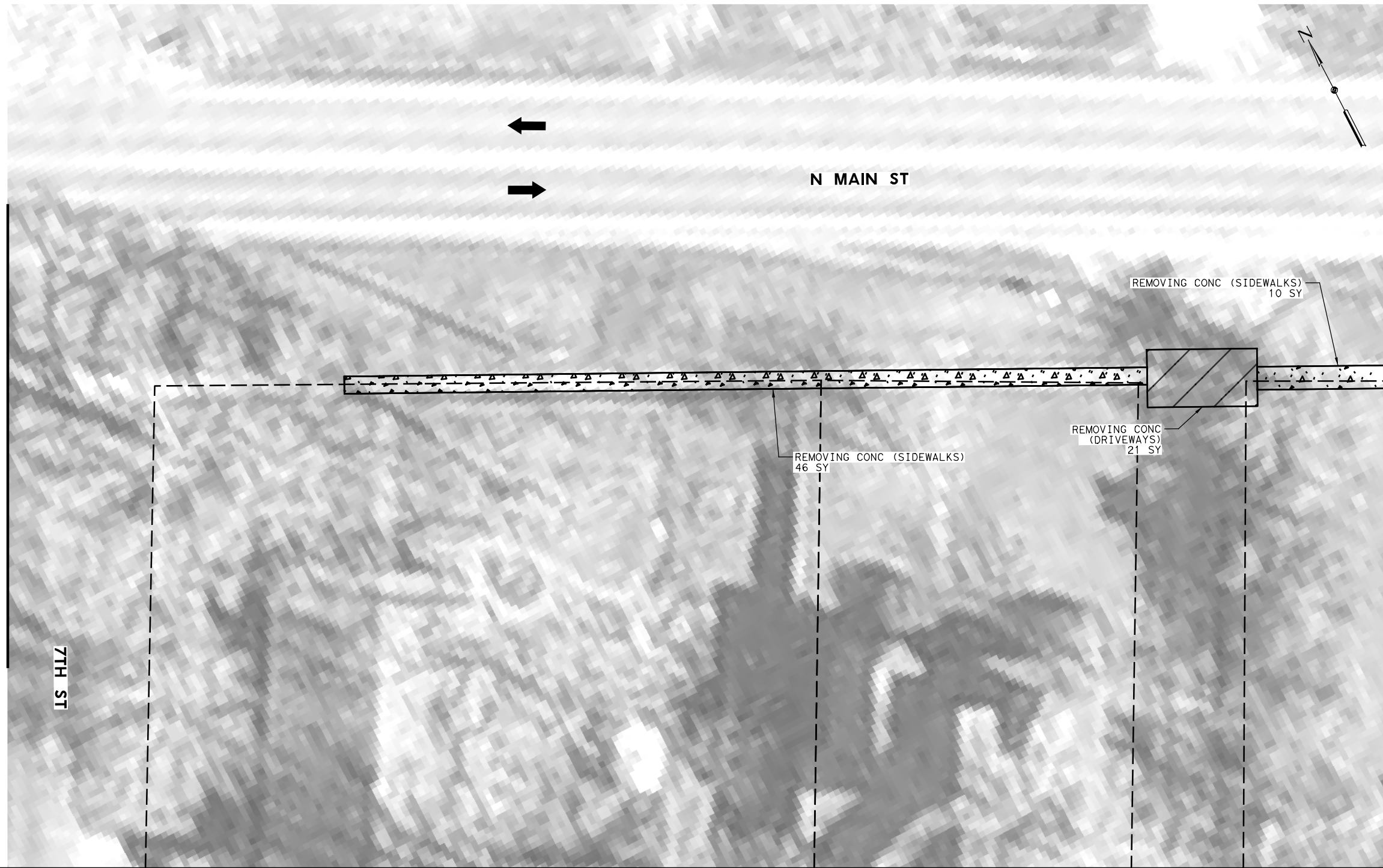


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 USER: LGOMEZGONZ  
 FILE: ELG-N-RM08.dgn

MATCH LINE  
SEE SHEET 38

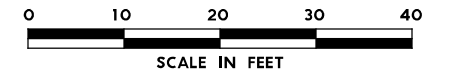
IS HLZ



MATCH LINE  
SEE SHEET 40

**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



05/24/2022

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 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**N MAIN ST  
REMOVAL PLAN**

SCALE: 1" = 20' SHEET 8 OF 9

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	AB	SEE TITLE SHEET		SL 109
CHECK	AB	STATE	DISTRICT	COUNTY
CHECK	AB	TEXAS	AUS	BASTROP
CHECK	AB	CONTROL	SECTION	JOB
CHECK	AB	0114	17	010

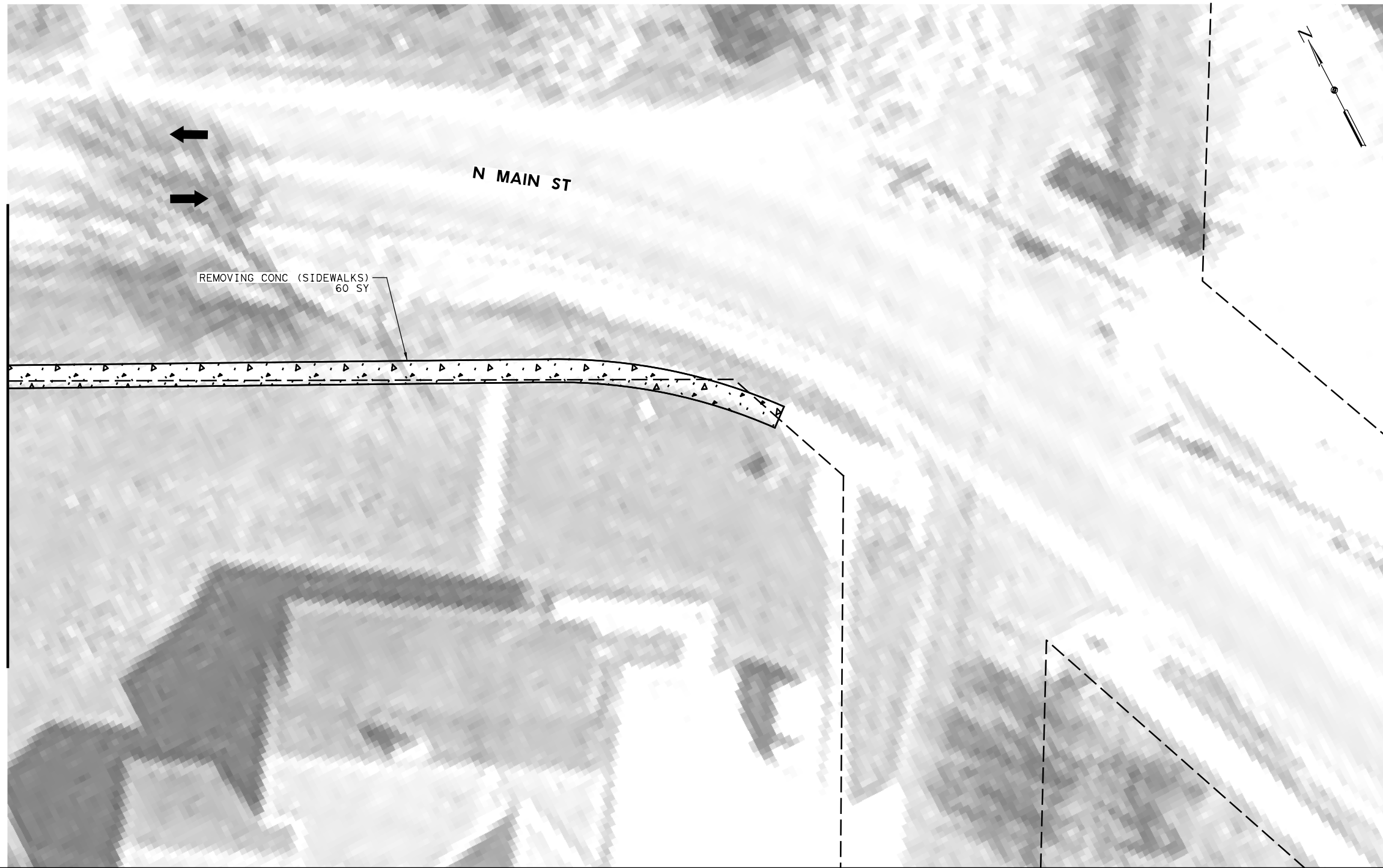
**39**

NOTES:  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

PENTABLE: 10331291-Elgin.tbl  
 DATE: 5/24/2022 TIME: 1:51:40 PM SCALE: 1:20

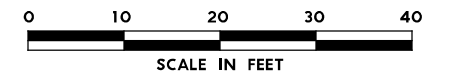
PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-N-RM09.dgn

MATCH LINE  
 SEE SHEET 39



LEGEND

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- TRAVEL LANE
- REMOVE SIDEWALK
- DRIVEWAY REMOVE



05/24/2022

NO.	DATE	REVISION	APPROVED

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 Round Rock, Texas 78681  
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**CURB RAMP PROGRAM**

**N MAIN ST  
 REMOVAL PLAN**

SCALE: 1"=20'

SHEET 9 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS		STATE	DISTRICT	COUNTY
AB		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
		0114	17	010
CHECK				<b>40</b>

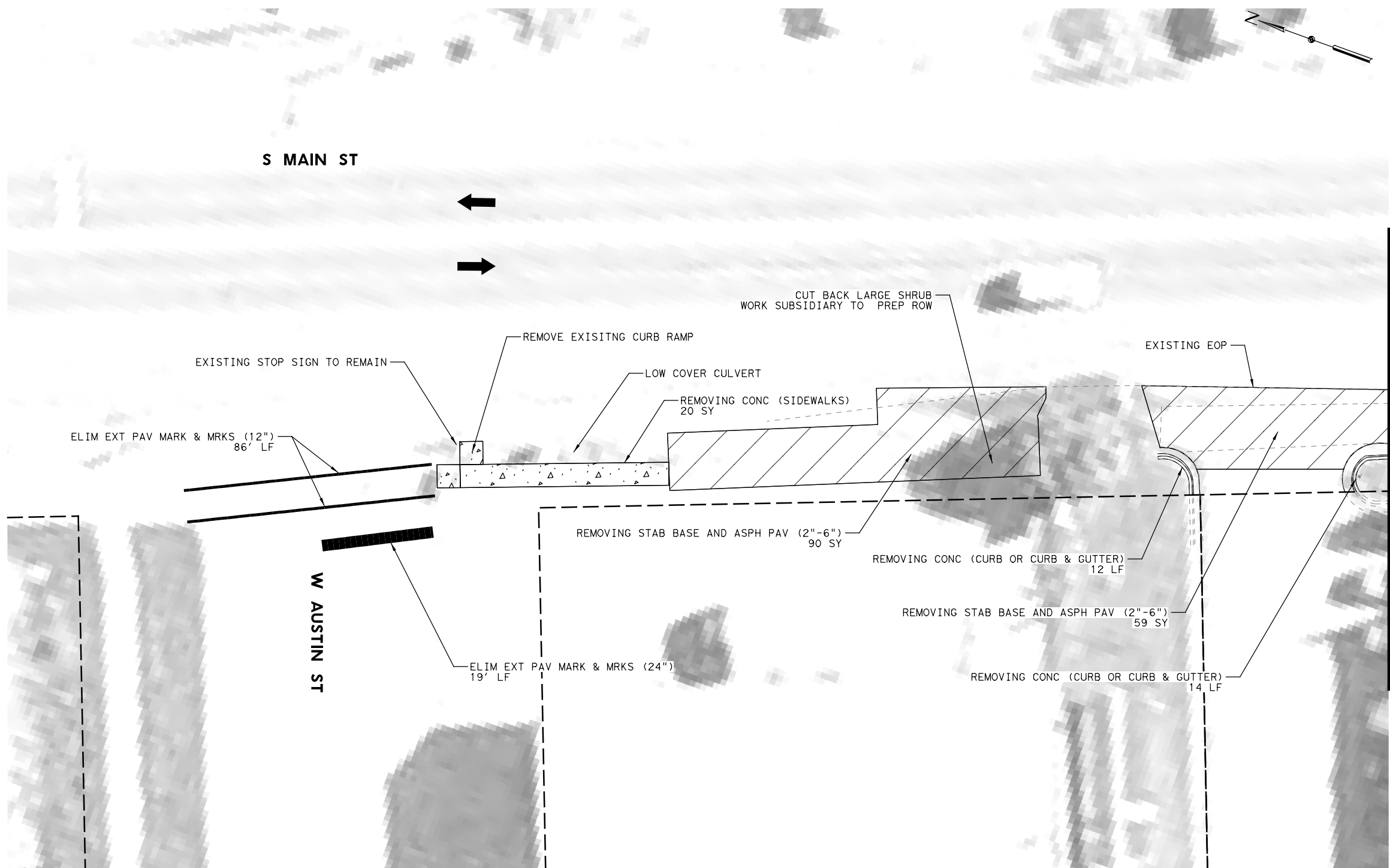
NOTES:

- ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

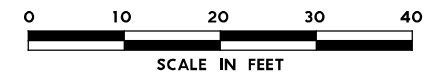


**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



MATCH LINE  
SEE SHEET 42



05/24/2022

*Felipe S. Tudtud*

NO.	DATE	REVISION	APPROVED

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**CURB RAMP PROGRAM**

**S MAIN ST  
REMOVAL PLAN**

SCALE: 1"=20' SHEET 1 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS		STATE	DISTRICT	COUNTY
LG		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
		0114	17	010

41

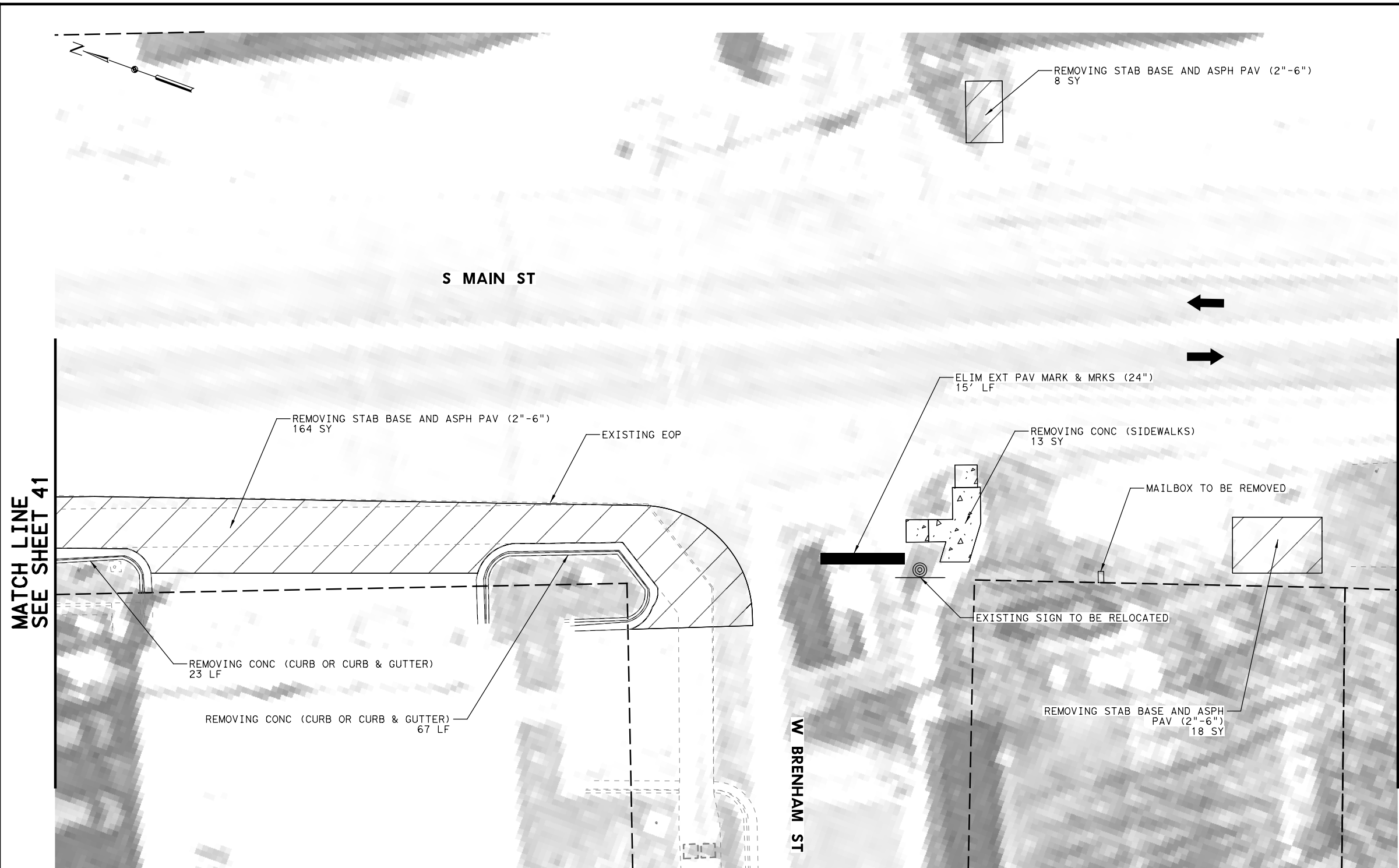
**NOTES:**

- ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

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 DATE: 5/24/2022 TIME: 1:51:48 PM SCALE: 1:20  
 PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOINEZGONZ  
 FILE: ELG-SRMW01.dgn

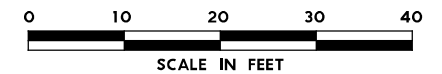
**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



MATCH LINE SEE SHEET 41

MATCH LINE SEE SHEET 43



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**CURB RAMP PROGRAM**  
  
**S MAIN ST**  
**REMOVAL PLAN**

SCALE: 1"=20' SHEET 2 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	42
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

**NOTES:**

- ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

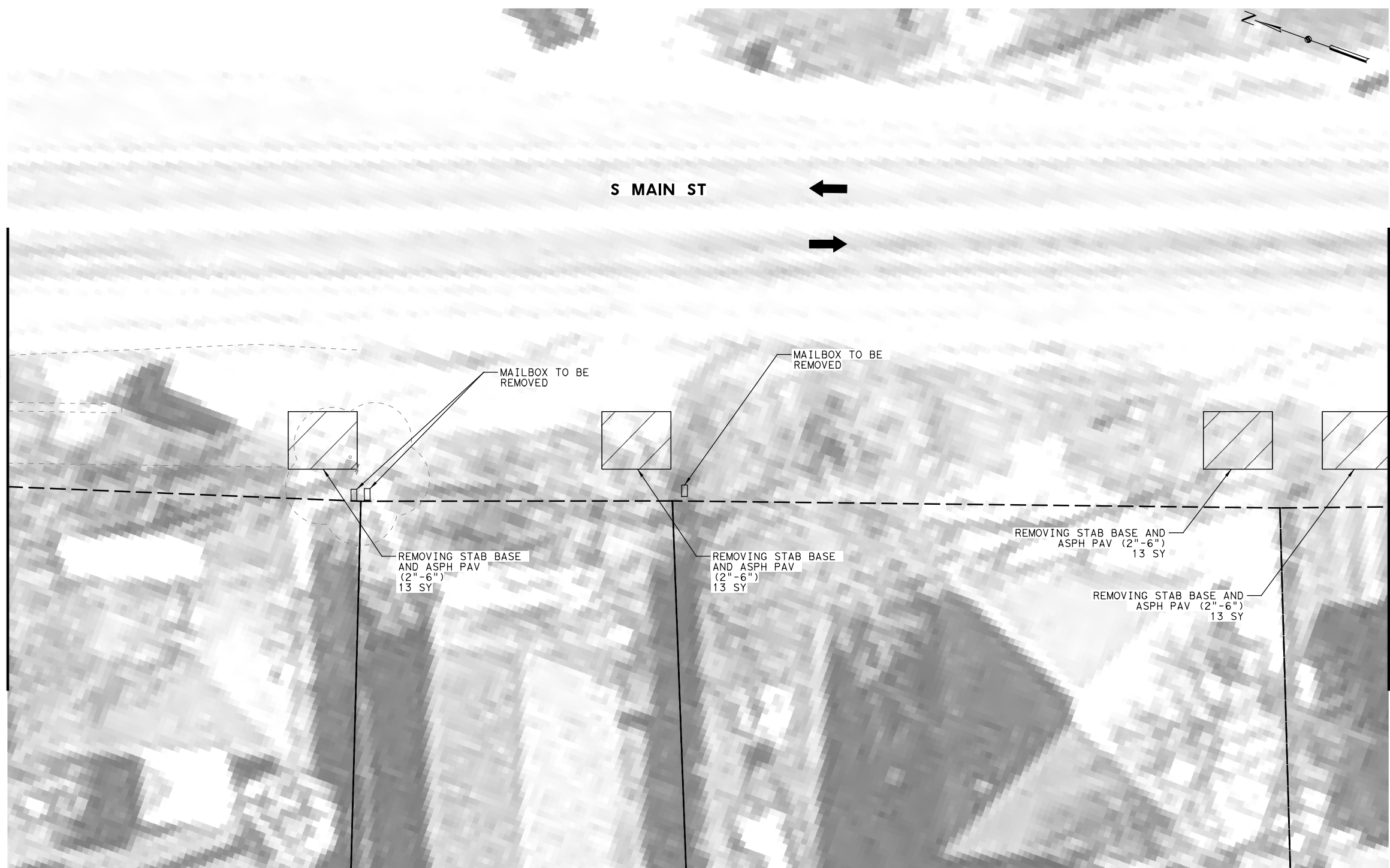
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 USER: LGOINEZGONZ  
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 FILE: ELG-SRM03.dgn

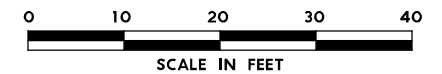
MATCH LINE  
SEE SHEET 42

MATCH LINE  
SEE SHEET 44



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



Professional Engineer Seal for Felipe S. Tutud, License No. 104836, State of Texas. Signature of Felipe S. Tutud. Date: 05/24/2022.

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
REMOVAL PLAN**

SCALE: 1"=20' SHEET 3 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	<b>43</b>
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

**NOTES:**  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

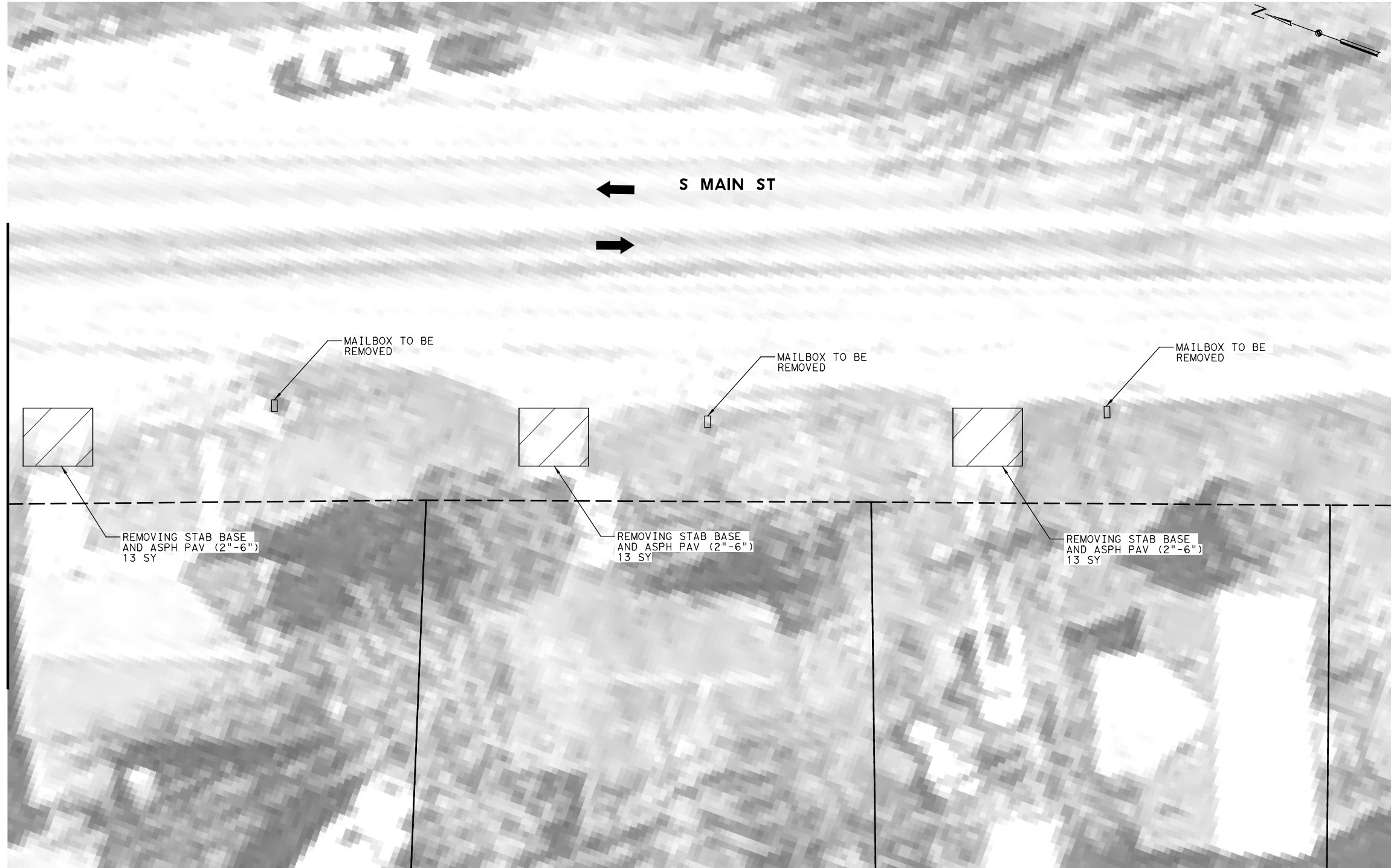


PENTABLE: 10331291-Elgin.tbl  
 DATE: 5/24/2022 TIME: 15:21:13 PM SCALE: 1:20

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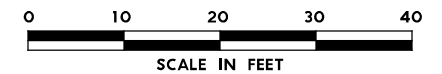
MATCH LINE  
SEE SHEET 43

MATCH LINE  
SEE SHEET 45



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



FELIPE S. TUDTUD  
 104836  
 LICENSED PROFESSIONAL ENGINEER  
*Felipe S. Tudtud*  
 05/24/2022

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
REMOVAL PLAN**

SCALE: 1"=20' SHEET 4 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	<b>44</b>
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

**NOTES:**

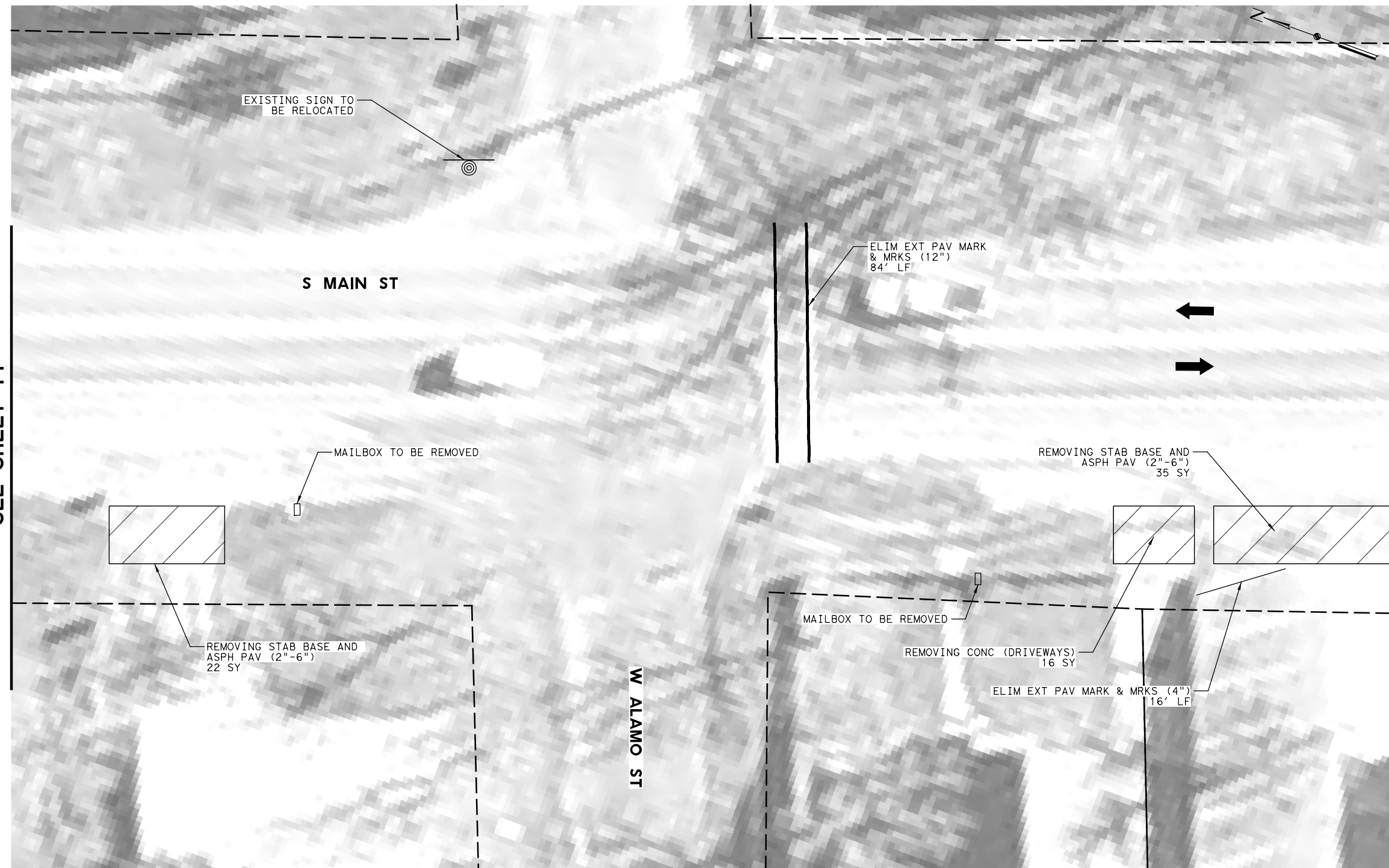
1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

PENTABLE: 10331291-Elgin.tbl  
 DATE: 5/24/2022 TIME: 15:22:21 PM  
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 USER: LGOINEZGONZ  
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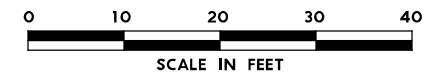
MATCH LINE  
SEE SHEET 44

MATCH LINE  
SEE SHEET 46



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



Professional Engineer Seal for Felipe S. Toldtud, License No. 104836, State of Texas. Signature of Felipe S. Toldtud. Date: 05/24/2022.

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
REMOVAL PLAN**

**NOTES:**  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

SCALE: 1"=20' SHEET 5 OF 8

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	LG	STATE	DISTRICT	COUNTY
CHECK		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
		0114	17	010

**45**

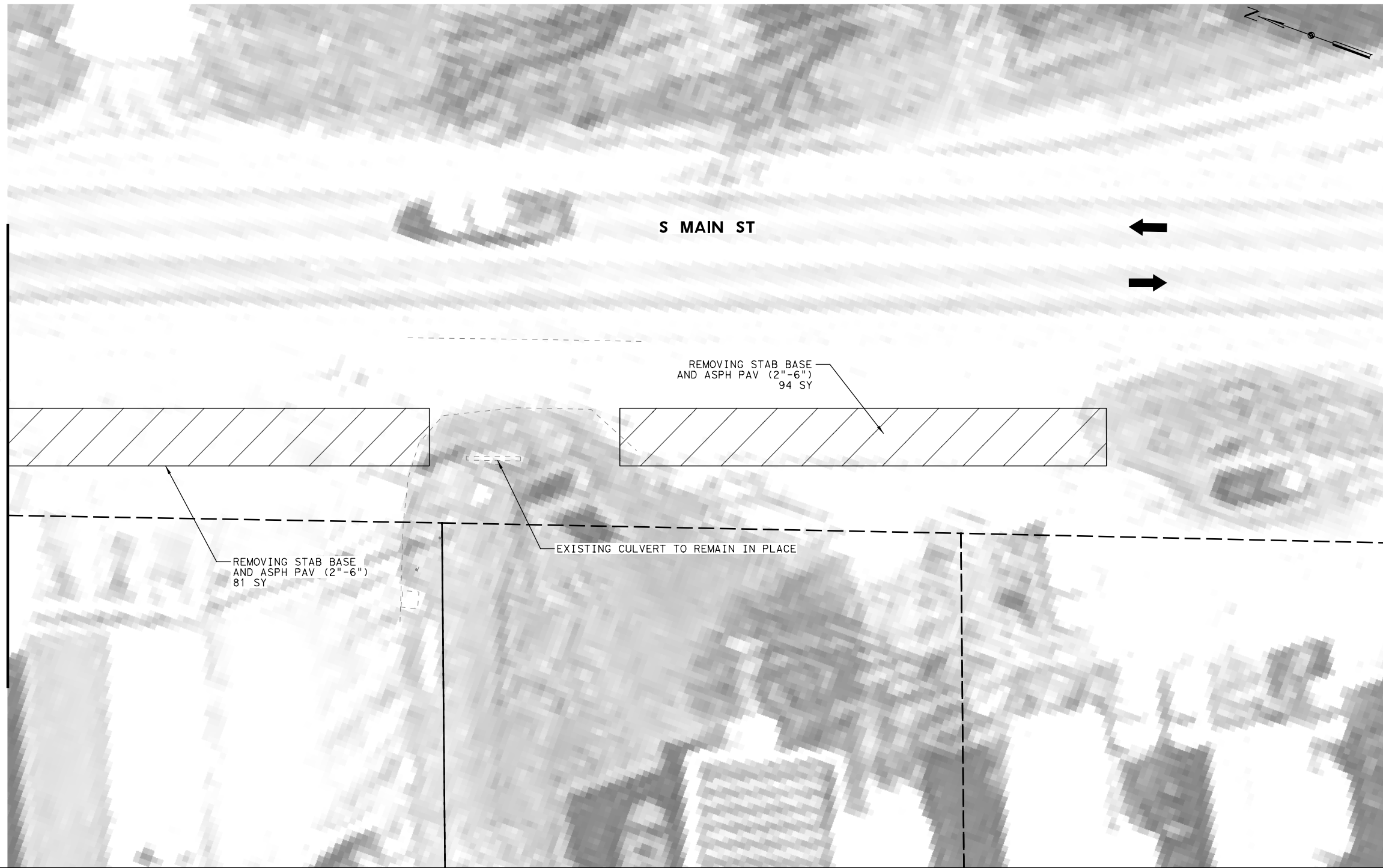


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PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOINEZGONZ  
 FILE: ELG-SRM06.dgn

MATCH LINE  
SEE SHEET 45

MATCH LINE  
SEE SHEET 47



S MAIN ST

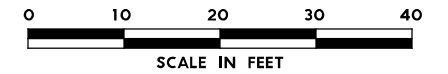
REMOVING STAB BASE  
AND ASPH PAV (2"-6")  
94 SY

REMOVING STAB BASE  
AND ASPH PAV (2"-6")  
81 SY

EXISTING CULVERT TO REMAIN IN PLACE

LEGEND

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- TRAVEL LANE
- ◻ REMOVE SIDEWALK
- ◻ DRIVEWAY REMOVE



05/24/2022

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 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
REMOVAL PLAN**

NOTES:  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

SCALE: 1" = 20' SHEET 6 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				SHEET NO.
LG	STATE	DISTRICT	COUNTY	
CHECK	TEXAS	AUS	BASTROP	
CHECK	CONTROL	SECTION	JOB	<b>46</b>
	0114	17	010	

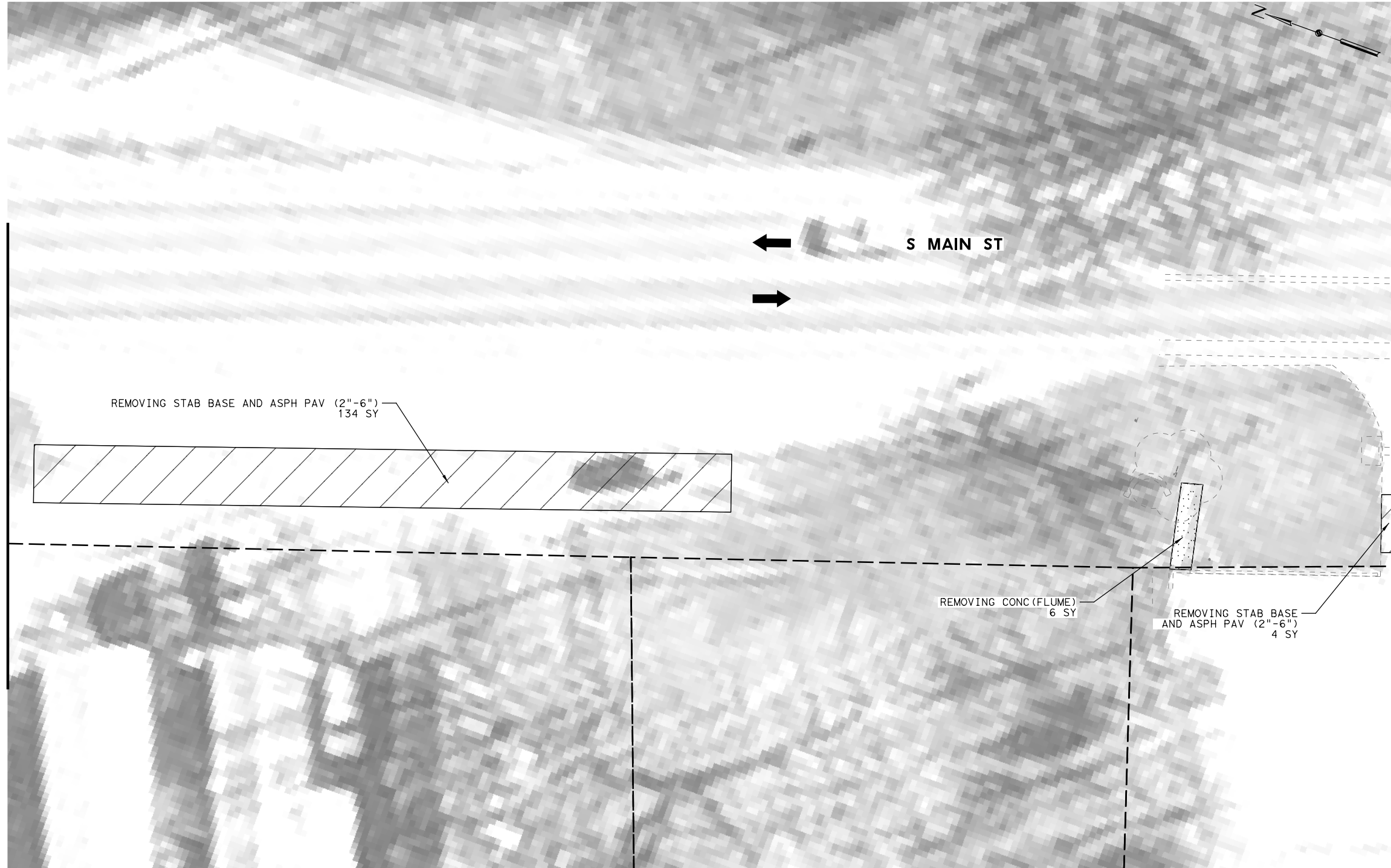


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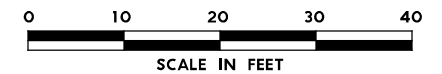
MATCH LINE  
SEE SHEET 46

MATCH LINE  
SEE SHEET 48



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	TRAVEL LANE
	REMOVE SIDEWALK
	DRIVEWAY REMOVE



05/24/2022

*Felipe S. Tudtud*

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
REMOVAL PLAN**

SCALE: 1"=20' SHEET 7 OF 8

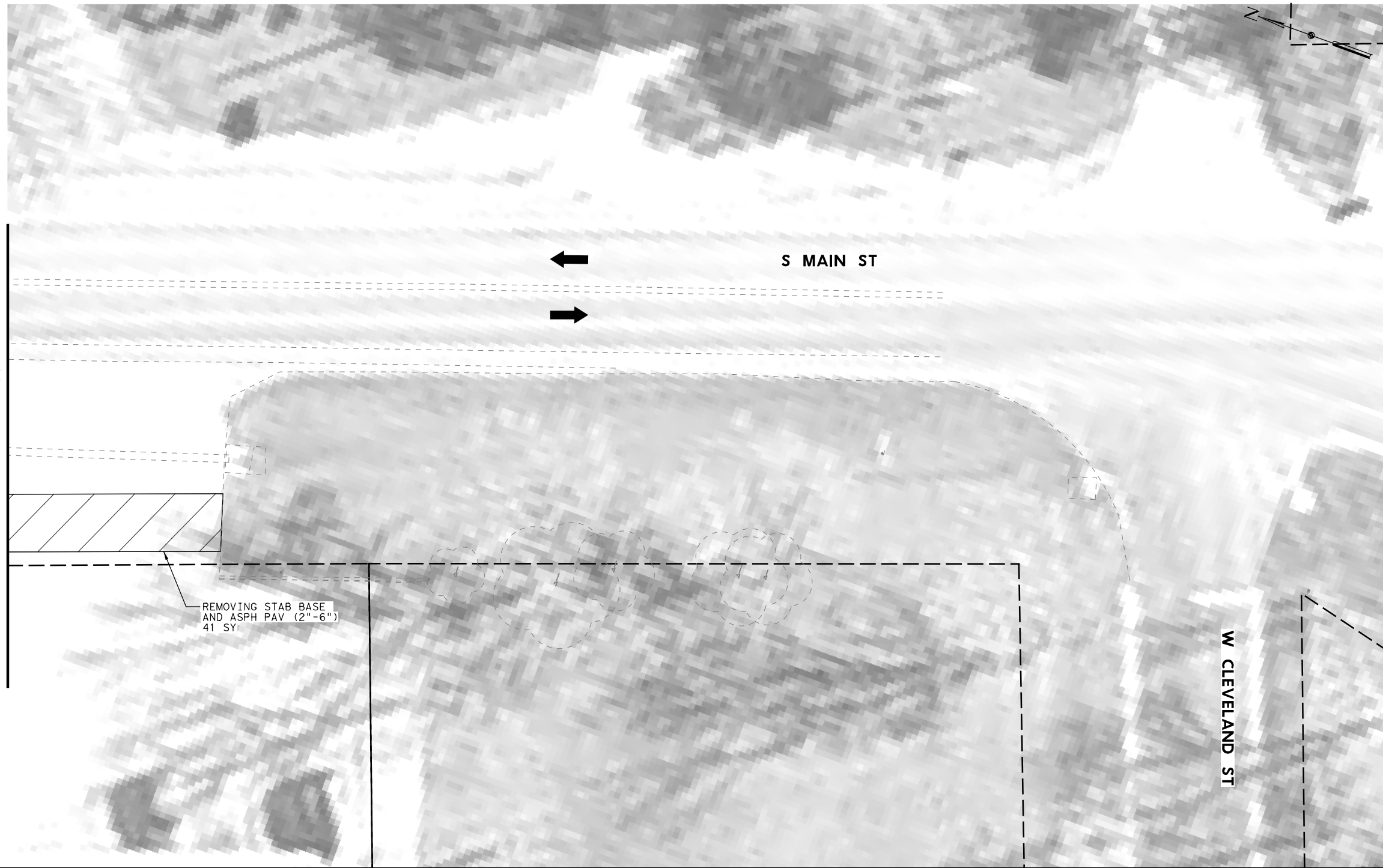
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	<b>47</b>
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

**NOTES:**  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.

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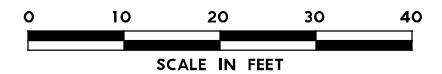
PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOINEZGONZ  
 FILE: ELG-SRM08.dgn

MATCH LINE  
 SEE SHEET 47



LEGEND

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- TRAVEL LANE
- △ REMOVE SIDEWALK
- ▨ DRIVEWAY REMOVE



FELIPE S. TOLDTUD  
 104836  
 LICENSED PROFESSIONAL ENGINEER  
*Felipe S. Toldtud*  
 05/24/2022

NO.	DATE	REVISION	APPROVED

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 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754

Texas Department of Transportation  
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**CURB RAMP PROGRAM**  
  
**S MAIN ST  
 REMOVAL PLAN**

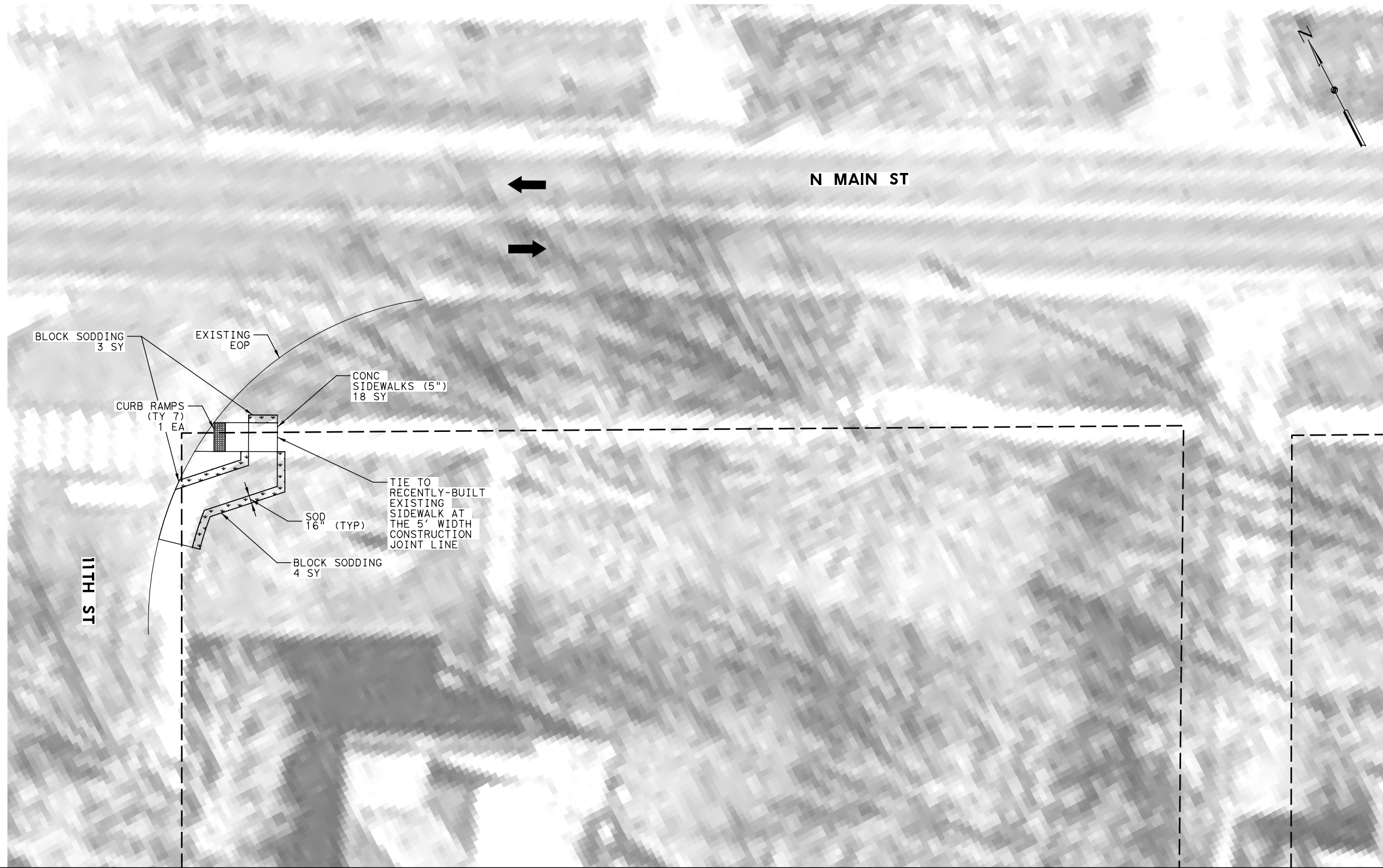
SCALE: 1" = 20' SHEET 8 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	<b>48</b>
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

NOTES:  
 1. ALL ITEMS REQUIRING REMOVAL THAT ARE NOT SPECIFICALLY CALLED OUT IN PLANS SHALL BE CONSIDERED SUBSIDIARY TO PREP ROW.



PENTABLE: 10331291-Elgin.tbl  
 DATE: 5/24/2022 TIME: 15:25:55 PM SCALE: 1:20  
 PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOINEZGONZ  
 FILE: ELG-N-SDWK01.dgn



LEGEND

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- PROPOSED EDGE OF SIDEWALK
- HANDRAIL
- ➔ TRAVEL LANE
- x-x-x- TREE PROTECTION
- ▭ 4" TOPSOIL AND BLOCK SODDING
- ~> DRAINAGE FLOW ARROW

MATCH LINE  
SEE SHEET 50



05/24/2022

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 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**N MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 1 OF 9

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	AB	SEE TITLE SHEET			SL 109
CHECK		STATE	DISTRICT	COUNTY	SHEET NO.
CHECK		TEXAS	AUS	BASTROP	<b>49</b>
		CONTROL	SECTION	JOB	
		0114	17	010	

NOTES:

1. THE LOCATION OF ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD- VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. DRIVEWAY AREAS TO BE FIELD-ADJUSTED TO MEET SIDEWALK GRADING CROSS SLOPE ON DRIVEWAY. IF EXISTING DRIVEWAY HAS A DRAINAGE DIP, CONTRACTOR TO BUILD PROPOSED DRIVEWAY WITH DRAINAGE DIP. SEE SIDEWALK DETAILS SHEET 66 FOR DETAILS.
3. TURNING SPACE, RAMP, AND DETECTABLE WARNING SURFACE SHOWN IN THE PLAN VIEW ARE FOR VISUALIZATION PURPOSES ONLY. ADJUSTMENT WILL BE NEEDED BASED ON FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER. REFER TO THE PEDESTRIAN FACILITIES CURB RAMPS STANDARD AND SIDEWALK DETAILS FOR MORE INFORMATION.
4. SEE SIDEWALK DETAILS SHEET 66 FOR CURB RAMP TRANSITION INTO ROADWAY.
5. CONTRACTOR TO PLACE TREE PROTECTION WITHOUT ENCRoACHING ON THE APPARENT ROW OR AS DIRECTED BY ENGINEER.
6. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
7. "REFL PAV MRK" CALLOUT ABOVE INCLUDES QUANTITIES FOR REFL PAV MRK TY I, REFL PAV MRK TY II AND PAV SURF PREP FOR MARKINGS.
8. "BLOCK SODDING" CALLOUT ABOVE INCLUDES QUANTITIES FOR FURNISHING AND PLACING TOPSOIL (4"), BLOCK SODDING, AND VEGETATIVE WATERING.
9. CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SODDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
10. PROTECT ALL CURB INLETS THAT RECEIVE SURFACE WATER FLOW FROM WORK AREAS FROM STORM WATER QUALITY MANAGEMENT. REFER TO SW3P, EPIC, AND TXDOT STANDARD EC(9)-16 FOR IMPLEMENTATION AND MAINTENANCE OF SW3P CONTROLS AND COMPLIANCE.
11. SIDEWALK CROSS SLOPE TO MATCH EXISTING DRAINAGE PATTERN IN ITS ADJACENT AREA. CROSS SLOPE CANNOT BE GREATER THAN 2%.
12. LOCATION OF TIE-IN FOR THE SIDEWALK CAN BE FIELD ADJUSTED AS DIRECTED BY ENGINEER.
13. NOT ALL TREES ARE SHOWN IN THE PLANS. CONTRACTOR TO PROVIDE TREE PROTECTION IF SIDEWALK IS WITHIN CRITICAL ROOT ZONE OR AS DIRECTED BY ENGINEER.
14. NOT ALL SIGNS ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL SIGNS WILL REMAIN IN PLACE.
15. NOT ALL POWER POLES ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL POWER POLES WILL REMAIN IN PLACE.

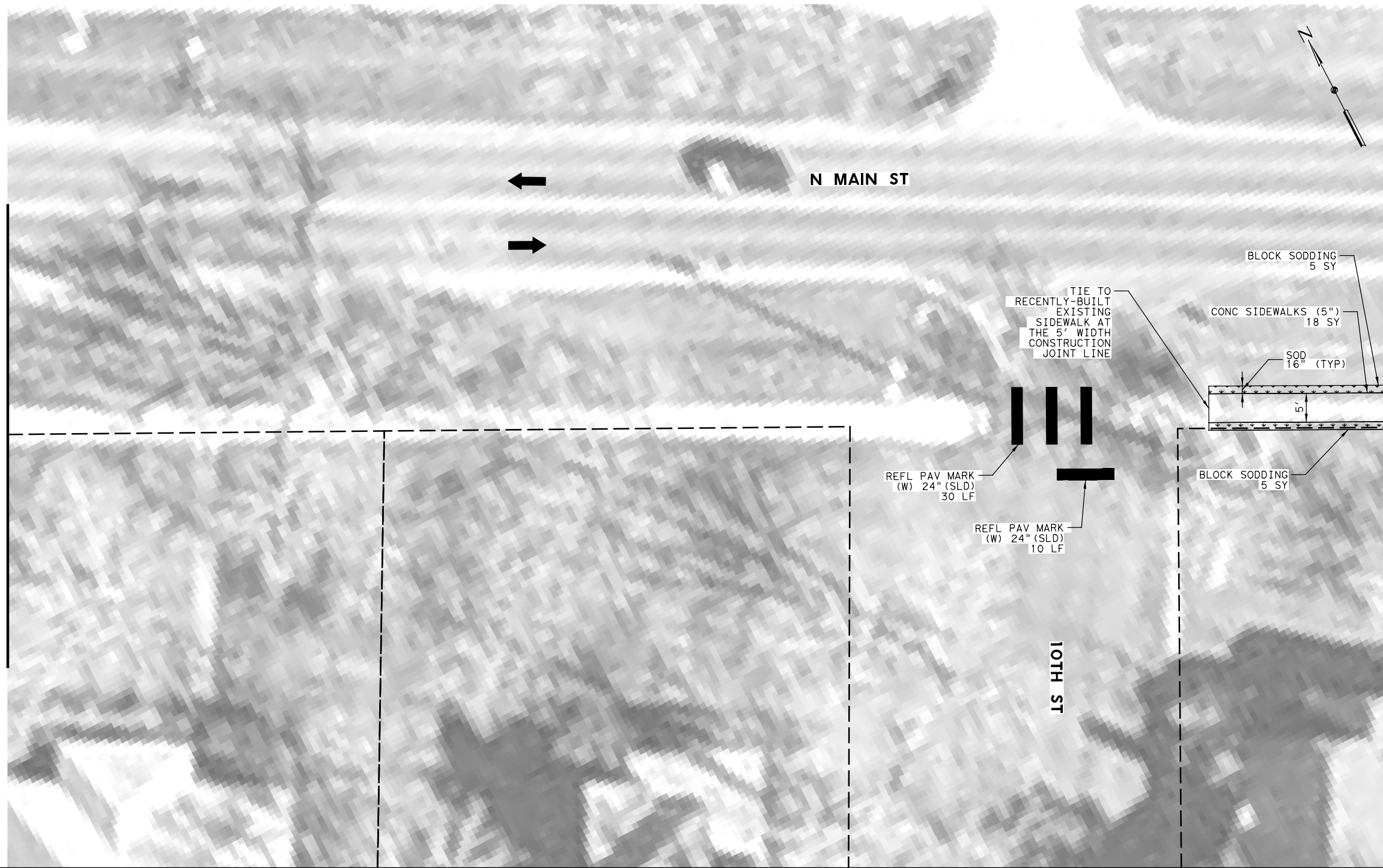


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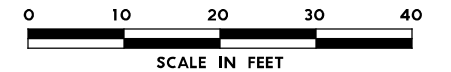
MATCH LINE  
SEE SHEET 49

MATCH LINE  
SEE SHEET 51



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**N MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 2 OF 9

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	AB	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK		TEXAS	AUS	BASTROP	<b>50</b>
CHECK		CONTROL	SECTION	JOB	
		0114	17	010	

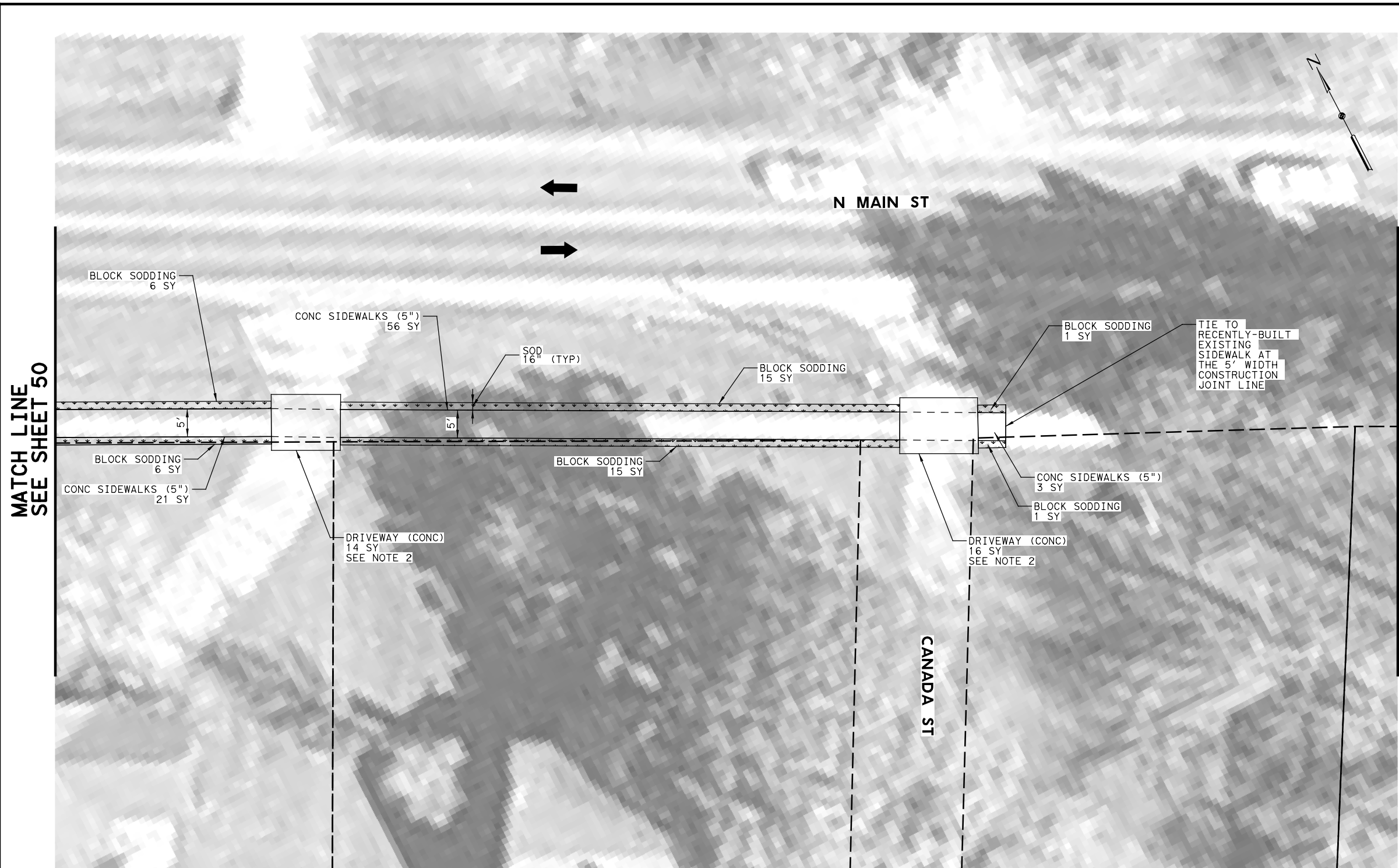
**NOTES:**

- THE LOCATION OF ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD- VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- DRIVEWAY AREAS TO BE FIELD-ADJUSTED TO MEET SIDEWALK GRADING CROSS SLOPE ON DRIVEWAY. IF EXISTING DRIVEWAY HAS A DRAINAGE DIP, CONTRACTOR TO BUILD PROPOSED DRIVEWAY WITH DRAINAGE DIP. SEE SIDEWALK DETAILS SHEET 66 FOR DETAILS.
- TURNING SPACE, RAMP, AND DETECTABLE WARNING SURFACE SHOWN IN THE PLAN VIEW ARE FOR VISUALIZATION PURPOSES ONLY. ADJUSTMENT WILL BE NEEDED BASED ON FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER. REFER TO THE PEDESTRIAN FACILITIES CURB RAMPS STANDARD AND SIDEWALK DETAILS FOR MORE INFORMATION.
- SEE SIDEWALK DETAILS SHEET 66 FOR CURB RAMP TRANSITION INTO ROADWAY.
- CONTRACTOR TO PLACE TREE PROTECTION WITHOUT ENCROACHING ON THE APPARENT ROW OR AS DIRECTED BY ENGINEER.
- ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
- "REFL PAV MRK" CALLOUT ABOVE INCLUDES QUANTITIES FOR REFL PAV MRK TY I, REFL PAV MRK TY II AND PAV SURF PREP FOR MARKINGS.
- "BLOCK SODDING" CALLOUT ABOVE INCLUDES QUANTITIES FOR FURNISHING AND PLACING TOPSOIL (4"), BLOCK SODDING, AND VEGETATIVE WATERING.
- CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SODDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
- PROTECT ALL CURB INLETS THAT RECEIVE SURFACE WATER FLOW FROM WORK AREAS FROM STORM WATER QUALITY MANAGEMENT. REFER TO SW3P, EPIC, AND TxDOT STANDARD EC(9)-16 FOR IMPLEMENTATION AND MAINTENANCE OF SW3P CONTROLS AND COMPLIANCE.
- SIDEWALK CROSS SLOPE TO MATCH EXISTING DRAINAGE PATTERN IN ITS ADJACENT AREA. CROSS SLOPE CANNOT BE GREATER THAN 2%.
- LOCATION OF TIE-IN FOR THE SIDEWALK CAN BE FIELD ADJUSTED AS DIRECTED BY ENGINEER.
- NOT ALL TREES ARE SHOWN IN THE PLANS. CONTRACTOR TO PROVIDE TREE PROTECTION IF SIDEWALK IS WITHIN CRITICAL ROOT ZONE OR AS DIRECTED BY ENGINEER.
- NOT ALL SIGNS ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL SIGNS WILL REMAIN IN PLACE.
- NOT ALL POWER POLES ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL POWER POLES WILL REMAIN IN PLACE.



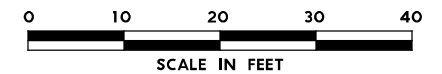
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PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOINEZGONZ  
 FILE: ELG-N-SW03.dgn



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW



05/24/2022

*Felipe S. Tutud*

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754

Texas Department of Transportation  
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**CURB RAMP PROGRAM**

**N MAIN ST  
 SIDEWALK PLAN**

SCALE: 1"=20' SHEET 3 OF 9

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	AB	SEE TITLE SHEET		SL 109
CHECK		STATE	DISTRICT	COUNTY
CHECK		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
CHECK		0114	17	010

**51**

**NOTES:**

1. THE LOCATION OF ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD-VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. DRIVEWAY AREAS TO BE FIELD-ADJUSTED TO MEET SIDEWALK GRADING CROSS SLOPE ON DRIVEWAY. IF EXISTING DRIVEWAY HAS A DRAINAGE DIP, CONTRACTOR TO BUILD PROPOSED DRIVEWAY WITH DRAINAGE DIP. SEE SIDEWALK DETAILS SHEET 66 FOR DETAILS.
3. TURNING SPACE, RAMP, AND DETECTABLE WARNING SURFACE SHOWN IN THE PLAN VIEW ARE FOR VISUALIZATION PURPOSES ONLY. ADJUSTMENT WILL BE NEEDED BASED ON FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER. REFER TO THE PEDESTRIAN FACILITIES CURB RAMPS STANDARD AND SIDEWALK DETAILS FOR MORE INFORMATION.
4. SEE SIDEWALK DETAILS SHEET 66 FOR CURB RAMP TRANSITION INTO ROADWAY.
5. CONTRACTOR TO PLACE TREE PROTECTION WITHOUT ENCRoACHING ON THE APPARENT ROW OR AS DIRECTED BY ENGINEER.
6. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
7. "REFL PAV MRK" CALLOUT ABOVE INCLUDES QUANTITIES FOR REFL PAV MRK TY I, REFL PAV MRK TY II AND PAV SURF PREP FOR MARKINGS.
8. "BLOCK SODDING" CALLOUT ABOVE INCLUDES QUANTITIES FOR FURNISHING AND PLACING TOPSOIL (4"), BLOCK SODDING, AND VEGETATIVE WATERING.
9. CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SODDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
10. PROTECT ALL CURB INLETS THAT RECEIVE SURFACE WATER FLOW FROM WORK AREAS FROM STORM WATER QUALITY MANAGEMENT. REFER TO SW3P, EPIC, AND TXDOT STANDARD EC(9)-16 FOR IMPLEMENTATION AND MAINTENANCE OF SW3P CONTROLS AND COMPLIANCE.
11. SIDEWALK CROSS SLOPE TO MATCH EXISTING DRAINAGE PATTERN IN ITS ADJACENT AREA. CROSS SLOPE CANNOT BE GREATER THAN 2%.
12. LOCATION OF TIE-IN FOR THE SIDEWALK CAN BE FIELD ADJUSTED AS DIRECTED BY ENGINEER.
13. NOT ALL TREES ARE SHOWN IN THE PLANS. CONTRACTOR TO PROVIDE TREE PROTECTION IF SIDEWALK IS WITHIN CRITICAL ROOT ZONE OR AS DIRECTED BY ENGINEER.
14. NOT ALL SIGNS ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL SIGNS WILL REMAIN IN PLACE.
15. NOT ALL POWER POLES ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL POWER POLES WILL REMAIN IN PLACE.



PENTABLE: 10331291-Elgin.tbl  
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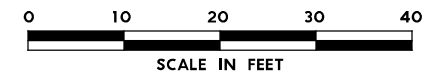
MATCH LINE  
SEE SHEET 51



MATCH LINE  
SEE SHEET 53

**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW



05/24/2022

*Felipe S. Toldtud*

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**N MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 4 OF 9

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	AB	SEE TITLE SHEET			SL 109
CHECK		STATE	DISTRICT	COUNTY	SHEET NO.
CHECK		TEXAS	AUS	BASTROP	<b>52</b>
CHECK		CONTROL	SECTION	JOB	
		0114	17	010	

**NOTES:**

1. THE LOCATION OF ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD- VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. DRIVEWAY AREAS TO BE FIELD-ADJUSTED TO MEET SIDEWALK GRADING CROSS SLOPE ON DRIVEWAY. IF EXISTING DRIVEWAY HAS A DRAINAGE DIP, CONTRACTOR TO BUILD PROPOSED DRIVEWAY WITH DRAINAGE DIP. SEE SIDEWALK DETAILS SHEET 66 FOR DETAILS.
3. TURNING SPACE, RAMP, AND DETECTABLE WARNING SURFACE SHOWN IN THE PLAN VIEW ARE FOR VISUALIZATION PURPOSES ONLY. ADJUSTMENT WILL BE NEEDED BASED ON FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER. REFER TO THE PEDESTRIAN FACILITIES CURB RAMPS STANDARD AND SIDEWALK DETAILS FOR MORE INFORMATION.
4. SEE SIDEWALK DETAILS SHEET 66 FOR CURB RAMP TRANSITION INTO ROADWAY.
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7. "REFL PAV MRK" CALLOUT ABOVE INCLUDES QUANTITIES FOR REFL PAV MRK TY I, REFL PAV MRK TY II AND PAV SURF PREP FOR MARKINGS.
8. "BLOCK SODDING" CALLOUT ABOVE INCLUDES QUANTITIES FOR FURNISHING AND PLACING TOPSOIL (4"), BLOCK SODDING, AND VEGETATIVE WATERING.
9. CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SODDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
10. PROTECT ALL CURB INLETS THAT RECEIVE SURFACE WATER FLOW FROM WORK AREAS FROM STORM WATER QUALITY MANAGEMENT. REFER TO SW3P, EPIC, AND TXDOT STANDARD EC(9)-16 FOR IMPLEMENTATION AND MAINTENANCE OF SW3P CONTROLS AND COMPLIANCE.
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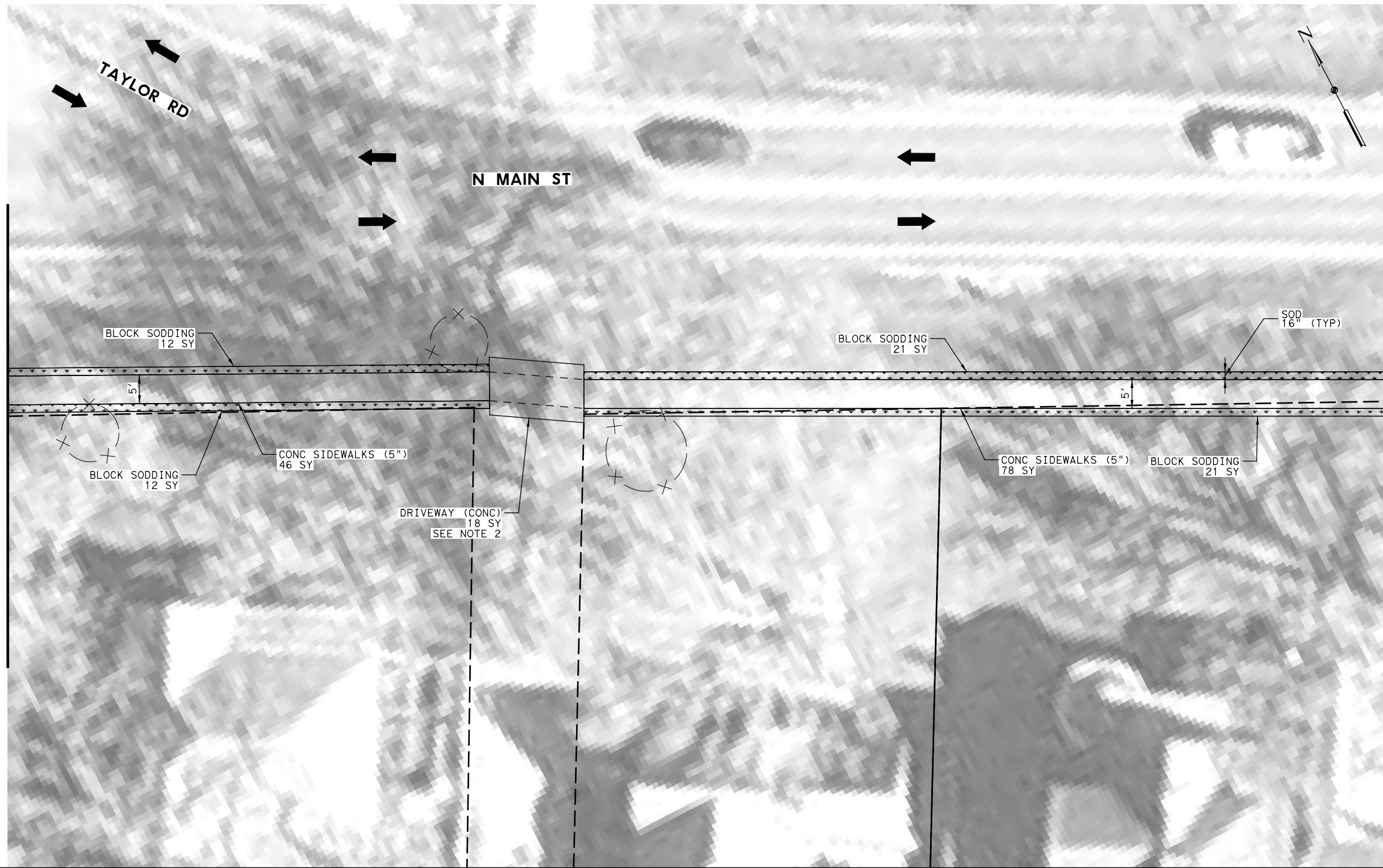


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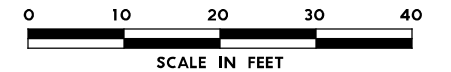
MATCH LINE  
SEE SHEET 52

MATCH LINE  
SEE SHEET 54



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**N MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 5 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				SHEET NO.
AB	STATE	DISTRICT	COUNTY	
CHECK	TEXAS	AUS	BASTROP	
CHECK	CONTROL	SECTION	JOB	<b>53</b>
	0114	17	010	

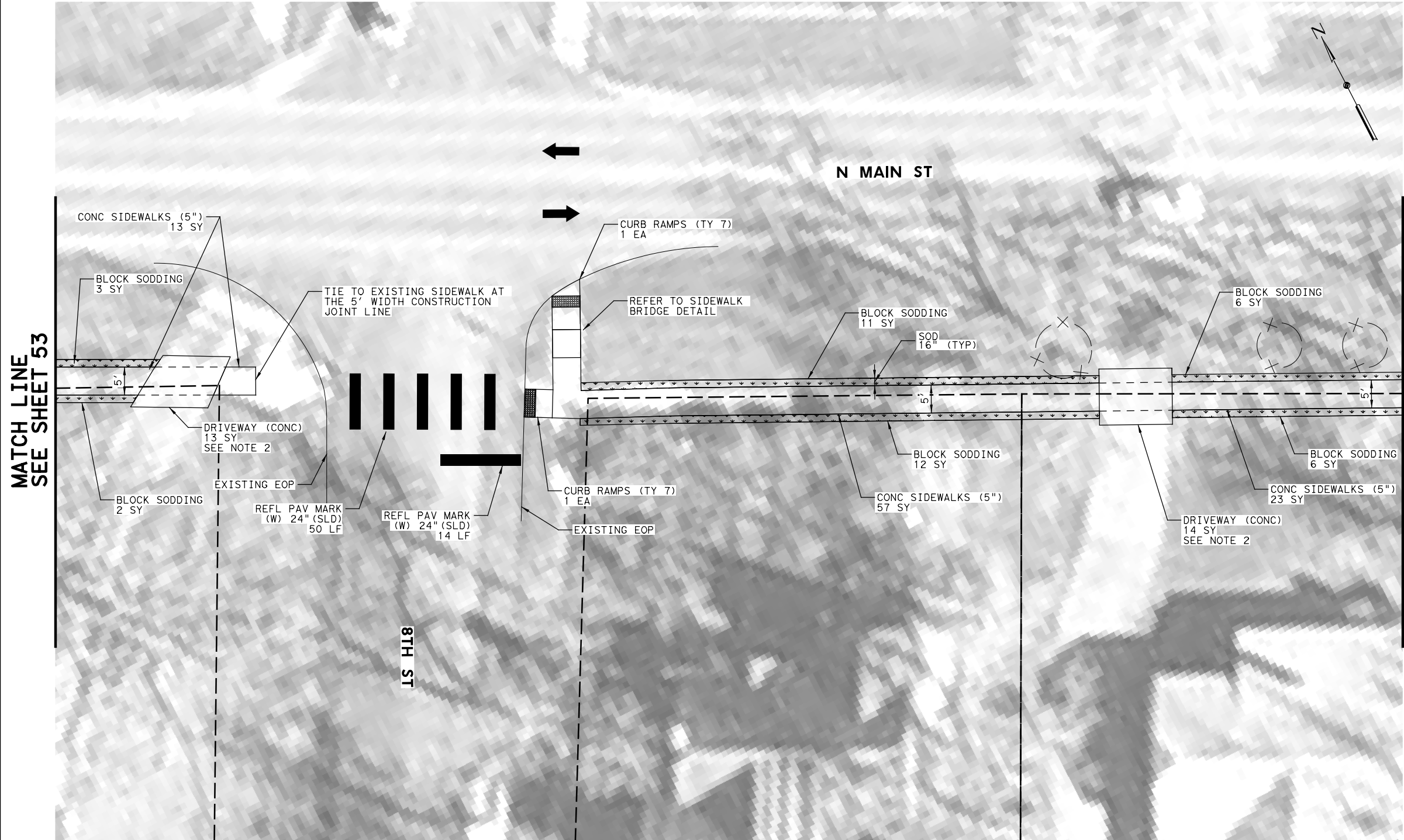
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- CONTRACTOR TO PLACE TREE PROTECTION WITHOUT ENCRoACHING ON THE APPARENT ROW OR AS DIRECTED BY ENGINEER.
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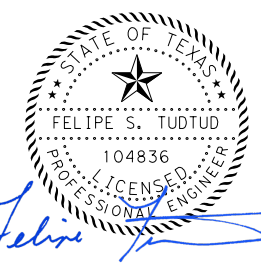
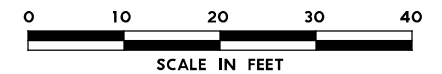
**LEGEND**

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- PROPOSED EDGE OF SIDEWALK
- HANDRAIL
- ➔ TRAVEL LANE
- x-x-x- TREE PROTECTION
- ▭ 4" TOPSOIL AND BLOCK SODDING
- ~> DRAINAGE FLOW ARROW



MATCH LINE SEE SHEET 53

MATCH LINE SEE SHEET 55



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**N MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 6 OF 9

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	AB	SEE TITLE SHEET			SL 109
CHECK		STATE	DISTRICT	COUNTY	SHEET NO.
CHECK		TEXAS	AUS	BASTROP	<b>54</b>
		CONTROL	SECTION	JOB	
		0114	17	010	

**NOTES:**

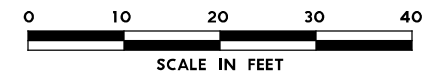
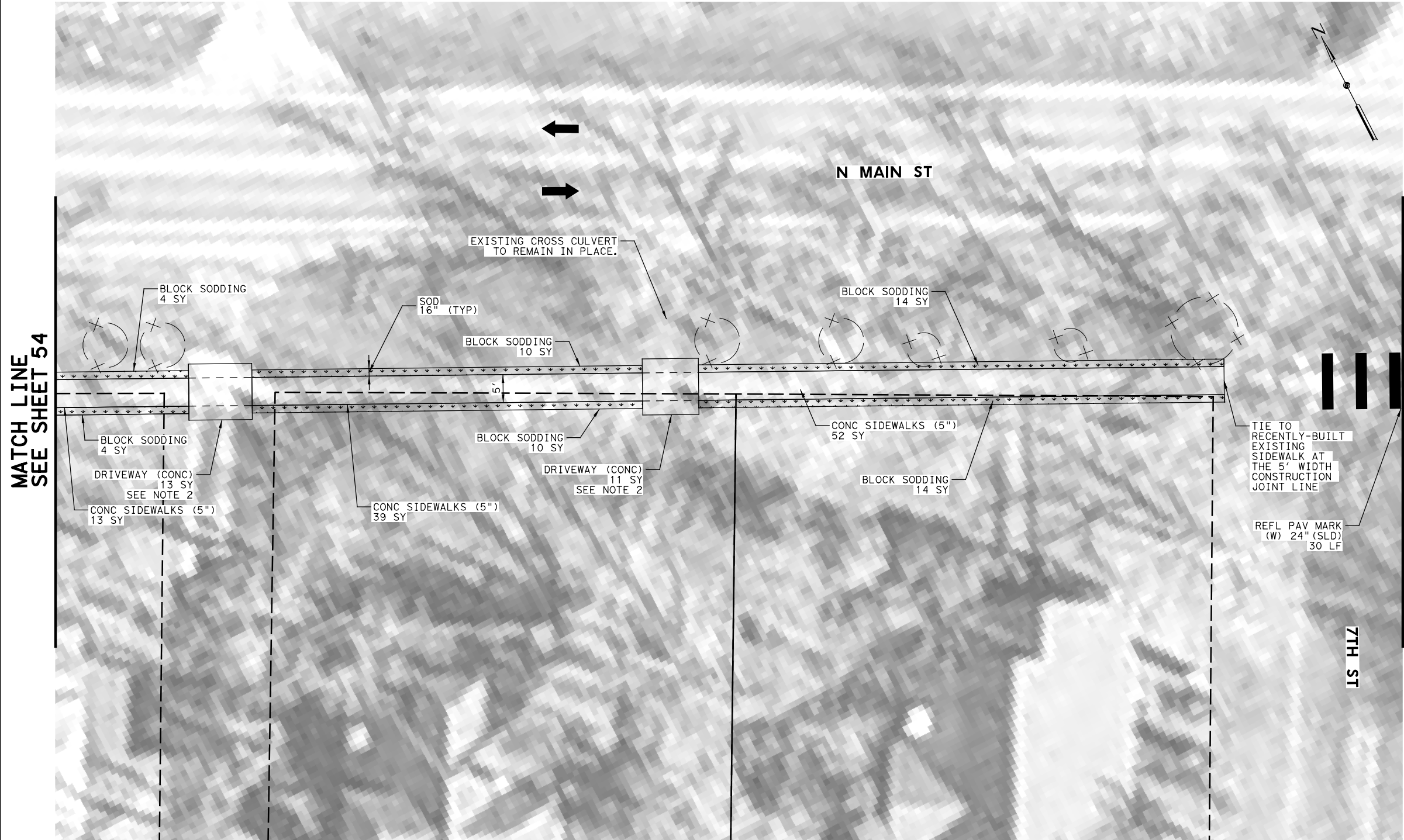
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**LEGEND**

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- PROPOSED EDGE OF SIDEWALK
- HANDRAIL
- ➔ TRAVEL LANE
- x-x-x- TREE PROTECTION
- ▭ 4" TOPSOIL AND BLOCK SODDING
- ~> DRAINAGE FLOW ARROW



**FELIPE S. TUDTUD**  
104836  
LICENSED PROFESSIONAL ENGINEER

*Felipe S. Tudtud*

05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR Engineering, Inc.**  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754

**CURB RAMP PROGRAM**

**N MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 7 OF 9

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.			HIGHWAY NO.
			STATE	DISTRICT	COUNTY	
GRAPHICS	AB		SEE TITLE SHEET			SL 109
CHECK		TEXAS	AUS	BASTROP		<b>55</b>
CHECK		CONTROL	SECTION	JOB		
		0114	17	010		

**NOTES:**

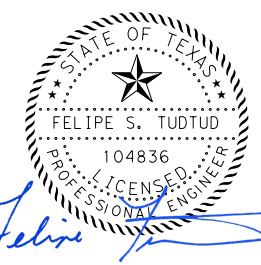
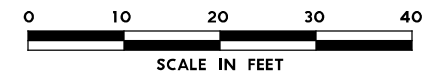
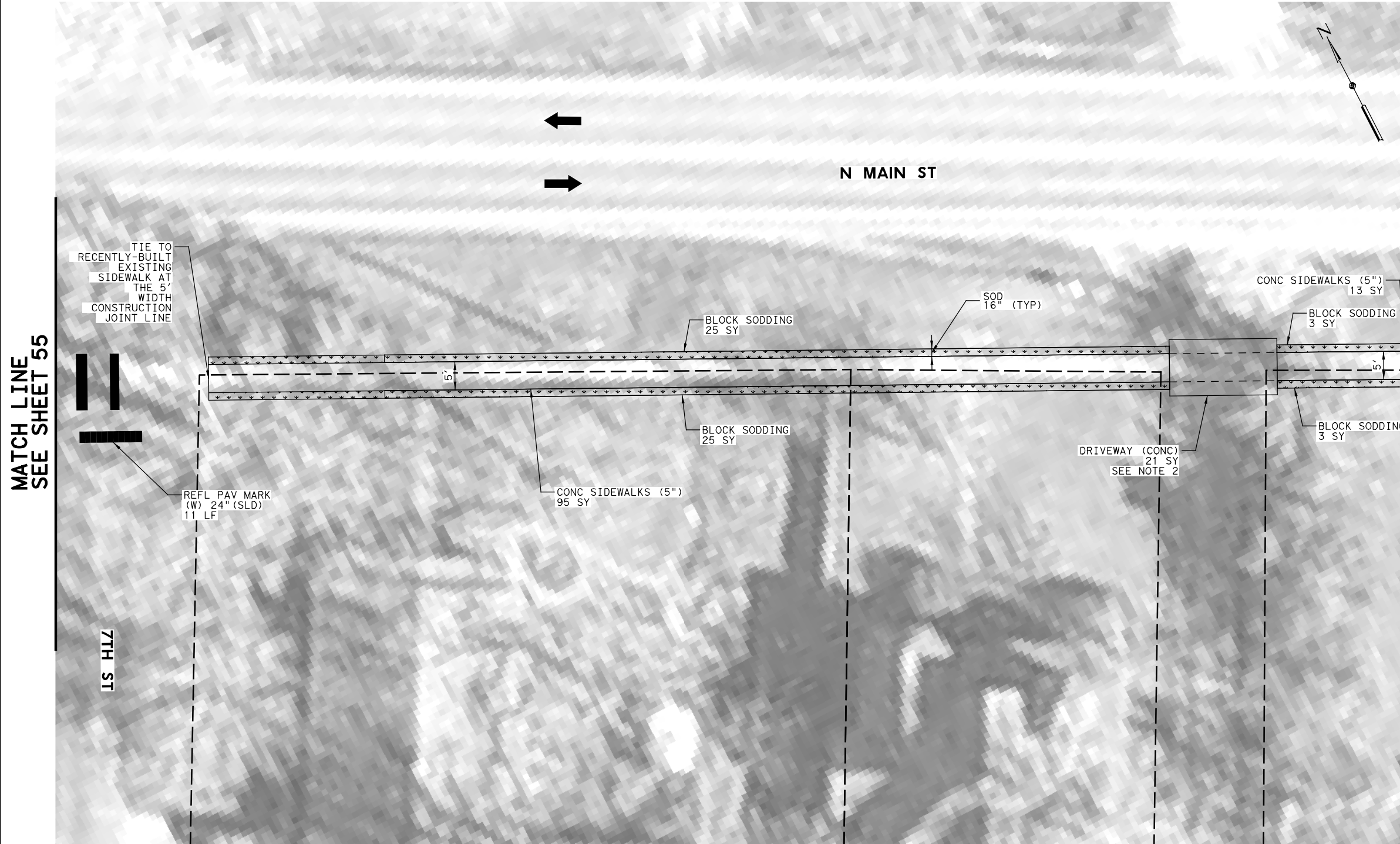
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**LEGEND**

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- PROPOSED EDGE OF SIDEWALK
- HANDRAIL
- ➔ TRAVEL LANE
- x-x-x- TREE PROTECTION
- ▭ 4" TOPSOIL AND BLOCK SODDING
- ~> DRAINAGE FLOW ARROW



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**N MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 8 OF 9

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
AB	TEXAS	AUS	BASTROP	56
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

**NOTES:**

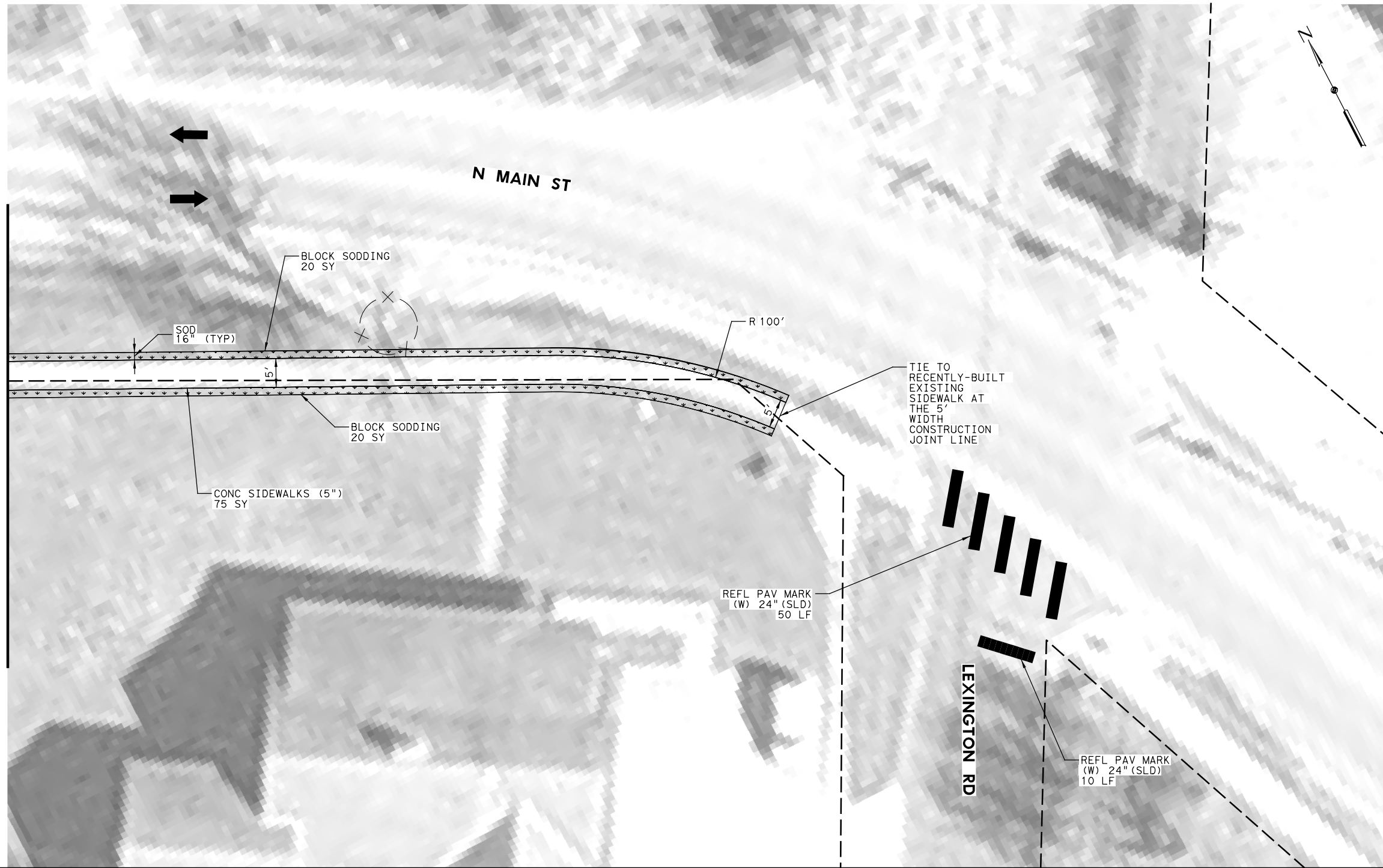
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 FILE: ELG-N-SDWK09.dgn

MATCH LINE  
 SEE SHEET 56



LEGEND

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- PROPOSED EDGE OF SIDEWALK
- HANDRAIL
- ➔ TRAVEL LANE
- x-x-x- TREE PROTECTION
- ▭ 4" TOPSOIL AND BLOCK SODDING
- ~> DRAINAGE FLOW ARROW

NOTES:

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7. "REFL PAV MRK" CALLOUT ABOVE INCLUDES QUANTITIES FOR REFL PAV MRK TY I, REFL PAV MRK TY II AND PAV SURF PREP FOR MARKINGS.
8. "BLOCK SODDING" CALLOUT ABOVE INCLUDES QUANTITIES FOR FURNISHING AND PLACING TOPSOIL (4"), BLOCK SODDING, AND VEGETATIVE WATERING.
9. CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SODDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
10. PROTECT ALL CURB INLETS THAT RECEIVE SURFACE WATER FLOW FROM WORK AREAS FROM STORM WATER QUALITY MANAGEMENT. REFER TO SW3P, EPIC, AND TXDOT STANDARD EC(9)-16 FOR IMPLEMENTATION AND MAINTENANCE OF SW3P CONTROLS AND COMPLIANCE.
11. SIDEWALK CROSS SLOPE TO MATCH EXISTING DRAINAGE PATTERN IN ITS ADJACENT AREA. CROSS SLOPE CANNOT BE GREATER THAN 2%.
12. LOCATION OF TIE-IN FOR THE SIDEWALK CAN BE FIELD ADJUSTED AS DIRECTED BY ENGINEER.
13. NOT ALL TREES ARE SHOWN IN THE PLANS. CONTRACTOR TO PROVIDE TREE PROTECTION IF SIDEWALK IS WITHIN CRITICAL ROOT ZONE OR AS DIRECTED BY ENGINEER.
14. NOT ALL SIGNS ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL SIGNS WILL REMAIN IN PLACE.
15. NOT ALL POWER POLES ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL POWER POLES WILL REMAIN IN PLACE.

05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754



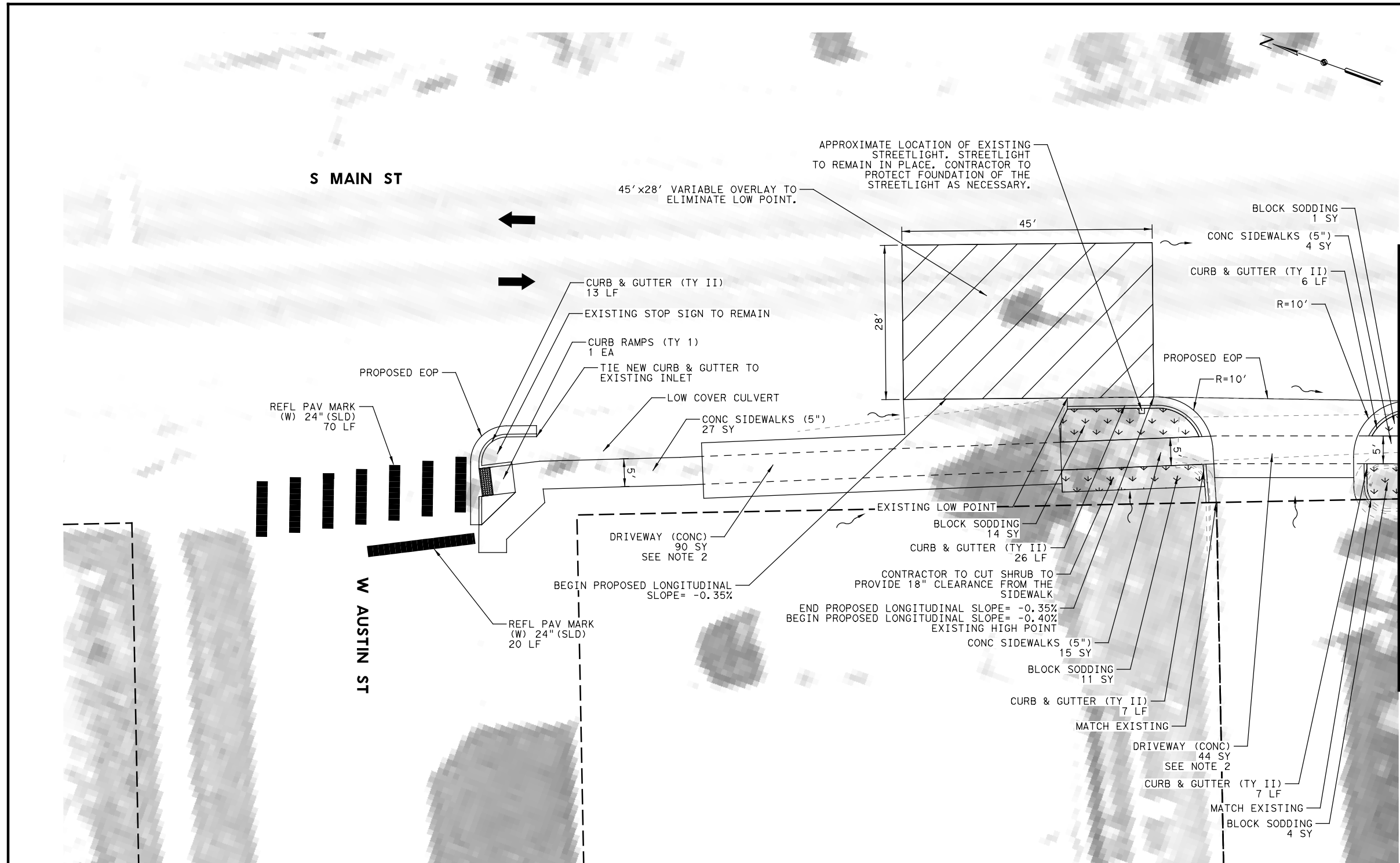
**CURB RAMP PROGRAM**  
**N MAIN ST**  
**SIDEWALK PLAN**

SCALE: 1"=20' SHEET 9 OF 9

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	AB	SEE TITLE SHEET		SL 109
CHECK		STATE	DISTRICT	COUNTY
CHECK		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
CHECK		0114	17	010

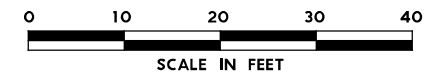
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**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW



MATCH LINE  
SEE SHEET 59

STATE OF TEXAS  
 FELIPE S. TUTUD  
 104836  
 LICENSED PROFESSIONAL ENGINEER  
 05/27/2022

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754

Texas Department of Transportation  
 © 2022

**CURB RAMP PROGRAM**

**S MAIN ST  
 SIDEWALK PLAN**

SCALE: 1"=20' SHEET 1 OF 8

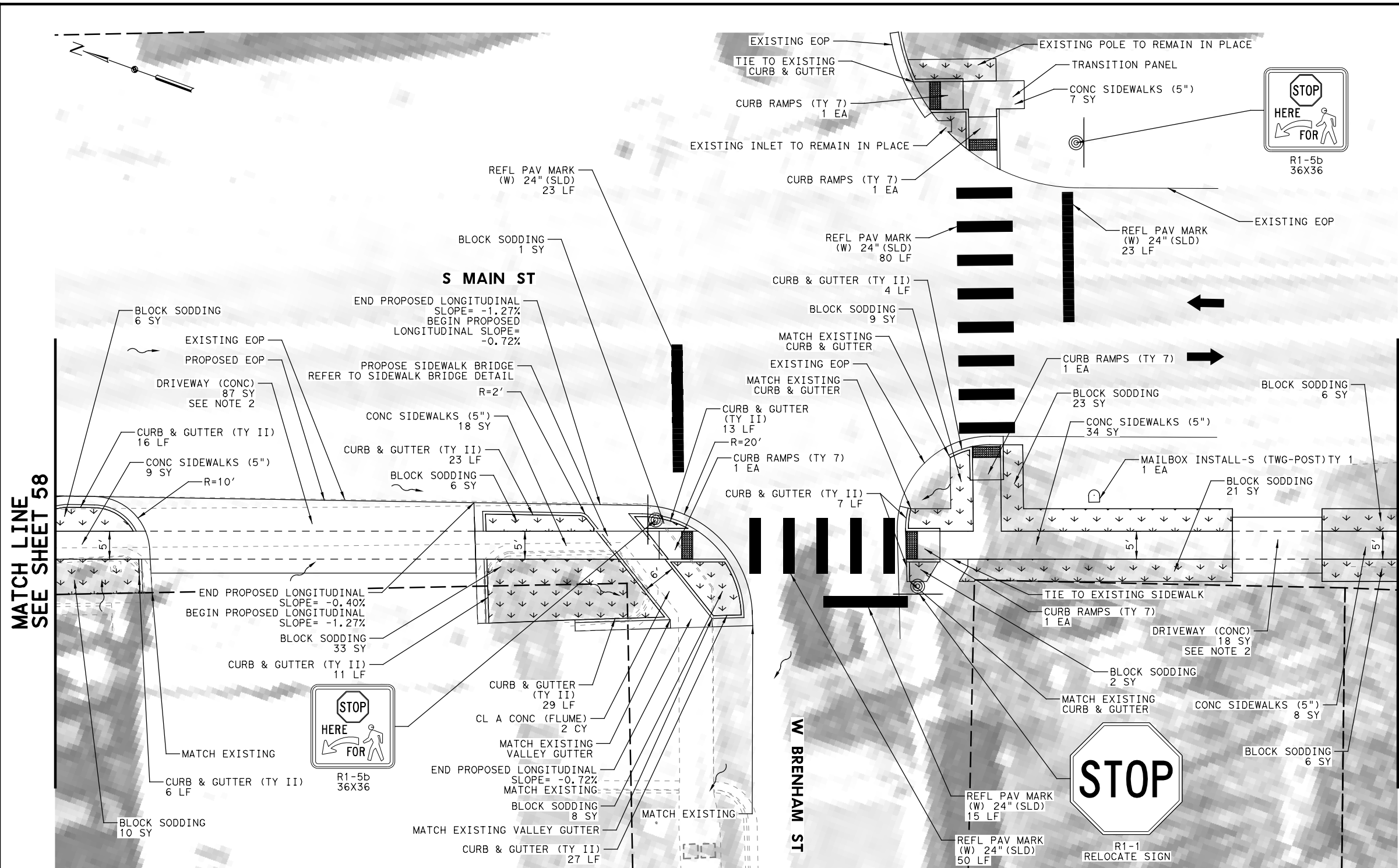
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GRAPHICS	LG	SEE TITLE SHEET			SL 109
CHECK	TXAS	DISTRICT	AUS	COUNTY	SHEET NO.
CHECK	CONTROL	SECTION	17	JOB	010
					<b>58</b>

**NOTES:**

- THE LOCATION OF ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD-VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- DRIVEWAY AREAS TO BE FIELD-ADJUSTED TO MEET SIDEWALK GRADING CROSS SLOPE ON DRIVEWAY. IF EXISTING DRIVEWAY HAS A DRAINAGE DIP, CONTRACTOR TO BUILD PROPOSED DRIVEWAY WITH DRAINAGE DIP. SEE SIDEWALK DETAILS SHEET 66 FOR DETAILS.
- TURNING SPACE, RAMP, AND DETECTABLE WARNING SURFACE SHOWN IN THE PLAN VIEW ARE FOR VISUALIZATION PURPOSES ONLY. ADJUSTMENT WILL BE NEEDED BASED ON FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER. REFER TO THE PEDESTRIAN FACILITIES CURB RAMPS STANDARD AND SIDEWALK DETAILS FOR MORE INFORMATION.
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- NOT ALL POWER POLES ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL POWER POLES WILL REMAIN IN PLACE.
- MILL AND OVERLAY LIMITS WILL NOT INCLUDE DOUBLE YELLOW CENTER STRIPE. CONTRACTOR TO USE TCP (1-2b) AS SHOWN ON TXDOT STANDARD TCP(1-2)-18, ONE LANE TWO-WAY CONTROL WITH FLAGGERS FOR THE MILL AND OVERLAY CONSTRUCTION.

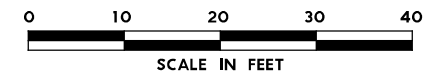


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**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW



MATCH LINE SEE SHEET 58

MATCH LINE SEE SHEET 60

STATE OF TEXAS  
 FELIPE S. TUTUD  
 104836  
 LICENSED PROFESSIONAL ENGINEER  
*Felipe Tutud*  
 05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Heesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754

**Texas Department of Transportation**  
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**CURB RAMP PROGRAM**

**S MAIN ST  
 SIDEWALK PLAN**

SCALE: 1"=20' SHEET 2 OF 8

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	LG	SEE TITLE SHEET		SL 109
CHECK		STATE	DISTRICT	COUNTY
		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
		0114	17	010

59

**NOTES:**

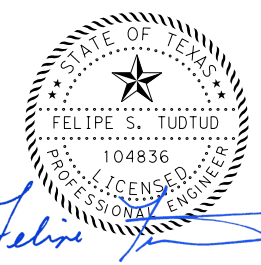
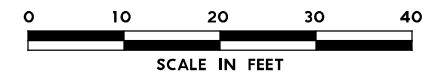
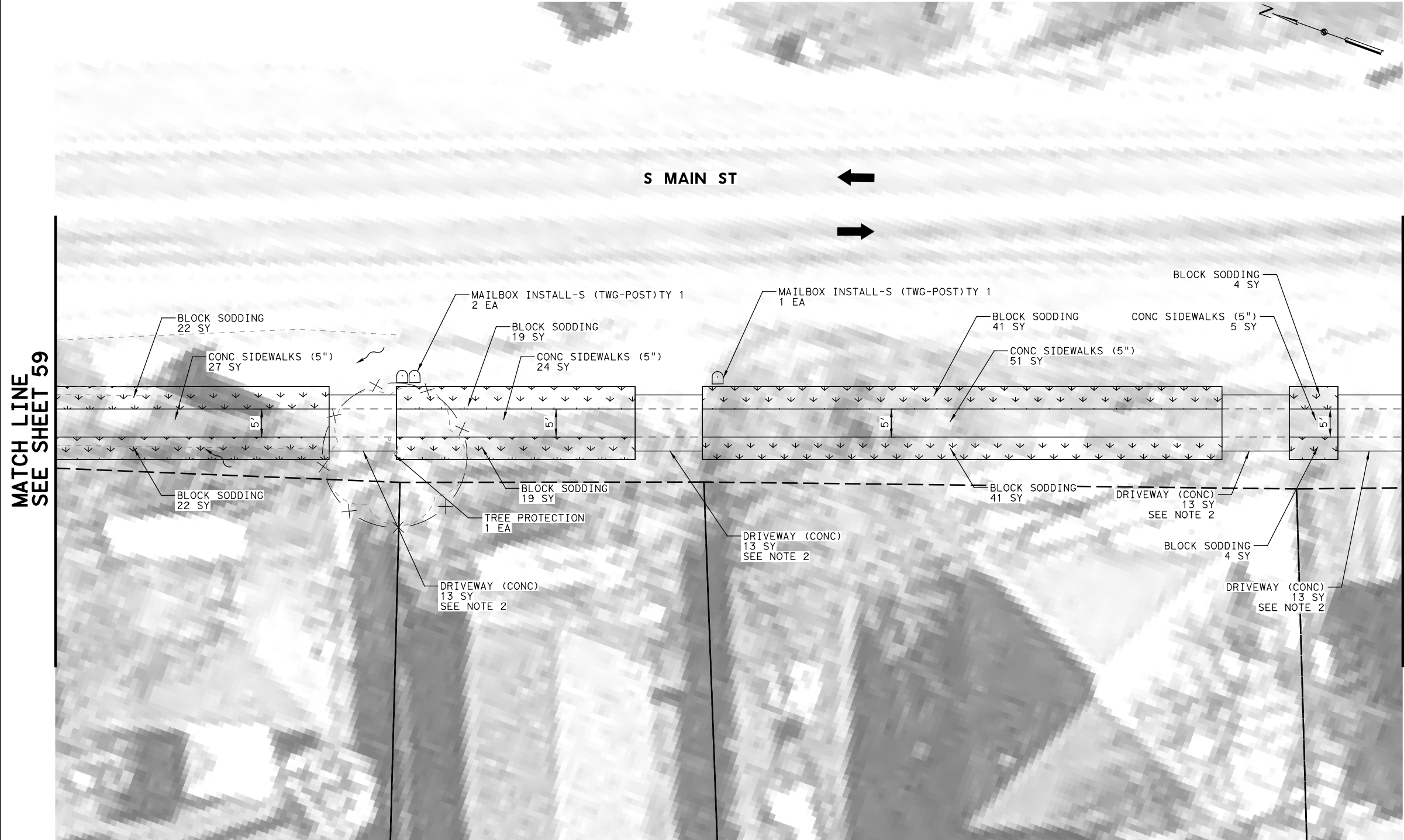
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**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW

MATCH LINE SEE SHEET 59

MATCH LINE SEE SHEET 61



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 3 OF 8

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	LG	STATE	DISTRICT	COUNTY	SHEET NO.
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CHECK		CONTROL	SECTION	JOB	
		0114	17	010	

**NOTES:**

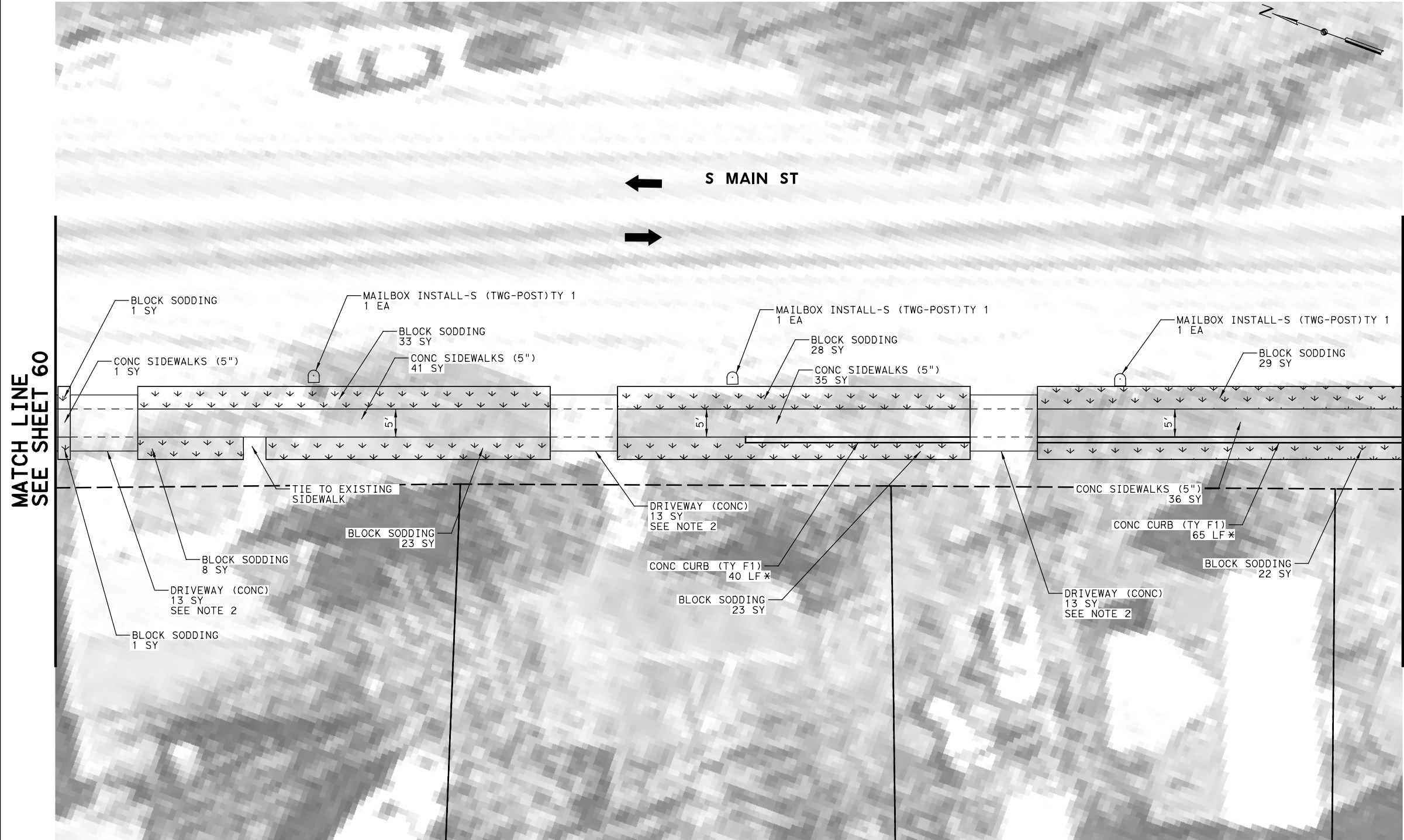
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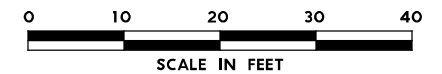


**LEGEND**

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- PROPOSED EDGE OF SIDEWALK
- HANDRAIL
- ➔ TRAVEL LANE
- x-x-x- TREE PROTECTION
- ▭ 4" TOPSOIL AND BLOCK SODDING
- ~> DRAINAGE FLOW ARROW



\* CONC CURB (TY F1) WILL NOT BE REQUIRED IF A 3:1 OR FLATTER SLOPE CAN BE OBTAINED WITHIN EXISTING ROW.



SCALE IN FEET



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 4 OF 8

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK		TEXAS	AUS	BASTROP	<b>61</b>
CHECK		CONTROL	SECTION	JOB	
		0114	17	010	

**NOTES:**

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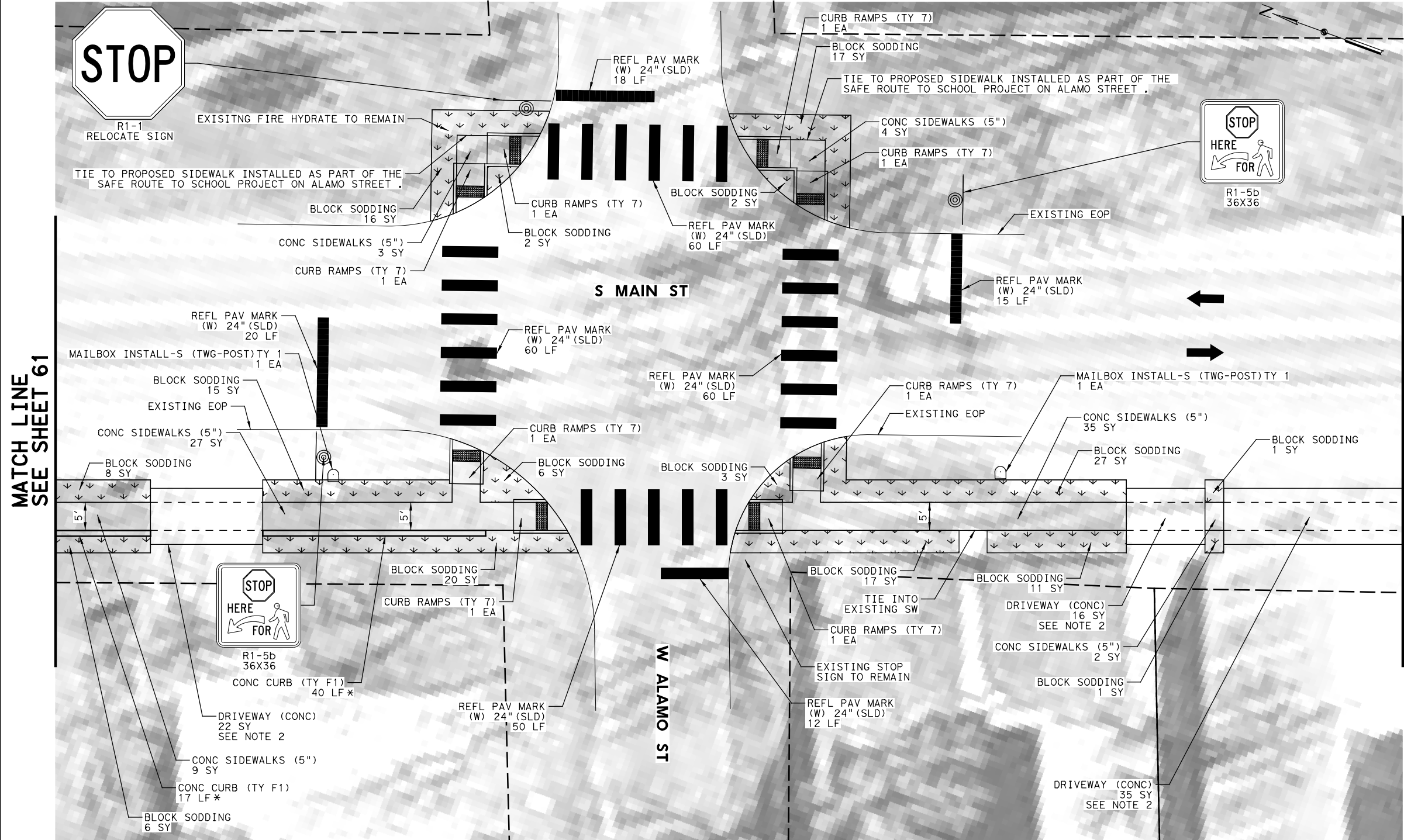
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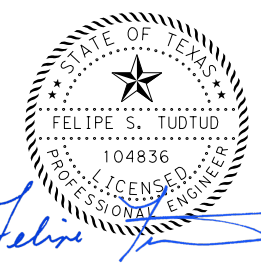
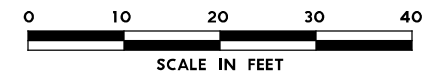
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**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW



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05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 5 OF 8

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	LG	SEE TITLE SHEET		SL 109
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CHECK		TEXAS	AUS	BASTROP
CHECK		CONTROL	SECTION	JOB
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**62**

**NOTES:**

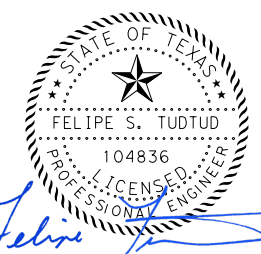
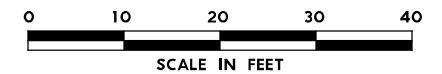
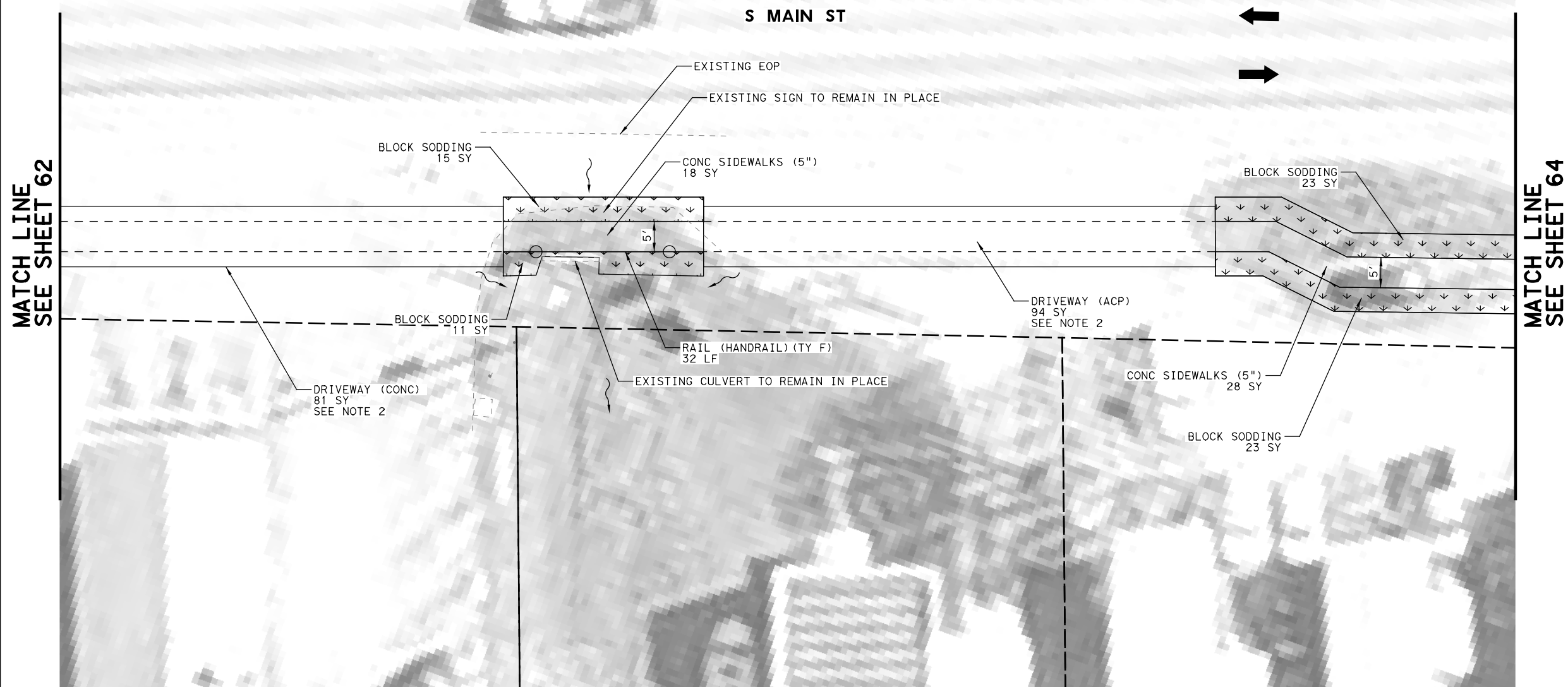
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- PROTECT ALL CURB INLETS THAT RECEIVE SURFACE WATER FLOW FROM WORK AREAS FROM STORM WATER QUALITY MANAGEMENT. REFER TO SW3P, EPIC, AND TXDOT STANDARD EC(9)-16 FOR IMPLEMENTATION AND MAINTENANCE OF SW3P CONTROLS AND COMPLIANCE.
- SIDEWALK CROSS SLOPE TO MATCH EXISTING DRAINAGE PATTERN IN ITS ADJACENT AREA. CROSS SLOPE CANNOT BE GREATER THAN 2%.
- LOCATION OF TIE-IN FOR THE SIDEWALK CAN BE FIELD ADJUSTED AS DIRECTED BY ENGINEER.
- NOT ALL TREES ARE SHOWN IN THE PLANS. CONTRACTOR TO PROVIDE TREE PROTECTION IF SIDEWALK IS WITHIN CRITICAL ROOT ZONE OR AS DIRECTED BY ENGINEER.
- NOT ALL SIGNS ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL SIGNS WILL REMAIN IN PLACE.
- NOT ALL POWER POLES ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL POWER POLES WILL REMAIN IN PLACE.

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DATE: 5/24/2022 TIME: 15:43:36 PM SCALE: 1:20  
PLOT DRIVER: TXDOT\_PDF\_BW.plt  
USER: LGOINEZGONZ  
FILE: ELG-S-SDWK05.dgn



**LEGEND**

---	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
---	PROPOSED EDGE OF SIDEWALK
○	HANDRAIL
➔	TRAVEL LANE
-x-x-x-	TREE PROTECTION
▭	4" TOPSOIL AND BLOCK SODDING
~>	DRAINAGE FLOW ARROW



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 6 OF 8

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK		TEXAS	AUS	BASTROP	<b>63</b>
CHECK		CONTROL	SECTION	JOB	
		0114	17	010	

**NOTES:**

- THE LOCATION OF ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD- VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- DRIVEWAY AREAS TO BE FIELD-ADJUSTED TO MEET SIDEWALK GRADING CROSS SLOPE ON DRIVEWAY. IF EXISTING DRIVEWAY HAS A DRAINAGE DIP, CONTRACTOR TO BUILD PROPOSED DRIVEWAY WITH DRAINAGE DIP. SEE SIDEWALK DETAILS SHEET 66 FOR DETAILS.
- TURNING SPACE, RAMP, AND DETECTABLE WARNING SURFACE SHOWN IN THE PLAN VIEW ARE FOR VISUALIZATION PURPOSES ONLY. ADJUSTMENT WILL BE NEEDED BASED ON FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER. REFER TO THE PEDESTRIAN FACILITIES CURB RAMPS STANDARD AND SIDEWALK DETAILS FOR MORE INFORMATION.
- SEE SIDEWALK DETAILS SHEET 66 FOR CURB RAMP TRANSITION INTO ROADWAY.
- CONTRACTOR TO PLACE TREE PROTECTION WITHOUT ENCRoACHING ON THE APPARENT ROW OR AS DIRECTED BY ENGINEER.
- ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
- "REFL PAV MRK" CALLOUT ABOVE INCLUDES QUANTITIES FOR REFL PAV MRK TY I, REFL PAV MRK TY II AND PAV SURF PREP FOR MARKINGS.
- "BLOCK SODDING" CALLOUT ABOVE INCLUDES QUANTITIES FOR FURNISHING AND PLACING TOPSOIL (4"), BLOCK SODDING, AND VEGETATIVE WATERING.
- CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SODDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
- PROTECT ALL CURB INLETS THAT RECEIVE SURFACE WATER FLOW FROM WORK AREAS FROM STORM WATER QUALITY MANAGEMENT. REFER TO SW3P, EPIC, AND TXDOT STANDARD EC(9)-16 FOR IMPLEMENTATION AND MAINTENANCE OF SW3P CONTROLS AND COMPLIANCE.
- SIDEWALK CROSS SLOPE TO MATCH EXISTING DRAINAGE PATTERN IN ITS ADJACENT AREA. CROSS SLOPE CANNOT BE GREATER THAN 2%.
- LOCATION OF TIE-IN FOR THE SIDEWALK CAN BE FIELD ADJUSTED AS DIRECTED BY ENGINEER.
- NOT ALL TREES ARE SHOWN IN THE PLANS. CONTRACTOR TO PROVIDE TREE PROTECTION IF SIDEWALK IS WITHIN CRITICAL ROOT ZONE OR AS DIRECTED BY ENGINEER.
- NOT ALL SIGNS ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL SIGNS WILL REMAIN IN PLACE.
- NOT ALL POWER POLES ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL POWER POLES WILL REMAIN IN PLACE.

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 FILE: ELG-S-SDWK06.dgn

MATCH LINE  
SEE SHEET 62

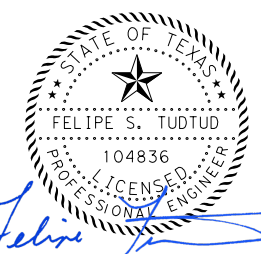
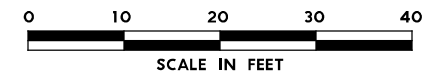
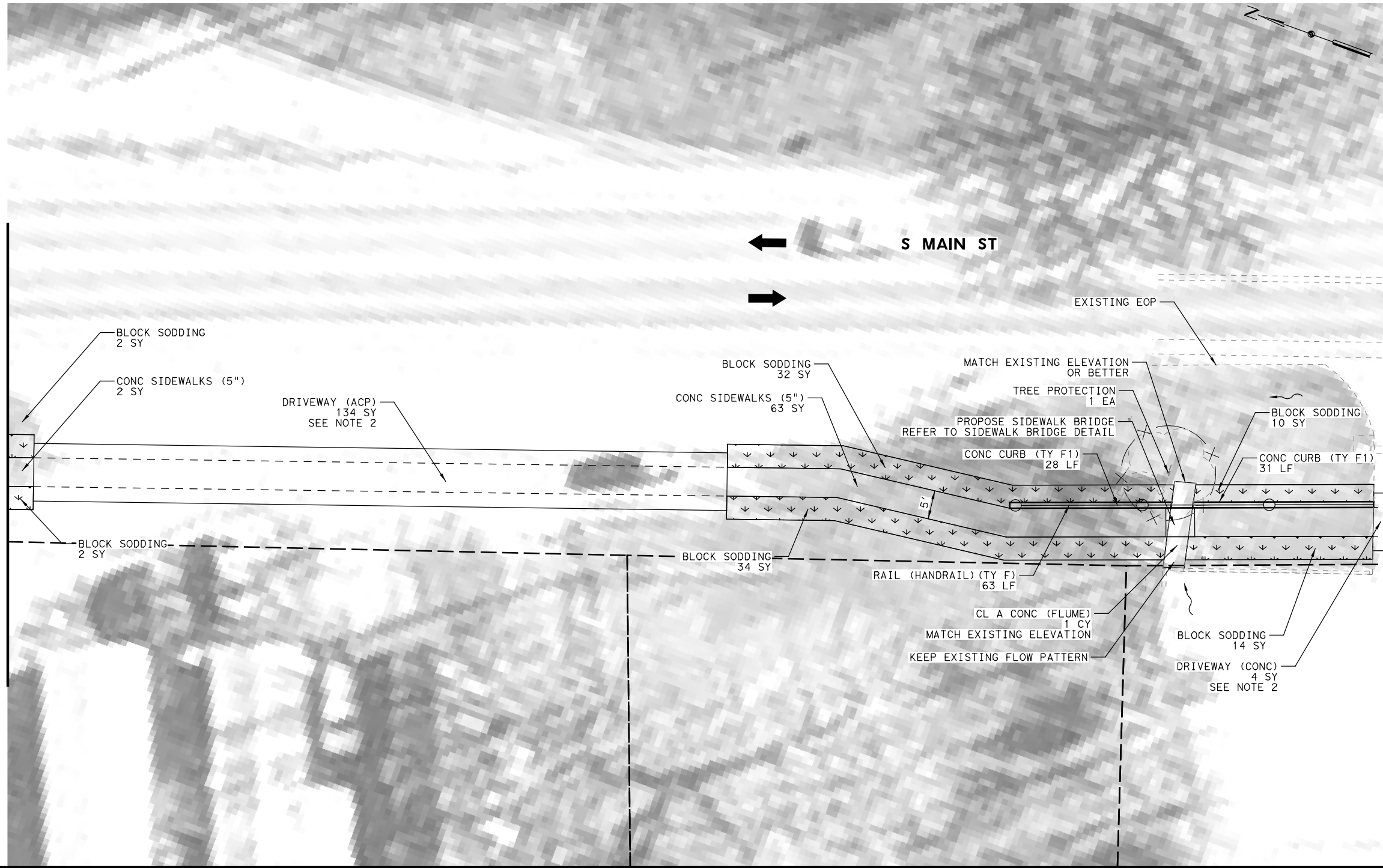
MATCH LINE  
SEE SHEET 64

**LEGEND**

- PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
- PROPOSED EDGE OF SIDEWALK
- HANDRAIL
- ➔ TRAVEL LANE
- x-x-x- TREE PROTECTION
- ▭ 4" TOPSOIL AND BLOCK SODDING
- ~> DRAINAGE FLOW ARROW

MATCH LINE SEE SHEET 63

MATCH LINE SEE SHEET 65



05/24/2022

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754



**CURB RAMP PROGRAM**

**S MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20' SHEET 7 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	<b>64</b>
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

**NOTES:**

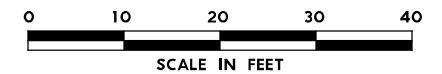
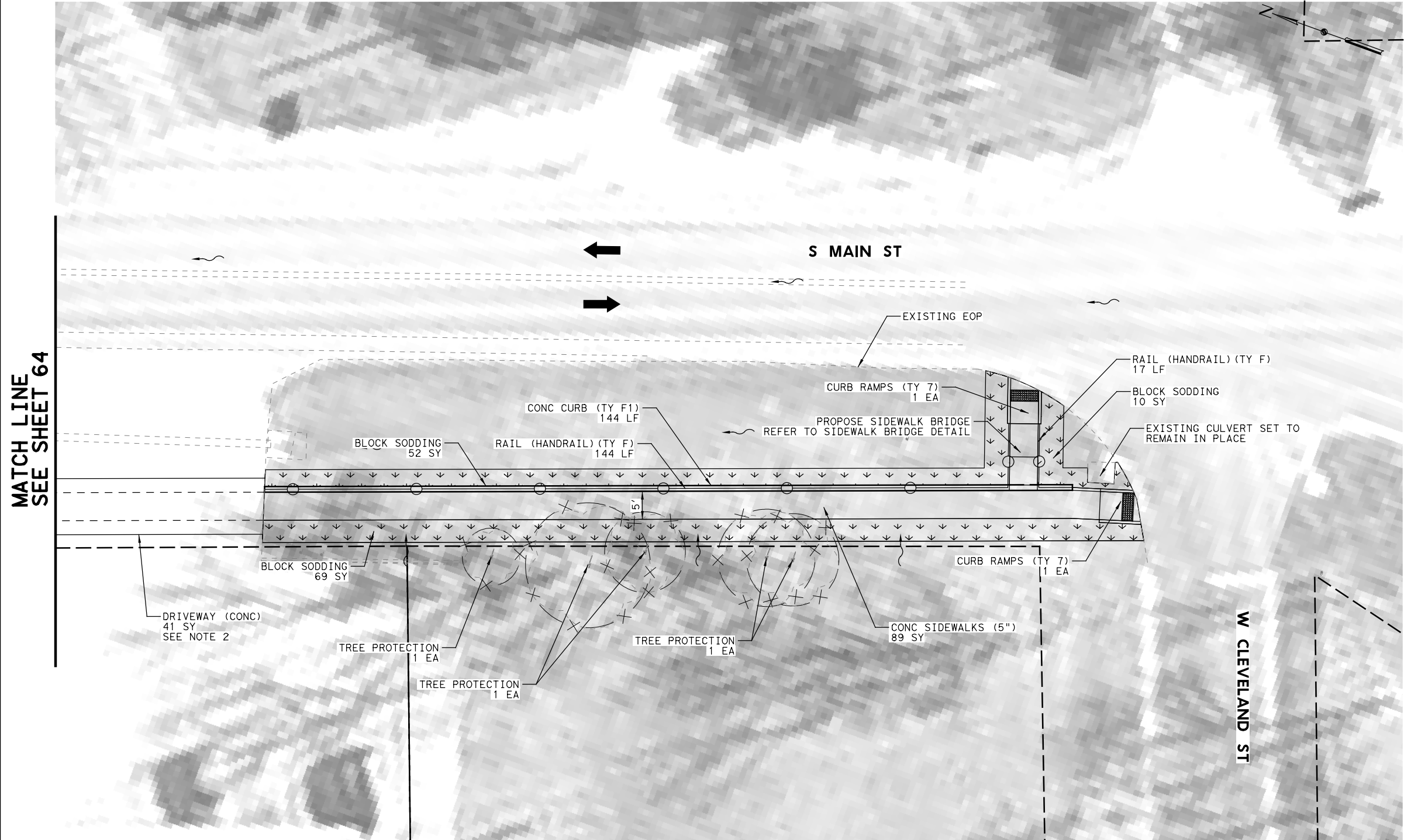
1. THE LOCATION OF ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD-VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. DRIVEWAY AREAS TO BE FIELD-ADJUSTED TO MEET SIDEWALK GRADING CROSS SLOPE ON DRIVEWAY. IF EXISTING DRIVEWAY HAS A DRAINAGE DIP, CONTRACTOR TO BUILD PROPOSED DRIVEWAY WITH DRAINAGE DIP. SEE SIDEWALK DETAILS SHEET 66 FOR DETAILS.
3. TURNING SPACE, RAMP, AND DETECTABLE WARNING SURFACE SHOWN IN THE PLAN VIEW ARE FOR VISUALIZATION PURPOSES ONLY. ADJUSTMENT WILL BE NEEDED BASED ON FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER. REFER TO THE PEDESTRIAN FACILITIES CURB RAMPS STANDARD AND SIDEWALK DETAILS FOR MORE INFORMATION.
4. SEE SIDEWALK DETAILS SHEET 66 FOR CURB RAMP TRANSITION INTO ROADWAY.
5. CONTRACTOR TO PLACE TREE PROTECTION WITHOUT ENCRoACHING ON THE APPARENT ROW OR AS DIRECTED BY ENGINEER.
6. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
7. "REFL PAV MRK" CALLOUT ABOVE INCLUDES QUANTITIES FOR REFL PAV MRK TY I, REFL PAV MRK TY II AND PAV SURF PREP FOR MARKINGS.
8. "BLOCK SODDING" CALLOUT ABOVE INCLUDES QUANTITIES FOR FURNISHING AND PLACING TOPSOIL (4"), BLOCK SODDING, AND VEGETATIVE WATERING.
9. CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SODDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
10. PROTECT ALL CURB INLETS THAT RECEIVE SURFACE WATER FLOW FROM WORK AREAS FROM STORM WATER QUALITY MANAGEMENT. REFER TO SW3P, EPIC, AND TxDOT STANDARD EC(9)-16 FOR IMPLEMENTATION AND MAINTENANCE OF SW3P CONTROLS AND COMPLIANCE.
11. SIDEWALK CROSS SLOPE TO MATCH EXISTING DRAINAGE PATTERN IN ITS ADJACENT AREA. CROSS SLOPE CANNOT BE GREATER THAN 2%.
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15. NOT ALL POWER POLES ARE SHOWN IN THE PLANS. UNLESS SPECIFICALLY IDENTIFIED, ALL POWER POLES WILL REMAIN IN PLACE.

PENTABLE: 10331291-Elgin.tbl  
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 USER: LGOINEZGONZ  
 FILE: ELG-S-SW07.dgn



**LEGEND**

	PROPERTY LINE (BASTROP CENTRAL APPRAISAL DISTRICT)
	PROPOSED EDGE OF SIDEWALK
	HANDRAIL
	TRAVEL LANE
	TREE PROTECTION
	4" TOPSOIL AND BLOCK SODDING
	DRAINAGE FLOW ARROW



MATCH LINE SEE SHEET 64

PENTABLE: 10331291-Elgin.tbl  
 DATE: 5/24/2022 TIME: 15:50:00 PM SCALE: 1:20  
 PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOINEZGONZ  
 FILE: ELG-S-SDWK08.dgn

05/24/2022

*Felipe S. Tutud*

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754

**CURB RAMP PROGRAM**

**S MAIN ST  
SIDEWALK PLAN**

SCALE: 1"=20'		SHEET 8 OF 8	
DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.
GRAPHICS	LG	SEE TITLE SHEET	
CHECK		STATE	DISTRICT
CHECK		TEXAS	AUS
CHECK		CONTROL	SECTION
CHECK		0114	17
		COUNTY	JOB
		BASTROP	010
		HIGHWAY NO.	65
			SL 109
			SHEET NO.

**NOTES:**

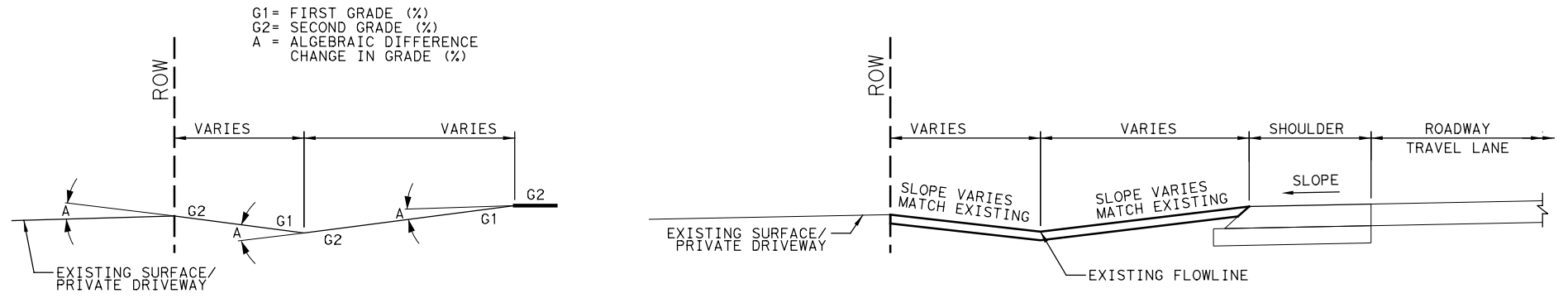
1. THE LOCATION OF ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD-VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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# SEQUENCE OF WORK NARRATIVE

1. ESTABLISH AND MAINTAIN TRAFFIC CONTROL AND SW3P FEATURES PER THE VARIOUS STANDARDS INCLUDED IN THIS PLAN SET OR AS DIRECTED BY THE ENGINEER.
2. REMOVE EXISTING CONCRETE, ASPHALT, FOUNDATIONS, OR OTHER FEATURES WHERE INDICATED IN THE PLANS WITHIN THE AREA OF PROPOSED WORK.
3. EXCAVATE OR BACKFILL AS NECESSARY TO ACHIEVE ADA COMPLAINT GRADES. PLACE BEDDING MATERIALS.
4. FORM PROPOSED CONCRETE FEATURES.
5. POUR CONCRETE OR ASPHALT, REMOVE AND INSTALL PAVEMENT MARKINGS, AND RELOCATED MAILBOXES AS INDICATED.
6. REMOVE FORMWORK AND BACKFILL DISTURBED AREAS FOR A SMOOTH FINISHED GRADE. GRADE TO DRAIN AS NECESSARY.
7. PLACE AND IRRIGATE BLOCK SODDING WHERE INDICATED AND AS DIRECTED BY THE ENGINEER.
8. REMOVE ANY DEBRIS, TRAFFIC CONTROL, AND SW3P FEATURES AT THE COMPLETION OF CONSTRUCTION.

## TYPICAL ENTRANCE PROFILE FOR DRIVEWAY WITHOUT C&G AND DRAINAGE DIP

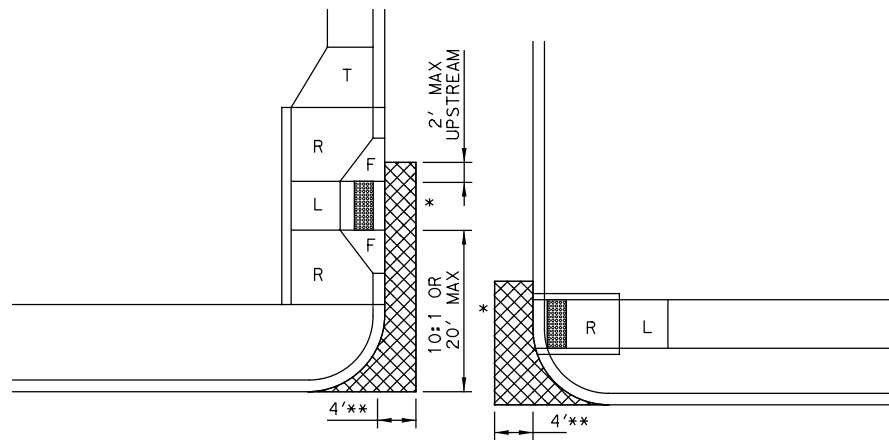
NTS



PROPOSED DRIVEWAY ALGEBRAIC DIFFERENCE TABLE  
RESIDENTIAL DRIVEWAY AT A=MATCH EXISTING

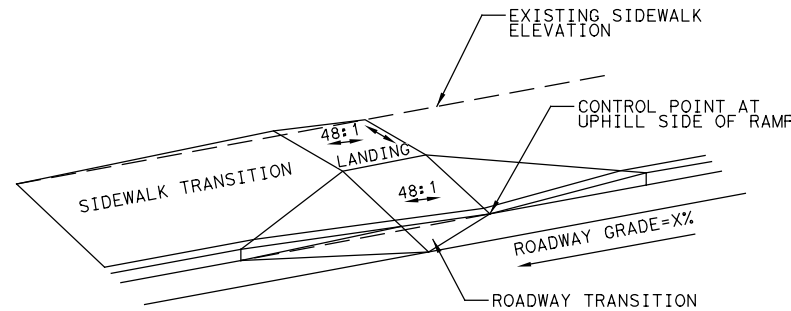
## ASPHALT/SEALCOAT ROADWAY

NTS



## CURB ELEVATION

NTS



### LEGEND

- R = RAMP (CROSS SLOPE NOT TO EXCEED 48:1; LONGITUDINAL NOT TO EXCEED 12:1)
- F = FLARE (10:1 OR LESS)
- L = LANDING (SHALL NOT EXCEED 48:1 SLOPE IN ANY DIRECTION)
- T = TRANSITION (PAID FOR UNDER CONC SIDEWALKS)
- (NSPI) = ITEM IS INCIDENTAL TO CURB RAMP/SIDEWALK CONSTRUCTION. (NO SEPARATE PAY ITEM)

\* SAW CUT (NSPI)

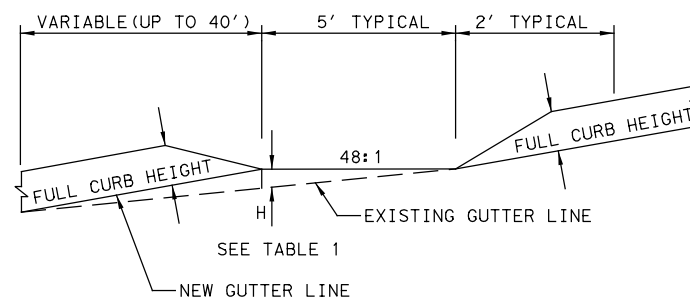
IN AREAS OF ROADWAY CROSS SLOPES EXCEEDING 48:1 LONGITUDINAL SLOPE, EXCAVATED 2' OF PAVEMENT IN FRONT OF RAMP AND TRANSITION THE RAMP LANDING INTO THE EXISTING PAVEMENT. THE PAVEMENT SHOULD THEN BE TRANSITION HORIZONTALLY INTO THE EXISTING PAVEMENT AT 10:1. PAVEMENT SHOULD MATCH EXISTING PAVEMENT DEPTH BUT NOT LESS THAN 2" MINIMUM. GUTTER LINES SHOULD NOT BE ADJUSTED DOWNWARD, ASPHALT TO CONFORM TO ITEM 340 AS DIRECTED BY THE ENGINEER.

DO NOT TAPER TO ZERO MINIMUM 1 1/2" DEPTH AT TIE-IN

\*\* CONTRACTOR MAY EXCEED CROSS SLOPE TRANSITION DISTANCE AS APPROVED BY THE ENGINEER.

## CURB ELEVATION

NTS



DIFFERENTIAL BETWEEN RAMP AND ROADWAY LONGITUDINAL SLOPE	H	
1%	0.04'	0.50"
2%	0.08'	1.00"
3%	0.12'	1.50"
4%	0.16'	2.00"
5%	0.20'	2.40"
6%	0.24'	2.90"

### NOTES:

1. FLARE (F), RAMP (R), AND LANDING (L), DIRECTLY IN CONTACT WITH THE CURB RAMP ARE PAID FOR UNDER ITEM 531 "CURB RAMPS"
2. LEVEL SIDEWALK (LS) AND RAMPS (R) NO DIRECTLY IN CONTACT WITH THE CURB RAMP ARE PAID FOR UNDER ITEM 531 "SIDEWALK"
3. FIELD CONDITIONS MAY REQUIRE ADJUSTMENT OF VARIOUS ELEMENTS IDENTIFIED IN THE PLANS. WHEN ADJUSTED, ELEMENTS SHOULD FOLLOW THE SLOPES AND GRADES IDENTIFIED IN THE LEGEND.

STATE OF TEXAS  
FELIPE S. TUTTUD  
104836  
LICENSED PROFESSIONAL ENGINEER  
05/24/2022

NO.	DATE	REVISION	APPROVED

**HR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754

Texas Department of Transportation  
© 2022

## CURB RAMP PROGRAM

### SIDEWALK DETAILS

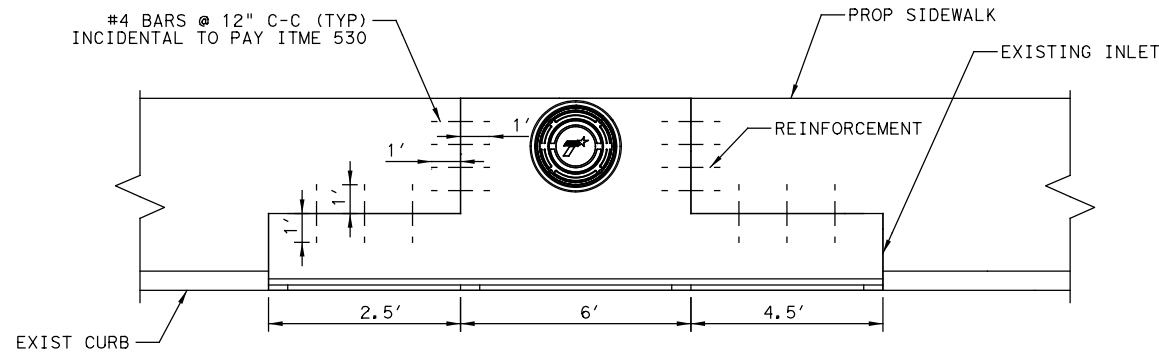
NTS SHEET 1 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT				
GRAPHICS	SEE TITLE SHEET			SL 109
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	66
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

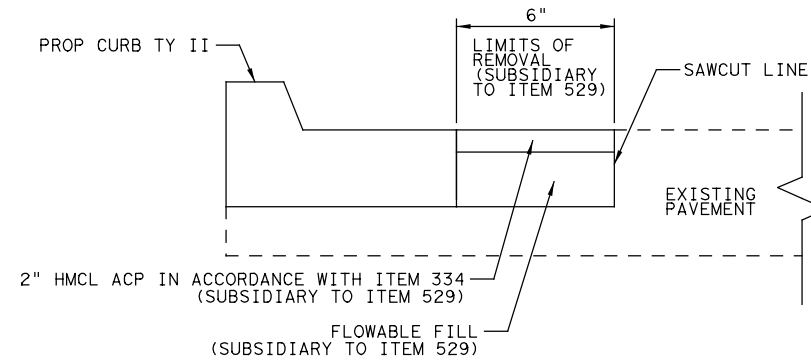
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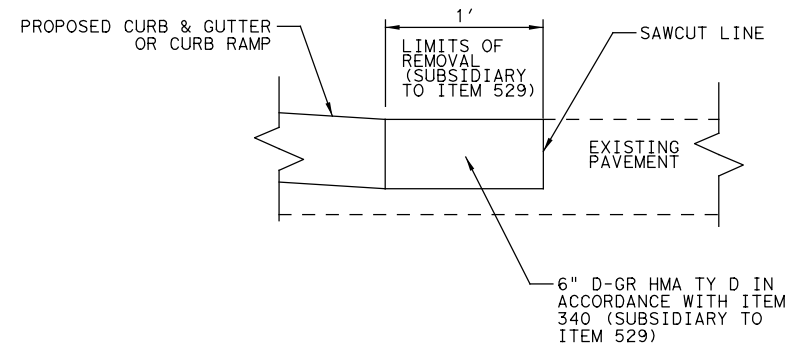




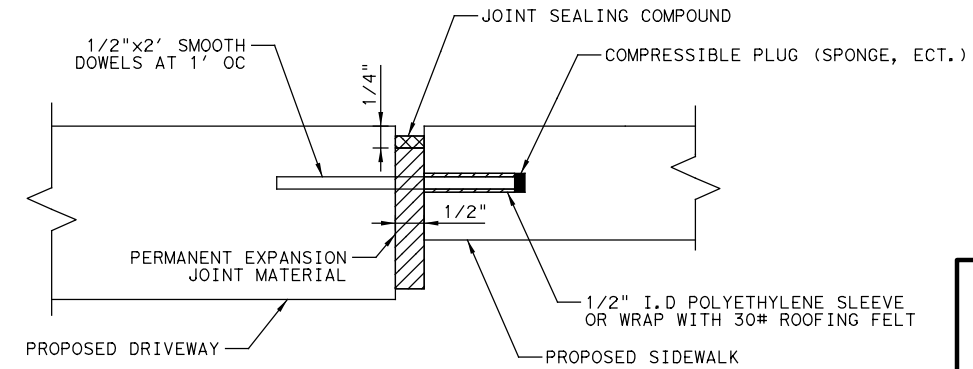
INLET DOWELING DETAIL  
NTS



PROPOSED CURB & GUTTER  
ADJACENT PAVEMENT REMOVAL DETAIL  
NTS



PAVEMENT CUT & RESTORE DETAIL  
NTS



EXPANSION JOINT DETAIL  
NTS



*Felipe S. Tudud*  
06/01/2022

NO.	DATE	REVISION	APPROVED

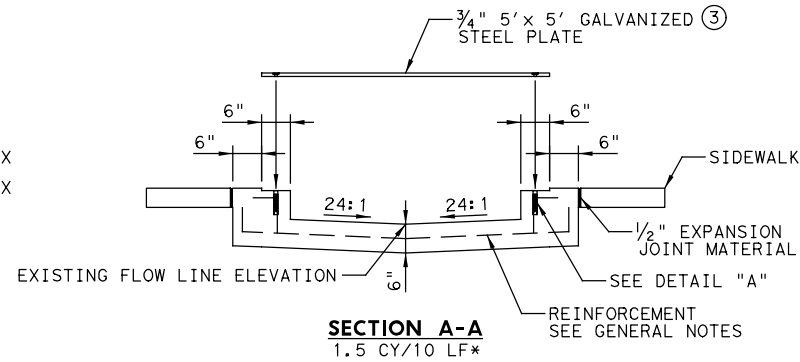
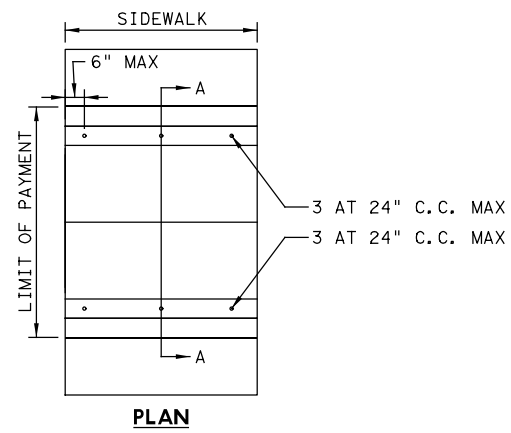
**HDR** HDR Engineering, Inc.  
710 Hesters Crossing, Suite 150  
Round Rock, Texas 78681  
Texas Registered Engineering Firm F-754

**Texas Department of Transportation**  
© 2022

**CURB RAMP PROGRAM**  
**SIDEWALK DETAILS**

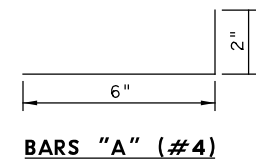
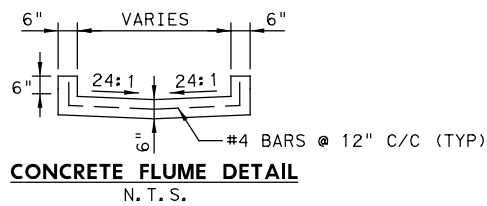
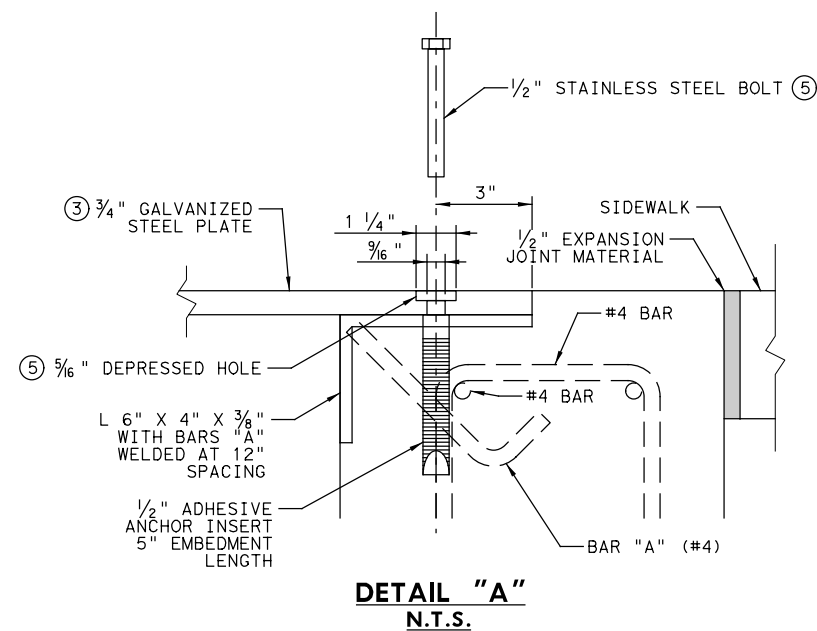
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FT				SEE TITLE SHEET		SL 109
GRAPHICS		STATE	DISTRICT	COUNTY		SHEET NO.
LG		TEXAS	AUS	BASTROP		<b>67</b>
CHECK		CONTROL	SECTION	JOB		
CHECK		0114	17	010		

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 USER: LGOINEZGONZ  
 FILE: ELG-SWK-DT102.dgn



\* FOR CONTRACTORS INFORMATION ONLY

**SIDEWALK BRIDGE (RIPRAP SPECIAL)**



**GENERAL NOTES:**

DRAINAGE PLAN TO ADDRESS MINOR CURB ALTERATIONS ONLY. PROPOSED WORK DOES NOT SUBSTANTIALLY ALTER DRAINAGE PATTERNS OR IMPERVIOUS COVER. EXISTING CONDITIONS TO REMAIN. ALL REMOVED STRUCTURES TO BE REPLACED IN KIND.  
 SEE "ROADWAY PLAN" FOR CURB LOCATIONS, QUANTITIES, AND OTHER INFORMATION NOT SHOWN.  
 REINFORCEMENT FOR FLUMES SHALL CONFORM TO ITEM 432 CONCRETE RIPRAP.  
 ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2".  
 CURB FLUMES SHALL BE PAID FOR IN CUBIC YARDS OF CONCRETE UNDER ITEM 420 CL A CONC (FLUME).  
 CURB AND GUTTER TO BE PAID IN ACCORDANCE WITH ITEM 529, "CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER".

**SIDEWALK BRIDGE GENERAL NOTES:**

SIDEWALK BRIDGE COMPLETE AND IN PLACE SHALL BE PAID FOR BY THE CUBIC YARD UNDER ITEM 432 6041 RIPRAP (SPECIAL). ALL REINFORCEMENT, METAL PLATE, AND ANCHOR SYSTEM IS SUBSIDIARY TO ITEM 432.  
 ALL CONCRETE SHALL BE CLASS "A".  
 REINFORCEMENT SHALL CONSIST OF #4 BARS SPACED AT A MAXIMUM OF 12" IN EACH DIRECTION. PROVIDE A MINIMUM 6" LAP AT ALL SPLICES. FIELD BEND #4 BARS AS REQUIRED TO FIT. PLACE FIRST TRANSVERSE BAR 3" FROM END. PLACE FIRST PARALLEL BAR AS SHOWN IN DETAIL "A". ALL REINFORCING STEEL SHALL BE GRADE 60.  
 ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2".  
 ADHESIVE ANCHOR SYSTEM SHALL BE HIS-RN INTERNALLY THREADED INSERTS (316 STAINLESS STEEL), AS FURNISHED BY HILTI, INC. OR EQUIVALENT.  
 ALL METAL COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING DAMAGED DURING TRANSPORT OR CONSTRUCTION SHALL BE REPAIRED IN ACCORDANCE WITH THE SPECIFICATIONS.  
 TOP OF STEEL PLATE SHALL HAVE SLIP RESISTANT COATING. SLIP RESISTANT COATING AND PLATE PATTERN SHALL BE APPROVED BY THE ENGINEER.  
 SIDEWALK BRIDGE SHALL BE ADA COMPLIANT.

**NOTES:**

- ① QUANTIFIED AS TY II CURB & GUTTER.
- ② QUANTIFIED AS CONC (FLUME).
- ③ 5'x5' IS THE MINIMUM PLATE SIZE. LONGER PLATES MAY BE USED.
- ④ DEPTH VARIES. REFER TO PLAN FOR ELEVATIONS.
- ⑤ ENSURE TOP OF BOLT IS FLUSH WITH TOP OF PLATE. DIMENSIONS SHOWN ASSUME 5/16" BOLT HEAD HEIGHT.

APPROVED SLIP RESISTANT PLATE	
PRODUCT NAME	MANUFACTURER WEBSITE
MEBAC® #3, STEEL	www.harscoikg.com
ALGRIP™, STEEL	www.algrip.com
SLIPNOT® GRADE 2, STEEL	www.slipnot.com

NO.	DATE	REVISION	APPROVED

**HDR** HDR Engineering, Inc.  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754

**Texas Department of Transportation**  
 © 2022

**CURB RAMP PROGRAM**  
**SIDEWALK DETAILS**

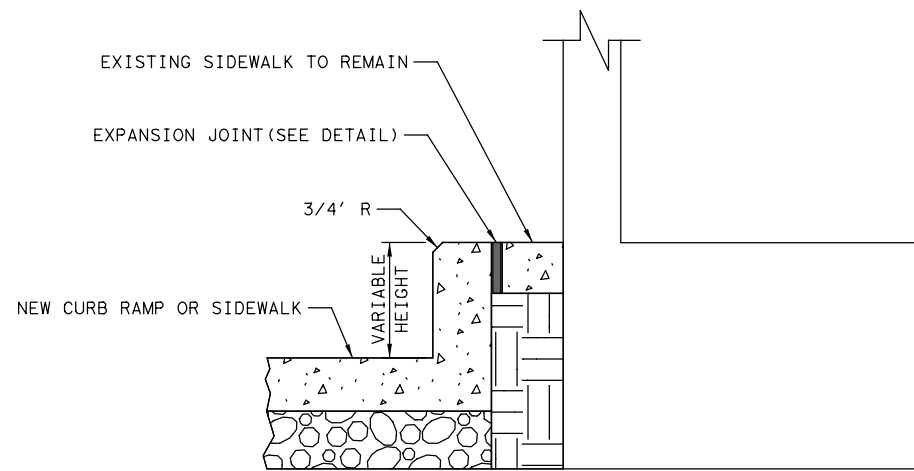
NTS SHEET 3 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	BASTROP	68
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-SDWK-DTLO3.dgn  
 PENTABLE: 10331291-Elgin.tbl  
 DATE: 5/24/2022 TIME: 15:507 PM  
 SCALE: 1:20

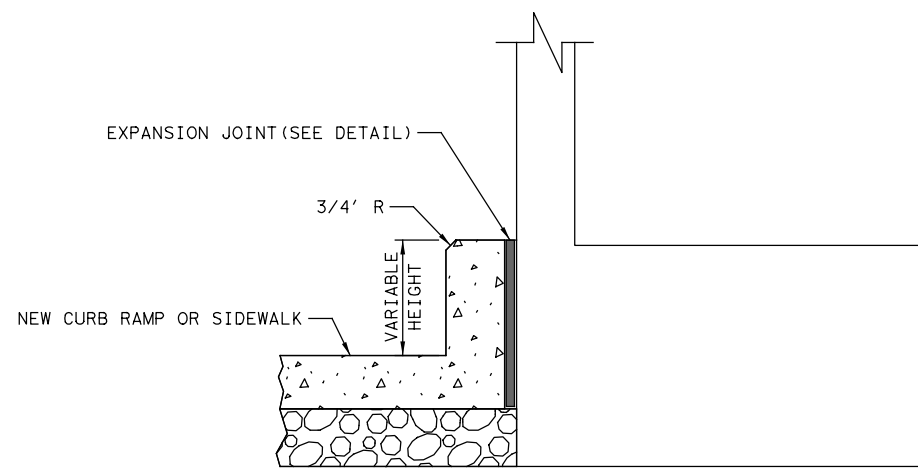
GENERAL PROTECTION NOTES FOR BUILDINGS AND HISTORIC STRUCTURES:

1. SAWCUT EXISTING SIDEWALK 8 TO 12 INCHES AWAY FROM PROTECTED BUILDING/STRUCTURE TO MINIMIZED POTENTIAL DAMAGED, PRIOR TO DEMOLITION OF WALKWAY.
2. CONTRACTOR IS RESPONSIBLE FOR PREVENTING DAMAGE TO ALL BUILDINGS AND STRUCTURES DURING THE ENTIRE CONSTRUCTION PROJECT. IF DIRECTED BY ENGINEER TO HAND REMOVE EXISTING PAVING ADJACENT TO HISTORIC STRUCTURES, PROTECT FOUNDATION, MATERIALS, ELEVATION AND ENTRYWAYS. DO NOT REMOVE EXISTING MATERIALS IF FACADE (BRICK/STONE, ECT.) UTILIZES THE MATERIALS TO BE REMOVED AS A FOOTING, FOUNDATION OR SUPPORT. IF THIS CONDITION IS OBSERVED, IMMEDIATELY CONTACT ENGINEER AND DO NOT EXCAVATED FURTHER. SEPARATE PAYMENT WILL NOT BE MADE FOR HAND REMOVAL.
3. REPAIR OR REPLACE IN KIND, AT CONTRACTORS EXPENSE, ANY DAMAGE TO HISTORIC OR NON-HISTORIC MATERIAL THAT RESULTS FROM AN ACT OF OMISSION ON THE PART OF OR ON BEHALF OF THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR LOCATING A REPLACEMENT SOURCE FOR HISTORIC AND NON- HISTORIC MATERIALS DAMAGED IN THE PROCESS OF CONSTRUCTION. INFORM TXDOT ENVIRONMENTAL AFFAIRS DIVISION (ENV) OF PROPOSED REPAIRS AND/OR DAMAGED AREAS IN ORDER TO FACILITATE CONSULTATION WITH TEXAS HISTORICAL COMMISSION. MATERIAL AND SOURCE SHALL BE APPROVED BY TXDOT ENV PRIOR TO REPLACEMENT.
4. PROTECT BUILDINGS AND STRUCTURE FROM CONCRETE SPLASH UTILIZING A MATERIAL APPROVED BY THE ENGINEER. ANY CONCRETE SPLASH AS A RESULT OF CONSTRUCTION ACTIVITIES MUST BE REMOVED FROM THE BUILDING OR STRUCTURE AT CONTRACTORS EXPENSE. NO PAYMENT WILL BE MADE FOR BUILDING PROTECTION.
5. REFER TO HISTORIC BUILDING PROTECTION NOTES, EPIC (ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS) SHEET FOR FURTHER DIRECTION INFORMATION.



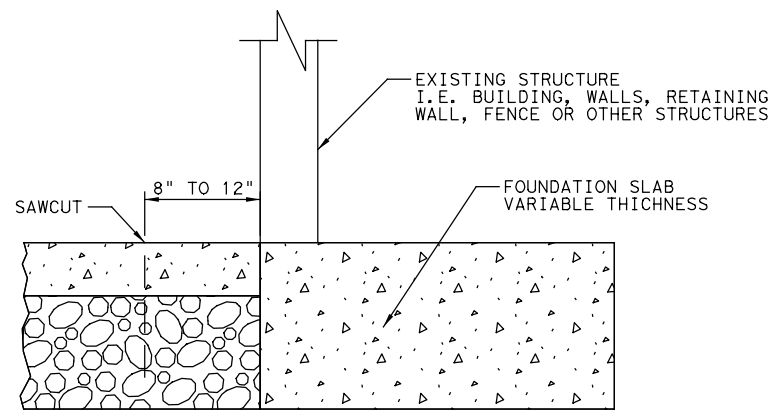
ADJACENT SIDEWALK TO REMAIN DETAIL

NTS



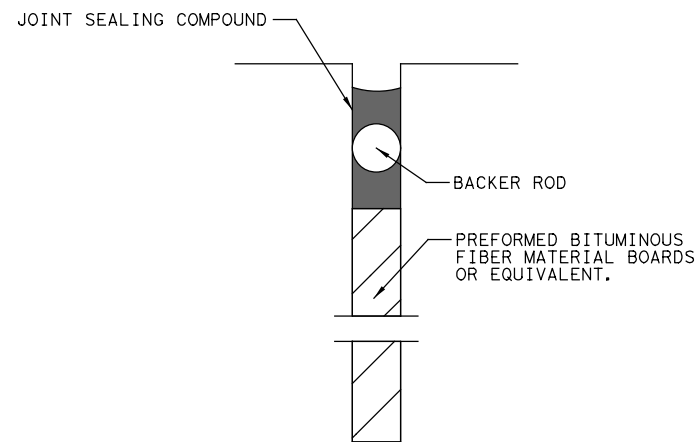
ADJACENT SIDEWALK REMOVED DETAIL

NTS



PAVING OPTION AT BUILDING FACE

NTS




EXPANSION JOINT DETAIL

NTS

  
 05/24/2022

NO.	DATE	REVISION	APPROVED


**HDR Engineering, Inc.**  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754


**Texas Department of Transportation**  
 © 2022

**CURB RAMP PROGRAM**  
**SIDEWALK DETAILS**

SHEET 4 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
FT		SEE TITLE SHEET		SL 109
GRAPHICS				SHEET NO.
LG	STATE	DISTRICT	COUNTY	
CHECK	TEXAS	AUS	BASTROP	
CHECK	CONTROL	SECTION	JOB	69
	0114	17	010	

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 SCALE: 1:5  
 PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-SWK-DTLO4.dgn



ASSET DESCRIPTION	ROADWAY	LIMITS	
		FROM	TO
Shared Use Path/ Sidewalk	LOCATION A: N MAIN ST AT W 11TH ST	LAT: 30° 21' 15.57"	LAT: 30° 21' 05.80"
	TO LEXINGTON RD	LONG: -97° 22' 40.13"	LONG: -97° 22' 19.40"
	LOCATION B: S MAIN ST AT W AUSTIN ST	LAT: 30° 20' 45.66"	LAT: 30° 20' 28.40"
	TO W CLEVELAND ST	LONG: -97° 22' 11.11"	LONG: -97° 22' 05.13"
Pedestrian Ramps			
Pedestrian Rail			
Pedestrian Bridges			
Crosswalks & Signs			
Drainage Facilities			
Water Quality Ponds/ Detention Ponds			

Note: The asset locations specified in the tables are provided in GPS grid coordinates.


The City of ELGIN accepts the fixed responsibility to maintain, control, supervise, and regulate the above on State highway ROW through its corporate limits Code.

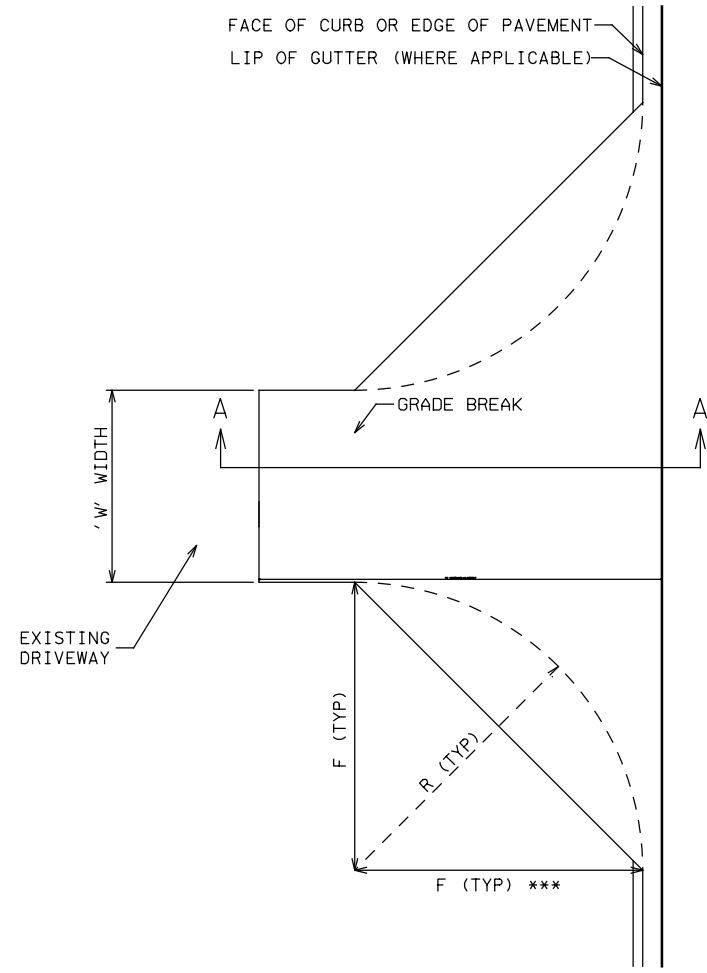
This document is per Chapter 311 of the Texas Transportation Code supplemental to the existing Municipal Maintenance Agreement (MMA) with the City of ELGIN.

This document does not relieve the City of ELGIN from their responsibility to maintain all roads within their city limits as stated in the MMA.

Executed on behalf of the City by: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: 5/24/2022 1:55:10 PM  
FILE: \$FILES\$

<b>Austin District Maintenance Office</b>				
				
SL 109 <b>ASSET MAINTENANCE</b>				
SHEET 1 OF 1				
© 2022	CONT	SECT	JOB	HIGHWAY
DS: CK:	0114	17	010	SL 109
DW: CK:	DIST	COUNTY		SHEET NO.
	AUS	BASTROP		70



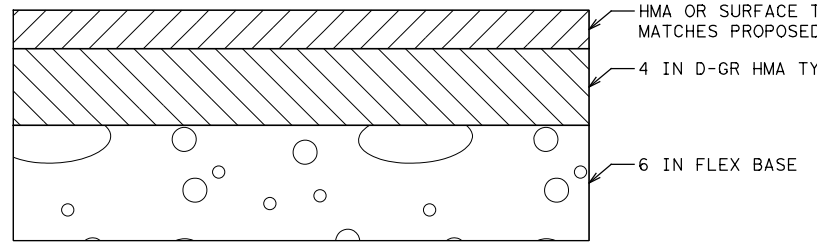
**DRIVEWAY PLAN**

FLARE OR RADIUS	FARM/RANCH	RESIDENTIAL	COMMERCIAL
"F" OR "R" (FT)	25	25	25

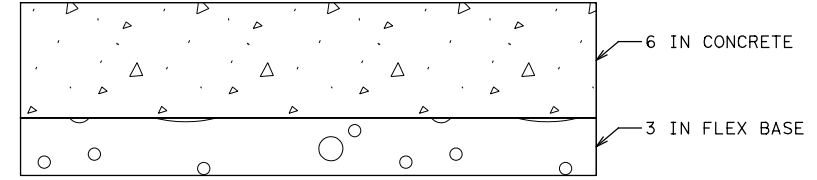
THESE ARE STANDARD DIMENSIONS UNLESS OTHERWISE SHOWN ELSEWHERE ON THE PLANS.

FLARES ARE TYPICALLY USED FOR SUBURBAN/URBAN (CURBED) ROADWAYS. RADII ARE TYPICALLY USED FOR RURAL OR UNCURBED ROADWAYS.

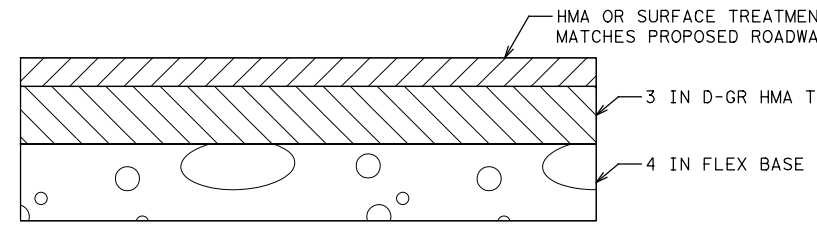
\*\*\* THIS 'F' DIMENSION MAY BE REDUCED TO KEEP WORK WITHIN THE ROW.



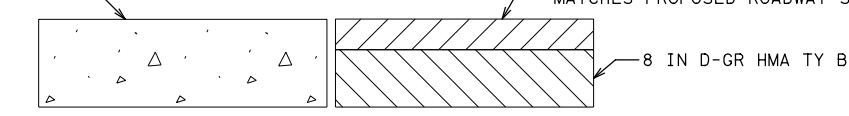
**HMA OR SURFACE TREATMENT - COMMERCIAL**



**CONCRETE - ALL DRIVEWAY TYPES**

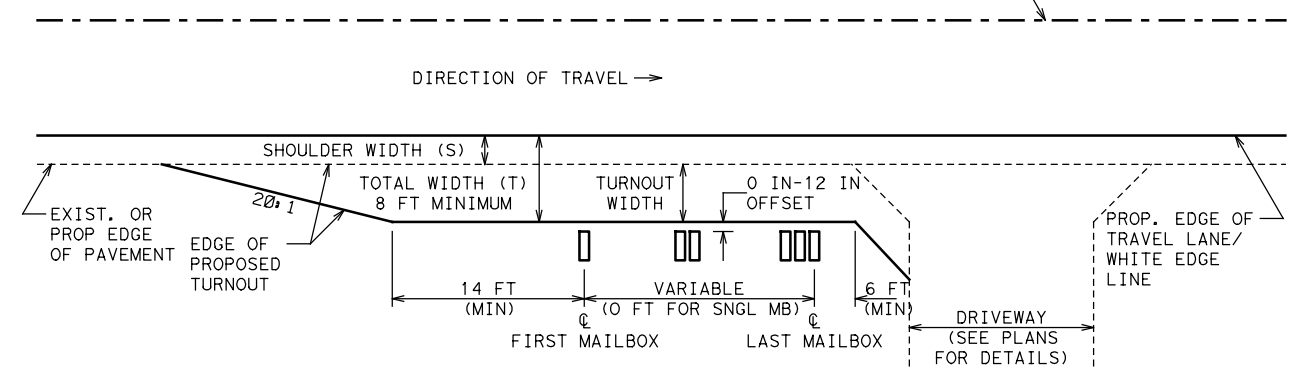


**HMA OR SURFACE TREATMENT - FARM/RANCH/RESIDENTIAL**

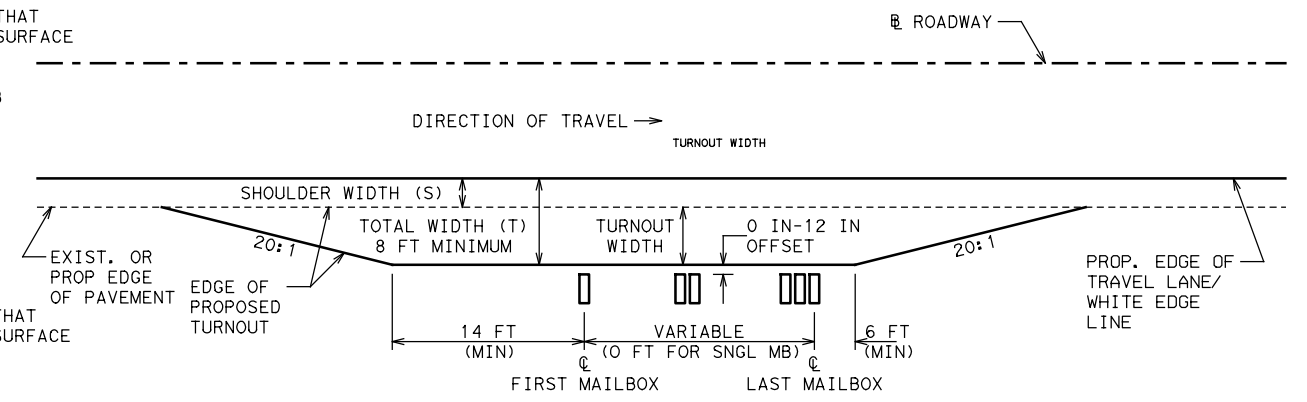


**FAST TRACK ACP (TYPE 3) OR CONCRETE**

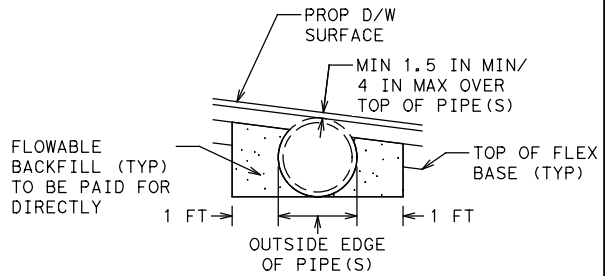
**DRIVEWAY AND TURNOUT TYPICAL SECTIONS**



**MAILBOX TURNOUT PLAN WITH DRIVEWAY**

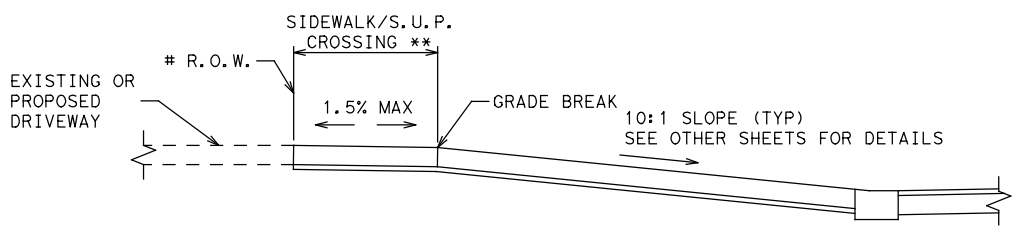


**MAILBOX TURNOUT PLAN WITHOUT DRIVEWAY**



**LOW FILL DRIVEWAY**

ONLY ONE PIPE SHOWN SEE ELSEWHERE ON THE PLANS FOR SPECIFIC DRIVEWAY DETAILS



**DRIVEWAY WITH GUTTER SECTION A-A**

ENSURE GRADE BREAK DOES NOT EXCEED 8% UNLESS OTHERWISE DIRECTED. PROVIDE ABSOLUTE MINIMUM SIDEWALK CROSSING WIDTH OF 4' FOR DRIVEWAYS WIDTH OF 20' OR LESS

\*\* LOCATE SIDEWALK CROSSING TO ALIGN WITH ADJACENT SIDEWALK; SIDEWALK/S.U.P. WIDTH AND LOCATION SHOWN ELSEWHERE ON THE PLANS.

**GENERAL NOTES**

PROVIDE EXPANSION 20 FT C-C FOR WIDTH OR LENGTH OVER 25 FT. EXPANSION JOINT PER AUS STANDARD FOR SIDEWALK (MCPSWMD).

REINFORCEMENT WILL BE IN ACCORDANCE WITH ITEM 432.3.1 USING NO. 3 OR NO. 4 BARS.

FIBER REINFORCEMENT IS NOT ALLOWED. CLASS A CONCRETE IS ALLOWED TO USE COARSE AGGREGATE GRADES 1-8.

IN LIEU OF PFC OR TOM, SURFACE MUST BE 1.5" D-GR HMA TY D. IF SURFACE IS A MULTIPLE COURSE SURFACE TREATMENT, ALL COURSES MUST BE PLACED ON DRIVEWAY. SURFACE HMA IS PG 76-22. NON SURFACE HMA IS PG 64-22 AND MAY BE BLADE LAID.

FURNISH BASE MEETING THE REQUIREMENTS FOR ANY TYPE OR GRADE IN ACCORDANCE WITH ITEM 247. BASE COMPRESSIVE STRENGTHS ARE WAIVED.

THE BASE UNDER THE CONCRETE MAY BE REPLACED WITH CONCRETE AT A RATIO OF 3 INCHES OF BASE EQUALS 2 INCHES OF CONCRETE.

FAST TRACK DRIVEWAYS MUST BE CLOSED, CONSTRUCTED, AND REOPENED WITHIN 24 HOURS.

IF ROOTS ARE ENCOUNTERED VERIFY WITH THE ENGINEER PRIOR TO ACCOMMODATING OR REMOVING 2 IN. DIAMETER OR LARGER ROOTS. ROOT REMOVAL MUST BE IN ACCORDANCE WITH ITEM 752.4.2. ROOTS MAY REMAIN IN THE BASE. FOR IMPROVEMENTS WITHIN 6 IN. OF A ROOT, THE CONCRETE THICKNESS MAY BE REDUCED BY 1 IN. AND THE BASE INCREASED BY 1 IN. TO MINIMIZE IMPACTS TO THE ROOTS. ADJUST BASE AND SURFACE PROFILE TO PROVIDE A 1 IN. BASE CUSHION AROUND THE ROOTS. THE SURFACE PROFILE MAY BE ADJUSTED TO THE EXTENT ALLOWED BY ADA. THIS WORK IS SUBSIDIARY.

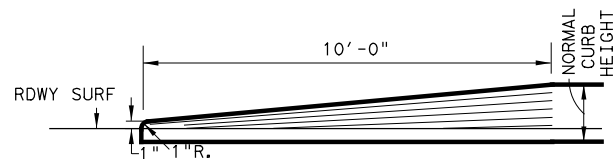


**DRIVEWAYS AND MAILBOX TURNOUTS**

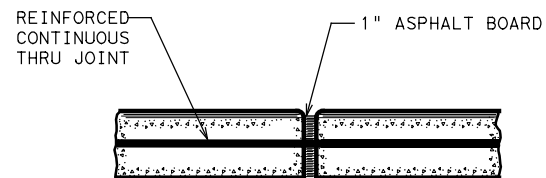
**DWMB-22 (AUS)**

REVISONS	CONT	SECT	JOB	HIGHWAY
01/16: SHEET CREATED	0114	17	010	SL 109
04/19: APPROVED	DIST		COUNTY	SHEET NO.
11/20: TABLE REVISED, ON ADDED, PLAN & PROFILE MODIFIED	AUS		BASTROP	71
01/22: ADDED TURNOUT INFO				

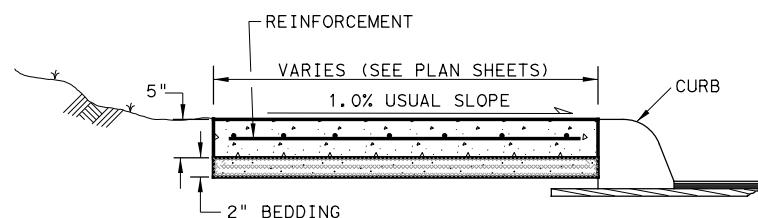
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FILE: \$FILE\$



**TRANSITION FOR CONCRETE CURB ENDS**



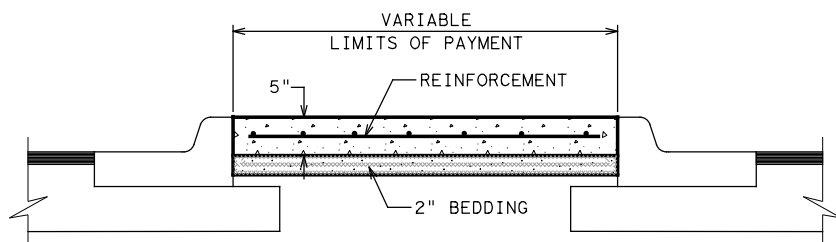
**EXPANSION JOINT DETAIL**



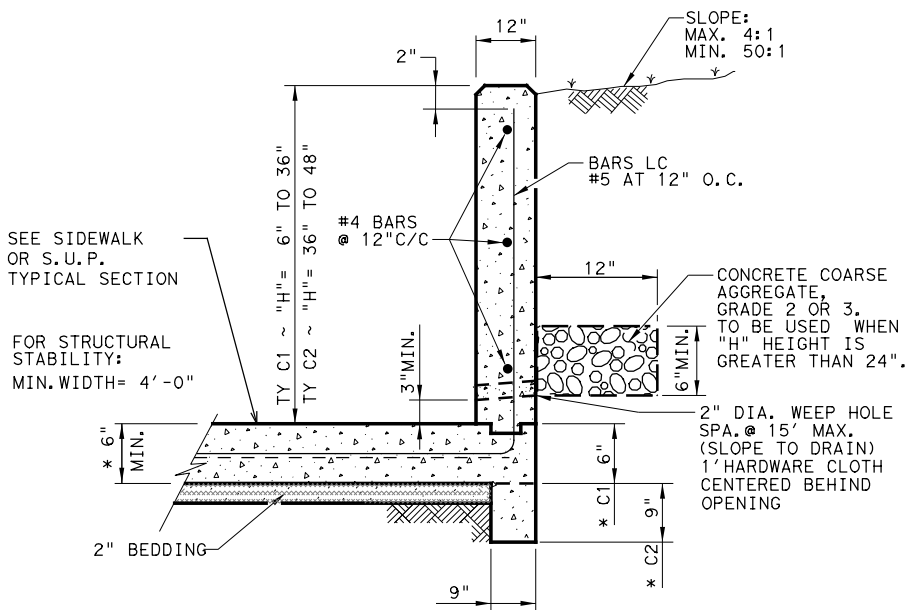
**SIDEWALK & SHARED USE PATH (S.U.P.) TYP. SECT.**

SIDEWALK OR S.U.P. EXPANSION JOINTS ARE TO BE AT A MAX. SPACING OF 40' AND COINCIDE WITH THE CURB EXPANSION JOINTS.

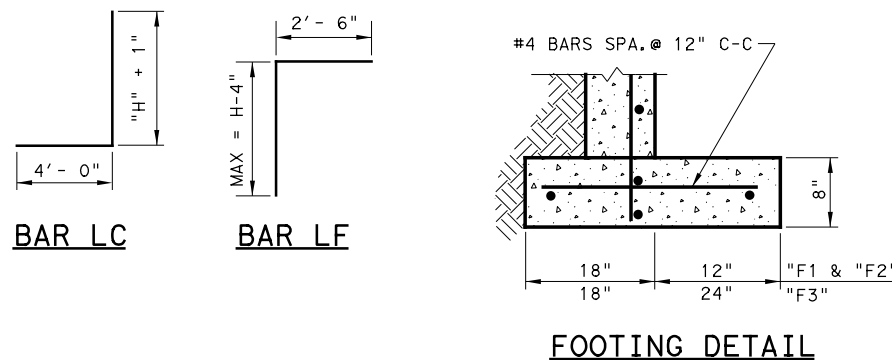
NOTE: TOOLED OR SAWED CONTRACTION JOINTS ARE NOT ALLOWED.



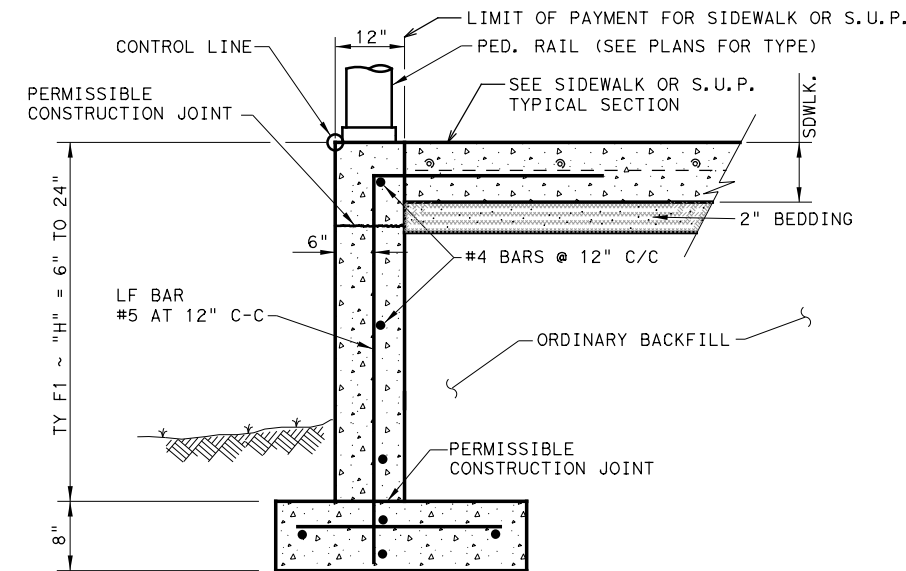
**RIPRAP MEDIAN DETAIL**



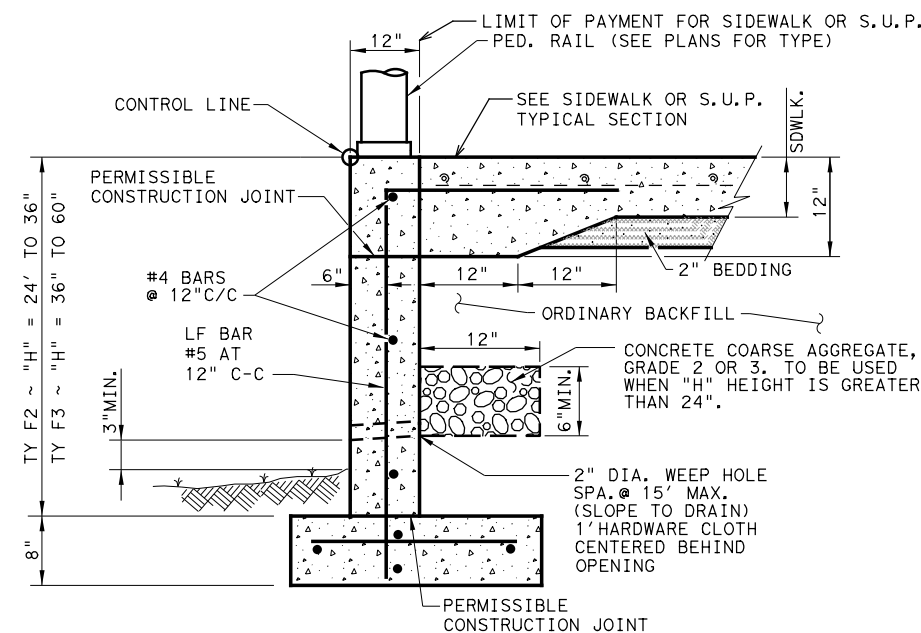
**CONC CURB (TY C1) & (TY C2)**



**FOOTING DETAIL**



**CONC CURB (TY F1)†**



**CONC CURB (TY F2) & (TY F3)†**

**SIDEWALK, SHARED USE PATH, AND MEDIAN NOTES**

Reinforcement will be in accordance with Item 432.3.1. Fiber reinforcement is not allowed. Class A and B Concrete are allowed to use Coarse Aggregate Grades 1-8.

Bedding may be sand, base, or RAP bedding. Furnish base meeting the requirement for any type or grade in accordance with Item 247. Base compressive strengths are waived. RAP must be 100% passing a 1 in. sieve. Bedding must be placed using ordinary compaction.

If roots are encountered verify with the Engineer prior to accommodating or removing 2 in. diameter or larger roots. Root removal must be in accordance with Item 752.4.2. Roots may remain in the bedding or base. For improvements within 6 in. of a root, the concrete thickness may be reduced by 1 in. and the bedding increased by 1 in. to minimize impacts to the roots. Adjust bedding and surface profile to provide a 1 in. bedding cushion around the roots. The surface profile may be adjusted to the extent allowed by ADA. This work is subsidiary.

**CONCRETE CURB NOTES:**

All Concrete, including adjacent sidewalk or S.U.P., shall be Class "C".  
All Reinforcing Steel shall be Grade 60.  
Minimum 4' sidewalk width for CONC CURB (TYPES C1 & C2).

†Until the sidewalk is complete, lateral support for the "F" curbs will be required.

ALL WORK SHOWN BEYOND TYPICAL SIDEWALK, S.U.P., AND PED RAIL IS SUBSIDIARY.

**DESIGN SOIL PARAMETERS:**

Soil Unit Wt. = 120 pcf  
Phi = 30 Degrees  
Cohesion = 50 psf  
Min. PI = 15  
Max. PI = 30  
SURCHARGE:  
TYPE F CURB q = 2' Adjacent to sidewalk  
Max. slope behind TYPE C Curb = 4:1  
Min. Factor of Safety against sliding is 1.5.  
Designed in accordance with current AASHTO Standards and Interim Specifications.

NOT TO SCALE

**Austin District Standard**

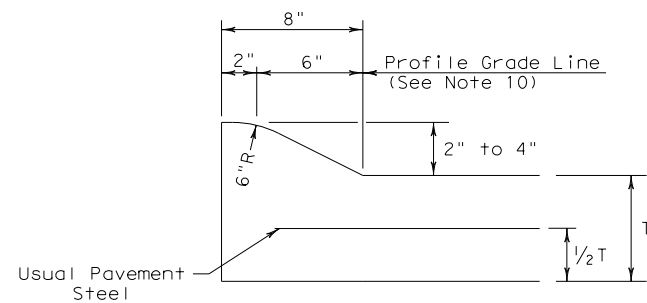
**MISCELLANEOUS CURB, PATH, SIDEWALK, AND MEDIAN DETAILS**

**MCP SWMD-19 (AUS)**

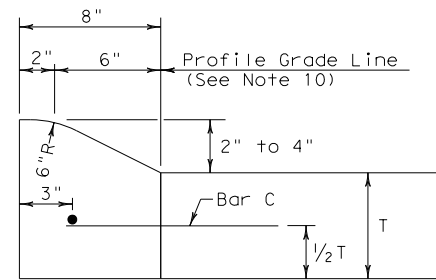
©TxDOT 2022	CONT	SECT	JOB	HIGHWAY
04/19/ APPROVED	0114	17	010	SL 109
	DIST	COUNTY	SHEET NO.	
	AUS	BASTROP	72	

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.

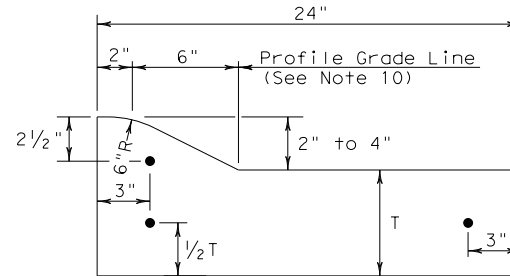
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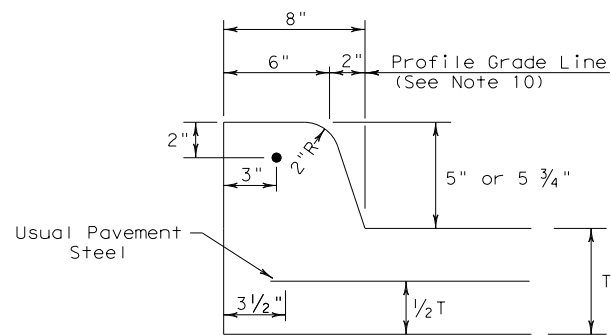
TYPE I CURB (MONOLITHIC)  
2" - 4" HEIGHT



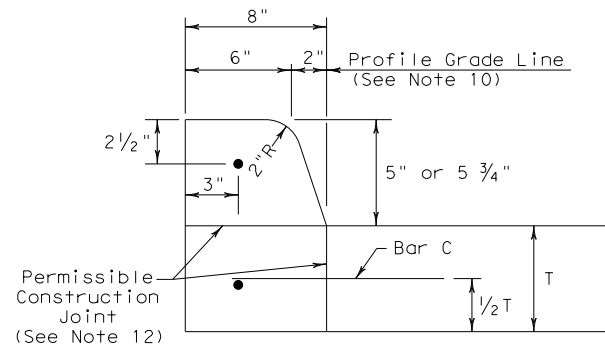
TYPE I CURB  
2" - 4" HEIGHT



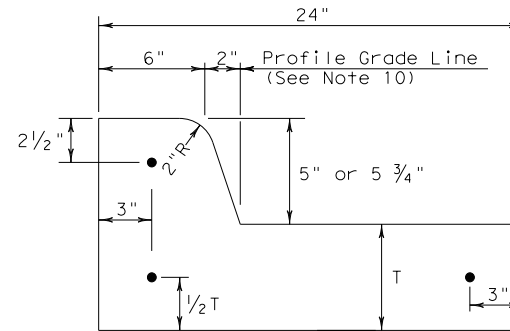
TYPE I CURB AND GUTTER  
2" - 4" HEIGHT



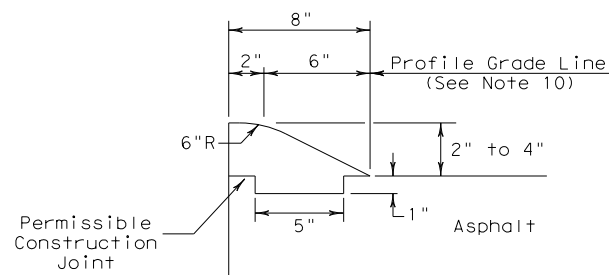
TYPE II CURB (MONOLITHIC)  
5" - 5 3/4" HEIGHT



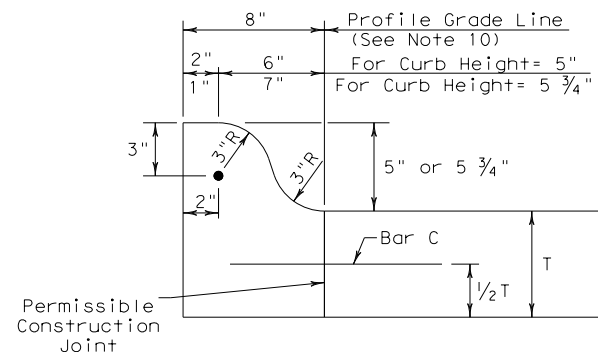
TYPE II CURB  
5" - 5 3/4" HEIGHT



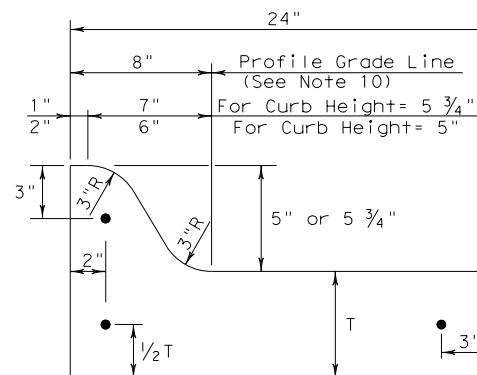
TYPE II CURB AND GUTTER  
5" - 5 3/4" HEIGHT



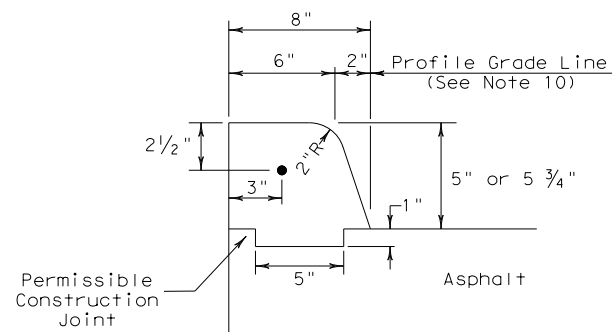
TYPE III CURB (KEYED)  
2" - 4" HEIGHT



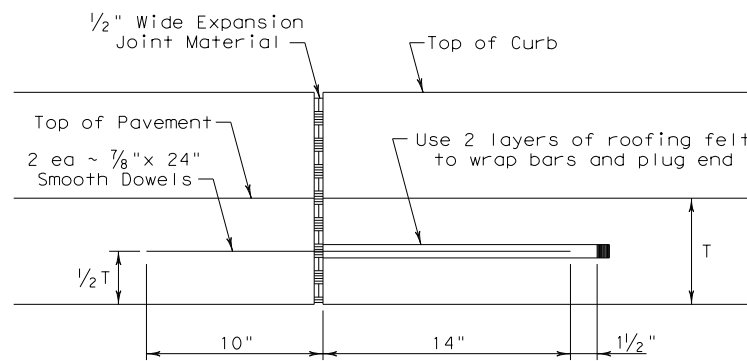
TYPE IIa CURB  
5" - 5 3/4" HEIGHT



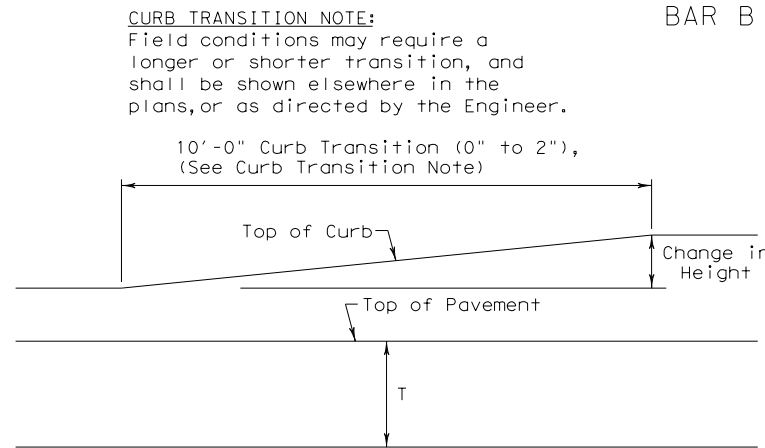
TYPE IIa CURB AND GUTTER  
5" - 5 3/4" HEIGHT



TYPE IV CURB (KEYED)  
5" - 5 3/4" HEIGHT



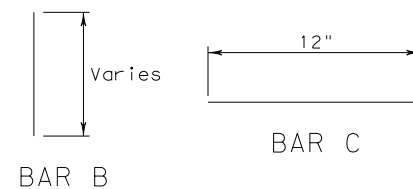
EXPANSION JOINT DETAIL



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.



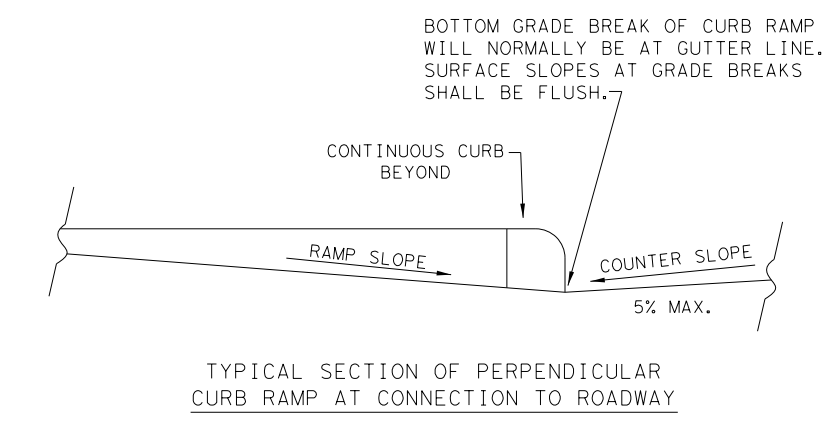
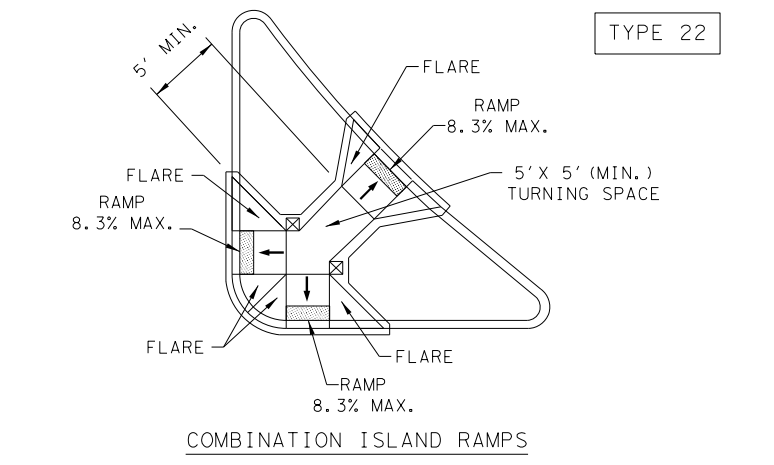
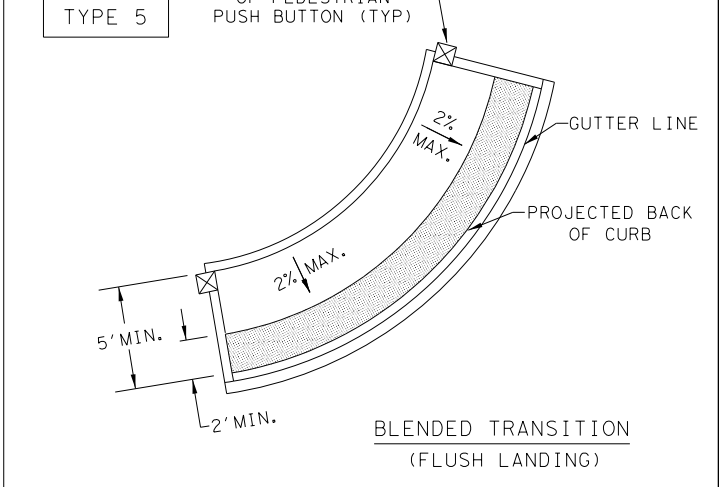
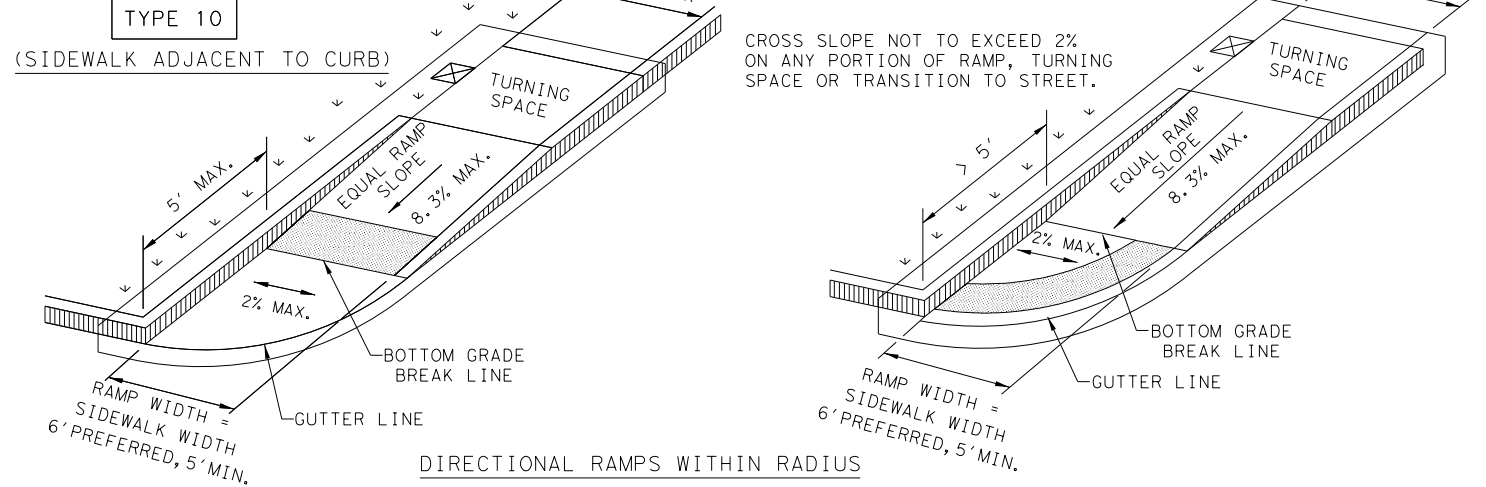
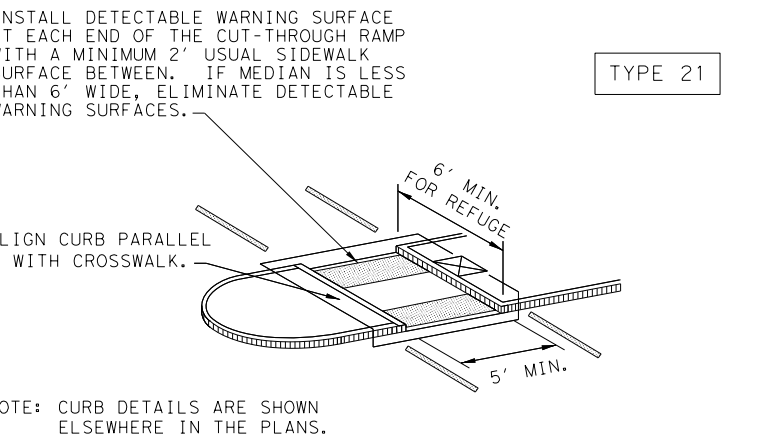
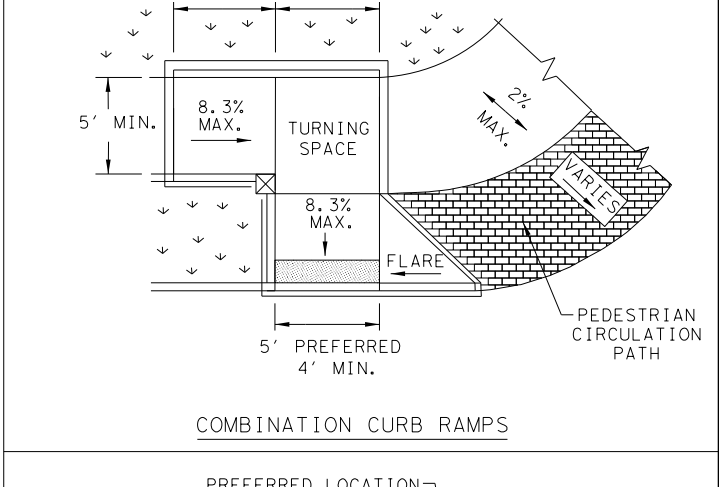
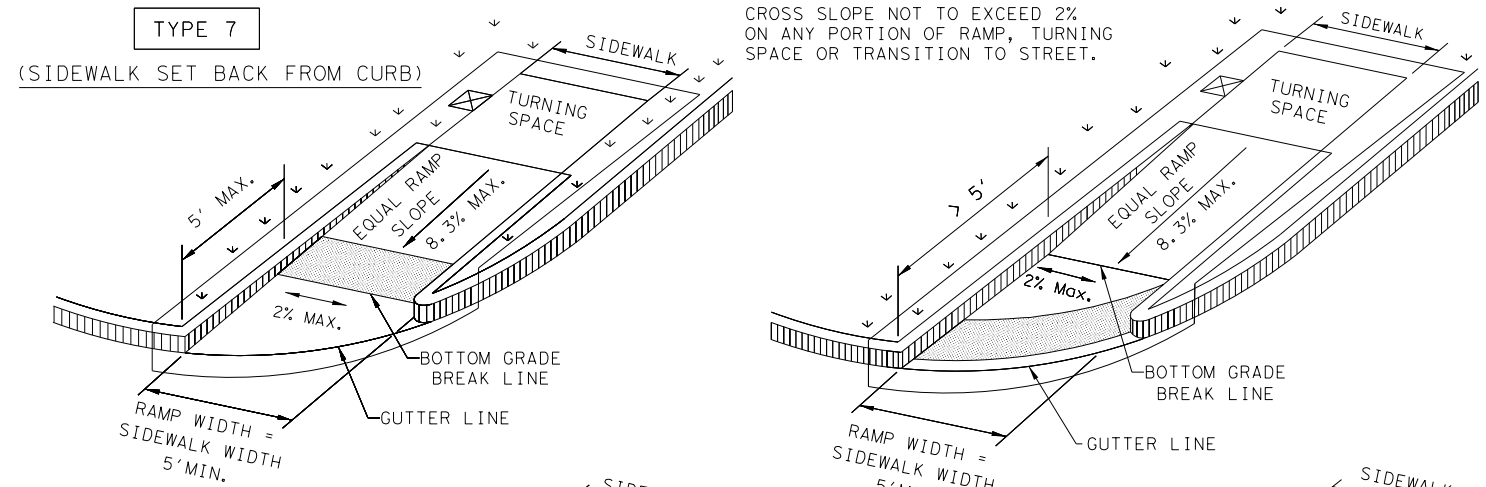
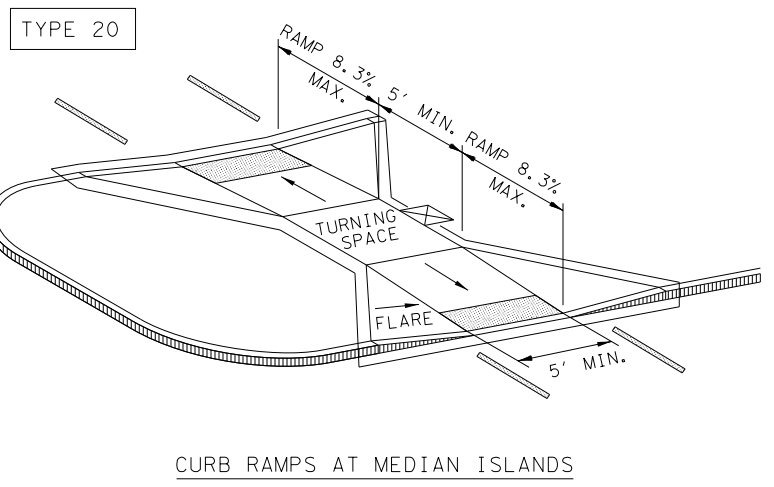
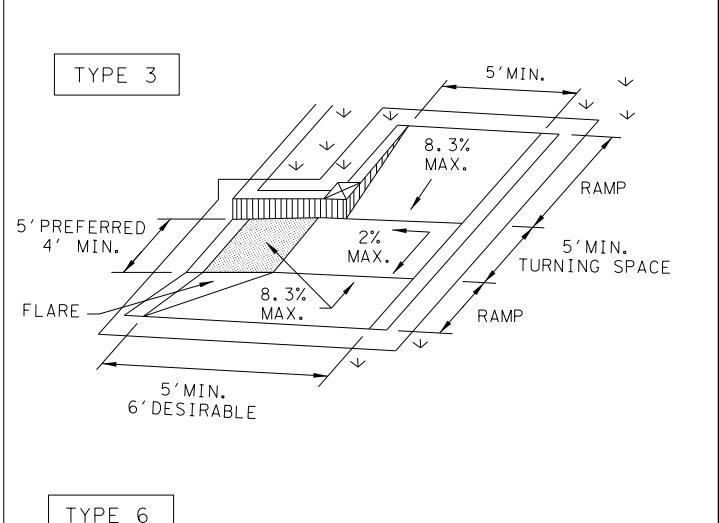
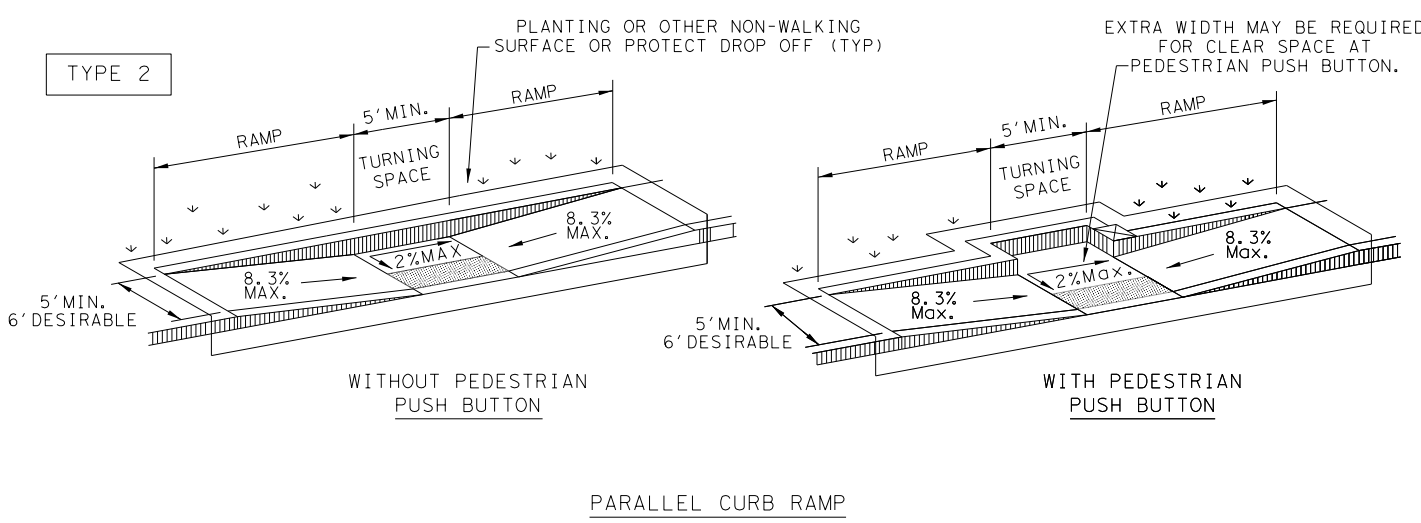
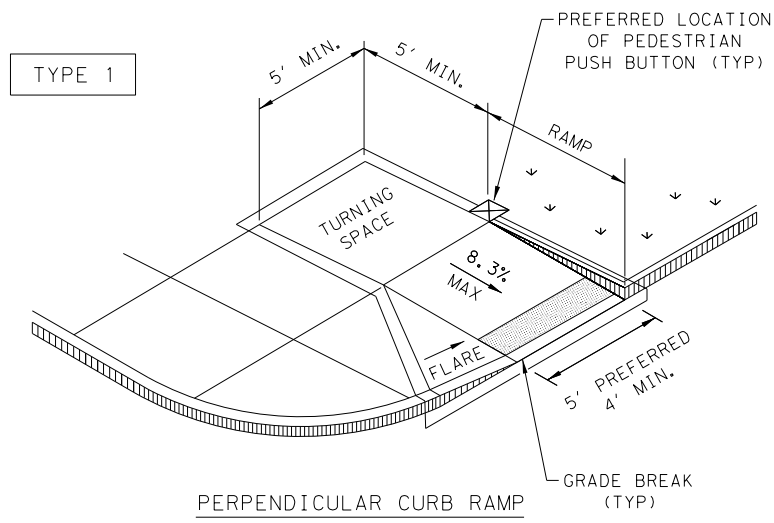
CURB TRANSITION NOTE:  
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.

				<b>Design Division Standard</b>	
<p>CONCRETE CURB AND CURB AND GUTTER</p> <p>CCCG-21</p>					
FILE: cccg21.dgn	DN: TxDOT	CK: AN	DW: SS	CK: KM	
© TxDOT: FEBRUARY 2021	CONT	SECT	JOB	HIGHWAY	
REVISTONS	0114	17	010	SL 109	
	DIST	COUNTY	SHEET NO.		
	AUS	BASTROP	73		



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DATE: 5/24/2022  
FILE: \$FILES



**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.

Detectable Warning Surface: [Symbol]

Grade Break: [Symbol]

Ramp Limits of Payment: [Symbol]

Gutter Line: [Symbol]

SHEET 1 OF 4

**Texas Department of Transportation**  
Design Division Standard

## PEDESTRIAN FACILITIES CURB RAMPS

### PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
REVISED 08, 2005	DIST	COUNTY	SHEET NO.	
REVISED 06, 2012	AUS	BASTROP	74	
REVISED 01, 2018				

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GENERAL NOTES

CURB RAMP

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

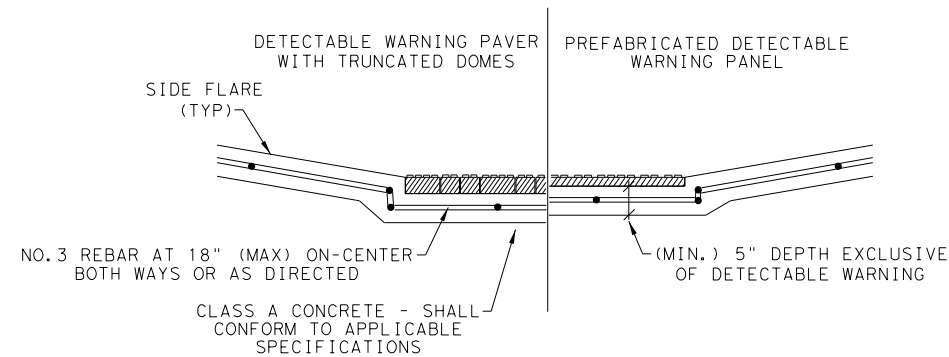
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material 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.

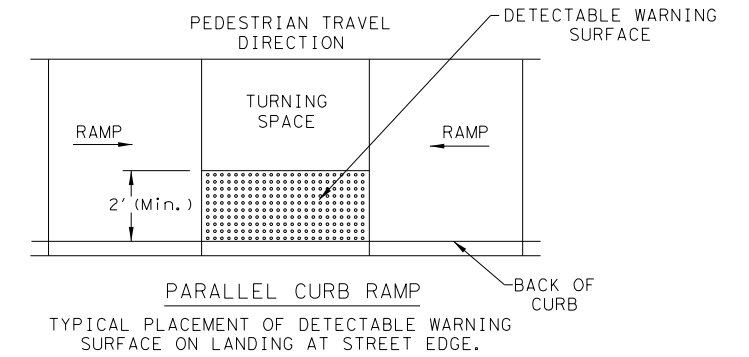
SIDEWALKS

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.

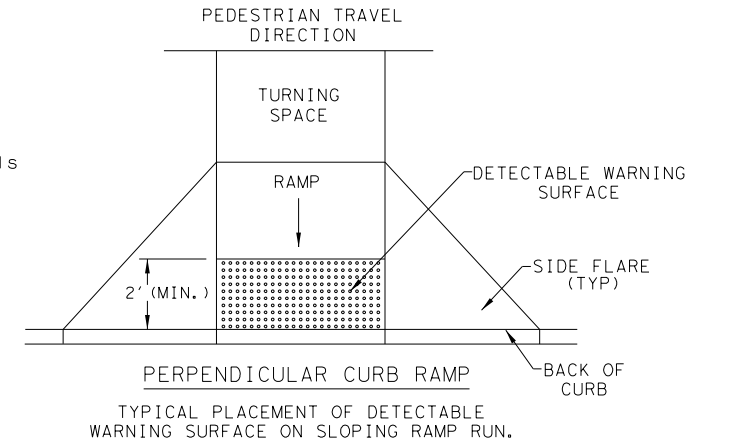


SECTION VIEW DETAIL  
CURB RAMP AT DETECTIBLE WARNINGS

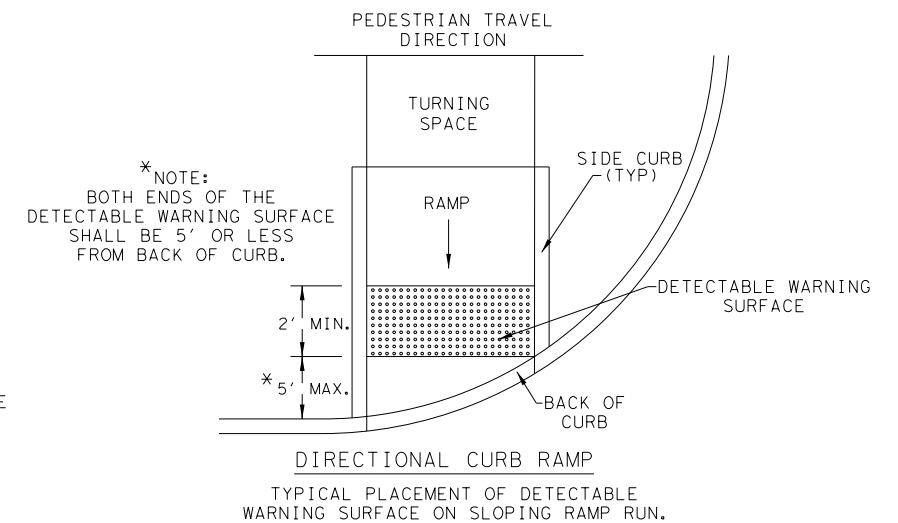
DETECTABLE WARNING SURFACE DETAILS



PARALLEL CURB RAMP  
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



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



\* NOTE:  
BOTH ENDS OF THE  
DETECTABLE WARNING SURFACE  
SHALL BE 5' OR LESS  
FROM BACK OF CURB.

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

SHEET 2 OF 4



**PEDESTRIAN FACILITIES  
CURB RAMPS  
PED-18**

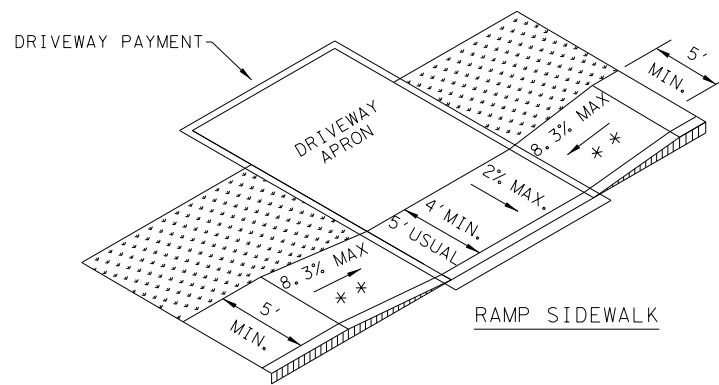
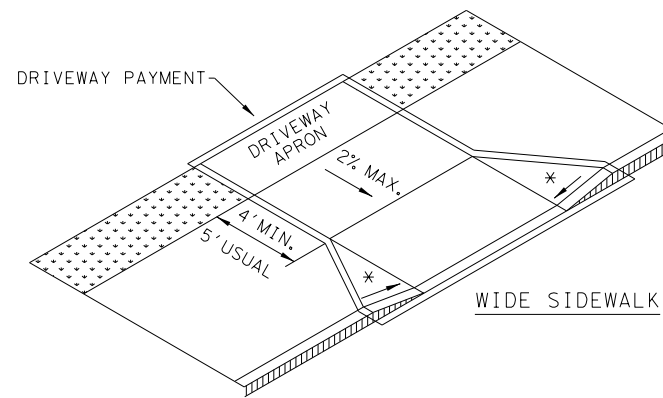
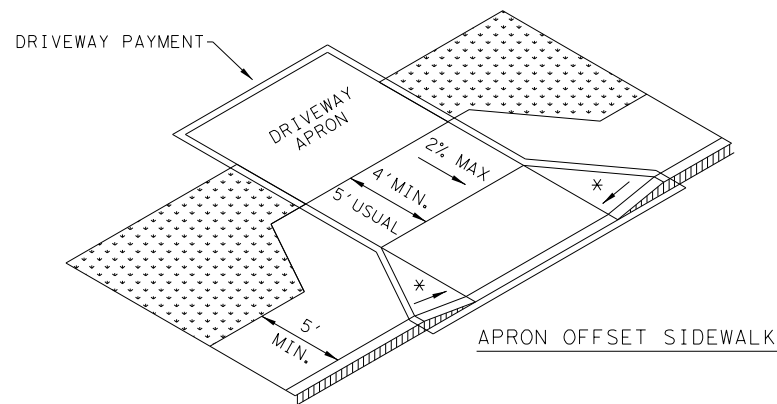
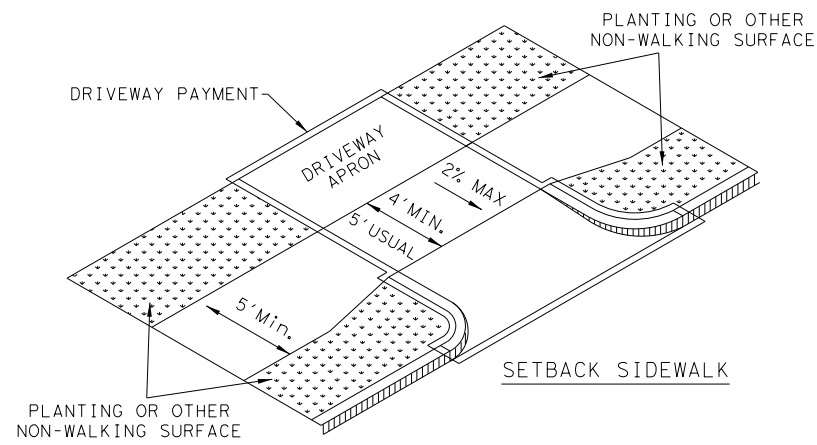
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© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
REVISED 08, 2009	DIST	COUNTY	SHEET NO.	
REVISED 06, 2012	AUS	BASTROP	75	
REVISED 01, 2018				

DATE: 5/24/2022  
 FILE: \$FILES\$

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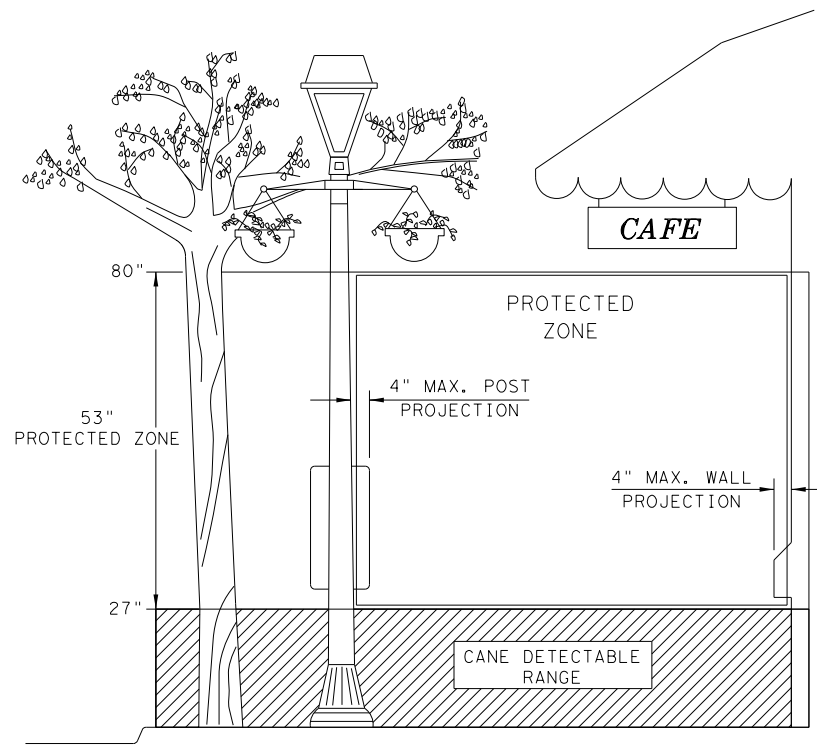
DATE: 5/24/2022  
FILE: \$FILES

SIDEWALK TREATMENT AT DRIVEWAYS



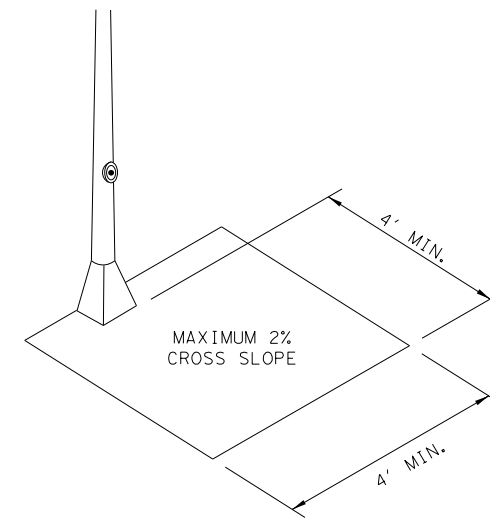
NOTES:

- \* 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.

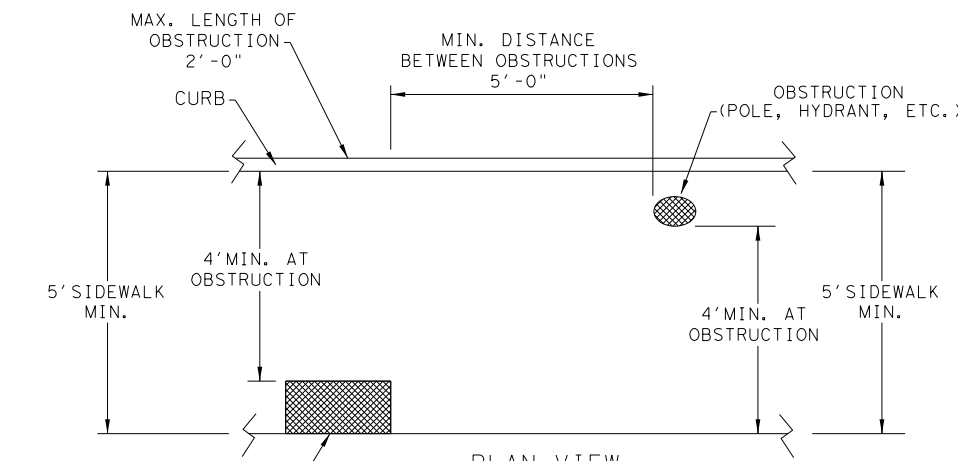


PROTECTED ZONE

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

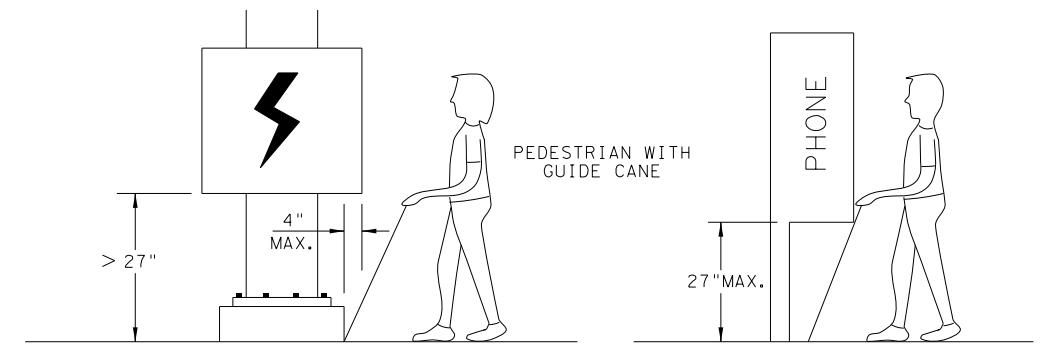


CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



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.



WHEN AN OBSTRUCTION OF A HEIGHT GREATER THAN 27" FROM THE SURFACE WOULD CREATE A PROTRUSION OF MORE THAN 4" INTO THE PEDESTRIAN CIRCULATION AREA, CONSTRUCT ADDITIONAL CURB OR FOUNDATION AT THE BOTTOM TO PROVIDE A MAXIMUM 4" OVERHANG.

PROTRUDING OBJECTS OF A HEIGHT ≤ 27" ARE DETECTABLE BY CANE AND DO NOT REQUIRE ADDITIONAL TREATMENT.

DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"

SHEET 3 OF 4



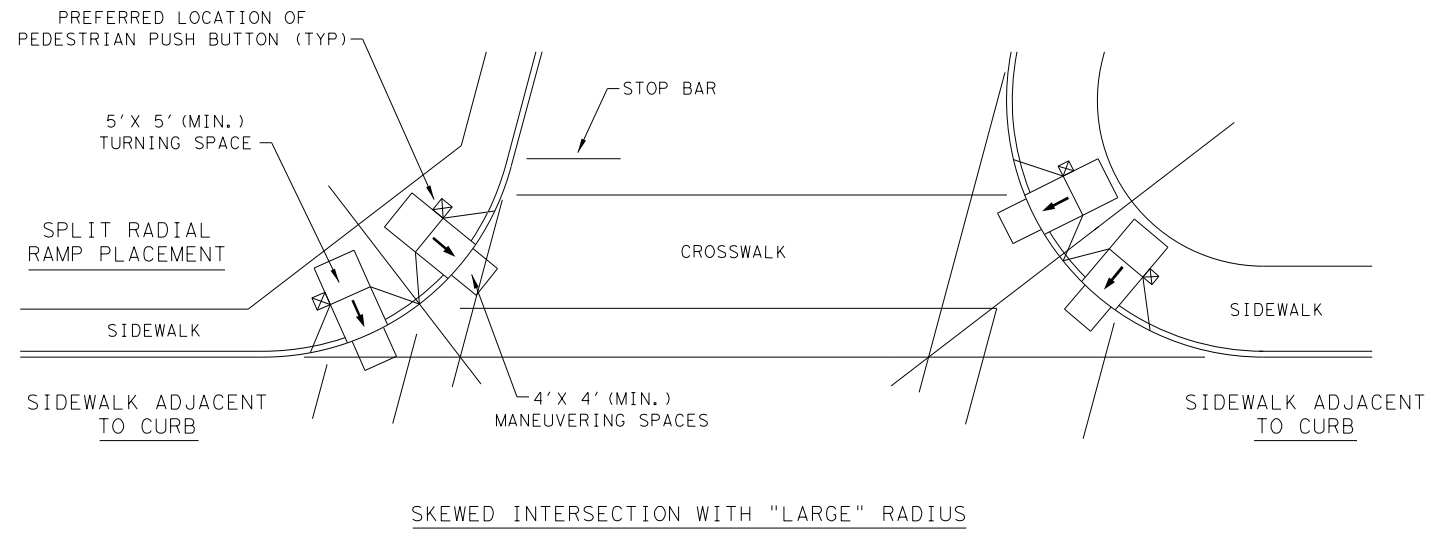
**PEDESTRIAN FACILITIES**  
**CURB RAMPS**

**PED-18**

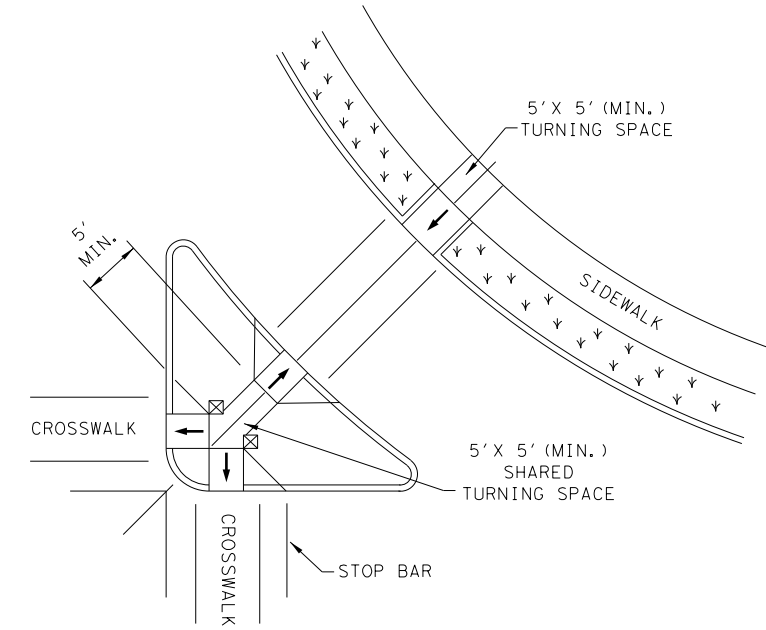
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© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
REVISED 08, 2005	DIST	COUNTY	SHEET NO.	
REVISED 06, 2012	AUS	BASTROP	76	
REVISED 01, 2018				

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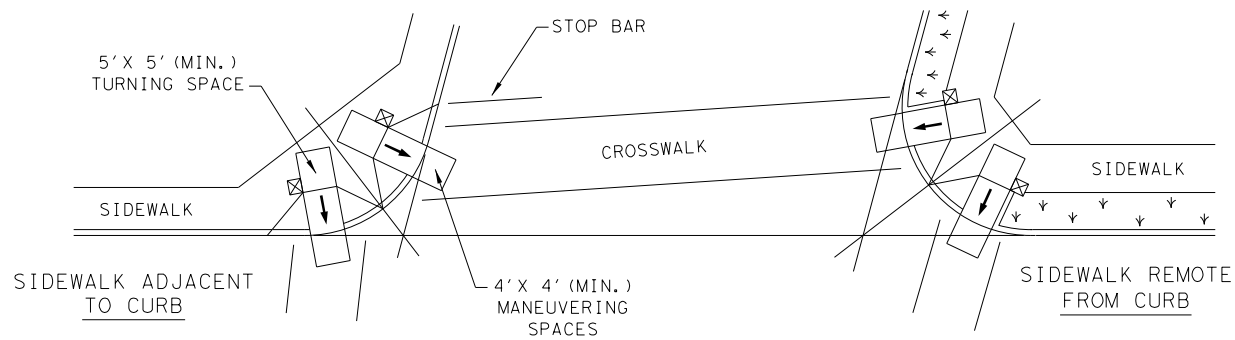
TYPICAL CROSSING LAYOUTS  
 SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



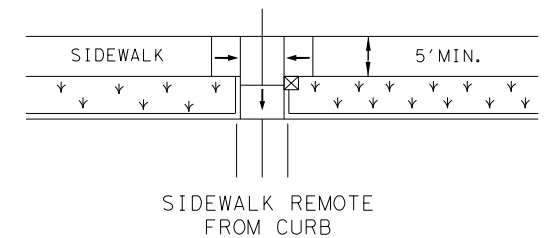
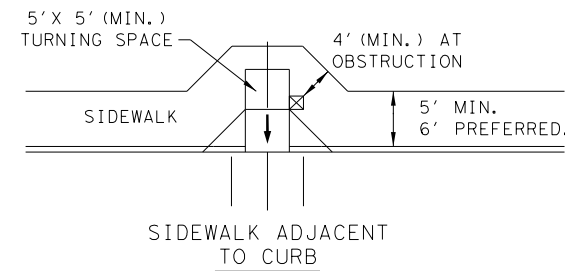
SKewed INTERSECTION WITH "LARGE" RADIUS



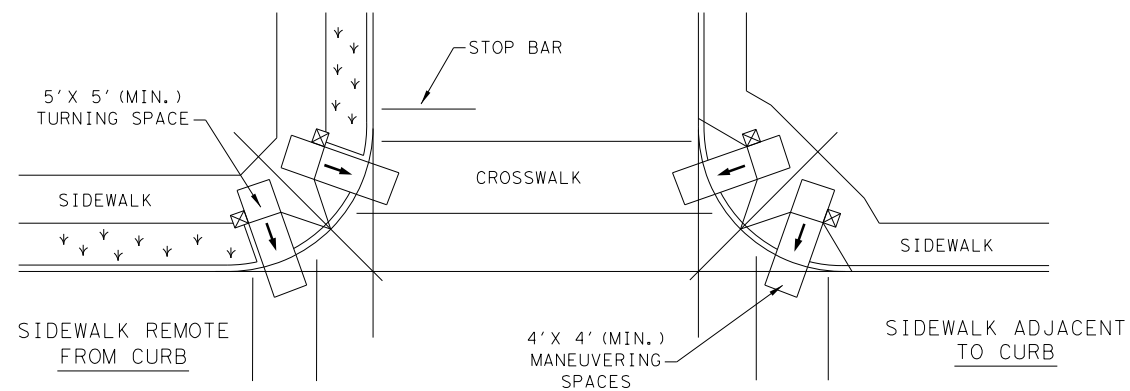
AT INTERSECTION W/FREE RIGHT TURN & ISLAND



SKewed INTERSECTION WITH "SMALL" RADIUS



MID-BLOCK PLACEMENT PERPENDICULAR RAMPS



NORMAL INTERSECTION WITH "SMALL" RADIUS

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. ↙ ↘ ↙ ↘ ↙ ↘

SHEET 4 OF 4

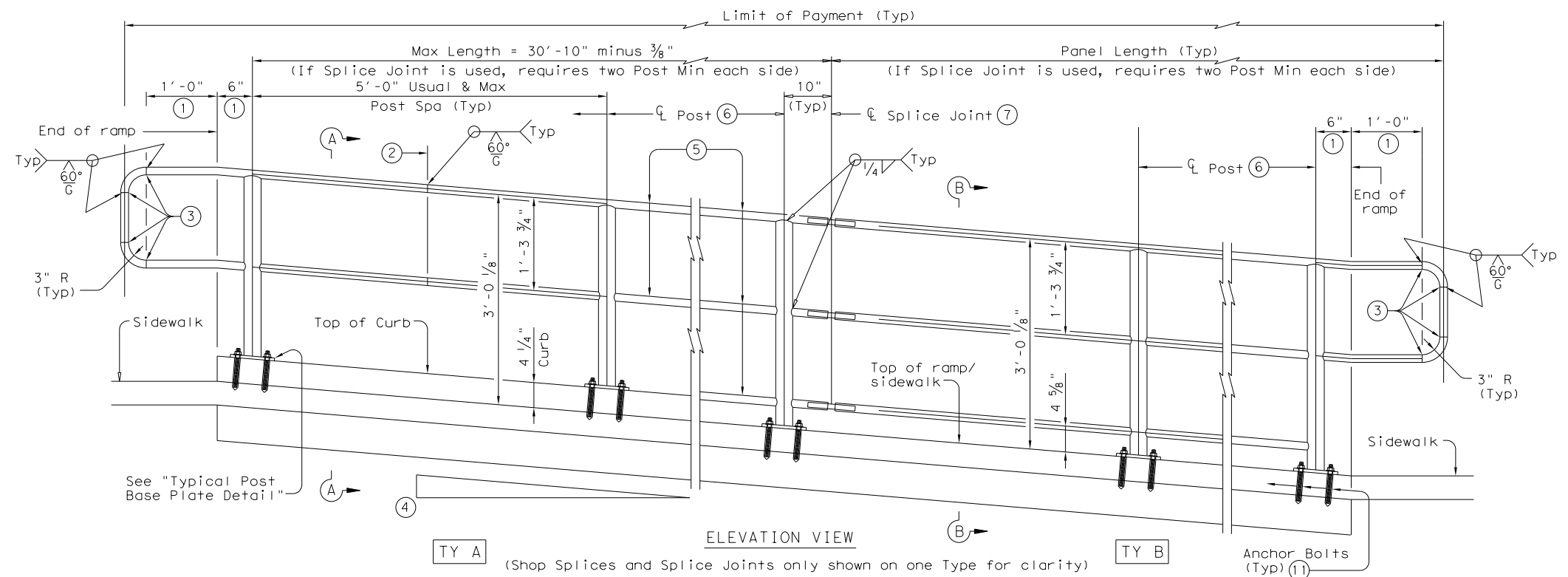
		<b>Design Division Standard</b>	
<h2>PEDESTRIAN FACILITIES CURB RAMPS</h2> <h3>PED-18</h3>			
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© TxDOT: MARCH, 2002	CON: 0114	SECT: 17	JOB: 010
REVISIONS	010		SL 109
REVISED 08, 2005	DIST: AUS	COUNTY: BASTROP	SHEET NO. 77
REVISED 06, 2012			
REVISED 01, 2018			

DATE: 5/24/2022  
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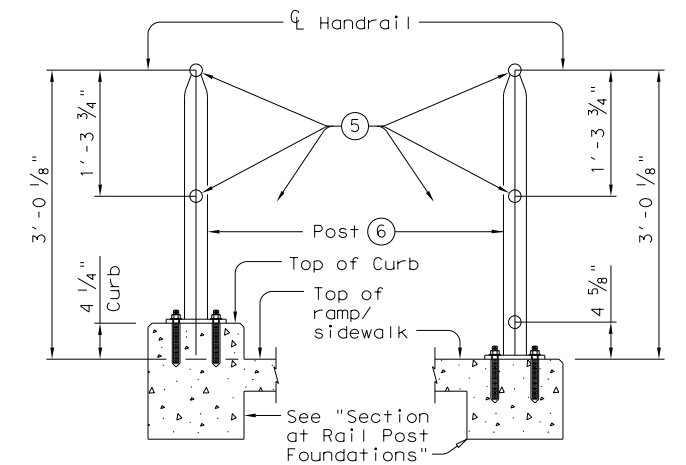
TY A

ELEVATION VIEW

TY B

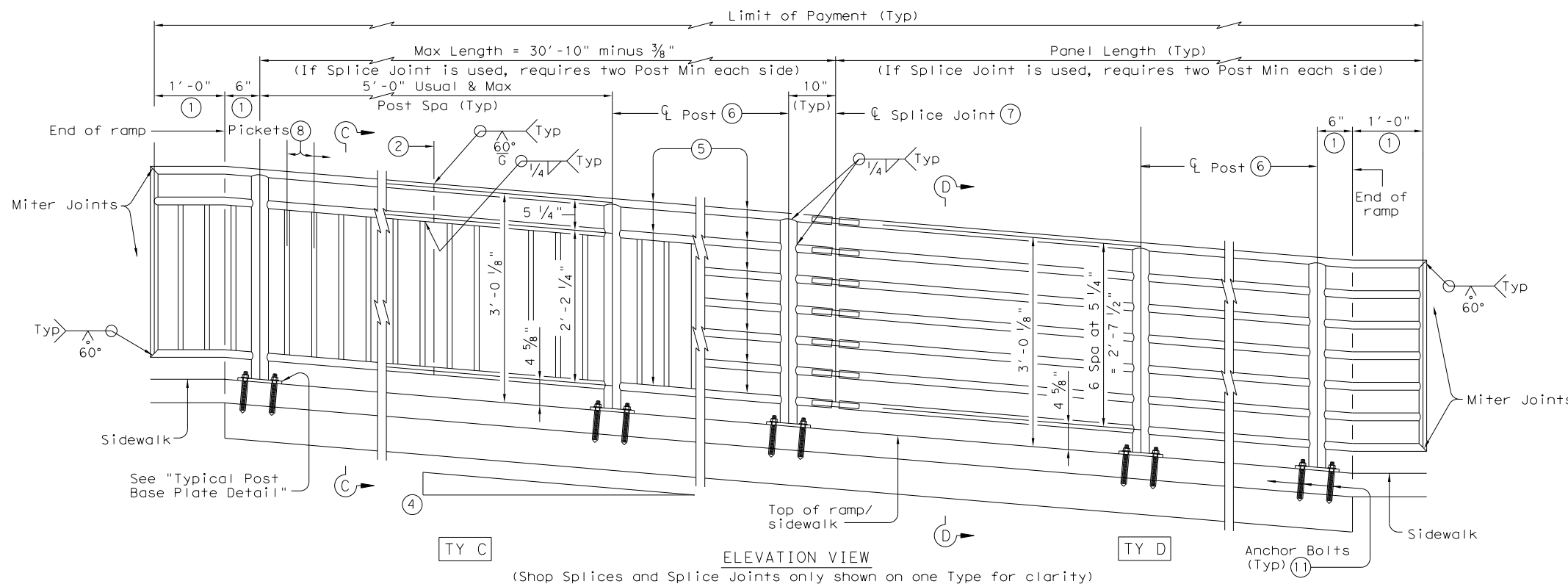
(Shop Splices and Splice Joints only shown on one Type for clarity)

RECOMMENDED USAGE ⑨ ⑩	
Dropoff Height/Condition	Recommended Rail Options
< 30" dropoff	TY A, TY B, TY C, or TY D
≥ 30" dropoff, or along Bike Path	TY E or TY F



SECTION A-A  
(Showing Handrail TY A)

SECTION B-B  
(Showing Handrail TY B)

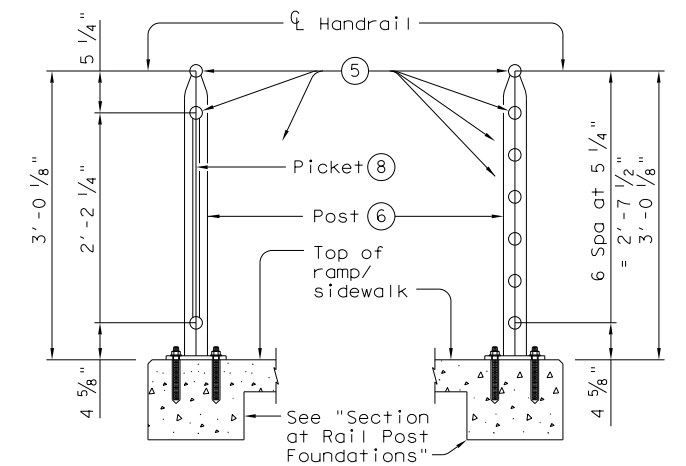


TY C

ELEVATION VIEW

TY D

(Shop Splices and Splice Joints only shown on one Type for clarity)



SECTION C-C  
(Showing Handrail TY C)

SECTION D-D  
(Showing Handrail TY D)

- ① Parallel to ground.
- ② One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
- ③ Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
- ④ See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
- ⑤ 1 1/2" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 1/2" Dia. pipe for galvanizing drainage and venting.

- ⑥ 2 1/2" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
- ⑦ See "Handrail Fabrication Details" for Splice Joints.
- ⑧ 5/8" Dia. Round Bar equal spacing at 4 1/2" Max. Plumb all pickets.
- ⑨ When needed for accessibility (grade > 5 percent) or as needed for pedestrian safety.
- ⑩ Not to be used on bridges.
- ⑪ See "General Notes" for anchor bolt information.

SHEET 1 OF 3

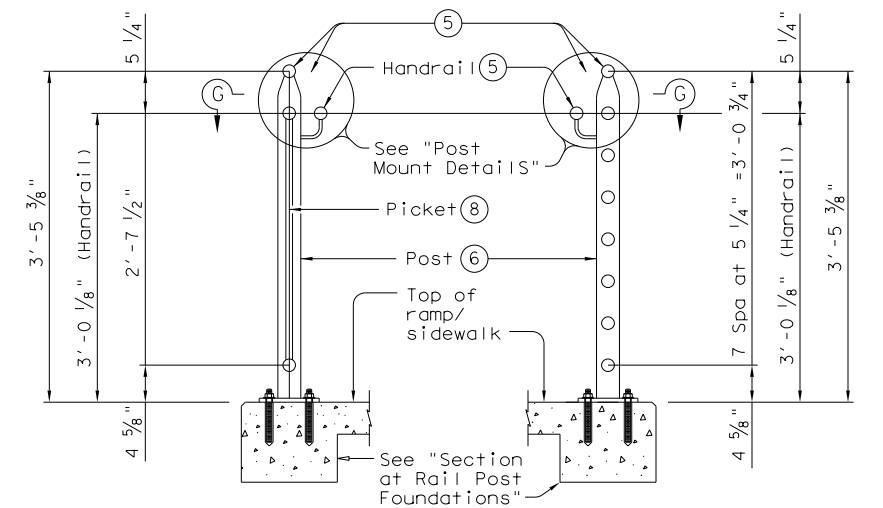
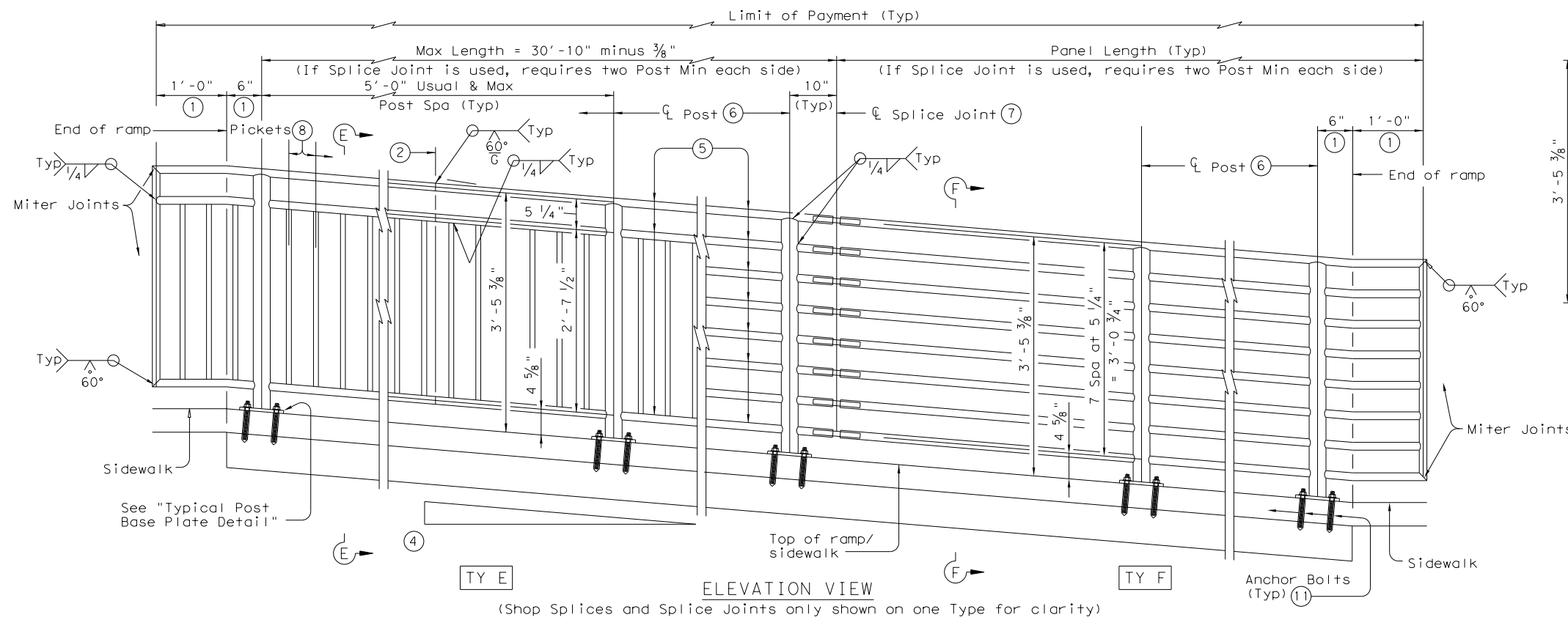


PEDESTRIAN HANDRAIL  
DETAILS  
PRD-13

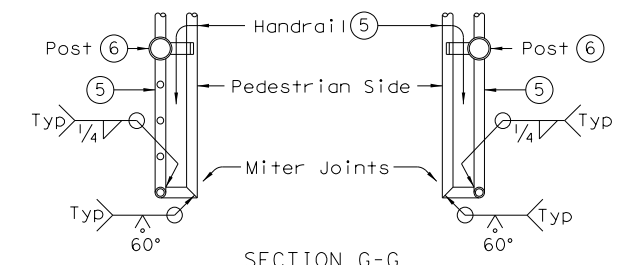
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© TxDOT December 2006	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
REVISED MAY, 2013 (VP)	DIST	COUNTY	SHEET NO.	
	AUS	BASTROP	78	

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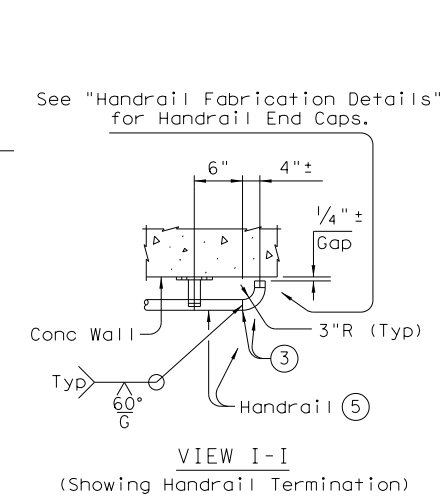
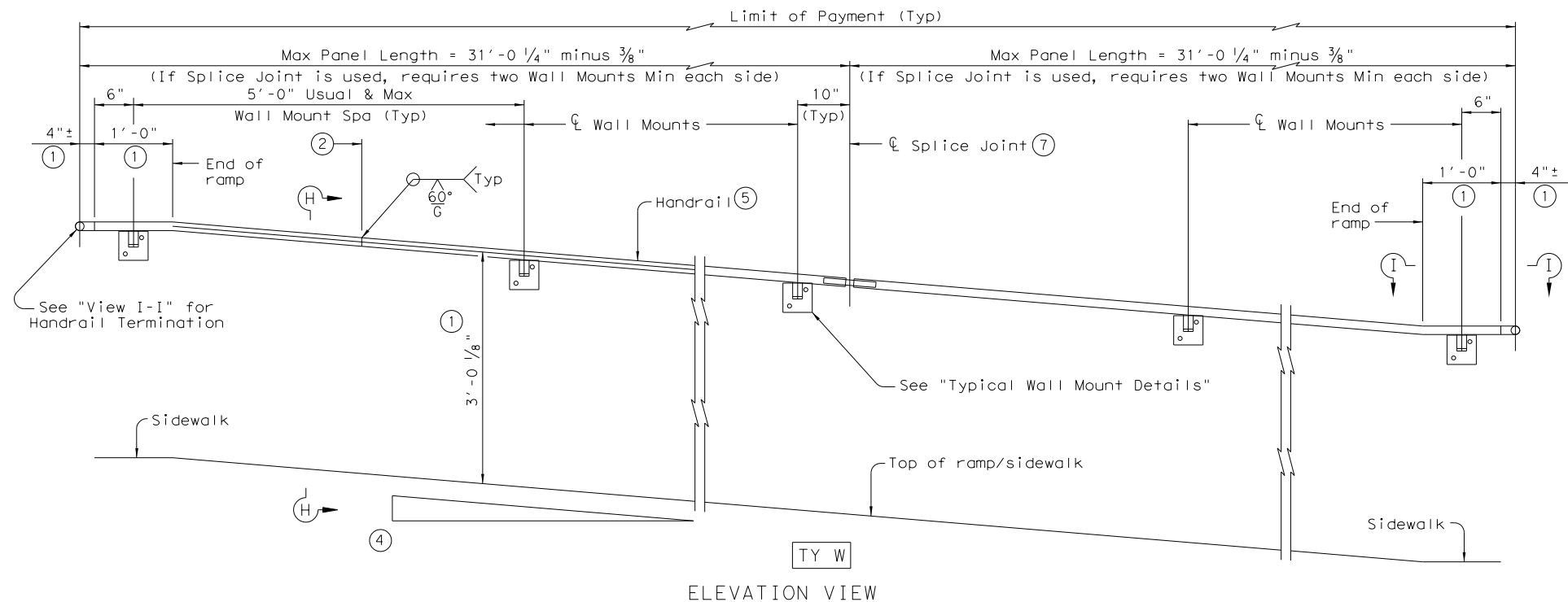
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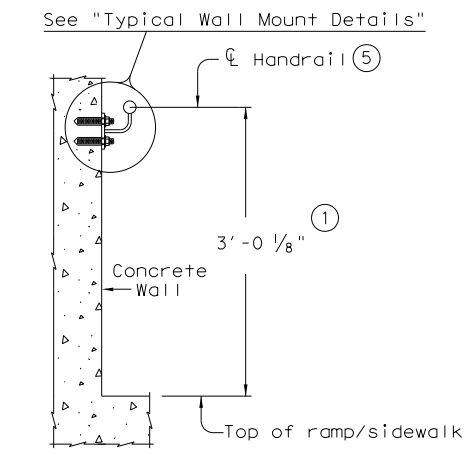
SECTION E-E (Showing Handrail TY E)  
SECTION F-F (Showing Handrail TY F)



SECTION G-G (Showing Handrail Termination)



VIEW I-I (Showing Handrail Termination)



SECTION H-H (Showing Handrail TY W)

- ① Parallel to ground.
- ② One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
- ③ Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
- ④ See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
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- ⑥ 2 1/2" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
- ⑦ See "Handrail Fabrication Details" for Splice Joints.
- ⑧ 1/2" Dia. Round Bar equal spacing at 4 1/2" Max. Plumb all pickets.
- ⑪ See "General Notes" for anchor bolt information.

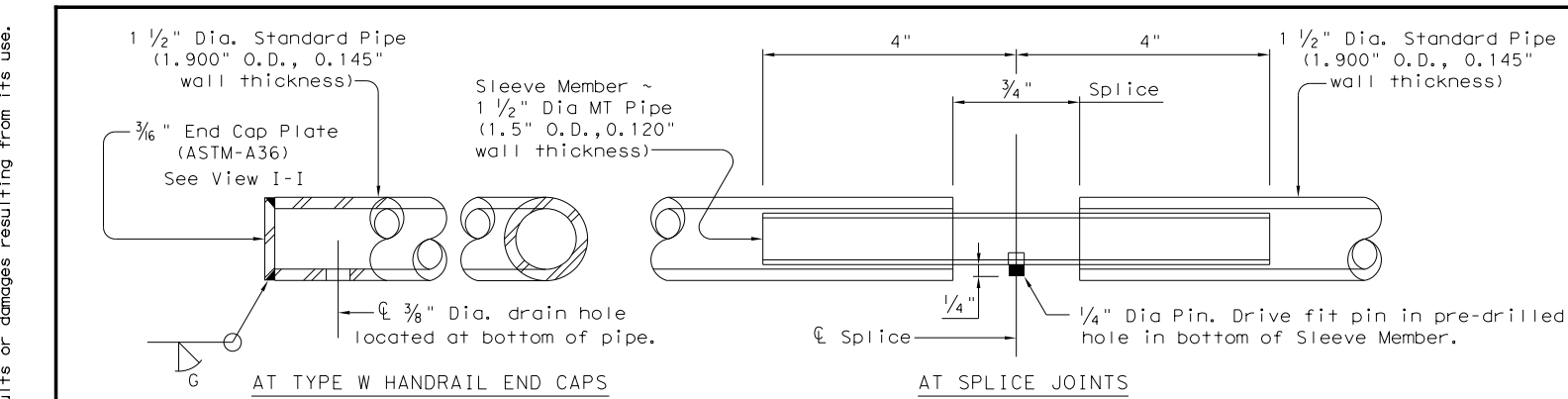
SHEET 2 OF 3



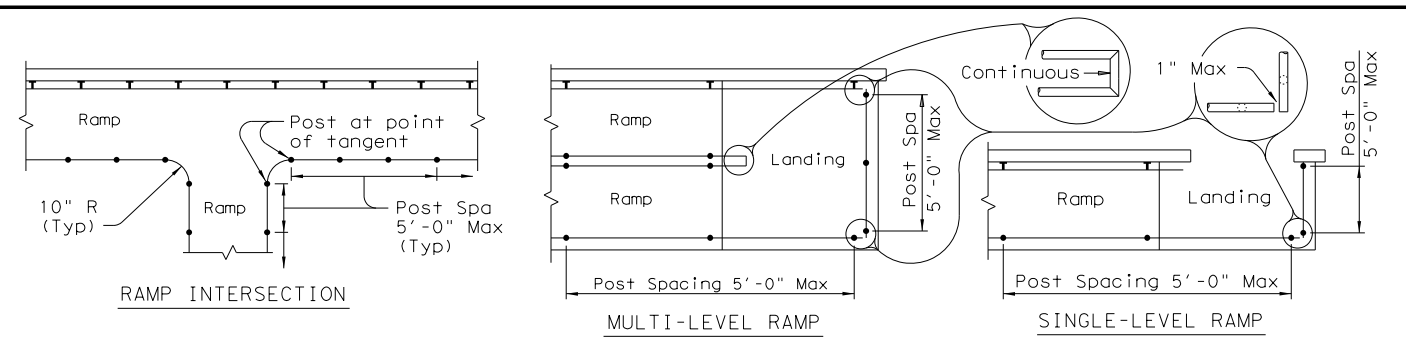
PEDESTRIAN HANDRAIL  
DETAILS  
PRD-13

FILE: prd13.dgn	DN: TxDOT	CK: AM	DW: JTR	CK: CGL
© TxDOT December 2006	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
REVISED MAY, 2013 (VP)	DIST	COUNTY	SHEET NO.	
	AUS	BASTROP	79	

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HANDRAIL FABRICATION DETAILS



PLAN SHOWING RAIL AT RAMP CONDITIONS

GENERAL NOTES

Designed according to ADAAG, Texas Accessibility Standards, Uniform Building Code, and AASHTO LRFD Specifications.

Handrail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Pipe will conform to ASTM-A53 Grade B or A500 Grade B. Steel plates and steel bars will conform to ASTM-A36. Mechanical tubing (MT) will conform to ASTM A513 Grade 1015 or higher. Galvanize all steel components except reinforcing steel unless noted otherwise.

Concrete for foundations will be in accordance with Item 531 "Sidewalks". All reinforcing steel must be Grade 60. Bar laps, where required, will be as follows: Uncoated ~ #4 = 1'-5" Epoxy coated ~ #4 = 2'-1"

When the plans require painted steel, follow the requirements for painting galvanized steel in Item 446, "Cleaning and Painting Steel". Sleeve Members will receive galvanization and only get field painted after installation unless directed otherwise by Engineer.

Epoxy Anchor bolts for wall mount and post base plate will be 5/8 inch diameter ASTM A36 threaded rods with one hex nut and one hardened steel washer at each bolt. 5/8 inch diameter threaded rod embedment depth for wall mounts is 3 1/2 inches and embedment depth for post base plate is 5 inches.

Embed threaded rods into concrete with a Type III (Class C) epoxy meeting the requirements of DMS-6100, "Epoxyes and Adhesives". Mix and dispense adhesive with the manufacturer's static mixing nozzle/dual cartridge system. Core drill holes (percussion drilling not permitted).

At the contractor's option the post base plate anchor bolts may be cast with the Ramp/Sidewalk (See Cast-in-Place Anchor Bolt Options).

Optional cast-in-place anchor bolts will be 5/8 inch diameter ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Embedment depth of cast-in-place bolt will be 8 inches for post base plate.

Handrails and any wall or other surface adjacent to them will be free of any sharp or abrasive elements.

Submit shop drawings to the Engineer unless otherwise noted. For curved handrail applications, fabricate the handrail to the curve if radius is less than 600 feet. Shop drawings are required when rail is fabricated to the curve.

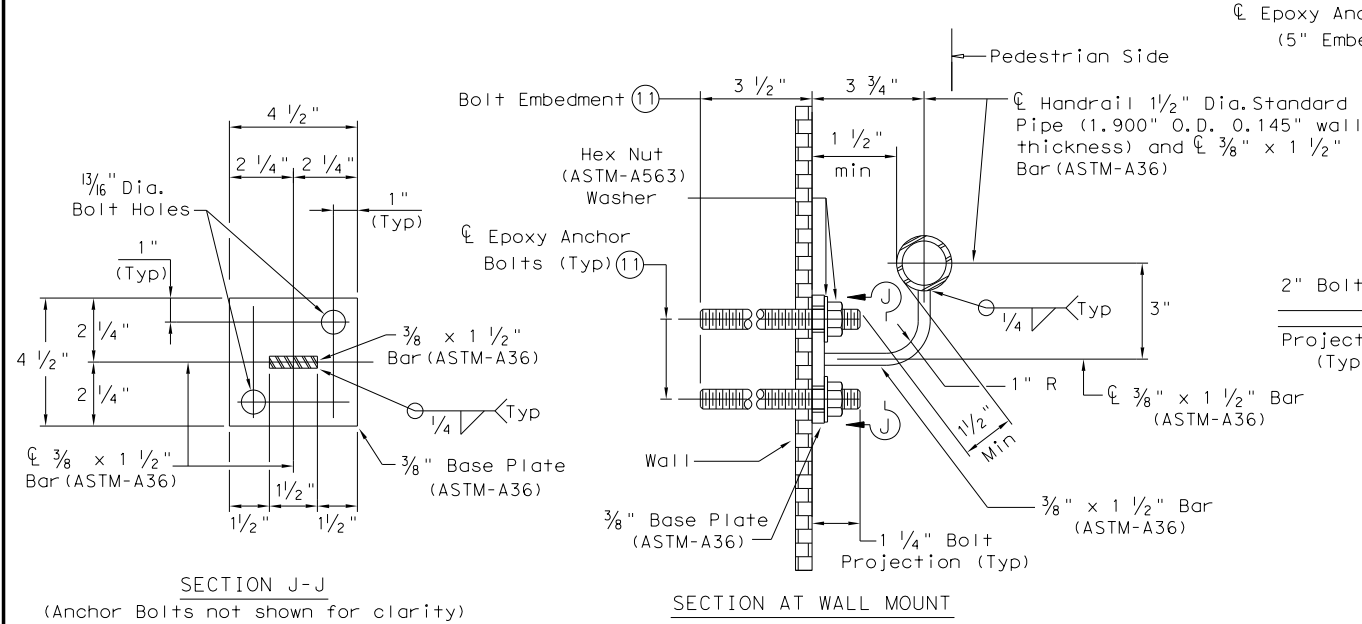
For all handrails, erection drawings will be submitted to the Engineer for approval to ensure proper installation.

Drawings will show handrail mount locations with bolts setting, spacing, ramp slope, and/or splice joint locations, and handrail lengths with identification showing where each handrail goes on the layout.

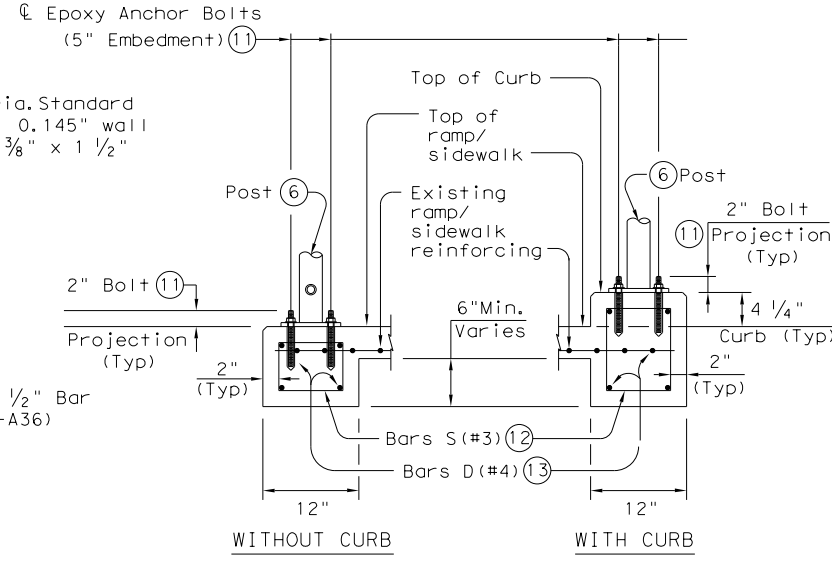
Payment for concrete sidewalks or curb ramps will be paid for in accordance with Item 531 "Sidewalks".

Payment for all items shown is to be included in unit price bid in accordance with Item 450 "Railing" of the type specified.

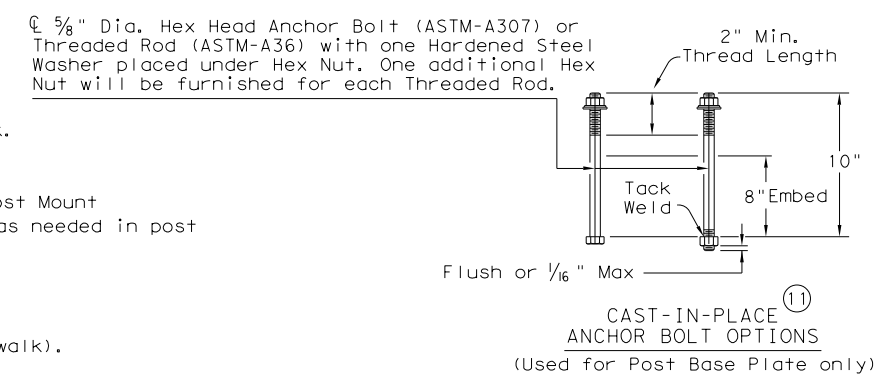
All exposed edges will be rounded or chamfered to approximately 1/8 inch by grinding.



TYPICAL WALL MOUNT DETAILS

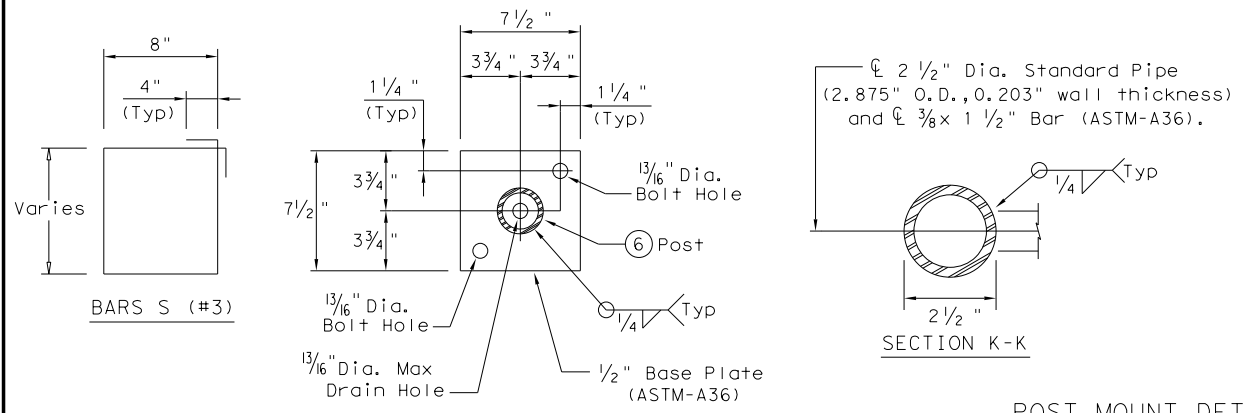


SECTION AT RAIL POST FOUNDATIONS



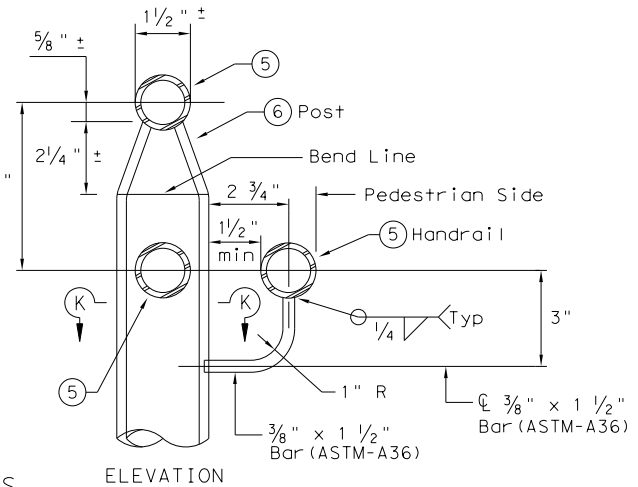
CAST-IN-PLACE ANCHOR BOLT OPTIONS (Used for Post Base Plate only)

- (5) 1 1/2" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp/sidewalk. Provide holes as needed in 1 1/2" Dia. pipe for galvanizing drainage and venting.
- (6) 2 1/2" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). Plumb all posts. See "Post Mount Detail" for crimping and trimming post to fit the diameter of top rail. Provide holes as needed in post for galvanizing drainage and venting.
- (11) See "General Notes" for anchor bolt information.
- (12) Bars S (#3) spaced at 12" Max (Spaced 3" from outside edge of overall length of Ramp/Sidewalk).
- (13) Provide 1 1/2" end cover to Bars D (#4) from outside edge of overall length of Ramp/Sidewalk.



TYPICAL POST BASE PLATE DETAIL

POST MOUNT DETAILS



ELEVATION

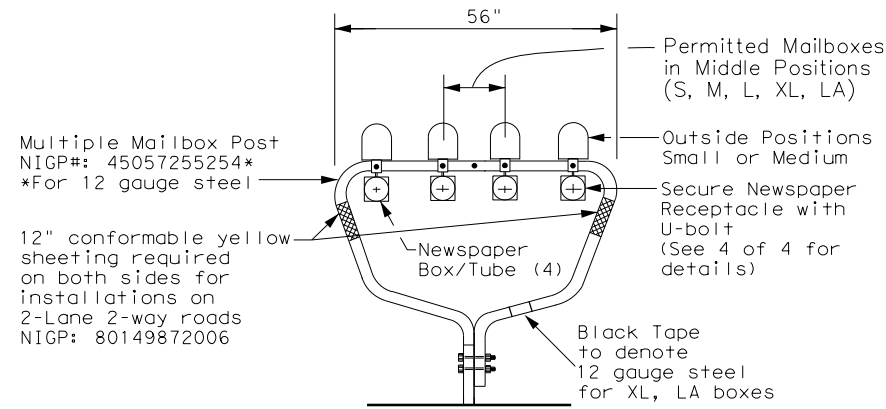
		<b>Design Division Standard</b>	
<h2>PEDESTRIAN HANDRAIL DETAILS</h2> <h3>PRD-13</h3>			
FILE: prd13.dgn	DN: TxDOT	CK: AM	DW: JTR
©TxDOT December 2006	CONT	SECT	JOB
REVISIONS	0114	17	010
REVISED MAY, 2013 (VP)	DIST	COUNTY	SHEET NO.
	AUS	BASTROP	80

DATE: 5/24/2022  
 FILE: \$FILES\$

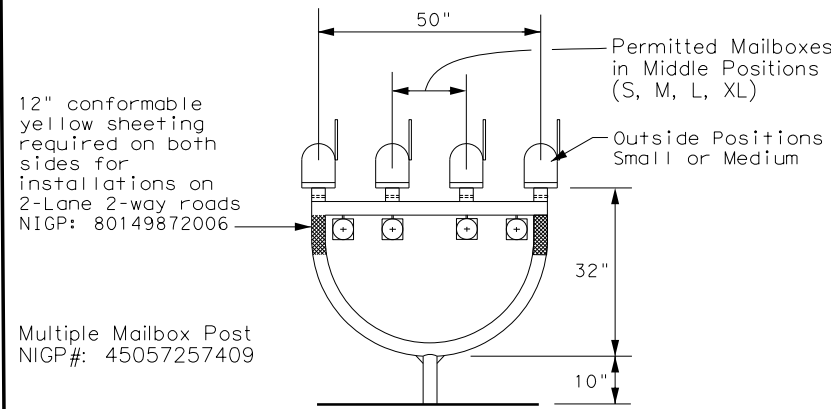
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DATE: 5/24/2022 1:55:24 PM  
 FILE: \$FILES\$

### TYPE 1 - MULTIPLE



### TYPE 4 - MULTIPLE



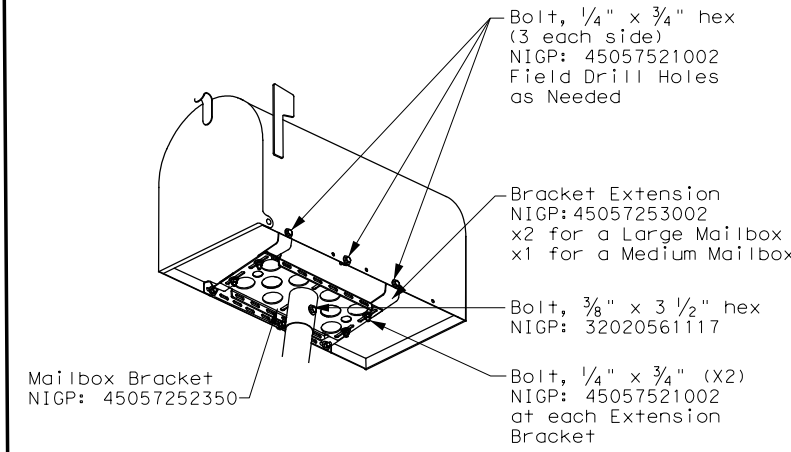
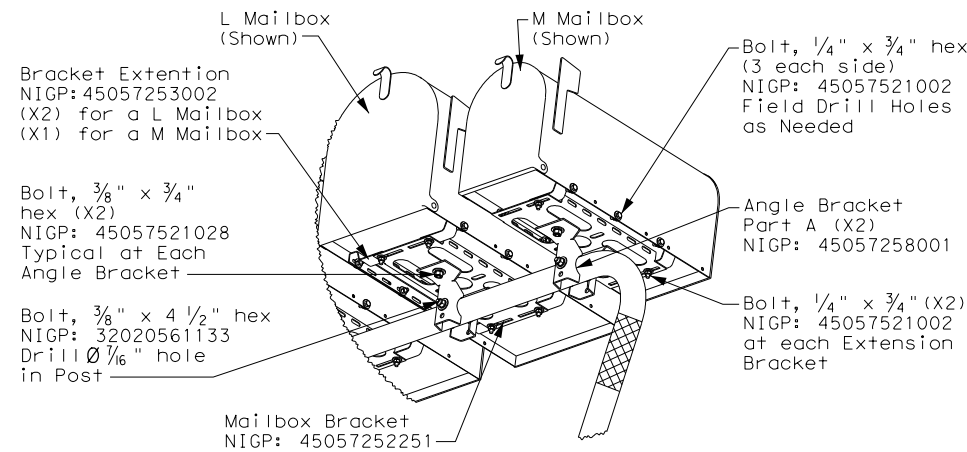
### MAILBOX SIZES

MAILBOX SIZE	TYPICAL DIMENSIONS			MAX **
	LENGTH	WIDTH	HEIGHT	WEIGHT
SMALL	19 1/2"	6"	7"	6 LBS
MEDIUM	22 1/2" *	8" *	11 1/2" *	8 LBS
LARGE	23 1/2"	11 1/2"	13 1/2"	11 LBS
EXTRA LARGE	18"	14"	12"	13 LBS
LOCKABLE	18"	11 1/2"	15"	23 LBS

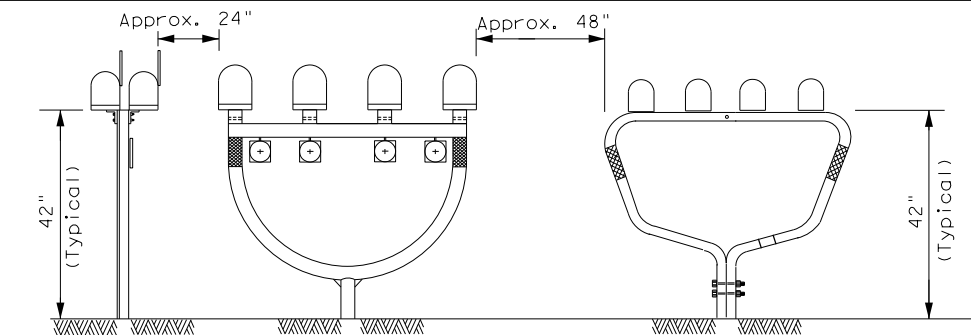
\* See Note 1.  
 \*\* Excluding Molded Plastic on 4 X 4 Post

### GENERAL NOTES:

- Dimensions shown (length, width, and height) are typical, not maximums. However, anytime a medium size mailbox is mounted on a single/double mount or on the outside position on a multi mount, the dimensions shown are maximums.
- Mailboxes shall be made of light weight sheet metal or light weight plastic. Heavy steel, cast iron or decorative mailboxes shall not be used on the state highway system.



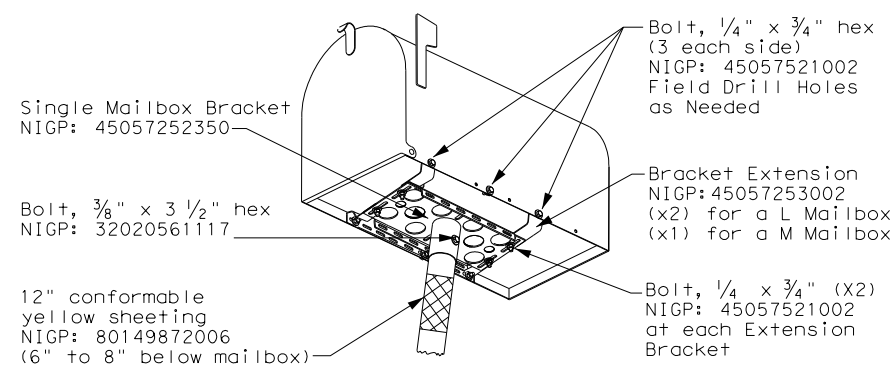
### TYPICAL INSTALLATION MEASUREMENTS



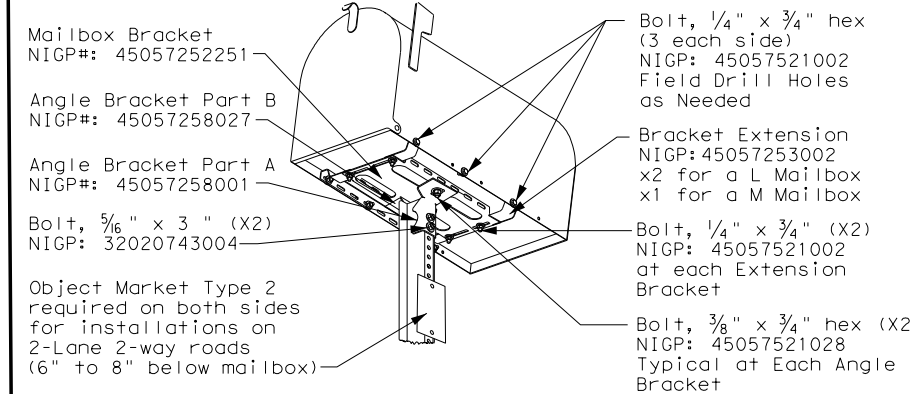
### NOTE:

Mailbox installations in sidewalk areas shall be in accordance with the latest TxDOT Design Standard sheets PED-Pedestrian Facilities Curb Ramps.

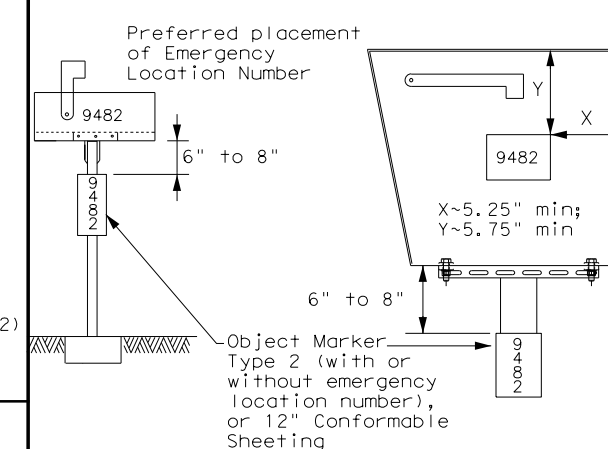
### TYPE 2 and 4 - SINGLE/DOUBLE



### TYPE 3 - SINGLE/DOUBLE

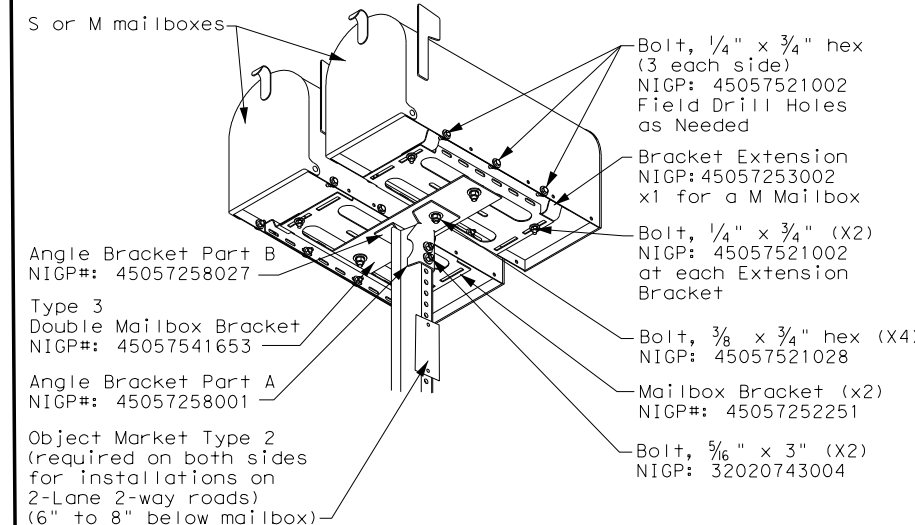
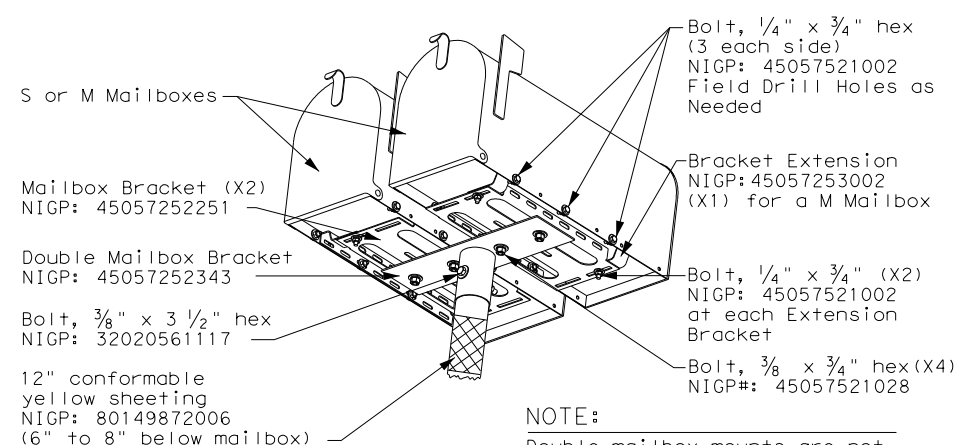


### PLACEMENT OF EMERGENCY LOCATION NUMBER

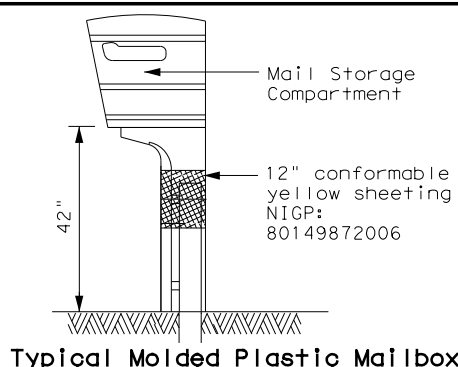


### NOTES:

- Location numbers are provided by homeowner. Minimum size 1" height.
- Location number is typically placed on the mailbox in a contrasting color.
- Black numbers may be placed on the Type 2 object marker if the numbers cannot be placed on the mailbox.
- Alternatively, a green or blue plate with white numbers attached may be mounted below the object marker. Other contrasting color configuration, as approved, may be used.
- See 3 of 4 for Foundation details.
- See 4 of 4 for Hardware details.



### TYPE 5



SHEET 1 OF 4



## MAILBOX MOUNTING AND ASSEMBLY

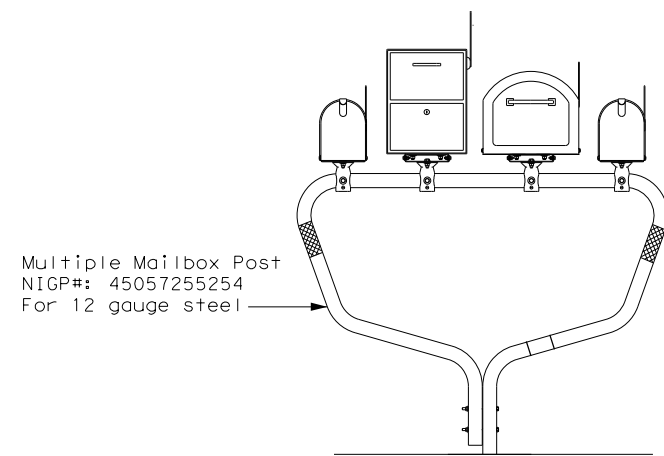
### MB(1)-21

FILE: MB-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT March 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
2/2005	11/2009	4/2015		
6/2005	1/2011			
11/2006	7/2014			
	DIST	COUNTY		SHEET NO.
	AUS	BASTROP		81

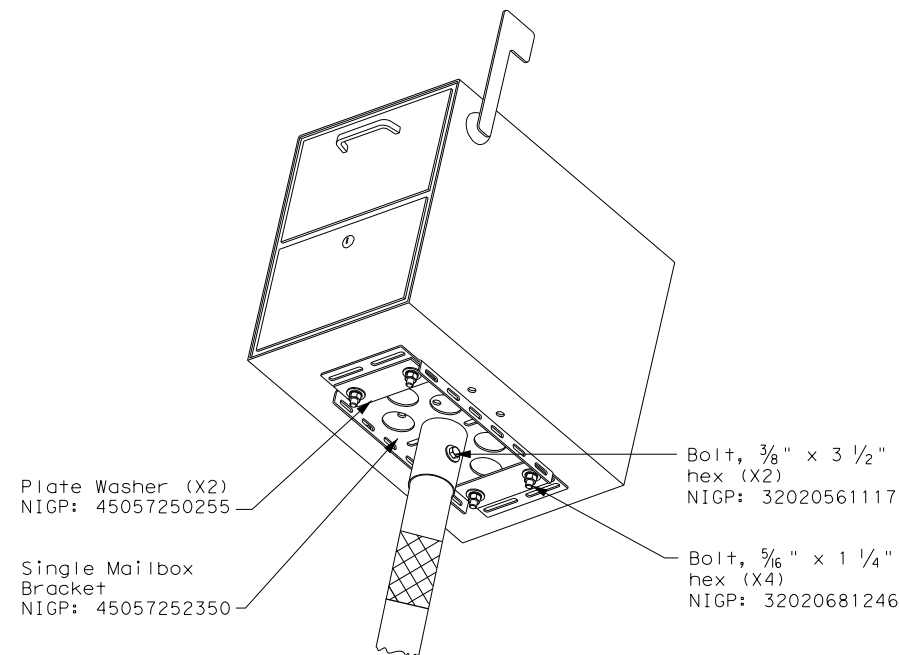


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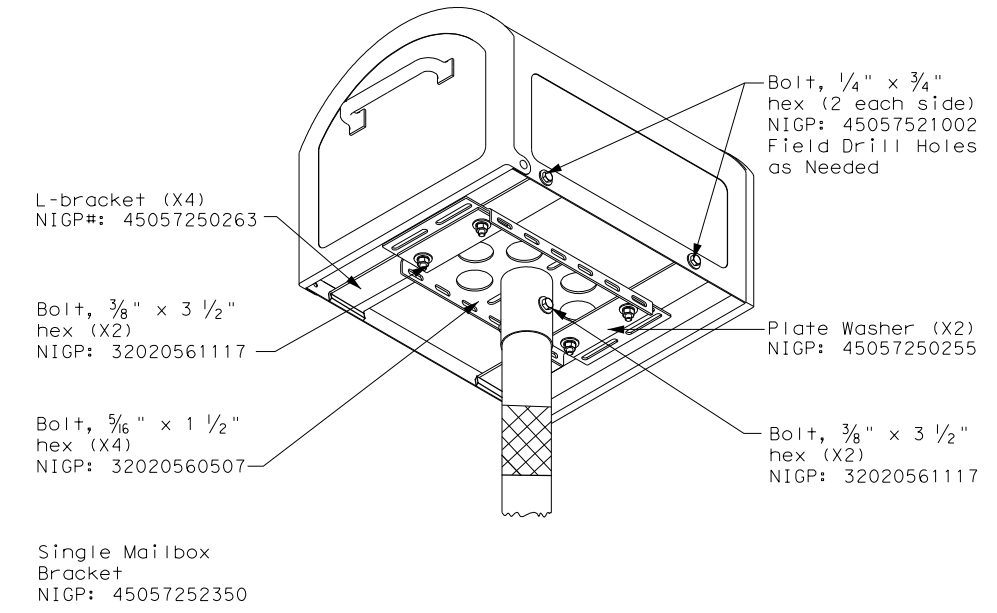
TYPE 1 - MULTI LOCKABLE AND XL MAILBOX



TYPE 2/4 - SINGLE LOCKABLE MAILBOX

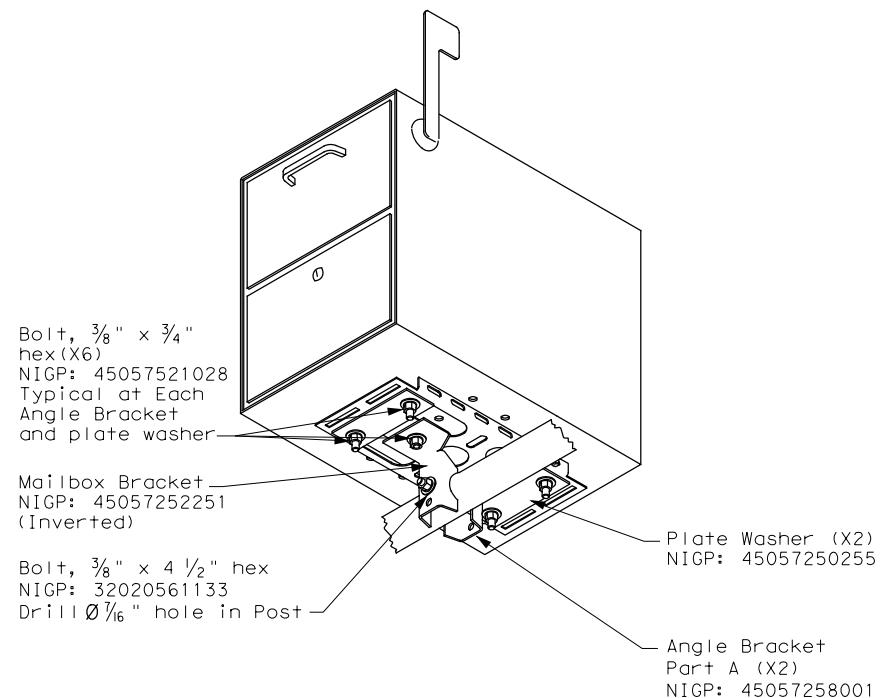


TYPE 2/4 - SINGLE XL MAILBOX

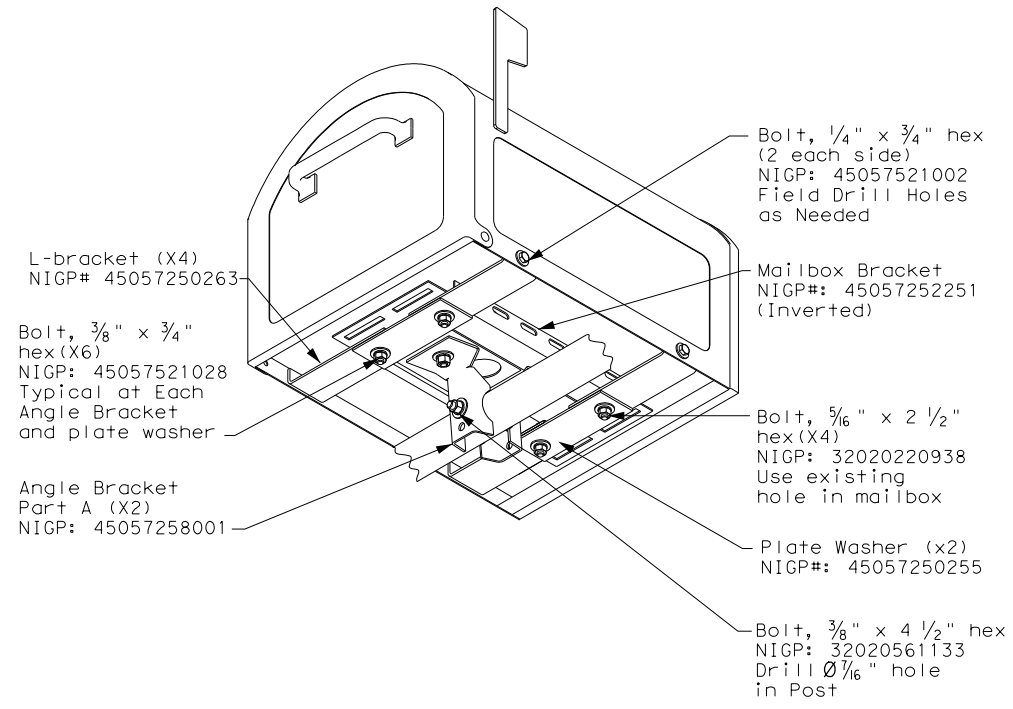


NOTE:  
Follow same configuration when mounting an XL mailbox on a Type 4 multi post.

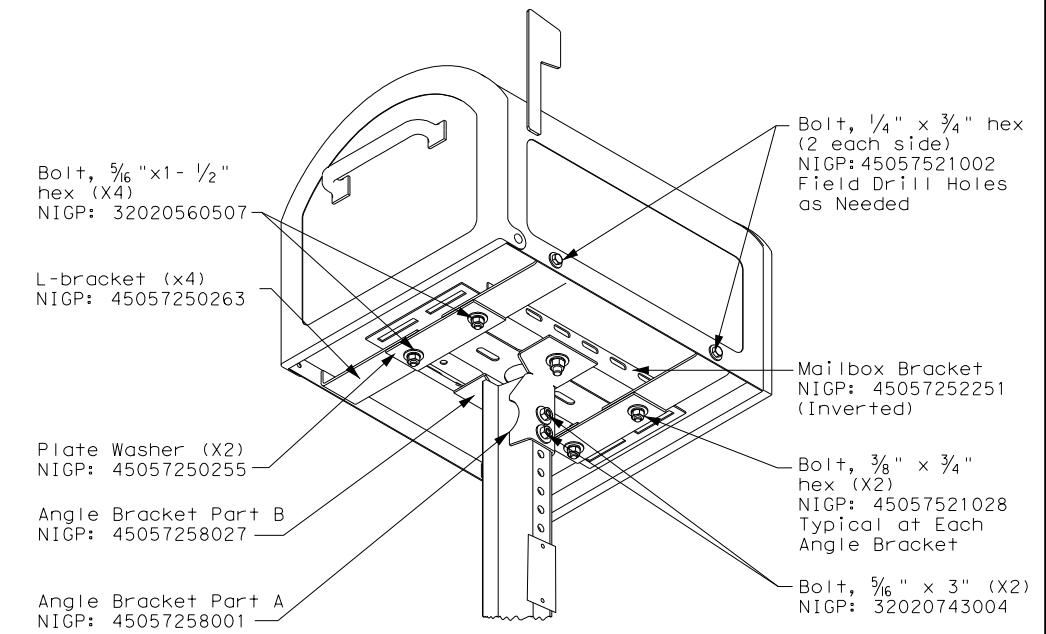
TYPE 1 MULTI - LOCKABLE ARCHITECTURAL (LA)



TYPE 1 MULTI - XL MAILBOX



TYPE 3 - XL MAILBOX MOUNTING



SHEET 2 OF 4

Texas Department of Transportation Maintenance Division Standard

XL AND LOCKABLE ARCHITECTURAL MAILBOX ASSEMBLY MB (2) -21

FILE: MB-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT March 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
2/2005	11/2009	4/2015		
6/2005	1/2011			
11/2006	7/2014			
	DIST	COUNTY	SHEET NO.	
	AUS	BASTROP	82	

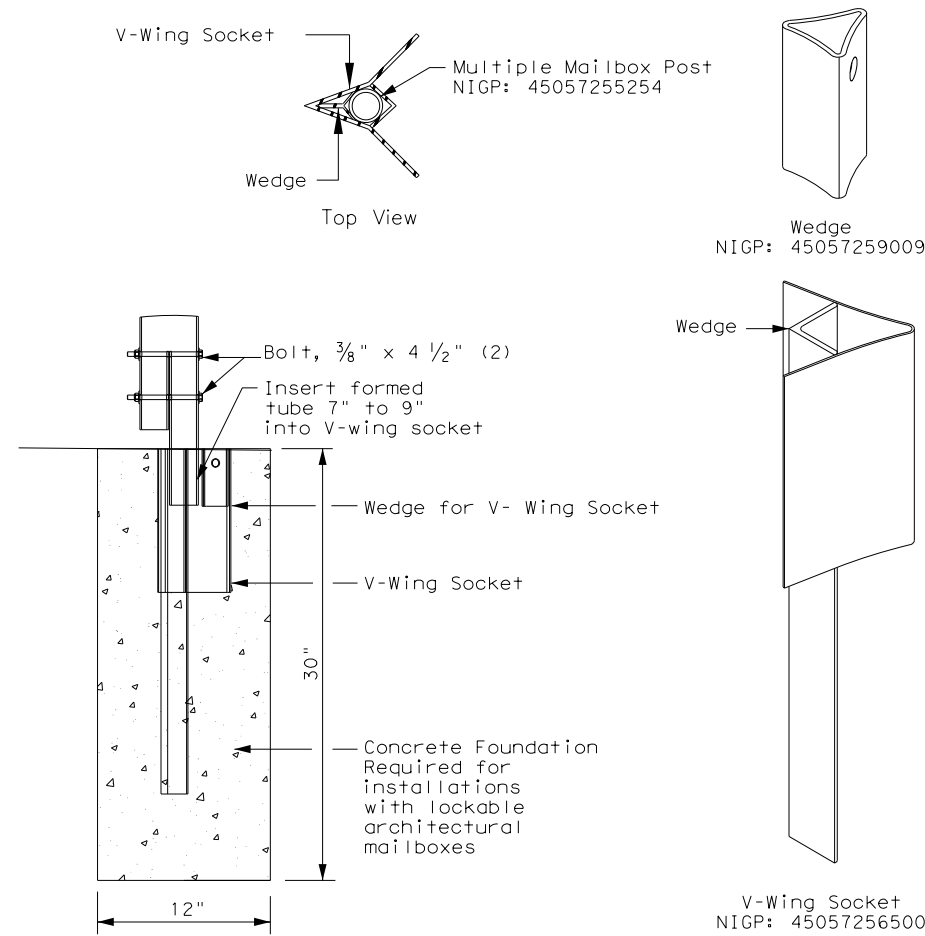
DATE: 5/24/2022 1:55:25 PM  
FILE: \$FILES

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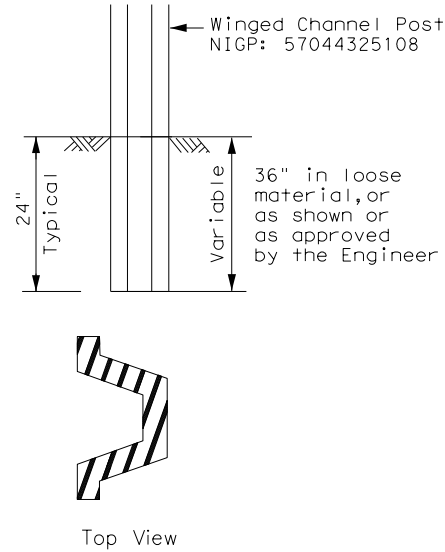
DATE: 5/24/2022 1:55:25 PM  
 FILE: \$FILES\$

### TYPE 1 - SUPPORT/FOUNDATION

Thin Wall Tube w/ V-LOC Anchorage



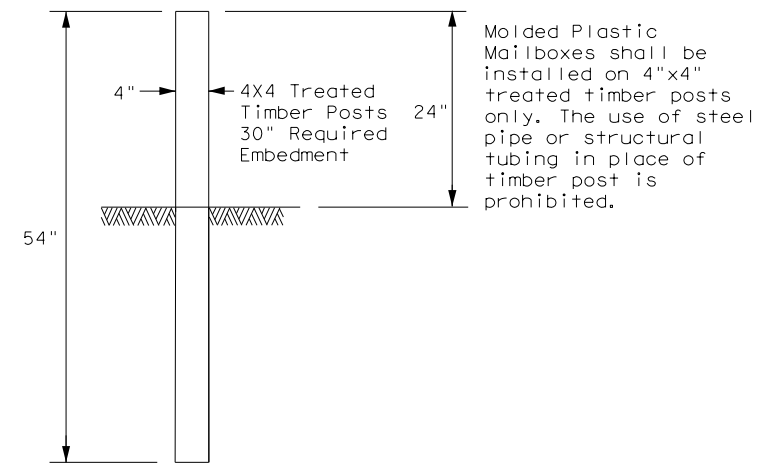
### TYPE 3 - SUPPORT/FOUNDATION



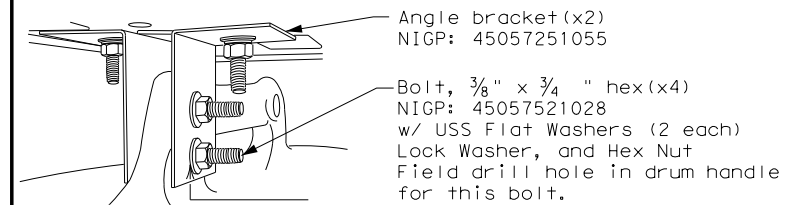
**NOTES:**

1. Attach Object Marker (OM) facing direction of traffic.
2. OM will also be required on opposite side if installed on a 2-Lane, 2-Way roadway.

### TYPE 5 - SUPPORT/FOUNDATION



### TYPE 6 - TEMPORARY MAILBOX SUPPORT



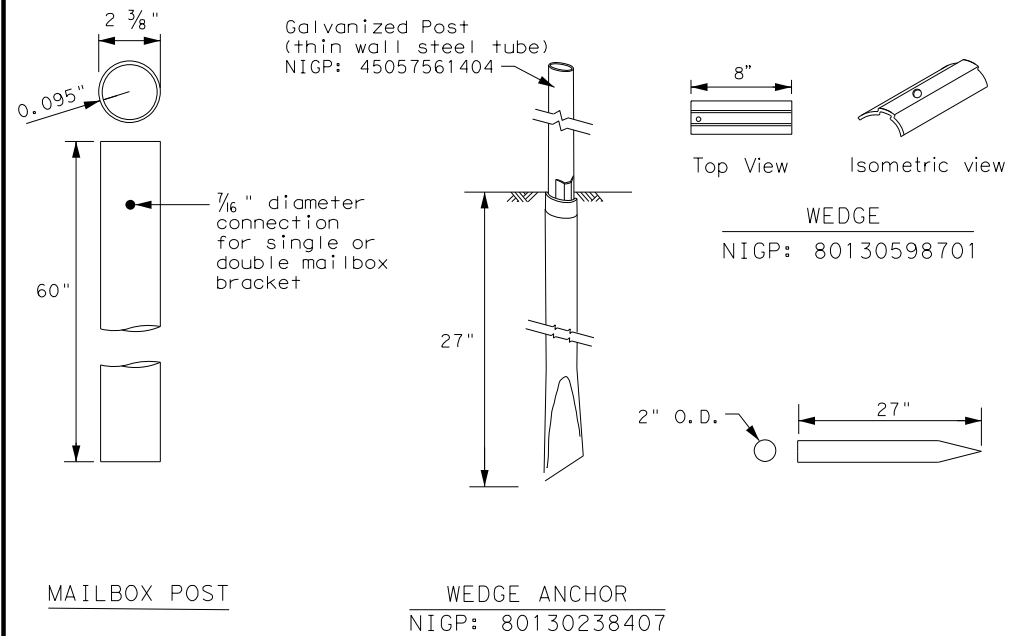
Plastic Drum NIGP: 55093383655  
 Rubber Collar NIGP: 55093387102

**NOTES:**

1. Place on approved plastic drum as shown in the Compliant Work Zone Traffic Control Devices (CWZTCD).
2. Existing attachment hardware shall be used unless damaged. Damaged hardware shall be replaced.

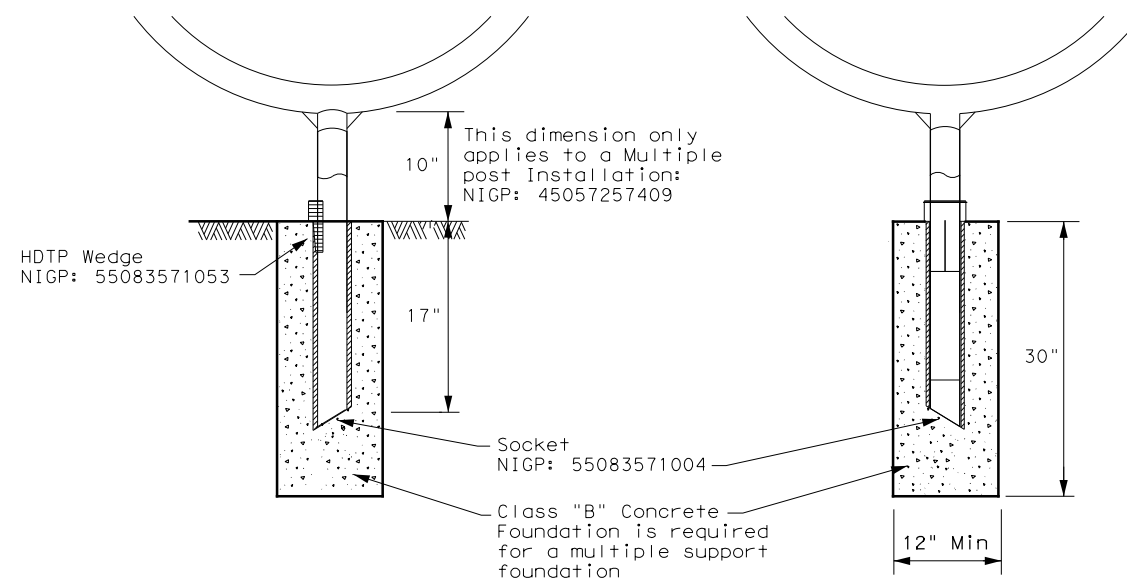
### TYPE 2 - SUPPORT/FOUNDATION

Thin Wall Steel Tube w/Wedge Anchor System



### TYPE 4 - SUPPORT/FOUNDATION

Whitecoated steel post NIGP: 45057561107  
 Multiple post NIGP: 45057257409  
 Recycled Rubber post (RR) NIGP: 45057561057



**GENERAL NOTES:**

1. Erect post plumb or vertical.
2. When galvanized part is required galvanize in accordance with Item 445.
3. Use a concrete footing as shown or when directed. Concrete footing will be required when soils do not hold the support/foundations in a stable condition, only on Type 1, Type 2, and Type 4

SHEET 3 OF 4



## MAILBOX SUPPORT AND FOUNDATION

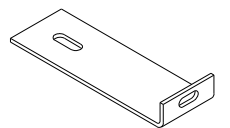
### MB (3) -21

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© TxDOT March 2004	CONT	SECT	JOB	HIGHWAY
2/2005	0114	17	010	SL 109
6/2005	DIST	COUNTY	SHEET NO.	
11/2006	AUS	BASTROP	83	

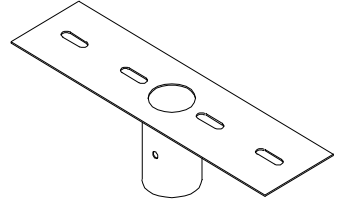
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practitioner Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its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

DATE: 5/24/2022 1:55:26 PM  
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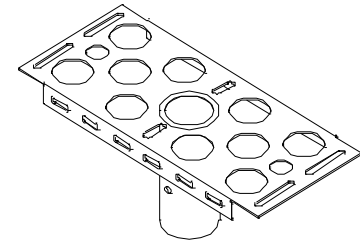
TYPE	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6
Configuration	Multiple	Single or Double	Single or Double	Single	Double	Multiple
Mailbox Size NIGP #	Outside Position: S or M Inside Position: S, M, L, XL, or LA	Single: S, M, L, XL, or LA Double: SS, SM, MM	Single: S, M, L, or XL Double: SS, SM, MM	S, M, L, XL, or LA	SS, SM, or MM	Outside Position: S or M Inside Position: S, M, L, or XL
Mailbox Post NIGP #	45057255254 (Galvanized Multiple)	45057561404 (Thin Walled Gavanize)	57044325108 (Wing Channel Post)	45057561107 (Thin walled white powder coated) 45057561057 (Recycled Rubber Post: S or M only)	45057561107 (Thin Walled White Powder Coated)	45057257409 (White Powder Coated Multiple)
Post and Mailbox Hardware NIGP #	45057259009 (Wedge) 45057256500 (V-Wing Socket) 45057253002 (Bracket Extension) 45057252251 (Mailbox Bracket) 45057258001 (Part A Angle Bracket x2) 45057250255 (Plate Washer for XL/LA x2) 45057250263 (L-Bracket for XL x4)	80130598701 (Wedge) 80130238407 (Wedge Anchor) 45057253002 (Bracket Extension) 45057252343 (Double MB Bracket) 45057252350 (S. Mailbox Bracket) 45057252251 (Mailbox Bracket) 45057250255 (Plate Washer for XL/LA x2) 45057250263 (L-Bracket for XL x4)	45057541653 (Type 3 Double Mailbox Bracket) 45057252251 (Mailbox Bracket) 45057253002 (Bracket Extension) 45057258001 (Part A Angle Bracket) 45057258027 (Part B Angle Bracket) 45057250255 (Plate Washer for XL x2) 45057250263 (L-Bracket for XL x4)	55083571053 (Wedge) 55083571004 (Socket) 45057252350 (Single Mailbox Bracket) 45057253002 (Bracket Extension) 45057250255 (Plate Washer for XL/LA x2) 45057250263 (L-Bracket for XL x4)	55083571053 (Wedge) 55083571004 (Socket) 45057253002 (Bracket Extension) 45057252350 (Single Mount Bracket) 45057250255 (Plate Washer for XL x2) 45057252251 (Mailbox Bracket x2)	55083571053 (Wedge) 55083571004 (Socket) 45057253002 (Bracket Extension) 45057252350 (Single Mount Bracket) 45057250255 (Plate Washer for XL x2) 45057250263 (L-Bracket for XL x4)
Foundation Used	Class B Concrete (Required for LA Mailboxes)	Class B Concrete (Required for LA Mailboxes)	None	Class B Concrete (not used with recycled rubber post, required for LA Mailboxes)	Class B Concrete (not required)	Class B Concrete



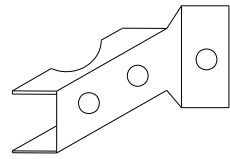
NIGP: 45057250263  
L-Bracket x4 for XL sized mailboxes



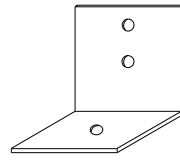
NIGP: 45057252343  
Double Mailbox Bracket  
For Type 2 and Type 4 double mount



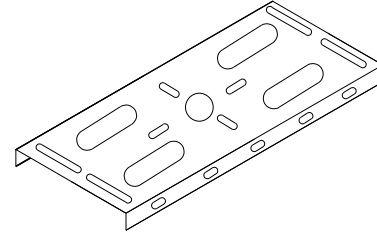
NIGP: 45057252350  
Single Mailbox Bracket  
For Type 2 single and for Type 4 single and multi mount



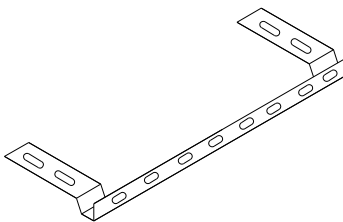
NIGP: 45057258001  
Part "A" Angle Bracket  
For Type 1 multi (2 per mailbox) and Type 3 single and double



NIGP: 45057251055  
Type 6 Angle Bracket  
(2 per mailbox)



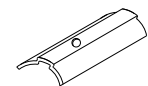
NIGP: 45057252251  
Mailbox Bracket  
For Type 1 multi and any double mount (use 2)




NIGP: 45057253002  
Bracket Extension  
Use 1 for a medium Mailbox  
Use 2 for a Large Mailbox




NIGP: 45057258027  
Part "B" Angle Bracket  
For Type 3 single and double



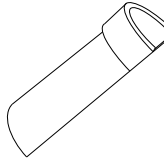
NIGP: 80130598701  
Wedge for Type 2



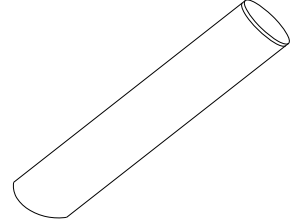
NIGP: 45057250255  
Plate Washer for Architecural and XL Mailboxes




NIGP: 45057541653  
Type 3 double mailbox bracket



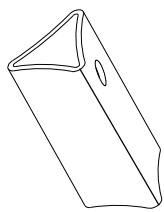
NIGP: 55083571053  
Type 4 Mailbox Wedge



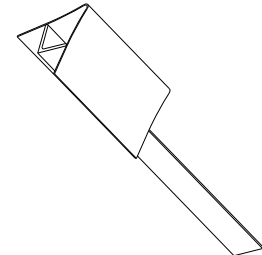
NIGP: 55083571004  
Type 4 Mailbox Socket



NIGP: 80130238407  
Type 2 Wedge Anchor



NIGP: 45057259009  
Wedge for Type 1 V-wing Socket



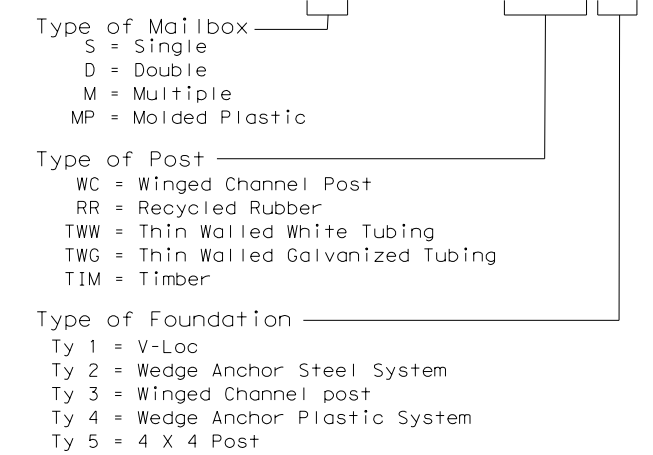
NIGP: 45057256500  
V-wing Socket for Type 1 Foundation

NIGP #	OBJECT MARKERS AND CONFORMABLE SHEETING
55008311759	Type 2 OM 4"x4" (3 Needed) for Type 3 Wing Channel Post
55008312906	Type 2 OM 6"x12" (1 needed) for Type 3 Wing Channel Post
80149872006	12" Conformable Reflective Yellow Sheeting for Flexible Posts


**NOTES:**

- Type 2 object marker in accordance with Traffic Engineering Standard Delineators & Object Markers.
- A light weight receptacle for newspaper delivery can be attached to mailbox posts if the receptacle does not touch the mailbox, present a hazard to traffic or delivery of the mail, extend beyond the front of the mailbox, or display advertising, except the publication title.

BID CODES FOR CONTRACTS  
MB-(X) ASSM TY (XXX) (X)

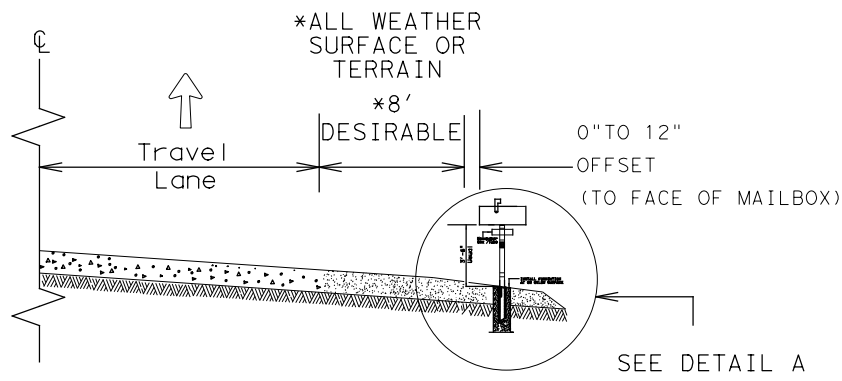


SHEET 4 OF 4

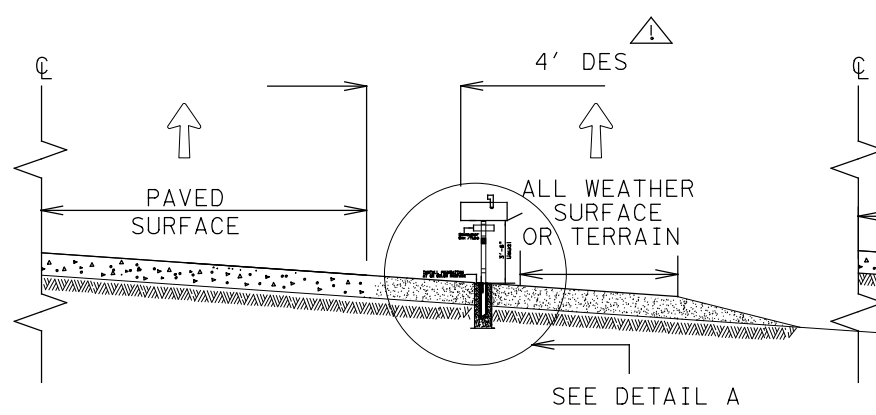
 Texas Department of Transportation				Maintenance Division Standard	
<h2>NIGP PARTS LIST AND COMPATIBILITY</h2> <h3>MB(4)-21</h3>					
FILE: MB-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT	
© TxDOT March 2004	CONT	SECT	JOB	HIGHWAY	
2/2005	0114	17	010	SL 109	
6/2005	DIST	COUNTY	SHEET NO.		
11/2006	AUS	BASTROP	84		

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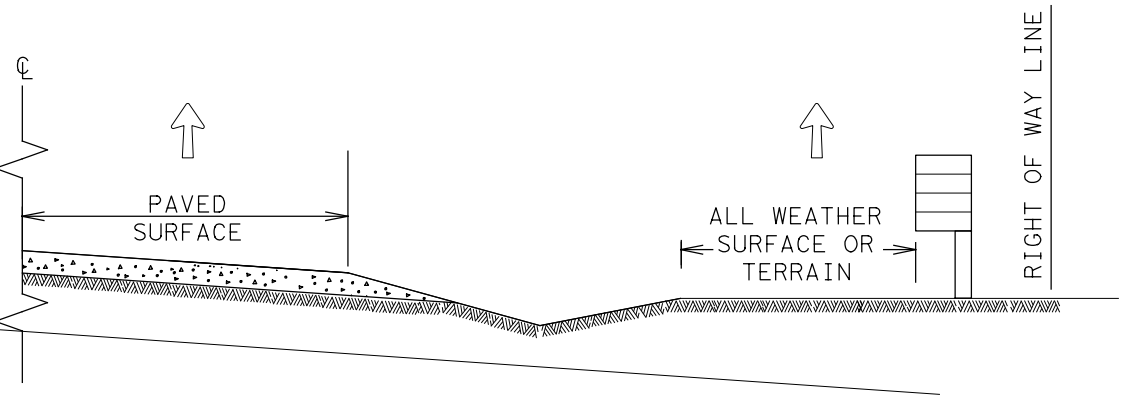
DATE: 5/24/2022 1:55:29 PM  
FILE: \$FILES\$



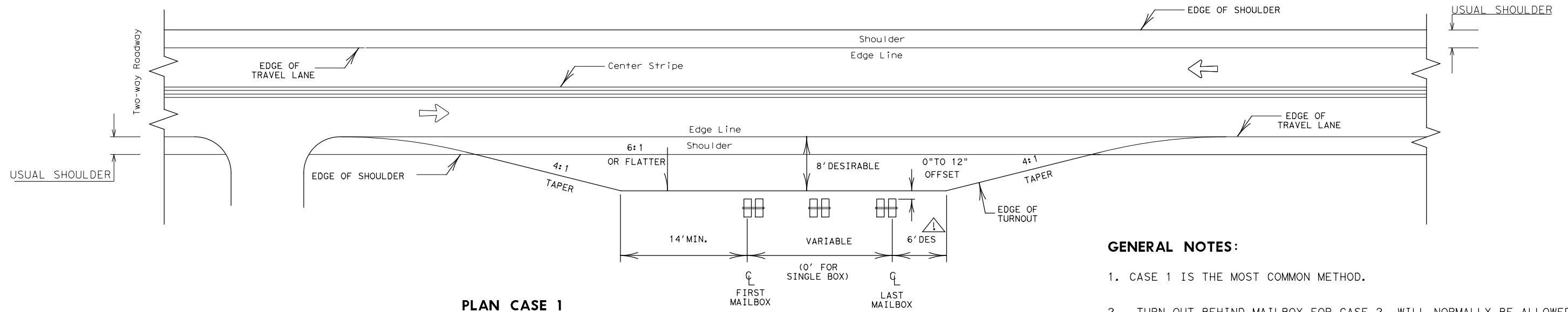
**CASE 1. OFF TRAVEL WAY DELIVERY**



**CASE 2. BACK SIDE DELIVERY**



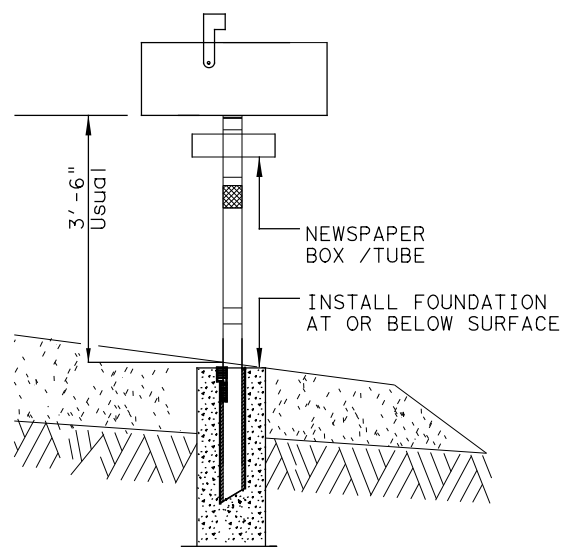
**CASE 3. DELIVERY NEAR RIGHT OF WAY LINE**



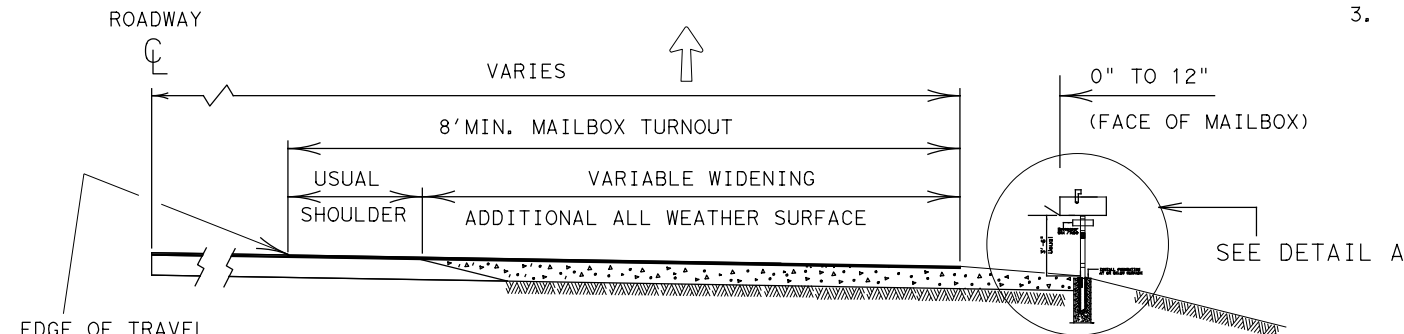
**PLAN CASE 1**

**GENERAL NOTES:**

1. CASE 1 IS THE MOST COMMON METHOD.
2. TURN OUT BEHIND MAILBOX FOR CASE 2 WILL NORMALLY BE ALLOWED FOR NATURAL TERRAIN THAT WILL SERVE AS AN ALL WEATHER SURFACE.
3. ALL WEATHER DRIVEWAYS FOR CASE 3 MAILBOXES LOCATED AT THE RIGHT OF WAY LINE SHOULD NORMALLY BE PLACED IN CONJUNCTION WITH COUNTY ROADS OR OTHER CONNECTING COMMUNITY ROADS OR STREETS. IF THE NUMBER OF MAILBOXES EXCEEDS FOUR, A COMMUNITY MAIL BOX SHOULD BE ENCOURAGED AT THESE LOCATIONS.



**DETAIL A**



**TYPICAL SECTION CASE 1**

↑ MAIL DELIVERY VEHICLE TRAVEL DIRECTION

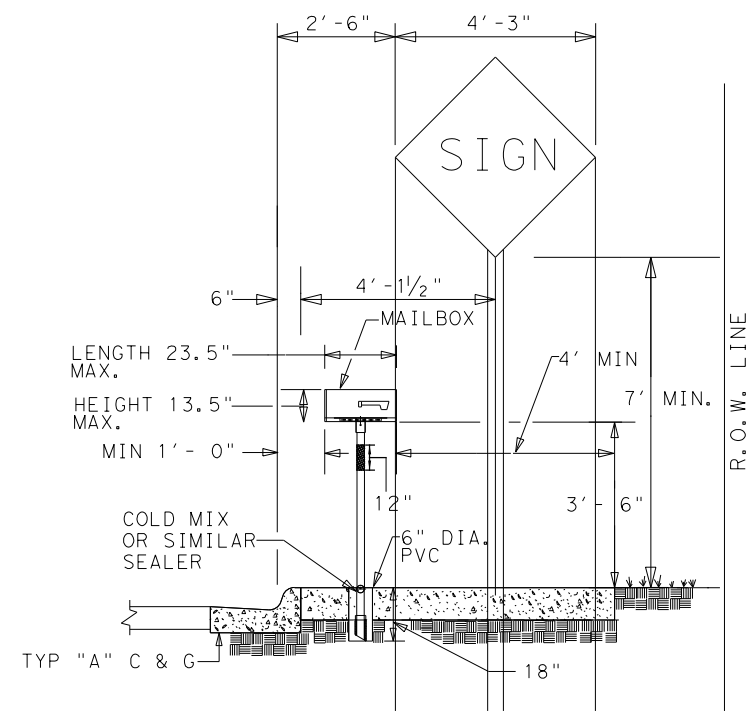
SHEET 1 OF 3

		<b>Maintenance Division Standard</b>	
<i>Guideline</i> <b>MAILBOX SIDE ROAD PLACEMENT AND TURNOUTS MB-14(2)</b>			
FILE: MB14(2).DGN	DN: JEO	CK:	DW: JEO
© TxDOT MAY 2014	CONT	SECT	HIGHWAY
REVISIONS	0114	17	010 SL 109
DECEMBER 2012-NEW TxDOT TITLE BLOCK	DIST	COUNTY	SHEET NO.
	AUS	BASTROP	85

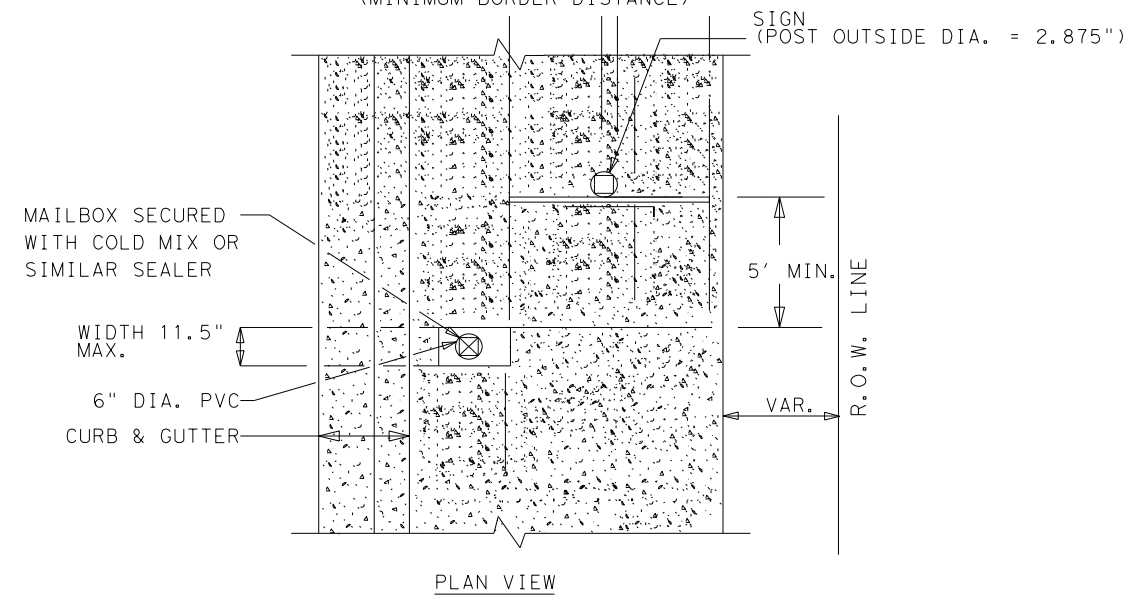


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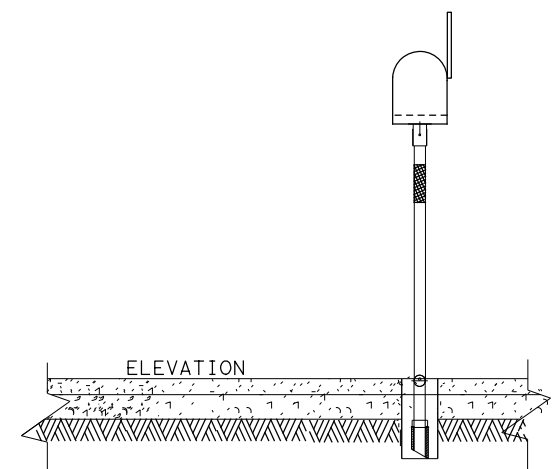
DATE: 5/24/2022 1:55:30 PM  
FILE: \$FILES\$



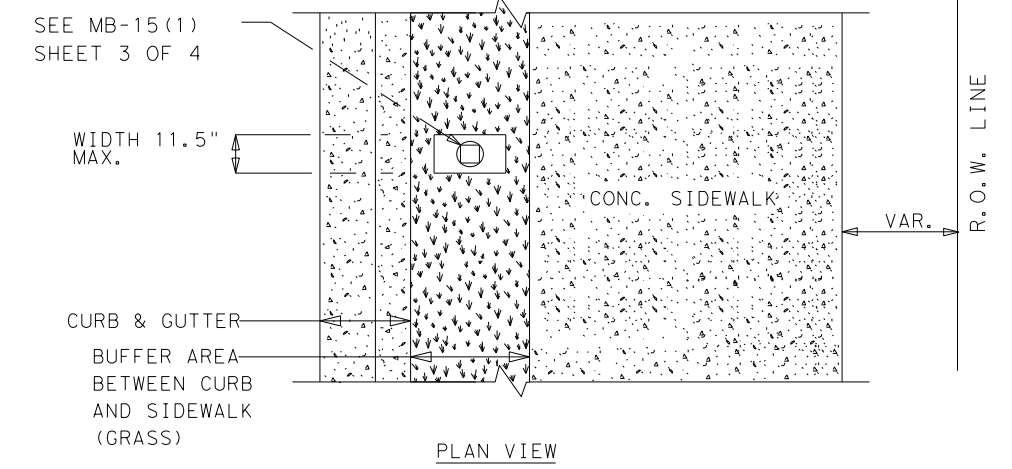
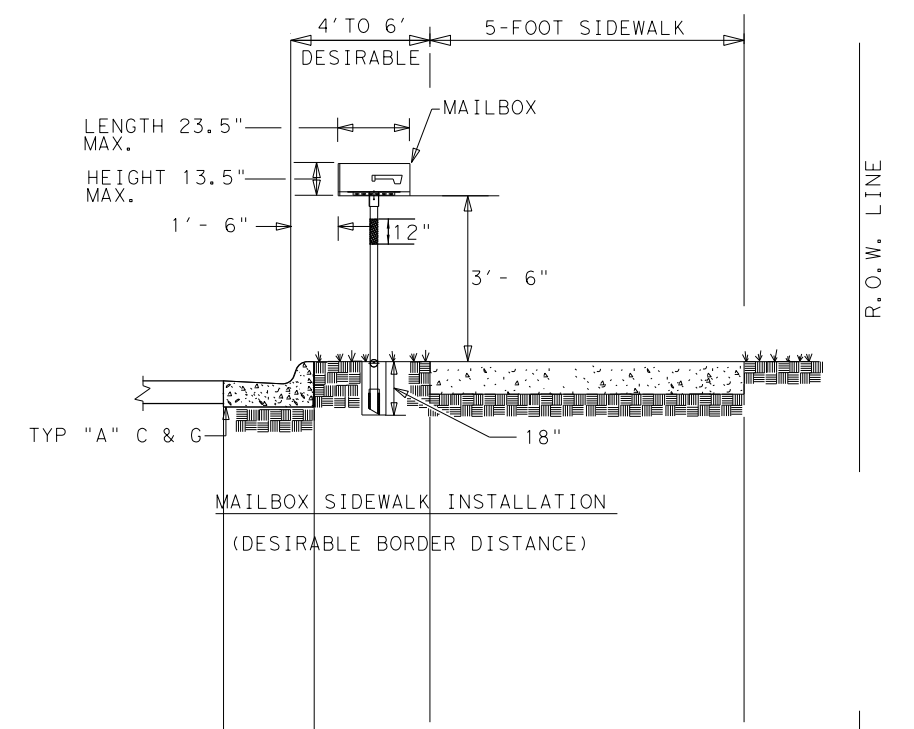
MAILBOX SIDEWALK INSTALLATION RELATIVE TO ANY OTHER OBSTRUCTION SUCH AS A SIGN (MINIMUM BORDER DISTANCE)



PLAN VIEW



ELEVATION



PLAN VIEW

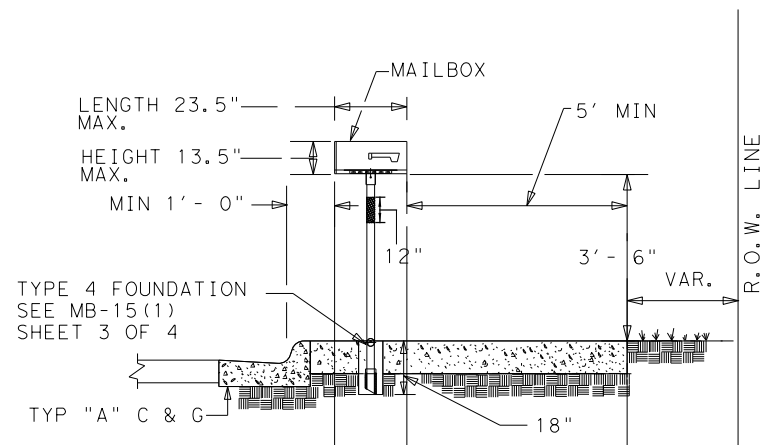
SHEET 2 OF 3

**SINGLE MAILBOX PLACEMENT BEHIND CURBS WITH OR WITHOUT SIDEWALKS MB-14(2A)**

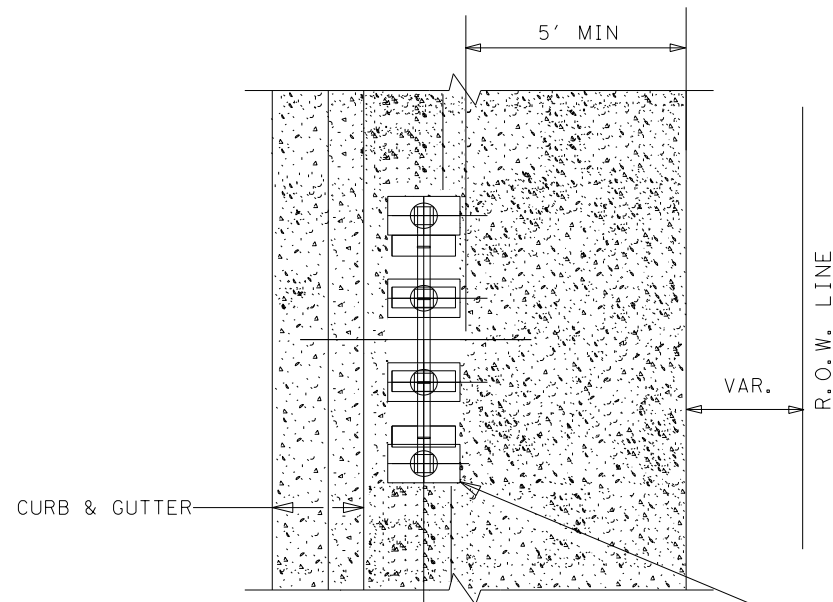
FILE: MB-14(2A)	DN:	CK:	DW:	CK:
© TxDOT MAY 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
	DIST	COUNTY	SHEET NO.	
	AUS	BASTROP	86	

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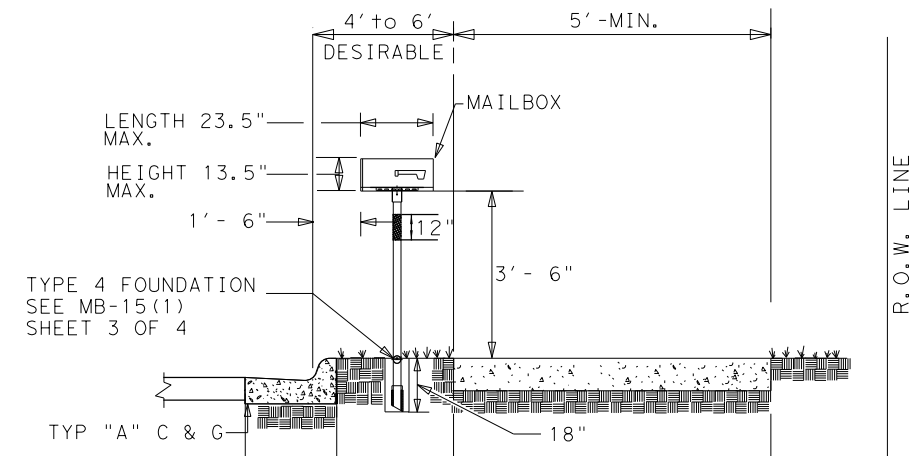
DATE: 5/24/2022 1:55:31 PM  
FILE: \$FILE\$



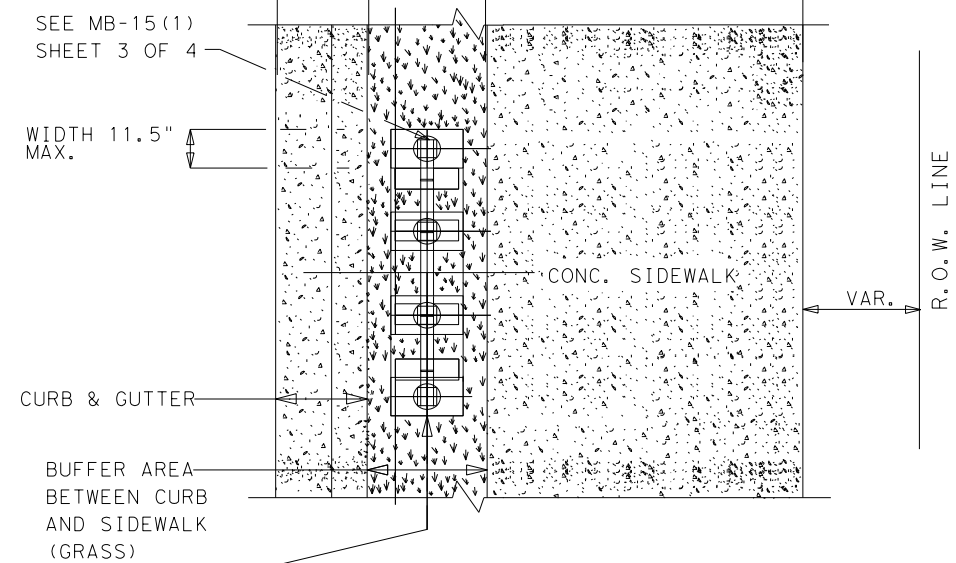
MAILBOX SIDEWALK INSTALLATION RELATIVE TO ANY OTHER OBSTRUCTION SUCH AS A SIGN (MINIMUM BORDER DISTANCE)



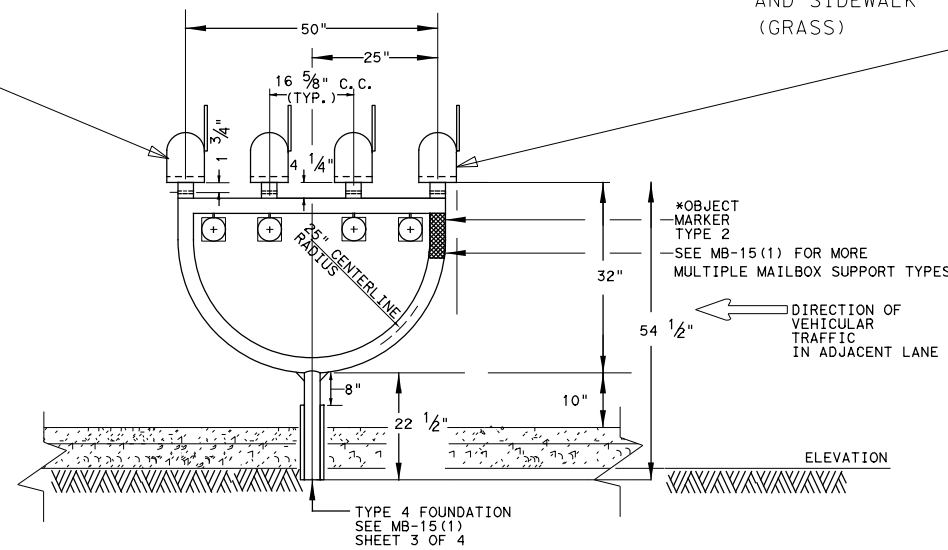
PLAN VIEW



MAILBOX SIDEWALK INSTALLATION (DESIRABLE BORDER DISTANCE)



PLAN VIEW



TYPE 4 FOUNDATION SEE MB-15(1) SHEET 3 OF 4

SHEET 3 OF 3

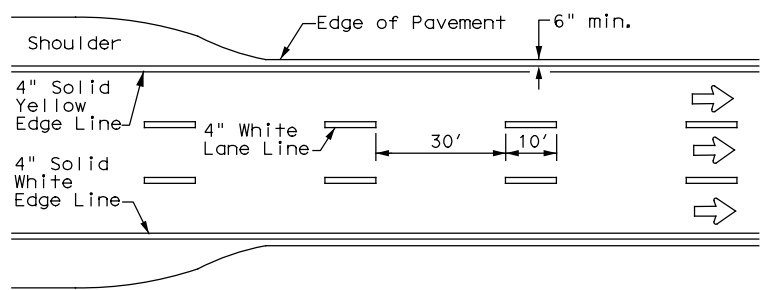


**MULTIPLE MAILBOX PLACEMENT BEHIND CURBS WITH OR WITHOUT SIDEWALKS**

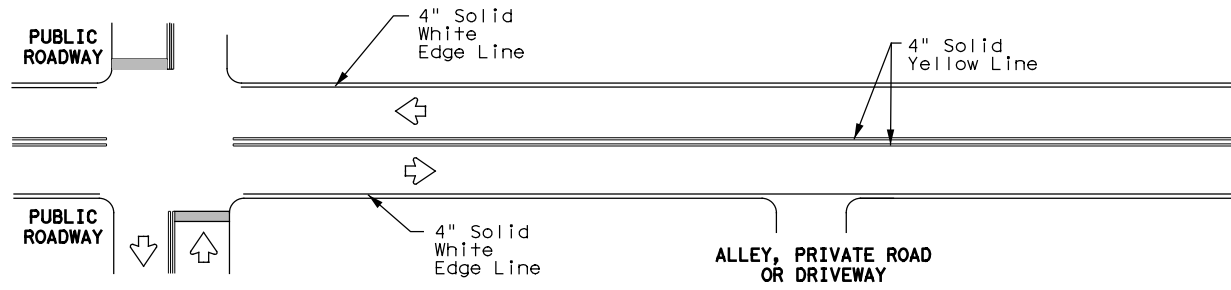
**MB-14(2B)**

FILE: MB-14(2A)	DN:	CK:	DW:	CK:
© TxDOT MAY 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0114	17	010	SL 109
	DIST	COUNTY	SHEET NO.	
	AUS	BASTROP	87	

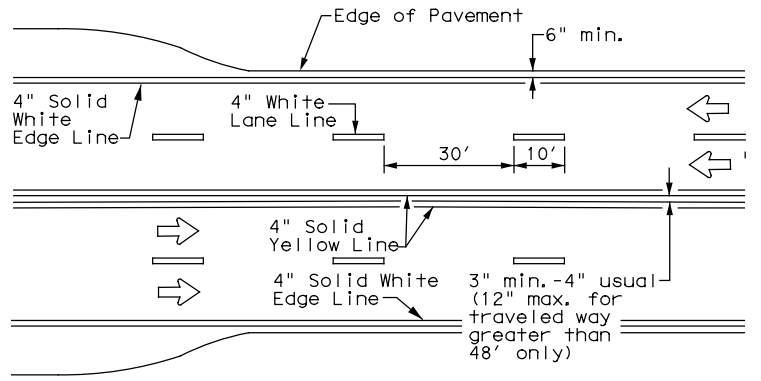
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



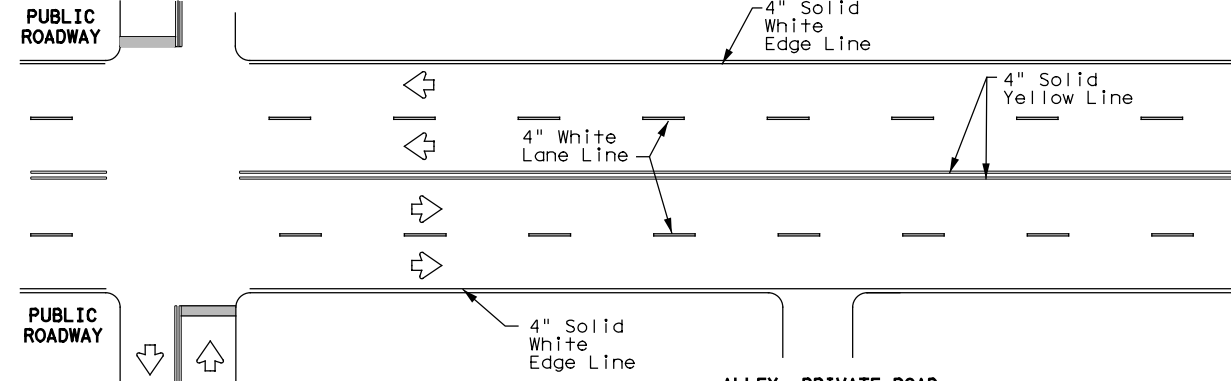
**EDGE LINE AND LANE LINES  
ONE-WAY ROADWAY  
WITH OR WITHOUT SHOULDERS**



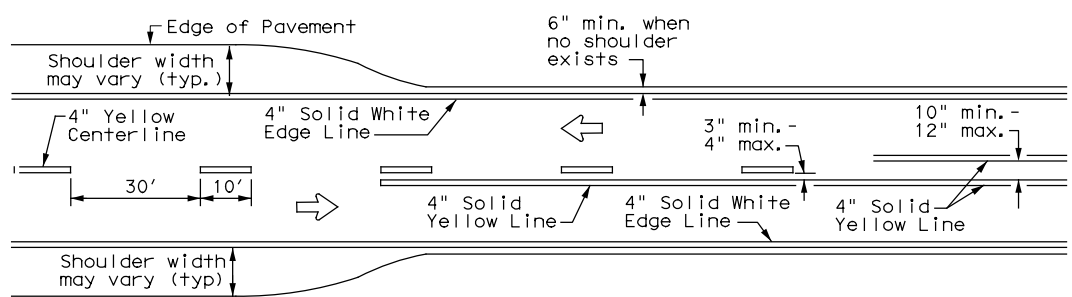
**TYPICAL TWO-LANE, TWO-WAY PAVEMENT  
MARKINGS THROUGH INTERSECTIONS**



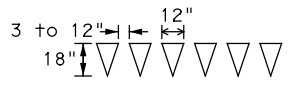
**CENTERLINE AND LANE LINES  
FOUR LANE TWO-WAY ROADWAY  
WITH OR WITHOUT SHOULDERS**



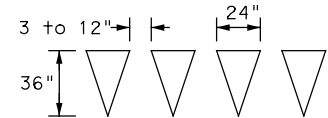
**TYPICAL MULTI-LANE, TWO-WAY PAVEMENT  
MARKINGS THROUGH INTERSECTIONS**



**TWO LANE TWO-WAY ROADWAY  
WITH OR WITHOUT SHOULDERS**



For posted speed on road being marked equal to or less than 40 MPH.



For posted speed on road being marked equal to or greater than 45 MPH.

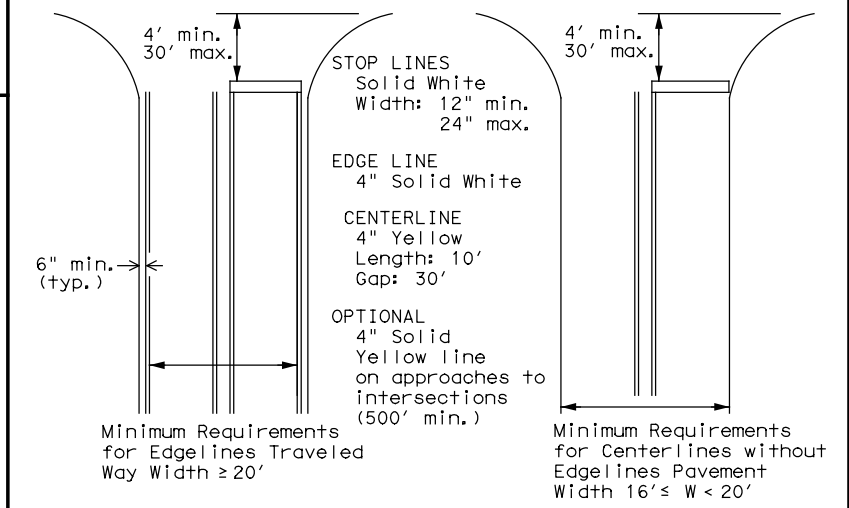
**YIELD LINES**

**GENERAL NOTES**

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to the inside of edgeline of a two lane roadway.

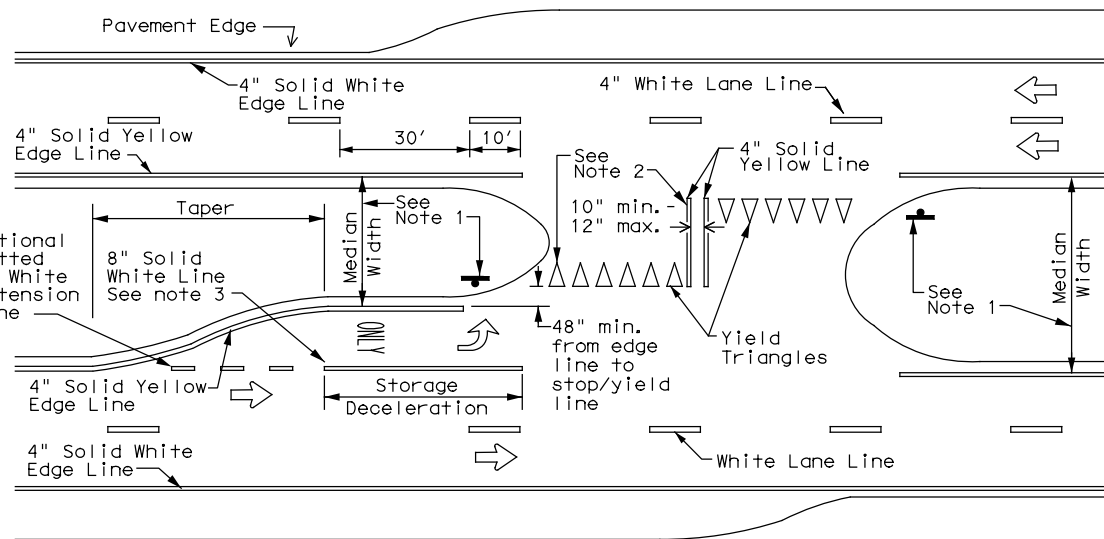
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

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



**GUIDE FOR PLACEMENT OF STOP LINES,  
EDGE LINE & CENTERLINE**

Based on Traveled Way and Pavement Widths for Undivided Highways



**FOUR LANE DIVIDED ROADWAY CROSSOVERS**

**NOTES**

1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop bars/yield triangles) when a 50' or greater median centerline can be placed. Stop bars shall only be used with stop signs. Yield triangles shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.



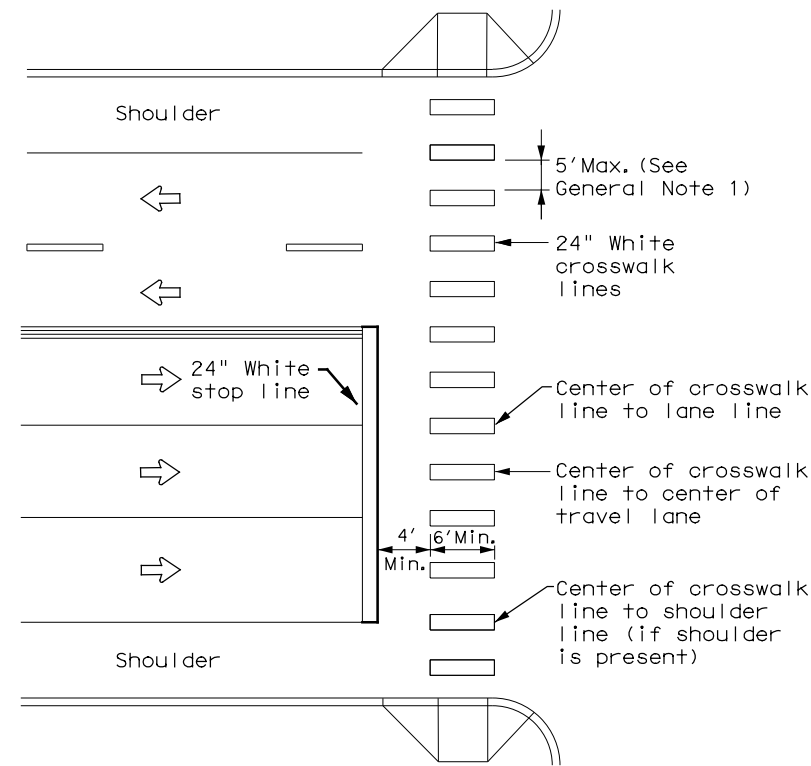
**TYPICAL STANDARD  
PAVEMENT MARKINGS**

**PM(1)-20**

FILE: pm1-20.dgn	DN:	CK:	DW:	CK:
© TxDOT November 1978	CONT	SECT	JOB	HIGHWAY
8-95 3-03 REVISIONS	0114	17	010	SL 109
5-00 2-12	DIST	COUNTY	SHEET NO.	
8-00 6-20	AUS	BASTROP	88	

DATE: 5/24/2022 1:55:33 PM  
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**HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH**

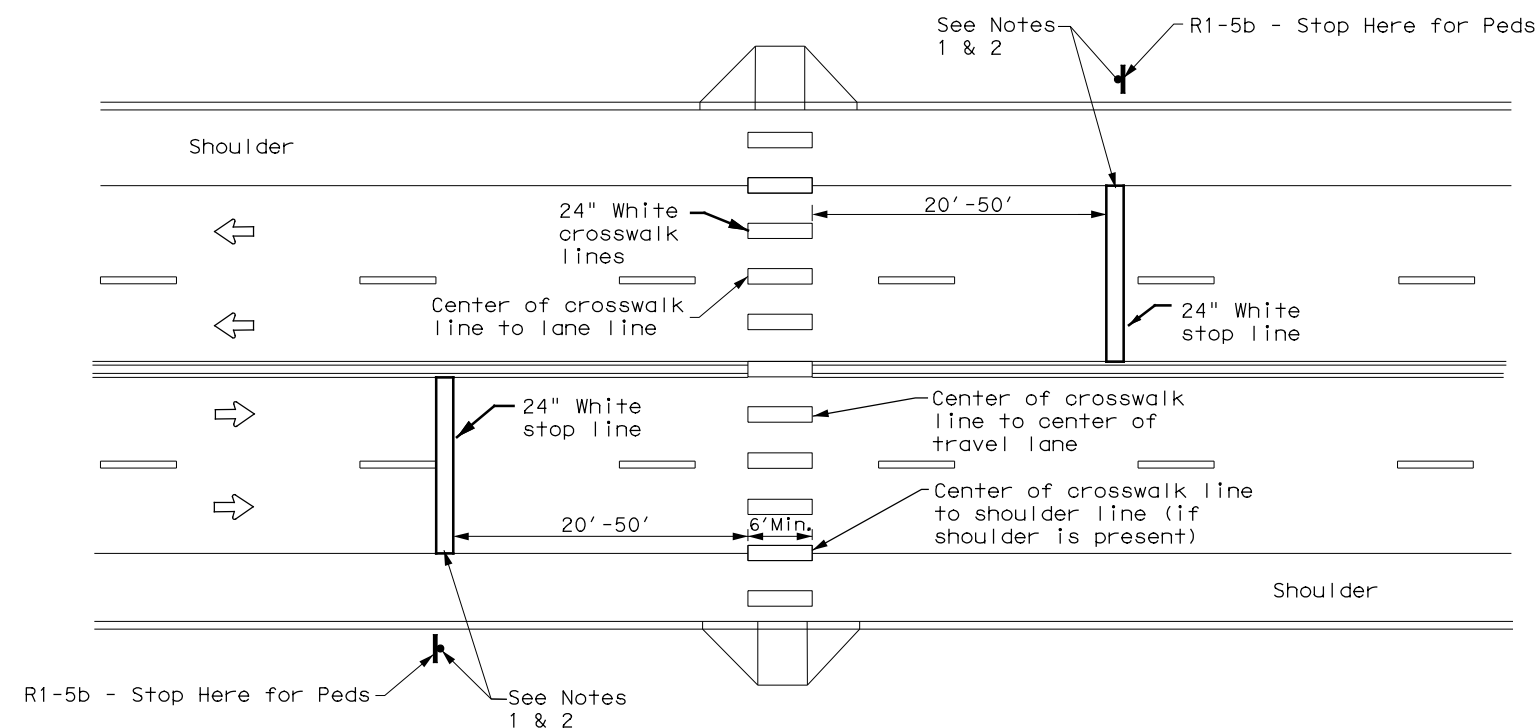
**GENERAL NOTES**

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 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 stop bars with "Stop Here for 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.

DATE: 5/24/2022 1:55:34 PM  
FILE: \$FILES\$



**CROSSWALK PAVEMENT MARKINGS**

**PM(4)-22**

FILE: pm4-22.dgn	DN:	CK:	DW:	CK:
© TxDOT June 2020	CONT	SECT	JOB	HIGHWAY
3-22 REVISIONS	0114	17	010	SL 109
	DIST	COUNTY	SHEET NO.	
	AUS	BASTROP	89	



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### SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

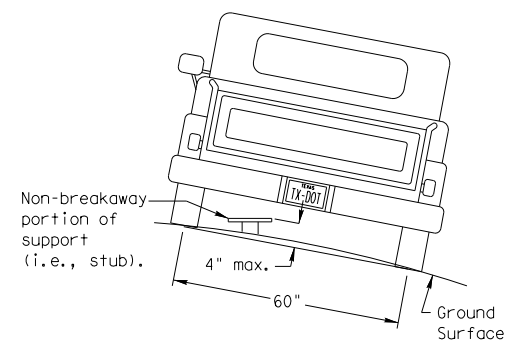
Post Type \_\_\_\_\_  
 FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))  
 TWT = Thin-Walled Tubing (see SMD(TWT))  
 10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))  
 S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2) \_\_\_\_\_

Anchor Type \_\_\_\_\_  
 UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))  
 UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))  
 WS = Wedge Anchor Steel - (see SMD(TWT))  
 WP = Wedge Anchor Plastic (see SMD(TWT))  
 SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))  
 SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

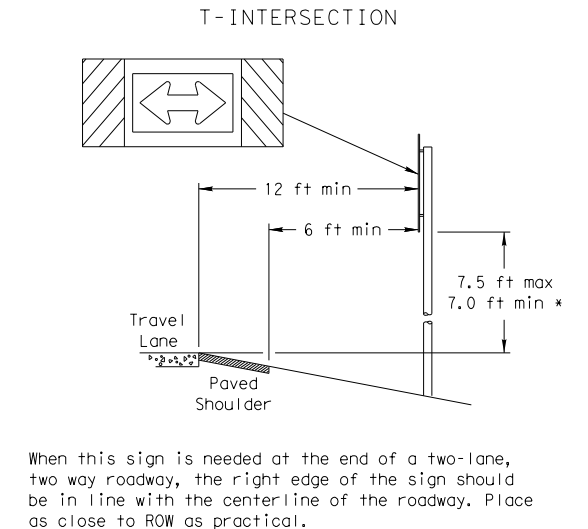
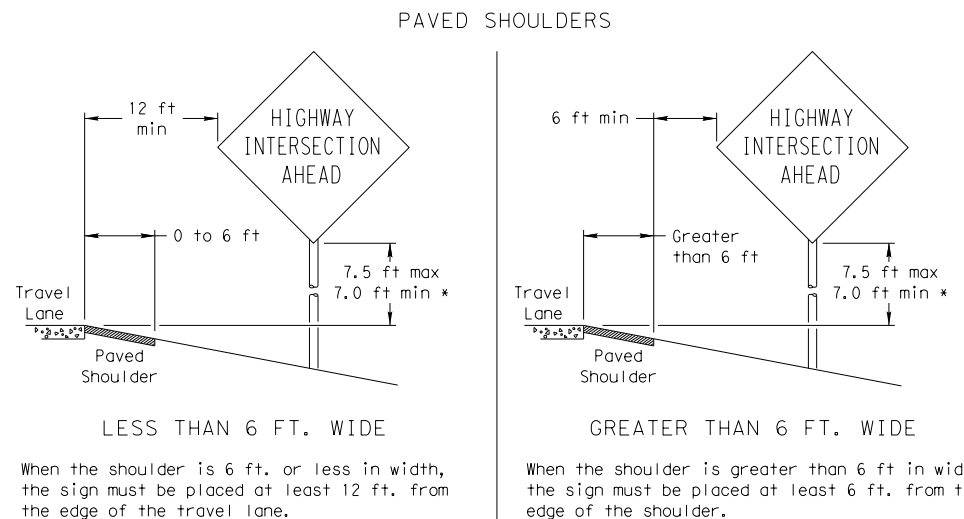
Sign Mounting Designation  
 P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))  
 T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))  
 U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))  
 IF REQUIRED  
 1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))  
 BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))  
 WC = 1.12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))  
 EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

### REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT

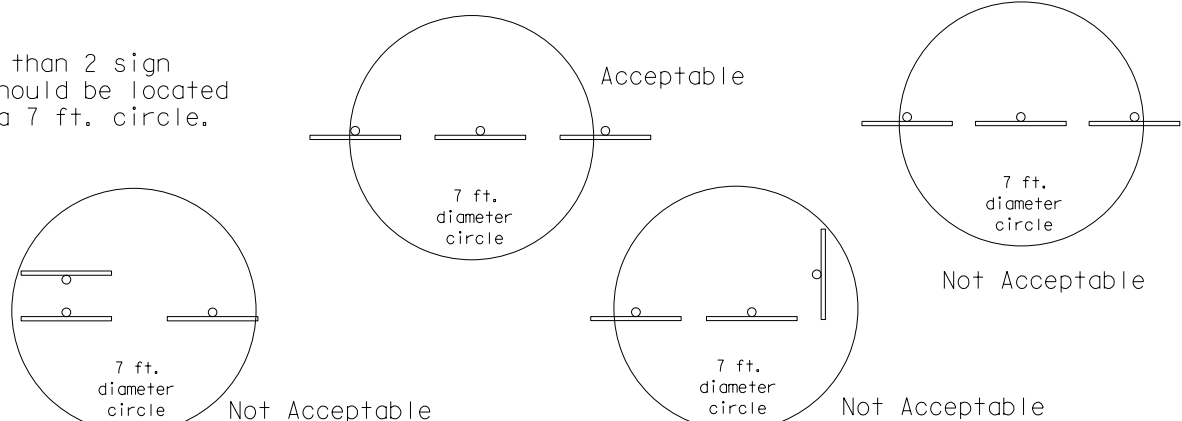


To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).

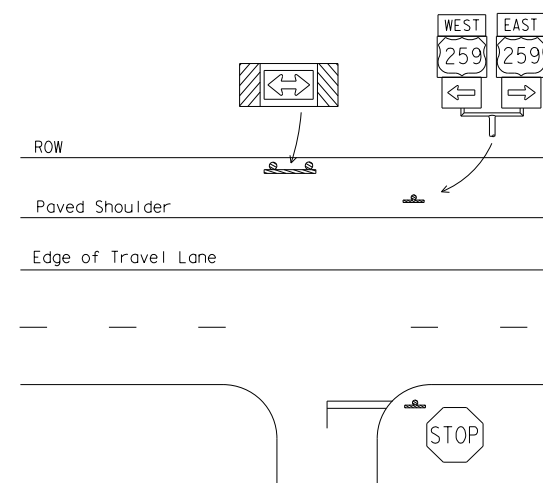
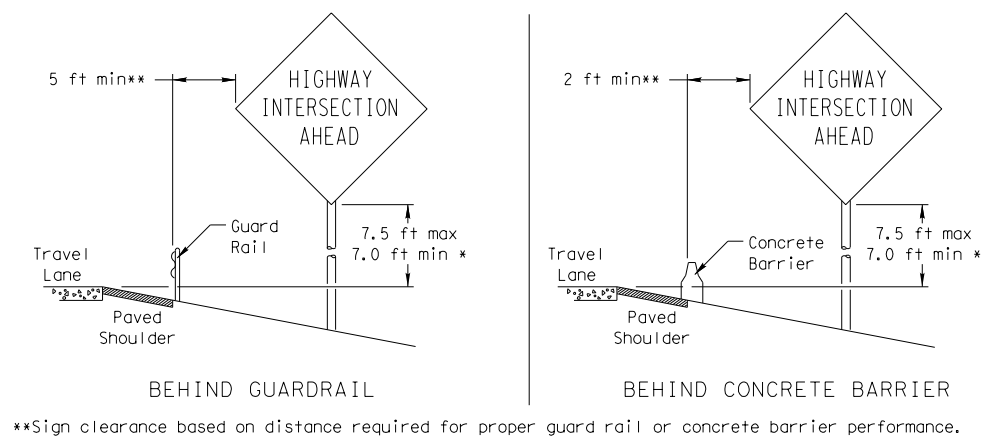
### SIGN LOCATION



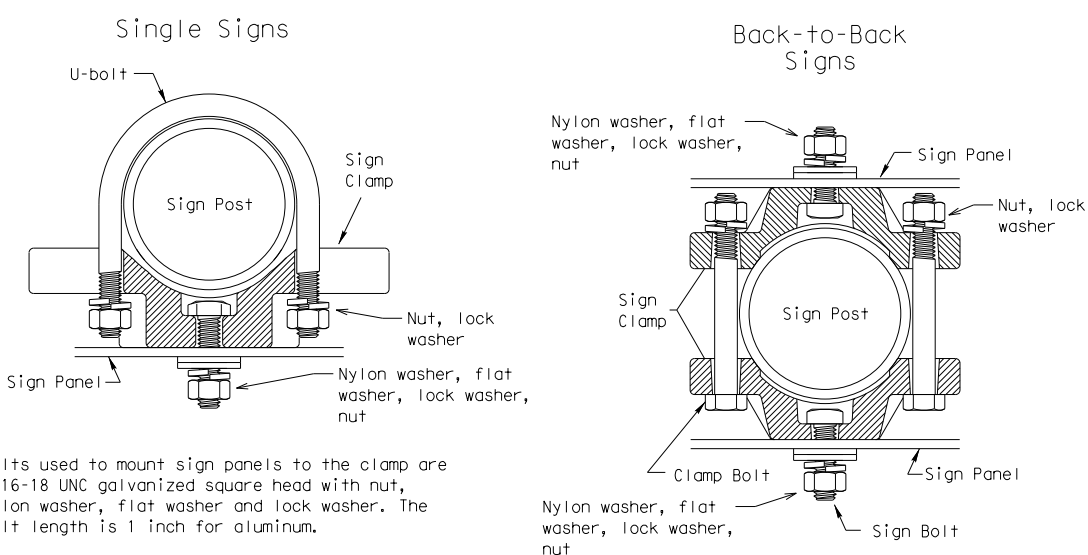
No more than 2 sign posts should be located within a 7 ft. circle.



### BEHIND BARRIER



### TYPICAL SIGN ATTACHMENT DETAIL



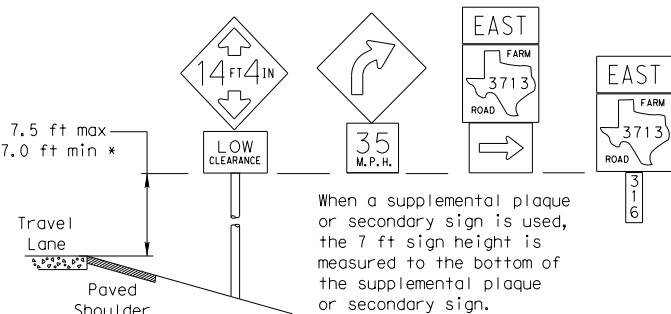
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal clamp.

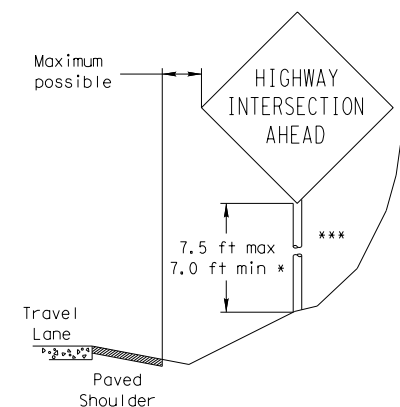
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

### SIGNS WITH PLAQUES



When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

### RESTRICTED RIGHT-OF-WAY (When 6 ft min. is not possible.)

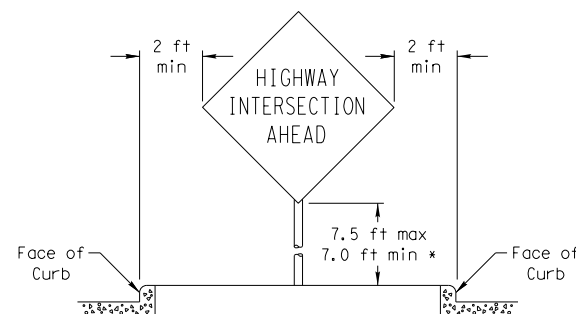


Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

\*\*\* Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

### CURB & GUTTER OR RAISED ISLAND



## SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS SMD(GEN)-08

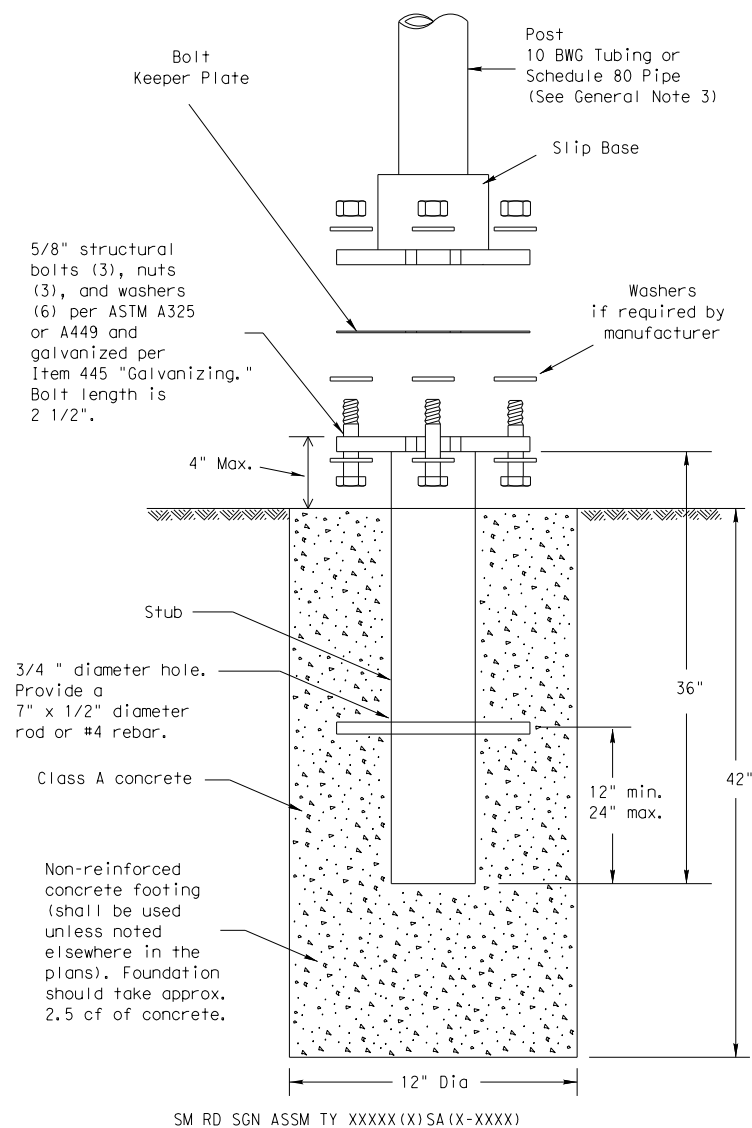
© TxDOT July 2002		DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-08	REVISIONS	CONT	SECT	JOB	HIGHWAY
		0114	17	010	SL 109
		DIST	COUNTY	SHEET NO.	
		AUS	BASTROP	90	

DATE: 5/24/2022 1:55:35 PM  
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FILE: \$FILE\$

## TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



### NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. [http://www.txdot.gov/business/producer\\_list.htm](http://www.txdot.gov/business/producer_list.htm) The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

### GENERAL NOTES:

- Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
- Material used as post with this system shall conform to the following specifications:
  - 10 BWG Tubing (2.875" outside diameter)
    - 0.134" nominal wall thickness
    - Seamless or electric-resistance welded steel tubing or pipe
    - 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
      - 20% minimum elongation in 2"
    - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
    - Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
    - Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
  - Schedule 80 Pipe (2.875" outside diameter)
    - 0.276" nominal wall thickness
    - Steel tubing per ASTM A500 Gr C
    - Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
      - 46,000 PSI minimum yield strength
      - 62,000 PSI minimum tensile strength
      - 21% minimum elongation in 2"
    - Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
    - Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
    - Galvanization per ASTM A123
- See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: <http://www.txdot.gov/publications/traffic.htm>
- Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

### ASSEMBLY PROCEDURE

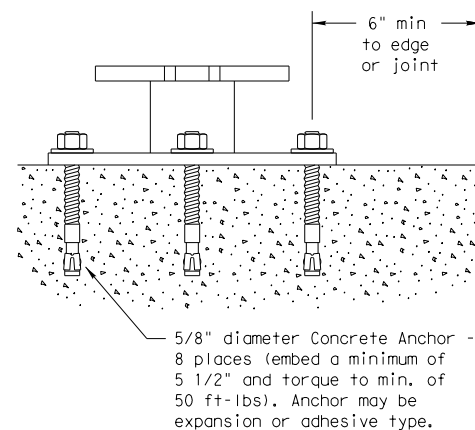
#### Foundation

- Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
- 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. Concrete shall be Class A.
- Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
- Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
- The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

#### Support

- Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
- Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

### CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SB(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxyes and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

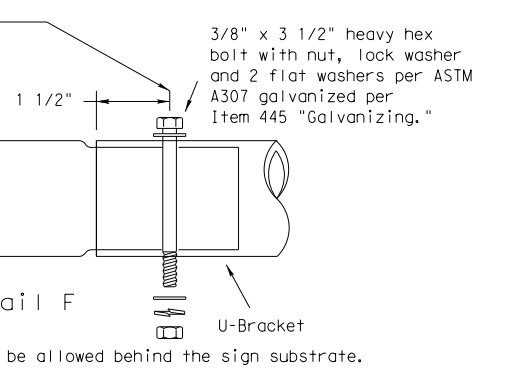
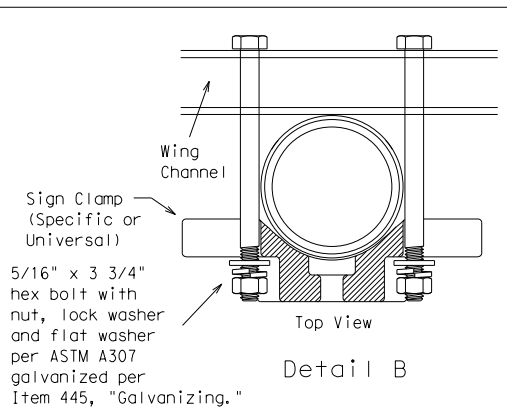
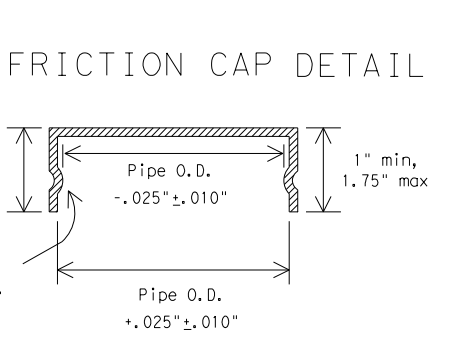
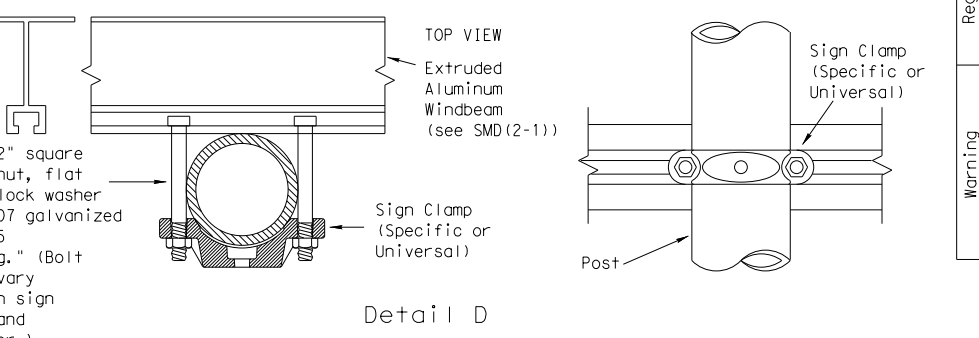
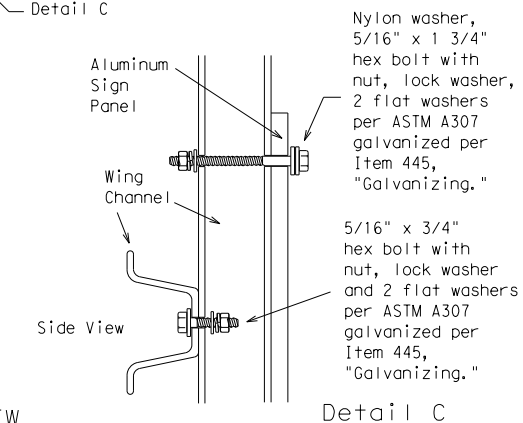
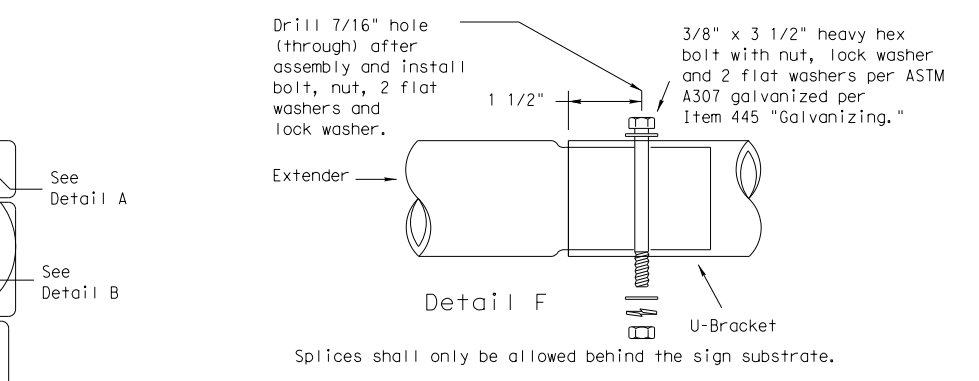
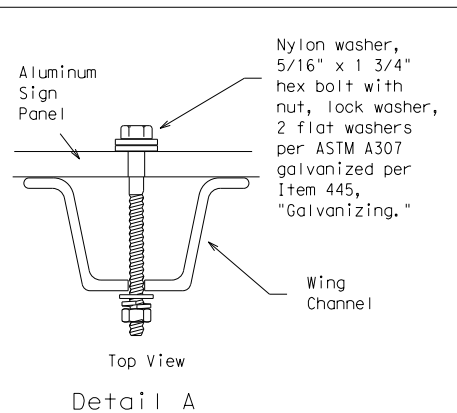
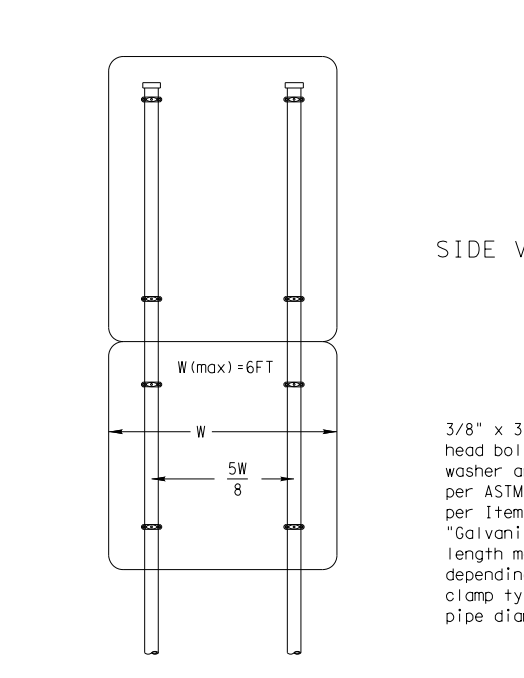
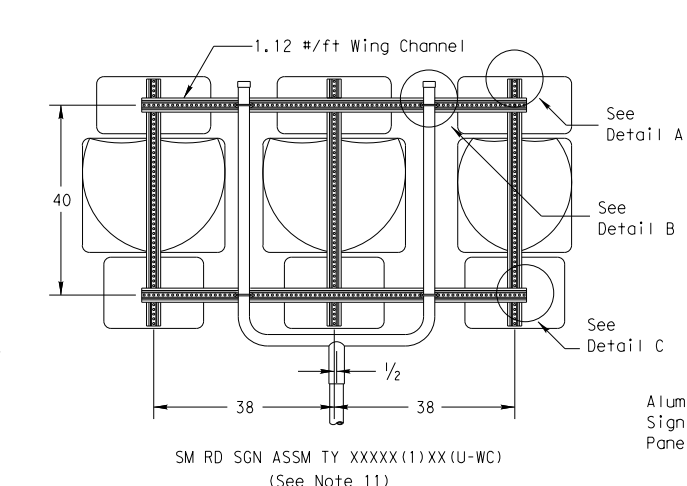
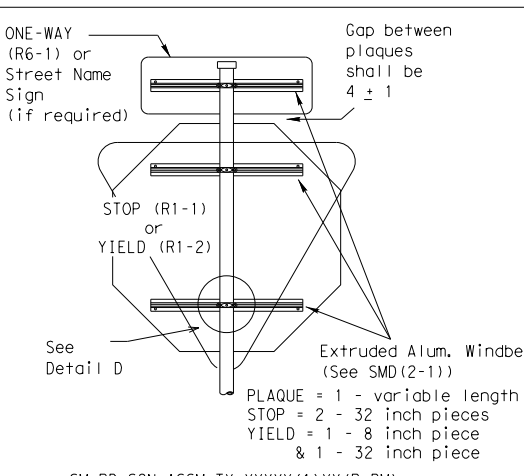
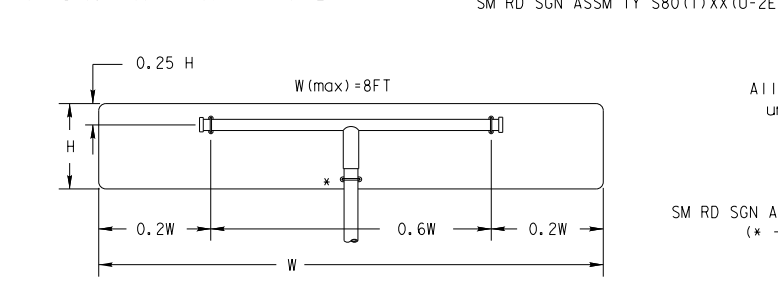
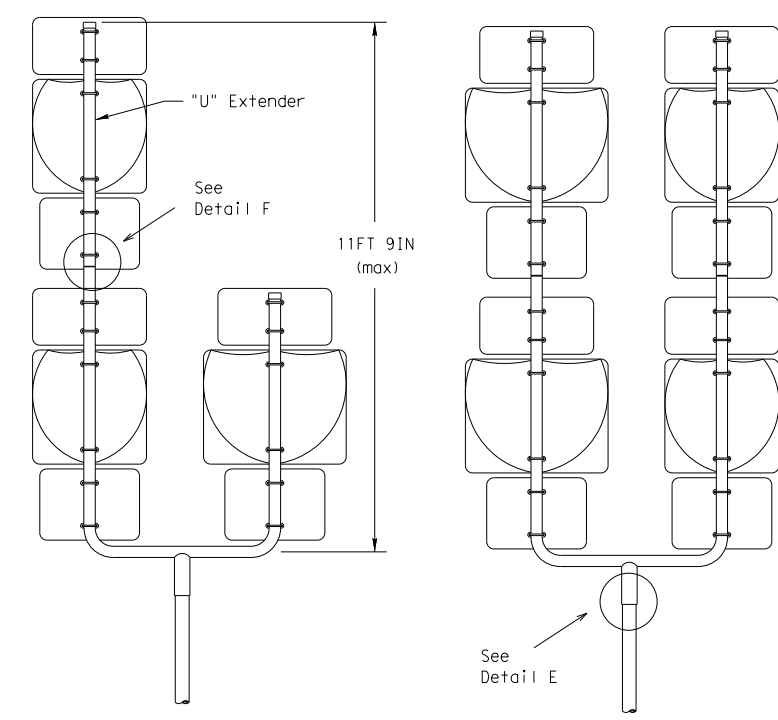
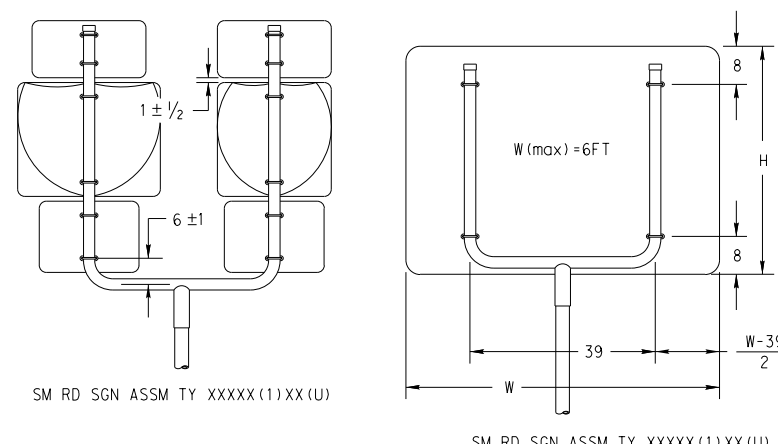
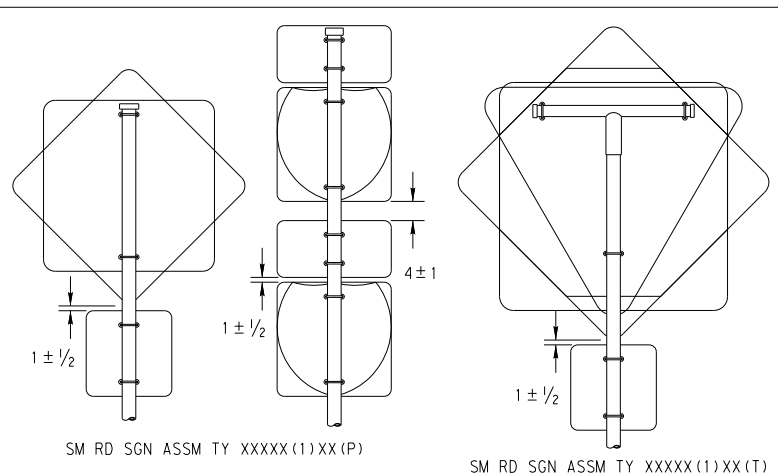
 Texas Department of Transportation  
Traffic Operations Division

SIGN MOUNTING DETAILS  
SMALL ROADSIDE SIGNS  
TRIANGULAR SLIPBASE SYSTEM  
SMD(SLIP-1)-08

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9-08	CONT	SECT	JOB	HIGHWAY
	0114	17	010	SL 109
	DIST	COUNTY	SHEET NO.	
	AUS	BASTROP	91	

26B

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- GENERAL NOTES:
1. SIGN SUPPORT # OF POSTS MAX. SIGN AREA
 

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF
  2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
  3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
  4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
  5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
  6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
  7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
  8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
  9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
  10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
  11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
  12. Post open ends shall be fitted with Friction Caps.
  13. Sign blanks shall be the sizes and shapes shown on the plans.

		REQUIRED SUPPORT	
		SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)	
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)	
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)	
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)	
Warning	48x60-inch signs	TY S80(1)XX(T)	
	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)	
	48x60-inch signs	TY S80(1)XX(T)	
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)	
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)	
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)	



SIGN MOUNTING DETAILS  
SMALL ROADSIDE SIGNS  
TRIANGULAR SLIPBASE SYSTEM  
SMD(SLIP-2)-08

Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes. The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture. Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

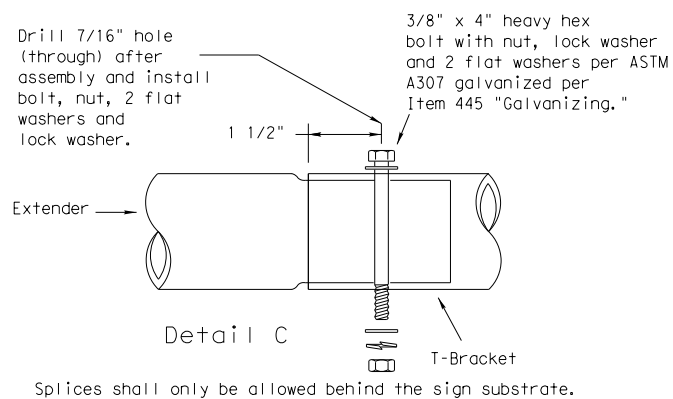
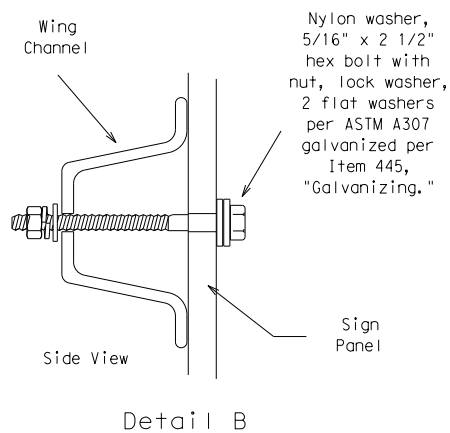
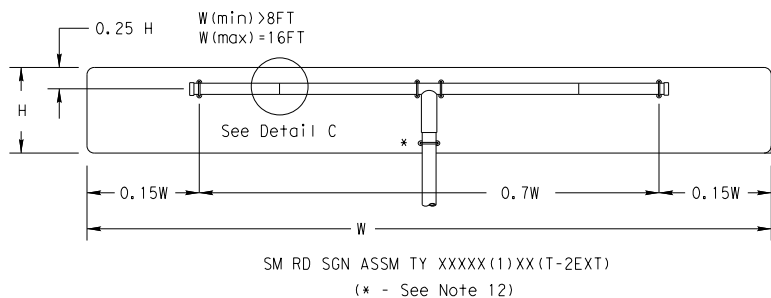
DATE: 5/24/2022 1:55:38 PM  
FILE: \$FILES\$

All dimensions are in english unless detailed otherwise.  
SM RD SGN ASSM TY XXXXX(1)XX(T) (\* - See Note 12)

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9-08	REVISIONS	CONT	SECT	JOB	HIGHWAY
		0114	17	010	SL 109
		DIST	COUNTY	SHEET NO.	
		AUS	BASTROP	92	

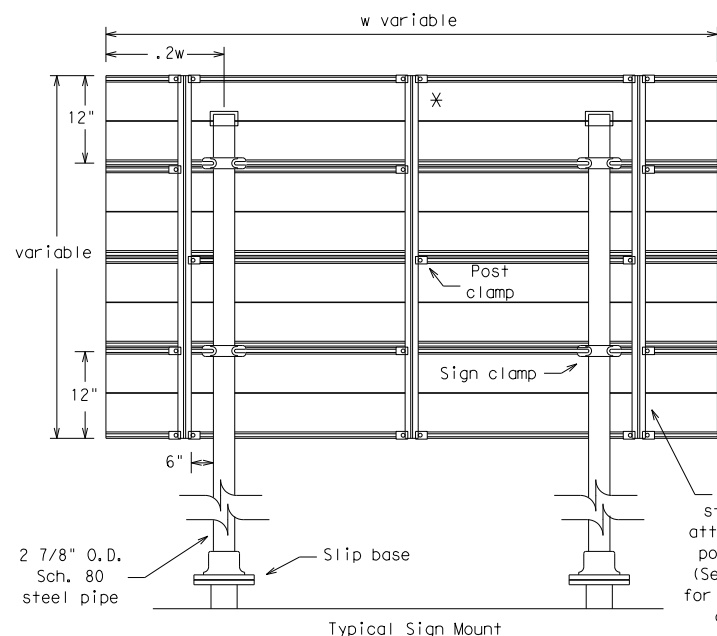
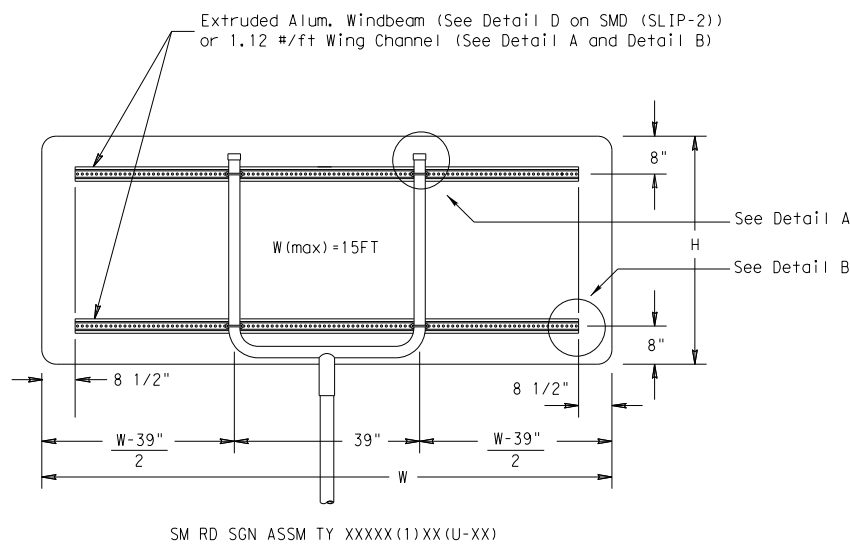
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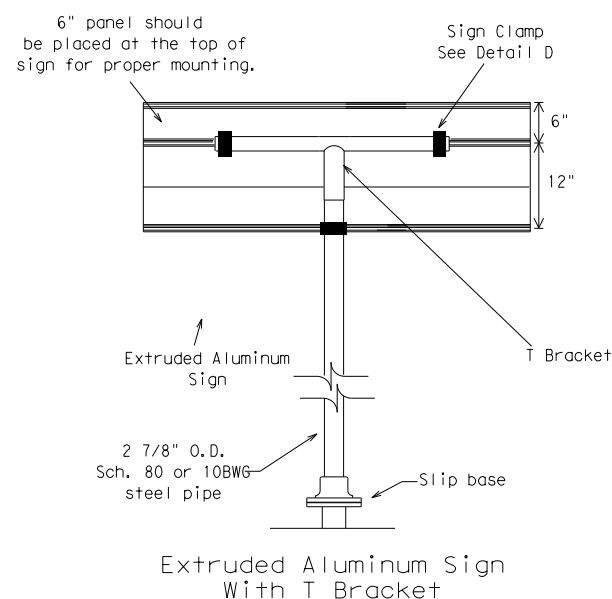
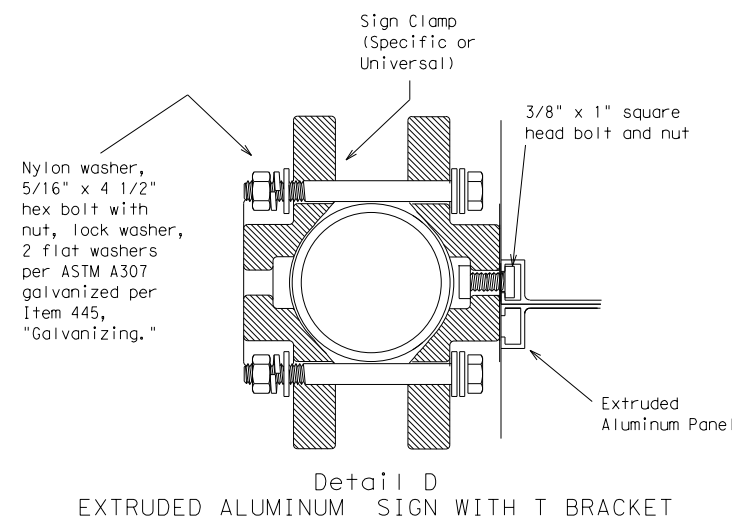
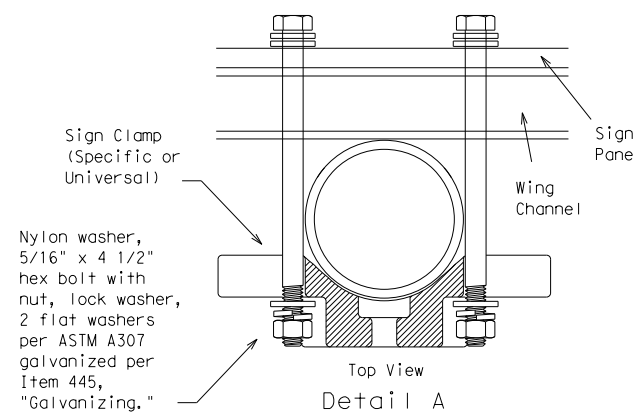
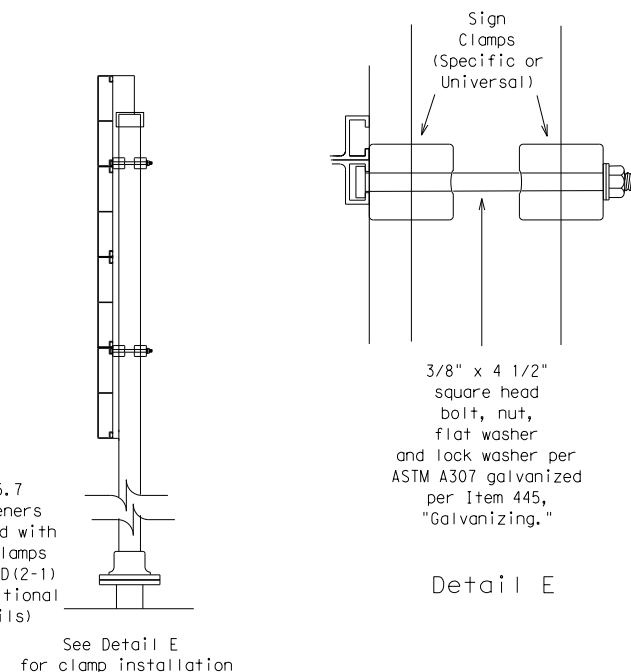


GENERAL NOTES:

- | SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA |
|--------------|------------|----------------|
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- Sign blanks shall be the sizes and shapes shown on the plans.
- Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
- Post open ends shall be fitted with Friction Caps.



\* Additional stiffener placed at approximate center of signs when sign width is greater than 10'.



Use Extruded Alum. Windbeam as stiffeners See SMD (2-1) for additional details  
See Detail E for clamp installation

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation  
Traffic Operations Division

SIGN MOUNTING DETAILS  
SMALL ROADSIDE SIGNS  
TRIANGULAR SLIPBASE SYSTEM  
SMD(SLIP-3) -08

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9-08	REVISIONS	CONT	SECT	JOB	HIGHWAY
		0114	17	010	SL 109
		DIST	COUNTY	SHEET NO.	
		AUS	BASTROP	93	



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DATE: 5/24/2022  
FILE: \$FILE\$

**I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402**

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

List MS4 Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.

1.  
2.  
 No Action Required     Required Action

Action No.

- Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
- Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.
- Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
- When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

**II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404**

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

- No Permit Required  
 Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)  
 Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)  
 Individual 404 Permit Required  
 Other Nationwide Permit Required: NWP# \_\_\_\_\_

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

1.  
2.  
3.  
4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

**Best Management Practices:**

Erosion	Sedimentation	Post-Construction TSS
<input type="checkbox"/> Temporary Vegetation	<input type="checkbox"/> Silt Fence	<input type="checkbox"/> Vegetative Filter Strips
<input type="checkbox"/> Blankets/Matting	<input type="checkbox"/> Rock Berm	<input type="checkbox"/> Retention/Irrigation Systems
<input type="checkbox"/> Mulch	<input type="checkbox"/> Triangular Filter Dike	<input type="checkbox"/> Extended Detention Basin
<input type="checkbox"/> Sodding	<input type="checkbox"/> Sand Bag Berm	<input type="checkbox"/> Constructed Wetlands
<input type="checkbox"/> Interceptor Swale	<input type="checkbox"/> Straw Bale Dike	<input type="checkbox"/> Wet Basin
<input type="checkbox"/> Diversion Dike	<input type="checkbox"/> Brush Berms	<input type="checkbox"/> Erosion Control Compost
<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Mulch Filter Berm and Socks
<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks
<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Vegetation Lined Ditches
	<input type="checkbox"/> Stone Outlet Sediment Traps	<input type="checkbox"/> Sand Filter Systems
	<input type="checkbox"/> Sediment Basins	<input type="checkbox"/> Grassy Swales

**III. CULTURAL RESOURCES**

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

- No Action Required     Required Action

Action No.

1.  
2.  
3.  
4.

**IV. VEGETATION RESOURCES**

Preserve native vegetation to the extent practical. Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

- No Action Required     Required Action

Action No.

1.  
2.  
3.  
4.

**V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.**

- No Action Required     Required Action

Action No.

1.  
2.  
3.  
4.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately.

**LIST OF ABBREVIATIONS**

BMP: Best Management Practice	SPCC: Spill Prevention Control and Countermeasure
CGP: Construction General Permit	SW3P: Storm Water Pollution Prevention Plan
DSHS: Texas Department of State Health Services	PCN: Pre-Construction Notification
FHWA: Federal Highway Administration	PSL: Project Specific Location
MOA: Memorandum of Agreement	TCEQ: Texas Commission on Environmental Quality
MOU: Memorandum of Understanding	TPDES: Texas Pollutant Discharge Elimination System
MS4: Municipal Separate Stormwater Sewer System	TPWD: Texas Parks and Wildlife Department
MBTA: Migratory Bird Treaty Act	TxDOT: Texas Department of Transportation
NOT: Notice of Termination	T&E: Threatened and Endangered Species
NWP: Nationwide Permit	USACE: U.S. Army Corps of Engineers
NOI: Notice of Intent	USFWS: U.S. Fish and Wildlife Service

**VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES**

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

- \* Dead or distressed vegetation (not identified as normal)
- \* Trash piles, drums, canister, barrels, etc.
- \* Undesirable smells or odors
- \* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

- Yes     No

If "No", then no further action is required.

If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

- Yes     No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

- No Action Required     Required Action

Action No.

1.  
2.  
3.


**VII. OTHER ENVIRONMENTAL ISSUES**

(includes regional issues such as Edwards Aquifer District, etc.)

- No Action Required     Required Action

Action No.

1.  
2.  
3.

 <b>Texas Department of Transportation</b>		<b>Design Division Standard</b>		
<b>ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS EPIC</b>				
FILE: epic.dgn	DN: TxDOT	CK: RG	DN: VP	CK: AR
©TxDOT: February 2015	CONT	SECT	JOB	HIGHWAY
12-12-2011 (DS) REVISIONS	0114	17	010	SL 109
05-07-14 ADDED NOTE SECTION IV.	DIST	COUNTY	SHEET NO.	
01-23-2015 SECTION I (CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.	AUS	BASTROP	94	

**A. GENERAL SITE DATA**

1. PROJECT LIMITS: SL109  
FROM: SL 109 TO: W CLEVELAND ST  
PROJECT LENGTH = 4,028.331 FT. = 0.763 MILES
  
- PROJECT LOCATION:  
BEG LATITUDE: +30° 21' 15.57" N BEG LONGITUDE: -97° 22' 40.13" W  
END LATITUDE: +30° 20' 28.40" N END LONGITUDE: -97° 22' 05.13" W
  
2. PROJECT SITE MAPS:  
\* PROJECT LOCATION MAP: TITLE SHEET  
\* DRAINAGE PATTERNS: SIDEWALK PLAN  
\* SLOPES ANTICIPATED AFTER MAJOR GRADINGS OR AREAS OF SOIL DISTURBANCE: SIDEWALK PLAN, SIDEWALK DETAILS  
\* LOCATION OF EROSION AND SEDIMENT CONTROLS: SIDEWALK PLAN  
\* SURFACE WATERS AND DISCHARGE LOCATIONS: SIDEWALK PLAN  
\* PROJECT SPECIFIC LOCATIONS: TO BE SPECIFIED BY THE PROJECT FIELD OFFICE DURING CONSTRUCTION AND LOCATED IN THE PROJECT SW3P FILE. REFERENCE ITEM #10 BELOW
  
3. PROJECT DESCRIPTION: REPAIR AND REPLACE EXISTING PEDESTRIAN FACILITIES AND INSTALL NEW FACILITIES
  
4. MAJOR SOIL DISTURBING ACTIVITIES:  
SOIL DISTURBING ACTIVITIES WILL INCLUDE PREPARING THE RIGHT OF WAY, GRADING, EROSION CONTROLS, AND TOPSOIL WORK FOR FINAL SOD.
  
5. EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER:  
URBAN DEVELOPMENT AND RESIDENTIAL LAWNS
  
6. TOTAL PROJECT AREA: 2.49 ACRES
  
7. TOTAL AREA TO BE DISTURBED: 2.49 ACRES
  
8. WEIGHTED RUNOFF COEFFICIENT  
BEFORE CONSTRUCTION: 0.60  
AFTER CONSTRUCTION: 0.60
  
9. NAME OF RECEIVING WATERS: (SEGMENT NUMBER OF RECEIVING WATERS)  
N/A
  
10. PROJECT SW3P FILE: FOR PROJECTS DISTURBING ONE ACRE OR MORE, TXDOT WILL MAINTAIN AN SW3P FILE WITH ALL PERTINENT ENVIRONMENTAL DOCUMENTS, CORRESPONDENCE, ETC. AT THE PROJECT FIELD OFFICE. IF NO FIELD OFFICE IS AVAILABLE THEN THE SW3P FILE SHALL BE KEPT IN THE INSPECTOR'S TRUCK.

**B. EROSION AND SEDIMENT CONTROLS**

1. SOIL STABILIZATION PRACTICES:  
 TEMPORARY SEEDING  
 PERMANENT PLANTING, SODDING, OR SEEDING  
 MULCHING  
 SOIL RETENTION BLANKET  
 BUFFER ZONES  
 PRESERVATION OF NATURAL RESOURCES  
  
 OTHER:
  
2. STRUCTURAL PRACTICES:  
 SILT FENCES  
 ROCK FILTER DAMS  
 DIVERSION, INTERCEPTOR, OR PERIMETER DIKES  
 DIVERSION, INTERCEPTOR, OR PERIMETER SWALES  
 DIVERSION DIKE AND SWALE COMBINATIONS  
 PIPE SLOPE DRAINS  
 PAVED FLUMES  
 ROCK BEDDING AT CONSTRUCTION EXIT  
 TIMBER MATTING AT CONSTRUCTION EXIT  
 CHANNEL LINERS  
 SEDIMENT TRAPS  
 SEDIMENT BASINS  
 STORM INLET SEDIMENT TRAP  
 STONE OUTLET STRUCTURES  
 CURBS AND GUTTERS  
 STORM SEWERS  
 VELOCITY CONTROL DEVICES  
  
 OTHER: EROSION CONTROL LOGS
  
3. STORM WATER MANAGEMENT:  
 STORM WATER DRAINAGE WILL BE PROVIDED BY EXISTING OPEN DITCHES THIS SYSTEM WILL CARRY THE DRAINAGE WITHIN THE RIGHT-OF-WAY TO EXISTING CROSS CULVERTS AND EXISTING INLETS
  
4. STORM WATER MANAGEMENT ACTIVITIES: (SEQUENCE OF CONSTRUCTION)
  1. CONSTRUCT SIDEWALK FROM 11TH STREET TO LEXINGTON RD.
  2. CONSTRUCT SIDEWALK, CURB AND GUTTER AND PAVEMENT OVERLAY FROM AUSTIN ST TO CLEVELAND ST.
  
5. NON-STORM WATER DISCHARGES:  
 FILTER NON-STORM WATER DISCHARGES, OR HOLD RETENTION BASINS, BEFORE BEING ALLOWED TO MIX WITH STORM WATER. THESE DISCHARGES CONSIST OF NON-POLLUTED GROUND WATER, SPRING WATER, FOUNDATION AND/OR FOOTING DRAIN WATER; AND WATER USED FOR DUST CONTROL, PAVEMENT WASHING AND VEHICLE WASHWATER CONTAINING NO DETERGENTS.

**C. OTHER REQUIREMENTS & PRACTICES**

1. MAINTENANCE:  
 MAINTENANCE WILL BE PERFORMED AS INDICATED ON FIELD INSPECTION AND MAINTENANCE REPORT FORM 2118.
  
2. INSPECTION:  
 INSPECTION WILL BE PERFORMED AS INDICATED ON FIELD INSPECTION AND MAINTENANCE REPORT FORM 2118.
  
3. WASTE MATERIALS:  
 ALL WASTE MATERIALS WILL BE COLLECTED, STORED AND DISPOSED OF IN A LEGAL AND PROPER MANNER. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON SITE.
  
4. HAZARDOUS WASTE (INCLUDING SPILL REPORTING):  
 AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS. PAINTS, ACIDS FOR CLEANING MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION, OR CONCRETE CURING COMPOUNDS AND ADDITIVES. IN THE EVENT A SPILL WHICH MAY BE HAZARDOUS, THE SPILL COORDINATOR MUST BE CONTACTED IMMEDIATELY.
  
5. SANITARY WASTE:  
 ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
  
- OFFSITE VEHICLE TRACKING:  
 HAUL ROADS DAMPENED FOR DUST CONTROL  
 LOADED HAUL TRUCKS TO BE COVERED WITH TARPULIN  
 EXCESS DIRT ON ROAD REMOVED DAILY  
 STABILIZED CONSTRUCTION ENTRANCE  
  
 OTHER:
  
- REMARKS: DISPOSAL AREAS, STOCKPILES AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL SEDIMENT FROM ENTERING RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WATERBODY OR STREAMBED.  
  
 CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED TO MINIMIZE THE RUNOFF OF POLLUTANTS.



05/24/2022

**CURB RAMP PROGRAM  
STORM WATER  
POLLUTION  
PREVENTION  
PLAN (SW3P)**

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






CONT	SECT	JOB	HIGHWAY
0114	17	010	SL 109
DIST	COUNTY		SHEET NO.
AUS	BASTROP		95

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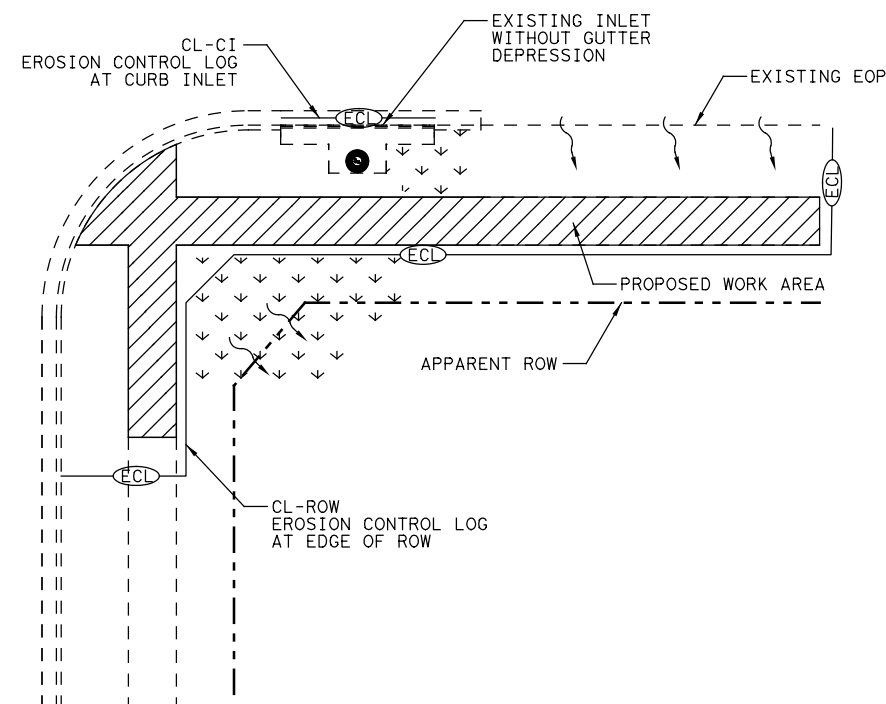
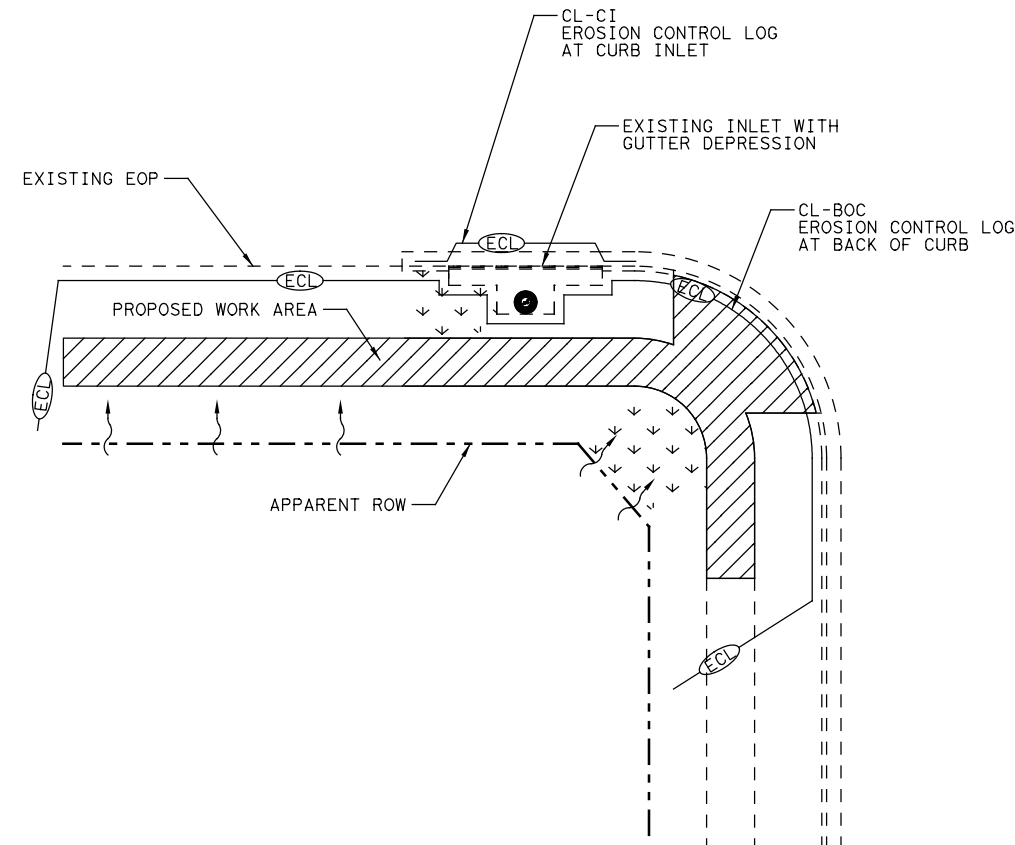
PLOT DRIVER: TXDOT\_PDF\_BW.plt  
 USER: LGOMEZGONZ  
 FILE: ELG-SW3PDTLOI.dgn

LEGEND

-  4" TOPSOIL AND BLOCK SODDING
-  FLOW DIRECTION
-  PROPOSED WORK AREA
-  EXISTING FEATURES
-  EROSION CONTROL LOG WITH WOOD OR METAL STAKES (AS APPROVED BY THE ENGINEER)

NOTE:

1. REFERENCE ENVIRONMENTAL PERMITS, ISSUES, AND COMMITMENTS (EPIC) AND STORM WATER POLLUTION PREVENTION PLAN (SW3P) SHEETS FOR SPECIFIC CONSTRUCTION CONSIDERATIONS OR REQUIREMENTS.
2. EXAMPLES SHOWN ON THE SHEET ARE FOR GENERAL GUIDANCE AND MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.
3. TEMPORARY SEDIMENT CONTROL FENCE MAY BE USED IN LIEU OF EROSION CONTROL LOGS WHERE APPROVED BY THE ENGINEER.
4. SITE CONDITIONS MAY DICTATE ADDITIONAL CONTERMEASURES AS DIRECTED BY THE ENGINEER.
5. USE ADDITIONAL STAKES AS NEEDED TO HOLD IN PLACE (NSPI).
6. INSTALLATION OF CONTERMEASURES MUST BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.



  
 05/24/2022  
*Felipe S. Toldtud*

NO.	DATE	REVISION	APPROVED


**HDR Engineering, Inc.**  
 710 Hesters Crossing, Suite 150  
 Round Rock, Texas 78681  
 Texas Registered Engineering Firm F-754


**Texas Department of Transportation**  
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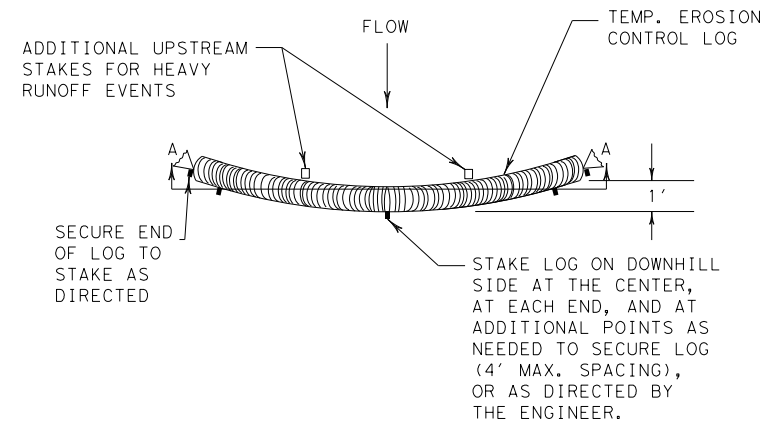
CURB RAMP PROGRAM  
  
 SW3P  
 GENERAL LAYOUT

SHEET 1 OF 1

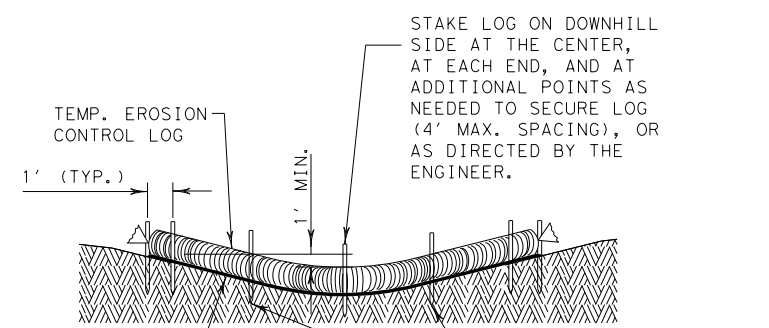
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FT				
GRAPHICS		SEE TITLE SHEET		SL 109
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	BASTROP	96
CHECK	CONTROL	SECTION	JOB	
	0114	17	010	

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DATE: 5/24/2022  
 FILE: \$FILE\$



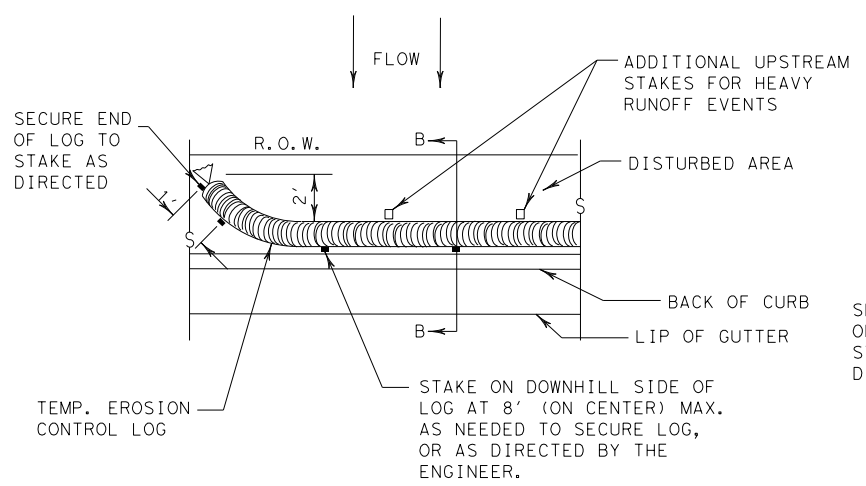
PLAN VIEW



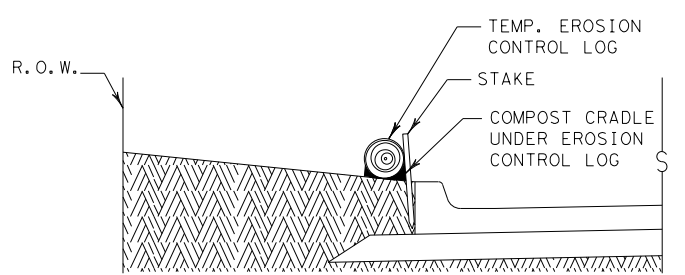
SECTION A-A

EROSION CONTROL LOG DAM

CL-D



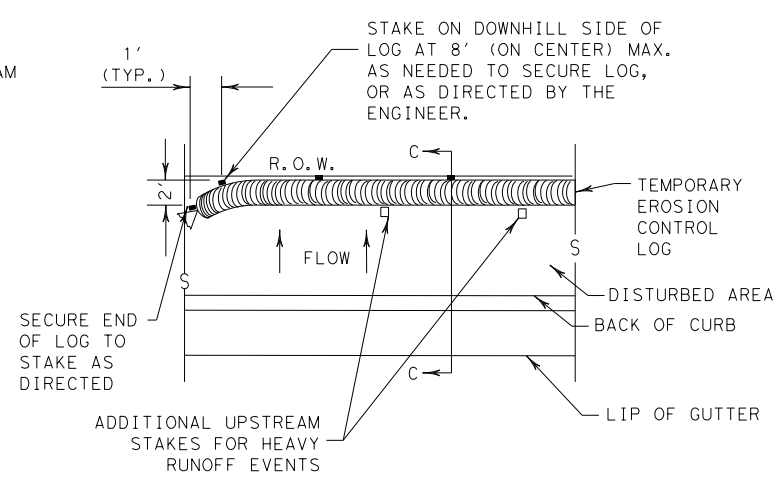
PLAN VIEW



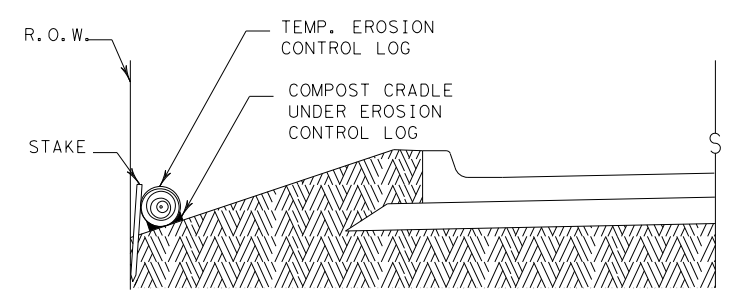
SECTION B-B

EROSION CONTROL LOG AT BACK OF CURB

CL-BOC



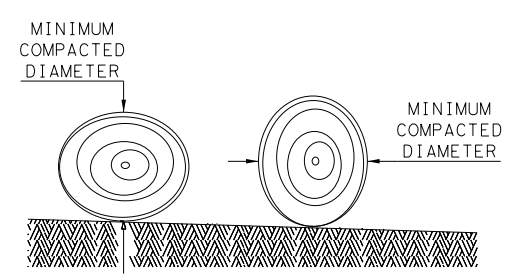
PLAN VIEW



SECTION C-C

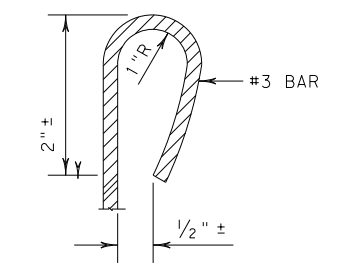
EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

CL-ROW



DIAMETER MEASUREMENTS OF EROSION CONTROL LOGS SPECIFIED IN PLANS

- LEGEND
- CL-D EROSION CONTROL LOG DAM
  - CL-BOC EROSION CONTROL LOG AT BACK OF CURB
  - CL-ROW EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY
  - CL-SST EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING
  - CL-SSL EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING
  - CL-DI EROSION CONTROL LOG AT DROP INLET
  - CL-CI EROSION CONTROL LOG AT CURB INLET
  - CL-GI EROSION CONTROL LOG AT CURB & GRATE INLET



REBAR STAKE DETAIL

**SEDIMENT BASIN & TRAP USAGE GUIDELINES**

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

**Log Traps:** The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Control logs should be placed in the following locations:

1. Within drainage ditches spaced as needed or min. 500' on center
2. Immediately preceding ditch inlets or drain inlets
3. Just before the drainage enters a water course
4. Just before the drainage leaves the right of way
5. Just before the drainage leaves the construction limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.

**GENERAL NOTES:**

1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER.
2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.
3. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
4. FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.
5. STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.
6. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.
7. COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.
8. SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.
9. TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE LOG.
10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.

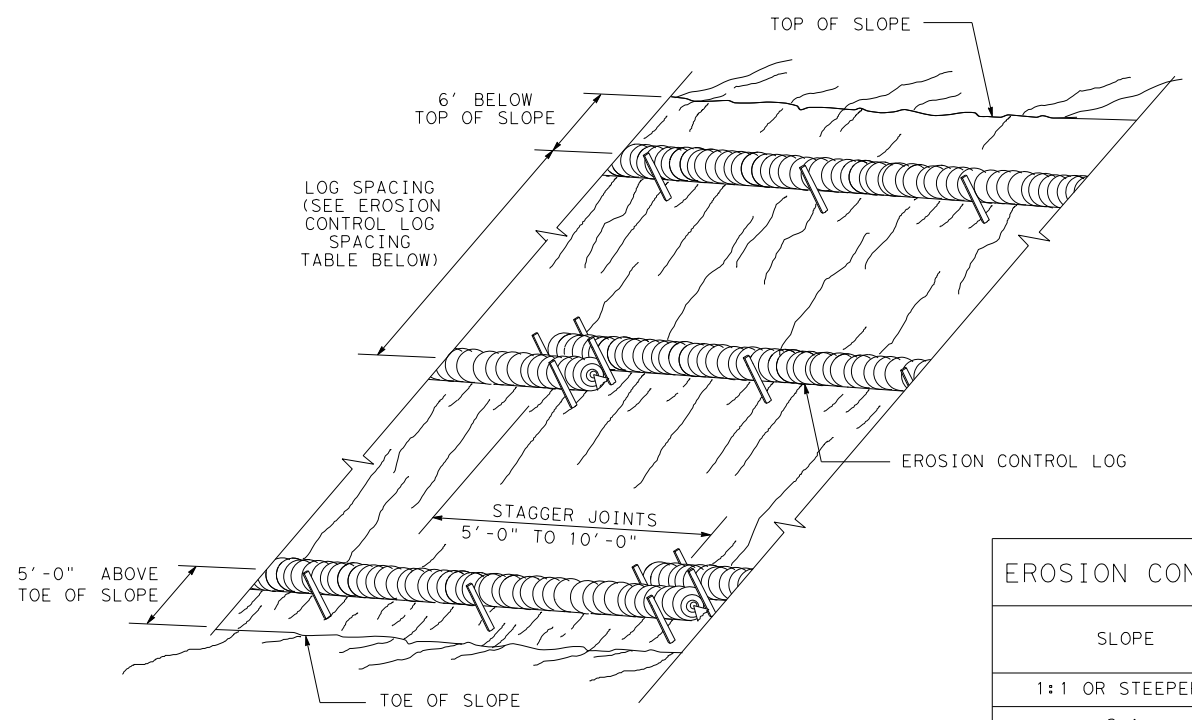
SHEET 1 OF 3

		<b>Design Division Standard</b>	
<b>TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES</b>			
<b>EROSION CONTROL LOG</b>			
<b>EC (9) - 16</b>			
FILE: ec916	DN: TxDOT	CK: KM	DW: LS/PT
© TxDOT: JULY 2016	CONT SECT	JOB	HIGHWAY
REVISIONS	0114 17	010	SL 109
DIST	COUNTY	SHEET NO.	
AUS	BASTROP	97	



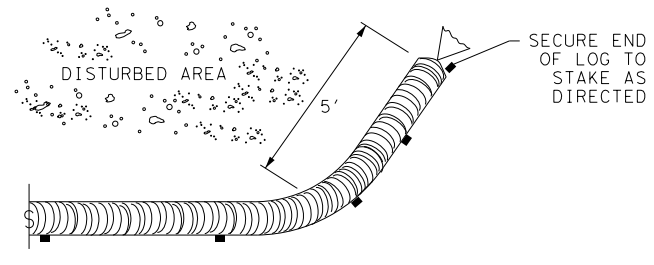
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DATE: 5/24/2022  
FILE: \$FILE\$



EROSION CONTROL LOGS ON SLOPES  
STAKE AND TRENCHING ANCHORING

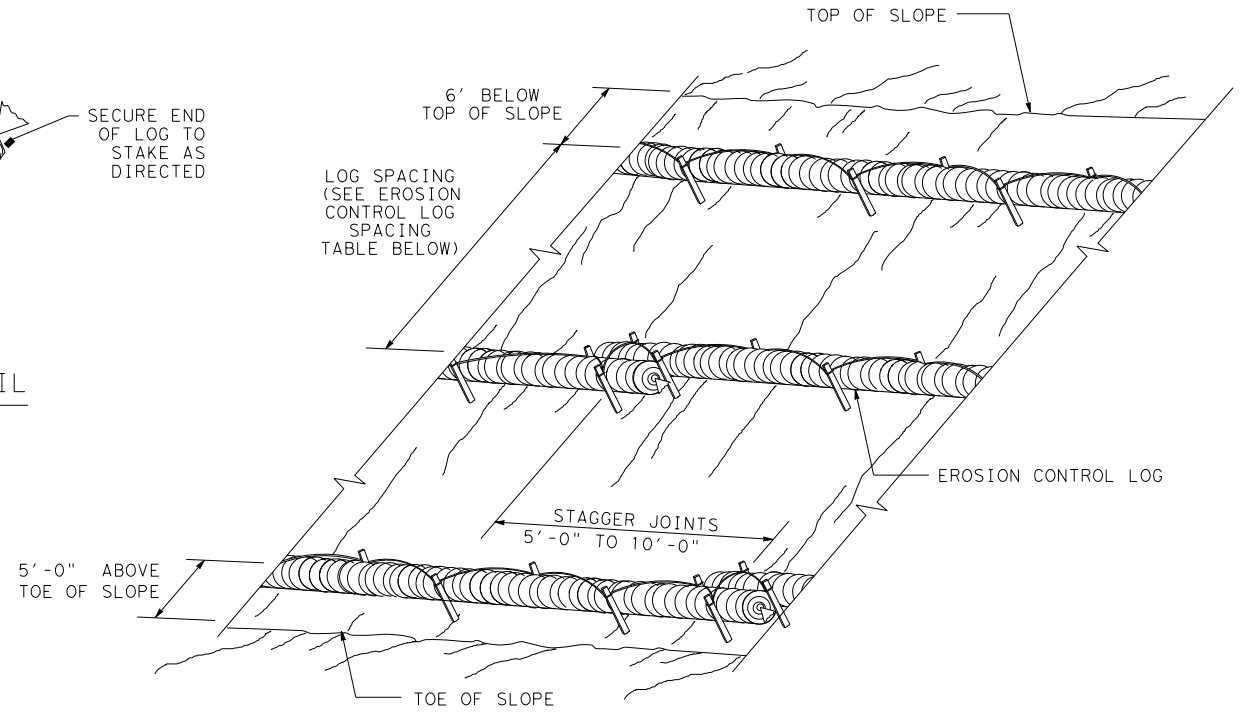
CL-SST



END SECTION RAP DETAIL

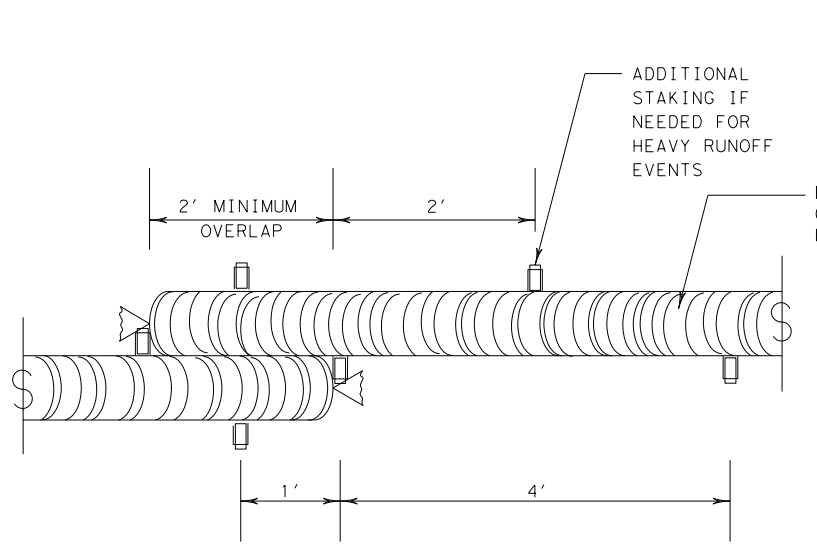
SLOPE	LOG DIAMETER			
	6"	8"	12"	18"
1:1 OR STEEPER	5'	10'	15'	20'
2:1	10'	20'	30'	40'
3:1	15'	30'	45'	60'
4:1 OR FLATTER	20'	40'	60'	80'

\* ADJUSTMENTS CAN BE MADE FOR SOIL TYPE:  
SOFT, LOAMY SOILS-ADJUST ROWS CLOSER TOGETHER;  
HARD, ROCKY SOILS- ADJUST ROWS FARTHER APART



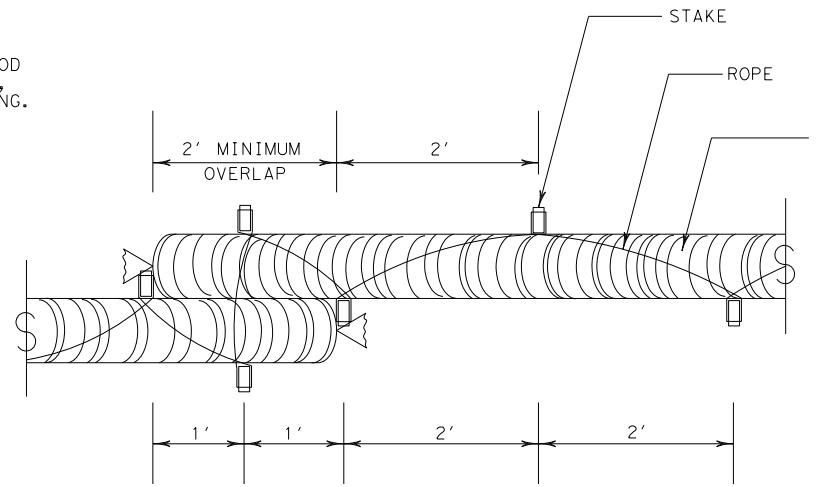
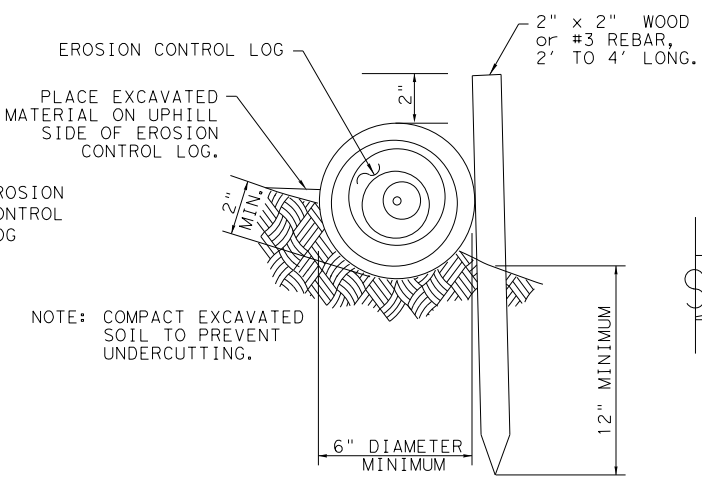
EROSION CONTROL LOGS ON SLOPES  
STAKE AND LASHING ANCHORING

CL-SSL



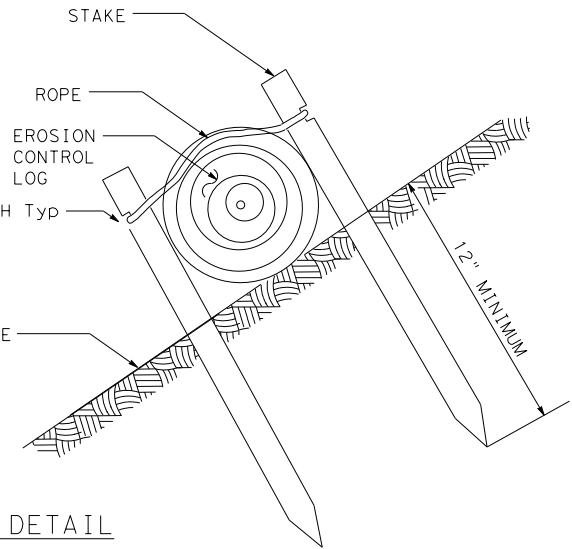
STAKE AND TRENCHING ANCHORING DETAIL

CL-SST



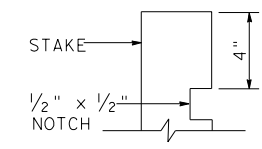
STAKE AND LASHING ANCHORING DETAIL

CL-SSL



LOG DIAMETER	DEPTH
6"	2"
8"	3"
12"	4"
18"	5"

TRENCH DEPTH TABLE

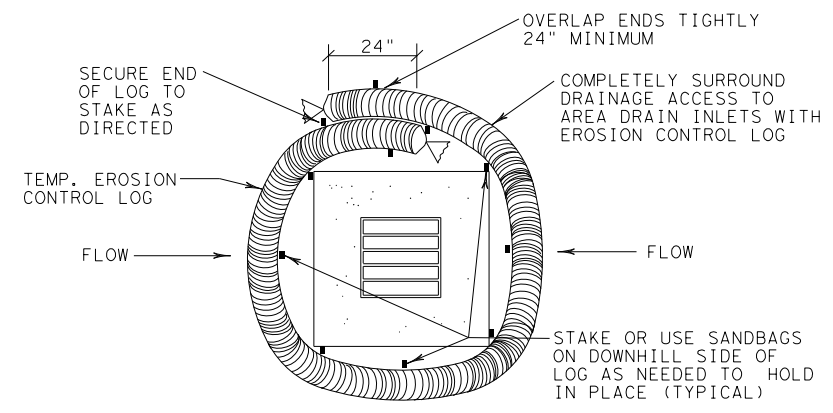


STAKE NOTCH DETAIL

SHEET 2 OF 3

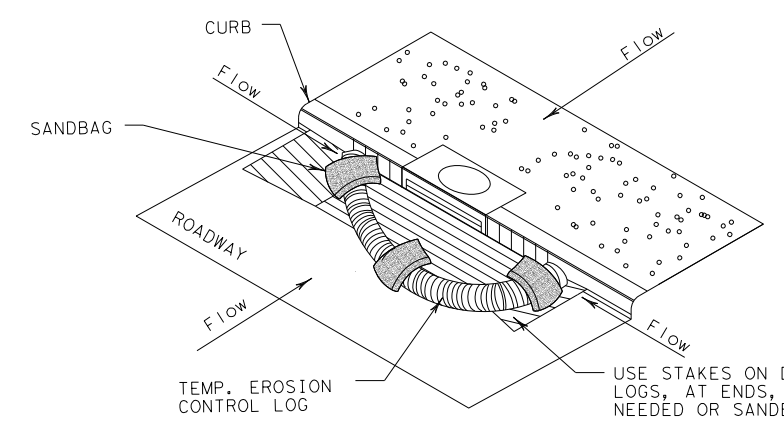
		<b>Design Division Standard</b>	
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES EROSION CONTROL LOG <b>EC (9) - 16</b>			
FILE: ec116	DN: TxDOT	CK: KM	DW: LS/PT
© TxDOT: JULY 2016	CON: 0114	SECT: 17	JOB: 010
REVISIONS	DIST: AUS	COUNTY: BASTROP	SHEET NO.: 98

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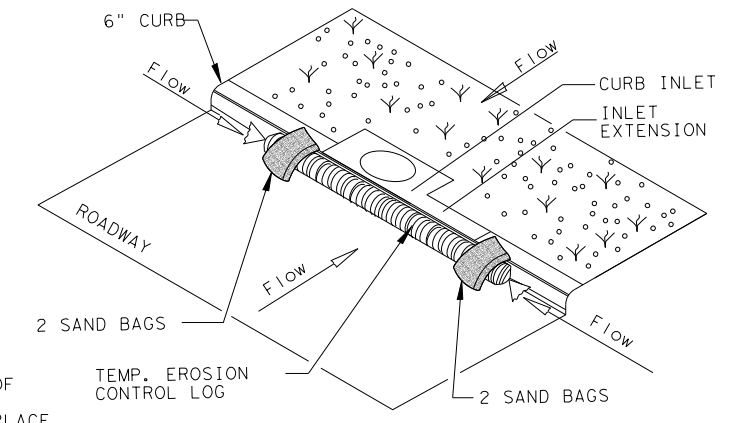
EROSION CONTROL LOG AT DROP INLET

CL-DI



EROSION CONTROL LOG AT CURB INLET

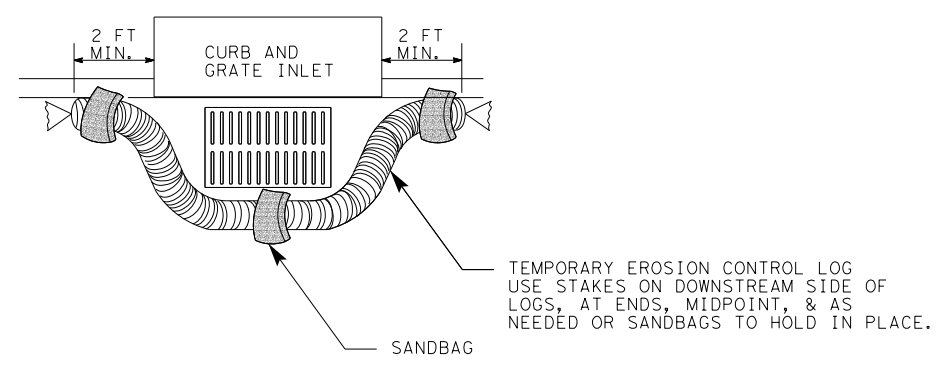
CL-CI



EROSION CONTROL LOG AT CURB INLET

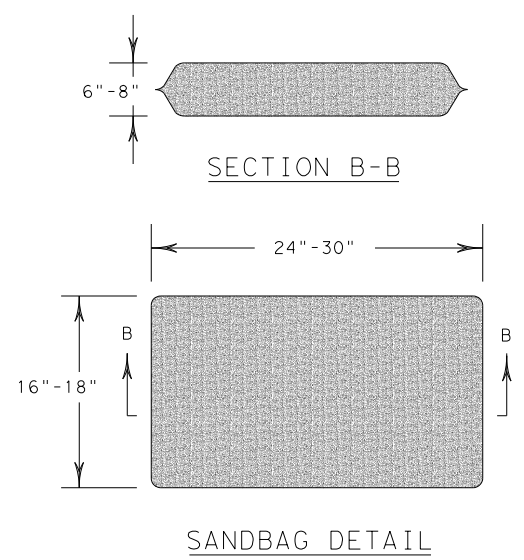
CL-CI

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



EROSION CONTROL LOG AT CURB & GRADE INLET

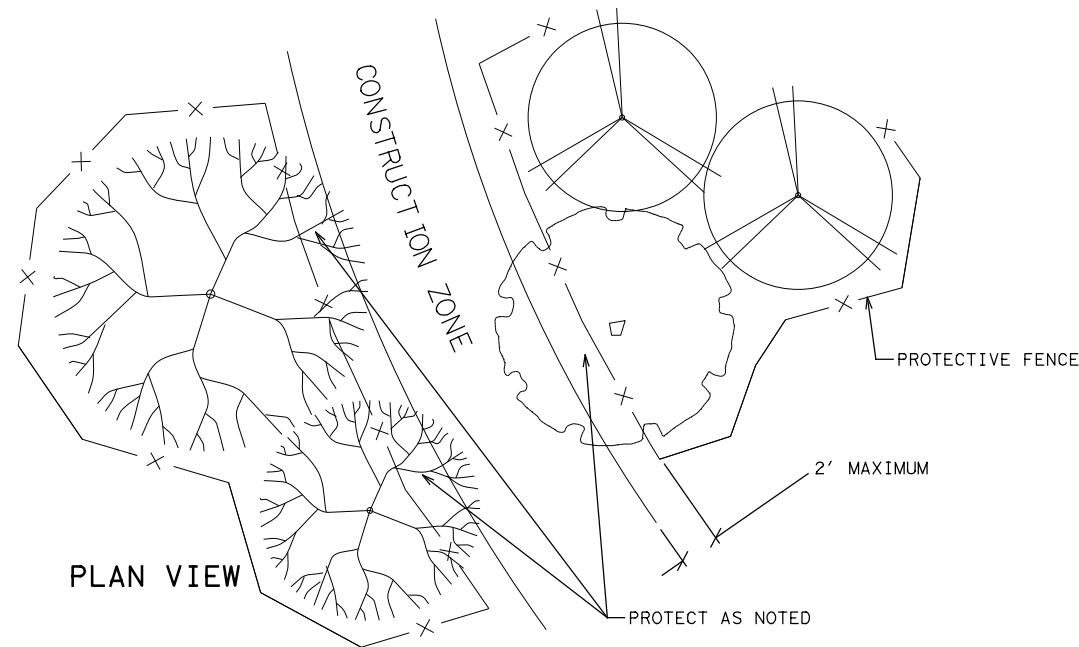
CL-GI



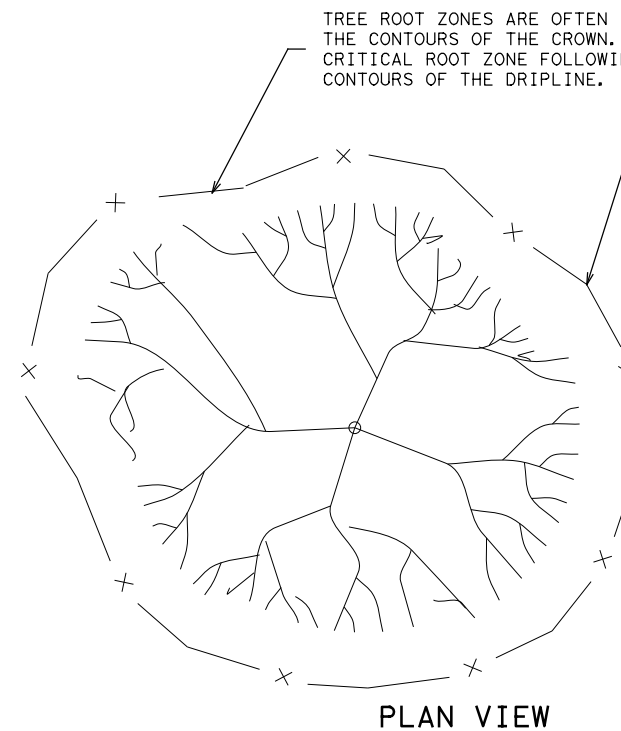
SHEET 3 OF 3

		<b>Design Division Standard</b>	
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES EROSION CONTROL LOG <b>EC (9) - 16</b>			
FILE: ec916	DN: TxDOT	CK: KM	DW: LS/PT
© TxDOT: JULY 2016	CONT	SECT	JOB
REVISIONS	0114	17	010
	DIST	COUNTY	SHEET NO.
	AUS	BASTROP	99

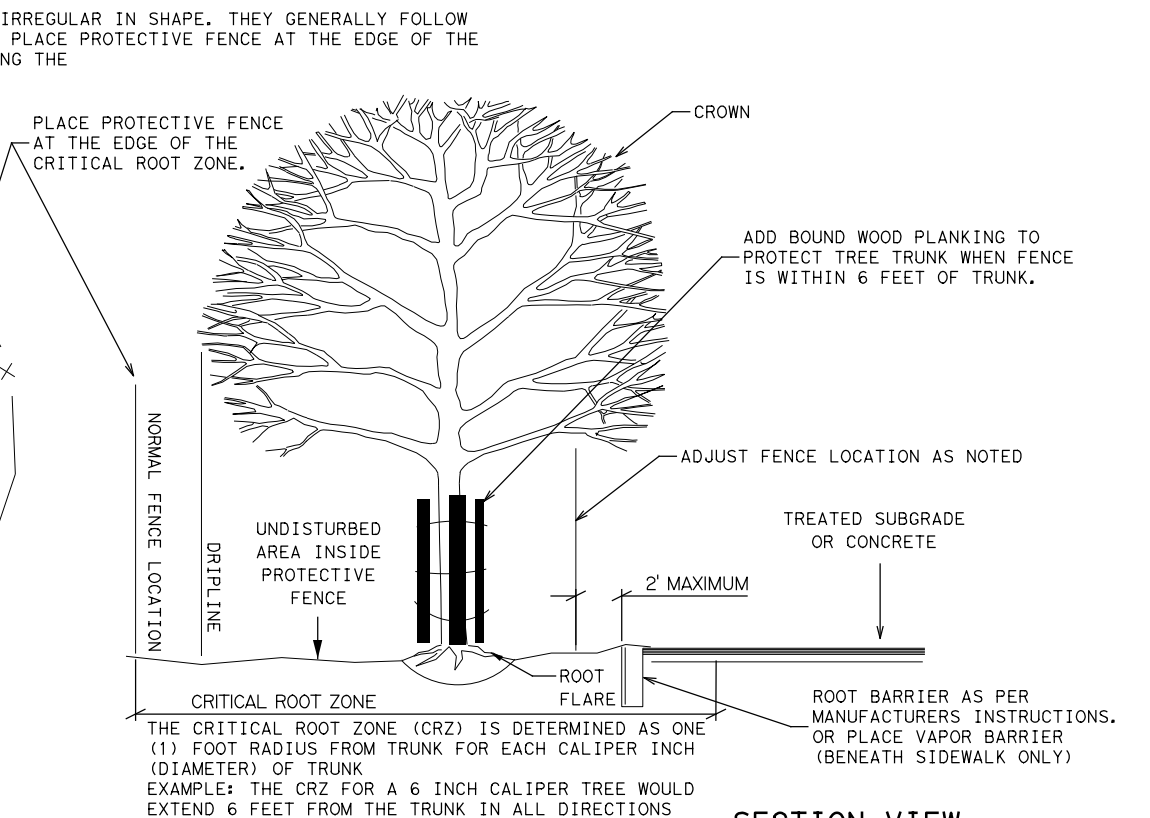
DATE: 5/24/2022  
FILE: \$FILE\$



**LINEAR CONSTRUCTION THROUGH STAND OF TREES**

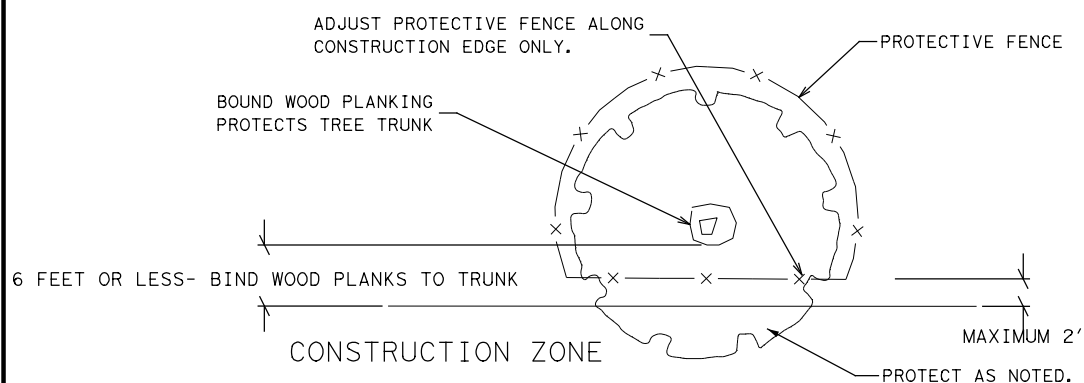


**PLAN VIEW**

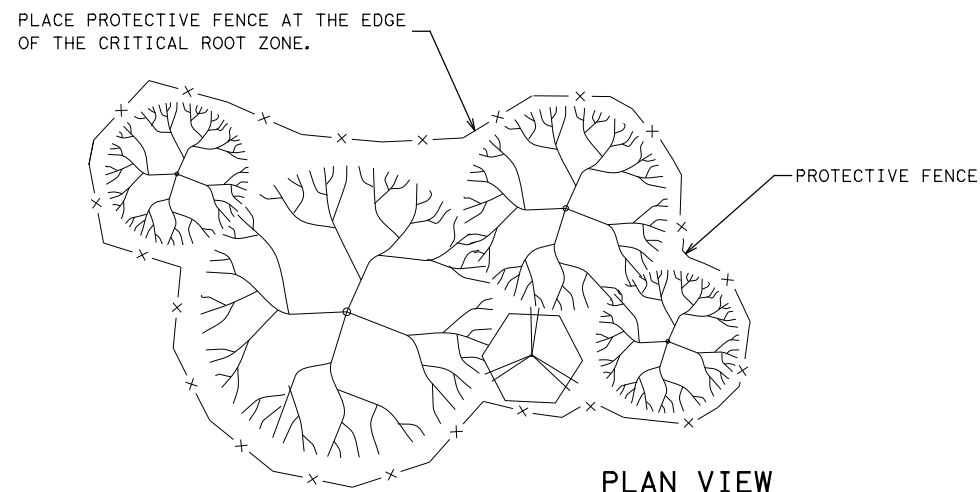


**SECTION VIEW**

**TYPICAL TREE PROTECTION**



**PLAN VIEW  
PAVING UNDER TREES**



**PLAN VIEW  
TYPICAL TREE GROUPING PROTECTION**

**NOTES:**

CRITICAL ROOT ZONE IS 1 FT. AWAY FROM TREE TRUNK FOR EVERY 1 IN. OF TREE DIAMETER MEASURED AT 4 FT. HEIGHT.

WATER TREES EVERY 2 WEEKS WITH A MINIMUM OF 100 GALLONS PER TREE.

SPRAY TREE WITH WATER TO REMOVE CONSTRUCTION DUST WHEN DIRECTED.

CONSTRUCTION FENCE SHALL BE 4 FT. TALL.

DO NOT PERFORM WORK OR STORE EQUIPMENT WITHIN PROTECTED AREA.

COVER THE CRITICAL ROOT ZONE BETWEEN THE PROTECTED AREA AND THE CONSTRUCTION ZONE WITH 4 IN. OF MULCH

PERFORM TREE TRIMMING AND WOUND REPAIR PER STANDARD SPECIFICATIONS.

DAMAGED AND EXPOSED ROOTS SHALL BE TRIMMED AND TREATED PER STANDARD SPECIFICATIONS. BACKFILL EXPOSED ROOTS WITH TOPSOIL WITHIN 24 HOURS OF EXPOSURE.

PLACE PLASTIC UNDER CONCRETE PLACED IN THE CRITICAL ROOT ZONE.

PLACE A ROOT BARRIER IN THE CRITICAL ROOT ZONE AT THE EDGE OF TREATED SUBGRADE TO THE DEPTH OF THE SUBGRADE.

ALL WORK IS SUBSIDIARY TO BID ITEM.

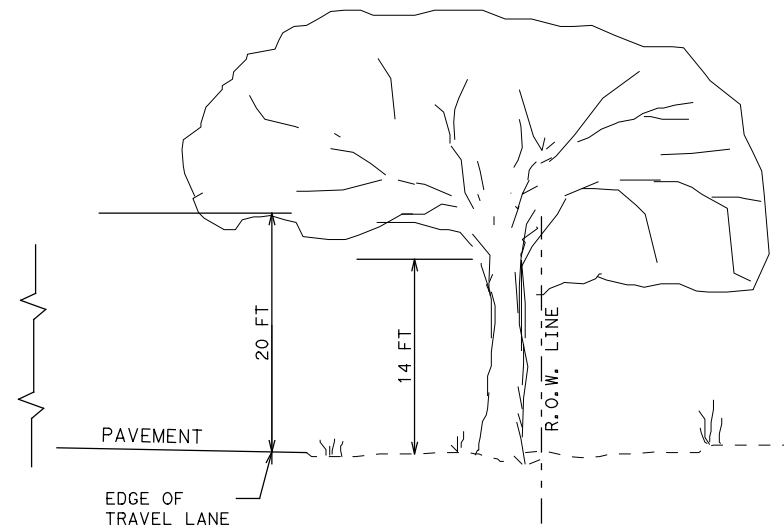
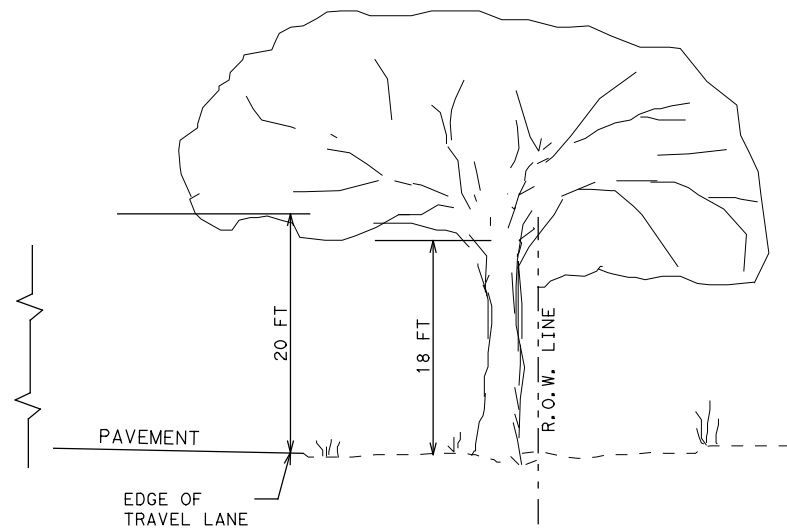
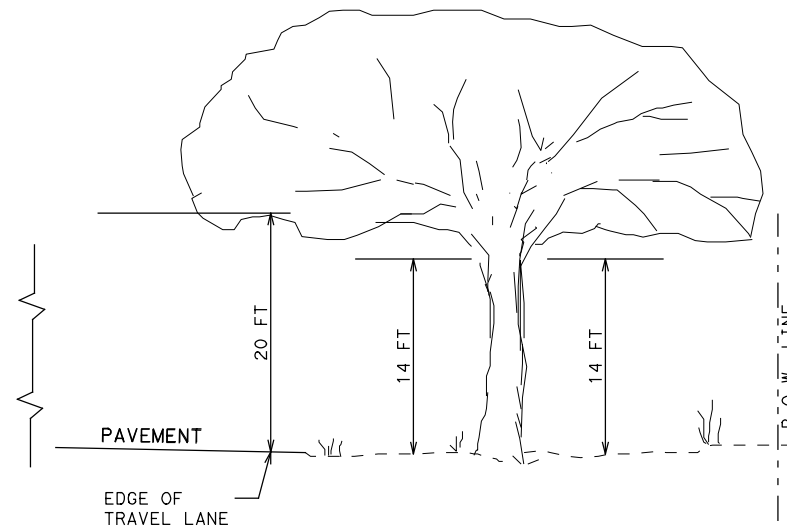
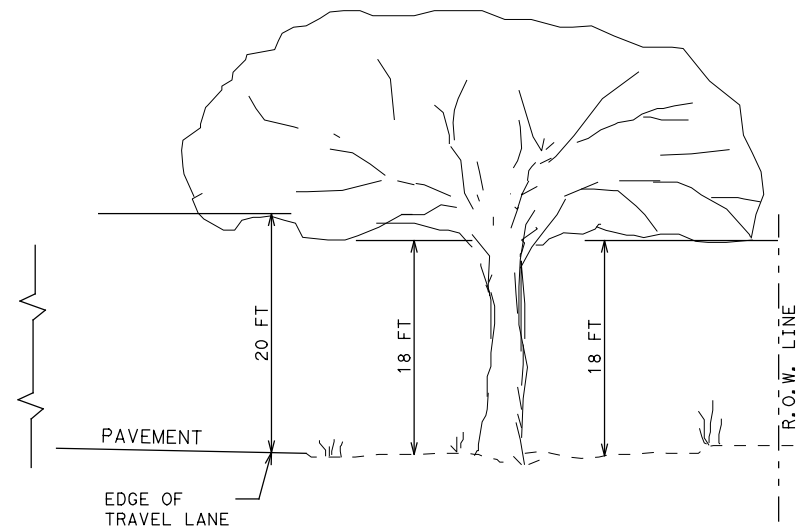
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				<b>Austin District Standard</b>
<h2>TREE PROTECTION DETAILS</h2>				
<h3>TPD-19 (AUS)</h3>				
©TxDOT 2022	CONT	SECT	JOB	HIGHWAY
06/16: SHEET CREATED 04/19: APPROVED	0114	17	010	SL 109
	DIST	COUNTY		SHEET NO.
	AUS	BASTROP		100

**GENERAL NOTES**

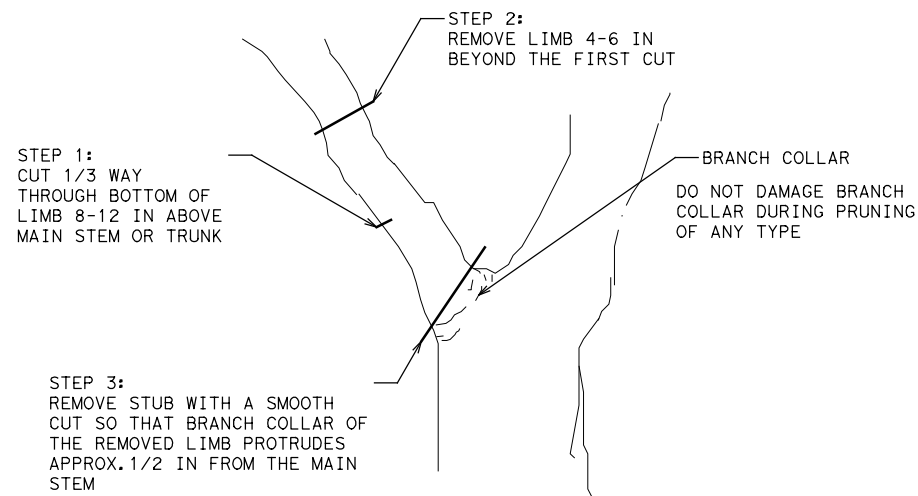
**PAYMENT FOR THIS WORK IS SUBSIDIARY TO PREP R.O.W.**

1. REMOVE ALL DEAD TREES, DEAD BRUSH, AND DEAD MULTI-TRUNKED TREES WITHIN THE R.O.W.. TREES, SHRUBS, OR MULTI-TRUNKED TREES THAT DIE DURING CONSTRUCTION SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT.
2. USE WORK METHODS IN ACCORDANCE WITH ANSI A300 STANDARDS AND ITEM 752.
3. FLAILING EQUIPMENT IS NOT ALLOWED ON OAK TREES.
4. REPAIR DAMAGE TO PRIVATE FENCES AND/OR PRIVATE PROPERTY.
5. PERFORM TREE PRUNING ONLY WITHIN THE R.O.W.. NO CUTS SHALL BE MADE OUTSIDE THE R.O.W..
6. PERFORM TREE PRUNING PER DETAIL FOR ENTIRE R.O.W. AREA WITHIN PROJECT LIMITS. THE ENGINEER MAY DEFINE AREAS TO RESTRICT TREE PRUNING.
7. REVIEW EPIC SHEETS FOR AREAS TO BE AVOIDED DUE TO ENVIRONMENTAL REASONS OR ADDITIONAL NOTES THAT PERTAIN TO TREE PRUNING.
8. MIGRATORY BIRDS AND BATS MAY BE NESTING WITHIN THE PROJECT LIMITS. PERFORM TREE TRIMMING OUTSIDE THE NESTING SEASON DATES LISTED IN THE GENERAL NOTES.
9. NO TRIMMING OF THE VEGETATION THAT CONTAINS AN ACTIVE NEST FOR MIGRATORY BIRDS IS ALLOWED.
10. THE TRIMMING OR CUTTING OF RED OAK AND LIVE OAK SPECIES FOR PURPOSES OTHER THAN PROTECTING PUBLIC SAFETY IS ONLY PERMITTED BETWEEN JULY 1ST AND JANUARY 31ST AND PROHIBITED BETWEEN FEBRUARY 1ST AND JUNE 30TH
11. ALL PRUNING CUTS MUST BE TREATED IMMEDIATELY WITH COMMERCIAL PRUNING PAINT TO SEAL THE EXPOSED SURFACE FROM CONTAMINATION. USE OF AEROSOL CAN IS THE PREFERRED METHOD OF APPLICATION FOR SEALING CUTS. ANY WOUNDS, WHETHER MADE BY TRIMMING, CONSTRUCTION OR ACCIDENT, SHALL BE TREATED IMMEDIATELY WITH COMMERCIAL PRUNING PAINT TO SEAL THE SURFACE FROM CONTAMINATION. THE TXDOT INSPECTOR MAY CONDUCT UNANNOUNCED INSPECTIONS TO ENSURE COMPLIANCE.
12. IF MORE THAN 25% OF THE TREE CANOPY WILL BE REMOVED CONTACT THE TXDOT ARBORIST OR INSPECTOR FOR APPROVAL PRIOR TO PROCEEDING.

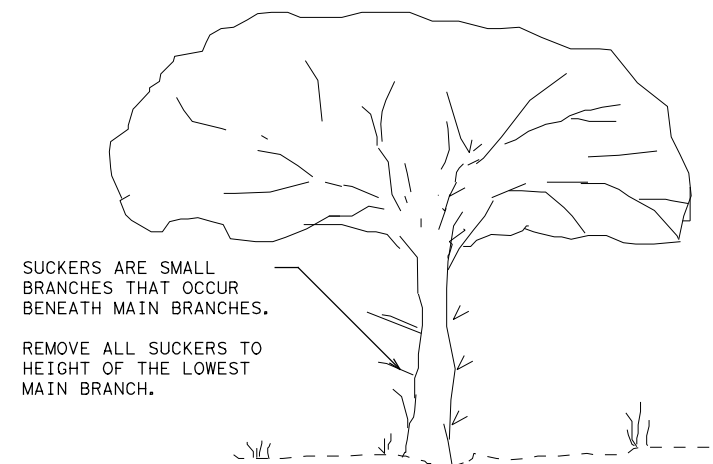


**NON-OAK SPECIES  
TREE PRUNING LIMITS**

**OAK SPECIES  
TREE PRUNING LIMITS**



**PROPER TREE PRUNING  
FOR LIMBS 2" IN DIA. AND GREATER**



**SUCKER REMOVAL DETAIL**

DATE: 5/24/2022 1:55:55 PM  
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**PREP R.O.W.  
PRUNING  
DETAIL**

PRWPD-20 (AUS)

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	0114	17	010	SL 109
	DIST	COUNTY		SHEET NO.
	AUS	BASTROP		101