

FEDERAL AID PROJECT NO.			
CONT	SECT	JOB	HIGHWAY
6472	58	001	IH35, ETC.
DIST	COUNTY		SHEET NO.
22	WEBB		1

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GENERAL

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STATE OF TEXAS DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED HIGHWAY ROUTINE MAINTENANCE CONTRACT

PROJECT NO. RMC: 6472-58-001

PROJECT LENGTH: VARIOUS

PROJECT LIMIT: VARIOUS

COUNTY: WEBB

HIGHWAY: IH 35, ETC.

RMC: 6472-58-001

LANDSCAPE MAINTENANCE

FINAL PLANS

LETTING DATE: _____

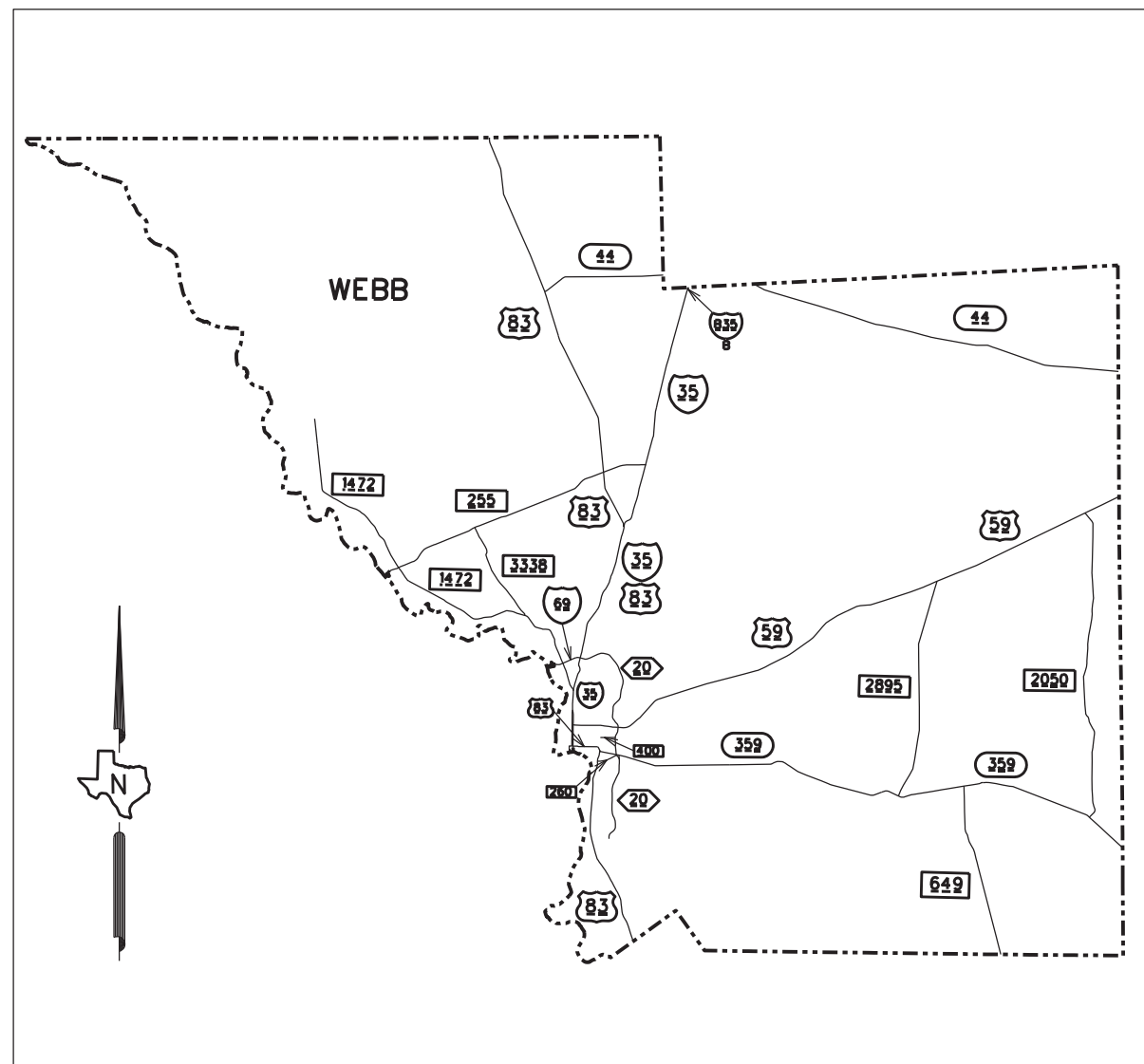
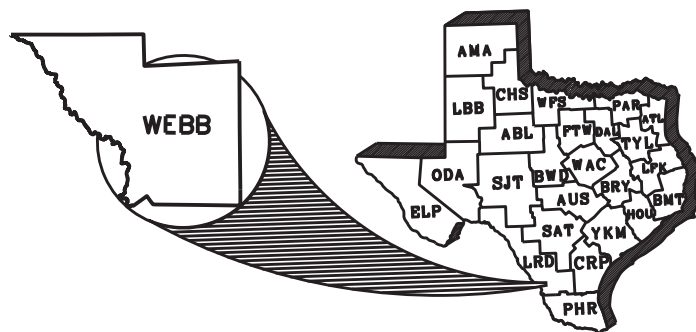
DATE CONTRACTOR BEGAN WORK: _____

DATE WORK WAS COMPLETED & ACCEPTED: _____

FINAL CONTRACT COST: \$ _____

CONTRACTOR: _____

REQUIRED SIGNS SHALL BE IN ACCORDANCE WITH BC (1)- 21 THRU BC (12)- 21 AND THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".



THE STANDARD SHEETS SPECIFICALLY IDENTIFIED WITH A SINGLE ASTERISK(*) HAVE BEEN ISSUED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

9/11/2024
DocuSigned by:
Rogelio Chapa
307945B8A8784F3... P.E.

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, SEPTEMBER 1, 2024 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000-008)

EXCEPTIONS: NONE
EQUATIONS: NONE
RAILROAD CROSSINGS: NONE

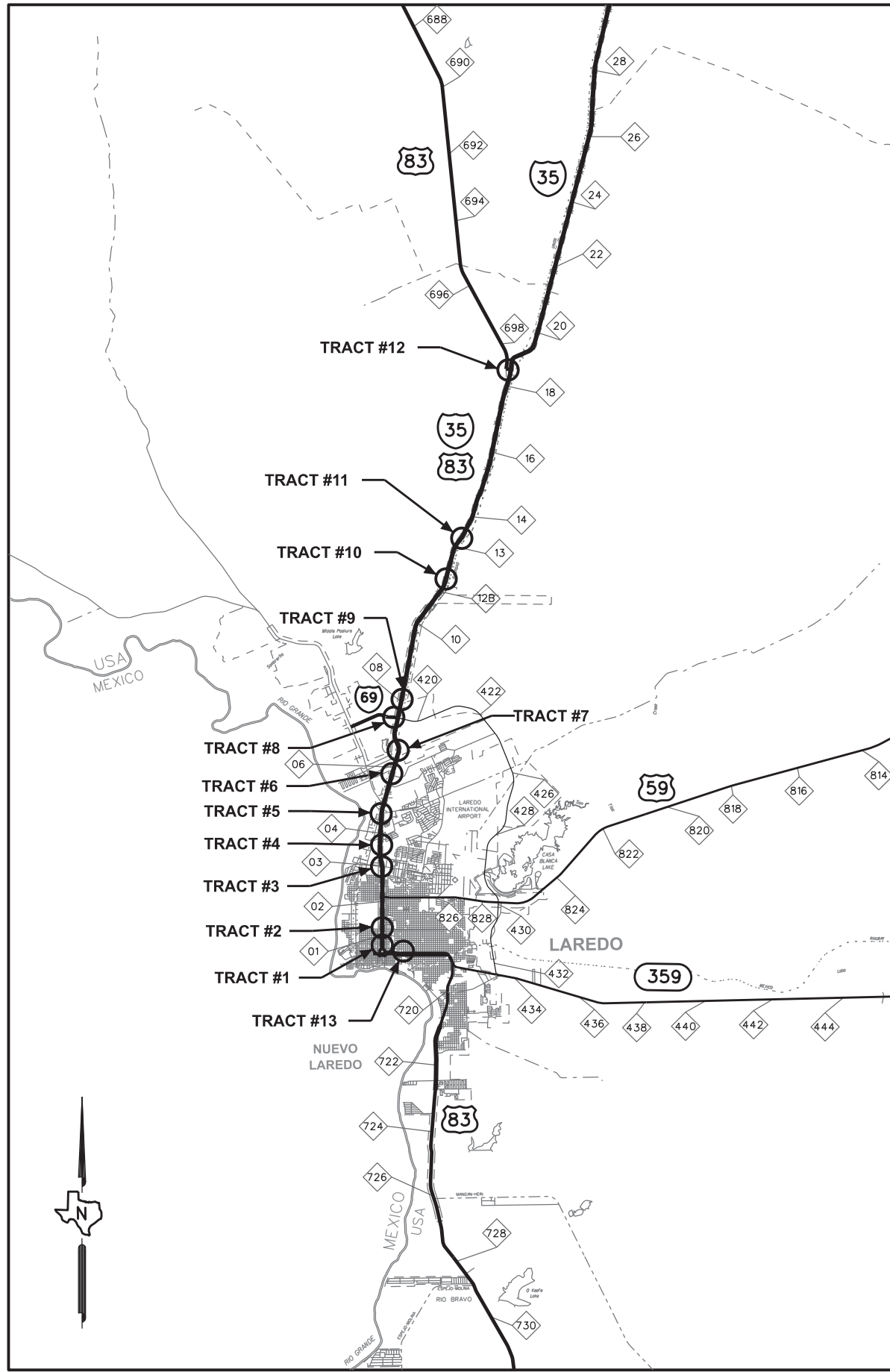


RECOMMENDED FOR LETTING: 9/12/2024
DocuSigned by:
[Signature]
A54CD9F731724EC... ENGINEER

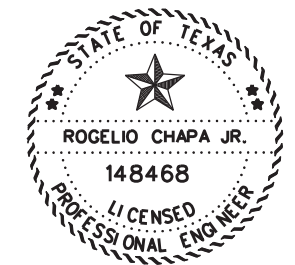
APPROVED FOR LETTING: 9/12/2024
DocuSigned by:
Vanessa Rosales-Herrera
70CAB6EA8F3B42B...

DW: J.L. CK: R.C. DW: J.L. CK: R.C.

DATE: 9/11/2024 10:07:56 AM
 FILE: T:\LRDSD\TMTNT\FY 2025\INT Contract (FY25)\RMC\Landscapes\Webb\CAD\Location Map.dgn



TRACT #	HWY	LIMITS
1	IH 35	FROM: VICTORIA STREET TO: SCOTT STREET
2	IH 35	FROM: SCOTT STREET TO: CALTON ROAD
3	IH 35	IH 35/CALTON ROAD INTERSECTION (PLANTERS)
4	IH 35	FROM: CALTON ROAD TO: DEL MAR BOULEVARD
5	IH 35	IH 35/DEL MAR BOULEVARD INTERSECTION (PLANTERS)
6	IH 35	FROM: DEL MAR BOULEVARD TO: IH 35/IH 69 INTERSECTION, EXCLUDING SHILOH ROAD INTERSECTION AND IH 69 INTERSECTION
7	IH 35	IH 35/SHILOH ROAD INTERSECTION
8	IH 35	IH 35/IH 69 INTERSECTION
9	IH 35	IH 35/ TRES EQUIS INTERSECTION
10	IH 35	IH 35/CARRIERS INTERSECTION
11	IH 35	IH 35/UNIROYAL
12	IH 35	IH35/US 83 NORTH
13	US 83	FROM: 200 FEET EAST OF SAN LEONARDO STREET TO: MONTERREY AVENUE NORTH BOUND AND SOUTH BOUND



The seal appearing on this document was authorized by
ROGELIO CHAPA JR.
 P.E. 148468, on
 9/11/2024

DocuSigned by:

 307945B8A8784F3...



**WEBB COUNTY
 LOCATION MAP**

© TxDOT 2024		SHEET 1 OF 1	
CONT	SECT	JOB	HIGHWAY
6472	58	001	IH35, ETC.
DIST	COUNTY	SHEET NO.	
22	WEBB	2	

Project: RMC 6472-58-001

County: Webb

Highway: IH 35, Etc.

Control: 6472-58-001

GENERAL NOTES:

The contract becomes effective upon receipt of the work authorization letter and covers (2) years. Provide sufficient staff to concurrently pursue each contract in the event that additional sweeping contracts are awarded to the same Contractor.

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

Rogelio Chapa, P.E. – Rogelio.Chapa@txdot.gov

Irazema Cavazos – Irazema.Cavazos@txdot.gov

Angel Alejo – Angel.Alejo@txdot.gov

Questions may be submitted via the Letting Pre-Bid Q&A web page. This webpage can be accessed from the Notice to Contractors dashboard located at the following Address:

<https://tableau.txdot.gov/views/ProjectInformationDashboard/NoticetoContractors>

All contractor questions will be reviewed by the Engineer. All questions and any corresponding responses that are generated will be posted through the same Letting Pre-Bid Q&A web page.

The Letting Pre-Bid Q&A web page for each project can be accessed by using the dashboard to navigate to the project you are interested in by scrolling or filtering the dashboard using the controls on the left. Hover over the blue hyperlink for the project you want to view the Q&A for and click on the link in the window that pops up.

Provide and maintain an e-mail address for receipt of Work Order and correspondence throughout the term of this contract.

Repair and/or replace damaged rails, signposts, etc., caused by the Contractor's actions during the performance of work. Complete repairs within a time limit as determined by the Engineer.

When the contract is extended by agreement, a performance and/or payment bond, if required, shall be executed in the amount of the extension before the additional work begins.

Visit the site to examine the work areas prior to each month's work schedule and meet with the contract inspector on any areas in question. Carefully examine these specifications and secure from the State any additional information, if necessary, that may be essential for a clear and full understanding of the work.

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County: Webb

Highway: IH 35, Etc.

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The approximate quantities determined for this project are for information only and are not to be considered as actual quantities. Contractors are hereby instructed to assure themselves of the actual conditions of the work area before bidding.

Acknowledge the responsibility and liability for the safety, injury, and health of the working personnel while employees are performing maintenance service work.

Liquidated damages will be assessed per Work Order(s) which exceed the total allocated workdays for tracts assigned on Work Order. In the event that job performance is not to the satisfaction of the Engineer, submarginal work is subject to Special Provision "Schedule of Liquidated Damages".

SUPERVISION:

The Maintenance Supervisor listed below will be the Engineer's representative in charge of the inspection of all work in this contract. The Pre-Work Meeting will be held at this location and all requests for payment will be certified by this office.

Webb County
Jose Magaña
1817 Bob Bullock Loop
Laredo, Texas 78043
(956) 712-7714
Jose.Magana@txdot.gov

Report and deliver all lost and found items to the Engineer.

ITEM 3 – DEFINITIONS

National Holidays. January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, December 24, and December 25. Roadway closures during these key dates and/or special events are prohibited.

ITEM 4 – SCOPE OF WORK

When mutually agreed in writing, the Engineer may extend the Contract if the Contractor has satisfactorily fulfilled the terms and conditions of the Contract. The extension may be for a period not to exceed the original Contract time and may include additional quantities up to the original bid quantities plus any quantities added by change order.

ITEM 7 – LEGAL RELATIONS AND RESPONSIBILITIES

Contractor Responsible Person and Alternate. Designate in writing a Contractor's Responsible Person (CRP) and an alternate to be the representative of the Contractor who is responsible for taking or directing corrective measures regarding the traffic control. The CRP or alternate must be accessible by telephone 24 hr. per day and able to respond when notified.

This employee will be located within one (1) hour of traveling time to the project site. Notify the Engineer in writing of the name, address, and telephone number of this employee. Furnish this information to local law enforcement officials.

ITEM 8 – PROSECUTION AND PROGRESS

Contract term will be the calendar days shown in the plans. Calendar days will be charged Sunday–Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.

Work on Sundays and national holidays will not be permitted without written permission of the Engineer.

ITEM 502 - BARRICADES, SIGNS AND TRAFFIC HANDLING

When advanced warning flashing arrow panel(s) is/are specified, maintain one standby unit in good condition at the job site ready for immediate use if required.

Traffic control required for this project will not be paid for directly but will be considered subsidiary to the various bid items.

Provide traffic control devices as shown on the plans and in accordance with the TMUTCD and the Department's Compliant Work Zone Traffic Control Device List (CWZTCDL) maintained by the Traffic Safety Division. When authorized or directed, provide additional signs or traffic control devices not required by the plans.

Maintain traffic control devices by taking corrective action when notified. Corrective actions include, but are not limited to, cleaning, replacing, straightening, covering, and removing devices.

Maintain the devices such that they are properly positioned and spaced, are legible, and have retroreflective characteristics that meet requirements day or night and in all weather conditions.

The bottom of the sign cannot be less than one (1) foot above the pavement centerline elevation. Each sign will have two safety flags attached to it at all times. It will not be permissible to hang or lean these signs on or against the State's sign posts, guardrails, bridge rail, etc. "Road Work Ahead" sign is intended for use in advance of landscaping operations on the progress of work to keep within 2 miles or less from the work area. All sign stands and safety flags will be provided by the Contractor.

ITEM 505 - TRUCK MOUNTED ATTENUATOR (TMA) AND TRAILER ATTENUATOR (TA)

Provide two (2) Truck Mounted Attenuator as required by the Engineer. Provide backup and always keep operational and available on the jobsite at all times during traffic control operations. The Truck Mounted Attenuator will be made available for utilization for the entire duration of the project, including all alternative locations.

ITEM 751 - LANDSCAPE MAINTENANCE

Mowing, Edging and Trimming:

Pick up litter before mowing. Mow areas shown on the plans as directed. Set mower cutting height at 2–3 in. or as directed. Use push-type lawn mowers or hand-held trimmers around trees, arbor units, and other appurtenances when required. Use tractor-driven mowers in other areas, if approved. Ensure trees or other vegetation are not damaged. Replace vegetation damaged by improper operations. Edge sidewalks, arbor units, curbs, and concrete pavement. Trim around buildings, trees, shrubs, light poles, trash receptacles, signposts, guard posts, delineator posts, culvert headwalls, ground lights, plant beds, and other appurtenances. Remove all dirt and trimmed vegetation from curbs, walks, slabs, and parking areas. Remove weeds, grass, and other undesirable growth from plant beds and shrubs. Remove and dispose of clippings, cutting windrows, and piles as directed.

Perform mowing for the number of cycles shown in the Summary of Tracts and Quantities sheet for each tract. Schedule mowing to be Monday through Friday beginning the first full week of each month scheduled. Care is to be taken when mowing around plant materials, trees, and palms located within the contract limits. Remove grass, weeds, and undesirable growth from around all obstructions, including riprap, bridge guardrail fence, sidewalks, driveways, under bridges, retaining walls and all hard surfaced areas. The Engineer will mark non-mow areas.

Perform litter pickup before and after each mowing cycle. This work is subsidiary to Item 751-6006.

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Sweeping will not be paid for separately, but is subsidiary to Item 751-6008 (Mowing, Trimming, and Edging).

Sweep debris from roadway and sidewalks. Sweep, edge, and cultivate plants for all curbs, curb and gutter, sidewalks, riprap and areas with landscape pavers as part of each cycle.

Include trimming existing palms within the limits of the contract for palm trimming. Fronds removed are to be sawed (cut) off at least 2" and not more than 4" from the trunk (peeling is not required). Dispose of all fronds and vegetation material.

Perform both pruning and fertilizer application for one cycle per year.

Perform herbicide application as noted on Summary of Tracts and Quantities Plan Sheet. For riprap, paved medians, raised medians, and retaining walls the type of control desired will be bare ground. A herbicide that can be applied while actively growing year round as long as rain is not forecasted within 48 hours may be used.

Perform plant bed maintenance as shown in the Summary of Tracts and Quantities sheet as shown for each tract.

Work is to be performed from ROW to ROW for all tracts.

Herbicide Application:

Comply with license requirements in Section 193.3.1., "Plant Maintenance." Control undesirable vegetation in riprap areas, plant beds, tree areas, and other locations by application of herbicide using manufacturers' recommendations, as directed. Remove dead plant debris.

Plant Bed Maintenance:

Physically remove weeds and undesirable grasses, including their root systems, from within plant beds. Trim ground covers and perform additional maintenance to plants within plant beds as required on the plans.

Pruning of Shrubs and Hedges:

Hedges shall be trimmed as directed by the Engineer or its designated representative. Contractor shall remove and dispose of weeds, clippings, etc.

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County: Webb

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ITEM 760 – CLEANING AND RESHAPING DITCHES

Excavate and remove excess material from ditches and from around fixtures within the limits of the excavation or reshape by cleaning silt from the ditch and spreading on backslope as approved.

Reshape ditches shown on the plans, or as directed. Dispose of excess material in conformance with applicable federal, state, and local regulations, or place on right of way, as directed. Maintain ditch drainage during cleaning and reshaping work.



Estimate & Quantity Sheet

CONTROLLING PROJECT ID 6472-58-001

DISTRICT Laredo

COUNTY Webb

HIGHWAY IH0035

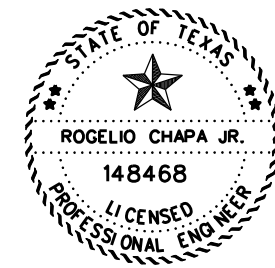
CONTROL SECTION JOB				6472-58-001		TOTAL EST.	TOTAL FINAL
PROJECT ID				A00211999			
COUNTY				Webb			
HIGHWAY				IH0035			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL		
	505-7001	TMA (STATIONARY)	DAY	178.000		178.000	
	751-7008	PRUNING	CYC	16.000		16.000	
	751-7016	HERBICIDE APPLICATION (SITE 1)	CYC	128.000		128.000	
	751-7017	HERBICIDE APPLICATION (SITE 2)	CYC	34.000		34.000	
	751-7019	LITTER PICKUP	CYC	174.000		174.000	
	751-7028	MOWING, TRIMMING, AND EDGING	CYC	112.000		112.000	
	751-7043	PLANT BED MAINTENANCE	CYC	2.000		2.000	
	752-7007	TREE REMOVAL (18" - 24" DIA)	EA	10.000		10.000	
	760-7001	DITCH CLEANING AND RESHAPING (FOOT)	LF	56,888.000		56,888.000	

DR: J.L. CK/R.C. DW: J.L. CK/R.C.

SUMMARY AND QUANTITIES												FOR CONTRACTOR'S INFORMATION	
TRACT ID#	HWY	LIMITS	ITEM 751-7016 HEBICIDE APPLICATION (SITE A)	ITEM 751-7017 HERBICIDE APPLICATION (SITE B)*	ITEM 751-7043 PLANT BED MAINTENANCE	ITEM 751-7019 LITTER PICKUP*	ITEM 751-7028 MOWING, TRIMMING, AND EDGING*	ITEM 751-7008 PRUNING**	ITEM 752-7007 TREE REMOVAL (18" - 24" DIA)**	ITEM 760-7001 DITCH CLEANING**	TMA 505-7001	TOTAL AREA FOR LITTER/CYCLE	TOTAL AREA FOR MOWING/CYCLE
			CYC	CYC	CYC	CYC	CYC	EA	LF	DAY	AC	AC	
1	IH 35	FROM: VICTORIA STREET TO: SCOTT STREET	16			16	16	2			16	3.32	3.32
2	IH 35	FROM: SCOTT STREET TO: CALTON ROAD	16			16	16	2		6800	16	29.16	29.16
3	IH 35	IH 35/CALTON ROAD INTERSECTION (PLANTERS)	16			16	16	2		4280	16	8.14	8.14
4	IH 35	FROM: CALTON ROAD TO: DEL MAR BOULEVARD	16			16	16	2		21120	16	20.72	20.72
5	IH 35	IH 35/DEL MAR BOULEVARD INTERSECTION (PLANTERS)	16			16	16	2			16	2.79	2.79
6	IH 35	FROM: DEL MAR BOULEVARD TO: IH 35/IH 69 INTERSECTION, EXCLUDING SHILOH ROAD INTERSECTION AND IH 69 INTERSECTION	16			16	16	2			16	29.46	29.46
7	IH 35	IH 35/SHILOH ROAD INTERSECTION	16			16	16	2			16	4.1	4.1
8	IH 35	IH 35/IH 69 INTERSECTION	16			12				6640	12	12.46	
9	IH 35	IH 35/ TRES EQUIS INTERSECTION		8		12					12	1.1	
10	IH 35	IH 35/CARRIERS INTERSECTION		8		12					12	1.84	
11	IH 35	IH 35/UNIROYAL		8		12				2240	12	6.52	
12	IH 35	IH35/US 83 NORTH		8		12				2680	12	6.3	
13	US 83	FROM: 200 FEET EAST OF SAN LEONARDO STREET TO: MONTERREY AVENUE NORTH BOUND AND SOUTH BOUND		2	2	2		2			2	0.15	
14		NON-TRACT SPECIFIC							10	13128	4		
TOTALS			128	34	2	174	112	16	10	56888	178	126.06	97.69

NOTES:

- * Remove weeds and debris from concrete lined channels, retaining walls, in between bridge abutments on frontage roads at Tracts 9, 11, 12, 13 and/or sloped concrete and brick paver areas at intersections.
- ** Ditch cleaning, tree and brush removal, and tree removal quantities are for estimated purposes, but shall be determined by the Maintenance Supervisor as needed.
- 1 Tract 14 shall not include Landscape under overpass from Marcella Street to Maryland Street.
- 2 Work is to be performed from ROW to ROW for all Tracts. This includes property lines, gates, and/or limits as determined by the Maintenance Supervisor.
- 3 Work shall not be performed to Tracts under construction unless authorized by the Engineer.
- 4 Item 760-7001 Ditch Cleaning and Reshaping (foot) for Tract 14 shall be used for callout work as requested by the Maintenance Supervisor.



The seal appearing on this document was authorized by
ROGELIO CHAPA JR.
 P.E. 148468, on
 9/12/2024

DocuSigned by:

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SUMMARY OF TRACTS AND QUANTITIES

© TxDOT 2024 SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
6472	58	001	IH35, ETC.
DIST	COUNTY	SHEET NO.	
22	WEBB	7	

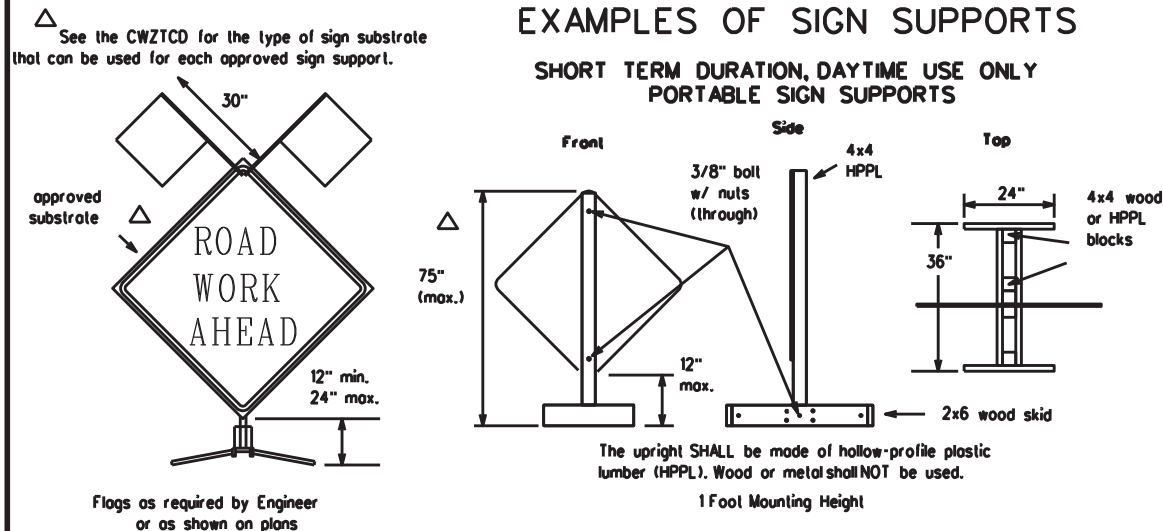
DATE: 9/12/2024 2:27:43 PM
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DISCLAIMER
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LEVELS DISPLAYED	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	

EXAMPLES OF SIGN SUPPORTS

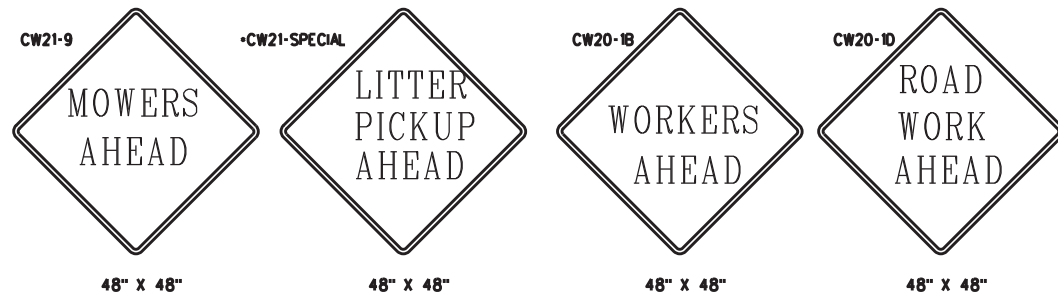
SHORT TERM DURATION, DAYTIME USE ONLY PORTABLE SIGN SUPPORTS



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 will NOT be allowed.

The upright SHALL be made of hollow-profile plastic lumber (HPPL). Wood or metal shall NOT be used.
1 Foot Mounting Height



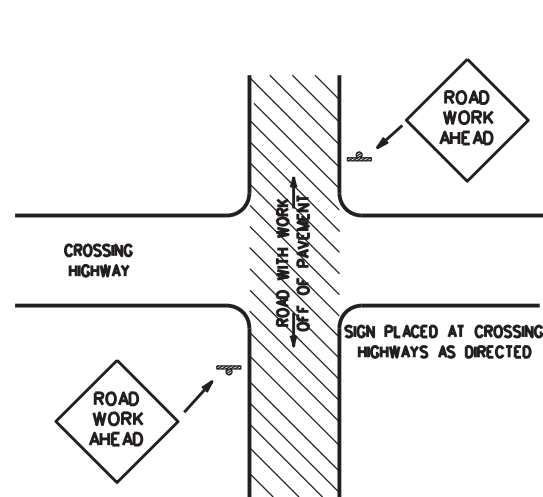
SIGN IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS

MOWERS AHEAD SIGNS ARE USED FOR MOWING OPERATIONS.

LITTER PICKUP AHEAD, ROAD WORK AHEAD AND WORKER AHEAD SIGNS ARE USED AS DIRECTED FOR OTHER MAINTENANCE OPERATIONS WHEN ALL WORK OCCURS OFF OF THE PAVED HIGHWAY SURFACE.

ROLL-UP SIGNS CONFORMING TO DMS-8310 AND THE CWZTCD ALLOWED

*Letter dimensions and spacing for "CW21-SPECIAL" is the same as C20-1D

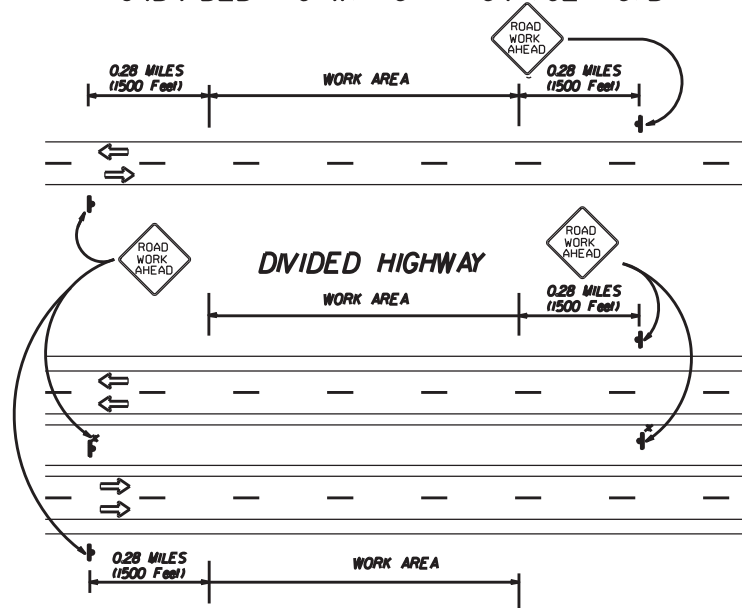


TYPICAL LOCATION OF SIGNS AT HIGHWAY CROSSING

WORK AREA IS A MAXIMUM OF 2.0 MILES UNLESS OTHERWISE DIRECTED.
SIGNS MAY REMAIN IN PLACE ONLY DURING DAYLIGHT HOURS.
SIGNS ARE TO BE PLACED 6' TO 12' OFF OF THE PAVED SURFACE UNLESS OTHERWISE DIRECTED.
ROAD WORK AHEAD SIGNS SHOWN AS EXAMPLES. ONE OF THE FOUR TYPE SIGNS WILL BE USED AS DIRECTED.

* SIGNS IN THE MEDIAN ARE REQUIRED WHEN WORK OCCURS IN MEDIAN

UNDIVIDED HIGHWAY OR FRONTAGE ROAD



TRAFFIC CONTROL PLAN FOR WORK OFF OF THE PAVED SURFACE.

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.
- Nails shall NOT be used to attach signs to any support.
- 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 additional signs requested by the Engineer/Inspector shall not be subsidiary.
- The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). 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 that the Engineer can verify the correct procedures are being followed.
- The Contractor is responsible for sign installations 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".
- 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 Uniform Traffic Control Devices" Part VII)

- The Contractor is responsible for ensuring the sign support and substrate meets crashworthiness. For mowing operation all signs and supports are Short-term Duration for daytime work.
- The Contractor shall furnish the sign sizes shown on this sheet or as directed by the Engineer.

SIGN SUBSTRATES

- The Contractor shall ensure that the sign substrate is allowed 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.
- 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 faces.

REFLECTIVE SHEETING

- ReflectORIZED signs shall be constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 or DMS-8310. The DMS specifications can be accessed from the following web address:
http://manuals.dot.state.tx.us/80/dynaweb/colmatex/Generic_CollectionView.aspx?default:default
- White sheeting, meeting the requirements of DMS-8300 Type C (High Specific Intensity), shall be used for signs with white background and channelizing devices.
- Orange sheeting, meeting the requirements of DMS-8300 Type E (Fluorescent Prismatic), shall be used for 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

- Signs should be removed or completely covered when not mowing.
- Duct tape or other adhesive material shall NOT be affixed to a sign face.
- Signs and supports shall be removed by the end of the day.

SIGN SUPPORT WEIGHTS

- Where sign supports 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.
- Rock, concrete, iron, steel or other solid objects will 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 for sandbags.
- Rubber ballasts (such as those used with cones or edgeline channelizers) shall NOT be used as sign support weights.
- 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 supports.
- Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

Any sign, sign support or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced or repaired as soon as possible by the Contractor at the Contractor's expense.

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 obtained by contacting:

Standards Engineer
 Traffic Operations Division - TE
 Texas Department of Transportation
 125 East 11th Street
 Austin, Texas 78701-2483
 Phone (512) 416-3120
 Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start of website - www.dot.state.tx.us
 Click on "About TxDOT",
 Click on "Organizational Chart",
 Click on "Traffic Operations Box",
 Click on "Compliant Work Zone Traffic Control Devices",
 Click on "View PDF".
 This site is printable.

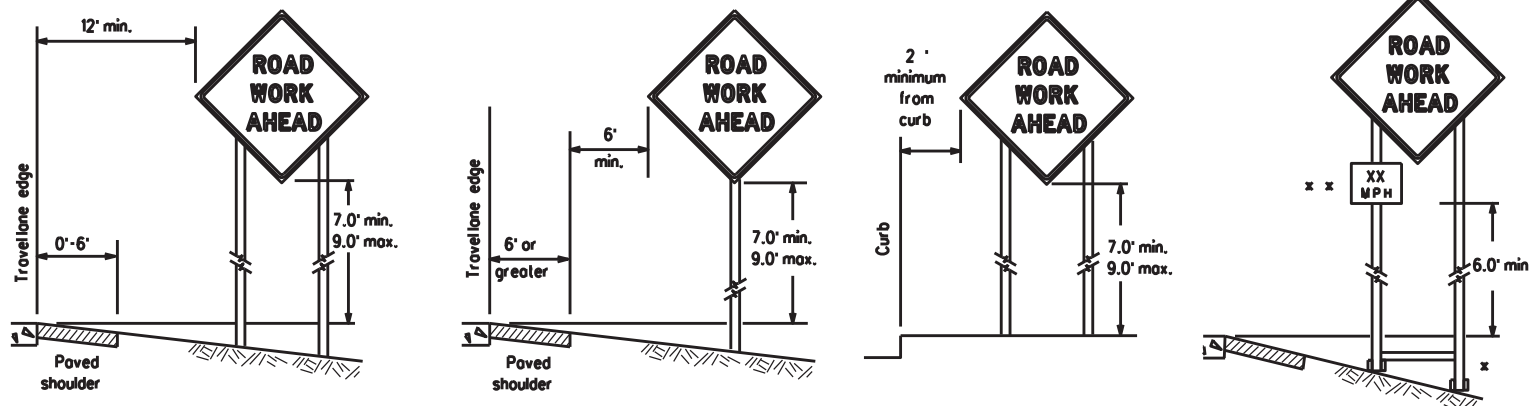
Texas Department of Transportation
 Maintenance Division
 Standard Plans

ROADSIDE TRAFFIC CONTROL PLAN

SHEET 1 OF 1 RS-TCP-05 NOT TO SCALE

FILE: RSTCP05.DGN	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT	NEG NO:
© TxDOT FEBRUARY 2005		STATE DISTRICT: 22	FEDERAL REGION: N/A	FEDERAL AID PROJECT: N/A	
REVISED: September 17, 2004					SHEET: 8
REVISED: FEBRUARY 2, 2005		COUNTY: WEBB	CONTROL SECTION: 6472	JOB: 58	HIGHWAY: 001
Sign placement in TCP					IHS3, ETC.

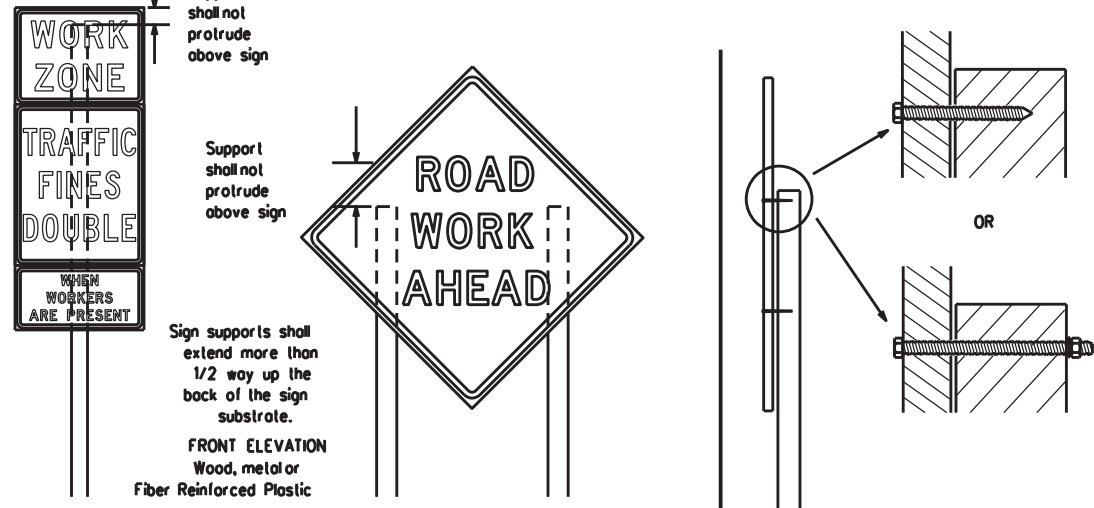
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



* 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



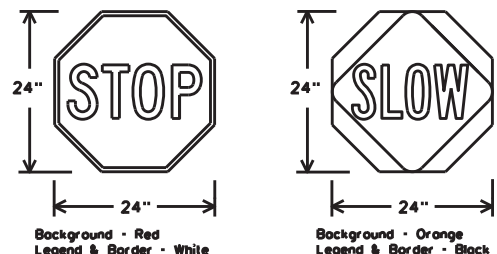
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nois 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.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. 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 _{TL} OR C _{TL} 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

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, 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.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated 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.
5. 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 CWZTCO 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.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. 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.
5. 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.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCO) 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.
7. 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.
8. 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.
9. 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)

1. 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.
 - a. Long-term stationary - work that occupies a location more than 3 days.
 - b. 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.
 - c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
 - d. Short, duration - work that occupies a location up to 1 hour.
 - e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. 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.
2. 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.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. 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.
5. 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

1. 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

1. 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 CWZTCO lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. 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

1. 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).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B or Type C, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. 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

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. 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.
3. 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.
4. 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.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
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 shall 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 CWZTCO 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.

FLAGS ON SIGNS

1. 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.

Texas Department of Transportation
Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

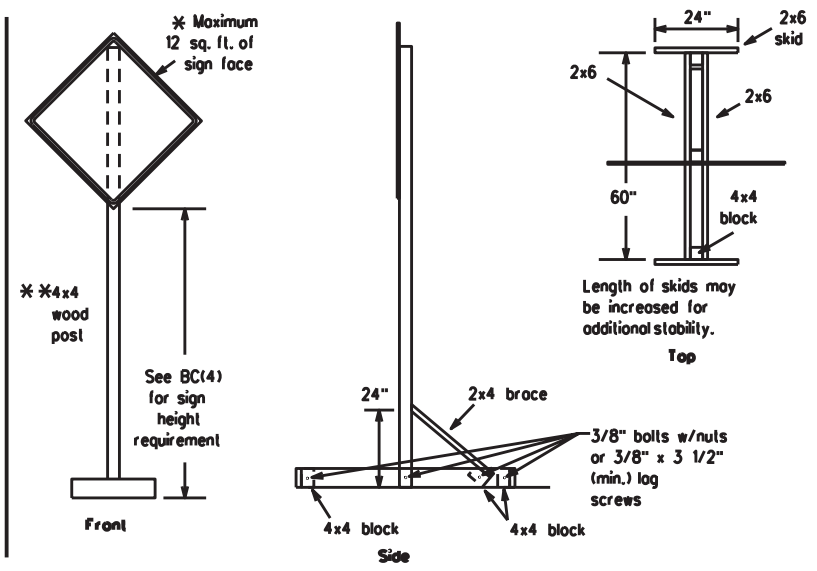
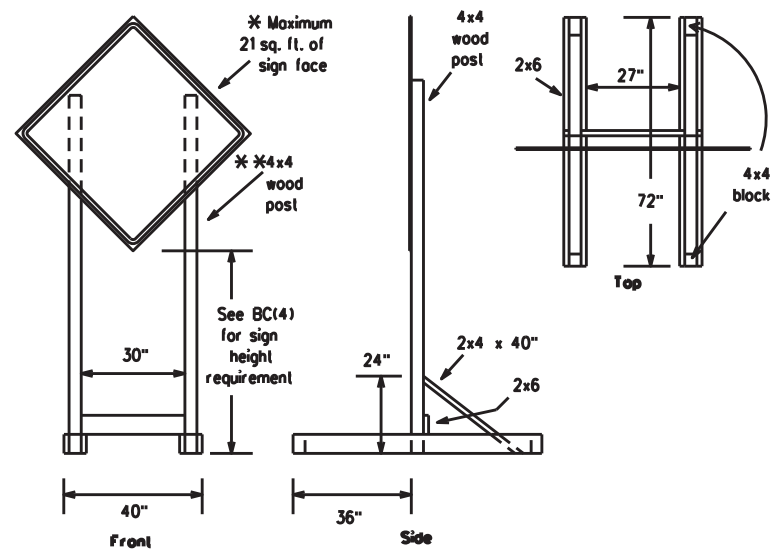
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© TxDOT November 2002	CONT: 6472	SECT: 58	JOB: 001	HIGHWAY: IH35, ETC.
REVISIONS: 9-07 8-14				
7-13 5-21	DIST: 22	COUNTY: WEBB	SHEET NO.: 9	

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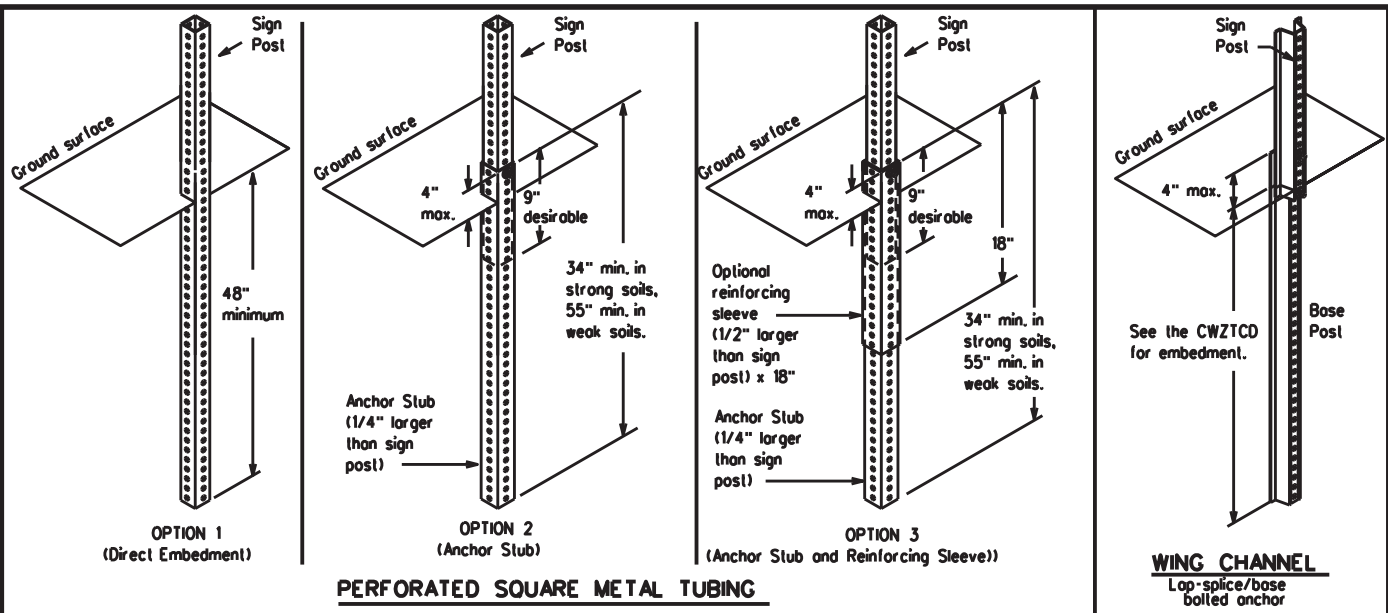
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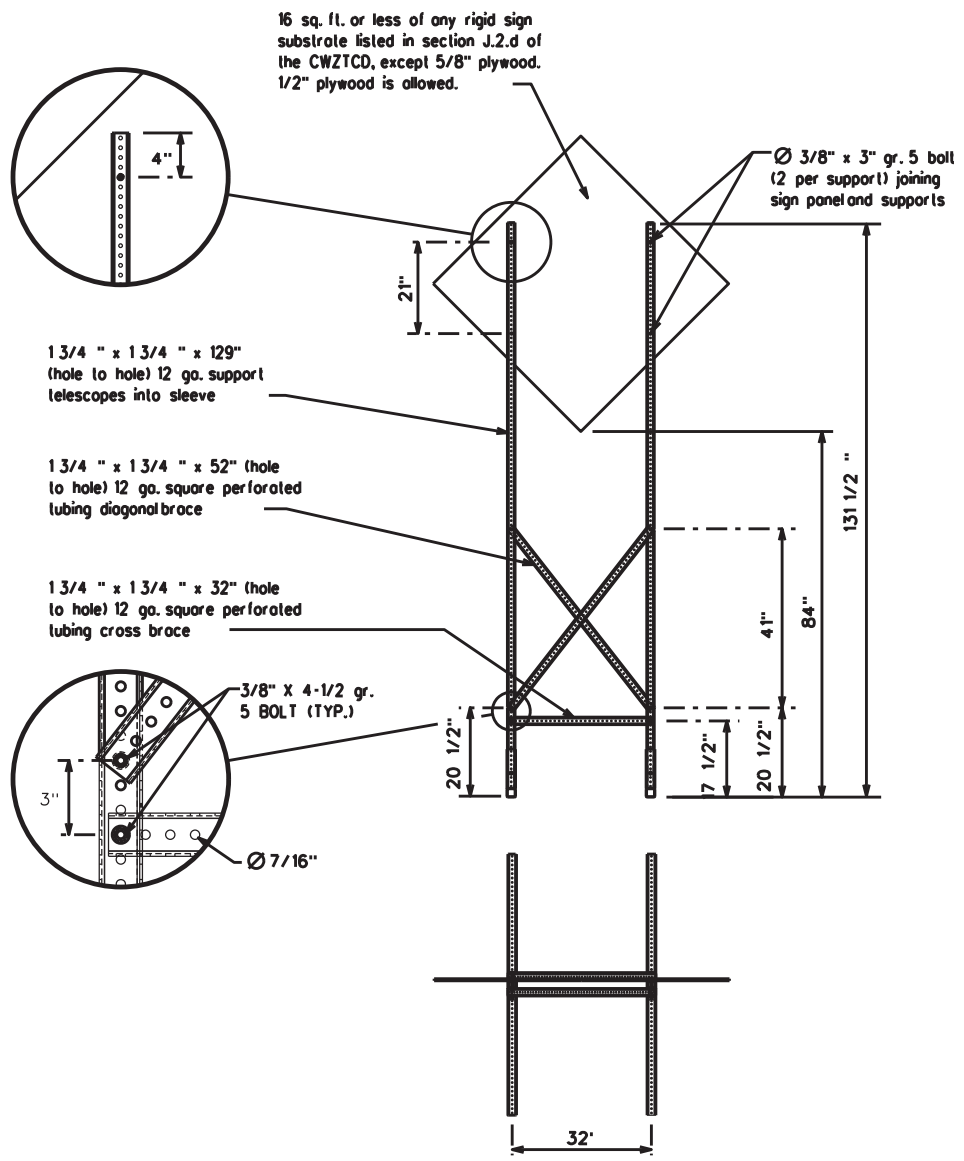
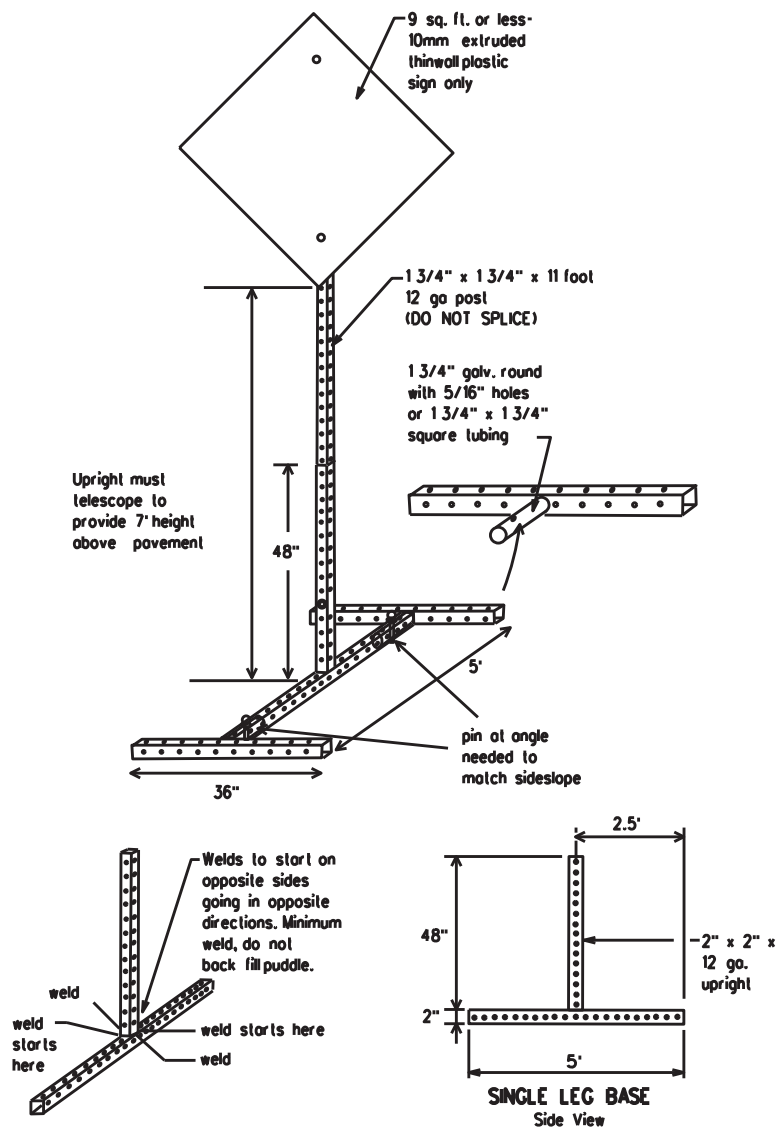
SKID MOUNTED WOOD SIGN SUPPORTS

* 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

1. 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.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. 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.



BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

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© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY				
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9-07	8-14	DIST	COUNTY	SHEET NO.					
7-13	5-21	22	WEBB	10					

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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

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 must 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.

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

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

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

FREEWAY CLOSED X MILE
ROAD CLOSED AT SH XXX
ROAD CLSD AT FM XXXX
RIGHT X LANES CLOSED
CENTER LANE CLOSED
NIGHT LANE CLOSURES
VARIOUS LANES CLOSED
EXIT CLOSED
MALL DRIVEWAY CLOSED
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
ROADWORK XXX FT
ROAD REPAIRS XXXX FT
FLAGGER XXXX FT
LANE NARROWS XXXX FT
RIGHT LN NARROWS XXXX FT
TWO-WAY TRAFFIC XX MILE
MERGING TRAFFIC XXXX FT
CONST TRAFFIC XXX FT
LOOSE GRAVEL XXXX FT
UNEVEN LANES XXXX FT
DETOUR X MILE
ROUGH ROAD XXXX FT
ROADWORK PAST SH XXXX
ROADWORK NEXT FRI-SUN
BUMP XXXX FT
US XXX EXIT X MILES
TRAFFIC SIGNAL XXXX FT
LANES SHIFT

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

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.

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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 Vehicle	HOV	Tuesday	TUES
Highway	HWY	Time Minutes	TIME MIN
Hour(s)	HR, HRS	Upper Level	UPR LEVEL
Information	INFO	Vehicles (s)	VEH, VEHs
It Is	ITS	Warning	WARN
Junction	JCT	Wednesday	WED
Left	LFT	Weight Limit	WT LIMIT
Left Lane	LFT LN	West	W
Lane Closed	LN CLOSED	Westbound (route) W	
Lower Level	LWR LEVEL	West Pavement	WET PVMT
Maintenance	MAINT	Will Not	WONT

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

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 should 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 M, 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 "Flogger 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.



BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

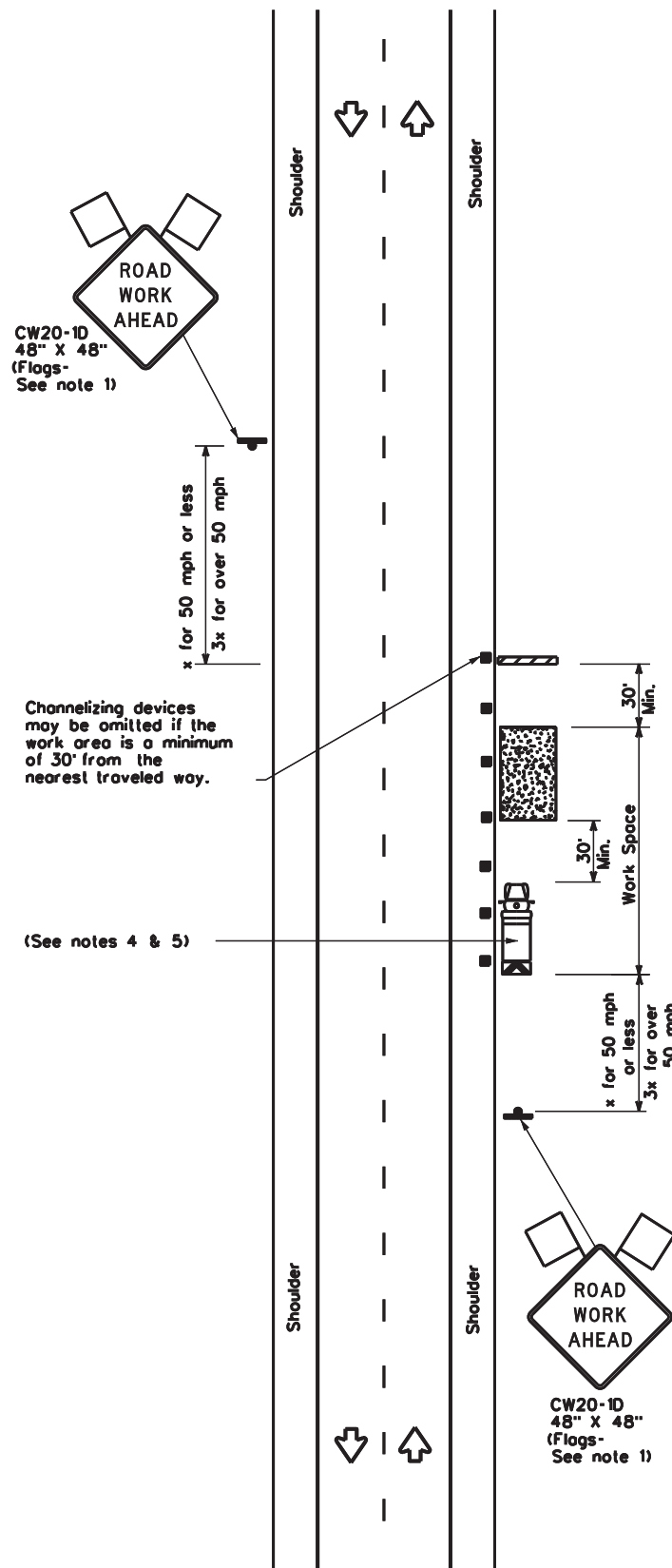
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FILE:	bc-21.dgn	DN:TxDOT	CK:TxDOT	DW:TxDOT	CK:TxDOT
© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY
		6472	58	001	IH35, ETC.
9-07	8-14				
7-13	5-21	DIST	COUNTY	SHEET NO.	
		22	WEBB	11	

DATE: 9/11/2024 10:07:58 AM
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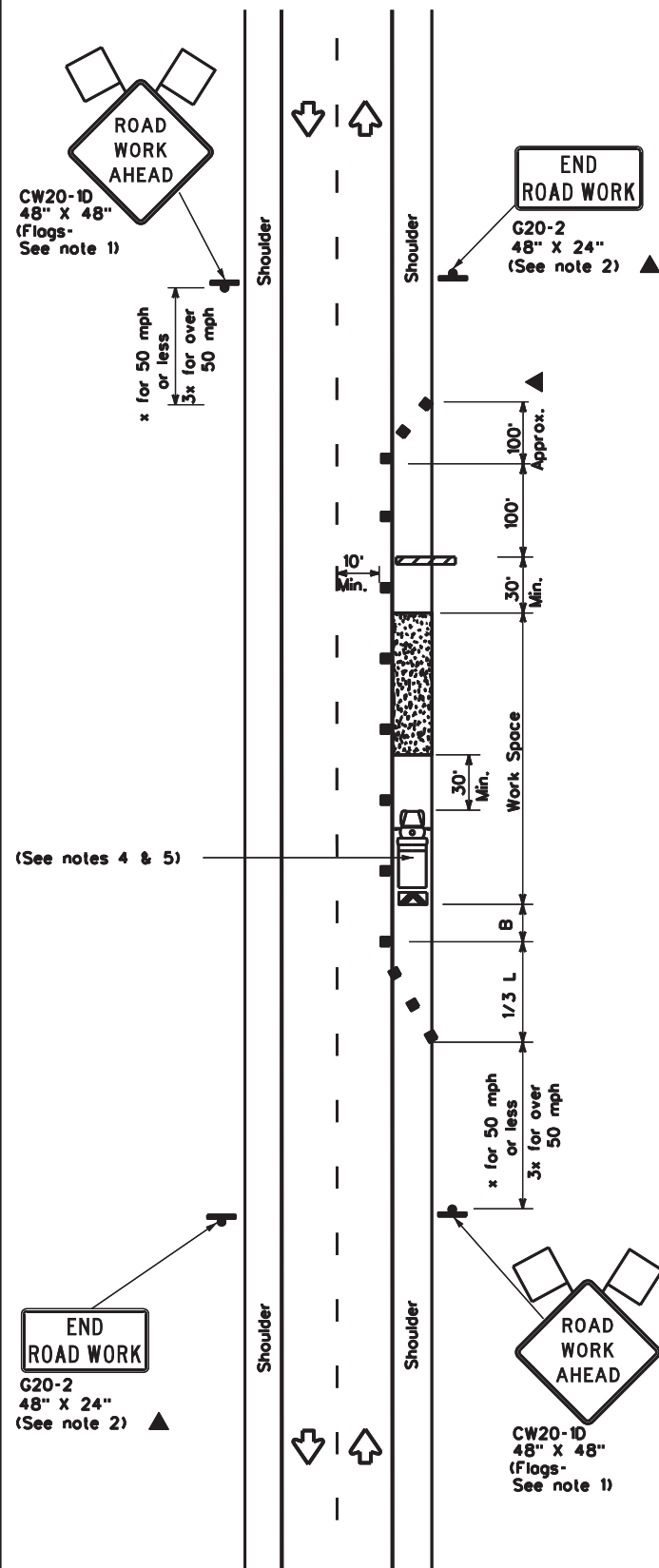
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DATE: 9/11/2024 10:07:58 AM
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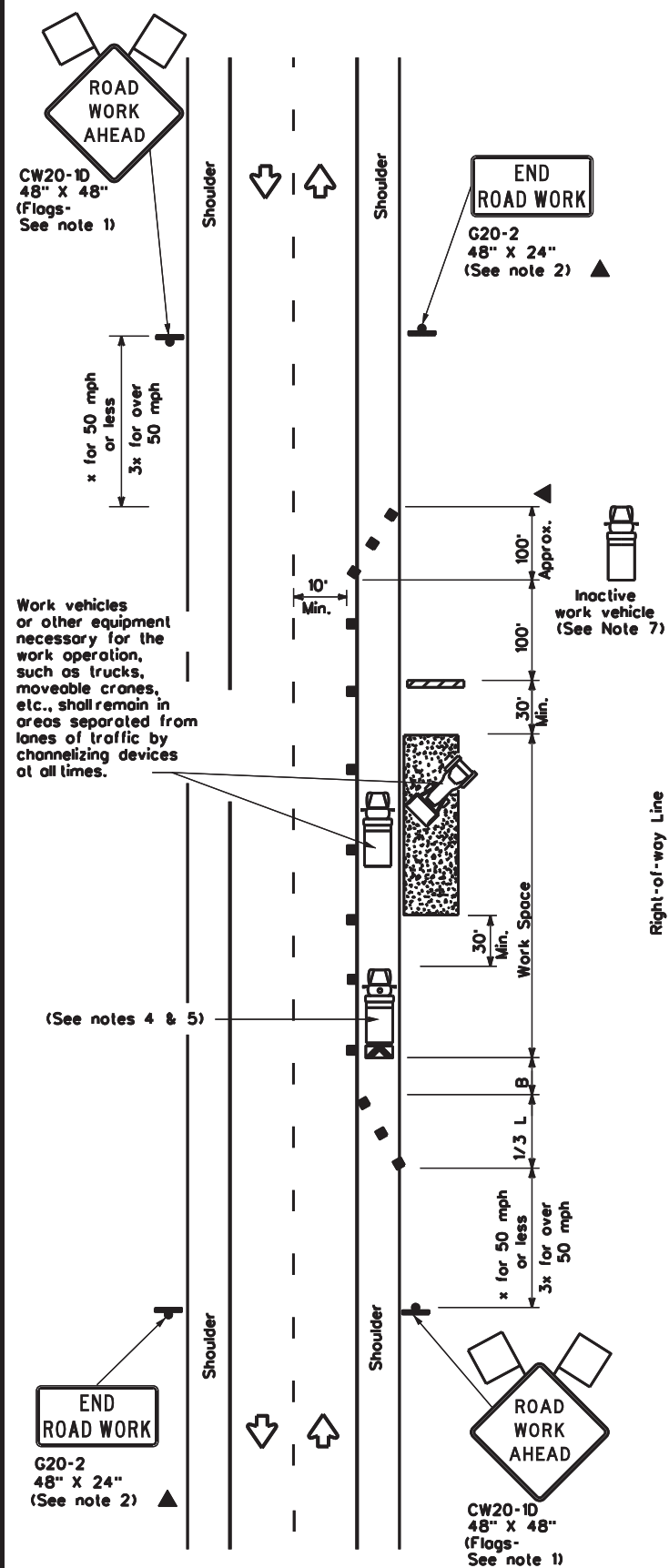
TCP (2-1a)

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		Flogger

Posted Speed x	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 = WS / 60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40	L = WS	265'	295'	320'	40'	80'	240'	155'
45		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.



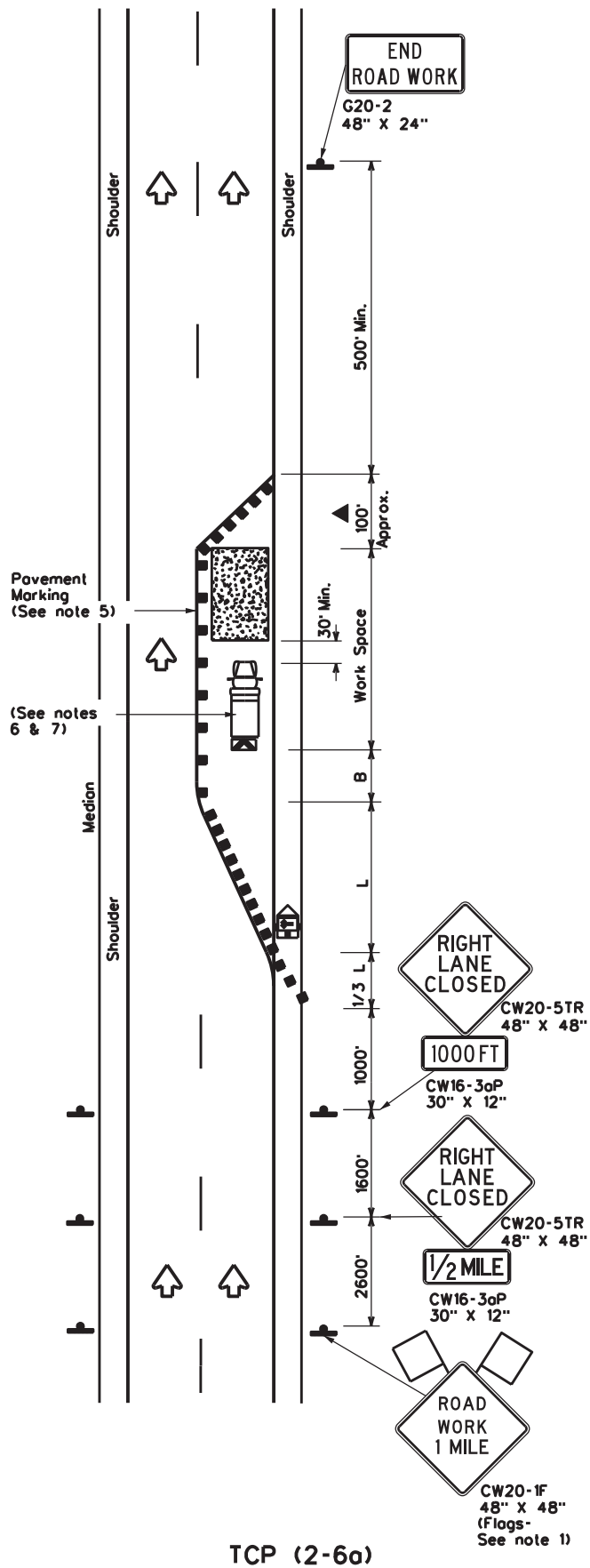
TRAFFIC CONTROL PLAN
CONVENTIONAL ROAD
SHOULDER WORK

TCP(2-1)-18

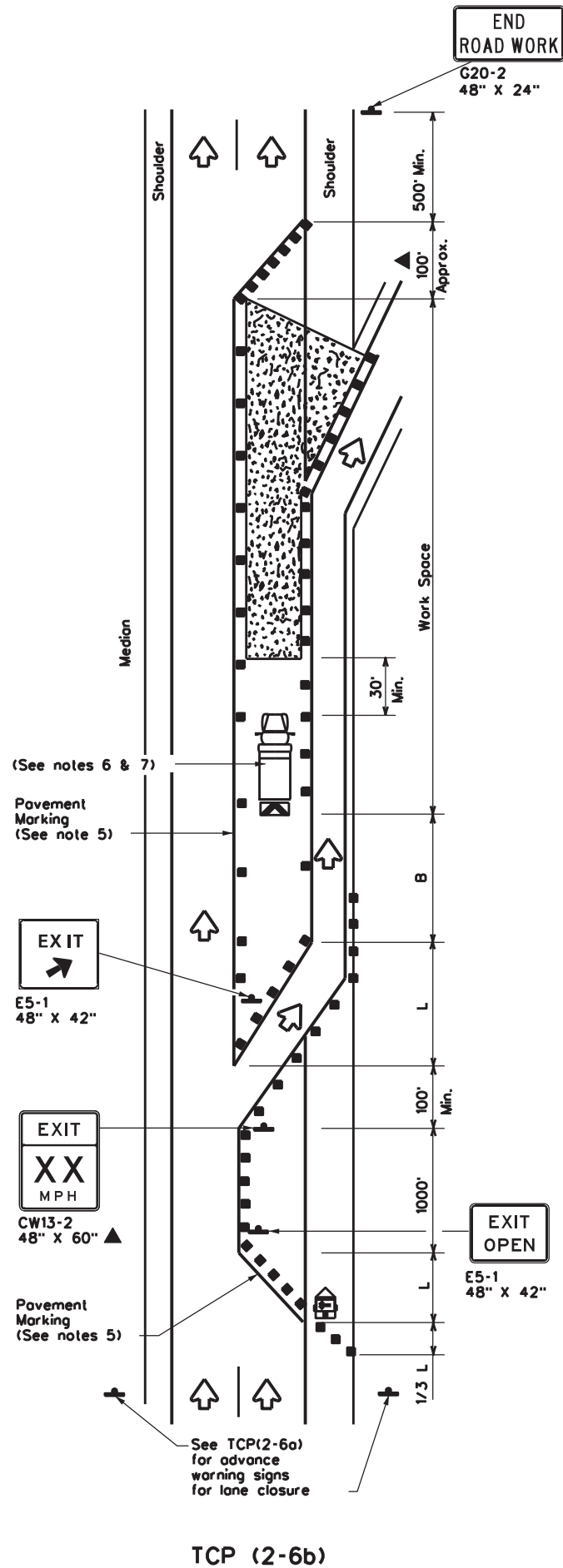
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© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	6472	58	001	IH35, ETC.
2-94 4-98	DIST	COUNTY	SHEET NO.	
8-95 2-12	22	WEBB	12	
1-97 2-18				

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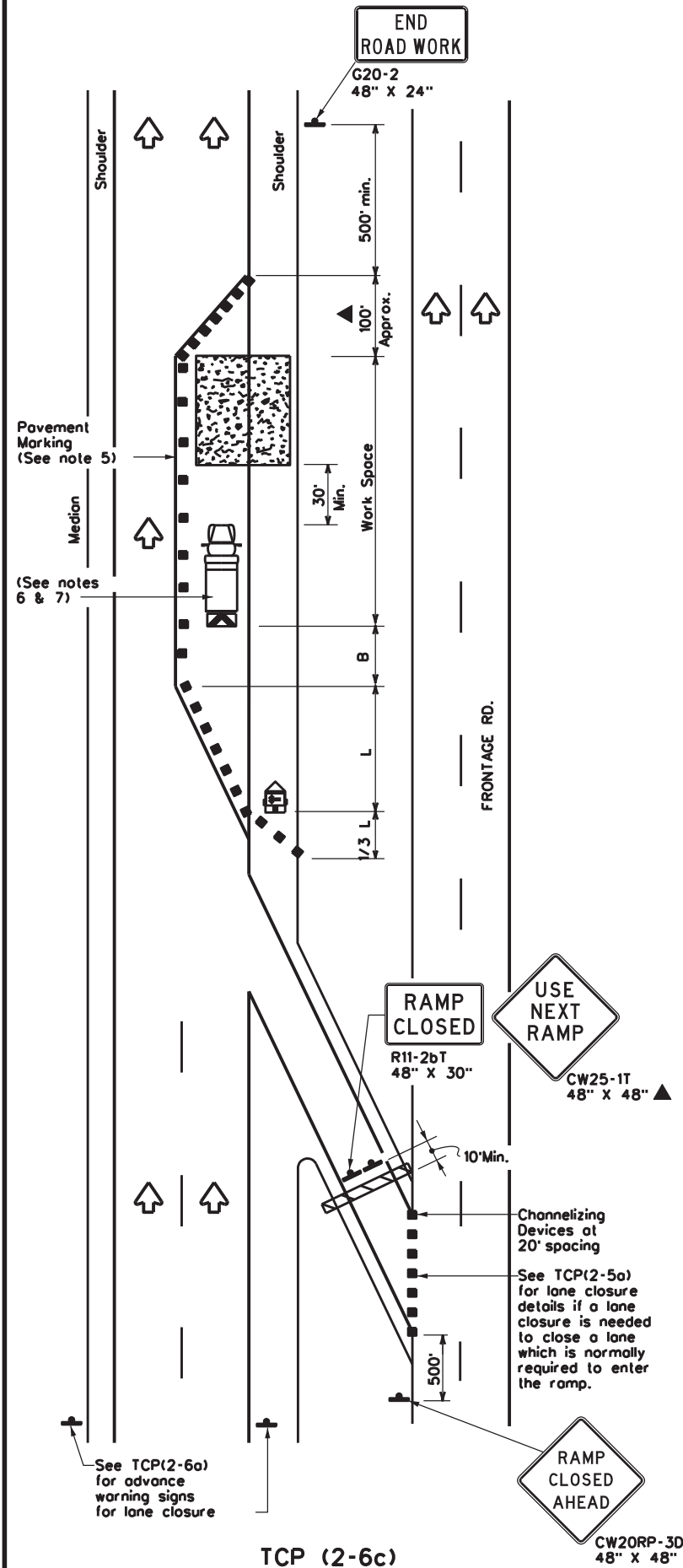
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TCP (2-6a)
ONE LANE CLOSURE



TCP (2-6b)
LANE CLOSURE NEAR EXIT RAMP



TCP (2-6c)
LANE CLOSURE NEAR ENTRANCE RAMP

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 x	Formula	Minimum Desirable Taper Lengths x 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'

x Conventional Roads Only
 xx 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.
 - Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
 - Channelizing devices used along the work space or along tangent sections may be supplemented with vertical panels (VP) placed on every other channelizing device. If night time conditions make it difficult to see at least two VPs, the VPs may be placed on each channelizing device.
 - The placement of pavement markings may be omitted on intermediate-term stationary work zones with the approval of the Engineer.
 - Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. 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 in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

Texas Department of Transportation
 Traffic Operations Division Standard

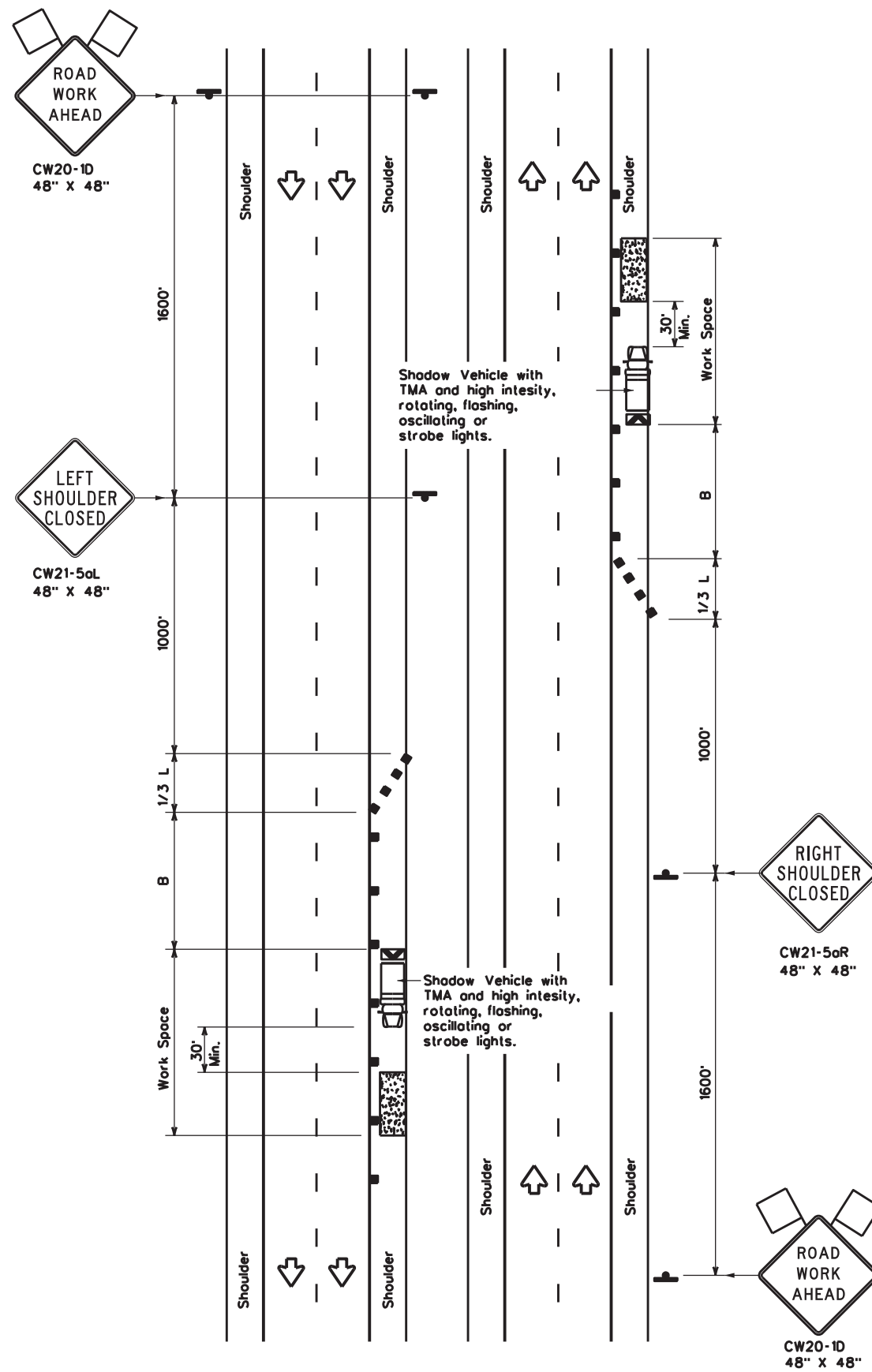
TRAFFIC CONTROL PLAN LANE CLOSURES ON DIVIDED HIGHWAYS

TCP(2-6)-18

FILE: tcp2-6-18.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	6472	58	001	IH35, ETC.
2-94 4-98	DIST	COUNTY	SHEET NO.	
8-95 2-12	22	WEBB	13	
1-97 2-18				

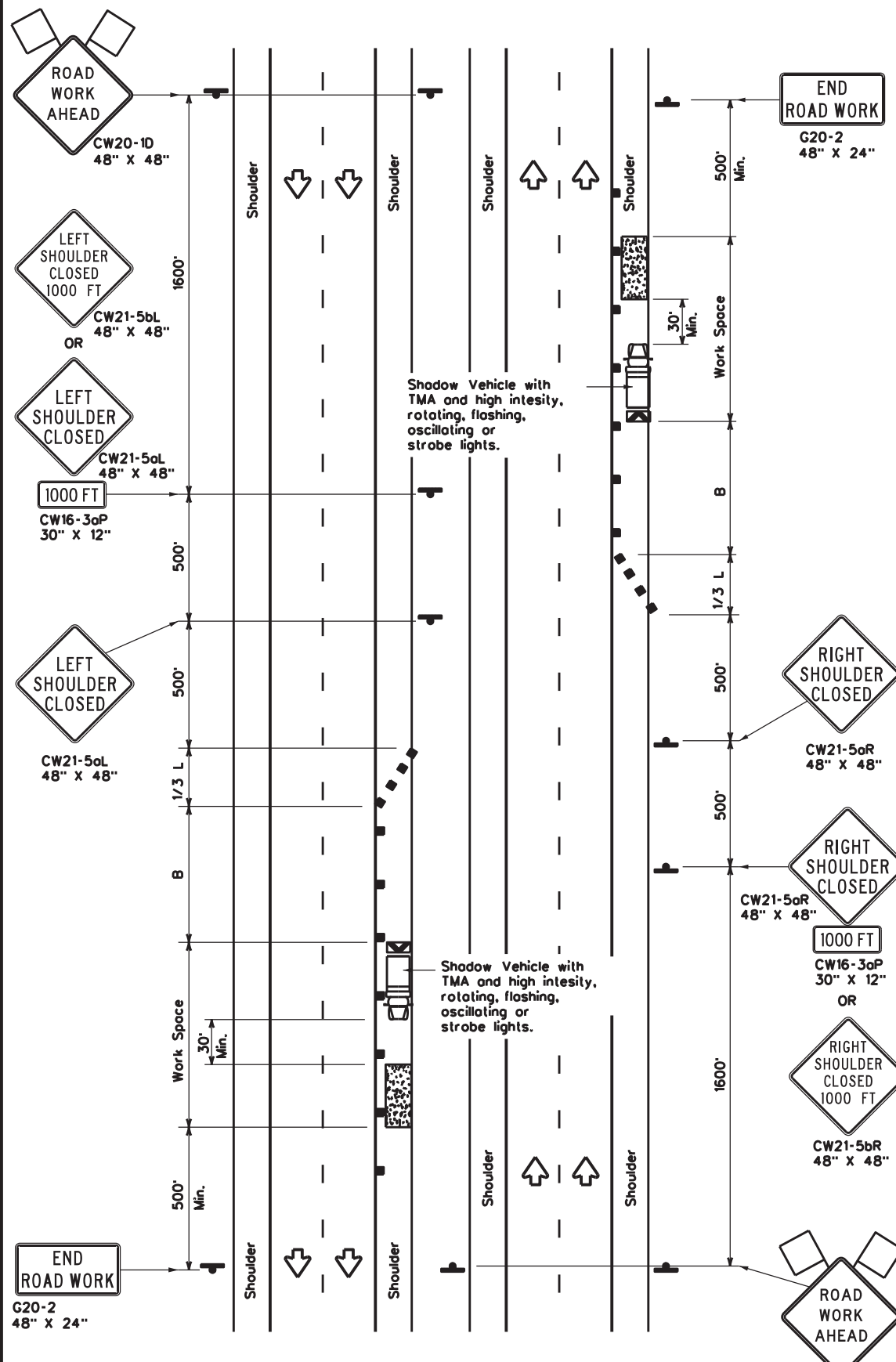
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DATE: 9/11/2024 10:07:59 AM
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TCP (5-1a)

WORK AREA ON SHOULDER



TCP (5-1b)

WORK AREA ON SHOULDER

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 x	Formula	Minimum Desirable Taper Lengths x x			Suggested Maximum Spacing of Channelizing Devices		Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	
30	L = WS ² / 60	150'	165'	180'	30'	60'	90'
35		205'	225'	245'	35'	70'	120'
40		265'	295'	320'	40'	80'	155'
45	L = WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

x Conventional Roads Only
 x x 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
	TCP(5-1a)	TCP(5-1b)	TCP(5-1b)	

GENERAL NOTES

- A Shadow Vehicle with a TMA should be used anytime it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the performance or quality of the work. Type 3 barricades or drums may be substituted when workers on foot are no longer present when approved by the Engineer.
- 28" tall or taller one-piece cones will be allowed only for Short Duration or Short Term stationary operations when workers are present to maintain the devices upright and in proper location. Intermediate Term stationary work areas should use Drums, Vertical Panels or 42" tall two-piece cones.

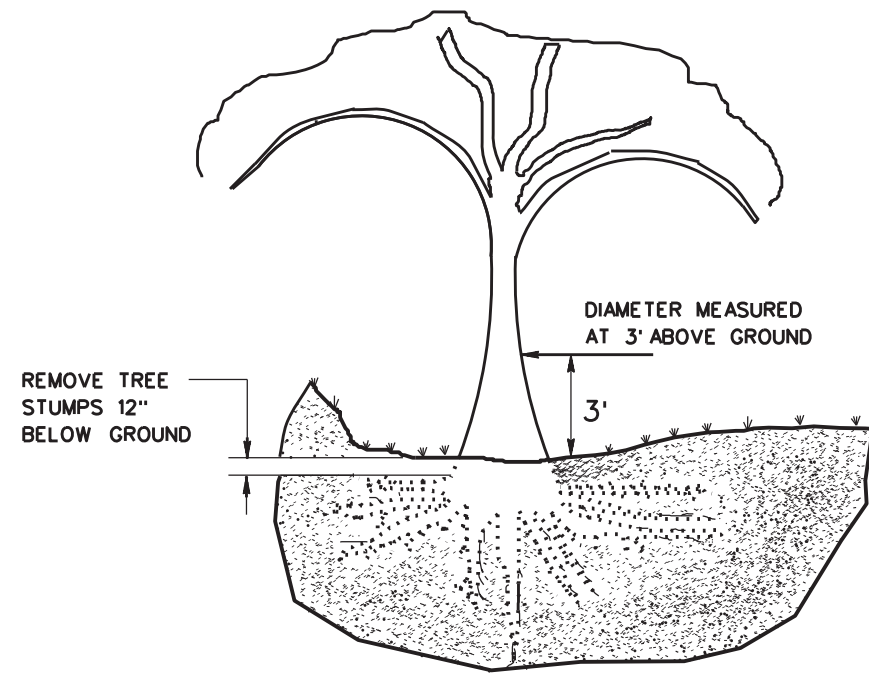


**TRAFFIC CONTROL PLAN
 SHOULDER WORK FOR
 FREEWAYS / EXPRESSWAYS**

TCP(5-1)-18

FILE: tcp5-1-18.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT February 2012	CONT: 6472	SECT: 58	JOB: 001	HIGHWAY: IH35, ETC.
2-18	DIST: 22	COUNTY: WEBB	SHEET NO. 14	

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TREE REMOVAL

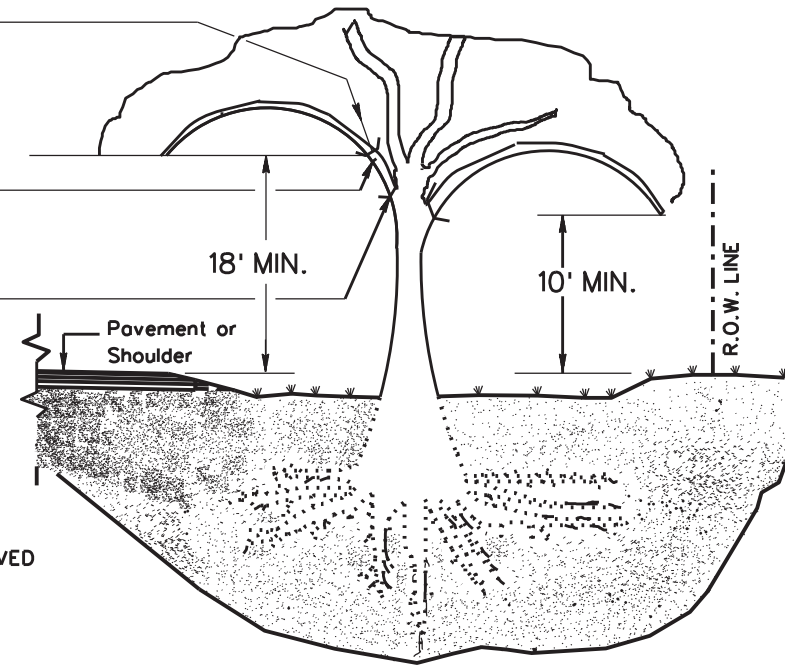
STEP 1:
CUT 1/3 WAY THROUGH BOTTOM OF LIMB 8" TO 12" ABOVE MAIN STEM (OR TRUNK).

STEP 2:
REMOVE LIMB 4" TO 6" BEYOND THE FIRST CUT

STEP 3:
REMOVE STUB WITH A SMOOTH CUT SO THAT TRACE COLLAR OF THE REMOVED LIMB PROTRUDES APPROXIMATELY 1/2" FROM THE MAIN STEM

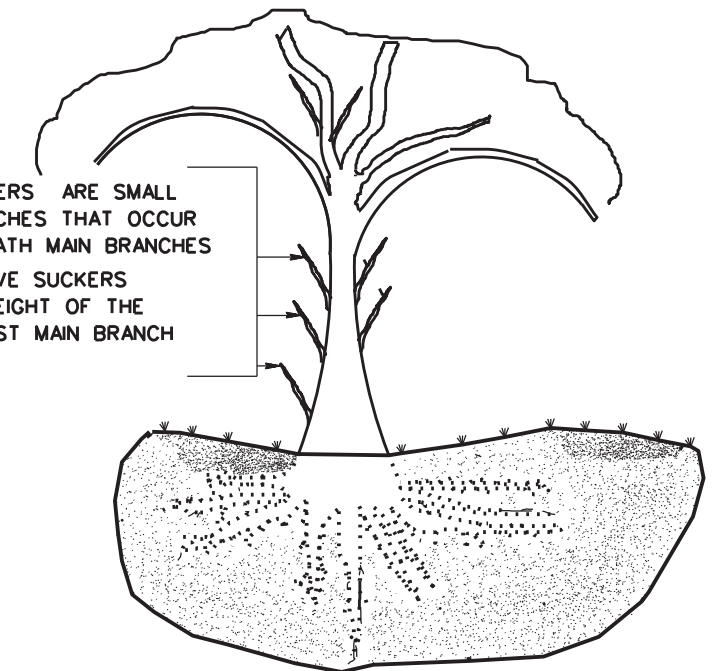


EXAMPLE 1/2" PROTRUDING COLLAR

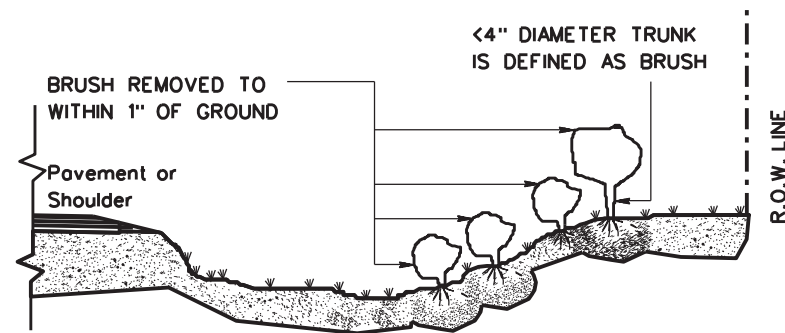


TREE TRIMMING

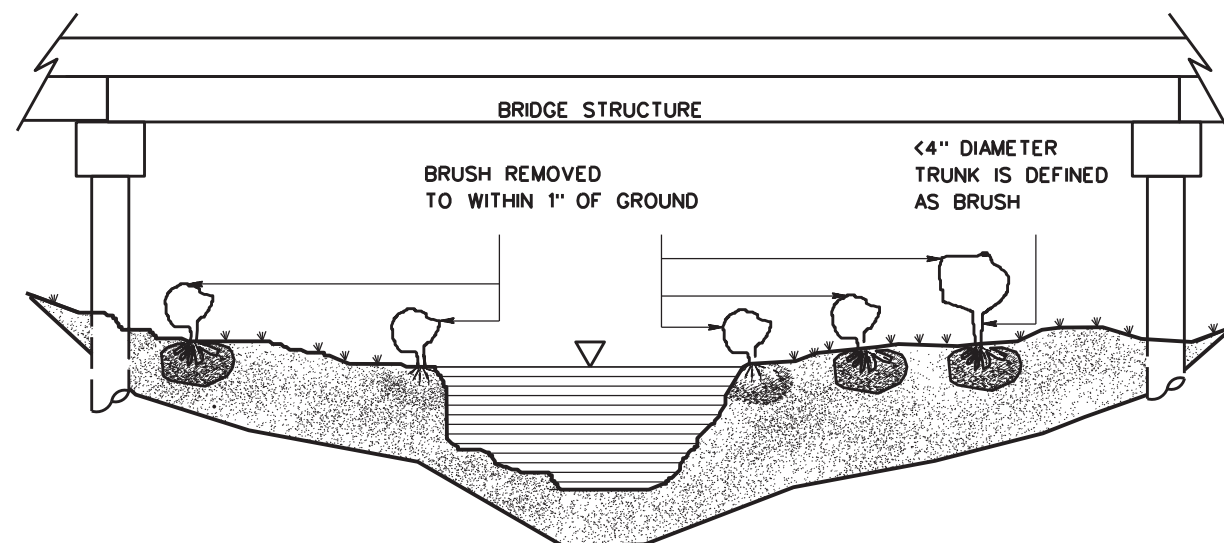
SUCKERS ARE SMALL BRANCHES THAT OCCUR BENEATH MAIN BRANCHES
REMOVE SUCKERS TO HEIGHT OF THE LOWEST MAIN BRANCH



STEPS 1,2 AND 3 APPLY WHEN REMOVING LIMBS 2" IN DIAMETER OR LARGER.



BRUSH REMOVAL



BRUSH REMOVAL UNDER BRIDGE AND IN CHANNEL

GENERAL NOTES:

TREE TRIMMING

1. TRIM AND REMOVE ALL TREE LIMBS ON THE PAVEMENT SIDE OF THE TRUNK 18' ABOVE THE PAVEMENT OR BRIDGE DECK ELEVATION, UNLESS OTHERWISE SHOWN ON THE PLANS.
2. TRIM AND REMOVE ALL TREE LIMBS BETWEEN THE TRUNK AND R.O.W. LINE 10' ABOVE NATURAL GROUND, TERRAIN OR OTHER STRUCTURE ELEVATION, UNLESS OTHERWISE SHOWN ON THE PLANS.

TREE REMOVAL

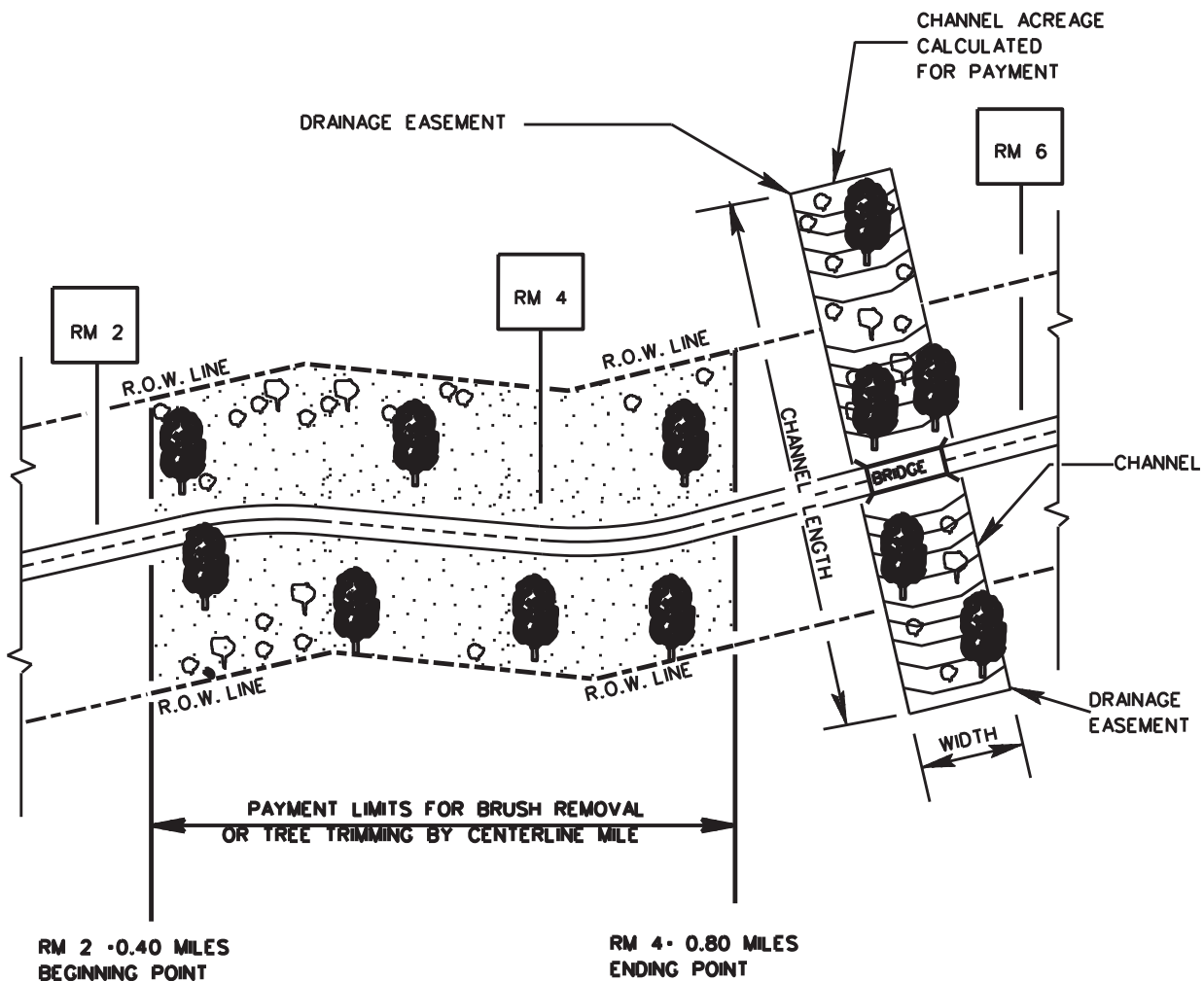
3. FOR TREES MARKED FOR REMOVAL, THE DIAMETER OF TREES ARE DETERMINED BY MEASUREMENT OF THE TRUNK CIRCUMFERENCE 3' ABOVE THE GROUND. TREES WITH TRUNKS OF LESS THAN 4" DIAMETER ARE CONSIDERED TO BE BRUSH. TREES WITH MULTIPLE TRUNKS AT THE POINT OF MEASUREMENT ARE MEASURED AND PAID FOR SEPARATELY.
4. MEASUREMENTS FOR PAYMENT OF TREE DIAMETERS ARE DIVIDED INTO THE RANGES SHOWN IN TABLE 1.

TABLE 1 TREE TRUNK SIZE FOR TREE REMOVAL PAYMENT				
PAY ITEM	RANGE FOR PAY ITEMS			
	TRUNK DIAMETER -		TRUNK CIRCUMFERENCE	
	LOWER LIMIT IS GREATER THAN	UPPER LIMIT IS LESS THAN OR EQUAL TO	LOWER LIMIT IS GREATER THAN	UPPER LIMIT IS LESS THAN OR EQUAL TO
752 7005	4	12	12 1/2	37 1/2
752 7006	12	18	37 1/2	56 1/2
752 7007	18	24	56 1/2	75 1/2
752 7008	24	30	75 1/2	94
752 7009	30	36	94	113
752 7010	36	42	113	132
752 7011	42	48	132	151
752 7012	48	60	151	188 1/2
752 7013	60	72	188 1/2	226

•SEE GENERAL NOTE #3.

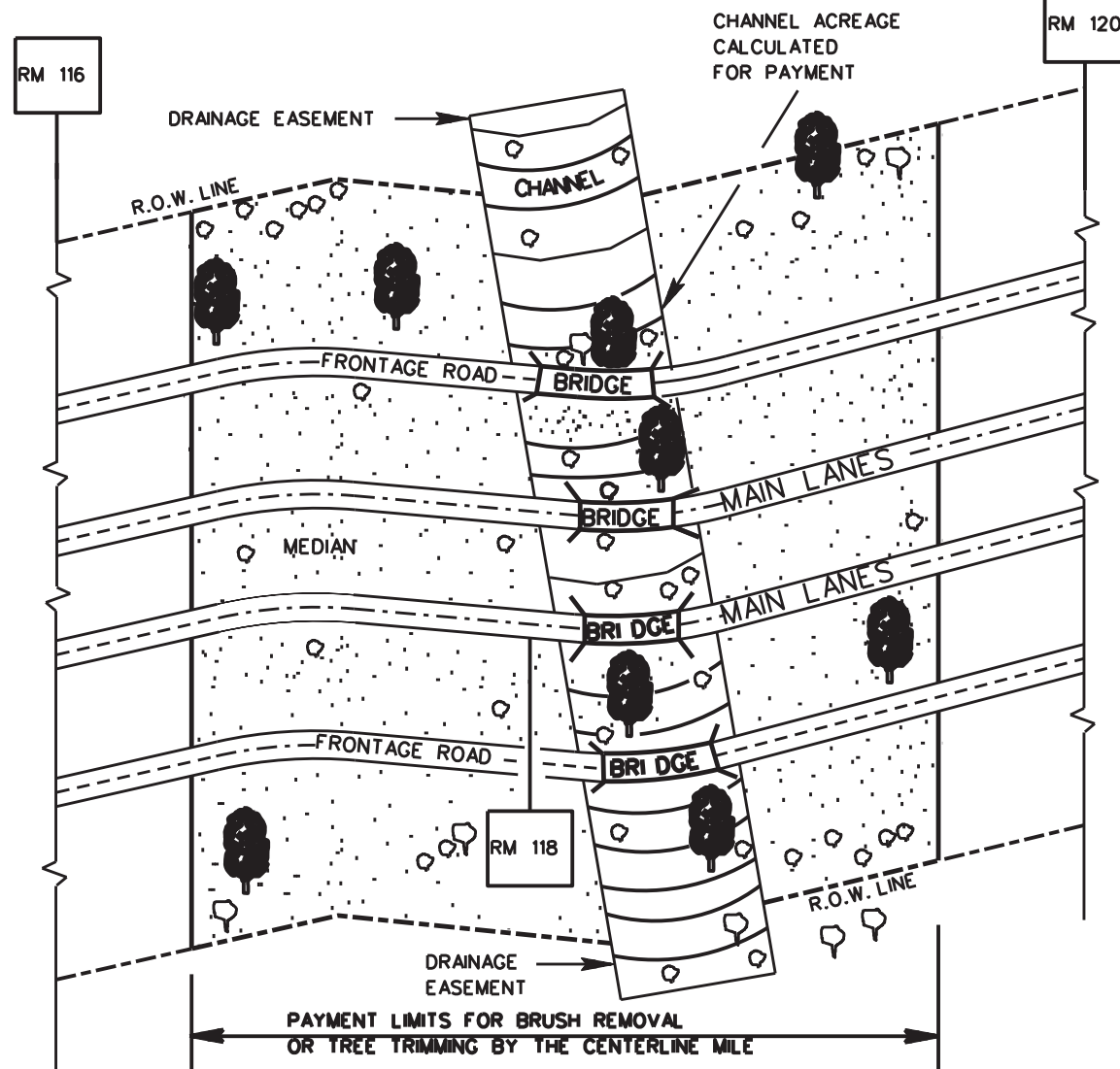
				Maintenance Division Standard	
<h2>TREE AND BRUSH REMOVAL</h2> <h3>TRB-24 (1)</h3>					
FILE:	DN:JEO	CK:LIB	DW:HD	CK:MLJ	
© TxDOT SEPTEMBER 2024	CONT	SECT	JOB	HIGHWAY	
REVISIONS 3/2015	6472	58	001	IH35, ETC.	
	DIST	COUNTY		SHEET NO.	
	22	WEBB		15	

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BRUSH REMOVED TO WITHIN 1" OF GROUND <4" DIAMETER TRUNK IS DEFINED AS BRUSH UNLESS OTHERWISE DIRECTED

EXAMPLE: UNDIVIDED HIGHWAY



BRUSH REMOVED TO WITHIN 1" OF GROUND <4" DIAMETER TRUNK IS DEFINED AS BRUSH UNLESS OTHERWISE DIRECTED

EXAMPLE: DIVIDED HIGHWAY WITH FRONTAGE ROADS

GENERAL NOTES:

TREE TRIMMING AND BRUSH REMOVAL

- PAYMENT BY THE CENTERLINE MILE IS MADE TO THE NEAREST 1/100 (0.01) MILE.
- LIMITS OF WORK ARE SHOWN AS DISTANCES FROM REFERENCE MARKERS (RM).
- PAY ITEMS BY THE CENTERLINE MILE INCLUDE ALL TREE TRIMMING OR BRUSH REMOVAL IN THE RIGHT OF WAY ON BOTH SIDES OF THE HIGHWAY. FOR DIVIDED HIGHWAYS, THE MEDIAN IS INCLUDED. FOR HIGHWAYS WITH FRONTAGE ROADS, THE AREAS BETWEEN THE FRONTAGE ROADS AND MAIN LANES, AND THE AREAS OUTSIDE OF THE FRONTAGE ROADS ARE INCLUDED.
- BRUSH REMOVAL AND TREE TRIMMING UNDER BRIDGES, IN AND ALONG CHANNELS AND EASEMENTS ARE PAID FOR BY THE ACRE FOR AREAS DESIGNATED ON THE PLANS.

Texas Department of Transportation
Maintenance Division
Standard Plans

TREE AND BRUSH REMOVAL
TRB-15(2)

NOT TO SCALE						
FILE: TRB-15(2).DGN	DRAWN: JED	CHECKED: DML/AB	DW: TxDOT	CK: TxDOT	NEG NO.:	
© TxDOT APRIL 2015	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
REVISED: 5/13/2004	LJB	22	N/A	16		
REVISED: 9/24/2004	LJB	COUNTY		CONTROL SECTION	JOB	HIGHWAY
REVISED: APRIL 2015	JEO	WEBB		6472	58	001 IH35, ETC.

LEVELS DISPLAYED	1							
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