ROW Permit Packet
For Franchisees

Packet Updated 03.01.23

PROCESS

- **Apply for ROW permit:**
    - A ROW permit is required for all work within the City ROW with the following exceptions:
        - Aerial maintenance work that takes less than 1 hour to complete
        - Work done that is within the Limits of Construction for a CIP City project
        - Work done on a TxDot Road that is not maintained by the City (A traffic control plan must still be submitted)
            - City maintained roads that TxDot owns are:
                - W Hopkins from Wonder World to Gudalupe
                - Moore/Old Rand Road 12 from Hopkins to Wonder World
            - City maintained roads that Hays County owns are:
                - Rattler Road from McCarty to Old Bastrop
                - Old Bastrop from Hwy 123 to Redwood
    - Download ROW permit packet from City website
        - http://www.sanmarcostx.gov/index.aspx?page=871
    - Fill out ROW permit
    - Submit for a new ROW permit on MyPermitNow or in the Permit Center
        - mgoconnect.org
        - Use the permit packet as your plan review files (include Traffic Control Plan if required, please see that process below) Engineered plans may be required for some new installation.
        - All Franchisee ROW Permits fees are waived. That being said if you apply online you will be required to pay a $15 technology fee upfront but this will be refunded to you before the issuance of the permit.
    - The plan review process will typically take 2 business days
        - Permit will be approved and issued to the applicant by email
          -OR-
        - Comments will be emailed. After all comments have been addressed you will need to resubmit a full plan set for re-review.

- **For Construction Related Street Closures:** 
    - The attached Temporary Street Closure Application must be filled out
    - One or more lanes of traffic will be closed for less than 12 hours:

        - A simple hand drawn traffic control plan will be accepted. All traffic control devices such as signage, barriers, flaggers, etc must be clearly marked and shown on the plan.
        - A complete road closure and detour are allowed with this option
    - One or more lanes of traffic will be closed for more than 12 hours:
        - A traffic control plan sealed by a Professional Engineer will be required
        - A complete road closure and detour are allowed with this option
        - This closure will require Public Services review and requires an additional **6 business days for approval**.

- **After issuance of ROW Permit:**
    - Set up on site meeting with ROW inspector (call in inspection called "ROW Consultation")
        - Michael Cardwell (Phone number 512-618-5378 for questions)
        - All erosion controls and tree protection fencing will be determined on site and must be installed prior to commencement of work. Details are provided below in this packet.
    - Conduct scope of work in permit
            - If lane closure was approved all traffic controls must be set up prior to commencement of work
        - Call in ROW Inspections as needed. Please include in the notes that this is a ROW inspection so it gets assigned to Michael Cardwell. All ROW inspections must be called in by 3PM the previous business day.
        - All work must be repaired to City details or as the inspector instructs
    - At completion
        - Once all surfaces are 70 % stabilized or there is the use of soil retention blankets, all erosion controls and tree protection fencing must be removed
        - As-Builts must be submitted for all underground work to MyPermitNow on your ROW permit.

City of San Marcos
630 E. Hopkins
San Marcos, TX
78666

RIGHT-OF-WAY PERMIT APPLICATION

A. APPLICANT INFORMATION			Date:
Applicant Name:			Title:
Company Name:			
Address:	City:	State:	Zip:
Phone Number: ( )			Estimated Start Date:
Applicant Email:			Estimated Completion Date:

B. SCOPE OF WORK DESCRIPTION: Include type of installation/repair description as well as street name, block number and cross street(s) if applicable

C. SCOPE OF WORK DRAWING: Show approximate location and orientation of cut(s) if applicable. Show street name, block number and cross street(s) if applicable**.**

Number of Street cut(s):
Width of Cut(s):
Length of Cut(s):
Total Square Footage of Cut(s):
Project Value:

PERMIT APPLICATION FEE: 6% of project value (Franchisee's fees are waived)

City of San Marcos

Franchisee ROW Request for Temporary Street Closure

(Request must be submitted with all appropriate supporting evidence as described below. Please see attached TxDot details)

One or more lanes of traffic will be closed for less than 12 hours:

- ☐ A simple hand drawn traffic control plan will be accepted. All traffic control devices such as signage, barriers, flaggers, etc must be clearly marked and shown on the plan.
- ☐ A complete road closure and detour are allowed with this option

One or more lanes of traffic will be closed for more than 12 hours:

- ☐ A traffic control plan sealed by a Professional Engineer will be required
- ☐ A complete road closure and detour are allowed with this option
- ☐ **This closure will require Public Services review and requires an additional 6 business days for approval.**

Applicant Information

Applicant Name: _____

Address: _____

Telephone #: _____

Email Address: _____

If this request is granted by the City, the Applicant agrees to comply with requirements for the provision of trash receptacles, barricades, traffic control and security officers, portable toilets, or other supplies as applicable. The Applicant also agree to hold harmless, indemnify and defend the City, its officers and employees from and against all claims for personal injury or property damage that arise in connection with the street closure requested. The Applicant verifies that he/she has authority to execute this document on behalf of the project. If your request is denied you may appeal the decision to the City Manager.

Please sign below stating that you have read and agree to all terms and conditions listed above.

Signature: _____

Date: _____

Street Closure Information

Street Name: _____

Specific Address or Block #: _____

Number of Lanes to be closed:

- ☐ All lanes in both directions
- ☐ All lanes in one direction
- ☐ One lane, Specify direction: _____
- ☐ Other: _____

Amount of time for closure:

From Date: _____ Time: _____

To Date: _____ Time: _____

Will the street be passable for regular traffic?

☐ Yes ☐ No ☐ Specific Hours Only: _____

Will the street be passable for emergency vehicles?

☐ Yes ☐ No ☐ Specific Hours Only: _____

Reason for closure: _____

_____

FOR CITY USE ONLY

The applicant is required to provide the following:

☐ Barricades/Traffic control Devices ☐ Portable Toilets ☐ Trash Receptacles ☐ Security Officers

☐ Other _____

REVIEW

☐ Approved
☐ Denied

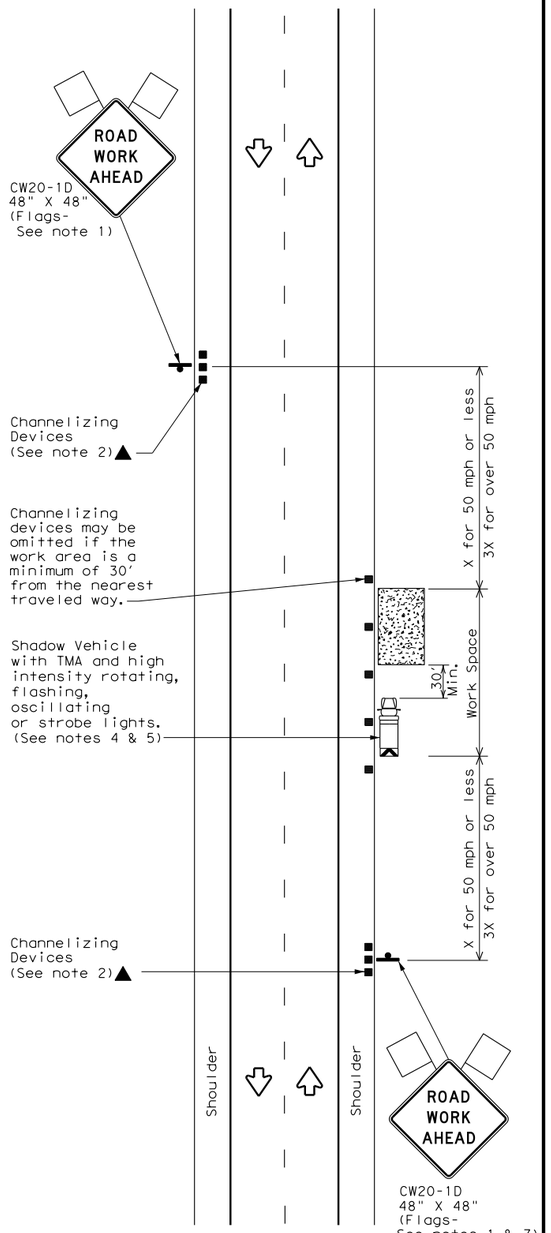
_____ Authorizing Signature

_____ Date

TXDOT DETAILS

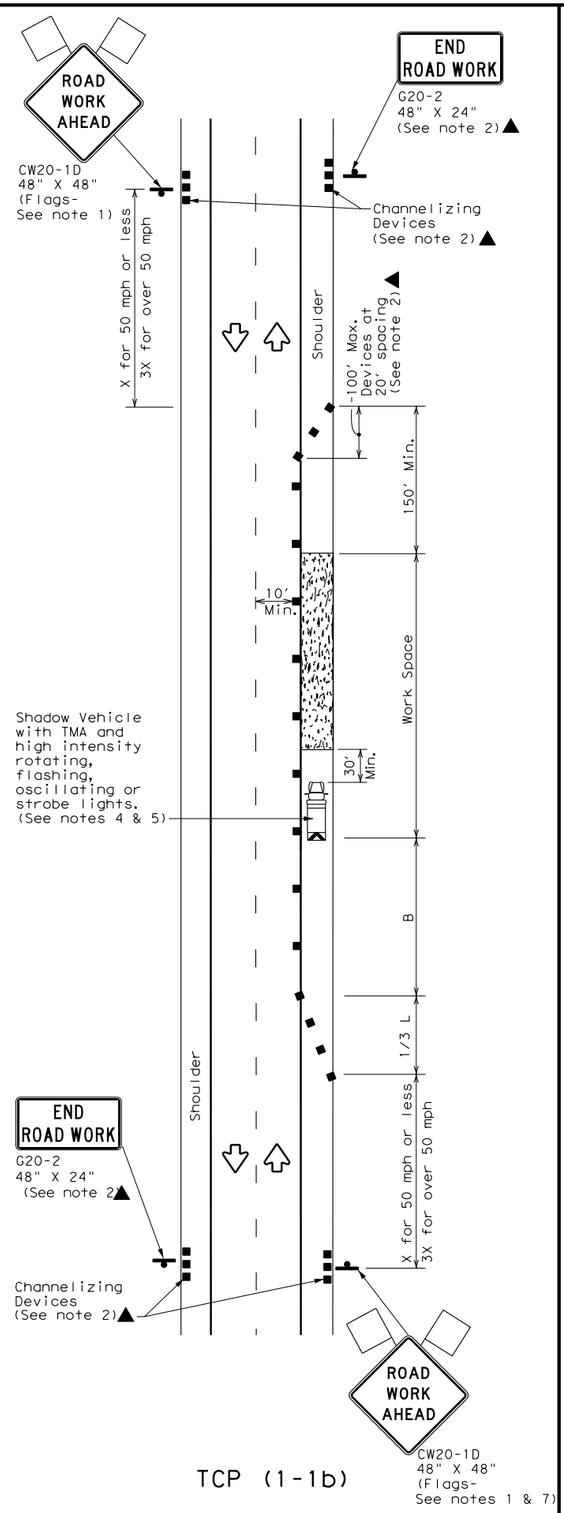
For Traffic Control Plan

DATE:
FILE:



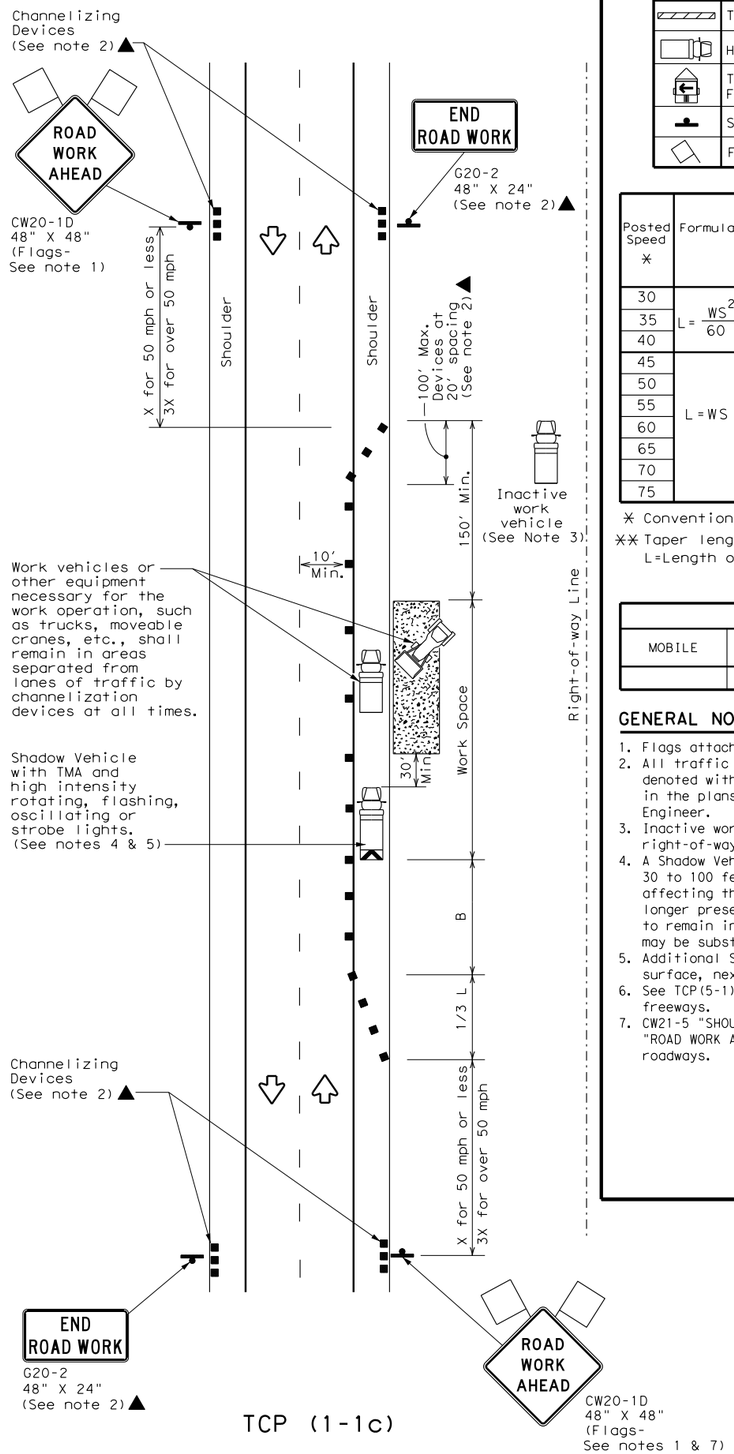
TCP (1-1a)

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	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
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

1. Flags attached to signs where shown are REQUIRED.
2. 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.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. 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.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1)for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

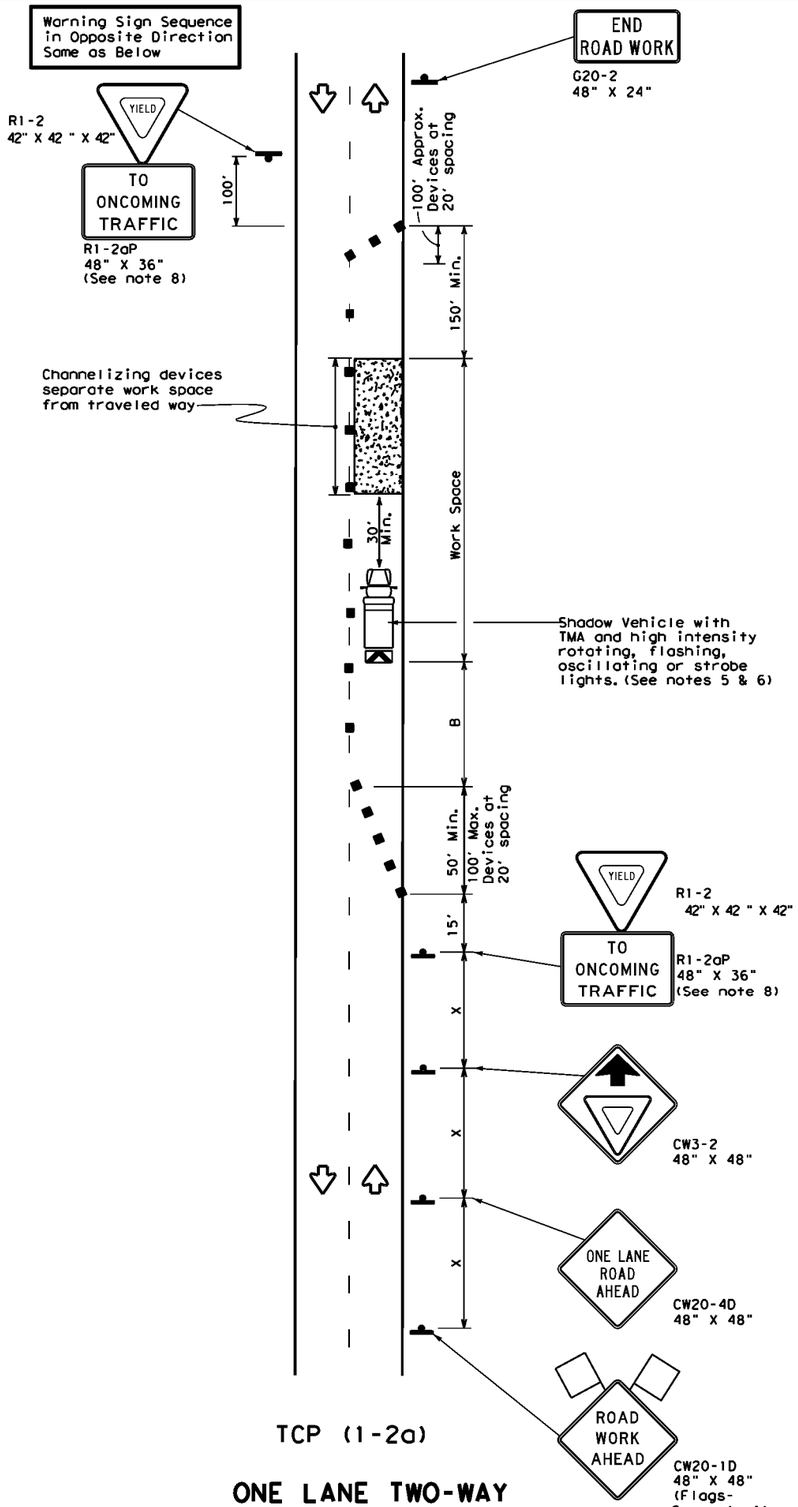
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(1-1)-18

FILE: tcp1-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	DIST	COUNTY		SHEET NO.

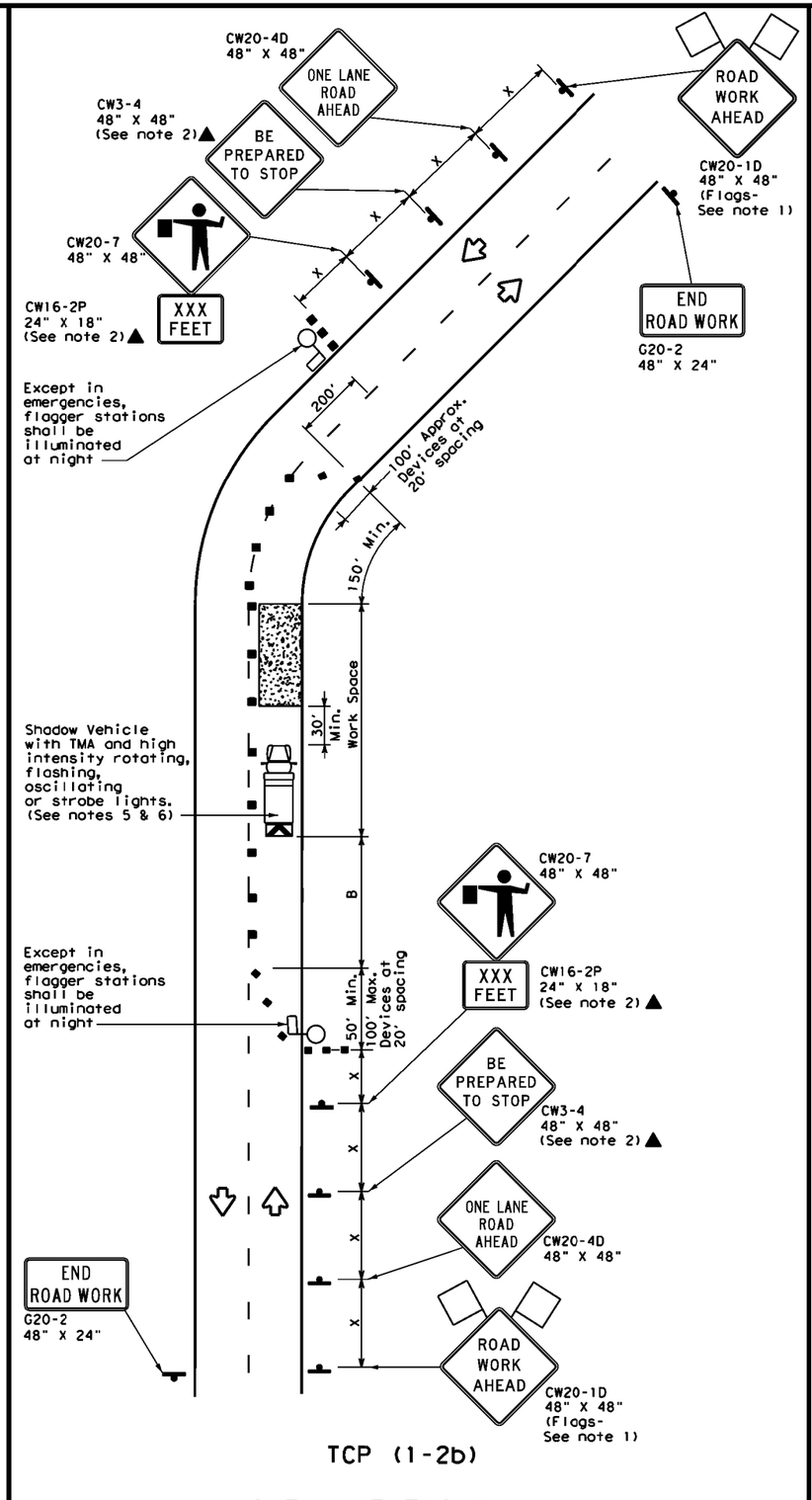
DATE:
FILE:



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	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

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

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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)

7. 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.
8. 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)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. 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).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(1-2)-18

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©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-90 4-98 2-94 2-12 1-97 2-18	DIST	COUNTY		SHEET NO.

DATE:
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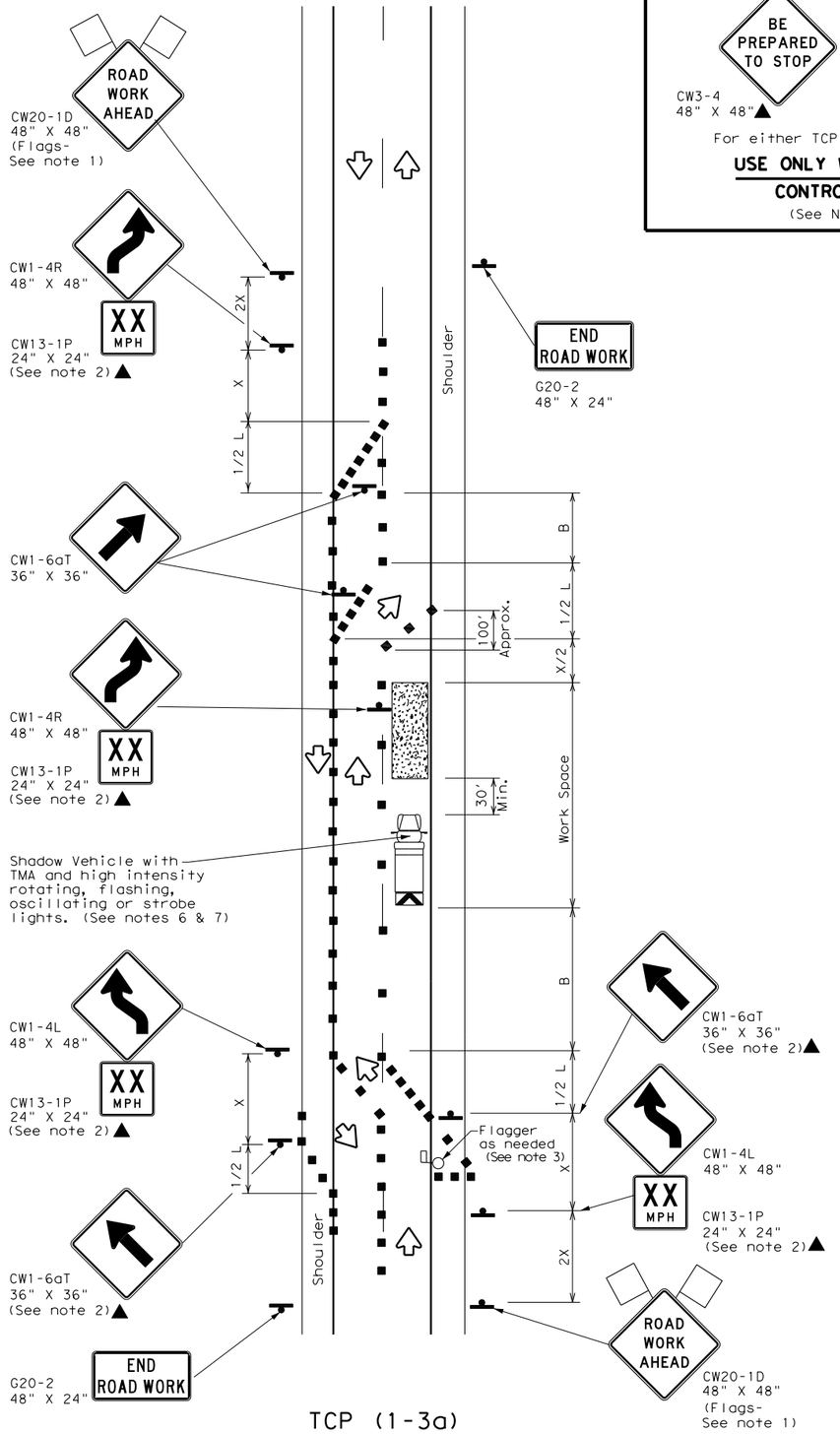
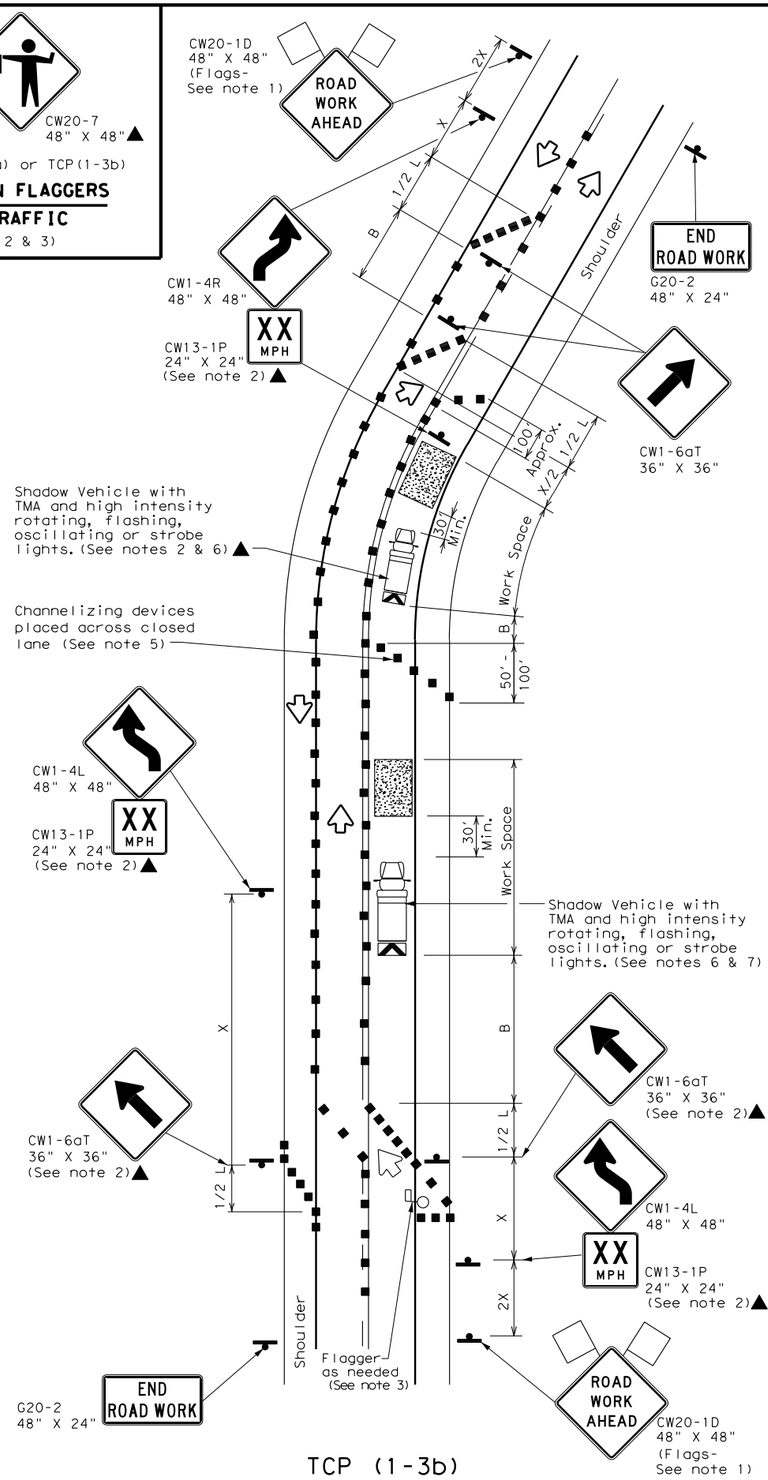


TCP (1-3a)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
ADEQUATE FIELD OF VIEW



TCP (1-3b)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
INADEQUATE FIELD OF VIEW

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
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

1. Flags attached to signs where shown are REQUIRED.
2. 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.
3. 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.
4. DO NOT PASS, PASS WITH CARE and construction regulatory speed zone signs may be installed downstream of the ROAD WORK AHEAD signs.
5. 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.
6. 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.
7. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
8. 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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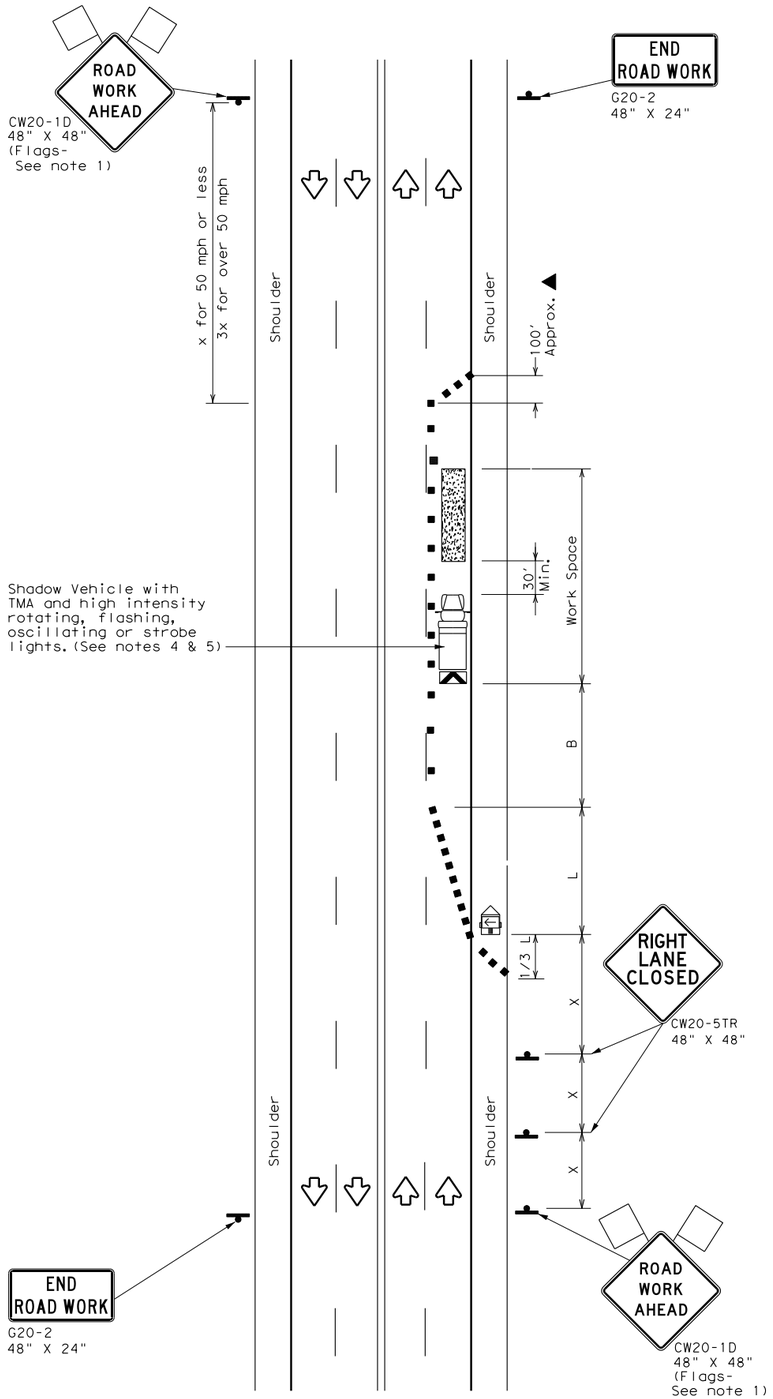
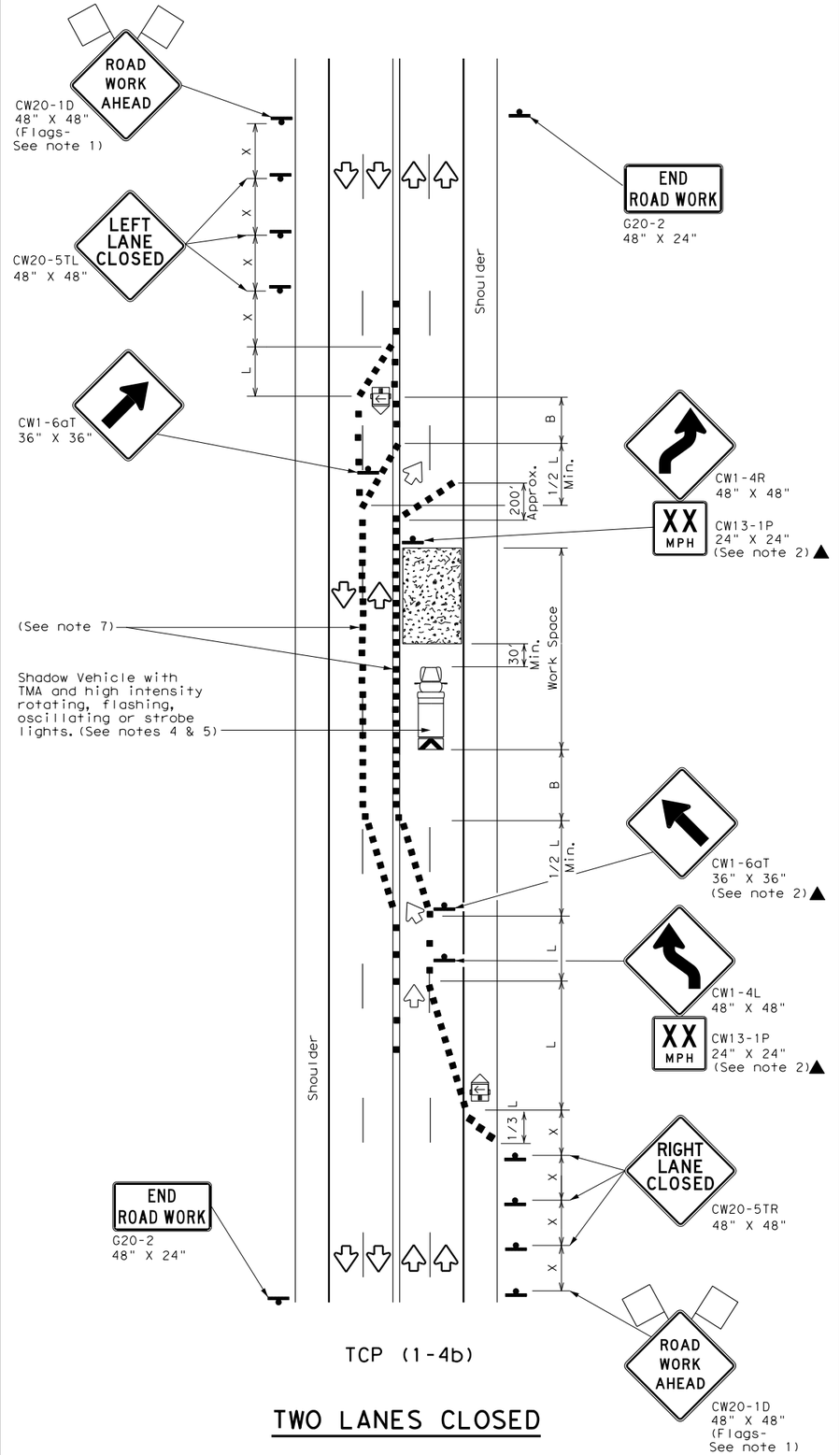
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	DIST	COUNTY		SHEET NO.

DATE:
FILE:



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	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
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

1. Flags attached to signs where shown are REQUIRED.
2. 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.
3. The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. 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.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-4a)

6. If this TCP is used for a left lane closure , CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline where needed to protect the work space from opposing traffic with the arrow panel placed in the closed lane near the end of the merging taper.

TCP (1-4b)

7. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(1-4)-18

FILE: tcp1-4-18.dgn	DN:	CK:	DW:	CK:
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REVISIONS				
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12				
1-97 2-18				

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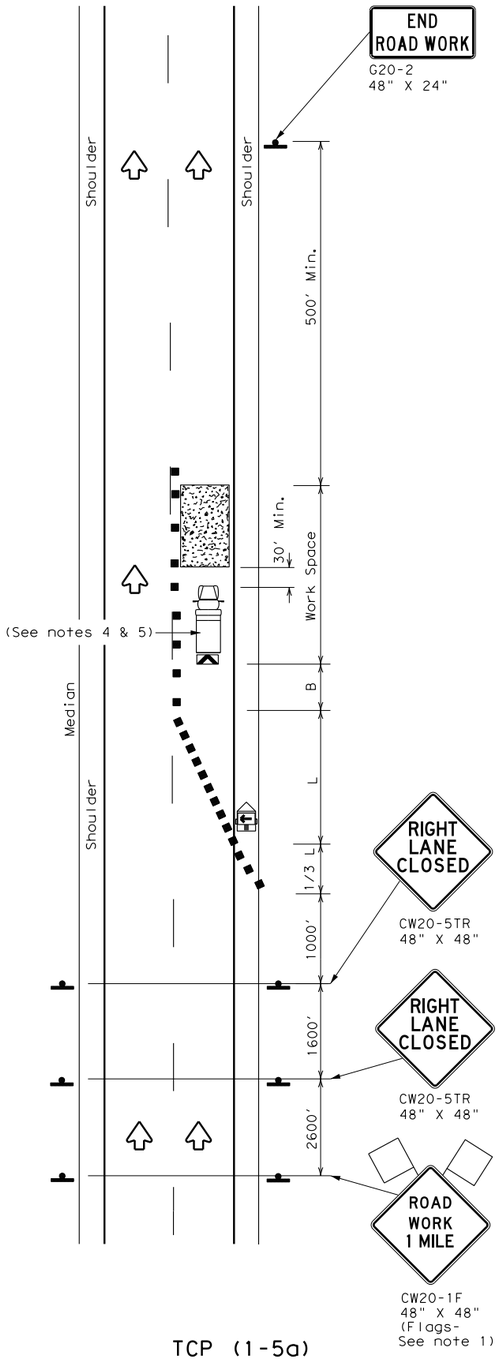
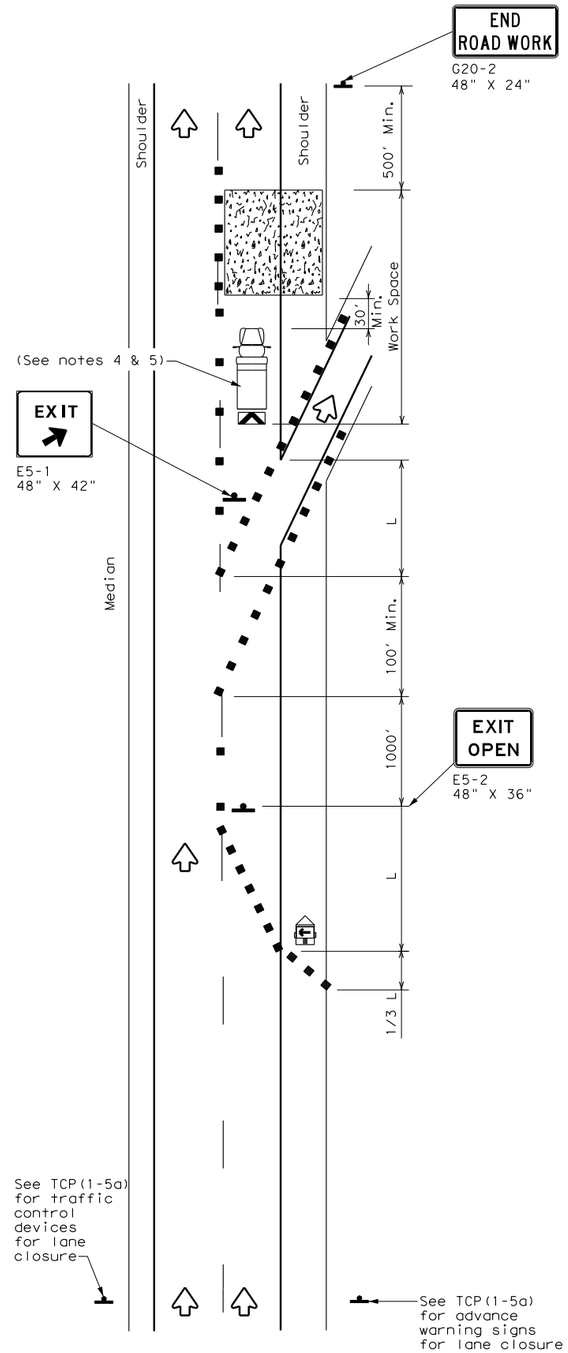


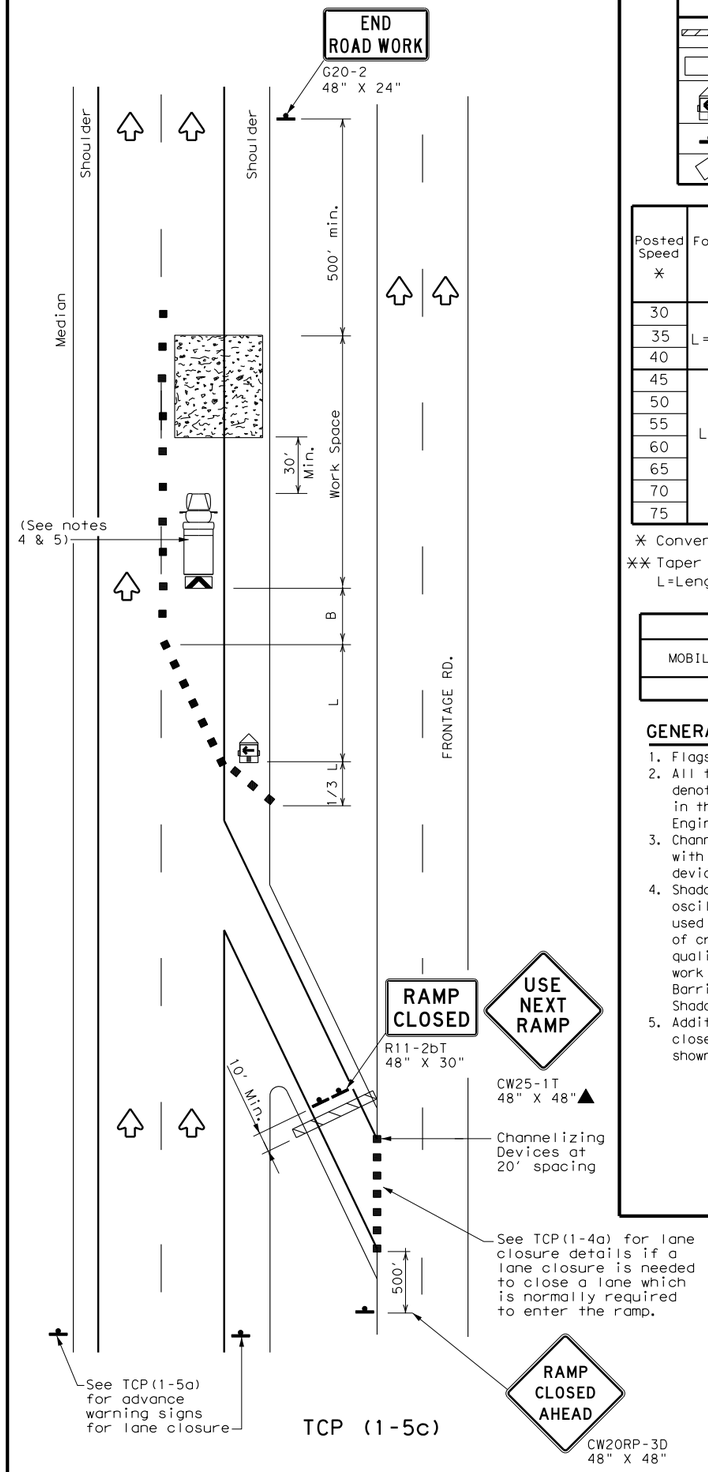
TCP (1-5a)

ONE LANE CLOSURE



TCP (1-5b)

LANE CLOSURE NEAR EXIT RAMPS



TCP (1-5c)

LANE CLOSURE NEAR ENTRANCE RAMPS

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
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

1. Flags attached to signs where shown, are REQUIRED.
2. 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.
3. 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.
4. 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.
5. 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

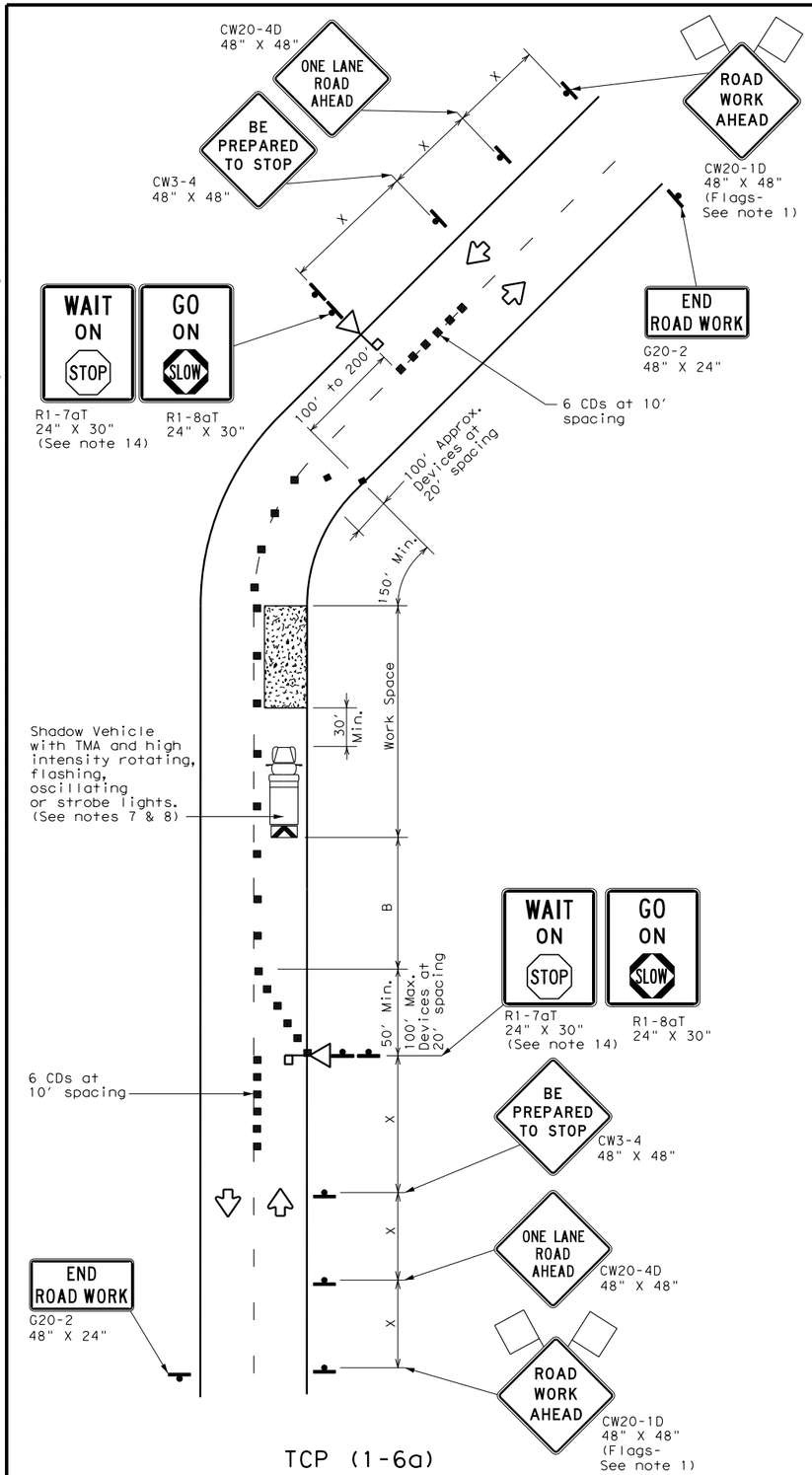
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES FOR DIVIDED HIGHWAYS

TCP(1-5)-18

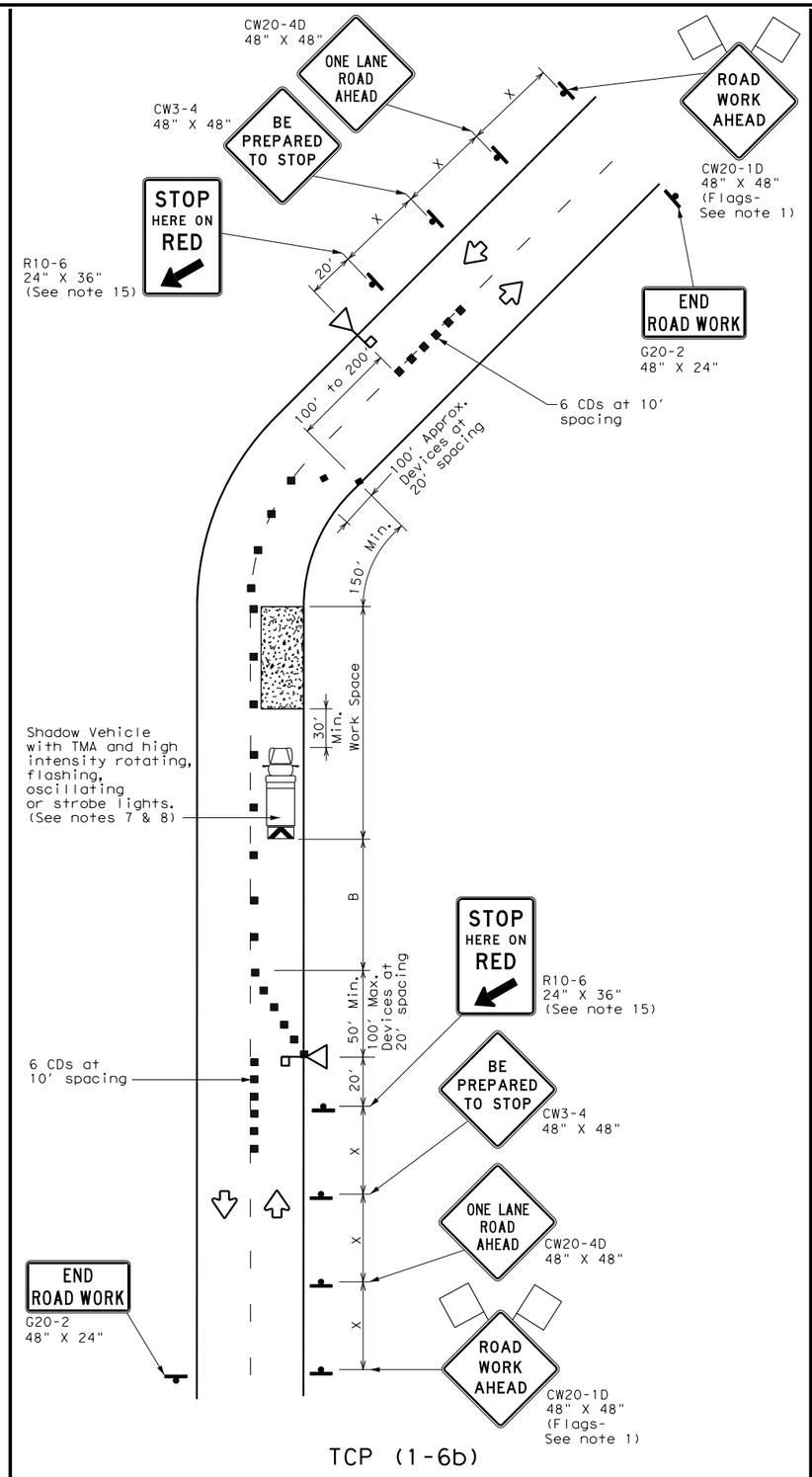
FILE: tcp1-5-18.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-18	DIST	COUNTY		SHEET NO.

DATE:
FILE:



TCP (1-6a)

ONE LANE TWO-WAY CONTROL WITH STOP/SLOW AFADs



TCP (1-6b)

ONE LANE TWO-WAY CONTROL WITH RED/YELLOW LENS AFADs

LEGEND			
	Type 3 Barricade		Channelizing Devices (CDs)
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Automated Flagger Assistance Device (AFAD)	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

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

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. AFADs shall only be used in situations where there is one lane of approaching traffic in the direction to be controlled.
3. Adequate stopping sight distance must be provided to each AFAD location for approaching traffic. (See table above).
4. Each AFAD shall be operated by a qualified/certified flagger. Flaggers operating AFADs shall not leave them unattended while they are in use.
5. One flagger may operate two AFADs only when the flagger has an unobstructed view of both AFADs and of the approaching traffic in both directions.
6. When pilot cars are used, a flagger controlling traffic shall be located on each approach. AFADs shall not be operated by the pilot car operator.
7. All AFADs shall be equipped with gate arms with an orange or fluorescent red-orange flag attached to the end of the gate arm. The flag shall be a minimum of 16" square.
8. 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.
9. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
10. Flaggers should use two-way radios or other methods of communication to control traffic.
11. Length of work space should be based on the ability of flaggers to communicate.
12. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the AFAD.
13. Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
14. The R1-7aT "WAIT ON STOP" sign and the R1-8aT "GO ON SLOW" sign shall be installed at the AFAD location on separate supports or they may be fabricated as one 48" x 30" sign. They shall not obscure the face of the STOP/SLOW AFAD.
15. The R10-6 "STOP HERE ON RED" arrow sign shall be offset so as not to obscure the lenses of the AFAD.

Texas Department of Transportation

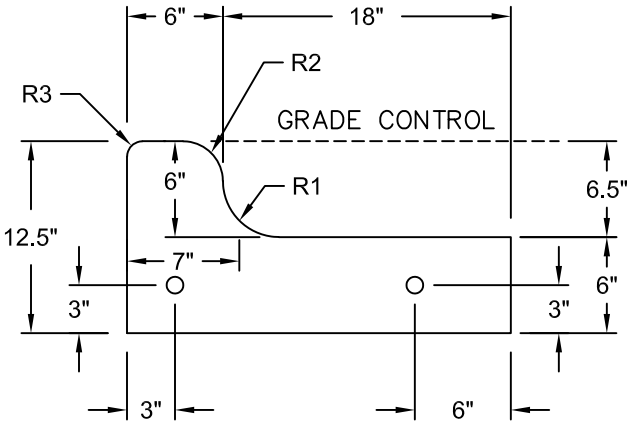
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADS)

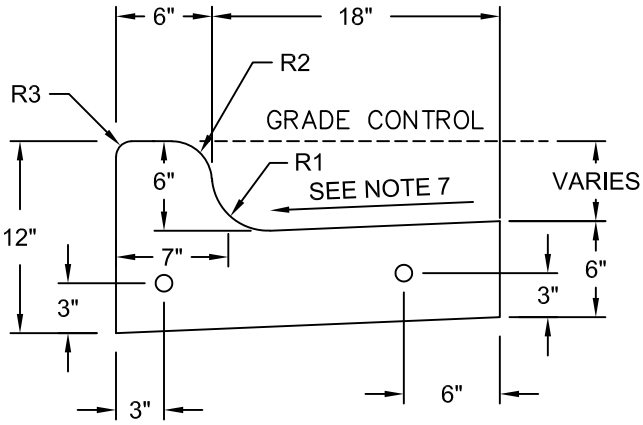
TCP(1-6)-18

FILE: tcp1-6-18.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-18	DIST	COUNTY		SHEET NO.

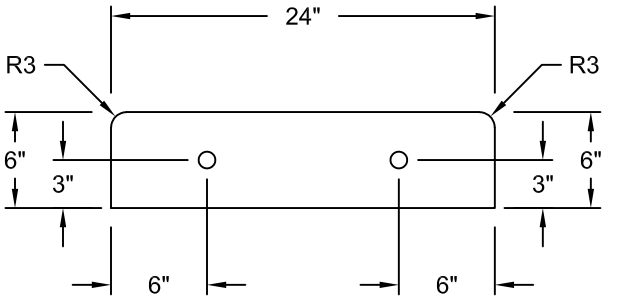
Details for Work Done in ROW



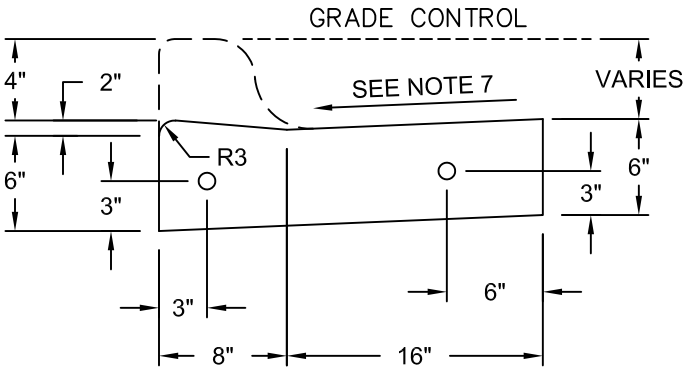
SPILL



CATCH



RIBBON CURB



LAY DOWN CURB

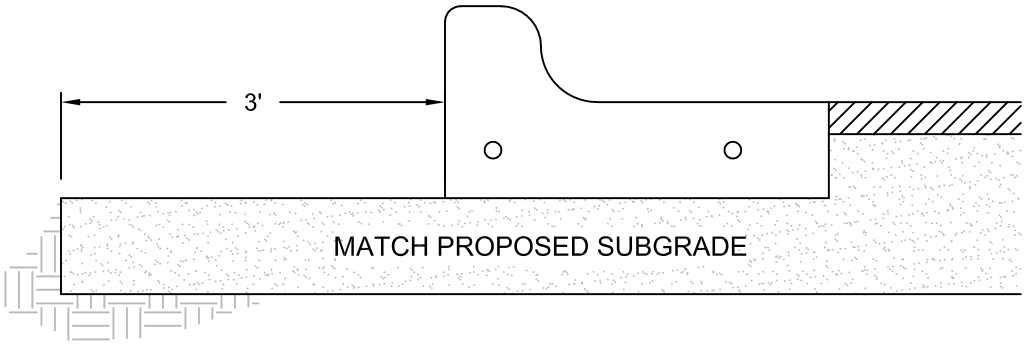
LABEL	RADIUS
R1	3 1/2"
R2	2 1/2"
R3	1/4"

NOTES:

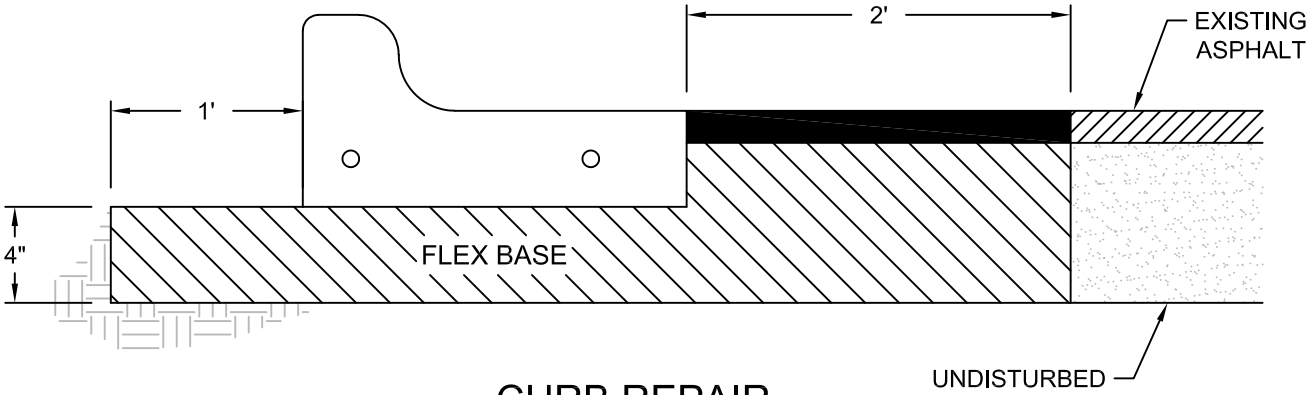
1. CONSTRUCTION CONTROL JOINTS AT 10' - 0" SPACING ALONG LENGTH OF CURB.
2. REINFORCING STEEL SHALL BE #3 BARS.
3. NO REBAR WILL BE ALLOWED IN CURB HEAD.
4. CONCRETE WILL BE 3000 PSI VIBRATED IN PLACE.
5. CONSTRUCT EXPANSION JOINTS AT A MAXIMUM OF 40'-0" ALONG THE LENGTH OF CURB. SEE DETAIL 430-3-SM.
6. FOR NEW CURB EXTEND ROAD BASE 3 FEET BEHIND BACK OF CURB PER DETAIL 1000S-10-SM. NOT REQUIRED FOR REMOVAL & REPLACEMENT OF CURB IF THE ALIGNMENT DOES NOT CHANGE.
7. MATCH CROSS-SLOPE OF ROAD. 2% TYPICAL ~ 1.5% MIN. OR 3% MAX.

REFERENCES
DETAIL 430-3-SM

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	REINFORCED CURB AND GUTTER SECTIONS	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-2-SM 1 OF 2

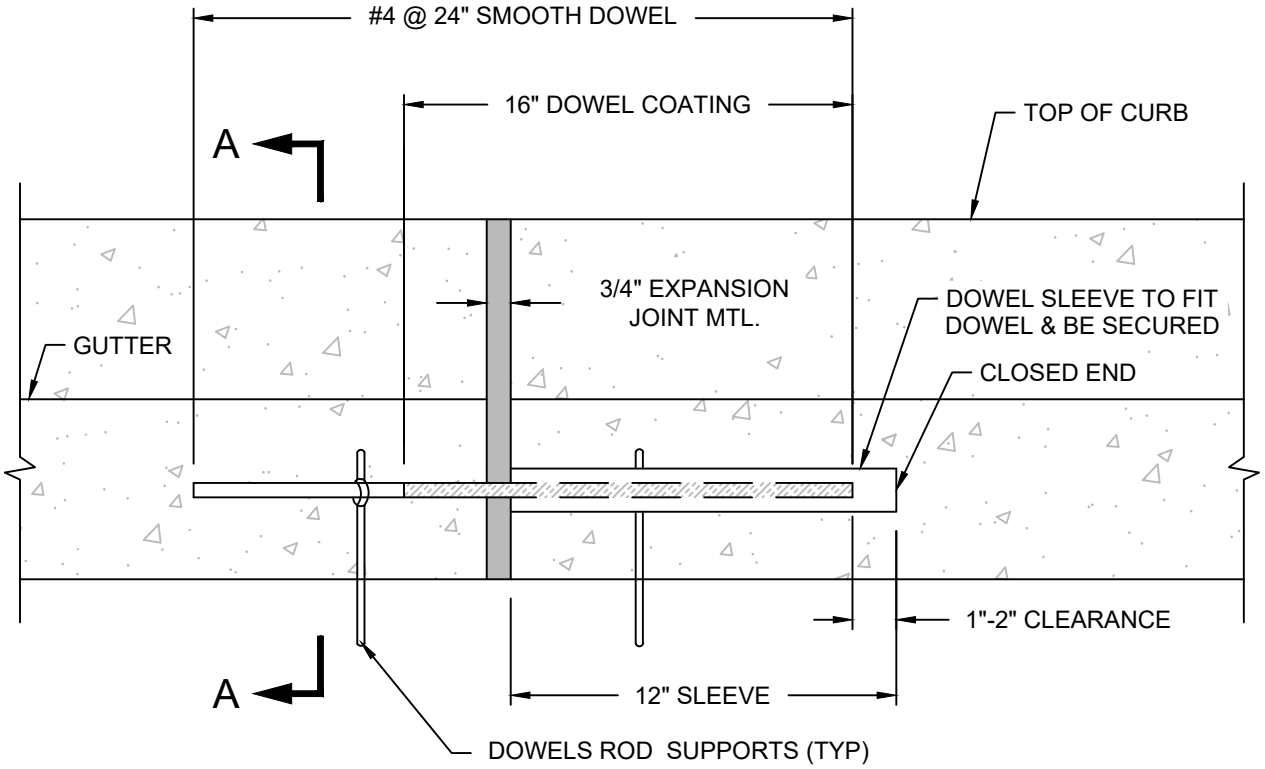


FULL DEPTH ROAD RECONSTRUCTION

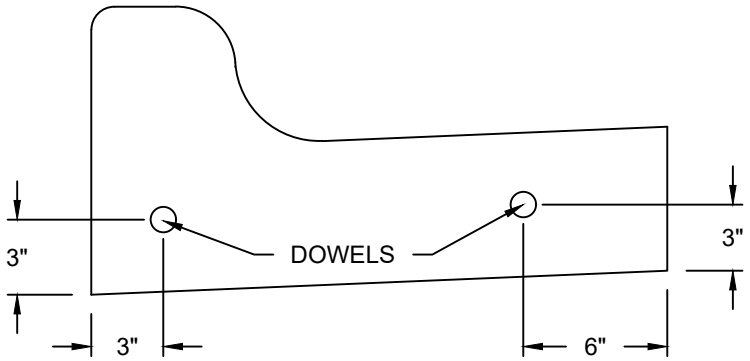


CURB REPAIR

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	REINFORCED CURB AND GUTTER SECTIONS	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-2-SM 2 OF 2



CURB EXPANSION JOINT DOWEL DETAIL

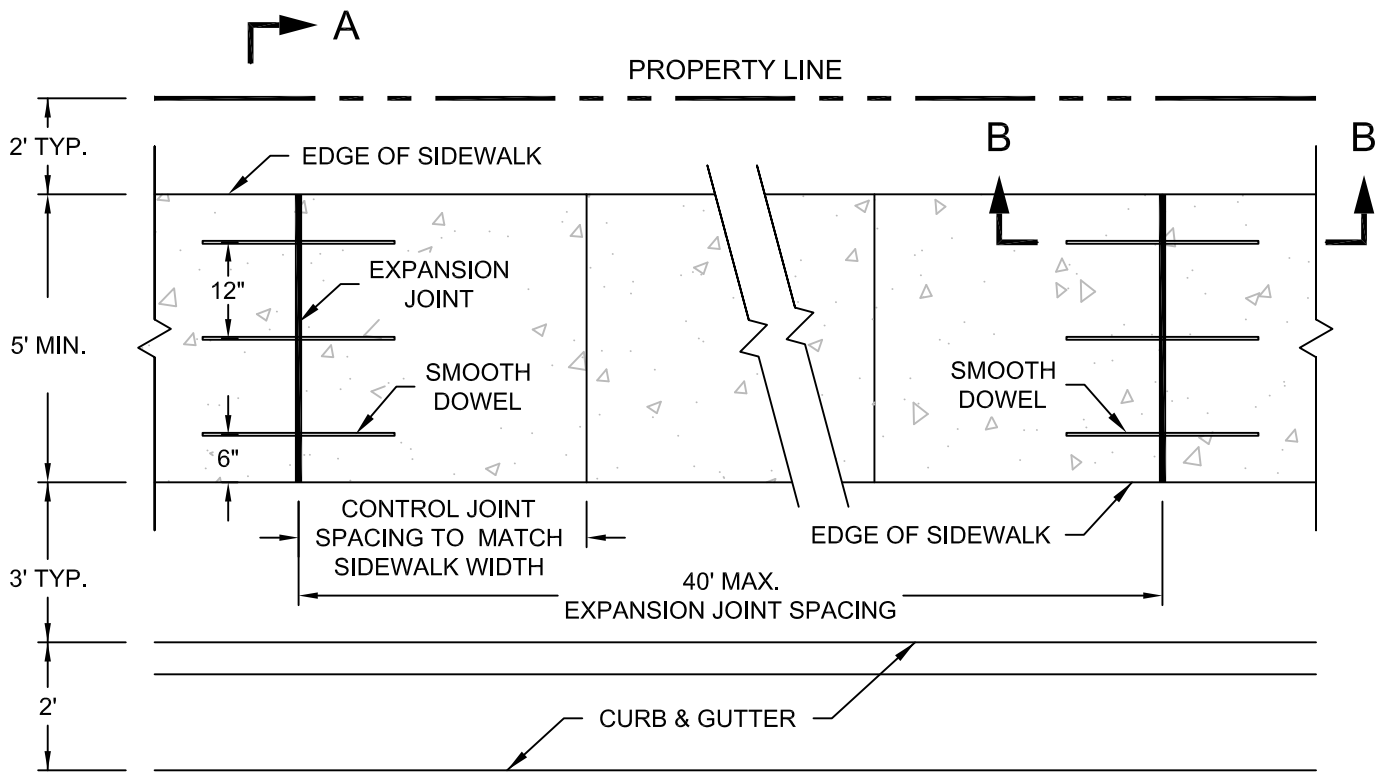


SECTION A - A

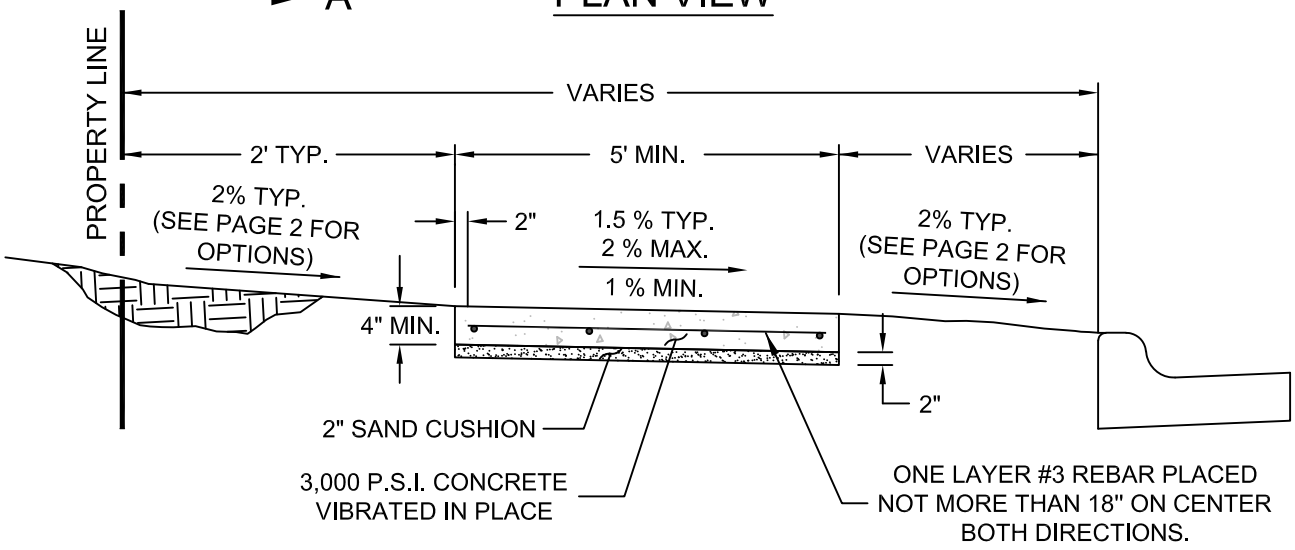
NOTES:

1. CONSTRUCT EXPANSION JOINTS AT A MAXIMUM OF 40'-0" ALONG THE LENGTH OF CURB, SIDEWALK AND CONCRETE PAVEMENT.
2. DOWELS MINIMUM SIZE IS 1/2" AND WILL BE EQUAL TO THE REBAR SIZE IF REBAR IN THE RE-ENFORCED CONCRETE IF GREATER THAN 1/2".

The City of San Marcos Engineering and Capital Improvements	**CURRENT AS OF 1/1/2021**	CURB EXPANSION JOINT DOWEL DETAIL	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	6/1/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-3-SM 1 OF 1



PLAN VIEW



SECTION A - A

NOTES FOR REBAR PLACEMENT:

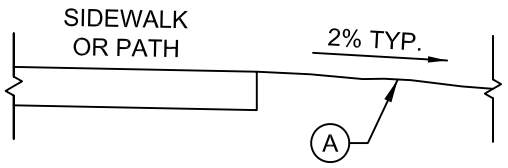
1. REINFORCEMENT SHALL BE ACCURATELY PLACED AT SLAB MID-DEPTH AND HELD FIRMLY IN PLACE BY MEANS OF BAR SUPPORTS OF ADEQUATE STRENGTH AND NUMBER THAT WILL PREVENT DISPLACEMENT AND KEEP THE STEEL AT ITS PROPER POSITION DURING THE PLACEMENT OF THE P.C. CONCRETE.

2. IN NO INSTANCE SHALL THE STEEL BE PLACED DIRECTLY ON THE SUBGRADE, SAND CUSHION LAYER OR CLOSER THAN 2" TO THE OUT SIDE EDGE OF THE CONCRETE.

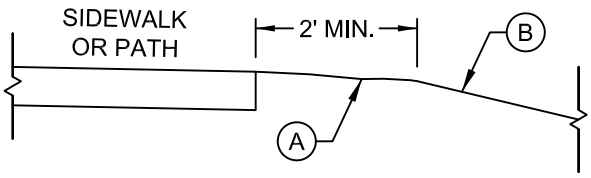
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	SIDEWALK CONSTRUCTION	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1-SM 1 OF 2

NOTES:

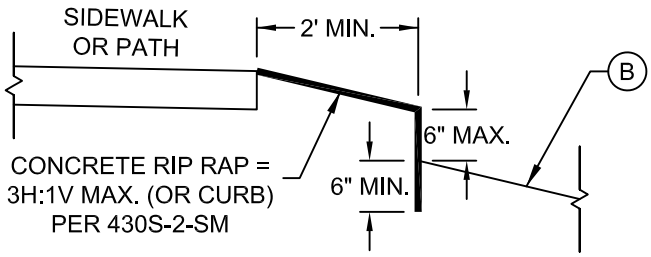
1. CONTROL JOINTS SHALL BE 1/4 INCH WIDE AND 3/4 INCH DEEP TOOLED OR SAW CUT INTO SIDEWALK.
2. CONSTRUCT 3/4" REDWOOD EXPANSION JOINTS AT MAXIMUM 40'- 0" SPACING ALONG LENGTH OF SIDEWALK. EXPANSION JOINTS SHALL INCLUDE SMOOTH DOWELS CENTERED TO THE JOINT AT 12" C-C. PER DETAIL 430S-3-SM.
3. IF SIDEWALK IS ADJOINED TO CURB, COLD JOINT IS REQUIRED, UNLESS APPROVED BY THE CITY INSPECTOR.
4. RAMPS AT INTERSECTION WILL FOLLOW CITY DETAIL 432S-3-SM.
5. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY SPECIFICATIONS.
6. REFER TO SPEC. 410S.25 FOR DEFECTIVE WORK. THE LIMITS OF THE REPLACEMENT SHALL EXTEND FROM JOINT TO JOINT, AS DETERMINED BY THE INSPECTOR.



DETAIL 1A



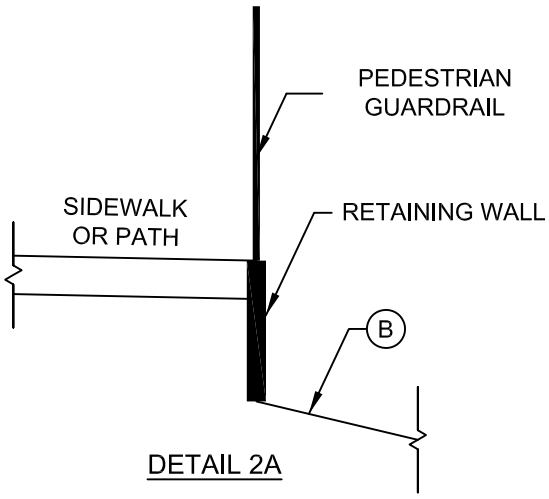
DETAIL 1B



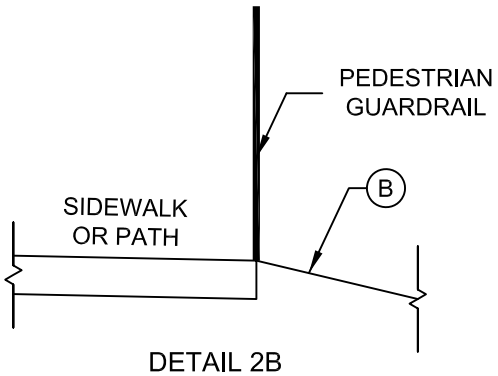
DETAIL 1C

MAX SLOPES		
MATERIAL	(A)	(B)
GRASS	4H : 1V	3H : 1V
CONCRETE	3H : 1V	2H : 1V

(DETAIL 1) : NO PROTECTION REQUIRED



DETAIL 2A



DETAIL 2B

REFERENCES
DETAIL 430S-3-SM
DETAIL 432S-3-SM

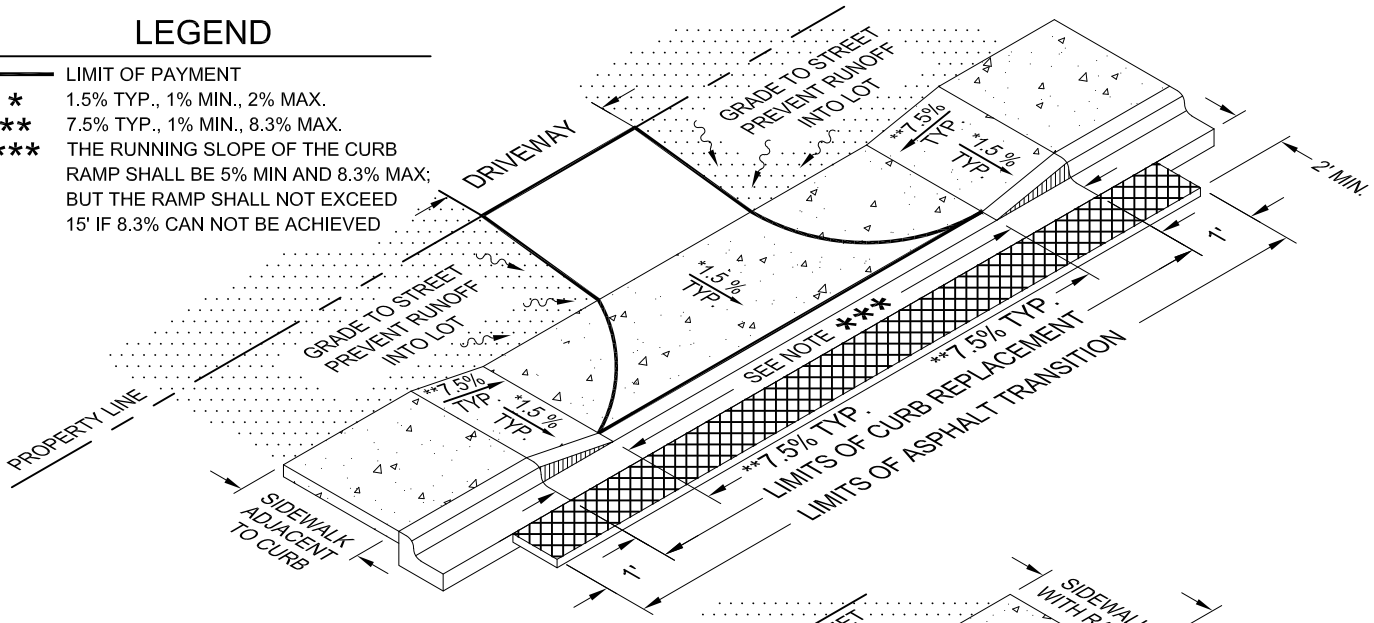
(DETAIL 2) : EDGE PROTECTION REQUIRED

WHEN OPTIONS SHOWN IN (DETAIL 1) CAN NOT BE MET

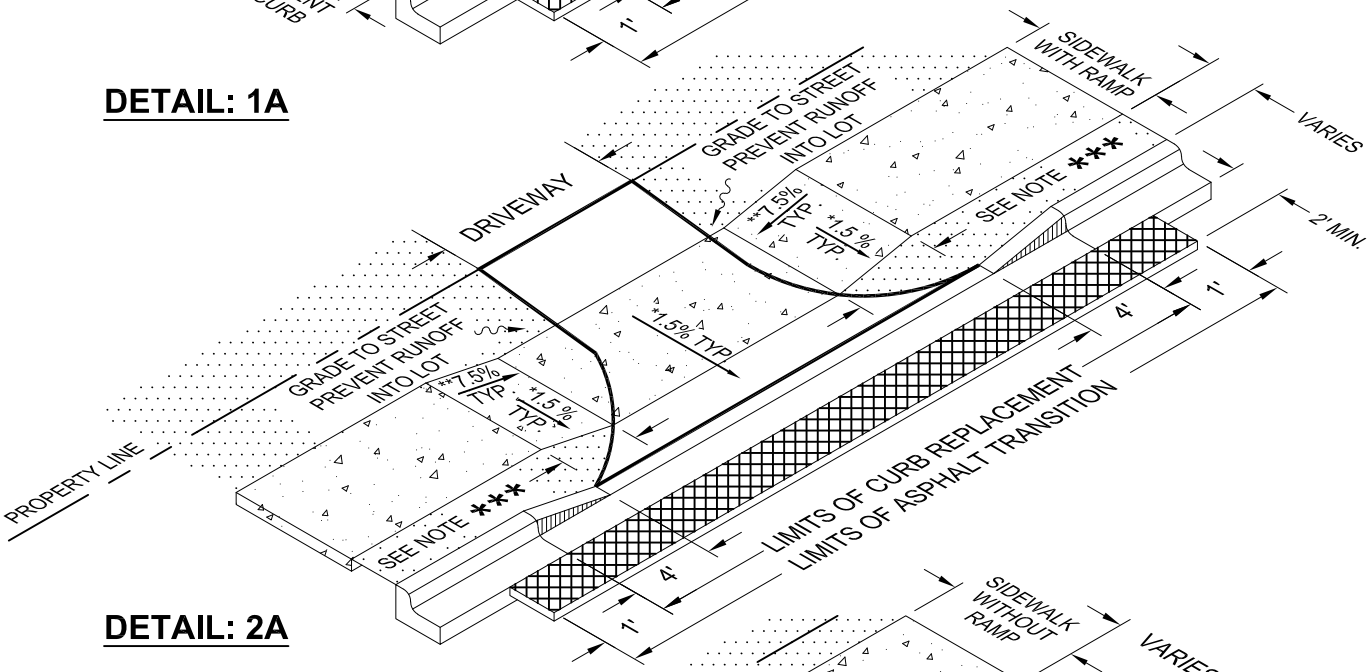
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	SIDEWALK CONSTRUCTION	
RECORD COPY SIGNED BY	1/1/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1-SM
LAURIE MOYER, P.E.	ADOPTED		2 OF 2

LEGEND

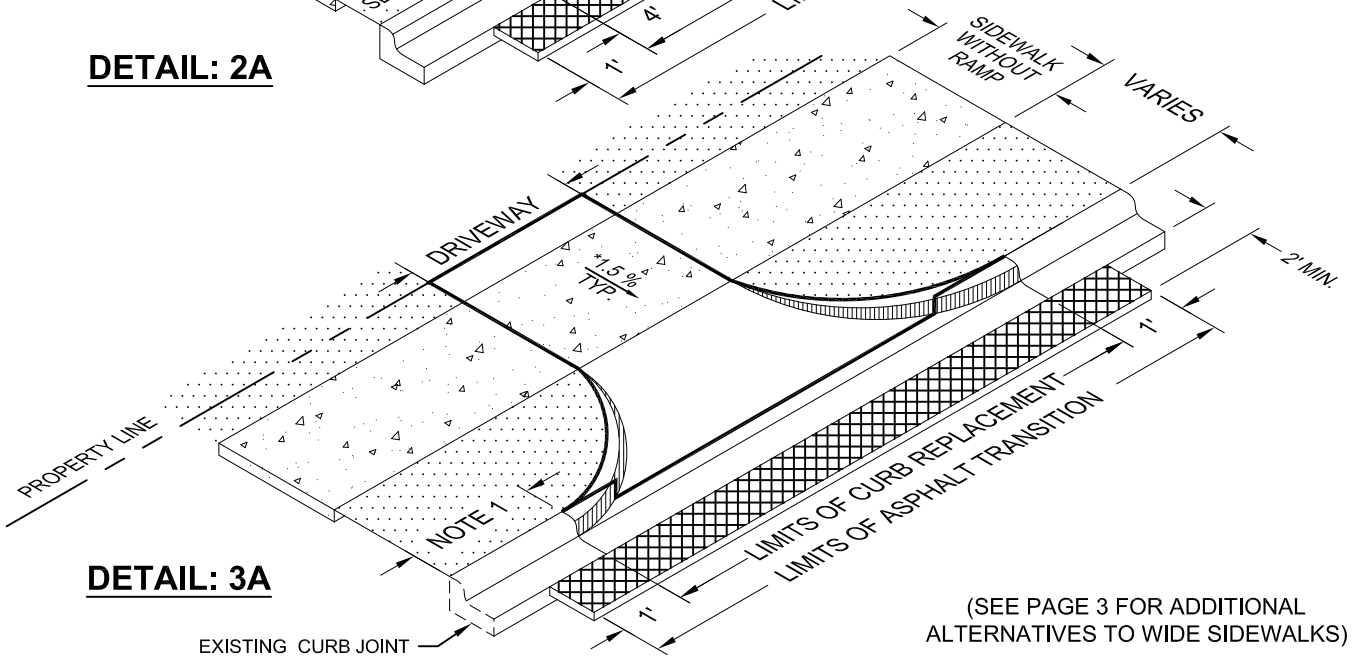
———	LIMIT OF PAYMENT
*	1.5% TYP., 1% MIN., 2% MAX.
**	7.5% TYP., 1% MIN., 8.3% MAX.
***	THE RUNNING SLOPE OF THE CURB RAMP SHALL BE 5% MIN AND 8.3% MAX; BUT THE RAMP SHALL NOT EXCEED 15' IF 8.3% CAN NOT BE ACHIEVED



DETAIL: 1A



DETAIL: 2A



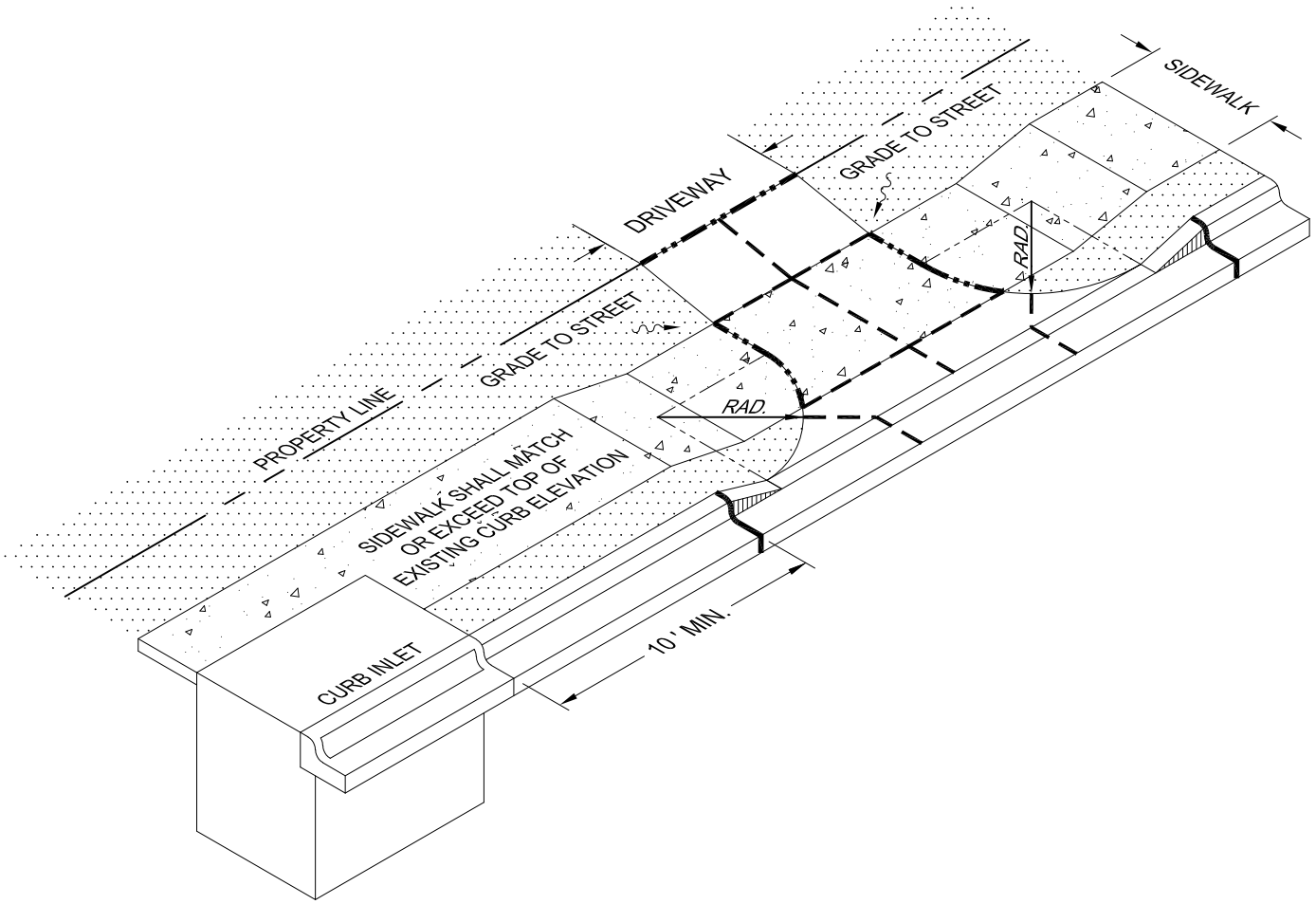
DETAIL: 3A

(SEE PAGE 3 FOR ADDITIONAL ALTERNATIVES TO WIDE SIDEWALKS)

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	**STANDARD DRIVEWAYS RADIUS CONNECTION**	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-AR-SM 1 OF 3

LEGEND

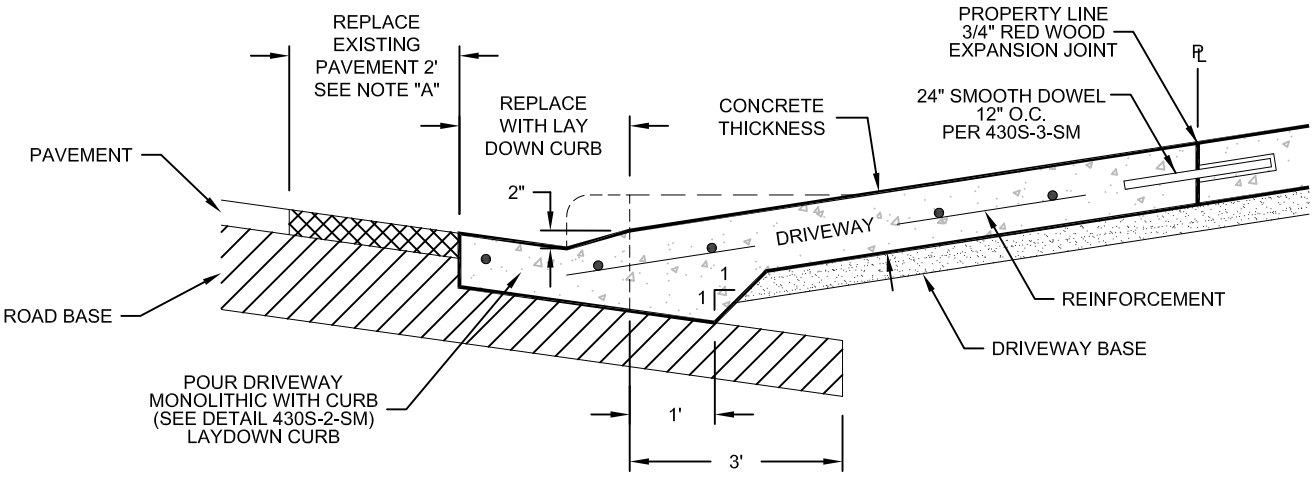
- CONTROL JOINTS - 3/4" DEEP x 1/4" WIDE
- 3/4" REDWOOD EXPANSION JOINTS
- 3/4" ASPHALT BOARD EXPANSION JOINT



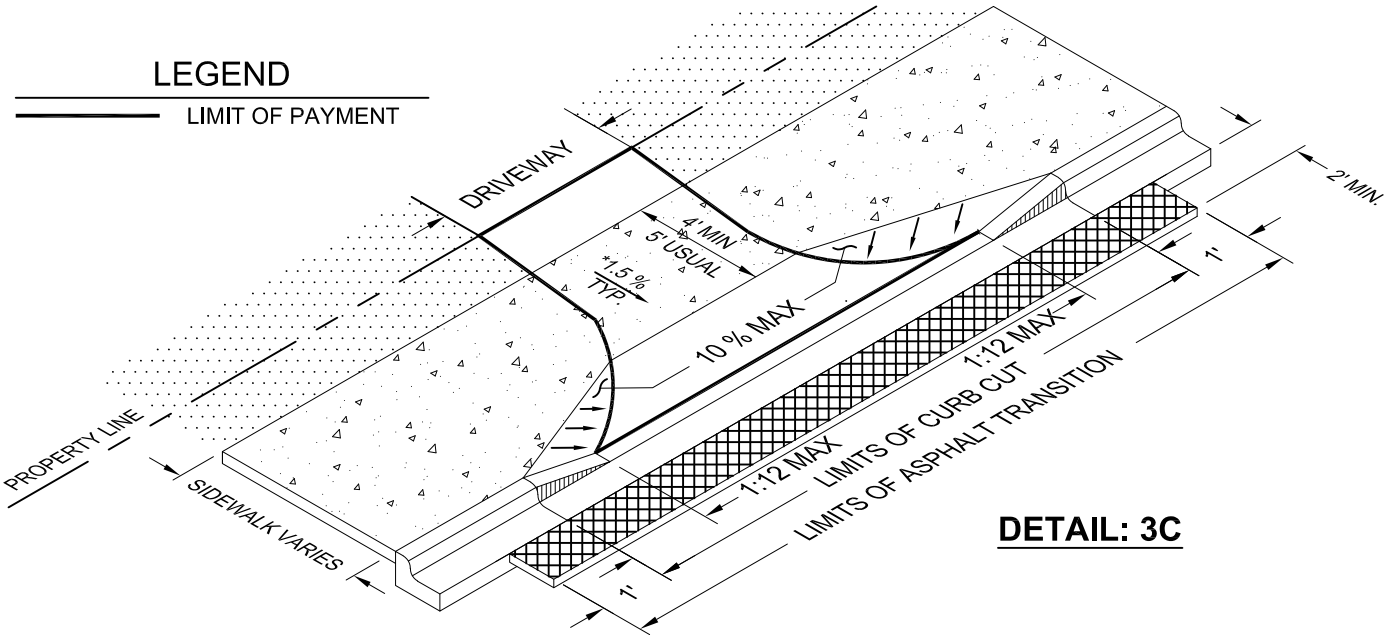
DRIVEWAY	DRIVEWAY CRITERIA	DRIVEWAY WIDTH FEET		RADIUS DIM. (RAD) FEET	
TYPE	USE	MIN.	MAX.	MIN.	MAX.
I	RESIDENTIAL UP TO 6 OFF-STREET PARKING SPACES	10'	18'	5'	5'
II	RESIDENTIAL 7+ OFF-STREET PARKING SPACES (ONE-WAY)	12'	16'	5'	10'
II	RESIDENTIAL 7+ OFF-STREET PARKING SPACES (TWO-WAY)	20'	24'	5'	10'
II	MIXED USE / COMMERCIAL (ONEWAY)	12'	18'	5'	10'
II	MIXED USE / COMMERCIAL (TWOWAY)	20'	32'	10'	15'
II	INDUSTRIAL / SERVICE	30'	40'	10'	30'

DRIVEWAY DIMENSION

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	STANDARD DRIVEWAYS RADIUS CONNECTION	
RECORD COPY SIGNED BY	1/1/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-AR-SM
LAURIE MOYER, P.E.	ADOPTED		2 OF 3



CURB RADIUS CONNECTION

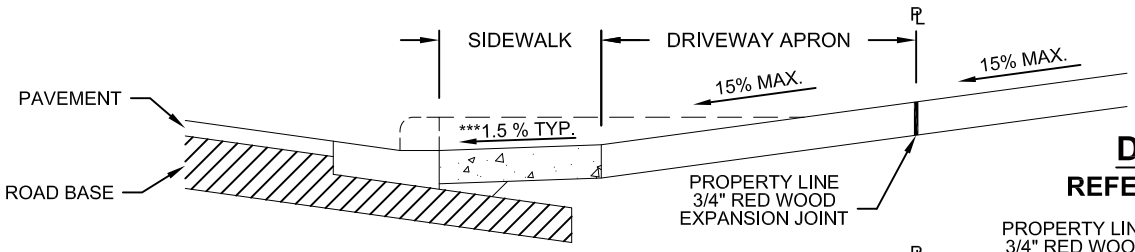


DETAIL: 3C

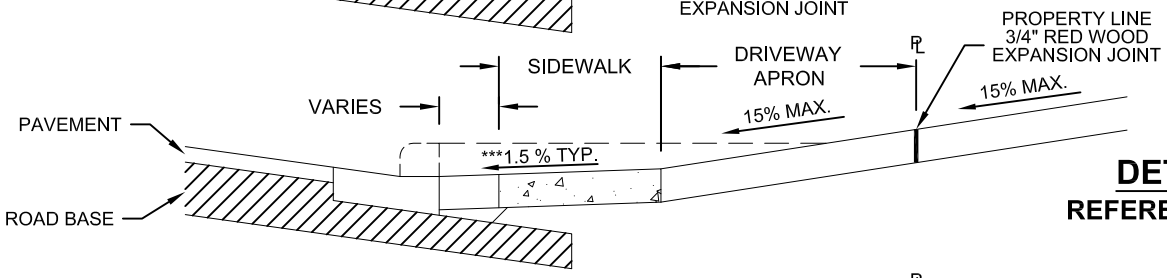
WIDE SIDEWALK ALTERNATIVE

REFERENCES
DETAIL 430S-2-SM
DETAIL 430S-3-SM

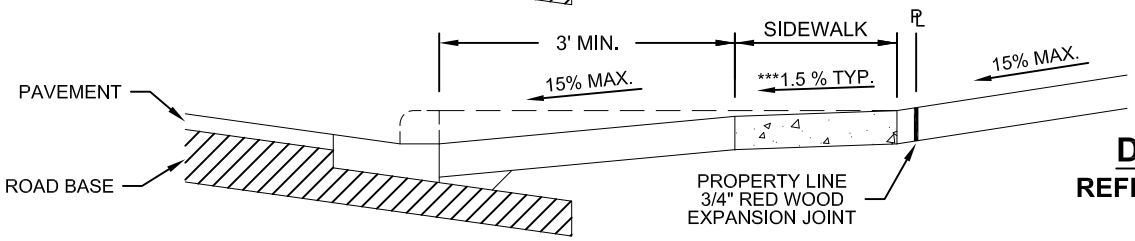
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	STANDARD DRIVEWAYS RADIUS CONNECTION	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-AR-SM 3 OF 3



DETAIL: 1C
REFERENCE: 1A & 1B

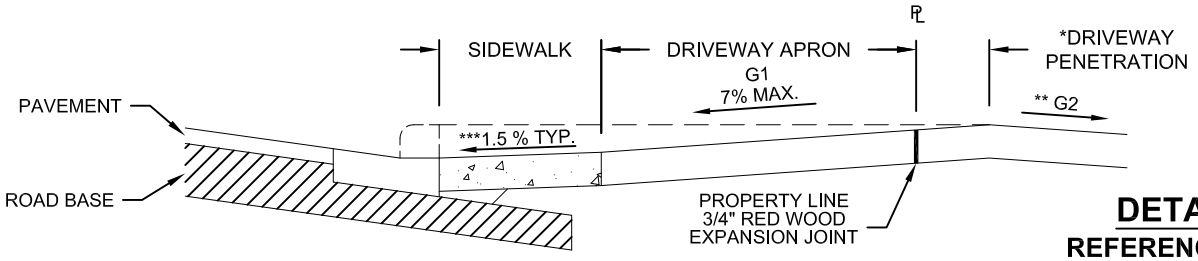


DETAIL: 2C
REFERENCE: 2A & 2B

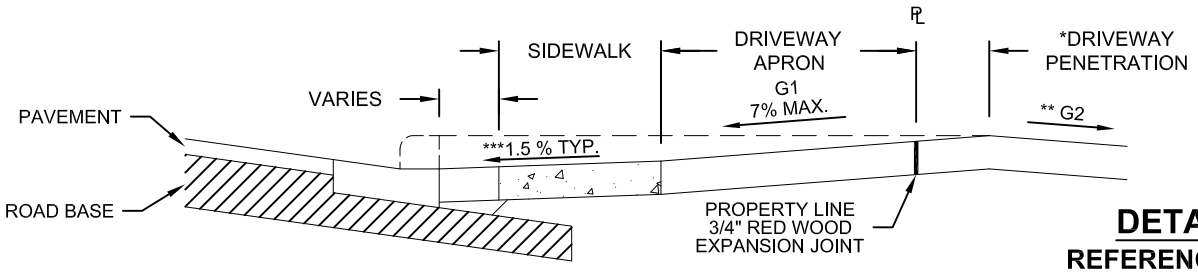


DETAIL: 3C
REFERENCE: 3A, 3B & 3C

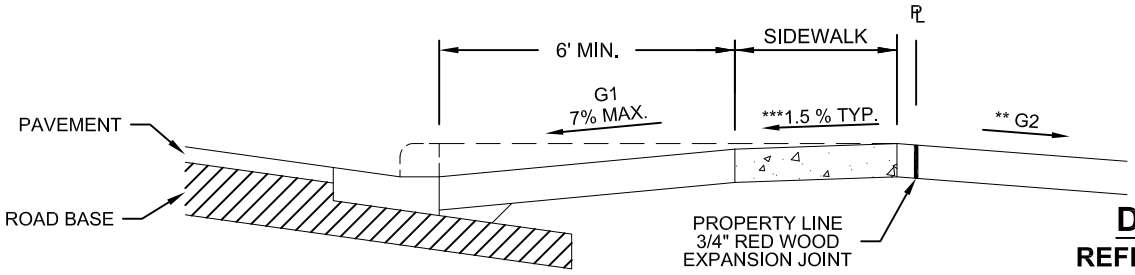
SECTION A-A POSITIVE SITE DRAINAGE



DETAIL: 1D
REFERENCE: 1A & 1B



DETAIL: 2D
REFERENCE: 2A & 2B



DETAIL: 3D
REFERENCE: 3A, 3B & 3C

SECTION A-A NEGATIVE SITE DRAINAGE

*DRIVEWAY PENETRATION WILL EXTEND INTO THE PROPERTY UNTIL GRADING IS HIGHER THAN THAT OF THE CURB AT THE MAXIMUM G1 SLOPE. LIMITS OF PAVEMENT WILL EXTEND TO LIMITS OF DRIVEWAY PENETRATION.

** $|G1 - G2| \leq 15\%$

*** 1.5% TYP., 1% MIN., 2% MAX.

The City of San Marcos Engineering and Capital Improvements	**CURRENT AS OF 1/1/2021**	**DRIVEWAYS - COMMON DETAILS**	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-A-SM 1 OF 2

DRIVEWAY	CONCRETE THICKNESS	REINFORCEMENT	DRIVEWAY BASE
TYPE I	6" CLASS A 3,000 PSI	#3 BARS PLACED ON CHAIRS AT MID DEPTH OF SLAB AT NO MORE THAN 18" O.C. BOTH DIRECTIONS	2" COMPACTED SAND
TYPE II	7" CLASS C 3,600 PSI	#4 BARS PLACED ON CHAIRS AT MID DEPTH OF SLAB AT NO MORE THAN 18" O.C. BOTH DIRECTIONS	2" COMPACTED SAND

NOTES:

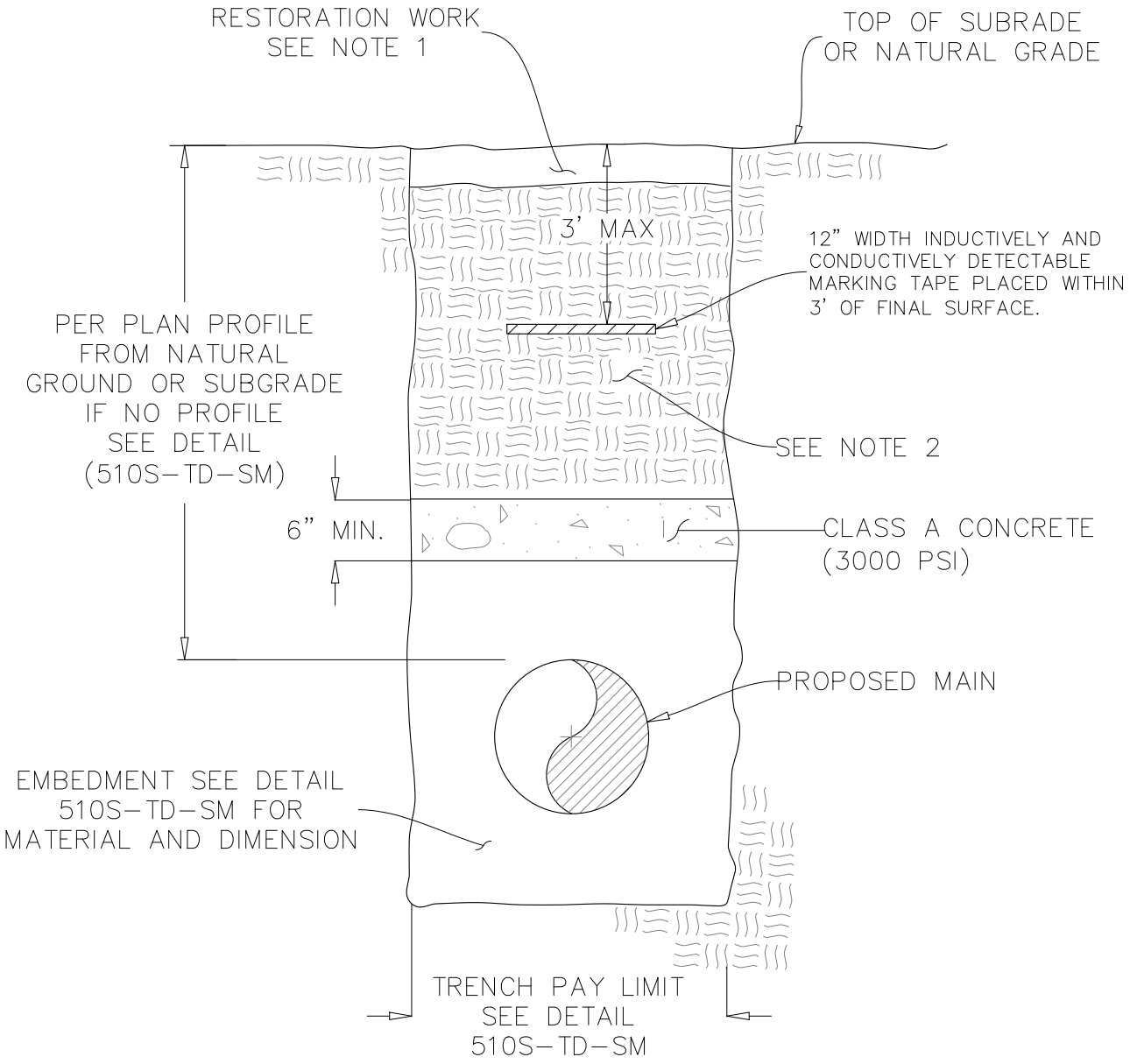
A. NEW PAVEMENT WILL MATCH EXISTING PAVEMENT THICKNESS AND TYPE.
B. IN NO INSTANCE SHALL THE REBAR BE PLACED DIRECTLY ON THE SUBGRADE, SAND CUSHION LAYER OR CLOSER THAN 2" TO THE OUTSIDE EDGE OF THE CONCRETE.

NOTES:

1. IF DIMENSION IS LESS THAN 5', REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY. (SEE SHEET 1)
2. ALL DRIVEWAY WILL HAVE A CONTROL JOINT DOWN CENTER OF DRIVEWAY AND ON BOTH SIDES OF THE SIDEWALK PATH ACROSS THE DRIVEWAY. (SEE SHEET 3)
3. WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND "G2 IS GREATER THAN 15%."
4. DRIVEWAY WIDTHS AND RADIUS DIMENSIONS, ONE/TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAY-OUT ARE HIGHLY VARIABLE, SUBJECT TO SITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL SECTION 5 "DRIVEWAYS" IF CONFLICT WITH DETAIL.
5. IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
6. DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
7. WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.
8. PAY ITEM: ASPHALT TRANSITION, LAYDOWN CURB AND GUTTER WILL BE PAID FOR AS SEPARATE LINE ITEM UNLESS NOTED ON PLANS. CURB AND GUTTER INSTALLED ON THE RADIUS OR ALONG THE RAMPS WILL BE SUBSIDIARY TO DRIVEWAY LINE ITEM.
9. ALL NEW DRIVEWAYS SHALL BE CONSTRUCTED PER DETAIL 433S-AR-SM, DRIVEWAYS - RADIUS CONNECTION 433S-AR-SM EXCEPT IN NEW SUBDIVISIONS (TYPICALLY) WHERE HOUSES ARE BUILT AFTER THE CURB IS INSTALLED.
10. IF BOTH OF THE FOLLOWING CONDITIONS ARE MET, THEN DETAIL 433S-AF-SM - DRIVEWAYS - FLARED CONNECTION MAY BE USED:
    A) THE DRIVEWAY CLASSIFIED AS TYPE 1.
    B) THERE AN EXISTING CURB ALREADY INSTALLED AT THE PROPOSED DRIVEWAY LOCATION.

REFERENCES
DETAIL 430S-2-SM
DETAIL 430S-3-SM

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	DRIVEWAYS - COMMON DETAILS	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-A-SM 2 OF 2

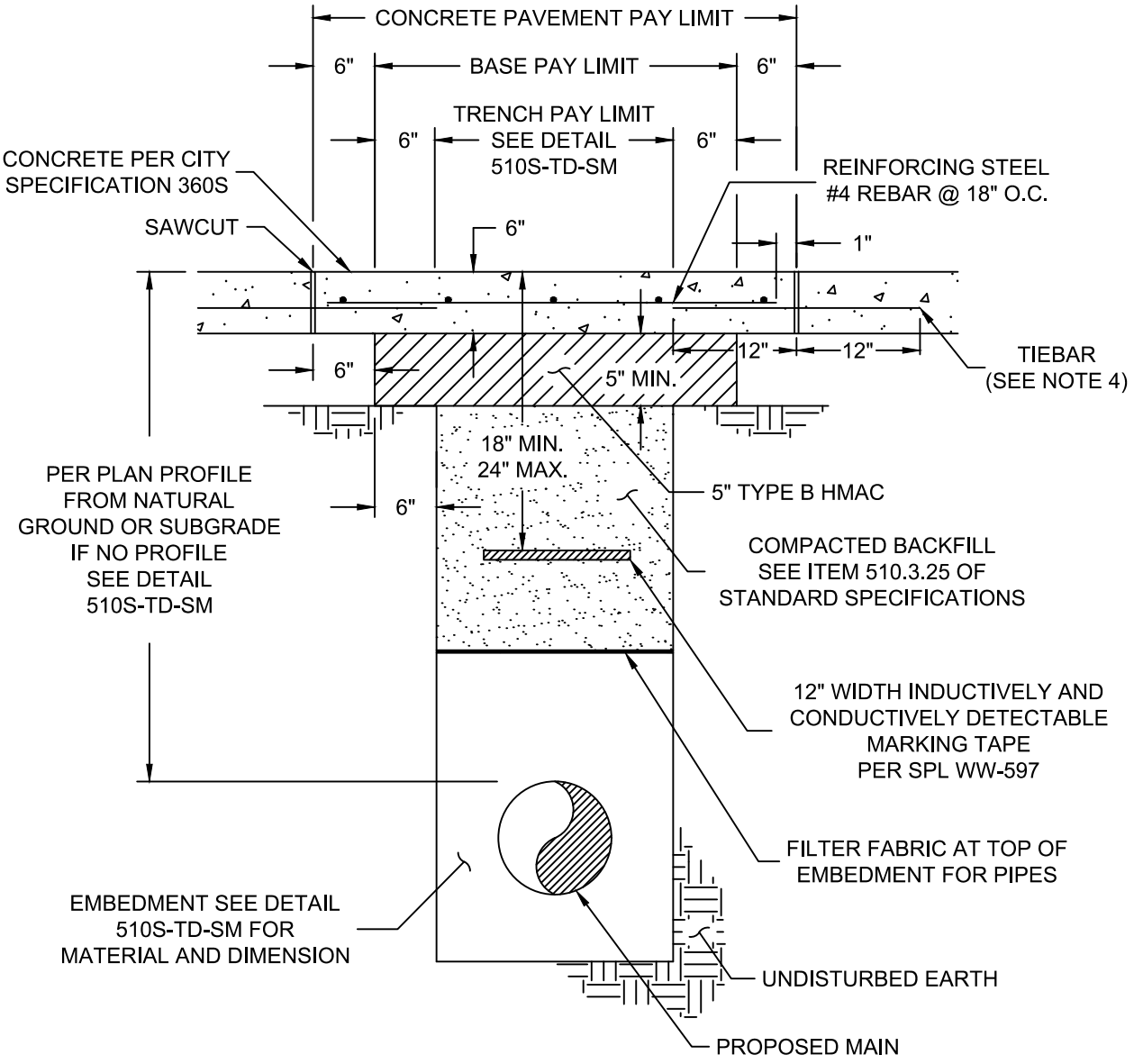


NOTE

1. RESTORE ALL DISTURBED SURFACES TO EXISTING CONDITION AND ELEVATION. NATURAL GROUND WILL HAVE 6" OR DEPTH TO TRENCH CAP FROM EXISTING ELEVATION (WHICH EVER IS LESS) OF TOP SOIL AND BE REVEGETATED. ALL OTHER PAVEMENT AND SURFACE STRUCTURES SHALL BE REPLACED TO MATCH EXISTING CONDITIONS. IF UNDER PAVEMENT WILL FOLLOW DETAIL 510S-3-SM OR 510S-3C-SM FOR STREET REPAIR.
2. SELECT BACKFILL COMPACTED TO NO LESS THAN 95% NOR MORE THAN 102% OF THE DENSITY ACCORDING TO TEX. 114E AT A MOISTURE CONTENT OF -2% TO +3% OF OPTIMUM FILL. THIS APPLIES UNDER ALL EXISTING OR PROPOSED TRAFFIC LOADING STRUCTURES, 2' FROM BUILDINGS, UNDER FLEX BASE OR IN 100 YEAR FLOOD PLAIN. ALL OTHER BACKFILL WILL BE COMPACTED TO 90% OF MAX DENSITY.

REFERENCES
DETAIL 510S-TD-SM

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	CONCRETE TRENCH CAP	
RECORDED COPY SIGNED BY LAURIE MOYER, P.E.	8/4/2014 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	510S-1-SM N.T.S. STANDARD DETAIL

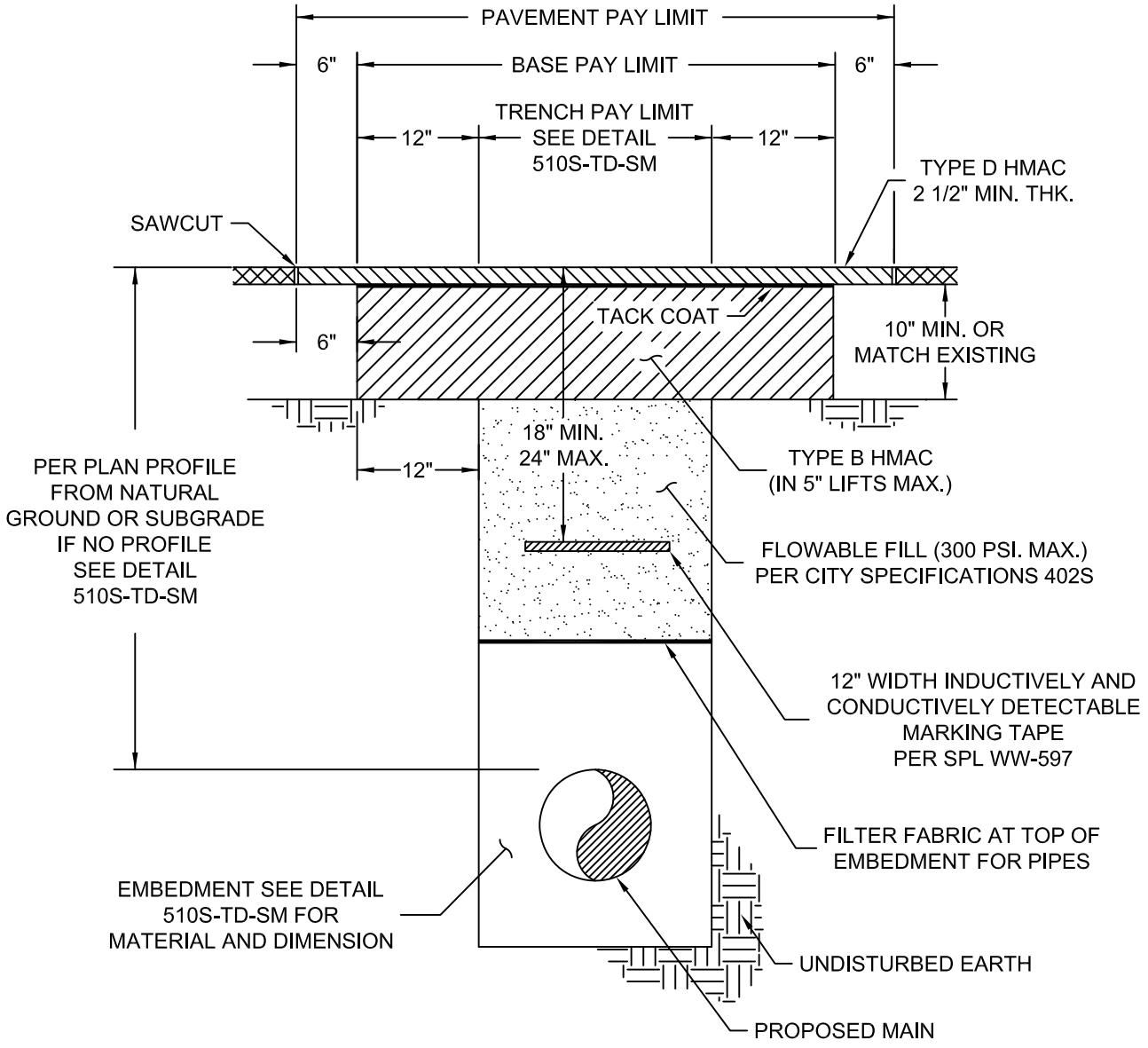


NOTES:

1. THE EXISTING PAVED SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE SEE DETAIL 510S-3T-SM.
3 ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 6" OF BASE OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER.
4. TIEBARS WILL BE A 24" #4 REBAR PLACED EVERY 18" MID DEPTH OF EXISTING CONCRETE ON ALL SIDES OF TRENCH OR PER INSPECTORS RECOMMENDATION.

REFERENCES
DETAIL 510S-TD-SM
DETAIL 510S-3T-SM

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	TYPICAL TRENCH WITH CONCRETE PAVEMENT	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	6/1/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-3C-SM 1 OF 1

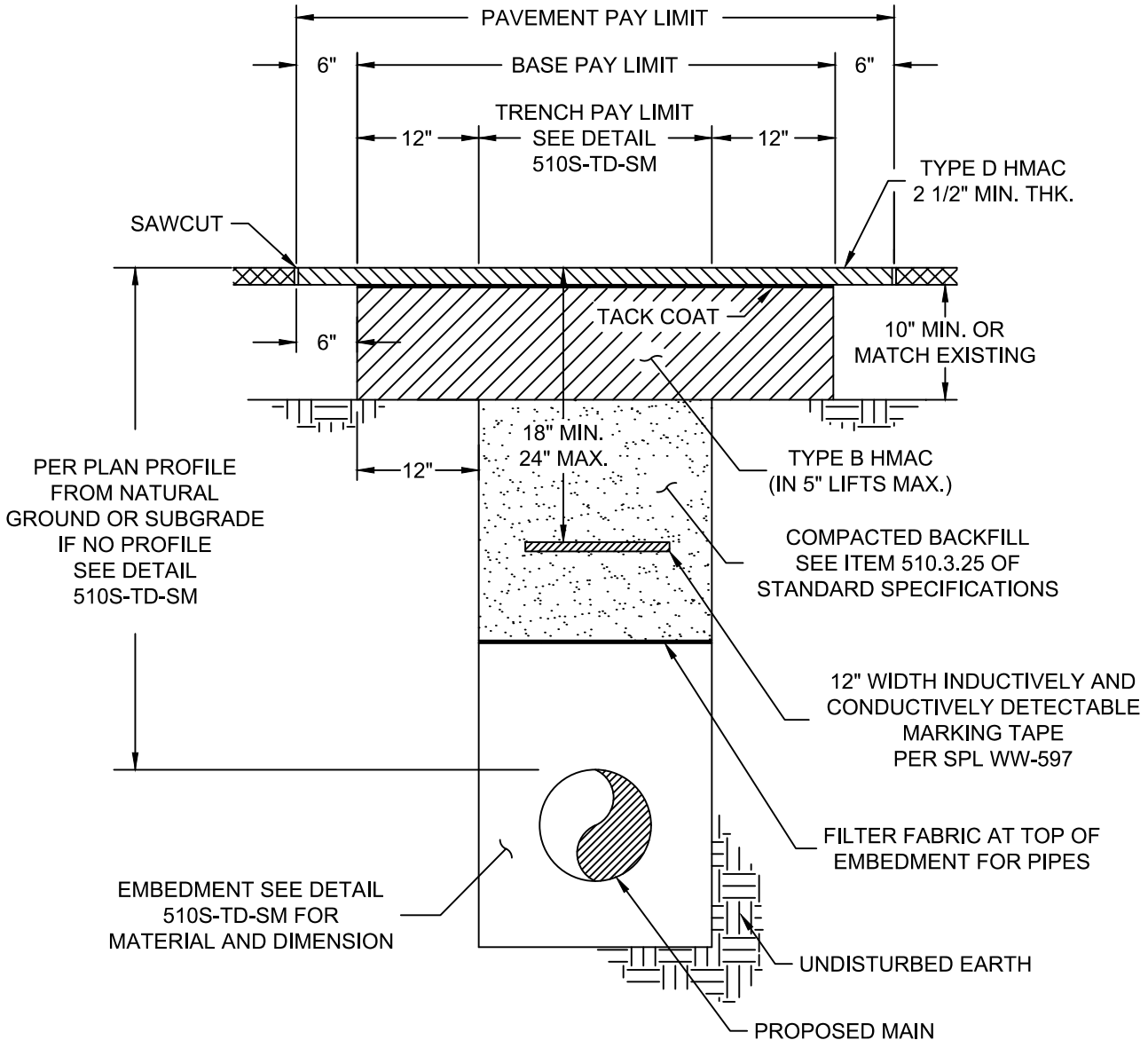


NOTES:

1. THE EXISTING PAVED SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, SEE DETAIL 510S-3T-SM.
3. ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED.
4. ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED IN KIND OF EQUAL THICKNESS, OR MINIMUM BASE THICKNESS OF 10", WHICHEVER IS GREATER.

REFERENCES
DETAIL 510S-TD-SM
DETAIL 510S-3T-SM

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	STREET TRENCH FLOWABLE FILL	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-3FF-SM 1 OF 1

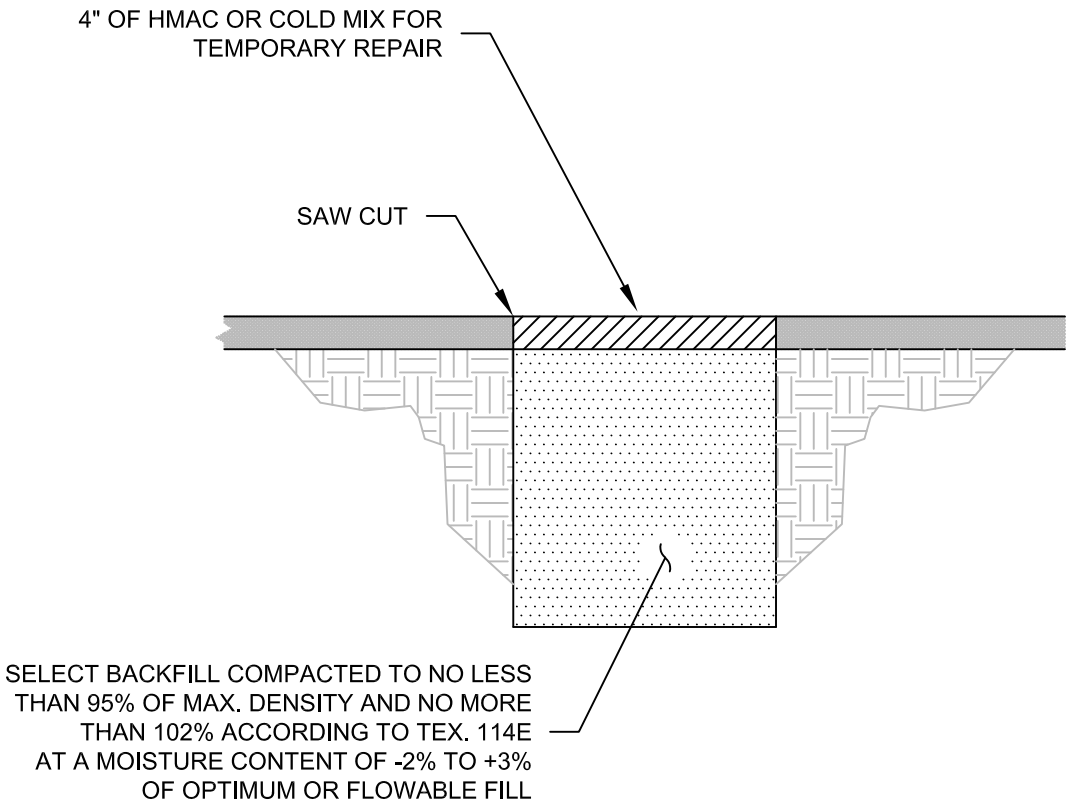


NOTES:

1. THE EXISTING PAVED SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, SEE DETAIL 510S-3T-SM.
3. ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED.
4. ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED IN KIND OF EQUAL THICKNESS, OR MINIMUM BASE THICKNESS OF 10", WHICHEVER IS GREATER.

REFERENCES
DETAIL 510S-TD-SM
DETAIL 510S-3T-SM

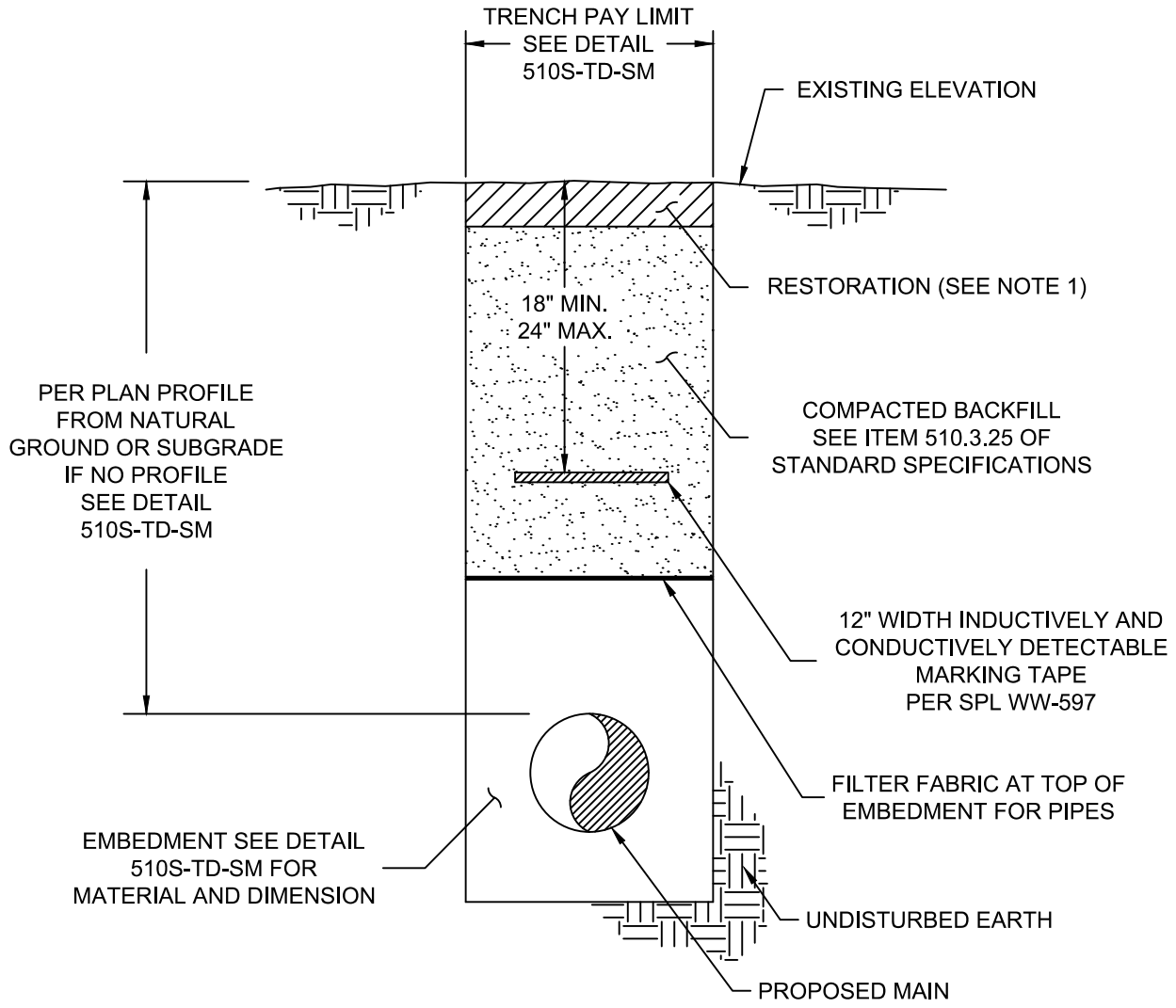
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	TYPICAL TRENCH WITH PAVED SURFACE	
RECORD COPY SIGNED BY	6/1/2018	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-3-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 1



NOTE:

1. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH 4" COLD MIX OR 4" TEMPORARY HOT MIX ASPHALTIC CONCRETE. NO SEPARATE PAY ITEM.

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	UTILITY TRENCH TEMPORARY ASPHALT PAVEMENT	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-3T-SM 1 OF 1

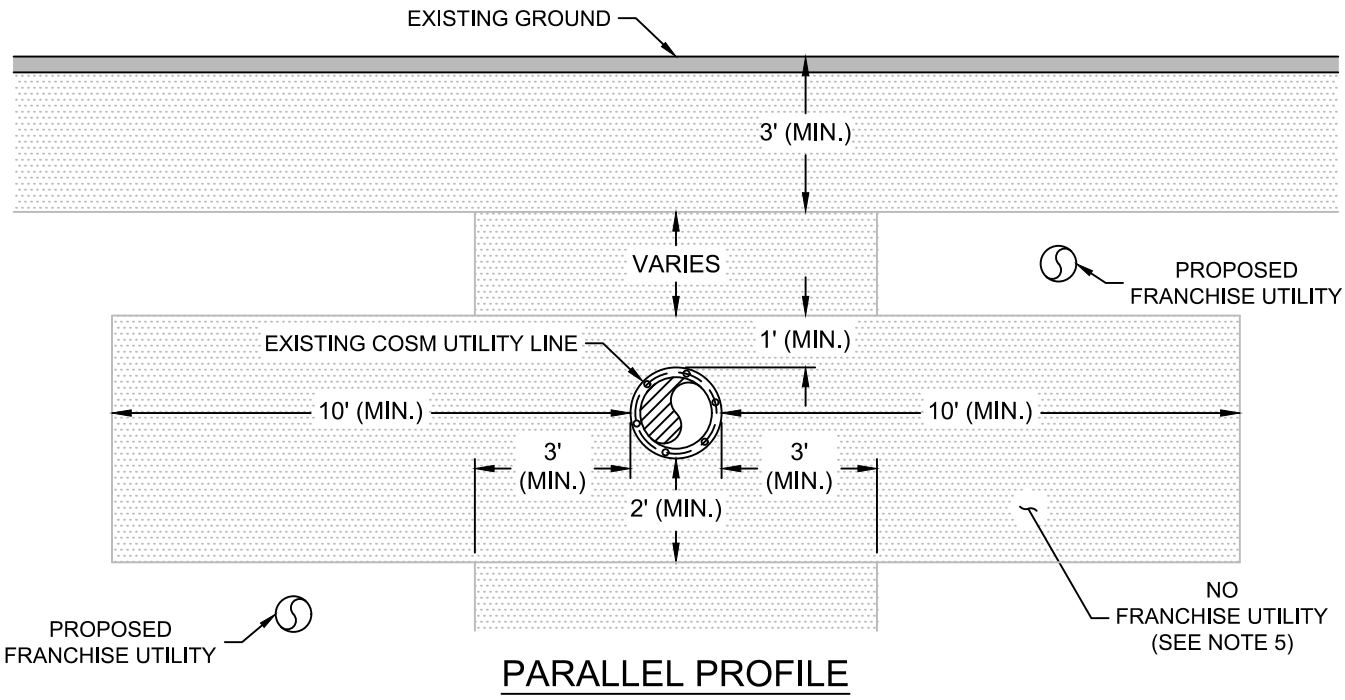


NOTES:

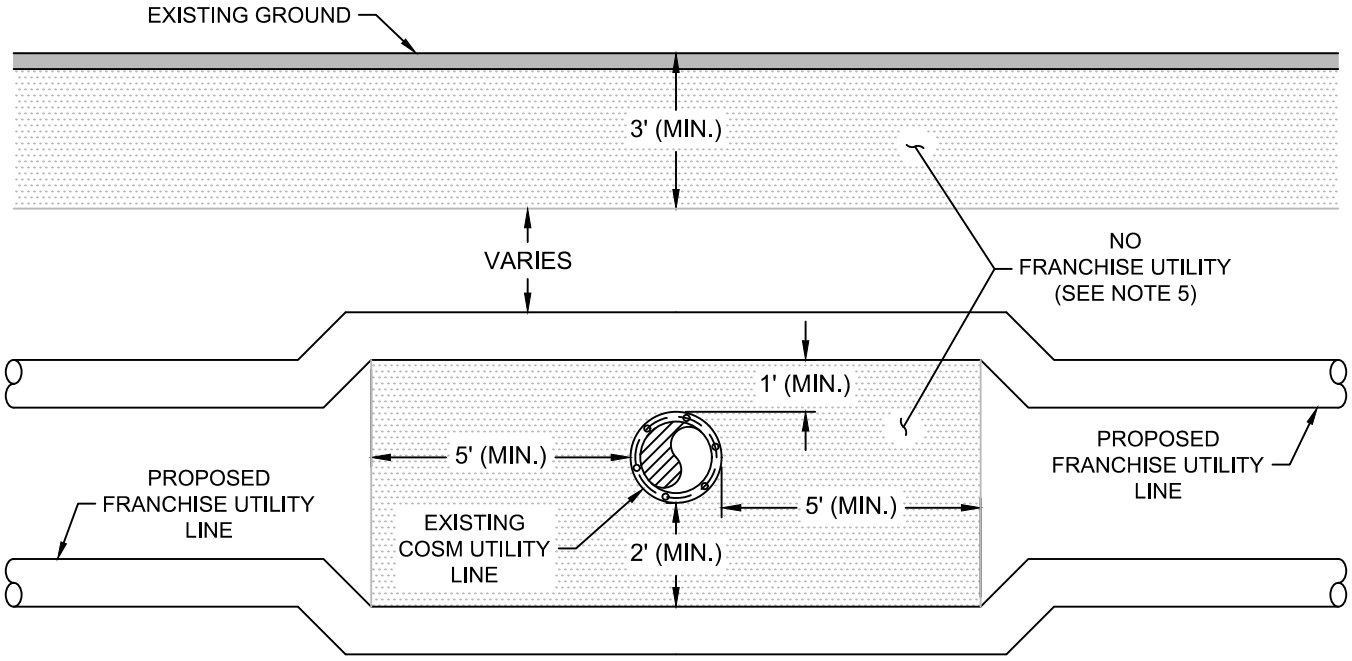
1. RESTORE ALL DISTURBED SURFACES ABOVE AND SURROUNDING THE TRENCH TO EXISTING CONDITION AND ELEVATION. NATURAL GROUND WILL HAVE 6" OF TOP SOIL, SEEDED AND A RETENTION BLANKET INSTALLED ON TOP. ALL OTHER SURFACE STRUCTURES SHALL BE REPLACED TO MATCH EXISTING CONDITIONS.

REFERENCES
DETAIL 510S-TD-SM

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	TRENCH DETAIL NATURAL GROUND	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	6/1/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-5-SM 1 OF 1



PARALLEL PROFILE

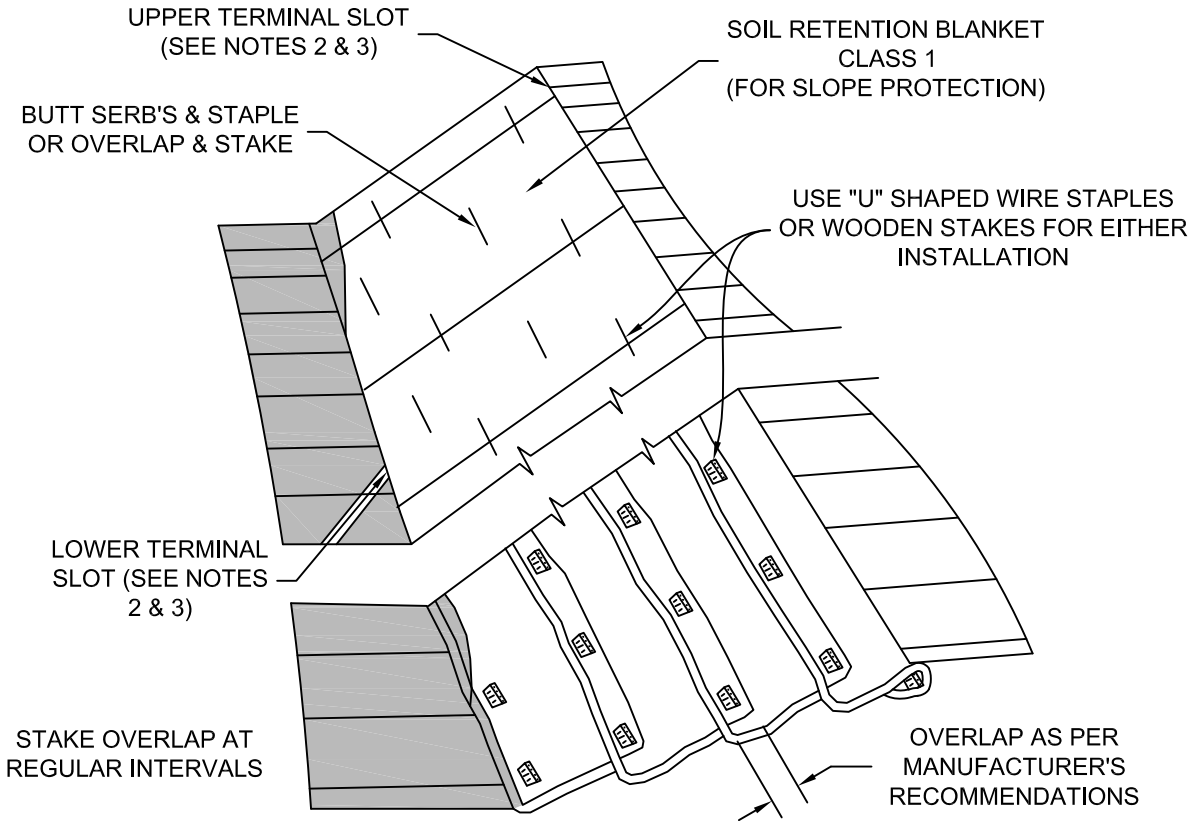


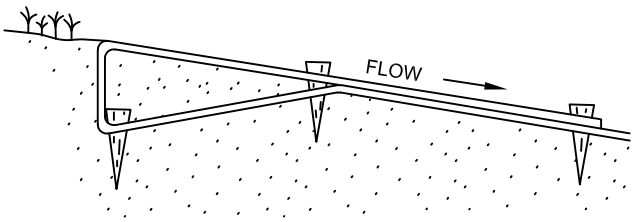
CROSSING PROFILE

NOTES:

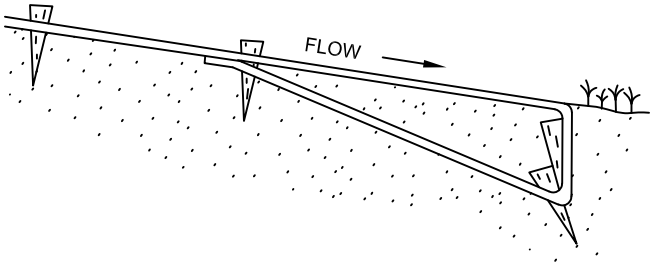
1. COSM UTILITY LINES ARE: WATER, WASTEWATER, FORCE MAIN, RECLAIMED WATER, STORM DRAIN AND UNDERGROUND ELECTRIC.
2. FRANCHISE UTILITY SHALL POTHOLE:
   - ALL CROSSINGS
   - ALL COSM PARALLEL MAINS WITHIN 10' EVERY 100'.
3. ALL DIMENSIONS ARE O.D. TO O.D.
4. ALL COSM UTILITY LINES SHALL BE DESIGNED PER THE COSM DESIGN MANUALS.
5. NO PROPOSED FRANCHISE UTILITY LINE SHALL ENCROACH THIS AREA.

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	FRANCHISE UTILITY ASSIGNMENTS	
RECORD COPY SIGNED BY	1/1/2020	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-FUA-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 1





UPPER TERMINAL SLOT

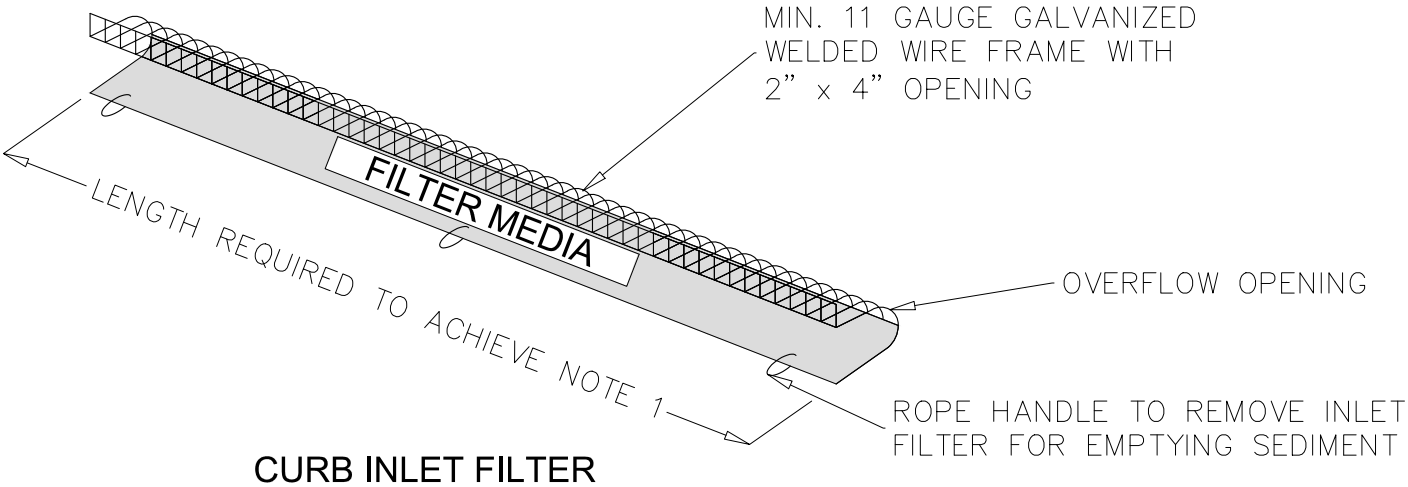


LOWER TERMINAL SLOT

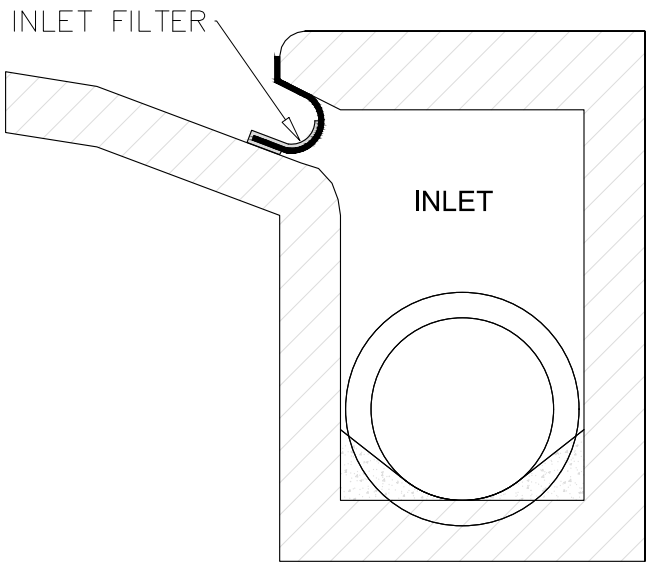
NOTES

1. INSTALL SOIL RETENTION BLANKETS (SERB'S) BEGINNING AT THE DOWNSTREAM END AND PROCEED UPSTREAM.
2. THE LOCATION, SPACING AND CONFIGURATION OF UPPER AND LOWER TERMINAL SLOTS, CHECK SLOTS, ETC. MAY VARY FOR EACH CLASS AND TYPE OF SERB ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. FIRMLY TAMP TOPSOIL BACKFILL INTO ALL TERMINAL SLOTS.
3. SERB EDGES ALONG THE TOP SLOPE OR TOE OF SLOPE SHALL BE ANCHORED AS PER MANUFACTURER'S RECOMMENDATIONS.
4. THE "U" SHAPED WIRE STAPLES ARE TO BE INSTALLED AT 90° TO THE SLOPE PLANE. IF WIRE STAPLES PROVE TO BE AN UNSATISFACTORY METHOD OF SECURING THE SERB IN AREAS OF ROCK, RAILROAD SPIKES OR 60 PENNY NAILS MAY BE SUBSTITUTED WITH APPROVAL OF THE ENGINEER.
5. WIRE STAPLES SHALL BE MADE FROM NOT LESS THAN 13" LENGTHS OF NO. 11 WIRE BENT TO FORM A "U" APPROXIMATELY 1" IN WIDTH.
6. WOOD STAKES SHALL BE A MINIMUM LENGTH OF 10". WOOD DIAGONAL STAKES MAY BE USED.
7. IMMEDIATELY AFTER THE SERB HAS BEEN SECURED TO THE GROUND, THE AREA COVERED SHALL BE SPRINKLED AND ROLLED WITH A LIGHT ROLLER OF SUFFICIENT WEIGHT TO PRESS THE BLANKET INTO THE SURFACE OF THE SOIL. THE ROLLER SHALL BE OF SUCH WEIGHT TO AVOID OVER-COMPACTION OF THE SEEDBED.
8. FOLLOW MANUFACTURERS SPECIFICATIONS FOR INSTALLMENT.
9. REFER TO COSM SPECIFICATION 605S FOR ADDITIONAL DETAILS.
10. SOD MAY BE USED IN LIEU OF SOIL RETENTION BLANKETS FOR SLOPE LESS THAN 4H:1V.

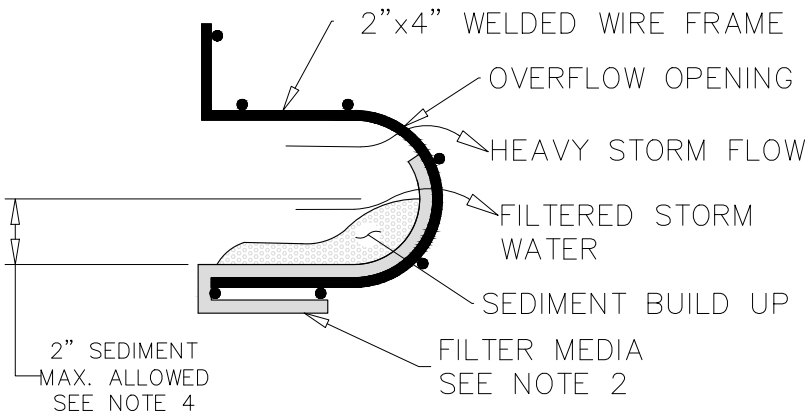
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	SOIL RETENTION BLANKET	
RECORD COPY SIGNED BY	1/1/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 605S-1-SM 1 OF 1
LAURIE MOYER, P.E.	ADOPTED		



CURB INLET FILTER



CURB INLET FILTER CROSS-SECTION SHOWING INLET PLACEMENT

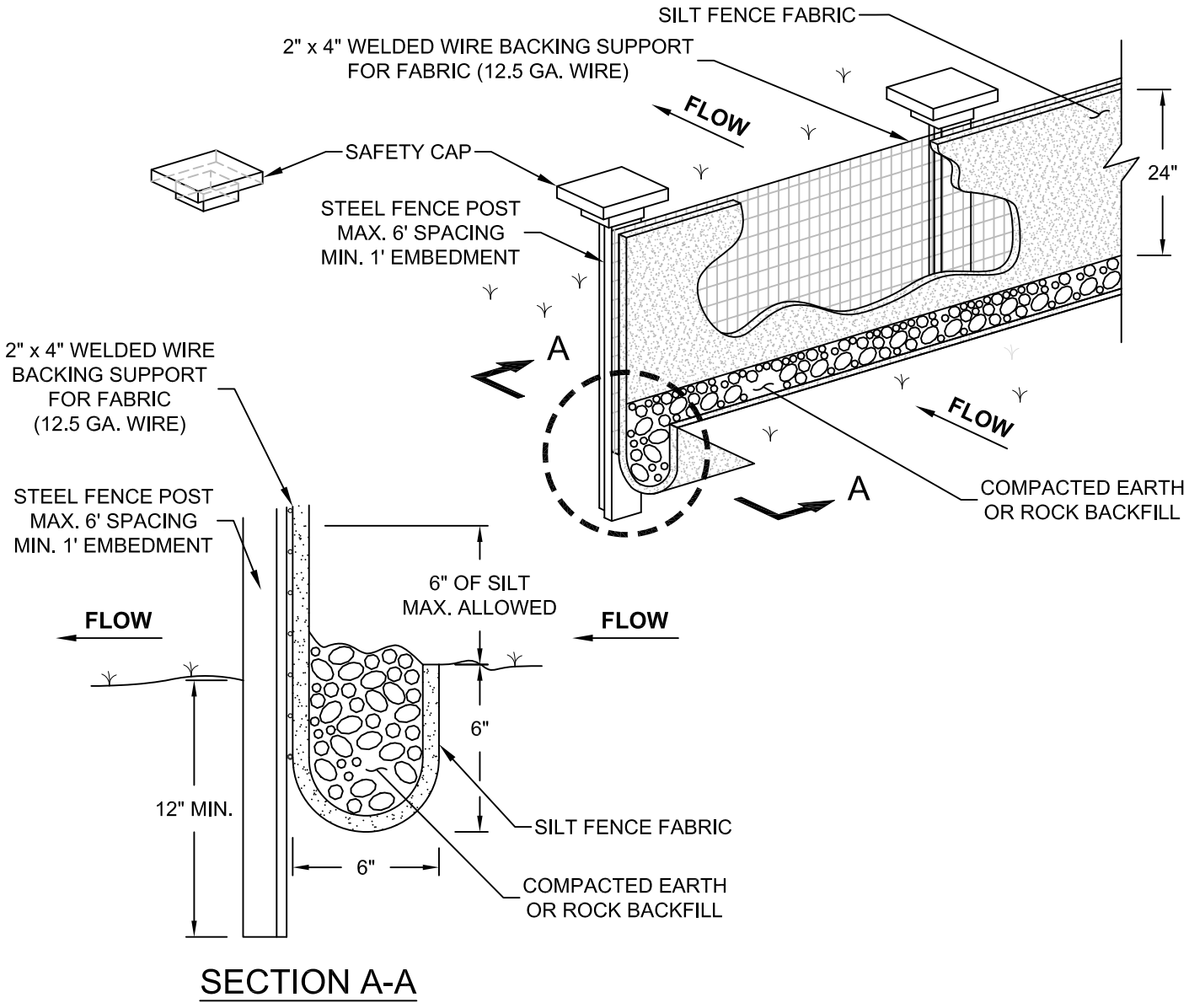


CURB INLET FILTER CROSS-SECTION

NOTE:

1. THE INLET FILTER SHALL BE INSERTED INTO THE CURB INLET TO CREATE A COMPRESSION FIT IN THE INLET
2. THE FILTER MEDIA FOR PROJECTS WITHIN CITY OF SAN MARCOS JURISDICTION IS TO BE WOVEN FILTER FABRIC WITH A MINIMUM WATER FLOW RATE OF 300 GALLONS A MINUTE PER SQUARE FOOT(300 GAL/MIN/SF).
3. THE FILTER MEDIA IS TO BE ATTACHED TO THE WIRE FRAME WITH HOG RINGS LEAVING AN OVERFLOW OPENING ABOVE THE FILTER MEDIA.
4. INSPECTION SHALL BE MADE BY THE CONTRACTOR WEEKLY AND WITHIN 24 HOURS OF A RAIN EVENT AND SILT ACCUMULATION MUST BE REMOVED WHEN THE DEPTH REACHES 2 INCHES.
5. INLET FILTER WILL BE REMOVED UPON STABILIZATION OF SEDIMENT SOURCES

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	CURB INLET PROTECTION	
RECORDED COPY SIGNED BY LAURIE MOYER, P.E.	2-15-2015 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	628S-1-SM N.T.S. STANDARD DETAIL

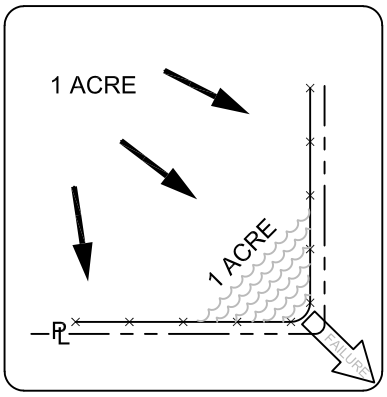


SECTION A-A

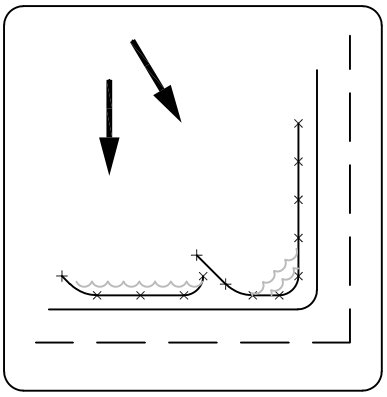
NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS SHALL MATCH THE TOP OF THE FENCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1'.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 6" DEEP AND 6" WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY AND REPAIR OR REPLACEMENT SHALL BE MADE WITHIN 24 HOURS OF INSPECTION.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS PERMANENTLY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WITHIN 24 HOURS WHEN IT REACHES A DEPTH OF 6" OR AS DIRECTED BY OWNER. THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. INSTALL J-HOOK SPACING PER ENGINEER'S DESIGN , BUT NOT TO EXCEED 200'.

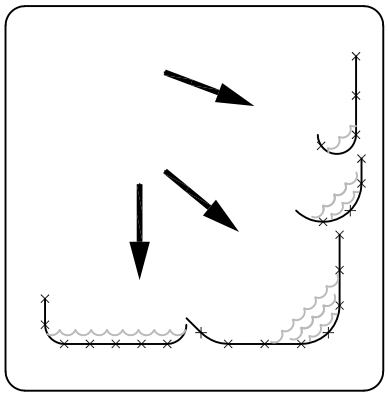
The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	SILT FENCE	
RECORD COPY SIGNED BY	1/1/2020	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1-SM
LAURIE MOYER, P.E.	ADOPTED		1 OF 2



INCORRECT - DO NOT LAYOUT "PERIMETER CONTROL" SILT FENCE ALONG PROPERTY LINES. ALL SEDIMENT LADEN RUNOFF WILL CONCENTRATE AND OVERWHELM THE SYSTEM.



CORRECT - INSTALL J-HOOKS



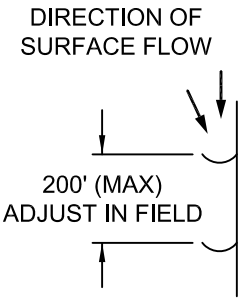
CORRECT - DISCREET SEGMENTS OF SILT FENCE INSTALLED WITH J-HOOKS OR 'SMILES' WILL BE MUCH MORE EFFECTIVE.

SILT FENCE TURNBACK DETAIL

SILT FENCE PLACEMENT FOR PERIMETER CONTROL

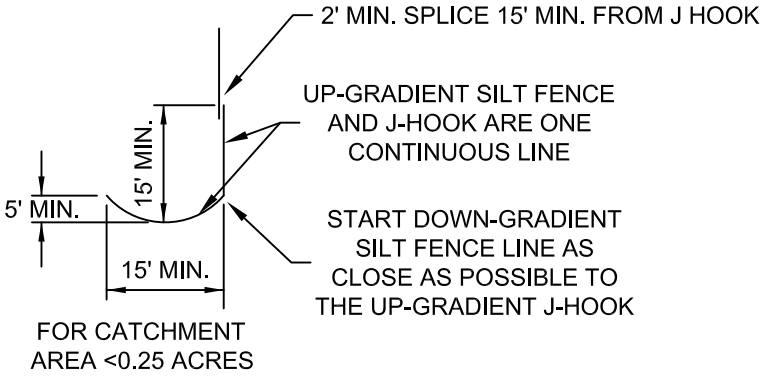
PLAN VIEW

I. SPACING REQUIREMENTS:



NOTE: SEE ENGINEER'S DESIGN PLANS FOR SPACING. MAX SPACING SHALL BE 200'

II. SIZING REQUIREMENTS:



FOR CATCHMENT AREA <0.25 ACRES

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2021	SILT FENCE	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2020 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1-SM 2 OF 2