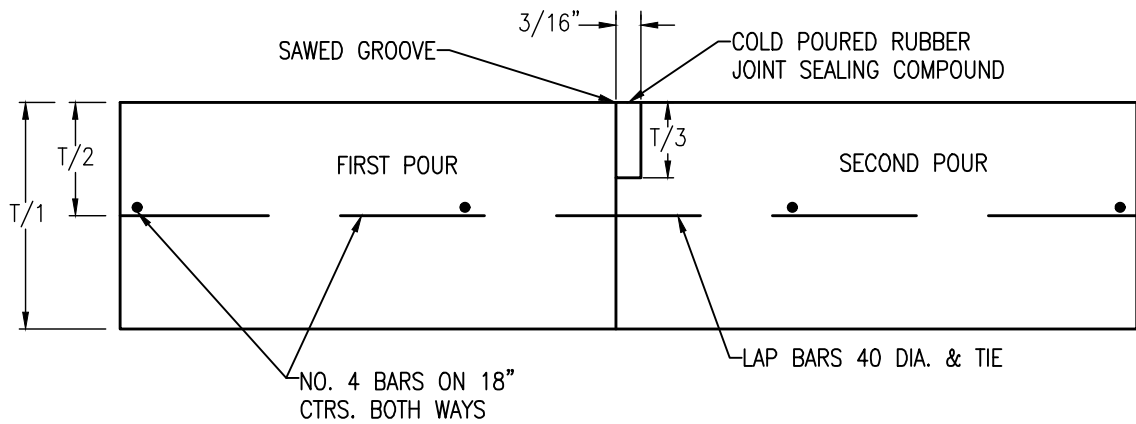
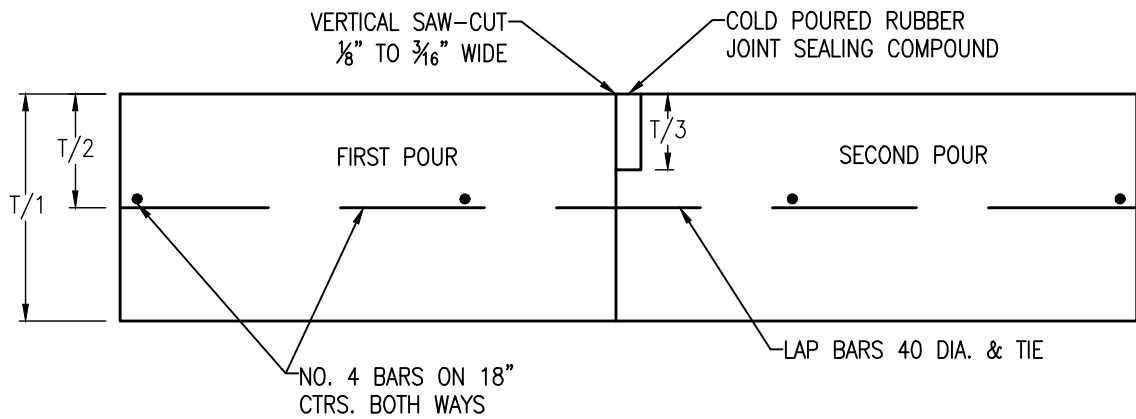


### EXPANSION JOINT

NOT TO EXCEED 300' ALONG PAVEMENT CENTERLINE



### CONSTRUCTION JOINT



### SAWED CONTRACTION JOINT

NOTE: T= PAVEMENT THICKNESS

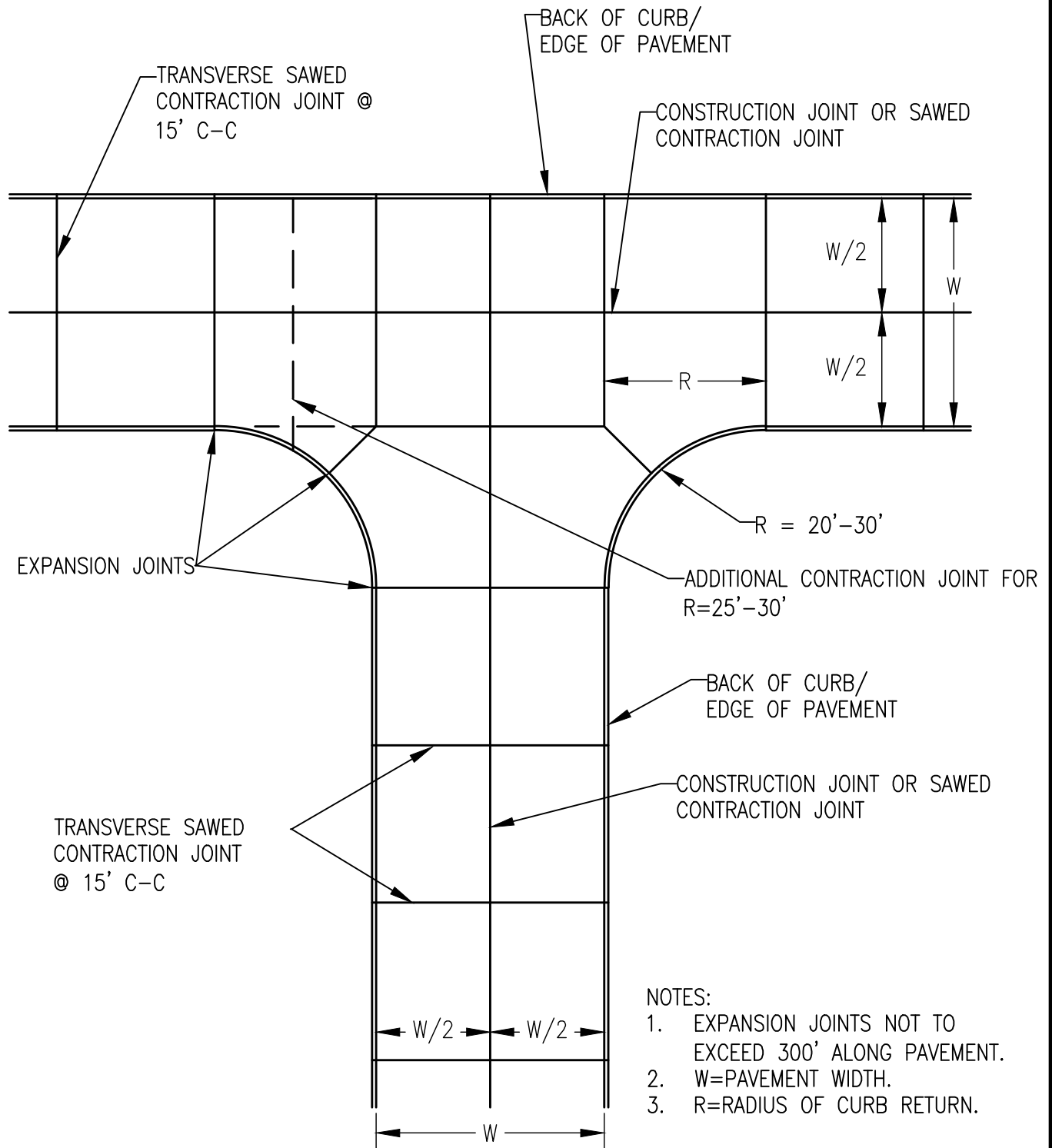
SEPTEMBER 2022



TOWN OF WESTLAKE  
1500 SOLANA BOULEVARD  
BLDG. 7, SUITE 7200  
WESTLAKE, TEXAS 76262

CONC. PAVE.  
JOINT DETAIL  
WPD-01

# CONCRETE PAVEMENT JOINT SPACING



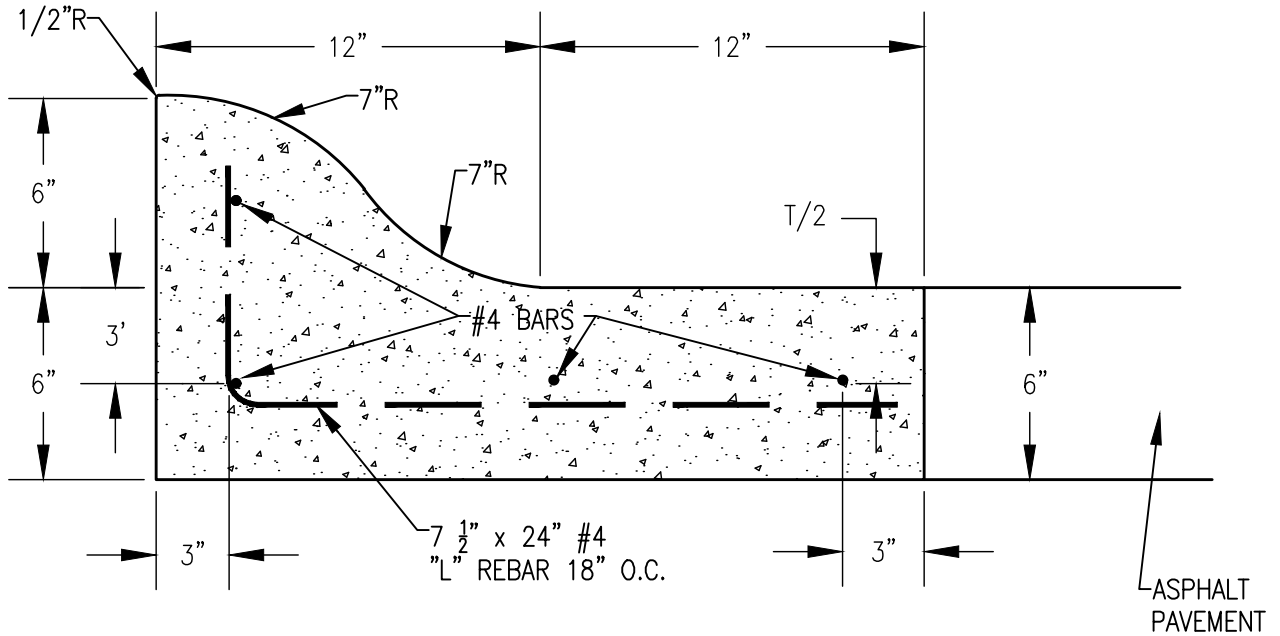
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CONCRETE  
 PAVEMENT  
 JOINT SPACING  
 WDP-02

# MOUNTABLE CONCRETE CURB & GUTTER ASPHALT STREET



**NOTES:**

1. CONCRETE SHALL BE CLASS "A"

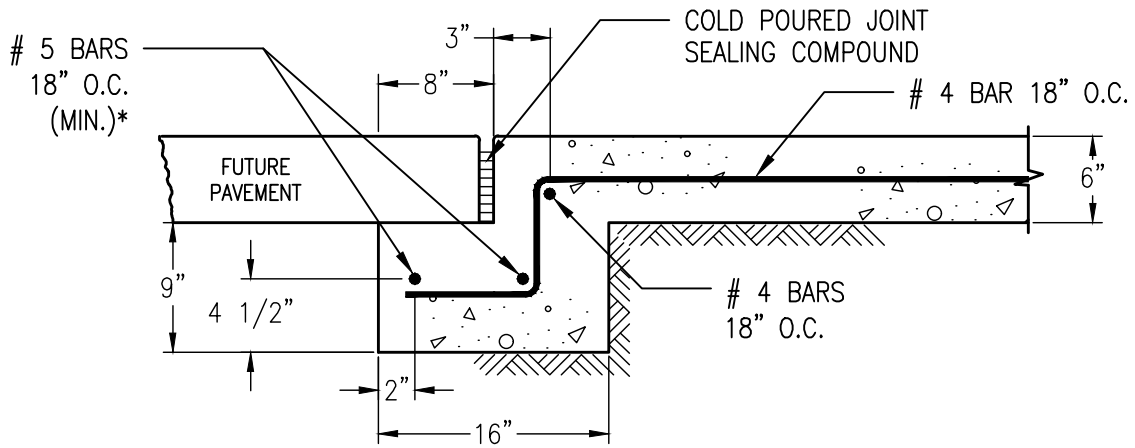
SEPTEMBER 2022



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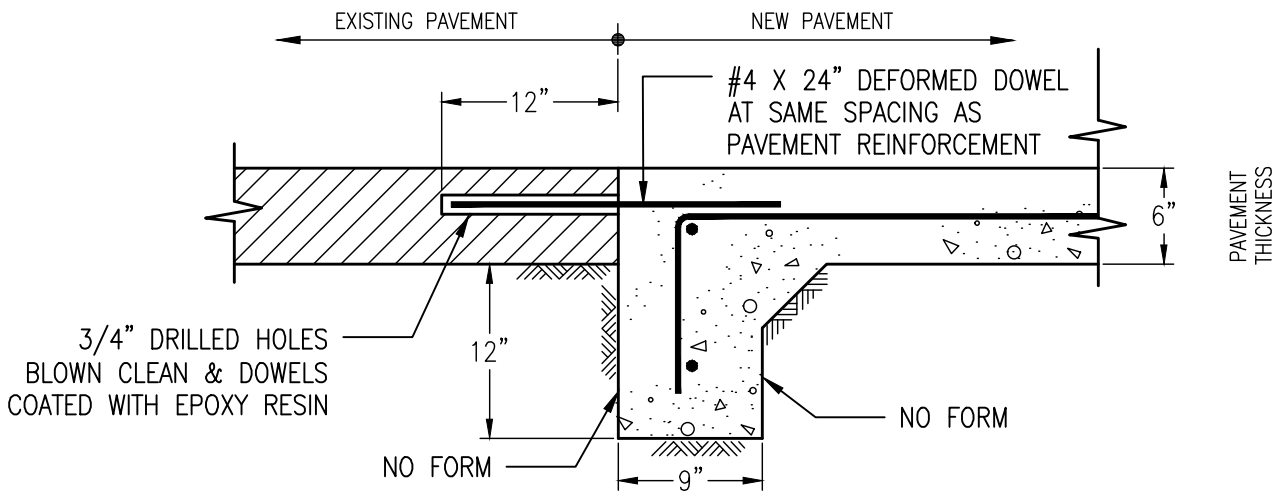
CONCRETE  
CURB AND  
GUTTER  
WPD-03





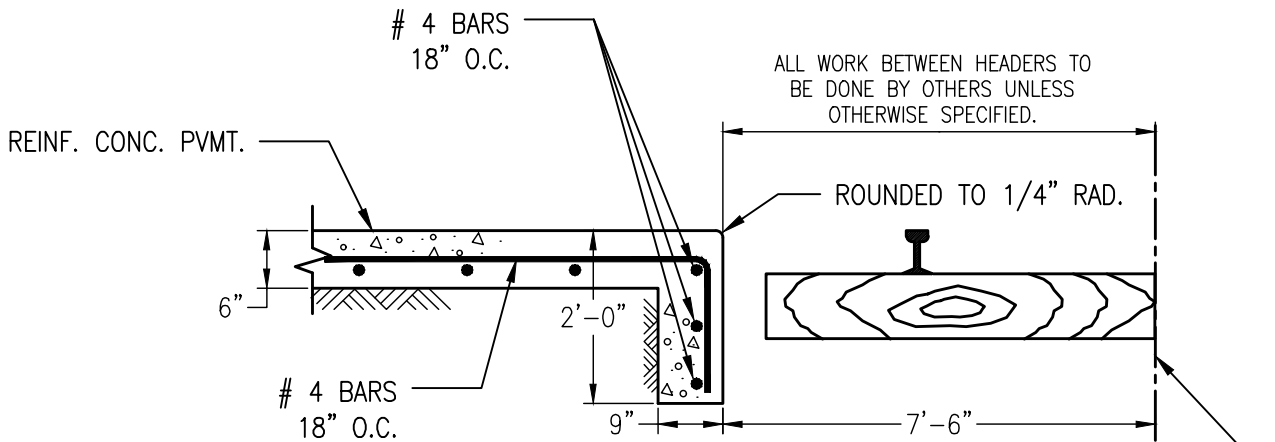
**STREET HEADER FOR FUTURE PAVEMENT**

N.T.S.



**STREET HEADER AT EXISTING PAVEMENT**

N.T.S.



**STREET HEADER AT RAILROAD**

N.T.S.

SYMETRICAL ABOUT CENTER LINE

**NOTES:**

1. PAVEMENT BARS TO BE BENT DOWN INTO HEADER.
2. HEADER AND PAVEMENT TO BE MONOLITHIC.
3. REINFORCING STEEL TO BE DETERMINED BY RECOMMENDATION OF GEOTECHNICAL ENGINEER PROVIDED BY DEVELOPER

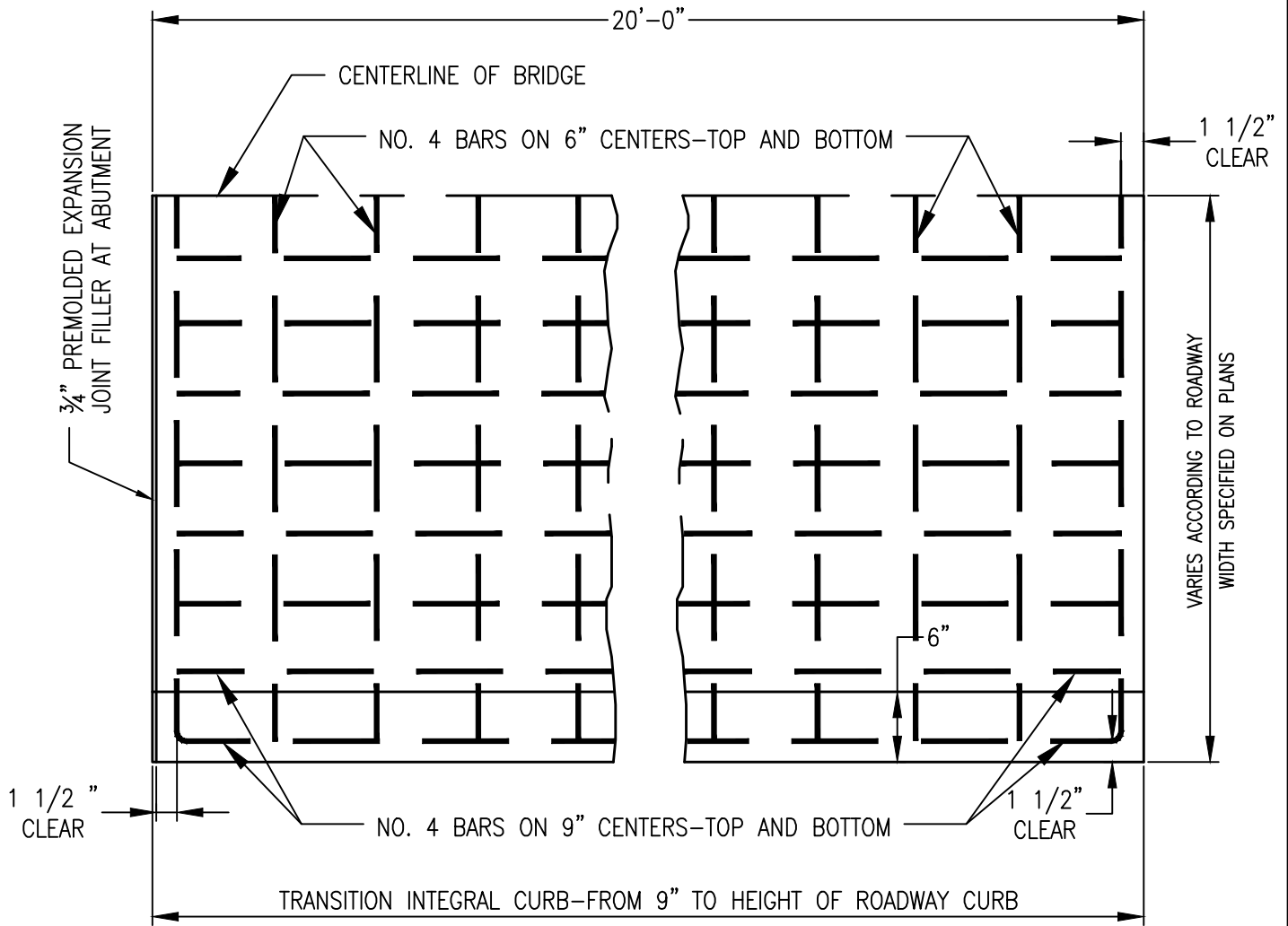
SEPTEMBER 2022



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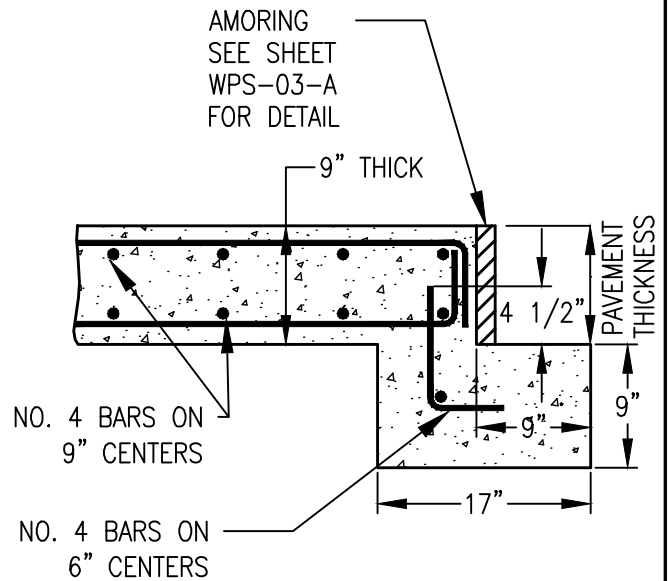
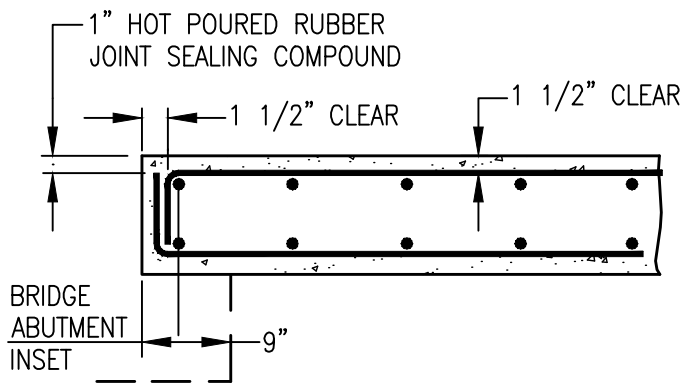
REINFORCED  
CONCRETE  
PAVEMENT  
WPD-04

# BRIDGE APPROACH SLAB



## PLAN

N.T.S.



## SECTION

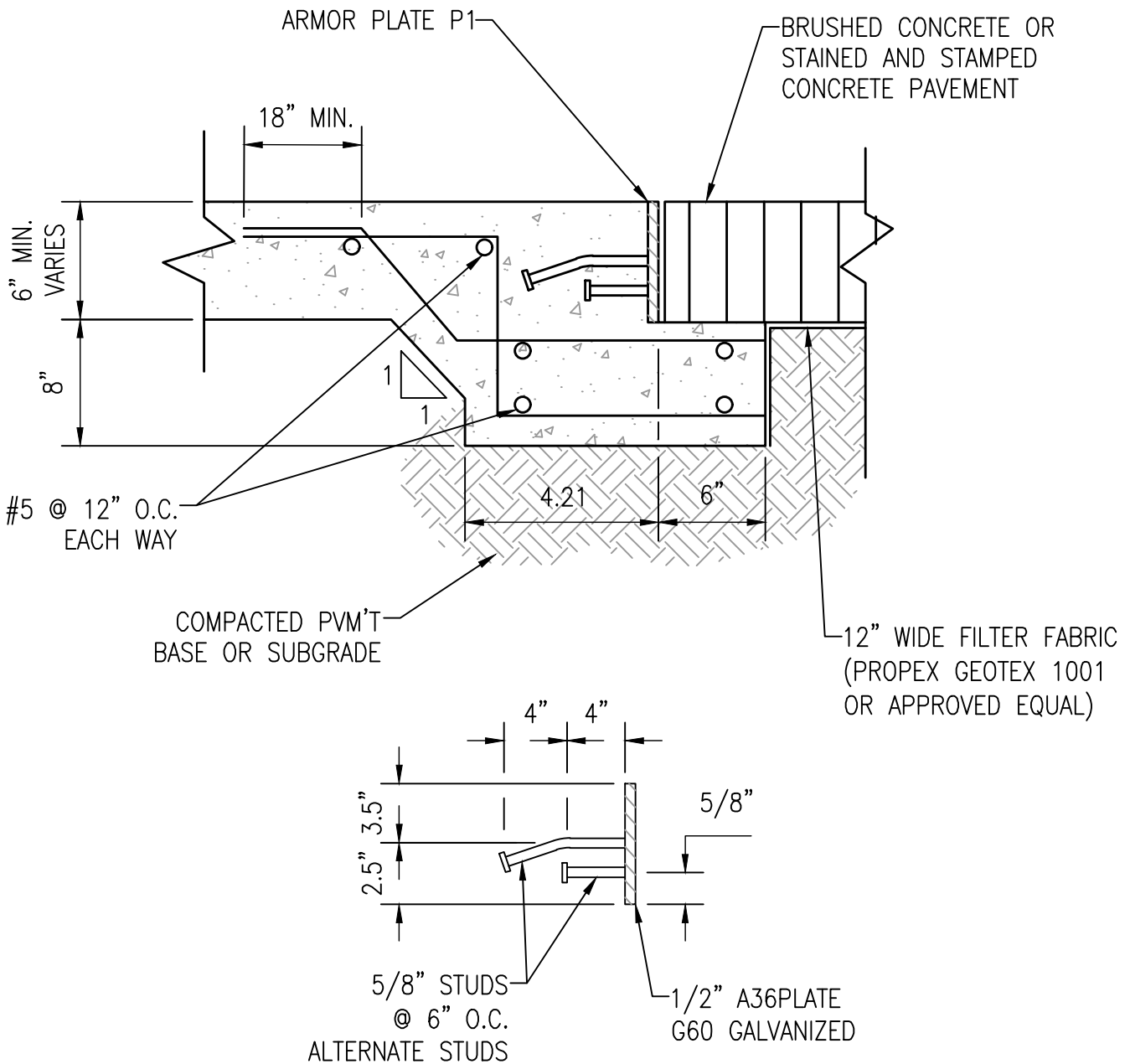
N.T.S.

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REINFORCED  
CONCRETE  
PAVEMENT  
WPD-05



GENERAL NOTES:

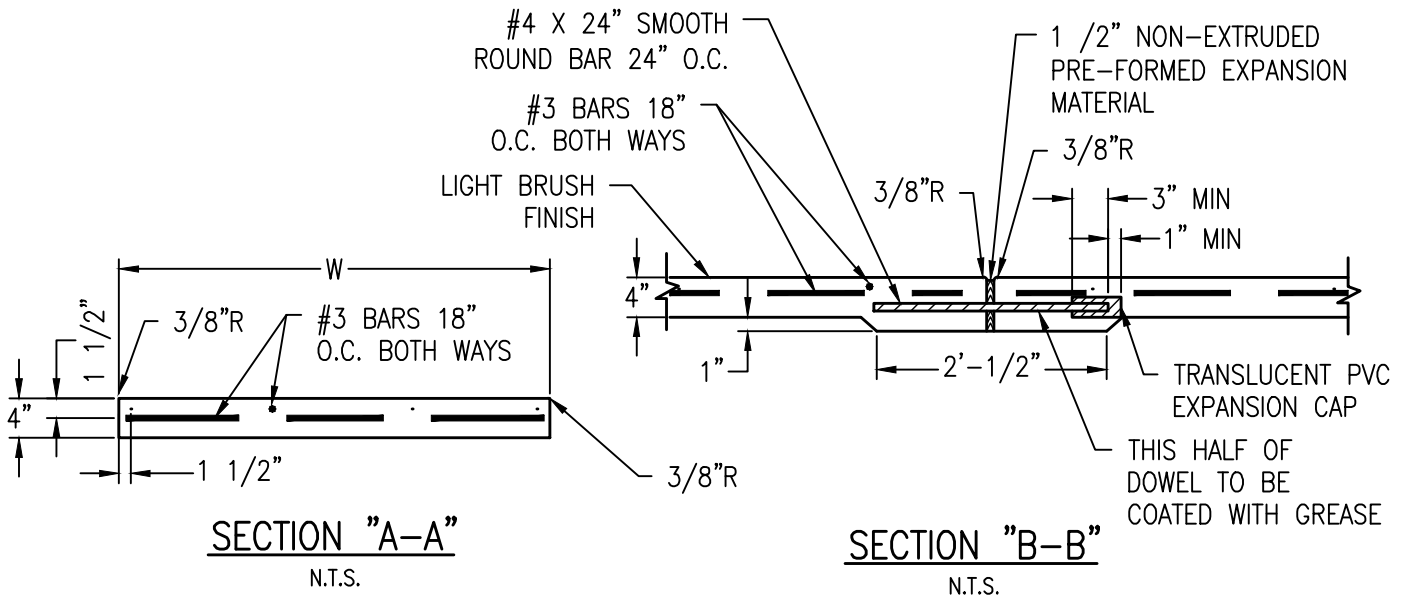
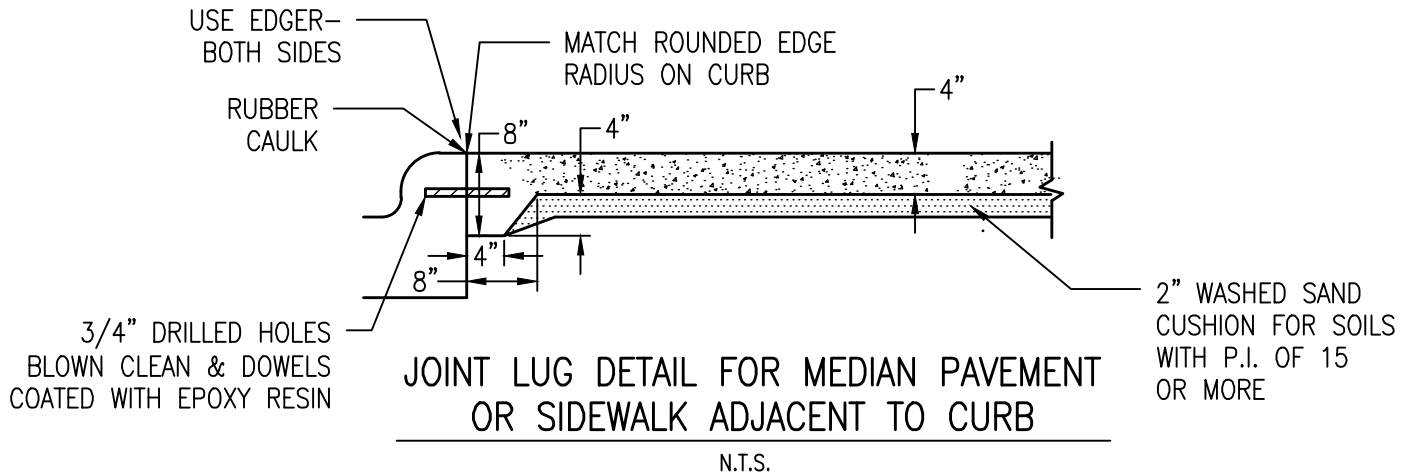
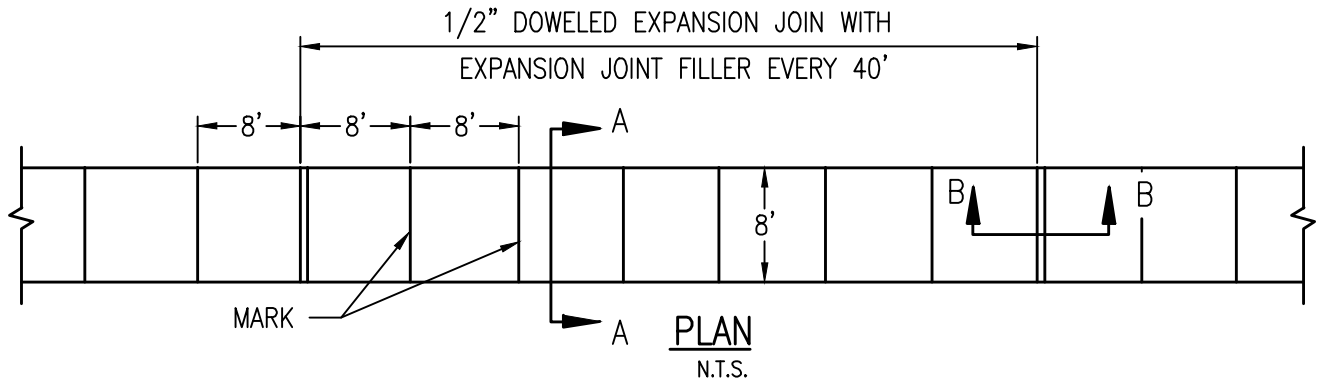
1. CONCRETE  $f'_c=4000$  PSI AT 28 DAYS.
2. PROVIDE 48" x BAR DIAMETER MIN. LAP SPLICE LENGTH.
3. ALL REINFORCING STEEL BE GRADE 60, UNLESS OTHERWISE SPECIFIED
4. PROVIDE 1.5" REINFORCEMENT CLEAR COVER U.N.O.

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 WESTLAKE, TEXAS 76262

AMORING JOINT  
 DETAIL  
 WPD-06



NOTE:

1. CROSS SLOPE OF SIDEWALK SHALL BE 2% MAX.
2. OTHER THAN 8' SIDEWALK WIDTH MAY BE SPECIFIED BY OWNER.
3. SIDEWALK SHALL BE CLASS "A" CONCRETE UNLESS OTHERWISE SPECIFIED BY OWNER.
4. ALL HONEYCOMB IN BACK OF CURB TO BE TROWEL-PLASTERED BEFORE POURING SIDEWALK.
5. LUG MAY BE FORMED BY SHAPING SUBGRADE TO APPROXIMATE DIMENSIONS SHOWN.

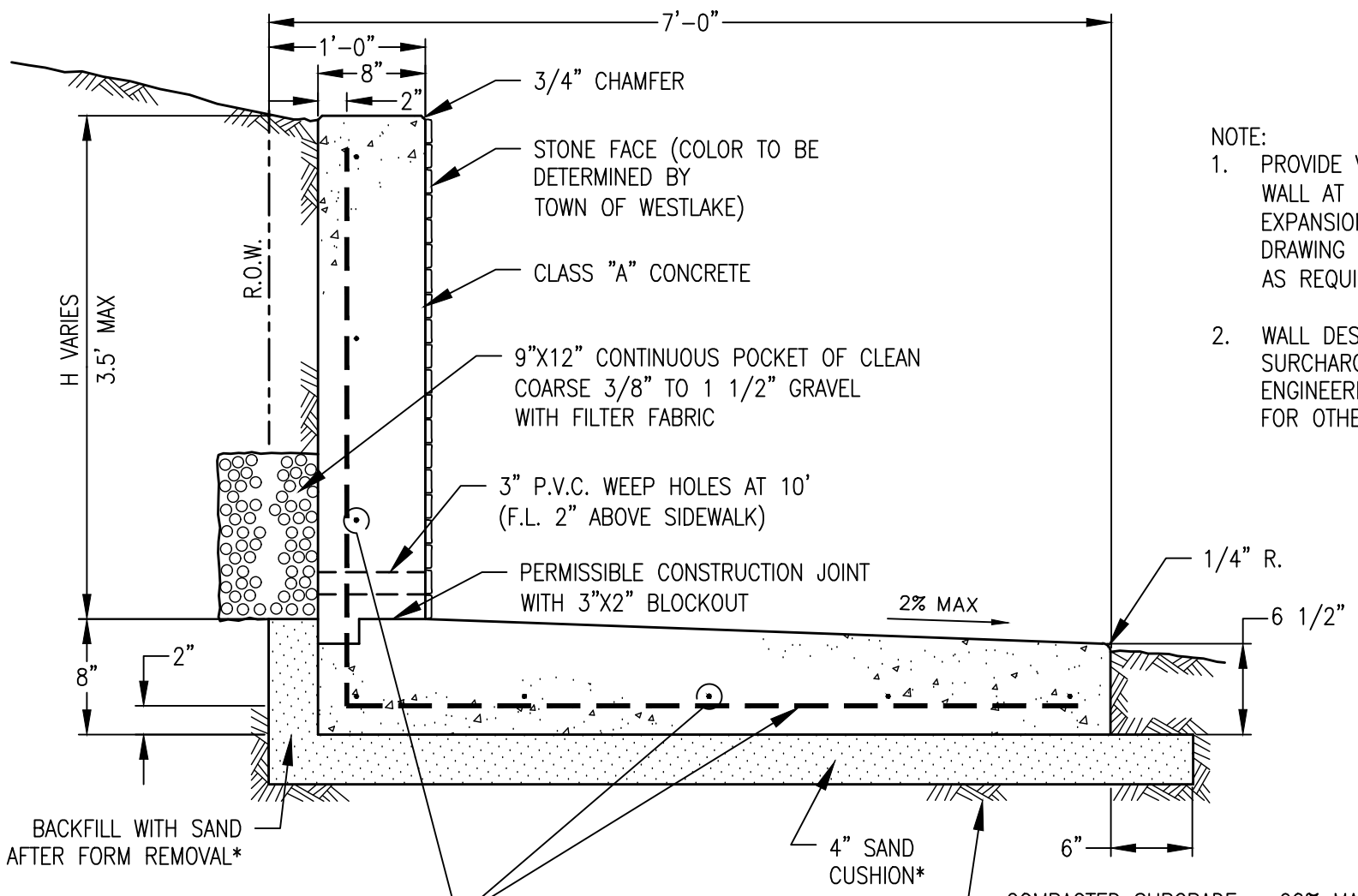
SEPTEMBER 2022



TOWN OF WESTLAKE  
1500 SOLANA BOULEVARD  
BLDG. 7, SUITE 7200  
WESTLAKE, TEXAS 76262

REINFORCED  
CONCRETE  
SIDEWALKS  
WPS-01





- NOTE:
1. PROVIDE VERTICAL EXPANSION IN WALL AT 25' MAX. SPACING (USE EXPANSION JOINT, STANDARD DRAWING NO. 2050, AND MODIFY AS REQUIRED)
  2. WALL DESIGN ASSUMES NO SURCHARGE. A SPECIAL ENGINEERING ANALYSIS IS REQUIRED FOR OTHER CONDITIONS.

#4 BARS AT 12" CNTRS. BOTH WAYS (USE #4 BENT BARS WHERE H EXCEEDS 3')

**RETAINING WALL WITH INTEGRAL SIDEWALK**

N.T.S.

\* WHEN SPECIFIED ON PLANS WITH P.I. 15 OR MORE

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TOWN OF WESTLAKE  
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REINF. CONC. RETAINING WALL  
WPS-02

GENERAL NOTES:

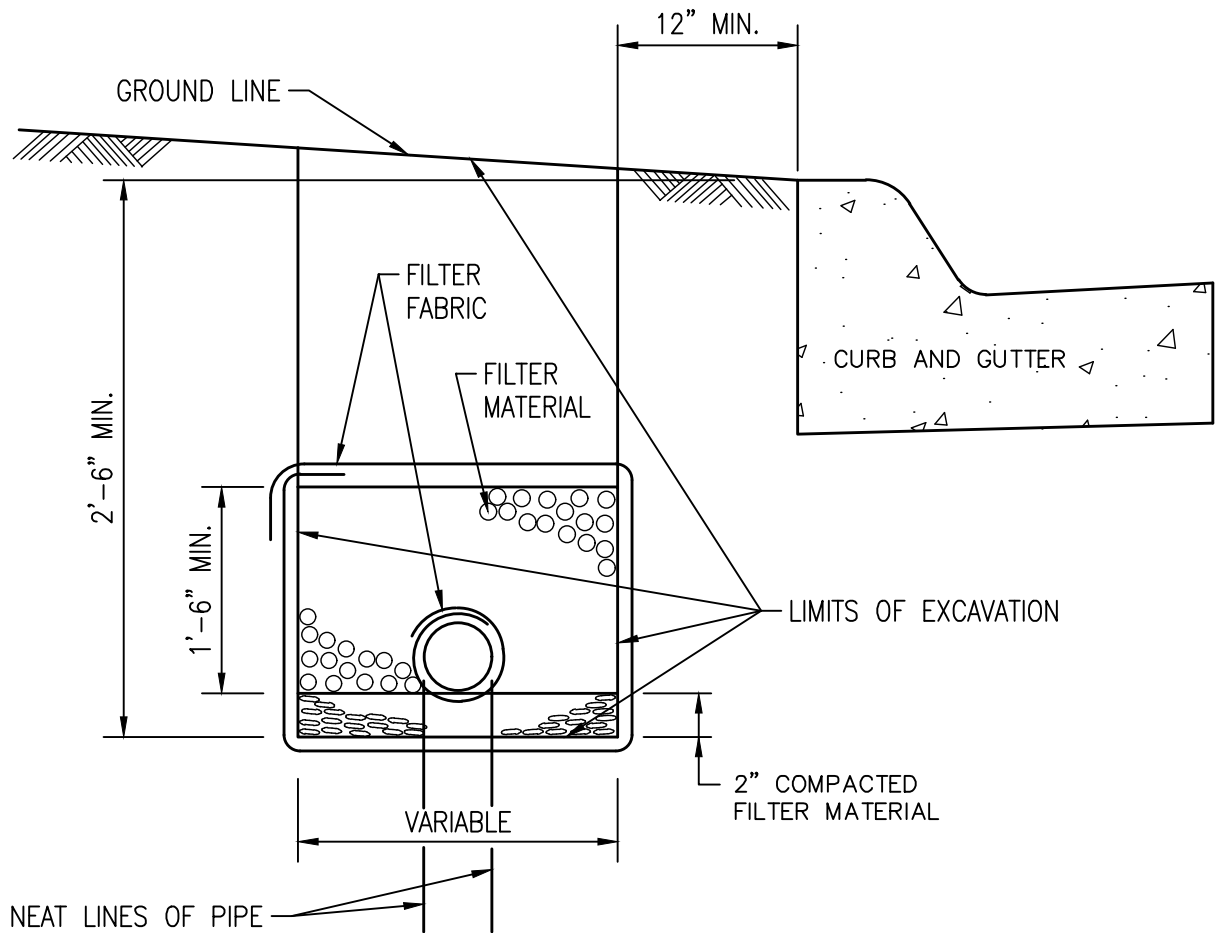
1. ALL CONSTRUCTION MATERIALS, METHODS, AND PLACEMENT NOT DETAILED SHALL MEET OR EXCEED THE STANDARD SPECIFICATIONS OF THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, LATEST EDITION UNLESS SUPERSEDED BY TOWN OF WESTLAKE STANDARDS OR TESTING POLICIES.
2. ALL CONCRETE FOR PAVING SHALL BE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 AT 28 DAYS.
3. REINFORCED CONCRETE PAVEMENT:
  - A. ALL CURBS SHALL BE PLACED INTEGRAL WITH PAVEMENT UNLESS OTHERWISE APPROVED BY THE OWNER.
  - B. CURBS SHALL MEET THE SAME COMPRESSIVE STRENGTH AS SPECIFIED FOR THE PAVEMENT.
  - C. BAR LAPS SHALL BE 30 DIAMETERS.
  - D. REINFORCING BARS SHALL BE SUPPORTED BY CHAIRS OR OTHER DEVICES APPROVED BY THE OWNER.
4. SUBGRADE: (UNLESS OTHERWISE SPECIFIED BY OWNER)
  - A. SUBGRADE UNDER ALL PAVEMENTS SHALL BE STABILIZED TO A MINIMUM DEPTH OF 8" WITH HYDRATED LIME OR CEMENT WHEN THE P.I. OF THE INPLACE MATERIAL IS GREATER THAN 15. LABORATORY TESTS MUST BE PERFORMED TO DETERMINE THE AMOUNT OF LIME OR CEMENT REQUIRED TO LOWER THE P.I. TO 15 OR BELOW. SATURATION P.I. (PH > 12.4) WILL BE THE LIMIT WHEN A SOIL'S P.I. CANNOT BE BROUGHT TO 15 OR LOWER.
  - B. WHERE THE INPLACE MATERIAL HAS A P.I. OF LESS THAN 15, THE SUBGRADE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 8" AND RECOMPACTED.
5. IF THE ROADWAY IS A DESIGNATED BIKE ROUTE OR BIKE USAGE IS ANTICIPATED, REFER TO NCTCOG'S REGIONAL BICYCLE AND PEDESTRIAN FACILITIES DESIGN MANUAL FOR DESIGN GUIDANCE.

SEPTEMBER 2022



TOWN OF WESTLAKE  
1500 SOLANA BOULEVARD  
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PAVEMENT  
SYSTEMS  
WPS-03



**SECTION**  
N.T.S.

**LIMITS OF EXCAVATION**

DEPTH OF TRENCH (FT.)	DIST. IN FT. OUTSIDE NEAT LINES OF PIPE SUBDRAIN
0 TO 6	1.00
6 TO 10	1.50
10 TO 15	2.00
OVER 15	2.50

**FILTER MATERIAL SPECIFICATIONS**

SIEVE SIZE	PERCENTAGE RETAINED ON SIEVE	
	TYPE A	TYPE B
1 1/2	---	0 - 10
3/4	0 - 10	20 - 40
3/8	15 - 35	---
NO. 4	35 - 55	40 - 60

**TYPES OF PIPE ACCEPTABLE FOR USE AS SUBDRAIN**

1. PERFORATED 6" SCHEDULE 40 PVC PIPE.
2. PERFORATED 6" POLYETHYLENE PIPE.

**MATERIAL FINER THAN NO. 4 SIEVE**

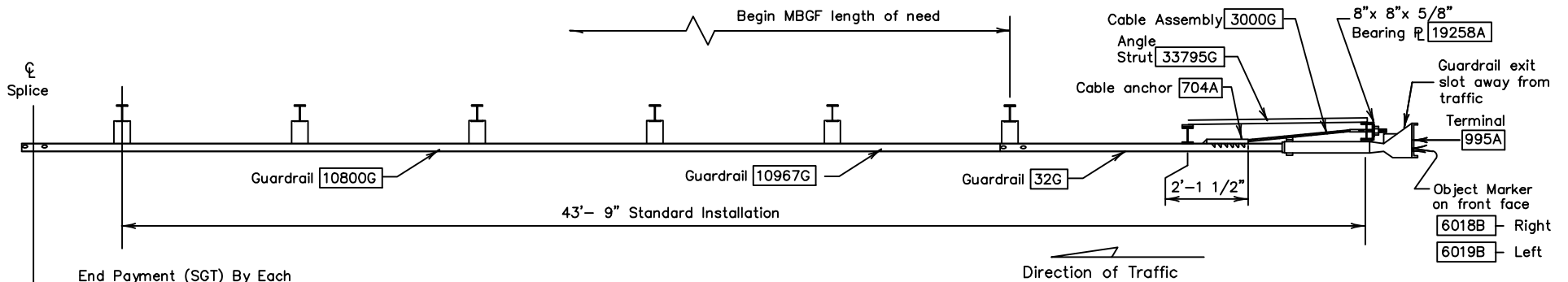
4	---
20	35 - 65
50	75 - 100

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WESTLAKE, TEXAS 76262

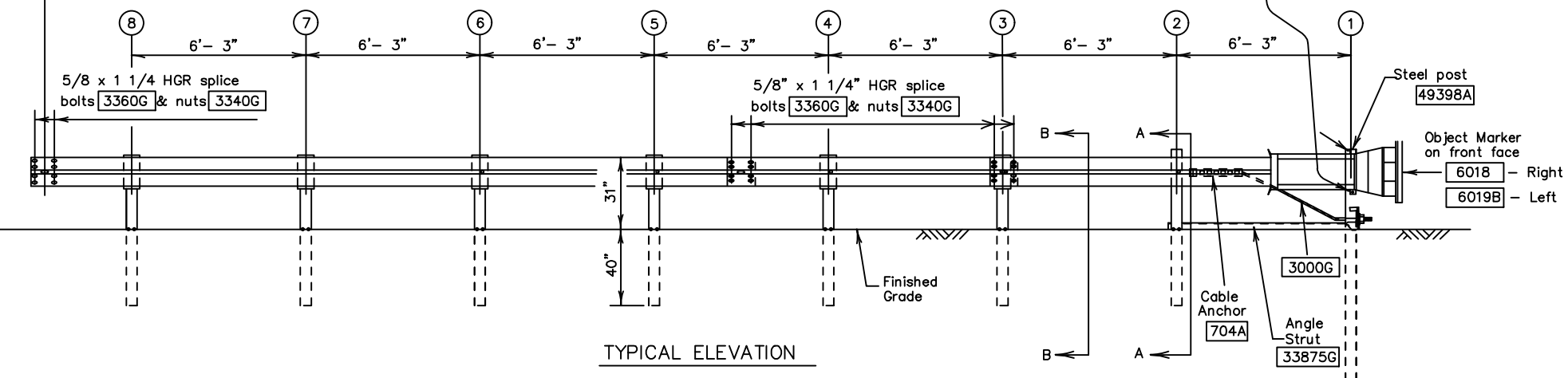
PAVEMENT  
SUBGRADE  
SUBDRAIN  
WPS-04



PLAN

Note:  
Do not attach rail to post (1).  
This applies to this "steel" post design.

3/8" x 1 1/2" Hex Hd Bolt 4261G  
w/washer 4254G, Hex Nut 6405G  
& fender washer 4255G (place fender  
washer at inside post flange)



TYPICAL ELEVATION

- NOTE:
- 1) ALL GALVANIZED STEEL, GUARDRAIL, POSTS, HARDWARE ETC. SHALL BE POWDER COATED CORTEN COLOR.
  - 2) USE MOST CURRENT STANDARD DETAILS PROVIDED BY TXDOT.

SEPTEMBER 2022



TOWN OF WESTLAKE  
1500 SOLANA BOULEVARD  
BLDG. 7, SUITE 7200  
WESTLAKE, TEXAS 76262

METAL BEAM  
GUARD FENCE  
WPS-5.1

## GENERAL NOTES

1. All bolts, nuts, cable assemblies, cable anchors, steel tubes & bearing plates shall be galvanized.
2. SGT's placed within the "minimum" 150 ft. radius, shall be installed straight.  
Standard rail elements may be installed within the radius, without special fabrication.
3. A flare rate of 25:1 may be used to prevent the terminal head from encroaching on the shoulder.  
The flare may be decreased or eliminated for specific installations, if directed by the Engineer.
4. If solid rock is encountered. See the manufacturer's installation manual for the proper installation guidance.
5. The breakaway cable assembly must be taut. A locking device,(vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening the nuts.
6. Hinge bolts shall not be set below finished grade. At curb locations the posts shall be installed at the proper ground elevation behind the curb. The posts will then require field drilling new holes to accommodate the rail to post connection bolt to maintain the proper height of the rail above the gutter pan. The excess post length above the rail will be removed as directed by the Engineer.
7. An object marker shall be installed on the front of the impact head as detailed on D&OM(VIA).
8. A special site evaluation should be considered, prior to using this end treatment where there is less than 25 feet between the extrusion side of the end treatment and any adjacent driving lane.
9. Composite blocks are an approved alternative to wood blocks.
10. All galvanized steel, guardrail, posts, hardware, etc., shall be powder coated Corten color.
11. Use most current details provided by TXDOT.

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TOWN OF WESTLAKE  
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WESTLAKE, TEXAS 76262

METAL BEAM  
GUARD FENCE  
WPS-5.2

HARDWARE		
3340G	31	5/8" Hex Nut
3360G	25	5/8" x 1 1/4" HGR Splice Bolt
3500G	6	5/8" x 10" Post Bolt
3701G	2	3/4" Flat Washer
3704G	2	3/4" Hex Nut
3717G	2	3/4" x 2 1/2" Hex HD Bolt (A325) ~ Post ①
3900G	2	1" Flat Washer
3910G	2	1" Hex Nut
4254G	4	3/8" Flat Washer
4255G	2	3/8" Fender Washer (1 1/2" OD)
4258G	2	3/8" Lockwasher
4261G	2	3/8" x 1 1/2" Hex HD Bolt (Grade 5)
4389G	2	7/16" Flat Washer
4390G	2	7/16" x 1 1/2" Hex HD Bolt ~ Post ②
4393G	2	7/16" Lockwasher
4396G	2	7/16" Hex Nut
4699G	2	3/4" Lockwasher
6321G	2	3/8" x 2" Hex HD Bolt (Grade 5) ~ Post ①
6405G	4	3/8" Hex Nut
19948G	2	Plate Washer ~ Post ②

BILL OF MATERIAL		
ITEM #	QTY	DESCRIPTION
32G	1	Guardrail (12 Ga) at 12' - 6"
10967G	1	Guardrail (12 Ga) at 9' - 4 1/2"
10800G	1	Guardrail (12 Ga) at 25' - 0"
49398A	1	HBA Steel Post - Post ① Top
33873A	1	HBA Steel Post - Post ① Bottom
15000G	7	SYT Steel Post - Posts ② thru ⑧
33795G	1	Angle Strut (ET/SYT/HBA)
4076B	6	Block - 14"x 6"x 8"
19258A	1	Bearing Plate - 8"x 8"x 5/8"
704A	1	Cable Anchor
3000G	1	Cable Assembly (3/4"x 78")
995A	1	ET Plus Extruder
6018B	1	Right - Object Marker
6019B	1	Left - Object Marker

NOTE:

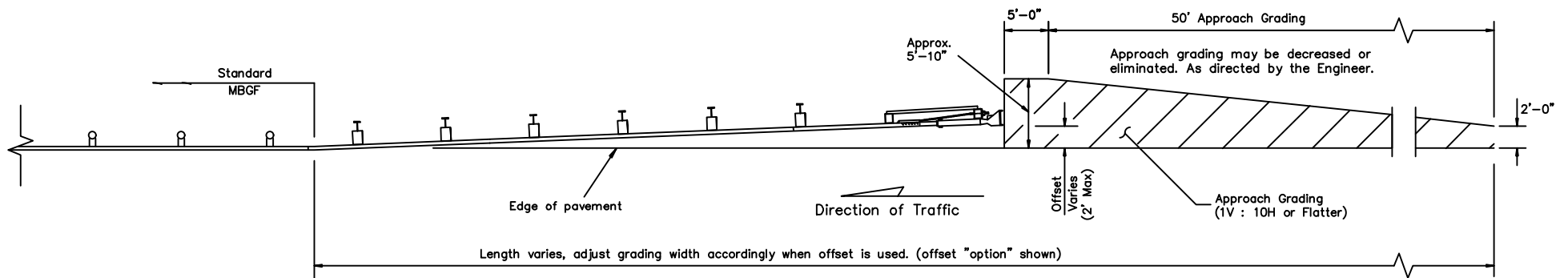
- 1) ALL GALVANIZED STEEL, GUARDRAIL, POSTS, HARDWARE ETC. SHALL BE POWDER COATED CORTEN COLOR.
- 2) USE MOST CURRENT STANDARD DETAILS PROVIDED BY TXDOT.

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METAL BEAM  
GUARD FENCE  
WPS-5.3



**Note: Site Condition(s)**

Site conditions may exist where grading is required for the proper installation of metal guard fence and end treatments.

APPROACH GRADING AT GUARDRAIL END TREATMENTS

**NOTE:**

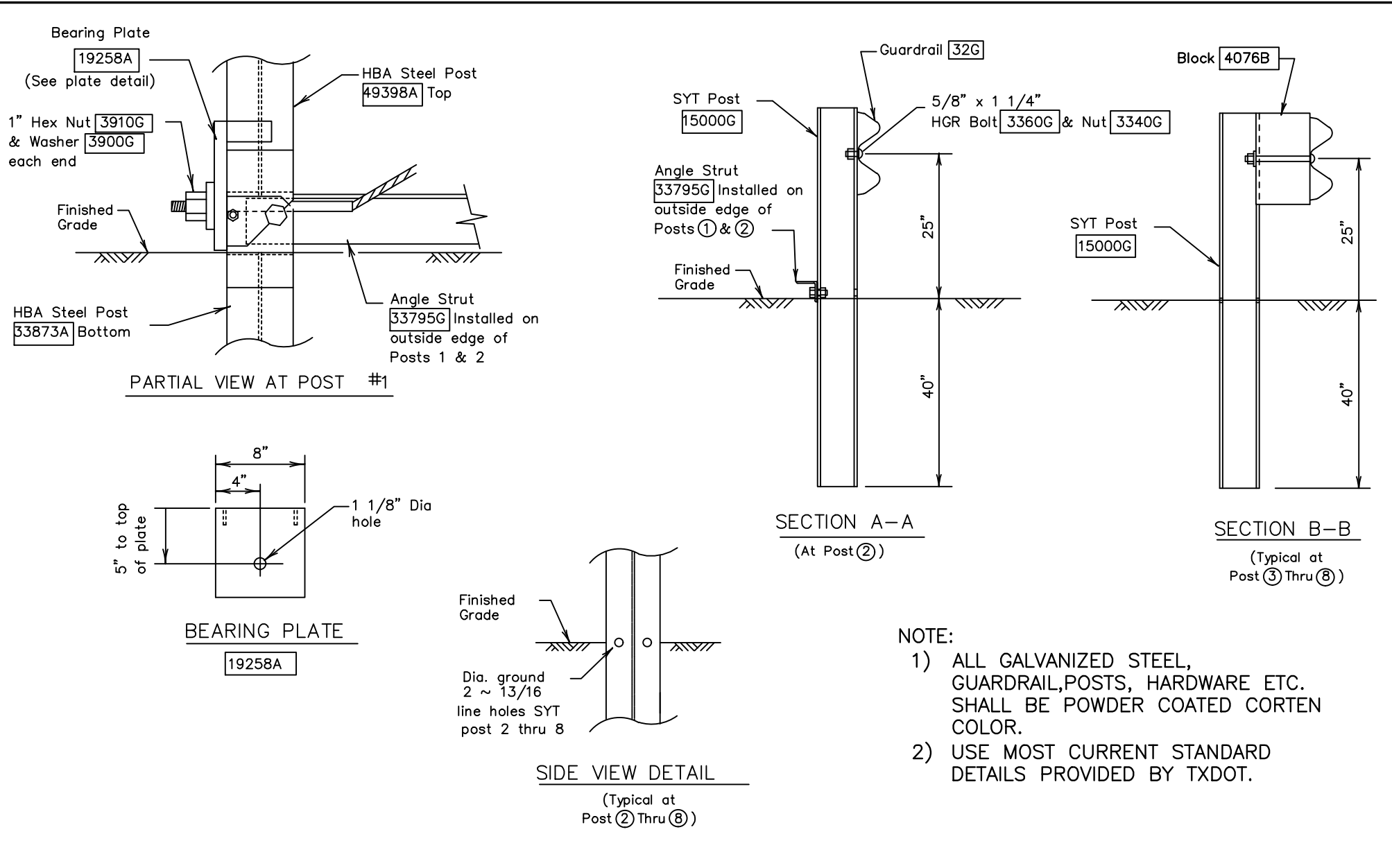
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- 2) USE MOST CURRENT STANDARD DETAILS PROVIDED BY TXDOT.

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METAL BEAM  
GUARD FENCE  
WPS-5.4



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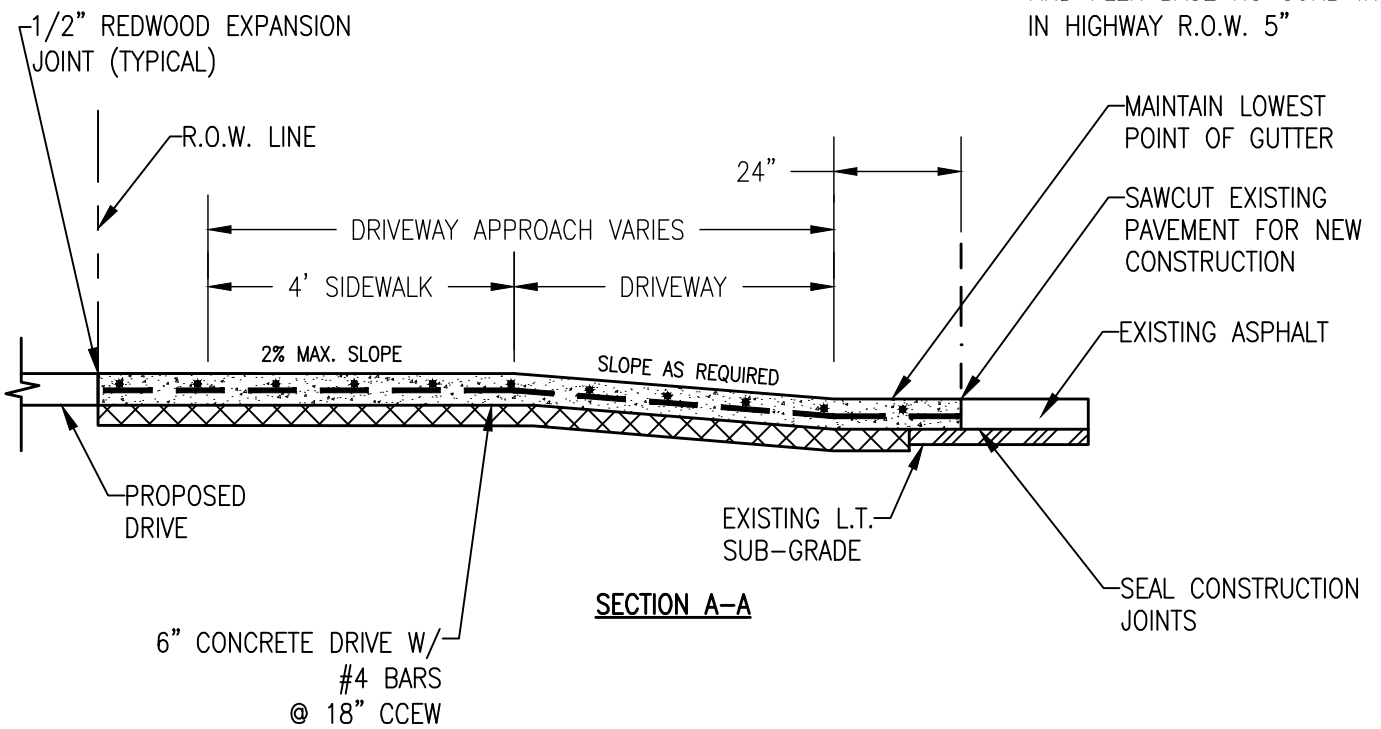
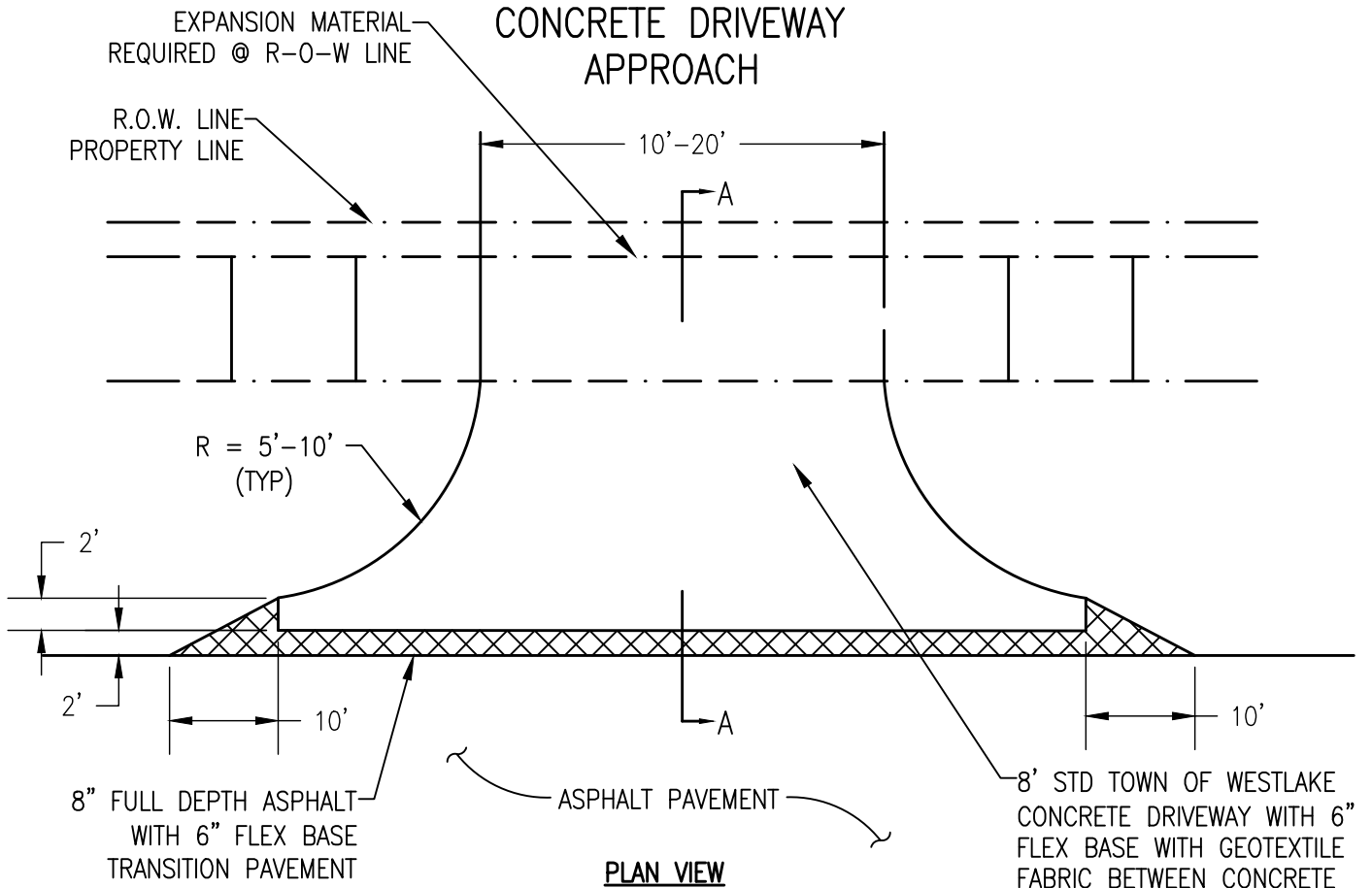


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METAL BEAM  
GUARD FENCE  
WPS-5.5



# RESIDENTIAL CONCRETE DRIVEWAY APPROACH



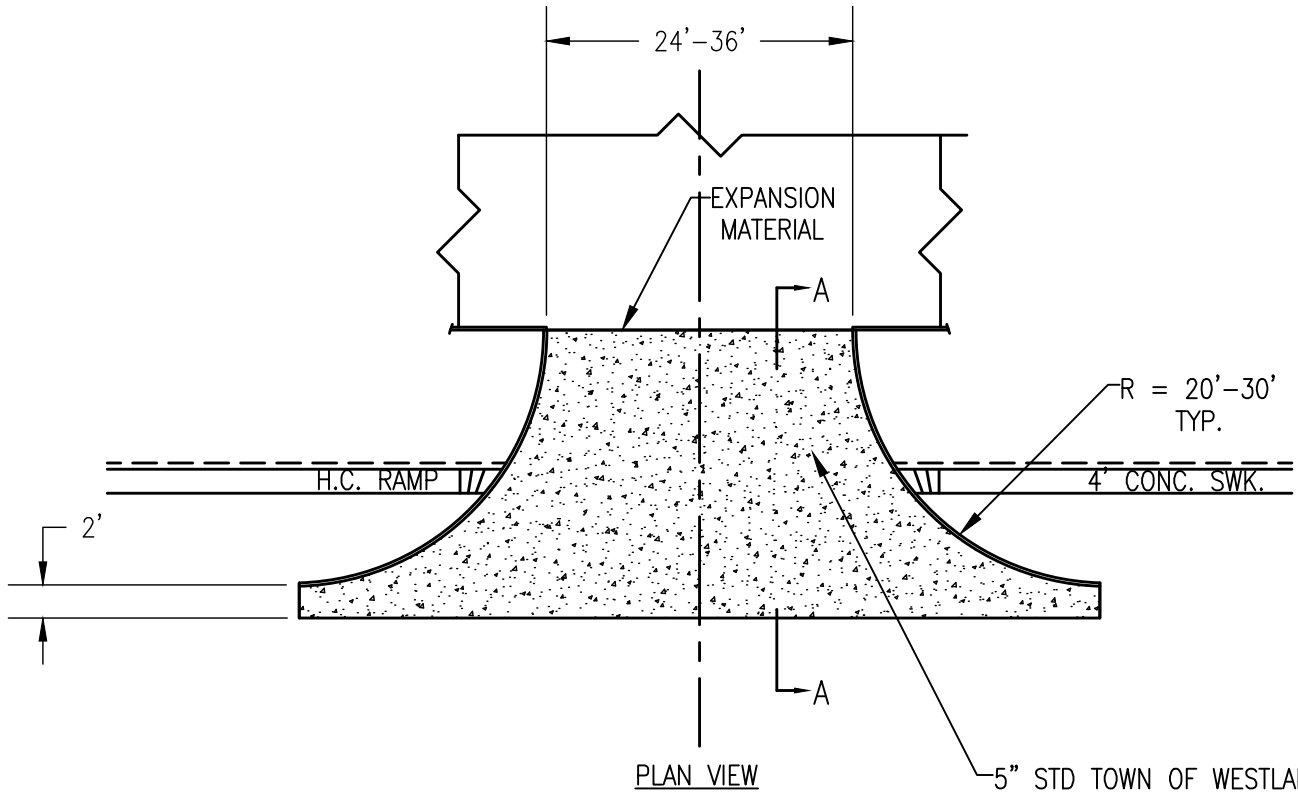
SEPTEMBER 2022



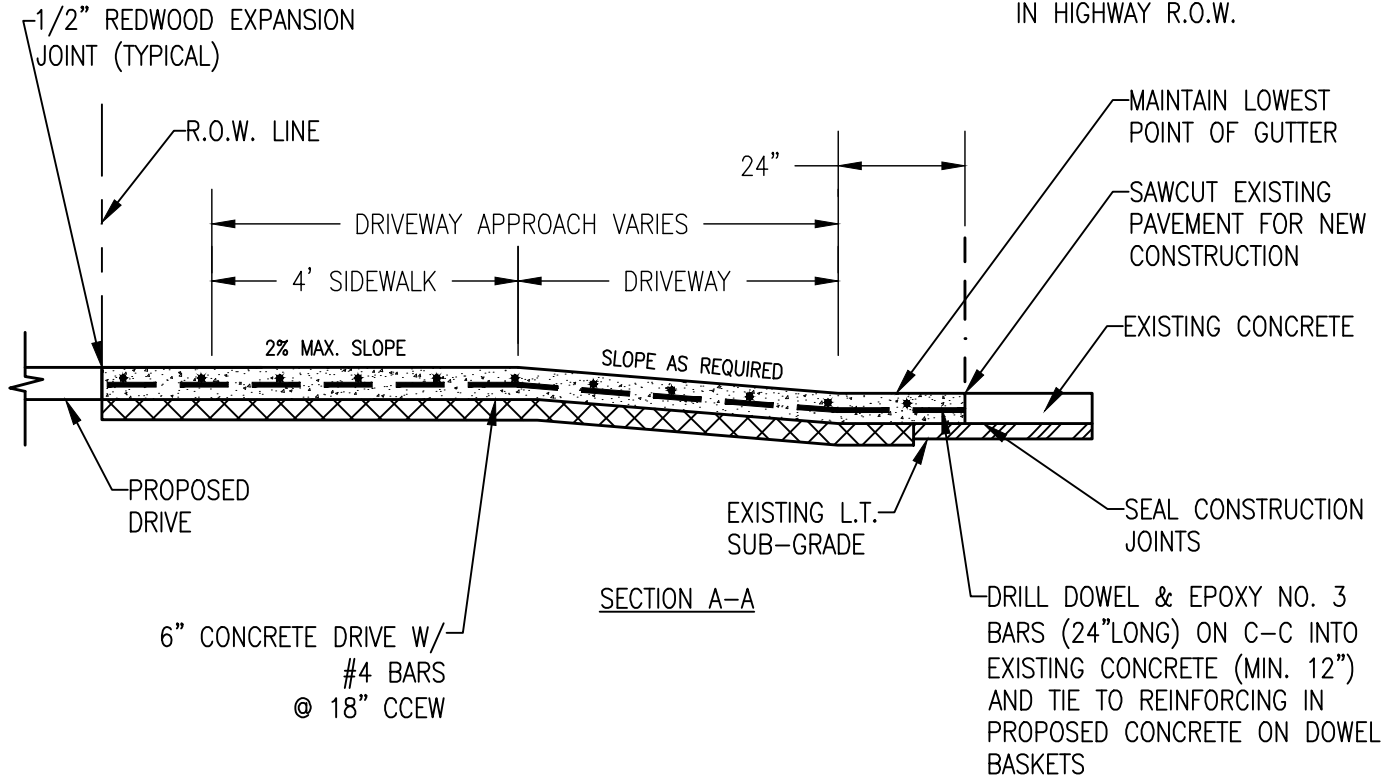
TOWN OF WESTLAKE  
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RESIDENTIAL  
DRIVEWAY  
APPROACH  
WST-01

# COMMERCIAL CONCRETE DRIVEWAY



5" STD TOWN OF WESTLAKE CONCRETE DRIVEWAY WITH FLEX BASE WITH GEOTEXTILE FABRIC BETWEEN CONCRETE AND FLEX BASE NO CURB IN IN HIGHWAY R.O.W.



SEPTEMBER 2022



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COMMERCIAL  
CONCRETE  
DRIVEWAY  
WST-02