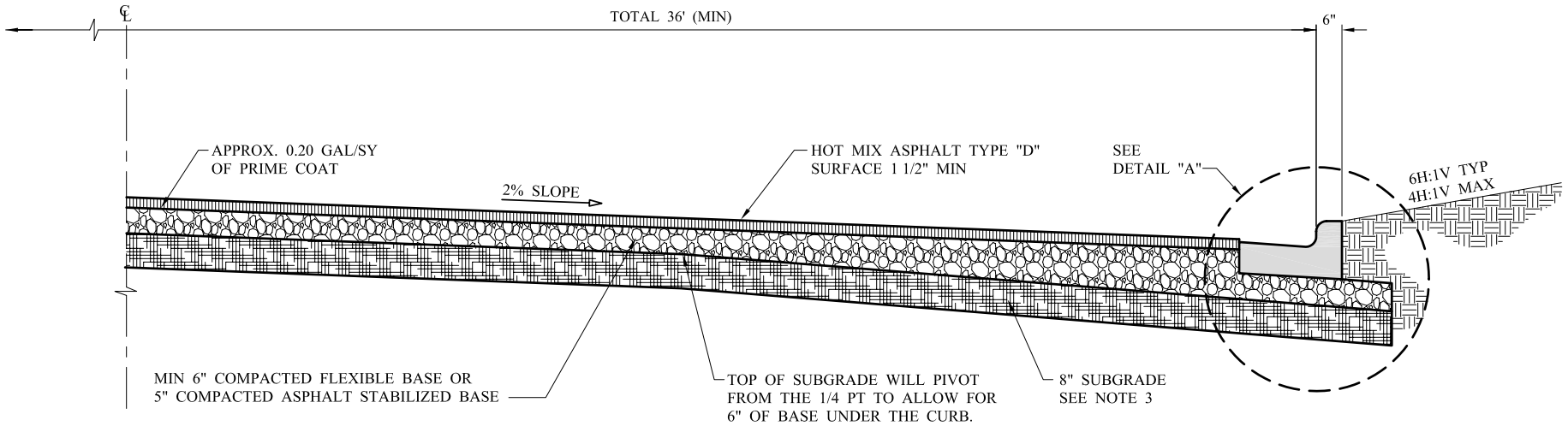
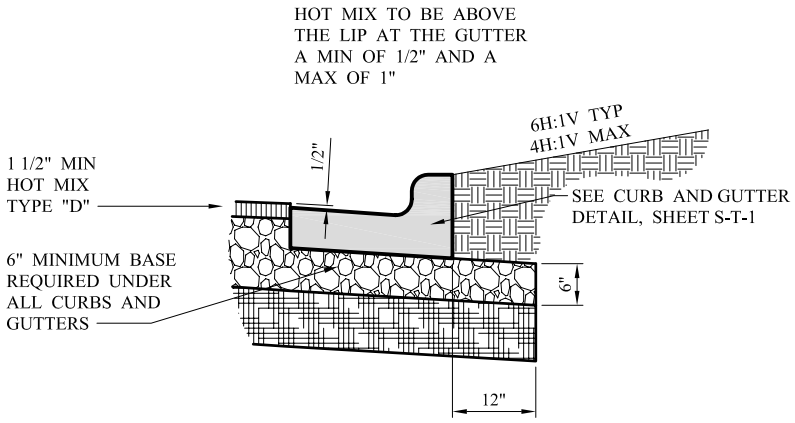


TYPICAL SECTION

NOT TO SCALE



DETAIL "A"

NOTES:

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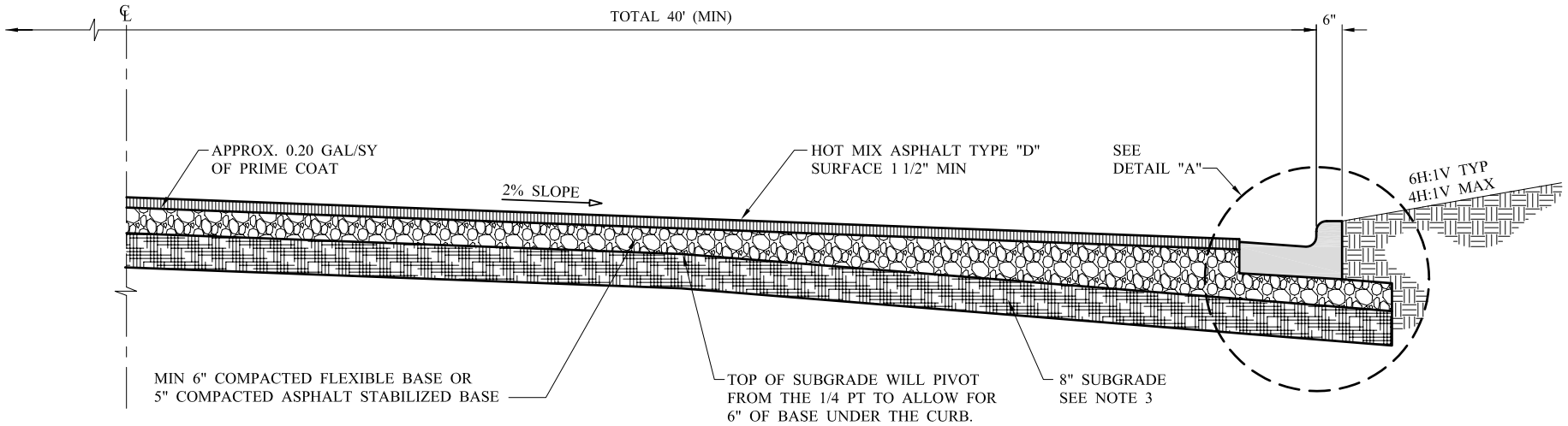
2. IT IS THE GOAL OF THE CITY TO DESIGN AND CONSTRUCT A STREET SYSTEM THAT WILL HAVE A LIFE EXPECTANCY OF TWENTY YEARS WITH NORMAL MAINTENANCE. STREETS THAT ARE CONSTRUCTED IN INDUSTRIAL AREAS WHERE HEAVY LOADS ARE EXPECTED WILL REQUIRE INDIVIDUAL DESIGN PROCESSES.

3. 8" ENGINEERED SUBGRADE. IF STABILIZATION IS REQUIRED, THE RATE WILL BE DETERMINED ACCORDING TO TEST RESULTS.

CITY OF SAN ANGELO

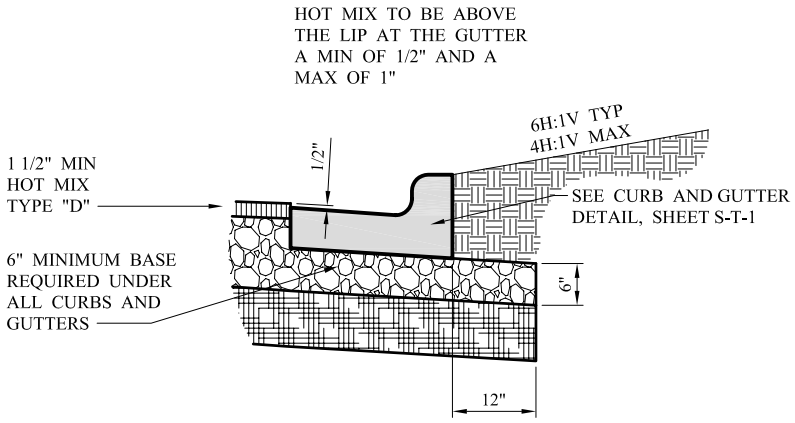
URBAN RESIDENTIAL STREETS
WITH ALLEYS OR SIDEWALKS

S-A-1



TYPICAL SECTION

NOT TO SCALE



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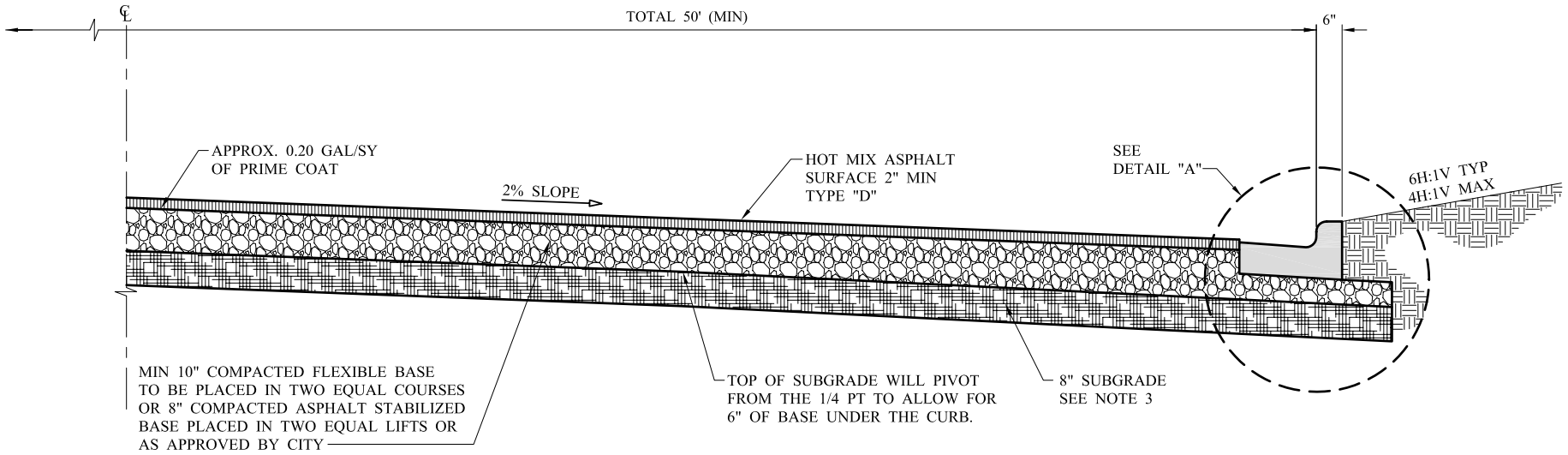
CITY OF SAN ANGELO

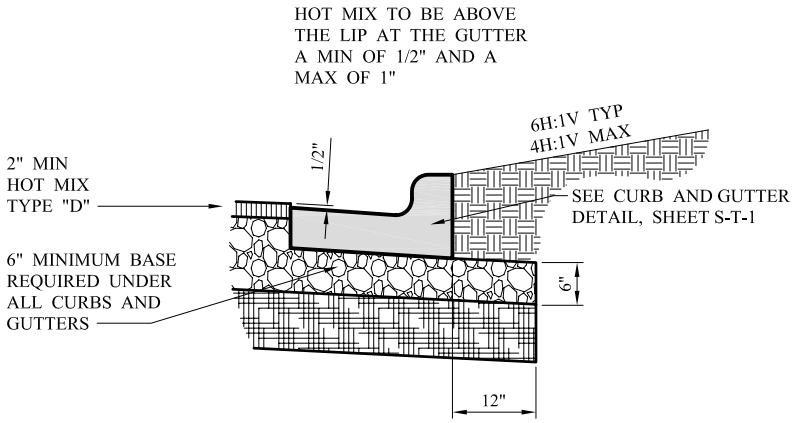
URBAN RESIDENTIAL STREETS
WITHOUT ALLEYS OR
SIDEWALKS

S-B-1



TYPICAL SECTION

NOT TO SCALE



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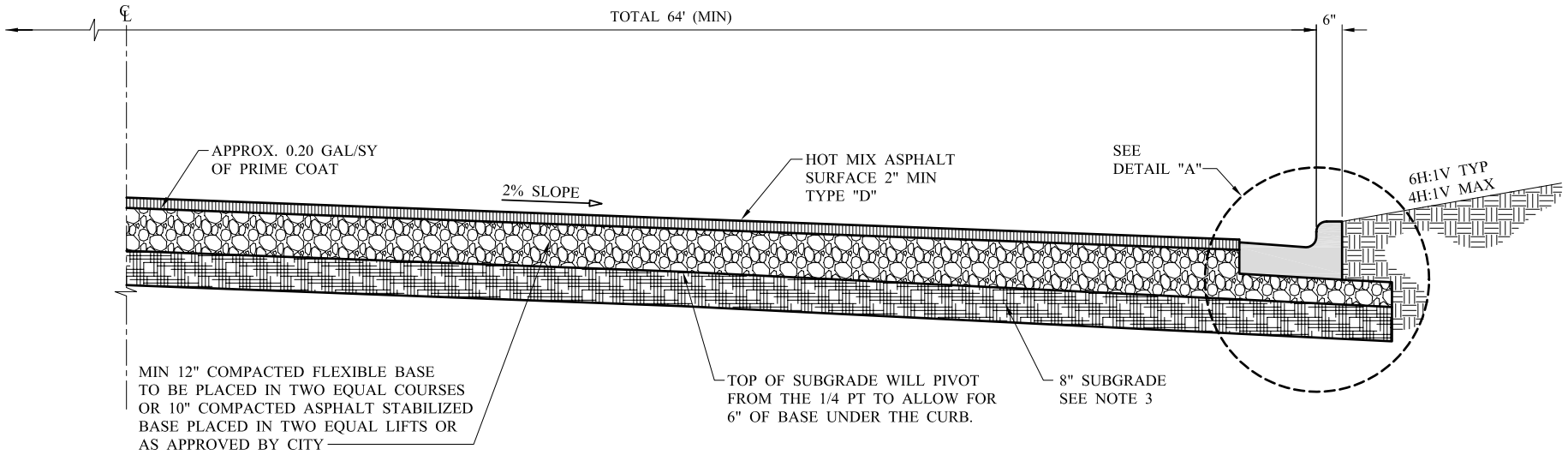
CITY OF SAN ANGELO

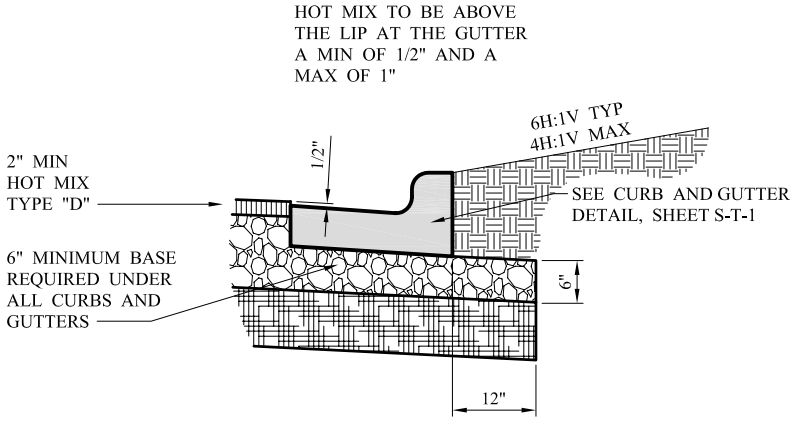
URBAN COLLECTOR STREETS

S-C-1



TYPICAL SECTION

NOT TO SCALE



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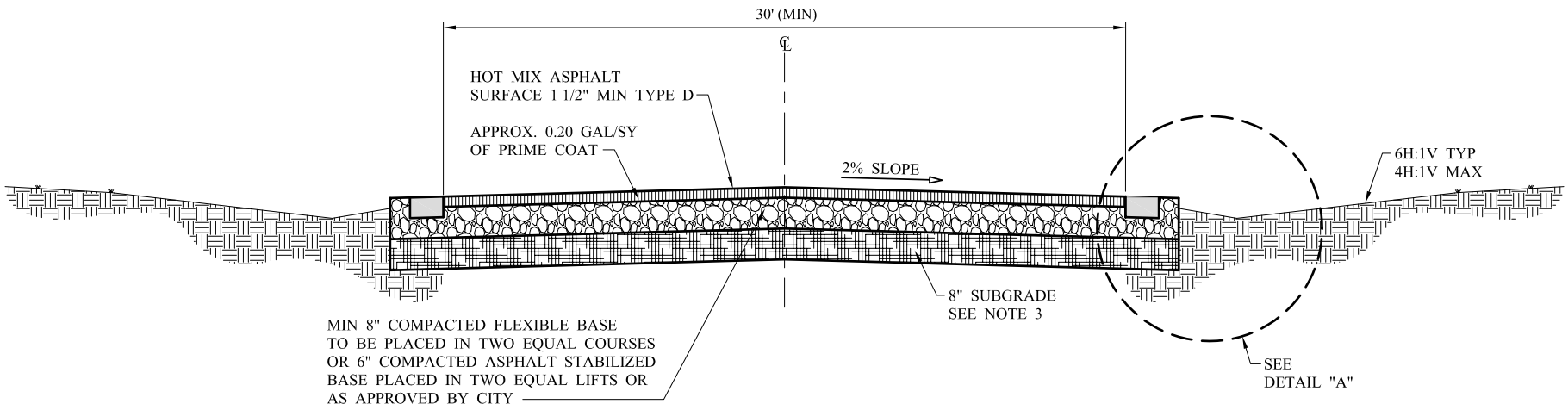
CITY OF SAN ANGELO

URBAN ARTERIAL STREETS

S-D-1



TYPICAL SECTION

NOT TO SCALE

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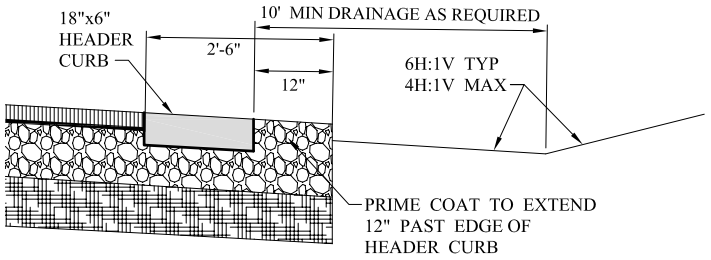
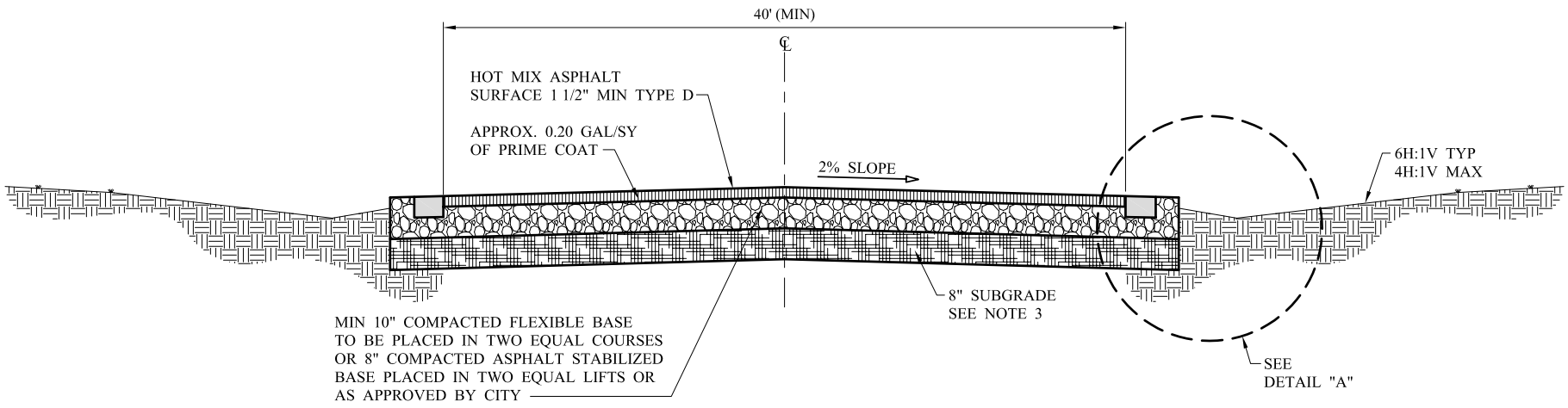


DETAIL "A"

CITY OF SAN ANGELO

RURAL RESIDENTIAL STREETS
(WITH OR WITHOUT ALLEYS)

S-E-1



TYPICAL SECTION

NOT TO SCALE

NOTES:

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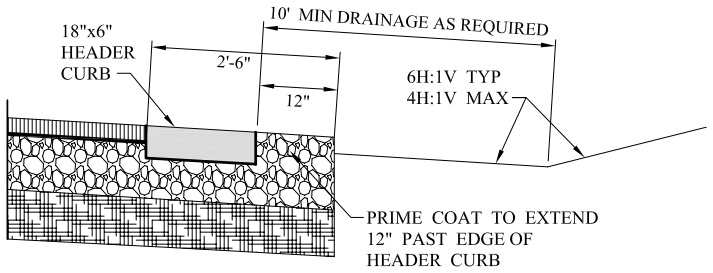
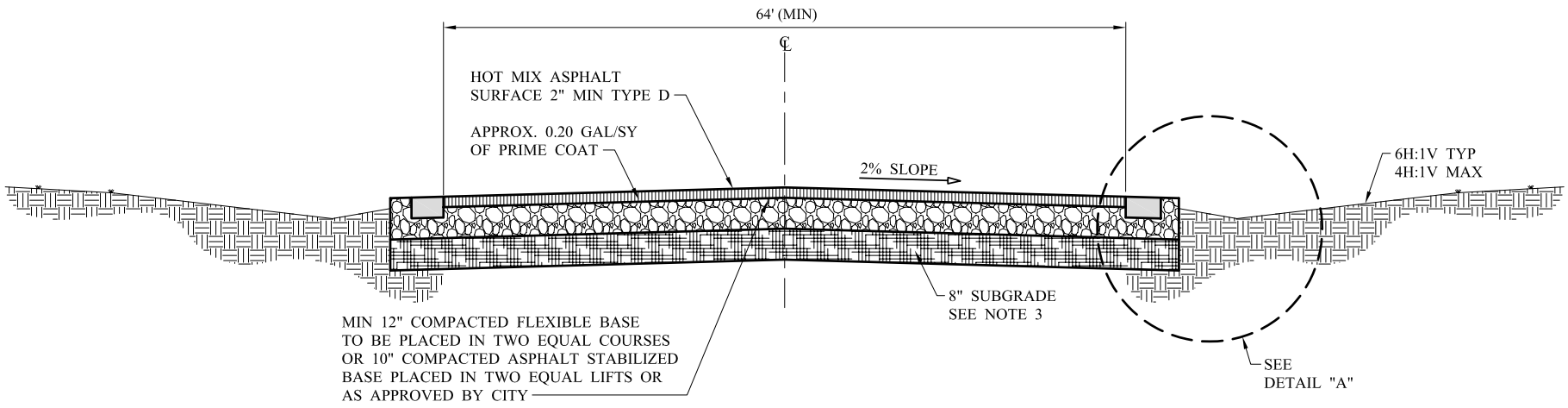


DETAIL "A"

CITY OF SAN ANGELO

RURAL COLLECTOR STREETS

S-F-1



TYPICAL SECTION

NO SCALE

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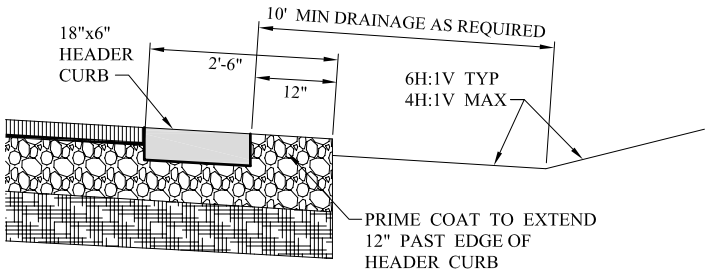
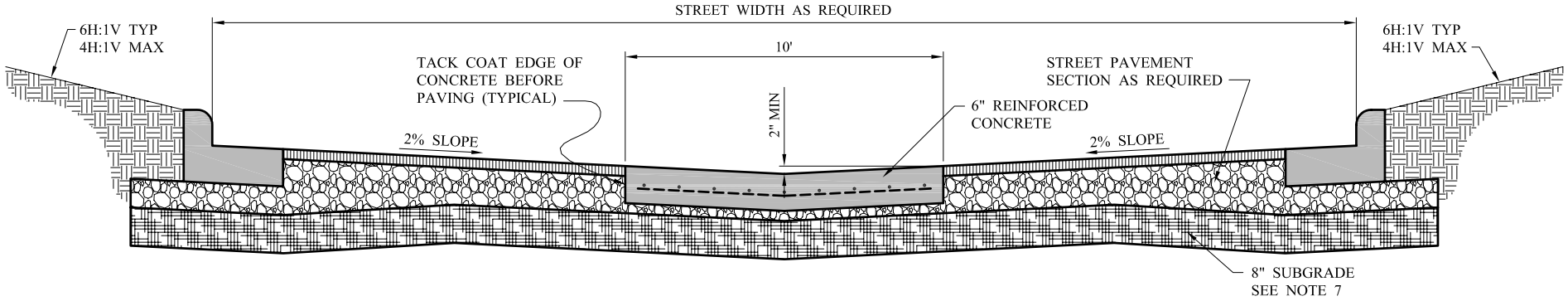


DETAIL "A"

CITY OF SAN ANGELO

RURAL ARTERIAL STREETS

S-G-1



TYPICAL SECTION

NOT TO SCALE

NOTES:

1. PROVIDE SAWED TRANSVERSE CONTRACTION JOINTS NOT MORE THAN 15' C-C.
2. REINFORCEMENT - #4 BARS AT 18" O.C.E.W.
3. EXPANSION JOINTS TO BE PLACED AT ALL INTERSECTIONS AND NOT TO EXCEED 50' BETWEEN JOINTS.
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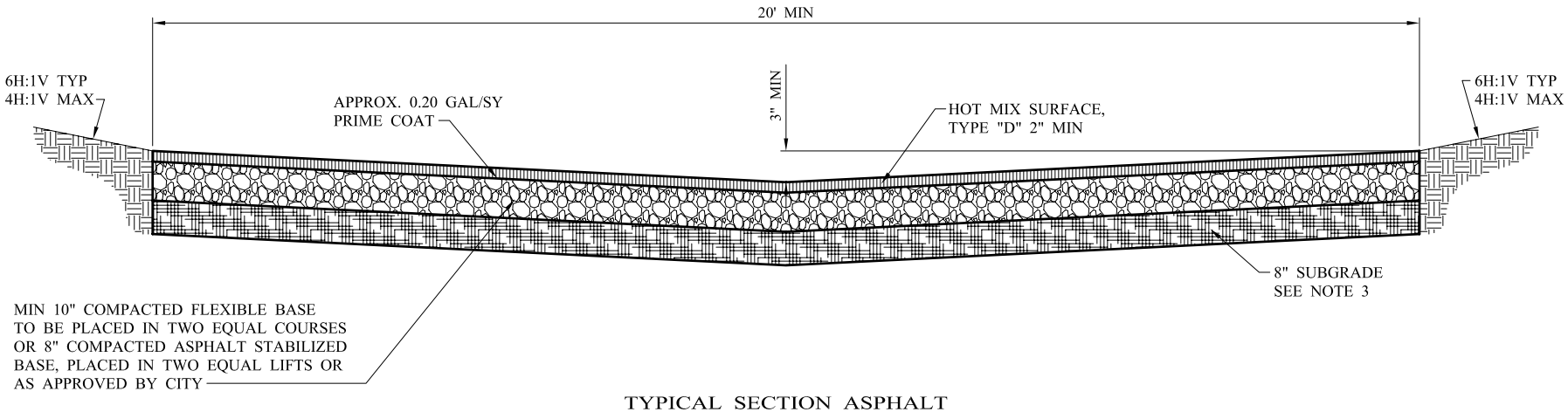
7. 8" ENGINEERED SUBGRADE. IF STABILIZATION IS REQUIRED, THE RATE WILL BE DETERMINED ACCORDING TO TEST RESULTS.

CITY OF SAN ANGELO

CONCRETE CENTER FOR
INVERTED STREET

S-H-1



TYPICAL SECTION ASPHALT
ALLEY PAVING
NOT TO SCALE

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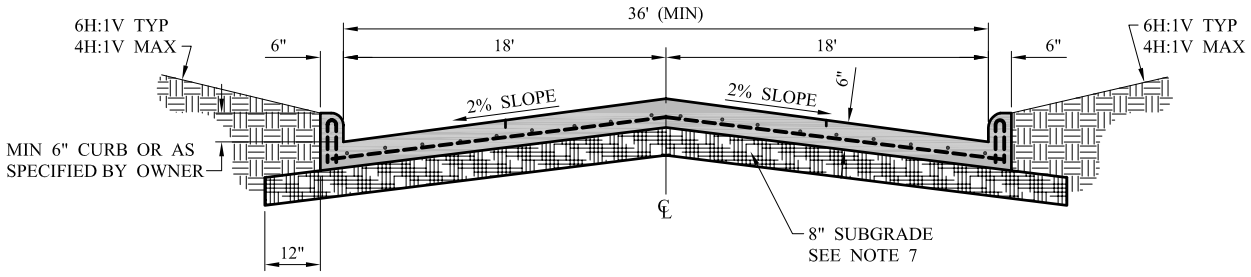
CITY OF SAN ANGELO

STANDARD ALLEYS

S-I-1



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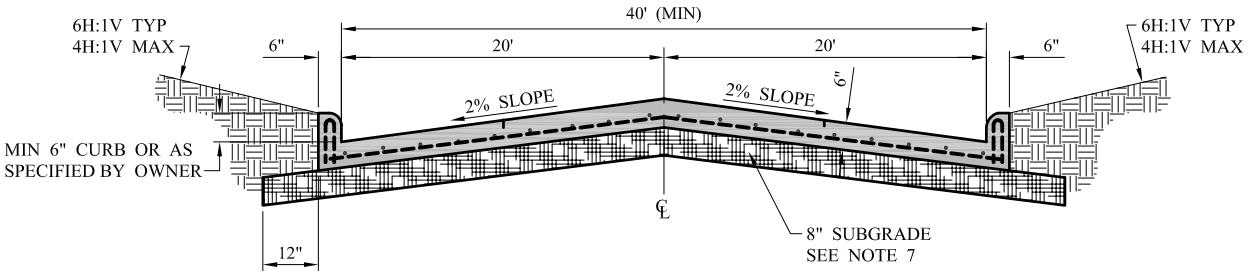
CITY OF SAN ANGELO

CONCRETE URBAN RESIDENTIAL STREETS WITH ALLEYS OR SIDEWALKS

S-J-1



TYPICAL SECTION

NOT TO SCALE

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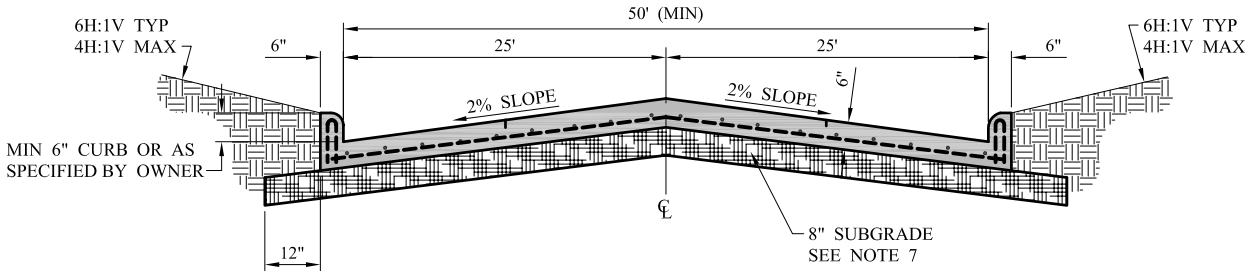
CITY OF SAN ANGELO

CONCRETE URBAN RESIDENTIAL STREETS WITHOUT ALLEYS OR SIDEWALKS

S-K-1



TYPICAL SECTION

NOT TO SCALE

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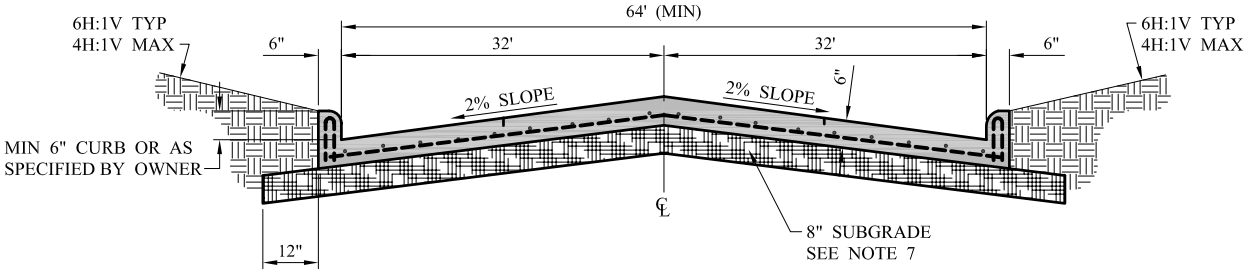
CITY OF SAN ANGELO

CONCRETE URBAN
COLLECTOR STREETS

S-L-1



TYPICAL SECTION

NOT TO SCALE

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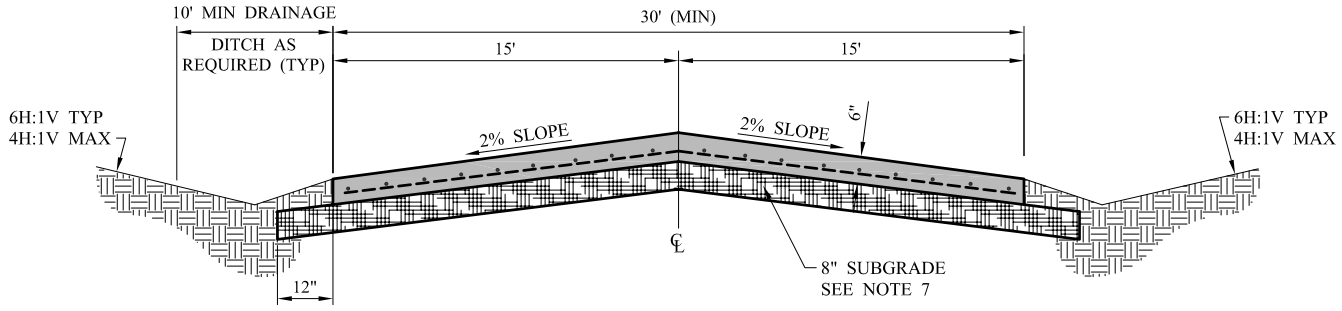
CITY OF SAN ANGELO

CONCRETE URBAN
ARTERIAL STREETS

S-M-1



TYPICAL SECTION

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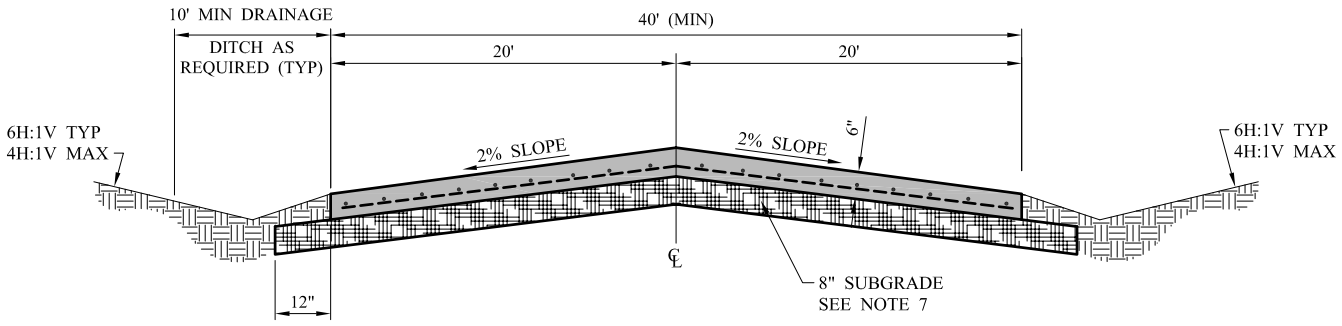
CITY OF SAN ANGELO

CONCRETE RURAL RESIDENTIAL STREETS
(WITH AND WITHOUT ALLEYS)

S-N-1



TYPICAL SECTION

NOT TO SCALE

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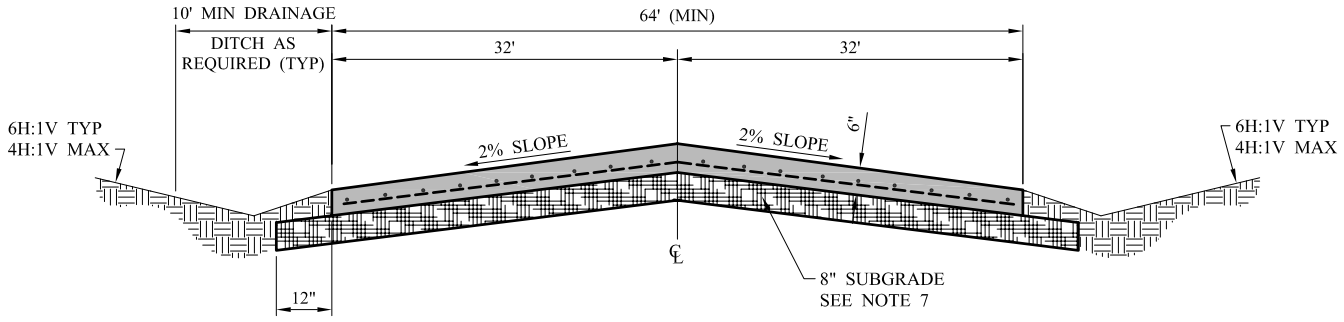
CITY OF SAN ANGELO

CONCRETE RURAL
COLLECTOR STREETS

S-O-1



TYPICAL SECTION

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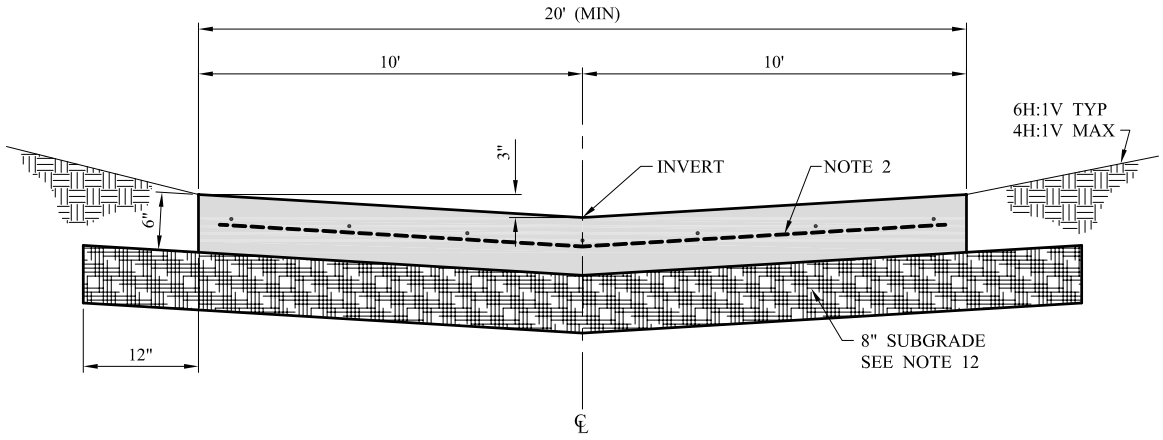
CITY OF SAN ANGELO

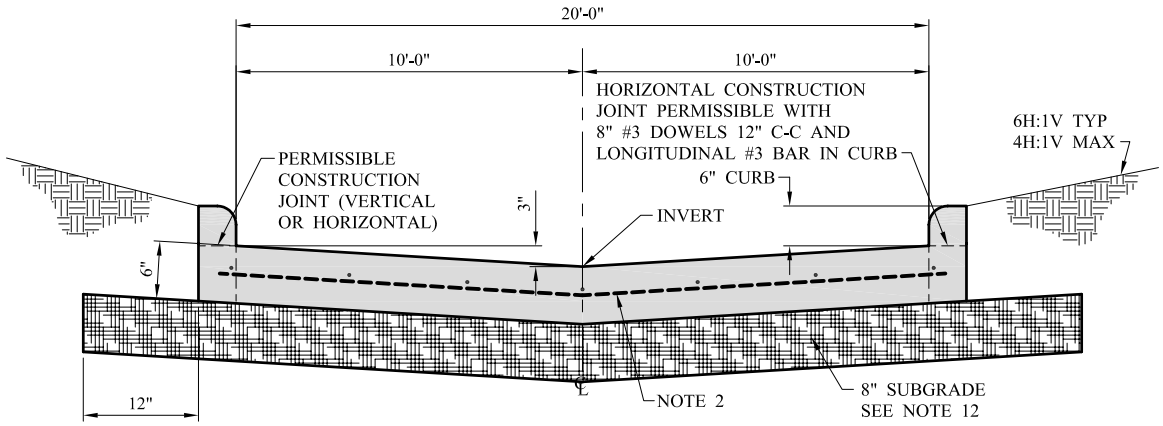
CONCRETE RURAL
ARTERIAL STREETS

S-P-1



ALLEY SECTION WITHOUT CURB

NOT TO SCALE



ALLEY SECTION WITH CURB

NOT TO SCALE

NOTES:

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2. REINFORCEMENT - #4 BARS AT 18" O.C.E.W.
3. EXPANSION JOINTS TO BE PLACED AT ALL INTERSECTIONS AND NOT TO EXCEED 50' BETWEEN JOINTS.
4. CONCRETE SHALL BE CLASS "P".
5. ALL SUBGRADE SHALL BE COMPACTED TO EQUIVALENT OF 95% STANDARD PROCTOR DENSITY.
6. A ROUGH BROOM FINISH IS PREFERRED.
7. SLOPE OF DRIVEWAY SHALL MEET 12H:1V SLOPE MAX.
8. FOR GUTTER DETAILS, SEE SHEET S-T-1.
9. FOR REINFORCED CONCRETE PAVEMENT JOINT DETAILS, SEE SHEET S-S-1.
10. ALL BASE AND SUBGRADE WILL BE DENSITY CONTROLLED AND WILL MEET ALL SPECIFICATION REQUIREMENTS FOR THE CITY OF SAN ANGELO.
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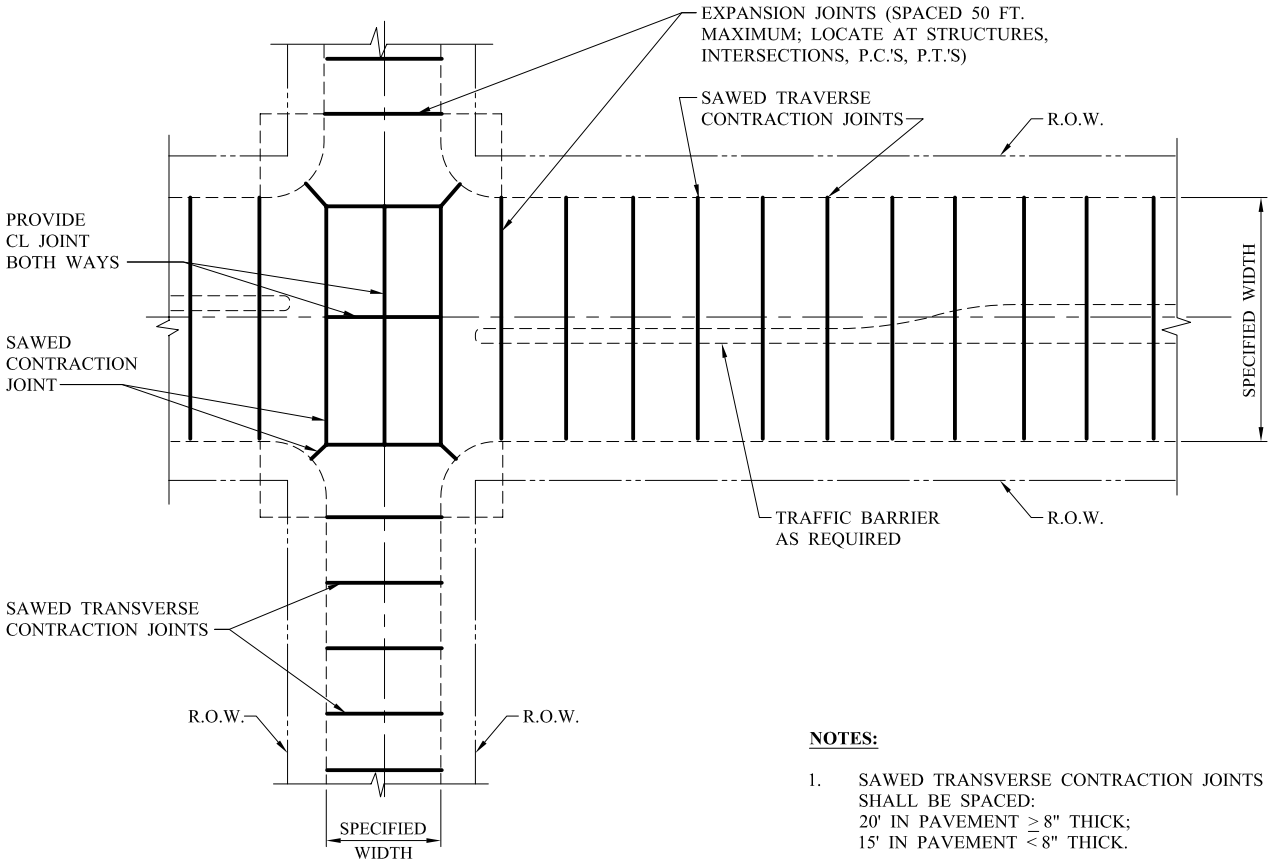
12. 8" ENGINEERED SUBGRADE. IF STABILIZATION IS REQUIRED, THE RATE WILL BE DETERMINED ACCORDING TO TEST RESULTS.

CITY OF SAN ANGELO

CONCRETE ALLEYS

S-Q-1



NOTES:

1. SAWED TRANSVERSE CONTRACTION JOINTS SHALL BE SPACED:
   20' IN PAVEMENT $\geq$ 8" THICK;
   15' IN PAVEMENT $<$ 8" THICK.

2. REFER TO TYPICAL PAVEMENT SECTION FOR LONGITUDINAL JOINT SPACING.

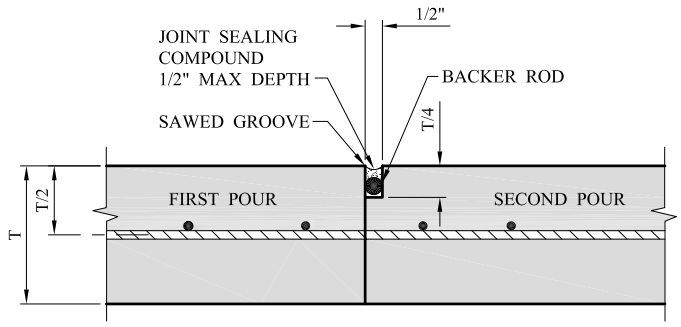
SPACING DIAGRAM FOR TRANSVERSE JOINTS

NOT TO SCALE

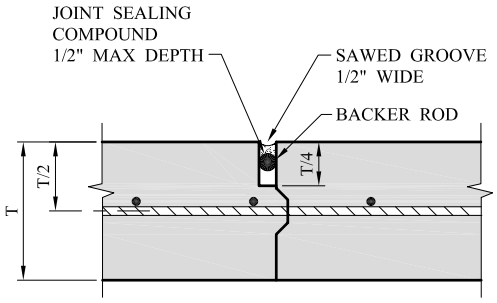
CITY OF SAN ANGELO

REINFORCED CONCRETE PAVEMENT
TRANSVERSE JOINT SPACING

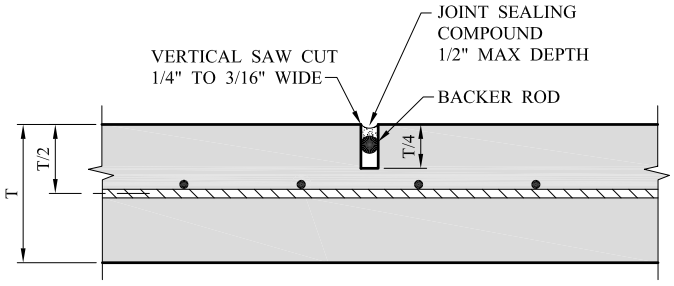
S-R-1



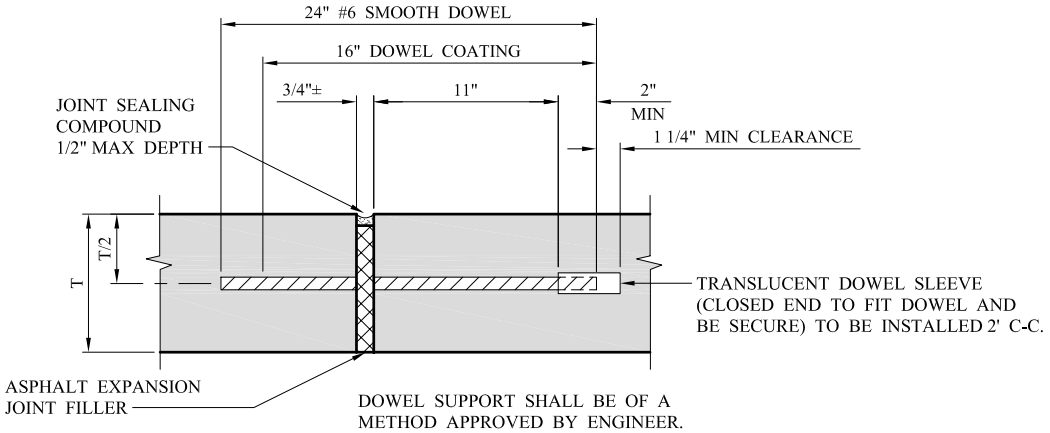
CONSTRUCTION JOINT
NOT TO SCALE



KEYWAY JOINT
(FOR PAVEMENT THICKNESS > 6")
NOT TO SCALE



SAWED CONTRACTION JOINT
NOT TO SCALE

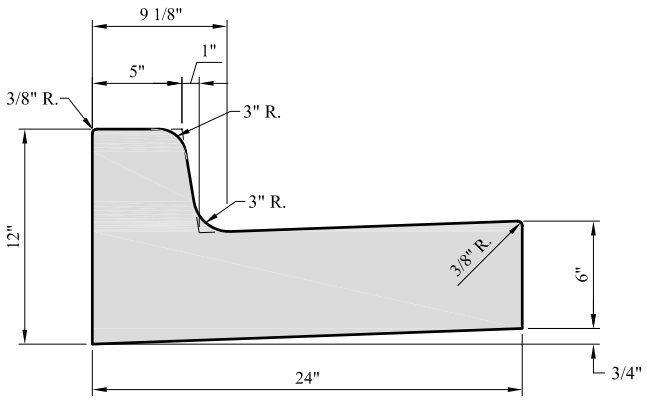


EXPANSION JOINT
(SPACED 50 FT. MAXIMUM; LOCATE AT
STRUCTURES AND AT INTERSECTION P.C.'S & P.T.'S)
NOT TO SCALE

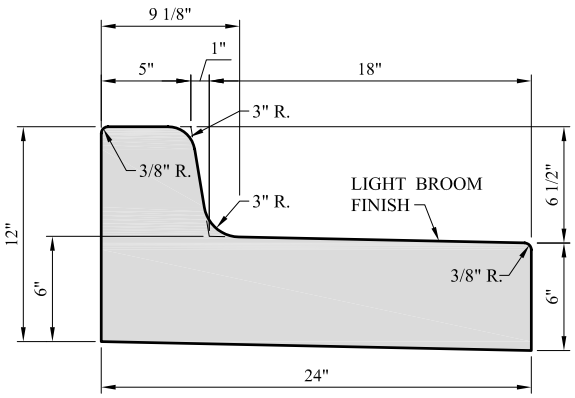
CITY OF SAN ANGELO

REINFORCED CONCRETE
PAVEMENT DETAILS

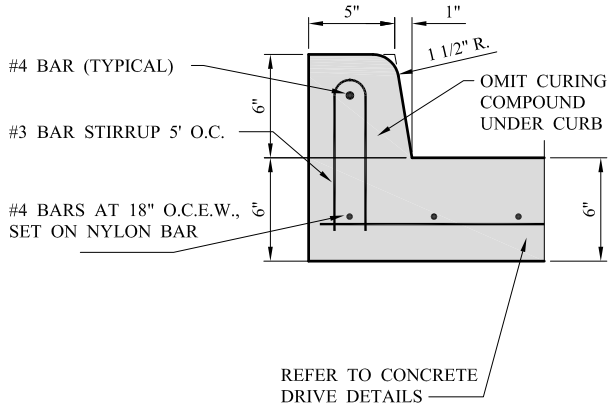
S-S-1



STANDARD CURB & GUTTER
NOT TO SCALE



SPILL CURB AND GUTTER
NOT TO SCALE



STANDARD MONOLITHIC CURB
ON CONCRETE DRIVEWAY
NOT TO SCALE

NOTES:

1. DIMENSIONS HEREIN SHOWN ARE MINIMUM REQUIRED. THE DESIGNER MAY ADJUST WIDTH ACCORDING TO THE NEED. CONCRETE FOR CURB AND GUTTER SHALL BE CLASS "A" CONCRETE EXCEPT FOR STANDARD MONOLITHIC CURB WHICH IS CLASS "P". THE USE OF MORTAR TOPPING IS OPTIONAL. IF NOT MACHINE LAID, A "MULE" FINISING TOOL SHALL BE USED.

2. ALL TOOLED CONTRACTION JOINTS WILL BE ON 10' SPACING AT 1-1/2" MINIMUM DEPTHS. 1/2" EXPANSION JOINTS ON 50' SPACING OR AT BEGINNING OF RADII, OR AT INTERSECTIONS. LIGHT BROOM FINISH.

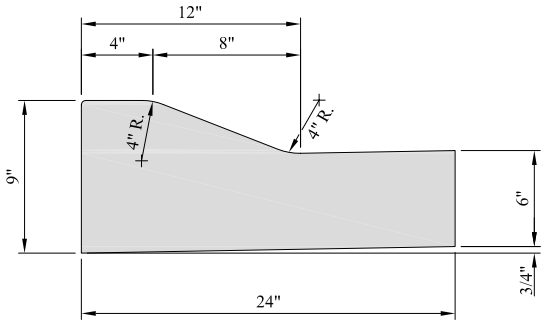
3. EXTRUDED CONCRETE MAY USE A MODIFIED GRADATION FOR MACHINE LAID CURB AND GUTTER AS APPROVED BY THE CITY ENGINEER.

4. IF MACHINE LAID, A MAXIMUM 1" FLARE AT THE BOTTOM IS PERMITTED.

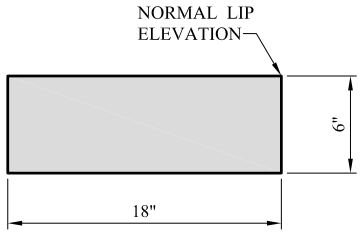
CITY OF SAN ANGELO

CONCRETE CURB & GUTTERS

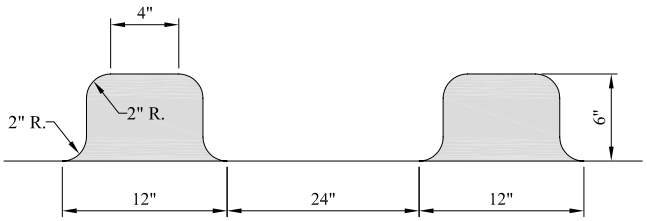
S-T-1



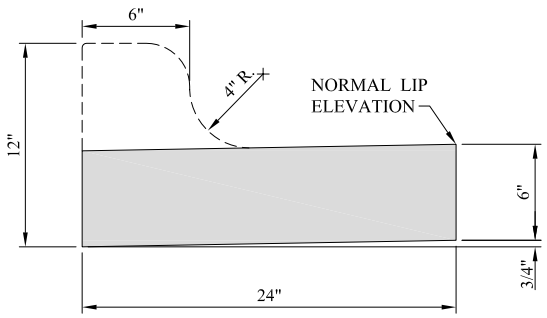
MOUNTABLE CURB
NOT TO SCALE



HEADER CURB
NOT TO SCALE



FRONT VIEW
NOT TO SCALE



SIDE VIEW
SAWTOOTH CURB
NOT TO SCALE

NOTES:

1. DIMENSIONS HEREIN SHOWN ARE MINIMUM REQUIRED. THE DESIGNER MAY ADJUST WIDTH ACCORDING TO THE NEED. CONCRETE FOR CURB AND GUTTER SHALL BE CLASS "A" CONCRETE EXCEPT FOR STANDARD MONOLITHIC CURB WHICH IS CLASS "P". THE USE OF MORTAR TOPPING IS OPTIONAL. IF NOT MACHINE LAID, A "MULE" FINISING TOOL SHALL BE USED.

2. ALL TOOLED CONTRACTION JOINTS WILL BE ON 10' SPACING AT 1-1/2" MINIMUM DEPTHS. 1/2". EXPANSION JOINTS ON 50' SPACING OR AT BEGINNING OF RADII, OR AT INTERSECTIONS. LIGHT BROOM FINISH.

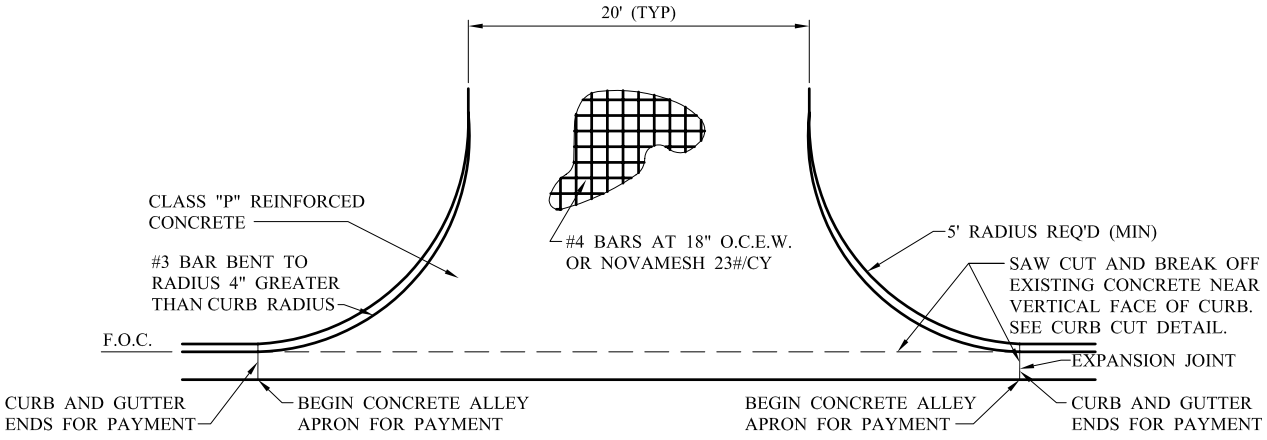
3. EXTRUDED CONCRETE MAY USE A MODIFIED GRADATION FOR MACHINE LAID CURB AND GUTTER AS APPROVED BY THE CITY ENGINEER.

4. IF MACHINE LAID, A MAXIMUM 1" FLARE AT THE BOTTOM IS PERMITTED.

CITY OF SAN ANGELO

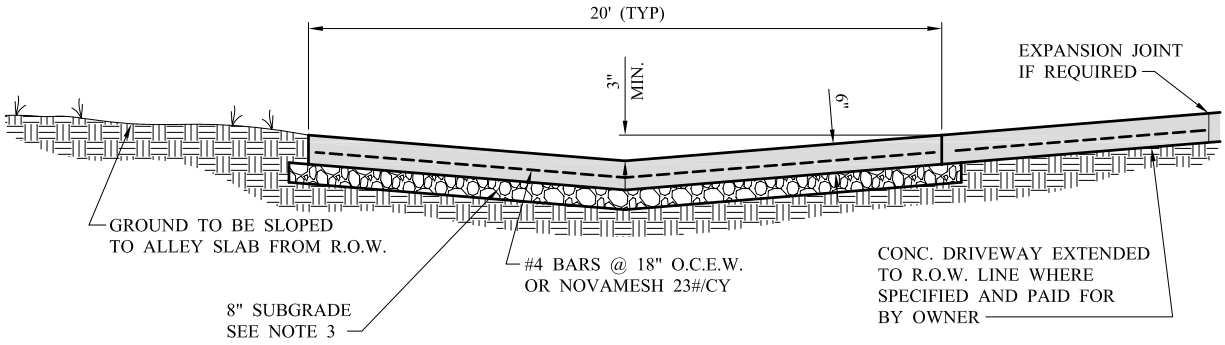
CONCRETE CURB & GUTTERS

S-T-2



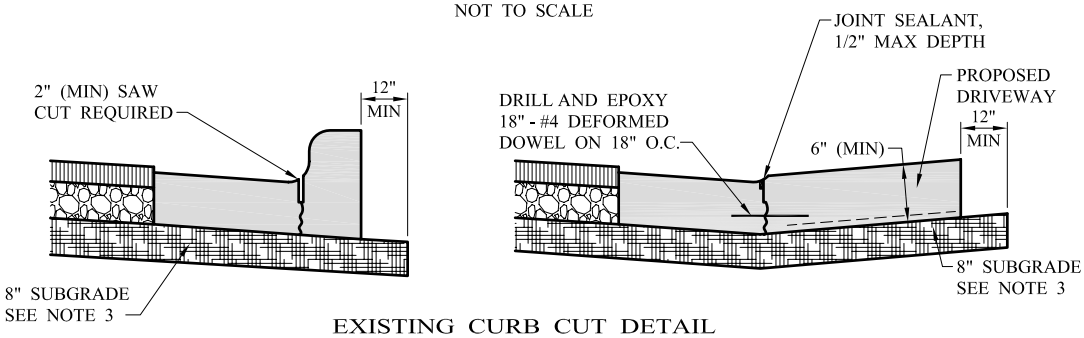
CONCRETE ALLEY APRON

NOT TO SCALE



TYPICAL SECTION
CONCRETE ALLEY PAVING

CLASS "P" REINFORCED CONCRETE
NOT TO SCALE



EXISTING CURB CUT DETAIL

NOT TO SCALE

NOTES:

1. ALL BASE AND SUBGRADE WILL BE DENSITY CONTROLLED AND WILL MEET ALL SPECIFICATION REQUIREMENTS FOR THE CITY OF SAN ANGELO.
2. IT IS THE GOAL OF THE CITY TO DESIGN AND CONSTRUCT A STREET SYSTEM THAT WILL HAVE A LIFE EXPECTANCY OF TWENTY YEARS WITH NORMAL MAINTENANCE. STREETS THAT ARE CONSTRUCTED IN INDUSTRIAL AREAS WHERE HEAVY LOADS ARE EXPECTED WILL REQUIRE INDIVIDUAL DESIGN PROCESSES.
3. 8" ENGINEERED SUBGRADE. IF STABILIZATION IS REQUIRED, THE RATE WILL BE DETERMINED ACCORDING TO TEST RESULTS. 6" OF CITY APPROVED FOUNDATION COURSE MAY BE USED IN LIEU OF LIME. ALL SUBGRADE SHALL BE COMPACTED TO EQUIVALENT OF 95% STANDARD PROCTOR DENSITY.
4. A ROUGH BROOM FINISH IS PREFERRED.
5. SLOPE OF DRIVEWAY SHALL MEET 12H:1V SLOPE MAX.
6. WET SUBGRADE SHALL BE CORRECTED PRIOR TO PLACEMENT OF CONCRETE.
7. FOR GUTTER DETAILS, SEE CONCRETE APPROACH DETAILS SHEET S-V-1.

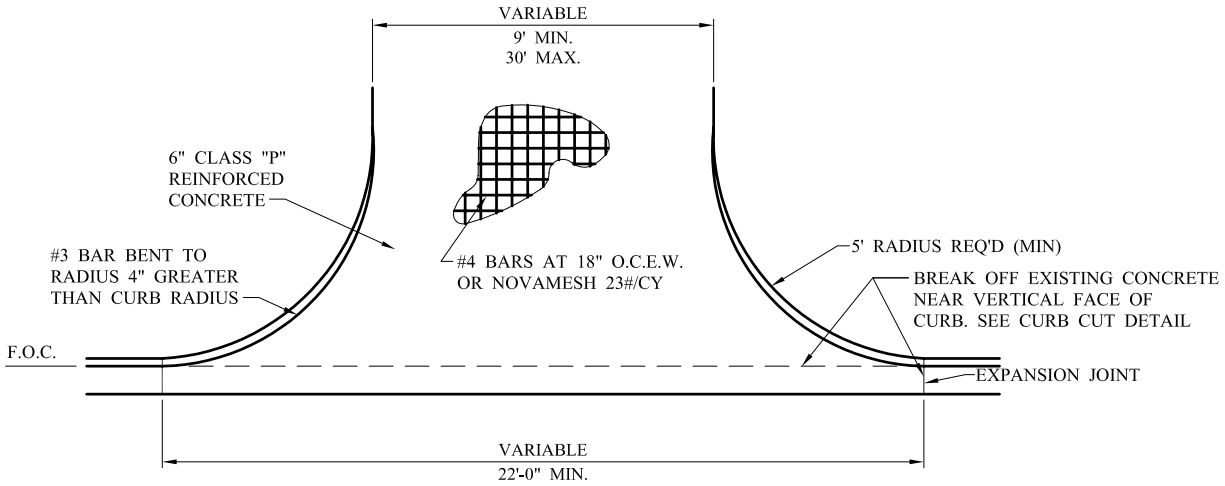
LAP SPLICE LENGTHS:

#3 - 21"
#4 - 24"

CITY OF SAN ANGELO

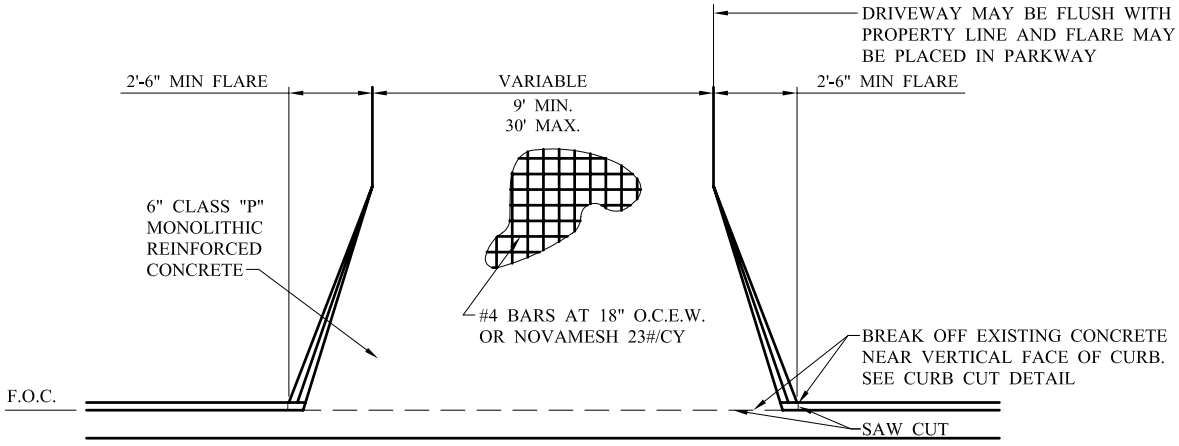
CONCRETE ALLEY APPROACHES

S-U-1



CONCRETE DRIVEWAY APRON

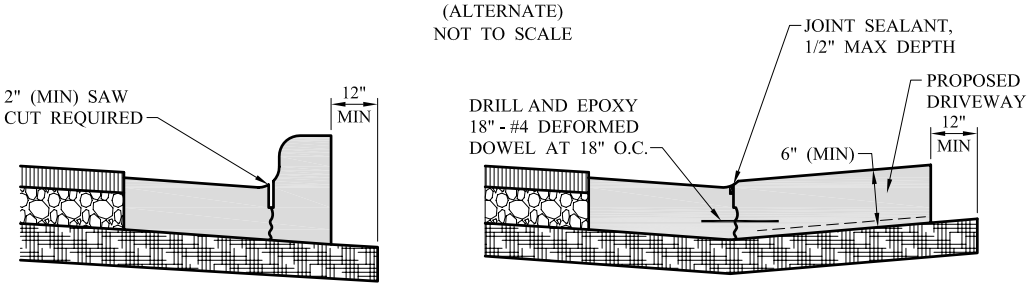
NOT TO SCALE



CONCRETE DRIVEWAY APPROACH

(ALTERNATE)

NOT TO SCALE



EXISTING CURB CUT DETAIL

NOT TO SCALE

NOTES:

1. A ROUGH BROOM FINISH IS PREFERRED.
2. SLOPE OF DRIVEWAY SHALL NOT EXCEED 12:1 SLOPE.
3. WET SUBGRADE SHALL BE CORRECTED PRIOR TO PLACEMENT OF CONCRETE.
4. DRIVEWAY MAY BE FLUSH WITH THE PROPERTY LINE.

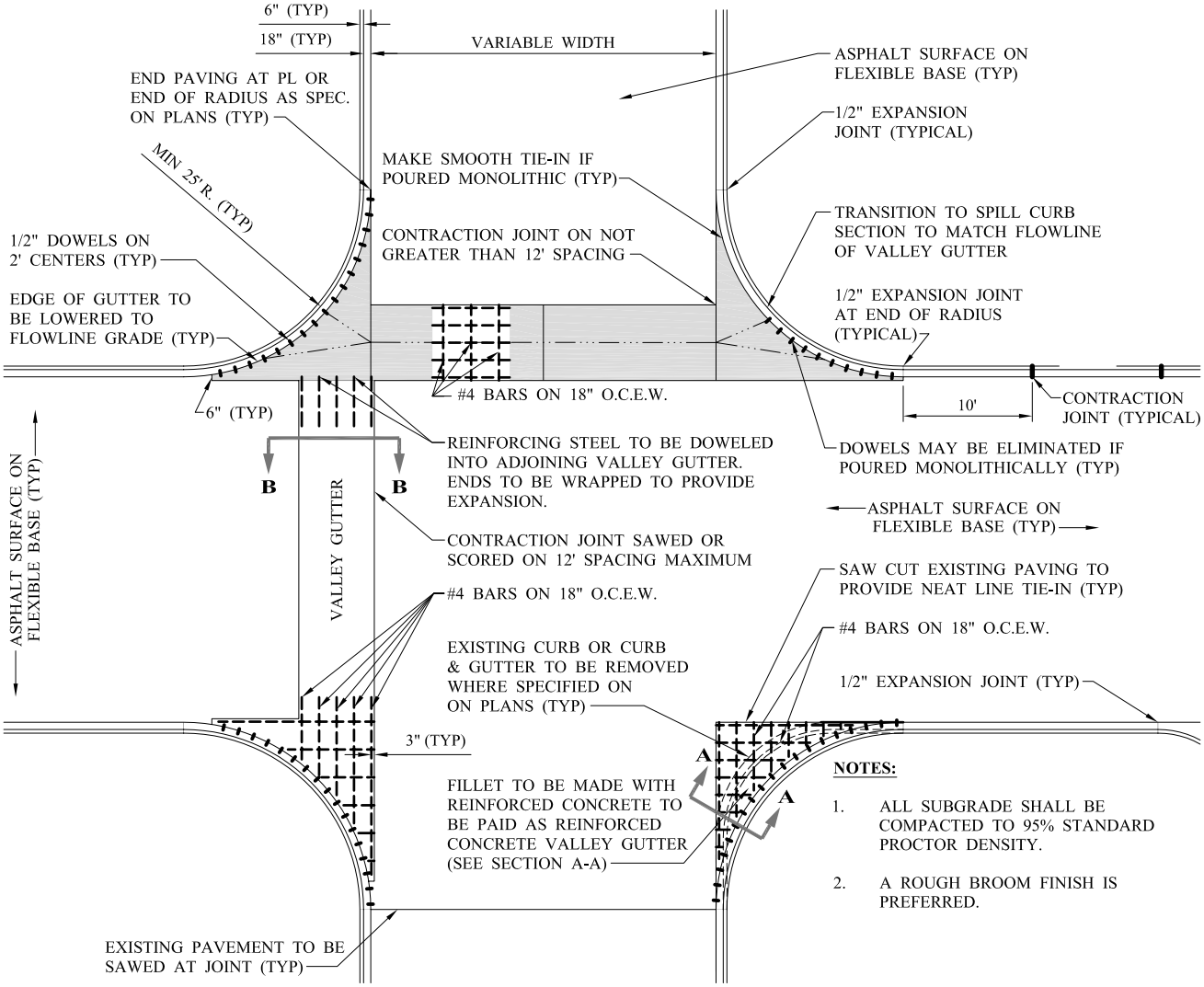
LAP SPLICE LENGTHS:

#3 - 21"
#4 - 24"

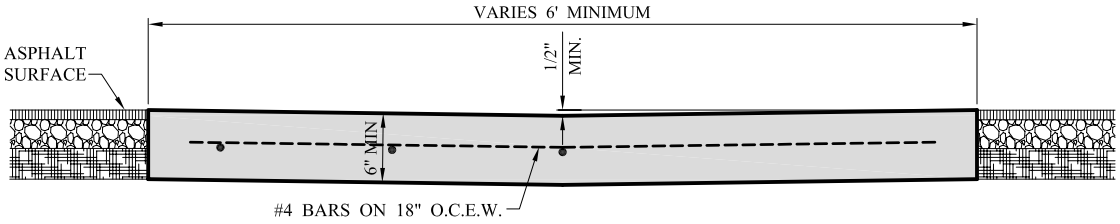
CITY OF SAN ANGELO

CONCRETE DRIVEWAY APPROACHES

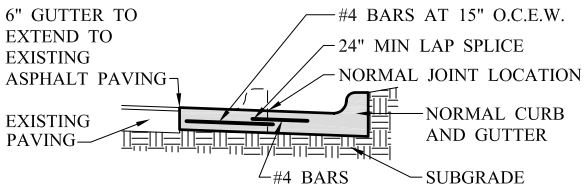
S-V-1



TYPICAL SECTION
NOT TO SCALE



SECTION B - B
VALLEY GUTTER DETAIL
NOT TO SCALE



SECTION A - A
CONCRETE VALLEY GUTTER FILLET
NOT TO SCALE

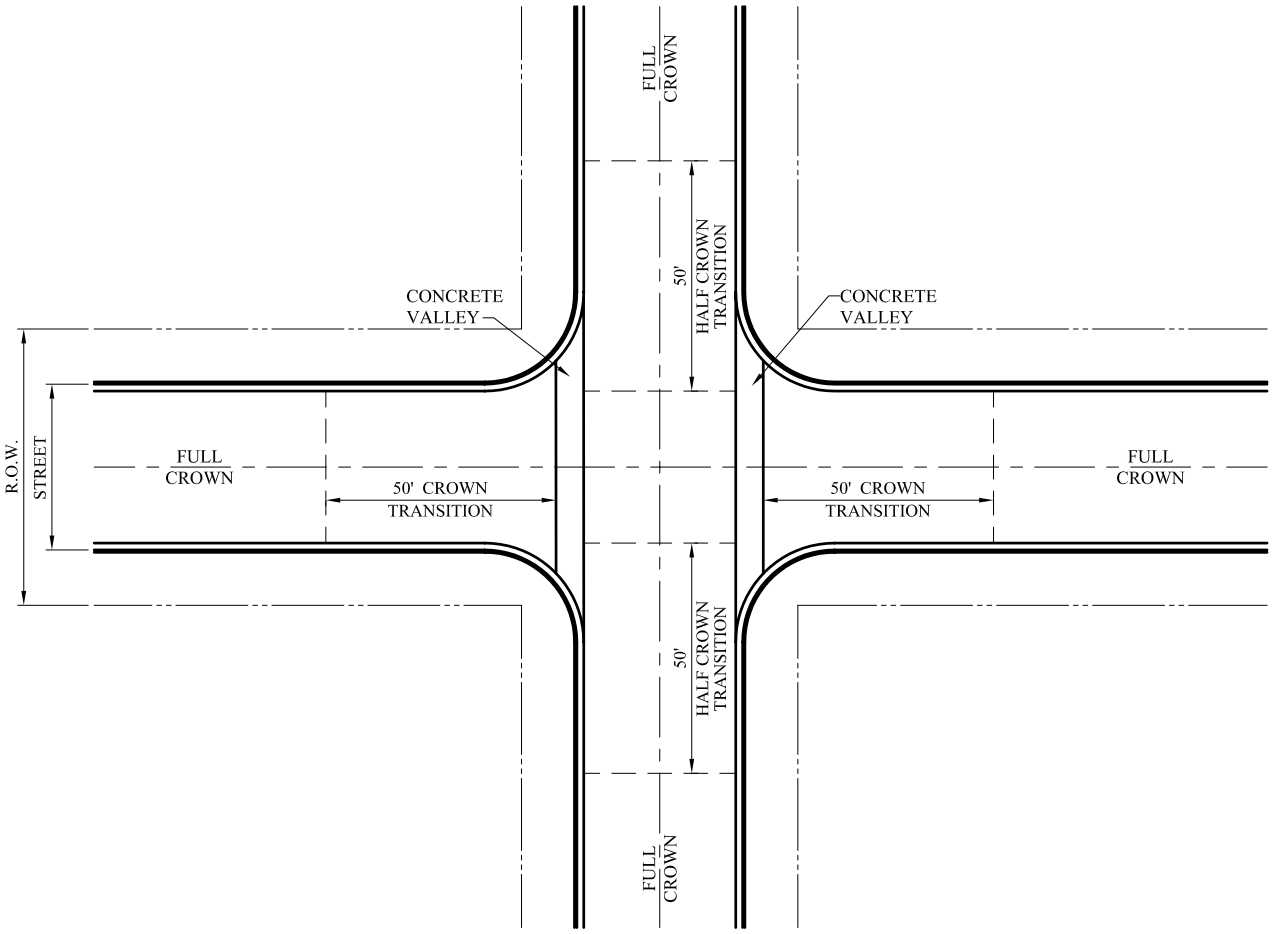
LAP SPLICE LENGTHS:

#3 - 21"
#4 - 24"

CITY OF SAN ANGELO

CONCRETE VALLEY GUTTERS

S-W-1



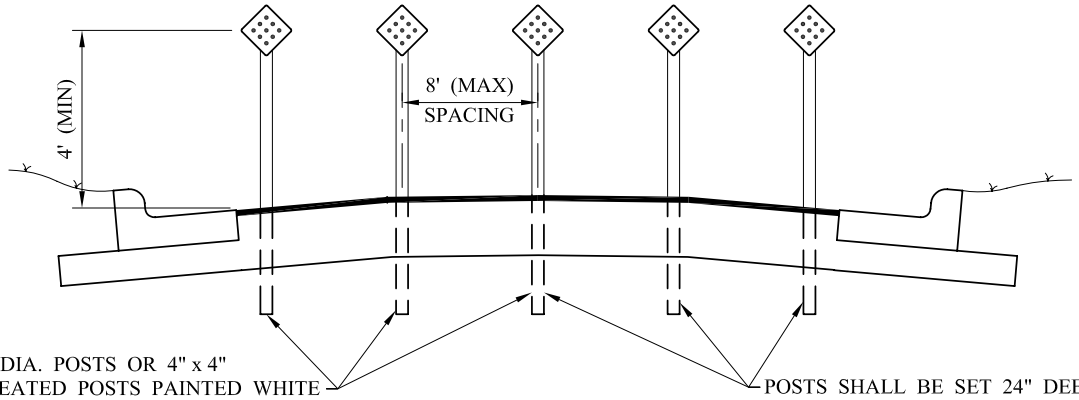
TYPICAL SECTION

NOT TO SCALE

CITY OF SAN ANGELO

CONCRETE VALLEY GUTTERS

S-W-2



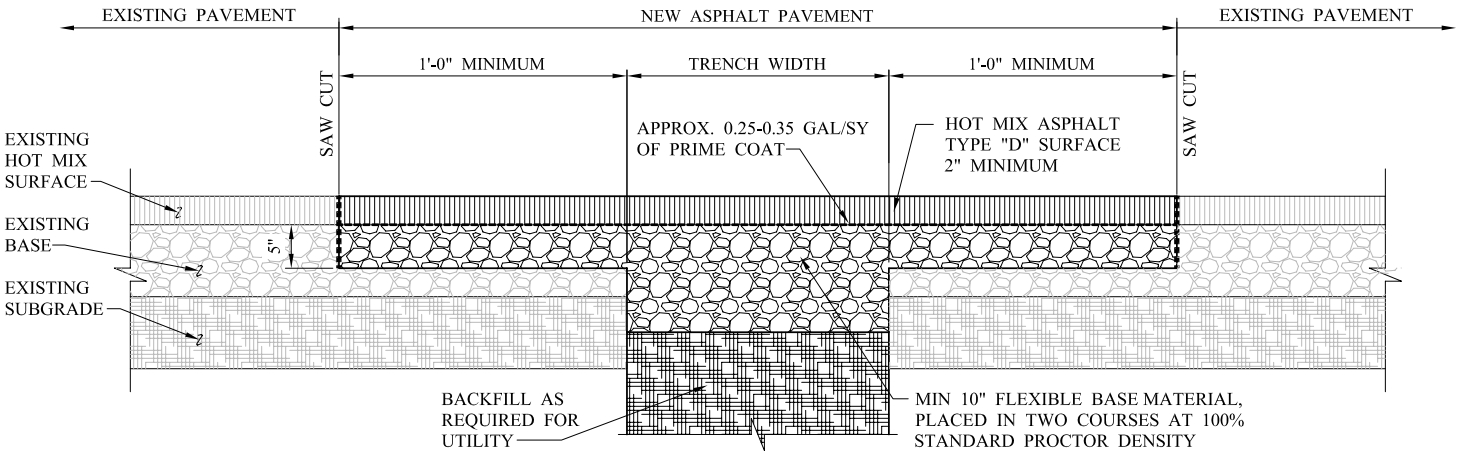
NOTE:

1. REFLECTOR UNITS MUST BE CAPABLE OF CLEARLY REFLECTING LIGHT UNDER NORMAL ATMOSPHERIC CONDITION FROM A DISTANCE OF 1000 FEET WHEN ILLUMINATED BY THE UPPER BEAM OF STANDARD AUTOMOBILE LIGHTS. 18" DIAMOND REFLECTORIZED RED PANEL OR 18" DIAMOND RED OR BLACK PANEL WITH 9 - 3" DIAMOND RED REFLECTORS SYMMETRICALLY PLACED AT CENTER POSTS, A MINIMUM OF 4" ABOVE THE GROUND SHALL BE USED FOR END OF ROAD MARKERS.

CITY OF SAN ANGELO

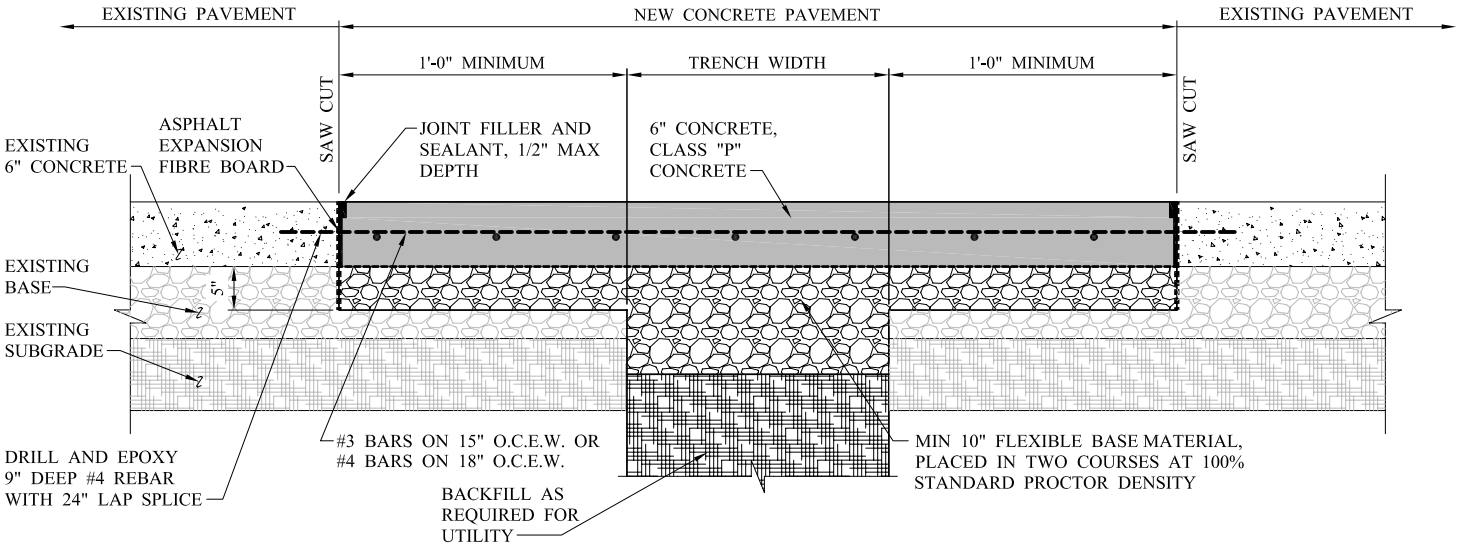
STREET END BARRICADE

S-X-1



ASPHALT REPAIR ACROSS TRENCH AREA

NOT TO SCALE



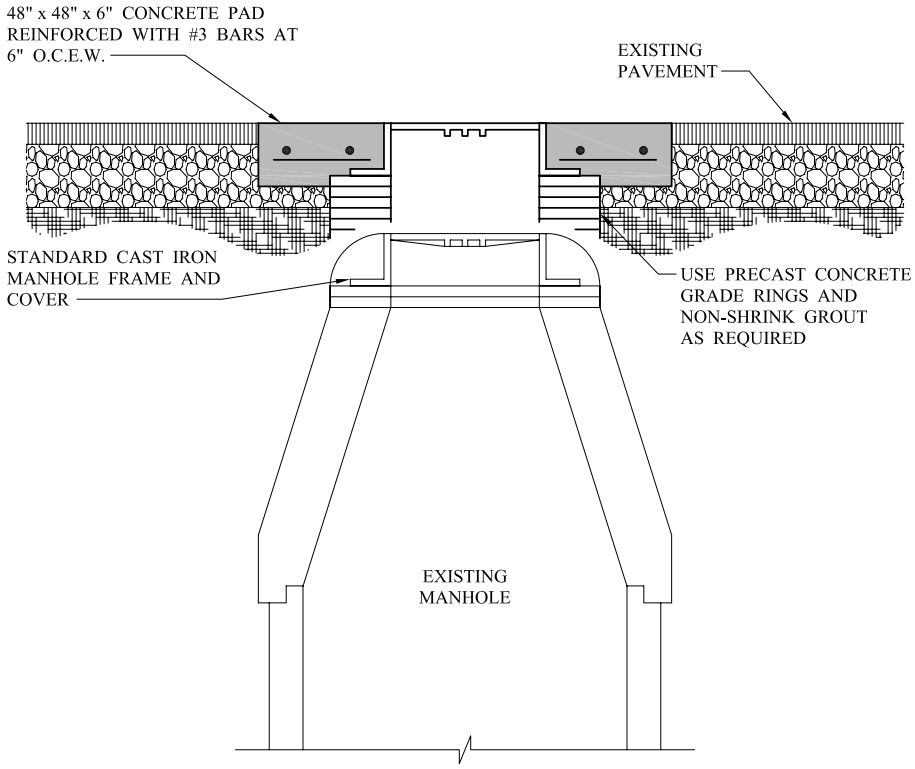
CONCRETE REPAIR ACROSS TRENCH AREA

NOT TO SCALE

CITY OF SAN ANGELO

STREET UTILITY TRENCH REPAIRS FOR ASPHALT & CONCRETE STREETS

S-Y-1



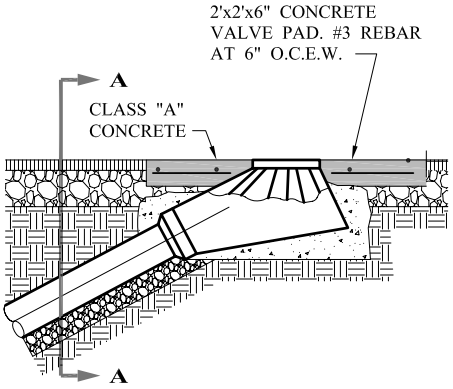
MANHOLE ADJUSTMENT DETAIL

NOT TO SCALE

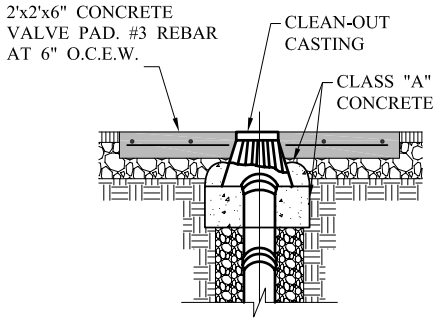
CITY OF SAN ANGELO

MANHOLE ADJUSTMENT DETAIL

S-Z-1



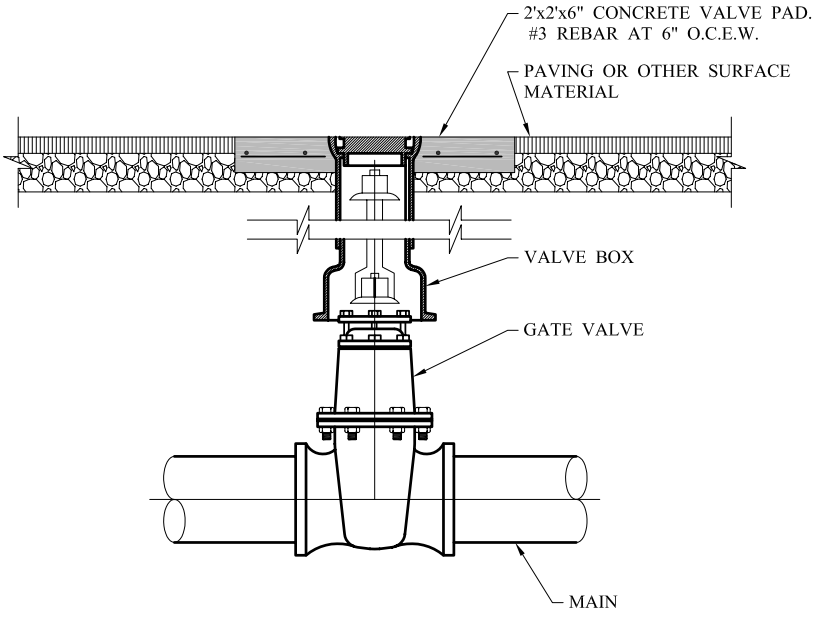
PROFILE VIEW



SECTION A-A

WASTEWATER MAIN CLEAN-OUT

NOT TO SCALE



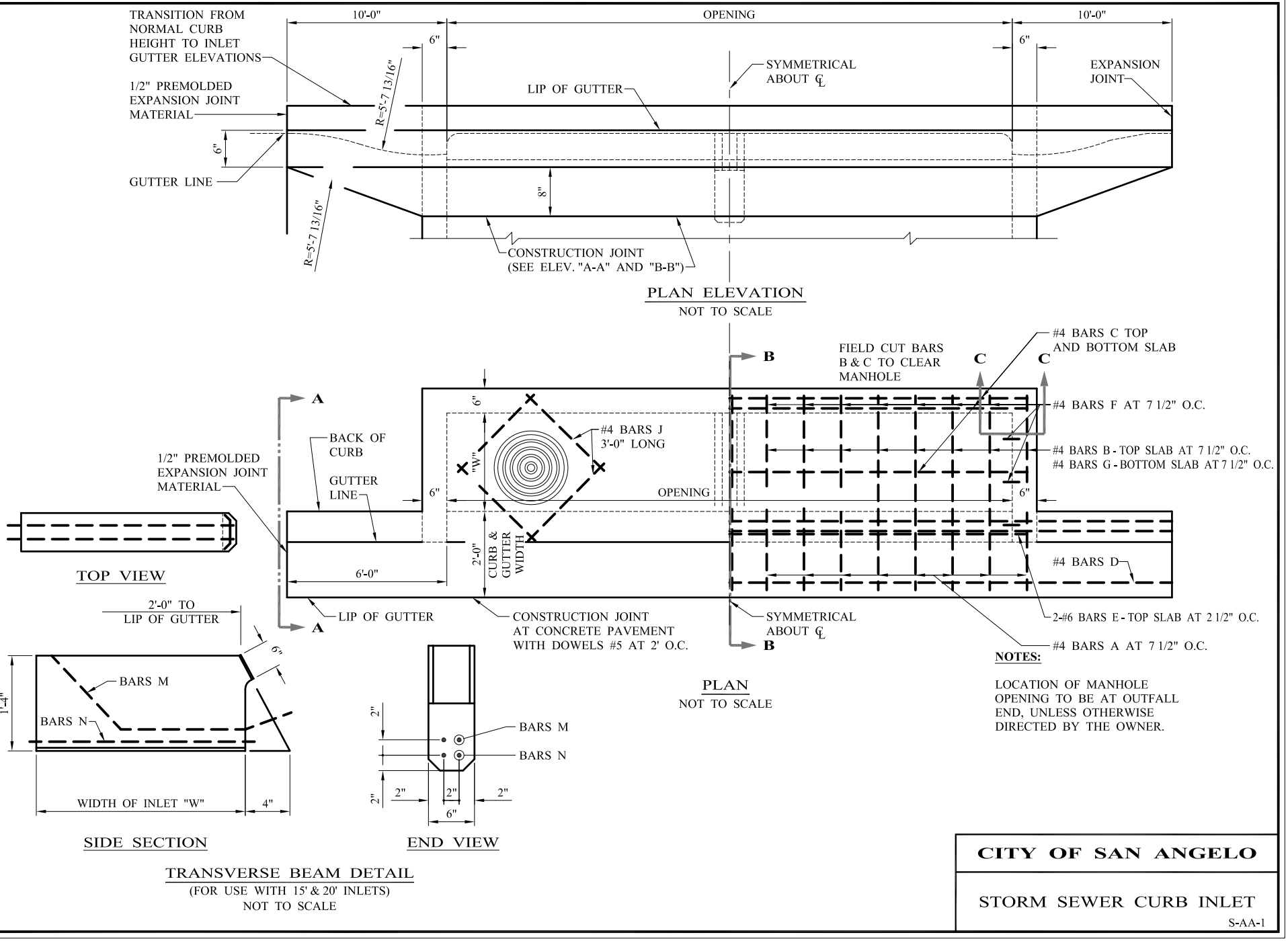
GATE VALVE BOX AND
EXTENSION SYSTEM

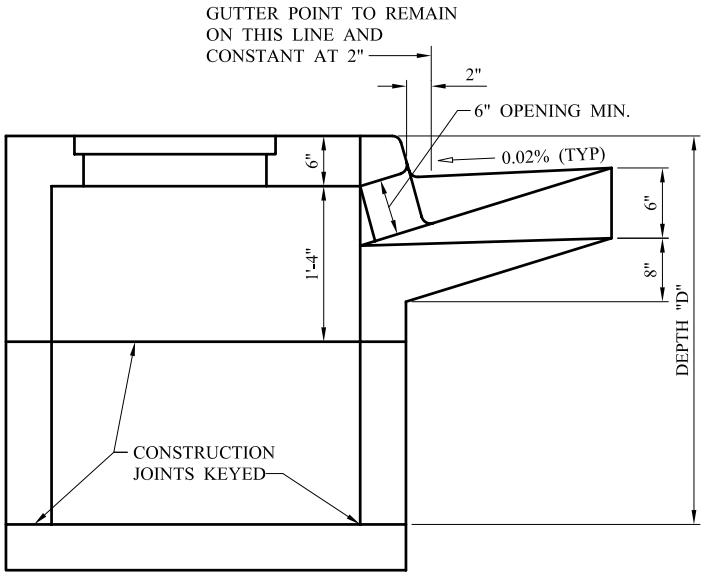
NOT TO SCALE

CITY OF SAN ANGELO

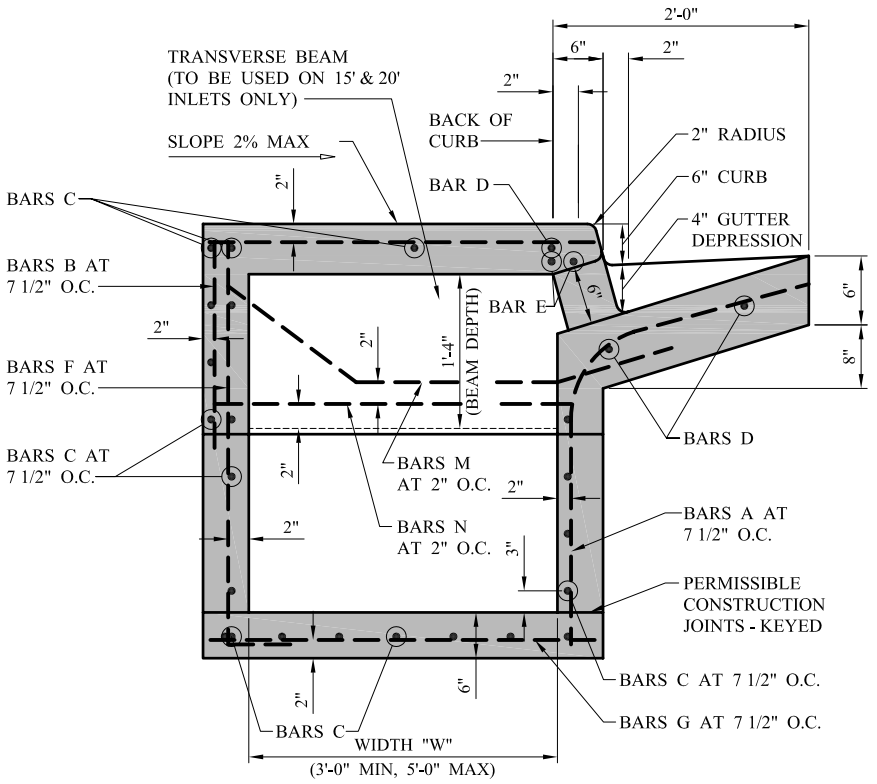
GATE VALVE BOX AND
MAIN CLEAN-OUT

S-Z-2

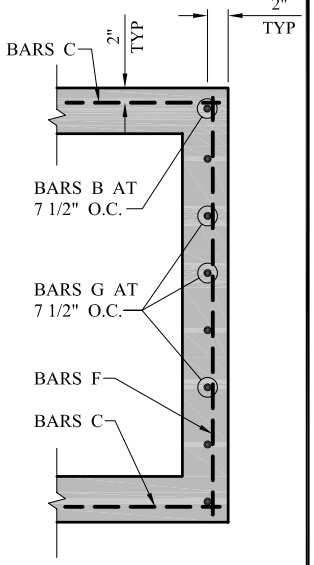

TRANSITION FROM NORMAL CURB HEIGHT TO INLET GUTTER ELEVATIONS
1/2" PREMOLDED EXPANSION JOINT MATERIAL
GUTTER LINE
10'-0"
OPENING
10'-0"
6"
6"
R=5'-7 13/16"
R=5'-7 13/16"
SYMMETRICAL ABOUT ℄
LIP OF GUTTER
EXPANSION JOINT
8"
CONSTRUCTION JOINT (SEE ELEV. "A-A" AND "B-B")
PLAN ELEVATION
NOT TO SCALE
FIELD CUT BARS B & C TO CLEAR MANHOLE
#4 BARS C TOP AND BOTTOM SLAB
#4 BARS F AT 7 1/2" O.C.
#4 BARS B - TOP SLAB AT 7 1/2" O.C.
#4 BARS G - BOTTOM SLAB AT 7 1/2" O.C.
#4 BARS J 3'-0" LONG
BACK OF CURB
GUTTER LINE
1/2" PREMOLDED EXPANSION JOINT MATERIAL
"W"
OPENING
6'-0"
2'-0" CURB & GUTTER WIDTH
#4 BARS D
2-#6 BARS E - TOP SLAB AT 2 1/2" O.C.
#4 BARS A AT 7 1/2" O.C.
LIP OF GUTTER
CONSTRUCTION JOINT AT CONCRETE PAVEMENT WITH DOWELS #5 AT 2' O.C.
SYMMETRICAL ABOUT ℄
PLAN
NOT TO SCALE
TOP VIEW
2'-0" TO LIP OF GUTTER
BARS M
BARS N
1'-4"
WIDTH OF INLET "W"
4"
SIDE SECTION
BARS M
BARS N
2"
2"
2"
2"
6"
END VIEW
TRANSVERSE BEAM DETAIL
(FOR USE WITH 15' & 20' INLETS)
NOT TO SCALE
NOTES:
LOCATION OF MANHOLE OPENING TO BE AT OUTFALL END, UNLESS OTHERWISE DIRECTED BY THE OWNER.
CITY OF SAN ANGELO
STORM SEWER CURB INLET
S-AA-1



SECTION "A-A"
NOT TO SCALE



SECTION "B-B"
NOT TO SCALE



SECTION "C-C"
NOT TO SCALE

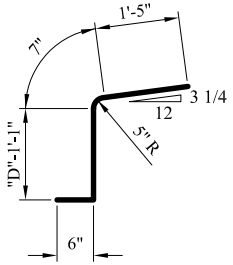
GENERAL NOTES:

1. ALL CONCRETE SHALL BE CLASS "A" CONCRETE.
2. REINFORCING BARS SHALL BE STANDARD GRADE STEEL, DEFORMED REINFORCING BARS OF A DIAMETER AND LENGTH AS SHOWN.
3. CHAMFER ALL EXPOSED CORNERS 3/4" EXCEPT WHERE OTHERWISE NOTED.
4. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
5. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMMODATE STORM SEWER PIPE.
6. RING AND COVER SHALL BE APPROVED BY THE OWNER AND INSTALLED BY THE CONTRACTOR.

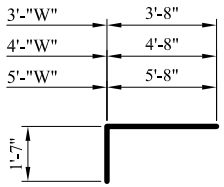
CITY OF SAN ANGELO

STORM SEWER CURB INLET
CROSS-SECTION & INLET THROAT

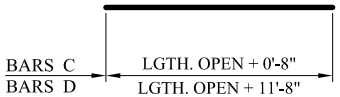
S-AA-2



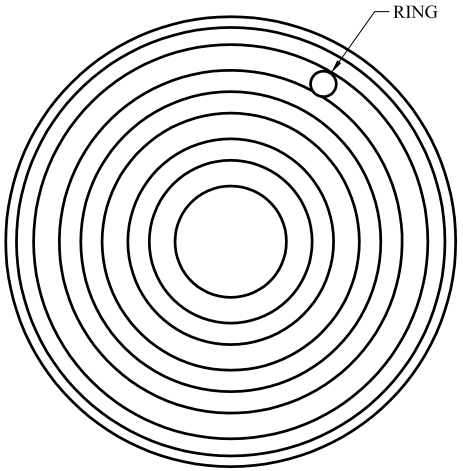
#4 BARS A
NOT TO SCALE



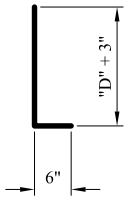
#4 BARS B
NOT TO SCALE



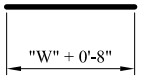
#4 BARS C & D
NOT TO SCALE



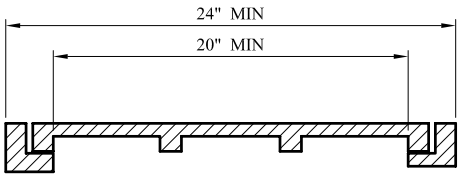
#4 BARS E
NOT TO SCALE



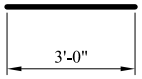
#4 BARS F
NOT TO SCALE



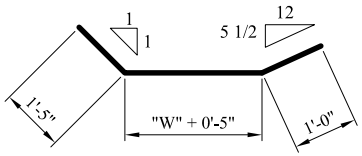
#4 BARS G
NOT TO SCALE



CAST IRON
FRAME AND COVER
NOT TO SCALE



#4 BARS J
NOT TO SCALE



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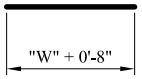


#5 BARS N
NOT TO SCALE

CITY OF SAN ANGELO

STORM SEWER CURB INLET
REBAR & MANHOLE FRAME AND COVER
S-AA-3

BILL OF REINFORCING STEEL

DEPTH "D"	ALL WIDTHS AND LENGTHS				OPENING LENGTH "L" = 5ft						OPENING LENGTH "L" = 10ft						OPENING LENGTH "L" = 15 ft								OPENING LENGTH "L" = 20 ft							
					Widths "W"						Widths "W"						Widths "W"								Widths "W"							
					3ft	4ft	5ft				3ft	4ft	5ft				3ft	4ft	5ft						3ft	4ft	5ft					
	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS
	C	D	E	J	F	F	F	A	B	G	F	F	F	A	B	G	F	F	F	A	B	G	M	N	F	F	F	A	B	G	M	N
3'-6"	17	3	2	4	20	24	28	10	10	20	28	32	36	18	18	28	36	40	44	26	26	36	2	2	44	48	52	34	34	44	2	2
3'-9"	18	"	"	"	"	"	"	"	"	20	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	"	"	44	"	"
4'-0"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"
4'-3"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"
4'-6"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
4'-9"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
5'-0"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
5'-3"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"
5'-6"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"
5'-9"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-0"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-3"	26	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-6"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"
6'-9"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"
7'-0"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-3"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-6"	30	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-9"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-0"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-3"	32	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-6"	33	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"
8'-9"	34	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"
9'-0"	35	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"
9'-3"	36	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"
9'-6"	37	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"
10'-0"	38	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"

NOTES:

FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

CITY OF SAN ANGELO

STORM SEWER CURB INLET
BILL OF REINFORCING STEEL

S-AA-4

SUMMARY OF QUANTITIES FOR CURB INLETS

DEPTH "D"	5'-0" OPENING						10'-0" OPENING						15'-0" OPENING						20'-0" OPENING					
	WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"	
	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS	CONC CY	STEEL LBS
3'-6"	2.62	306	2.95	332	3.28	373	4.12	479	4.64	521	5.20	564	5.69	667	6.40	721	7.10	775	7.20	846	8.11	909	9.03	976
3'-9"	2.70	309	3.04	341	3.39	373	4.25	494	4.78	536	5.34	579	5.87	687	6.58	741	7.30	796	7.42	874	8.34	937	9.27	1010
4'-0"	2.78	328	3.14	364	3.49	399	4.38	518	4.92	565	5.49	610	6.05	718	6.77	776	7.49	835	7.64	909	8.58	976	9.51	1046
4'-3"	2.87	334	3.23	370	3.59	406	4.51	526	5.06	573	5.64	619	6.22	729	6.95	787	7.69	847	7.87	922	8.81	990	9.75	1061
4'-6"	2.95	356	3.32	394	3.69	431	4.64	558	5.20	607	5.79	656	6.40	770	7.14	830	7.88	891	8.09	973	9.04	1043	9.99	1115
4'-9"	3.03	361	3.41	410	3.79	438	4.77	566	5.34	616	5.94	665	6.57	780	7.32	841	8.07	903	8.31	986	9.27	1056	10.23	1129
5'-0"	3.12	367	3.51	416	3.90	445	4.90	574	5.47	624	6.09	674	6.75	791	7.51	853	8.27	915	8.53	999	9.50	1070	10.47	1144
5'-3"	3.20	383	3.60	424	4.00	465	5.03	600	5.61	652	6.23	704	6.93	827	7.69	890	8.46	955	8.76	1044	9.73	1118	10.71	1194
5'-6"	3.28	389	3.69	430	4.10	472	5.16	608	5.75	661	6.38	713	7.11	837	7.88	901	8.66	967	8.98	1057	9.97	1131	10.95	1208
5'-9"	3.37	405	3.78	451	4.20	495	5.29	635	5.89	690	6.53	744	7.28	874	8.07	940	8.85	1007	9.20	1102	10.20	1178	11.19	1258
6'-0"	3.45	415	3.88	460	4.30	504	5.42	646	6.03	702	6.68	757	7.45	888	8.25	954	9.05	1022	9.42	1119	10.43	1196	11.43	1276
6'-3"	3.53	425	3.97	470	4.41	515	5.55	661	6.17	718	6.83	773	7.63	908	8.44	975	9.24	1044	9.64	1147	10.66	1223	11.67	1305
6'-6"	3.62	437	4.06	486	4.51	532	5.68	681	6.31	739	6.97	797	7.81	935	8.62	1005	9.43	1057	9.87	1178	10.89	1258	11.92	1340
6'-9"	3.70	441	4.15	490	4.61	537	5.81	688	6.45	747	7.12	806	7.98	945	8.81	1015	9.63	1066	10.09	1191	11.12	1272	12.15	1355
7'-0"	3.78	460	4.25	510	4.71	560	5.94	716	6.59	777	7.27	837	8.16	981	8.99	1053	9.82	1126	10.31	1237	11.35	1319	12.40	1404
7'-3"	3.86	465	4.34	516	4.81	567	6.07	724	6.72	785	7.42	846	8.33	992	9.18	1065	10.02	1138	10.53	1249	11.59	1333	12.64	1418
7'-6"	3.95	477	4.43	529	4.91	570	6.20	742	6.86	804	7.57	866	8.51	1016	9.36	1089	10.21	1163	10.75	1290	11.82	1365	12.88	1451
7'-9"	4.03	491	4.53	544	5.02	597	6.33	762	7.00	826	7.71	890	8.67	1040	9.55	1116	10.41	1193	10.98	1313	12.05	1399	13.12	1498
8'-0"	4.12	496	4.62	550	5.12	604	6.46	770	7.14	834	7.86	899	8.86	1051	9.73	1129	10.60	1205	11.20	1325	12.28	1412	13.36	1510
8'-3"	4.20	504	4.71	559	5.22	613	6.59	784	7.28	849	8.01	915	9.04	1069	9.92	1149	10.80	1228	11.42	1353	12.51	1440	13.60	1529
8'-6"	4.28	519	4.80	576	5.32	632	6.71	804	7.42	871	8.16	938	9.21	1107	10.10	1176	10.99	1257	11.64	1385	12.74	1474	13.84	1565
8'-9"	4.37	528	4.90	586	5.42	643	6.84	819	7.56	886	8.31	954	9.39	1119	10.29	1199	11.18	1280	11.87	1410	12.97	1500	14.08	1592
9'-0"	4.45	545	4.99	605	5.53	664	6.97	842	7.70	912	8.46	982	9.56	1148	10.47	1231	11.38	1313	12.09	1447	13.21	1539	14.32	1631
9'-3"	4.53	554	5.08	614	5.63	674	7.10	858	7.84	929	8.60	999	9.74	1169	10.66	1252	11.57	1335	12.31	1474	13.44	1563	14.56	1660
9'-6"	4.62	568	5.17	630	5.73	692	7.23	878	7.97	950	8.75	1022	9.92	1195	10.84	1280	11.77	1365	12.53	1505	13.67	1600	14.80	1696
10'-0"	4.78	582	5.36	645	5.93	708	7.49	900	8.11	974	9.05	1048	10.27	1227	11.21	1312	12.16	1399	12.98	1546	14.13	1642	15.29	1739

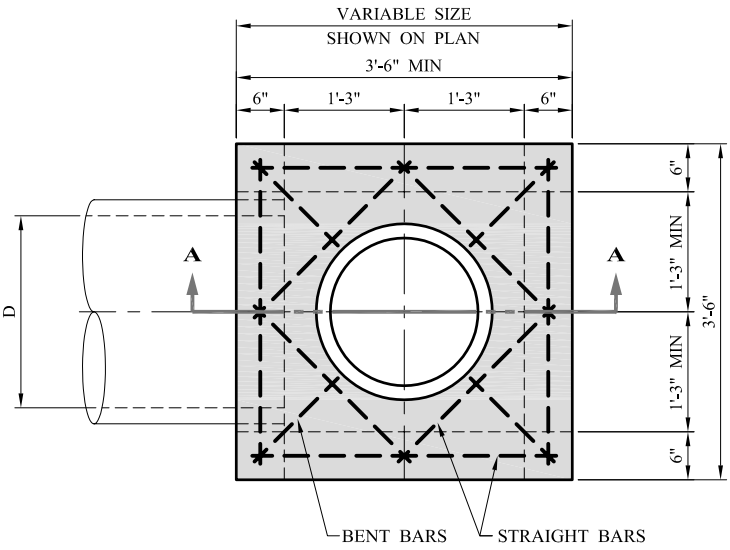
NOTES:

FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

CITY OF SAN ANGELO

STORM SEWER CURB INLET
SUMMARY OF QUANTITIES

S-AA-5

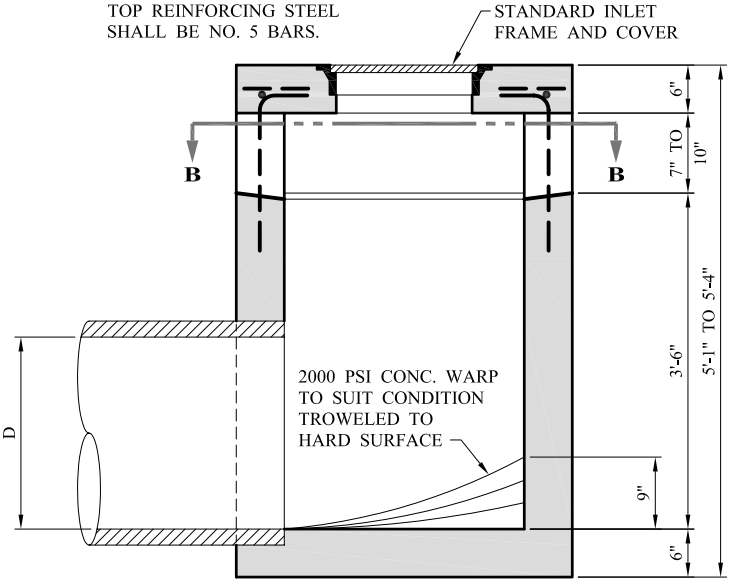


PLAN OF TYPE "Y" INLET

SCALE: 1/2" = 1'-0"

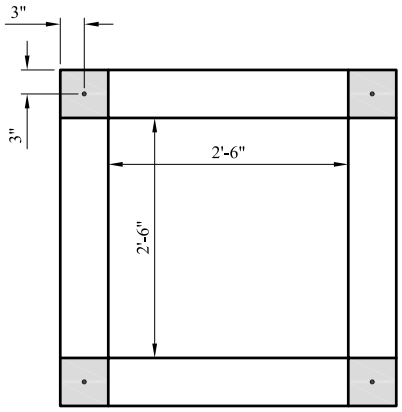
NOTE:

TOP REINFORCING STEEL SHALL BE NO. 5 BARS.



SECTION "A - A"

SCALE: 1/2" = 1'-0"



OPENING MAY BE ON 1, 2, 3 OR ALL SIDES AS SHOWN ON THE PLANS

SECTION "B-B"

SCALE: 1/2" = 1'-0"

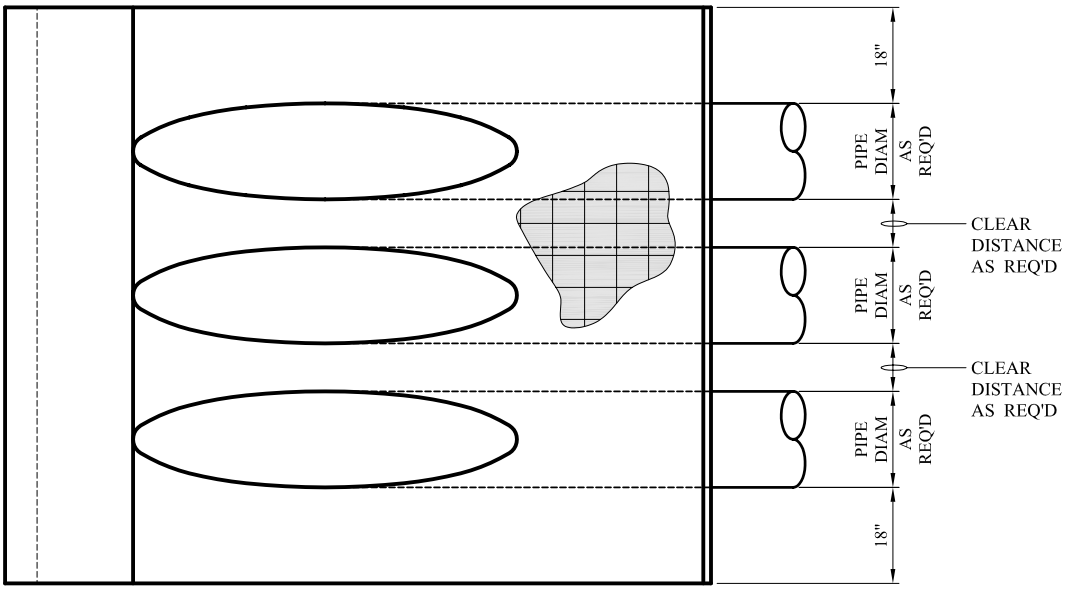
GENERAL NOTES:

1. WHEN CONDITIONS WARRANT THE NEED OF CUTTING EXISTING ROADWAYS FOR SUBSURFACE LINE REPAIRS ON INSTALLATION, THE METHODS AS SHOWN BY EXISTING ROADWAY STREET REPAIR DETAILS SHALL APPLY.
2. ALL EDGES OF EXISTING ASPHALT OR CONCRETE ROADWAYS WHEN REMOVAL IS NECESSARY SHALL BE SAWED OR SQUARED OFF TO PRODUCE A UNIFORM PATCH AND NEAT EDGES PRIOR TO REPLACING EXISTING ROADWAY SURFACE.
3. ALL BACKFILLING OPERATIONS AND PIPE EMBEDMENTS SHALL APPLY AS NOTED ON "SANITARY SEWER DETAILS" SHEET AND SHALL BE PROPERLY COMPACTED PRIOR TO PAVEMENT REPLACEMENT.
4. REPAIRS OF ASPHALTIC ROADWAYS SHALL BE REPLACED WITH A MINIMUM OF 6" TYPE "D" ASPHALTIC CONCRETE AND SHALL BE INSTALLED IN 2 - 3" COMPACTED LIFTS.
5. FINISHED SEALER COURSE FOR BRICK ROADWAY REPAIR SUBJECT TO APPROVAL BY ENGINEER OR DEPARTMENT OF PUBLIC WORKS.

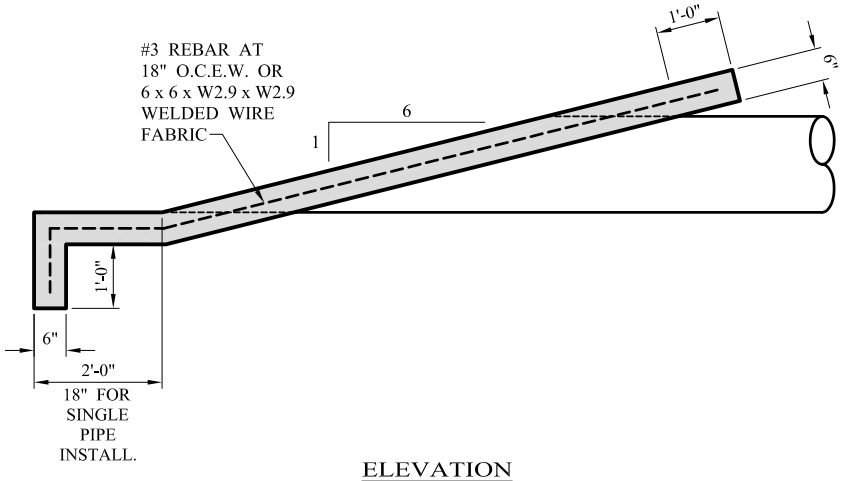
CITY OF SAN ANGELO

"Y" STORM SEWER INLET DETAILS

S-AA-6



PLAN VIEW
NOT TO SCALE



ELEVATION
NOT TO SCALE

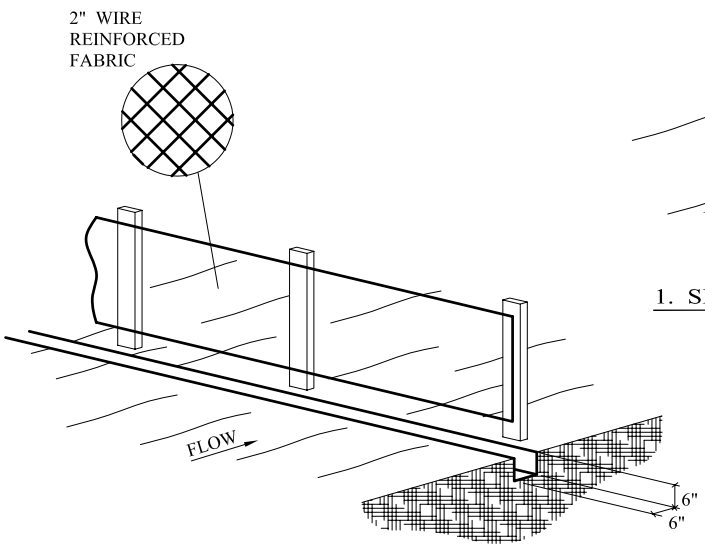
NOTES FOR MULTIPLE INSTALLATIONS:

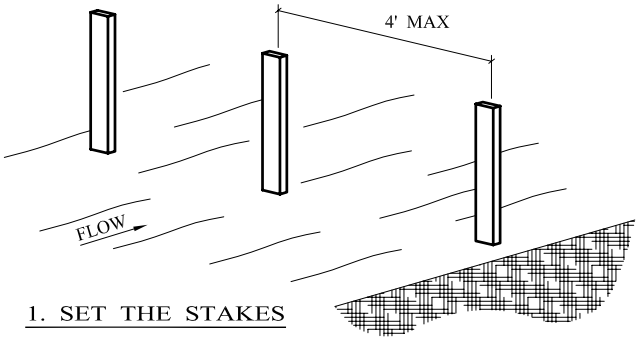
1. CLEAR DISTANCE BETWEEN PIPES SHALL BE A MINIMUM OF 9" FOR 12" AND 15" DIAMETERS, 14" FOR 18" DIAMETERS, AND 20" FOR 30" DIAMETERS.
2. FOR SINGLE INSTALLATIONS, A DISTANCE OF 18" IS REQUIRED FROM OUTSIDE OF PIPE TO OUTSIDE OF HEADWALL.
3. CLASS "A" CONCRETE.

CITY OF SAN ANGELO

SLOPED HEADWALL

S-BB-1



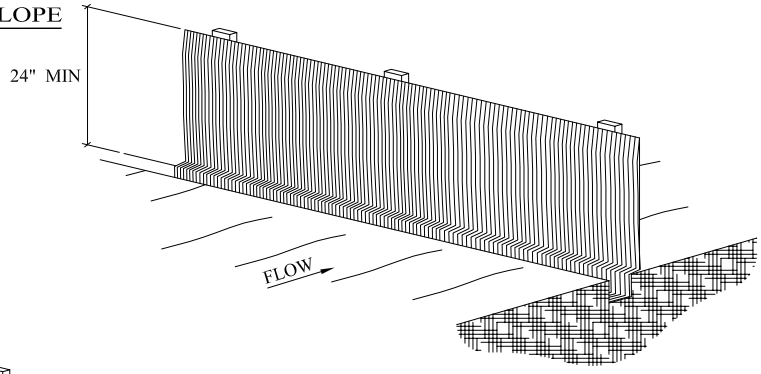


1. SET THE STAKES

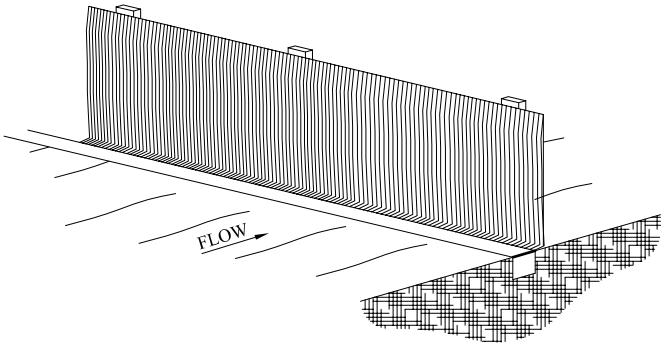
NOTE:

WOODEN STAKES OR STEEL TEE POST ACCEPTABLE. WIRE REINFORCED FABRIC SHALL BE SECURELY ATTACHED TO THE POST. FABRIC WILL ALWAYS BE ON THE SIDE FACING THE FLOW.

2. EXCAVATE A 6" x 6" TRENCH UPSLOPE ALONG THE LINE OF STAKES



3. STAPLE OR TIE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH



4. BACKFILL AND COMPACT THE EXCAVATED SOIL

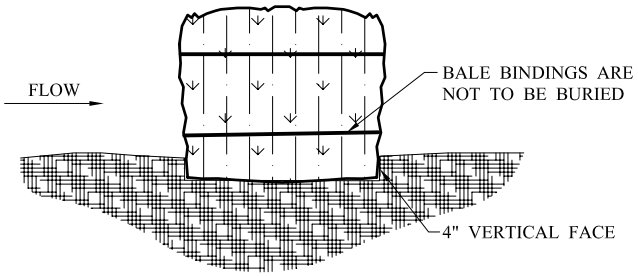
NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. A CITY-APPROVED FILTER FABRIC WILL BE USED.
3. THE TRENCH MUST BE MINIMUM OF 6 INCHES DEEP AND 6 INCHES 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 WOODEN OR STEEL SUPPORT POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED, WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH $\geq$1/2" RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF SAN ANGELO

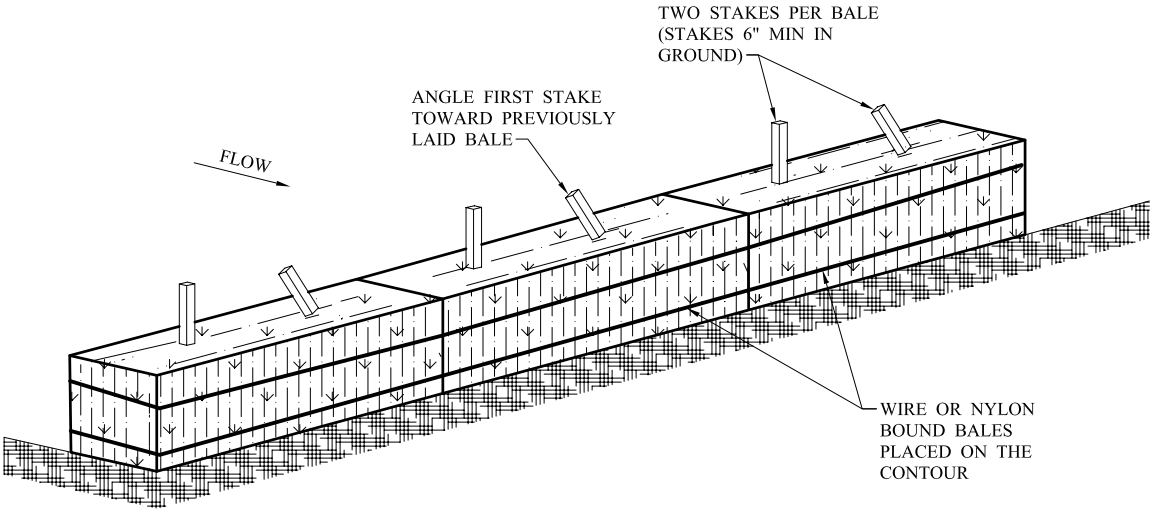
SILT FENCE STANDARDS

S-CC-1



EMBEDDING DETAIL

NOT TO SCALE



ANCHORING DETAIL

NOT TO SCALE

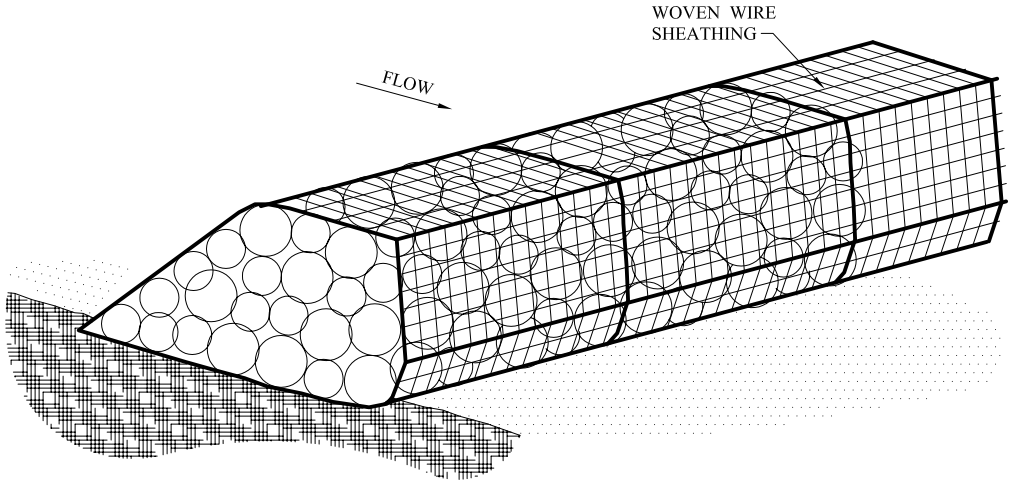
STRAW BALE DIKE GENERAL NOTES:

1. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF FOUR INCHES.
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
3. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH $\geq$1/2" RAINFALL EVENT. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
4. WHEN SILT REACHES A DEPTH OF 6 INCHES, IT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.
5. AFTER THE DISTURBED AREAS OF THE SITE ARE COMPLETELY STABILIZED, THE BALES SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED SPOIL DISPOSAL SITE.

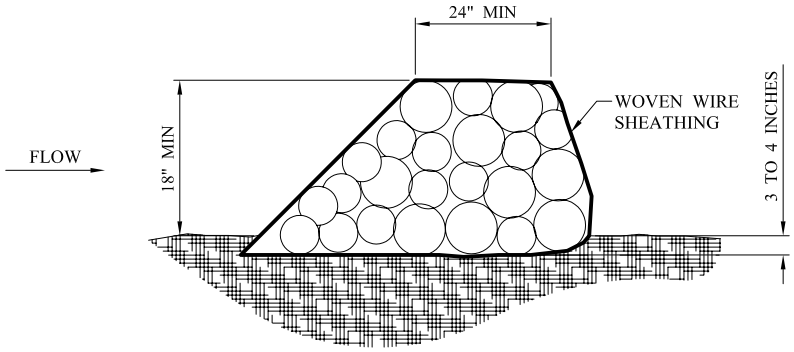
CITY OF SAN ANGELO

STRAW BALE DIKE

S-CC-2



ISOMETRIC PLAN VIEW
NOT TO SCALE



CROSS SECTION
NOT TO SCALE

ROCK BERM GENERAL NOTES:

1. USE ONLY OPEN GRADED ROCK 4-8 INCHES IN DIAMETER FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK 3-5 INCHES IN DIAMETER FOR OTHER CONDITIONS.

2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING A MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE SIZE OF 20 GAUGE AND SHALL BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.

3. THE ROCK BERM SHALL BE INSPECTED EVERY TWO WEEKS OR AFTER EACH $\geq$ 1/2" RAIN EVENT AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF PROPERLY.

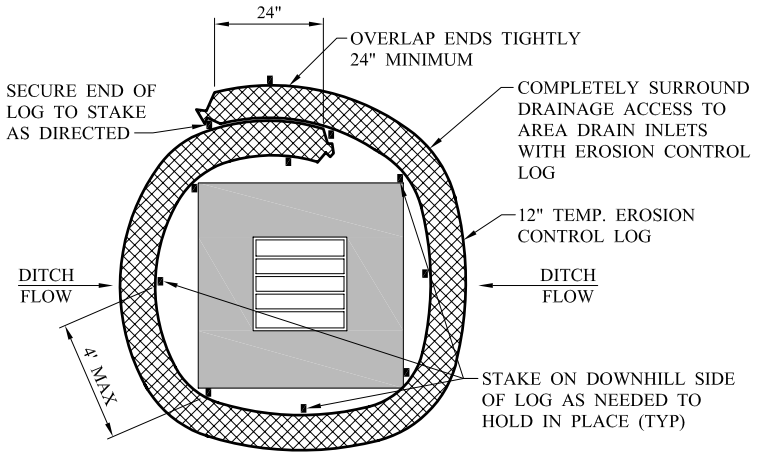
5. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

6. ROCK BERM SHOULD BE USED AS CHECK DAMS FOR CONCENTRATED FLOW AND ARE NOT INTENDED FOR USE IN PERIMETER PROTECTION.

CITY OF SAN ANGELO

ROCK BERM

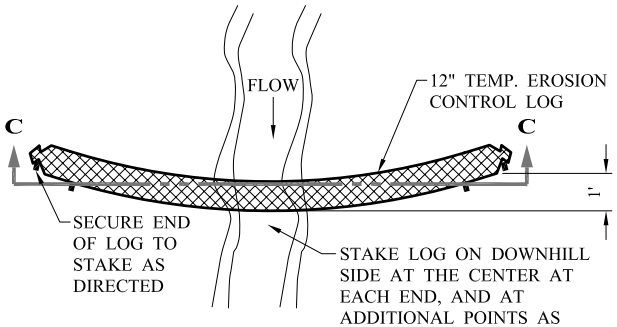
S-CC-3



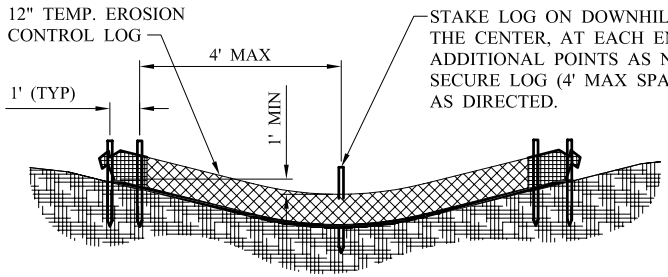
LOGS PLACED AT AREA DRAIN INLETS
NOT TO SCALE

GENERAL NOTES:

1. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED. MAXIMUM LENGTH OF LOGS SHALL BE 60' FOR 18" DIAMETER OR 30' FOR 12" DIAMETER LOGS.
2. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WITH REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
3. STUFF LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE DENSITY THAT WILL HOLD SHAPE WITHOUT EXCESSIVE DEFORMATION.
4. STAKES SHALL BE 2" x 2" WOOD OR T-POSTS 4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED.
5. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.



PLAN VIEW
NOT TO SCALE



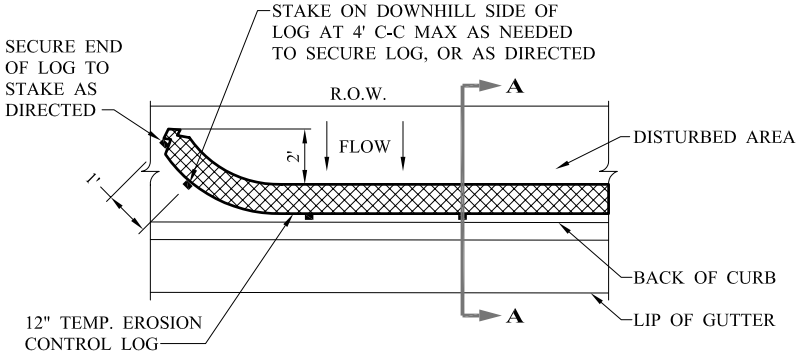
SECTION C-C
NOT TO SCALE

EROSION CONTROL LOG CHECK DAM
NOT TO SCALE

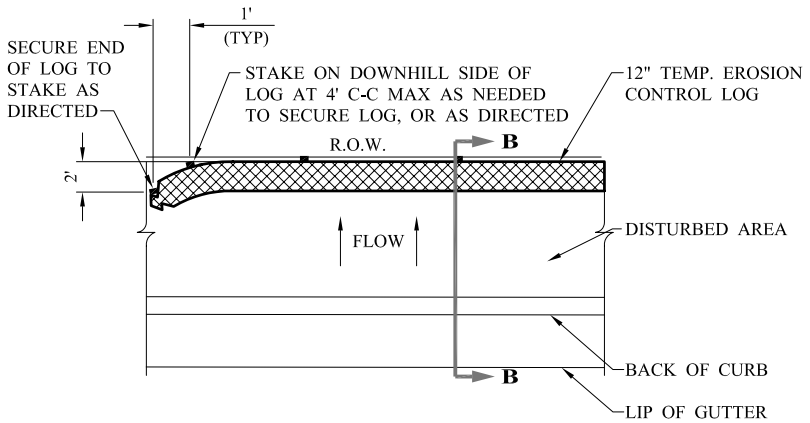
CITY OF SAN ANGELO

TEMPORARY EROSION
CONTROL LOGS

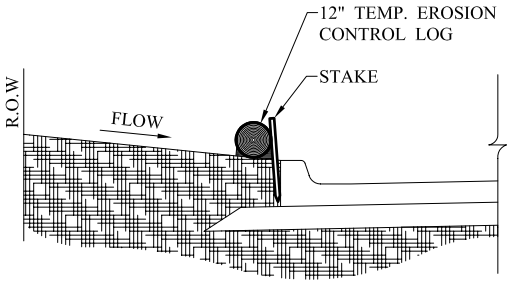
S-CC-4



PLAN VIEW
NOT TO SCALE

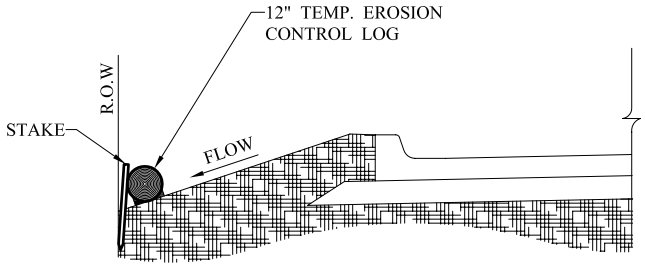


PLAN VIEW
NOT TO SCALE



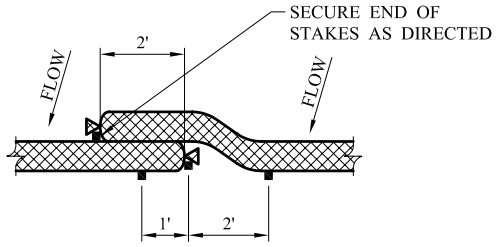
SECTION A-A

LOG PLACED AT BACK OF CURB
NOT TO SCALE



SECTION B-B

LOG PLACED AT EDGE OF RIGHT-OF-WAY
NOT TO SCALE



LAP DETAIL
NOT TO SCALE

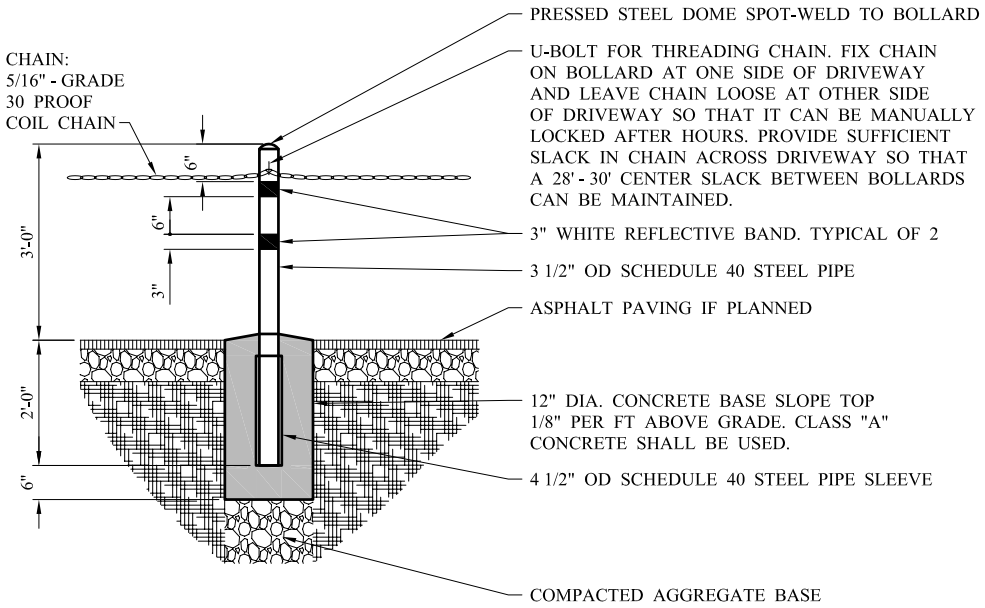
NOTES

SEE SHEET S-CC-4 FOR GENERAL NOTES.

CITY OF SAN ANGELO

TEMPORARY EROSION
CONTROL LOGS

S-CC-5

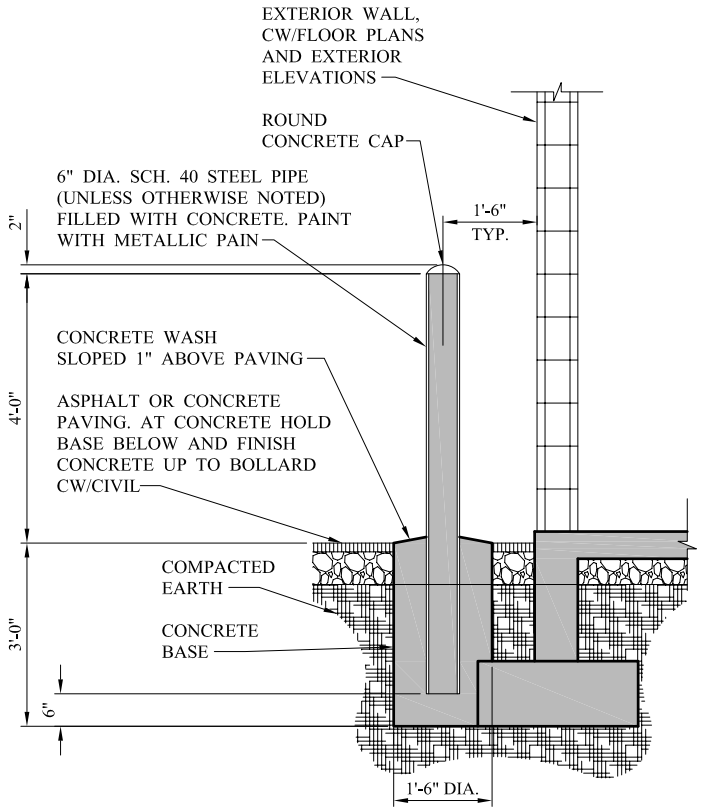


4" DIA. PIPE BOLLARD WITH CHAIN

NOT TO SCALE

NOTES:

1. ALL METAL COMPONENTS ARE TO BE GALVANIZED.
2. VERIFY LOCATIONS OF UNDERGROUND UTILITIES BEFORE DIGGING CONCRETE FOUNDATION.
3. BOLLARDS ARE TYPICALLY SPACED 15' TO 18' APART.
4. ATTACH CHAIN TO BOLLARD AS FOLLOWS: WELD A U-BOLT (WITH THREADS CUT OFF) WITH TOP OF BOLT 2" FROM TOP OF BOLLARD. SPOT WELD ONE SIDE ONLY. ATTACH CHAIN LINK TO THE BOLT IN THE FIELD AND FIELD WELD THE OTHER SIDE REGALVANIZED IN THE FIELD.
5. PROVIDE REMOVABLE BOLLARD SLEEVES AND SLEEVE CAPS OF DRIVEWAY LOCATIONS WHERE BOLLARD WHERE SPACING WILL EXCEED 15' TO 18' TYPICALLY.
6. ALL PARKING SPACES, BOLLARDS ARE TO BE PLACED 3' TO FRONT OF CURB UNLESS OTHERWISE NOTED. COORDINATE IN FIELD WITH ADJOINING LANDSCAPE SIGNS.



6" DIA. PIPE BOLLARD

NOT TO SCALE

PIPE BOLLARD WITH CHAIN

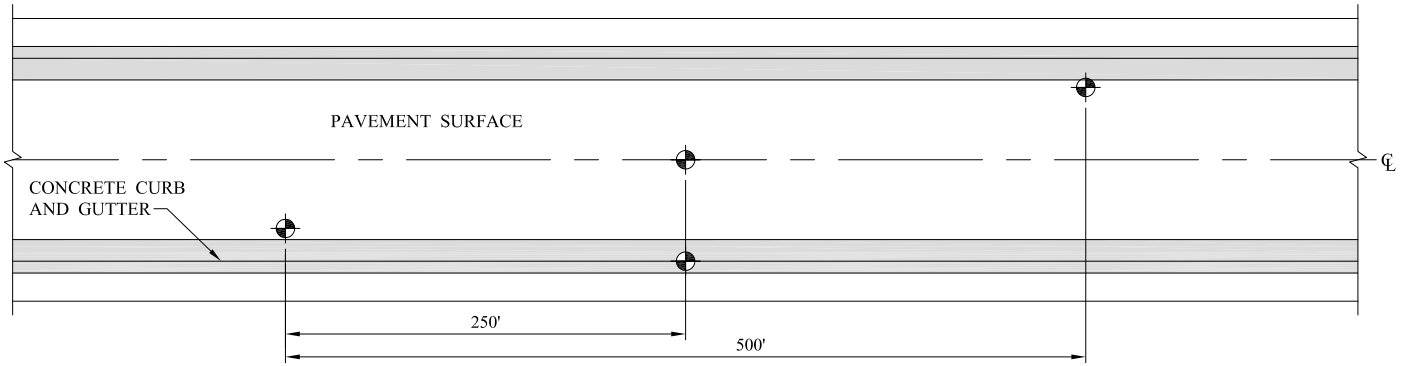
NOT TO SCALE

CITY OF SAN ANGELO

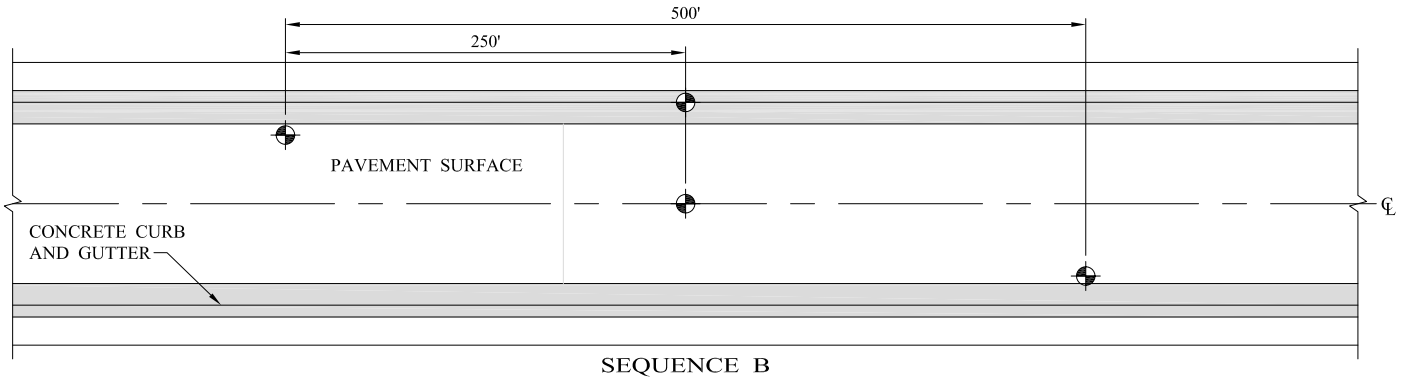
PIPE BOLLARD WITH CHAIN

S-DD-1

BASE COURSE AND SUBGRADE SOILS TESTING



SEQUENCE A



SEQUENCE B

PLAN VIEW

NOT TO SCALE

NOTES:

1. LOCATIONS OF TESTS ON DRAWING ARE TYPICAL SEQUENCE, EXACT LOCATIONS OF TESTING SHALL BE AT THE INSPECTORS DISCRETION. THE TOTAL NUMBER OF TESTS SHOWN SHALL NOT EXCEED THAT SHOWN PER LENGTH OF STREET.
2. BEFORE CONSTRUCTION INITIATION, THE CONTRACTOR SHALL SUBMIT THE NAME OF THE INDEPENDENT TESTING LABORATORY TO BE USED FOR THE CITY'S REVIEW AND APPROVAL.
3. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING A COPY OF ALL OFFICIAL TEST RESULTS TO THE CITY.
4. IF THE DENSITY REQUIREMENTS SPECIFIED ARE NOT MET, THE CONTRACTOR WILL RECONSTRUCT THE PROBLEM AREA AND RE-TEST, AT HIS/HER EXPENSE, AS NECESSARY UNTIL SPECIFIED DENSITY REQUIREMENTS ARE MET.
5. IF THE CONTRACTOR CHANGES MATERIAL TYPE AND OR SOURCE DURING CONSTRUCTION, THE INSPECTOR MAY, AT HIS DISCRETION, REQUIRE ADDITIONAL TESTING OF SOURCE MATERIAL AS REQUIRED TO ASSURE CONFORMANCE WITH SPECIFICATIONS.
6. FOR STREETS LESS THAN 500 FEET IN LENGTH, A MINIMUM OF 3 TEST LOCATIONS.
7. FOR CUL-DE-SACS, A MINIMUM OF 1 TEST IN THE CUL-DE-SAC.

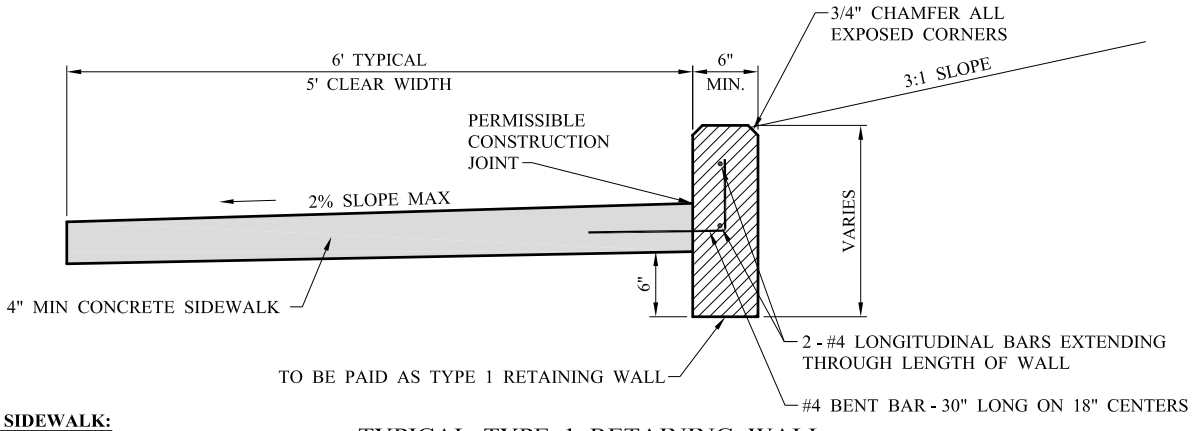
LEGEND

⊕ TEST LOCATION

CITY OF SAN ANGELO

STREET TESTING
CITY SUBDIVISIONS

S-EE-1



TYPICAL TYPE 1 RETAINING WALL

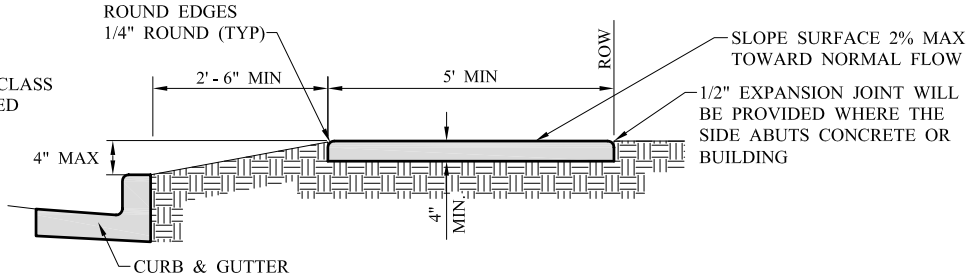
NOT TO SCALE

5' WIDE SIDEWALK:

GROOVED CONTRACTION JOINTS EVERY 5' AND EXPANSION JOINTS EVERY 40'.

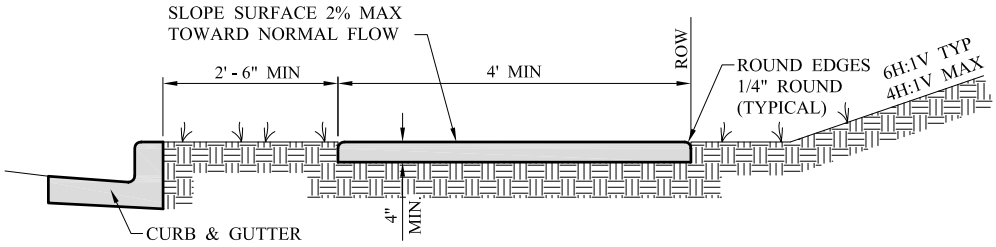
NOTE:

ALL SIDEWALKS SHALL BE A CLASS "A" CONCRETE AND REINFORCED WITH 6"x6" W2.9xW2.9 WWF OR #3 BARS AT 18" O.C.E.W.



ARTERIAL AND COLLECTOR STREETS

NOT TO SCALE

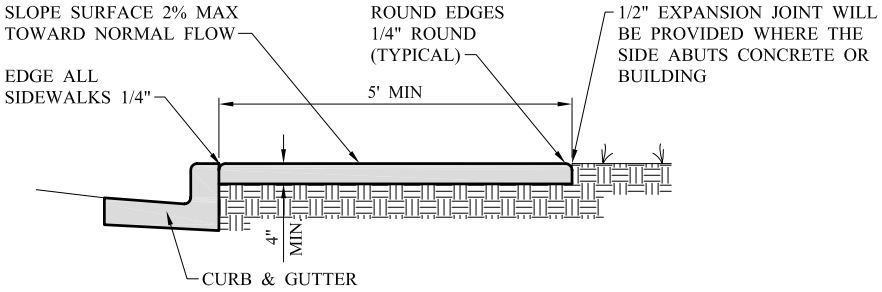


RESIDENTIAL STREET

NOT TO SCALE

4' WIDE SIDEWALK:

GROOVED CONTRACTION JOINTS EVERY 4' AND EXPANSION JOINTS EVERY 32'.



RESIDENTIAL STREET "ALTERNATE"

NOT TO SCALE

NOTES:

1. 6" SUBGRADE SHALL BE COMPACTED TO AN EQUIVALENT OF 95% STANDARD PROCTOR DENSITY.
2. A ROUGH BROOM FINISH IS PREFERRED.
3. LONGITUDINAL SLOPE OF SIDEWALK SHALL NOT EXCEED 5% , AND CROSS SLOPE OF SIDEWALK SHALL NOT EXCEED 2%.
4. WET SUBGRADE SHALL BE CORRECTED PRIOR TO PLACEMENT OF CONCRETE.
5. ALL SIDEWALKS ACROSS DRIVEWAYS SHALL BE 6" REINFORCED CONCRETE. SEE CONCRETE APPROACH SHEET S-X-2.
6. IN NARROW RIGHT OF WAY SITUATIONS, THE MINIMUM CLEAR WIDTH OF SIDEWALK SHALL BE 36 INCHES.

CITY OF SAN ANGELO

CONCRETE SIDEWALKS

S-FF-1