CITY OF BARSTOW DETAILS INDEX

SECTION 1: STREET IMPROVEMENT

SECTION 2: SEWER AND SANITATION

CITY OF BARSTOW DETAILS INDEX

SECTION 2: SEWERS AND SANITATION CONTINUED

SECTION 3: FLOOD CONTROL & STORM DRAIN FACILITIES

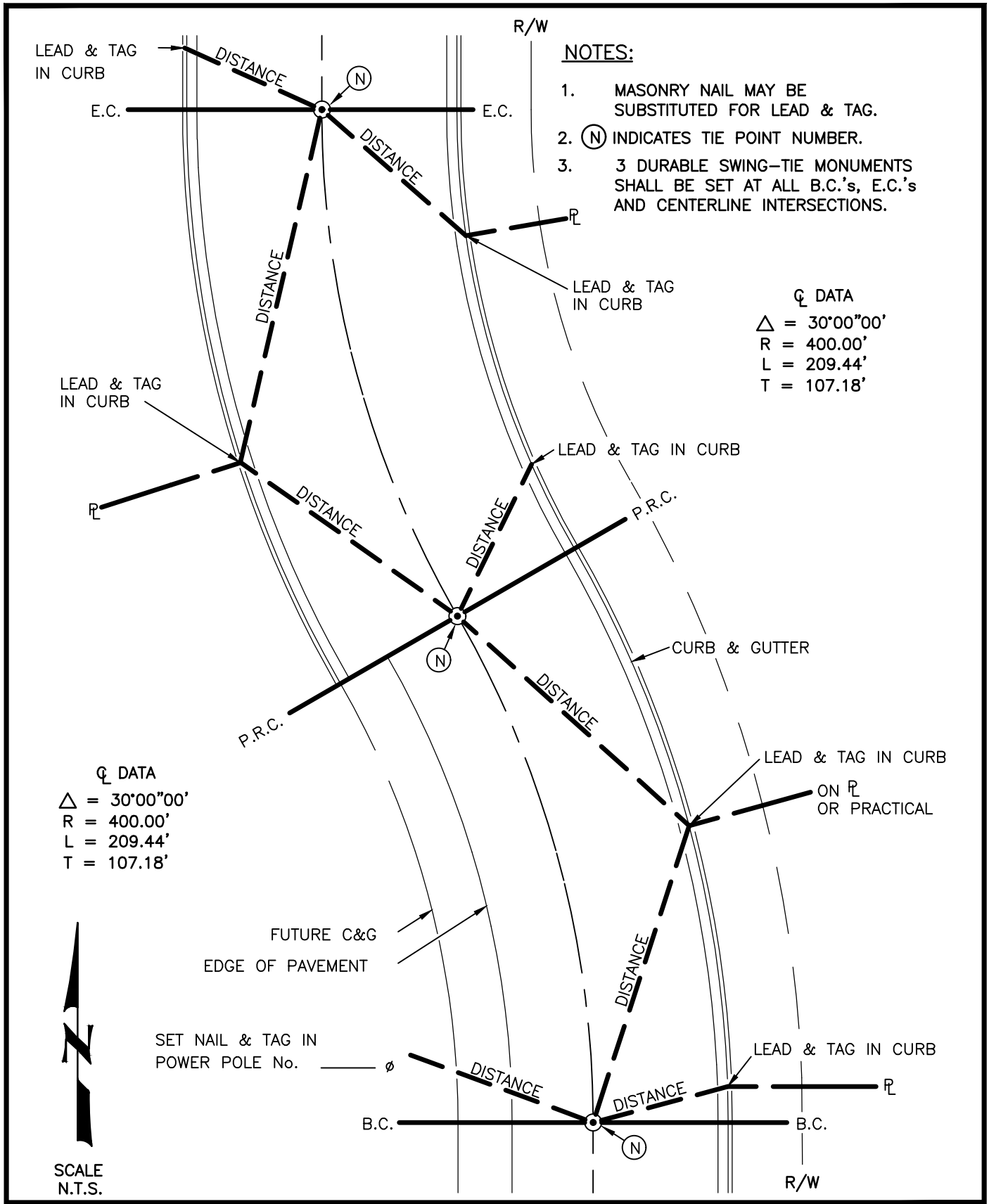
SECTION 4: STREET LIGHTING AND TRAFFIC SIGNALS

SECTION 5: LANDSCAPING AND IRRIGATION SYSTEMS

CITY OF BARSTOW DETAILS INDEX

SECTION 5: LANDSCAPING AND IRRIGATION SYSTEMS CONTINUED

SECTION 6: GENERAL FACILITIES



NOTES:

1. MASONRY NAIL MAY BE SUBSTITUTED FOR LEAD & TAG.
2. (N) INDICATES TIE POINT NUMBER.
3. 3 DURABLE SWING–TIE MONUMENTS SHALL BE SET AT ALL B.C.'s, E.C.'s AND CENTERLINE INTERSECTIONS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

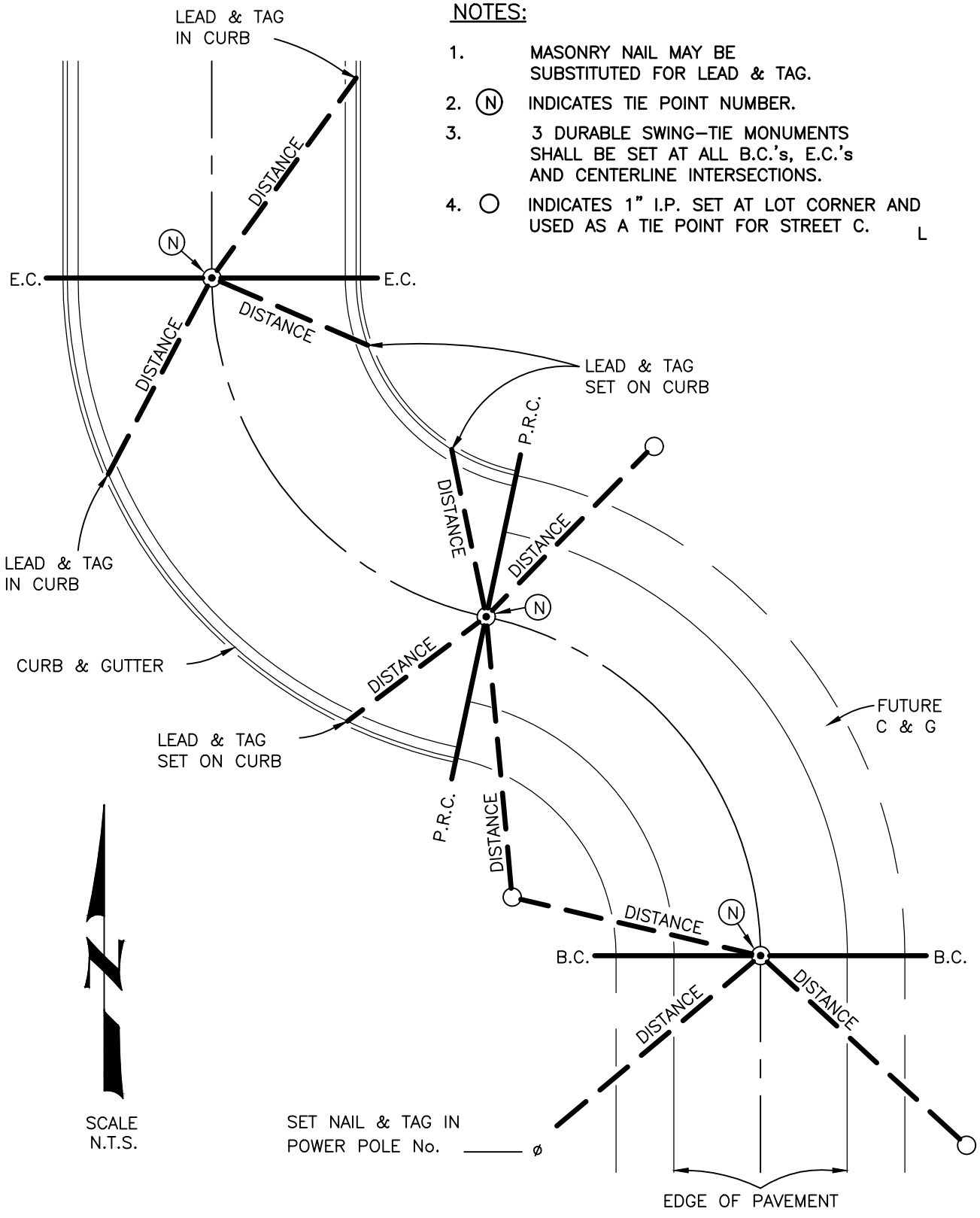
DATE:
08/01/20

CENTERLINE SURVEY TIES STANDARD 1

STANDARD PLAN NO.
100

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1



CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

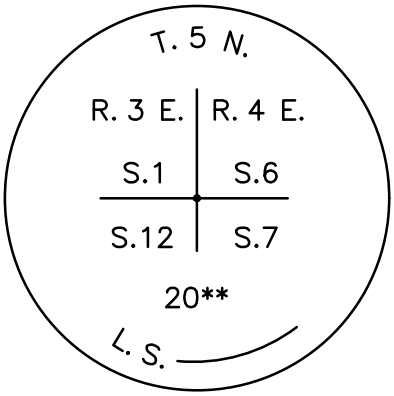
DATE:
08/01/20

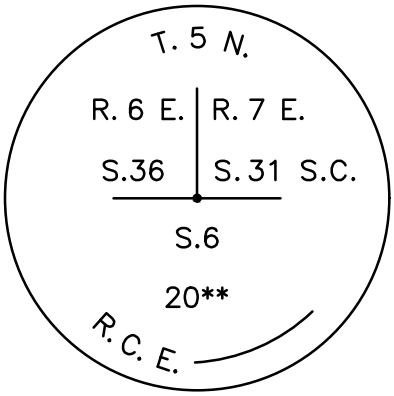
CENTERLINE SURVEY TIES STANDARD 2

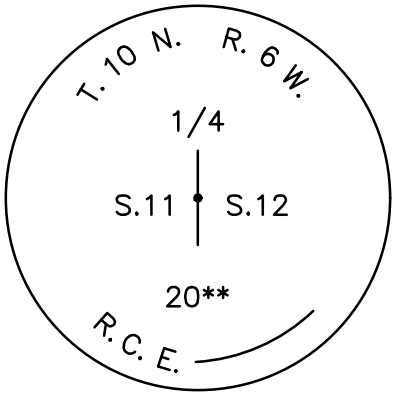
STANDARD PLAN NO.
101

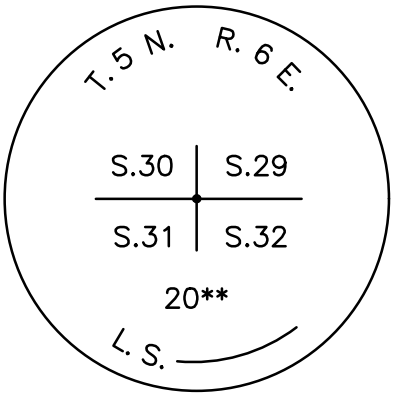
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

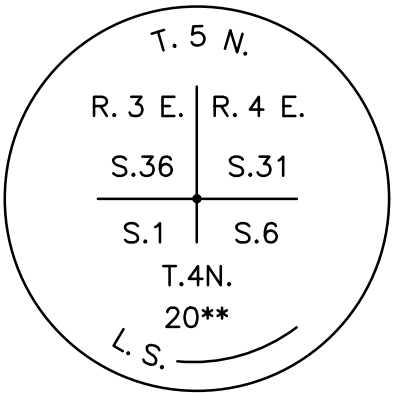
SHEET 1 OF 1











EXAMPLES OF BRASS CAP MONUMENTATION
AT SECTIONAL CORNERS

NOTES:

1. FOR REPLACEMENT OF P.L.S.S. CORNERS SUCH AS SECTION CORNERS OR QUARTER CORNERS, USE A 2" IRON PIPE WITH A BRASS CAP STAMPED AS SHOWN ABOVE. ALL OTHER SURVEY MONUMENTS TO BE PER VICTORVILLE MUNICIPLE CODE TITLE 17.

2. ** – DENOTES YEAR NUMBER OF MONUMENTATION.

CITY OF BARSTOW - STANDARD PLANS

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CROSSROADS OF OPPORTUNITY

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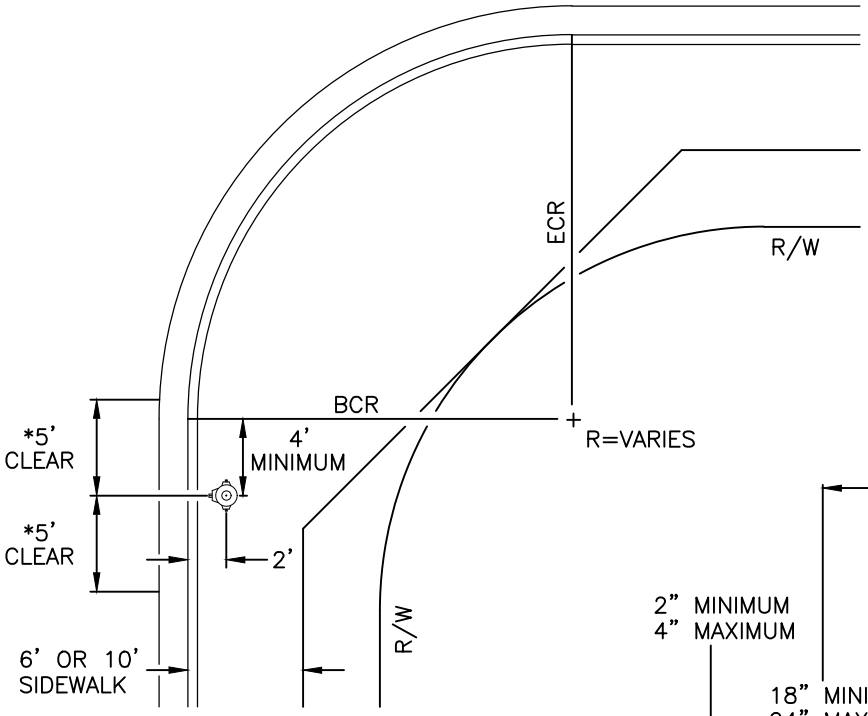
DATE:
08/01/20

P.L.S.S. SURVEY
SURVEY MONUMENT REPLACEMENT

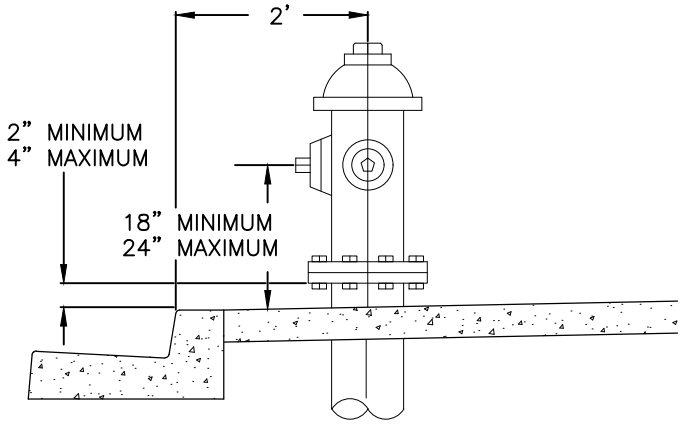
STANDARD PLAN NO.
102

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1



LOCATION
STREET INTERSECTION OR
COMMERCIAL DRIVE APPROACH
TYPE 3



ELEVATION
NOT TO SCALE

NOTES:

1. FIRE HYDRANTS ARE TO HAVE 6 INCH BARRELS WITH 2 EACH 2 INCH AND 1/2 1 EACH 4 INCH OUTLETS WITH NATIONAL STANDARD THREADS. HYDRANTS SHALL BE OF THE DRY BARREL, SELF DRAINING TYPE AND PAINTED SAFETY YELLOW AND BE APPROVED BY THE FIRE CHIEF.
2. FIRE HYDRANTS SHALL BE LOCATED AT STREET INTERSECTIONS AS SHOWN AT EITHER THE ECR OR BCR AND ELSEWHERE AS REQUIRED AT PROPERTY LINES. HYDRANTS SHALL BE PLACED PER SAN BERNARDINO COUNTY FIRE DEPARTMENT SPACING REQUIREMENTS.
3. * A CLEAR WORKING AREA OF 5 FEET EITHER SIDE OF THE HYDRANT SHALL BE MAINTAINED. NO STRUCTURE; INCLUDING STREET LIGHTS, POWER POLES, UTILITY CABINETS OR MAILBOXES, SHALL BE ERECTED IN THIS AREA THAT PROJECT ABOVE THE TOP OF SIDEWALK.
4. PAINT TOP AND FACE OF CURB 15 FEET EITHER SIDE OF A FIRE HYDRANT RED (IE. NO PARKING). THE CURB IN A CURB RETURN OR DRIVEWAY APPROACH NEED NOT BE PAINTED.
5. RETROFITTED FIRE HYDRANTS SHALL HAVE THE SIDEWALK AND CURB & GUTTER SAWCUT, REMOVED AND REPLACED AT THE NEAREST SCORE LINE PER CITY STANDARDS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.
6. FIRE HYDRANTS SHALL NOT BE LOCATED WITHIN 2 FEET OF A WING OF A DRIVEWAY.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
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CITY ENGINEER

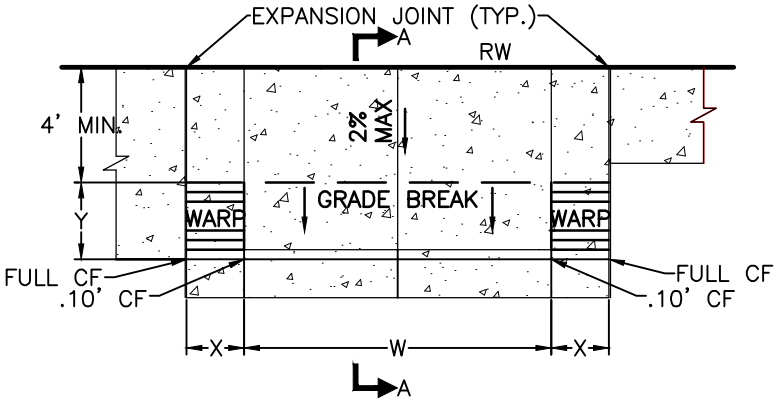
DATE:
08/01/20

FIRE HYDRANT LOCATION

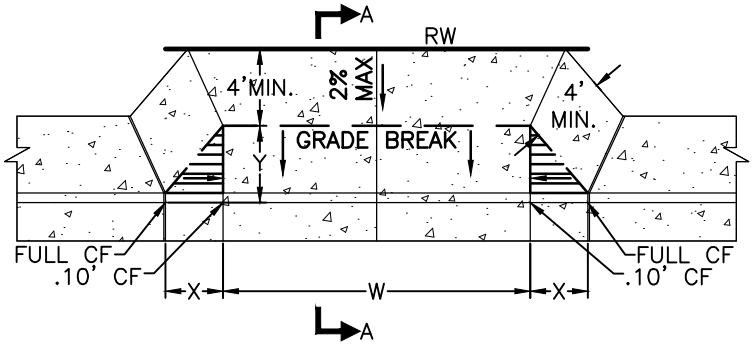
STANDARD PLAN NO.
103

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1

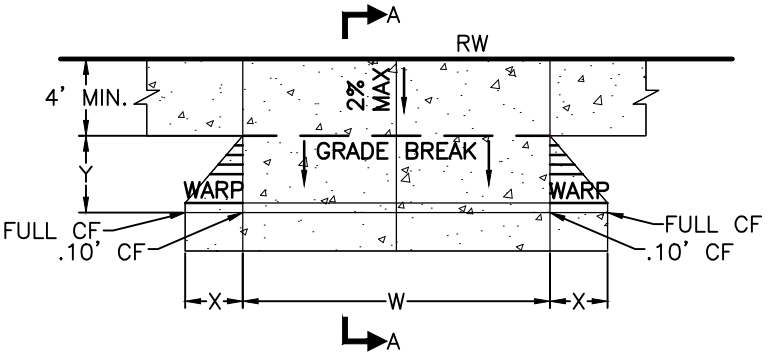


CASE A



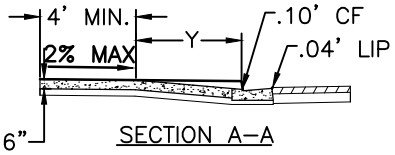
CASE B

TYPE 1



CASE B

TYPE 2



SECTION A–A

TOP OF X CLEARANCE	RES.
PROPERTY LINE	3'
ABOVE GROUND UTILITIES	5'
STREET TREE	12'
BCR/ECR	5'

TYPE	MIN. W	MAX. W
RESIDENTIAL(1)	12'	16'
RESIDENTIAL(2)	16'	28'
RESIDENTIAL(3)	26'	35'

(1) SINGLE –DOUBLE CAR GARAGE
(2) THREE CAR GARAGE
(3) MULTI–FAMILY

CURB FACE	X	Y
6" OR LESS	3'–0"	4'–0"
7"	3'–6"	4'–9"
8"	4'–0"	5'–8"
9"	4'–6"	6'–6"
10"	5'–0"	7'–3"
11"	5'–6"	8'–0"
12" OR MORE	6'–0"	8'–9"

NOTES:

1. RESIDENTIAL DRIVEWAYS SHALL BE 6" THICK CLASS 560–C–3250 PCC.
2. SUBGRADE SHALL CONFORM TO SECTION 301–1 OF THE SSPWC.
3. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH 1/2" RADIUS.
4. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED 10' ON CENTER.
5. REFER TO LOCAL DEVELOPMENT REGULATIONS FOR AMERICANS WITH DISABILITIES ACCESS REQUIREMENTS AND MAXIMUM PERMITTED DRIVEWAY WIDTHS.
6. TWO DRIVEWAYS SERVING ONE RESIDENTIAL PARCEL IS PERMITTED ONLY IF THE FRONT FOOTAGE EXCEEDS 80 FEET AND CONFORMS TO THE CITY DESIGN STANDARDS.
7. DRIVEWAYS SERVING ONE RESIDENTIAL PARCEL SHALL BE SEPARATED AT LEAST 20 FEET BY FULL HEIGHT CURB.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

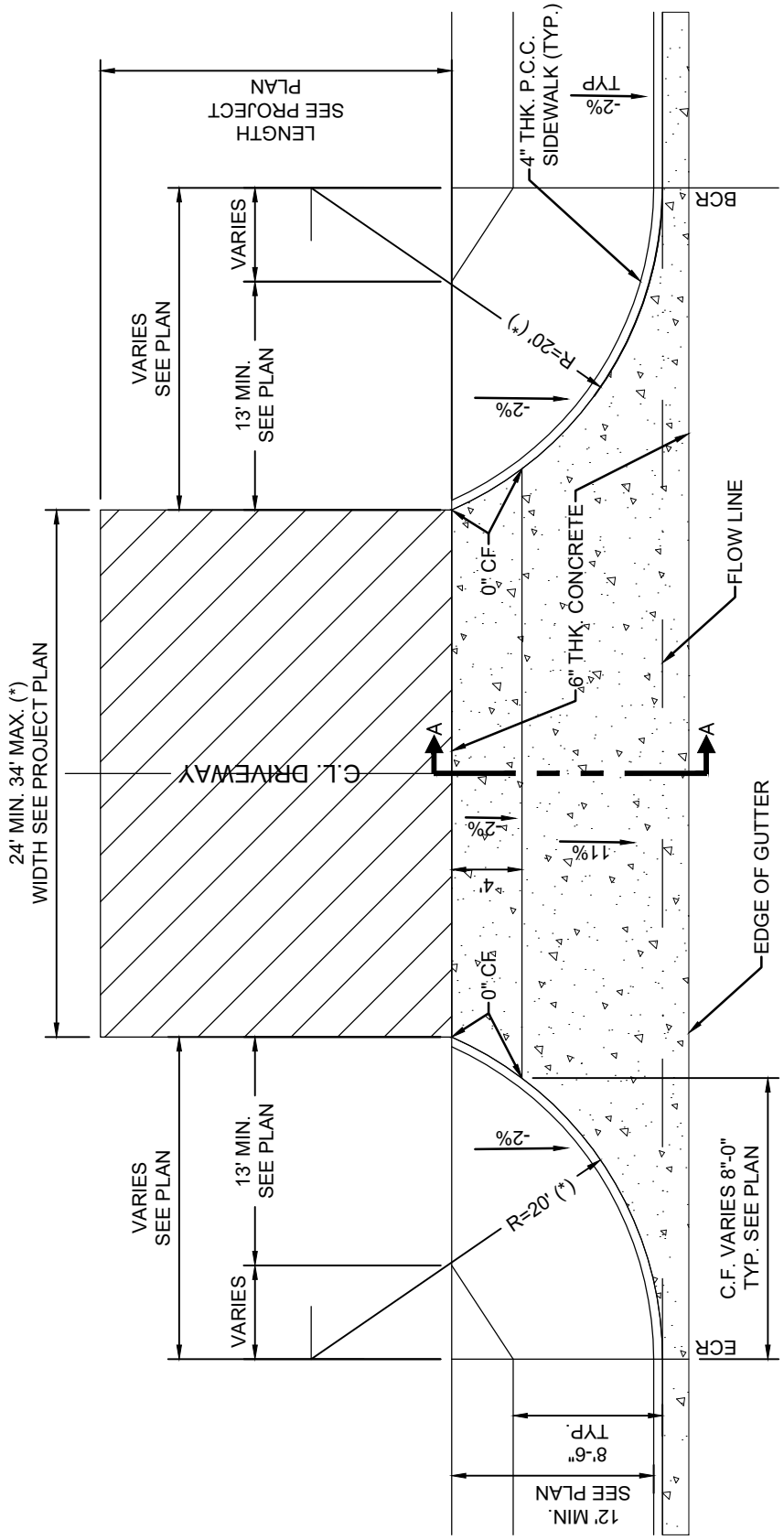
DATE:
08/01/20

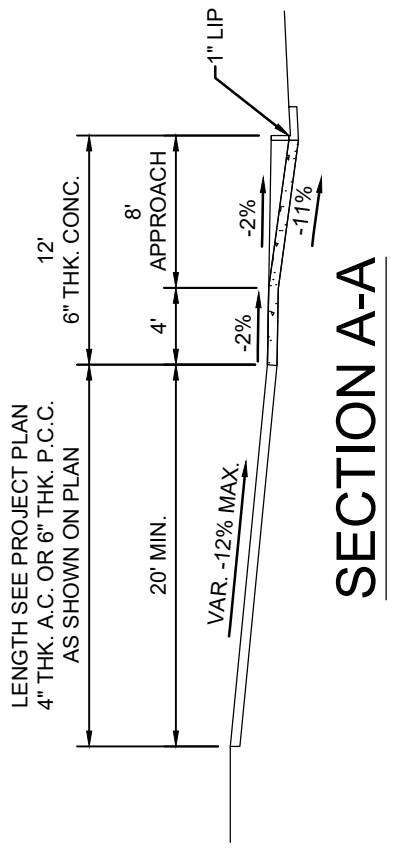
RESIDENTIAL DRIVEWAY APPROACHES

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
110

SHEET 1 OF 1





SECTION A-A

(*) THE CURB RETURN RADIUS AND / OR MAX. WIDTH OF DRIVEWAY SHALL BE INCREASED TO ACCOMMODATE A TRUCK TURNING PATH.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

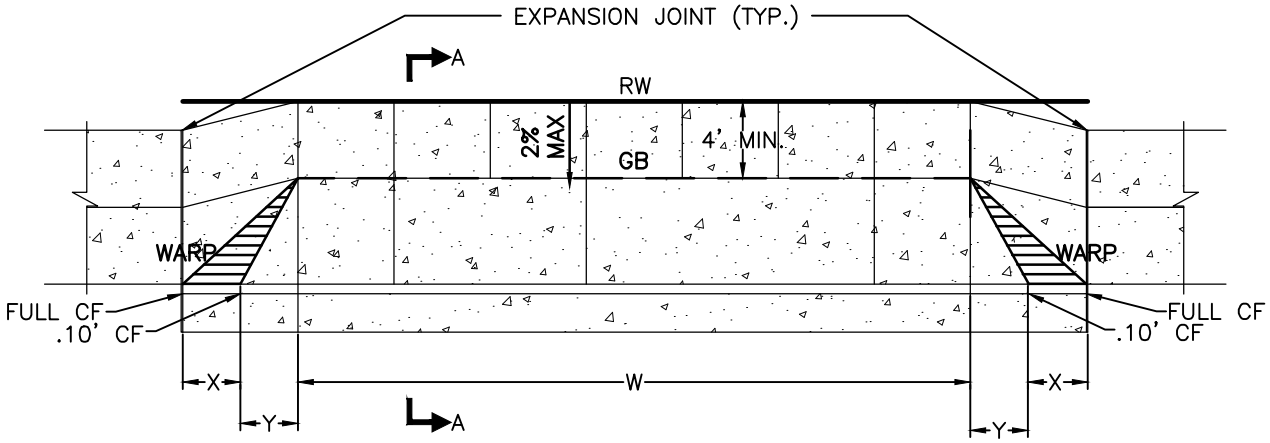
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

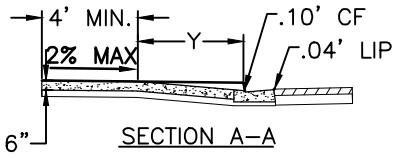
COMMERCIAL DRIVEWAY APPROACHES

STANDARD PLAN NO.
111

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



CASE C



SECTION A–A

TYPE	MIN. W	MAX. W
COMMERCIAL	26'	35'
INDUSTRIAL	26'	40'

CURB FACE	X	Y
6" OR LESS	3'–0"	4'–0"
7"	3'–6"	4'–9"
8"	4'–0"	5'–8"
9"	4'–6"	6'–6"
10"	5'–0"	7'–3"
11"	5'–6"	8'–0"
12" OR MORE	6'–0"	8'–9"

NOTES:

1. COMMERCIAL DRIVEWAYS SHALL BE 6" THICK CLASS 560–C–3250 PCC.
2. SUBGRADE SHALL CONFORM TO SECTION 301–1 OF THE SSPWC.
3. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH 1/2" RADIUS.
4. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED 10' ON CENTER.
5. REFER TO LOCAL DEVELOPMENT REGULATIONS FOR AMERICANS WITH DISABILITIES ACCESS REQUIREMENTS AND MAXIMUM PERMITTED DRIVEWAY WIDTHS.

TOP OF X CLEARANCE	COM.
BCR/ECR	150'

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

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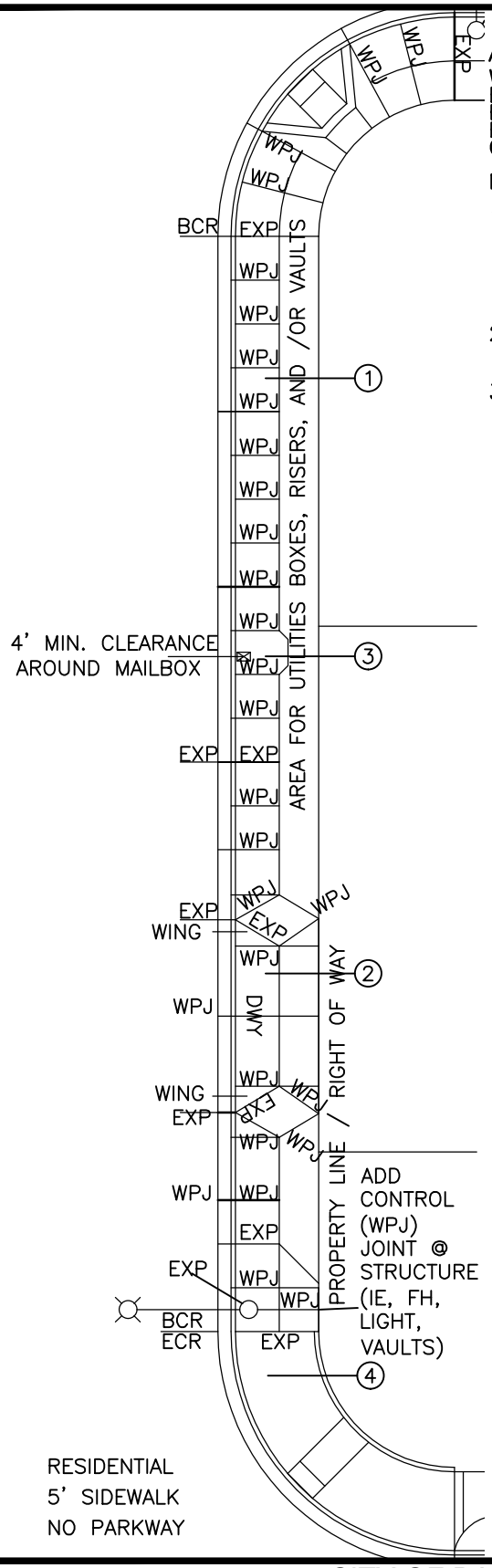
COMMERCIAL DRIVEWAY APPROACHES

STANDARD PLAN NO.
111

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



ABBREVIATIONS:

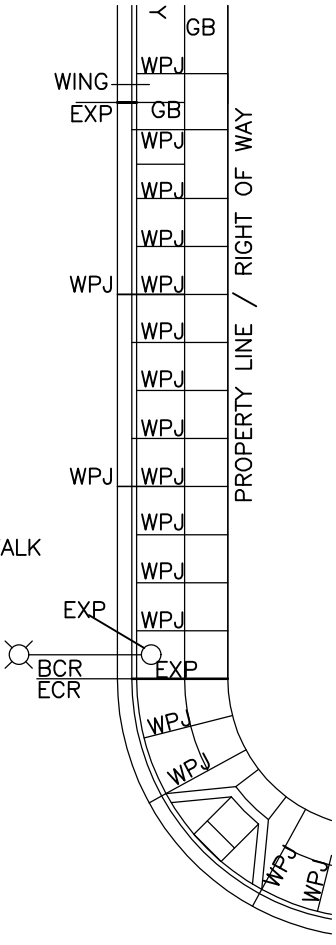
WPJ WEAKENED PLANE JOINT
EXP EXPANSION PLANE JOINT
BCR BEGINNING OF CURB RETURN
ECR END OF CURB RETURN
GB GRADE BREAK

NOTES:

1. WEAKENED PLANE JOINTS SHALL BE USED FOR ALL JOINTS, EXCEPT THAT EXPANSION JOINTS SHALL BE PLACED AT THE BCR, ECR, TOP OF DRIVEWAY DEPRESSIONS IN CURB, GUTTER AND SIDEWALKS AND AROUND UTILITY POLES LOCATED IN SIDEWALK AREAS AND AT 60' INTERVALS IN BETWEEN OR AS DIRECTED BY THE CITY INSPECTOR.
2. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT REGULAR INTERVALS NOT EXCEEDING 5' IN SIDEWALKS AND 20' IN GUTTERS. JOINTS IN CURB AND SIDEWALK SHALL BE ALIGNED.
3. CURB AND GUTTER SHALL BE CONSTRUCTED SEPARATELY FROM SIDEWALK AND DRIVEWAYS.

(1) SEE SIDEWALK STANDARD
(2) SEE DRIVEWAY STANDARD
(3) SEE MAIL BOX STANDARD
(4) SEE CURB RAMP STANDARD

SCORE LINE DIMENSIONS	
W	L
4'	4'
5'	5'
6'	5'
8'	4'
10'	5'



COMMERCIAL 10' SIDEWALK

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

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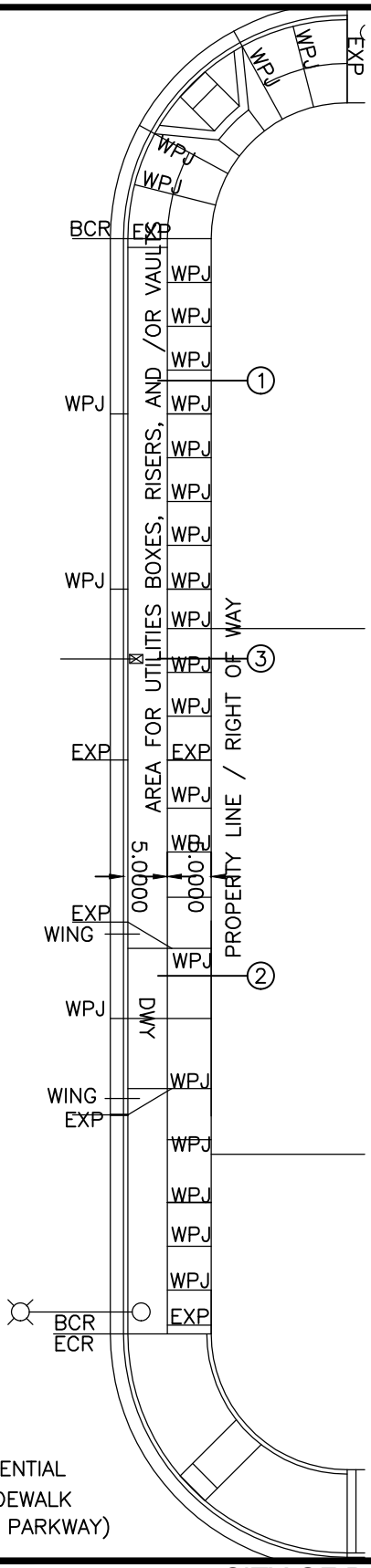
DATE:
08/01/20

CURB AND SIDEWALK JOINTS

STANDARD PLAN NO.
112

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



RESIDENTIAL
5' SIDEWALK
(W / PARKWAY)

ABBREVIATIONS:

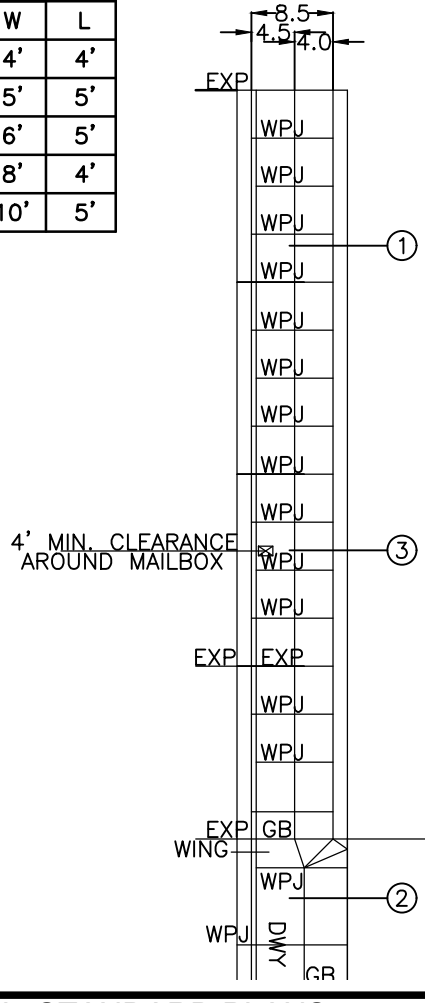
WPJ WEAKENED PLANE JOINT
EXP EXPANSION PLANE JOINT
BCR BEGINNING OF CURB RETURN
ECR END OF CURB RETURN
GB GRADE BREAK

NOTES:

1. WEAKENED PLANE JOINTS SHALL BE USED FOR ALL JOINTS EXCEPT THAT EXPANSION JOINTS SHALL BE PLACED AT THE BCR, ECR, TOP OF DRIVEWAY DEPRESSIONS IN CURB, GUTT AND SIDEWALKS AND AROUND UTILITY POLES LOCATED IN SIDEWALK AREAS AND AT 60' INTERVALS IN BETWEEN OR A DIRECTED BY THE CITY INSPECTOR.
2. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT REGU INTERVALS NOT EXCEEDING 5' IN SIDEWALKS AND 20' IN G JOINTS IN CURB AND SIDEWALK SHALL BE ALIGNED.
3. CURB AND GUTTER SHALL BE CONSTRUCTED SEPARATELY F SIDEWALK AND DRIVEWAYS.

(1) SEE SIDEWALK STANDARD
(2) SEE DRIVEWAY STANDARD
(3) SEE MAIL BOX STANDARD
(4) SEE CURB RAMP STANDARD

SCORE LINE DIMENSIONS	
W	L
4'	4'
5'	5'
6'	5'
8'	4'
10'	5'



CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

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BRAD S. MERRELL
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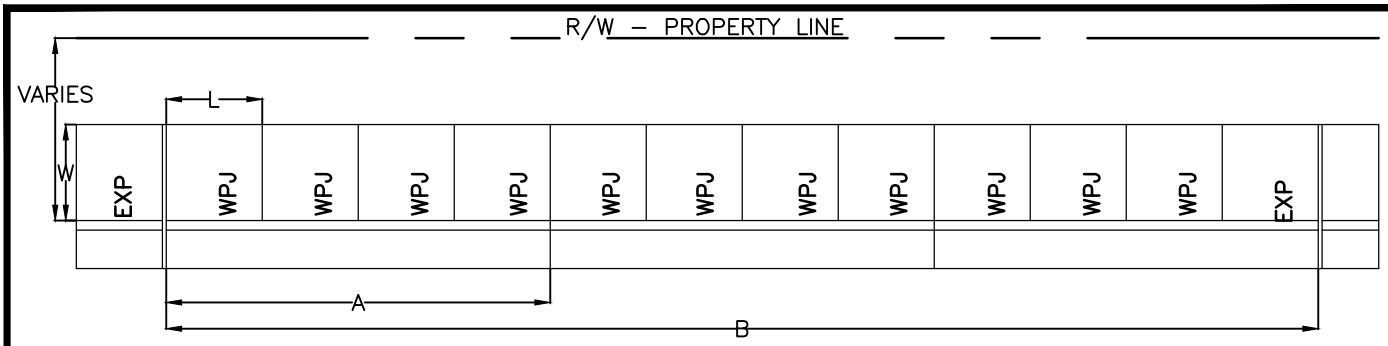
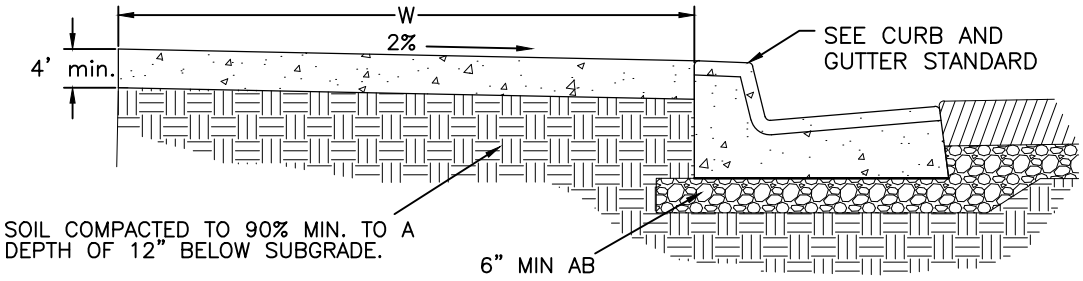
08/01/20

CURB AND SIDEWALK JOINTS

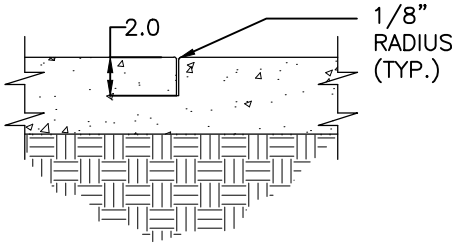
STANDARD PLAN NO.
112

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

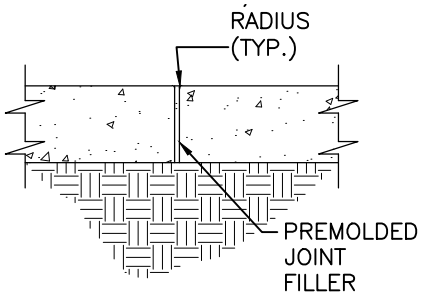




SIDEWALK CROSS – SECTION



WEAKENED PLANE JOINT



EXPANSION JOINT

NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, EXCEPT AS OTHERWISE NOTED.
2. WEAKENED PLANE JOINTS SHALL BE USED FOR ALL JOINTS, EXCEPT THAT EXPANSION JOINTS SHALL BE PLACED AT THE BCR, ECR, AND AT 120' INTERVALS IN BETWEEN, OR AS DIRECTED BY THE CITY INSPECTOR.
3. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT REGULAR INTERVALS NOT EXCEEDING 5' IN SIDEWALKS AND 20' IN CURB AND GUTTERS. JOINTS IN CURB AND SIDEWALK SHALL BE ALIGNED.
4. CURB AND GUTTER SHALL BE CONSTRUCTED SEPARATELY FROM SIDEWALK AND DRIVEWAYS.
5. LONGITUDINAL SCORING LINES WILL BE REQUIRED IN WALKS WIDER THAN 6 FEET.
6. SIDEWALK SHALL BE PLACED ON SOIL WITH A MINIMUM COMPACTION OF 90% TO A DEPTH PF 12" BELOW SUBGRADE.

CONTROL JOINTS			
W	L	A	B
4'	4'	16'	120'
5'	5'	20'	120'
6'	5'	18'	120'
8'	4'	16'	120'
10'	5'	20'	120'

WEAKENED PLANE JOINT NOTE:

AFTER PRELIMINARY TROWELING, THE CONCRETE SHALL BE PARTED TO A DEPTH OF 2 INCHES WITH A STRAIGHTEDGE TO CREATE A DIVISION IN THE COARSE AGGREGATE. THE CONCRETE SHALL THEN BE REFLOATED TO FILL THE PARTED JOINT WITH MORTAR. HEADERS SHALL BE MARKED TO LOCATE THE WEAKENED PLANE FOR FINAL JOINT FINISHING, WHICH SHALL BE ACCOMPLISHED WITH A JOINTER TOOL HAVING A DEPTH OF $\frac{1}{2}$" AND A RADIUS OF $\frac{1}{8}$". THE FINISHED JOINT OPENING SHALL NOT BE WIDER THAN $\frac{1}{8}$".

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
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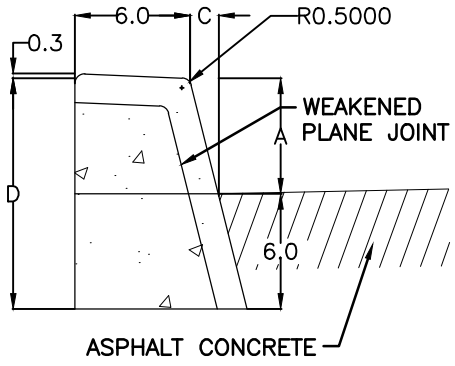
DATE:
08/01/20

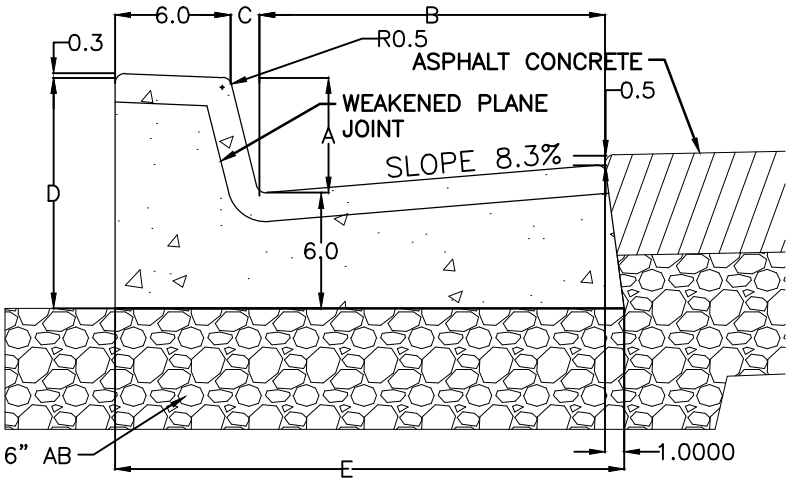
SIDEWALK

STANDARD PLAN NO.
114

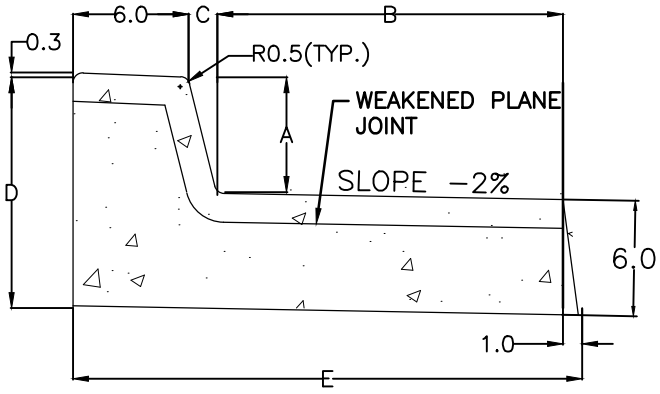
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1





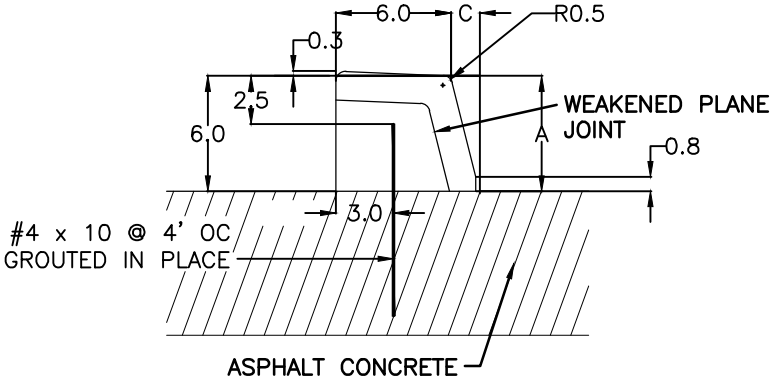
A2–6 AND A2–8



A3–6 AND A3–8

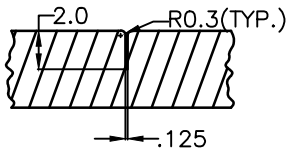
NOTES:

1. THE LAST NUMBER IN THE DESIGNATION IS THE CURB FACE (A) HEIGHT.
2. CURB AND GUTTER SHALL BE CONSTRUCTED MONOLITHICALLY OF CLASS 560–C–3250 PCC.
3. CURB AND GUTTER SHALL CONFORM TO SSPWC SECTION 303–5.
4. SUBGRADE SHALL CONFORM TO SECTION 301–1 OF THE SSPWC.
5. TYPE B1 CURB SHALL BE ANCHORED WITH STEEL DOWELS AS SHOWN OR WITH AN EPOXY APPROVED BY THE CITY ENGINEER.
6. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH 1/2" RADIUS.
7. WEAKEN PLANE JOINTS SHALL BE CONSTUCTED 20' ON CENTER.
8. EXPANSION JOINT SHALL CONSTRUCTED 150' ON CENTER, AT EACH BCR AND ECR, AND AROUND UTILITY POLES.
9. FLOW LINE SHALL HAVE A 4" WIDE SHINER.



B1–6 AND B1–8

DIMENSIONS				
A	B	C	D	E
6"	24"	1.50"	12"	32.50"
8"	24"	2.00"	14"	33.00"



DETAIL
WEAKENED PLANE JOINT

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

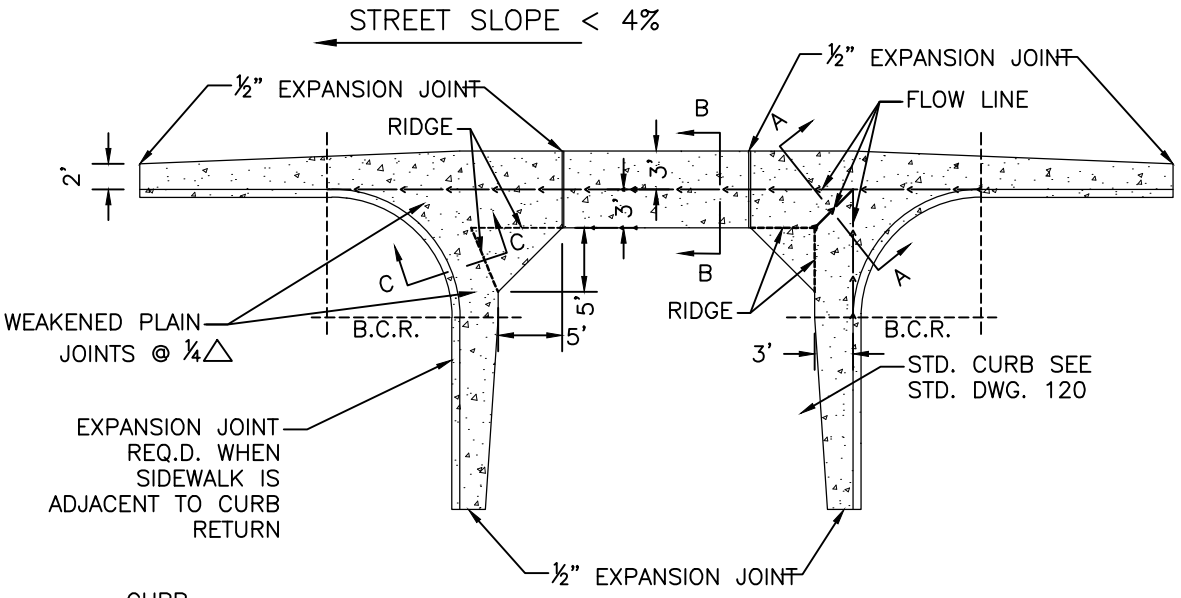
DATE:
08/01/20

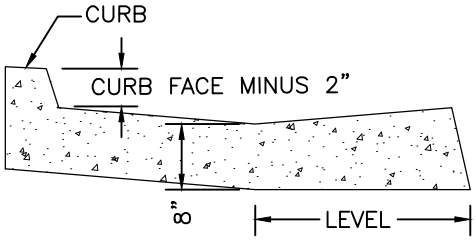
CURB AND GUTTER - BARRIER

STANDARD PLAN NO.
120

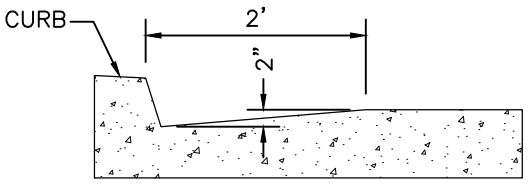
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1





SECTION A–A



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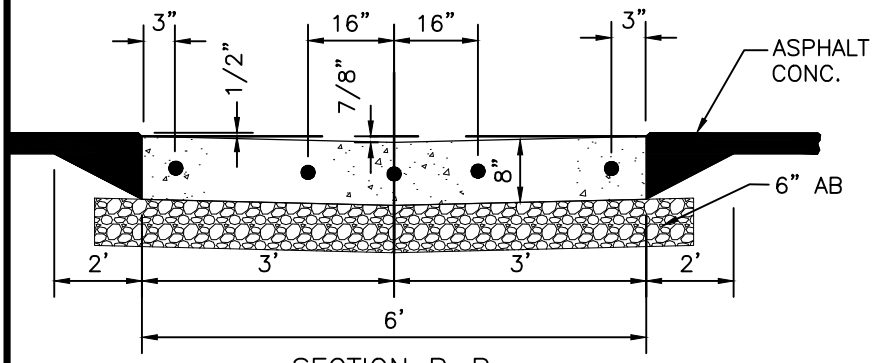
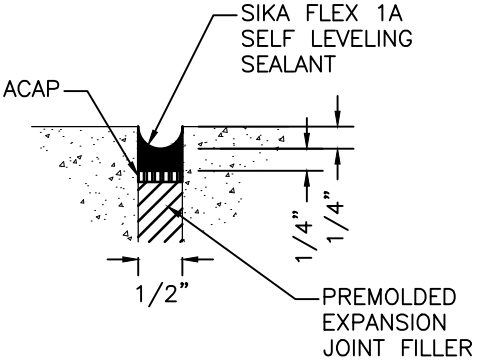
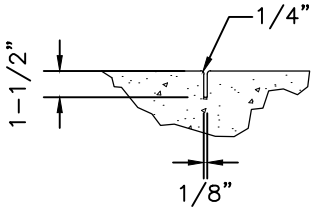


SECTION B–B



DETAIL EXPANSION JOINT



DETAIL WEAKENED PLANE JOINT

1. SPANDRELS AND CURB SHALL BE CONSTRUCTED MONOLITHICALLY.

2. SPANDRELS AND CROSS GUTTER SHALL BE CONSTRUCTED OF CLASS 560–C 3250 CONC.

3. CROSS GUTTER SHALL CONFORM TO 2009 SPPWC GREENBOOK.

4. SUBGRADE SHALL CONFORM TO 2009 SPPWC GREENBOOK.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

STANDARD CROSS GUTTER

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
121

SHEET 1 OF 1

STREET CLASSIFICATION	RIGHT OF WAY WIDTH (FEET)	DESIGN SPEED (MPH)	CENTERLINE RADIUS (FT. MINIMUM)	GRADE (% MAXIMUM)	TRAFFIC INDEX (MINIMUM)	PAVEMENT SECTION EQUIVALENT (AC/BASE, INCHES MINIMUM)
LOCAL	60	30	300	10%	6	3"/8"
COLLECTOR	64	40	600	7%	8	3.5"/8"
ARTERIAL	84	50		7%	10	5.5"/8"
MAJOR ARTERIAL	100	55			11	6"/10"
SUPER ARTERIAL	124	65			12*	7"/10"

NOTES:

1. REQUIRED RIGHT OF WAY WIDTH MAY BE INCREASED FOR SPECIAL REQUIREMENTS AS DETERMINED BY THE CITY ENGINEER.
2. MINIMUM CENTERLINE RADIUS FOR ALL STREETS SHALL COMPLY WITH THE HIGHWAY DESIGN MANUAL. (MINIMUM 300' RESIDENTIAL STREETS AND MINIMUM 600' COLLECTOR STREETS).
3. CENTERLINE RADIUS MAY HAVE TO BE INCREASED TO MEET MINIMUM SIGHT DISTANCE STANDARDS.
4. * TRAFFIC INDEX FOR BEAR VALLEY ROAD AND AIR EXPRESSWAY IS 13.
5. PAVEMENT SECTION IS BASED ON AN ASSUMED R-VALUE OF 50. PAVEMENT SECTION DESIGN IS DETERMINED BY TI AND R-VALUE PER THE HIGHWAY DESIGN MANUAL.

CURB RETURN RADIUS (FEET)					
STREET CLASSIFICATION	LOCAL	COLLECTOR	ARTERIAL	MAJOR ARTERIAL	SUPER ARTERIAL
LOCAL	20				
COLLECTOR	25	25			
ARTERIAL	30	30	35		
MAJOR ARTERIAL	30	30	35	40	
SUPER ARTERIAL	35	40	50	50	50

NOTES:

1. CALTRANS REQUIRES A 50 FOOT RADIUS FOR STREET CONNECTIONS TO STATE ROUTES.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

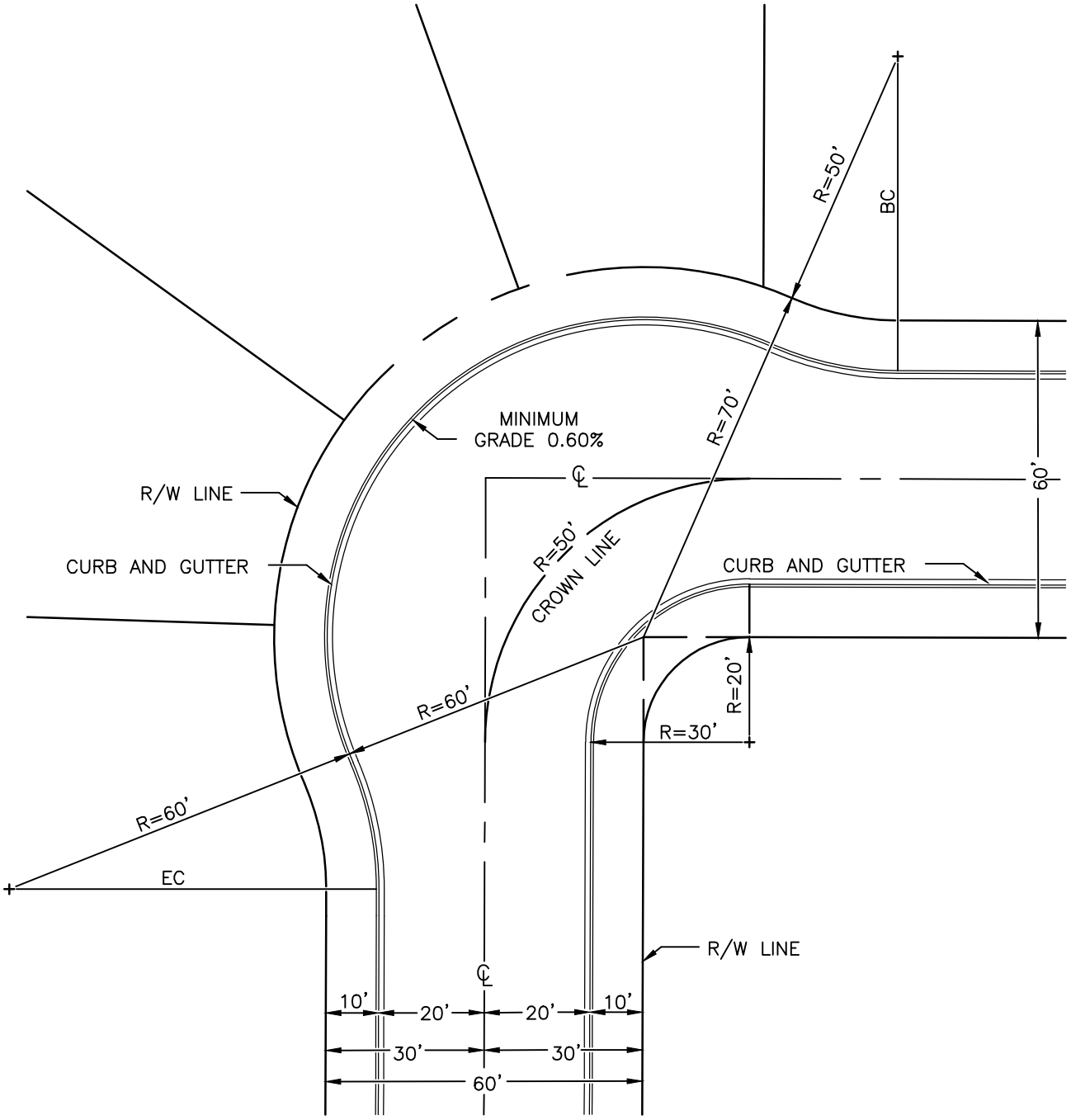
STREET DESIGN STANDARDS

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
133

MINIMUM TANGENT LENGTH AT INTERSECTIONS (FEET)*					
STREET CLASSIFICATION	ON A LOCAL CONNECTING TO A	ON A COLLECTOR CONNECTING TO A	ON AN ARTERIAL CONNECTING TO A	ON A MAJOR ARTERIAL CONNECTING TO A	ON A SUPER ARTERIAL CONNECTING TO A
LOCAL	60				
COLLECTOR	65	100			
ARTERIAL	75	120	160		
MAJOR ARTERIAL	85	140	200	260	
SUPER ARTERIAL	100	160	240	320	400

*LENGTH IS FROM CENTERLINE OF INTERSECTION



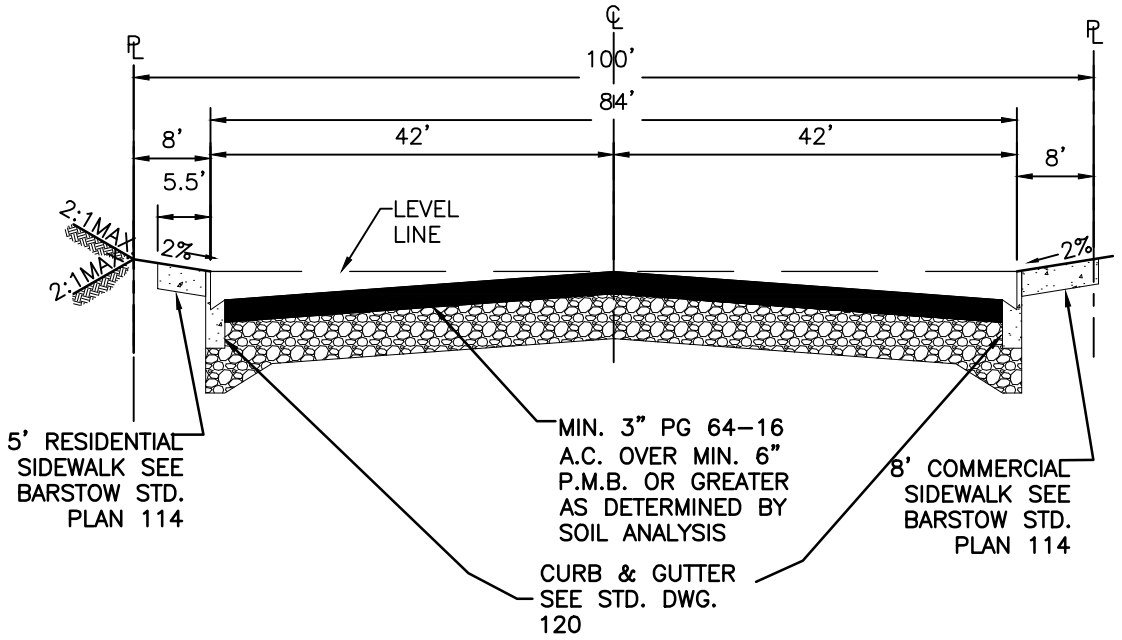
PLAN
NOT TO SCALE

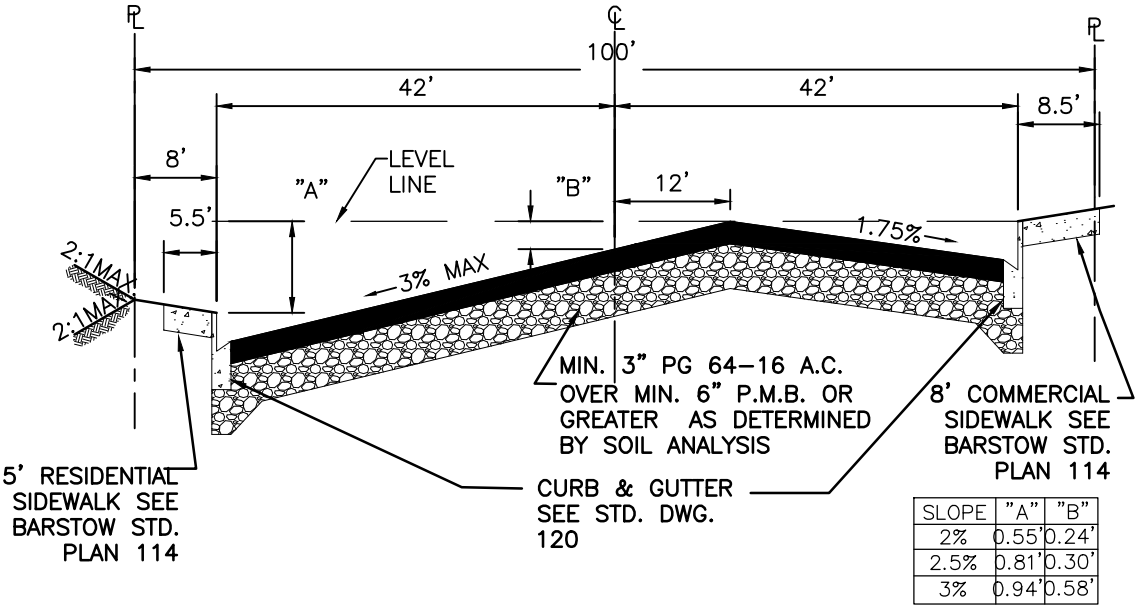
NOTES:

1. ANGLE BETWEEN CENTERLINES TO BE 90° ± 10° MAXIMUM.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW CROSSROADS OF OPPORTUNITY	APPROVED BY: BRAD S. MERRELL CITY ENGINEER	STANDARD KNUCKLE	STANDARD PLAN NO. 134
	DATE: 08/01/20	USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION	SHEET 1 OF 1





SLOPE	"A"	"B"
2%	0.55'	0.24'
2.5%	0.81'	0.30'
3%	0.94'	0.58'

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

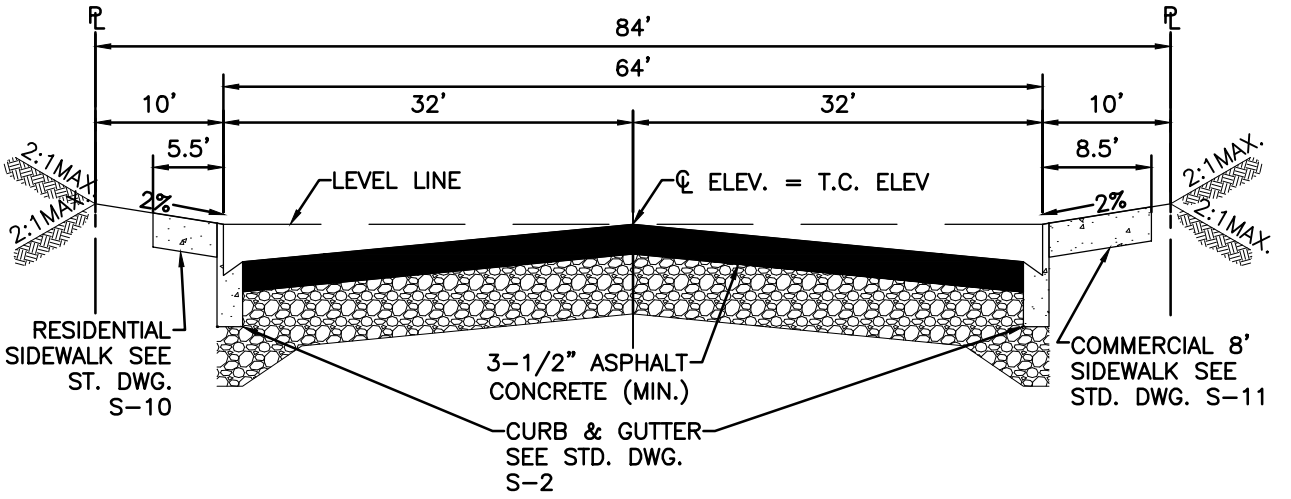
DATE:
08/01/20

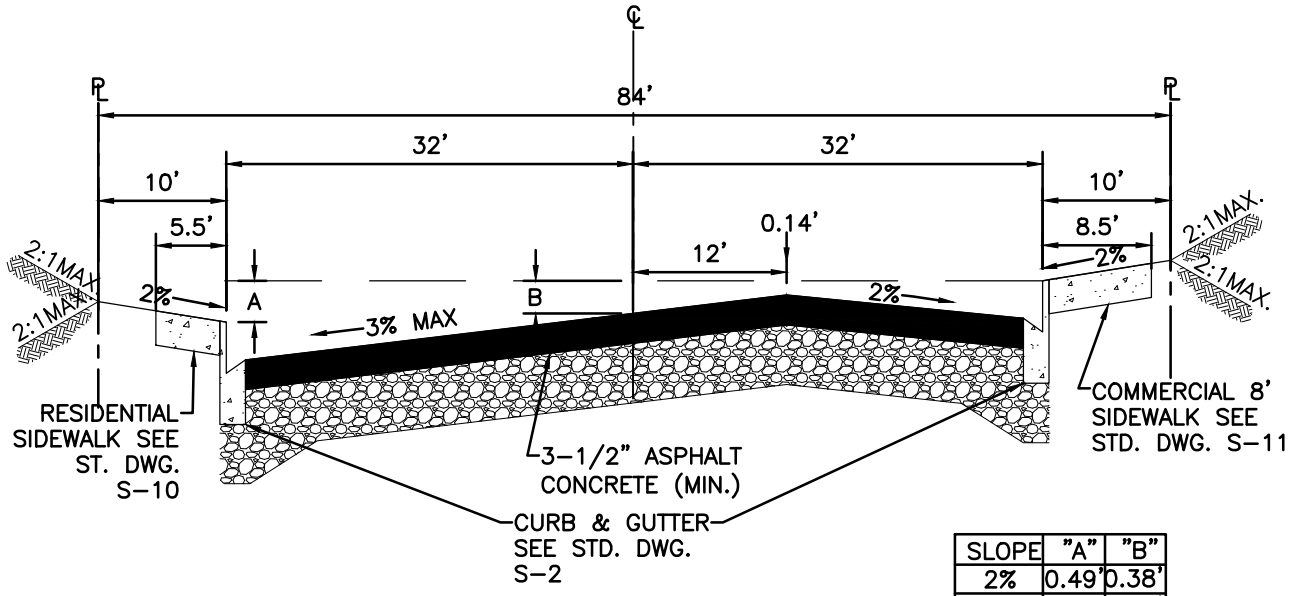
100' STREET SECTION

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
135

SHEET 1 OF 1





SLOPE	"A"	"B"
2%	0.49'	0.38'
2.5%	0.70'	0.44'
3%	0.91'	0.50'

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

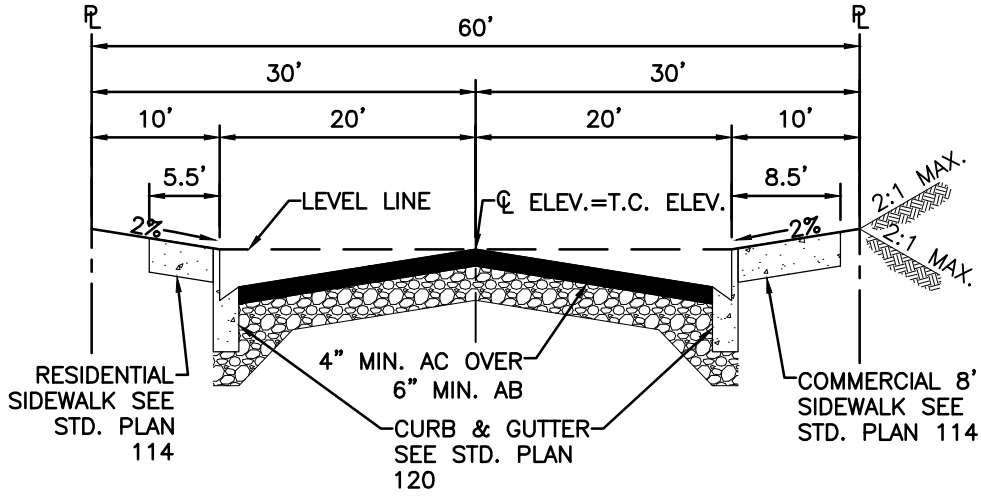
DATE:
08/01/20

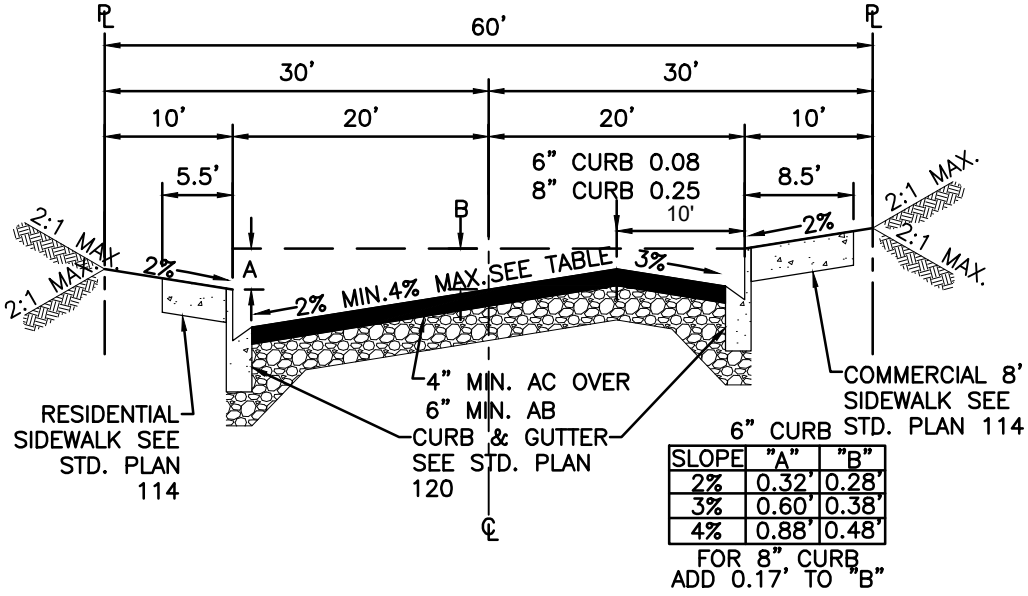
84 FT STREET SECTION

STANDARD PLAN NO.
136

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1





6" CURB

SLOPE	"A"	"B"
2%	0.32'	0.28'
3%	0.60'	0.38'
4%	0.88'	0.48'

FOR 8" CURB ADD 0.17' TO "B"

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
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CITY ENGINEER

DATE:
08/01/20

60 FT STREET SECTION

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
137

SHEET 1 OF 1

GENERAL

1. TRENCHING AND RESURFACING SHALL MEET THESE SPECIFICATIONS (DRAWING NUMBERS S-12.1 THROUGH S-12.7), THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), CURRENT EDITION, AND BARSTOW MUNICIPAL CODE CHAPTER 12.08 (EXCAVATIONS).
2. AN ENCROACHMENT PERMIT, VALID FOR 30 DAYS, IS REQUIRED FOR ALL STREET-TRENCHING OPERATIONS AND SHALL BE PURCHASED AT THE CITY OF BARSTOW'S BUILDING DEPARTMENT. THE CURRENT MINIMUM FEE STARTS AT $80.75 AND MAY BE INCREASED BASED ON THE QUANTITIES OF THE TRENCH.
3. PRIOR TO ISSUANCE OF AN ENCROACHMENT PERMIT, THE FOLLOWING IS REQUIRED:
    a. CONTRACTOR(S) SHALL OBTAIN A CITY OF BARSTOW BUSINESS LICENSE FROM THE BUSINESS LICENSE DIVISION OF THE FINANCE DEPARTMENT.
    b. THE CONTACT'S NAME AND PHONE NUMBER SHALL BE SUBMITTED ON THE ENCROACHMENT (BUILDING PERMIT SHALL FORWARD THE INFORMATION TO BARSTOW POLICE DEPARTMENT'S DISPATCHER) FOR EMERGENCIES AND/OR MAINTENANCE OF SITE. A CONTACT PERSON SHALL BE AVAILABLE TWENTY-FOUR HOURS A DAY, EVERY DAY OF THE WEEK FOR CALL OUTS. IN THE EVENT OF A NON-RESPONSE OR THE INABILITY TO CONTACT THE DESIGNATED CONTACT PERSON, THE CITY RESERVES THE RIGHT TO CALL PROPER AUTHORITIES, AGENCIES OR CONTRACTORS TO REMEDY THE EMERGENCY OR FOR MAINTENANCE OF THE SITE. THE APPLICANT FOR THE ENCROACHMENT PERMIT SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY THE CITY FOR THE FAILURE TO RESPOND.
    c. AN UNDERGROUND SERVICE ALERT (USA) TICKET NUMBER WITH VALIDATION DATES (START DATE AND END DATE).
    d. WHEN LANE CLOSURES ARE EXPECTED TO OCCUR, A TRAFFIC CONTROL PLAN ESTABLISHING PROPER TRAFFIC CONTROL DEVICES AND SIGNS PER SECTION I(5) SHALL BE PREPARED AND SUBMITTED TO THE CITY OF BARSTOW FOR REVIEW AND APPROVAL.
4. NEW ASPHALT APPLICATIONS (INCLUDING BUT NOT LIMITED TO ASPHALT CONCRETE, REAS SLURRY AND CHIP SEAL) SHALL HAVE A THREE TO FIVE YEAR TRENCHING MORATORIUM (SEE APPENDIX A). ANY CITY STREETS WHICH HAVE HAD THE PAVEMENT STRUCTURAL SECTION TOTALLY RECONSTRUCTED SHALL HAVE A TEN (10) YEAR TRENCHING OR BREAKING THE PAVEMENT MORATORIUM. ANY EXCEPTIONS THERETO SHALL BE AT THE SOLE DISCRETION AND REQUIREMENTS OF THE CITY ENGINEER. THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE SHALL APPROVE ANY EXCEPTIONS, INCLUDING EMERGENCY TRENCHING, NOT SAFETY RELATED. EMERGENCY TRENCHING REQUIRING IMMEDIATE ACTION FOR SAFETY ISSUES MAY BE PERFORMED WITHOUT THE APPROVAL OF THE CITY ENGINEER, A LETTER STATING WHERE, WHEN AND WHY SHALL BE SENT TO THE CITY ENGINEER WITHIN A TWENTY-FOUR (24) HOUR PERIOD OR THE NEXT WORKING DAY.
5. ALL NECESSARY TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN ACCORDANCE WITH "CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND SHALL BE INSTALLED NOT LESS THAN TWENTY-FOUR (24) HOURS PRIOR TO STARTING ANY WORK ON THE PUBLIC RIGHT OF WAY.
6. PRIOR TO CALLING FOR FINAL INSPECTION, THE ENCROACHMENT PERMIT APPLICANT SHALL CONFIRM THAT THE WORKMANSHIP (INCLUDING BUT NOT LIMITED TO THE SUBCONTRACTORS) HAS BEEN COMPLETED ACCORDING TO THESE TRENCHING SPECIFICATIONS.
7. CONTRACTOR SHALL CALL THE CITY OF BARSTOW ENGINEERING DIVISION FOR FINAL INSPECTION AT (760)255-5154.
8. NOTHING IN THIS TRENCHING SPECIFICATION SHALL SUPERSEDE ANY TRENCHING SPECIFICATIONS PREVIOUSLY ESTABLISHED UNDER A VALID FRANCHISE AGREEMENT.

TRENCH EXCAVATION

1. EXCAVATION FOR APPURTENANCE STRUCTURES SUCH AS, BUT NOT LIMITED TO, MANHOLES, TRANSITION STRUCTURES, JUNCTION STRUCTURES, VAULTS, VALVE BOXES, CATCH BASINS, THRUST BLOCKS AND BORING PITS SHALL BE DEEMED TO BE IN THE CATEGORY OF TRENCH EXCAVATION.
2. ALL BORING, TUNNELING AND JACKING MAY BE ALLOWED WITH WRITTEN APPROVAL FROM THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE AND SHALL BE PARALLEL WITH THE STREET OR AT A RIGHT ANGLE TO THE STREET. ALL BORING TUNNELING AND JACKING SHALL CONFORM TO SECTION 306-2 AND 306-3.1 OF THE SSPWC.
3. ALL EDGES SHALL BE REMOVED TO A NEATLY SAWED EDGE AS SPECIFIED IN SECTION 300-1.3.2 OF THE SSPWC AND SHALL BE PARALLEL WITH THE STREET OR A RIGHT ANGLE TO THE STREET. ALL CUT EDGES SHALL NOT DEVIATE MORE THAN 1" WHEN A TEN (10) FOOT STRAIGHT EDGE IS PLACED PARALLEL TO THE CUT EDGE.
4. THE EDGES OF EXISTING PAVEMENT ADJACENT TO NEW TRENCHES, WHERE DAMAGED SUBSEQUENT TO SAW CUTTING OF THE PAVEMENT OR WORK PERFORMED SHALL AGAIN BE TO RE-SAW-CUT TO NEAT STRAIGHT LINES FOR THE PURPOSE OF REMOVING AND REPLACING THE DAMAGED PAVEMENT AREAS. THE FINAL TRENCH EXCAVATION SHALL INCLUDE THE "ZONE OF INFLUENCE" AS DETERMINED BY THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE.
5. IF THE EDGE OF THE TRENCH FALLS WITHIN EIGHTEEN (18) INCHES OF A CONSTRUCTION JOINT, COLD JOINT, OR EDGE, THE ASPHALT CONCRETE PAVEMENT WITHIN THIS AREA SHALL BE REMOVED AND REPLACED.

STEEL PLATE BRIDGING (ROAD WAYS)

1. WHEN BACKFILLING OPERATIONS OF AN EXCAVATION IN THE TRAVELED WAY, WHETHER TRANSVERSE OR LONGITUDINAL, CANNOT BE PROPERLY COMPLETED WITHIN A WORK DAY, STEEL PLATE BRIDGING WITH A NON-SKID SURFACE AND SHORING MAY BE REQUIRED TO PRESERVE UNOBSTRUCTED TRAFFIC FLOW. IN SUCH CASES, THE FOLLOWING CONDITIONS SHALL APPLY:
    a. STEEL PLATES USED FOR BRIDGING MUST EXTEND A MINIMUM OF 1' (12") BEYOND THE EDGES OF THE TRENCH.
    b. STEEL PLATE BRIDGING SHALL BE INSTALLED TO OPERATE WITH MINIMUM NOISE.
    c. THE TRENCH SHALL BE ADEQUATELY SHORED TO SUPPORT THE BRIDGING AND TRAFFIC LOADS.
    d. STEEL PLATE BRIDGING SHALL BE SECURED AGAINST DISPLACEMENT BY USING ADJUSTABLE CLEATS, SHIMS OR OTHER DEVICES.
    e. FOR PLATE INSTALLATION BY METHOD 2 DESCRIBED BELOW TEMPORARY PAVING WITH COLD ASPHALT CONCRETE SHALL BE USED TO FEATHER THE EDGES OF THE PLATES.
2. AS REQUIRED BY THE CITY OF BARSTOW, STEEL PLATE BRIDGING AND SHORING SHALL BE INSTALLED USING EITHER METHOD 1 OR 2.

METHOD 1 FOR SPEEDS GREATER THAN 45 MPH (70 KM/HR):
THE PAVEMENT SHALL BE COLD PLANED TO A DEPTH EQUAL TO THE THICKNESS OF THE PLATE AND TO A WIDTH AND LENGTH EQUAL TO THE DIMENSIONS OF THE PLATE.

METHOD 2 FOR SPEEDS LESS THAN 45 MPH (70KM/HR):
APPROACH PLATE(S) AND ENDING PLATE (IF LONGITUDINAL PLACEMENT) SHALL BE ATTACHED TO THE ROADWAY BY A MINIMUM OF (2) DOWELS PRE-DRILLED INTO THE CORNERS OF THE PLATE AND DRILLED 2" (50 MM) INTO THE PAVEMENT. SUBSEQUENT PLATES ARE BUTTED TO EACH OTHER. FINE GRADED ASPHALT CONCRETE SHALL BE COMPACTED TO FORM RAMPS, MAXIMUM SLOPE 8.5% WITH A MINIMUM 12" (305MM) TAPER TO COVER ALL EDGES OF THE STEEL PLATES. WHEN STEEL PLATES ARE REMOVED, THE DOWEL HOLES IN THE PAVEMENT SHALL BE BACKFILLED WITH EITHER GRADED FINES OF ASPHALT CONCRETE MIX, CONCRETE SLURRY OR EQUIVALENT SLURRY APPROVED BY THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE.

APPENDIX A

REPLACEMENT LEVEL/ AGE OF ROAD*	STREET PAVEMENT RESURFACING REQUIREMENTS
LEVEL 1/ 0-3 YEARS**	TRENCHING MORATORIUM - FOR STREETS RECENTLY (0 TO 3 YEARS) RESURFACED (OVERLAY, SLURRY/CHIP SEAL, ETC.) NO TRENCHING ALLOWED. UNDER EMERGENCY TRENCHING, SEE PAVEMENT LEVEL 2
LEVEL 2/ 3-5 YEARS	FOR STREETS RESURFACED (OVERLAY, SLURRY/CHIP SEAL, ETC.) IN THE LAST 3 TO 5 YEARS STREET TRENCHING PERFORMED PARALLEL TO THE ROADWAY FOR A DISTANCE EQUAL TO OR GREATER THAN FIFTY (50) FEET SHALL BE REPLACED TO MATCH EXISTING THICKNESS PLUS 1 INCH OF ASPHALT AND OVERLAID WITH AN EIGHT FOOT WIDE PATH OF PG-70-10, ASPHALT CONCRETE 3/8 THICK. THIS OVERLAY SHALL BE PLACED WITH A COMMERCIALLY ACCEPTABLE CONCRETE PAVER (E.G. BARBER-GREENE OR EQUIVALENT). THE CITY ENGINEER OR HIS DESIGNATED CITY REPRESENTATIVE RESERVES THE RIGHT TO MODIFY REQUIREMENT ON A CASE-BY-CASE BASIS. ANY AREA TWO FEET OR LESS FROM THE GUTTER SHALL BE ADDED TO THE EIGHT FOOT OVERLAY REQUIREMENT. THE MINIMUM OVERLAP OF THE OVERLAY SHALL BE ONE (1) FOOT FROM THE NEAREST TRENCH EDGE. AREAS EXCAVATED FOR BORING, TUNNELING OR JACKING PITS WHICH CALCULATES TO 10% OF THE TRAVEL LANES IN WHICH THE EXCAVATION RESIDES AND BETWEEN A STREET SEGMENT, SHALL HAVE THE SAME REQUIREMENTS STATED IN SECTION IV, SUBSECTION 2B. A STREET SEGMENT IS DEFINED AS THE AREA BETWEEN TWO CROSS STREETS.
LEVEL 3/ GREATER THAN 5 YEARS	STREETS CLASSIFIED AS NEEDING "RECONSTRUCTION" PER BARSTOW'S PAVEMENT MANAGEMENT SYSTEM (BPMS) SHALL REQUIRE ONLY RESTORATION OF THE AREA REMOVED PER CITY STANDARD S-12.7. ALL OTHER PAVEMENT CLASSIFICATION PER THE BPMS SHALL REQUIRE PAVEMENT APPLICATIONS STATED IN PAVEMENT REPLACEMENT LEVEL 2 (ABOVE).
LEVEL 4/ UP TO 10 YEARS**	TRENCHING MORATORIUM - NO TRENCHING ALLOWED ON STREETS WHICH HAVE BEEN TOTALLY RECONSTRUCTED OR HAVE BEEN CONSTRUCTED WITHIN THE SPECIFIED TIME PERIOD, AND WHICH ARE IN GOOD CONDITION AND HAVE NOT BEEN PREVIOUSLY CUT. IN THE CASE OF AN EMERGENCY SECTION IV SUBSECTION 2i SHALL APPLY.

*THE PAVEMENT MORATORIUM BEGINS AFTER THE DATE SPECIFIED IN THE NOTICE OF COMPLETION FOR ANY PAVEMENT APPLICATION.
**NEW DEVELOPMENT MAY BE EXEMPTED FROM THIS TRENCHING MORATORIUM AS APPROVED BY THE CITY ENGINEER OR DESIGNATED CITY REPRESENTATIVE

3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF THE STEEL PLATES, SHORING, ASPHALT CONCRETE RAMPS AND ENSURING THAT THEY MEET MINIMUM SPECIFICATIONS. UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE, USE OF STEEL PLATE BRIDGING SHALL NOT EXCEED FOUR (4) CONSECUTIVE WORKING DAYS IN ANY GIVEN WEEK.
4. THE FOLLOWING TABLE SHOWS THE ADVISORY MINIMAL THICKNESS OF STEEL PLATE BRIDGING REQUIRED FOR A GIVEN TRENCH WIDTH: (A-36 GRADE STEEL, DESIGNED FOR HS20-44 TRUCK LOADING PER CALTRANS BRIDGE DESIGN SPECIFICATIONS MANUAL).

STEEL PLATE SPECIFICATIONS

TRENCH WIDTH	MINIMUM PLATE THICKNESS
10" (0.25M) 1'-11" (0.58M) 2'-7" (0.80M) 3'-5" (1.04M) 5'-3" (1.60M)	½" (13M) ¾" (19M) 7/8" (22M) 1" (25M) 1 ¼" (32M)

NOTE: FOR TRENCH SPANS GREATER THAN 5'-3" (1.6M), A STRUCTURAL DESIGN SHALL BE PREPARED BY A CALIFORNIA REGISTERED CIVIL ENGINEER.

****CONTINUED FROM SHEET 3****

5. ALL STEEL PLATES WITHIN THE CITY RIGHT-OF-WAY WHETHER USED IN OR OUT OF THE TRAVELED WAY SHALL BE WITHOUT DEFORMATION. THE CITY ENGINEER OF HIS DESIGNATED REPRESENTATIVE SHALL DETERMINE THE TRUENESS OF THE STEEL PLATE BY USING A STRAIGHTEDGE AND WILL REJECT ANY PLATE THAT IS PERMANENTLY DEFORMED.
6. STEEL PLATE USED IN THE TRAVELED PORTION OF THE CITY RIGHT-OF-WAY SHALL HAVE A SURFACE THAT WAS MANUFACTURED WITH A NOMINAL CO-EFFICIENT OF FRICTION (COF) OF 0.35 AS DETERMINED BY CALIFORNIA TEST METHOD 342. IF A DIFFERENT TEST METHOD IS USED, THE CONTRACTOR MAY UTILIZE STANDARD TEST PLATES WITH KNOWN COEFFICIENTS OF FRICTION AVAILABLE FROM CALTRANS DISTRICT 8 MATERIALS ENGINEER TO CORRELATE SKID RESISTANCE RESULTS TO CALIFORNIA TEST METHOD 342. BASED ON THE TEST DATE, THE CONTRACTOR SHALL DETERMINE WHAT AMOUNT OF SURFACE WEAR IS ACCEPTABLE, AND INDEPENDENTLY ASCERTAIN WHEN TO REMOVE, TEST OR RESURFACE AN INDIVIDUAL STEEL PLATE.
7. CONTRACTOR SHALL NOT INSTALL ANY STEEL PLATE THAT IS PERMANENTLY DEFORMED OR DELIVERED WITHOUT THE REQUIRED SURFACING.
8. A ROUGH ROAD SIGN (W33) WITH BLACK LETTERING ON AN ORANGE BACKGROUND SHALL BE PLACED IN ADVANCE OF STEEL PLATE BRIDGING. THIS SIGN SHALL BE USED WITH ALL OTHER REQUIRED CONSTRUCTION SIGNING.

STEEL PLATE BRIDGING: (SIDEWALKS)

1. TO ACCOMMODATE EXCAVATION WORK, STEEL PLATE BRIDGING MAY BE NECESSARY. ALL CONDITIONS FOR USE OF STEEL PLATE BRIDGING SHALL BE SET FORTH IN THE FOLLOWING PROVISIONS:
2. CONSIDERATION OF STEEL PLATE BRIDGING SHALL TAKE INTO ACCOUNT THE FOLLOWING FACTORS:
    a. PEDESTRIAN TRAFFIC VOLUME AND COMPOSITION
    b. DURATION AND SIZE OF THE PROPOSED EXCAVATION
    c. WEATHER CONDITIONS
3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF THE STEEL PLATES, SHORING, ASPHALT CONCRETE RAMPS, AND ENSURING THAT THEY MEET MINIMUM SPECIFICATIONS. UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE, USE OF STEEL PLATE BRIDGING SHALL NOT EXCEED (4) CONSECUTIVE WORKING DAYS IN ANY GIVEN WEEK.

SIDEWALK BRIDGING OPTION 1

CONTRACTOR SHALL BE PERMITTED TO USE A TEMPORARY ASPHALT FILL AS A MEANS OF BRIDGING. TEMPORARY ASPHALT SHALL BE TYPE SC-800 OR EQUIVALENT AND SHALL BE PLACED , COMPACTED TO MATCH EXISTING SIDEWALK SECTION TO ALLOW FOR NORMAL FLOW OF PEDESTRIAN TRAFFIC.

SIDEWALK BRIDGING OPTION 2

IN THE CASE WHERE THE SIDEWALK EXCAVATION WORK PROHIBITS THE ABOVE PLATING OPTIONS, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE FOR PRIOR APPROVAL. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A TEMPORARY SIDEWALK ACCESS AROUND THEIR EXCAVATION SITE. THIS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE "CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (FIGURE 6H-28 SIDEWALK DETOUR OR DIVERSION).

BACKFILL GENERAL

1. BACKFILL SHALL BE CONSIDERED AS STARTING 1 FOOT ABOVE THE PIPE OR CONDUIT, OR AT THE TOP OF CONCRETE BEDDING OVER THE PIPE OR CONDUIT. ALL MATERIAL BELOW THIS POINT SHOULD BE CONSIDERED BEDDING.
2. NARROW TRENCHES (NARROW TRENCHES ARE DEFINED AS 10 IN. OR LESS IN WIDTH) SHALL BE BACKFILLED IMMEDIATELY BY THE USE OF THE TRENCH BACKFILL SLURRY PER SECTION 201-1 OR CLSM PER SECTION 201-6 OF THE SSPWC, OR CRUSHED AGGREGATE BASE. NARROW TRENCHES SHALL CONFORM TO SECTION 306-1.3.4 OF THE SSPWC EXCEPT AS MODIFIED HEREIN. FOR TRENCHES 6 INCHES OR LESS IN WIDTH, THE COMPACTED THICKNESS OF ASPHALT CONCRETE SHALL BE A MINIMUM OF 3 ½ INCHES, OR MATCH THE EXISTING PAVEMENT PLUS 1", WHICHEVER IS GREATER.
3. ALL BACKFILL SHALL BE PLACED AS SPECIFIED IN SUBSECTION III A., MECHANICAL COMPACTED BACKFILL, AND COMPACTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SUBSECTION III B., BACKFILL COMPACTION REQUIREMENTS
4. ROCKS GREATER THAN 6 INCHES IN ANY DIMENSION WILL NOT BE PERMITTED IN BACKFILL PLACED WITHIN1 FOOT ABOVE THE TOP OF ANY PIPE OR CONDUIT AND 1 FOOT BELOW PAVEMENT SUBGRADE.
5. ROCKS GREATER THAN 2 ½ INCHES IN ANY DIMENSION WILL NOT BE PERMITTED IN BACKFILL PLACED WITHIN 1 FOOT OF THE PAVEMENT SUBGRADE. THE NATIVE MATERIAL OBTAINED FROM THE PROJECT EXCAVATIONS MAY BE USED AS BACKFILL PROVIDED THAT ALL ORGANIC MATERIAL, RUBBISH, DEBRIS AND OTHER OBJECTIONABLE MATERIAL ARE FIRST REMOVED, AND THE MATERIAL HAS A MINIMUM SAND EQUIVALENT OF 50 (SE 50)

MECHANICALLY COMPACTED BACKFILL

1. BACKFILL SHALL BE MECHANICALLY COMPACTED BY MEANS OF TAMPING ROLLERS, STOMPERS (IMPACT-TYPE PAVEMENT BREAKERS), WACKERS, OR OTHER HAND HELD MECHANICAL TAMPERS.
2. PRIOR TO MECHANICALLY COMPACTING BACKFILL, DETERMINATION OF PROPER MOISTURE CONTENT OF SOIL SHALL BE MADE. OPTIMUM MOISTURE IN ALL SOIL TYPES IS DESIRABLE FOR OBTAINING THE REQUIRED COMPACTION.
3. MATERIAL FOR MECHANICALLY COMPACTED BACKFILL SHALL BE PLACED IN HORIZONTAL LAYERS OR LIFTS, WHICH, PRIOR TO COMPACTING SHALL NOT EXCEED THE THICKNESS SPECIFIED FOR THE VARIOUS TYPES OF EQUIPMENT (SEE CHART)
4. MECHANICALLY COMPACTED BACKFILL SHALL BE MOISTENED OR DRIED AS NECESSARY TO OBTAIN OPTIMUM MOISTURE LEVEL. EACH LAYER SHALL BE EVENLY SPREAD AND COMPACTED UNTIL THE SPECIFIED RELATIVE COMPACTION HAS BEEN OBTAINED.
5. DURING THE BACKFILL PROCESS, A PERSON CERTIFIED TO PERFORM COMPACTION TESTING SHALL MAKE VERIFICATION OR RELATIVE COMPACTION WITH AN APPROVED COMPACTION MEASURING DEVICE OR METHOD. A PRIVATE TESTING FIRM MAY ALSO BE UTILIZED. PRIOR TO REQUEST FOR FINAL INSPECTION, A RECORD OF THE TESTING RESULTS AND MOISTURE LEVEL SHALL BE SUBMITTED TO THE CITY AND RETAINED PERMANENTLY WITH THE CITY'S ENCROACHMENT PERMIT.

BACKFILL COMPACTION REQUIREMENTS

1. 90% RELATIVE COMPACTION SHALL BE ACHIEVED:
   a. IN THE UPPER THREE (3) FEET MEASURED FROM THE PAVEMENT SURFACE (OR FINISHED GRADE WHEN THERE IS NO PAVEMENT).
   b. WITHIN ENGINEERED EMBANKMENTS
   c. WHERE LATERAL SUPPORT FOR EXISTING OR PROPOSED STRUCTURES IS NEEDED/REQUIRED.
2. 95% RELATIVE COMPACTION SHALL BE ACHIEVED IN THE TOP TWO FEET OF ANY PAVED STREET (INCLUDING THE PAVEMENT STRUCTURAL SECTION), AND AS DIRECTED BY THE CITY ENGINEER ON ANY UN-IMPROVED STREET.

BEDDING

1. BEDDING SHALL BE DEFINED AS THAT MATERIAL SUPPORTING, SURROUNDING AND EXTENDING TO ONE (1) FOOT ABOVE THE FACILITY.
2. BEDDING MATERIAL SHALL BE SAND, GRAVEL, CRUSHED AGGREGATE, NATIVE FREE DRAINING GRANULAR MATERIAL HAVING A SANE EQUIVALENT OF NOT LESS THAN 20 OR HAVING A COEFFICIENT OF PERMEABILITY GREATER THAN 1.4 INCHES/HOUR.

BASE

1. BASE MATERIAL SHALL BE RECONSTRUCTED TO THE SAME DIMENSIONS 9THICKNESS, ETC.) AND THE SAME OR EQUIVALENT MATERIALS USED IN THE ORIGINAL WORK.
2. WHERE THE ORIGINAL THICKNESS IS SIX (6) INCHES OR LESS, THE BASE MATERIAL MAY BE COMPACTED IN ONE LAYER. WHERE THE ORIGINAL THICKNESS IN MORE THAN SIX (6) INCHES THE BASE MATERIAL SHALL BE COMPACTED IN TWO OR MORE LIFTS OF APPROXIMATELY EQUAL THICKNESS AND THE MAXIMUM COMPACTED THICKNESS OF ANY ONE LAYER SHALL NOT EXCEED SIX (6) INCHES.
3. THE RELATIVE COMPACTION OF EACH LAYER OF COMPACTED BASE MATERIAL SHALL NOT BE LESS THAN 95%.

PAVEMENT RESURFACING

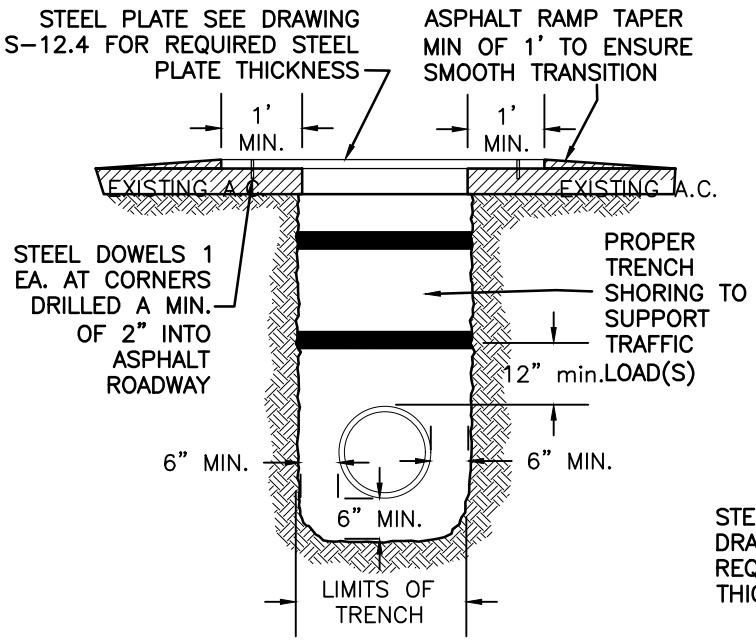
TEMPORARY RESURFACING

1. UNLESS PAVEMENT IS PLACED IMMEDIATELY, TEMPORARY PAVEMENT SHALL BE PLACED IMMEDIATELY AFTER BACKFILLING. TEMPORARY BITUMINOUS RESURFACING A MINIMUM OF 2 INCHES THICK SHALL BE PLACED AND MAINTAINED WHEREVER EXCAVATION IS MADE. IN MAJOR INTERSECTIONS AND OTHER CRITICAL LOCATIONS, A GREATER THICKNESS MAY BE REQUIRED BY THE CITY ENGINEER.
2. SUFFICIENT BACKFILL MATERIAL SHALL BE ON THE JOB SITE TO ASSURE PROPER RESURFACING AS SPECIFIED IN THESE SPECIFICATIONS AND SHALL BE PLACED AND CONTINUOUSLY MAINTAINED SO AS NOT TO CAUSE EXCESSIVE RUTTING, DEPRESSIONS AND/OR DISTORTIONS OF THE ROADWAY SURFACE. AUTHORIZED BITUMINOUS MATERIAL FOR TEMPORARY RESURFACING SHALL BE SC800 OR EQUIVALENT.

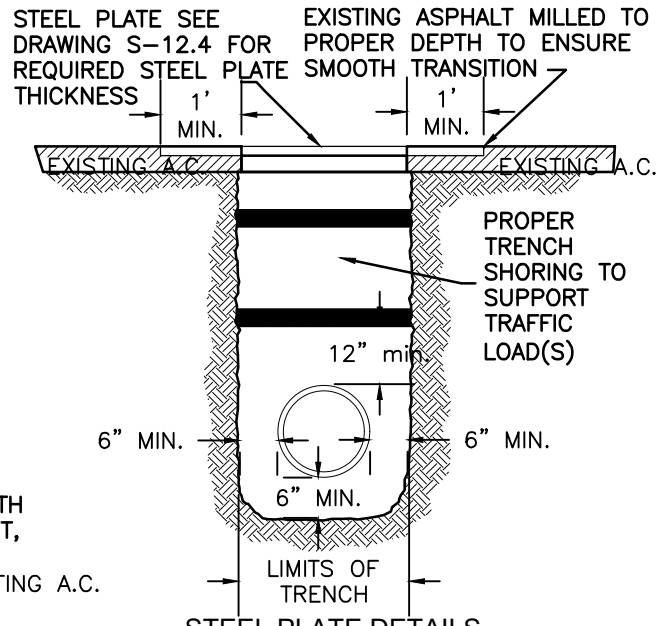
PERMANENT ASPHALT PAVEMENT

1. PERMANENT ASPHALT PAVEMENT REQUIRED SHALL BE BASED ON THE AGE AND CONDITION OF THE PAVEMENT SURFACE AS SHOWN IN APPENDIX A (ATTACHED)
2. STREET TRENCHING PERFORMED PARALLEL TO THE ROADWAY FOR A DISTANCE EQUAL TO OR GREATER THAN FIFTY (50) FEET SHALL BE OVERLAID WITH AN EIGHT FOOT WIDE PATH OF PG 70-10, ASPHALT CONCRETE 3/8 THICK (SEE APPENDIX A). THIS OVERLAY SHALL BE PLACED WITH A COMMERCIALLY ACCEPTED ASPHALT PAVER (E.G. BARBER-GREENE OR EQUIVALENT). THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE RESERVES THE RIGHT TO WAIVE THIS REQUIREMENT ON A CASE-BY-CASE BASIS. ANY AREA TWO FEET OR LESS FROM EDGE OF GUTTER TO A TRENCH SHALL BE ADDED TO THE EIGHT FOOT OVERLAY REQUIREMENT.

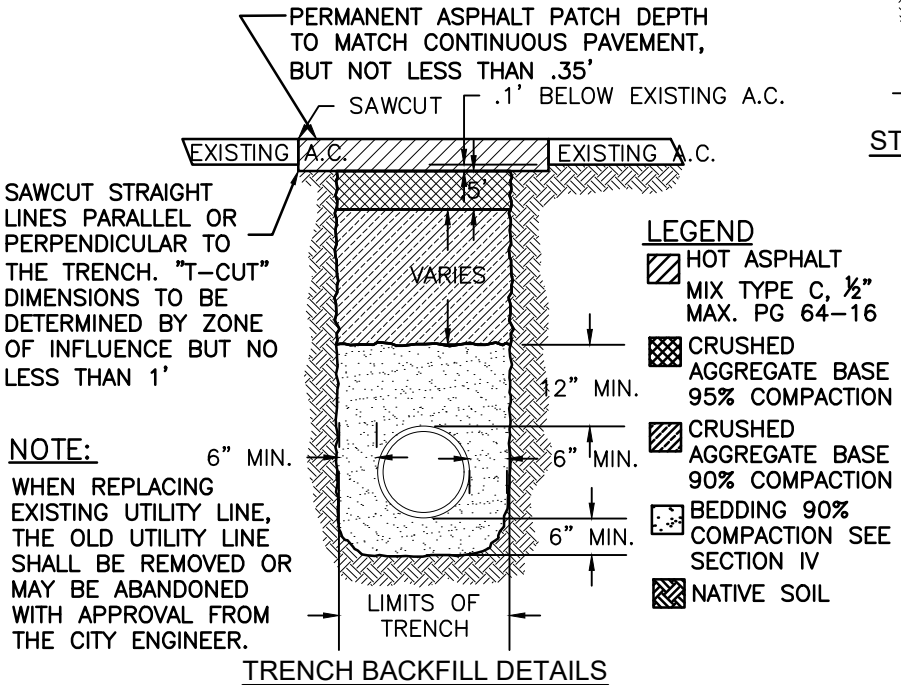
EQUIPMENT	MAX. LIFT THICKNESS
Hand-directed mechanical tampers with walk behind vibratory plates	4"
Rolling equipment, including sheepsfoot (both vibratory and non-vibratory), grid, smooth-wheel (non vibratory), pneumatic-tired and segmented wheels	6"
Vibratory equipment, vibratory plates and smooth wheel rollers attached to backhoe equipment	12"
Impact, free-fall, or stomping equipment	24"



STEEL PLATE DETAILS
(UNDER 45 MPH)



STEEL PLATE DETAILS
(OVER 45 MPH)



NOTE:
WHEN REPLACING EXISTING UTILITY LINE, THE OLD UTILITY LINE SHALL BE REMOVED OR MAY BE ABANDONED WITH APPROVAL FROM THE CITY ENGINEER.

TRENCH BACKFILL DETAILS

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

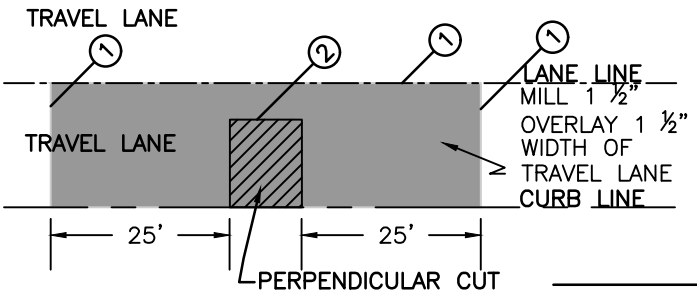
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

TRENCH RESURFACING

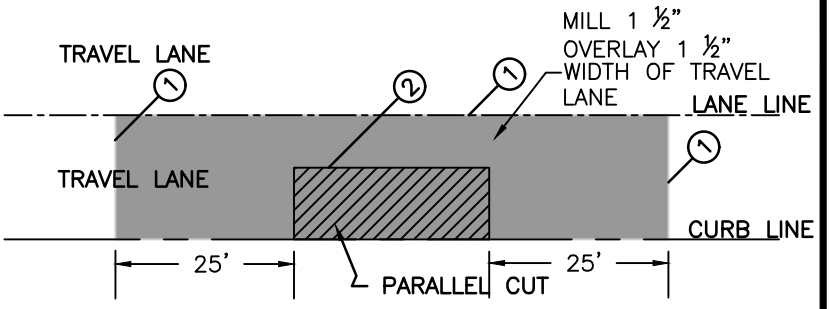
STANDARD PLAN NO.
138

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



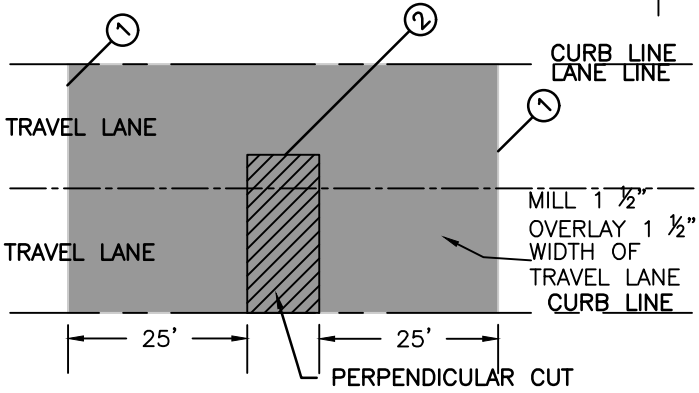
PERPENDICULAR CUT HALF STREET DETAILS

NTS



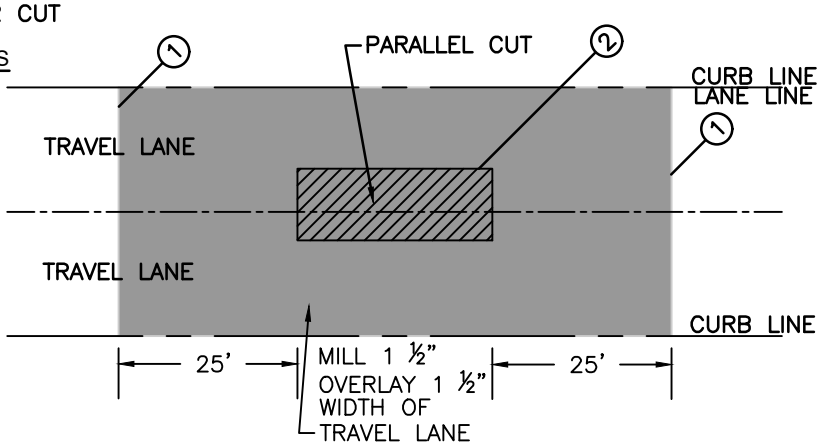
PARALLEL CUT HALF STREET DETAILS

NTS



PERPENDICULAR CUT FULL STREET DETAILS

NTS



PARALLEL CUT FULL STREET DETAILS

NTS

NOTE: CONTRACTOR IS RESPONSIBLE FOR REPLACING STRIPING THAT IS DAMAGED, REMOVED, COVERED, ETC. CONTRACTOR IS RESPONSIBLE TO PROTECT SURVEY MONUMENTS OR HAVE A LICENSED SURVEYER TIE–OUT THE MONUMENT AND THEN REPLACE THE MONUMNET AS REQUIRED BY LAW

① SAWCUT PERPENDICULAR TO THE CURB FACE AND SEALED PER THE TRENCHING

② SPECIFICATIONS T–CUT PER THE TRENCH SPECIFICATIONS

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
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DATE:
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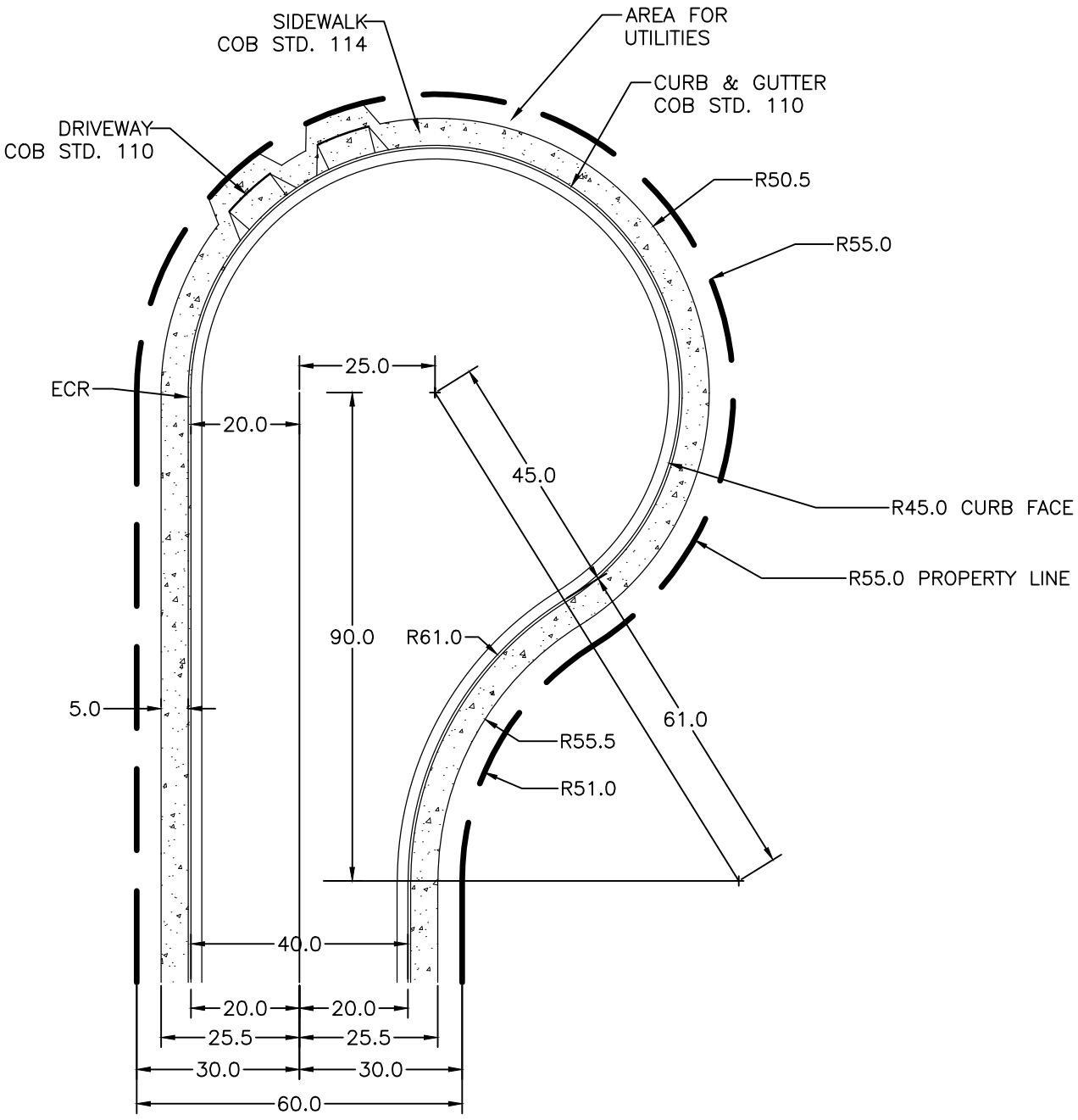
TRENCH RESURFACING

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
138

SHEET 8 OF 8



CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
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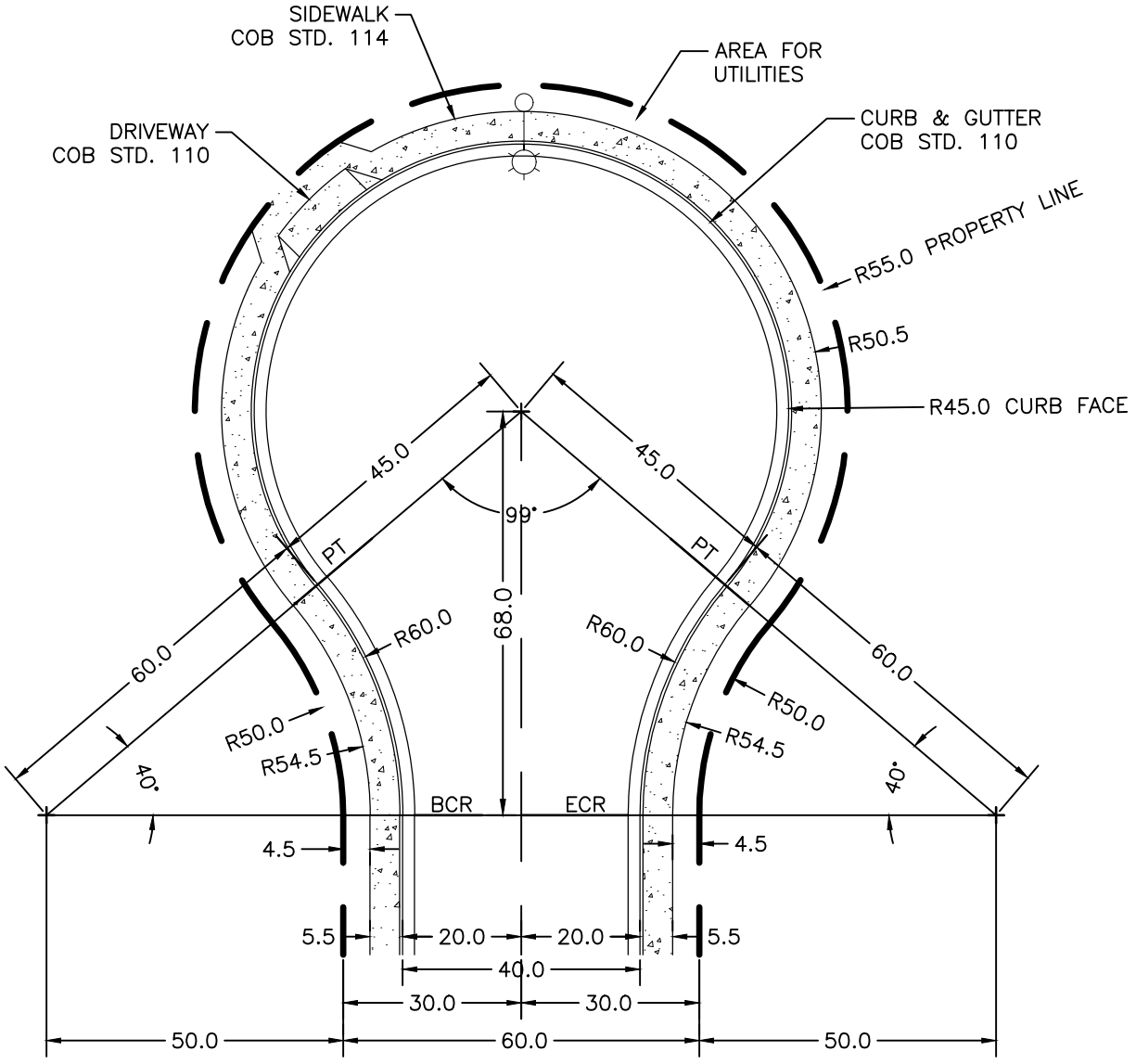
CUL-DE-SAC OFFSET

STANDARD PLAN NO.
139

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

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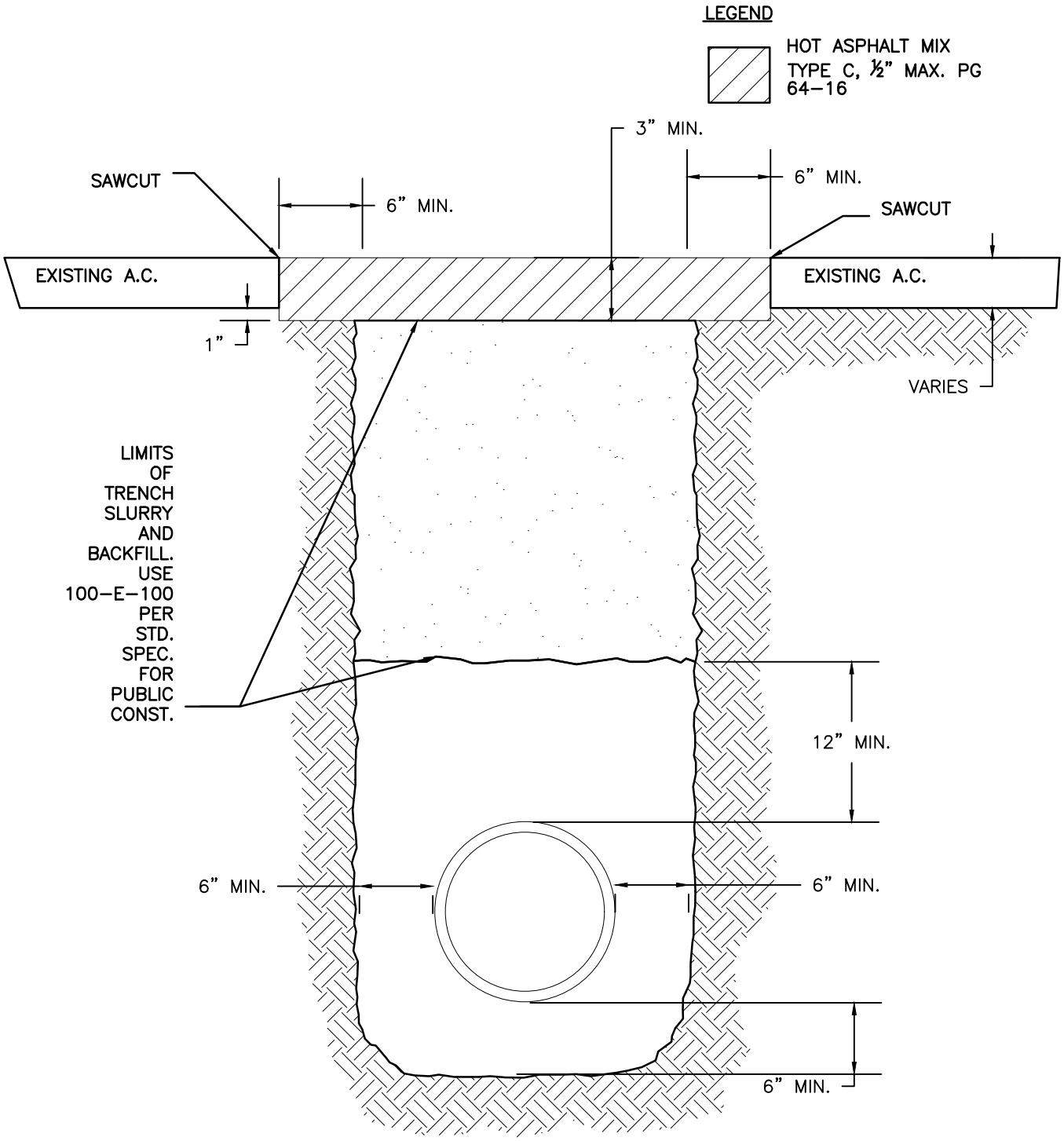
CUL-DE-SAC STANDARD

STANDARD PLAN NO.
139

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



NOTES:

WHEN REPLACING EXISTING UTILITY LINE, THE OLD UTILITY LINE SHALL BE REMOVED OR MAY BE ABANDONED WITH APPROVAL FROM THE CITY ENGINEER.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

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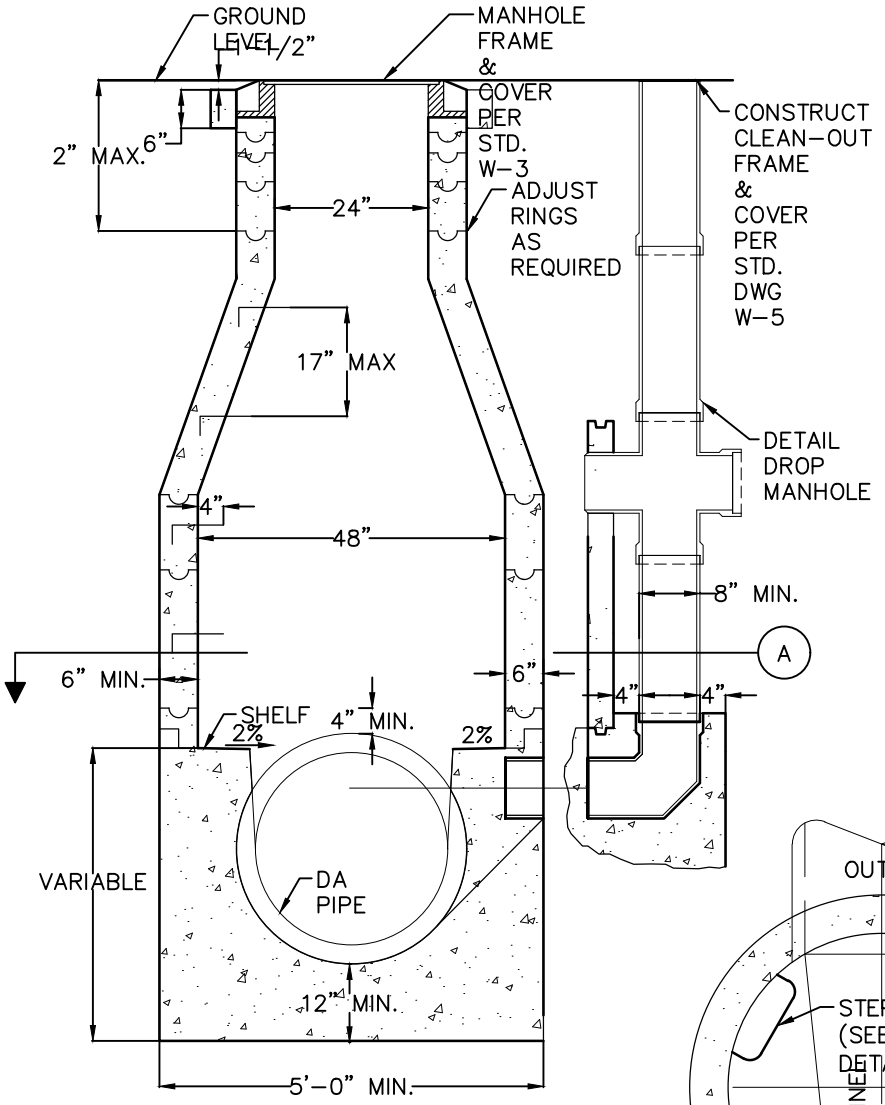
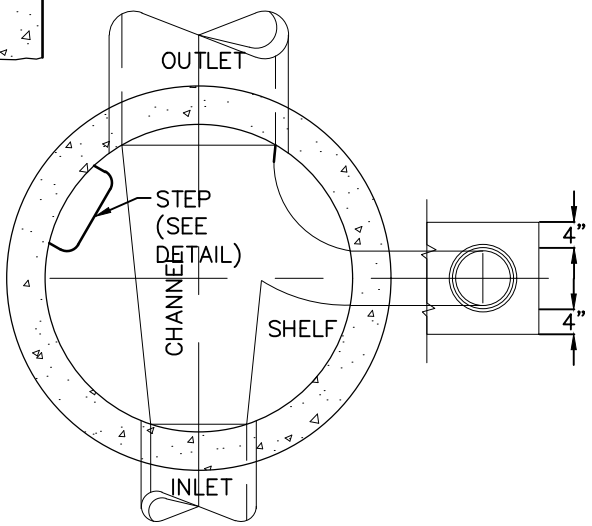
DATE:
08/01/20

TRENCH RESURFACING ALT.

STANDARD PLAN NO.
140

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION





SECTION A

NOTES:

1. WHEN PIPE IS LAID THROUGH THE MANHOLE THE TOP HALF OF THE PIPE SHALL BE REMOVED TO THE CONTOUR OF THE INSIDE OF THE MANHOLE AND THE BROKEN EDGES SHALL BE PLASTERED SMOOTH WITH CEMENT MORTAR.

2. ALL JOINTS TO BE MADE WITH CLASS "B" MORTAR, TRIMMED SMOOTH INSIDE.

3. PROVIDE FLEXIBLE JOINT IN MANHOLE WALL OR WITHIN 4'-0" OF OUTSIDE FACE.

4. LOWEST STEP SHALL BE PLACED NOT LESS THAN 7" NOR MORE THAN 24" ABOVE SHELF.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
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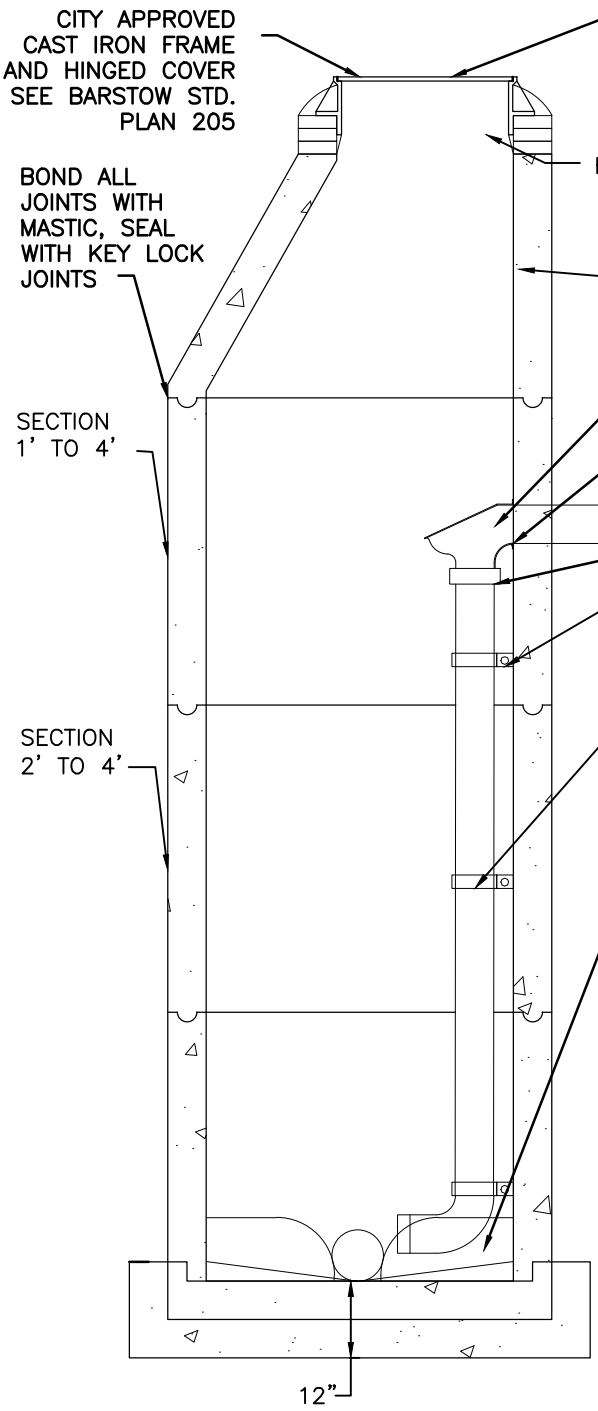
STANDARD MANHOLE

STANDARD PLAN NO.
201

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



NOTES:

1. STANDARD MANHOLE TO BE USED FOR PIPES 24" AND LESS.
2. PRECAST CONCRETE STRUCTURES SHALL HAVE A STRENGTH OF 4000 PSI.
3. STANDARD MANHOLE DEPTH 8' TOP OF FRAME TO INVERT.
4. LATERAL LINES TO MATCH TOP OF INLET PIPE AT MANHOLE.
5. ALL INTERIOR JOINTS AND CONNECTIONS SHALL BE WATERTIGHT AND GROUTED WITH NON-SHRINK GROUT.
6. ALL MANHOLES SHALL BE VACUUM TESTED PRIOR TO ACCEPTANCE.
7. BOND ALL MANHOLE SECTIONS WITH MASTIC SEAL.
8. IF END OF LINE MANHOLE, STEPS SHALL BE LOCATED ON DOWNSTREAM SIDE AND CHANNEL SHALL BE CONSTRUCTED FULL WIDTH OF INTERIOR.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
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CITY ENGINEER

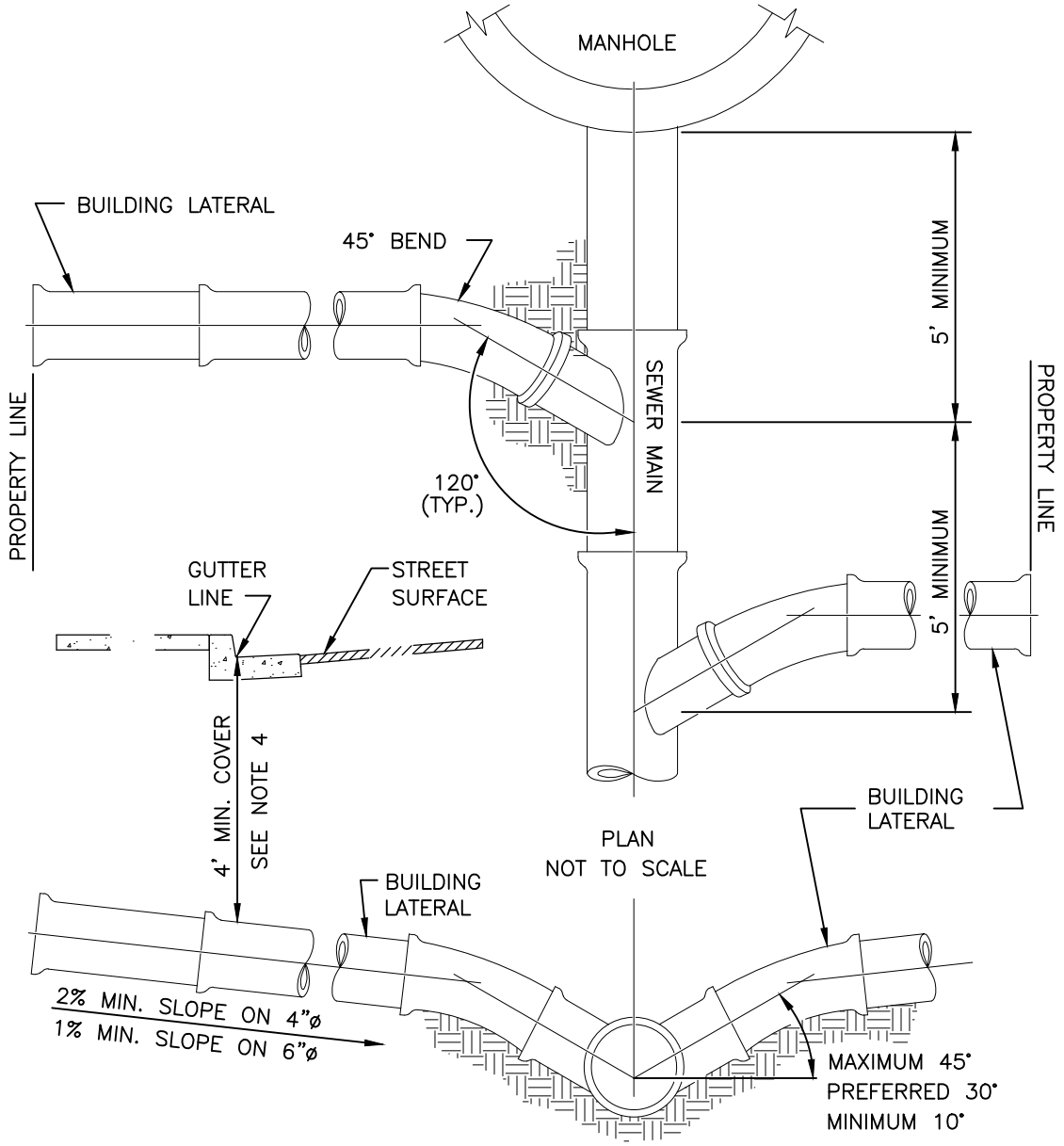
DATE:
08/01/20

INSIDE DROP MAN HOLE

STANDARD PLAN NO.
202

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1



SECTION
NOT TO SCALE

NOTES:

1. USE FACTORY MADE WYES, FITTINGS AND SEWER LATERAL PIPE OF THE SAME MATERIAL AS THE MAIN LINE SEWER FOR NEW INSTALLATIONS OR USE COMPATIBLE WYES AND FITTINGS TO JOIN LATERALS AND MAIN LINE SEWERS OF DIFFERENT MATERIALS.
2. SEWER LATERALS ON EXISTING MAIN LINE SEWER SHALL USE SEWER SADDLES PER CITY STANDARD DRAWING SS–09.
3. PIPE BEDDING FOR LATERALS SHALL CONFORM TO STANDARD DRAWING SS–05.
4. COVER MAY BE REDUCED TO 3' IF CONCRETE ENCASED OR SPECIAL PIPE APPROVED BY THE ENGINEER IS USED.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
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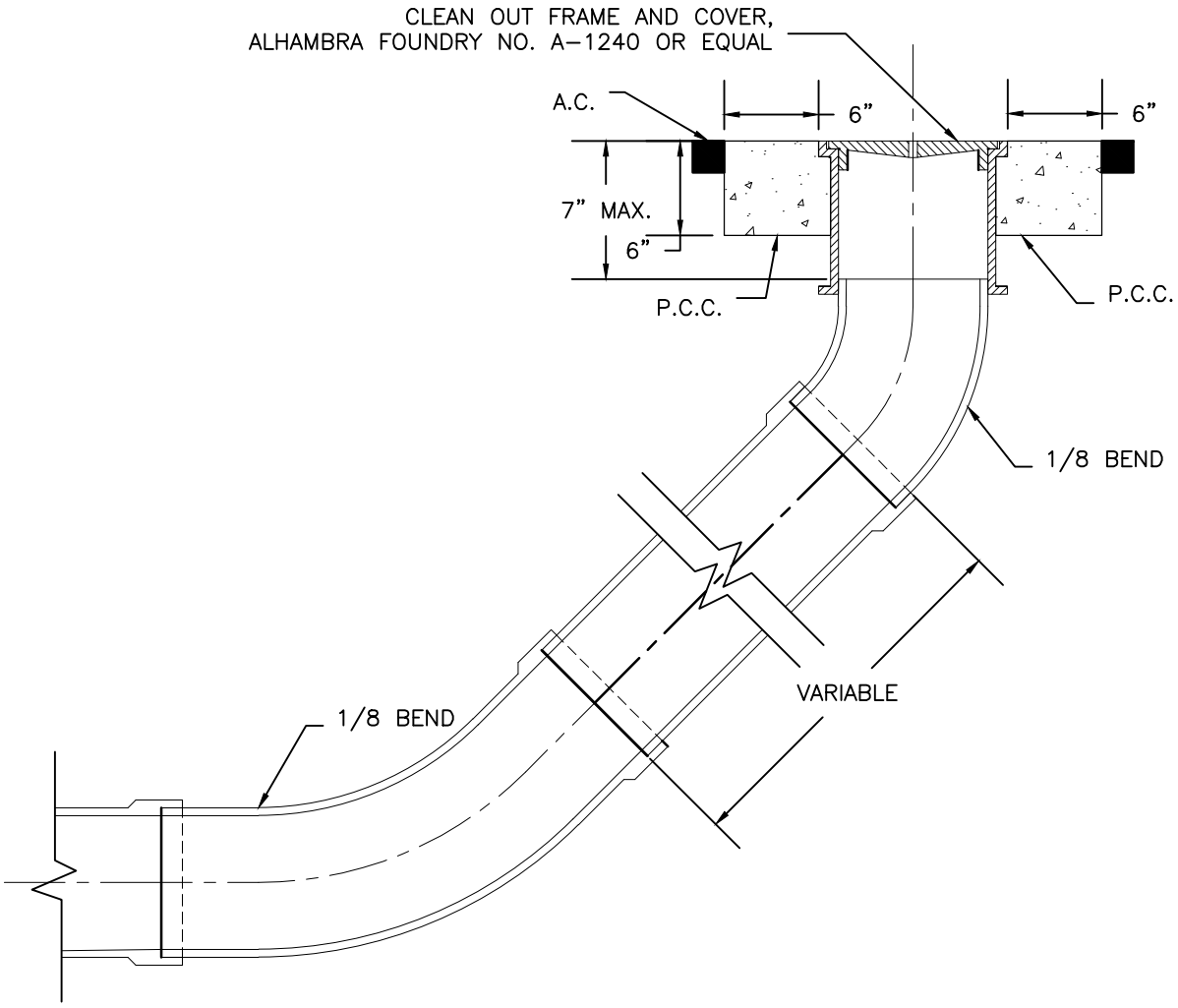
DATE:
08/01/20

SHALLOW SEWER LATERAL

STANDARD PLAN NO.
203

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1



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THE CITY OF BARSTOW
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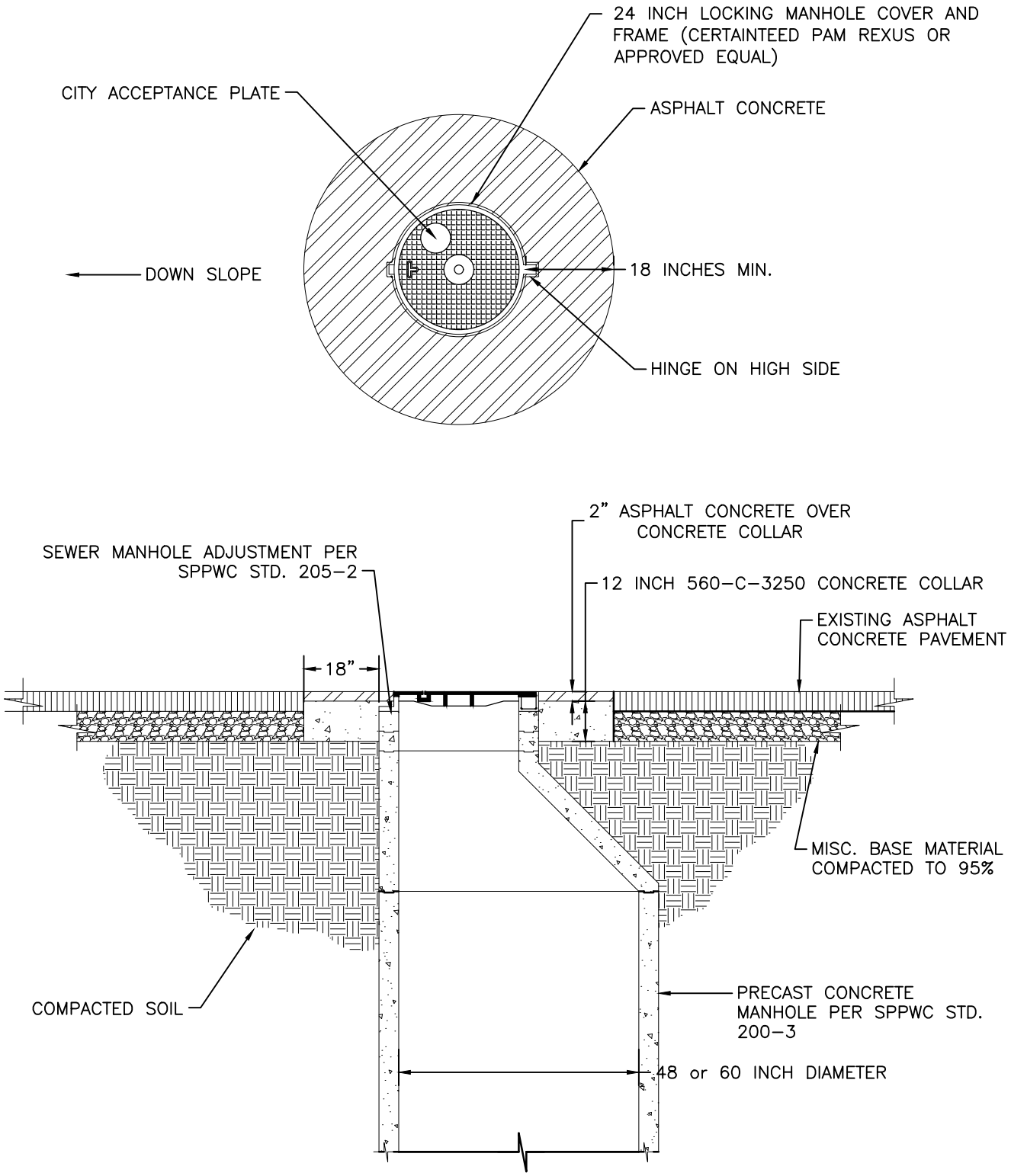
CLEANOUT

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
204

SHEET 1 OF 1



NOTE: SPPWC = STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

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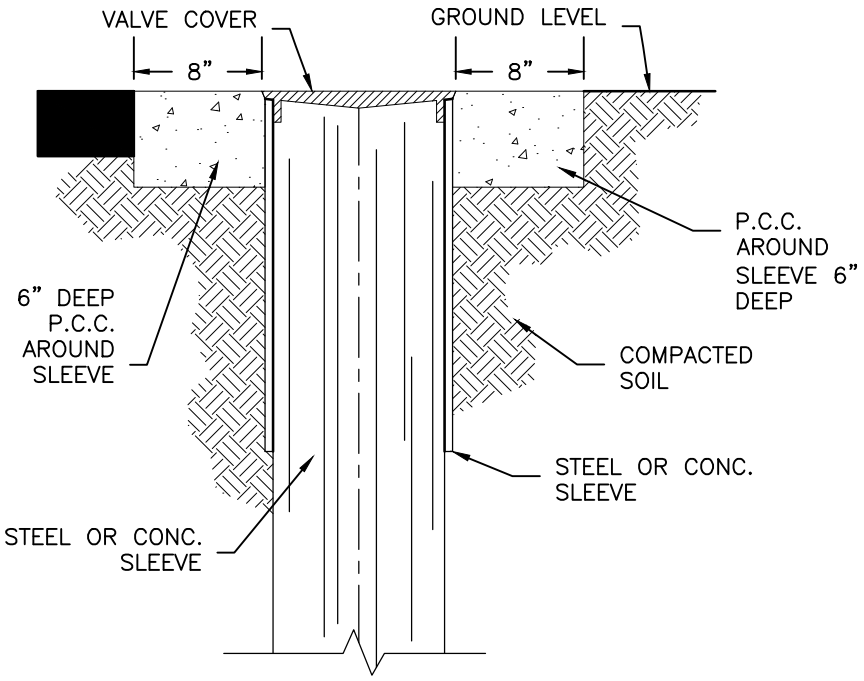
CITY ENGINEER

DATE:
08/01/20

MANHOLE FRAME AND COVER

STANDARD PLAN NO.
205

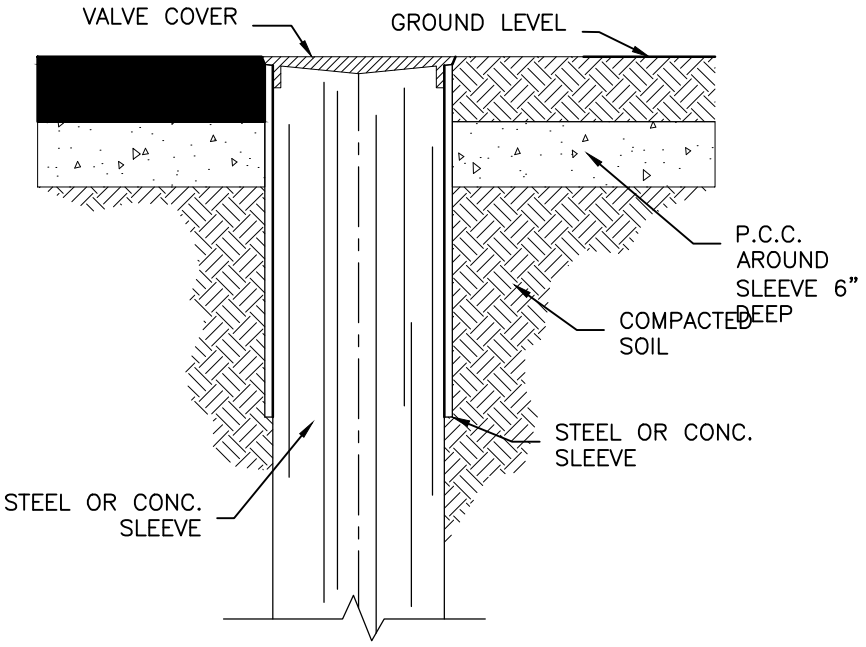
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



NOTES:

1. GREASE COVER TO PREVENT BONDING OF COVER TO CONCRETE

2. MAKE TWO, ONE INCH NOTCHES ON OPPOSITE SIDE OF COVER DEEP ENOUGH TO FACILITATE OPENING OF COVER.



CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

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DATE:
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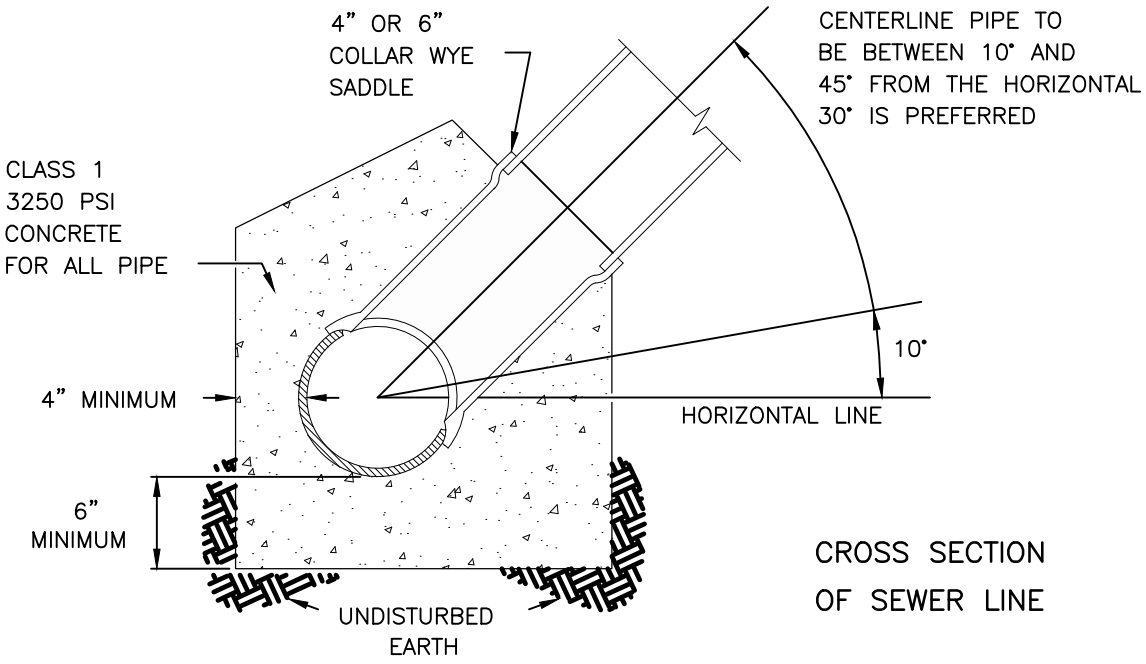
VALVE COVER RAISING

STANDARD PLAN NO.
206

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



CROSS SECTION
OF SEWER LINE

NOTES:

ALL PIPE

1. CALL FOR INSPECTION 2 WORKING DAYS IN ADVANCE OF CUTTING THE PIPE. INSPECTOR MUST BE PRESENT TO OVERSEE THE CUTTING AND SADDLING OPERATION.
2. IF PIPE IS CRACKED, BROKEN OR DAMAGED IN ANY WAY IT SHALL BE REPLACED.
3. MAKE NORMAL SIZE OPENING FOR SADDLE IN MAIN LINE SEWER PIPE 12" MINIMUM CLEAR OF THE BELL. ON CLAY PIPE SAWCUT ON CENTER OPENING AND USE NIPPERS TO ENLARGE OPENING TO SIZE. ON P.V.C. PIPE USE KEY HOLE SAW.
4. REPAIR STREET PER CITY STANDARD DRAWING S–10.

CLAY PIPE

5. WIRE SADDLE IN PLACE WITH 12 GAUGE GALVANIZED STEEL WIRE. USE SILICONE CAULK TO SEAL SADDLE TO PIPE. SADDLE MUST NOT PROTRUDE INTO THE MAIN LINE.
6. PLACE CLASS 1, 3250 PSI, CONCRETE AROUND MAIN LINE AND SADDLE AND 18" ALONG THE MAIN LINE PIPE PER THE CROSS SECTION ABOVE.
7. CURE CONCRETE BY COVERING WITH 12" OF WET EARTH. DO NOT BACKFILL UNTIL THE CONCRETE IS CURED SUFFICIENTLY TO WITHSTAND THE BACKFILL OPERATION.

P.V.C. PIPE

8. USE STANDARD MANUFACTURED SADDLES RECOMMENDED BY THE MAIN LINE PIPE MANUFACTURER BEING SADDLED. ALL SADDLES SHALL HAVE ELASTOMERIC SEALS AND SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
9. SADDLES SHALL BE BANDED TO THE MAIN LINE SEWER WITH A MINIMUM OF 2 EACH 1/2" WIDE STAINLESS STEEL BAND CLAMPS.
10. REPLACE PIPE BEDDING PER CITY STANDARD DRAWING SS–5 AND BACKFILL.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

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CITY ENGINEER

DATE:
08/01/20

SANITARY SEWER SADDLE

STANDARD PLAN NO.
207

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

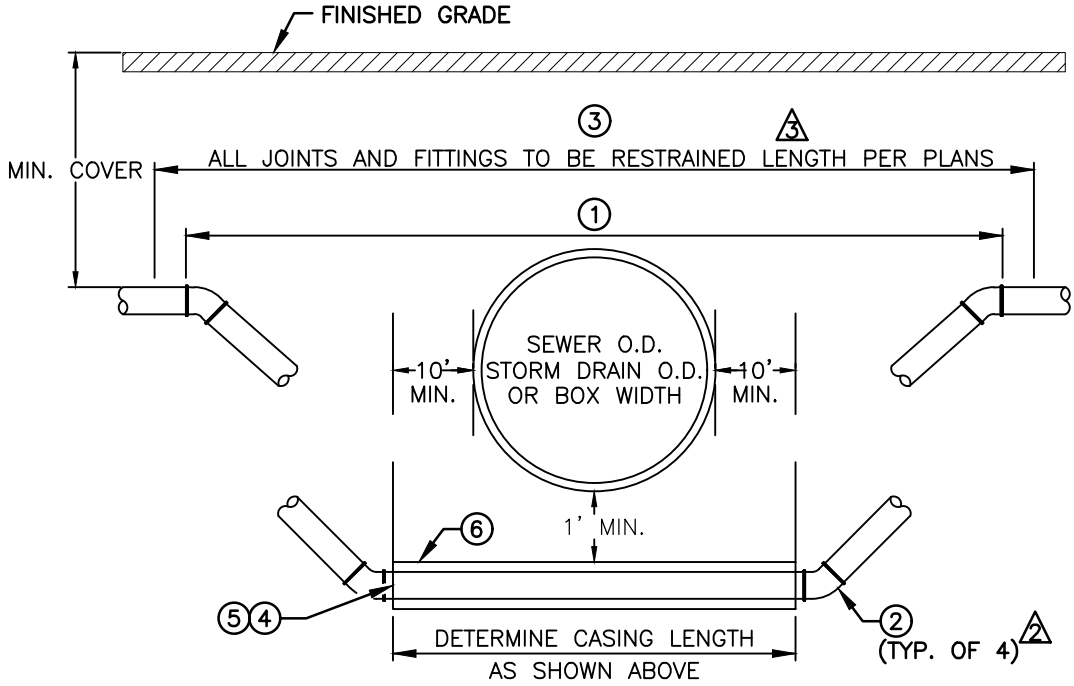
SHEET 1 OF 1

NOTES:

A. INSTALL CASING SPACERS WITHIN 1' FROM EACH END OF THE CASING AND 1' FROM EACH BELL JOINT AND AT THE CENTER OF EACH PIPE JOINT. CONSULT MANUFACTURER FOR RECOMMENDED SPACER SIZE.

B. THIS STANDARD APPLIES TO UNDERCROSSINGS OF SEWERS AND STORM DRAINS GREATER THAN 6'–0" IN DIAMETER OR WIDTH, OR AS DIRECTED BY THE CITY.

C. WHEREVER POSSIBLE, WATERLINE SHOULD BE INSTALLED OVER TOP OF SEWER OR STORM DRAIN. DISCUSS MINIMUM COVER REQUIREMENTS WITH THE CITY.



WATER MAIN SIZE	MIN. SLEEVE SIZE /WALL THICKNESS	WATER MAIN SIZE	MIN. SLEEVE SIZE /WALL THICKNESS
8"	18" / .25"	18"	30" / .25"
12"	18" / .25"	20"	36" / .375"
16"	30" / .25"	24"	36" / .375"

ITEM	DESCRIPTION	APPROVED MATERIAL LIST NUMBER
1	DUCTILE IRON PIPE	1–C
2	45° BEND △2	6–C
3	JOINT RESTRAINTS	5–A, B, C
4	CASING SPACERS	8–A
5	END SEAL	8–C
6	STEEL CASING	8–B

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
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CITY ENGINEER

DATE:
08/01/20

STEEL SLEEVE/SEWER AND STORM DRAIN UNDERCROSSING

STANDARD PLAN NO.
208

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

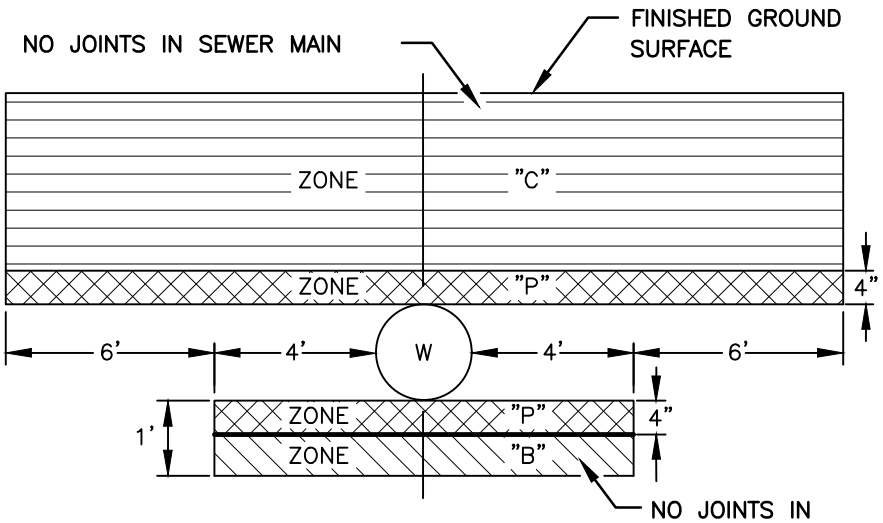
NOTES:

A. (W) INDICATES PRESSURE UTILITY WATER MAIN FOR POTABLE WATER. DIMENSIONS ARE FROM OUTSIDE OF WATER PIPE TO OUTSIDE OF SEWER PIPE.

B. SEWER LINES SHALL BE INSTALLED AS FAR FROM UTILITY WATER LINES AS POSSIBLE.

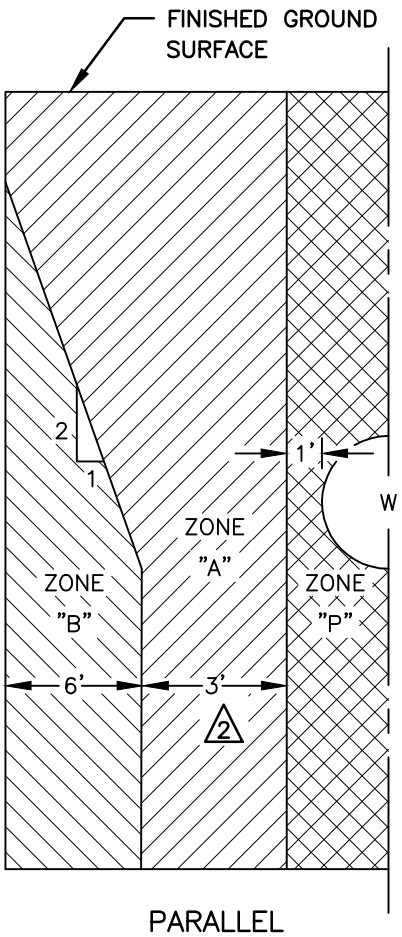
C. IN CASES WHERE THE SEWER LINE CROSSES A WATER LINE, THE LENGTH OF SEWER PIPE SHALL BE CENTERED ON THE WATER LINE.

D. SEWER BUILDING LATERALS SHALL BE INSTALLED BELOW UTILITY WATER LINES. IF THIS CONDITION CANNOT BE MET, SPECIAL CONSTRUCTION WILL BE REQUIRED, AS SHOWN BELOW.



CROSSING

SANITARY SEWERS AND UTILITY WATER LINES



PARALLEL

SANITARY SEWERS AND UTILITY WATER LINES

A	SEWER MAINS WILL NOT BE PERMITTED IN THIS ZONE WITHOUT SPECIAL PERMISSION FROM THE DEPARTMENT OF PUBLIC HEALTH, STATE OF CALIFORNIA.
B	SEWER MAINS WILL NOT BE PERMITTED IN THIS ZONE WITHOUT SPECIAL PERMISSION FROM THE CITY ENGINEER. (2)
C	SEWER MAINS IN THIS ZONE SHALL BE INSTALLED WITHIN A 1/4–INCH STEEL CONTINUOUS CASING WITH ALL VOIDS BETWEEN SEWER PIPE AND CASING FILLED WITH SAND. (2)
P	ZONE P IS A PROHIBITED ZONE, SECTION 64630 (e) (2) CALIFORNIA ADMINISTRATION CODE, TITLE 22.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

SEPARATION CRITERIA FOR EXISTING WATER MAINS FROM NEW SANITARY SEWERS OR STORM DRAINS

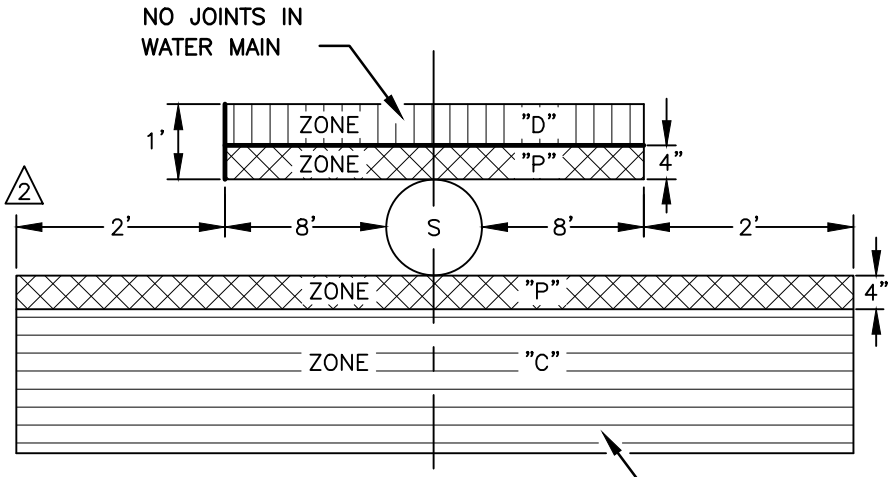
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
209

SHEET 1 OF 1

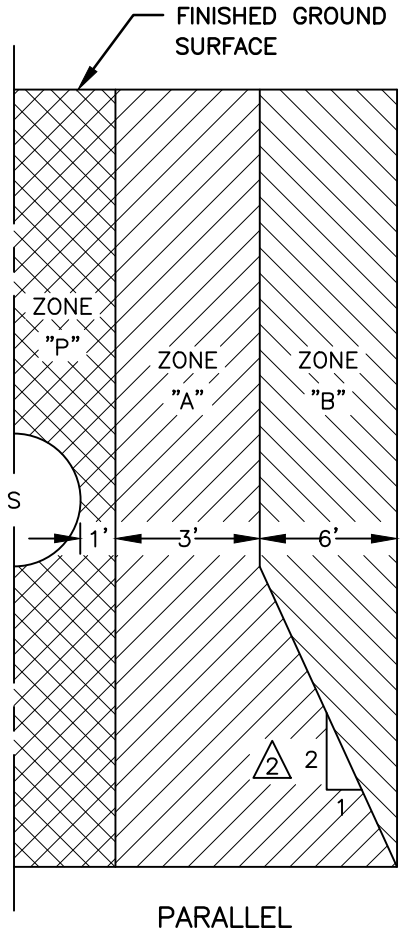
NOTES:

1. (S) INDICATES SANITARY SEWER MAIN OR STORM DRAIN. DIMENSIONS ARE FROM OUTSIDE OF WATER PIPE TO OUTSIDE OF SEWER OR STORM DRAIN PIPE.
2. WATER SERVICE LATERALS SHALL BE INSTALLED 4" OR MORE ABOVE SEWER MAIN OR STORM DRAIN. IF THIS CONDITION CANNOT BE MET, SPECIAL CONSTRUCTION WILL BE REQUIRED.



CROSSING

WATER MAIN AND SANITARY SEWER OR STORM DRAIN



PARALLEL

WATER MAIN AND SANITARY SEWER OR STORM DRAIN

A	WATER MAINS WILL NOT BE PERMITTED IN THIS ZONE WITHOUT SPECIAL PERMISSION FROM THE DEPARTMENT OF PUBLIC HEALTH, STATE OF CALIFORNIA.
B	WATER MAINS WILL NOT BE PERMITTED IN THIS ZONE WITHOUT SPECIAL PERMISSION FROM THE CITY ENGINEER. (2)
C	WATER MAINS IN THIS ZONE SHALL BE CONSTRUCTED OF CML&C STEEL PIPE WITH NO JOINTS OR DUCTILE IRON PIPE (CLASS 350 MIN.) WITH HOT DIP BITUMINOUS COATING, INSTALLED WITHIN A 1/4–INCH STEEL WELDED CASING PER STANDARD DRAWINGS W–37 & W–38
D	THE WATER MAIN SHALL HAVE NO JOINTS WITHIN FOUR FEET FROM EITHER SIDE OF THE SEWER OR STORM DRAIN.
P	ZONE P IS A PROHIBITED ZONE, SECTION 64630 (e) (2) CALIFORNIA ADMINISTRATION CODE, TITLE 22.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

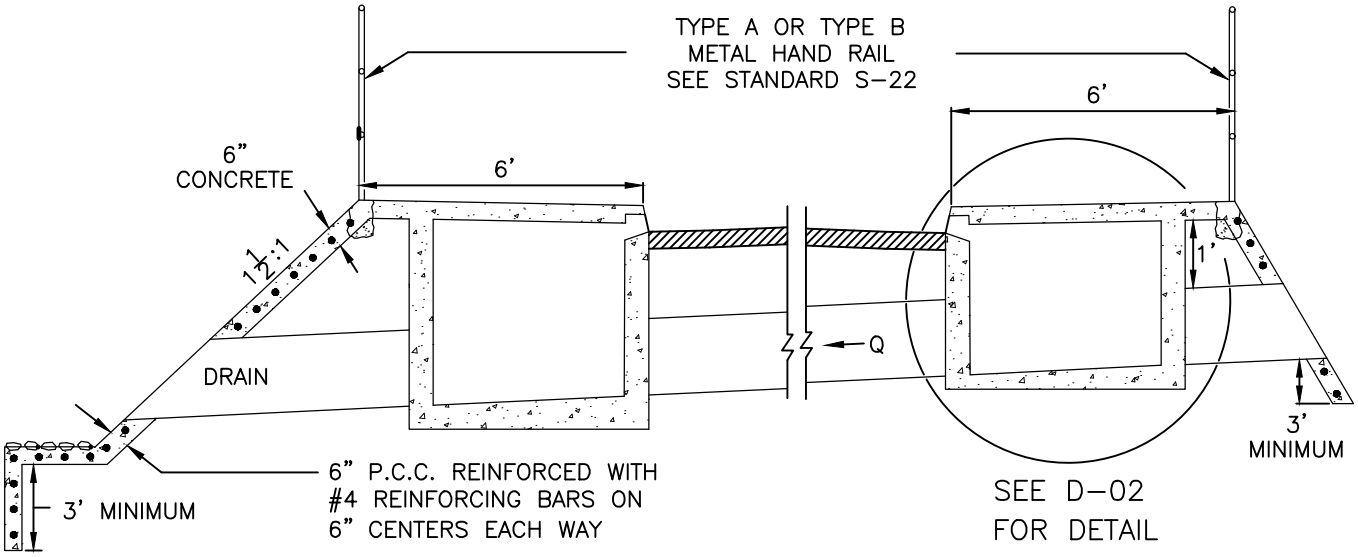
DATE:
08/01/20

SEPARATION CRITERIA FOR NEW WATER MAINS FROM EXISTING SANITARY SEWERS OR STORM DRAINS

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
210

SHEET 1 OF 1

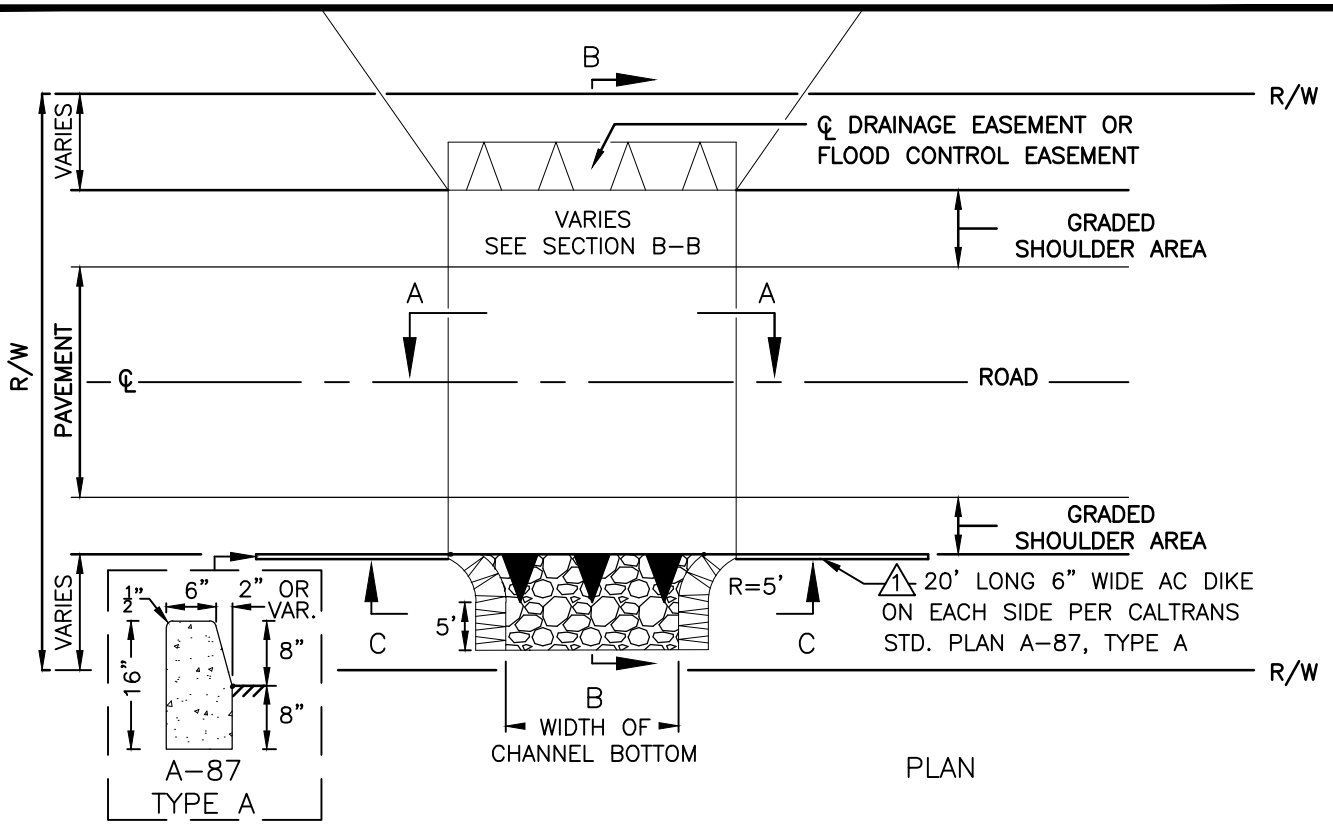


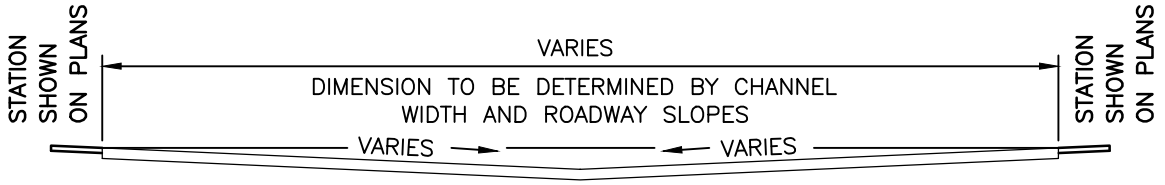
NOTES:

1. ALL CONCRETE SHALL CONTAIN NOT LESS THAN 550 POUNDS OF CEMENTITIOUS MATERIAL PER CUBIC YARD WITH 4% AIR ENTRAINMENT.
2. DOWNSTREAM CUTOFF WALL SHALL EXTEND THREE FEET BELOW CHANNEL BOTTOM OR AS DIRECTED BY THE CITY ENGINEER.
3. SEE DRAWING S-04 FOR SIDEWALK DETAILS.
4. SEE DRAWING S-01 FOR EXPANSION JOINT AND CURB AND GUTTER DETAILS.
5. CATCH BASIN OUTLET CONNECTION TO CULVERT SHALL BE CONSTRUCTED AS DIRECTED BY THE CITY ENGINEER.
6. WASH CROSSINGS MAY BE USED WHERE APPROVED BY THE CITY. THE WASH CROSSING SHALL BE ABLE TO HANDLE A 100 YEAR STORM FLOW AS A DIP WHEN ACTING WITH THE CULVERT. THE CUT-OFF WALLS SHALL EXTEND OVER THE FULL LENGTH OF SUBMERSION OF THE DIP.
7. ON A MAJOR WASH CROSSING THE DEVELOPER MAY DROP THE CURB FACE AND OMIT THE CATCH BASINS BUT SHALL DELINEATE THE ROADWAY AS DIRECTED BY THE CITY ENGINEER.
8. ROCK SLOPE PROTECTION, CONCRETED ROCK SLOPE PROTECTION OR CONCRETE CHANNEL LINING SHALL BE INSTALLED UPSTREAM AND DOWNSTREAM OF THE CROSSING. THE EXTENT AND THICKNESS TO BE BASED ON FLOW VELOCITIES, APPROVED ENGINEERING PRACTICE AND MINIMUMS SET FORTH ON STANDARD DRAWING S-20.

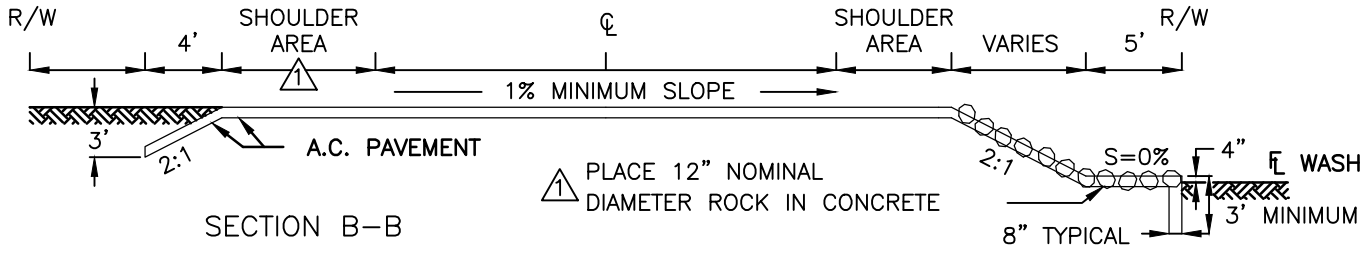
CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW CROSSROADS OF OPPORTUNITY	APPROVED BY: BRAD S. MERRELL CITY ENGINEER	STANDARD WASH CROSSING	STANDARD PLAN NO. 300
	DATE: 08/01/20	USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION	SHEET 1 OF 1

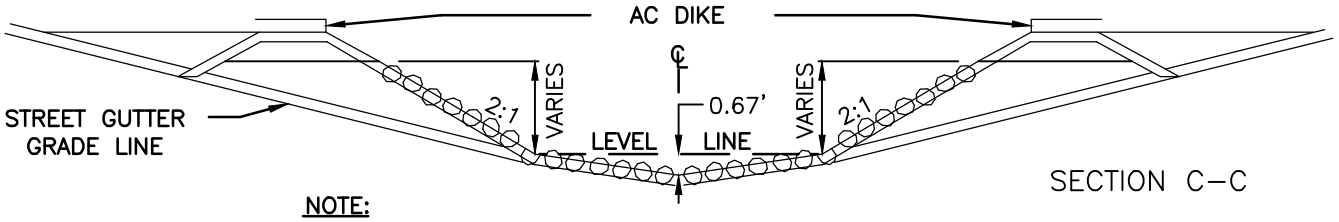




SECTION A–A



SECTION B–B



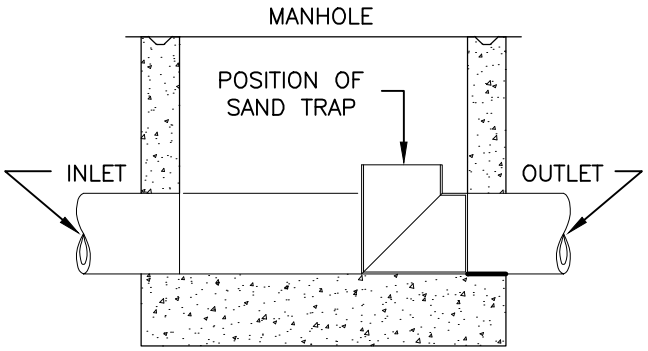
SECTION C–C

NOTE:

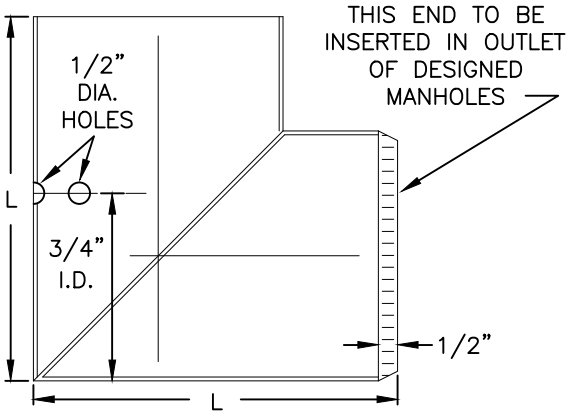
1. CONCRETE SHALL CONTAIN NOT LESS THAN 550 POUNDS OF CEMENTITIOUS MATERIAL PER CUBIC YARD WITH 4% AIR ENTRAINMENT.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW CROSSROADS OF OPPORTUNITY	APPROVED BY: BRAD S. MERRELL CITY ENGINEER	CHANNEL CROSSING IN EXISTING RURAL RESIDENTIAL AREAS ONLY	STANDARD PLAN NO. 301
	DATE: 08/01/20	USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION	SHEET 1 OF 1



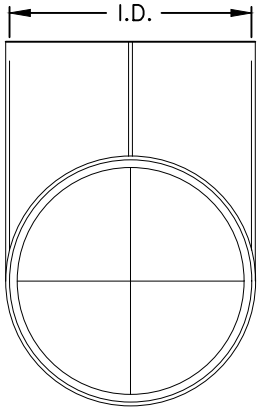
SECTIONAL VIEW OF MANHOLE WITH LOCATION OF SAND TRAP



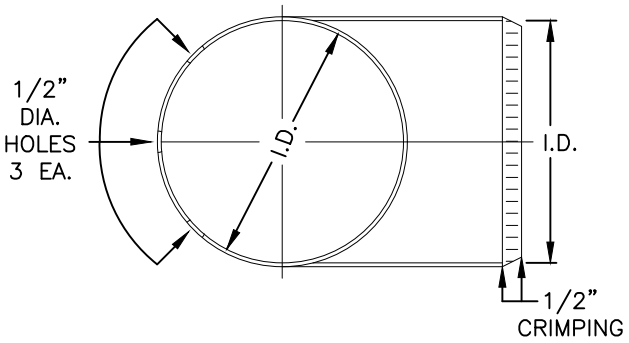
SIDE VIEW

DIMENSIONS OF TRAP

I.D.	LENGTH
8"	10–1/2"
10"	12–1/2"
12"	16"
15"	18"
18"	19"



END VIEW



TOP VIEW

NOTES:

1. ALL SEAMS TO BE INTERLOCKING SEAMS AND SHALL BE SOLDERED.
2. TRAP TO BE CONSTRUCTED OF 20 GAUGE GALVANIZED SHEET METAL.
3. PLACE TRAPS IN ALL MANHOLES IN WORK AREA AND ONE IN MANHOLE BELOW WORK AREA BEFORE COMMENCING WORK.
4. CLEAN ALL MANHOLES AND REMOVE TRAPS AFTER COMPLETION OF WORK.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

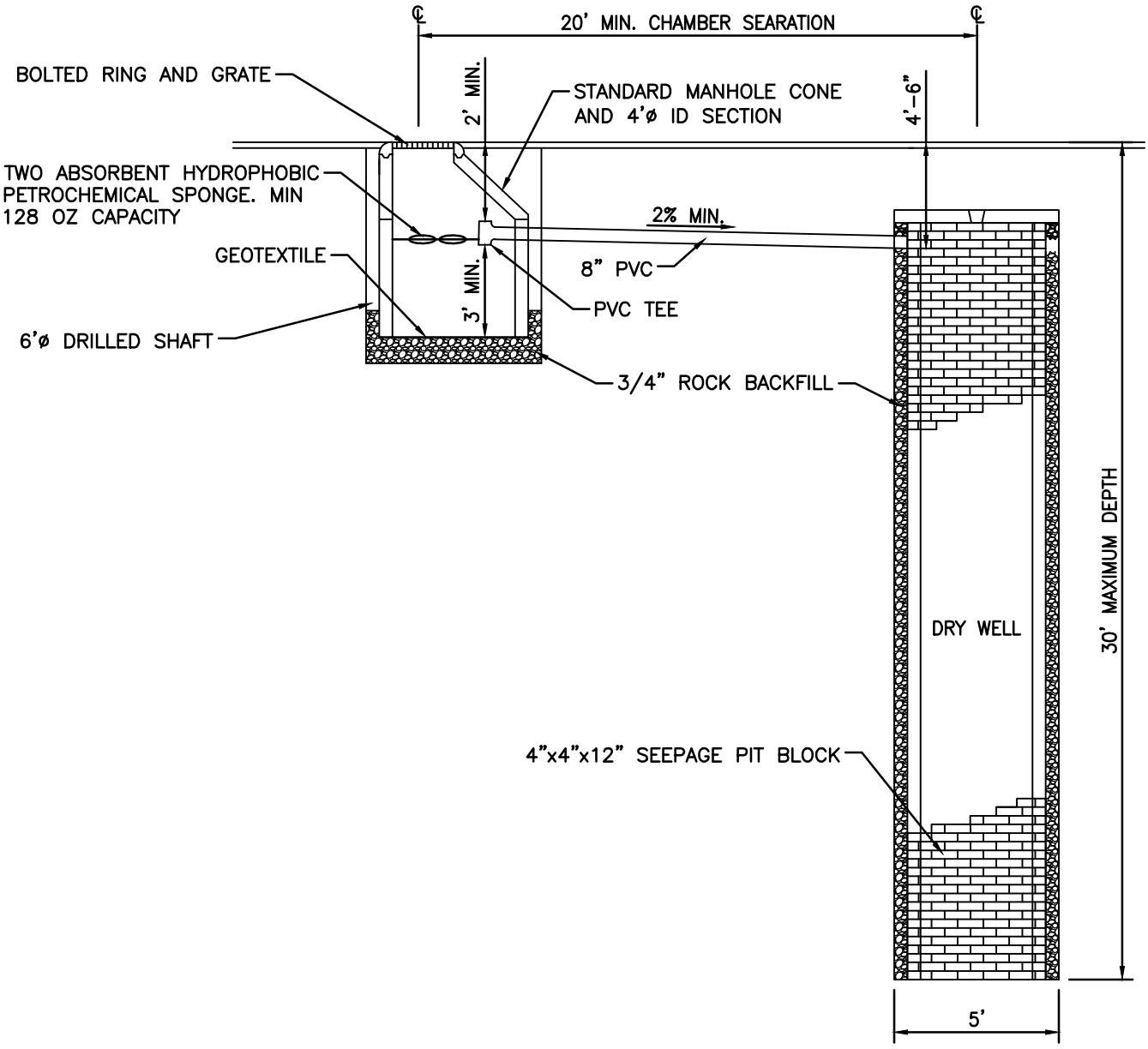
DATE:
08/01/20

CONSTRUCTION SAND TRAP IN EXISTING MANHOLE

STANDARD PLAN NO.
302

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1



CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

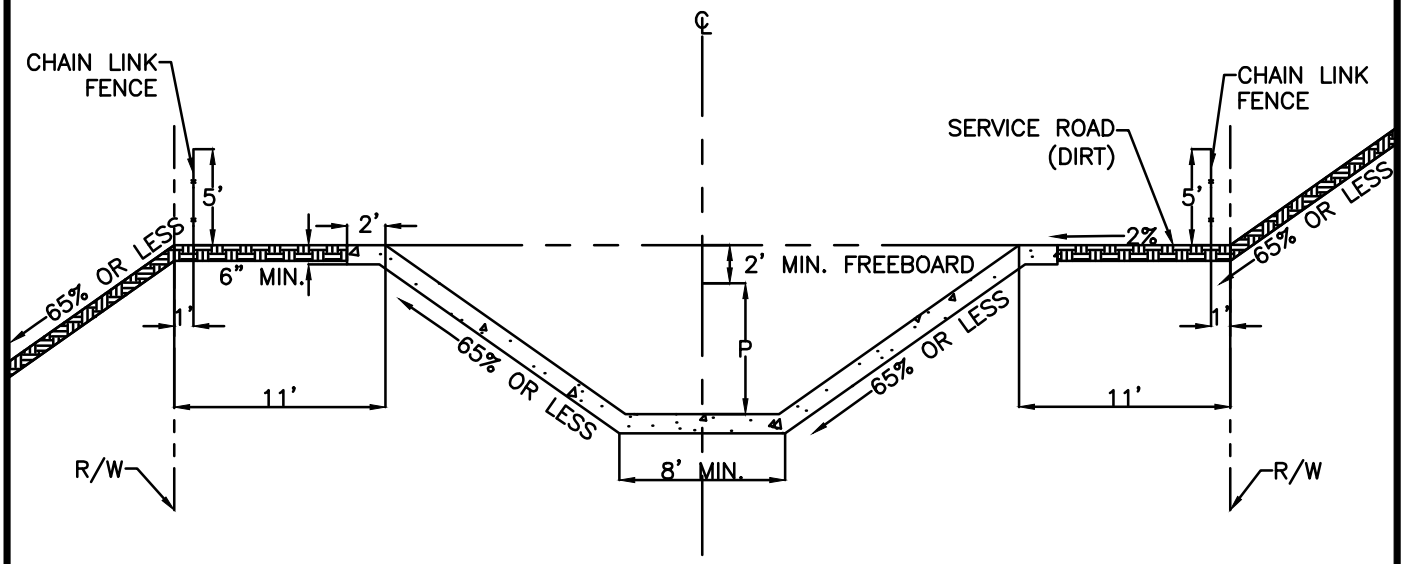
DATE:
08/01/20

DESILTING BASIN WITH DRY WELL

STANDARD PLAN NO.
303

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

SHEET 1 OF 1



NOTES:

1. CHANNEL WALLS AND BOTTOM SHALL BE REINFORCED CONCRETE OR CONCRETE GUNITE WITH WIRE MESH.
2. CHAIN LINK FENCE SHALL CONFORM TO SECTION 206-6 AND 304-3 OF THE STANDARD SPECIFICATIONS.
3. CONCRETE SHALL BE CLASS 560-C-3250.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

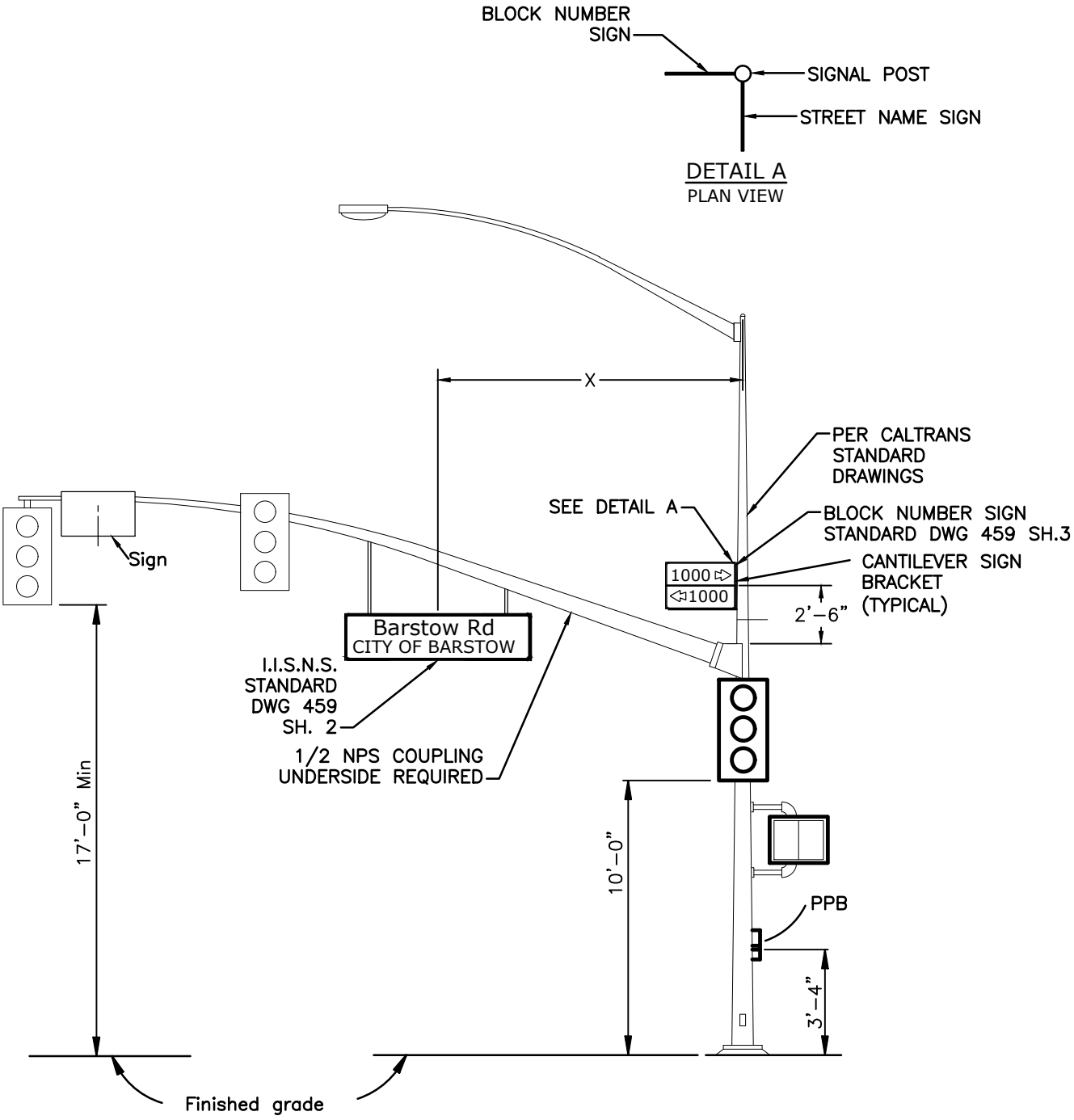
DATE:
08/01/20

DRAINAGE CHANNEL

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
304

SHEET 1 OF 1



1. ALL SIGNAL AND LIGHTING STANDARDS SHALL CONFORM TO CALTRAN'S STANDARD PLANS.
2. EXISTING POLES, MAST ARMS, AND FOUNDATIONS TO BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLING ANY SIGNS OR DEVICES.
3. DISTANCE "X" PER CALTRANS STANDARD PLANS.
4. OBTAIN APPROVAL FROM CITY ENGINEER PRIOR TO INSTALLING ANY SIGNS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
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CITY ENGINEER

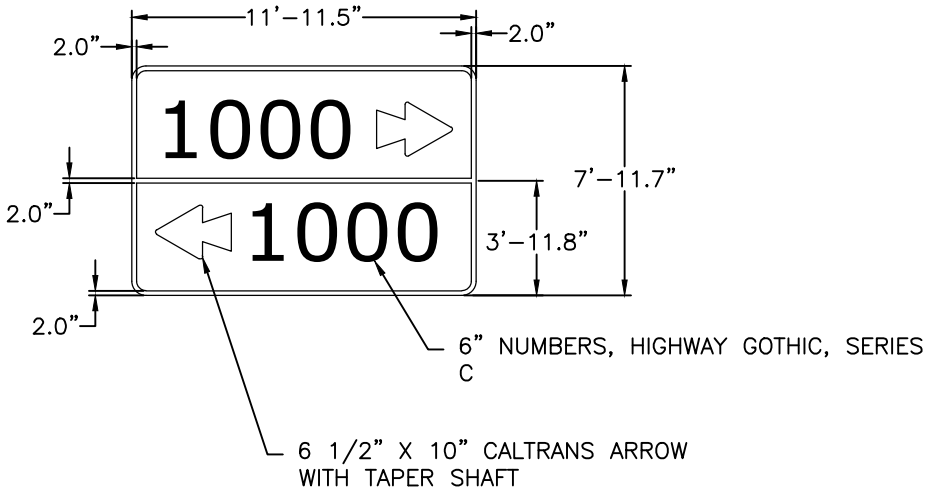
DATE:
08/01/20

TRAFFIC SIGNAL

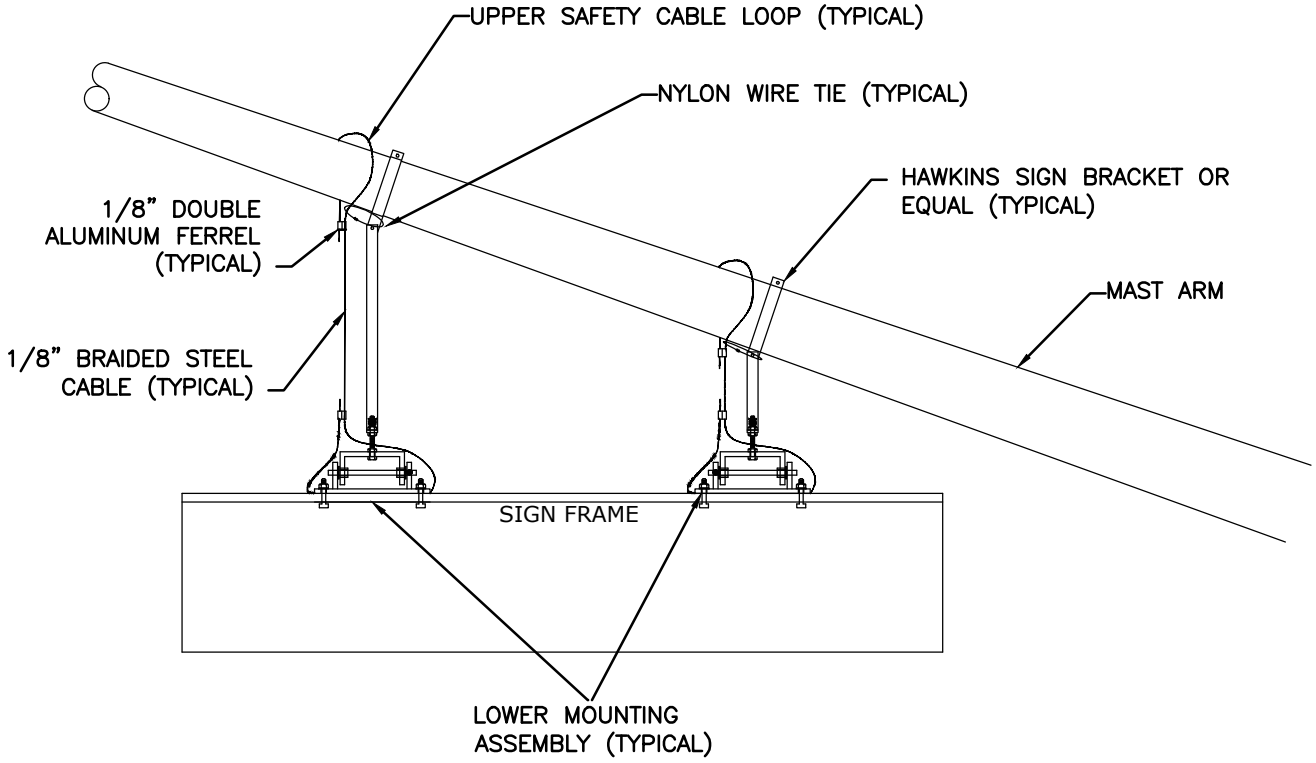
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
459

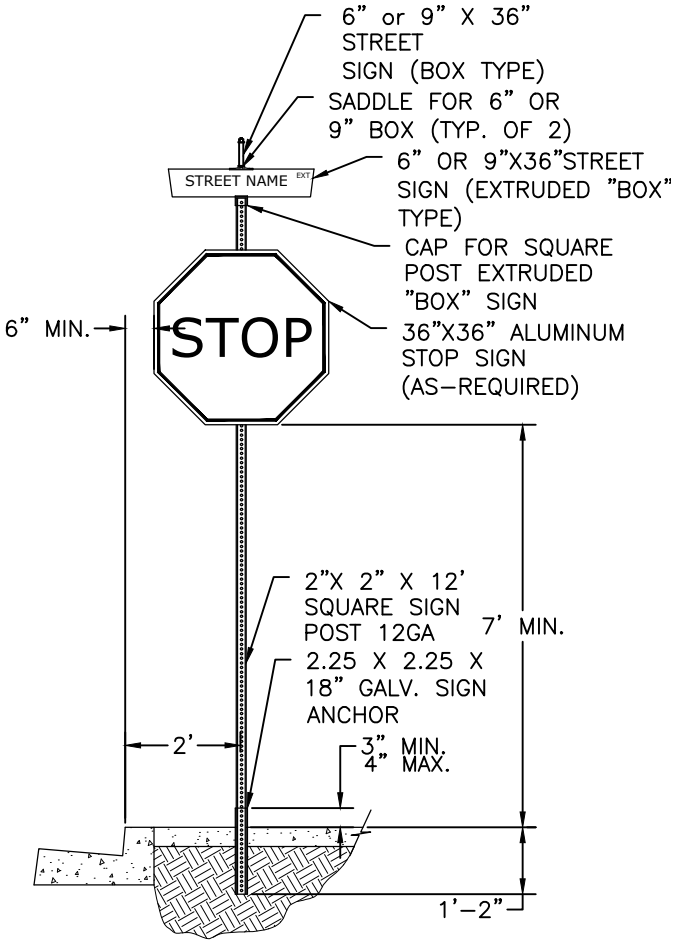
1. ONE INCH WHITE BORDER SHALL BE PROVIDED ALONG THE SIGN PERIMETER WITH 1" INSIDE RADIUS AND 2" OUTSIDE RADIUS.
2. STREET NAME SHALL BE 8" UPPER CASE SERIES C OR D. ORDINAL NUMBERED STREET NAMES SHALL BE SPELLED OUT.
3. "CITY OF BARSTOW" SHALL BE 4" UPPER CASE SERIES C, AND SHALL B CENTERED ON THE SECOND LINE OF THE SIGN CASE .
4. COLORS SHALL BE WHITE LETTERING ON INTERSTATE BLUE BACKGROUND.
5. I.I.S.N.S SIGN TYPE SHALL BE CALTRANS STANDARD ES–70 TYPE A AND SHALL BE 6' WIDE OR 8' WIDE, 65 LB MAX.
6. STREET NAME SUFFIXES WHEN APPILICABLE SHALL BE ABBREVIATED WITHOUT PUNCTUATION.
   AVENUE AVE LANE LN CIRCLE CIR
   BOULEVARD BLVD PARKWAY PKWY COURT CT
   DRIVE DR STREET ST WAY WY
7. ALL STREET NAMES WITH THEIR CORRESPONDING SUFFIXES , SHALL BE CENTERED ON LINE ONE OF THE SIGN WITH APPROPRIATE LETTER SPACING FOR DAY AND NIGHT CLARITY. LONG STREET NAMES SHALL BEGIN AND END 3 INCHES FROM EITHER EDGE.SHORTER STREET NAMES, MAY BEGIN AND END MORE THAN 3 INCHES. FROM EITHER END, AND HAVE THEIR SUFFIXES SPELLED OUT.
8. INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE LED ILLUMINATED.
9. INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE TEMPLE MODEL 409 OR APPROVED EQUAL.
10. THE STREET NAME SIGN SHALL BE MOUNTED TO THE MAST ARM USING HAWKINS SIGN BRACKETS, OR APPROVED EQUAL.
11. STREET NAME PANEL SHALL BE VERIFIED BY THE CITY ENGINEER PRIOR TO INSTALLING PANEL.

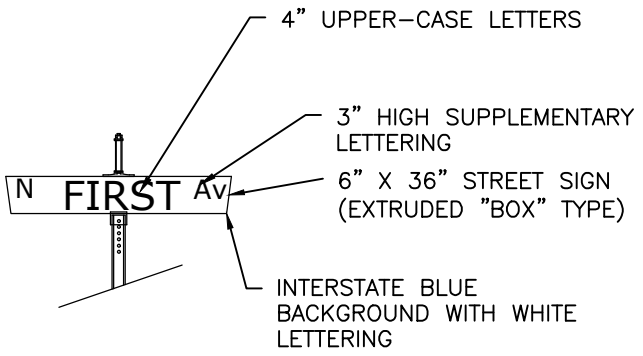


1. THE SIGNS SHALL BE CONSTRUCTED WITH A MINIMUM 0.080 THICK ALUMINUM. (12 GAUGE)
2. BOTH THE BACKGROUND AND TEXT SHALL BE 3–M, DIAMOND GRADE VIP REFLECTIVE SHEETING OR APPROVED EQUAL.
3. THE BACKGROUND SHALL BE CALTRANS BLUE. THE NUMBERS, ARROWS AND BORDER SHALL BE WHITE.
4. THE ARROWS SHALL ALWAYS BE POSITIONED AS SHOWN; THE BLOCK NUMBERS MAY CHANGE FOR THE OPPOSING DIRECTION OF TRAFFIC.

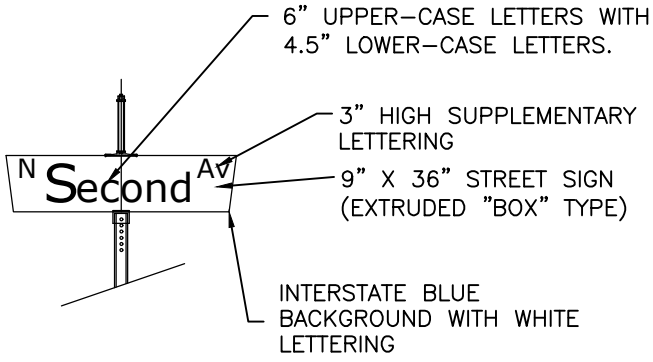


1. BOTH MOUNTING ASSEMBLIES SHALL HAVE SAFTEY CABLE INSTALLED
2. MANUFACTURE EACH SAFETY CABLE FROM ONE CONTINOUS LENGTH OF $\frac{1}{8}$" BRAIDED ZINC COATED STELL CABLE.
3. UPPER SAFETY CABLE LOOP AROUND MAST ARM SHALL BE ON THE UPPER SIDE OF THE MOUNTING BRACKET. sECURE UPPER SAFETY CABLE LOOP TO BRACKET WITH A NYLON WIRE TIE.
4. LOWER SAFETY CABLE LOOP SHALL BE INSTALLED BETWEEN LOWER MOUNTING ASSEMBLY AND SIGN FRAME.
5. INSTALL $\frac{1}{8}$" DOUBLE ALUMINUM FERRULE ON UPPER AND LOWER LOOP ENDS.
6. INSTALLED SAFETY CABLE SHALL NOT ALLOW SIGN TO FALL IN EXCESS OF ONE INCH.





FOR LOCAL ROADS WITH SPEED LIMITS OF 25 MPH OR LESS



CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES RECOMMENDATION

NOTES:

1. STREET NAME SIGNS SHALL CONFORM TO CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
2. STREET NAME SIGNS SHALL BE INSTALLED IN URBAN AREA AT ALL STREET INTERSECTIONS REGARDLESS OF OTHER ROUTE SIGNS THAT MAY BE PRESENT AND SHOULD BE INSTALLED IN RURAL AREAS TO IDENTIFY IMPORTANT ROADS THAT ARE NOT OTHERWISE SIGNED.
3. LETTERING ON STREET NAME SIGNS SHOULD BE AT LEAST 6 IN. HIGH IN CAPITAL LETTERS, OR 6 IN. UPPER-CASE WITH 4.5 IN. LOWER CASE LETTER.
4. ON MULTI-LANE STREETS WITH SPEEDS LIMITS GREATER THAN 40 MPH, THE LETTERING SHOULD BE AT LEAST 8 IN. HIGH IN CAPITAL LETTERS OR 8 IN. UPPER-CASE LETTERS AND 6 IN. LOWER CASE LETTERS.
5. FOR LOCAL ROADS WITH SPEEDS LIMITS OF 25 MPH OR LESS, THEIR LETTERING HEIGHT MAY BE A MINIMUM OF 4 IN.
6. THE STREET NAME SIGN SHALL BE RETROREFLECTIVE OR ILLUMINATED TO SHOW THE SAME SHAPE AND SIMILAR COLOR BOTH DAY AND NIGHT. THE LEGEND AND BACKGROUND SHALL BE OF CONTRASTING COLORS.
7. STREET NAME SIGN SHALL BE PLACED, CLEARLY VISIBLE TO TRAFFIC APPROACHING FROM ALL DIRECTIONS.
8. STREET NAME SUFFIXES WHEN APPLICABLE SHALL BE ABBREVIATED WITHOUT PUNCTUATION.

AVENUE	Av	LANE	Ln	CIRCLE	Cir
BOULEVARD	Blvd	PARKWAY	Pkwy	COURT	Ct
DRIVE	Dr	STREET	St	WAY	Way

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

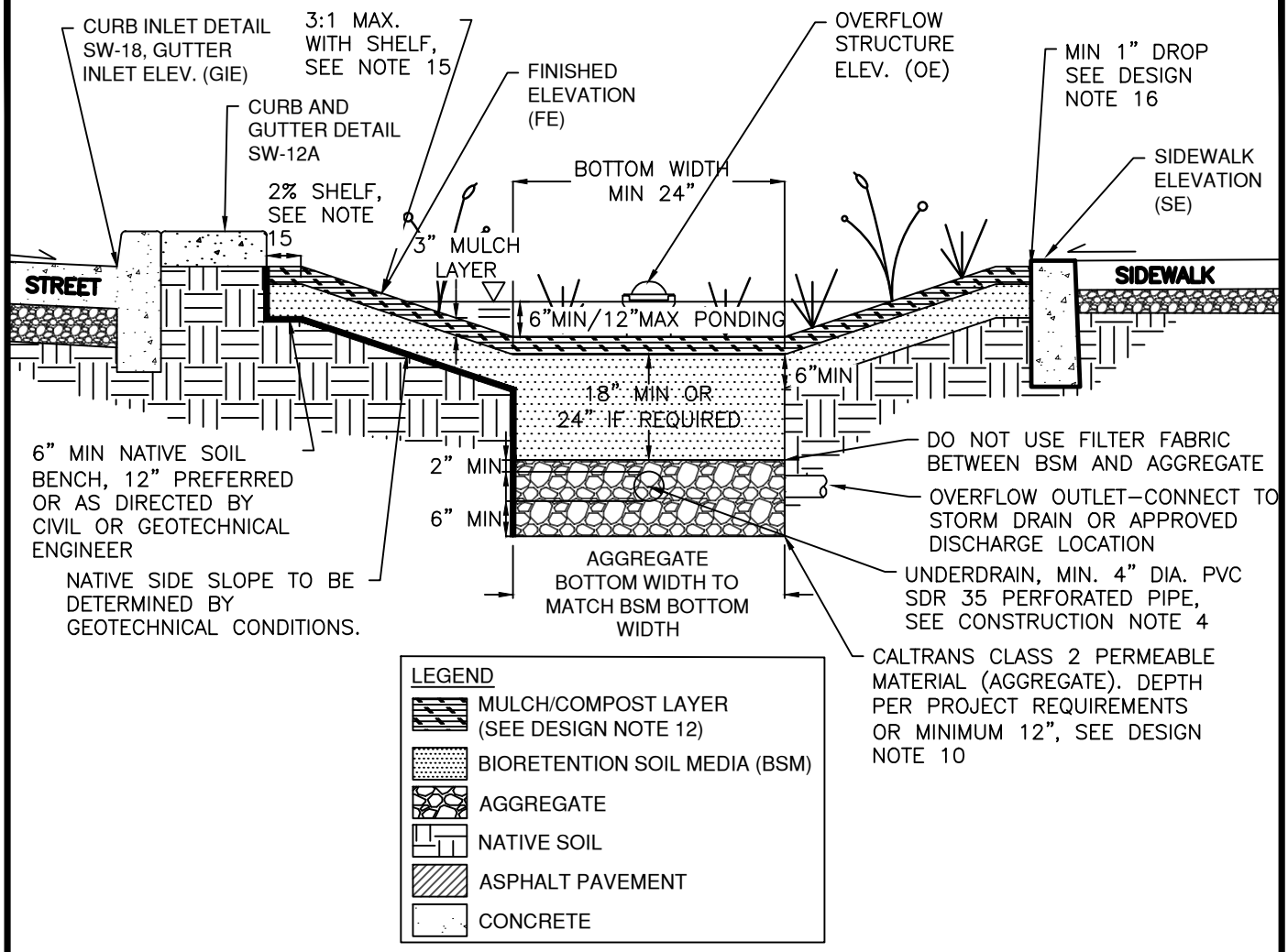
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

STREET NAME SIGNS

STANDARD PLAN NO.
460

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



CONSTRUCTION NOTES

1. MAINTAIN UNDISTURBED NATIVE SOIL BENCH TO SUPPORT ADJACENT SIDEWALK/ROAD. SEQUENCE WORK TO CONSTRUCT CURBS BEFORE EXCAVATING BIORETENTION AREA FOR AGGREGATE AND BSM.
2. SCARIFY SUBGRADE BEFORE INSTALLING BIORETENTION AREA AGGREGATE AND BSM.
3. FACILITY EXCAVATION TO ALLOW FOR SPECIFIED AGGREGATE, BSM, AND MULCH DEPTHS TO ACHIEVE FINISHED ELEVATIONS ON CIVIL PLANS.
4. INSTALL UNDERDRAIN WITH HOLES FACING DOWN. TOP OF UNDERDRAIN 6" BELOW TOP OF AGGREGATE LAYER. UNDERDRAIN SLOPE MAY BE FLAT.
5. PLACE BSM IN 6" LIFTS. COMPACT EACH 6" LIFT OF BSM WITH LANDSCAPE ROLLER OR BY LIGHTLY WETTING. IF WETTING, LET DRY OVERNIGHT BEFORE PLANTING.
6. DO NOT WORK WITHIN BIORETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
7. KEEP HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.
8. STORMWATER SHOULD BE DIRECTED AWAY FROM BIORETENTION UNTIL CONSTRUCTION IS COMPLETE AND DRAINAGE AREA VEGETATION IS STABILIZED.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

STREET SLOPE-SIDED BIORETENTION WITH PARKING, WITH UNDERDRAIN

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
SW-1

DESIGN NOTES

1. BIORETENTION FACILITY DESIGN SHOULD OPTIMIZE THE FLAT BOTTOM DIMENSIONS (I.E., WIDTH, LENGTH) TO MAXIMIZE THE FUNCTIONAL AREA OF THE FACILITY.

2. CAPTURE AND CONVEY OVERFLOW TO STORM DRAIN SYSTEM (DETAIL SW–22, SW–23). ALTERNATIVELY, CONVEY OVERFLOW TO APPROVED DISCHARGE LOCATION THROUGH OTHER OVERLAND METHODS (IE. CURB CUTS, SIDEWALK UNDERDRAIN, WEIR, ETC.).

3. PROVIDE SPOT ELEVATIONS AT INLETS AND OVERFLOW STRUCTURES ON CIVIL PLANS (FE, OE, GIE, SIE), PER DETAIL SW–18.

4. DUE TO SITE VARIABILITY, TO ENSURE THE LONG–TERM STRUCTURAL STABILITY OF THE BIORETENTION FACILITY AND ANY ADJACENT INFRASTRUCTURE CONSULT WITH A GEOTECHNICAL ENGINEER.

5. A VERTICAL LINER MAY BE USED FOR BIORETENTION FACILITIES TO PREVENT LATERAL FLOW AND TO SEPARATE THE NATIVE SOIL FROM THE BSM AND THE AGGREGATE, HOWEVER A HORIZONTAL LINER SHALL NOT BE USED.

6. DO NOT USE FILTER FABRIC BETWEEN BSM AND AGGREGATE.

7. PROVIDE CAPPED, THREADED PVC CLEANOUT FOR UNDERDRAIN, 4" MIN. DIA. WITH SWEEP BEND.

8. PROVIDE A CLEAN–OUT/OBSERVATION PORT IN EACH FACILITY, PER BIORETENTION TECHNICAL SPECIFICATIONS.

9. ON LONGITUDINAL SLOPE, USE CHECK DAMS (DETAILS SW–20, SW–21)

10. DEPTH OF AGGREGATE DETERMINED BY FACILITY SIZING. IF CALTRANS CLASS 2 PERMEABLE IS NOT AVAILABLE, SUBSTITUTE CLASS 3 PERMEABLE WITH AN OVERLYING 3" DEEP CHOKING LAYER OF EITHER CALTRANS COURSE AGGREGATE 1/2" (NO. 4) OR 3/4" X (NO.4) OPEN–GRADED AGGREGATE.

11. BIORETENTION SOIL MEDIA (BSM) SPECIFICATION PER BIORETENTION TECHNICAL SPECIFICATIONS.

12. PLANT SELECTION PER BIORETENTION TECHNICAL SPECIFICATIONS.

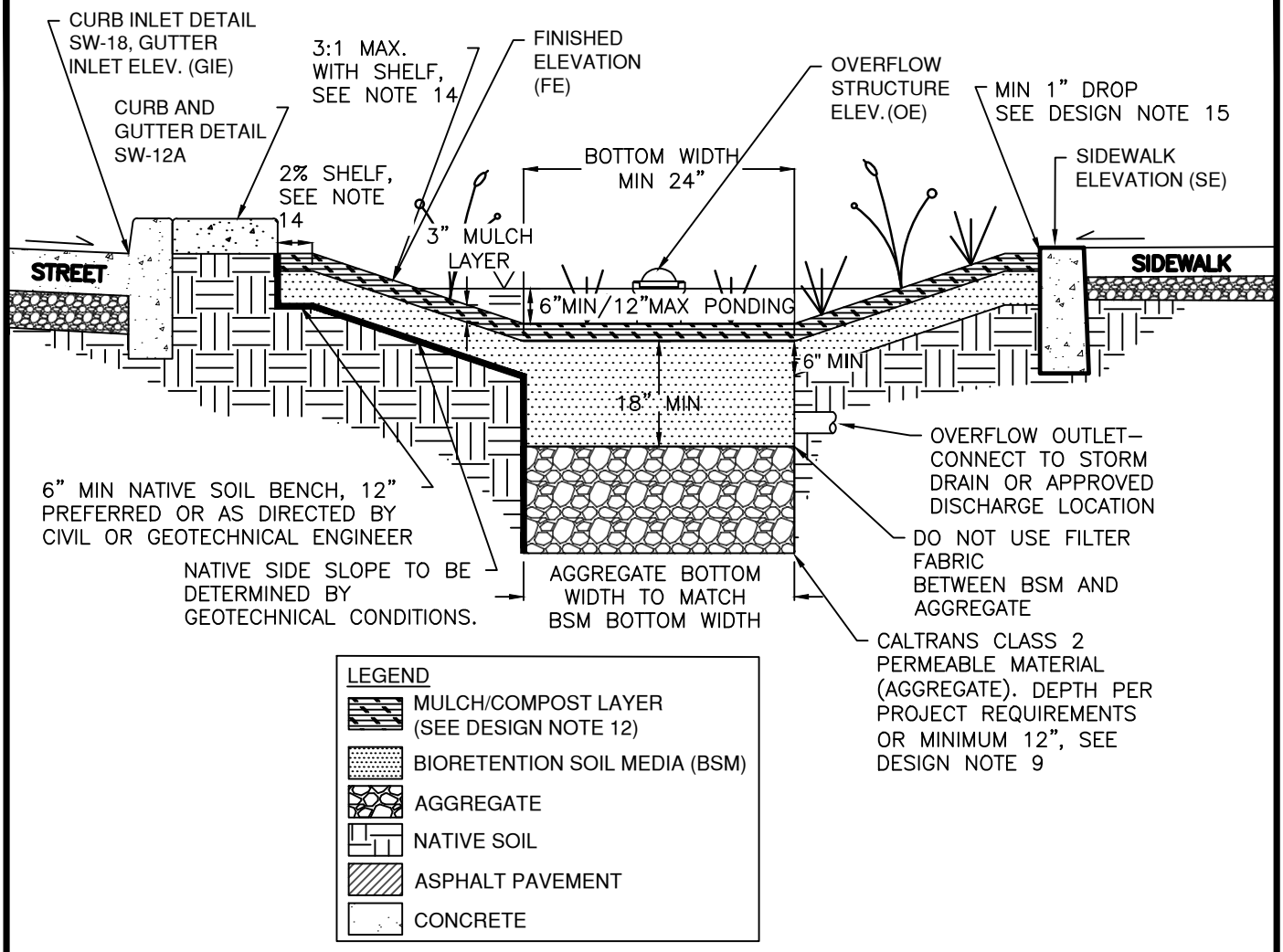
13. MULCH PER BIORETENTION TECHNICAL SPECIFICATIONS.

14. LOCATE ENERGY DISSIPATION AS SPECIFIED IN INLET DETAILS.

15. NATIVE SIDE SLOPE 4:1 (H:V) PREFERRED, 3:1 WITH SHELF. 6" MINIMUM SHELF WITH 2% SLOPE TOWARDS FACILITY ADJACENT TO PEDESTRIAN USE OR CURB UNLESS 4:1 SLOPE PROVIDED.

16. INCLUDE AT LEAST 1" DROP FROM CURB ABOVE MULCH LAYER.

17. AVOID DECORATIVE USE OF COBBLE THAT CAN INTERFERE WITH WITH INFILTRATION.



CONSTRUCTION NOTES

1. MAINTAIN UNDISTURBED NATIVE SOIL BENCH TO SUPPORT ADJACENT SIDEWALK/ROAD. SEQUENCE WORK TO CONSTRUCT CURBS BEFORE EXCAVATING BIORETENTION AREA FOR AGGREGATE AND BSM.
2. SCARIFY SUBGRADE BEFORE INSTALLING BIORETENTION AREA AGGREGATE AND BSM.
3. FACILITY EXCAVATION TO ALLOW FOR SPECIFIED AGGREGATE, BSM, AND MULCH DEPTHS TO ACHIEVE FINISHED ELEVATIONS ON CIVIL PLANS.
4. PLACE BSM IN 6" LIFTS. COMPACT EACH 6" LIFT OF BSM WITH LANDSCAPE ROLLER OR BY LIGHTLY WETTING. IF WETTING, LET DRY OVERNIGHT BEFORE PLANTING.
5. DO NOT WORK WITHIN BIORETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
6. KEEP HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.
7. STORMWATER SHOULD BE DIRECTED AWAY FROM BIORETENTION UNTIL CONSTRUCTION IS COMPLETE AND DRAINAGE AREA VEGETATION IS STABILIZED.

DESIGN NOTES

1. BIORETENTION FACILITY DESIGN SHOULD OPTIMIZE THE FLAT BOTTOM DIMENSIONS (I.E., WIDTH, LENGTH) TO MAXIMIZE THE FUNCTIONAL AREA OF THE FACILITY.

2. CAPTURE AND CONVEY OVERFLOW TO STORM DRAIN SYSTEM (DETAIL SW–22, SW–23). ALTERNATIVELY, CONVEY OVERFLOW TO APPROVED DISCHARGE LOCATION THROUGH OTHER OVERLAND METHODS (IE. CURB CUTS, SIDEWALK UNDERDRAIN, WEIR, ETC.).

3. PROVIDE SPOT ELEVATIONS AT INLETS AND OVERFLOW STRUCTURES ON CIVIL PLANS (FE, OE, GIE, SIE), PER DETAIL SW–18.

4. DUE TO SITE VARIABILITY, TO ENSURE THE LONG–TERM STRUCTURAL STABILITY OF THE BIORETENTION FACILITY AND ANY ADJACENT INFRASTRUCTURE CONSULT WITH A GEOTECHNICAL ENGINEER.

5. A VERTICAL LINER MAY BE USED FOR BIORETENTION FACILITIES TO PREVENT LATERAL FLOW AND TO SEPARATE THE NATIVE SOIL FROM THE BSM AND THE AGGREGATE, HOWEVER A HORIZONTAL LINER SHALL NOT BE USED.

6. DO NOT USE FILTER FABRIC BETWEEN BSM AND AGGREGATE.

7. PROVIDE A CLEAN–OUT/OBSERVATION PORT IN EACH FACILITY, PER BIORETENTION TECHNICAL SPECIFICATIONS.

8. ON LONGITUDINAL SLOPE, USE CHECK DAMS (DETAILS SW–20, SW–21)

9. USE AND DEPTH OF AGGREGATE DETERMINED BY FACILITY SIZING. IF CALTRANS CLASS 2 PERMEABLE IS NOT AVAILABLE, SUBSTITUTE CLASS 3 PERMEABLE WITH AN OVERLYING 3" DEEP CHOKING LAYER OF EITHER CALTRANS COURSE AGGREGATE 1/2" (NO. 4) OR 3/4" X (NO. 4) OPEN–GRADED AGGREGATE.

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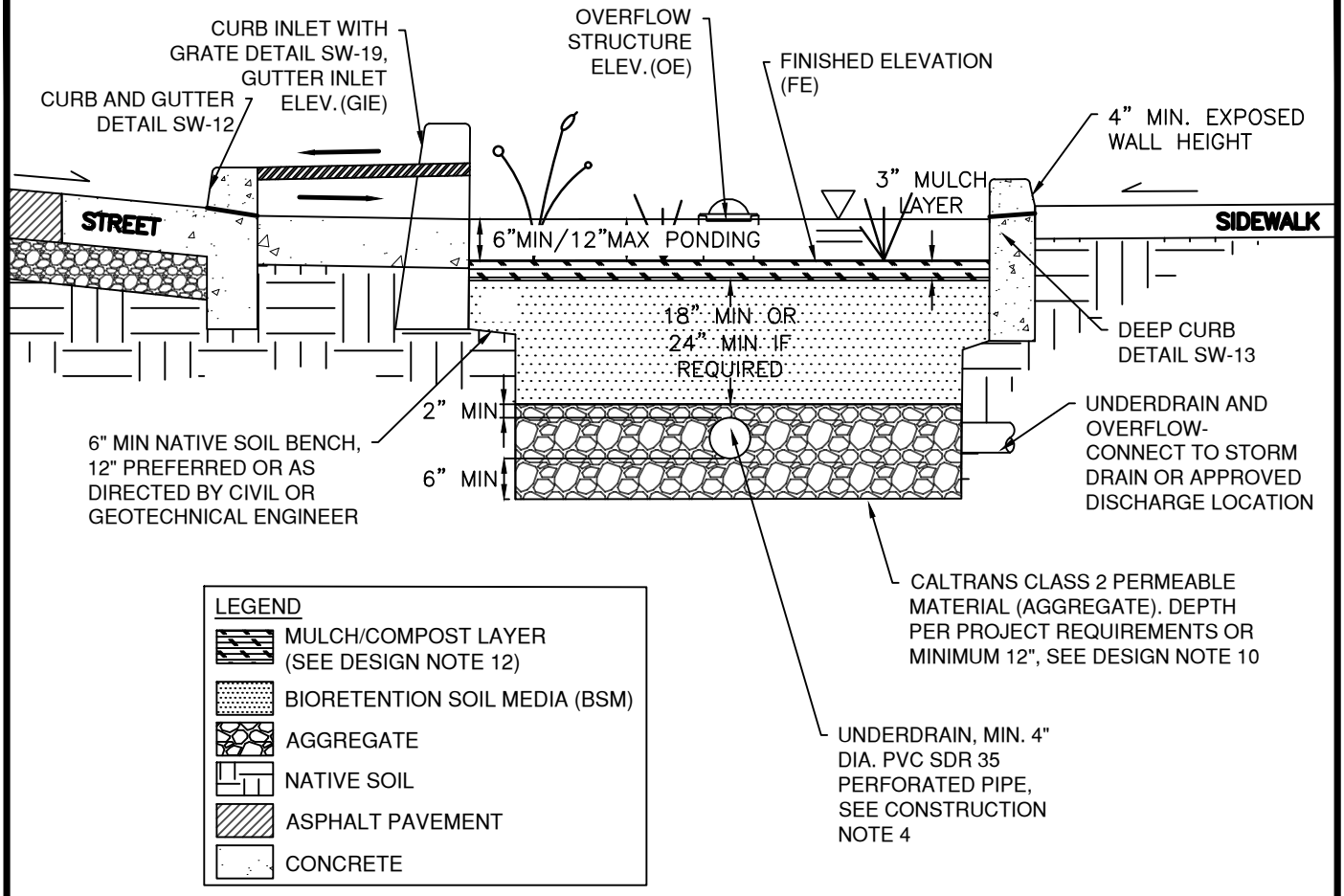

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8. PROVIDE A CLEAN–OUT/OBSERVATION PORT IN EACH FACILITY, PER BIORETENTION TECHNICAL SPECIFICATIONS.

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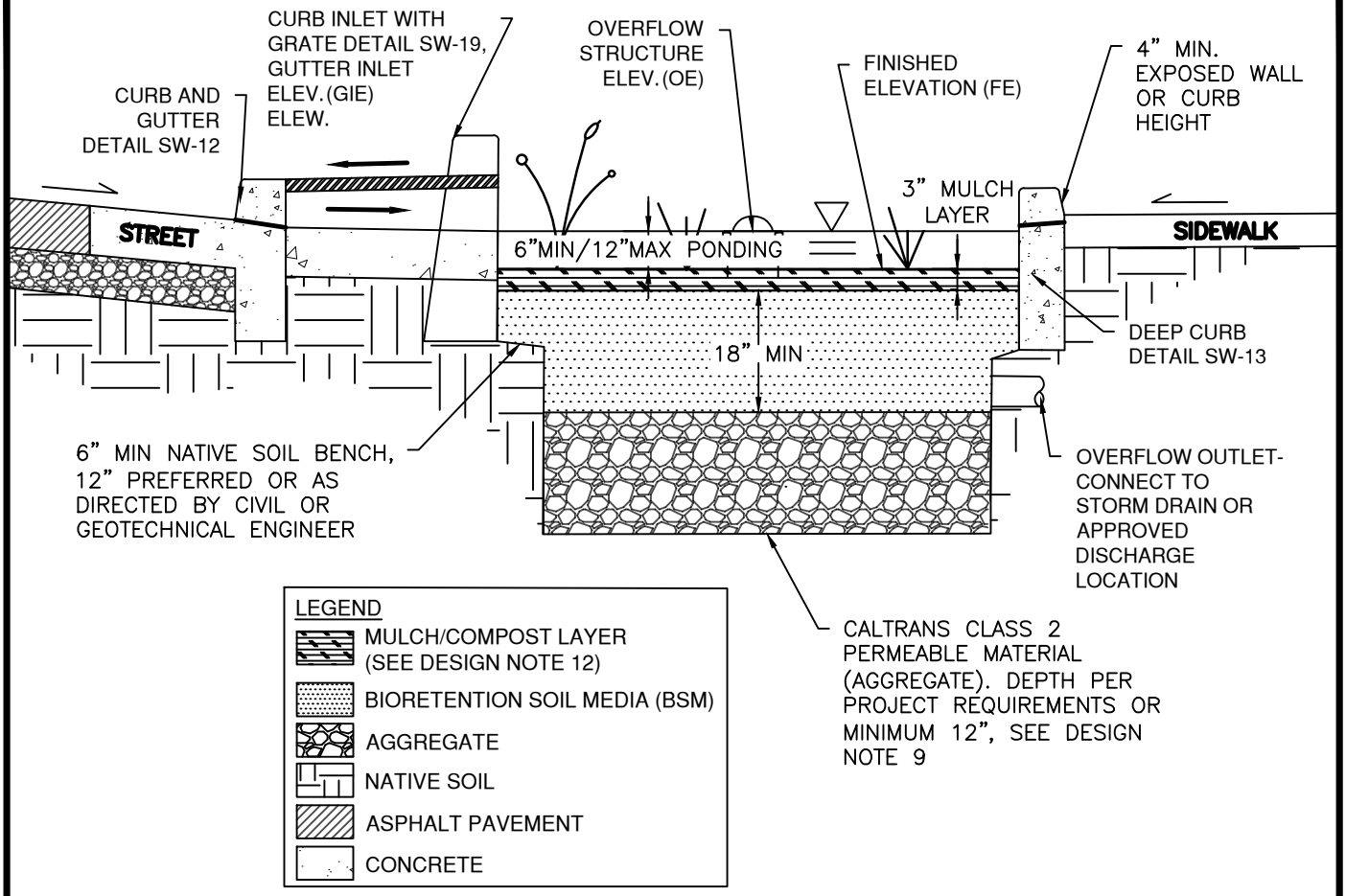

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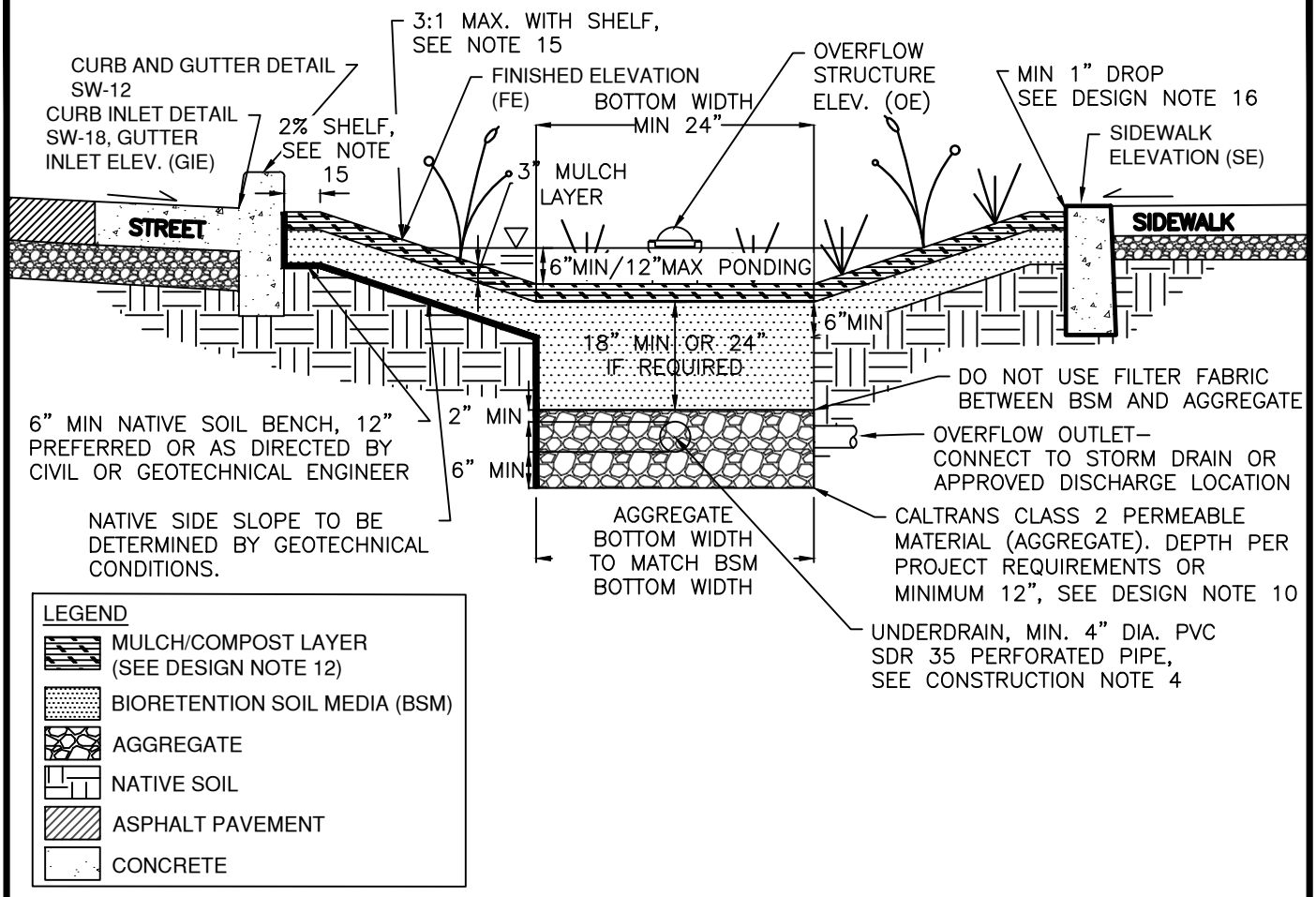

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CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

STREET SLOPE-SIDED BIORETENTION, NO PARKING, WITH UNDERDRAIN

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
SW-3

SHEET 1 OF 2

DESIGN NOTES

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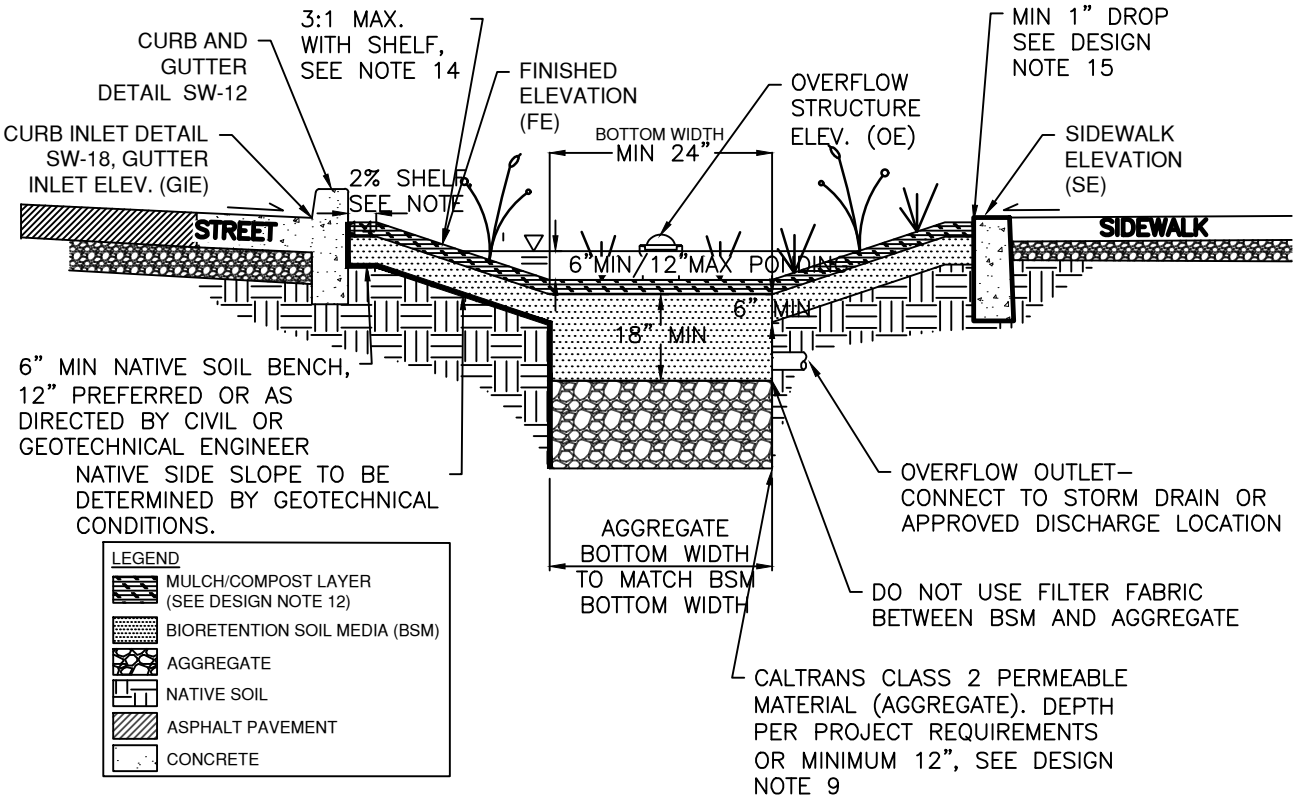

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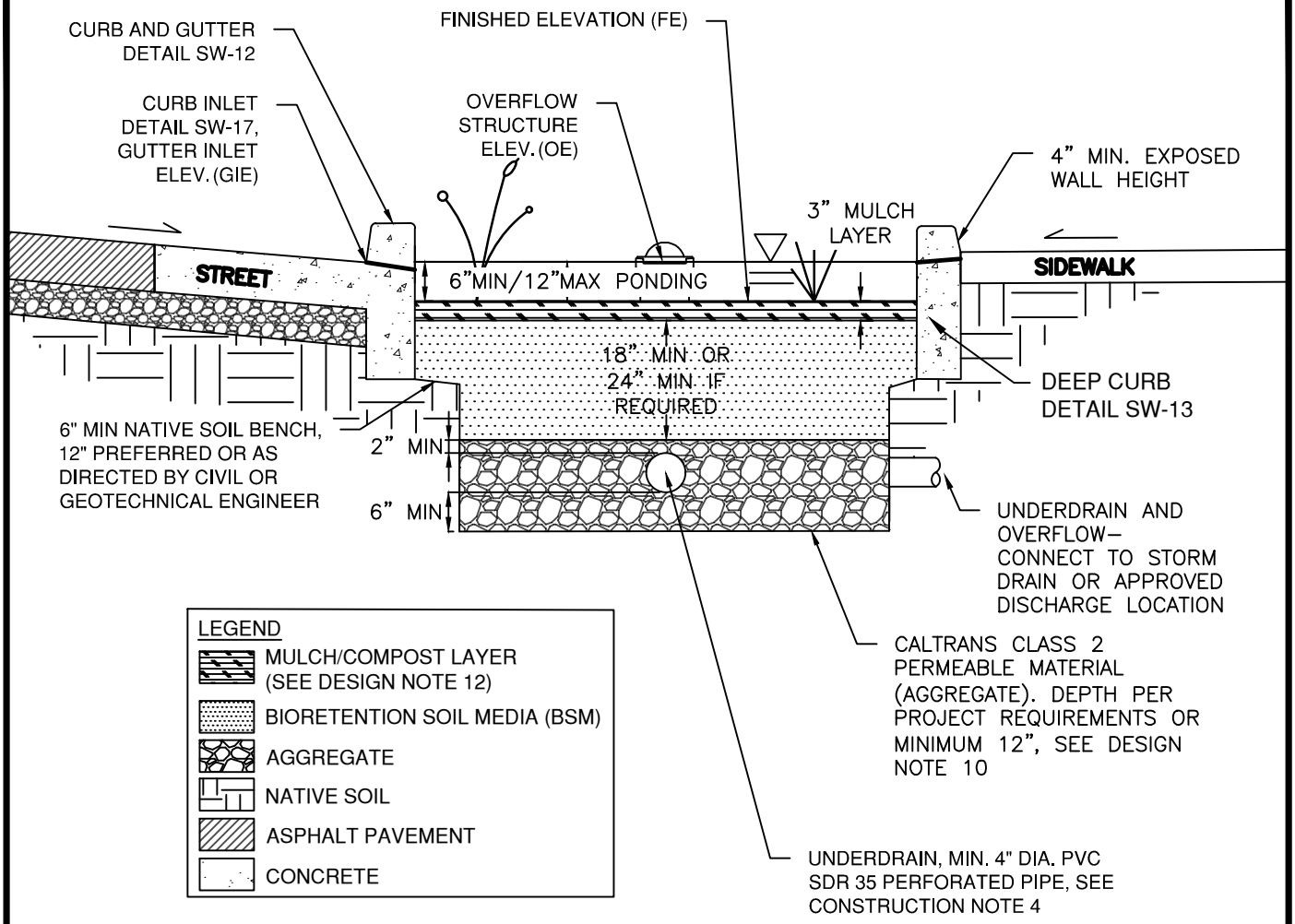

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CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

STREET BIORETENTION PLANTER BOX, NO PARKING, WITH UNDERDRAIN

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
SW-4

DESIGN NOTES

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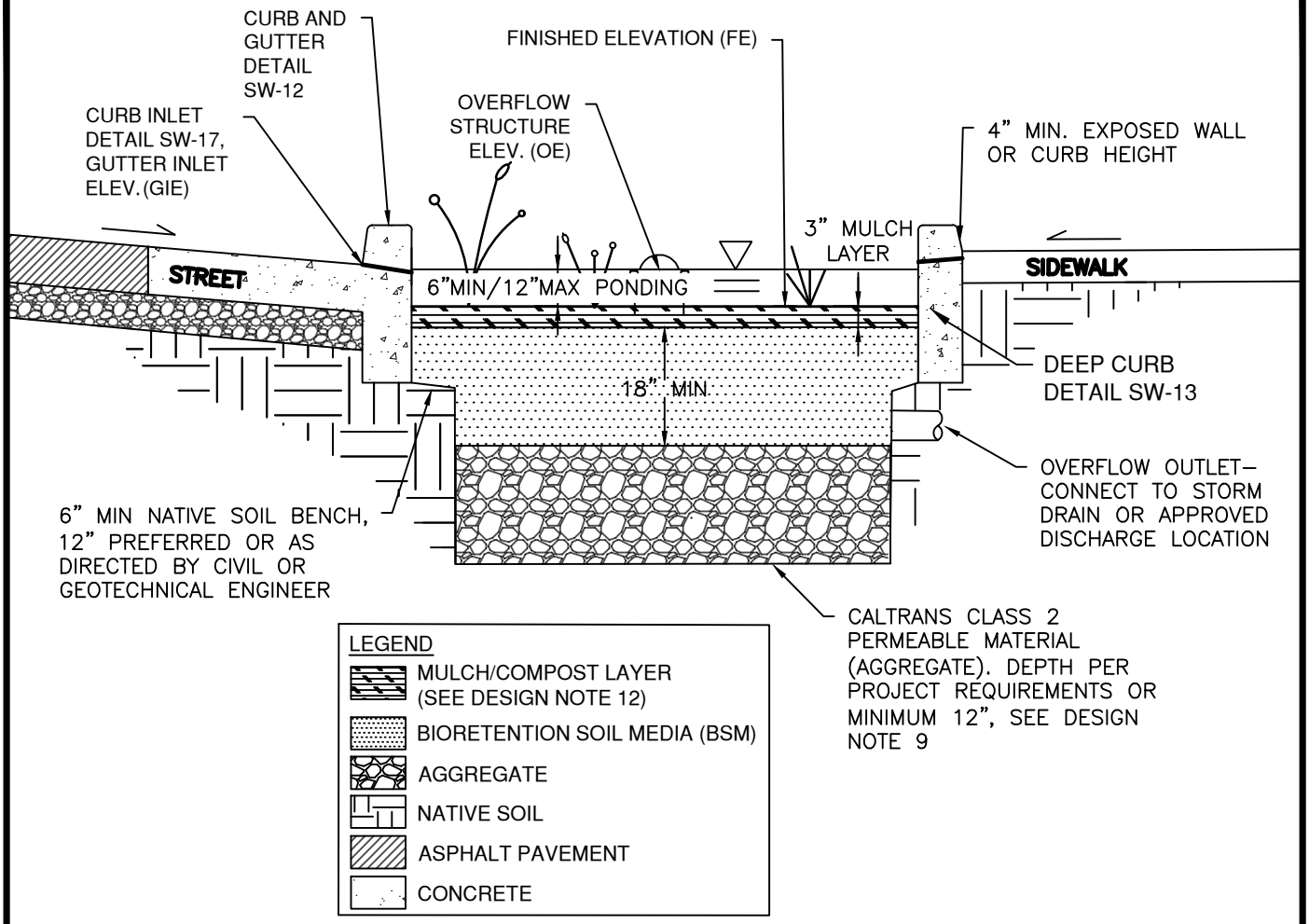

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4. DUE TO SITE VARIABILITY, TO ENSURE THE LONG–TERM STRUCTURAL STABILITY OF THE BIORETENTION FACILITY AND ANY ADJACENT INFRASTRUCTURE CONSULT WITH A GEOTECHNICAL ENGINEER.

5. A VERTICAL LINER MAY BE USED FOR BIORETENTION FACILITIES TO PREVENT LATERAL FLOW AND TO SEPARATE THE NATIVE SOIL FROM THE BSM AND THE AGGREGATE, HOWEVER A HORIZONTAL LINER SHALL NOT BE USED.

6. DO NOT USE FILTER FABRIC BETWEEN BSM AND AGGREGATE.

7. PROVIDE A CLEAN–OUT/OBSERVATION PORT IN EACH FACILITY, PER BIORETENTION TECHNICAL SPECIFICATIONS.

8. ON LONGITUDINAL SLOPE, USE CHECK DAMS (DETAILS SW–20, SW–21)

9. USE AND DEPTH OF AGGREGATE DETERMINED BY FACILITY SIZING. IF CALTRANS CLASS 2 PERMEABLE IS NOT AVAILABLE, SUBSTITUTE CLASS 3 PERMEABLE WITH AN OVERLYING 3" DEEP CHOKING LAYER OF EITHER CALTRANS COURSE AGGREGATE 1/2" (NO. 4) OR 3/4" X (NO. 4) OPEN–GRADED AGGREGATE.

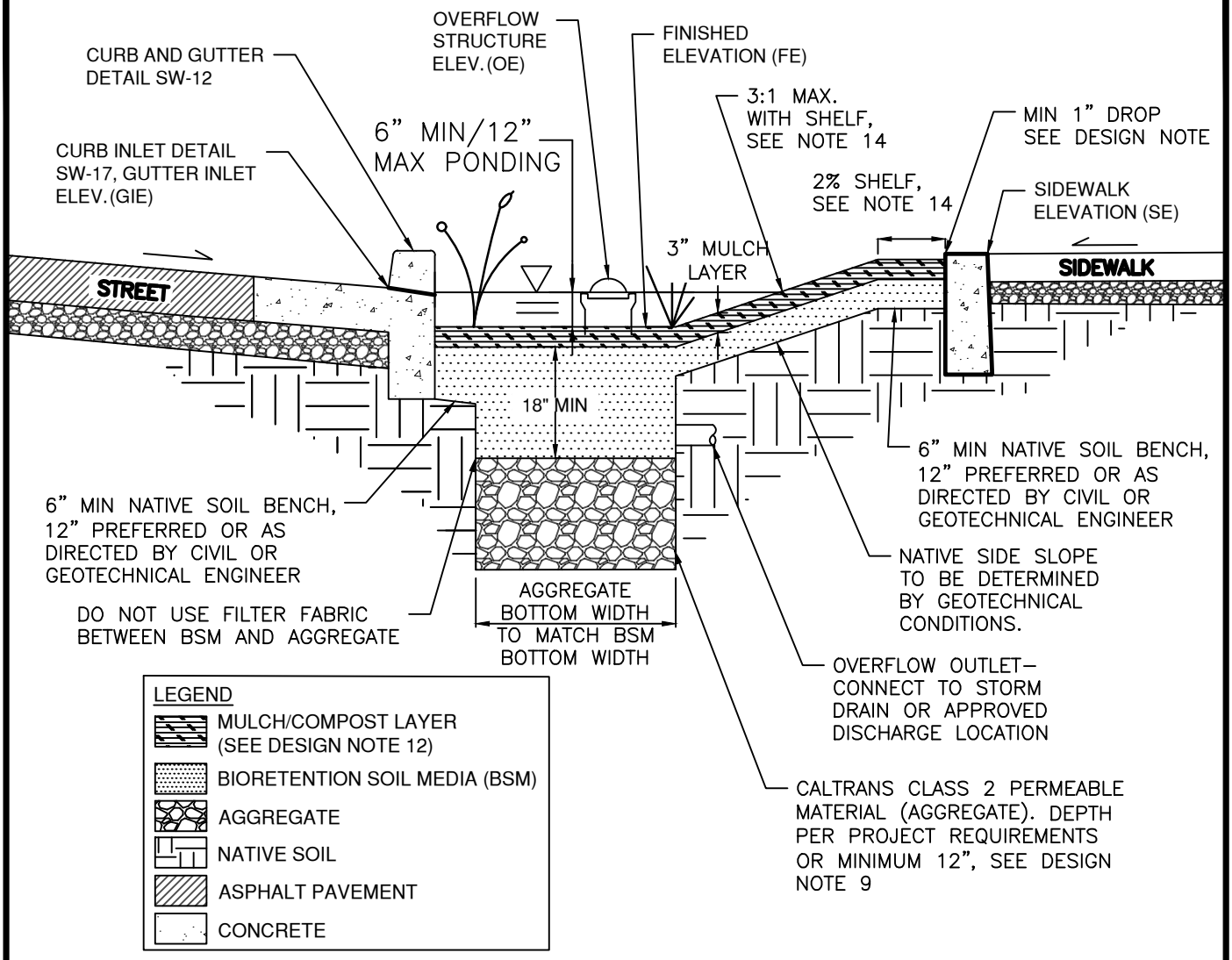
10. BIORETENTION SOIL MEDIA (BSM) SPECIFICATION PER BIORETENTION TECHNICAL SPECIFICATIONS.

11. PLANT SELECTION PER BIORETENTION TECHNICAL SPECIFICATIONS.

12. MULCH PER BIORETENTION TECHNICAL SPECIFICATIONS.

13. LOCATE ENERGY DISSIPATION AS SPECIFIED IN INLET DETAILS.

14. AVOID DECORATIVE USE OF COBBLE THAT CAN INTERFERE WITH WITH INFILTRATION.



CONSTRUCTION NOTES

1. MAINTAIN UNDISTURBED NATIVE SOIL BENCH TO SUPPORT ADJACENT SIDEWALK/ROAD. SEQUENCE WORK TO CONSTRUCT CURBS BEFORE EXCAVATING BIORETENTION AREA FOR AGGREGATE AND BSM.
2. SCARIFY SUBGRADE BEFORE INSTALLING BIORETENTION AREA AGGREGATE AND BSM.
3. FACILITY EXCAVATION TO ALLOW FOR SPECIFIED AGGREGATE, BSM, AND MULCH DEPTHS TO ACHIEVE FINISHED ELEVATIONS ON CIVIL PLANS.
4. PLACE BSM IN 6" LIFTS. COMPACT EACH 6" LIFT OF BSM WITH LANDSCAPE ROLLER OR BY LIGHTLY WETTING. IF WETTING, LET DRY OVERNIGHT BEFORE PLANTING.
5. DO NOT WORK WITHIN BIORETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
6. KEEP HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.
7. STORMWATER SHOULD BE DIRECTED AWAY FROM BIORETENTION UNTIL CONSTRUCTION IS COMPLETE AND DRAINAGE AREA VEGETATION IS STABILIZED.

DESIGN NOTES

1. BIORETENTION FACILITY DESIGN SHOULD OPTIMIZE THE FLAT BOTTOM DIMENSIONS (I.E., WIDTH, LENGTH) TO MAXIMIZE THE FUNCTIONAL AREA OF THE FACILITY.

2. CAPTURE AND CONVEY OVERFLOW TO STORM DRAIN SYSTEM (DETAIL SW-22, SW-23). ALTERNATIVELY, CONVEY OVERFLOW TO APPROVED DISCHARGE LOCATION THROUGH OTHER OVERLAND METHODS (IE. CURB CUTS, SIDEWALK UNDERDRAIN, WEIR, ETC.).

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4. DUE TO SITE VARIABILITY, TO ENSURE THE LONG-TERM STRUCTURAL STABILITY OF THE BIORETENTION FACILITY AND ANY ADJACENT INFRASTRUCTURE CONSULT WITH A GEOTECHNICAL ENGINEER.

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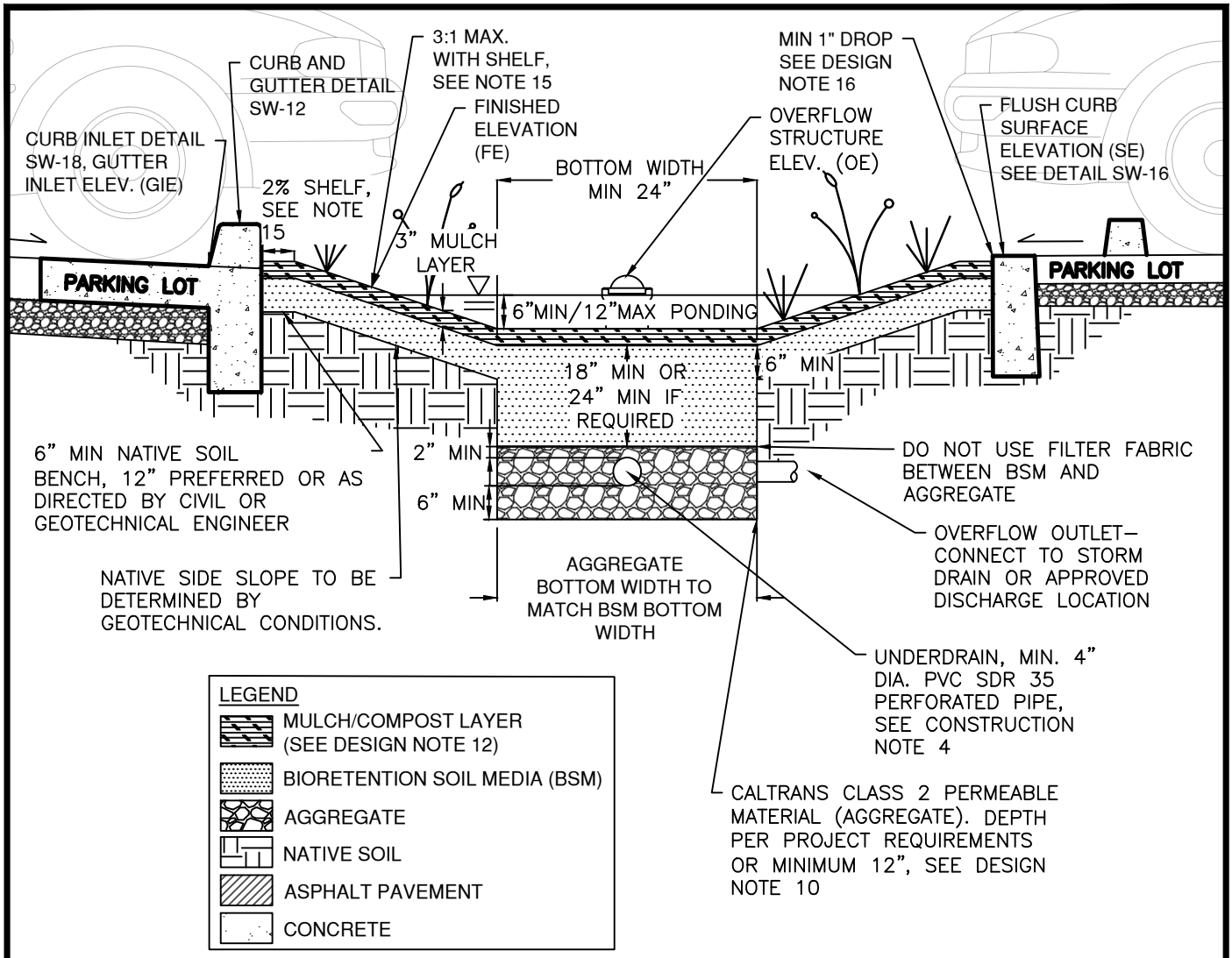
14. NATIVE SIDE SLOPE 4:1 (H:V) PREFERRED, 3:1 WITH SHELF. 6" MINIMUM SHELF WITH 2% SLOPE TOWARDS FACILITY ADJACENT TO PEDESTRIAN USE OR CURB UNLESS 4:1 SLOPE PROVIDED.

15. INCLUDE AT LEAST 1" DROP FROM CURB ABOVE MULCH LAYER.

16. AVOID DECORATIVE USE OF COBBLE THAT CAN INTERFERE WITH WITH INFILTRATION.



CONSTRUCTION NOTES

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3. FACILITY EXCAVATION TO ALLOW FOR SPECIFIED AGGREGATE, BSM, AND MULCH DEPTHS TO ACHIEVE FINISHED ELEVATIONS ON CIVIL PLANS.
4. INSTALL UNDERDRAIN WITH HOLES FACING DOWN. TOP OF UNDERDRAIN 6" BELOW TOP OF AGGREGATE LAYER. UNDERDRAIN SLOPE MAY BE FLAT.
5. PLACE BSM IN 6" LIFTS. COMPACT EACH 6" LIFT OF BSM WITH LANDSCAPE ROLLER OR BY LIGHTLY WETTING. IF WETTING, LET DRY OVERNIGHT BEFORE PLANTING.
6. DO NOT WORK WITHIN BIORETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
7. KEEP HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.
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CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW CROSSROADS OF OPPORTUNITY

APPROVED BY: BRAD S. MERRELL CITY ENGINEER

DATE: 08/01/20

PARKING LOT SLOPE-SIDED BIORETENTION, WITH UNDERDRAIN

STANDARD PLAN NO. SW-6

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

DESIGN NOTES

1. BIORETENTION FACILITY DESIGN SHOULD OPTIMIZE THE FLAT BOTTOM DIMENSIONS (I.E., WIDTH, LENGTH) TO MAXIMIZE THE FUNCTIONAL AREA OF THE FACILITY.

2. CAPTURE AND CONVEY OVERFLOW TO STORM DRAIN SYSTEM (DETAIL SW–22, SW–23). ALTERNATIVELY, CONVEY OVERFLOW TO APPROVED DISCHARGE LOCATION THROUGH OTHER OVERLAND METHODS (IE. CURB CUTS, SIDEWALK UNDERDRAIN, WEIR, ETC.).

3. PROVIDE SPOT ELEVATIONS AT INLETS AND OVERFLOW STRUCTURES ON CIVIL PLANS (FE, OE, GIE, SIE), PER DETAIL SW–18.

4. DUE TO SITE VARIABILITY, TO ENSURE THE LONG–TERM STRUCTURAL STABILITY OF THE BIORETENTION FACILITY AND ANY ADJACENT INFRASTRUCTURE CONSULT WITH A GEOTECHNICAL ENGINEER.

5. A VERTICAL LINER MAY BE USED FOR BIORETENTION FACILITIES TO PREVENT LATERAL FLOW AND TO SEPARATE THE NATIVE SOIL FROM THE BSM AND THE AGGREGATE, HOWEVER A HORIZONTAL LINER SHALL NOT BE USED.

6. DO NOT USE FILTER FABRIC BETWEEN BSM AND AGGREGATE.

7. PROVIDE CAPPED, THREADED PVC CLEANOUT FOR UNDERDRAIN, 4" MIN. DIA. WITH SWEEP BEND.

8. PROVIDE A CLEAN–OUT/OBSERVATION PORT IN EACH FACILITY, PER BIORETENTION TECHNICAL SPECIFICATIONS.

9. ON LONGITUDINAL SLOPE, USE CHECK DAMS (DETAILS SW–20, SW–21)

10. DEPTH OF AGGREGATE DETERMINED BY FACILITY SIZING. IF CALTRANS CLASS 2 PERMEABLE IS NOT AVAILABLE, SUBSTITUTE CLASS 3 PERMEABLE WITH AN OVERLYING 3" DEEP CHOKING LAYER OF EITHER CALTRANS COURSE AGGREGATE 1/2" (NO. 4) OR 3/4" X (NO.4) OPEN–GRADED AGGREGATE.

11. BIORETENTION SOIL MEDIA (BSM) SPECIFICATION PER BIORETENTION TECHNICAL SPECIFICATIONS.

12. PLANT SELECTION PER BIORETENTION TECHNICAL SPECIFICATIONS.

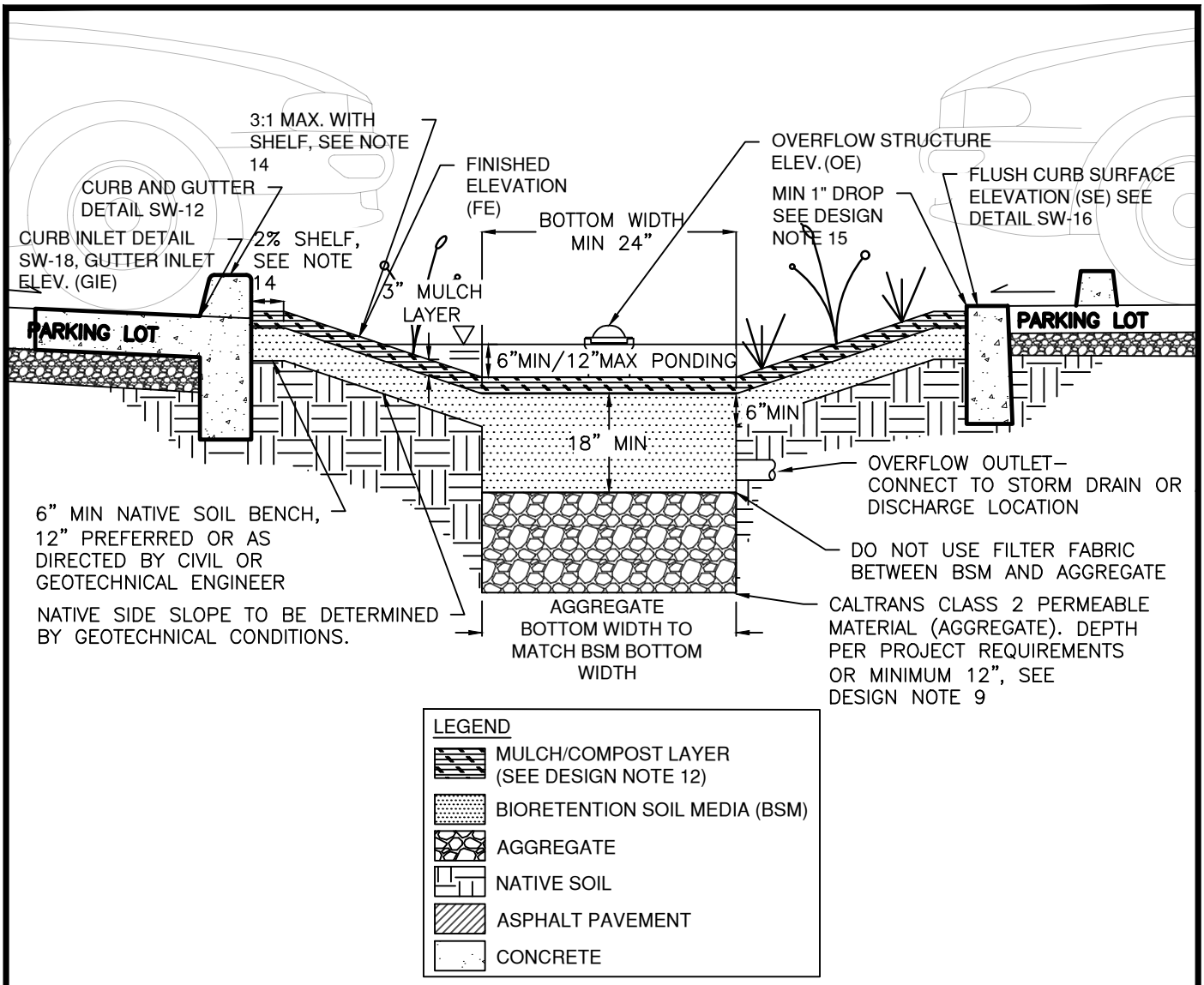
13. MULCH PER BIORETENTION TECHNICAL SPECIFICATIONS.

14. LOCATE ENERGY DISSIPATION AS SPECIFIED IN INLET DETAILS.

15. NATIVE SIDE SLOPE 4:1 (H:V) PREFERRED, 3:1 WITH BENCH. 6" MINIMUM SHELF WITH 2% SLOPE TOWARDS FACILITY ADJACENT TO PEDESTRIAN USE OR CURB UNLESS 4:1 SLOPE PROVIDED.

16. INCLUDE AT LEAST 1" DROP FROM CURB ABOVE MULCH LAYER.

17. AVOID DECORATIVE USE OF COBBLE THAT CAN INTERFERE WITH WITH INFILTRATION.



CONSTRUCTION NOTES

1. MAINTAIN UNDISTURBED NATIVE SOIL BENCH TO SUPPORT ADJACENT SIDEWALK/ROAD. SEQUENCE WORK TO CONSTRUCT CURBS BEFORE EXCAVATING BIORETENTION AREA FOR AGGREGATE AND BSM.
2. SCARIFY SUBGRADE BEFORE INSTALLING BIORETENTION AREA AGGREGATE AND BSM.
3. FACILITY EXCAVATION TO ALLOW FOR SPECIFIED AGGREGATE, BSM, AND MULCH DEPTHS TO ACHIEVE FINISHED ELEVATIONS ON CIVIL PLANS.
4. PLACE BSM IN 6" LIFTS. COMPACT EACH 6" LIFT OF BSM WITH LANDSCAPE ROLLER OR BY LIGHTLY WETTING. IF WETTING, LET DRY OVERNIGHT BEFORE PLANTING.
5. DO NOT WORK WITHIN BIORETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
6. KEEP HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.
7. STORMWATER SHOULD BE DIRECTED AWAY FROM BIORETENTION UNTIL CONSTRUCTION IS COMPLETE AND DRAINAGE AREA VEGETATION IS STABILIZED.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

PARKING LOT SLOPE-SIDED BIORETENTION, NO UNDERDRAIN

STANDARD PLAN NO.
SW-6A

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

DESIGN NOTES

1. BIORETENTION FACILITY DESIGN SHOULD OPTIMIZE THE FLAT BOTTOM DIMENSIONS (I.E., WIDTH, LENGTH) TO MAXIMIZE THE FUNCTIONAL AREA OF THE FACILITY.

2. CAPTURE AND CONVEY OVERFLOW TO STORM DRAIN SYSTEM (DETAIL SW–22, SW–23). ALTERNATIVELY, CONVEY OVERFLOW TO APPROVED DISCHARGE LOCATION THROUGH OTHER OVERLAND METHODS (IE. CURB CUTS, SIDEWALK UNDERDRAIN, WEIR, ETC.).

3. PROVIDE SPOT ELEVATIONS AT INLETS AND OVERFLOW STRUCTURE ON CIVIL PLANS (FE,OE, GIE, SIE), PER DETAIL SW–18.

4. DUE TO SITE VARIABILITY, TO ENSURE THE LONG–TERM STRUCTURAL STABILITY OF THE BIORETENTION FACILITY AND ANY ADJACENT INFRASTRUCTURE CONSULT WITH A GEOTECHNICAL ENGINEER.

5. A VERTICAL LINER MAY BE USED FOR BIORETENTION FACILITIES TO PREVENT LATERAL FLOW AND TO SEPARATE THE NATIVE SOIL FROM THE BSM AND THE AGGREGATE, HOWEVER A HORIZONTAL LINER SHALL NOT BE USED.

6. DO NOT USE FILTER FABRIC BETWEEN BSM AND AGGREGATE.

7. PROVIDE A CLEAN–OUT/OBSERVATION PORT IN EACH FACILITY, PER BIORETENTION TECHNICAL SPECIFICATIONS.

8. ON LONGITUDINAL SLOPE, USE CHECK DAMS (DETAILS SW–20, SW–21)

9. USE AND DEPTH OF AGGREGATE DETERMINED BY FACILITY SIZING. IF CALTRANS CLASS 2 PERMEABLE IS NOT AVAILABLE, SUBSTITUTE CLASS 3 PERMEABLE WITH AN OVERLYING 3" DEEP CHOKING LAYER OF EITHER CALTRANS COURSE AGGREGATE 1/2" (NO. 4) OR 3/4" X (NO. 4) OPEN–GRADED AGGREGATE.

10. BIORETENTION SOIL MEDIA (BSM) SPECIFICATION PER BIORETENTION TECHNICAL SPECIFICATIONS.

11. PLANT SELECTION PER BIORETENTION TECHNICAL SPECIFICATIONS.

12. MULCH PER BIORETENTION TECHNICAL SPECIFICATIONS.

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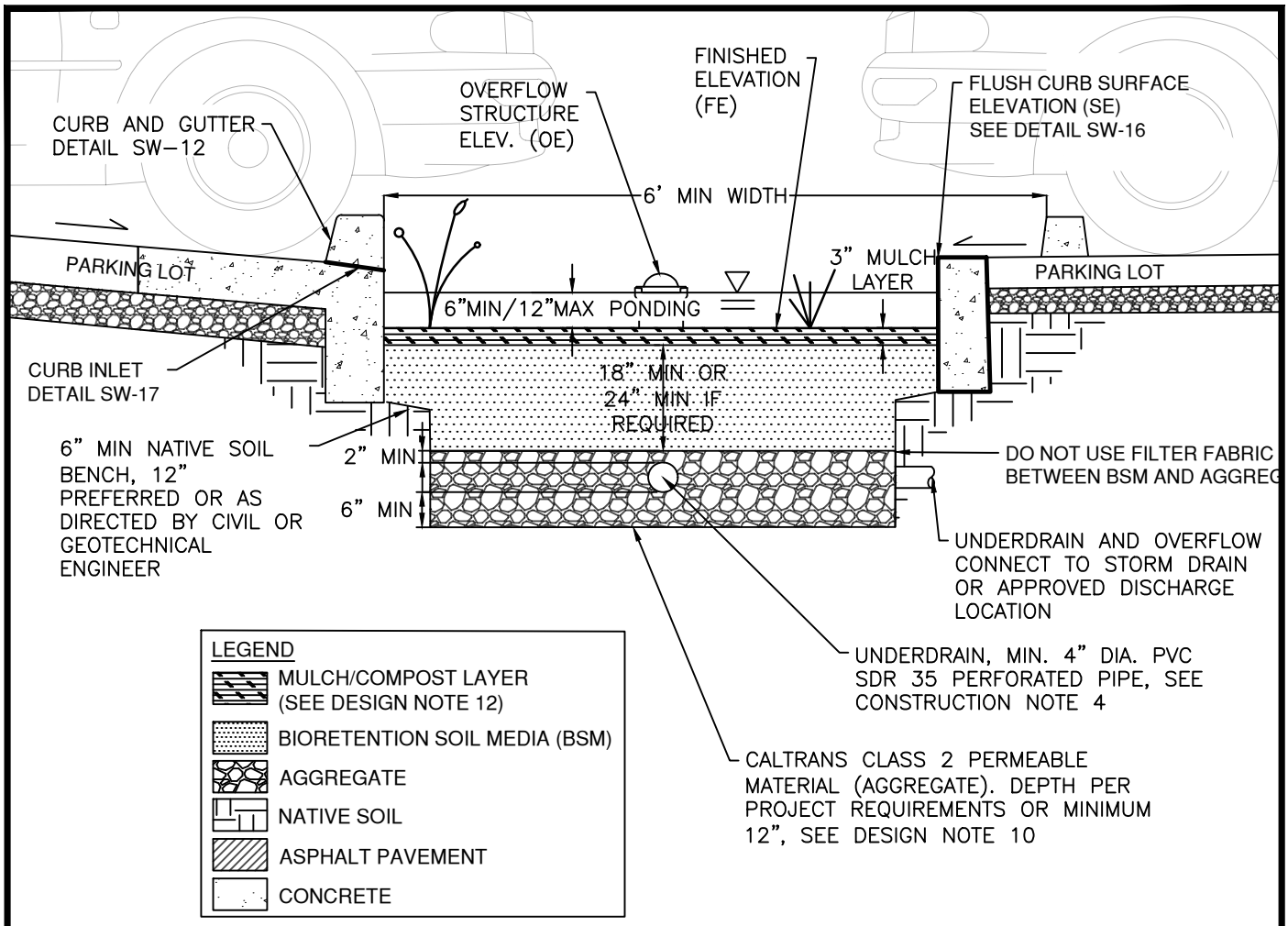

CONSTRUCTION NOTES

1. MAINTAIN UNDISTURBED NATIVE SOIL BENCH TO SUPPORT ADJACENT SIDEWALK/ROAD. SEQUENCE WORK TO CONSTRUCT CURBS BEFORE EXCAVATING BIORETENTION AREA FOR AGGREGATE AND BSM.
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4. INSTALL UNDERDRAIN WITH HOLES FACING DOWN. TOP OF UNDERDRAIN 6" BELOW TOP OF AGGREGATE LAYER. UNDERDRAIN SLOPE MAY BE FLAT.
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6. DO NOT WORK WITHIN BIORETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
7. KEEP HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.
8. STORMWATER SHOULD BE DIRECTED AWAY FROM BIORETENTION UNTIL CONSTRUCTION IS COMPLETE AND DRAINAGE AREA VEGETATION IS STABILIZED.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

PARKING LOT BIORETENTION PLANTER BOX, WITH UNDERDRAIN

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
SW-7

DESIGN NOTES

1. BIORETENTION FACILITY DESIGN SHOULD OPTIMIZE THE FLAT BOTTOM DIMENSIONS (I.E., WIDTH, LENGTH) TO MAXIMIZE THE FUNCTIONAL AREA OF THE FACILITY.

2. CAPTURE AND CONVEY OVERFLOW TO STORM DRAIN SYSTEM (DETAIL SW-22, SW-23). ALTERNATIVELY, CONVEY OVERFLOW TO APPROVED DISCHARGE LOCATION THROUGH OTHER OVERLAND METHODS (IE. CURB CUTS, SIDEWALK UNDERDRAIN, WEIR, ETC.).

3. PROVIDE SPOT ELEVATIONS AT INLETS AND OVERFLOW STRUCTURES ON CIVIL PLANS (FE, OE, GIE, SIE), PER DETAIL SW-18.

4. DUE TO SITE VARIABILITY, TO ENSURE THE LONG-TERM STRUCTURAL STABILITY OF THE BIORETENTION FACILITY AND ANY ADJACENT INFRASTRUCTURE CONSULT WITH A GEOTECHNICAL ENGINEER.

5. A VERTICAL LINER MAY BE USED FOR BIORETENTION FACILITIES TO PREVENT LATERAL FLOW AND TO SEPARATE THE NATIVE SOIL FROM THE BSM AND THE AGGREGATE, HOWEVER A HORIZONTAL LINER SHALL NOT BE USED.

6. DO NOT USE FILTER FABRIC BETWEEN BSM AND AGGREGATE.

7. PROVIDE CAPPED, THREADED PVC CLEANOUT FOR UNDERDRAIN, 4" MIN. DIA. WITH SWEEP BEND.

8. PROVIDE A CLEAN-OUT/OBSERVATION PORT IN EACH FACILITY, PER BIORETENTION TECHNICAL SPECIFICATIONS.

9. ON LONGITUDINAL SLOPE, USE CHECK DAMS (DETAILS SW-20, SW-21)

10. USE AND DEPTH OF AGGREGATE DETERMINED BY FACILITY SIZING. IF CALTRANS CLASS 2 PERMEABLE IS NOT AVAILABLE, SUBSTITUTE CLASS 3 PERMEABLE WITH AN OVERLYING 3" DEEP CHOKING LAYER OF EITHER CALTRANS COURSE AGGREGATE 1/2" (NO. 4) OR 3/4" X (NO. 4) OPEN-GRADED AGGREGATE.

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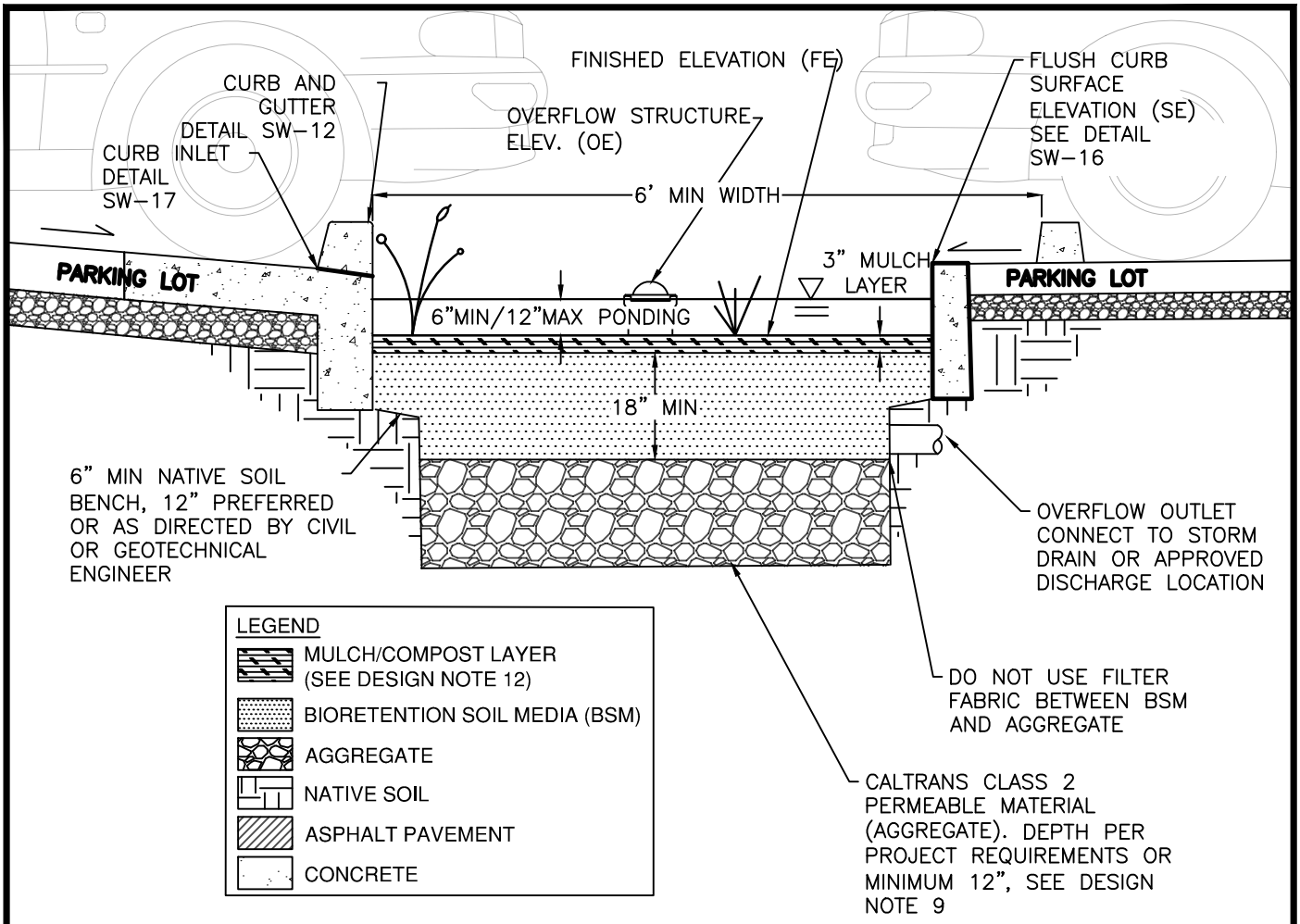

CONSTRUCTION NOTES

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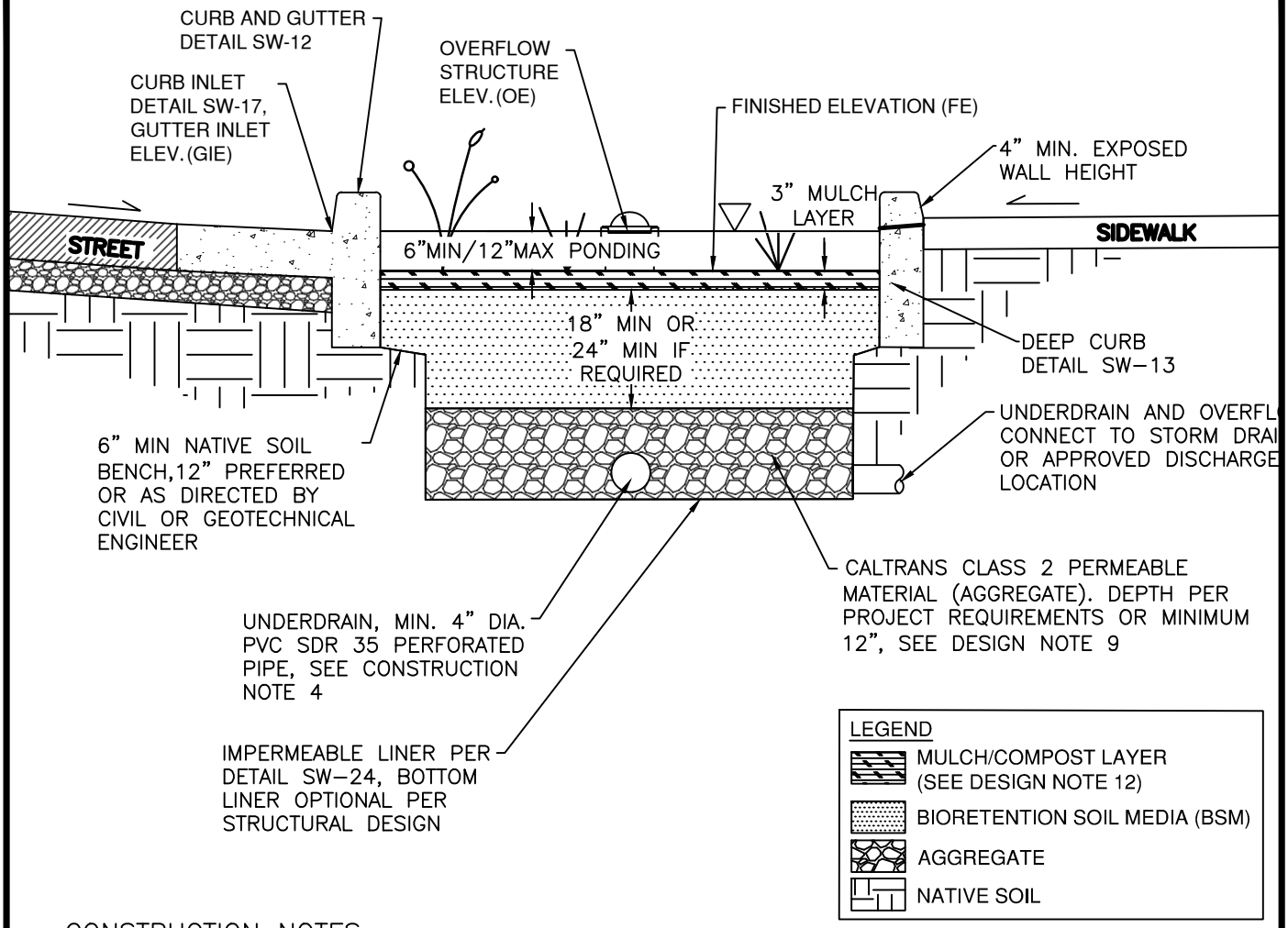

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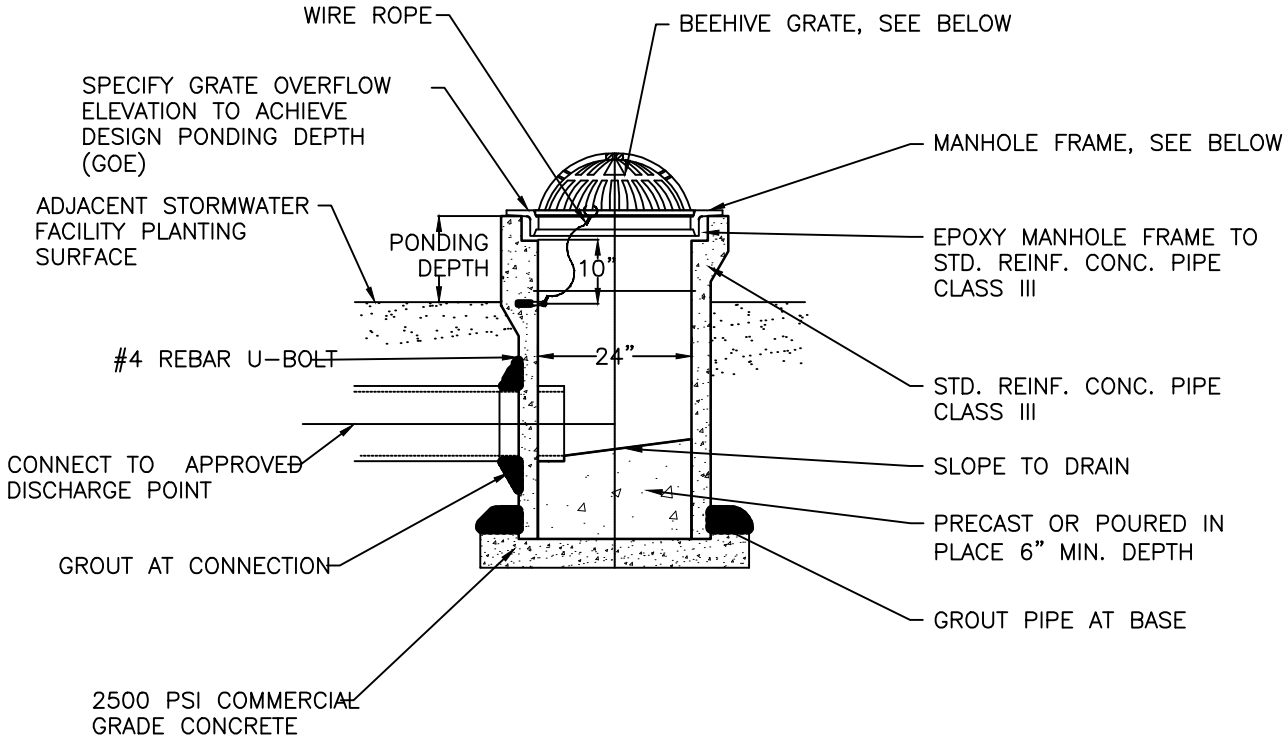
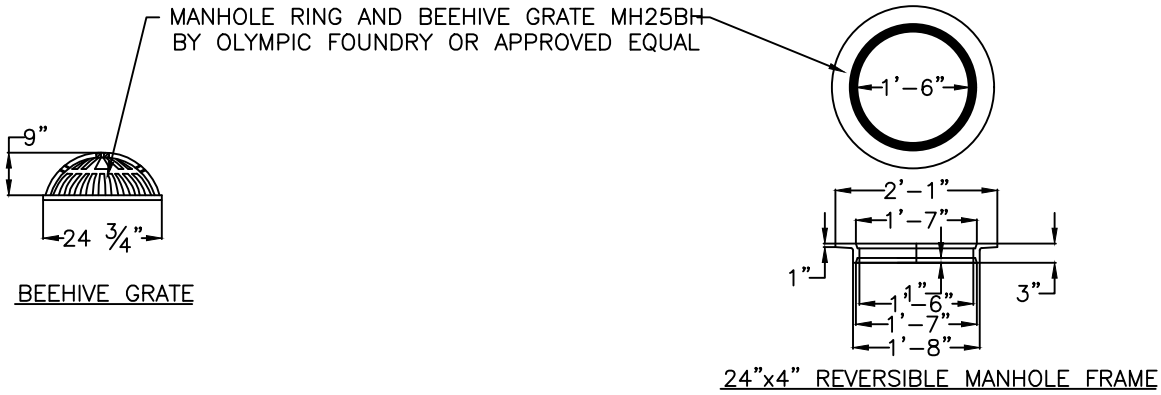
14. AVOID DECORATIVE USE OF COBBLE THAT CAN INTERFERE WITH WITH INFILTRATION.





BEEHIVE GRATE

24"x4" REVERSIBLE MANHOLE FRAME

DESIGN NOTES

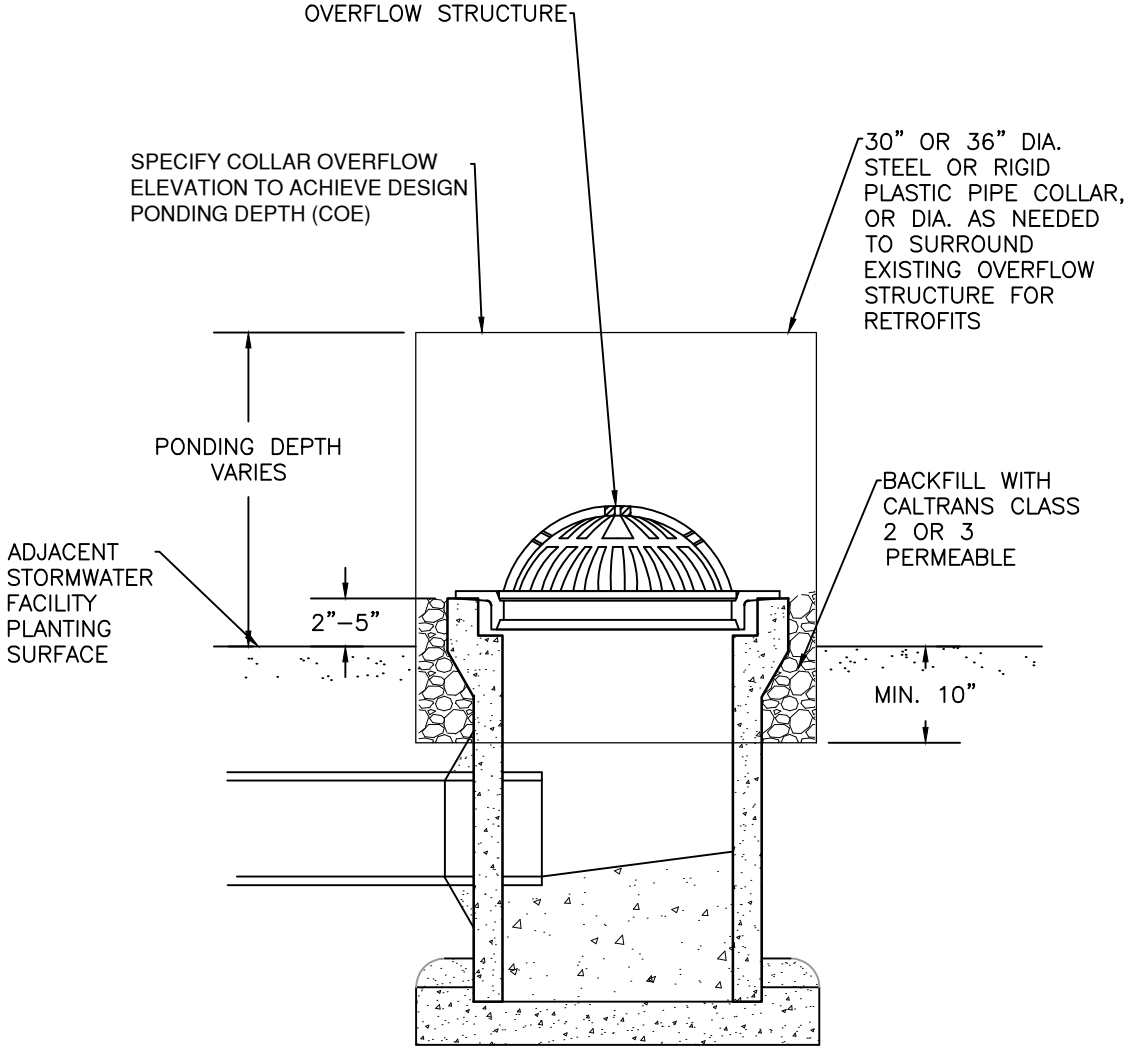
1. PROVIDE GRATE OVERFLOW ELEVATION ON PLANS.
2. TO INCORPORATE FLEXIBILITY INTO DESIGN OVERFLOW ELEVATION OR CORRECT ELEVATION OF AN EXISTING STRUCTURE, INSTALL OVERFLOW COLLAR, PER DETAIL SW-22A.
3. IN PRIVATE SITES NOT IN CITY R/W THE PROJECT CIVIL ENGINEER MAY PROPOSE ALTERNATIVES FOR GRATE INSTALLATIONS USING ALTERNATIVE MANUFACTURER'S PRODUCT/CONFIGURATION.

CONSTRUCTION NOTES

1. DO NOT ADJUST OVERFLOW GRATE ELEVATION, CONSTRUCT AS SHOWN ON PLANS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW CROSSROADS OF OPPORTUNITY	APPROVED BY: BRAD S. MERRELL CITY ENGINEER	OVERFLOW STRUCTURE WITH BEEHIVE GRATE	STANDARD PLAN NO. SW-22
	DATE: 08/01/20	USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION	SHEET 1 OF 1



DESIGN NOTES

1. MAY BE USED IN CONJUNCTION WITH OVERFLOW STRUCTURES TO ALLOW FOR FIELD ADJUSTMENT OF OVERFLOW ELEVATION, OR AS RETROFIT TO CORRECT EXISTING STRUCTURE THAT DOES NOT ALLOW PONDING TO OCCUR.
2. PROVIDE COLLAR OVERFLOW ELEVATION (COE) ON PLANS.
3. PCC PIPE RISER EXTENSIONS MAY BE UTILIZED IN LIEU OF OVER FLOW STRUCTURE COLLAR.

CONSTRUCTION NOTES

1. CENTER COLLAR ON OVERFLOW GRATE.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

OVERFLOW STRUCTURE COLLAR

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
SW-22A

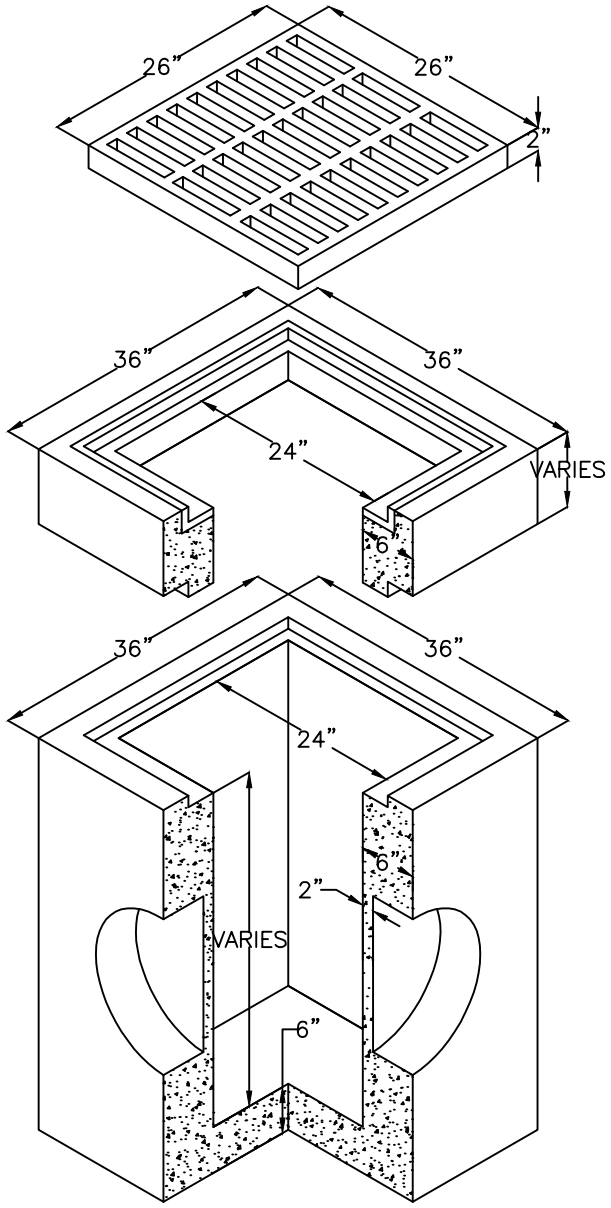
SHEET 1 OF 1

C.I. GRATE

C.I. FRAME

EXTENSION

BOTTOM



DESIGN NOTES

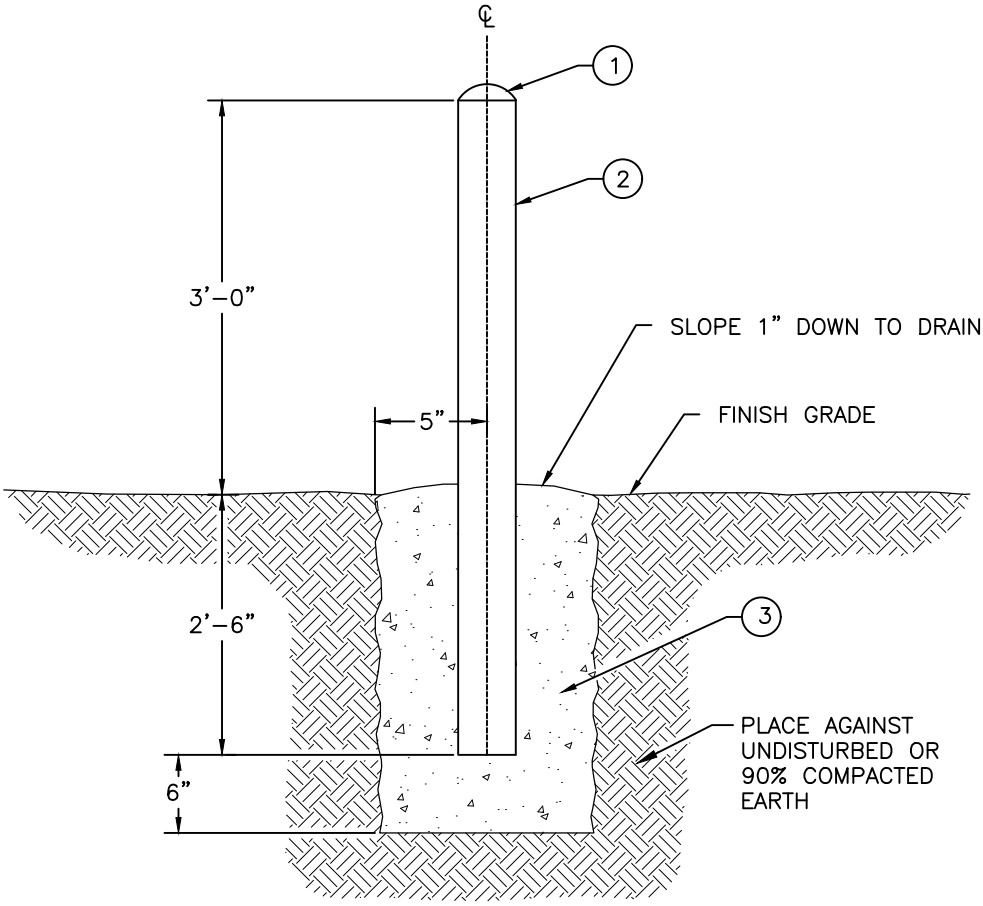
1. PROVIDE GRATE OVERFLOW ELEVATION ON PLANS.
2. PROVIDE EXTENSION OVERFLOW ELEVATION (COE) ON PLANS.
3. ON PRIVATE SITES NOT IN CITY RIGHT–OF–WAY THE PROJECT CIVIL ENGINEER MAY PROPOSE ALTERNATIVES FOR GRATE INSTALLATIONS USING ALTERNATIVE MANUFACTURER'S PRODUCTION/CONFIGURATION.

CONSTRUCTION NOTES

1. DO NOT ADJUST OVERFLOW GRATE ELEVATION, CONSTRUCT AS SHOWN ON PLANS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW CROSSROADS OF OPPORTUNITY	APPROVED BY: BRAD S. MERRELL CITY ENGINEER DATE: 08/01/20	OVERFLOW STRUCTURE WITH SQUARE GRATE USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION	STANDARD PLAN NO. SW-23 SHEET 1 OF 1



ITEM	DESCRIPTION	APPROVED MATERIAL LIST NUMBER
1	FILL PIPE WITH CONCRETE & ROUND OVER TO FORM CAP	
2	4"ø x 5'6" SCH. 40 GALVANIZED STEEL PIPE – PAINT YELLOW	
3	CONCRETE FOOTING, 10" DIAMETER	

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

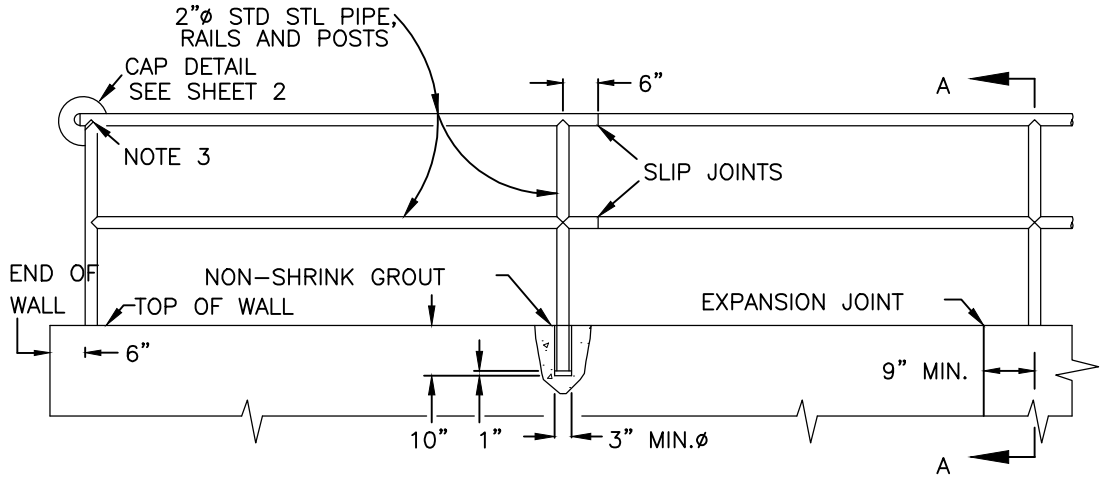
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

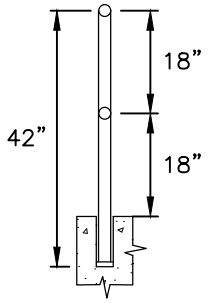
GUARD POST

STANDARD PLAN NO.
600

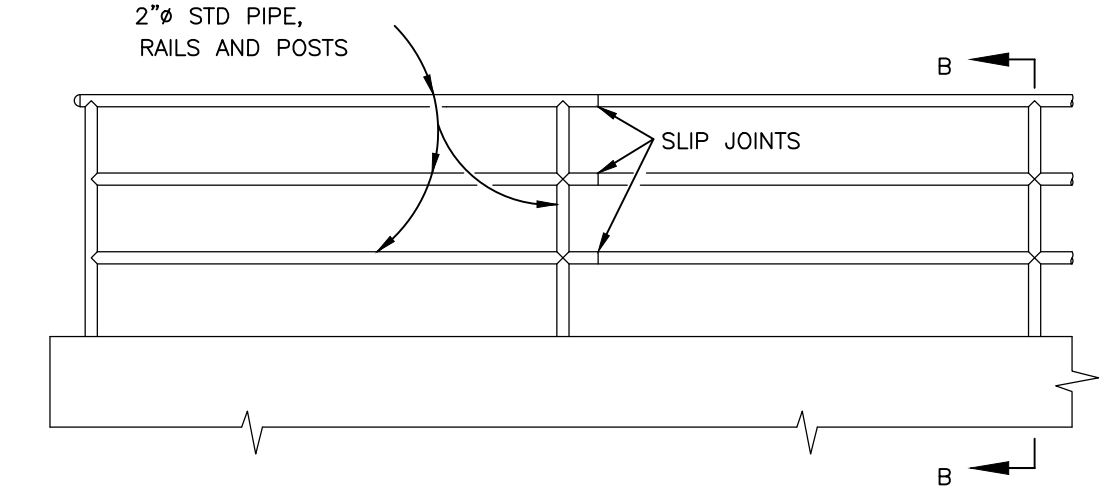
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



TYPE A



SECTION
A–A



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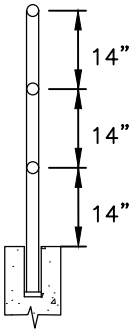
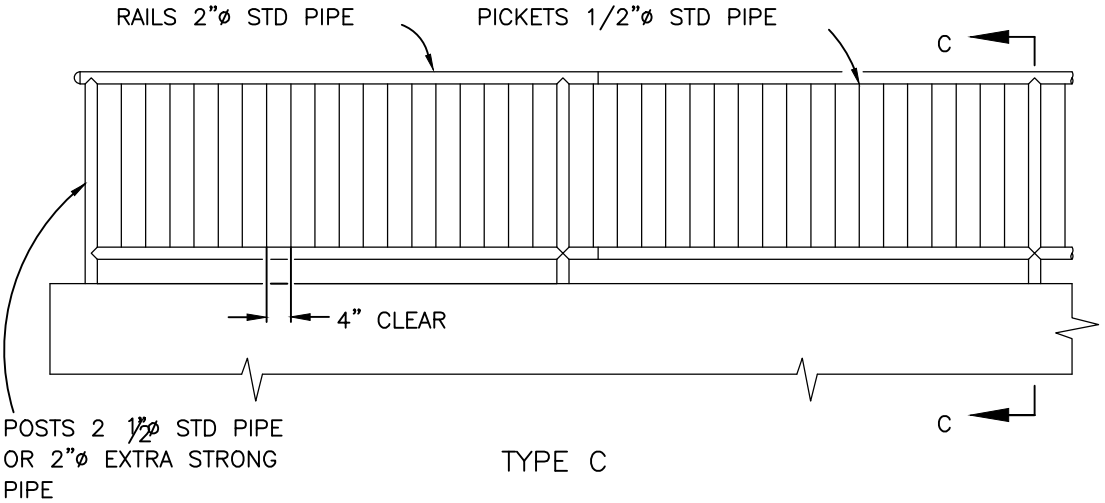
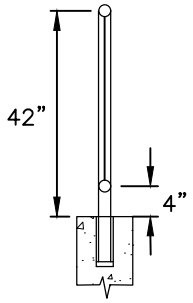


SECTION
B–B



TYPE C



SECTION
C–C

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

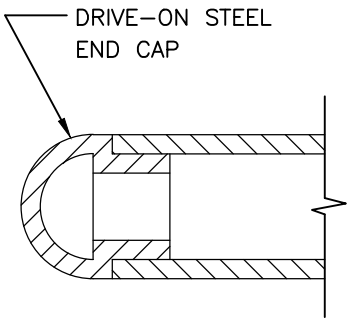
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

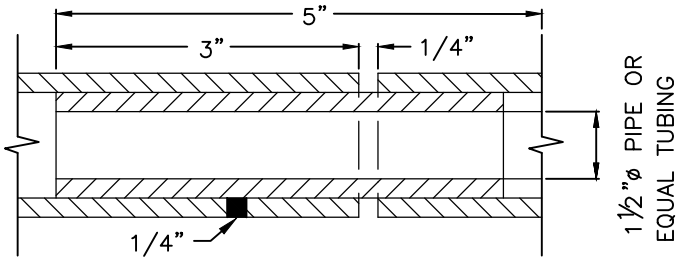
METAL HAND RAIL

STANDARD PLAN NO.
601

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



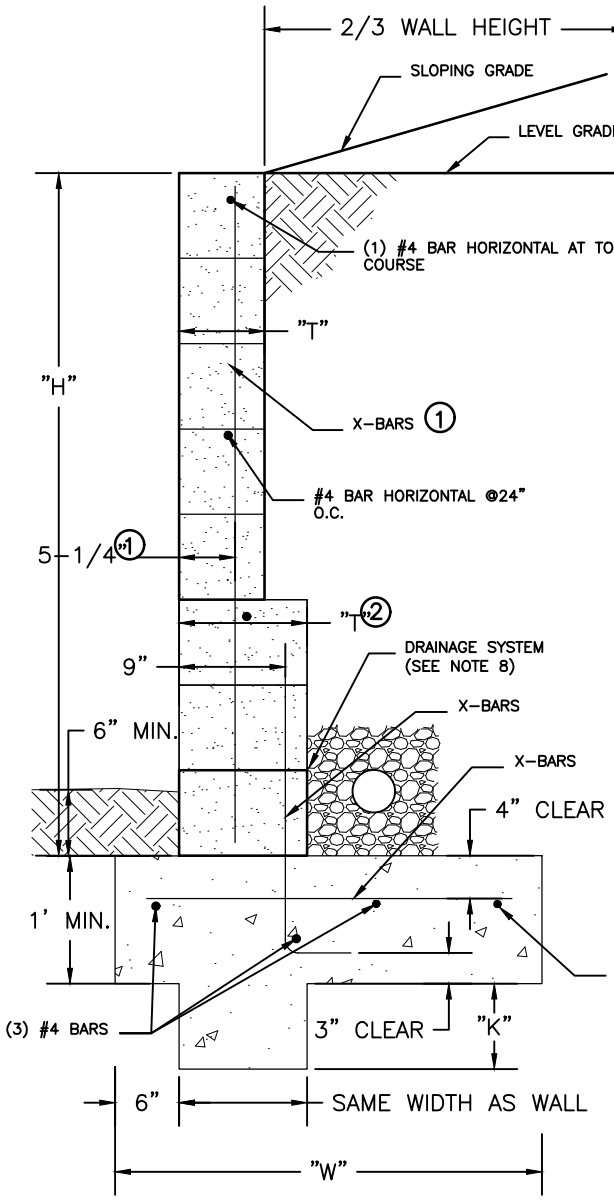
CAP DETAIL FOR RAIL END



SLIP JOINT DETAIL

NOTES:

1. RAILS, POSTS AND PICKETS SHALL BE GALVANIZED STEEL PIPE.
2. MAXIMUM SPACING OF POSTS SHALL BE 8' ON STRAIGHT ALIGNMENTS AND 6' ON CURVED ALIGNMENTS WITH LESS THAN 30' RADIUS. MAKE SPACING UNIFORM BETWEEN CHANGES IN ALIGNMENT.
3. WELDS SHALL BE SLOT OR FILLET WELDS EQUAL TO THICKNESS OF PIPE. WELD ALL JOINTS ALL AROUND.



LEVEL GRADE AT TOP OF WALL				
"H" WALL HEIGHT	"T" BLOCK SIZE	"X" BARS	"W" FOOTING WIDTH	"K" KEY DEPTH
UP TO 6'	8"	#4 @ 8"	3'-3"	4"
UP TO 5'	8"	#4 @ 24"	2'-3"	4"
UP TO 4'	8"	#4 @ 32"	2'	4"
UP TO 3'	6"	#4 @ 32"①	1'-6"	N/R

SLOPING GRADE AT TOP OF WALL (2:1 MAX.)				
"H" WALL HEIGHT	"T" BLOCK SIZE	"X" BARS	"W" FOOTING WIDTH	"K" KEY DEPTH
UP TO 6'	12"②	#4 @ 16"	6'-0"	16"
UP TO 5'	8"	#4 @ 8"	4'-0"	12"
UP TO 4'	8"	#4 @ 32"	2'-9"	8"
UP TO 3'	6"	#4 @ 32"①.	2'-3"	4"

LEVEL GRADE WITH FENCE (6' MAX.)				
"H" WALL HEIGHT	"T" BLOCK SIZE	"X" BARS	"W" FOOTING WIDTH	"K" KEY DEPTH
UP TO 6'	12"②	#4 @ 16"	4'	4"
UP TO 5'	8"	#4 @ 8"	3'-6"	4"
UP TO 4'	8"	#4 @ 24"	3'-3"	4"
UP TO 3'	8"	#4 @ 32"	2'-6"	N/R

① VERTICAL STEEL TO BE CENTERED AT 6" BLOCK

② COMBINATION OF 12" AND 8" BLOCK PERMITTED. USE 24" MIN. HEIGHT FOR 12" BLOCK

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

RETAINING WALL -6" TOE

STANDARD PLAN NO.
650

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

NOTES:

1. MATERIAL SPECIFICATIONS:
   A. CONCRETE MASONRY UNITS TO BE ASTM C–90 GRADE N
   B. MORTAR TYPE M OR S
   C. GROUT 2000 PSI PORTLAND CEMENT

2. FOUNDATION CONCRETE COMPRESSIVE STRENGTH OF 2500 PSI

3. REINFORCING STEEL TO BE ASTM 1615, GRADE 40. OVERLAP SPLICES SHALL 40 BAR DIAMETERS MINIMUM. ALL REBAR HOOKS SHALL BE A MINIMUM OF 12 TIMES THE REBAR DIAMETER.

4. ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT

5. FOR LEVEL GRADE, ALL SURCHARGE LOADS SHALL BE KEPT BACK FROM THE WALL A DISTANCE EQUAL TO TWO–THIRDS THE HEIGHT OF THE WALL. WALL IS NOT DESIGNED TO SUPPORT SURCHARGE LOADS FROM VEHICLES OR STRUCTURES.

6. GROUT ALL CELLS CONTAINING REBAR. WALL MAY ALSO BE FULLY GROUTED IF DESIRED.

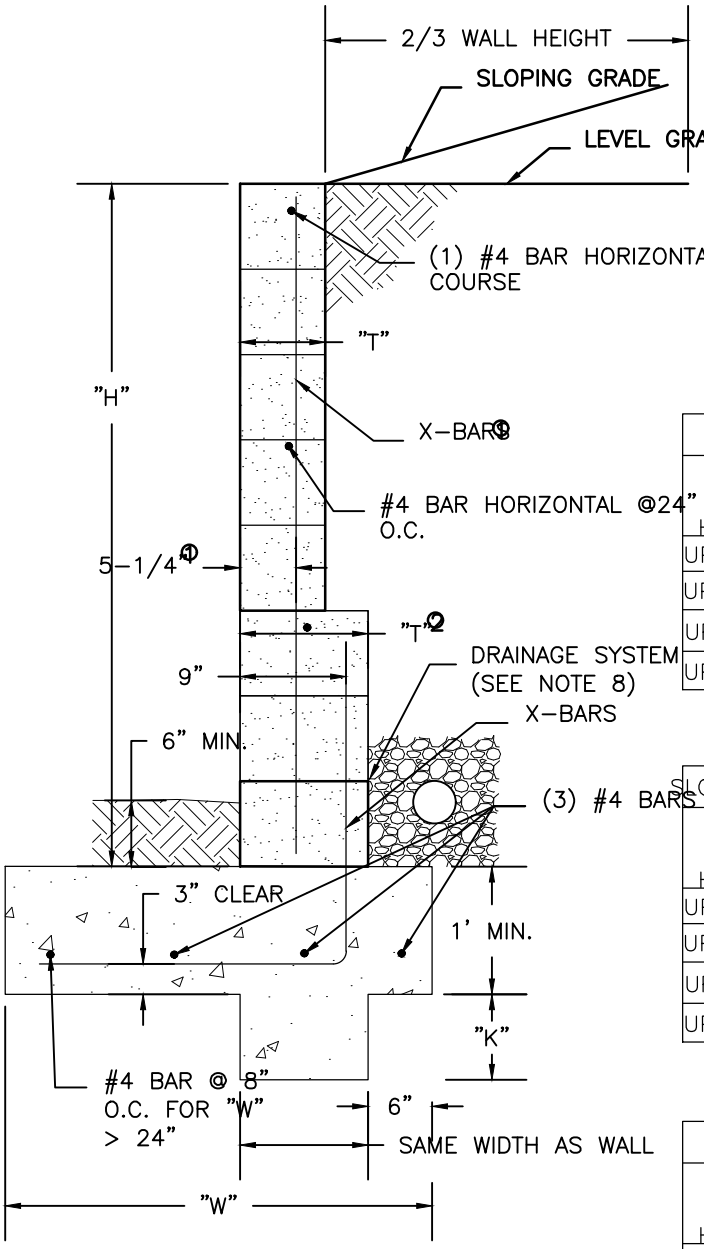
7. CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER 5 FEET IN HEIGHT. WHEN REQUIRED CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE AT EVERY VERTICAL BAR AND SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.

8. PROVIDE 1 CF/FT OF CLEAN COARSE GRAVEL WITH 1) 4" DIAMETER PERFORATED PIPE TO DRAIN OR 2) OMIT HEAD JOINTS IN THE FIRST COURSE.

9. BACKFILL MAY BE PLACED AFTER THE WALL HAS CURED FOR 14 DAYS

10. FENCE OR GUARDRAIL MAY BE REQUIRED PER CBC SECTION 1013. FENCE GUARDRAIL TO BE ATTACHED TO BLOCK WALL WITH METAL POST EMBEDDED 24" MINIMUM

11. ALTERNATE DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USERS RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.



LEVEL GRADE AT TOP OF WALL				
"H" WALL HEIGHT	"T" BLOCK SIZE	"X" BARS	"W" FOOTING WIDTH	"K" KEY DEPTH
UP TO 6'	8"	#4 @ 8"	3'-0"	8"
UP TO 5'	8"	#4 @ 24"	2'-6"	6"
UP TO 4'	8"	#4 @ 32"	2'-0"	4"
UP TO 3'	6"	#4 @ 32"①	1'-6"	N/R

SLOPING GRADE AT TOP OF WALL (2:1 MAX.)				
"H" WALL HEIGHT	"T" BLOCK SIZE	"X" BARS	"W" FOOTING WIDTH	"K" KEY DEPTH
UP TO 6'	12"②	#4 @ 16"	4'-0"	15"
UP TO 5'	8"	#4 @ 8"	3'-6"	11"
UP TO 4'	8"	#4 @ 32"	2'-9"	8"
UP TO 3'	6"	#4 @ 32"①.	2'-3"	4"

LEVEL GRADE WITH FENCE (6' MAX.)				
"H" WALL HEIGHT	"T" BLOCK SIZE	"X" BARS	"W" FOOTING WIDTH	"K" KEY DEPTH
UP TO 6'	12"②	#4 @ 16"	4'-0"	10"
UP TO 5'	8"	#4 @ 8"	3'-6"	6"
UP TO 4'	8"	#4 @ 24"	3'-3"	3"
UP TO 3'	8"	#4 @ 32"	3'-0"	N/R

① VERTICAL STEEL TO BE CENTERED AT 6" BLOCK

② COMBINATION OF 12" AND 8" BLOCK PERMITTED. USE 24" MIN. HEIGHT FOR 12" BLOCK

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

RETAINING WALL -6" HEEL

STANDARD PLAN NO.
652

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

NOTES:

1. MATERIAL SPECIFICATIONS:
   A. CONCRETE MASONRY UNITS TO EB ASTM C-90 GRADE N
   B. MORTAR TYPE M OR S
   C. GROUT 2000 PSI PORTLAND CEMENT

2. FOUNDATION CONCRETE COMPRESSIVE STRENGTH OF 2500 PSI

3. REINFORCING STEEL TO BE ASTM 1615, GRADE 40. OVERLAP
   SPLICES SHALL 40 BAR DIAMETERS MINIMUM. ALL REBAR HOOKS
   SHALL BE A MINIMUM OF 12 TIMES THE REBAR DIAMETER.

4. ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT

5. FOR LEVEL GRADE, ALL SURCHARGE LOADS SHALL BE KEPT BACK
   FROM THE WALL A DISTANCE EQUAL TO TWO-THIRDS THE HEIGHT
   OF THE WALL. WALL IS NOT DESIGNED TO SUPPORT SURCHARGE
   LOADS FROM VEHICLES OR STRUCTURES.

6. GROUT ALL CELLS CONTAINING REBAR. WALL MAY ALSO BE FULLY GROUTED IF DESIRED.

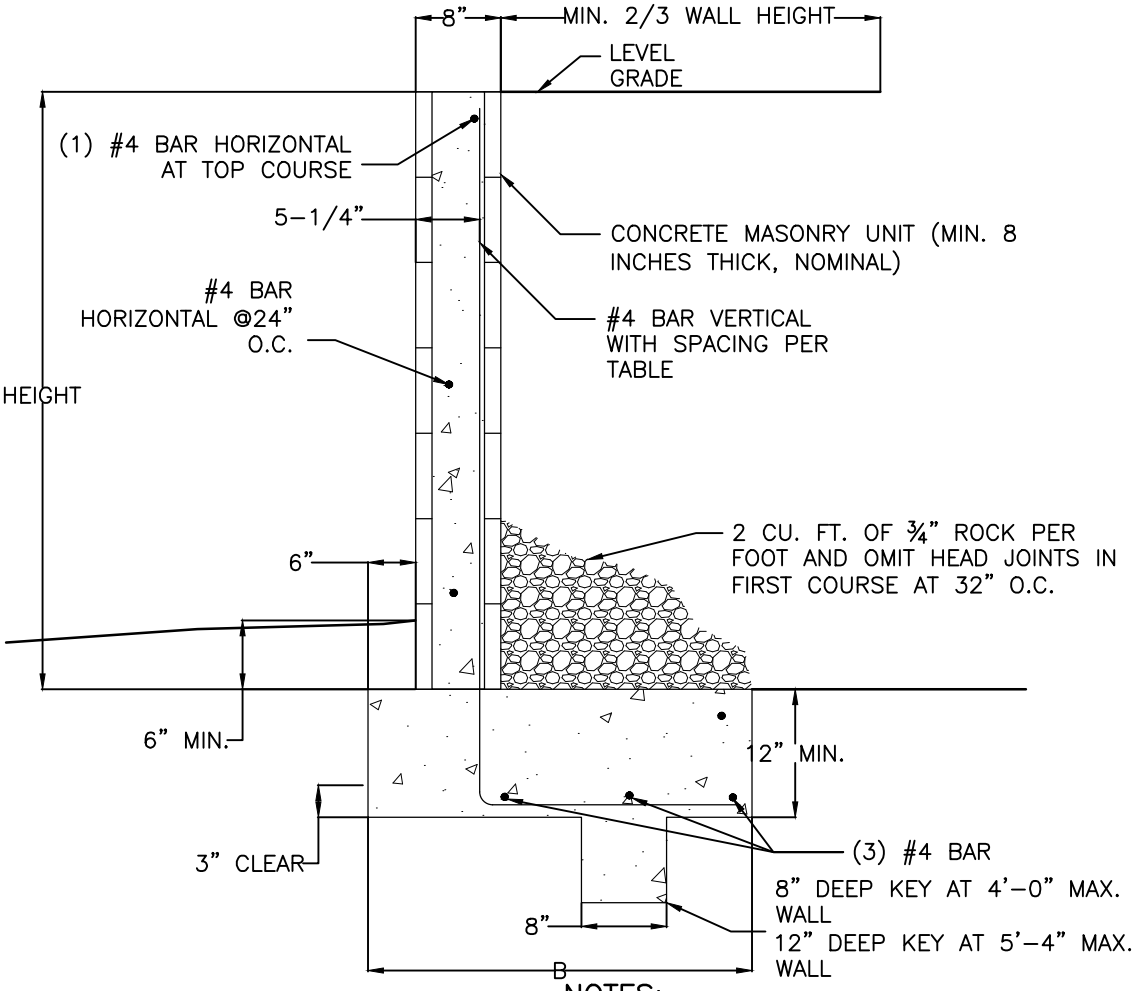
7. CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER
   5 FEET IN HEIGHT. WHEN REQUIRED CLEANOUTS SHALL BE
   PROVIDED IN THE BOTTOM COURSE AT EVERY VERTICAL BAR AND
   SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.

8. PROVIDE 1 CF/FT OF CLEAN COARSE GRAVEL WITH 1) 4" DIAMETER PERFORATED PIPE TO DRAIN OR 2) OMIT HEAD JOINTS
   IN THE FIRST COURSE.

9. BACKFILL MAY BE PLACED AFTER THE WALL HAS CURED FOR 14 DAYS

10. FENCE OR GUARDRAIL MAY BE REQUIRED PER CBC SECTION
   1013. FENCE GUARDRAIL TO BE ATTACHED TO BLOCK WALL WITH
   METAL POST EMBEDDED 24" MINIMUM

11. ALTERNATE DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USERS RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.



STEEL AND FOOTING TABLE		
HEIGHT	B	VERTICAL REINFORCING
5'-4" MAX.	36 INCHES	#4 @ 16 INCHES ON CENTER
4'-0" MAX.	26 INCHES	#4 @ 32 INCHES ON CENTER

NOTES:

1. ALL SURCHARGE LOADS ON THE FILL SIDE SHALL BE KEPT BACK FROM THE WALL A DISTANCE EQUAL TO TWO-THIRDS THE HEIGHT OF THE WALL.

2. BACKFILL MAY BE PLACED AFTER THE WALL HAS CURED FOR 14 DAYS.

3. GROUT ALL CELLS CONTAINING REBAR. REMAINING CELLS MAY BE GROUTED AS AN OPTION.

4. ALL REBAR TO BE ASTM SPEC. 1615, GRADE 40 MINIMUM.

5. ALL REBAR LAP SPLICES TO BE 24" MINIMUM.

6. ALL MASONRY UNITS TO BE ASTM C-90 GRADE N.

7. VERTICAL REBAR TO BE LOCATED IN MASONRY CELLS AS SHOWN.

8. ALTERNATE DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USERS RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

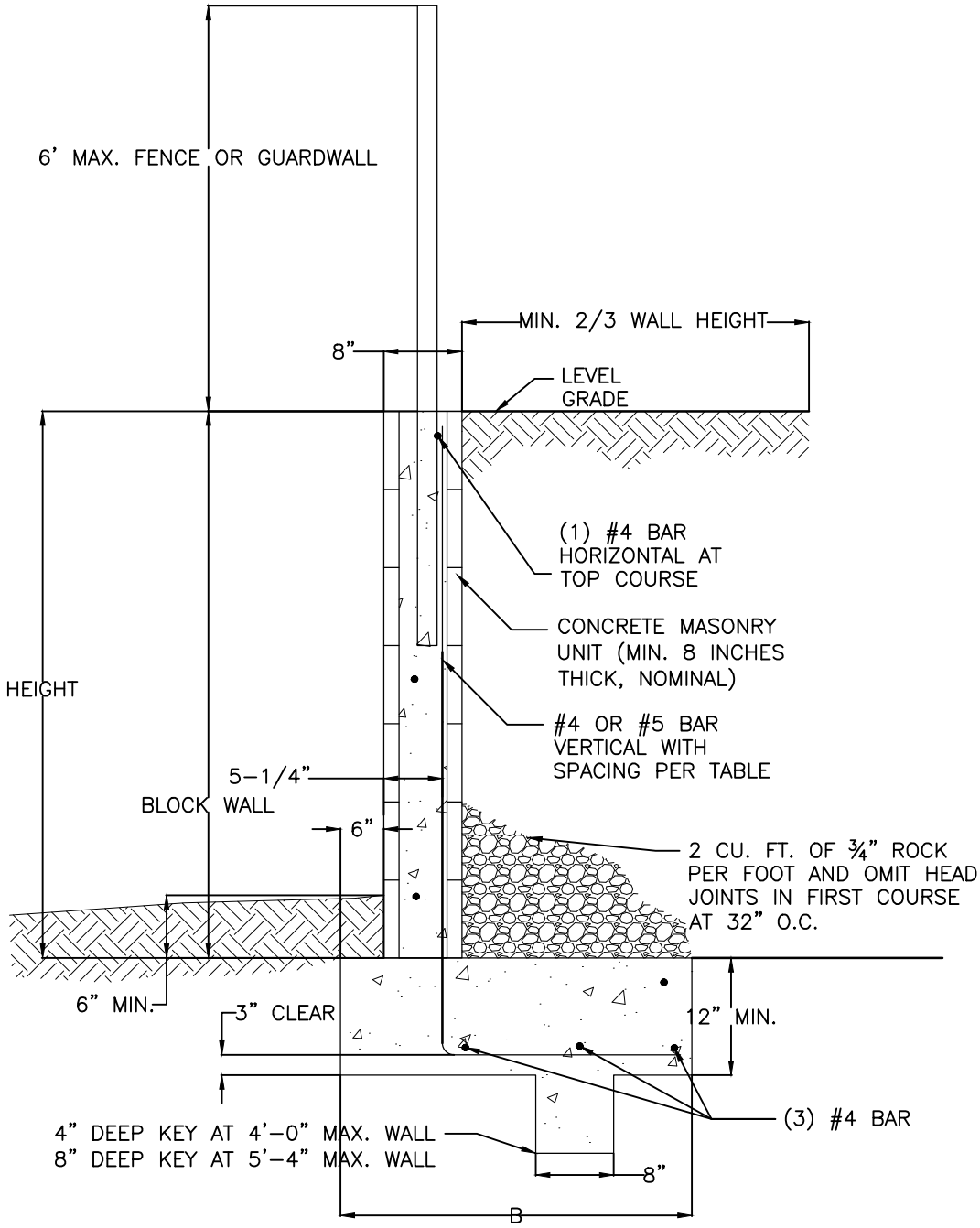
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

RETAINING WALL CANT. HEEL FOOTING

STANDARD PLAN NO.
653

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



STEEL AND FOOTING TABLE		
HEIGHT	B	VERTICAL REINFORCING
5'-4" MAX.	40 INCHES	#5 @ 8 INCHES ON CENTER
4'-0" MAX.	34 INCHES	#4 @ 16 INCHES ON CENTER

NOTES:

1. ALL NOTES FROM SHEET 1 APPLY

8. FENCE OR GUARDRAIL MAY BE REQUIRED PER CBC SECTION 1013

9. FENCE/GUARDRAIL TO BE ATTACHED TO BLOCK WALL WITH METAL POST EMBEDDED 24" MINIMUM.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

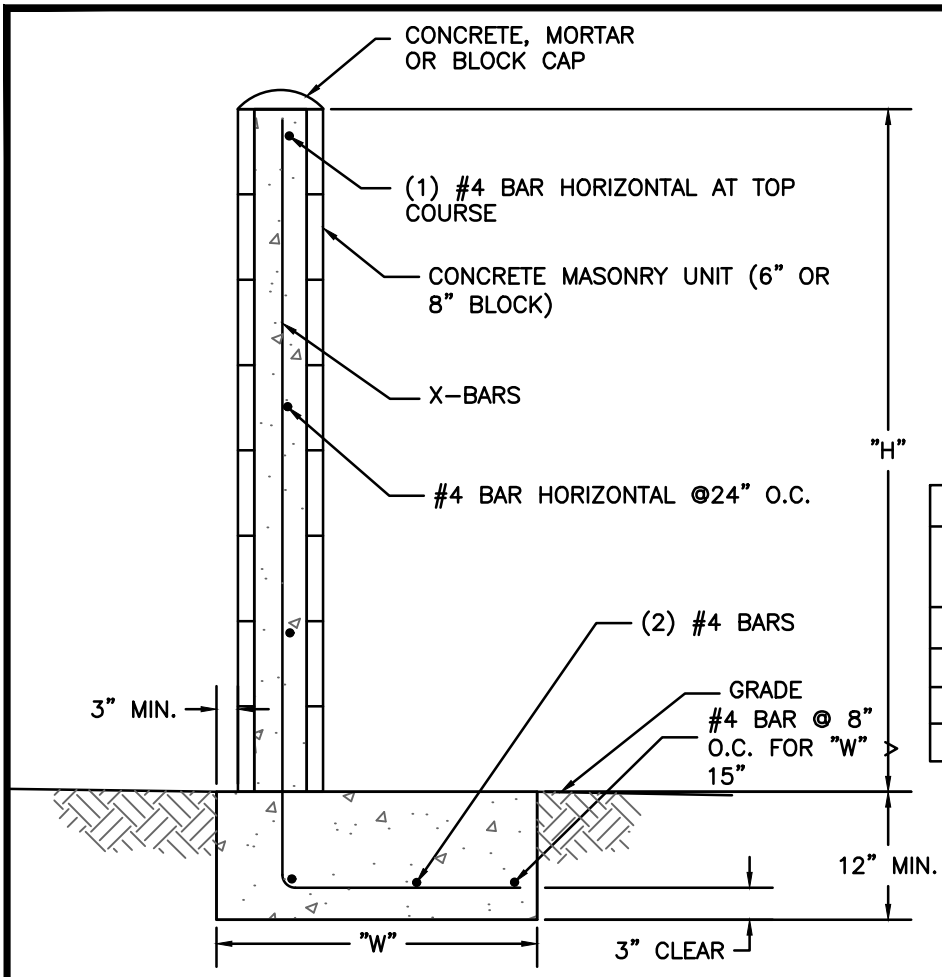
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

RETAINING WALL CANT. HEEL FOOTING

STANDARD PLAN NO.
653

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



MASONRY SCREEN WALL		
"H" WALL HEIGHT	"W" FOOTING WIDTH	"X" VERTICAL REBAR
UP TO 6'	30 INCHES	#4 @ 24"
UP TO 5'	24 INCHES	#4 @ 48"
UP TO 4'	21 INCHES	#4 @ 48"
UP TO 3'	15 INCHES	#4 @ 48"

NOTES:

1. DESIGN DOES NOT ALLOW FOR GRADE DIFFERENTIALS OF MORE THAN 6" ON OPPOSING SIDES OF THE WALL. THIS IS NOT A RETAINING WALL.

2. NO WATER COURSE OR NATURAL DRAINAGE SHALL BE OBSTRUCTED.

3. MATERIAL SPECIFICATIONS:
   A. CONCRETE MASONRY UNITS TO BE ASTM C–90 GRADE N
   B. MORTAR TYPE M OR S
   C. GROUT 2000 PSI PORTLAND CEMENT

4. FOUNDATION CONCRETE COMPRESSIVE STRENGTH OF 2500 PSI

5. REINFORCING STEEL TO BE ASTM 1615, GRADE 40. OVERLAP SPLICES SHALL BE 24 INCHES MINIMUM. ALL REBAR HOOKS SHALL BE A MINIMUM OF 12 TIMES THE REBAR DIAMETER.

6. VERTICAL REBAR TO BE CENTERED IN MASONRY CELLS.

7. ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT

8. GROUT ALL CELLS CONTAINING REBAR. WALL MAY ALSO BE FULLY GROUTED IF DESIRED.

9. CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER 5 FEET IN HEIGHT. WHEN REQUIRED CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE AT EVERY VERTICAL BAR AND SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.

10. FENCE HEIGHTS ARE REGULATED–CONSULT ZONING REGULATIONS BEFORE BEGINNING CONSTRUCTION.

11. ALTERNATE DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USERS RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

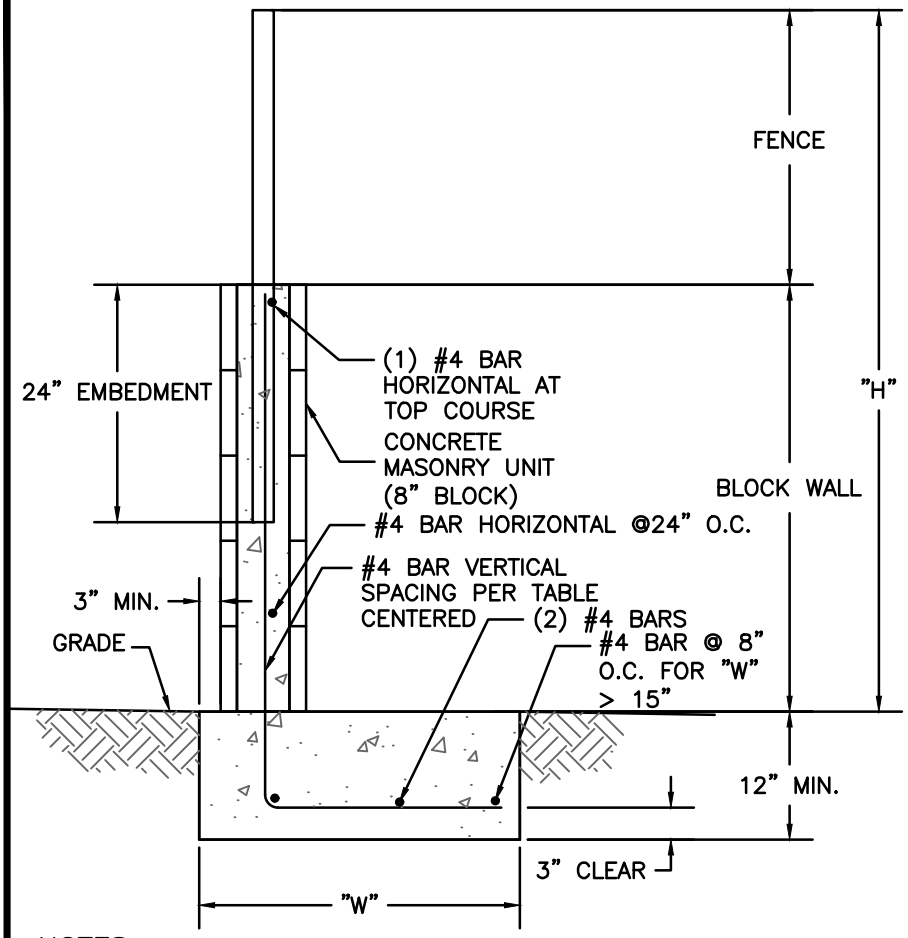
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

SCREEN WALL CANTILEVERED FOOTING

STANDARD PLAN NO.
654

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



MASONRY SCREEN WALL W/ FENCE ABOVE		
"H" WALL HEIGHT	"W" FOOTING WIDTH	"X" VERTICAL REBAR
UP TO 6'	30 INCHES	#4 @ 24"
UP TO 5'	24 INCHES	#4 @ 48"
UP TO 4'	21 INCHES	#4 @ 48"
UP TO 3'	15 INCHES	#4 @ 48"

NOTES:

1. DESIGN DOES NOT ALLOW FOR GRADE DIFFERENTIALS OF MORE THAN 6" ON OPPOSING SIDES OF THE WALL. THIS IS NOT A RETAINING WALL.

2. NO WATER COURSE OR NATURAL DRAINAGE SHALL BE OBSTRUCTED.

3. MATERIAL SPECIFICATIONS:
   A. CONCRETE MASONRY UNITS TO BE ASTM C-90 GRADE N
   B. MORTAR TYPE M OR S
   C. GROUT 2000 PSI PORTLAND CEMENT

4. FOUNDATION CONCRETE COMPRESSIVE STRENGTH OF 2500 PSI

5. REINFORCING STEEL TO BE ASTM 1615, GRADE 40. OVERLAP SPLICES SHALL BE 24 INCHES MINIMUM. ALL REBAR HOOKS SHALL BE A MINIMUM OF 12 TIMES THE REBAR DIAMETER.

6. VERTICAL REBAR TO BE CENTERED IN MASONRY CELLS.

7. ALL FOOTINGS ADJACENT TO SLOPES TO BE AT LEAST 5' TO DAYLIGHT

8. GROUT ALL CELLS CONTAINING REBAR. WALL MAY ALSO BE FULLY GROUTED IF DESIRED.

9. CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER 5 FEET IN HEIGHT. WHEN REQUIRED CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE AT EVERY VERTICAL BAR AND SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.

10. FENCE HEIGHTS ARE REGULATED-CONSULT ZONING REGULATIONS BEFORE BEGINNING CONSTRUCTION.

11. ALTERNATE DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USERS RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

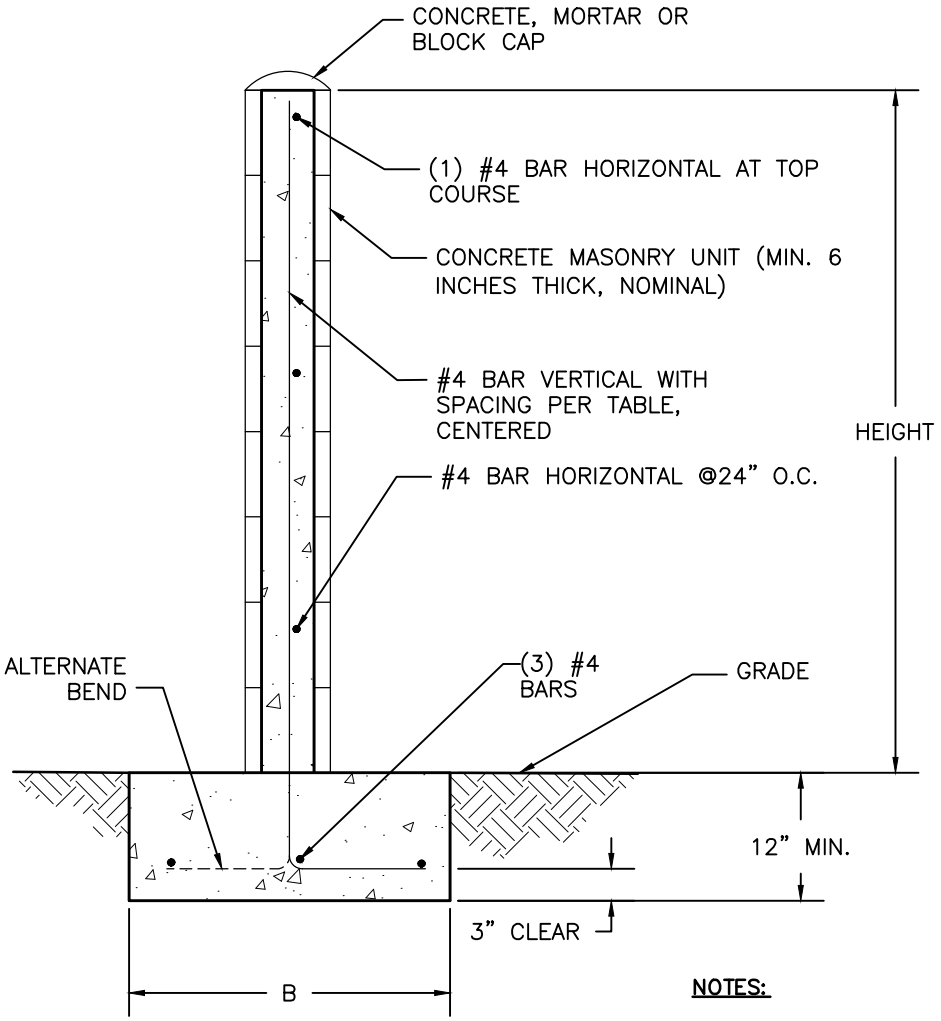
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

SCREEN WALL CANTILEVERED FOOTING

STANDARD PLAN NO.
654

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



MASONRY SCREEN WALL W/ FENCE ABOVE		
"H" WALL HEIGHT	"W" FOOTING WIDTH	"X" VERTICAL REBAR
UP TO 6'	24 INCHES	#4 @ 24"
UP TO 5'	24 INCHES	#4 @ 48"
UP TO 4'	18 INCHES	#4 @ 48"
UP TO 3'	15 INCHES	#4 @ 48"

NOTES:

1. DESIGN DOES NOT ALLOW FOR GRADE DIFFERENTIALS OF MORE THAN 6" ON OPPOSING SIDES OF THE WALL. THIS IS NOT A RETAINING WALL.

2. NO WATER COURSE OR NATURAL DRAINAGE SHALL BE OBSTRUCTED.

3. GROUT ALL CELLS CONTAINING REBAR. REMAINING CELLS MAY BE GROUTED AS AN OPTION.

4. ALL REBAR TO BE ASTM SPEC. 1615, GRADE 40 MINIMUM.

5. ALL REBAR LAP SPLICES TO BE 24" MINIMUM

6. ALL MASONRY UNITS TO BE ASTM C-90 GRADE N.

7. VERTICAL REBAR TO BE CENTERED IN MASONRY CELLS.

8. ALTERNATE DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USERS RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

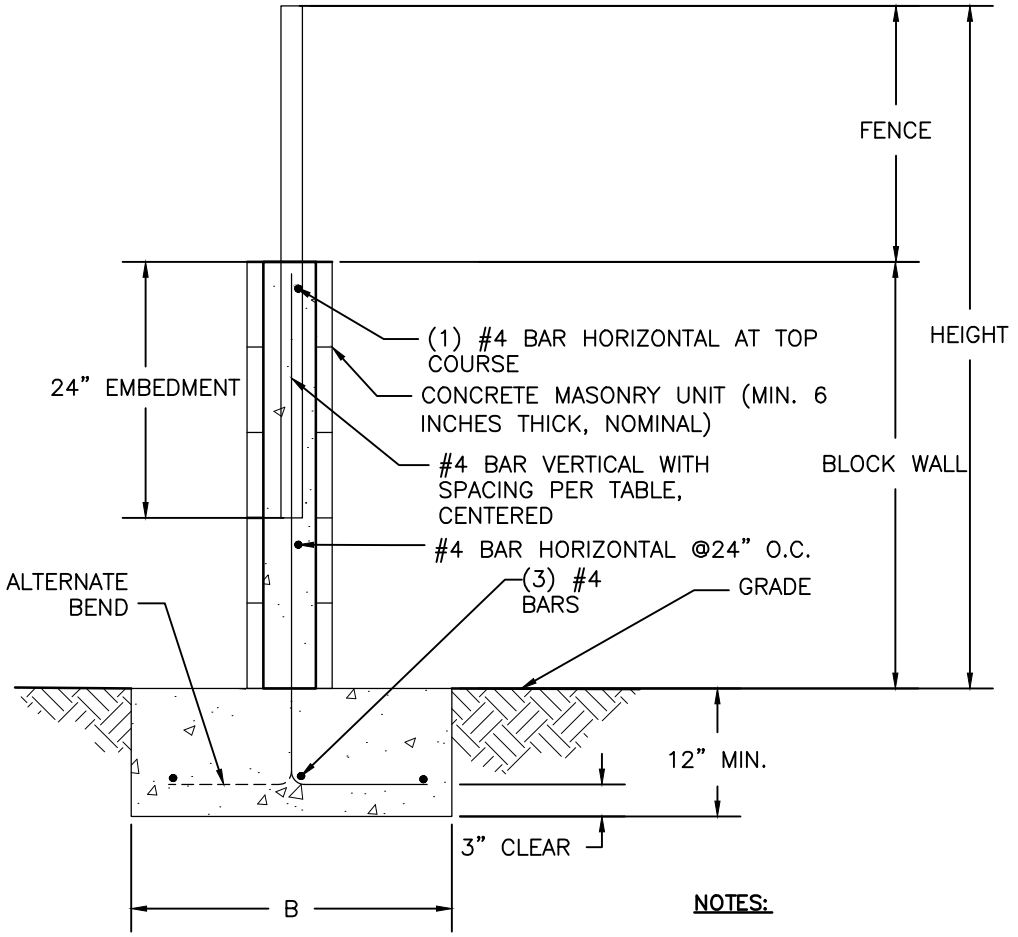
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

SCREEN WALL -CENTERED FOOTING

STANDARD PLAN NO.
655

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



MASONRY SCREEN WALL W/ FENCE ABOVE		
"H" WALL HEIGHT	"W" FOOTING WIDTH	"X" VERTICAL REBAR
UP TO 6'	24 INCHES	#4 @ 24"
UP TO 5'	24 INCHES	#4 @ 48"
UP TO 4'	18 INCHES	#4 @ 48"
UP TO 3'	15 INCHES	#4 @ 48"

NOTES:

1. DESIGN DOES NOT ALLOW FOR GRADE DIFFERENTIALS OF MORE THAN 6" ON OPPOSING SIDES OF THE WALL. THIS IS NOT A RETAINING WALL.

2. NO WATER COURSE OR NATURAL DRAINAGE SHALL BE OBSTRUCTED.

3. GROUT ALL CELLS CONTAINING REBAR. REMAINING CELLS MAY BE SOLID GROUTED AS AN OPTION.

4. ALL REBAR TO BE ASTM SPEC. 1615, GRADE 40 MINIMUM.

5. ALL REBAR LAP SPLICES TO BE 24" MINIMUM

6. ALL MASONRY UNITS TO BE ASTM C-90 GRADE N.

7. VERTICAL REBAR TO BE CENTERED IN MASONRY CELLS.

8. FENCE TO BE ATTACHED TO BLOCK WALL WITH METAL POST EMBEDDED 24" MINIMUM.

9. ALTERNATE DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USERS RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

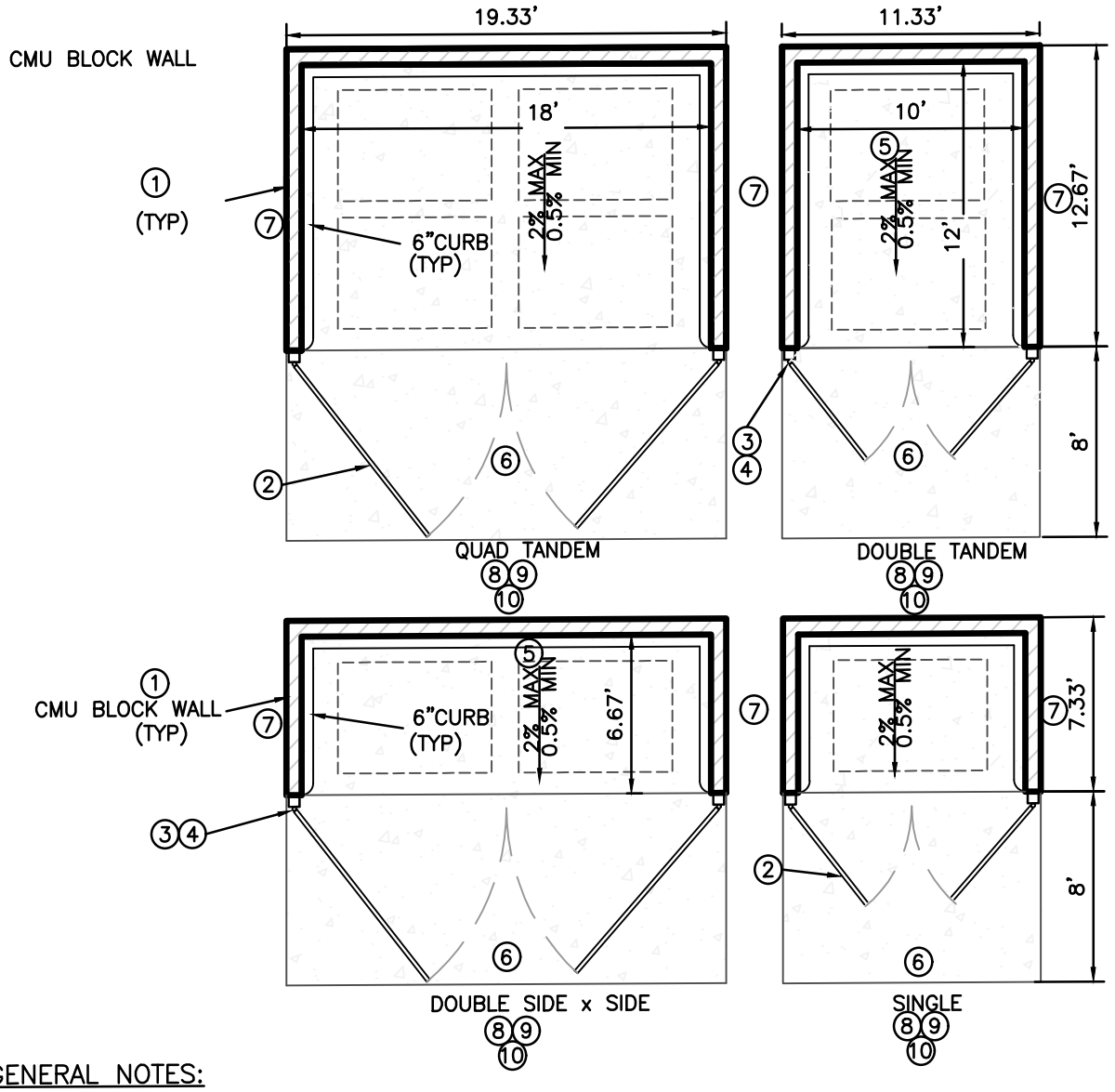
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

SCREEN WALL -CENTERED FOOTING

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
655



GENERAL NOTES:

1. WALLS ARE TO BE 6" MIN. CMU BLOCK WITH STUCCO FINISH OR DECORATIVE BLOCK MASONRY OF SIMILAR MATERIALS CONSISTENT WITH THE ARCHITECTURE, COLOR, AND ACCENT MATERIALS OF PRIMARY BUILDING. *ALL CMU CELLS TO BE SOLID GROUTED. GROUT TO FOLLOW 2018 GREEN BOOK SECTION 202-2.2.2
2. GATES ARE TO BE STEEL MESH AND FRAME OR SOLID METAL CONSTRUCTION
3. SWIVEL POINTS ON DOORS SHALL BE LOCATED OUTSIDE OF THE OPENING AREA OF THE ENCLOSURE
4. SWIVEL POINTS SHALL BE ATTACHED TO CONCRETE FILLED STEEL POST/COLUMNS AT THE ENDS OF WALLS
5. TRASH ENCLOSURE SHALL NOT EXCEED A SLOPE OF 2% MAX IN ANY DIRECTION OR A MIN SLOPE OF 0.5% IN ANY DIRECTION.
6. TRASH ENCLOSURE SHALL HAVE 5" CONCRETE OR 5 INCHES MINIMUM OF AC PAVEMENT FOR A 8' APRON IN FRONT OF ENCLOSURE
7. 3" MINIMUM COVER TOP OF FOOTING TO FINISH GROUND
8. DEVELOPER TO CONTACT PLANNING DEPARTMENT TO VERIFY QUANTITY AND TYPE OF RECEPTACLES.
9. DEVELOPER SHALL DESIGN ENCLOSURE TO MATCH BUILDING ARCHITECTURAL FEATURES PER CITY STANDARD.
10. ANY MODIFICATIONS TO CITY STANDARD TRASH ENCLOSURE SHALL BE SUBJECT TO ENGINEERING DEPARTMENT REVIEW AND APPROVAL.

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

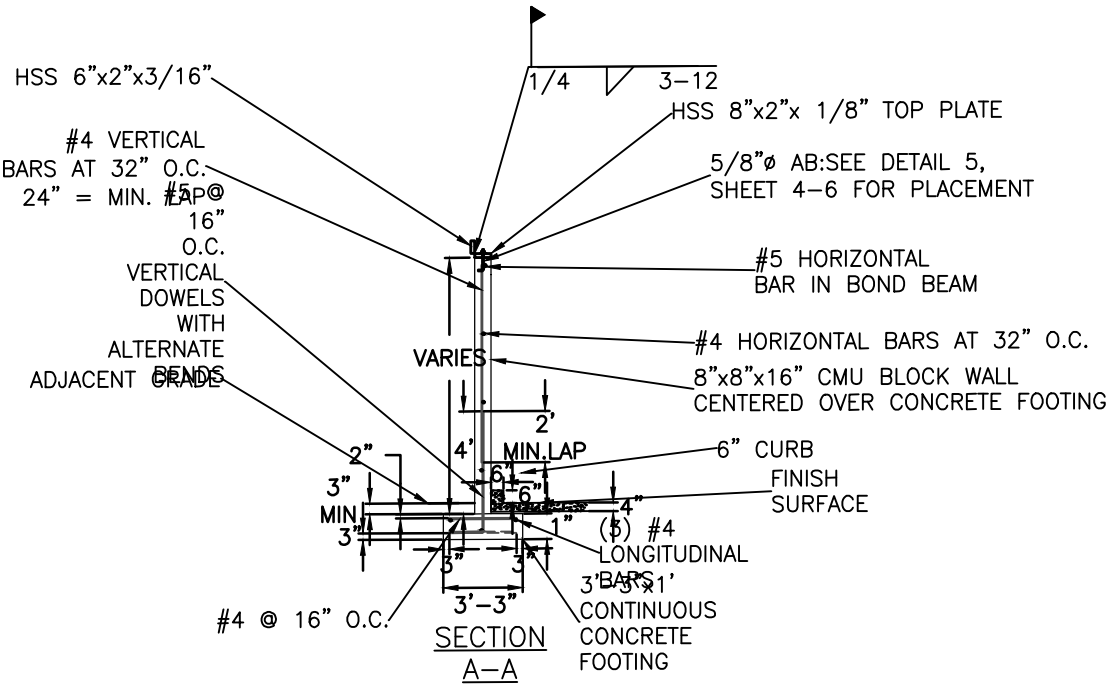
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

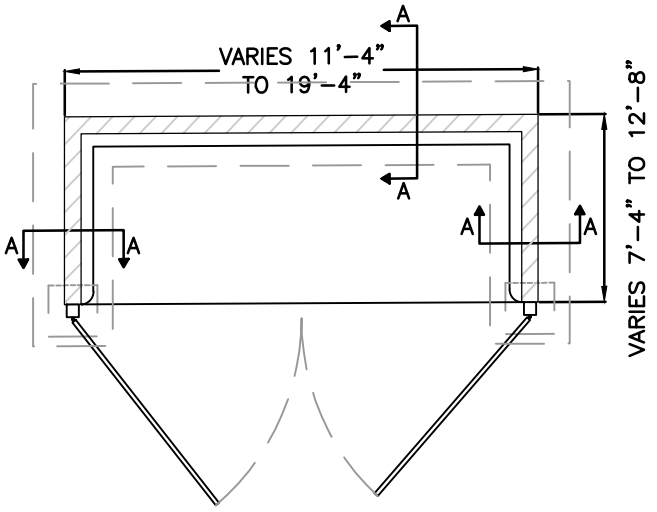
DATE:
08/01/20

TRASH ENCLOSURE

STANDARD PLAN NO.
656

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION





GENERAL NOTES:

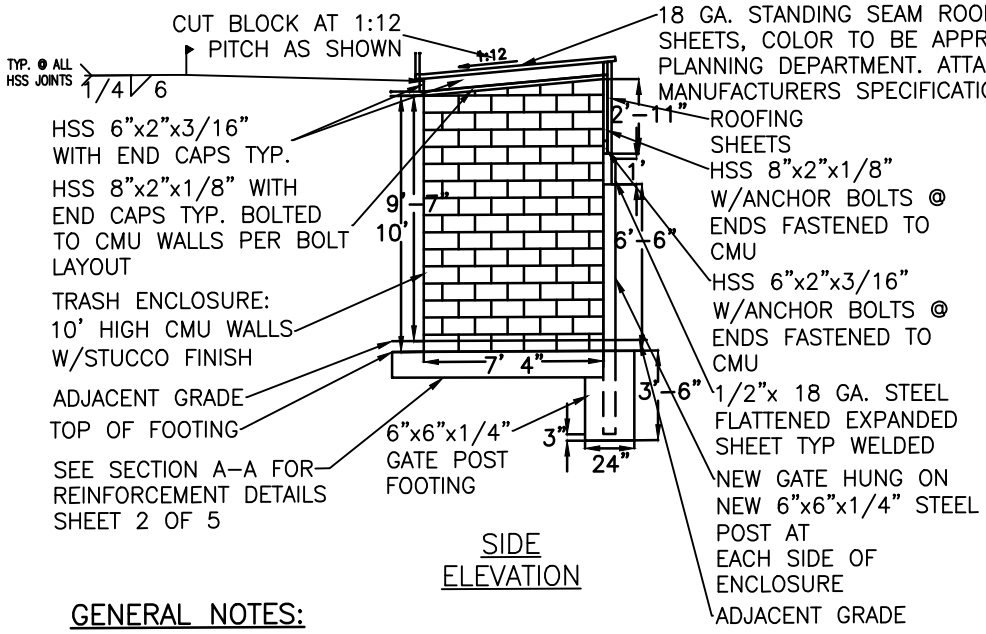
ALL HSS SECTIONS TO HAVE 36 KSI MINIMUM (MIN.) STRENGTH

ALL 5/8"ø ANCHOR BOLTS (AB) TO HAVE MIN. EMBEDMENT OF 7", PROJECTION OF 3.5", AND A 2.5" BEND

ALL CMU CELLS TO BE SOLID GROUTED. GROUT TO FOLLOW 2018 GREEN BOOK SECTION 202-2.2.2

ALL REBAR TO BE ASTM A615, 40 KSI FOR #4 BARS AND SMALLER AND 60 KSI FOR #5 BARS AND GREATER. ALL LAP LENGTHS TO BE MIN. 24". HORIZONTAL CORNER BARS MUST LAP MIN. 24" FROM AT LEAST ONE SIDE

ALL CONCRETE TO HAVE MIN. 3,000 PSI 28DAY STRENGTH



SIDE ELEVATION

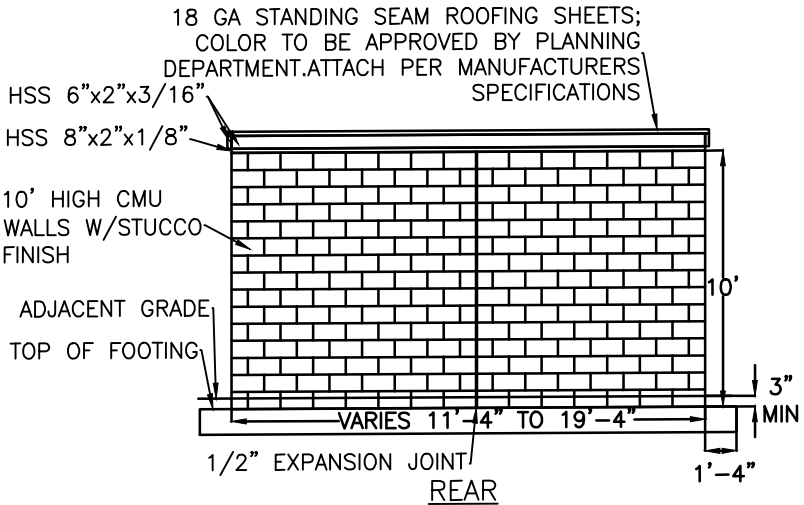
GENERAL NOTES:

ALL HSS SECTIONS TO HAVE 36 KSI MINIMUM (MIN.) STRENGTH

ALL CMU CELLS TO BE SOLID GROUTED. GROUT TO FOLLOW 2018 GREEN BOOK SECTION 202–2.2.2

ALL REBAR TO BE ASTM A615, 40 KSI FOR #4 BARS AND SMALLER AND 60 KSI FOR #5 BARS AND GREATER. ALL LAP LENGTHS TO BE MIN. 24". HORIZONTAL CORNER BARS MUST LAP MIN. 24" FROM AT LEAST ONE SIDE

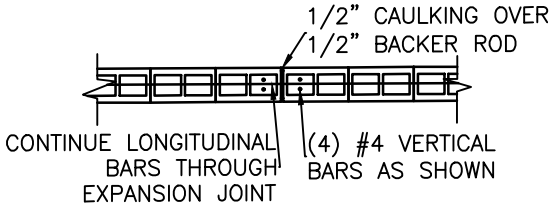
ALL CONCRETE TO HAVE MIN. 3,000 PSI 28DAY STRENGTH



REAR ELEVATION

GENERAL NOTES:

ALL 5/8"ø ANCHOR BOLTS (AB) TO HAVE MINIMUM (MIN.) EMBEDMENT OF 7", PROJECTION AS SPECIFIED, AND A 2.5" BEND



1/2" EXPANSION JOINT

GENERAL NOTES:

CAULKING AND FOAM BACKER ROD TO BE SUBMITTED AND APPROVED BY CITY PLANNING DEPARTMENT

CAULKING TO BE NON–SAG POLYURETHANE SUITABLE FOR EXTERIOR EXPOSURE

BACKER ROD TO BE INSTALLED TO ALLOW 0.25" THICK CAULKING

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW CROSSROADS OF OPPORTUNITY

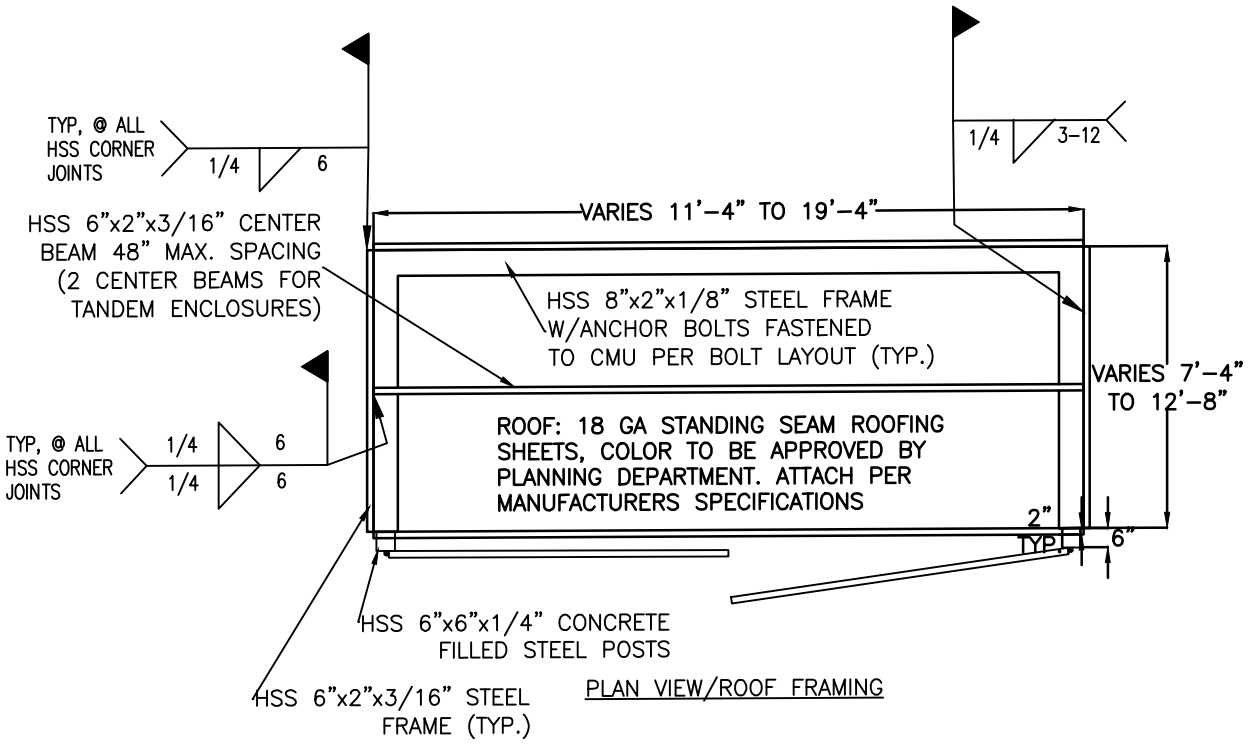
APPROVED BY: BRAD S. MERRELL CITY ENGINEER

DATE: 08/01/20

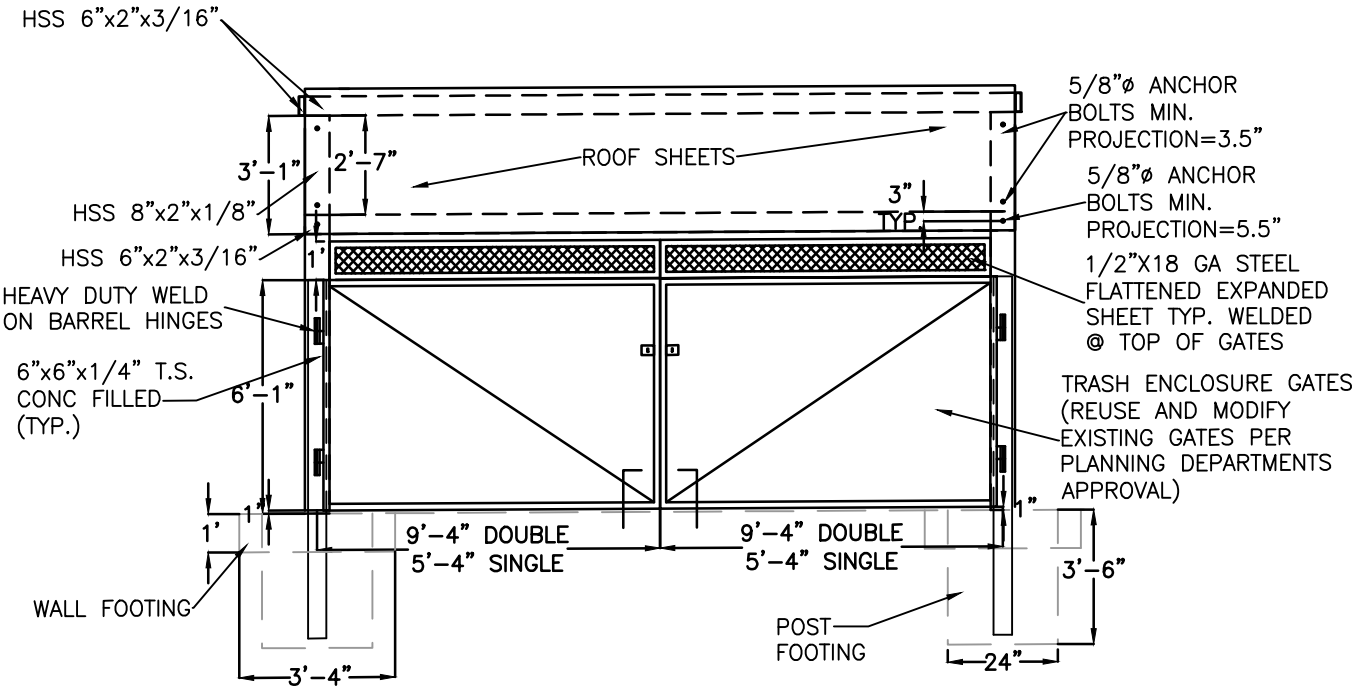
TRASH ENCLOSURE

STANDARD PLAN NO. 656

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION



PLAN VIEW/ROOF FRAMING



FRONT ELEVATION

GENERAL NOTES:

ALL 5/8"ø ANCHOR BOLTS (AB) TO HAVE MINIMUM (MIN.) EMBEDMENT OF 7", PROJECTION AS SPECIFIED, AND A 2.5" BEND

CITY OF BARSTOW - STANDARD PLANS

THE CITY OF BARSTOW
CROSSROADS OF OPPORTUNITY

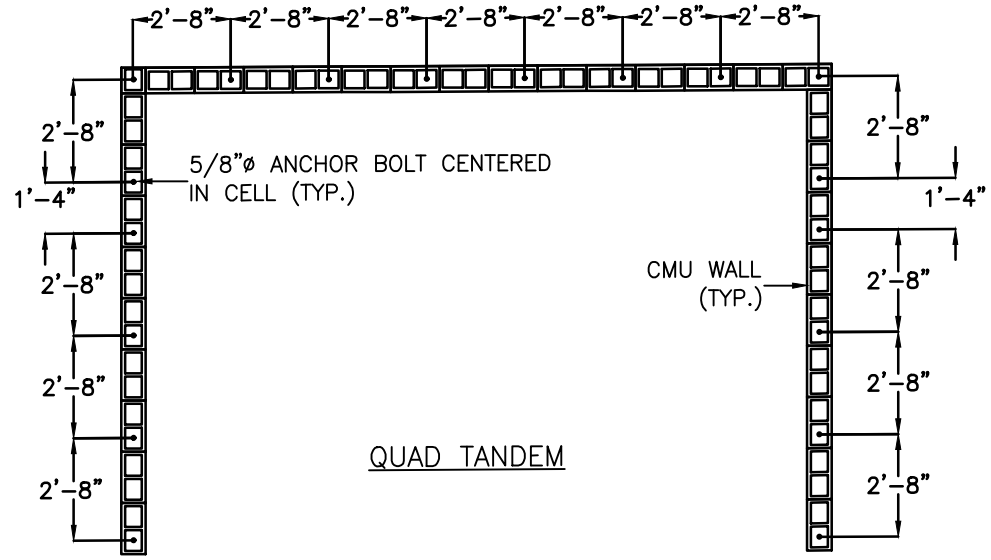
APPROVED BY:
BRAD S. MERRELL
CITY ENGINEER

DATE:
08/01/20

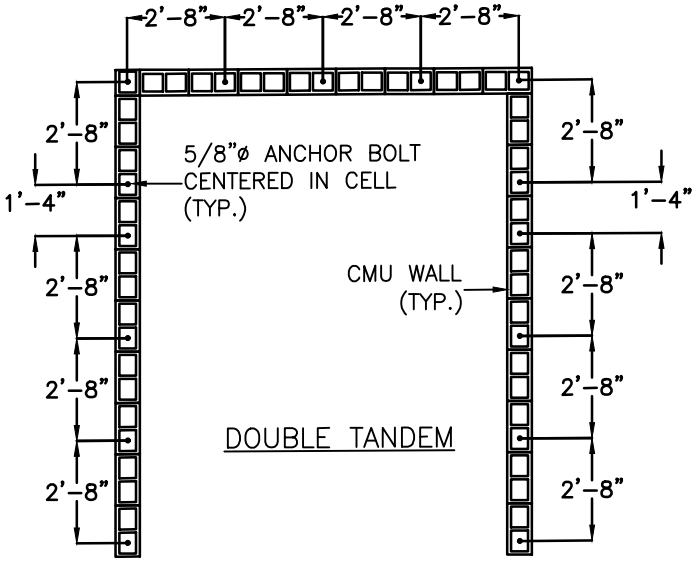
TRASH ENCLOSURE

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

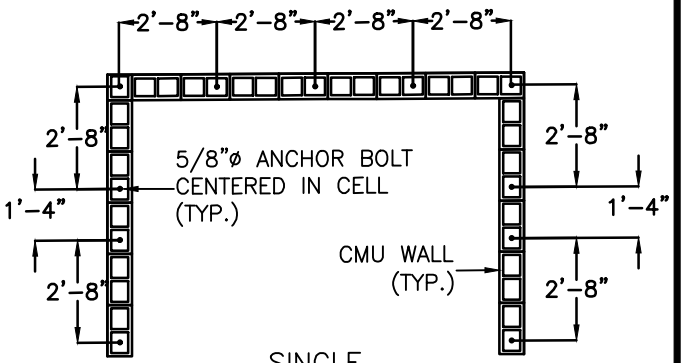
STANDARD PLAN NO.
656



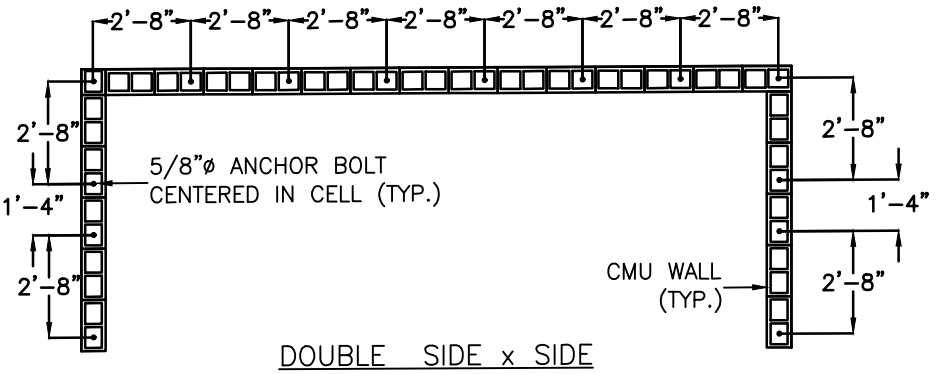
QUAD TANDEM



DOUBLE TANDEM



SINGLE



DOUBLE SIDE x SIDE

GENERAL NOTES:

ALL 5/8"ø ANCHOR BOLTS (AB) TO HAVE MINIMUM (MIN.) EMBEDMENT OF 7", PROJECTION OF 3.5", AND A 2.5" BEND

ALL CMU CELLS TO BE SOLID GROUTED. GROUT TO FOLLOW 2018 GREEN BOOK SECTION 202-2.2.2

CITY OF BARSTOW - STANDARD PLANS

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CROSSROADS OF OPPORTUNITY

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TRASH ENCLOSURE

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION

STANDARD PLAN NO.
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SHEET 5 OF 5