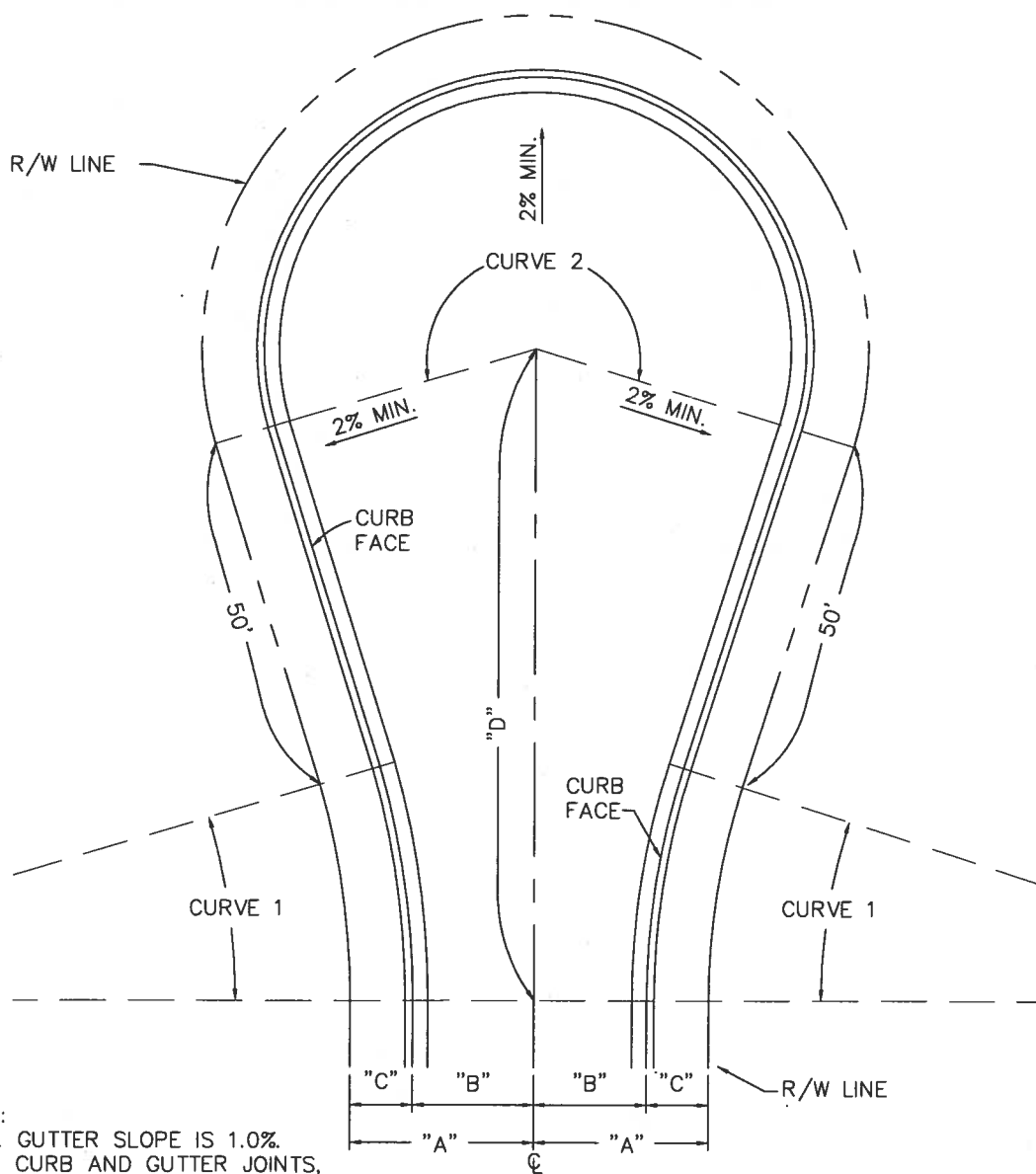


SECTION 200

GEOMETRICS



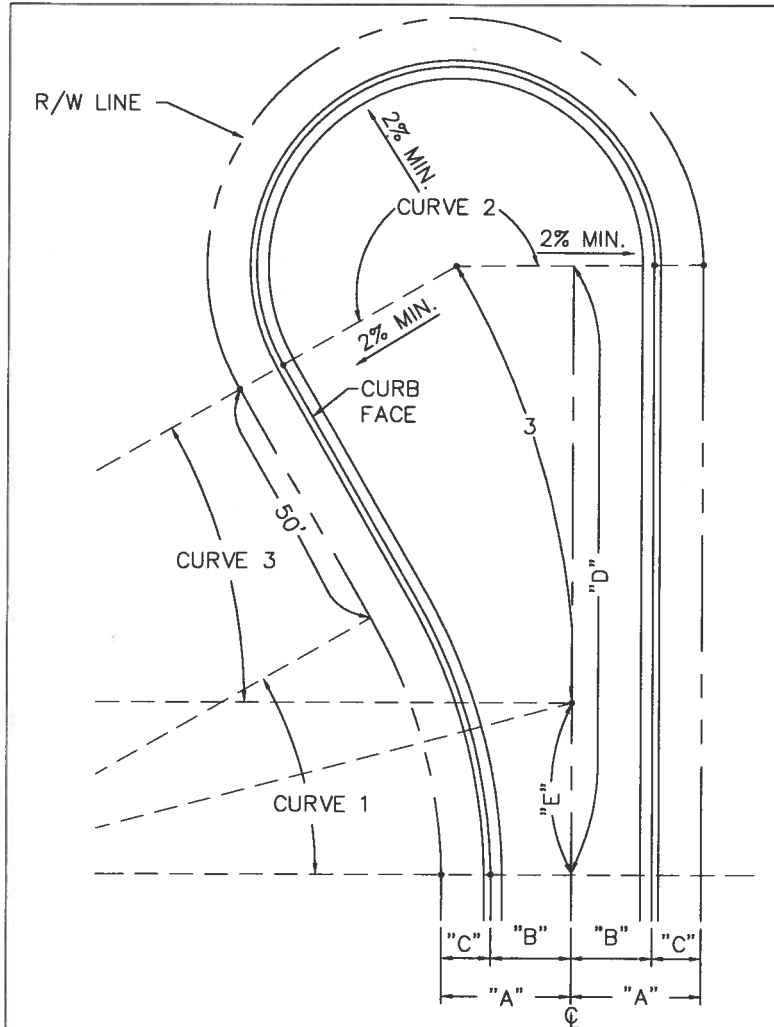


- NOTES:
 1. MIN. GUTTER SLOPE IS 1.0%.
 2. FOR CURB AND GUTTER JOINTS, SEE STD 306.

R/W	CURVE 1				CURVE 2									
	A	B	C	D	△	CURB		PROPERTY		△	CURB		PROPERTY	
						R	L	R	L		R	L	R	L
50'	25	16	9	92.11	17°36'02"	109	33.48	100	30.72	215°12'02"	38	142.73	47	176.53
56'	28	18	10	89.55	16°18'41"	110	31.31	100	28.47	212°37'22"	38	141.02	48	178.12
60'	30	18	12	90.00	16°15'37"	112	31.79	100	28.38	212°31'13"	38	140.95	50	185.46
60'	30	20	10	86.63	15°00'38"	110	28.82	100	26.20	210°01'17"	38	139.29	48	175.95
66'	33	22	11	83.74	13°38'40"	111	26.44	100	23.82	207°17'21"	38	137.48	49	177.28
78'	39	28	11	95.39	17°12'31"	111	33.33	100	30.03	214°25'02"	50	187.11	61	226.27
88'	44	32	12	103.27	19°15'21"	112	37.64	100	33.61	216°30'42"	58	221.20	70	266.96

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS	CUL-DE-SAC	STD. NO.
5/92		201
APPROVED 1/14/10		



- NOTES:
 1. OFFSET MAY BE LOCATED EITHER LEFT OR RIGHT.
 2. MIN. GUTTER SLOPE IS 1.0%.
 3. FOR CURB AND GUTTER JOINTS, SEE STD 306.

CURVE 1		CURVE 2		CURVE 3				
R/W	A	CURB		CURB		CROWN		
		R	L	R	L	R	L	
50'	25	109	56.42	100	51.76	29°39'30"	167.93	86.93
56'	28	110	52.98	100	48.165	27°35'48"	175.80	84.67
60'	30	112	53.72	100	47.96	27°28'54"	177.24	85.01
60'	30	110	49.01	100	44.56	25°31'48"	184.35	82.14
66'	33	111	45.21	100	40.73	23°20'19"	195.54	79.65
78'	39	111	55.79	100	50.26	28°47'56"	177.87	89.41
88'	44	112	62.27	100	55.60	31°51'28"	172.59	95.97

R/W	A	B	C	D	E
50'	25	16	9	116.19	33.10
56'	28	18	10	112.87	31.44
60'	30	18	12	113.58	31.79
60'	30	20	10	108.90	29.45
66'	33	22	11	104.94	27.47
78'	39	28	11	121.38	35.69
88'	44	32	12	132.20	41.10

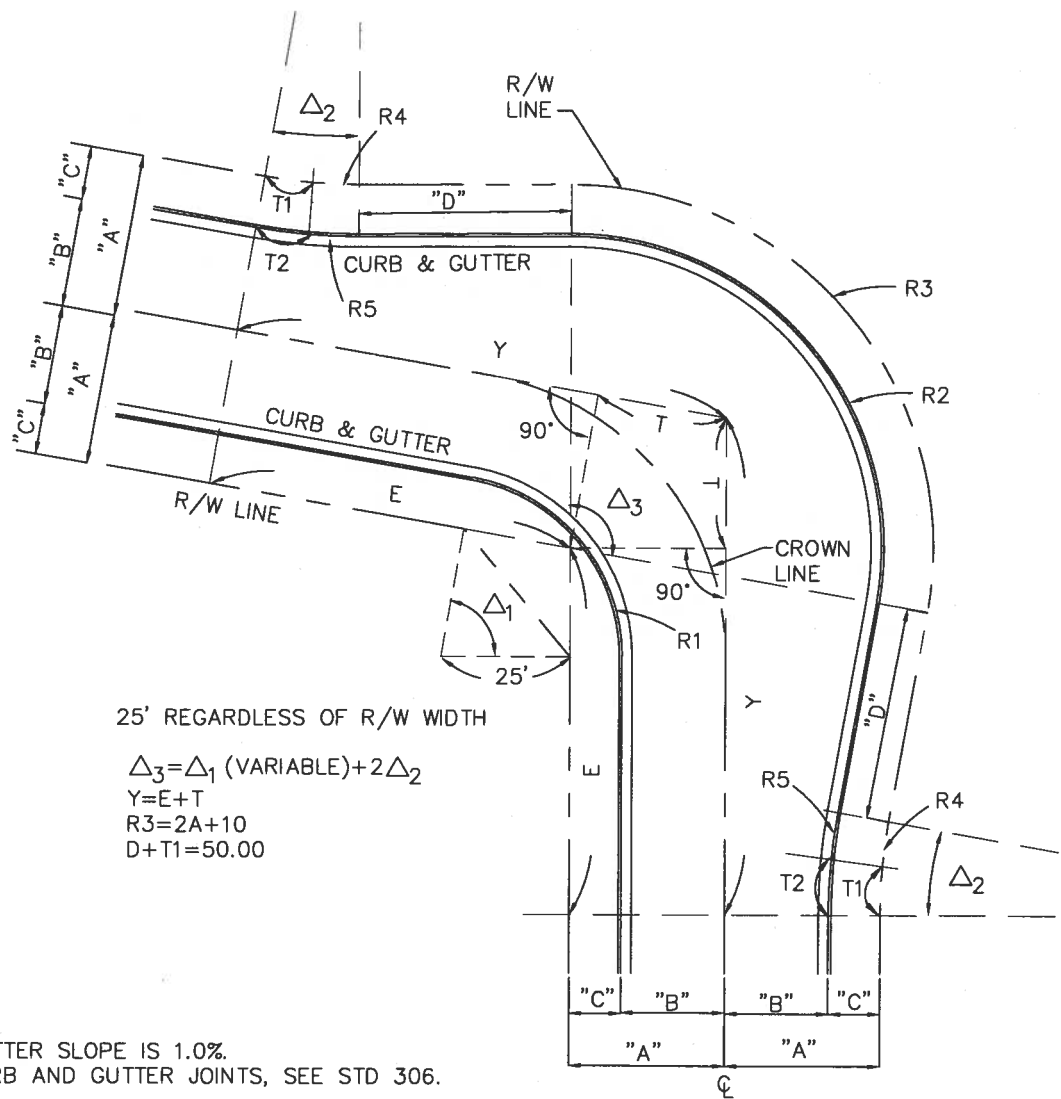
CITY OF MURRIETA
 DEPARTMENT OF PUBLIC WORKS

REVISIONS	
5/92	
APPROVED 1/14/10	

**OFFSET
 CUL-DE-SAC**

STD. NO.

202



- NOTES:
 1. MIN. GUTTER SLOPE IS 1.0%.
 2. FOR CURB AND GUTTER JOINTS, SEE STD 306.

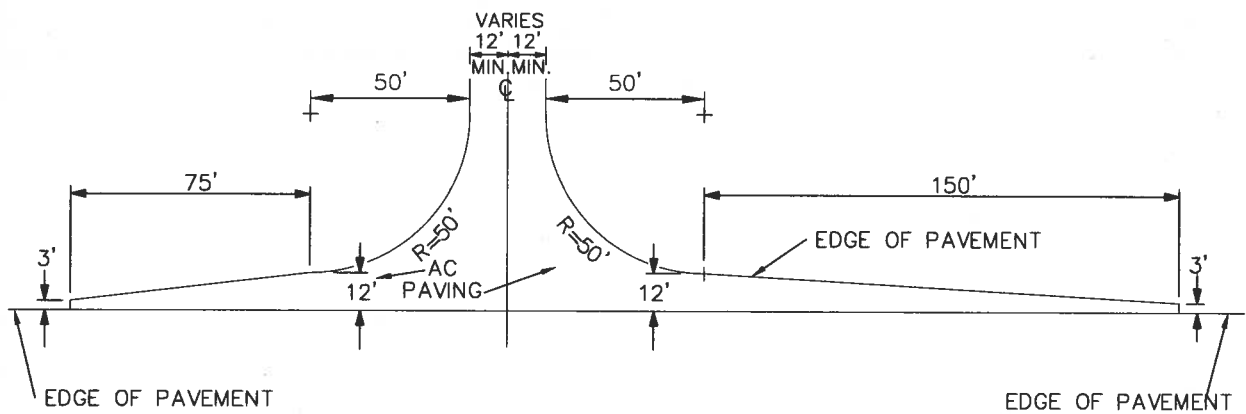
R/W	ROADWAY IMPROVEMENT WIDTH	A	B	C	D	E	R1	R2	R3	Δ ₂	R4	T1	R5	T2
50'	32	25	16	9	40.91	69.09	34	51	60	10°23'20"	100	9.09	109	9.91
56'	36	28	18	10	40.99	70.00	35	56	66	10°17'48"	100	9.01	110	9.91
60'	36	30	18	12	41.04	70.60	37	58	70	10°14'12"	100	8.96	112	10.03
60'	40	30	20	10	41.04	70.60	35	60	70	10°14'12"	100	8.96	110	9.85
66'	44	33	22	11	41.12	71.49	36	65	76	10°08'58"	100	8.88	111	9.86
78'	56	39	28	11	41.26	73.23	36	77	88	9°58'58"	100	8.73	111	9.69
88'	64	44	32	12	41.38	74.65	37	86	98	9°51'06"	100	8.62	112	9.65

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS	
5/92	
APPROVED 1/14/10	

STANDARD KNUCKLE

STD. NO.
203



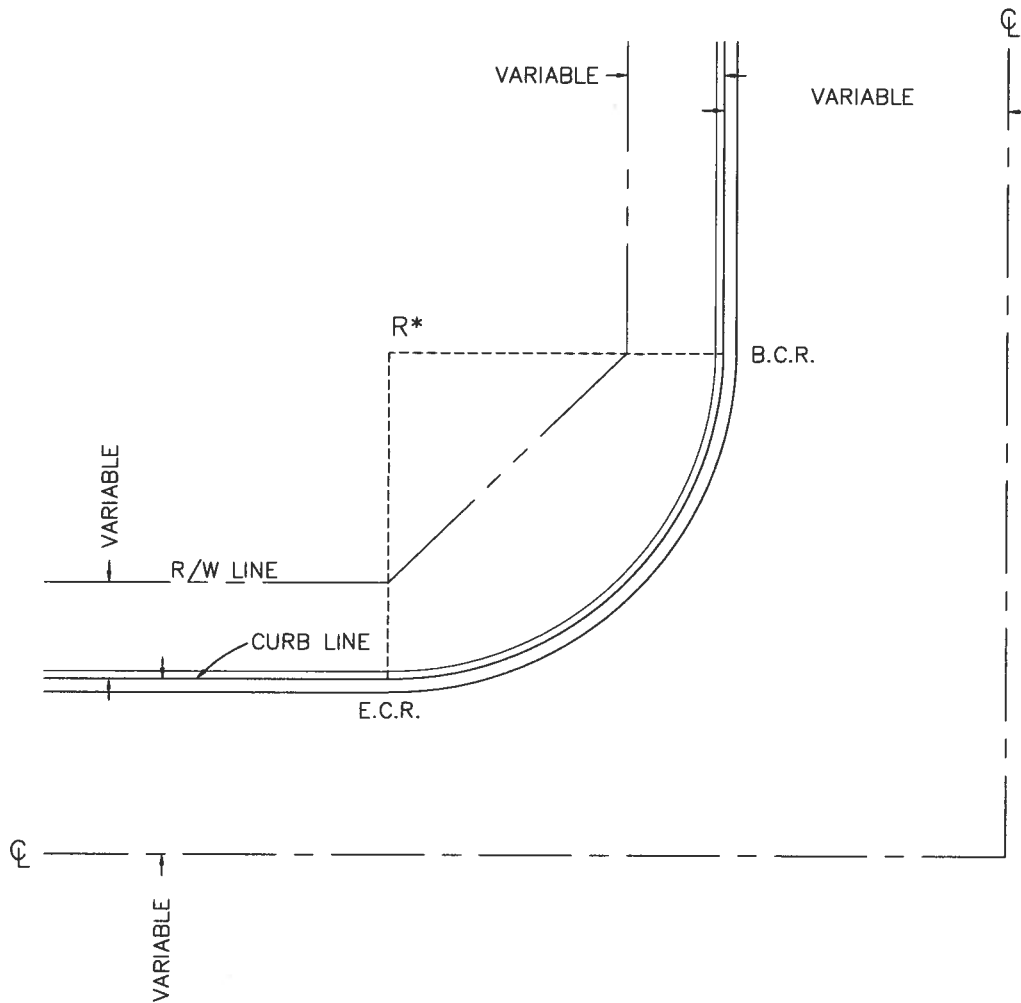
CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS	
5/92	
APPROVED 1/14/10	

PRIVATE ROAD CONNECTION

STD. NO.

205

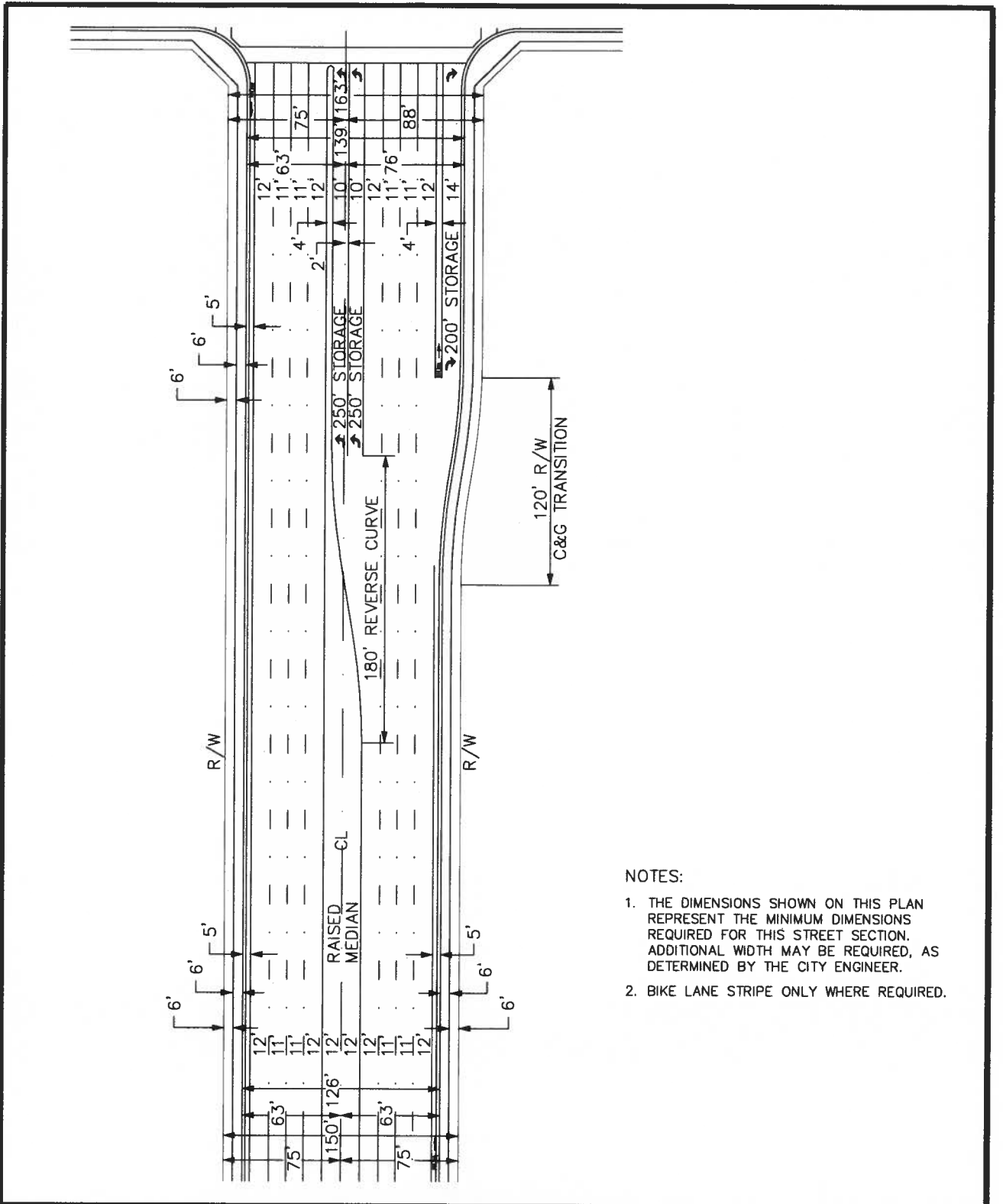


NOTES:

1. * CURB RADIUS = 25' IF BOTH STREETS HAVE A WIDTH OF LESS THAN STREET STD 111 (INDUSTRIAL COLLECTOR, 78' R/W).
2. * CURB RADIUS = 35' IF EITHER STREET HAS A WIDTH EQUAL TO OR GREATER THAN STREET STD 111 (INDUSTRIAL COLLECTOR, 78' R/W), EXCEPT IN CASES WHERE SPECIAL DESIGN EXIST. SUCH CASES SHALL BE APPROVED BY CITY ENGINEER.
3. FOR CURB AND GUTTER JOINTS, SEE STD 306.

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS		PROPERTY LINE - CORNER CUT-BACK CURB RETURN RADIUS	STD. NO.
5/92			206
APPROVED 1/14/10			



NOTES:

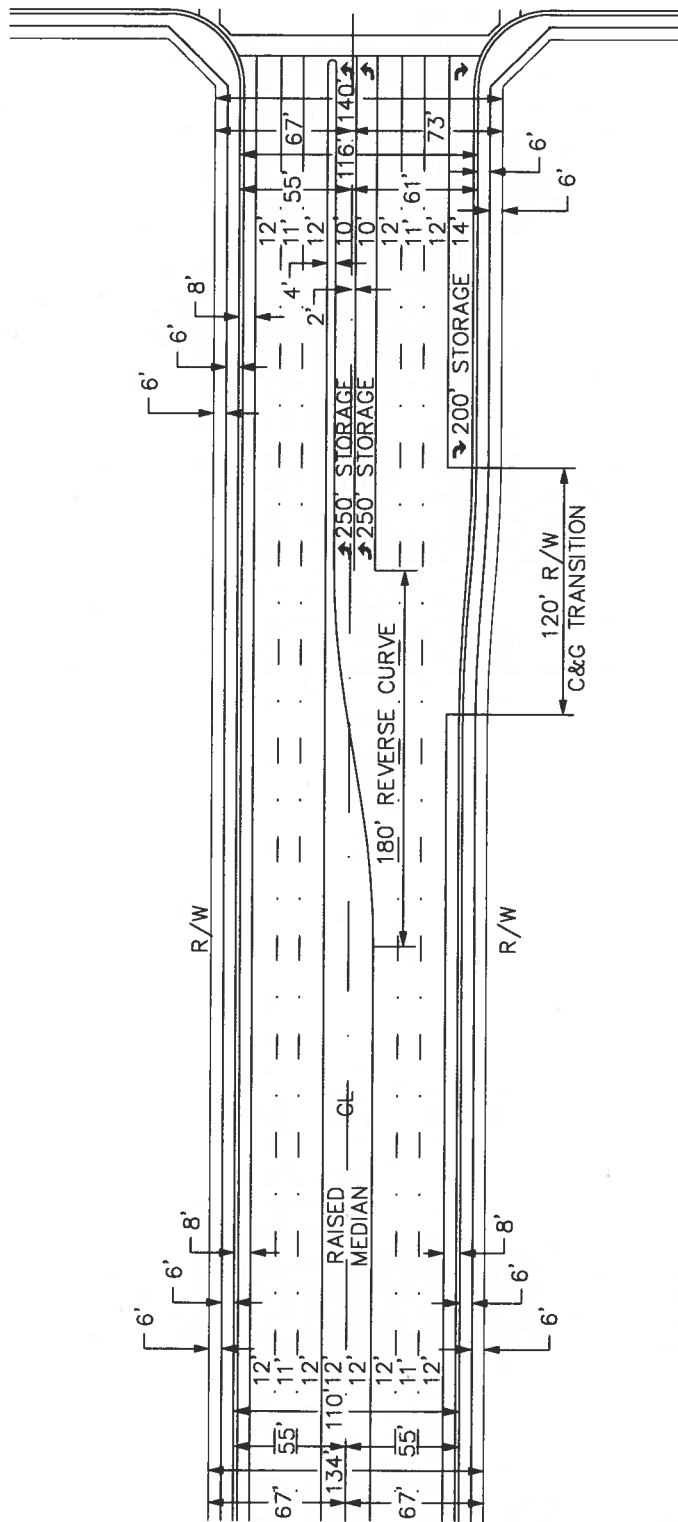
1. THE DIMENSIONS SHOWN ON THIS PLAN REPRESENT THE MINIMUM DIMENSIONS REQUIRED FOR THIS STREET SECTION. ADDITIONAL WIDTH MAY BE REQUIRED, AS DETERMINED BY THE CITY ENGINEER.
2. BIKE LANE STRIPE ONLY WHERE REQUIRED.

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS	
5/92	
APPROVED 1/14/10	

ENHANCED INTERSECTION GEOMETRICS
AUGMENTED URBAN ARTERIAL

STD. NO.
207a
 SHEET 1 OF 6



NOTES:

1. THE DIMENSIONS SHOWN ON THIS PLAN REPRESENT THE MINIMUM DIMENSIONS REQUIRED FOR THIS STREET SECTION. ADDITIONAL WIDTH MAY BE REQUIRED, AS DETERMINED BY THE CITY ENGINEER.
2. BIKE LANE STRIPE ONLY WHERE REQUIRED.

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

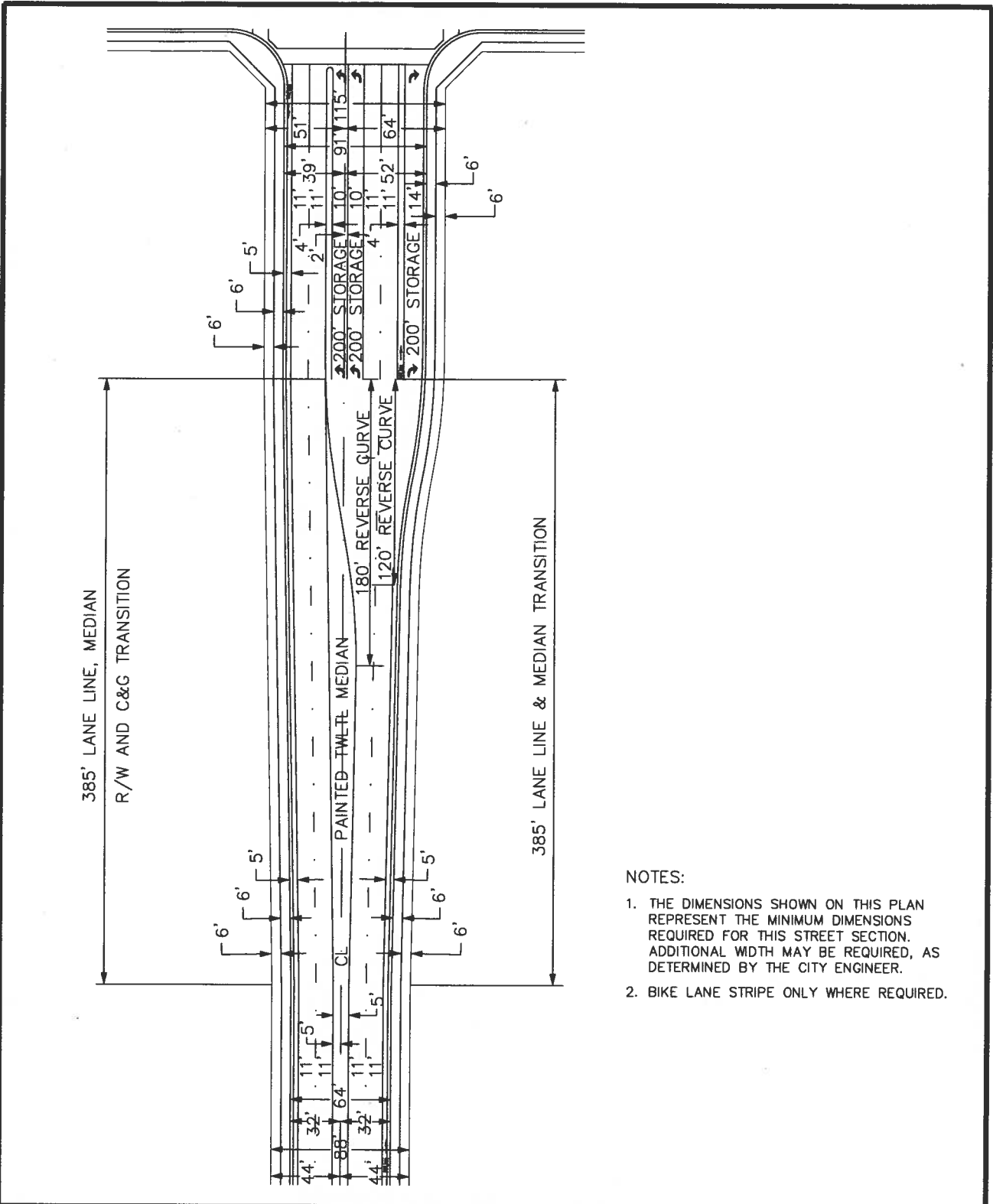
REVISIONS	
5/92	
APPROVED 1/14/10	

ENHANCED INTERSECTION GEOMETRICS
URBAN ARTERIAL

STD. NO.

207c

SHEET 3 OF 6



- NOTES:
1. THE DIMENSIONS SHOWN ON THIS PLAN REPRESENT THE MINIMUM DIMENSIONS REQUIRED FOR THIS STREET SECTION. ADDITIONAL WIDTH MAY BE REQUIRED, AS DETERMINED BY THE CITY ENGINEER.
 2. BIKE LANE STRIPE ONLY WHERE REQUIRED.

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

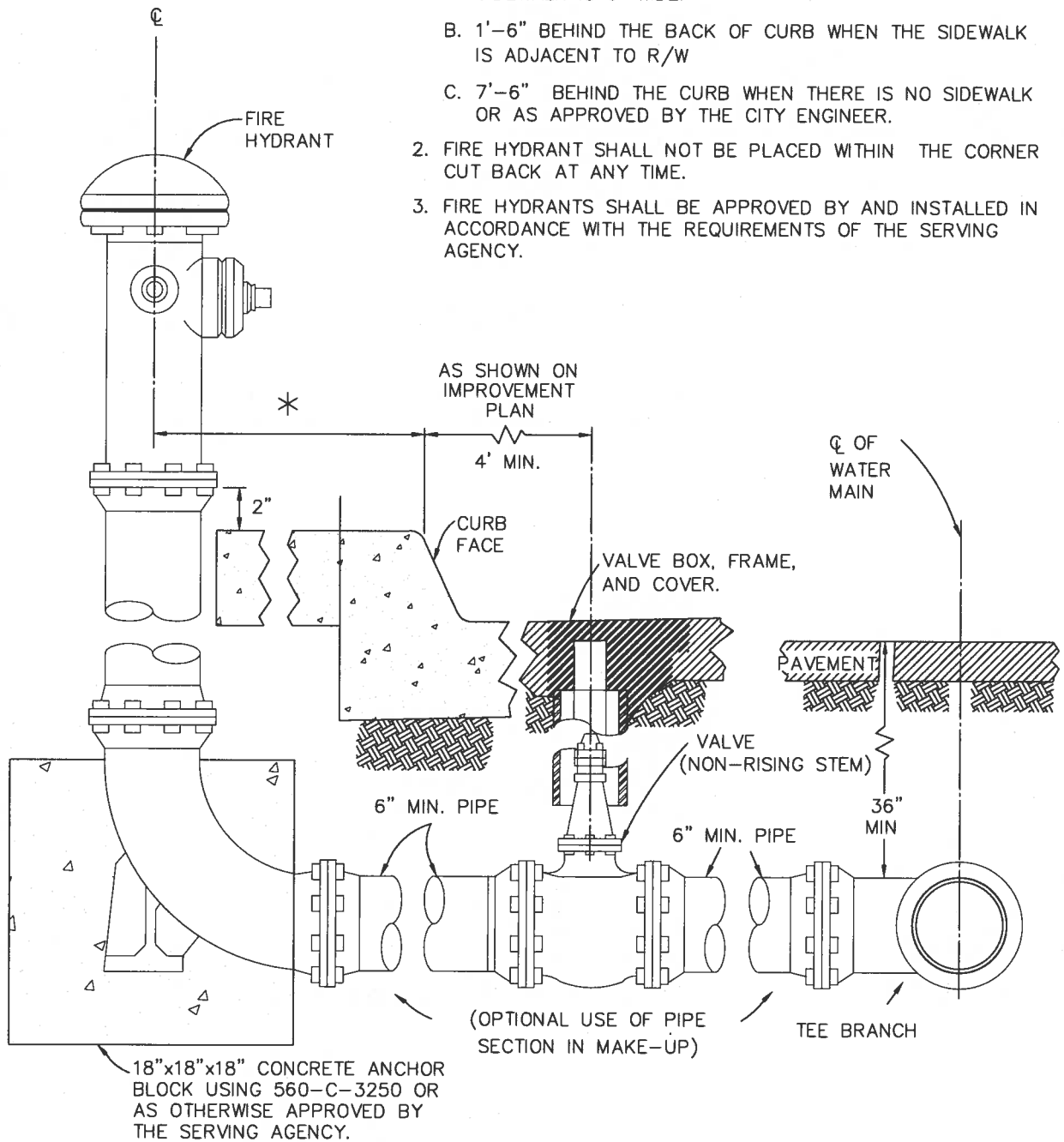
REVISIONS	
5/92	
APPROVED 1/14/10	

ENHANCED INTERSECTION GEOMETRICS
SECONDARY

STD. NO.
207f
 SHEET 6 OF 6

* NOTES:

1. FIRE HYDRANT SHALL BE PLACED:
 - A. 7'-6" BEHIND THE CURB WHEN THE WIDTH OF SIDEWALK IS 6' WIDE.
 - B. 1'-6" BEHIND THE BACK OF CURB WHEN THE SIDEWALK IS ADJACENT TO R/W
 - C. 7'-6" BEHIND THE CURB WHEN THERE IS NO SIDEWALK OR AS APPROVED BY THE CITY ENGINEER.
2. FIRE HYDRANT SHALL NOT BE PLACED WITHIN THE CORNER CUT BACK AT ANY TIME.
3. FIRE HYDRANTS SHALL BE APPROVED BY AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SERVING AGENCY.



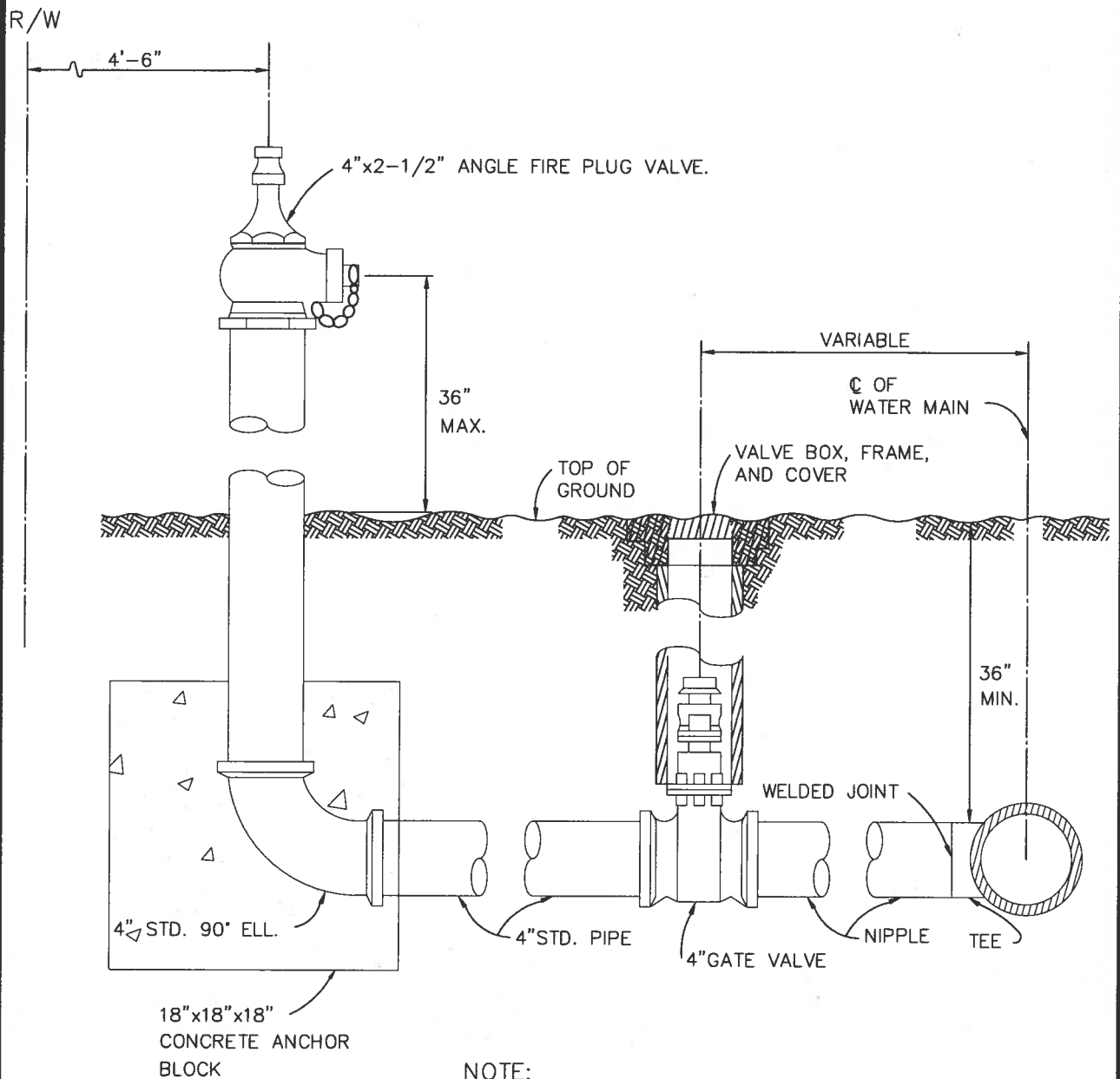
CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS	
5/92	
APPROVED 1/14/10	

FIRE HYDRANT LOCATION

STD. NO.

208



NOTE:

1. FIRE HYDRANT SHALL BE APPROVED BY AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SERVING AGENCY.

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

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5/92	
APPROVED 1/14/10	

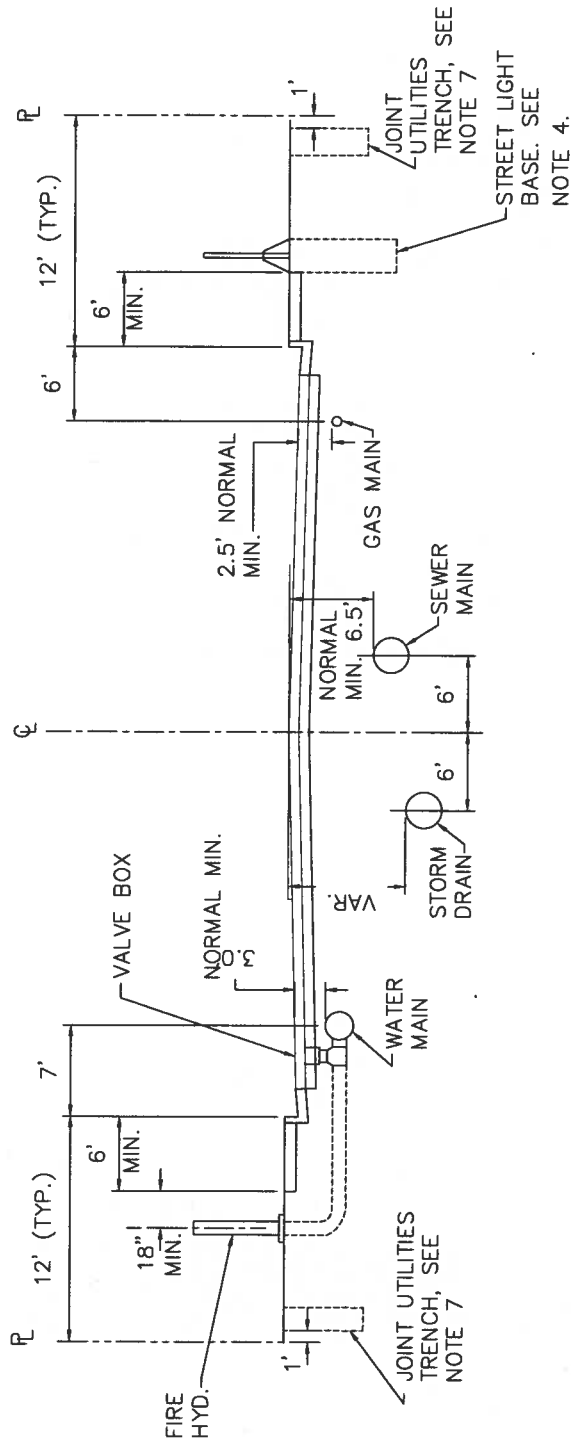
FIRE HYDRANT LOCATION
(ALTERNATE)

STD. NO.

209

NORTH SIDE OR EAST SIDE

SOUTH SIDE OR WEST SIDE



NOTES:

1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER AND SHOWN ON ANY PLANS SUBMITTED TO THE DEPT. OF PUBLIC WORKS FOR APPROVAL.
2. CHANGES MAY BE PERMITTED BY THE DEPT. OF PUBLIC WORKS IN CASES OF CONFLICTING FACILITIES.
3. CONFLICTS BETWEEN UTILITY COMPANY, FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.
4. STREET LIGHTS - ALTERNATE SIDE SPACING PER CITY POLICY.
5. STORM/SEWER MAIN MAY BE LOCATED 6' FROM MEDIAN CURB FACE.
6. TRENCH IN PAVEMENT METHOD FOR DRY UTILITY INSTALLATION SHALL BE PER STD 212C AND ONLY WHEN APPROVED BY THE CITY ENGINEER.
7. JOINT UTILITES WILL MOVE TO THE EDGE OF SIDEWALK WHEN SIDEWALK IS AGAINST THE R/W.

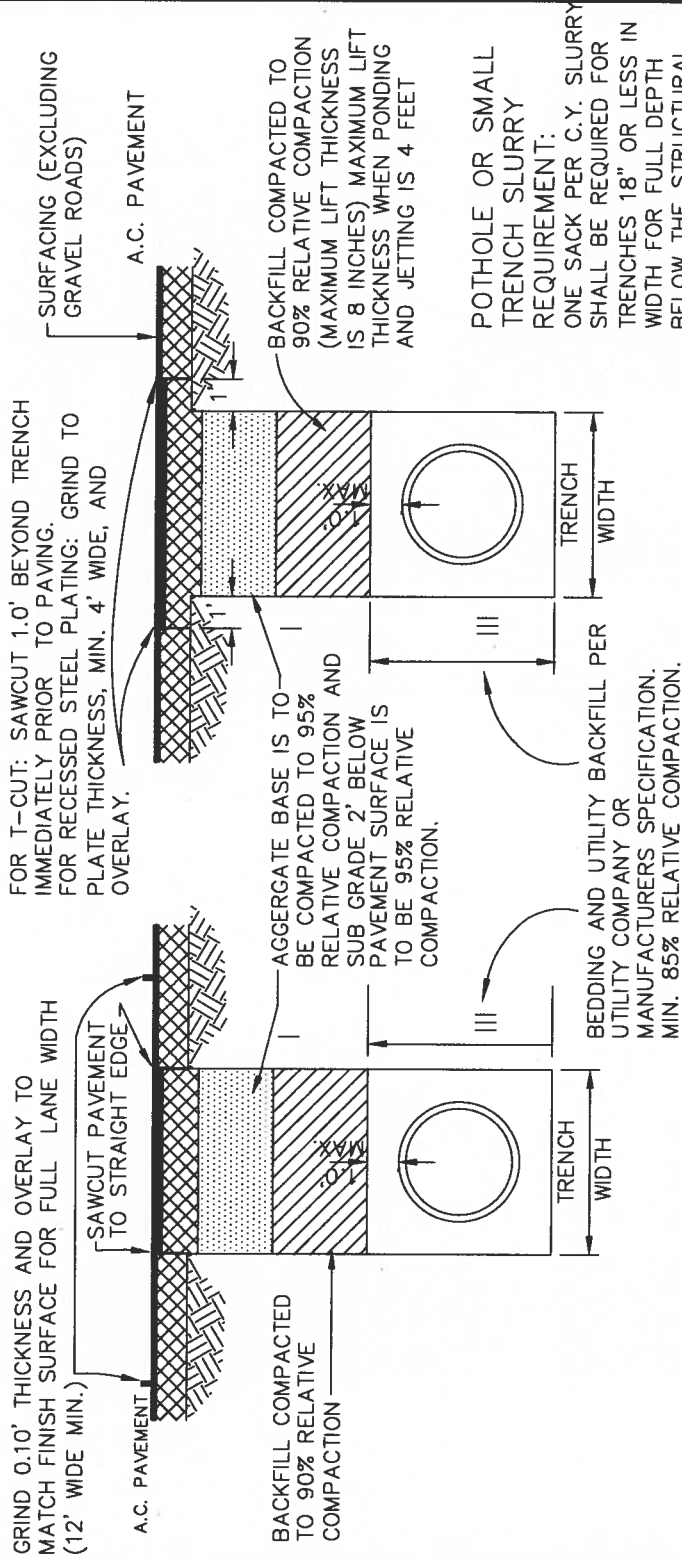
CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS	
5/92	
APPROVED 1/14/10	

UNDERGROUND UTILITY
LOCATION

STD. NO.
211

SURFACED STREETS



LONGITUDINAL CUTS

TRANSVERSE CUTS

- RECESSED STEEL PLATE NOTES:
1. STEEL PLATES TO COVER TRENCHING ACTIVITIES SHALL BE RECESSED IN THE ASPHALT PAVEMENT.
 2. STEEL PLATES SHALL BE DESIGNED FOR H-20 LOADING FOR THE APPROPRIATE TRENCH WIDTH. CERTIFICATION SHALL BE PROVIDED TO THE CITY ENGINEER UPON REQUEST.
 3. STEEL PLATES SHALL BE SKID RESISTANT.
 4. NO MORE THAN 50 LINEAR FEET OF STEEL PLATING SHALL BE INSTALLED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
 5. STEEL PLATES SHALL BE TACK WELDED OR PINNED TOGETHER.

- REPLACE STRUCTURAL SECTION AS FOLLOWS:
- I. STRUCTURAL ZONE
 - II. INTERMEDIATE ZONE
 - III. PIPE AND UTILITY ZONE SURFACE: EXISTING THICKNESS PLUS 1"
- BASE:
1. SAME TYPE AND THICKNESS AS EXISTING BASE MATERIAL, 6" MIN. OR AS DIRECTED

TRENCHING NOTE:
 ALL WET/DRY UNDERGROUND UTILITIES MUST BE INSTALLED PRIOR TO THE FINAL CAP LIFT OF ASPHALT PAVING TO AVOID NEW STREET IMPROVEMENTS FROM BEING DISTURBED BY CURBS, SAW CUTS, ROCK WHEELING, AND ALL OTHER EXCAVATIONS.

CITY OF MURRIETA DEPARTMENT OF PUBLIC WORKS

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5/92	
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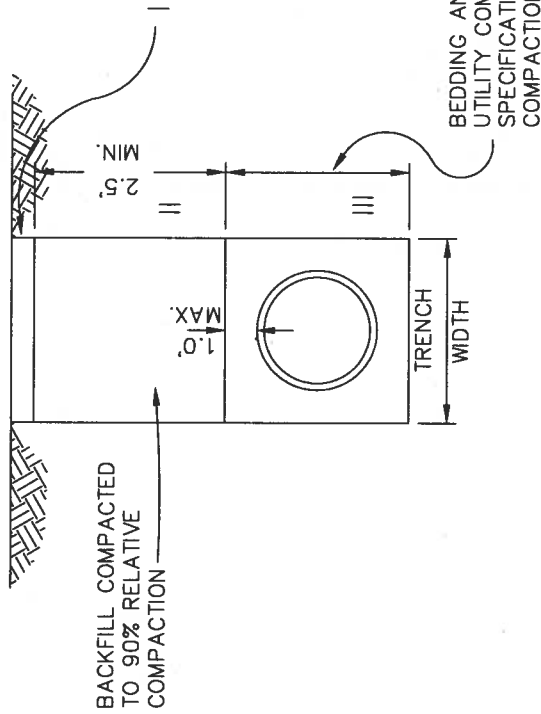
UTILITY TRENCH BACKFILL AND SURFACE RESTORATION

STD. NO.

212a

SHEET 1 OF 3

UNSURFACED MEDIANS
ROADSIDE STRIPS
AND EASEMENTS



REPLACE STRUCTURAL SECTION AS FOLLOWS:

SURFACE: 3" MINIMUM DG SURFACE IF WITHIN 12' OF PAVED SURFACE OR WITHIN ROADWAY SHOULDER

BASE: SAME TYPE AND THICKNESS AS EXISTING BASE MATERIAL, 6" MIN. OR AS DIRECTED

- I. STRUCTURAL ZONE
- II. INTERMEDIATE ZONE
- III. PIPE AND UTILITY ZONE

SUBGRADE NOTE:
WHEN A FIRM FOUNDATION IS NOT ENCOUNTERED, DUE TO SOFT, SPONGY OR OTHER UNSUITABLE MATERIAL, SUCH MATERIAL SHALL BE REMOVED AND THE RESULTING EXCAVATION BACKFILLED WITH SAND SLURRY OR PIPE BEDDING MATERIAL TO THE SATISFACTION OF THE CITY ENGINEER. (SEE SECTION 306-1.2.1, STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK))

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

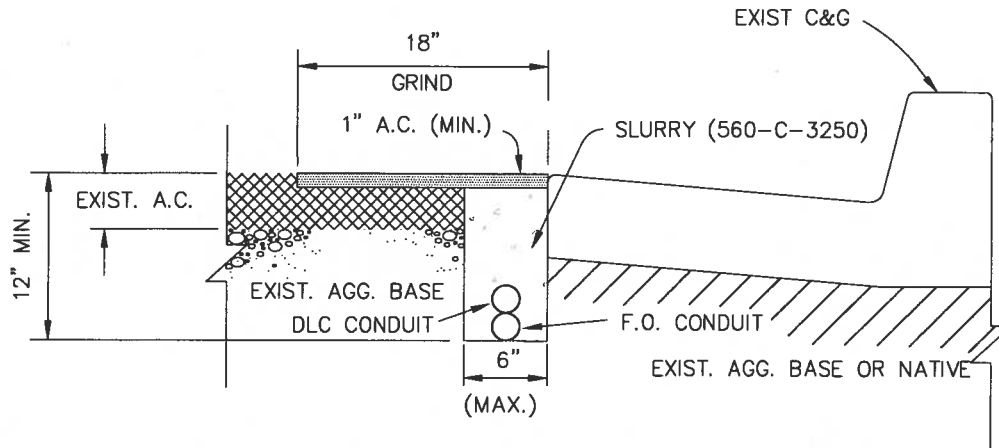
REVISIONS	
5/92	
APPROVED 1/14/10	

**UTILITY TRENCH BACKFILL
AND SURFACE RESTORATION**

STD. NO.

212b

SHEET 2 OF 3



TRENCH IN PAVEMENT METHOD

NOTES:

1. TRENCHING IN PAVEMENT SHALL ONLY BE USED WHEN DIRECTIONAL BORING AND TRENCHING BEHIND THE CURB METHODS ARE NOT FEASIBLE DUE TO SITE CONSTRAINTS, SUBJECT TO APPROVAL BY CITY ENGINEER.
2. USE ROCKWHEEL FOR TRENCH EXCAVATION.
3. CEMENT SLURRY SHALL HAVE A MAXIMUM SLUMP OF FOUR (4) INCHES.
4. CEMENT SLURRY BACKFILL SHALL BE THOROUGHLY CONSOLIDATED TO ENCASE CONDUIT(S). TAMPERS OR VIBRATORS SHALL BE USED.
5. CEMENT SLURRY BACKFILL SHALL BE CLASS 560-C-3250.
6. A TACK COAT SHALL BE APPLIED TO THE CEMENT SLURRY BACKFILL AND EXISTING ASPHALT PAVEMENT PRIOR TO PLACING THE NEW ASPHALT SURFACE.
7. ALLOW CEMENT SLURRY BACKFILL SEVEN DAYS MINIMUM TO CURE BEFORE PLANING.
8. PLANE EXISTING ASPHALT PAVEMENT AND SLURRY BACKFILL ONE (1) INCH MINIMUM NOT TO EXCEED TWO (2) INCHES.
9. A.C. SHALL BE HOT MIX.
10. A.C. RESURFACING SHALL BE SEALED.
11. TRENCHING IN PAVEMENT WILL REQUIRE A MINIMUM 18-INCH GRIND AND CAP FOR FINISH RESTORATION.

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

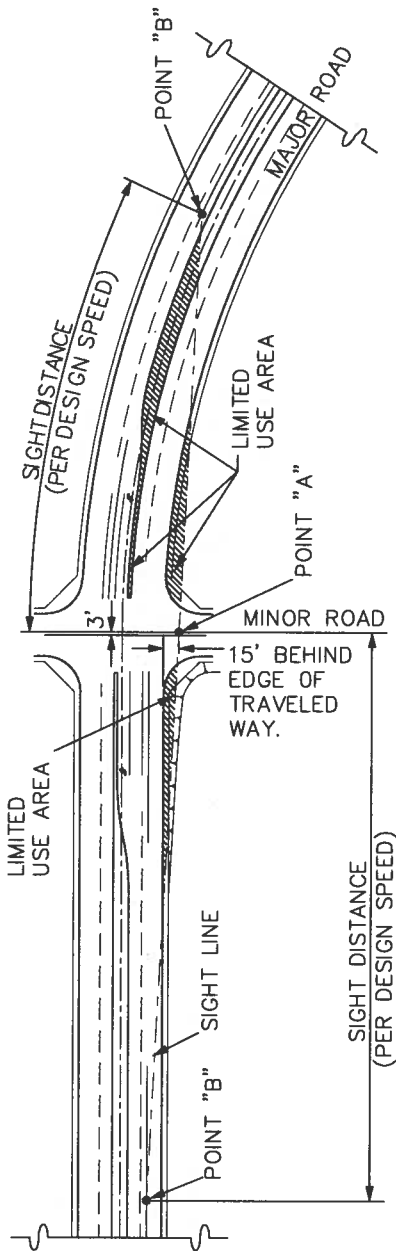
REVISIONS	
APPROVED 1/14/10	

**UTILITY TRENCH BACKFILL
AND SURFACE RESTORATION**

STD. NO.

212c

SHEET 3 OF 3



LEGEND:

- LIMITED USE AREA
- SIGHT LINE
- CENTERLINE OF ROADWAY
- CENTERLINE OF TRAFFIC LANE

POINT "A": DRIVER'S VANTAGE POINT.

POINT "B": THE REQUIRED SIGHT DISTANCE POINT, MEASURED ALONG THE CENTERLINE OF THE NEAREST LANE OF APPROACHING TRAFFIC.

NOTES: NOT TO SCALE

1. THE LIMITED USE AREA IS DETERMINED BY THE GRAPHICAL METHOD. IT SHALL BE USED FOR THE PURPOSE OF PROHIBITING OR CLEARING OBSTRUCTIONS TO MAINTAIN ADEQUATE SIGHT DISTANCE AT INTERSECTIONS.
2. LIMITED USE AREA TO BE KEPT CLEAR OF ALL OBSTRUCTIONS OVER 30 INCHES HIGH, INCLUDING VEGETATION.
3. NO TREES, WALLS, OR ANY OBSTRUCTIONS SHALL BE ALLOWED IN THE LIMITED USE AREA.
4. THE TOE OF SLOPE SHALL NOT ENCRUCH INTO THE LIMITED USE AREA
5. THE SIGHT DISTANCE SHALL BE MEASURED ALONG THE CENTERLINE OF THE ROAD.
6. POINT "A" IS THE LOCATION OF THE DRIVER'S EYE, MEASURED 15 FEET BACK FROM THE EDGE OF THE TRAVELED WAY. (6 FEET FROM ETW, 1 FOOT STOP BAR, AND 8 FEET FROM FRONT BUMPER TO DRIVER.) IF THE STOP BAR IS MORE THAN 6 FEET FROM THE ETW, ADDITIONAL ALLOWANCE SHOULD BE CONSIDERED.
7. POINT "B" IS THE REQUIRED SIGHT DISTANCE POINT LOCATED ALONG THE CENTER OF THE NEAREST TRAFFIC LANE.
8. THE LINE OF SIGHT SHALL BE SHOWN AT INTERSECTIONS ON TENTATIVE MAPS, SITE PLANS, GRADING PLANS, STREET PLANS, AND LANDSCAPE PLANS.
9. CORNER SIGHT DISTANCE IS MEASURED FROM A 3.5 FOOT HEIGHT AT THE LOCATION OF THE DRIVER'S EYE ON THE MINOR ROAD, TO A 4.25 FOOT OBJECT HEIGHT IN THE CENTER OF THE NEAREST TRAFFIC LANE OF THE MAJOR ROAD.
10. WHEN AN INTERSECTION IS LOCATED ON A VERTICAL CURVE, A PROFILE OF THE SIGHT LINE SHALL BE PROVIDED.
11. IF DESIGNING A MINOR ROAD OR DRIVEWAY FOR TRUCK TRAFFIC, OR DOWNGRADES STEEPER THAN 3% AND LONGER THAN 1 MILE, ADDITIONAL SIGHT DISTANCE MAY BE REQUIRED AS DETERMINED BY THE CITY ENGINEER.

DESIGN SPEED (M.P.H.)	CORNER SIGHT DIST. (FT.)	STOPPING SIGHT DIST. (FT.)
25	275	150
30	330	200
35	385	250
40	440	300
45	495	360
50	550	430
55	605	500
60	660	580

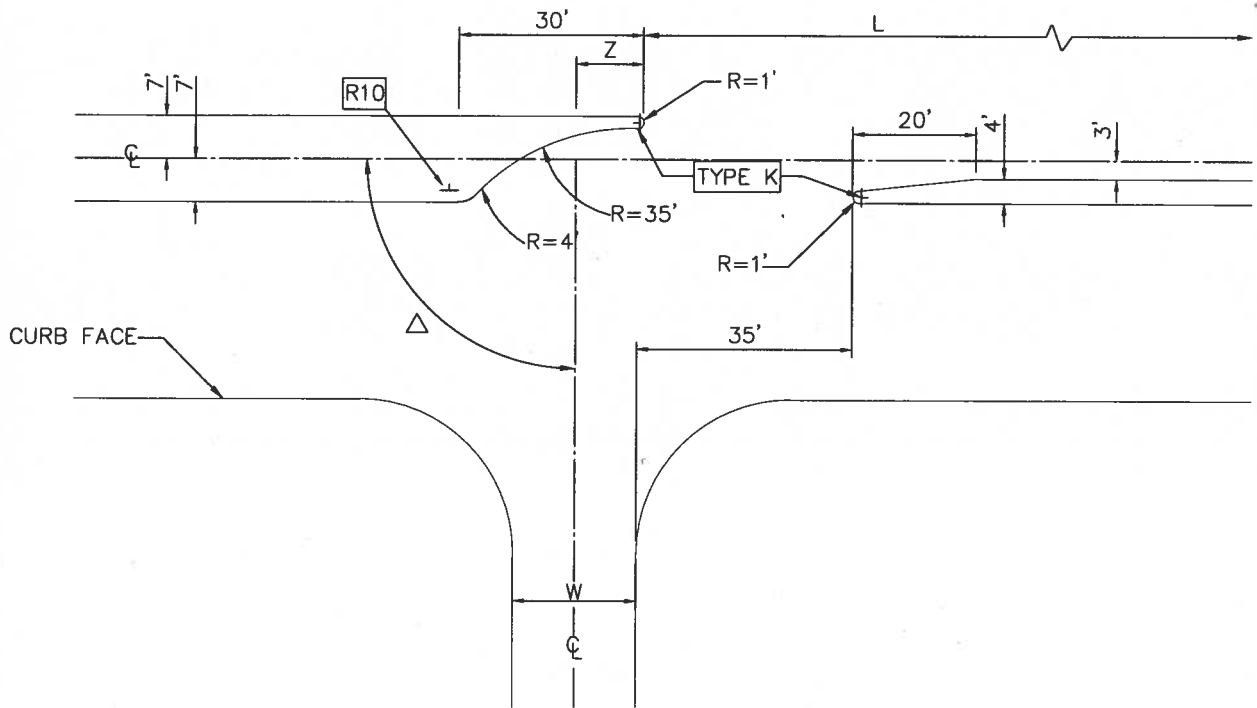
**CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS**

REVISIONS	
5/92	
APPROVED 1/14/10	

INTERSECTION SIGHT DISTANCE

STD. NO.

214



NOTES:

$Z = W/2$

W = INTERSECTION STREET OR DRIVEWAY WIDTH (CURB TO CURB)

Δ = ANGLE OF INTERSECTION

L = POCKET LENGTH AS SHOWN PER PLANS

R = CURB RETURN RADIUS

t = TRAFFIC SIGN INSTALLED ON RAISED MEDIAN

= SIGN TYPE PER CALTRANS STANDARD

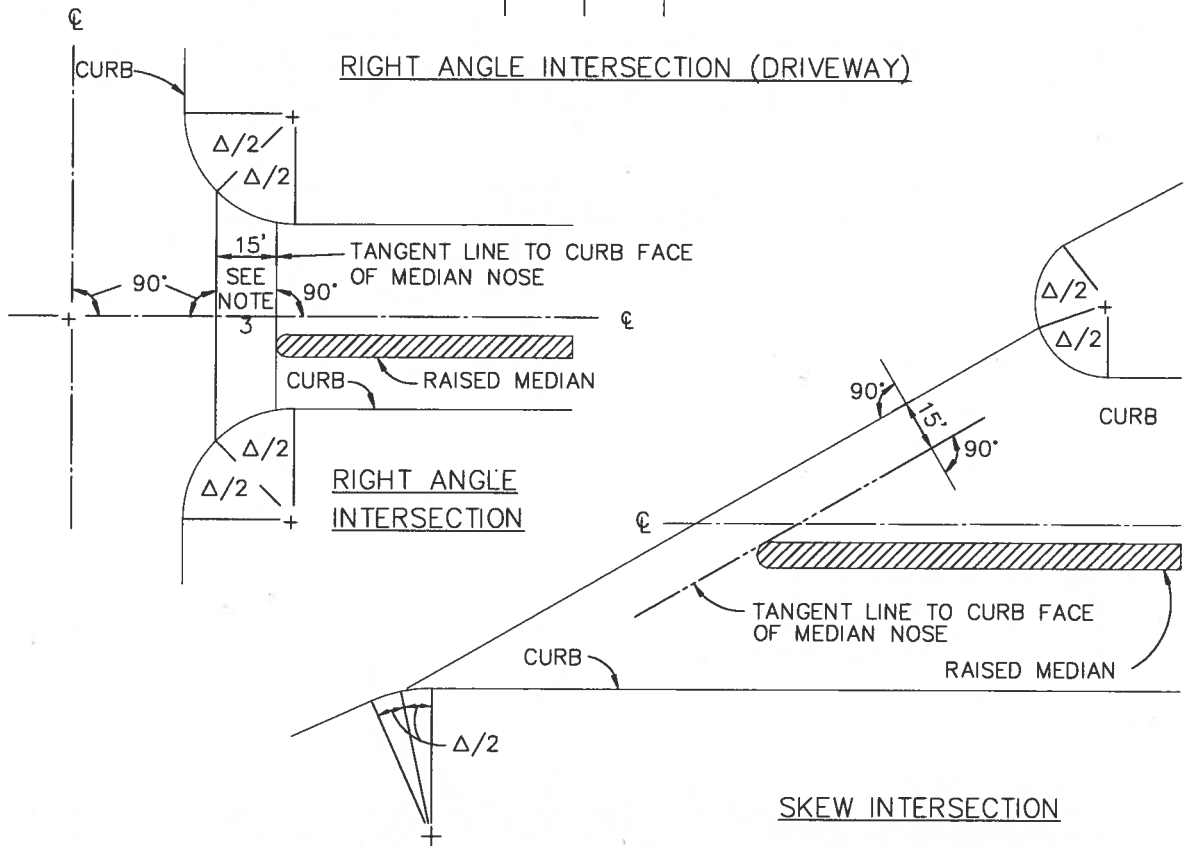
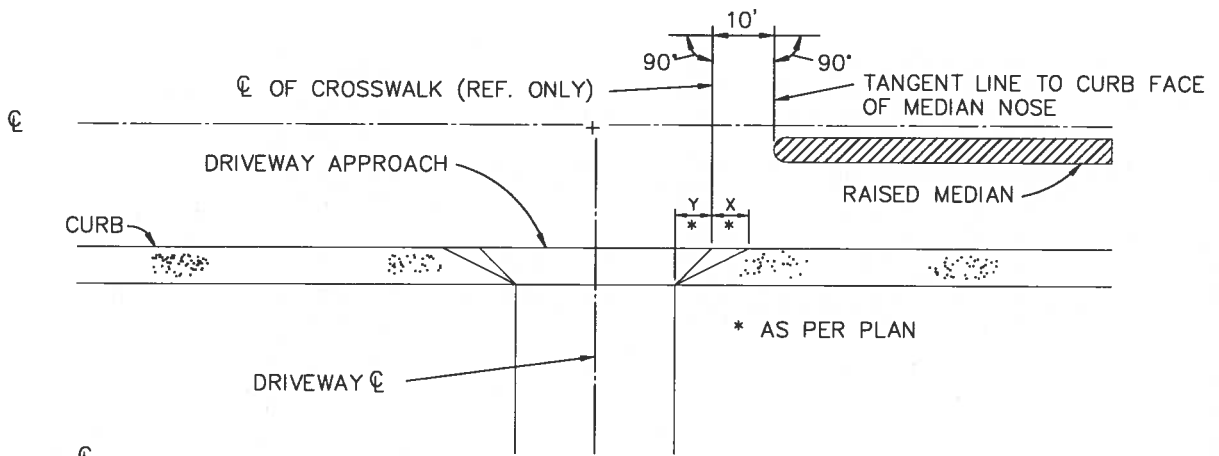
CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS	
5/92	
APPROVED 1/14/10	

**LEFT TURN IN ONLY
MEDIAN OPENING**

STD. NO.

215



NOTE:

1. EXTEND DOUBLE YELLOW STRIPING FROM MEDIAN NOSE TO CROSSWALK OR TO $\Delta/2$ IF THERE IS NO CROSSWALK.
2. INSTALL MEDIAN NOSE MARKERS PER STANDARD 610.
3. DISTANCE FROM MEDIAN NOSE TO CROSSWALK IS MINIMUM. VERIFY DISTANCE WITH A TRUCK TURNING TEMPLATE.

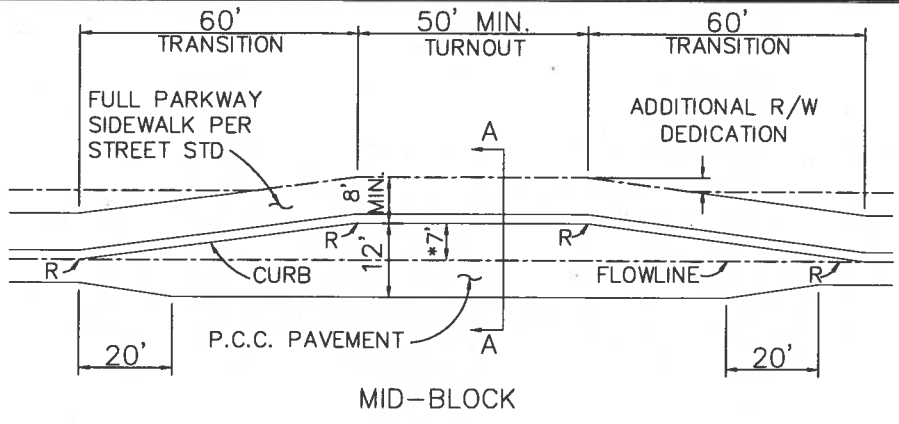
CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS	
5/92	
APPROVED 1/14/10	

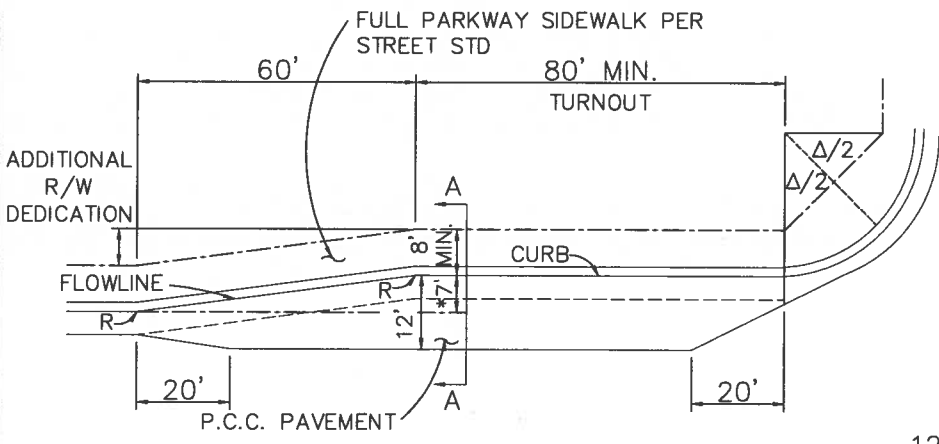
**RAISED MEDIAN NOSE
LOCATION**

STD. NO.

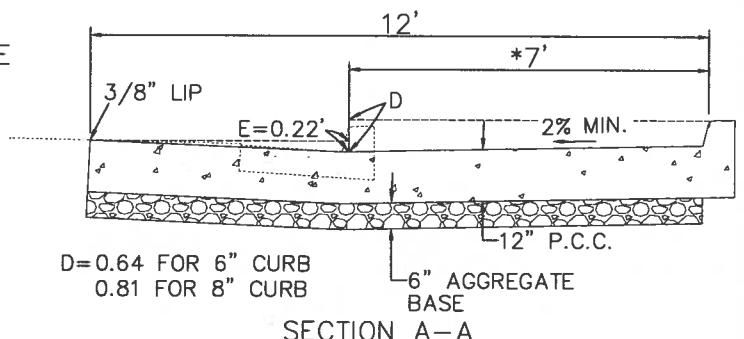
216



MID-BLOCK



FAR SIDE



D=0.64 FOR 6" CURB
0.81 FOR 8" CURB

6" AGGREGATE BASE

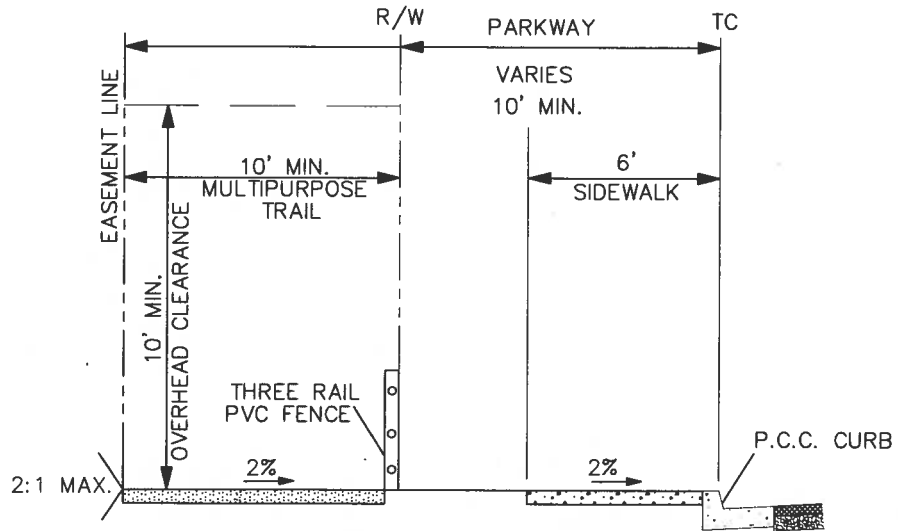
SECTION A-A

NOTES:

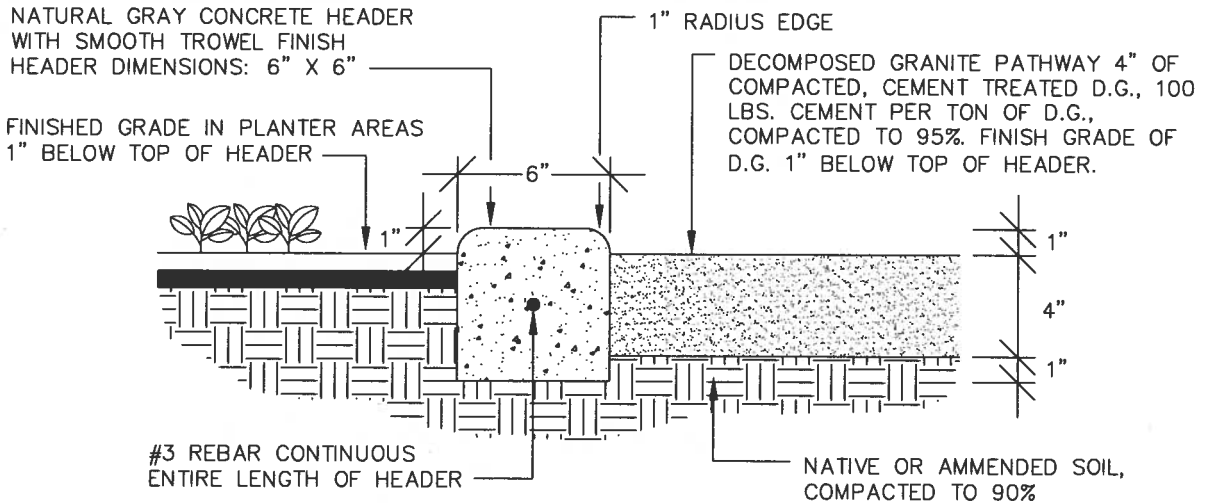
1. R=50'
 2. P.C.C. PAVEMENT THICKNESS SHALL BE BY DESIGN APPROVED BY THE CITY ENGINEER.
 3. BUS SHELTERS SHALL BE SET BACK FROM THE FACE OF THE CURB A MINIMUM CLEAR DISTANCE OF FOUR (4) FEET FOR PEDESTRIAN TRAVELWAY.
 4. CURB SHALL BE POURED MONOLITHIC WITH P.C.C. PAVEMENT.
 5. MODIFICATIONS OF THIS STANDARD SHALL BE REVIEWED FOR ACCEPTABILITY BY THE CITY ENGINEER.
 6. CONSTRUCT CONTROL JOINTS AT 10' INTERVALS.
 7. CATCH BASINS SHOULD NOT BE LOCATED IN BUS TURNOUTS IF POSSIBLE.
 8. DRIVEWAYS MAY NOT BE LOCATED IN BUS TURNOUTS.
 9. CONCRETE SHALL BE 560-C-3250.
 10. BUS TURNOUTS IN SUPERELEVATED STREETS SHALL REQUIRE A SPECIAL DESIGN AS APPROVED BY THE CITY ENGINEER.
- * FOR BUS TURNOUT ON STREET STD 103, USE 5'. ADJUST DIMENSIONS D AND E ACCORDINGLY.

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

REVISIONS		BUS TURNOUT	STD. NO.
5/92			217
APPROVED 1/14/10			



MULTIPURPOSE TRAIL SECTION



HEADER DETAIL

NOTE:

1. ALL IRRIGATION PIPING AND WIRES ROUTED UNDER D.G. PATHWAYS AND CONCRETE HEADERS SHALL BE INSTALLED INSIDE SCH. 40 SLEEVES AS IF UNDER PAVING.
2. CONCRETE HEADER SHALL BE INSTALLED ON BOTH SIDES OF D.G. PATHWAY.
3. THREE RAIL FENCE PER STANDARD 218b.

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

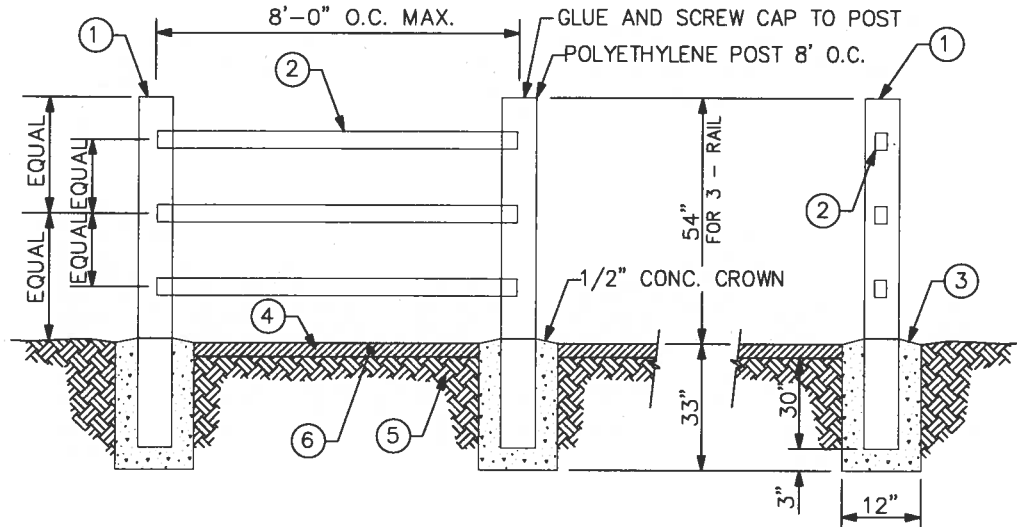
REVISIONS	
5/92	
10/98	
APPROVED 1/14/10	

**EQUESTRIAN TRAIL EASEMENT
ADJACENT TO PUBLIC STREET**

STD. NO.

218a

SHEET 1 OF 2



LEGEND:

1. 6 INCH SQUARE PVC POST WITH CAP @ 8'-0" O.C. MAXIMUM EMBED INTO FOOTING 30" MIN. CAPS TO BE SECURELY ATTACHED TO POSTS WITH GLUE AND SCREWS ON FOUR SIDES.
2. 2" X 6" NOMINAL PVC RAILS ATTACHED TO POST. ROUTE RAIL SLOTS ON POST AS REQ'D. TO ALLOW FOR ELEVATION CHANGES BETWEEN POST-TYPICAL. (2 RAIL FENCING ALLOWED ON A PROJECT SPECIFIC BASIS.
3. 12 INCH DIA. 33 INCH DEEP CONCRETE FOOTING.
4. FINISH GRADE.
5. COMPACTED PER SOIL ENGINEER'S REPORT. STERILIZE SOIL UNDER TRAIL SECTION AS REQUIRED.
6. DECOMPOSED GRANITE, SEE 218a.
7. PVC POSTS AND RAILS TO BE WHITE OR AS APPROVED BY CITY ENGINEER.

NOTES:

1. OMIT FENCE WITHIN SIGHT DISTANCE RESTRICTED USE AREAS.

**CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS**

REVISIONS	EQUESTRIAN TRAIL EASEMENT ADJACENT TO PUBLIC STREET	STD. NO.
		218b
		SHEET 2 OF 2
APPROVED 1/14/10		