

Standard Drawings



Adopted October 24, 2018

1) Sidewalk Transitions

- a: Located adjacent to the top of ramp as needed
- b: 48" minimum width
- c: 1.5% (1:66) maximum cross slope
- d: 5.00% (1:20) maximum parallel slope

2) Landings

- a: Located above the ramp (as shown in details)
- b: 48" minimum clear space in all directions
- c: 1.5% (1:66) maximum parallel and cross slope

3) Ramps

- a: Located above pan or below landing
- b: 48" minimum width
- c: 1.5% (1:66) maximum cross slope
- d: 7.5% (1:13) maximum slope
- e: All ramps shall have a Detectable Warning Surface(truncated domes) and shall be placed on the ramp unless the ramp is connected to a pan.
- f: Transition to gutter shall be flush and free of abrupt changes

4) Pans

- a: Located below ramp (as shown in details)
- b: 48" minimum at back of pan
- c: 54" minimum from back of pan to flow line
- d: 1.5% (1:66) maximum cross slope
- e: On corners, pan boundaries are to be radial
- f: Transitions to gutter shall be flush and free of abrupt charges.
- g: All pans shall have a Detectable Warning Surface (truncated domes).

5) Flares

- a: Located adjacent to ramp (as shown in details)
- b: Required between ramps where there is no planter area
- c: Required on the exterior of ramps where there is an adjacent concrete sidewalk, regardless of obstacles
- d: Shall also have at least 24" long segment of straight curb located on each side of the curb ramp and within marked crossings.
- e: Generally triangular in nature
- f: 9% (1:11) maximum slope when not in the path of travel
- g: 7.5% (1:13) maximum slope when flare is in the path of travel

6) Gutters

- a: Adjacent to ramp or pan
- b: 5% (1:20) maximum slope for 4' out from flow line
- c: Transition to ramp or pan shall be flush and free of abrupt changes

7) Retaining Curbs

- a: Required adjacent to sidewalk transitions, landings, ramps and pans where the existing landscape (planter area) is 1" or higher at any point above the newly constructed curb ramp element
- b: Required for existing planter areas between ramps
- c: Retaining curbs are to have a 6" width and a vertical face
- d: Retaining curb foundations are to extend 8" below the adjacent ramp element surface
- e: Outside corners of retaining curbs must have a 6" radius

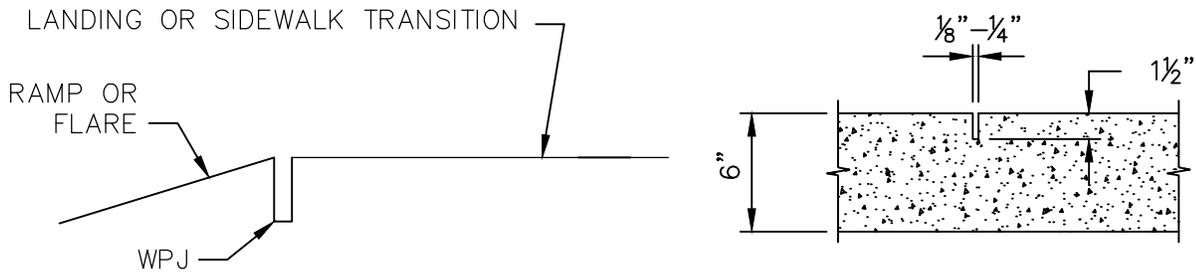
8) Detectable Warnings

- a: Placement of detectable warnings shall be per drawings AR - 3.2
- b: 6" from the flow line
- c: 3' depth x full width
- d: Detectable Warning requirements, see AR - 3.1
- e: Certification Form, see AR - 3.1C

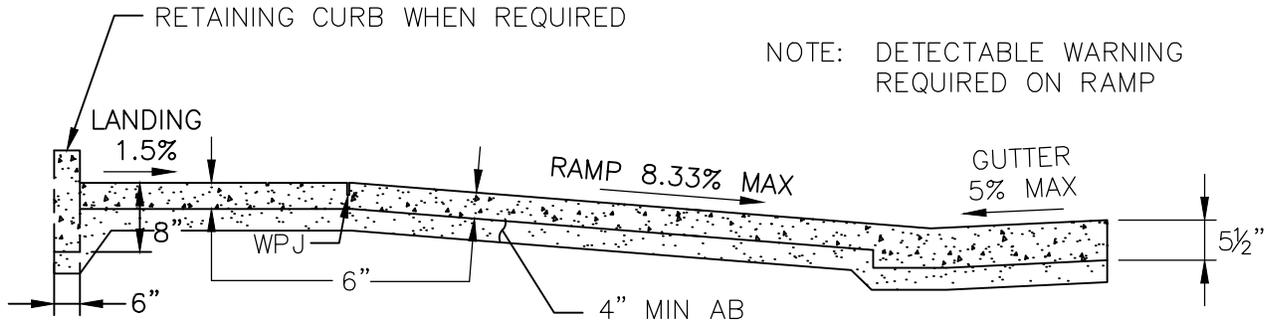
General Notes:

1. Dual curb ramps are required unless otherwise approved by the Engineer.
2. All elements, except gutters and retaining curbs, must be constructed planar in nature with weakened plane joints scored between each element.
3. When feasible, opposing curb ramps shall align.
4. These Elements, Definitions and Standards, General Details, and Standard Drawings shall apply to all curb and gutter types.
5. There are variations and adjustments that may be required upon the approval of the Engineer.

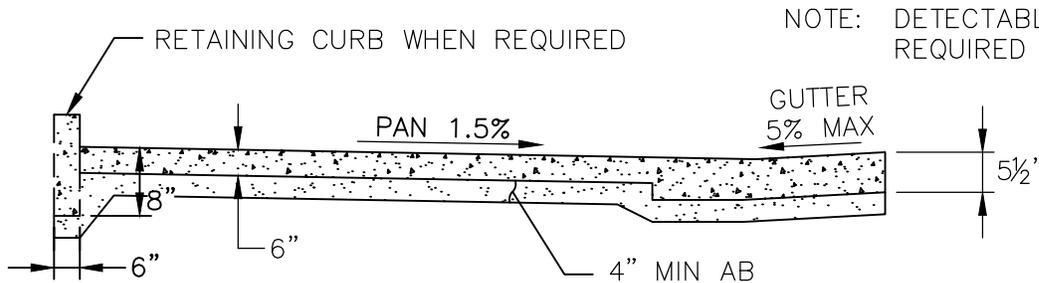
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	CURB RAMP ELEMENTS DEFINITIONS AND STANDARDS		CITY ENGINEER	DATE
						DRAWING NUMBER	
						AR - 2.0	
							



WEAKENED PLANE JOINT (WPJ)



TYPICAL CROSS SECTION FOR CENTER LINE OF FLARE, COMBO OR PLANTER STRIP CURB RAMP



TYPICAL CROSS SECTION FOR CENTER LINE OF PAN CURB RAMP

NOTES:

- A. SURFACE OF RAMPS AND PANS SHALL HAVE A TRANSVERSE BROOM SURFACE TEXTURE ROUGHER THAN ADJACENT SIDEWALK.
- B. COLORING SHALL BE ADDED TO NEW CONCRETE AS NECESSARY TO MATCH EXISTING COLOR.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	CURB RAMP GENERAL DETAILS		CITY ENGINEER	DATE
						DRAWING NUMBER	
						AR - 3.0	

Approved CBC Detectable Warnings must meet the following Criteria:

A) A Written 5 Year Product Warranty for Shape, Color Fastness, Sound-on-Cane Acoustic Quality, Resilience, and Attachment:

- 1) **Shape:**
Must be able to retain its original shape when subjected to varying degrees of temperature, moisture, pressure, or other stress.
- 2) **Color Fastness:**
The ability of the material or coating to retain its original hue without fading or changing when exposed to environmental conditions.
- 3) **Sound-on-Cane Acoustic Quality:**
The ability of a material to retain its original sound characteristics when impacted by an object.
- 4) **Resilience:**
The ability of the material to absorb energy when deformed elastically without creating a permanent deformation.
- 5) **Attachment:**
Attachment will not degrade significantly for at ***least five (5) years after initial installation*** — meaning the product maintains at least 90% of original product and bond. Bolt down products shall not be used.

B) Confirmation — A written dimensional specifications:

A written dimensional specifications of the truncated domes and raised bars as specified in the codes—see below dimensions:

- 1) **Base Diameter:** 0.9" to 0.92"
- 2) **Top Diameter:** 0.45" to 0.47"
- 3) **Center-to-Center Spacing:** 2.3" to 2.4"
- 4) **Height:** 0.18" to 0.22"

C) Light on Dark or Dark on Light:

70% contrast with adjoining surfaces - Contrast = $[(B1-B2)/B1] \times 100$ percent, where B1=light reflectance value (LRV) of the lighter area, B2=light reflectance value (LRV) of the darker area

D) Methods of installations:

Cast-in-place (required for all new construction) or Surface mount (retrofit only)

E) Size:

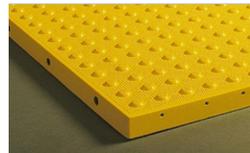
3' depth by full width

F) Color:

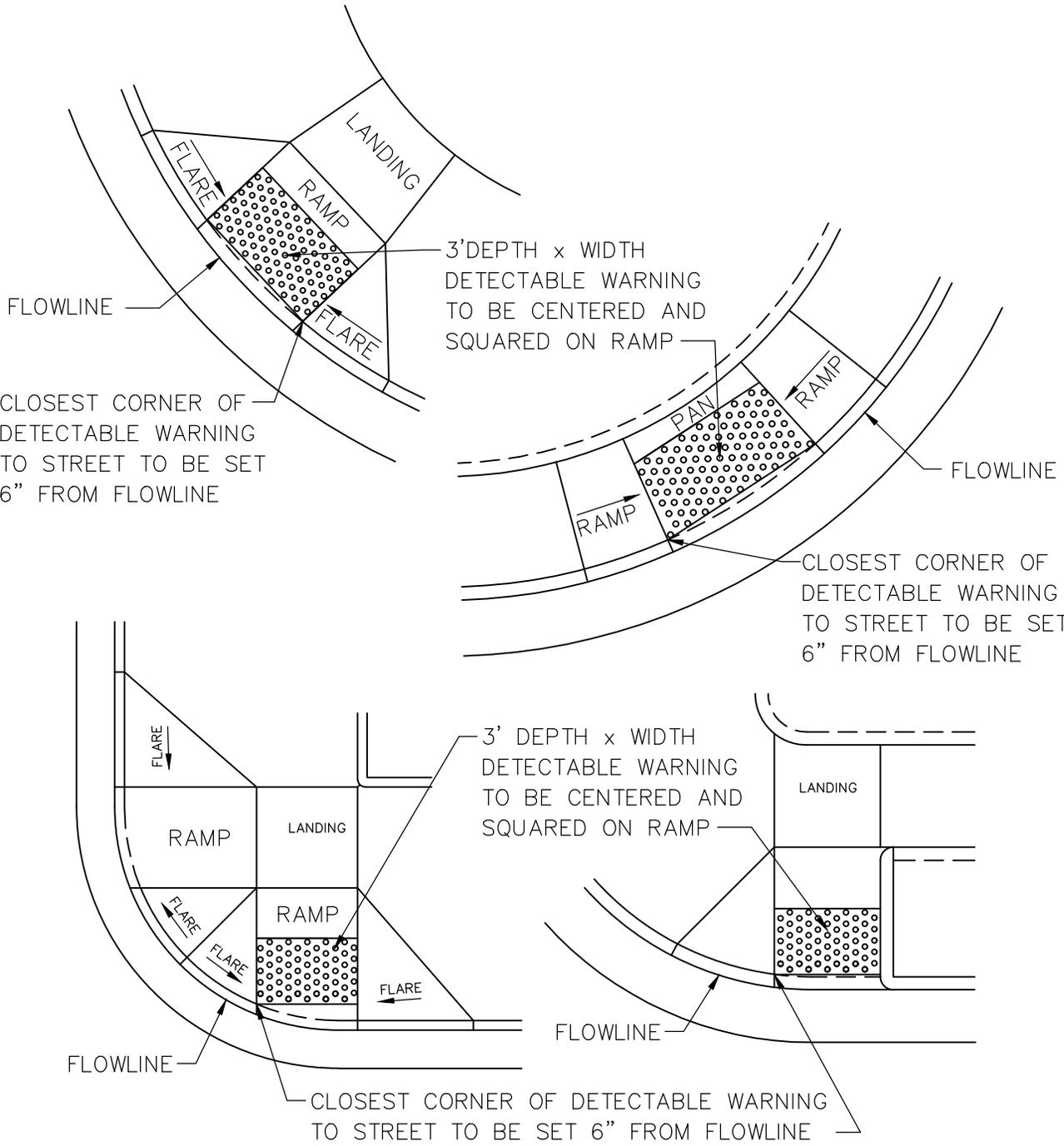
Color shall be yellow color no. 33538 of FED-STD-595 unless specified otherwise

G) Approval

Armor-Tile or equal as approved by City



DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	DETECTABLE WARNING SPECIFICATIONS		CITY ENGINEER	DATE
						DRAWING NUMBER	
						AR - 3.1	



DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**DETECTABLE WARNING
STANDARD LAYOUT**

APPROVED BY: _____

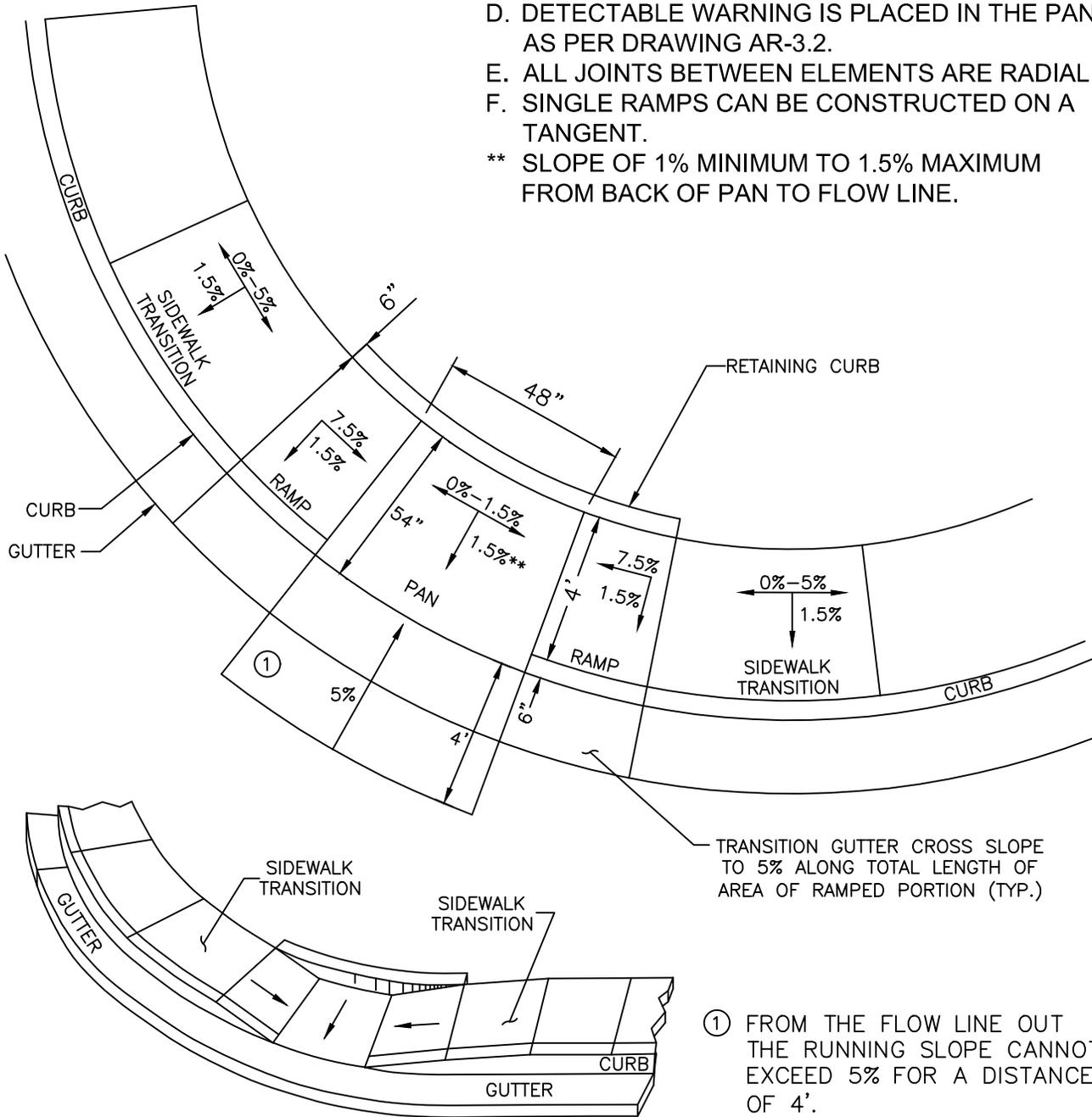
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
AR - 3.2



NOTES:

- A. ALL SLOPES SHOWN ARE MAXIMUMS.
 - B. ALL DIMENSIONS SHOWN ARE MINIMUMS.
 - C. ALL PANS MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
 - D. DETECTABLE WARNING IS PLACED IN THE PAN AS PER DRAWING AR-3.2.
 - E. ALL JOINTS BETWEEN ELEMENTS ARE RADIAL.
 - F. SINGLE RAMPS CAN BE CONSTRUCTED ON A TANGENT.
- ** SLOPE OF 1% MINIMUM TO 1.5% MAXIMUM FROM BACK OF PAN TO FLOW LINE.



① FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 5% FOR A DISTANCE OF 4'.

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

SINGLE PAN CURB RAMPS

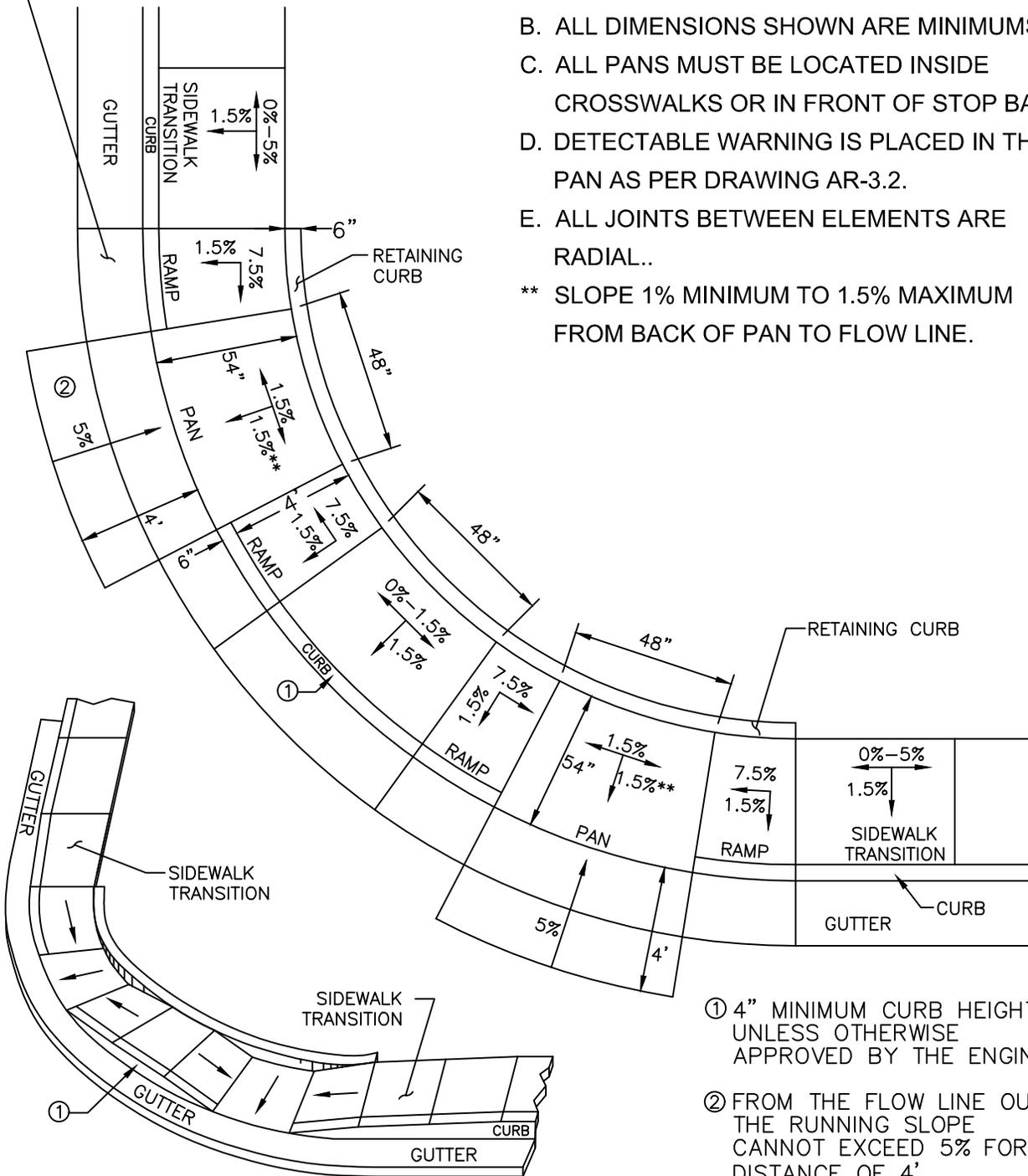
APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER
AR - 4.0



TRANSITION GUTTER CROSS SLOPE TO 5% ALONG TOTAL LENGTH OF AREA OF RAMPED PORTION (TYP.)



NOTES:

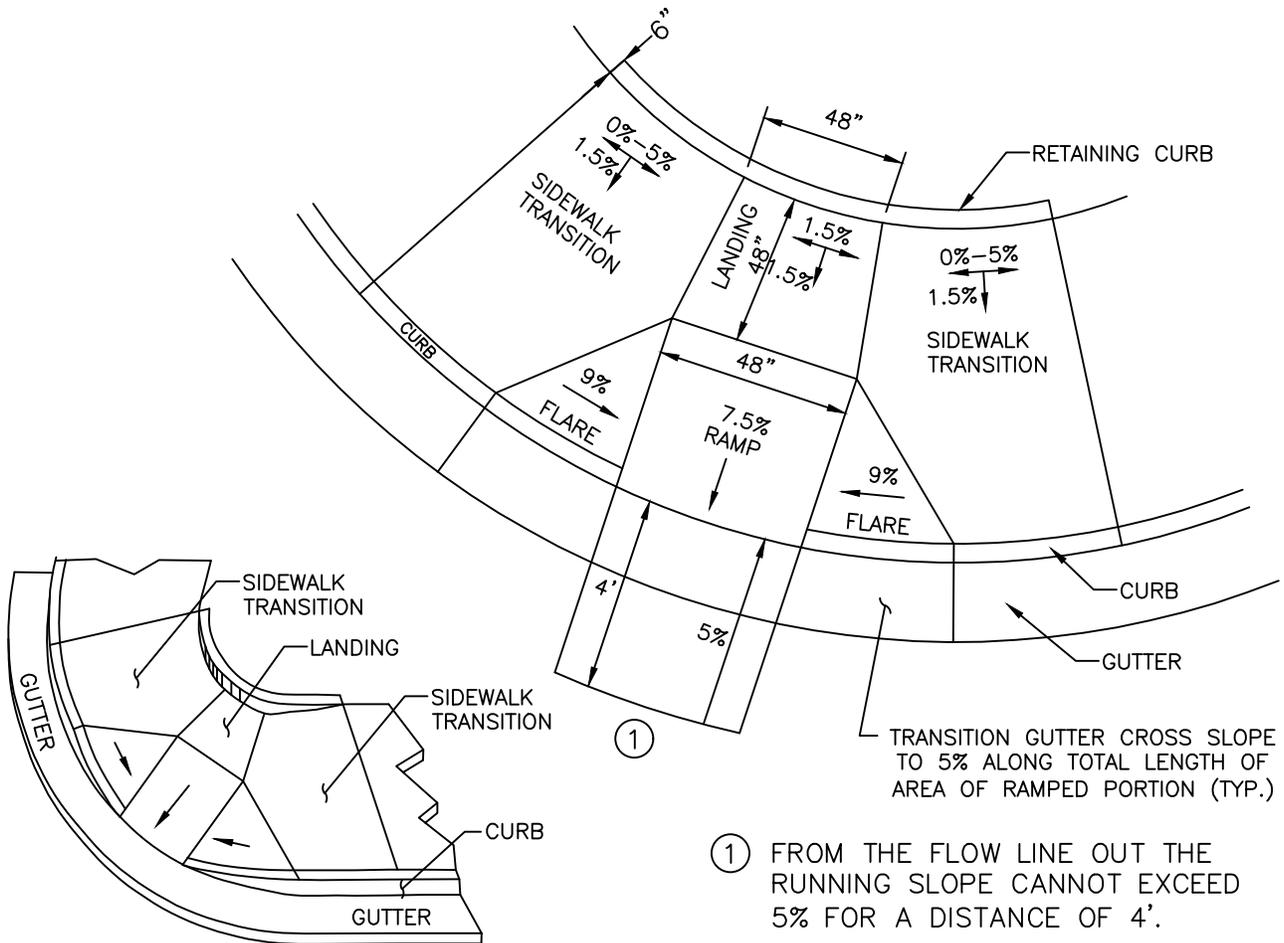
- A. ALL SLOPES SHOWN ARE MAXIMUMS.
- B. ALL DIMENSIONS SHOWN ARE MINIMUMS.
- C. ALL PANS MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
- D. DETECTABLE WARNING IS PLACED IN THE PAN AS PER DRAWING AR-3.2.
- E. ALL JOINTS BETWEEN ELEMENTS ARE RADIAL..
- ** SLOPE 1% MINIMUM TO 1.5% MAXIMUM FROM BACK OF PAN TO FLOW LINE.

- ① 4" MINIMUM CURB HEIGHT, UNLESS OTHERWISE APPROVED BY THE ENGINEER
- ② FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 5% FOR A DISTANCE OF 4'.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	DUAL PAN CURB RAMPS		CITY ENGINEER	DATE
						DRAWING NUMBER	
						AR - 4.1	
							

NOTES:

- A. ALL SLOPES SHOWN ARE MAXIMUMS.
- B. ALL DIMENSIONS SHOWN ARE MINIMUMS.
- C. ALL PANS MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
- D. DETECTABLE WARNING IS PLACED IN THE PAN AS PER DRAWING AR-3.2.
- E. ALL JOINTS BETWEEN ELEMENTS ARE RADIAL.
- F. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.
- G. SINGLE RAMPS CAN BE CONSTRUCTED ON A TANGENT.
- H. ALL RAMPS WILL HAVE A 48" X 48" MINIMUM LANDING AT THE TOP.

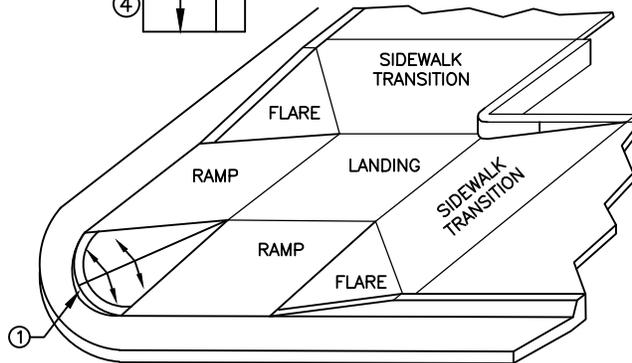
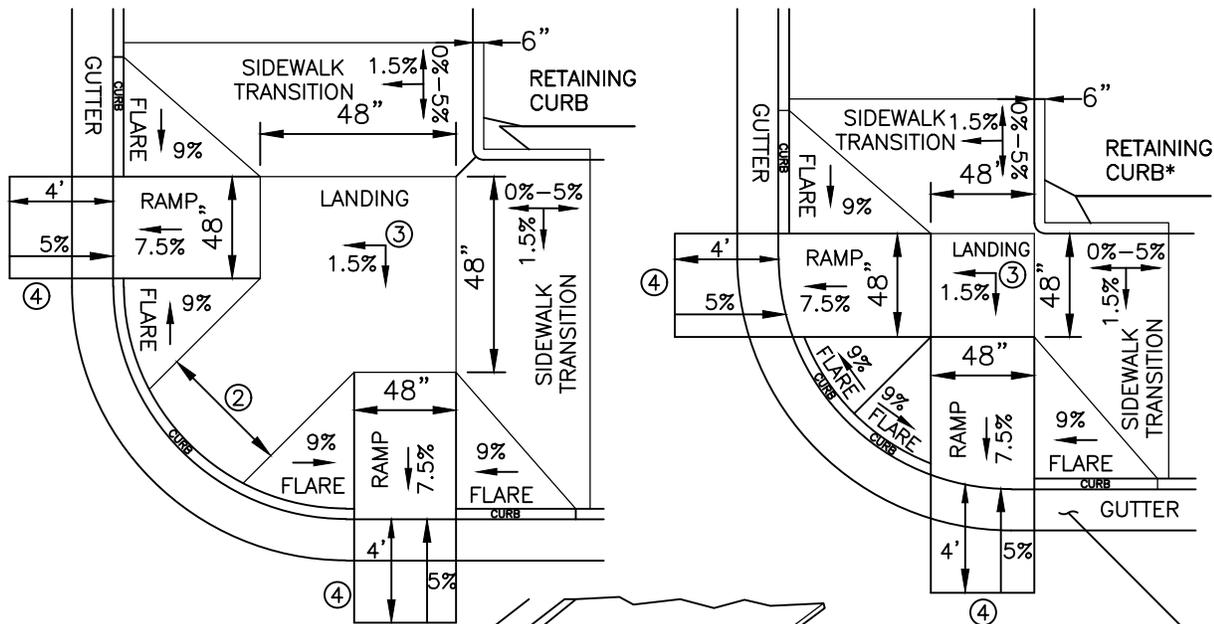


DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	<h3>SINGLE FLARE CURB RAMP</h3> DRAWING NUMBER <h2>AR - 4.2</h2>			
				CITY ENGINEER		DATE	

NOTES:

- A. ALL SLOPES SHOWN ARE MAXIMUMS.
- B. ALL DIMENSIONS SHOWN ARE MINIMUMS.
- C. THE RAMP MUST BE LOCATED INSIDE CROSSWALKS OR PRIOR TO STOP BARS.
- D. DETECTABLE WARNING SURFACE IS PLACED IN THE RAMP PER STANDARD DRAWING AR-3.2.
- E. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.

- ① 4" MINIMUM CURB HEIGHT DESIRABLE - 9% MAX SLOPE CONTROLS CURB HEIGHT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ② NO MINIMUM DIMENSION. FLARES CAN INTERSECT.
- ③ ALL RAMPS WILL HAVE A MINIMUM OF 48" x 48" LANDING. TWO RAMPS CAN SHARE ONE LANDING.



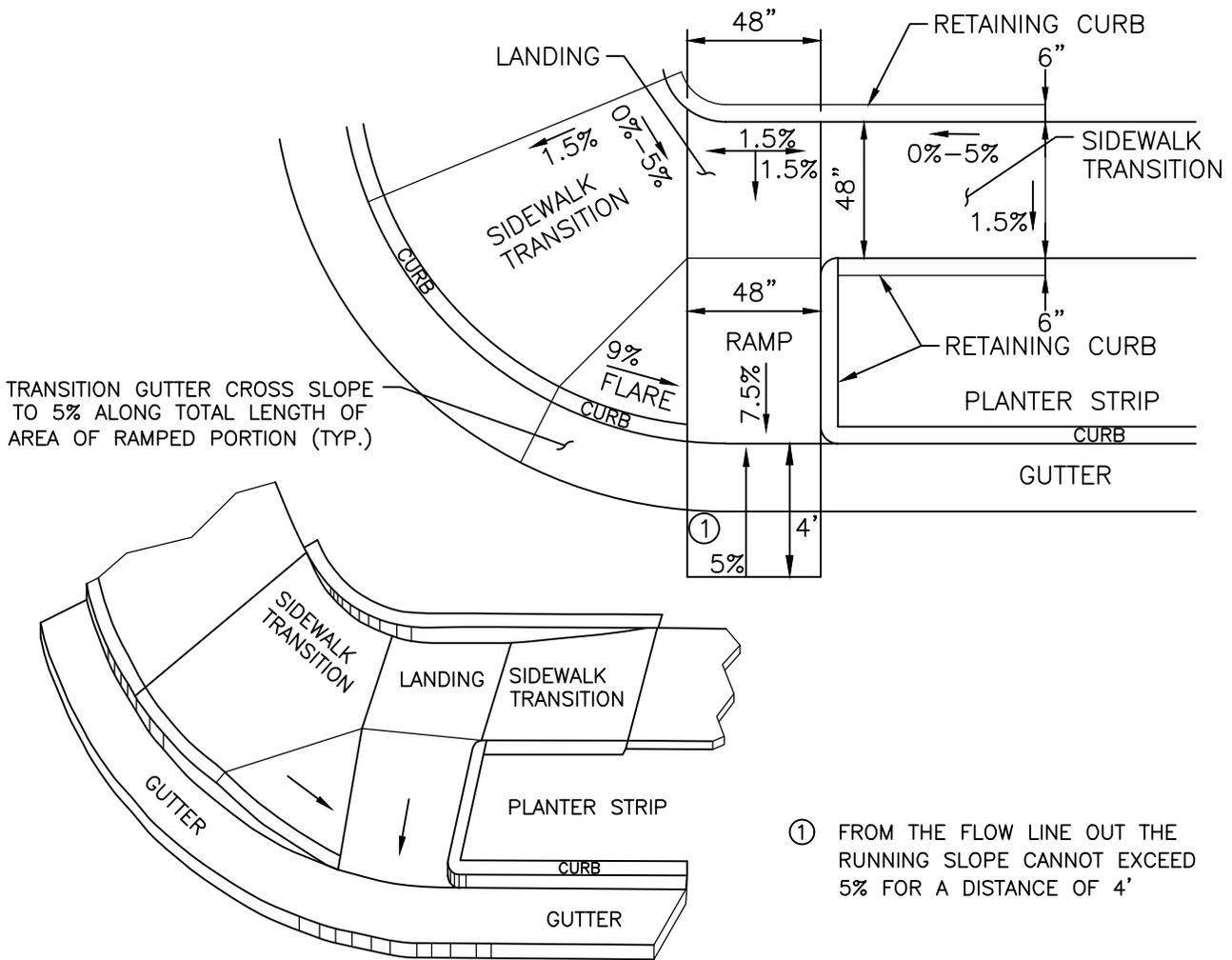
TRANSITION GUTTER CROSS-SLOPE TO 5% ALONG TOTAL LENGTH OF AREA OF RAMPED PORTION (TYP.)

- ④ FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 5% FOR A DISTANCE OF 4'.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE	DUAL FLARE CURB RAMPS		CITY ENGINEER	DATE	
						DRAWING NUMBER		
						AR - 4.3		

NOTES:

- A. ALL SLOPES SHOWN ARE MAXIMUMS.
- B. ALL DIMENSIONS SHOWN ARE MINIMUMS.
- C. RAMP MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS
- D. DETECTABLE WARNING SURFACE IS PLACED IN THE RAMP PER STANDARD DRAWING AR-3.2.
- E. ALL JOINTS BETWEEN ELEMENTS, EXCEPT BETWEEN RAMP AND FLARE ARE RADIAL. RAMP WIDTH REMAINS CONSTANT.
- F. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.
- G. SINGLE RAMPS SHALL BE CONSTRUCTED PARALLEL TO CROSSING DIRECTION.

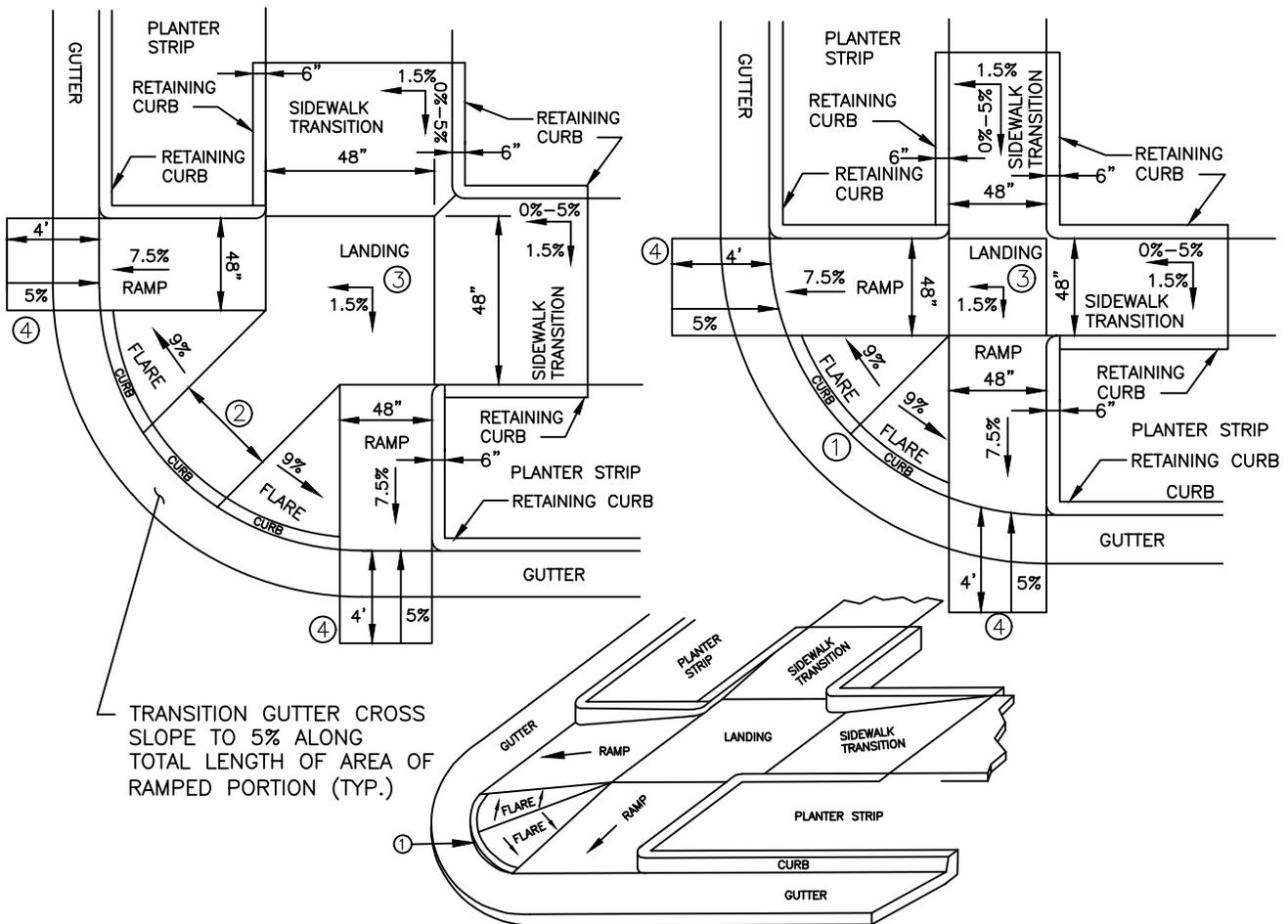


DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	SINGLE COMBINATION CURB RAMP		CITY ENGINEER	DATE
						DRAWING NUMBER	
						AR - 4.4	

NOTES:

- A. ALL SLOPES SHOWN ARE MAXIMUMS.
- B. ALL DIMENSIONS SHOWN ARE MINIMUMS.
- C. THE RAMP MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
- D. DETECTABLE WARNING IS PLACED IN THE RAMP AND AS PER DRAWING AR-3.2.
- E. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.

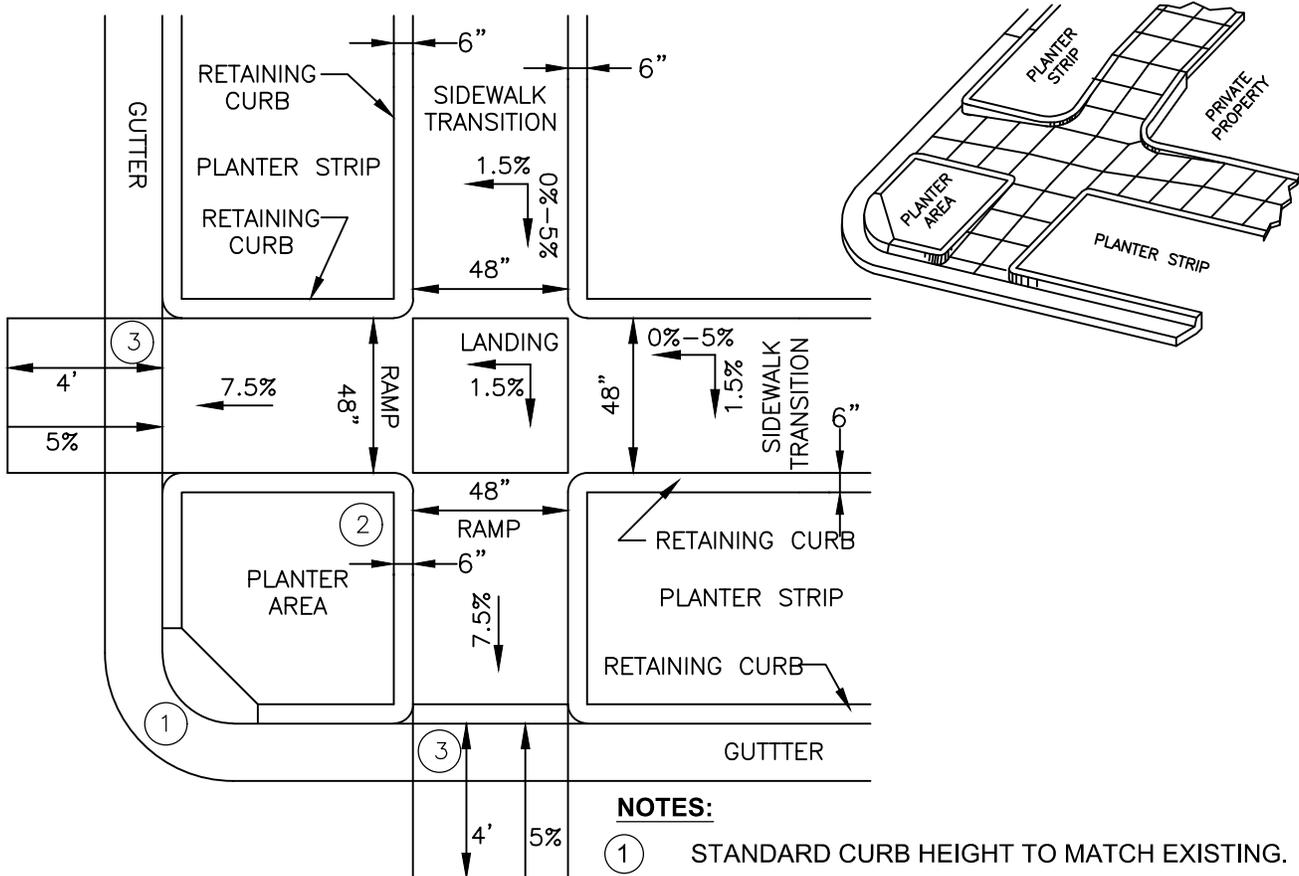
- ① 4" MINIMUM CURB HEIGHT DESIRABLE - 9% MAX SLOPE CONTROLS CURB HEIGHT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ② NO. MINIMUM DIMENSION. FLARES CAN INTERSECT.
- ③ ALL RAMPS WILL HAVE A MINIMUM OF 48"x48" LANDING. TWO RAMPS CAN SHARE ONE LANDING.
- ④ FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 5% FOR A DISTANCE OF 4'.



DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE	DUAL COMBINATION CURB RAMPS		CITY ENGINEER	DATE	
						DRAWING NUMBER		
						AR - 4.5		

NOTES:

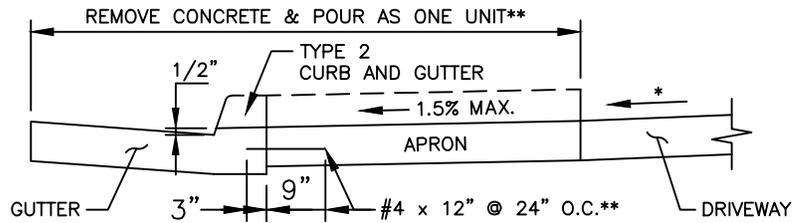
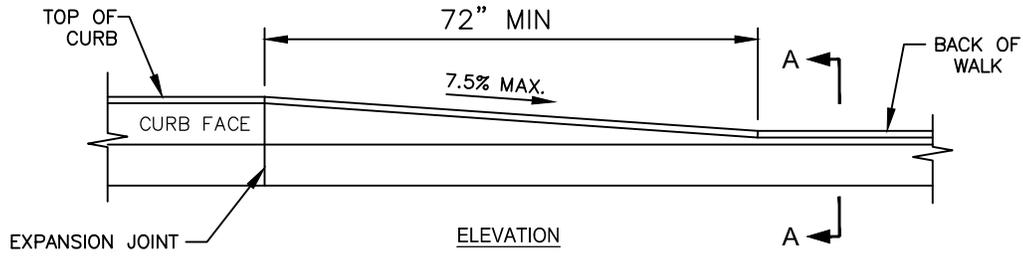
- A. ALL SLOPES SHOWN ARE MAXIMUMS.
- B. ALL DIMENSIONS SHOWN ARE MINIMUMS.
- C. ALL RAMPS MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
- D. DETECTABLE WARNING IS PLACED IN THE RAMP AND AS PER DRAWING AR-3.2.
- E. ADD LAMP BLACK TO NEW CONCRETE AS DIRECTED BY ENGINEER. MATCH EXISTING COLOR.



NOTES:

- ① STANDARD CURB HEIGHT TO MATCH EXISTING.
- ② TOP OF RETAINING CURB TO MATCH ADJACENT RETAINING CURB ELEVATIONS CAN BE FLUSH WITH LANDING.
- ③ FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 5% FOR A DISTANCE OF 4'.

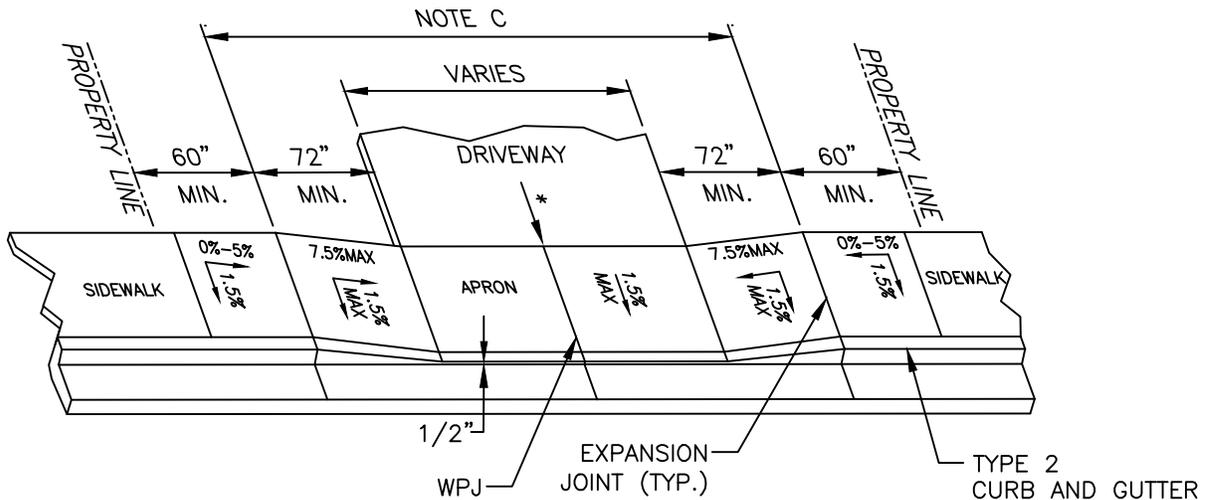
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	PLANTER STRIP CURB RAMPS		CITY ENGINEER	DATE
						DRAWING NUMBER	
						AR - 4.6	



SECTION A-A

NOTES:

- A. DRIVEWAY WIDTH AS PER CITY CODE.
- B. WEAKENED PLANE JOINTS (WPJ) REQUIRED ON CENTERLINE FOR DRIVEWAYS 10' TO 20' WIDE. DRIVEWAYS 22' TO 35' WIDE SHALL HAVE TWO WPJ EVENLY SPACED AT 1/3 AND 2/3 POINTS.
- C. THICKNESS OF APRONS SHALL BE 6" ON RESIDENTIAL DRIVEWAYS AND 6" ON COMMERCIAL DRIVEWAYS.
- D. APRON WILL BE DEPRESSED ON CURB AND GUTTER WHEN RECONSTRUCTING EXISTING COMMERCIAL DRIVEWAYS.
- * SEE SECTION 4-10
- ** IF CURB & GUTTER ARE POURED SEPARATE OF APRON THEN DOWELS ARE REQUIRED AT BACK OF CURB.



DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

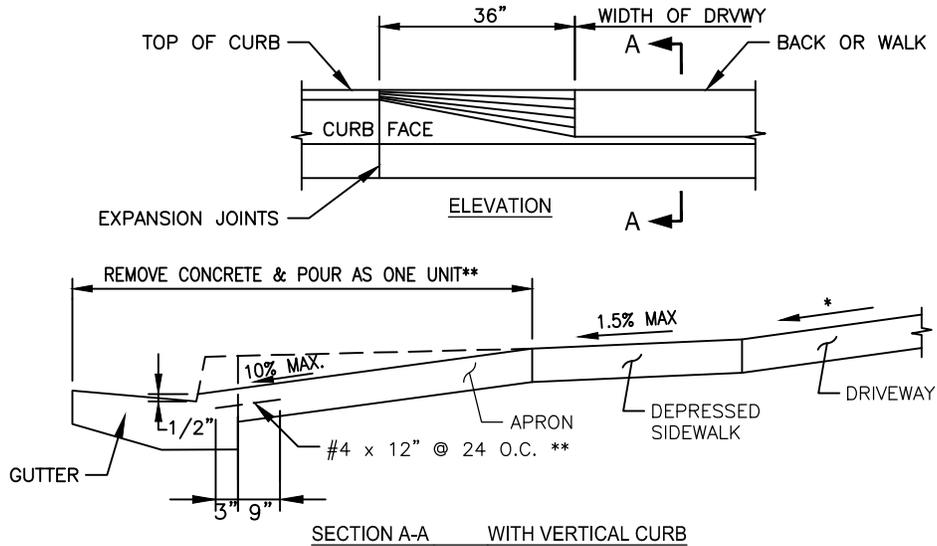
APPROVED BY: _____
CITY ENGINEER DATE

SIDEWALK DRIVEWAY DETAIL



DRAWING NUMBER

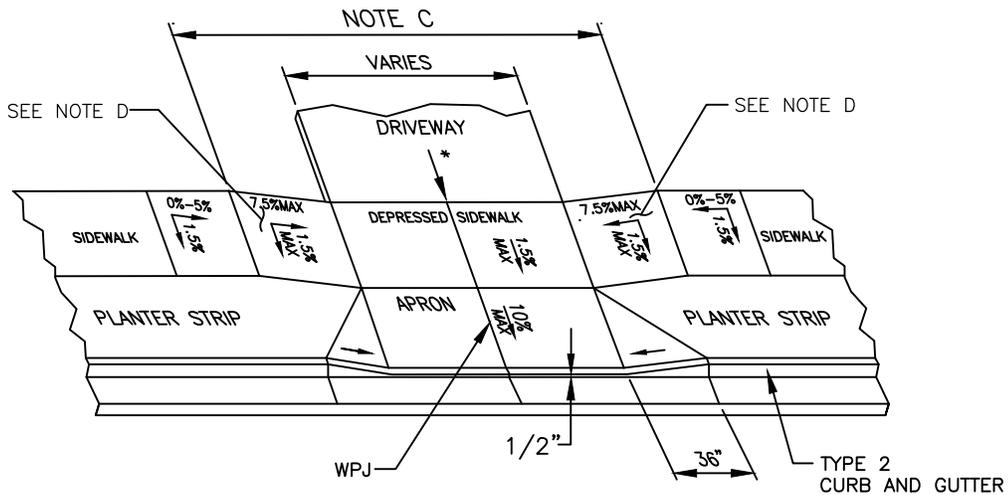
AR - 4.7



SECTION A-A WITH VERTICAL CURB

NOTES:

- A. DRIVEWAY WIDTH AS PER CITY CODE. * SECTION 4-10
- B. WEAKENED PLANE JOINTS (WPJ) REQUIRED ON CENTERLINE FOR DRIVEWAYS 10' TO 20' WIDE. DRIVEWAYS 22' TO 35' WIDE SHALL HAVE TWO WPJ EVENLY SPACED AT 1/3 AND 2/3 POINTS. ** IF CURB & GUTTER ARE POURED SEPARATE OF APRON THEN DOWELS ARE REQUIRED AT BACK OF CURB.
- C. THICKNESS OF APRONS SHALL BE 6".
- D. ELIMINATE IN COMMERCIAL DRIVEWAY. PROVIDE 5% MAX. SLOPE BETWEEN SIDEWALK AND DEPRESSED SIDEWALK.



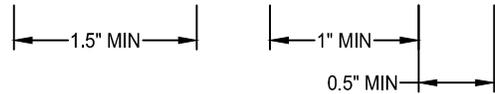
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS			APPROVED BY: _____	
REVISION	BY	APPROVED	DATE	PLANTER STRIP DRIVEWAY DETAIL			CITY ENGINEER	DATE
							DRAWING NUMBER	
							AR - 4.8	

CITY OF ELK GROVE PLAN APPROVAL BLOCK

CITY OF ELK GROVE PUBLIC WORKS	
<i>(PUT PROJECT NAME HERE)</i>	
Parcel No.:	
California Map Coordinates: <small>(Can use Thomas Brothers Guide to estimate coordinates)</small>	
Facility Code:	County Drainage Fee Paid:
City's Project No.: "EG - # - #"	
Accepted By:	
CITY OF ELK GROVE PUBLIC WORKS _____ DATE	

PLAN REVISION BLOCK

Rev. No.	Description	Engr Init.	CITY ACCEPTANCE	
			By	Date



- PROJECT NAME, PARCEL NUMBER AND MAP COORDINATES SHALL BE IN 10 POINT ARIAL FONT.
- APPROVAL BLOCK SHALL BE LOCATED AT THE LOWER RIGHT CORNER OF TITLE SHEET, WITHIN BOTTOM 6 INCHES AND RIGHT 8 INCHES OF PAGE.

1. PUT REVISION BLOCK ON ALL SHEETS.

OTHER AGENCY APPROVAL BLOCKS

INCLUDE ON PLANS AS NECESSARY

Approved By:

ELK GROVE CSD - FIRE DEPARTMENT _____ DATE

Approved By:

ELK GROVE CSD - PARKS AND RECREATION DEPT. _____ DATE

Approved By:

COUNTY SANITATION DISTRICT 1 _____ DATE

Approved For: Water Conservation Only

CITY OF ELK GROVE LANDSCAPE ARCHITECT _____ DATE

Approved By:

WATER AGENCY NAME _____ DATE

- PUT "SACRAMENTO COUNTY WATER AGENCY" OR "ELK GROVE WATER SERVICE" OR BOTH IN PLACE OF "WATER AGENCY NAME" ABOVE.

DATE: 05/17/2017		NOT TO SCALE	CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	APPROVAL BLOCKS	_____ XX/XX/2017 CITY ENGINEER _____ DATE	
						DRAWING NUMBER
						D - 1

DRAFTING STANDARDS

ALL SUBDIVISION PLANS, CONSTRUCTION DRAWINGS, & PROPERTY PLATS SUBMITTED TO THE CITY ENGINEER FOR CONSIDERATION SHALL CONFORM TO AND BE PREPARED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

1. ALL LETTERING, OTHER THAN THAT HEREIN SPECIFIED OR SHOWN BELOW, SHALL BE A MINIMUM OF 0.100 INCH IN HEIGHT AND USING 0.01" LINE WIDTH, OR EQUAL.

2. SUBDIVISION PLANS

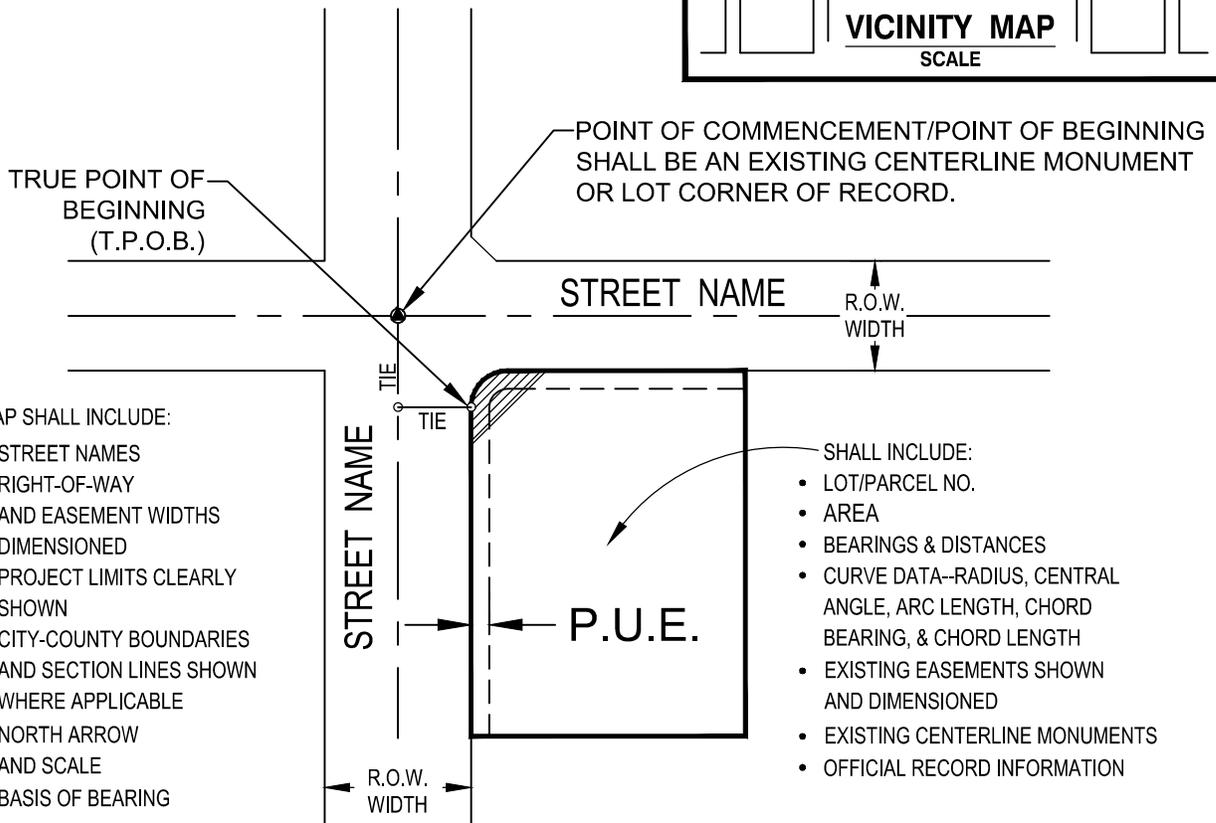
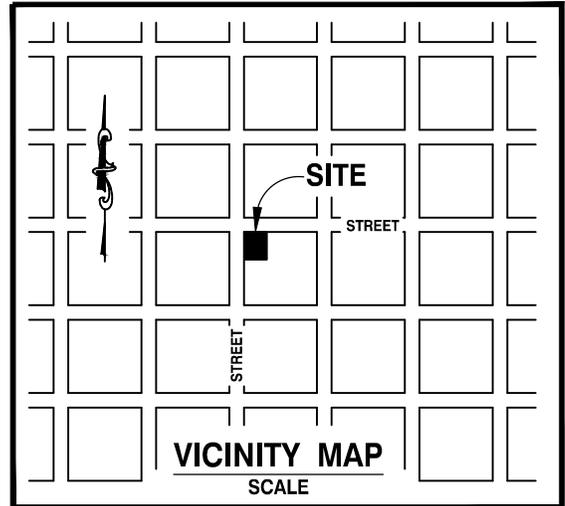
	<u>LINE WIDTH</u>	
STREET CENTER LINES	—————	0.01" WIDTH
RADIAL BEARING LINES	—————	0.01" WIDTH
EASEMENT LINES	—————	0.01" WIDTH
LOT LINES	—————	0.02" WIDTH
RIGHT-OF-WAY LINES	—————	0.03" WIDTH
BLOCK OUTLINE	—————	0.03" WIDTH
SUBDIVISION OUTLINE	—————	0.04" WIDTH
MONUMENTS SET	○	
MONUMENTS SET IN MONUMENT BOX	⊙	
MONUMENTS FOUND	⊗	
MONUMENTS FOUND IN MONUMENT BOX	⊗	
BENCH MARK ELEVATION	⊕	
STREET NAMES	NAME	LETTERS 0.175" HIGH AND 0.04" LINE WIDTH
LOT NUMBERS	36	LETTERS 0.175" HIGH AND 0.02" LINE WIDTH
BEARINGS, DISTANCES, CURVE DATA,		LETTERS 0.100" HIGH AND 0.01" LINE WIDTH
COORDINATES, ETC.		LETTERS 0.175" HIGH AND SHADOW LETTERING AND 0.01" LINE WIDTH
ADJACENT SUBDIVISIONS		LETTERS 0.175" HIGH AND DOTTED LETTERING AND 0.01" LINE WIDTH
ADJACENT LOT NUMBERS		

TITLE BLOCK AND OTHER RELATED LETTERING SHALL BE IN ACCORDANCE WITH STANDARD ACCEPTED ENGINEERING PRACTICE, BUT IN NO CASE SHALL THE LETTERING BE LESS THAN 0.100 INCH IN HEIGHT AND USING LINE WIDTH OF 0.01".

3. IMPROVEMENT PLANS

<u>DESCRIPTION</u>	<u>PROPOSED</u>	<u>EXISTING</u>
SANITARY SEWER	6" SS	6" SS
STORM SEWER (AKA STORM DRAIN)	8" SD	8" SD
GAS LINE	4" G	4" G
WATER LINE	8" W	8" W
TELEPHONE	T	T
CABLE TELEVISION	TV	TV
GAS VALVE	G ⊗	G
WATER VALVE	W ⊗	W
ELECTRICAL CONDUIT	E	E
MATCH LINE	—————	
	STA. 5+00	

DATE: 05/17/2017	NOT TO SCALE	CITY OF ELK GROVE - PUBLIC WORKS	APPROVED BY: _____ CITY ENGINEER
REVISION	BY	DRAFTING STANDARDS	XX/XX/2017 DATE
			DRAWING NUMBER D - 2



MAP SHALL INCLUDE:

- STREET NAMES
- RIGHT-OF-WAY AND EASEMENT WIDTHS DIMENSIONED
- PROJECT LIMITS CLEARLY SHOWN
- CITY-COUNTY BOUNDARIES AND SECTION LINES SHOWN WHERE APPLICABLE
- NORTH ARROW AND SCALE
- BASIS OF BEARING

SHALL INCLUDE:

- LOT/PARCEL NO.
- AREA
- BEARINGS & DISTANCES
- CURVE DATA--RADIUS, CENTRAL ANGLE, ARC LENGTH, CHORD BEARING, & CHORD LENGTH
- EXISTING EASEMENTS SHOWN AND DIMENSIONED
- EXISTING CENTERLINE MONUMENTS
- OFFICIAL RECORD INFORMATION

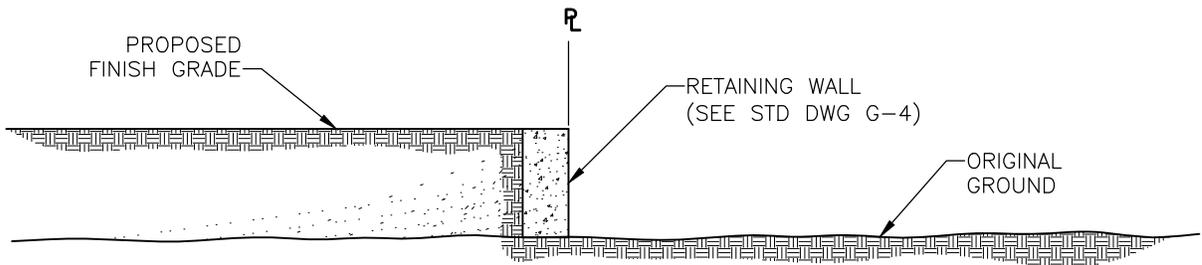
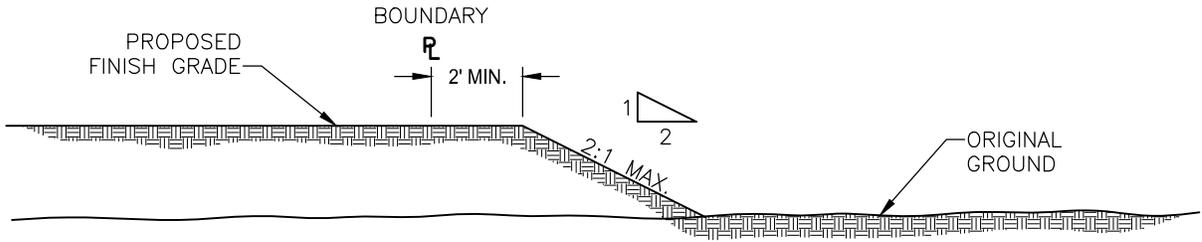
NOTES:

1. DRAFTING STANDARDS AND SYMBOLS SHALL CONFORM TO CITY OF ELK GROVE STANDARDS.
2. CLOSURE CALCULATIONS, INCLUDING AREA AND PRECISION, SHALL BE SUBMITTED SEPARATELY.
3. LEGAL DESCRIPTIONS SUBMITTED WITH THE MAP SHALL BE STAMPED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR.

PREPARED BY:

(ENGINEERING FIRM)

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	STANDARD MAP ASSOCIATED WITH LEGAL DESCRIPTION FOR 8-1/2 " x 11" SHEET		CITY ENGINEER	DATE
						DRAWING NUMBER	
						D - 3	



DATE: 05/17/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

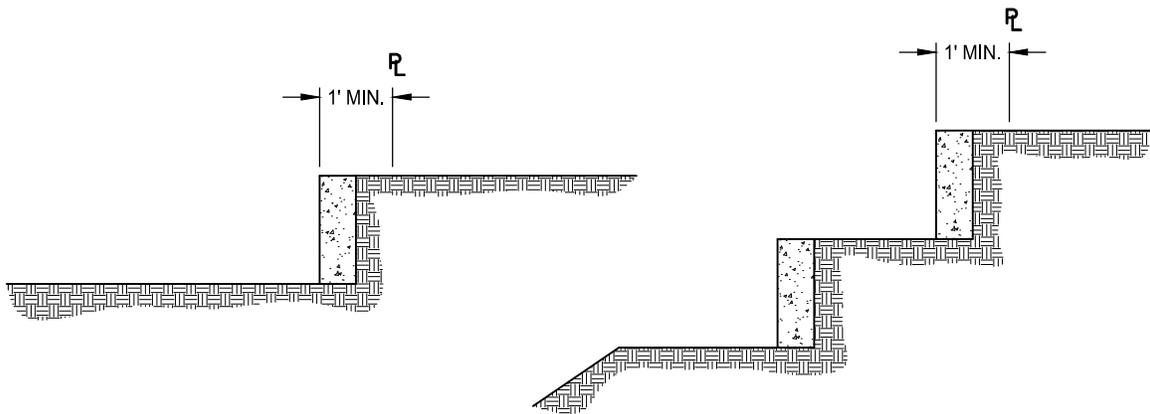
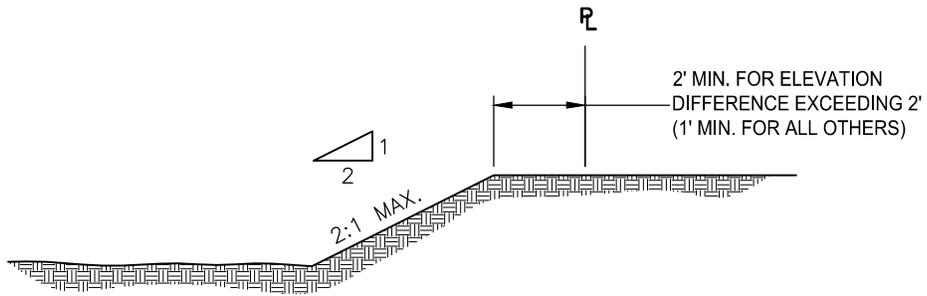
CITY OF ELK GROVE - PUBLIC WORKS

**EXTERIOR PERIMETER
PROPERTY LINE GRADING FOR
FILL AREAS**

APPROVED BY: _____
XX/XX/2017
 CITY ENGINEER DATE

DRAWING NUMBER
G - 1

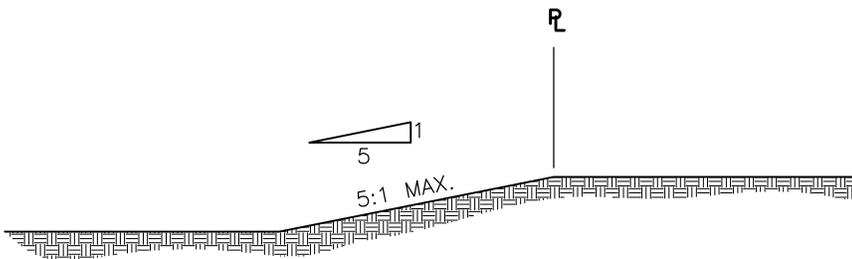




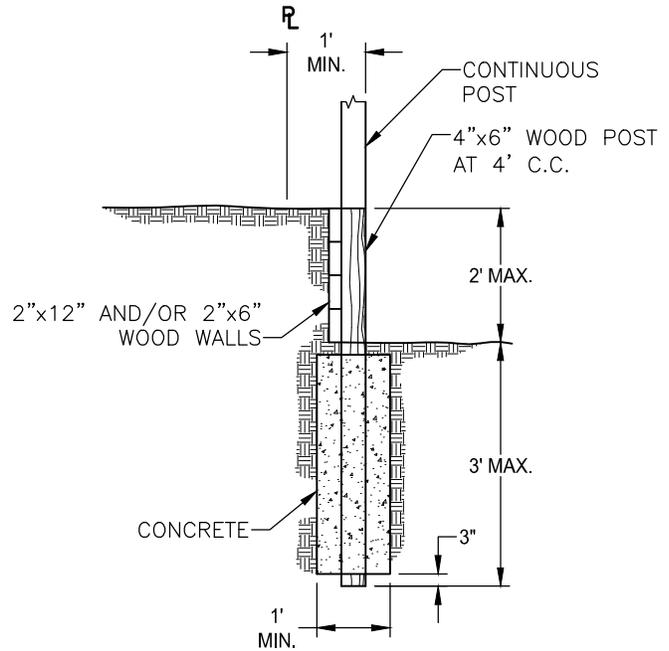
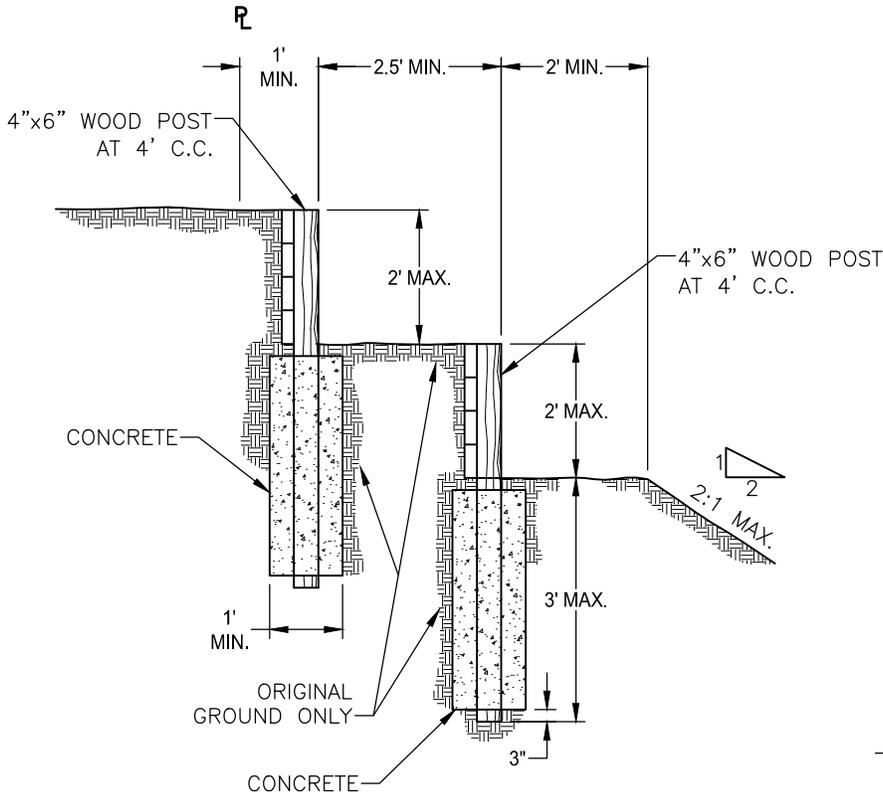
RETAINING WALL

(SEE STD DWG G-3 AND G-4)

NOTE: NO DOUBLE RETAINING WALLS SHALL BE CONSTRUCTED ON SIDE YARD



DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:			
REVISION	BY	APPROVED	DATE	GRADING FOR INTERIOR PROPERTY LINES AND PERIMETER PROPERTY LINES IN CUT AREAS		_____ XX/XX/2017 CITY ENGINEER DATE			
								DRAWING NUMBER	
								G - 2	



NOTES:

1. MATERIAL FOR WALLS SHALL BE GRADE NO. 2 OR BETTER REDWOOD WITH NO OPEN GRAIN MATERIAL.
2. WOOD WALLS SHALL NOT BE USED ADJACENT TO PUBLIC RIGHTS OF WAY.
3. ALL WALLS WITHIN 8 FEET OF A BOUNDARY OR PROJECT PHASE LINE SHALL BE CONSTRUCTED WITH MASONRY OR CONCRETE.
4. 4-INCH BY 6-INCH POSTS AT 4-FOOT ON CENTER SHALL BE USED AS FENCE POSTS WHEN FENCES ARE ATTACHED TO RETAINING WALLS.
5. NO DOUBLE RETAINING WALLS SHALL BE CONSTRUCTED ON SIDE YARDS.

DATE: 05/17/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**WOOD RETAINING WALL DETAILS
FOR INTERIOR PROPERTY LINES**

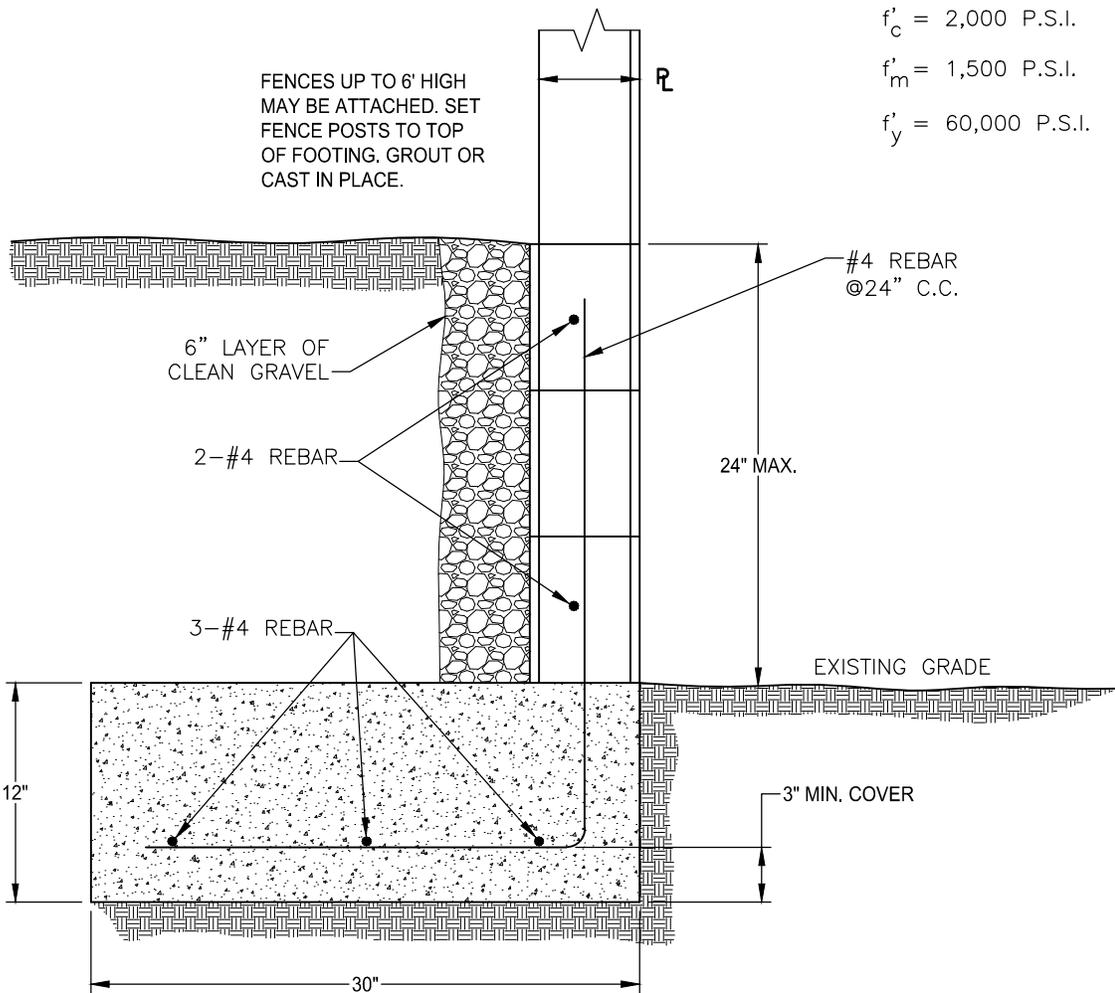
APPROVED BY: _____

XX/XX/2017
DATE

CITY ENGINEER

DRAWING NUMBER
G - 3

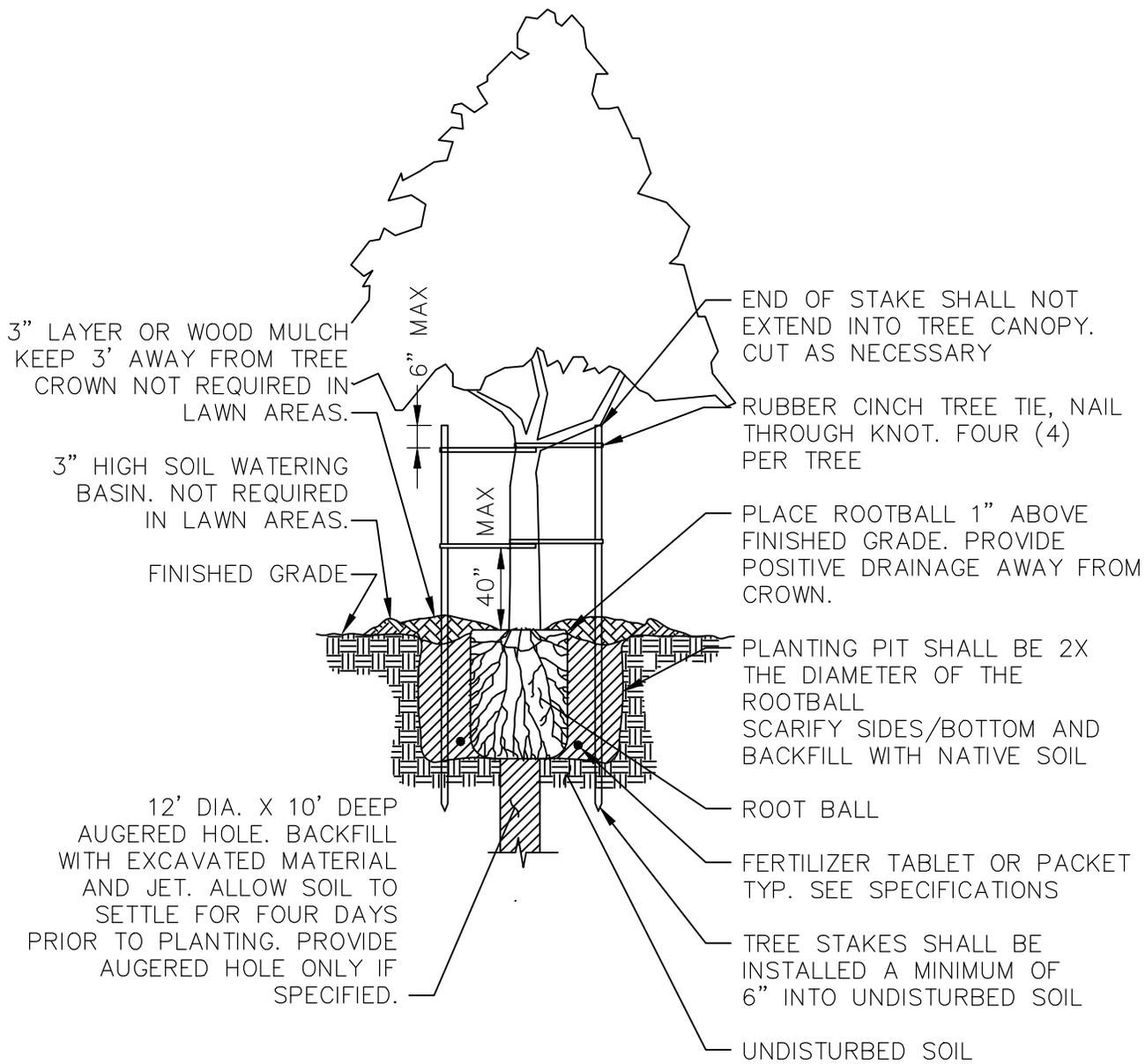




NOTES:

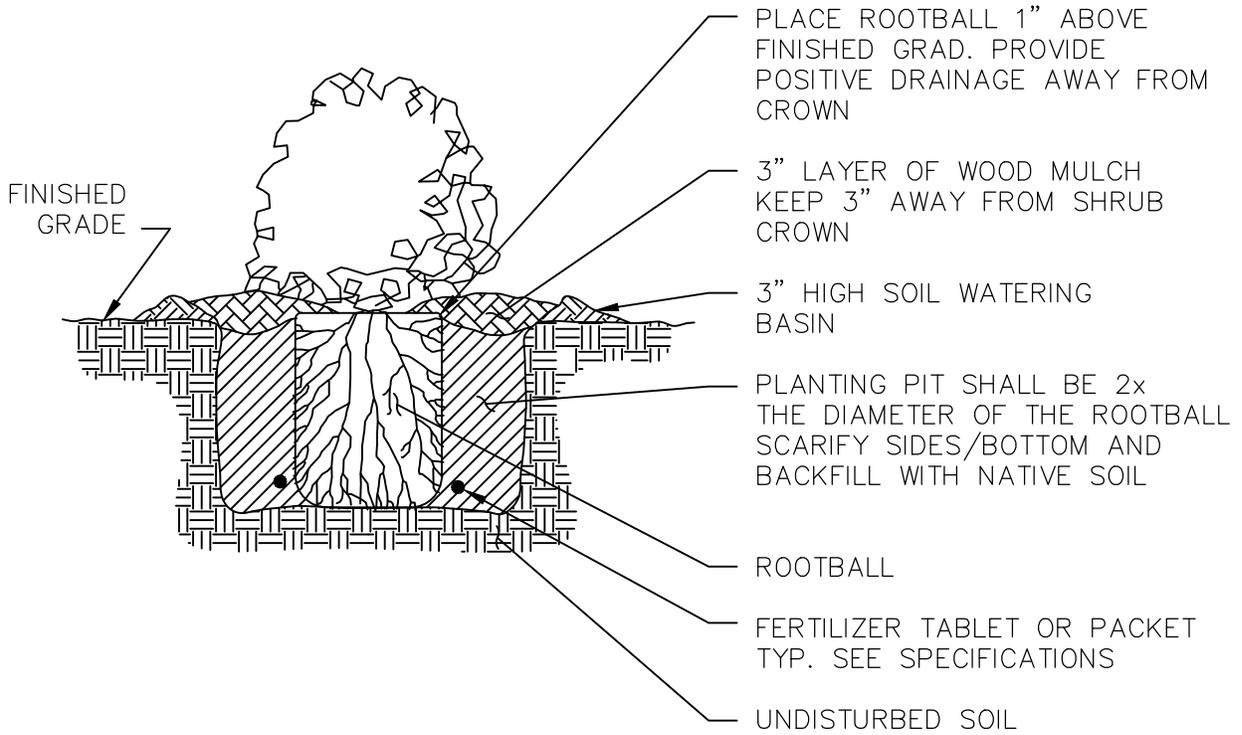
1. 8-INCH NORMAL WEIGHT BLOCK WITH FULL GROUTING REQUIRED.
2. A 6-INCH WIDE CAST-IN-PLACE CONCRETE STEM WALL MAY BE USED IN LIEU OF MASONRY.
3. SPECIAL INSPECTION IS NOT REQUIRED.
4. A BUILDING PERMIT IS REQUIRED FOR WALLS EXCEEDING 24" IN HEIGHT WHEN CONSTRUCTION DETAILS ARE NOT SHOWN ON APPROVED IMPROVEMENT PLANS.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
				MASONRY/CONCRETE RETAINING WALL DETAIL FOR FILL AREAS AT BOUNDARY AND PROJECT PHASE LINES		_____ CITY ENGINEER	
						XX/XX/2017 DATE	
REVISION	BY	APPROVED	DATE	DRAWING NUMBER G - 4			

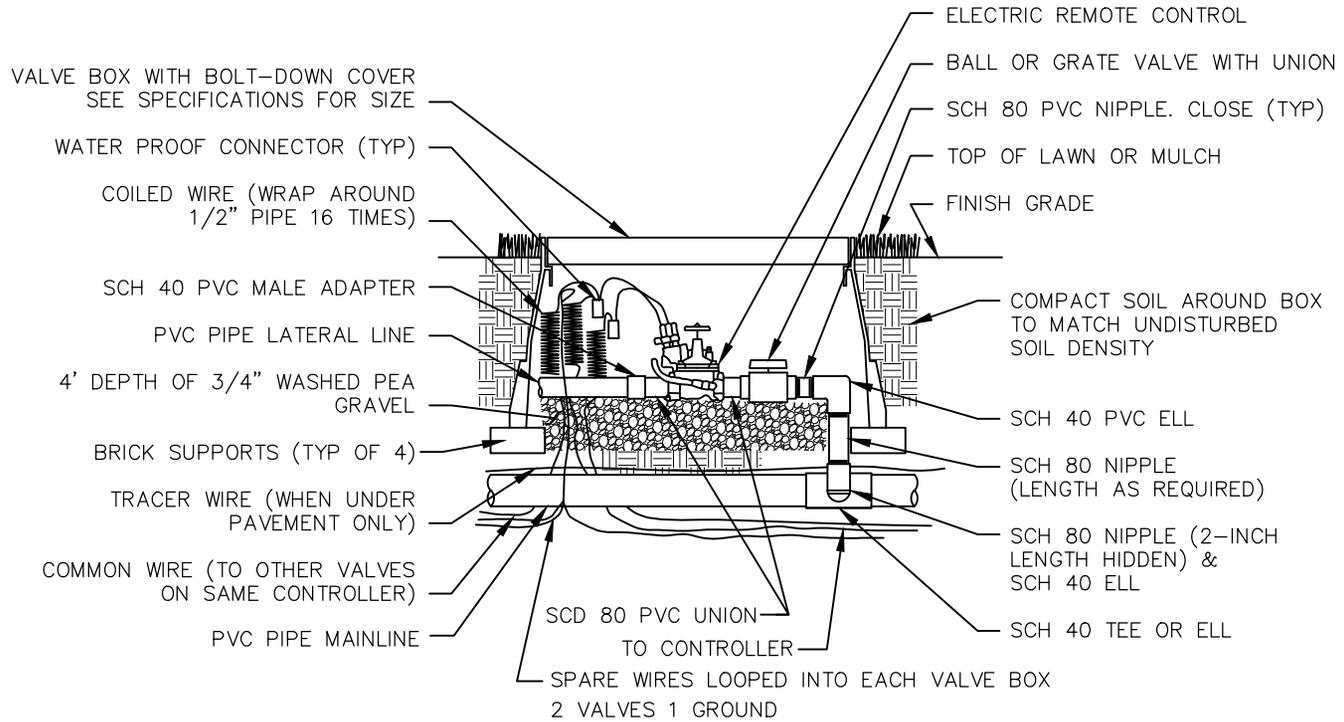


NOTE:
FOR 36" BOX TREES. STAGE WITH TWO 2" X 12'
LONG SCHEDULE 40 GALVANIZED STEEL PIPES.
PAINTED WITH TWO COATS OF DARK GREEN
PAINT. TIE TREE WITH A METAL TWIST BRACE
BOLTED TO THE STAKES OR OTHER APPROVED
TREE TIE AS SPECIFIED.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	TREE PLANTING		_____ XX/XX/2017 CITY ENGINEER DATE	
						DRAWING NUMBER	
						L - 1	
							



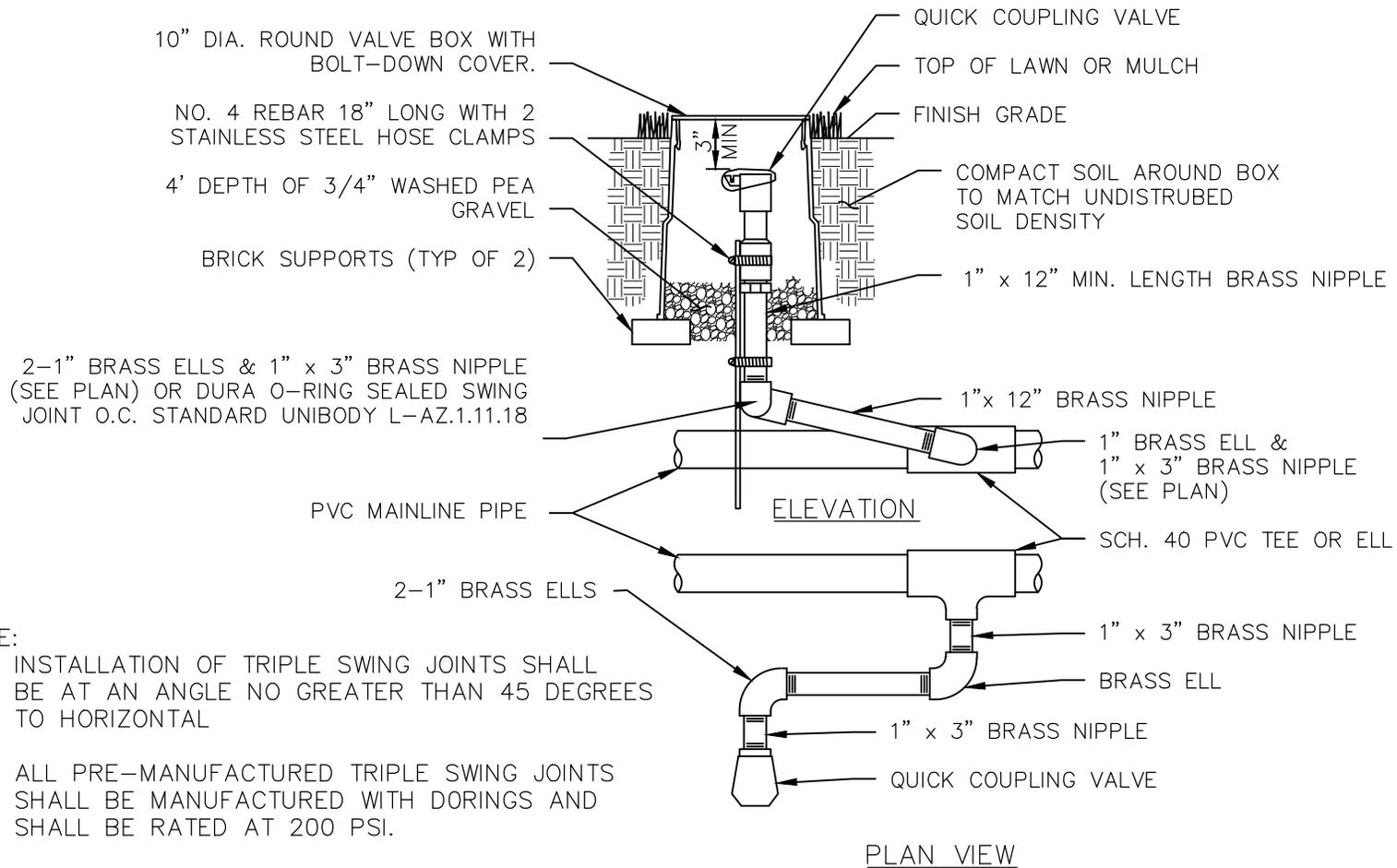
DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	SHRUB PLANTING		_____ XX/XX/2017 CITY ENGINEER DATE	
						DRAWING NUMBER	
						L - 2	
							



NOTE:

1. ALL WIRE SHALL BE TAPED AND BUNDLED EVERY TEN FEET AND SHALL BE INSTALLED AS PER LOCAL CODE.
2. SHUT-OFF VALVES 3" AND SMALLER SHALL BE SCH. 80 BALL VALVES. VALVES LARGER THAN 3" SHALL BE BRASS GATE VALVES.
3. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK SHALL BE OF TRAFFIC RATED QUALITY.

DATE: 01/20/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	REMOTE CONTROL VALVE		_____ CITY ENGINEER	XX/XX/2017 DATE
						DRAWING NUMBER	
						L - 3	



- NOTE:
1. INSTALLATION OF TRIPLE SWING JOINTS SHALL BE AT AN ANGLE NO GREATER THAN 45 DEGREES TO HORIZONTAL
 2. ALL PRE-MANUFACTURED TRIPLE SWING JOINTS SHALL BE MANUFACTURED WITH DORINGS AND SHALL BE RATED AT 200 PSI.
 3. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK SHALL BE OF TRAFFIC RATED QUALITY.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

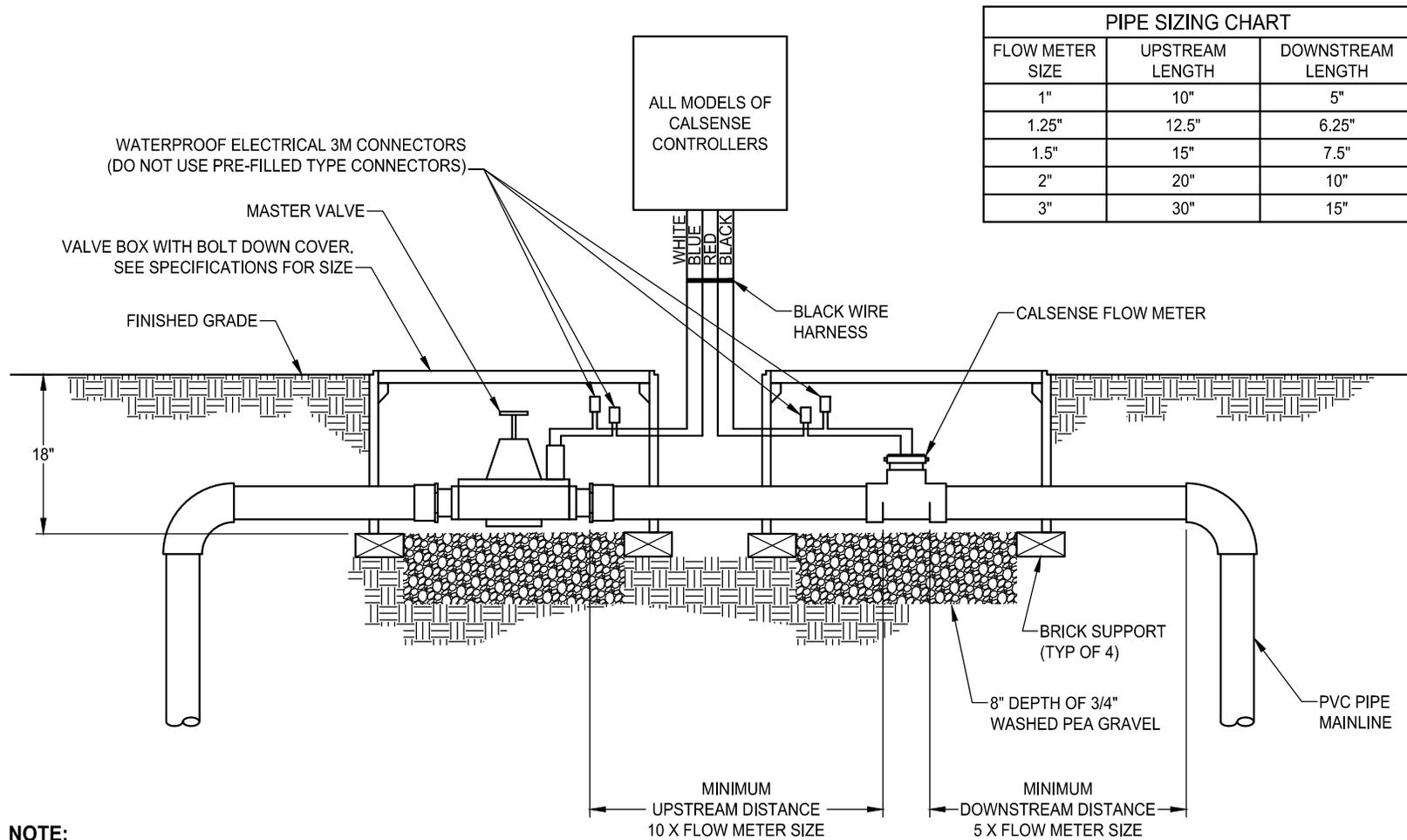
QUICK COUPLING VALVE

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER
L - 5





PIPE SIZING CHART		
FLOW METER SIZE	UPSTREAM LENGTH	DOWNSTREAM LENGTH
1"	10"	5"
1.25"	12.5"	6.25"
1.5"	15"	7.5"
2"	20"	10"
3"	30"	15"

NOTE:

1. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK AREA SHALL BE TRAFFIC RATED QUALITY.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

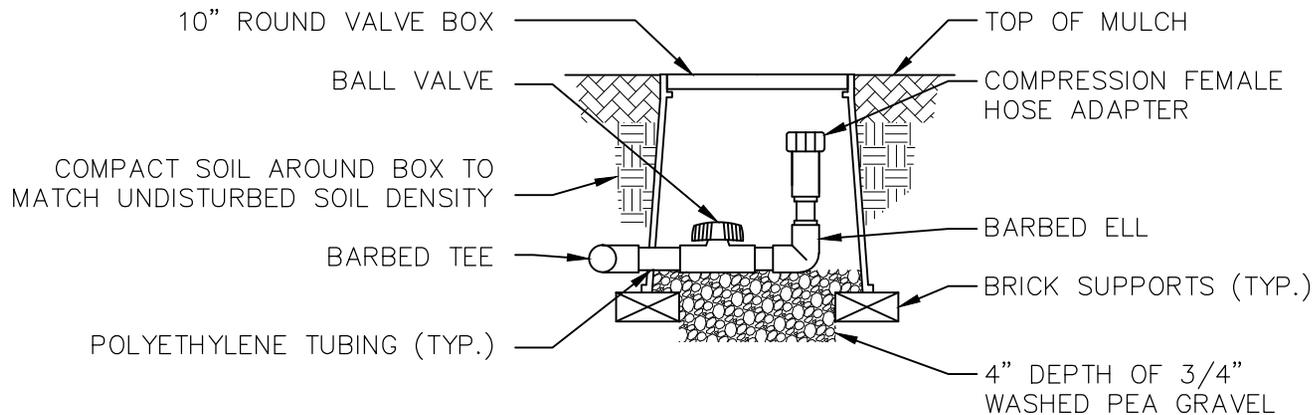
**MASTER VALVE
FLOW SENSOR**

APPROVED BY: _____
CITY ENGINEER _____ DATE _____



DRAWING NUMBER

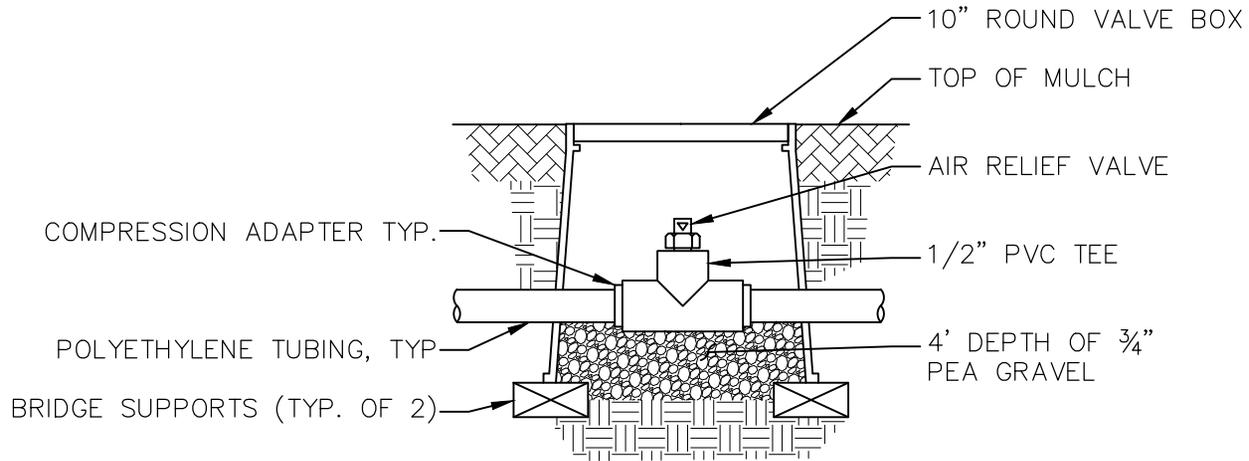
L - 6



NOTE:

1. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK AREA SHALL BE OF TRAFFIC RATED QUALITY.

DATE: 01/20/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	FLUSH VALVE		_____ CITY ENGINEER	
						XX/XX/2017 DATE	
							

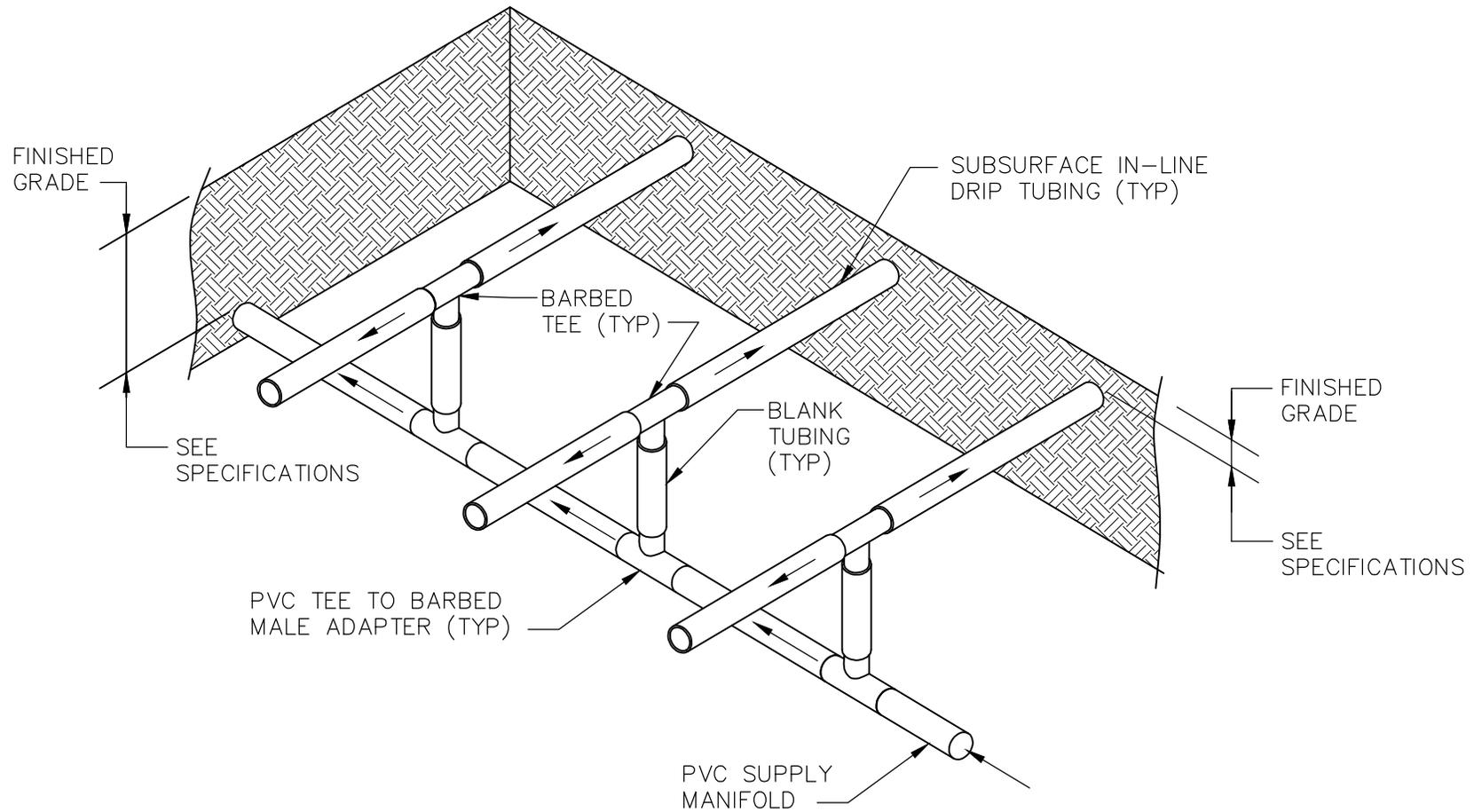


NOTE:

1. AIR RELIEF VALVE SHALL BE INSTALLED AT THE HIGHEST POINT OF THE SYSTEM ABOVE ALL DRIPLINE LATERALS.
2. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK SHALL BE OF TRAFFIC RATED QUALITY.

DATE: 01/20/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	AIR RELIEF VALVE		XX/XX/2017	DATE
						CITY ENGINEER	DATE
						DRAWING NUMBER	
						L - 8	





DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

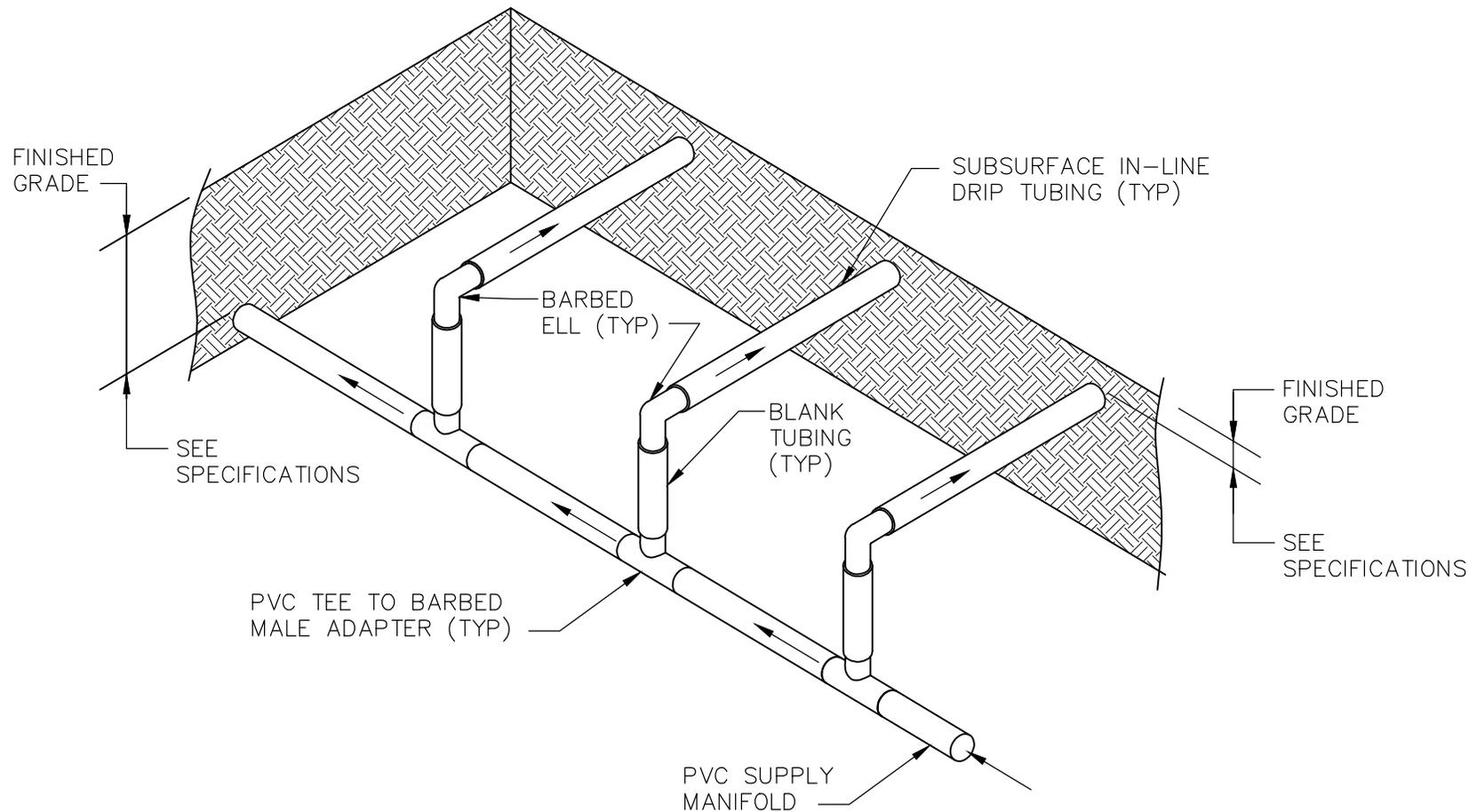
CITY OF ELK GROVE - PUBLIC WORKS

**SUBSURFACE IN-LINE DRIP
IRRIGATION CENTER-FEED
SUPPLY MANIFOLD**

APPROVED BY: _____
XX/XX/2017
 CITY ENGINEER DATE

DRAWING NUMBER
L - 14





DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

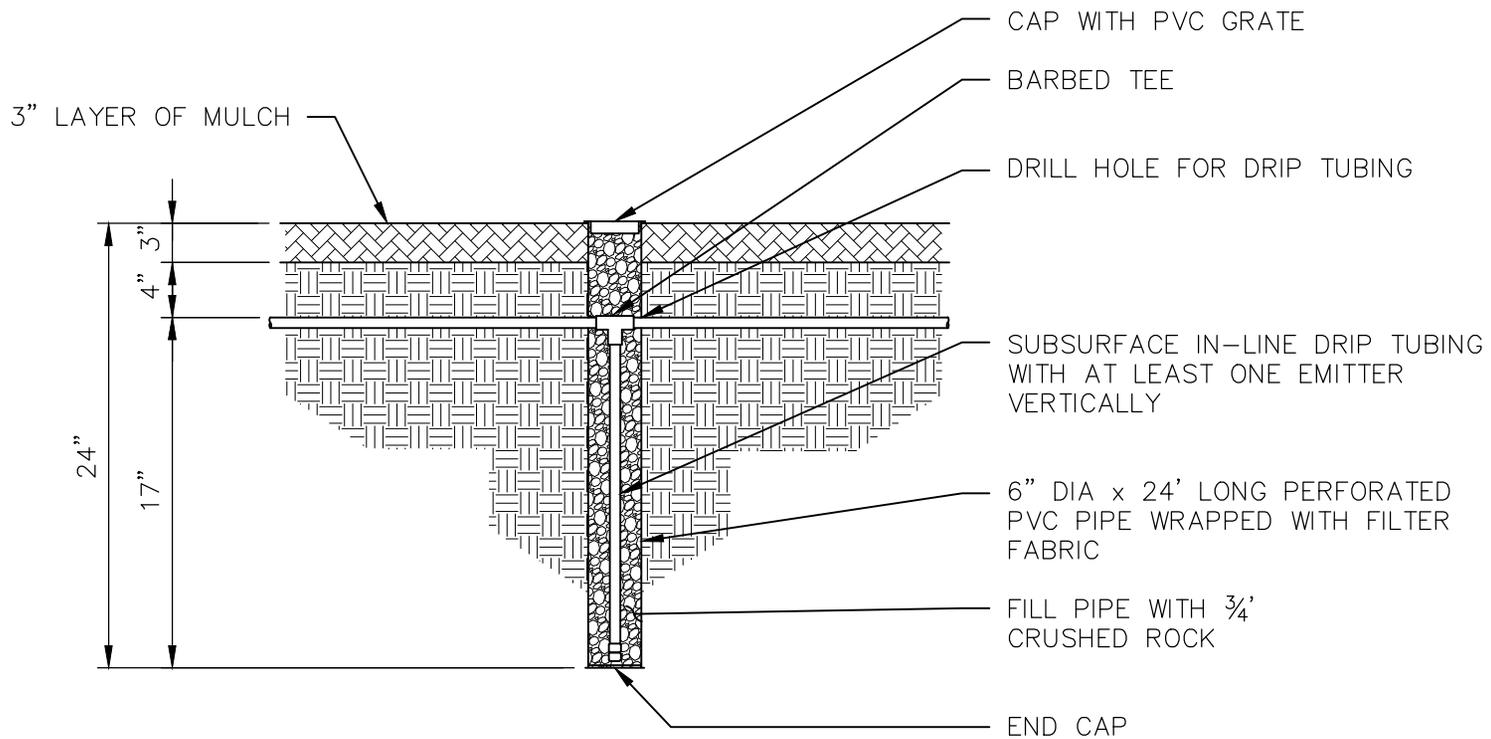
CITY OF ELK GROVE - PUBLIC WORKS

**SUBSURFACE IN-LINE DRIP
IRRIGATION END-FEED
SUPPLY MANIFOLD**

APPROVED BY: _____
XX/XX/2017
 CITY ENGINEER DATE

DRAWING NUMBER
L - 15





DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

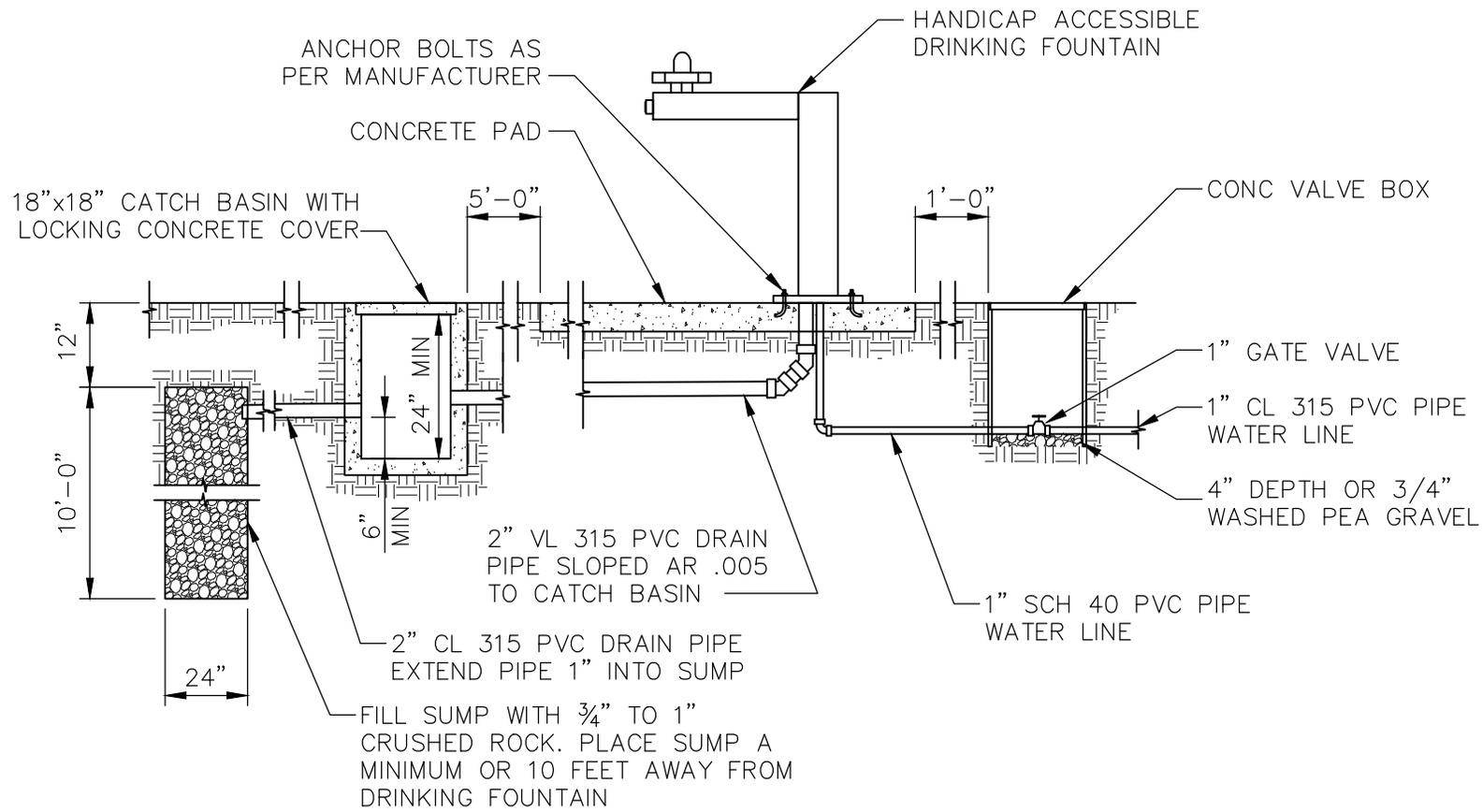
**DEEP WATERING PIPE
FOR TREES**

APPROVED BY: _____
XX/XX/2017
 CITY ENGINEER DATE



DRAWING NUMBER

L - 16



DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

DRINKING FOUNTAIN

APPROVED BY: _____

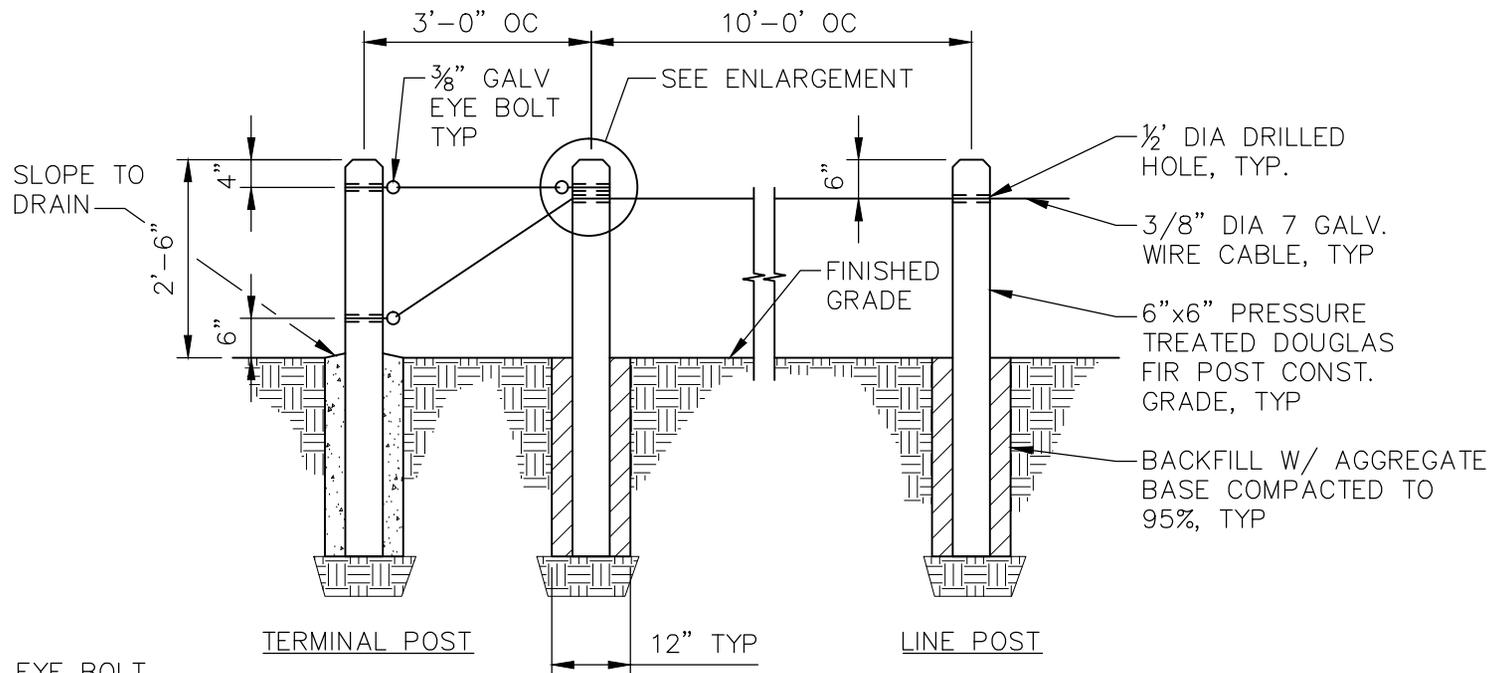
XX/XX/2017

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

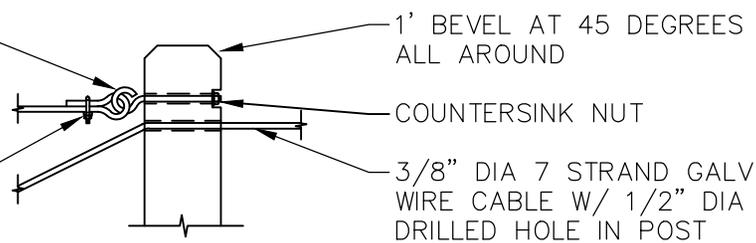
L - 19





3/8" GALV EYE BOLT
W/ GALV WASHERS &
NUT

3/8" GALV CABLE W/
GALV CLAMP
USE CLAMPS FOR
CONNECTIONS AND
SPLICES



ENLARGEMENT

NOTE: CONCRETE FOOTING SHALL BE INSTALLED
AT ALL TERMINAL POSTS AND AT ALL BENDS

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**POST AND CABLE
FENCING**

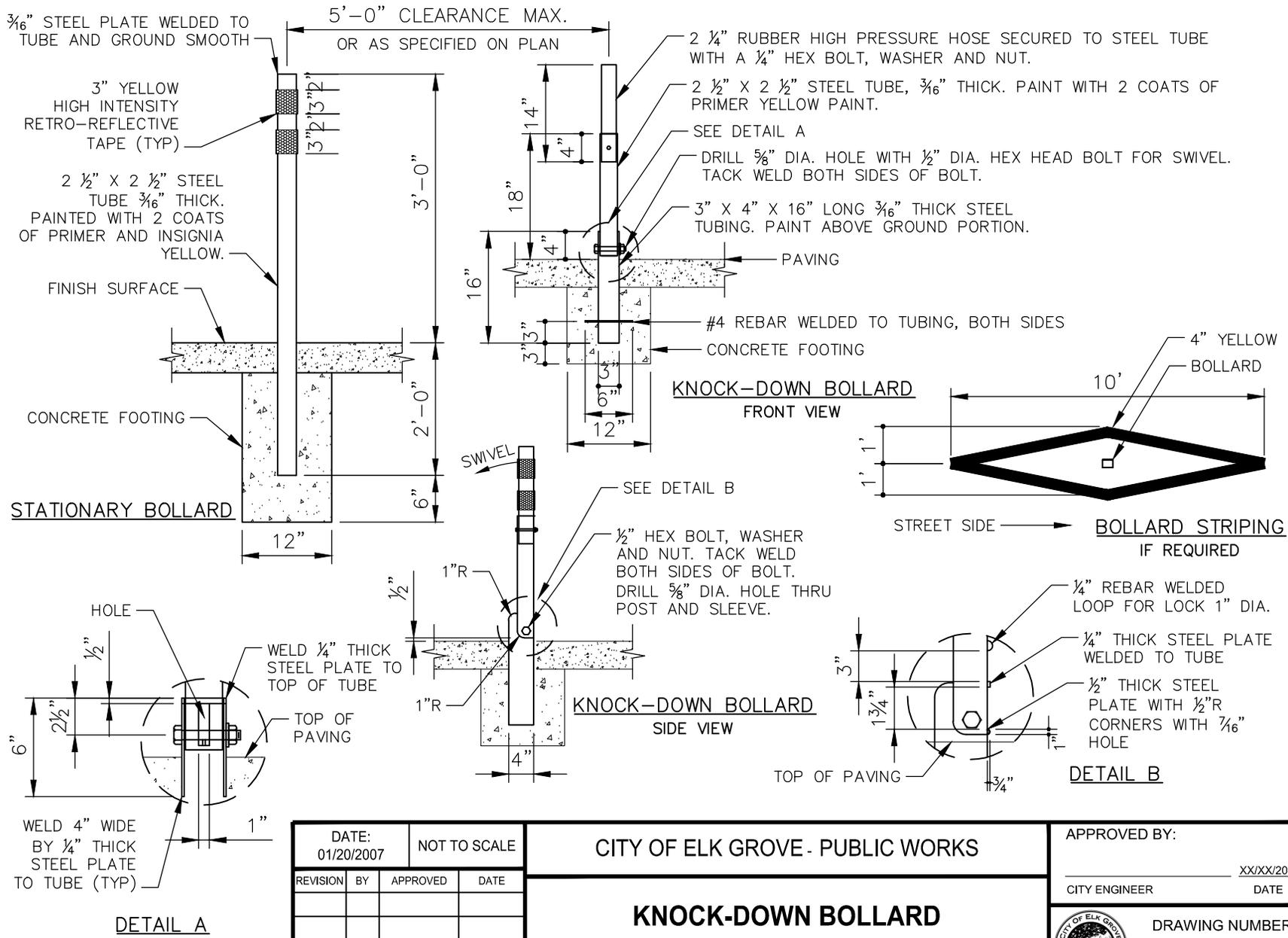
APPROVED BY:

CITY ENGINEER

DATE



DRAWING NUMBER
L - 20



DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

KNOCK-DOWN BOLLARD AND STATIONARY BOLLARD

APPROVED BY: _____

CITY ENGINEER

XX/XX/2017
DATE

DRAWING NUMBER

L - 21



$\frac{3}{16}$ " STEEL PLATE WELDED TO POST & GROUND SMOOTH

3" YELLOW HIGH INTENSITY RETRO-REFLECTIVE TAPE (TYP)

2- $\frac{1}{2}$ " DIA. GALVANIZED STEEL POST. PAINTED WITH 2 COATS OF PRIMER AND INSIGNIA YELLOW

$\frac{3}{4}$ " DIA. STEEL PIN W/ HEAD W/ $\frac{3}{8}$ " DIA HOLE FOR LOCK

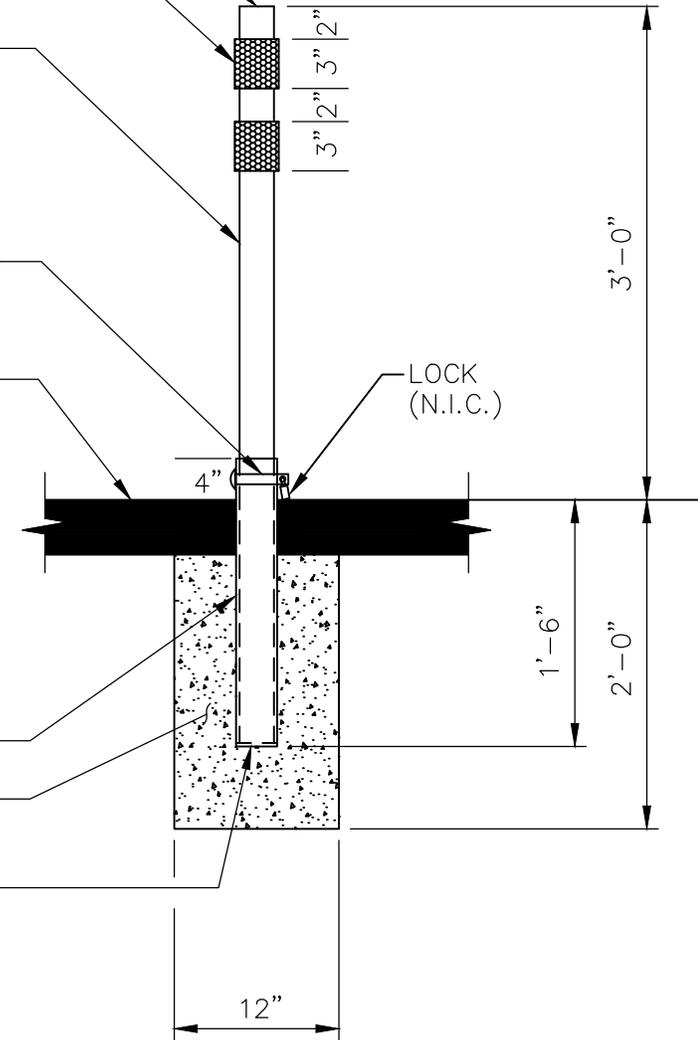
FINISH SURFACE

LOCK (N.I.C.)

3" DIA. GALVANIZED STEEL PIPE SLEEVE (PAINT ABOVE GROUND PORTION SAME AS POST)

CONCRETE FOOTING

$\frac{3}{16}$ " STEEL PLATE WELDED TO SLEEVE



NOTE: DRILL A $1\frac{3}{16}$ " DIA HOLE THRU BOTH THE POST AND SLEEVE FOR PIN PLACEMENT

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	REMOVABLE BOLLARD			
						CITY ENGINEER _____ DATE <u>XX/XX/2017</u>	
						DRAWING NUMBER	
						L - 22	

20 LF OF #4 REBAR IF NEXT TO TREE LOCATION

CONCRETE WALK

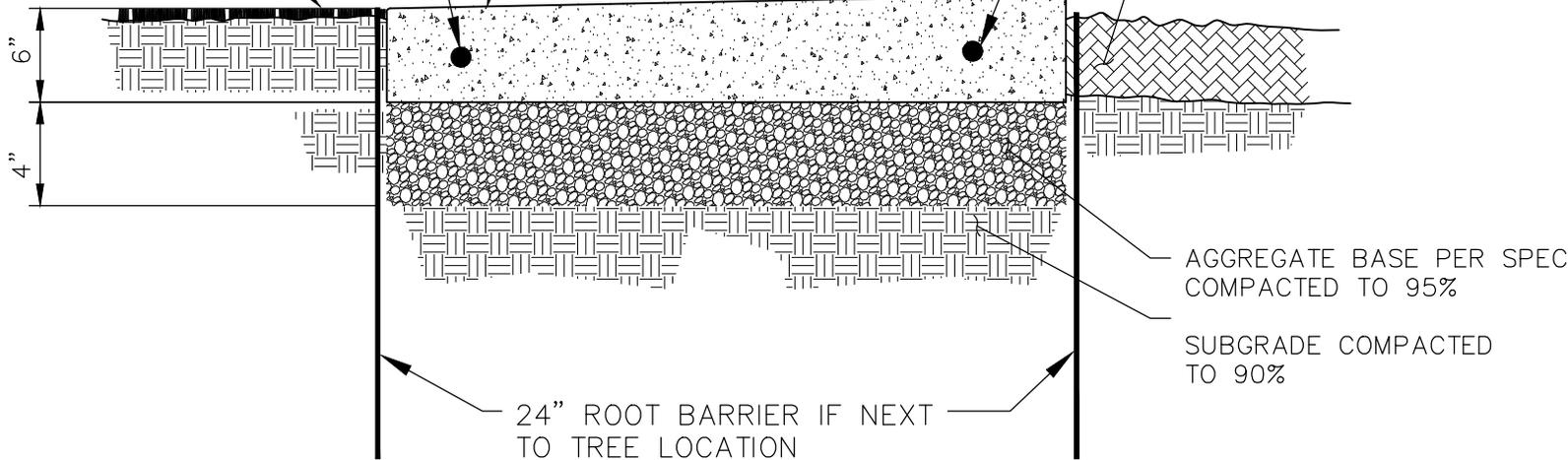
20 LF OF #4 REBAR IF NEXT TO TREE LOCATION

LAWN 1" BELOW TOP OF WALK

SLOPE TO DRAIN
MIN. 1%, MAX. 1.5%
(ACCESSIBLE PATHS
CAN'T BE MORE THAN 1.5%)

EASE ALL EDGES TO 1/2"R

3" DEEP MULCH 1' BELOW TOP OF WALK



AGGREGATE BASE PER SPEC
COMPACTED TO 95%

SUBGRADE COMPACTED
TO 90%

24" ROOT BARRIER IF NEXT TO TREE LOCATION

NOTES:

1. PROVIDE 1" DEEP SCORE JOINTS AT 10'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 20'-0" INTERVALS.
3. CLASS "B" CONCRETE.
4. MEDIUM BROOM FINISH PERPENDICULAR TO WALK EDGE UNLESS OTHERWISE SPECIFIED.
5. PROVIDE FULL DEPTH FELT EXPANSION JOINTS WHEN ABUTTING WALKS, WALLS AND BUILDINGS.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**CONCRETE WALK
(IN PARK AREAS, NOT FRONTAGE
AREAS)**

APPROVED BY:

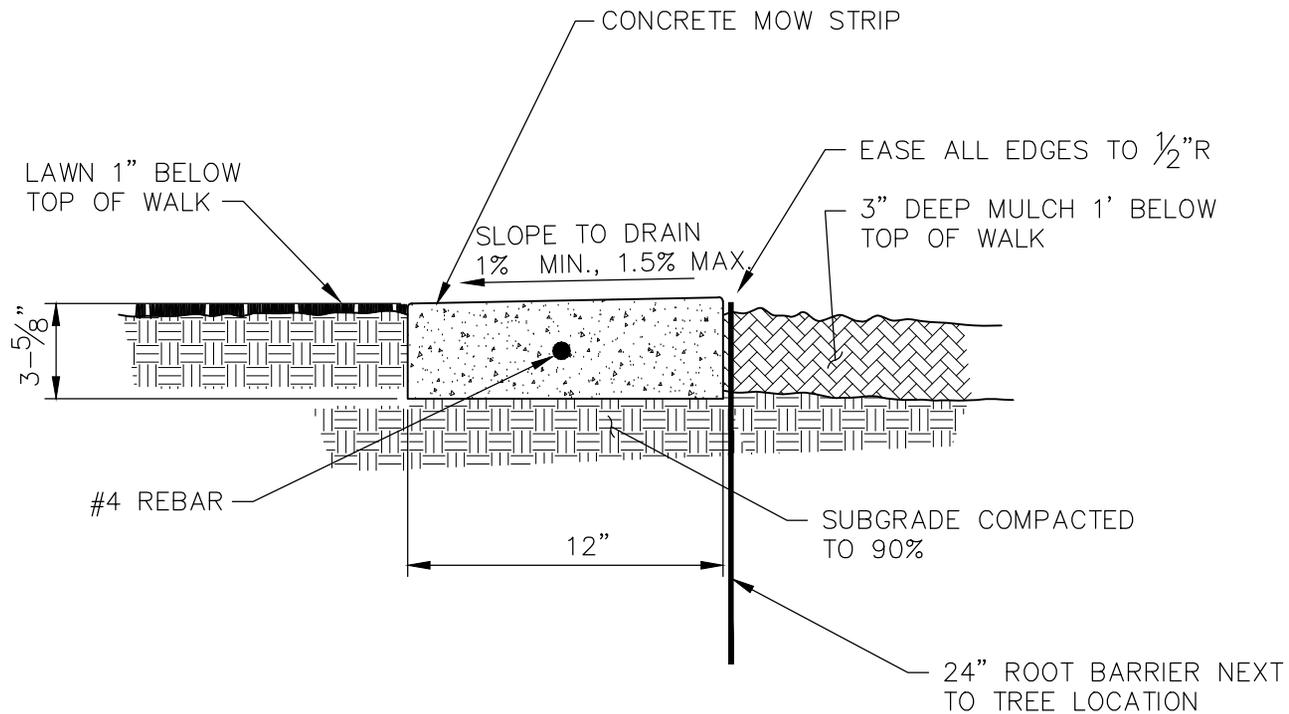
CITY ENGINEER

DATE



DRAWING NUMBER

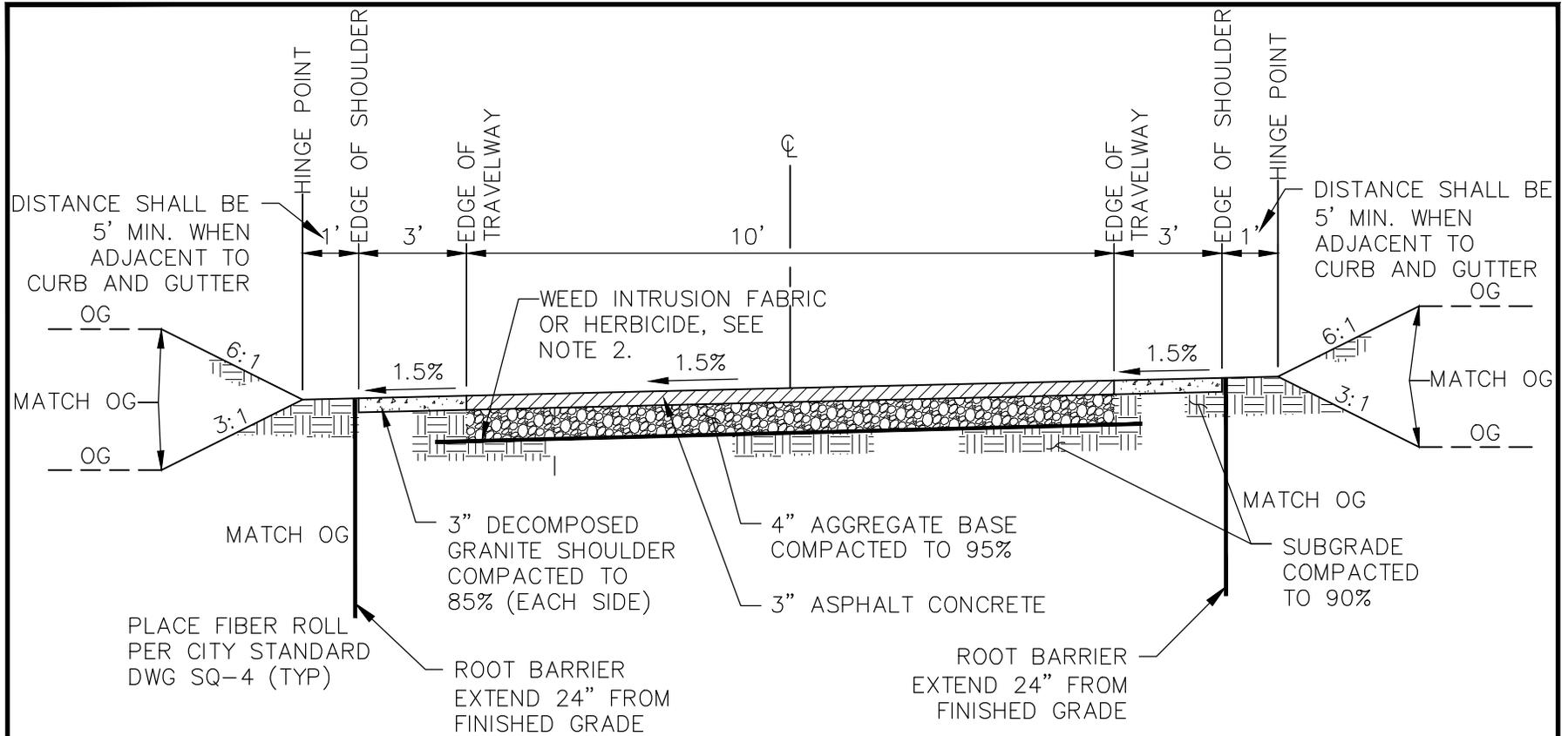
L - 23



NOTES:

1. PROVIDE 1" DEEP SCORE JOINTS AT 10'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 20'-0" INTERVALS.
3. CLASS "B" CONCRETE.
4. MEDIUM BROOM FINISH UNLESS OTHERWISE SPECIFIED.
5. PROVIDE FULL DEPTH FELT EXPANSION JOINTS WHEN ABUTTING WALKS, WALLS AND BUILDINGS.

DATE: 09/22/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	CONCRETE MOW STRIP		CITY ENGINEER	DATE
						DRAWING NUMBER	
						L - 24	



NOTES:

1. APPLY PRE-EMERGENT HERBICIDE UNDER DECOMPOSED GRANITE PRIOR TO INSTALLING IT.
2. APPLY PRE-EMERGENT HERBICIDE OR WEED INTRUSION FABRIC TO AGGREGATE BASE PRIOR TO PAVING ASPHALT CONCRETE.
3. APPLY A 4" WIDE SOLID THERMOPLASTIC YELLOW CENTERLINE STRIPE CONTINUOUSLY DOWN THE CENTER OF THE BIKE TRAIL.
4. A MINIMUM 3-FOOT HORIZONTAL CLEARANCE FROM THE PAVED EDGE OF A BIKE PATH TO OBSTRUCTIONS SHALL BE PROVIDED.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

BIKE TRAIL PAVING SECTION

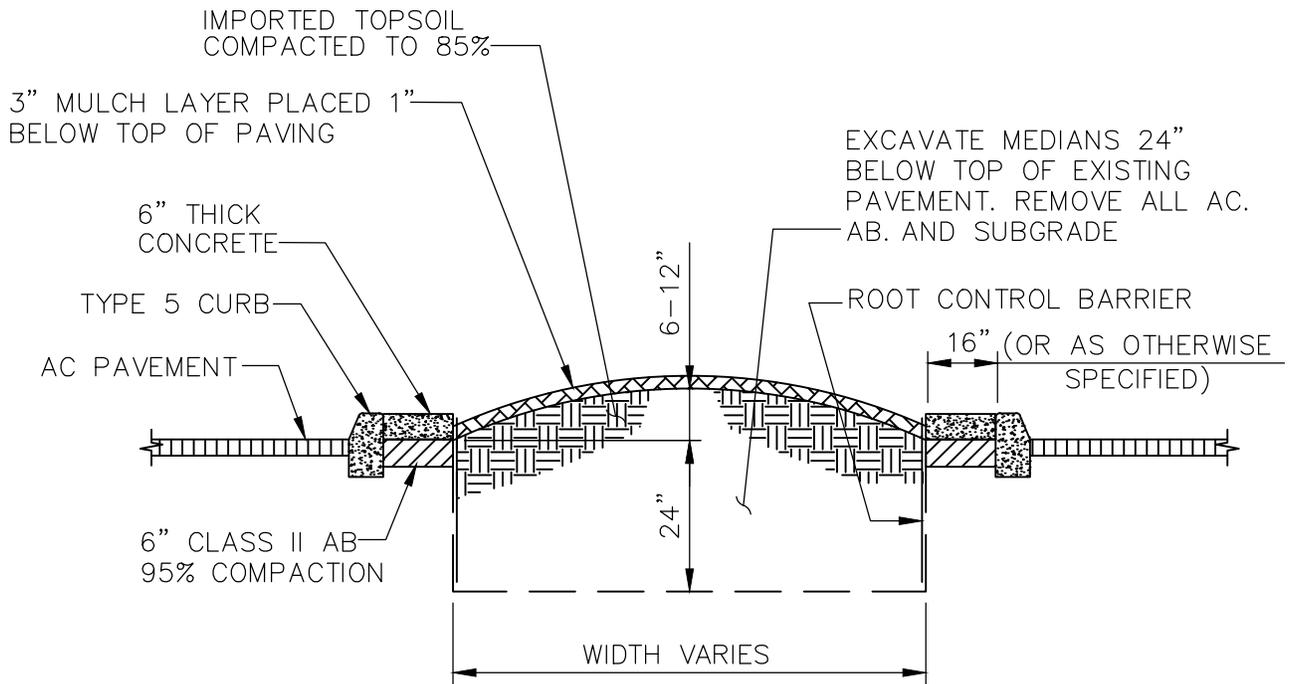
APPROVED BY: _____

CITY ENGINEER _____ DATE _____

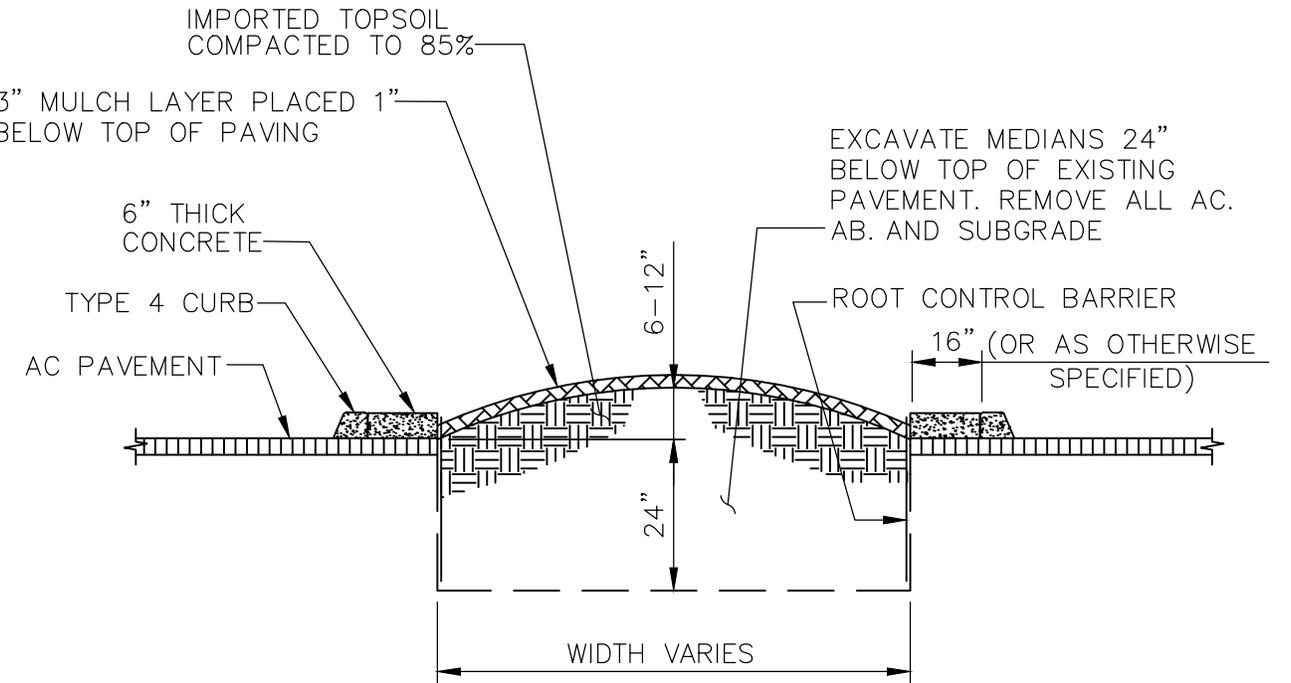
DRAWING NUMBER

L - 25





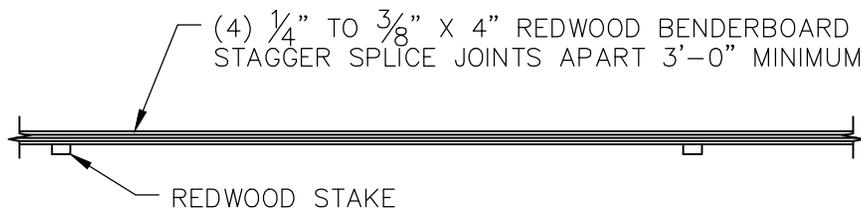
TYPE 5 CURB



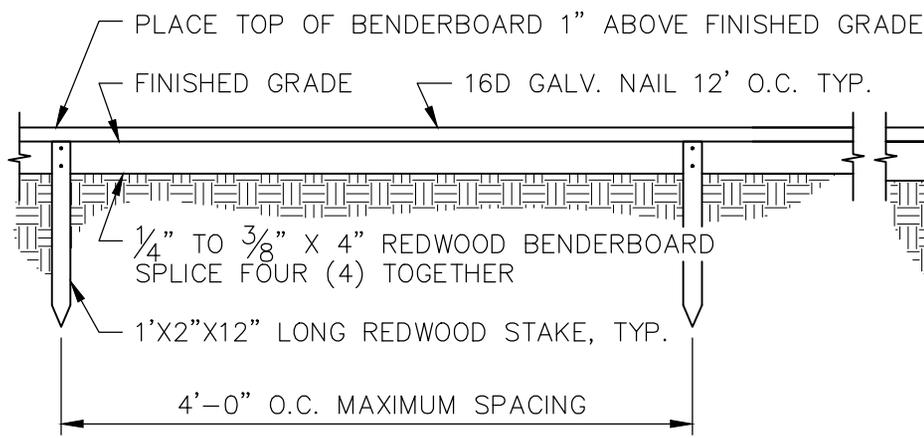
TYPE 4 CURB

NOTE: CONTOUR OF MEDIAN WILL VARY DEPENDING
UPON MEDIAN WIDTH. DO NOT EXCEED BID QUANTITY
OF IMPORTED TOPSOIL TO ACHIEVE 12" HEIGHT.

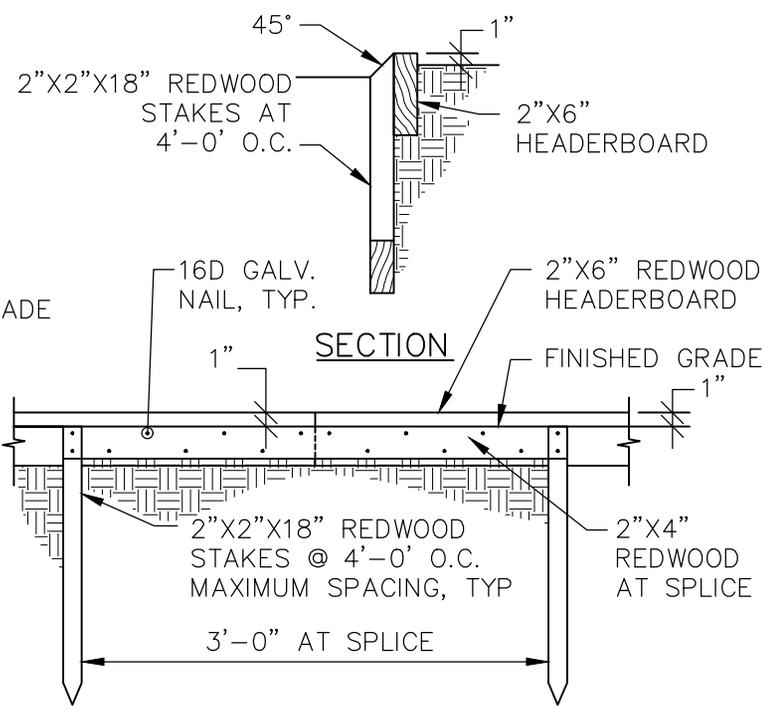
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	ROADWAY MEDIAN SECTION		CITY ENGINEER	DATE
						DRAWING NUMBER	
						L - 26	
							



BENDERBOARD PLAN VIEW



ELEVATION VIEW
1/4" TO 3/8" X 4" BENDERBOARD



SPLICE DETAIL
2" X 6" HEADERBOARD

- NOTES:
1. INSTALL ALL STAKES AND SPLICES ON PLANTING SIDE OF HEADERBOARD.
 2. ALL NAILS SHALL BE GALVANIZED.
 3. ALL REDWOOD SHALL BE ROUGH CONSTRUCTION COMMON GRADE IN ACCORDANCE TO CALIFORNIA REDWOOD ASSOCIATION GRADING RULES. DRIVE STAKES TO RESISTANCE AND CUT TOP AT 45 DEGREE ANGLE.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

REDWOOD HEADERBOARD

APPROVED BY: _____

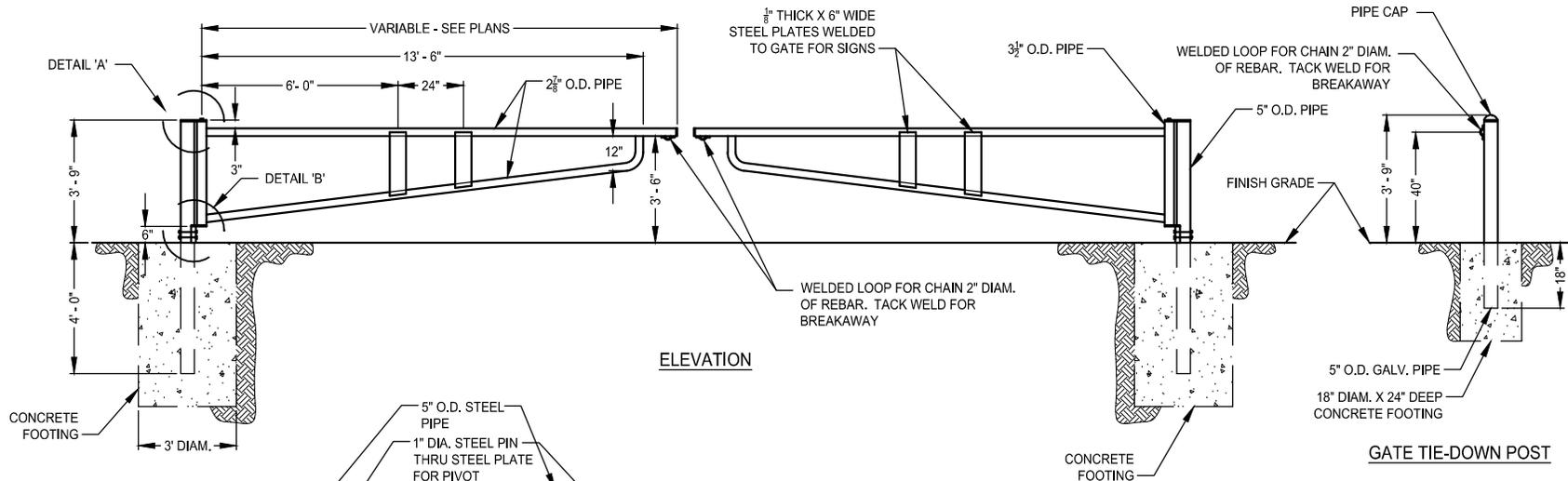
XX/XX/2017

CITY ENGINEER _____ DATE _____

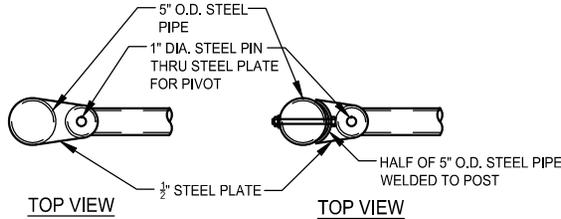
DRAWING NUMBER

L - 27



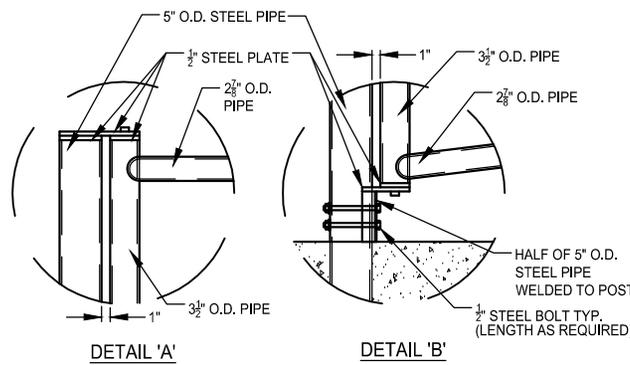


ELEVATION



TOP VIEW

TOP VIEW



DETAIL 'A'

DETAIL 'B'

NOTES:

1. DOUBLE PIPE GATES SHALL BE USED FOR ROADWAYS OR DRIVEWAYS OVER 24' WIDE OPENING.
2. ALL PIPES SHALL BE BLACK STEEL PIPES. OUTSIDE DIAMETER (O.D.) AND WELDED.
3. ALL STEEL TO BE PAINTED WITH 2 COATS OF PRIMER AND INSIGNIA YELLOW.
4. PROVIDE TWO (2) 5" O.D. PIPES AND INSTALL WITH CONCRETE FOOTING (18" X 24" D) FOR TIE-DOWN WHEN GATE IS OPENED AND CLOSED.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

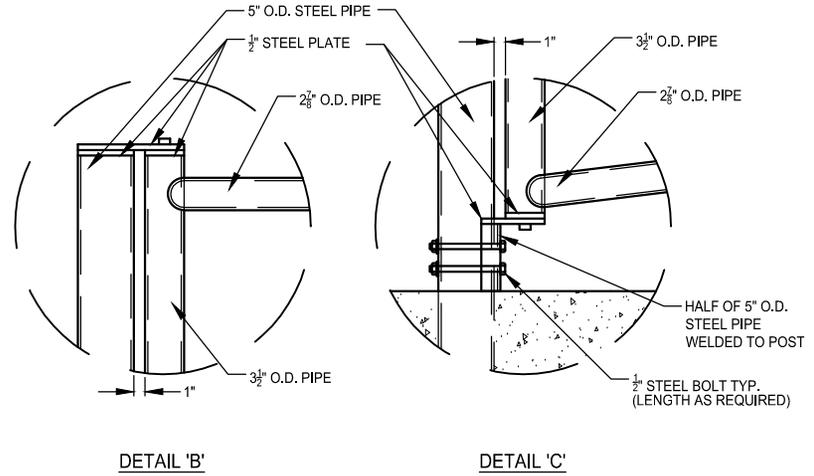
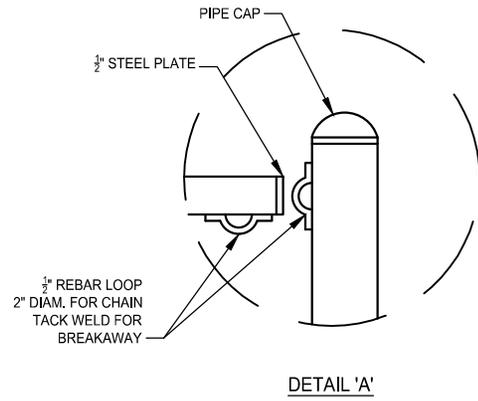
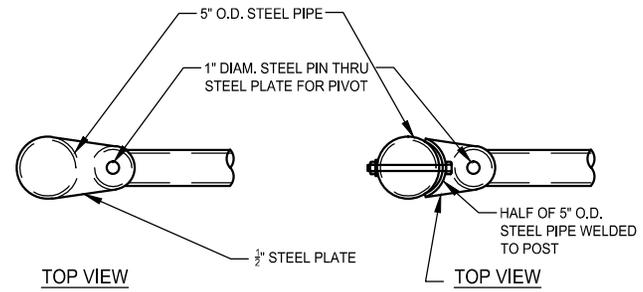
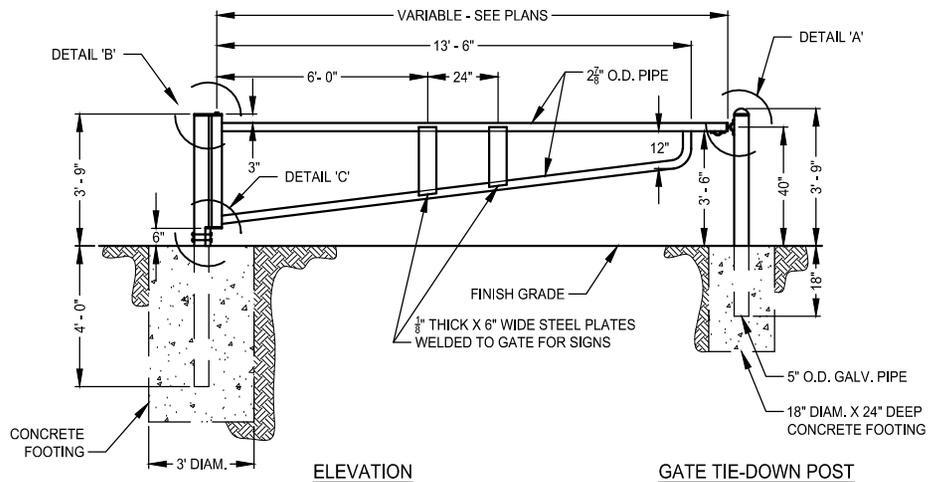
APPROVED BY:
 _____ XX/XX/2017
 CITY ENGINEER DATE

DOUBLE PIPE GATE



DRAWING NUMBER

L - 28



NOTES:

1. SINGLE PIPE GATE SHALL BE USED FOR ROADWAYS OR DRIVEWAYS UP TO 24' WIDE MAXIMUM OPENING.
2. ALL PIPES SHALL BE BLACK STEEL PIPES, OUTSIDE DIAMETER (O.D.) AND WELDED.
3. ALL STEEL TO BE PAINTED WITH 2 COATS OF PRIMER AND INSIGNIA YELLOW.
4. PROVIDE TWO (2) 5" O.D. PIPES AND INSTALL WITH CONCRETE FOOTING (18" X 24" D) FOR TIE-DOWN WHEN GATE IS OPENED AND CLOSED.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

SINGLE PIPE GATE

APPROVED BY: _____

XX/XX/2017

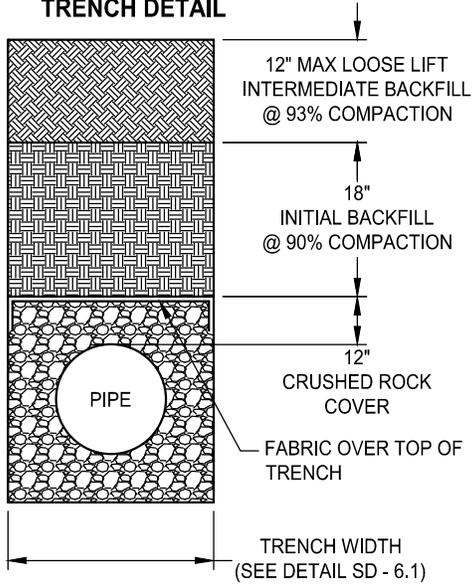
CITY ENGINEER DATE

DRAWING NUMBER

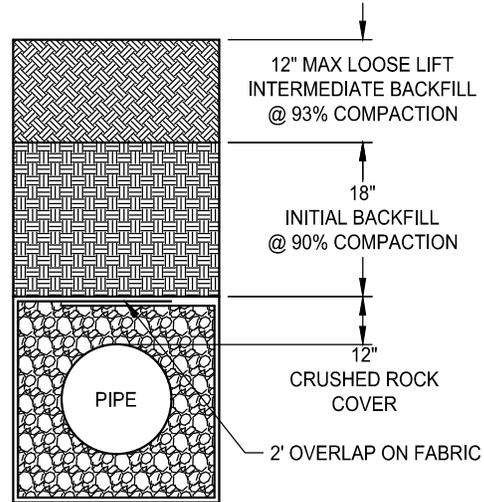
L - 29



TYPE "A"
SANITARY SEWER / STORM DRAIN
TRENCH DETAIL



TYPE "B"
SANITARY SEWER / STORM DRAIN
TRENCH DETAIL

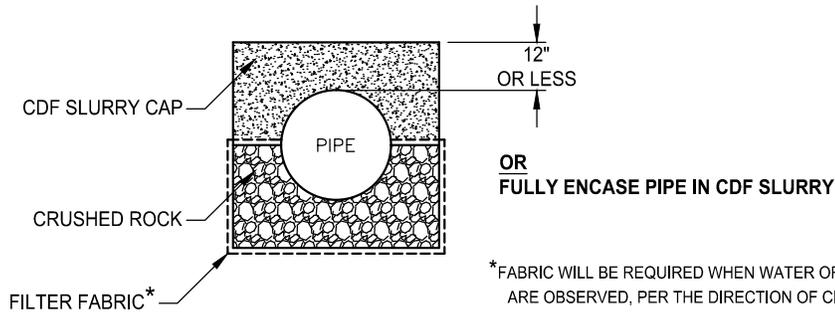


NOTES

- 1 GEOTECTILE FABRIC, PER CITY OF ELK GROVE STANDARD SPECIFICATIONS.
- 2 IF SUBGRADE IS WITHIN 12" OF TOP OF PIPE, BACKFILL MATERIAL TO BE CLASS 2 AGGREGATE BASE, OR CDF PER SPECIFICATIONS.
- 3 INITIAL BACKFILL TO BE PLACED IN AN 18" LOOSE LIFT, COMPACTED TO 12".
- 4 TRENCH DAMS TO BE INSTALLED EVERY MANHOLE RUN.
- 5 CDF BACKFILL AROUND MANHOLES TO BE INSTALLED PER SPECIFICATIONS.

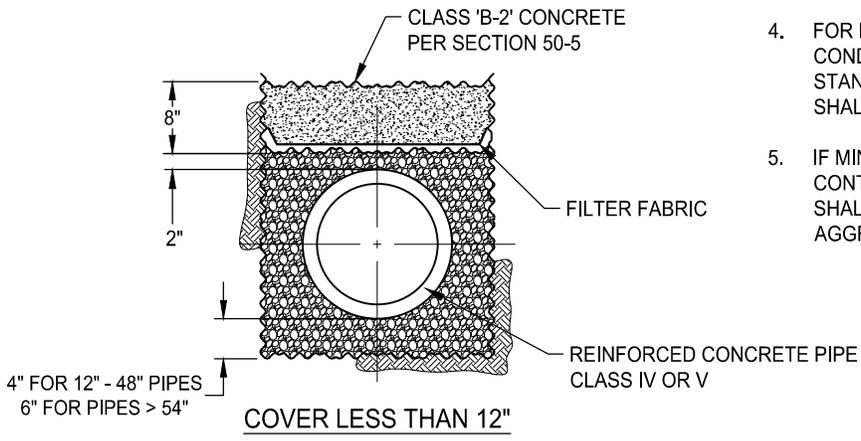
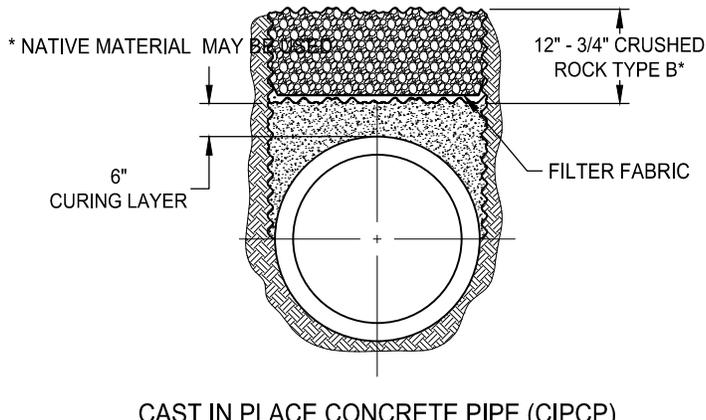
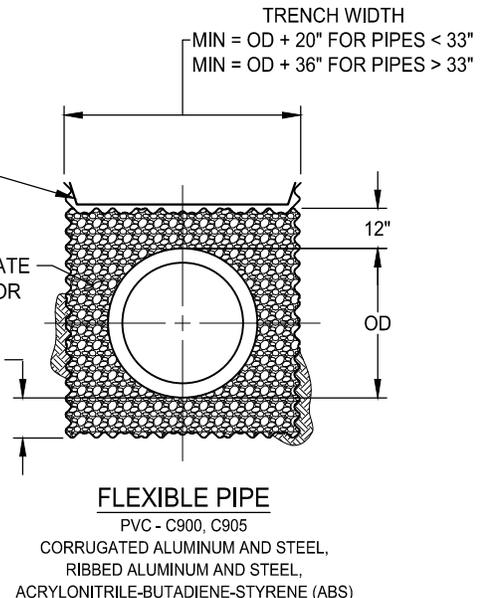
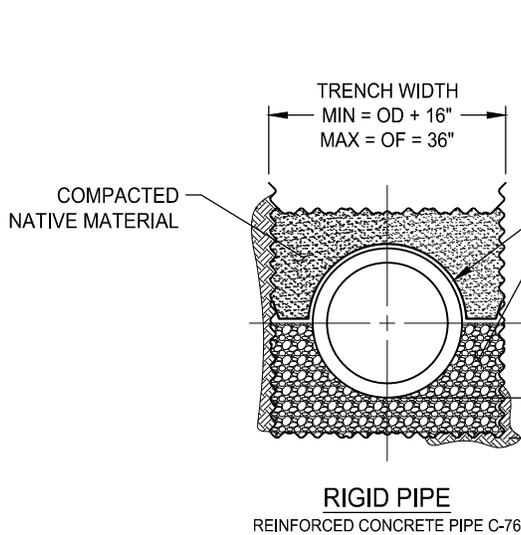
TYPE "C"
STORM DRAIN TRENCH DETAIL FOR SHALLOW COVER

FOR USE WITH PVC PIPE ONLY
 RCP CLASS IV OR V TO BE BACKFILLED PER NOTE 2



*FABRIC WILL BE REQUIRED WHEN WATER OR SOIL STABILITY CONDITIONS ARE OBSERVED, PER THE DIRECTION OF CITY GEOTECHNICAL STAFF.

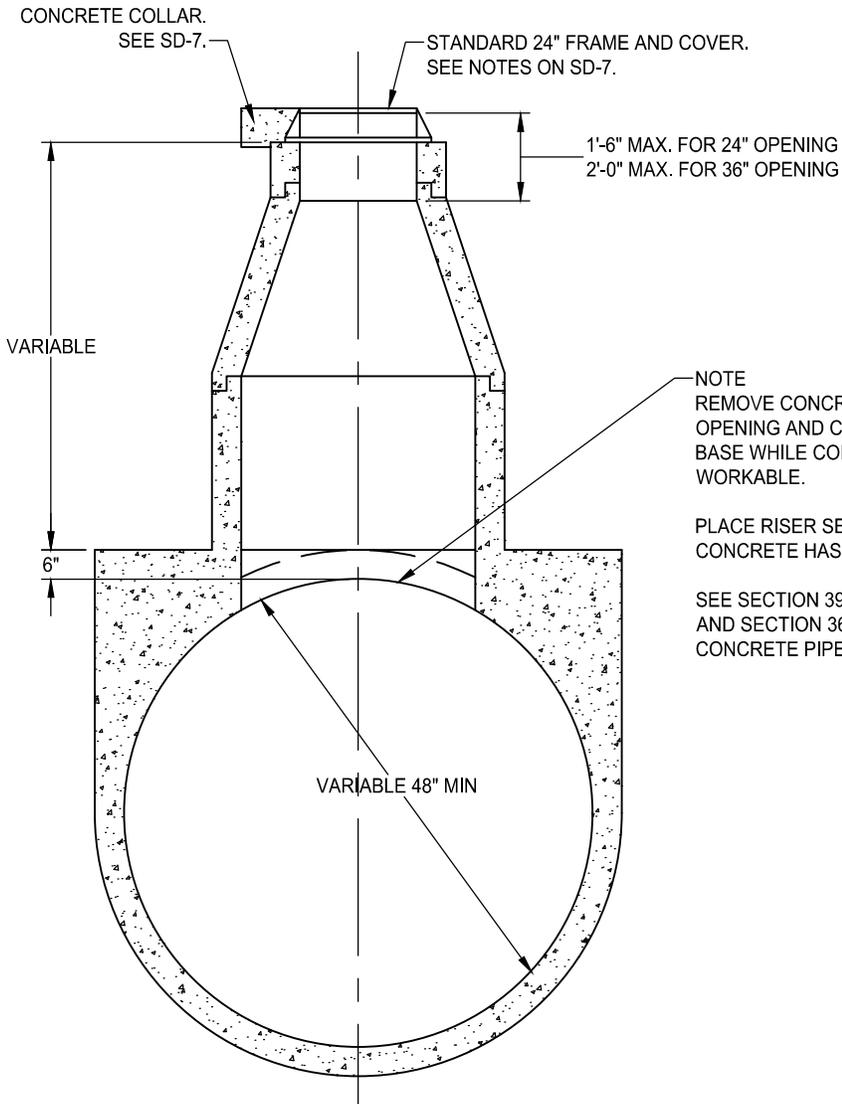
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE			CITY ENGINEER	
STORM DRAIN TRENCH DETAIL				 DRAWING NUMBER SD - 6.0			



GENERAL NOTES:

1. INITIAL BACKFILL MATERIAL SHALL BE THOROUGHLY COMPACTED AROUND PIPE BY SHOVEL SLICING OR TAMPING.
2. SEE SECTION 19 "TRENCH EXCAVATION, BEDDING AND BACKFILL."
3. MINIMUM DEPTH OF BEDDING MATERIAL SHALL BE 1-1/2 INCHES BELOW THE PIPE BELL.
4. FOR ROCKY OR FOR UNSTABLE BEDDING CONDITIONS, SECTION 19-1.07 OF THE STANDARD CONSTRUCTION SPECIFICATIONS SHALL APPLY.
5. IF MINIMUM WIDTH CANNOT BE ACHIEVED, CONTROL DENSITY FILL PER SECTION 50-15 SHALL BE USED IN LIEU OF 3/4" CRUSHED AGGREGATE AT NO EXTRA COST.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	STORM DRAIN PIPE BEDDING AND INITIAL BACKFILL		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SD - 6.1	



NOTE
 REMOVE CONCRETE IN MANHOLE
 OPENING AND CONSTRUCT RISER
 BASE WHILE CONCRETE IS STILL
 WORKABLE.

PLACE RISER SECTION AFTER
 CONCRETE HAS SET.

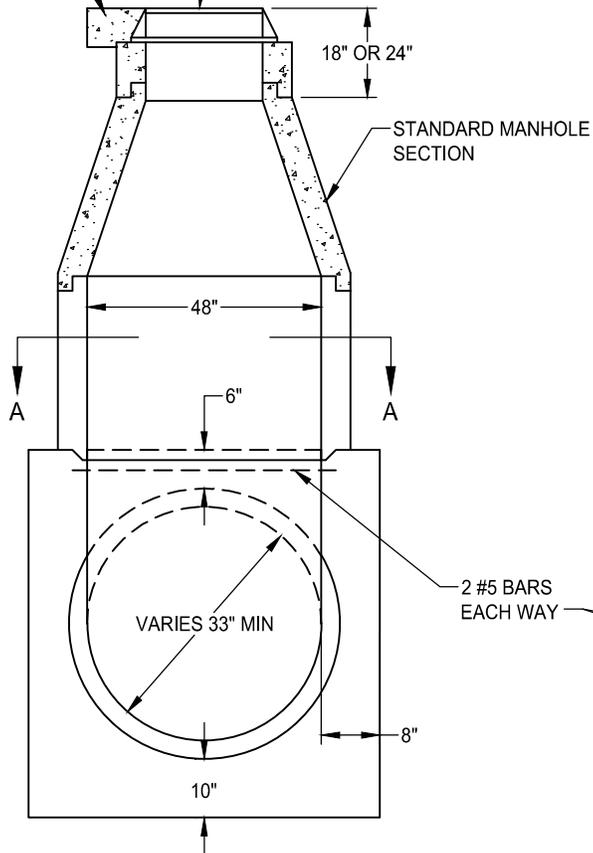
SEE SECTION 39, "MANHOLES,"
 AND SECTION 36, CAST-IN-PLACE
 CONCRETE PIPE.

TYPE A
CAST-IN-PLACE PIPE ONLY

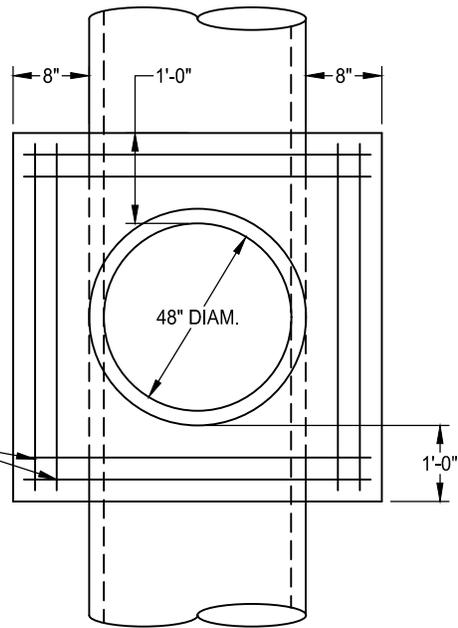
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	TYPE A SADDLE MANHOLE		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SD - 8A	
							

CONCRETE COLLAR
(SEE STD DWG SD-7)

STANDARD 24" FRAME AND COVER
SEE NOTES ON STD DWG SD-7



TYPE B

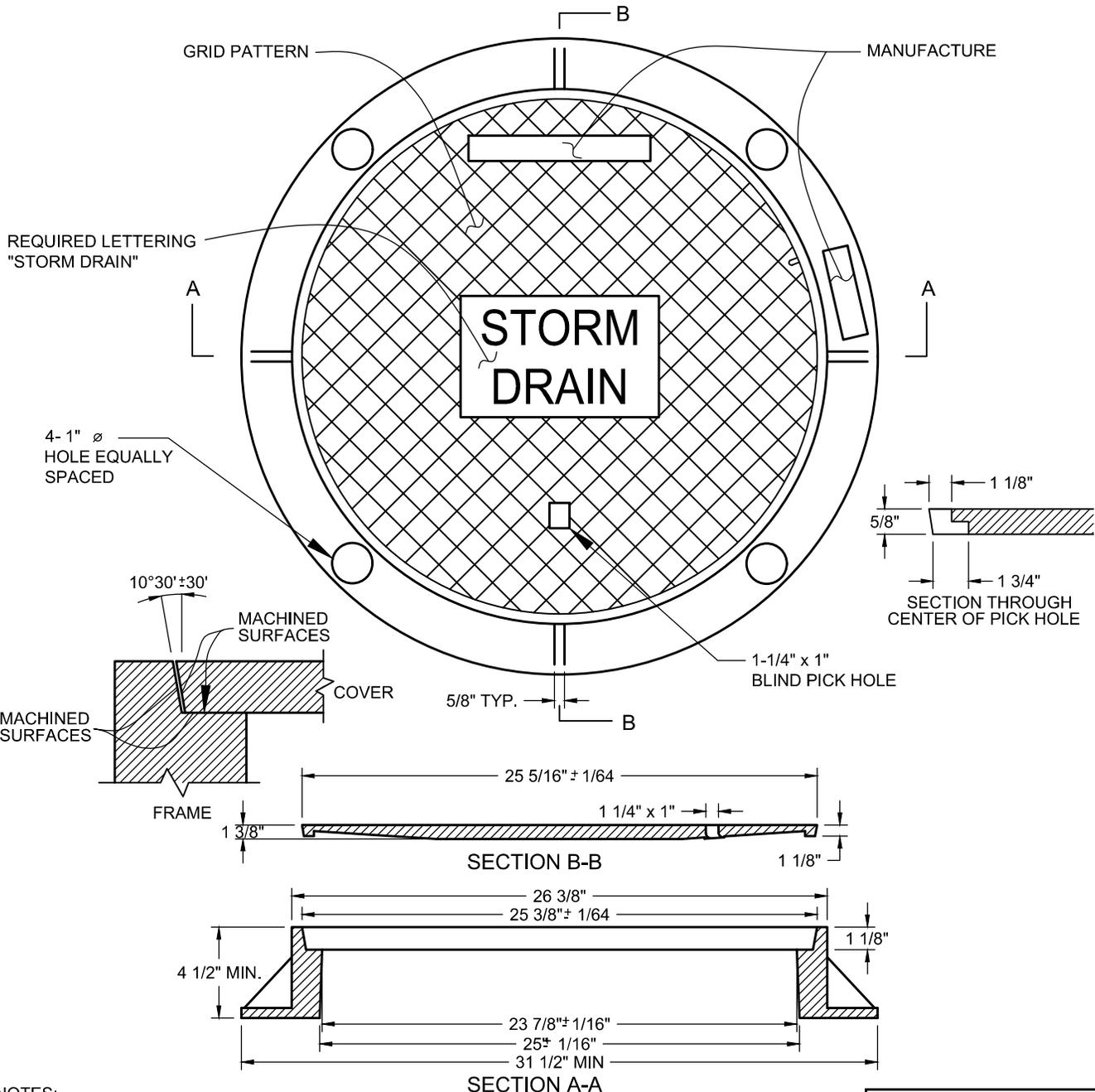


SECTION A-A

NOTES:

1. CONCRETE SHALL BE CLASS "A" IN CONFORMANCE WITH ARTICLE 50-5 "PORTLAND CEMENT CONCRETE."
2. SEE SECTION 39, "MANHOLES."

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	<p>TYPE B SADDLE MANHOLE</p>		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SD - 8B	

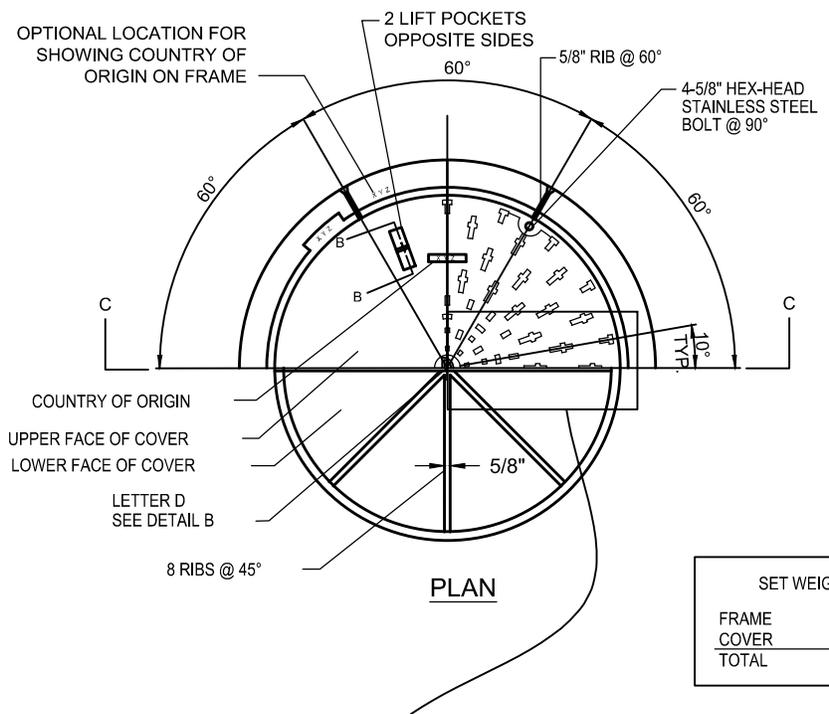


NOTES:

1. ALL CASTINGS TO CONFORM TO ASTM A48, CLASS 35B.
2. FRAME AND COVER TO MEET H-20 LOAD SPECIFICATIONS.
3. MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES NOT TO EXCEED 1/64" TOLERANCE.
4. FRAME AND COVER SHALL HAVE A COATING OF BLACK BITUMINOUS MATERIAL.
5. LOCKING COVER TYPE FRAME AND COVERS SHALL BE USED IN EASEMENT AREAS UNLESS OTHERWISE APPROVED.

SET WEIGHT	
FRAME	140 LBS
COVER	130 LBS
TOTAL	270 LBS

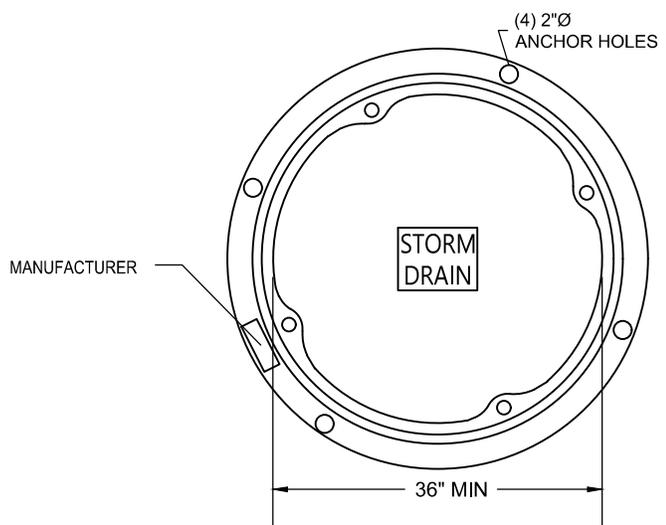
DATE: 09/22/2017	NOT TO SCALE	CITY OF ELK GROVE - PUBLIC WORKS	APPROVED BY: _____
REVISION	BY	GREY CAST IRON STANDARD 24" MANHOLE FRAME & COVER	CITY ENGINEER _____ DATE _____
			DRAWING NUMBER SD - 9
			DRAWING NUMBER SD - 9



SET WEIGHT	
FRAME	310 LBS
COVER	290 LBS
TOTAL	600 LBS

NOTES:

1. ALL CASTINGS TO CONFORM TO ASTM A48, CLASS 35B.
2. FRAME AND COVER TO MEET H-20 LOAD SPECIFICATIONS.
3. MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES NOT TO EXCEED 1/64" TOLERANCE.
4. FRAME AND COVER SHALL HAVE A COATING OF BLACK BITUMINOUS PAINT.
5. LOCKING COVER TYPE FRAME AND COVERS SHALL BE USED WHEN SPECIFIED IN CONTRACT DOCUMENTS.
6. H20 RATED SLOTTED GRATE OR GRATE TYPE MANHOLE COVER MAY BE SUBSTITUTED FOR COVER WHEN SPECIFIED IN CONTRACT DOCUMENTS OR UPON APPROVAL OF DIRECTOR.
7. COVER SHALL BE "STORM DRAIN" STAMPED.



DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

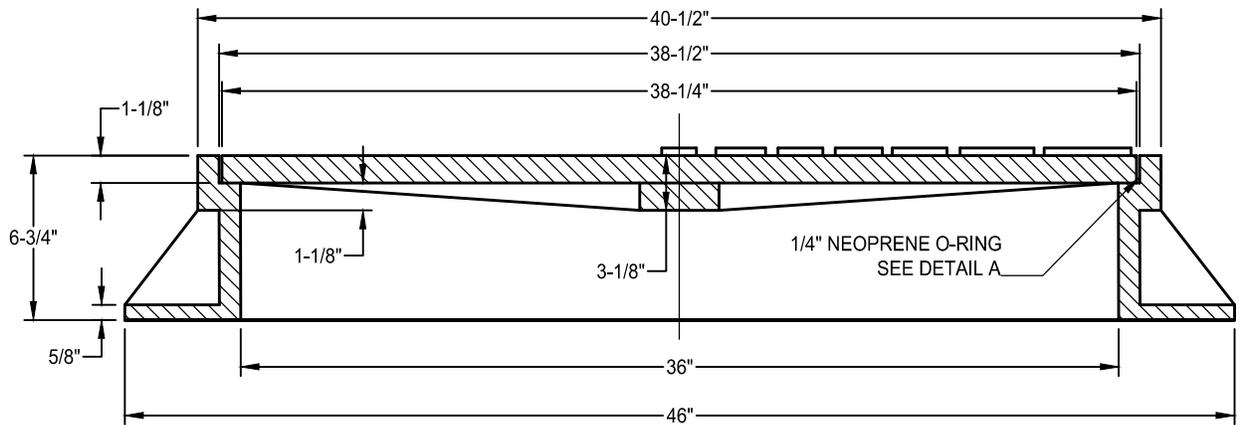
**GREY CAST IRON
STANDARD 36" MANHOLE
FRAME & COVER (PG 1 OF 2)**

APPROVED BY: _____

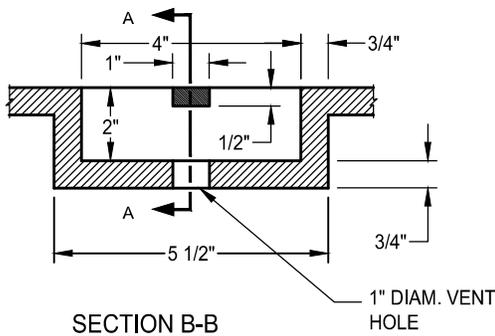
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
SD - 10.1



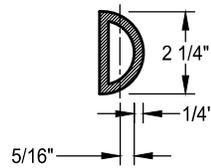


SECTION C-C

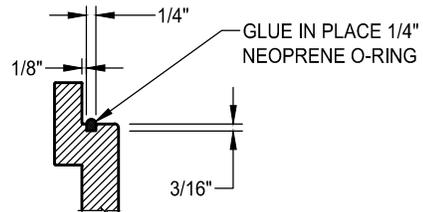


SECTION B-B

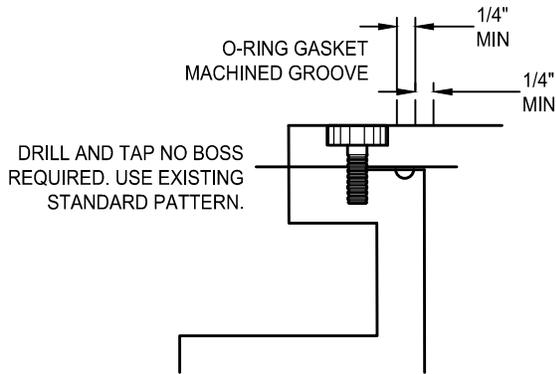
1" DIAM. VENT HOLE



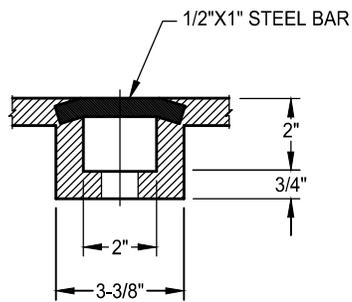
DETAIL B



DETAIL A

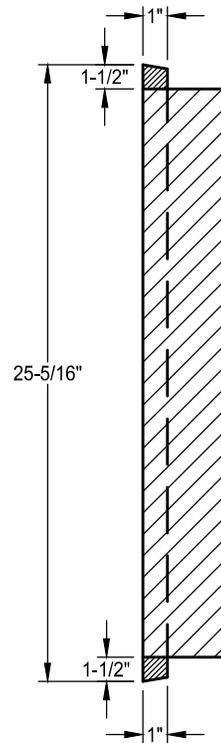
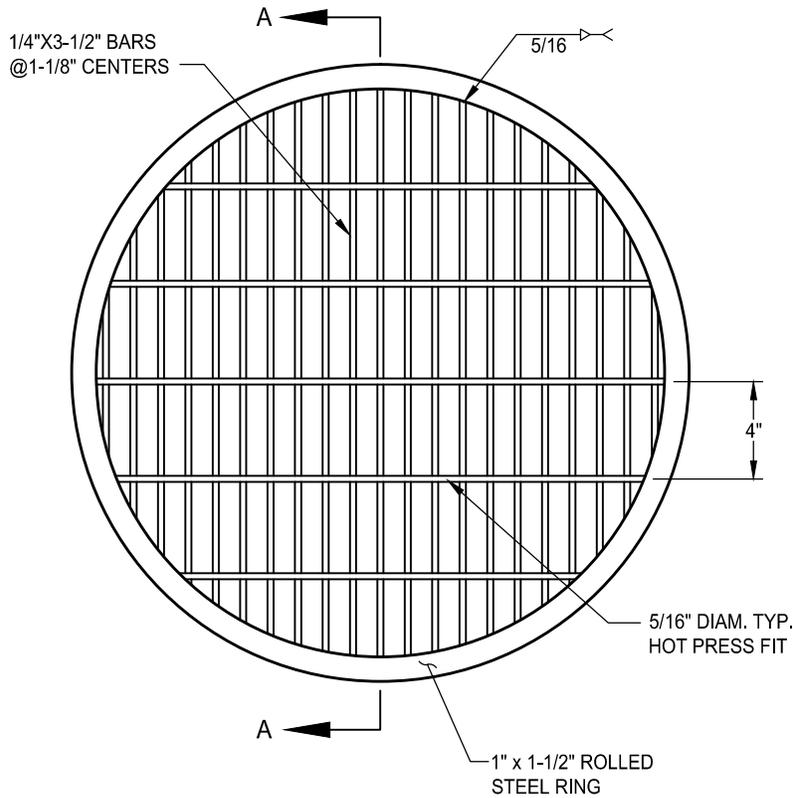


BOLT DOWN COVER DETAIL



SECTION A-A

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	GREY CAST IRON STANDARD 36" MANHOLE FRAME & COVER (PAGE 2 OF 2)		_____ XX/XX/2017 CITY ENGINEER DATE	
						DRAWING NUMBER	
							
						SD - 10.2	

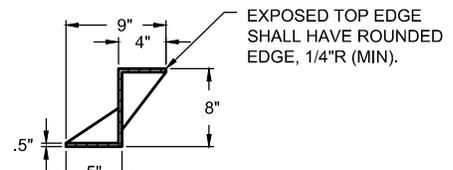
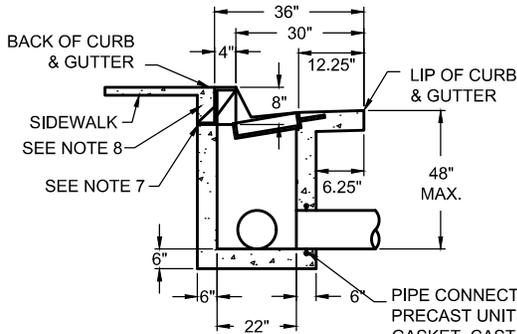
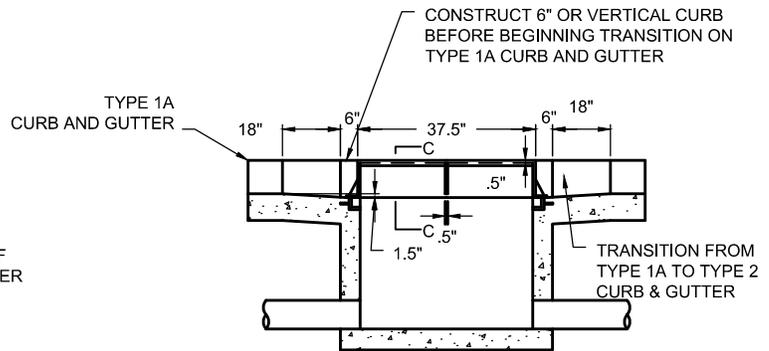
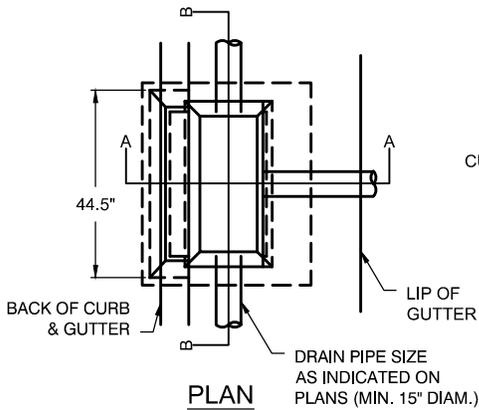


SECTION A-A

NOTES:

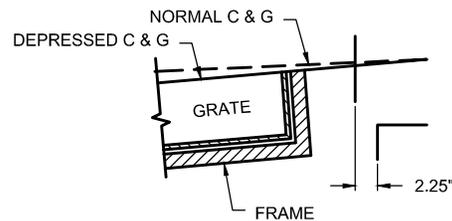
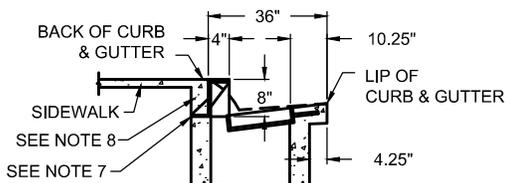
1. MANHOLE COVER SHALL FIT FRAME SHOWN ON STANDARD DRAWING SD-9.
2. SEATING SURFACES SHALL BE MACHINED AS SHOWN IN DETAIL ON STANDARD DRAWING SD-9.
3. THIS COVER MAY BE USED ONLY WITH APPROVAL OF THE CITY ENGINEER.
4. GALVANIZE AFTER FABRICATION.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	GRATE TYPE MANHOLE COVER		_____ CITY ENGINEER	
						_____ DATE	
						DRAWING NUMBER	
						SD - 11	
							



SECTION A-A
TYPE 2-VERTICAL C&G

PIPE CONNECTIONS SHALL CONFORM TO ASTM C-923.
PRECAST UNITS SHALL BE BOOT TYPE OR COMPRESSION GASKET. CAST-IN-PLACE UNITS SHALL INCLUDE A WATER STOP.



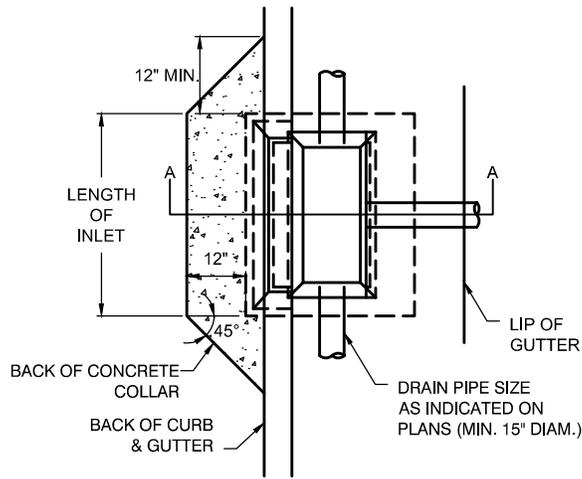
SECTION A-A
TYPE 1A - ROLLED C&G

CURB AND GUTTER
WITH FRAME DETAIL

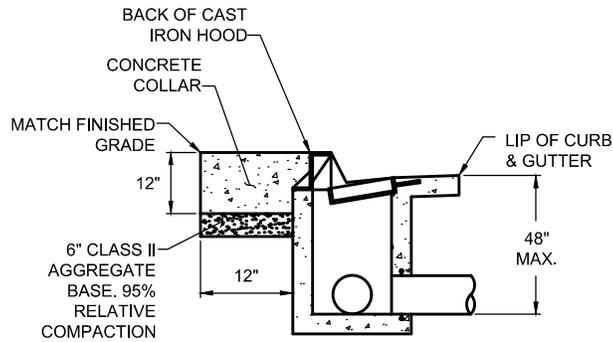
NOTES

1. STANDARD DEPRESSION FOR INLET IS 1-1/2" AND LIP OF GUTTER MUST BE SET BACK 3" FROM GUTTER FLOW LINE.
2. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWINGS SD-14 AND SD-15.
3. OPEN-BACK HOOD SHALL BE H-20 RATED.
4. EXPOSED EDGES SHALL HAVE A 1/8" R (MINIMUM).
5. AN EDGING TOOL SHALL BE USED ON ALL EDGES WHERE THE CONCRETE SIDEWALK AND CURB MEET THE TOP OF THE HOOD.
6. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.
7. SEE SD-12.1 FOR INSTALLATION OF INLETS AT DETACHED SIDEWALKS.
8. INCREASE SIDEWALK THICKNESS TO 8" IN ORDER TO ANCHOR CAST IRON HOOD AND INLET WALL. WIDTH TO BE 6" MINIMUM.
9. WHEN MORE THAN ONE GRATE IS PROPOSED, STD DWG SD-16 FOR SUPPORT ASSEMBLY.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	<div style="display: flex; justify-content: space-between;"> CITY ENGINEER DATE </div>			
<h2 style="margin: 0;">DROP INLET TYPE B</h2>				<div style="display: flex; justify-content: space-between; align-items: center;"> DRAWING NUMBER </div> <h1 style="margin: 0; font-size: 2em;">SD - 12</h1>			



PLAN

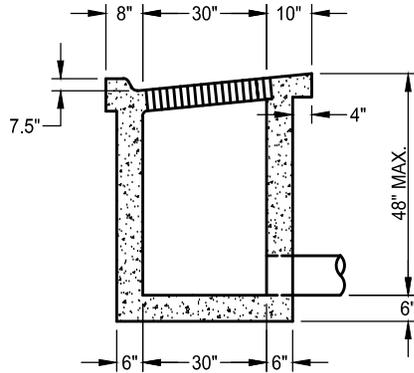


SECTION A-A

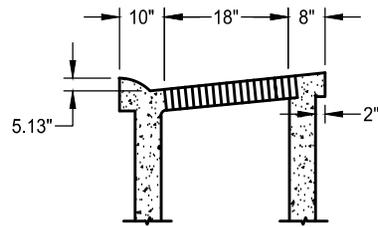
NOTES

1. TO BE USED ON TYPE 1A AND TYPE 2 CURB AND GUTTER WHERE INLETS ARE AT DETACHED SIDEWALKS.

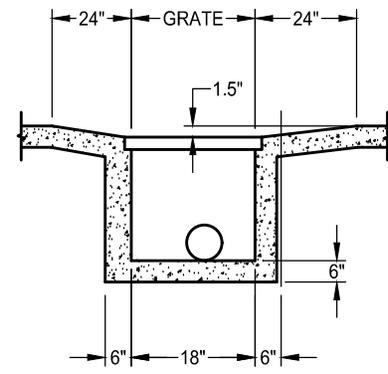
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	DROP INLET TYPE B AT DETACHED SIDEWALK		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SD - 12.1	
							



TYPE 2 CURB

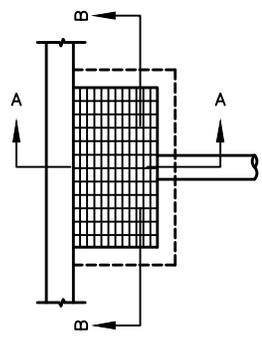


TYPE 1A CURB



SECTION B-B

SECTION A-A



NOTES

1. STANDARD DEPRESSION FOR INLET IS 1-1/2".
2. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWINGS SD-14 AND SD-15.
3. OPEN-BACK HOOD SHALL BE H-20 RATED.
4. ALL EXPOSED EDGES SHALL HAVE A 1/8" R (MINIMUM).
5. AN EDGING TOOL SHALL BE USED ON ALL EDGES WHERE THE CONCRETE SIDEWALK AND CURB MEET THE TOP OF THE HOOD.
6. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

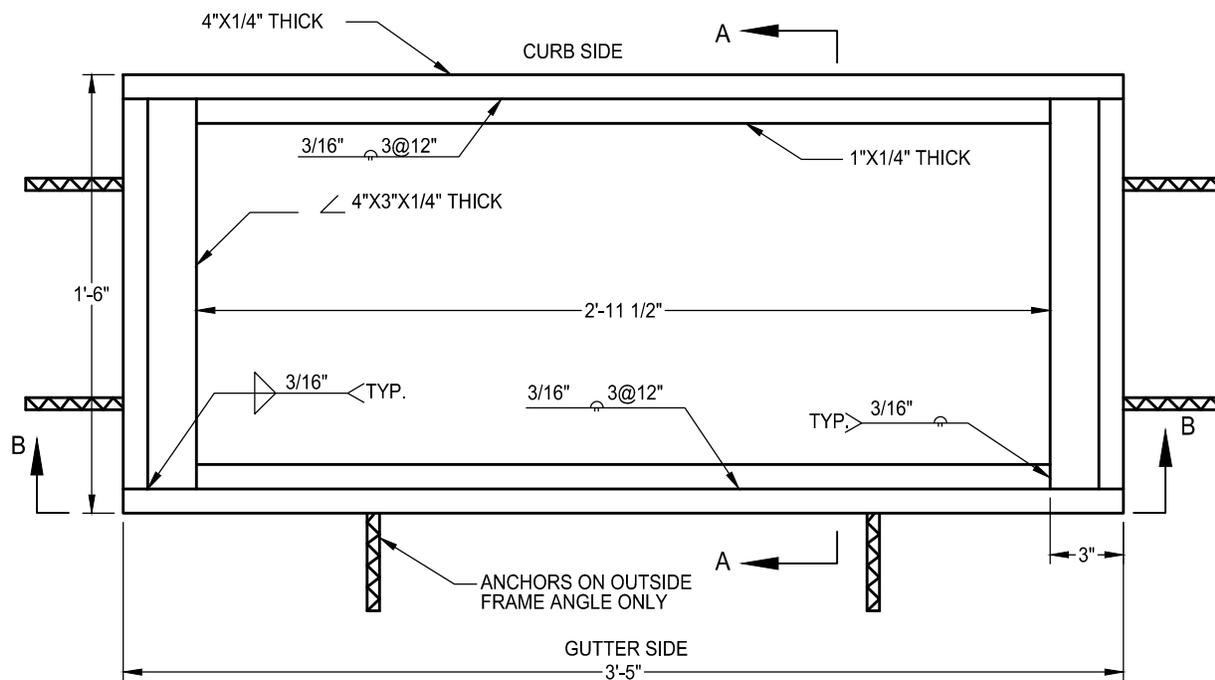
**DROP INLET
TYPE C**

APPROVED BY: _____

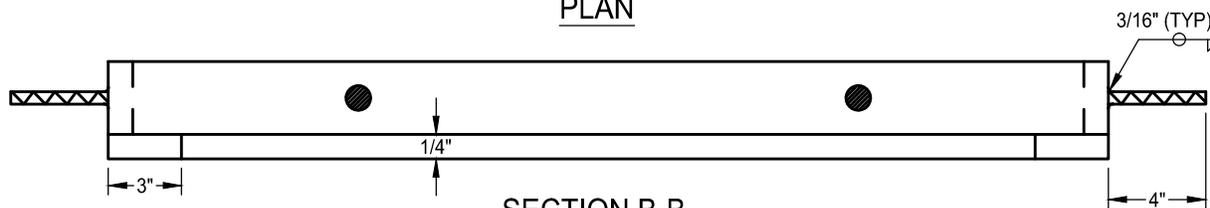
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
SD - 13

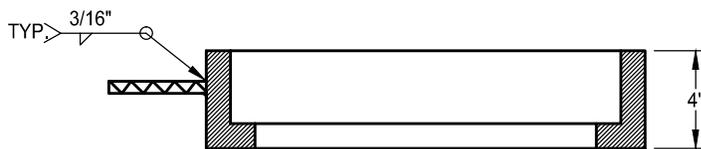




PLAN



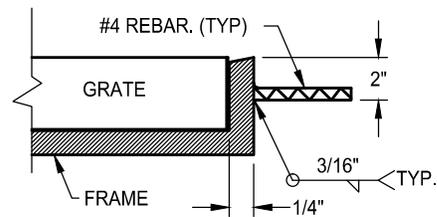
SECTION B-B



SECTION A-A

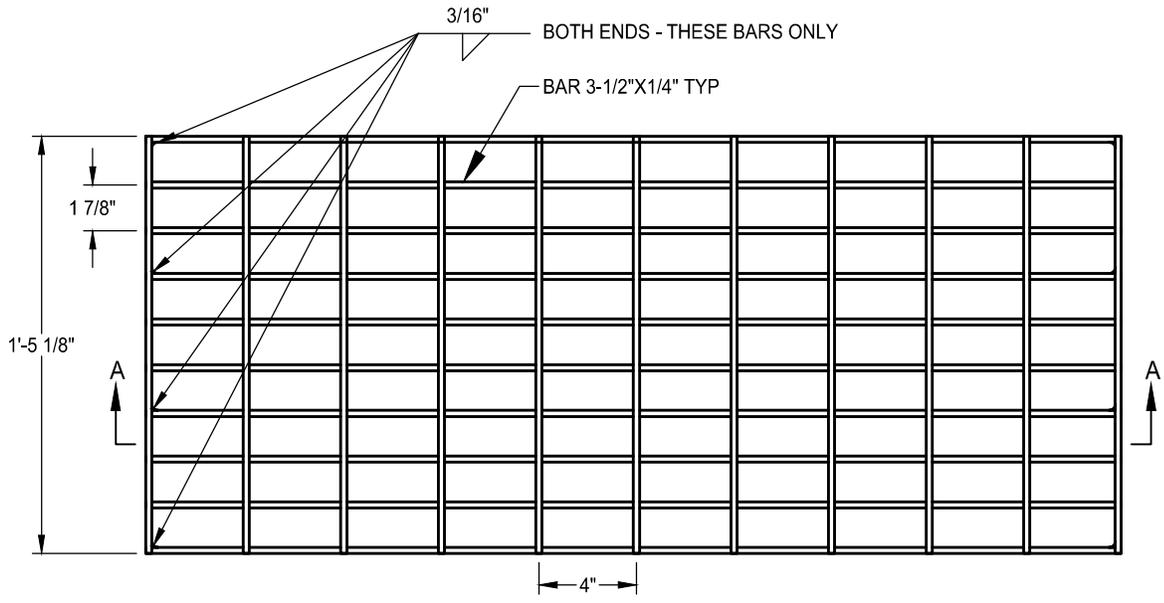
NOTES:

1. OMIT 1/2" FRAME ANCHORS OVER CENTER SUPPORT ASSEMBLY WHEN MULTIPLE FRAMES ARE USED.
2. MATERIAL: ASTM A36 MILD STEEL
3. SEE ARTICLE 50-31, "SEWER AND STORM DRAIN CASTINGS," OF SECTION 50.
4. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.

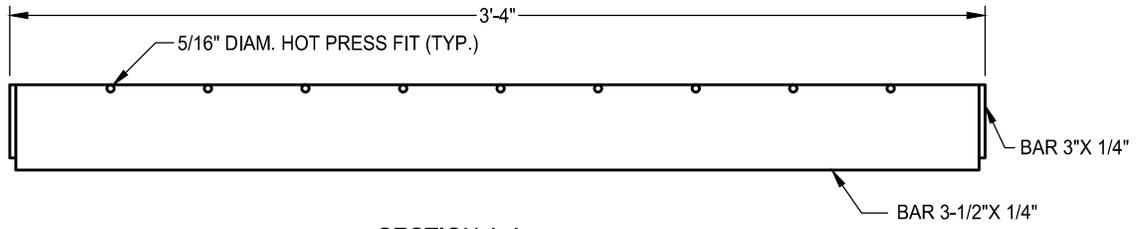


FRAME ANCHOR DETAIL

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
REVISION	BY	APPROVED	DATE	WELDED STEEL GRATE FRAME		XX/XX/2017	DATE
						DRAWING NUMBER	
						SD - 14	



PLAN



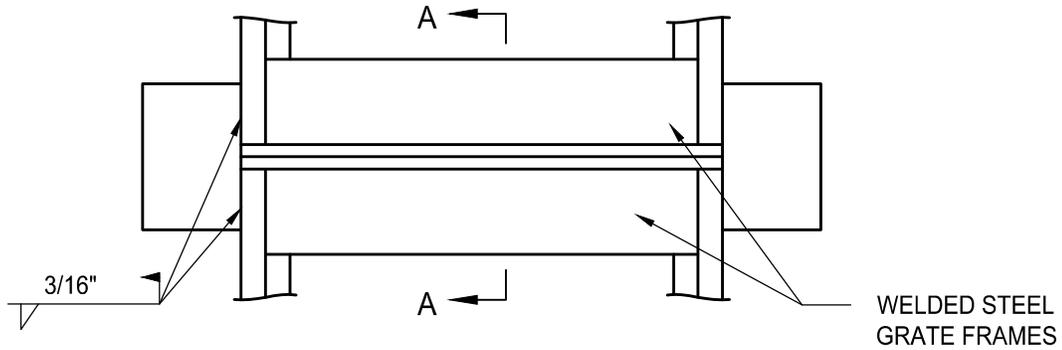
SECTION A-A

NOTES:

1. DIMENSIONS TO CENTERLINE OF BARS UNLESS OTHERWISE NOTED.
2. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
REVISION		BY		APPROVED		DATE	
WELDED STEEL GRATE						DRAWING NUMBER SD - 15	

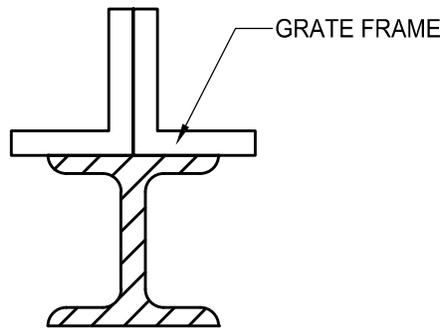




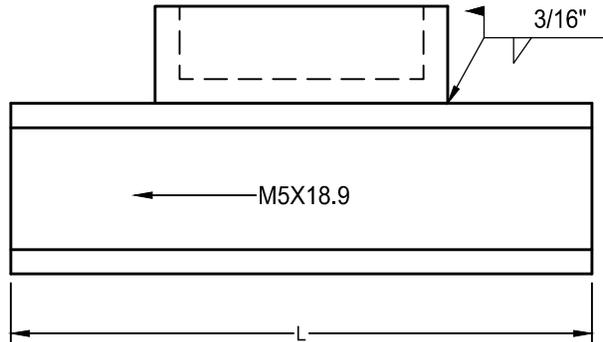
PLAN

NOTES:

1. OMIT 1/2" FRAME ANCHORS OVER CENTER SUPPORT.
2. L=57 INCHES FOR CURB OPENING CATCH BASIN WITH GRATING(S) AND DEBRIS SKIMMER (STANDARD PLAN 301).
3. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.

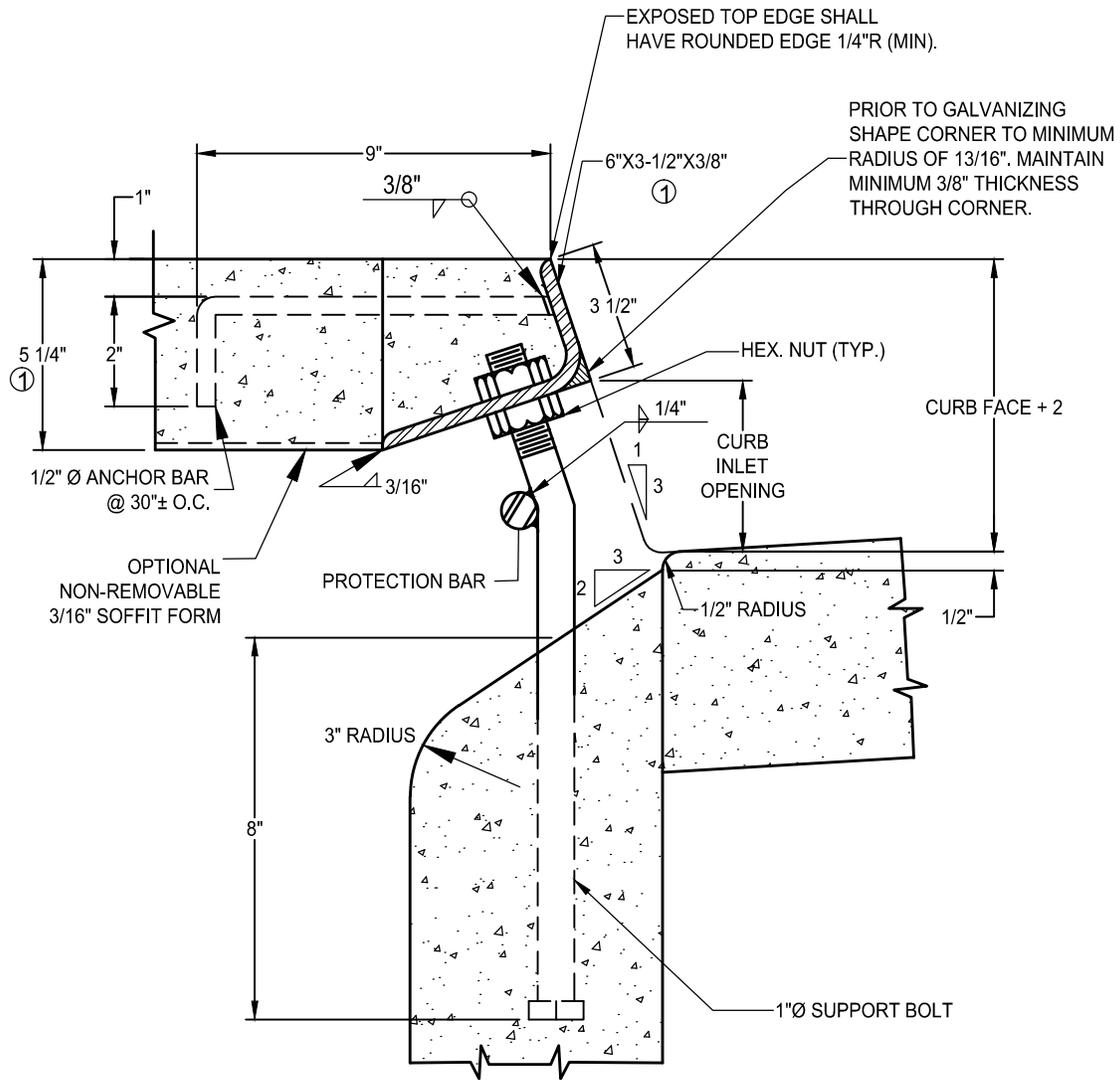


SECTION A-A



ELEVATION

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
				CENTER SUPPORT ASSEMBLY FOR MULTIPLE GRATES		_____ CITY ENGINEER	
						_____ DATE	
						DRAWING NUMBER	
						SD - 16	
REVISION	BY	APPROVED	DATE				



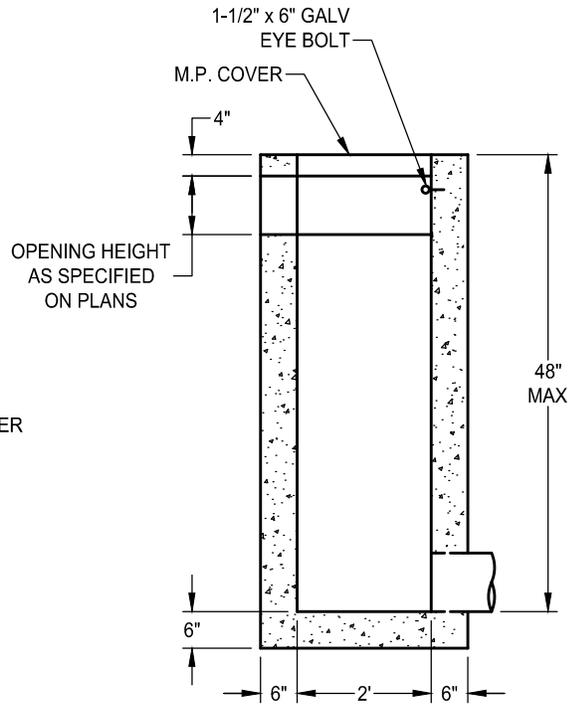
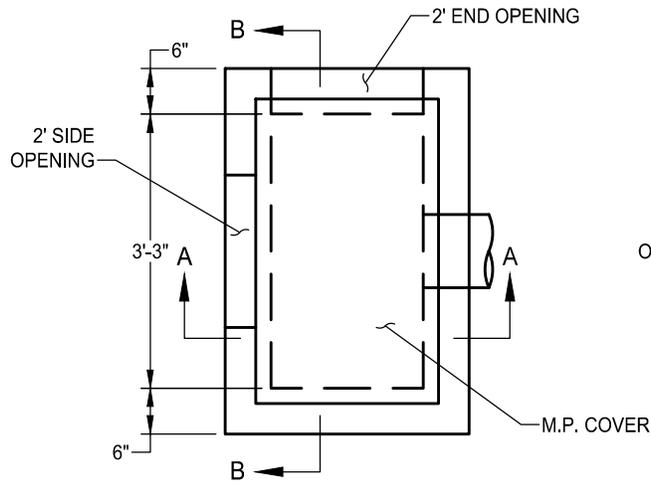
NOTES:

1. TO BE USED ONLY IN TYPE 2 CURB AND GUTTER WITH 2" DEPRESSION. USE IN TYPE 1A CURB AND GUTTER ONLY UPON APPROVAL OF THE CITY ENGINEER. SEE KEYNOTE 1.
2. FACE ANGLE SHALL BE CAST INTO STRUCTURE CONTINUOUS FOR THE FULL LENGTH "W".
3. ALL EXPOSED METAL PARTS TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
4. WHEN CURB INLET OPENING HEIGHT (H) EXCEEDS 6" INSTALL 1" Ø STEEL PROTECTION BAR.
5. INSTALL ADDITIONAL BARS AT 3-1/2" CLEAR SPACING ABOVE FIRST BAR WHEN OPENING EXCEEDS 13".
6. WHEN CURB INLET OPENING LENGTH EXCEEDS 8" INSTALL 1" Ø STEEL SUPPORT BOLTS, SPACED AT NOT MORE THAN 5' O.C.

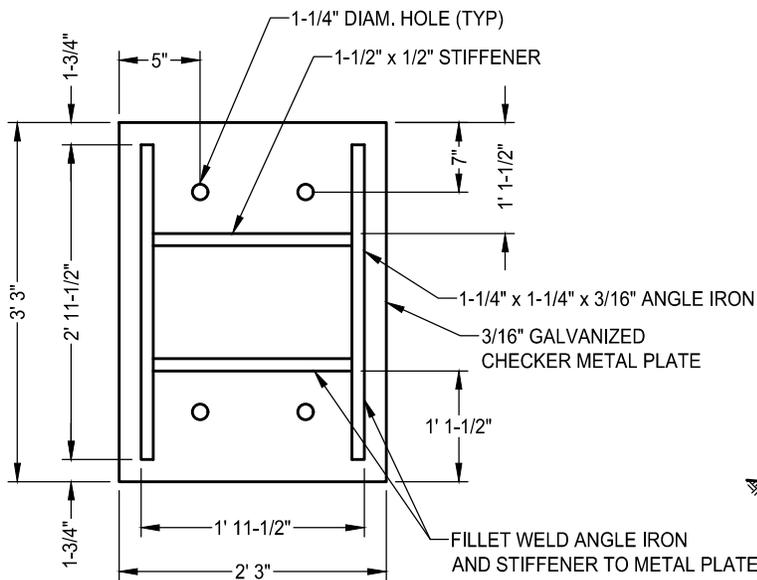
KEYNOTES:

1. ALTERNATE ANGLE IRON SIZE, DEPRESSION DEPTH, AND SLAB THICKNESS MAY BE USED UPON APPROVAL OF THE CITY ENGINEER.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
				CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR		XX/XX/2017 DATE	
						CITY ENGINEER	
						DRAWING NUMBER	
						SD - 17	

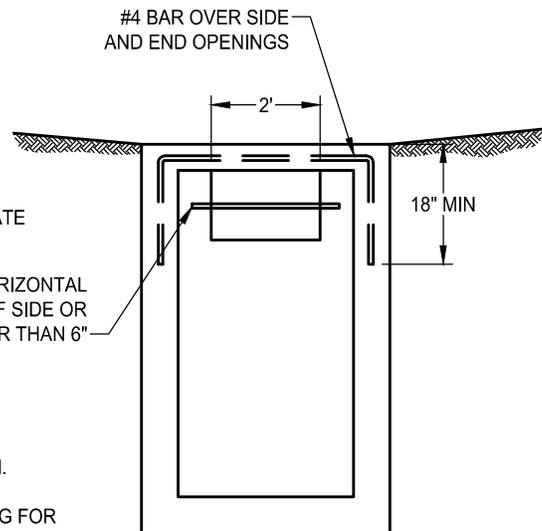


SECTION A-A



METAL COVER (UNDERSIDE)

PLACE 1/2" DIAM. HORIZONTAL BAR IN CENTER OF SIDE OR END OPENING GREATER THAN 6"

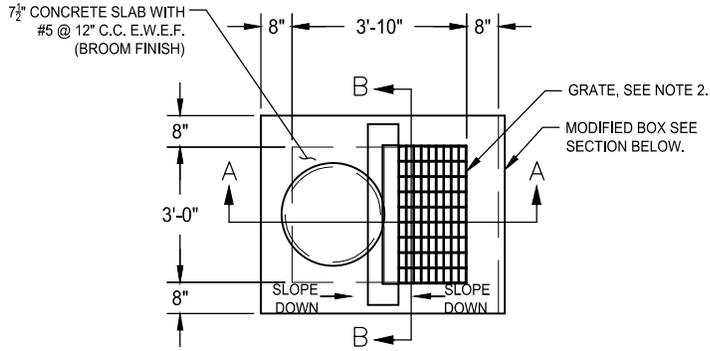


SECTION B-B

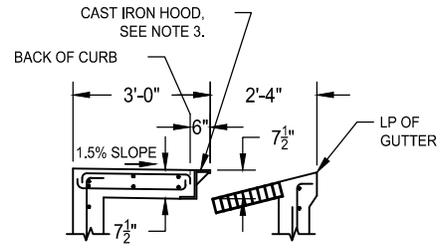
NOTES:

1. PROVIDE 1/4" x 18" GALVANIZED CHAIN WELD TO COVER AND EYE BOLT.
2. PROVIDE END OR SIDE OPENINGS AS SHOWN ON PLANS OR CROSS SECTION.
3. TOP OF WALLS TO BE FINISHED TO A FLAT PLANE TO PROVIDE EVEN BEARING FOR PLATE COVER.
4. ALL METALS SHALL BE HOT DIP GALVANIZED PER ASTM A123.

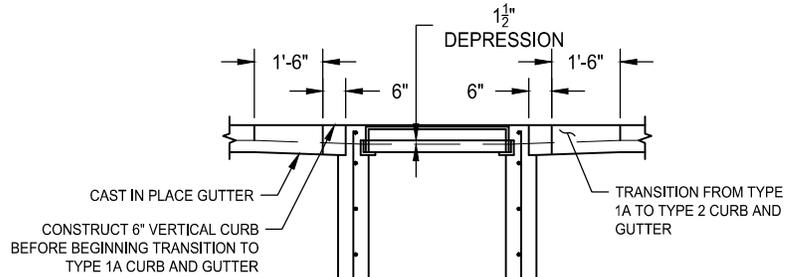
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	DROP INLET TYPE F		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SD - 18	



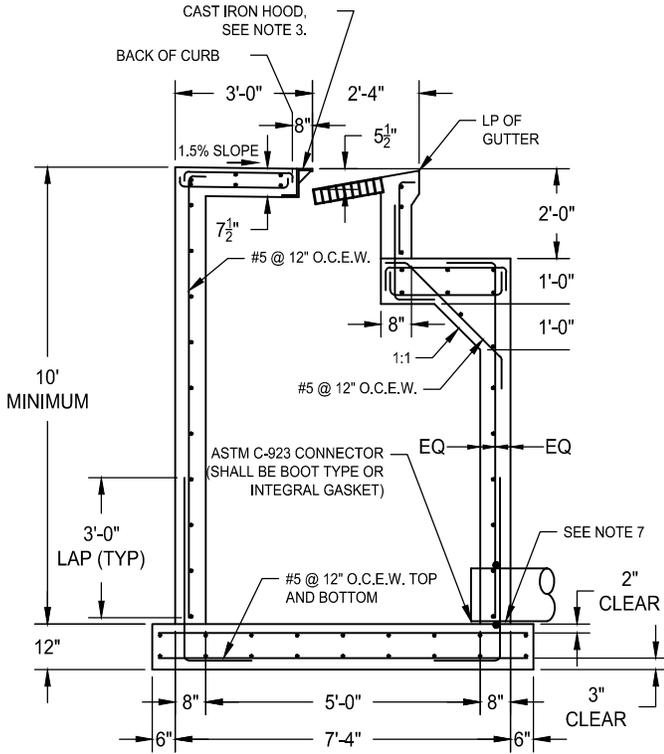
PLAN VIEW



SECTION A-A
TYPE 2 CURB AND GUTTER
(FOR INFORMATION NOT SHOWN OR NOTED REFER TO SECTION A-A TYPE 1A CURB AND GUTTER)



SECTION B-B

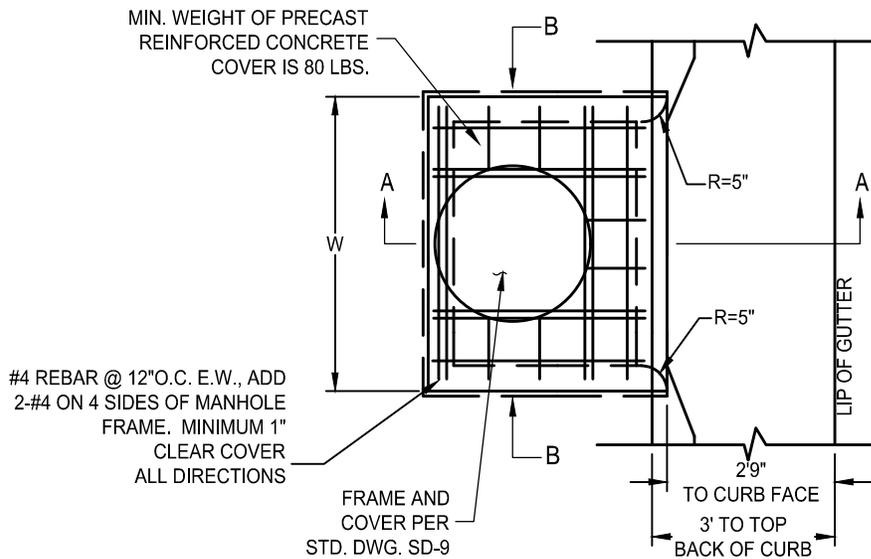


SECTION A-A
TYPE 1A CURB AND GUTTER

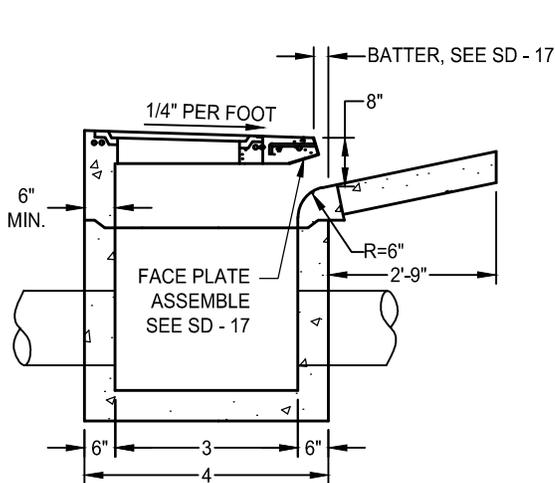
NOTES:

1. STANDARD DEPRESSION FOR INLET IS 1 1/2".
2. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWINGS SD-14 AND SD-15.
3. OPEN BACK CAST IRON HOOD SHALL BE H-20 RATED, 3/4" THICK AND CONFORM TO STANDARD DRAWING SD-12.
4. ALL EXPOSED EDGES SHALL HAVE A 1/8" RADIUS (MINIMUM).
5. AN EDGING TOOL SHALL BE USED ON ALL EDGES WHERE THE CONCRETE SIDEWALK AND CURB MEET THE TOP OF THE HOOD.
6. EXPOSED SURFACES OF THE GRATES, FRAMES, AND HOODS WITH THE PARTS ASSEMBLED DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.
7. THE MINIMUM PIPE SIZE IS 12" IF THE INLET DEPTH IS GREATER THAN 4', THE MINIMUM PIPE SIZE SHALL BE 15".
8. THE MANHOLE FRAME AND COVER SHALL BE PER STANDARD DRAWING SD-10.1 AND SD-10.2.

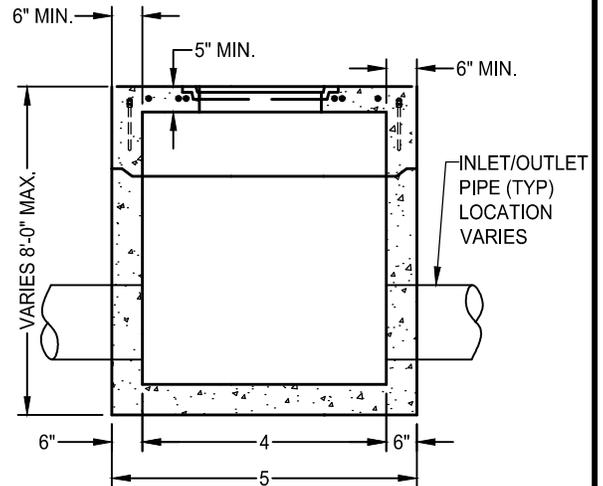
DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS			APPROVED BY: _____ CITY ENGINEER			
REVISION		BY		APPROVED		DATE		DRAWING NUMBER SD - 19.3		



PLAN



SECTION A-A

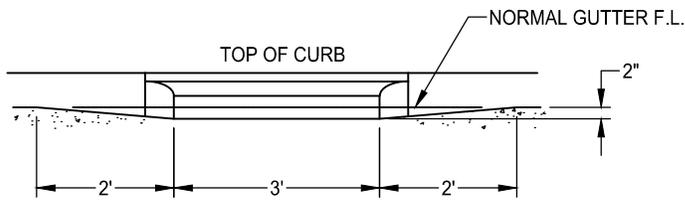


SECTION B-B

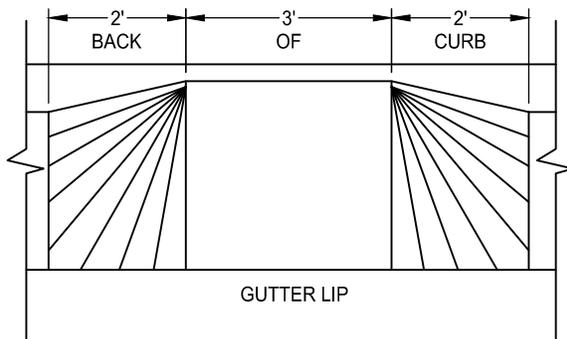
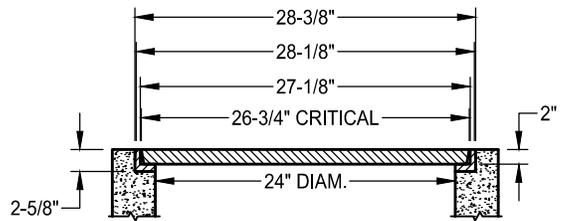
NOTES:

1. CURB INLET ASSEMBLY MAY BE PRECAST CONCRETE OR FORMED AND CAST-IN-PLACE P.C.C.
2. ALL METAL SHALL BE HOT DIP GALVANIZED PER ASTM A123.
3. SEE STANDARD DRAWING SD - 17 FOR FACE PLATE ASSEMBLY.

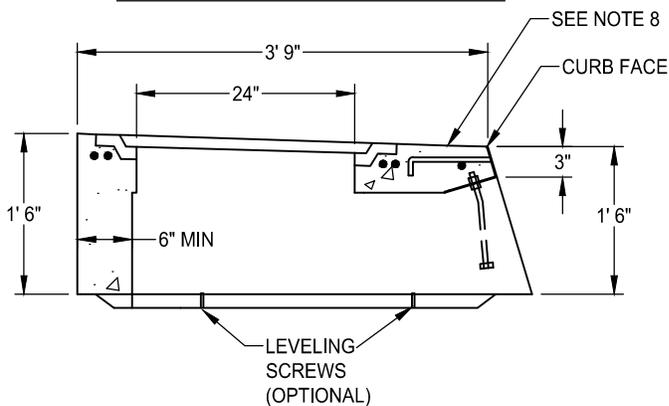
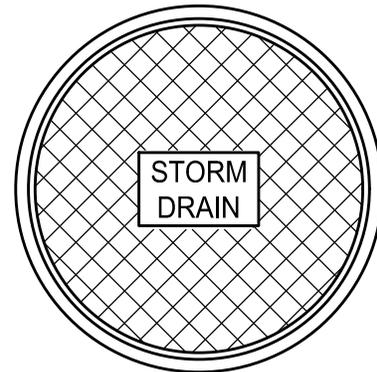
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	DROP INLET TYPE G TYPE 2 C&G ONLY (PG 1 OF 2)		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SD - 19.1	



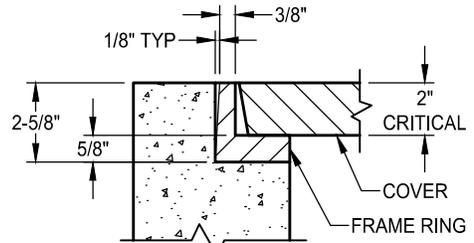
GUTTER TRANSITION ELEVATION



GUTTER TRANSITION PLAN



CURB INLET DETAIL



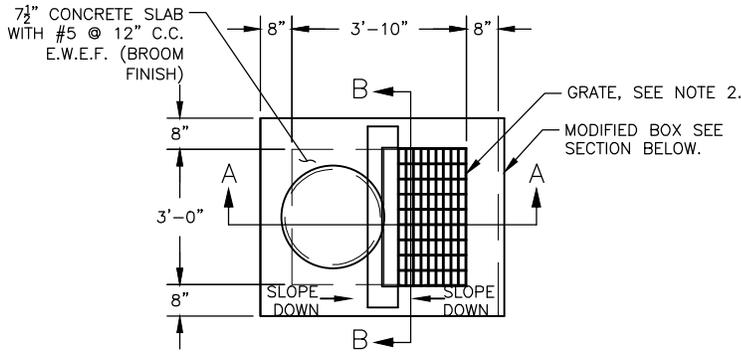
FRAME AND LID DETAIL

WEIGHT	
CAST IRON COVER	91 LBS
CAST IRON FRAME RING	52 LBS

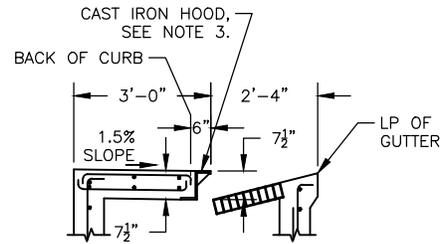
NOTES:

1. CURB INLET ASSEMBLY MAY BE PRECAST CONCRETE, OR FORMED AND CAST-IN-PLACE P.C.C.
2. ALL METAL SHALL BE HOT DIPPED GALVANIZED ASTM A123.
3. ALL CASTINGS TO CONFORM TO ASTM A4B, CLASS 35B
4. FRAME AND COVER TO MEET H-20 LOAD SPECIFICATIONS.
5. BEARING SURFACES ARE MACHINE BEVELED TO ASSURE A CLOSE, NON ROCKING SURFACE.
6. FRAME AND COVER SHALL HAVE A COATING OF BLACK BITUMINOUS MATERIAL CONFORMING TO ASTM 48-30.
7. SEE ARTICLE 50-31 "SEWER AND STORM DRAIN CASTINGS" OF SECTION 50, CONSTRUCTION SPECIFICATIONS.
8. INSTALL "NO DUMPING, DRAINS TO CREEK" PLACARD ON TOP OF CURB.

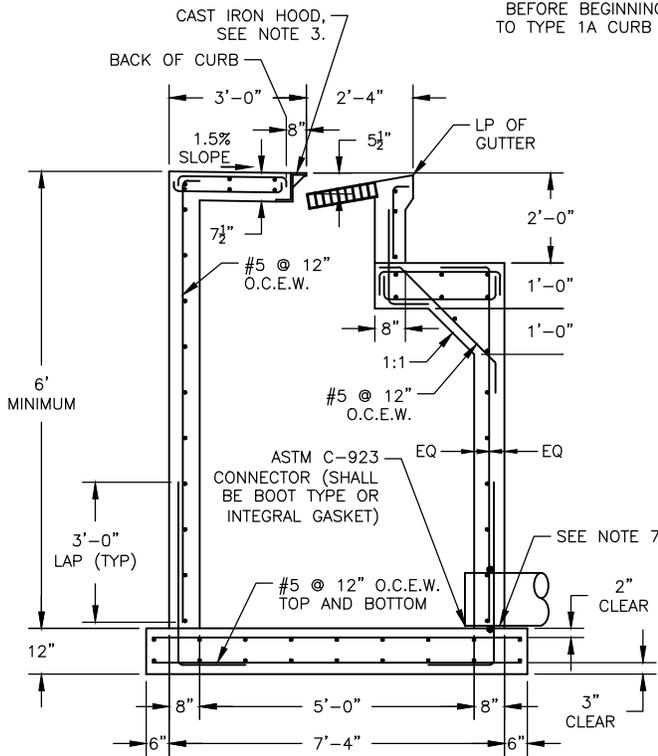
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	DROP INLET TYPE G TYPE 2 C&G ONLY (SHEET 2 OF 2)		CITY ENGINEER _____ DATE _____	
						DRAWING NUMBER	
						SD - 19.2	
							



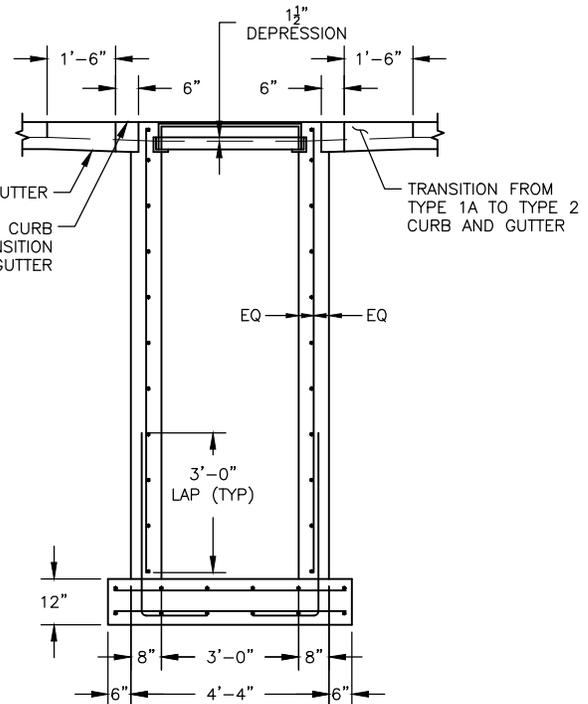
PLAN VIEW



SECTION A-A
TYPE 2 CURB AND GUTTER
(FOR INFORMATION NOT SHOWN OR NOTED REFER TO SECTION A-A TYPE 1A CURB AND GUTTER)



SECTION A-A
TYPE 1A CURB AND GUTTER



SECTION B-B

NOTES:

1. STANDARD DEPRESSION FOR INLET IS 1 1/2".
2. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWINGS SD-14 AND SD-15.
3. OPEN BACK CAST IRON HOOD SHALL BE H-20 RATED, 3/8" THICK AND CONFORM TO STANDARD DRAWING SD-12.
4. ALL EXPOSED EDGES SHALL HAVE A 1/8" RADIUS (MINIMUM).
5. AN EDGING TOOL SHALL BE USED ON ALL EDGES WHERE THE CONCRETE SIDEWALK AND CURB MEET THE TOP OF THE HOOD.
6. EXPOSED SURFACES OF THE GRATES, FRAMES, AND HOODS WITH THE PARTS ASSEMBLED DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.
7. THE MINIMUM PIPE SIZE IS 12" IF THE INLET DEPTH IS GREATER THAN 4', THE MINIMUM PIPE SIZE SHALL BE 15".
8. THE MANHOLE FRAME AND COVER SHALL BE PER STANDARD DRAWING SD-9.

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY:

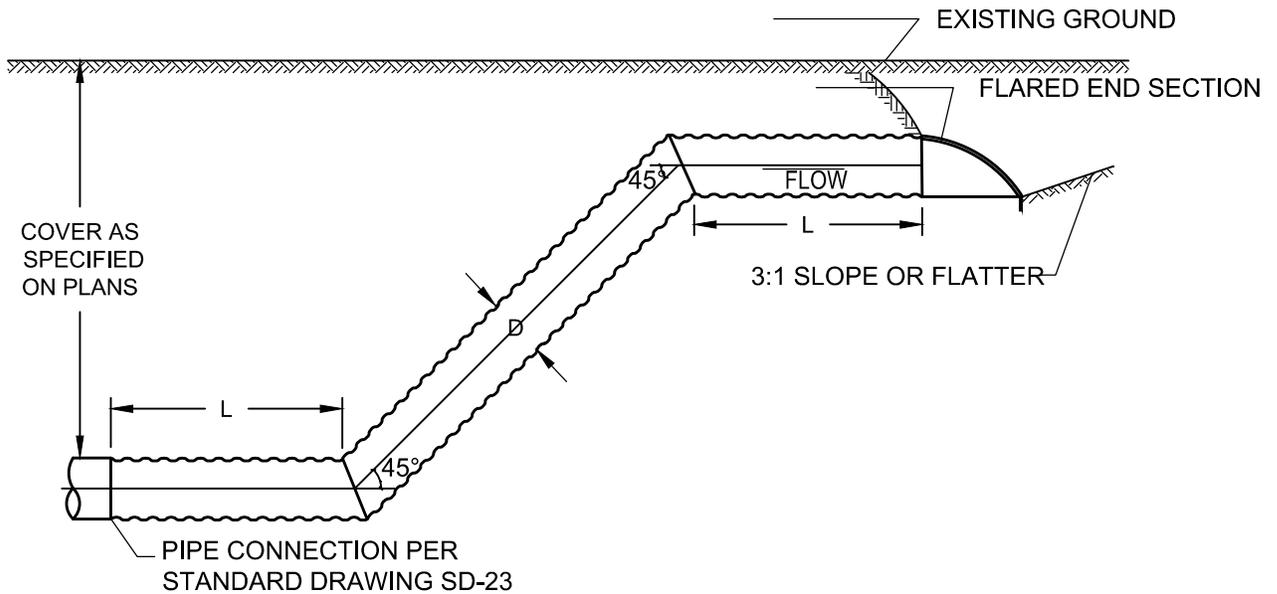
CITY ENGINEER DATE

MODIFIED TYPE J INLET



DRAWING NUMBER

SD - 19.3

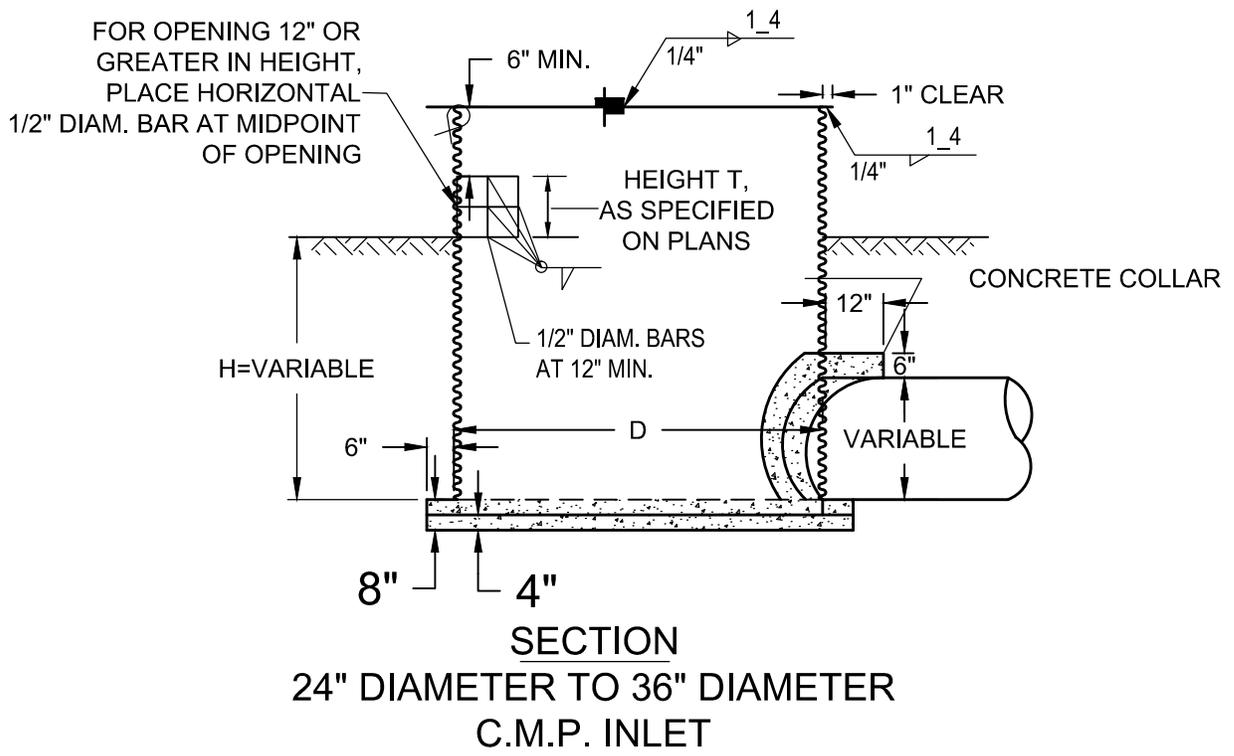


RISER DIAMETER, D	LENGTH OF HORIZONTAL PIPE, L
15"	1'-0"
18"	1'-6"
21"	1'-6"
24"	1'-6"
30"	2'-0"
36"	3'-0"
42"	4'-0"
48"	4'-0"

NOTES

1. USE 2-PIECE ELBOW AT BOTH ENDS OF RISER. ELBOWS SHALL CONFORM TO STANDARD DRAWING SD-22.
2. TO BE USED ONLY WITH THE SPECIFIC APPROVAL OF THE CITY ENGINEER.
3. PIPE MATERIAL TO BE CMP.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE	DRAINAGE INLET TYPE H				
						CITY ENGINEER		DATE
						DRAWING NUMBER		
						SD - 20		

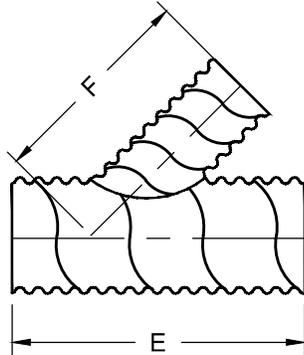


NOTES:

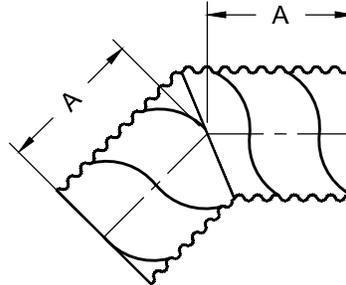
1. LOCATIONS, HEIGHTS, AND LENGTH OF OPENINGS SHALL BE AS SHOW ON THE PLANS.
2. AREA OF OPENING SHALL NOT BE LESS THAN AREA OF OUTFALL PIPE.
3. OUTFALL PIPE TO BE CUT FLUSH WITH INSIDE OF RISER.
4. NOT TO BE USED AS A JUNCTION STRUCTURE.
5. DIAMETER OF RISER PIPE SHALL BE AT LEAST ONE SIZE LARGER THAN OUTFALL PIPE.
6. TO BE USED ONLY WITH THE SPECIFIC APPROVAL OF THE CITY ENGINEER.

RISER DIAMETER, D	H, MAX.	HEIGHT T, MAX.	GAGES (MINIMUM)
24"	4'	8"	0.079"
30"	4'	8"	0.079"
36"	5'	8"	0.109"
42"	8'	12"	0.109"
48"	8'	12"	0.109"
54"	10'	18"	0.109"
60"	10'	18"	0.109"
72"	10'	18"	0.109"

DATE: 05/17/2017	NOT TO SCALE	CITY OF ELK GROVE - PUBLIC WORKS	APPROVED BY: _____ CITY ENGINEER
REVISION	BY	CORRUGATED METAL PIPE DRAINAGE INLET TYPE I (PG 2 OF 2)	XX/XX/2017 DATE DRAWING NUMBER SD - 21.2



WYE LATERAL



ELBOW
0° to 45°

FITTING SIZES

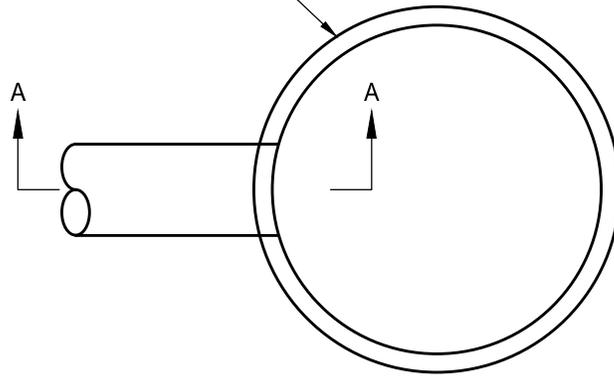
DIAM (IN)	A (FT)	E (FT)	F (FT)
15	1	4	4
18	1	4	4
21	2	6	4
24	2	6	4
30	2	6	4
36	2	8	6
42	2	8	6
48	2	10	8
54	3	10	8
60	3	12	10
66	3	12	10
72	3	14	10
78	3	14	10
84	3	16	12
90	3	16	12
96	3	16	12

NOTES

1. TO USE TABLE, REFER TO DIAGRAM AND SELECT LETTER REPRESENTING DESIRED DIMENSION, THEN ENTER TABLE AT CORRECT PIPE DIMENSION AND READ DIMENSION IN COLUMN UNDER APPROPRIATE LETTER HEADING.
2. DIMENSIONS ON TABLE ALLOW FOR USE OF STANDARD 12 INCH WIDE BAND COUPLER ON SIZES 15 INCH THROUGH 54 INCH AND 24 INCH WIDE BAND ON 60 INCH AND LARGER SIZES.
3. FOR PIPE-ARCH FITTINGS, CHOOSE PIPE DIAMETER EQUAL TO OR GREATER THAN ARCH SPAN. (EXAMPLE: 35 INCH X 24 INCH PIPE-ARCH; USE DIMENSIONS FOR 36 INCH PIPE).
4. STRUCTURAL REINFORCEMENT MAY BE REQUIRED ON SOME LARGER SIZES.

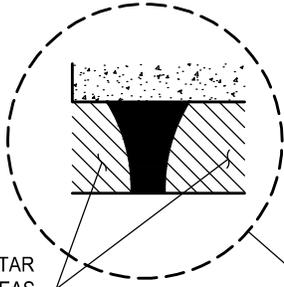
DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	CORRUGATED PIPE FITTINGS		CITY ENGINEER _____ DATE <u>XX/XX/2017</u>	
						DRAWING NUMBER	
						SD - 22	

MANHOLE BASE AND BARREL SECTION. MANHOLE CONE, FRAME, AND COVER OMITTED FOR CLARITY.



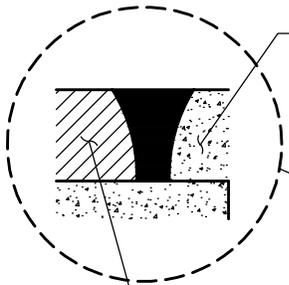
PLAN

DO NOT MORTAR THESE AREAS

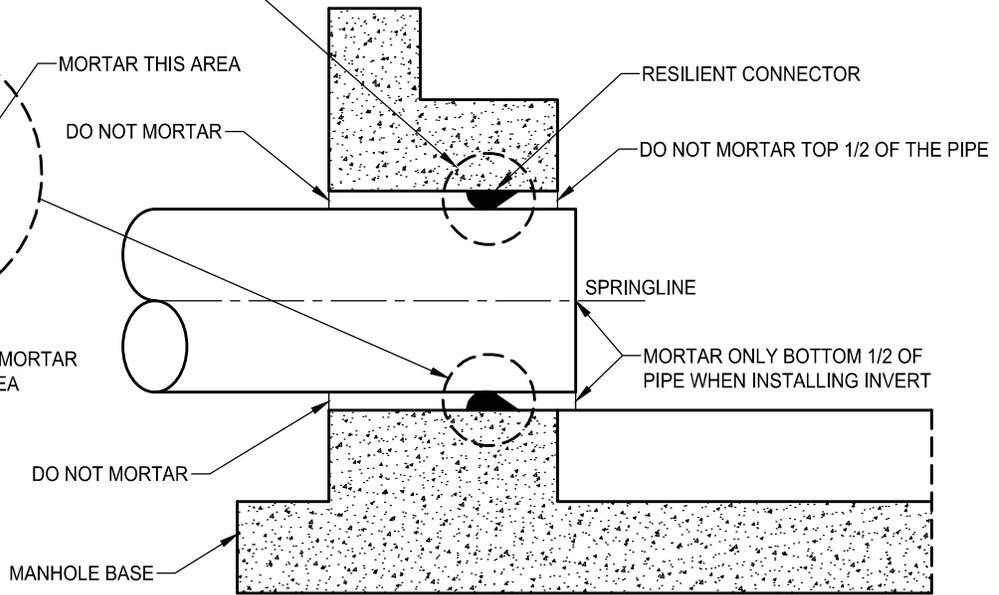


MORTAR THIS AREA

DO NOT MORTAR



DO NOT MORTAR THIS AREA

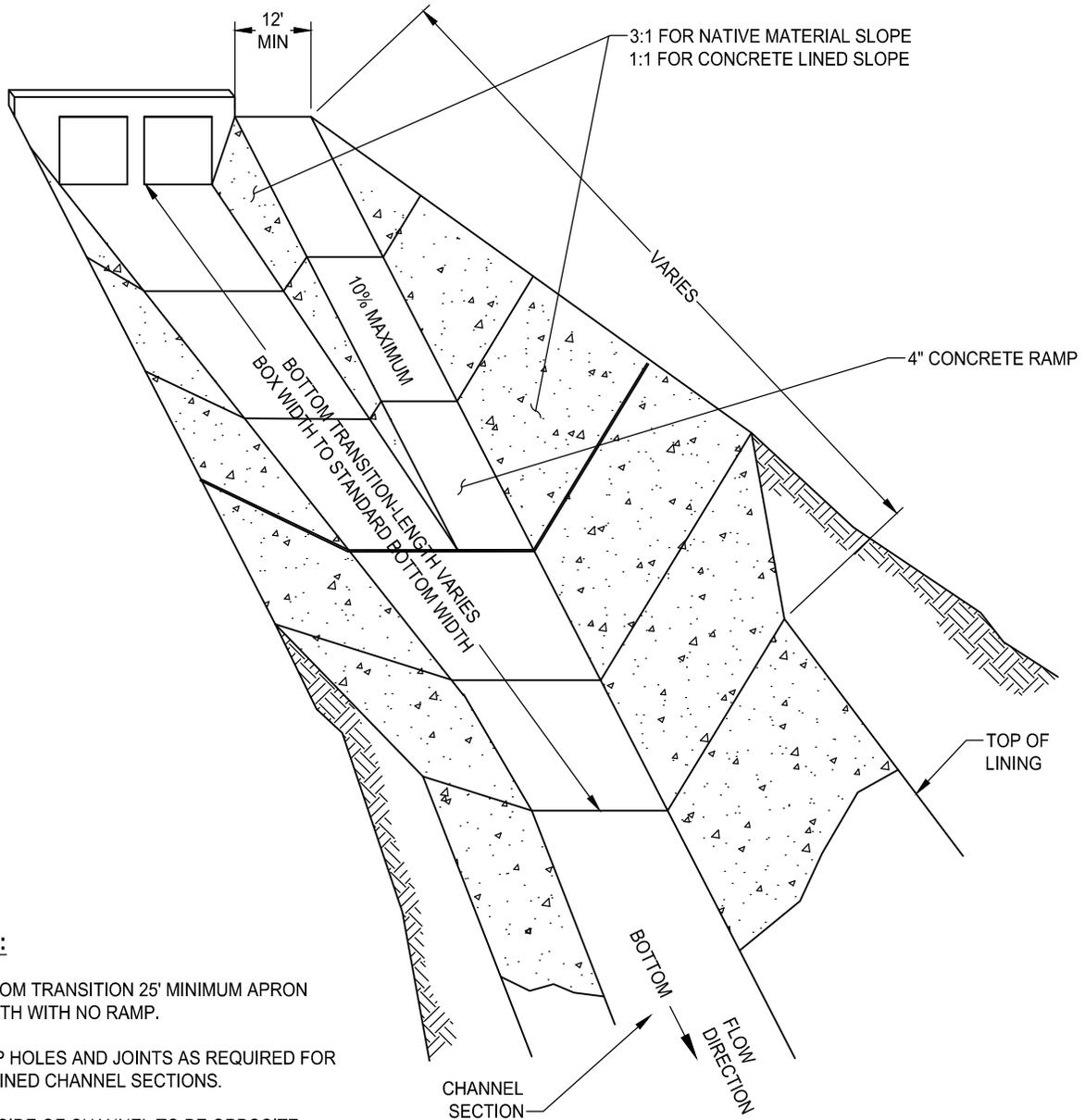


SECTION A-A

NOTES:

1. TO HELP CREATE A FLEXIBLE, WATERTIGHT JOINT, DO NOT PLACE MORTAR AROUND THE CONNECTOR ON THE OUTSIDE OF THE STRUCTURE OR AROUND THE TOP HALF OF THE CONNECTOR ON THE INSIDE WHEN COMPLETING THE INVERT WORK.
2. RESILIENT CONNECTORS SHALL BE A FLEXIBLE COMPRESSION GASKET OR BOOT CONNECTOR PER SECTION 39-2.01 "PRECAST CONCRETE STORM DRAIN MANHOLES" OF THE CITY OF ELK GROVE CONSTRUCTION SPECIFICATIONS.
3. ALL CONNECTORS SHALL MEET OR EXCEED THE REQUIREMENTS OF A.S.T.M. C-923.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	FLEXIBLE PIPE TO MANHOLE CONNECTION		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SD - 24	

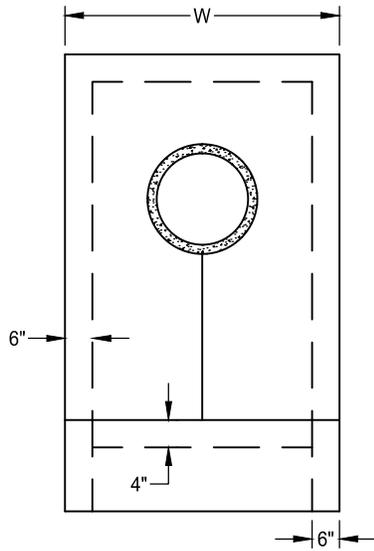


NOTES:

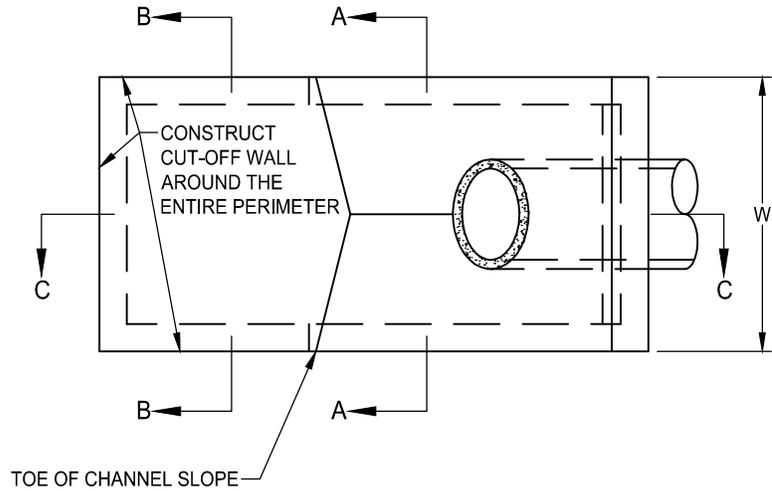
1. BOTTOM TRANSITION 25' MINIMUM APRON LENGTH WITH NO RAMP.
2. WEEP HOLES AND JOINTS AS REQUIRED FOR ALL LINED CHANNEL SECTIONS.
3. LOW SIDE OF CHANNEL TO BE OPPOSITE RAMP.
4. SIDE SLOPE LINING MAY BE USED AT RAMP LOCATIONS TO INCREASE SLOPE TO MAXIMUM 1:1. TOP OF SLOPE GREATER THAN 3:1 MUST BE FENCED.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:			
				TYPICAL RAMP AND TRANSITION DETAIL					
REVISION	BY	APPROVED	DATE			_____ XX/XX/2017 CITY ENGINEER DATE		DRAWING NUMBER	
						SD - 25			

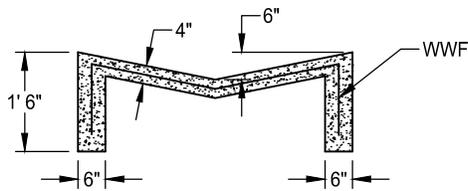
W = 6' 0" MINIMUM
W = 2 x PIPE DIAM. (3'+)



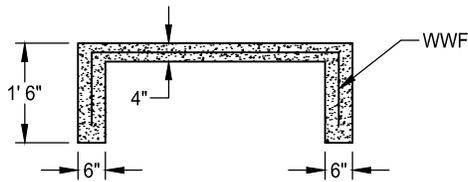
FRONT VIEW



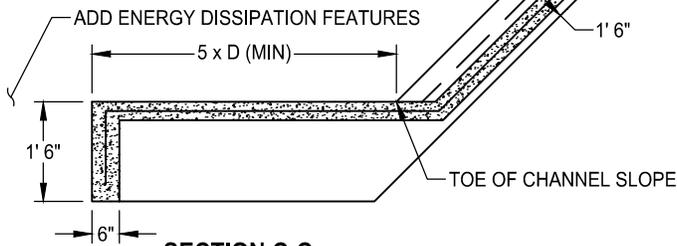
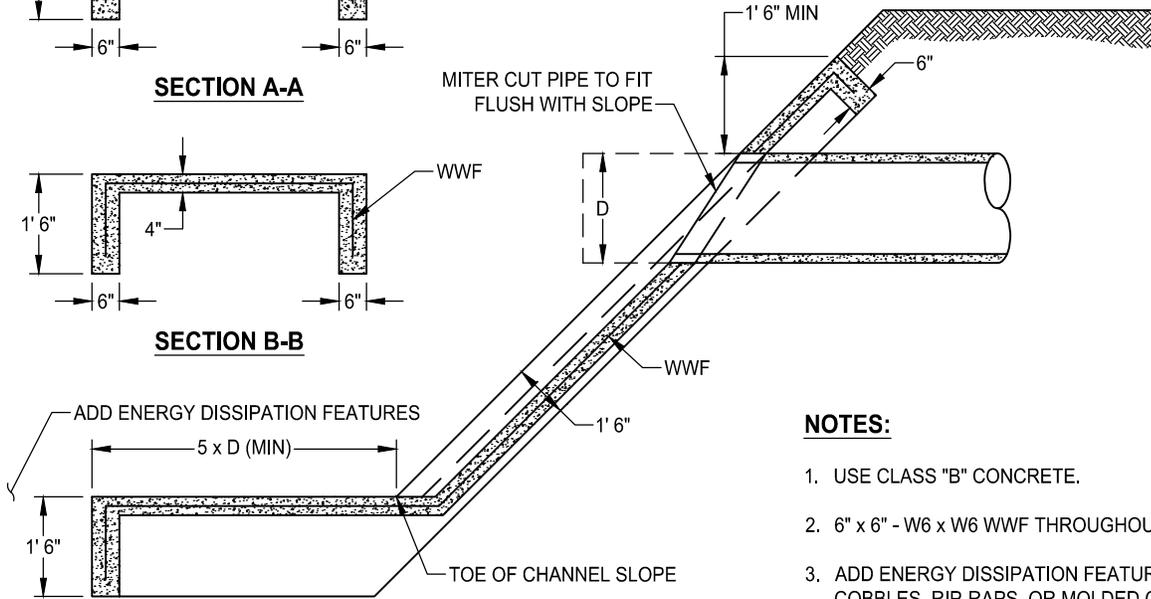
TOP VIEW



SECTION A-A



SECTION B-B

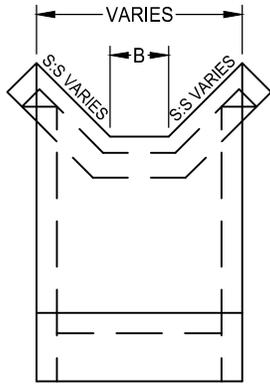


SECTION C-C

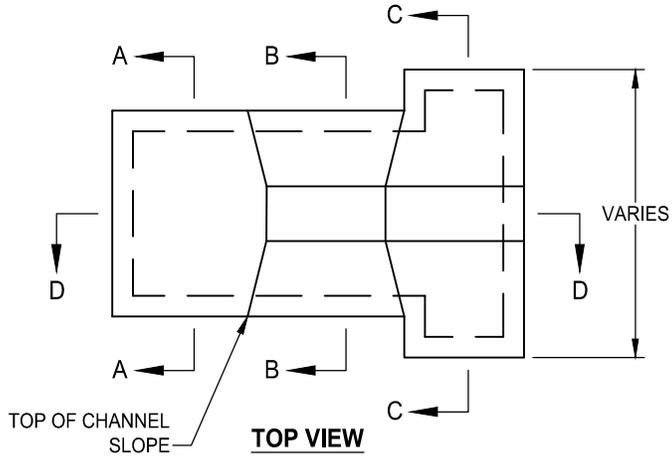
NOTES:

1. USE CLASS "B" CONCRETE.
2. 6" x 6" - W6 x W6 WWF THROUGHOUT CONCRETE.
3. ADD ENERGY DISSIPATION FEATURES SUCH AS COBBLES, RIP-RAPS, OR MOLDED CONCRETE AT END OF APRON.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
				OUTLET PIPE HEADWALL AND APRON		XX/XX/2017 DATE	
						DRAWING NUMBER SD - 26	
REVISION	BY	APPROVED	DATE				



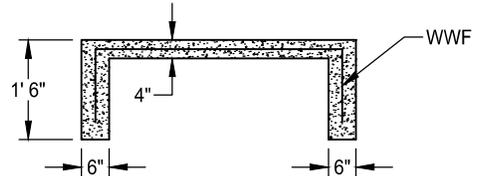
FRONT VIEW



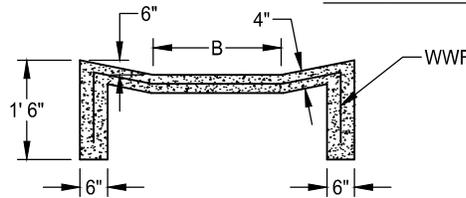
TOP VIEW

NOTES:

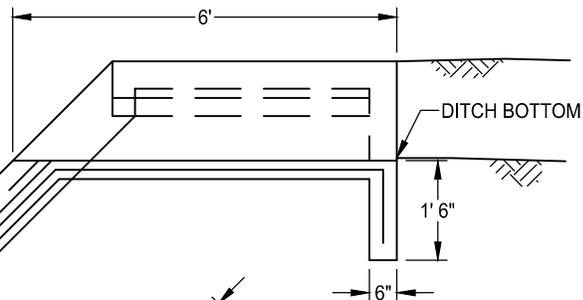
1. USE CLASS "B" CONCRETE OR GROUTED COBBLES AS SPECIFIED.
2. 6" x 6" -W6 x W6 WWF THROUGHOUT CONCRETE.
3. ON LINED CHANNELS APRON SHALL CONNECT TO SIDE LINING.
4. B = DITCH BOTTOM WIDTH OR AS SHOWN ON PLANS.
5. D = DITCH WATER DEPTH PLUS ONE FOOT OF FREEBOARD.
6. ADD ENERGY DISSIPATION FEATURES SUCH AS COBBLES, RIP-RAP, OR MOLDED CONCRETE AT END OF APRON.



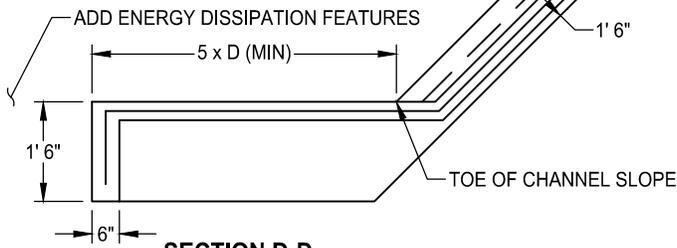
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

DATE: 05/17/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

DITCH DISCHARGE CONTROL AND APRON

APPROVED BY: _____

XX/XX/2017
DATE

CITY ENGINEER

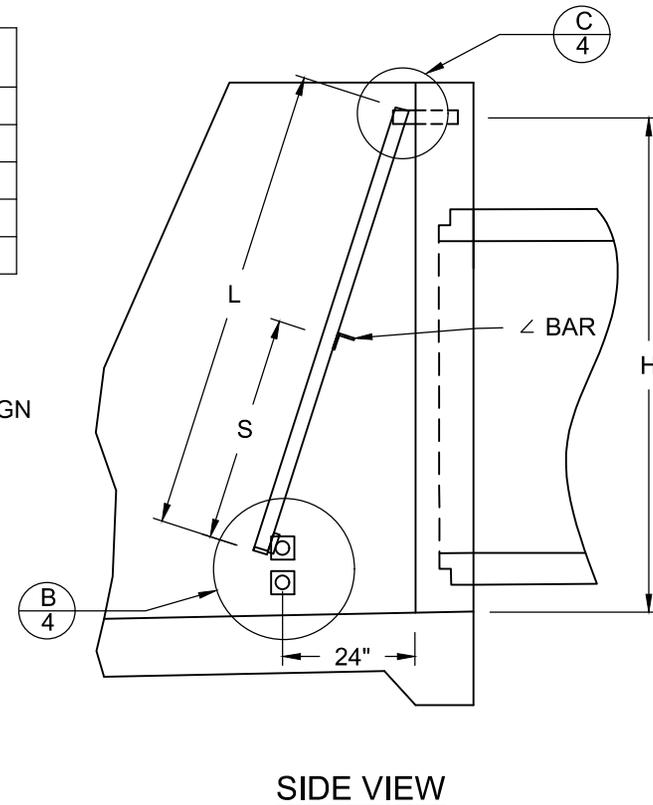
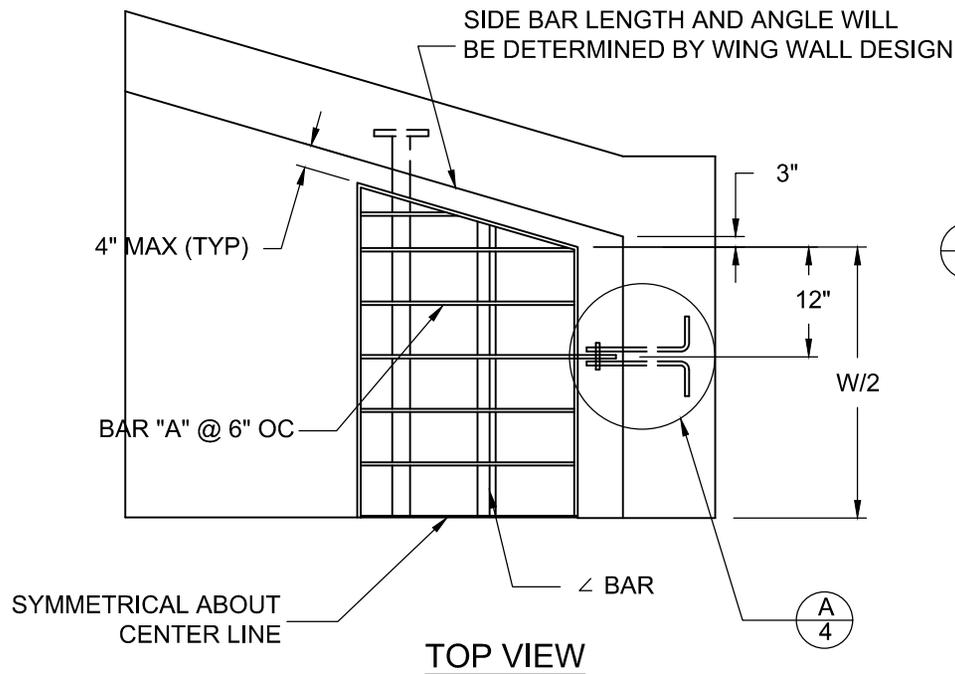
DRAWING NUMBER

SD - 27



PIPE DIA. (IN)	PIPE OD (IN)	QUANTITY* BAR "A"	BAR "A" SIZE (IN)	H (IN)	W (IN)	L (IN)	S (IN)
24	30	11	3/8x2 1/2	46	48	40	18
27	33.5	11	3/8x2 1/2	50	48	42	19
30	37	11	3/8x2 1/2	53	48	46	21
33	40.5	11	3/8x2 1/2	57	48	52	24
36	44	13	3/8x2 1/2	60	60	52	24

*INCLUDES OUTSIDE FRAME



DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY:

CITY ENGINEER

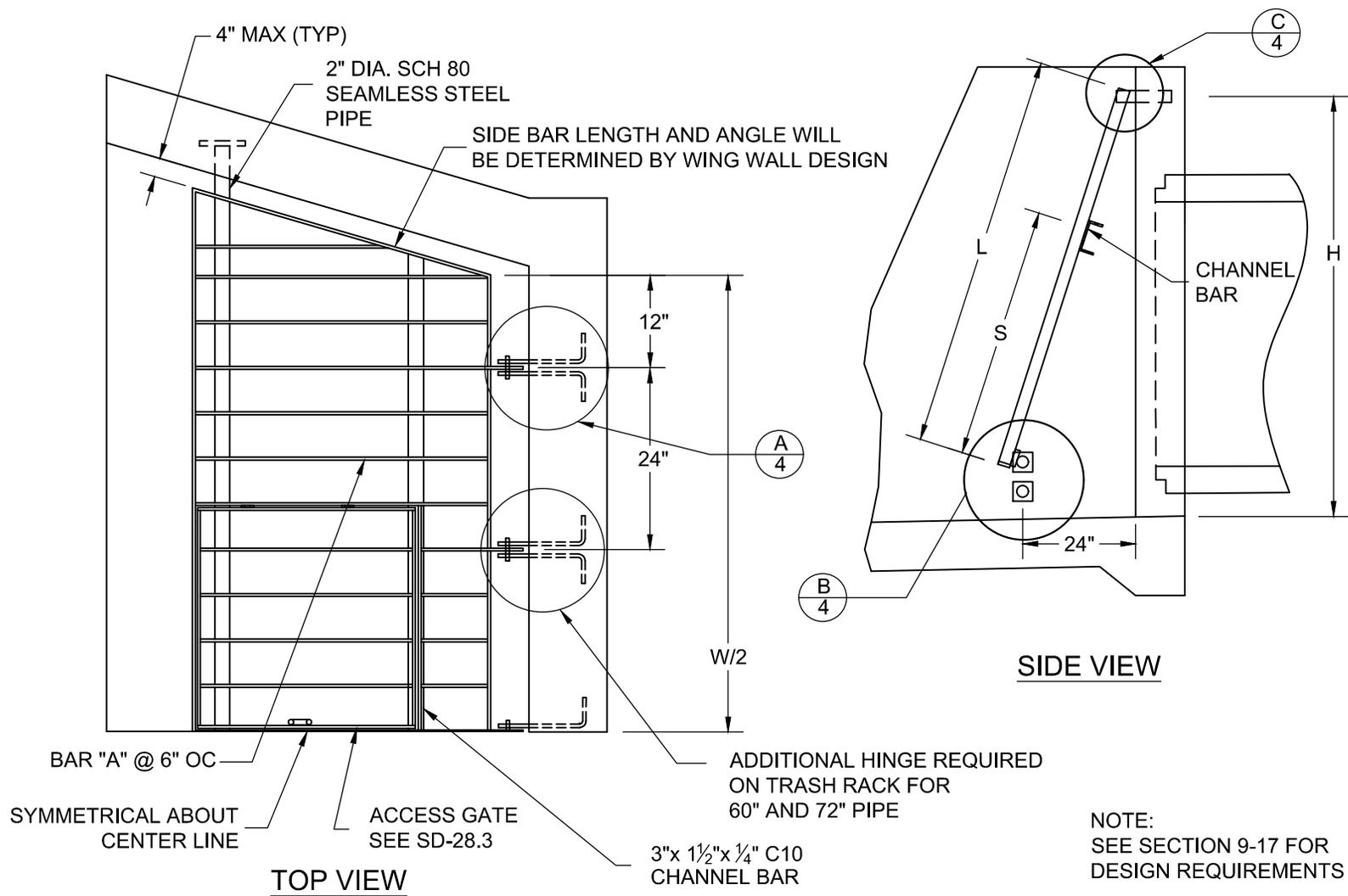
DATE

TRASH RACK
24"-36" PIPE
(SHEET 1 OF 4)

DRAWING NUMBER

SD - 28.1





DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**TRASH RACK
42" PIPE AND LARGER
(SHEET 2 OF 4)**

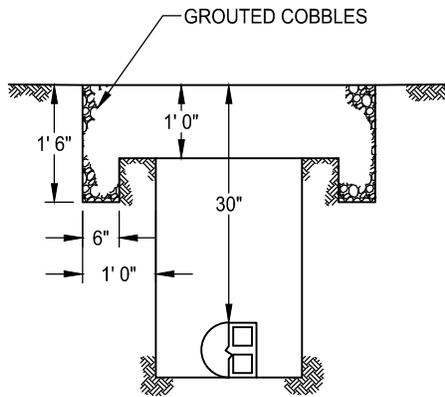
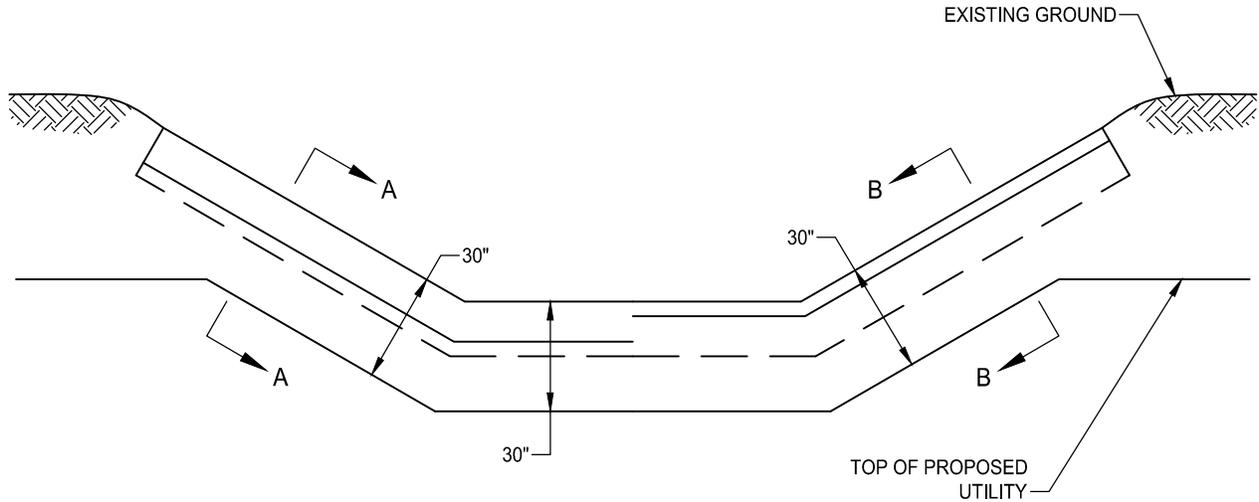
APPROVED BY:

CITY ENGINEER

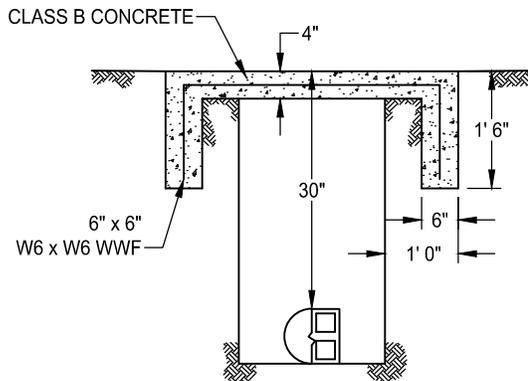
DATE

DRAWING NUMBER
SD - 28.2





SECTION A-A



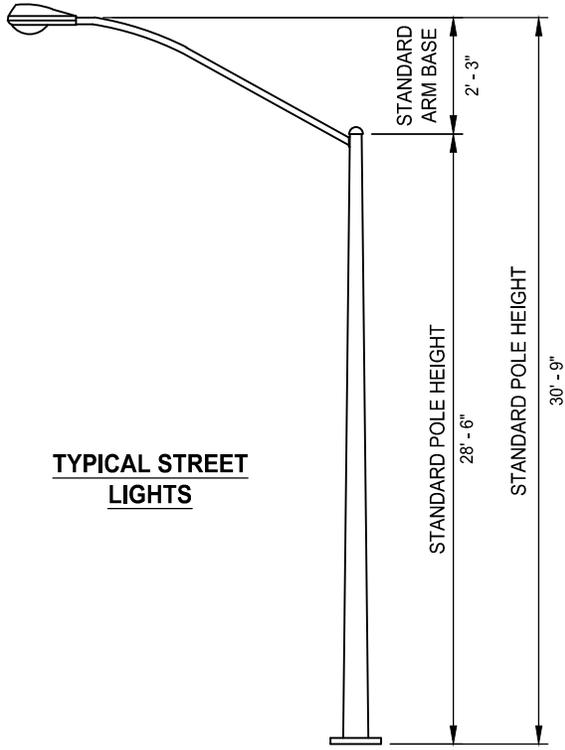
SECTION B-B

NOTES:

1. ALL UTILITY CROSSINGS OF EXISTING STREAMS SHALL BE AT LEAST 30" BELOW EXISTING CHANNEL SIDES AND BOTTOMS. DEEPER PLACEMENT MAY BE REQUIRED IF FUTURE CHANNEL IMPROVEMENTS ARE ANTICIPATED.
2. THE CUT SHALL BE SEALED AS SHOWN WITH GROUTED COBBLES OR CLASS B CONCRETE TO A WIDTH OF 1 FOOT EACH SIDE OF THE UTILITY TRENCH. ALL NATURAL STREAMS, AS SHOWN ON THE NATURAL STREAMS PLAN, SHALL UTILIZED GROUTED COBBLES.
3. CONSTRUCTION IS TO CONFORM TO SECTION 44 OF THE CITY OF ELK GROVE CONSTRUCTION SPECIFICATIONS WITH CUT OFF WALLS CONFORMING TO STANDARD DRAWING SD-30.

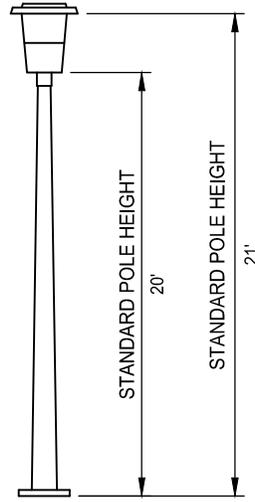
DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
				UTILITY STREAM CROSSING		_____ CITY ENGINEER	
						_____ DATE	
						DRAWING NUMBER	
						SD - 31	





TYPICAL STREET LIGHTS

SERIES 'A'



SERIES 'B'

SYMBOLS

<u>PROPOSED</u>	<u>EXISTING</u>	
	SERIES 'A' STREET LIGHT
	SERIES 'B' STREET LIGHT
	PULL BOX
	SERVICE POINT PULL BOX
	CONDUIT
	SERVICE ENCLOSURE
	U.G. UTILITY SERVICE
	TRANSFORMER
	WOOD POLE

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
				STREET LIGHTING POLES AND SYMBOLS		DRAWING NUMBER SL - 1	
						XX/XX/2017 DATE	

STREET CLASSIFICATION	RIGHT-OF-WAY WIDTH	STREET LIGHT SUB-TYPE (SERIES)	STANDARD MOUNTING TYPE	AVERAGE MAINTAINED FOOTCANDLE	MAINTENANCE FACTOR
SPECIAL THOROUGHFARE	118'	A	30' - 9"	0.57	0.65
THOROUGHFARE	96'	A	30' - 9"	0.56	0.65
ARTERIAL	72'	A	30' - 9"	0.36	0.65
COLLECTOR	60'	A	30' - 9"	0.26	0.65
RESIDENTIAL	< 50'	B	21'	0.13	0.70
PEDESTRIAN LANE	--	B	14'	0.17	0.70

NOTE:

LUMENS USED TO CALCULATE THE AVERAGE MAINTAINED FOOTCANDLE SHALL BE 80% OF INITIAL LUMEN VALUE RATED BY THE LAMP MANUFACTURER.

DATE: 09/22/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE	STREET LIGHTING ILLUMINATION CRITERIA		CITY ENGINEER	DATE	
							DRAWING NUMBER	
							SL - 2	

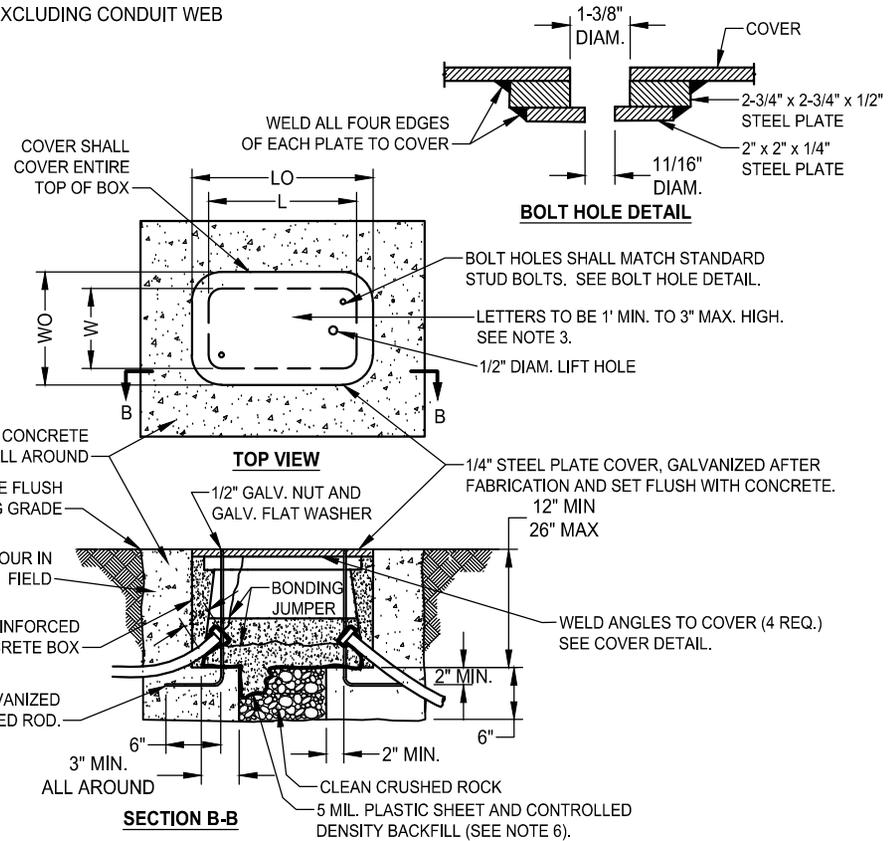
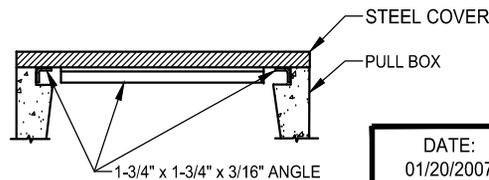
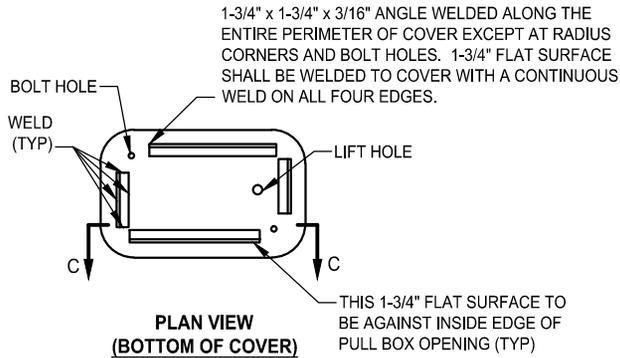
PULL BOXES SHALL BE PLACED BEHIND THE SIDEWALK OR IN THE PLANTER AREA WHENEVER POSSIBLE. TRAFFIC RATED BOXES AND COVERS SHALL BE USED IF A PULL BOX MUST BE INSTALLED IN THE SIDEWALK OR DRIVEWAY.

NOTES:

1. STEEL COVER SHALL HAVE EMBOSSED NON-SKID PATTERN.
2. STEEL REINFORCING SHALL BE AS REGULARLY USED IN THE STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. PULL BOX COVERS SHALL BE MARKED AS DESCRIBED IN NOTE 5 ON STANDARD DRAWING SL-4. MARKING SHALL BE APPLIED TO EACH COVER PRIOR TO GALVANIZING BY BEAD WELDING THE LETTERS ON THE COVERS. THE LETTERS SHALL BE RAISED AT LEAST 3/32 INCH.
4. BONDING JUMPER FOR COVER SHALL BE A MIN. OF 36" LONG. WHEN NON-METALLIC CONDUIT IS USED, THE BONDING JUMPER FOR THE COVER SHALL BE SPLICED TO THE BOND WIRE IN THE CONDUITS. WHEN THE USE OF METALLIC CONDUIT IS SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS, THE BONDING JUMPER FOR THE COVER SHALL BE CONNECTED TO THE CONDUIT GROUND BUSHING, AND THE CONDUITS SHALL BE BONDED TOGETHER WITH GROUND BUSHINGS AND A BONDING JUMPER.
5. CONDUITS SHALL ENTER AT BOTTOM OF PULL BOX AS SHOWN IN THE DRAWING.
6. PULL BOXES FOR STREET LIGHTING, UPON COMPLETION OF BURN TEST, SHALL BE FILLED WITH CONTROLLED DENSITY BACKFILL PER CITY OF ELK GROVE CONSTRUCTION SPECIFICATIONS SECTION 50-15. A 5 MIL. PLASTIC SHEET SHALL COVER THE CONDUITS/WIRES PRIOR TO POURING OF BACKFILL, TO A DEPTH OF TWO (2) INCHES OVER THE CONDUITS.

PULL BOX No.	REINFORCED CONCRETE BOX					
	MIN.** THICKNESS	MIN. DEPTH BOX AND EXTENSION	LO	WO	L	W
3-1/2	1"	NO EXTENSION	20"	14"	15-1/2"±	10"±
5	1"	22"	28"	18"	23"±	13-1/2"±
5A	1"	22"	25-1/4"	15-3/4"	21"±	10-1/2"±

** EXCLUDING CONDUIT WEB



DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

TRAFFIC-RATED PULL BOX

APPROVED BY: _____

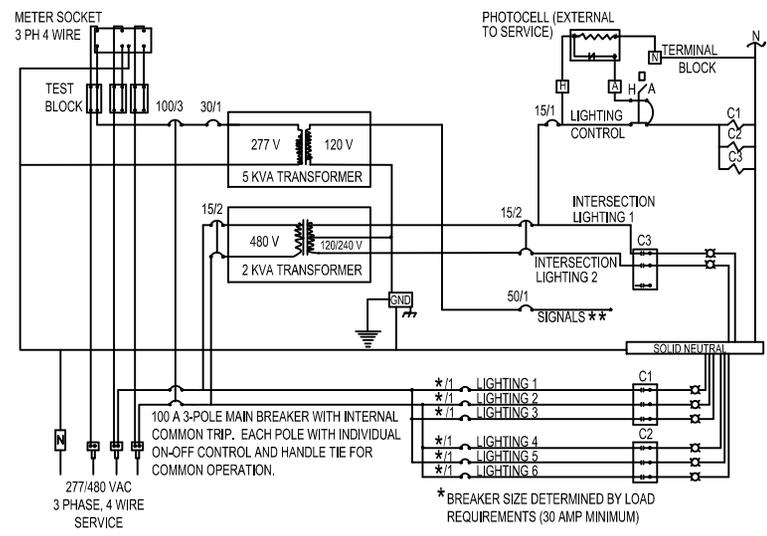
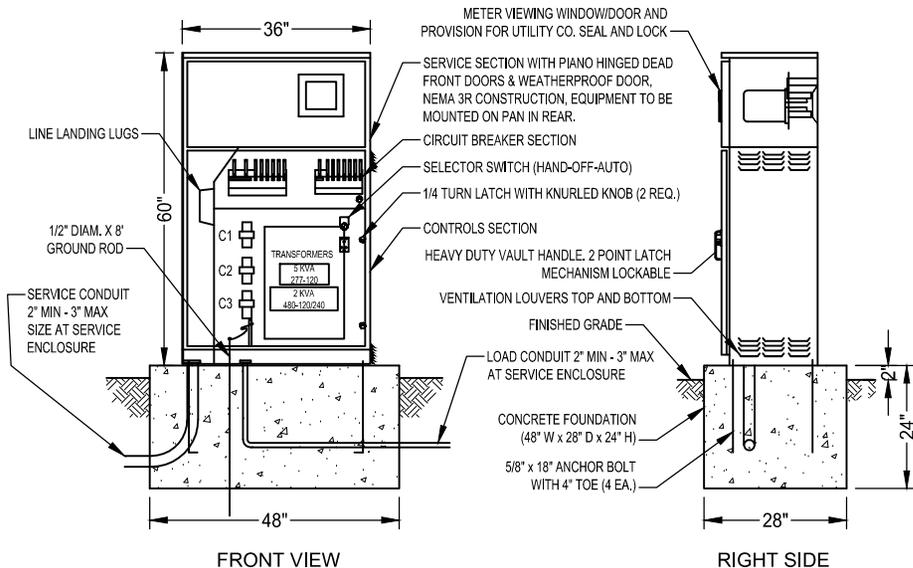
XX/XX/2017

CITY ENGINEER DATE

DRAWING NUMBER

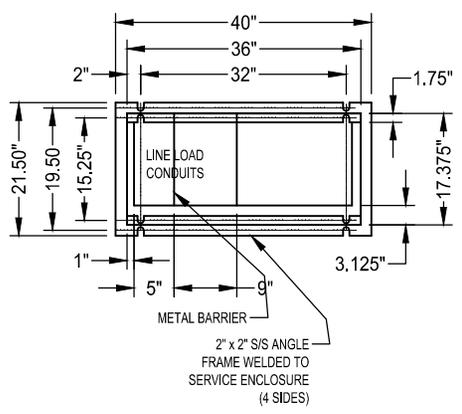
SL - 5





METERED SERVICE WIRING SCHEMATIC DIAGRAM

** PROVIDE A 15 AMP, 120V, 1P CIRCUIT BREAKER FOR ISNS. MODIFY WIRINGS TO USE LIGHTING CONTACTOR FOR ISNS.



BASE PLATE DETAIL

1. EXTERIOR SHALL BE 14 GAUGE #304D STAINLESS STEEL, INTERIOR SHALL BE 14 GAUGE STEEL, PAINTED WHITE. ENCLOSURE SHALL BE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION SHALL BE NEMA 3R AND 12, RAIN TIGHT AND DUST TIGHT.
3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
4. NUTS, BOLTS, AND SCREWS SHALL NOT BE USED ON THE OUTSIDE OF THE SERVICE ENCLOSURE.
5. PHENOLIC NAMEPLATES SHALL BE USED TO IDENTIFY ALL OPERATION CONTROLS.
6. CONTROL WIRING SHALL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. SERVICE ENCLOSURE SHALL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
9. SERVICE ENCLOSURE SHALL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS U.L. 508 FILE NO. E62062.
10. WIRING BETWEEN CIRCUIT BREAKER AND CONTACTOR SHALL BE #6 THWN OR THHN MINIMUM.
11. SIZE OF TRANSFORMER FOR SIGNALS SHALL BE 5 KVA. SIZE OF TRANSFORMER FOR 120 V INTERSECTION SHALL BE 2 KVA.
12. WHEN CHANGING VOLTAGE ON A RETROFIT PROJECT WHERE A NEW SERVICE ENCLOSURE WITH A STEP-DOWN TRANSFORMER IS REQUIRED, THE NEW SERVICE ENCLOSURE THE NEW SERVICE ENCLOSURE SHALL BE PLACED BETWEEN THE SERVICE POINT AND THE OLD SERVICE ENCLOSURE LOCATION WITHIN THE CITY R/W. VOLTAGE OUTPUT FROM THE NEW SERVICE ENCLOSURE MAY BE CONNECTED INTO THE EXISTING CONDUIT SYSTEM.
13. THE WIRING SCHEMATIC DIAGRAM AS SHOWN IS FOR A 2-WIRE STREET LIGHTING SYSTEM. IF THE SERVICE ENCLOSURE WILL BE USED FOR A 3-WIRE STREET LIGHTING SYSTEM, THEN THE LIGHTING BREAKERS SHALL CONSIST OF 2-POLE BREAKERS WITH INTERNAL COMMON TRIP, EACH POLE WITH INDIVIDUAL ON-OFF CONTROL AND HANDLE TIE FOR COMMON OPERATION. FOR EACH 2-POLE BREAKER, THE CIRCUIT LOAD SHALL BE EQUALLY DIVIDED ACROSS THE LIGHTING MAIN.
14. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
15. DUAL METERS SHALL BE PROVIDED AND SHALL CONFORM TO CALTRANS STANDARD DRAWING ES-2F.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**METERED SERVICE PEDESTAL (Can)
WITH STEP-DOWN TRANSFORMER
(277/480V TO 120/240V)**

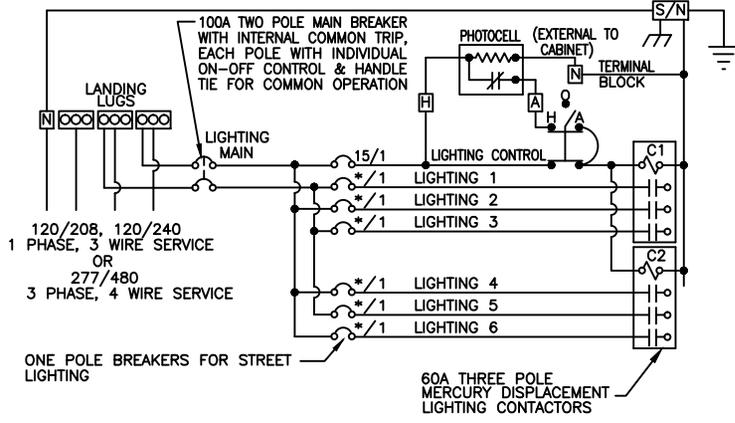
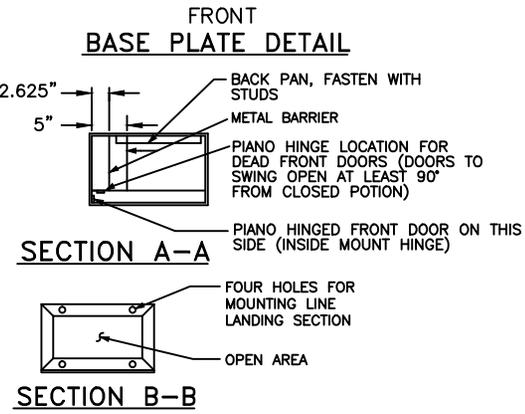
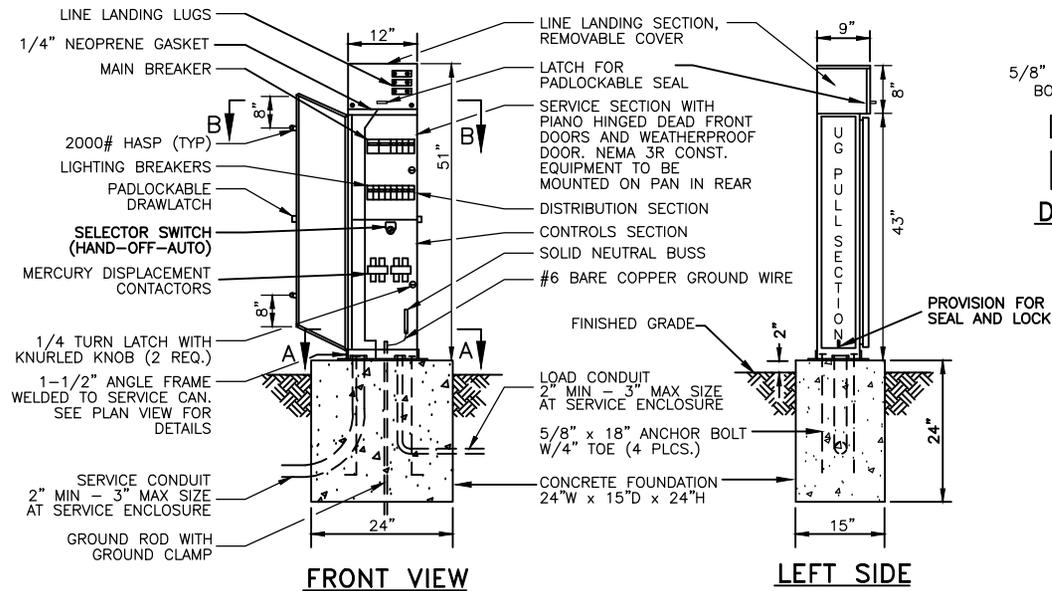
APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

SL - 9





1. EXTERIOR SHALL BE 14 GAUGE #304D STAINLESS STEEL. INTERIOR DEAD FRONT PANEL AND BACK PAN SHALL BE 14 GAUGE STEEL, PAINTED WHITE. ENCLOSURE SHALL BE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION SHALL BE NEMA 3R AND 12, RAIN TIGHT AND DUST TIGHT.
3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
4. NUTS, BOLTS, AND SCREWS SHALL NOT BE USED ON THE OUTSIDE OF THE SERVICE ENCLOSURE.
5. PHENOLIC NAMEPLATES SHALL BE USED TO IDENTIFY ALL OPERATOR CONTROLS.
6. CONTROL WIRING SHALL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. SERVICE ENCLOSURE SHALL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
9. SERVICE ENCLOSURE SHALL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS U.L. 508 FILE E62062.
10. WIRING BETWEEN CIRCUIT BREAKER AND CONTACTOR SHALL BE #6 THWN OR THHN MINIMUM.
11. SERVICE ENCLOSURE SHALL BE OF TWO-PIECE CONSTRUCTION.
12. THE WIRING SCHEMATIC DIAGRAM AS SHOWN IS FOR A 2-WIRE STREET LIGHTING SYSTEM. IF THE SERVICE ENCLOSURE WILL BE USED FOR A 3-WIRE STREET LIGHTING SYSTEM, THEN THE LIGHTING BREAKERS SHALL CONSIST OF 2-POLE BREAKERS WITH INTERNAL COMMON TRIP, EACH POLE WITH INDIVIDUAL ON-OFF CONTROL AND HANDLE TIE FOR COMMON OPERATION. FOR EACH 2-POLE BREAKER, THE CIRCUIT LOAD SHALL BE EQUALLY DIVIDED ACROSS THE LIGHTING MAIN.
13. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.

UNMETERED SERVICE WIRING SCHEMATIC DIAGRAM

* BREAKER SIZE DETERMINED BY LOAD REQUIREMENTS (30 AMP MINIMUM)

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

UNMETERED SERVICE PEDESTAL (Can) (120/208V, 120/240V, 277/480V)

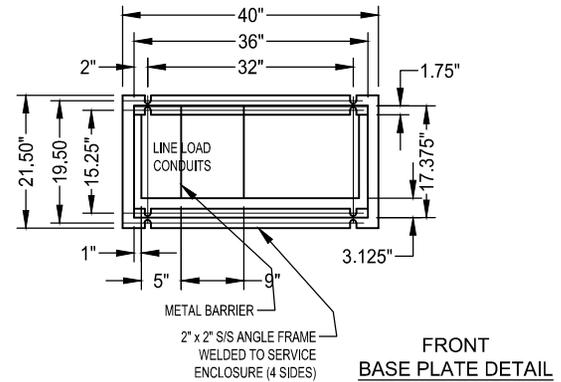
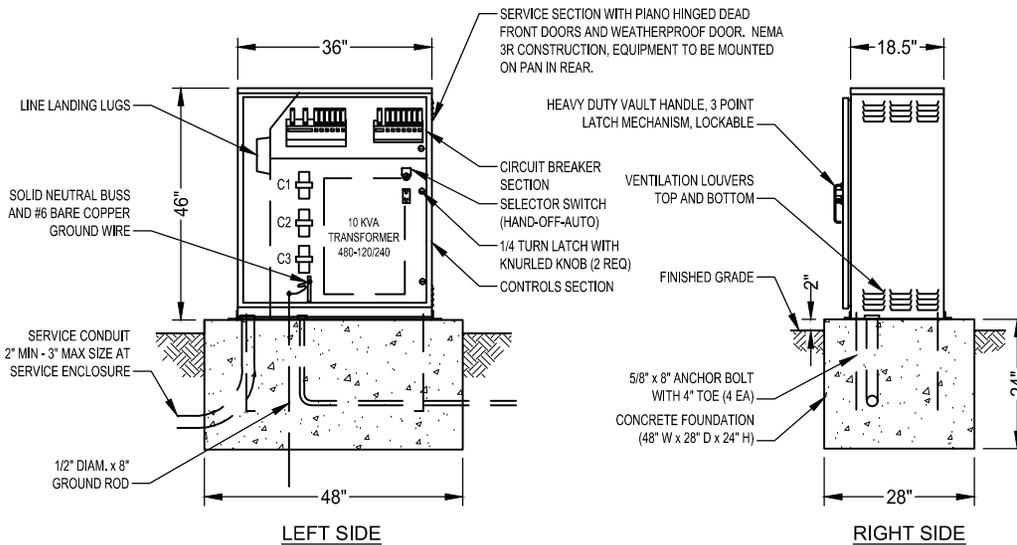
APPROVED BY: _____

CITY ENGINEER

DRAWING NUMBER

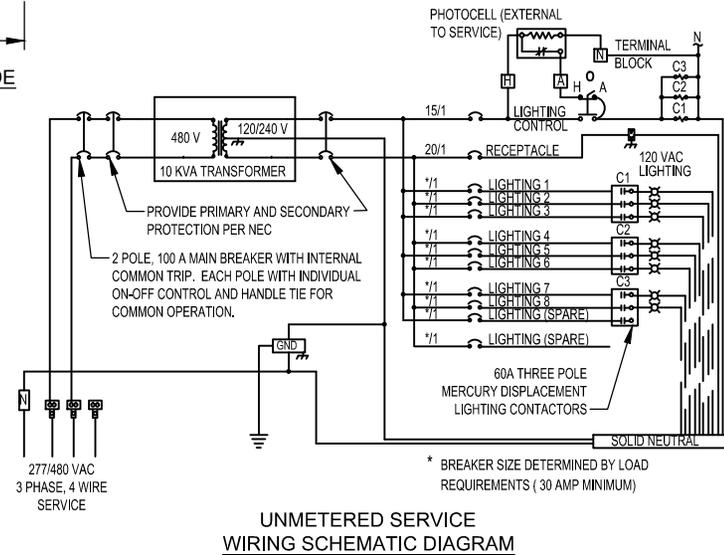
SL - 10





NOTES:

1. EXTERIOR SHALL BE 14 GAUGE #304D STAINLESS STEEL, INTERIOR SHALL BE 14 GAUGE STEEL, PAINTED WHITE. ENCLOSURE SHALL BE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION SHALL BE NEMA 3R AND 12, RAIN TIGHT AND DUST TIGHT.
3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
4. NUTS, BOLTS, AND SCREWS SHALL NOT BE USED ON THE OUTSIDE OF THE SERVICE ENCLOSURE.
5. PHENOLIC NAMEPLATES SHALL BE USED TO IDENTIFY ALL OPERATION CONTROLS.
6. CONTROL WIRING SHALL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. SERVICE ENCLOSURE SHALL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
9. SERVICE ENCLOSURE SHALL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS U.L. 508 FILE NO. E62062.
10. WIRING BETWEEN CIRCUIT BREAKER AND CONTACTOR SHALL BE #6 THWN OR THHN MINIMUM.
11. SIZE OF TRANSFORMER FOR SIGNALS SHALL BE 5 KVA. SIZE OF TRANSFORMER FOR 120 V INTERSECTION SHALL BE 2 KVA.
12. WHEN CHANGING VOLTAGE ON A RETROFIT PROJECT WHERE A NEW SERVICE ENCLOSURE WITH A STEP-DOWN TRANSFORMER IS REQUIRED, THE NEW SERVICE ENCLOSURE THE NEW SERVICE ENCLOSURE SHALL BE PLACED BETWEEN THE SERVICE POINT AND THE OLD SERVICE ENCLOSURE LOCATION WITHIN THE CITY R/W. VOLTAGE OUTPUT FROM THE NEW SERVICE ENCLOSURE MAY BE CONNECTED INTO THE EXISTING CONDUIT SYSTEM.
13. THE WIRING SCHEMATIC DIAGRAM AS SHOWN IS FOR A 2-WIRE STREET LIGHTING SYSTEM. IF THE SERVICE ENCLOSURE WILL BE USED FOR A 3-WIRE STREET LIGHTING SYSTEM, THEN THE LIGHTING BREAKERS SHALL CONSIST OF 2-POLE BREAKERS WITH INTERNAL COMMON TRIP, EACH POLE WITH INDIVIDUAL ON-OFF CONTROL AND HANDLE TIE FOR COMMON OPERATION. FOR EACH 2-POLE BREAKER, THE CIRCUIT LOAD SHALL BE EQUALLY DIVIDED ACROSS THE LIGHTING MAIN.
14. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.



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CITY OF ELK GROVE - PUBLIC WORKS

**UNMETERED SERVICE ENCLOSURE (CAN)
WITH STEP DOWN TRANSFORMER
(277/480V TO 120/240V)**

APPROVED BY: _____

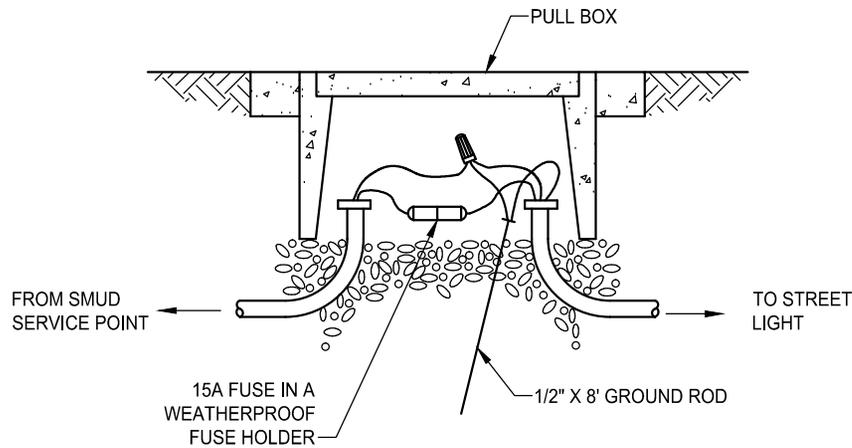
XX/XX/2017

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

SL - 11



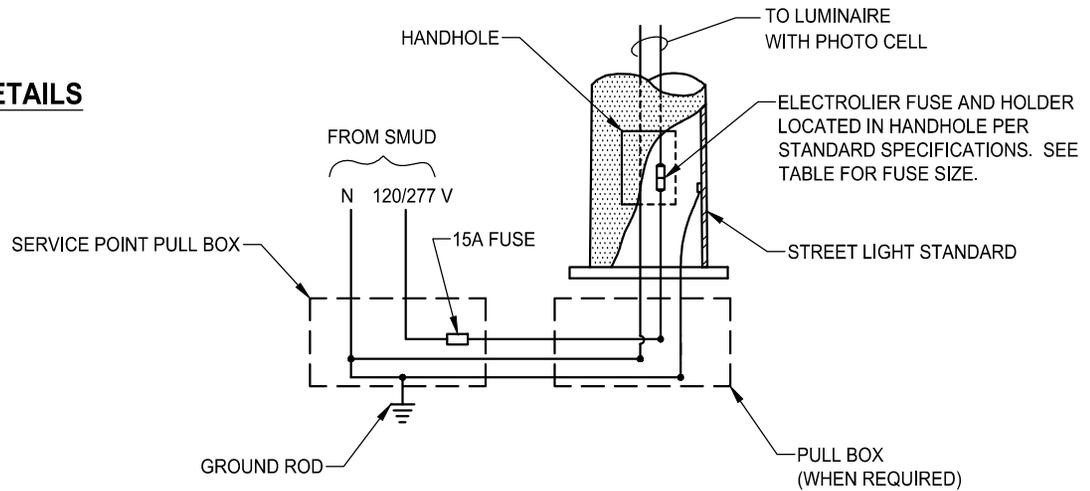


SERVICE POINT PULL BOX DETAILS

LAMP WATTAGE	ELECTROLIER FUSE SIZE
200 WATT OR LESS	6 AMP
250 WATT-400 WATT	10 AMP

NOTES:

1. FUSE SHALL BE A MIDGET FERRULE TYPE, RATED AT 600 VOLTS.
2. ATTACH GROUND CONDUCTOR TO THE ELECTROLIER.
3. ALL PULL BOXES SHALL HAVE PROVISIONS FOR LOCKING.



WIRING DIAGRAM

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

IN-LINE FUSE REQUIREMENTS

APPROVED BY: _____
XX/XX/2017
 CITY ENGINEER DATE



DRAWING NUMBER

SL - 12

TYPICAL VOLTAGE DROP CALCULATION FOR 2 - WIRE SYSTEM

$$\text{VOLTAGE DROP (COPPER CONDUCTOR)} = \frac{D \times A \times N \times 22}{\text{CIRCULAR MILS}}$$

D = Length of section, in feet.

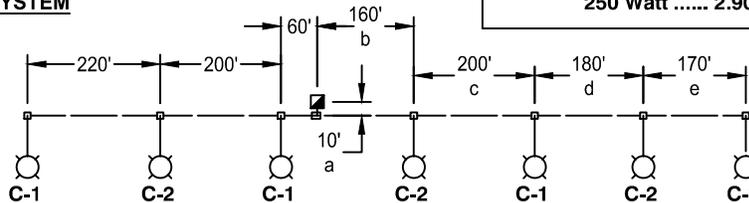
A = Line operating amperes drawn by one light.

N = Number of lights in the circuit beyond the section.

WIRE SIZE (AWG)	AREA (Circular Mils)
14	4,110
12	6,530
10	10,380
8	16,510
6	26,250
4	41,740

LINE OPERATING AMPERES FOR HIGH PRESSURE SODIUM LUMINAIRES (AT 115 VOLTS)
100 Watt 1.10 Amps ENERGY EFFICIENT
100 Watt 1.25 Amps
150 Watt 1.80 Amps
200 Watt 2.35 Amps
250 Watt 2.90 Amps

**TYPICAL MULTIPLE STREET
LIGHTING SYSTEM**



EXAMPLE CALCULATION:

FIND TOTAL VOLTAGE DROP IN CIRCUIT #1:
(115 volt system)

NOTE:

Dimension "a" is the distance between the service can and the adjacent load pull box. Use "a"=10' for standard installations where the load pull box is immediately adjacent to the service can.

Voltage drop calculations

$$\text{Section a} = \frac{10 (2.9 \times 4) (22)}{10,380} = 0.25$$

$$\text{Section b} + \text{c} = \frac{360 (2.9 \times 2) (22)}{10,380} = 4.43$$

$$\text{Section d} + \text{e} = \frac{350 (2.9 \times 1) (22)}{10,380} = 2.15$$

$$\text{TOTAL VOLTAGE DROP} = 6.83$$

LEGEND

-  250W High Pressure Sodium Luminaire
-  Circuit #1
-  Service Can
-  Conduit with #10 AWG Conductors

NOTES:

- Design must be based on a two (2) wire system, even though three (3) wires (with a single common wire) are actually used.
- Maximum voltage drop allowed in 115 volt system = 8.05 volts.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
REVISION		BY		APPROVED		DATE	
2 - WIRE STREET LIGHT SYSTEM WIRE SIZE AND VOLTAGE DROP CALCULATION						DRAWING NUMBER SL - 13	

TYPICAL VOLTAGE DROP CALCULATION FOR 3 - WIRE SYSTEM

$$\text{VOLTAGE DROP (COPPER CONDUCTOR)} = \frac{D \times A \times N \times 22}{\text{CIRCULAR MILS}}$$

D = Length of section, in feet.

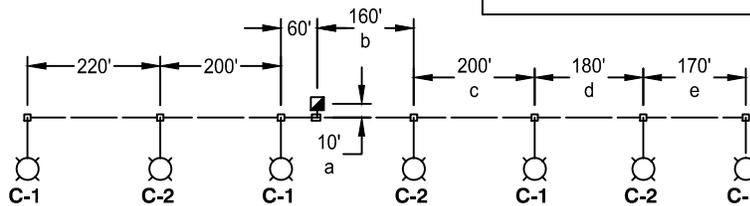
A = Line operating amperes drawn by one light.

N = Number of lights in the circuit beyond the section.

WIRE SIZE (AWG)	AREA (Circular Mils)
14	4,110
12	6,530
10	10,380
8	16,510
6	26,250
4	41,740

LINE OPERATING AMPERES FOR HIGH PRESSURE SODIUM LUMINAIRES (AT 115 VOLTS)
100 Watt 1.10 Amps ENERGY EFFICIENT
100 Watt 1.25 Amps
150 Watt 1.80 Amps
200 Watt 2.35 Amps
250 Watt 2.90 Amps

TYPICAL MULTIPLE STREET LIGHTING SYSTEM



EXAMPLE CALCULATION:

FIND TOTAL VOLTAGE DROP IN CIRCUIT #1:
(115 volt system)

NOTE:

Dimension "a" is the distance between the service can and the adjacent load pull box. Use "a"=10' for standard installations where the load pull box is immediately adjacent to the service can.

Voltage drop calculations

$$\text{Section a} = \frac{10 (2.9 \times 4) (11)}{6,530} = 0.20$$

$$\text{Section b} + \text{c} = \frac{360 (2.9 \times 2) (11)}{6,530} = 3.52$$

$$\text{Section d} + \text{e} = \frac{350 (2.9 \times 1) (11)}{6,530} = 1.71$$

$$\text{TOTAL VOLTAGE DROP} = 5.43$$

LEGEND

-  250W High Pressure Sodium Luminaire
-  Circuit #1
-  Service Can
-  Conduit with #12 AWG Conductors

NOTE:

Maximum voltage drop allowed in 115 volt system = 6.90 volts.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
REVISION		BY		APPROVED		DATE	
3 - WIRE STREET LIGHT SYSTEM		3 - WIRE STREET LIGHT SYSTEM		WIRE SIZE AND VOLTAGE DROP		DRAWING NUMBER	
CALCULATION		CALCULATION		SL - 14			

CONDUIT SIZING

CONDUCTOR	EQUIVALENT NUMBER OF #14 AWG CONDUCTORS FOR USE IN CONDUIT SIZING
#12 CONDUCTOR	1.2
#10 CONDUCTOR	1.5
#8 CONDUCTOR	2.3
#6 CONDUCTOR	3
#4 CONDUCTOR	4
#2 CONDUCTOR	5.3
#0 CONDUCTOR	11.5
INTERCONNECT CABLE	18
DETECTOR LEAD-IN CABLE	2.5
EMERGENCY VEHICLE DETECTOR CABLE	2

CONDUIT SIZE	2"	2.5"	3"	3.5"	4"
MAXIMUM NUMBER OF #14 AWG CONDUCTORS	31	44	69	91	113

NOTE: MINIMUM SIZE FOR NEW CONDUITS IS 2.0".

SERVICE WIRE MAXIMUM LENGTHS FOR TRAFFIC SIGNALS

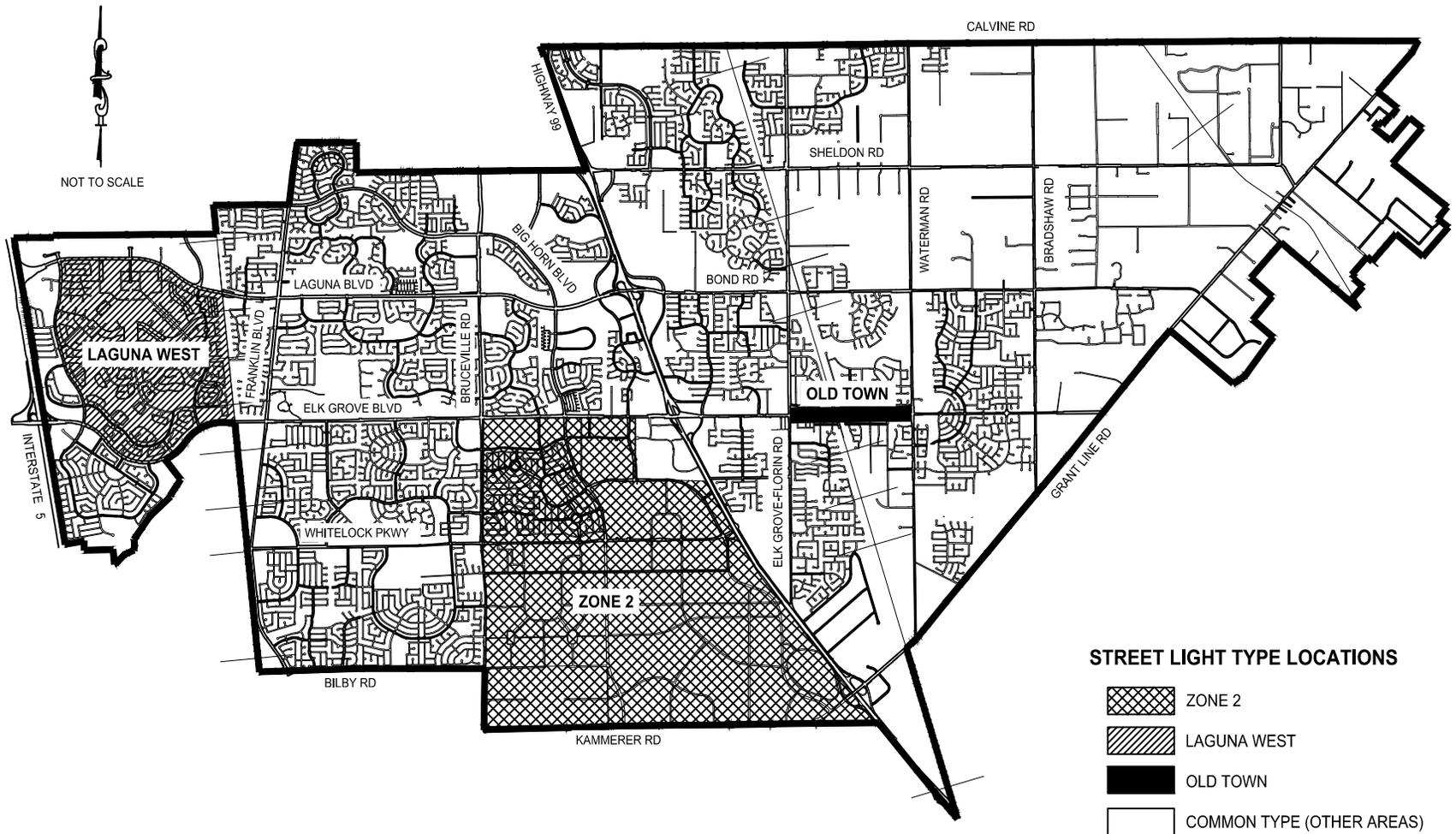
WIRE SIZE	LENGTH
#0	576'
#2	360'
#4	224'

CIRCUIT BREAKER SIZING

CONDUCTOR SIZE (AWG)	MAXIMUM CIRCUIT BREAKER AMPERAGE
#2	100
#4	80
#6	50
#8	40
#10	30

NOTE:
THE BREAKER SIZE SHALL BE DETERMINED BY THE LOAD REQUIREMENTS. MINIMUM BREAKER SIZE IS 30 AMPS.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
REVISION	BY	APPROVED	DATE	CONDUIT, SERVICE WIRE AND BREAKER SIZING		XX/XX/2017 DATE	
						DRAWING NUMBER	
						SL - 15	
							



- STREET LIGHT TYPE LOCATIONS**
-  ZONE 2
 -  LAGUNA WEST
 -  OLD TOWN
 -  COMMON TYPE (OTHER AREAS)

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

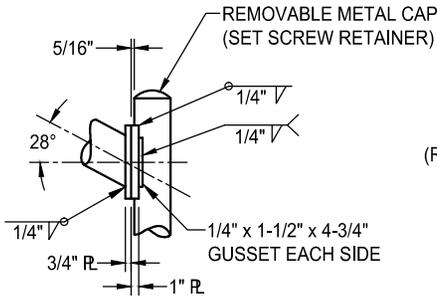
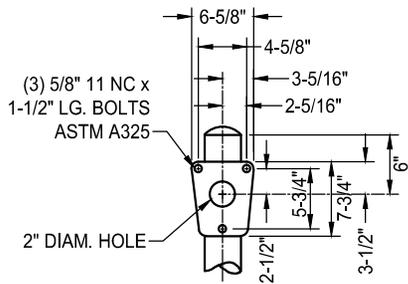
CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY: _____
 _____ XX/XX/2017
 CITY ENGINEER DATE

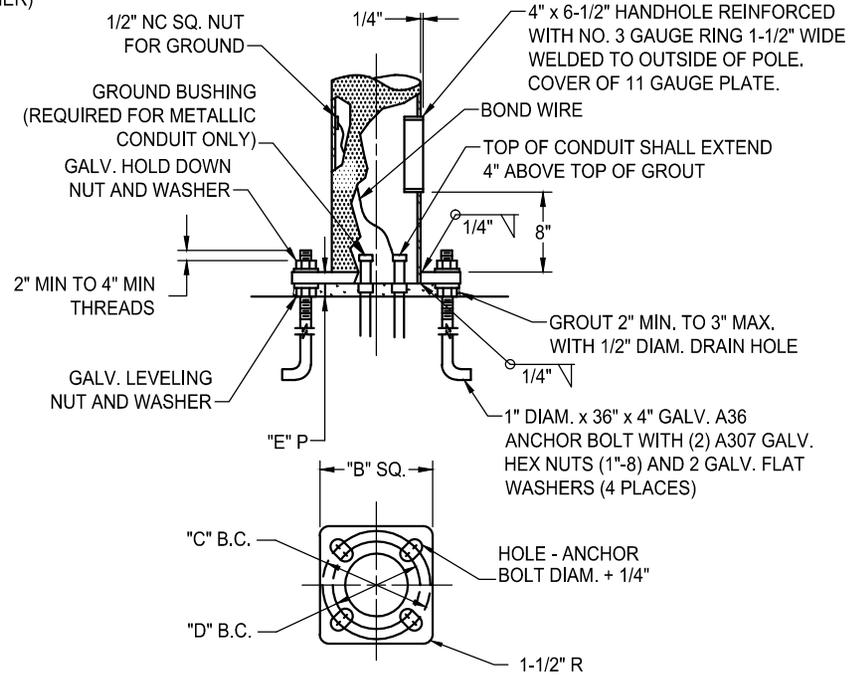
STREET LIGHT AREAS



DRAWING NUMBER
SL - 19



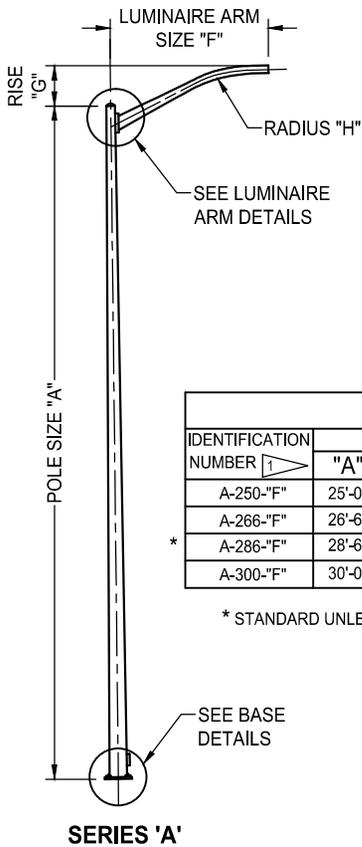
LUMINAIRE ARM DETAILS



BASE DETAILS

NOTES:

- SERIES 'A' NUMBERING PROCEDURE
 POLE SIZE 'A' → A-286-8
 SERIES → A-286-8
 LUMINAIRE ARM SIZE "F"
 (STANDARD UNLESS OTHERWISE SPECIFIED)
- STANDARD SHALL BE INSTALLED SO HANDHOLE FACES THE STREET.



FOUNDATION DIMENSIONS		
	SQUARE	ROUND
SERIES 'A'	2'6" x 2'6" x 5'	2'6" x 5'

LUMINAIRE ARM DATA					
"F"	END OD	BASE OD	GA	"G"	"H"
6'-0"	2-3/8"	3-3/8"	10	1'-6"	7'-5"
* 8'-0"	2-3/8"	3-11/16"	10	2'-3"	7'-5"
10'-0"	2-3/8"	3-7/8"	10	2'-6"	13'-3"
12'-0"	2-3/8"	4-5/16"	10	3'-9"	13'-3"
15'-0"	2-3/8"	4-3/4"	10	4'-3"	13'-3"
18'-0"	2-3/8"	4-3/4"	10	5'-3"	13'-3"

'A' SERIES									
IDENTIFICATION NUMBER	POLE DATA				BASE PLATE DATA				ANCHOR BOLTS
	"A"	TOP OD	BASE OD	GA	"B"	"C"	"D"	"E"	
A-250-"F"	25'-0"	3-7/8"	7-5/16"	10	12"	11-1/2"	11"	1"	1" x 36" x 4"
A-266-"F"	26'-6"	3-7/8"	7-1/2"	10	12"	11-1/2"	11"	1"	1" x 36" x 4"
* A-286-"F"	28'-6"	3-7/8"	7-3/4"	10	12"	11-1/2"	11"	1"	1" x 36" x 4"
A-300-"F"	30'-0"	3-7/8"	8"	10	12"	11-1/2"	11"	1"	1" x 36" x 4"

* STANDARD UNLESS OTHERWISE SPECIFIED

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**COMMON TYPE ELECTROLIER
(SERIES 'A')**

APPROVED BY:

CITY ENGINEER

DATE



DRAWING NUMBER

SL - 20

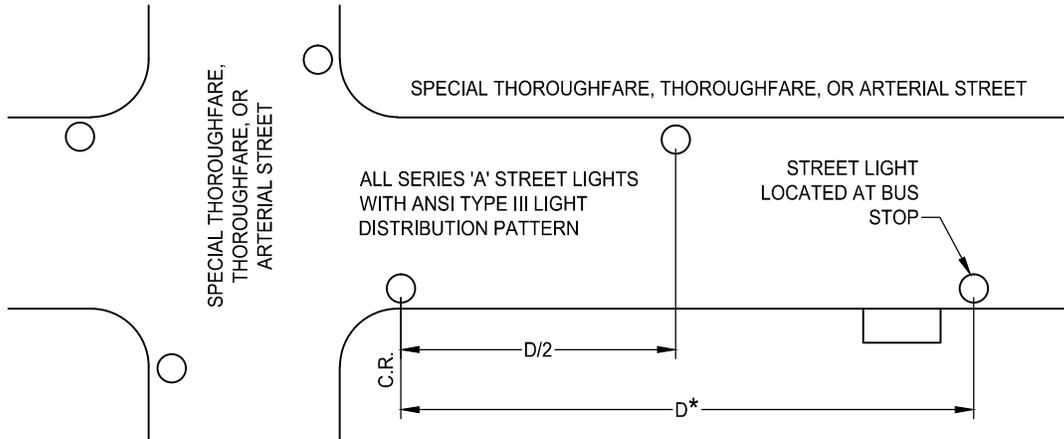
STREET CLASSIFICATION	RIGHT - OF - WAY WIDTH	STREET LIGHT SUB-TYPE (SERIES)	STANDARD MOUNTING HEIGHT	MAXIMUM SPACING** (ONE SIDE ONLY)
SPECIAL THOROUGHFARE	118'	A	30' - 9"	180'
THOROUGHFARE	96'	A	30' - 9"	220'
ARTERIAL	72'	A	30' - 9"	220'
				MAXIMUM SPACING** (TWO-SIDES)
COLLECTOR	50'	A*	30' - 9"	220'
RESIDENTIAL	< 50'	B	21'	200'

NOTES:

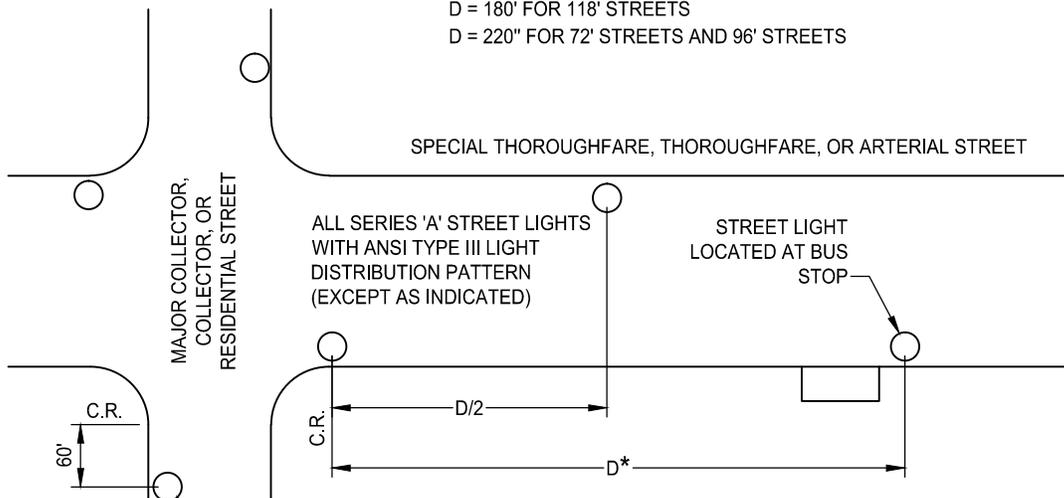
1. WATTAGE AND MODEL NUMBER FOR LIGHT EMITTING DIODE (LED) LAMP SHALL BE SPECIFIED ON THE PLANS. EQUIPMENT SHALL CONFORM TO CITY OF ELK GROVE APPROVED EQUIPMENT LIST.
2. ILLUMINATION SHALL CONFORM TO STANDARD DRAWING SL-2.
3. SEE SECTION 5-8D, "SPACING," FOR DEFINITIONS OF ONE-SIDE AND TWO-SIDE SPACING.
- *4. SINGLE FAMILY AND DUPLEX FAMILY ZONING SHALL USE SERIES 'B' STREET LIGHT, 21' MOUNTING HEIGHT,, AND 180' SPACING.
- **5. MAXIMUM SPACING MAY BE ADJUSTED AS LONG AS ILLUMINATION CRITERIA ARE MET WITH APPROVAL OF THE ENGINEER.

DATE: 09/22/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE			CITY ENGINEER	DATE
				COMMON TYPE STREET LIGHT POLE SPACING GUIDE (SERIES 'A'/ SERIES 'B')		DRAWING NUMBER	
							
						SL - 24	

STREET LIGHT PLACEMENT ON SPECIAL THOROUGHFARE, THOROUGHFARE, AND ARTERIAL STREETS (118', 96', AND 84' STREETS)



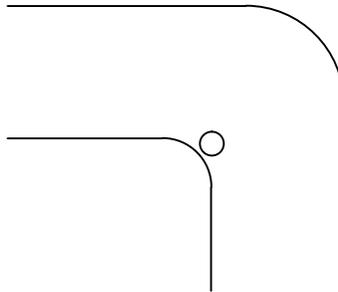
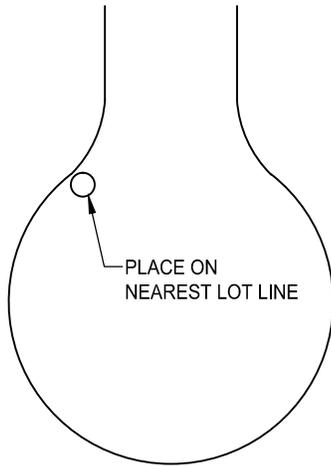
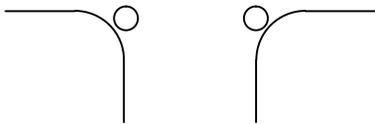
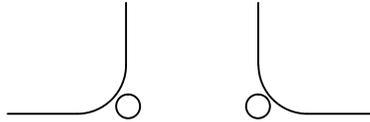
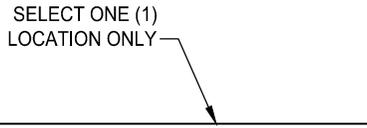
*SEE STANDARD DRAWING SL-24
D = 180' FOR 118' STREETS
D = 220' FOR 72' STREETS AND 96' STREETS



IN ACCORDANCE WITH STREET CLASSIFICATION,
SERIES 'A' OR SERIES 'B' STREET LIGHT WITH ANSI
TYPE III LIGHT DISTRIBUTION PATTERN. SEE
STANDARD DRAWINGS SL-2 AND SL-24

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	COMMON TYPE TYPICAL LOCATIONS ARTERIAL STREETS (SERIES 'A'/ SERIES 'B')		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SL - 25	

**STREET LIGHT PLACEMENT
ON MAJOR COLLECTOR,
COLLECTOR, AND RESIDENTIAL STREETS
(ALL STREETS OTHER THAN 118', 96' AND 72' STREETS)**



NOTE:

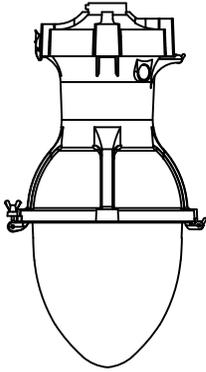
IN ACCORDANCE WITH STREET CLASSIFICATIONS, ALL ARE SERIES 'A' OR SERIES 'B' STREET LIGHTS WITH ANSI TYPE III LIGHT DISTRIBUTIONS PATTERN. SEE STANDARD DRAWINGS SL-2 AND SL-24

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	COMMON TYPE TYPICAL LOCATIONS COLLECTOR AND RESIDENTIAL STREETS (SERIES 'A' / SERIES 'B')		CITY ENGINEER	DATE
						DRAWING NUMBER	
						SL - 26	

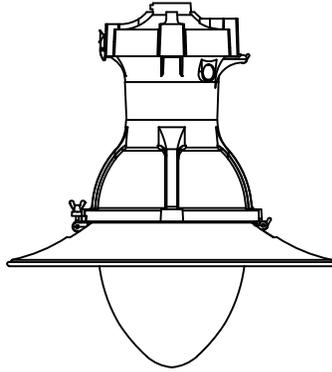
TEARDROP GLASS

ASYMMETRIC

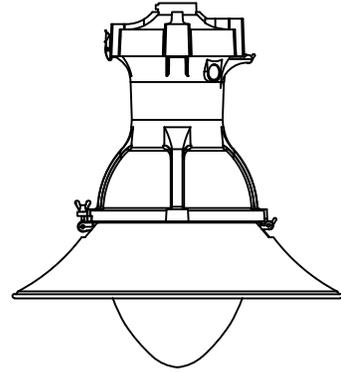
STANDARD



SHALLOW SKIRT*

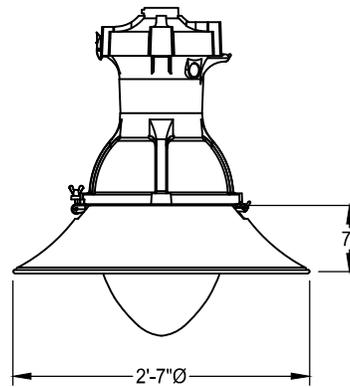
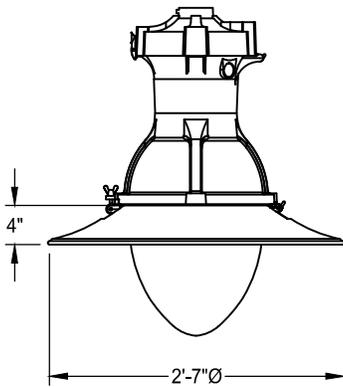


DEEP SKIRT*



*OPTIONAL UPON WRITTEN APPROVAL OF PLANNING DIRECTOR AND CITY ENGINEER

SKIRT DIMENSIONS (OPTIONAL)



DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	ZONE 2 LUMINAIRE OPTIONS (SERIES 'A')		_____ CITY ENGINEER	
						_____ DATE	
							

STREET CLASSIFICATION	NUMBER OF LANE	STREET LIGHT SUB-TYPE (SERIES)	STANDARD POLE HEIGHT	MEDIAN	NO MEDIAN (SERIES 'A') (BOTH SIDES)
				MAXIMUM SPACING ("D") (FEET)	
SPECIAL THOROUGHFARE	8	DUAL ARM	28'	160	160
THOROUGHFARE	6	DUAL ARM	28'	160	160
ARTERIAL	2 - 4	DUAL ARM	28'	180	180
	SPACING (BOTH SIDES) (FEET)				
COLLECTOR	2, 3	SERIES 'A'***	28'	180	
	2, 3	SERIES 'B'*	14'	150	
	2	SERIES 'A'***	28'	80	
	2	SERIES 'B'***	14'	80	
LOCAL RESIDENTIAL	2	SERIES 'B'	14'	180	
	2	SERIES 'A'	28'	180	
PASEO, BIKE TRAILS, AND SEPARATED PEDESTRIAN PATHS	-	SERIES 'B'	14'	120	
PEDESTRIAN PATHS ON 4 - 8 LANE STREETS	-	SERIES 'B'	14'	160 - 180***	

1. WATTAGE AND MODEL NUMBER FOR LIGHT EMITTING DIODE (LED) LAMP SHALL BE SPECIFIED ON THE PLANS. EQUIPMENT SHALL CONFORM TO CITY OF ELK GROVE APPROVED EQUIPMENT LIST.
2. ILLUMINATION SHALL CONFORM TO STANDARD DRAWING SL-2.

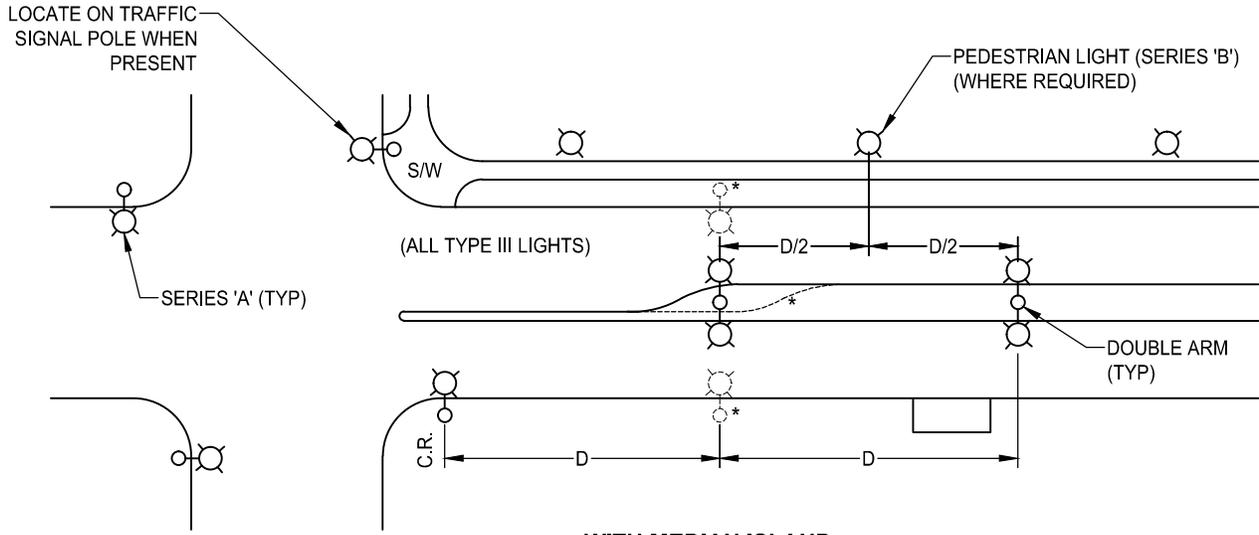
* BOTH SIDES OF STREET, NO ALTERNATING (2 PER LOCATION). NOT FOR USE ON STREETS LONGER THAN 800 FEET.

** SINGLE SIDE OF STREET, ALTERNATING SPACING.

*** MATCH STREET SPACING. LOCATE HALFWAY BETWEEN STREET LIGHT LOCATIONS.

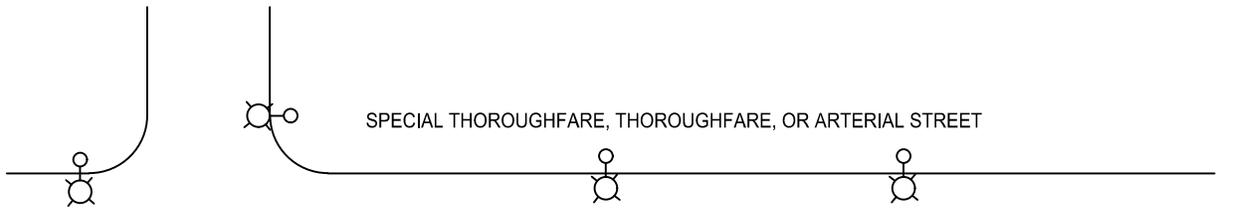
DATE: 01/20/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	ZONE 2 POLE SPACING GUIDE (SERIES 'A'/SERIES 'B'/DUAL ARM)		_____ CITY ENGINEER	
						_____ DATE	
						 DRAWING NUMBER	

STREET LIGHT PLACEMENT ON SPECIAL THOROUGHFARE, THOROUGHFARE, & ARTERIAL STREETS (INCLUDES COLLECTORS WITH MEDIAN)

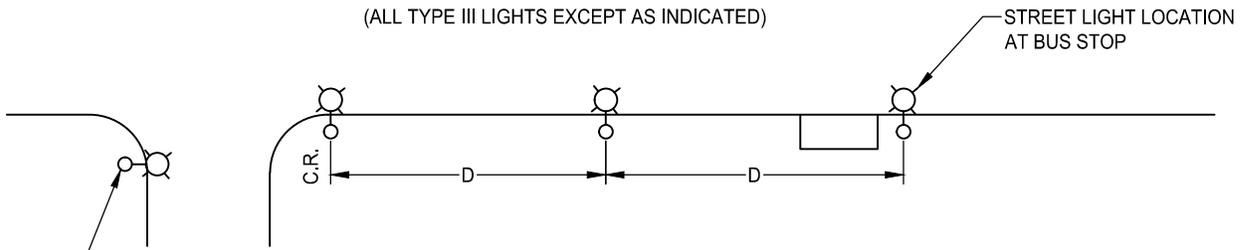


WITH MEDIAN ISLAND

*SEE STANDARD DRAWING SL-36 FOR DISTANCE "D"



(ALL TYPE III LIGHTS EXCEPT AS INDICATED)

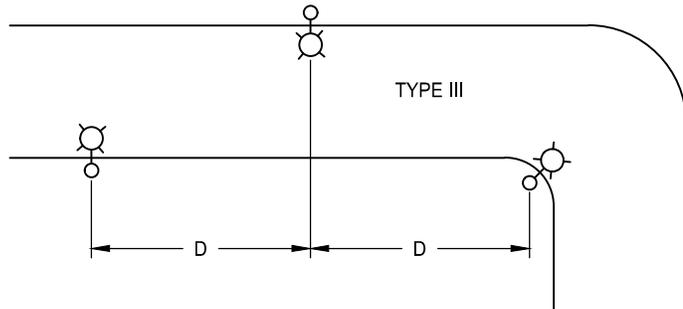
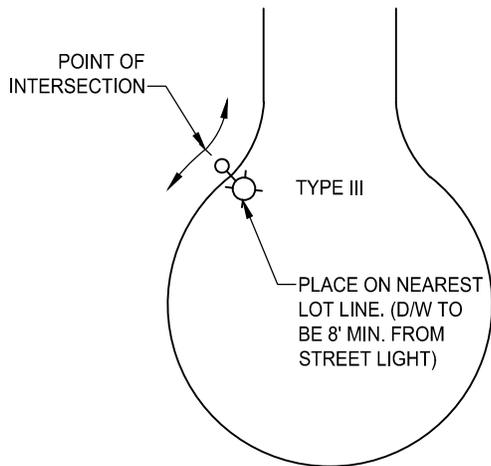
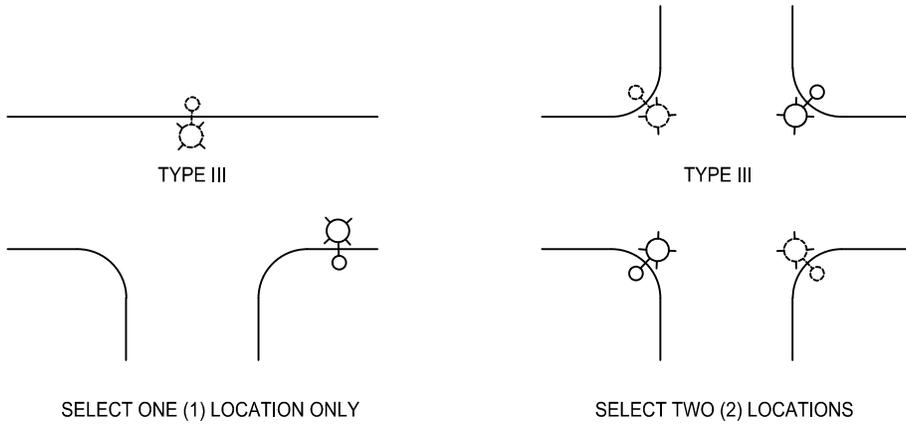


WITHOUT MEDIAN ISLAND

(SERIES 'A')

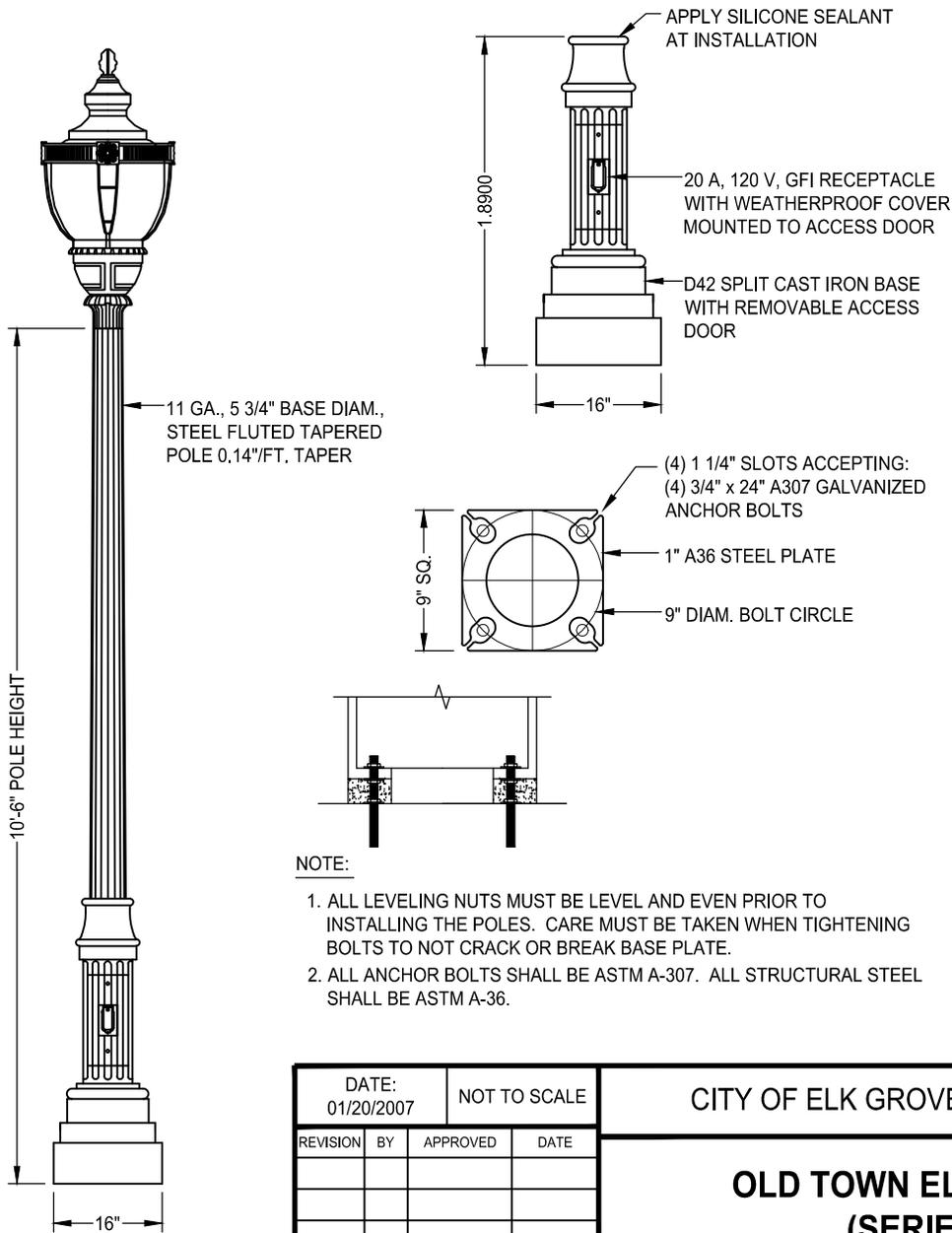
DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
				ZONE 2 TYPICAL LOCATIONS ARTERIALS AND COLLECTORS WITH MEDIANS (SERIES 'A' / SERIES 'B' / DUAL ARM)			
						CITY ENGINEER _____ DATE <u>XX/XX/2017</u> DRAWING NUMBER <h1 style="margin: 0;">SL - 37</h1>	
REVISION	BY	APPROVED	DATE				

STREET LIGHT PLACEMENT ON MAJOR COLLECTOR, COLLECTOR (NO MEDIAN), & RESIDENTIAL STREETS



*SEE STANDARD DRAWING SL-36 FOR DISTANCE "D"

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
				ZONE 2 TYPICAL LOCATIONS		_____ CITY ENGINEER	
				COLLECTOR AND RESIDENTIAL STREETS		_____ DATE	
				(SERIES 'A' / SERIES 'B')		DRAWING NUMBER	
						SL - 38	



- NOTE:**
1. ALL LEVELING NUTS MUST BE LEVEL AND EVEN PRIOR TO INSTALLING THE POLES. CARE MUST BE TAKEN WHEN TIGHTENING BOLTS TO NOT CRACK OR BREAK BASE PLATE.
 2. ALL ANCHOR BOLTS SHALL BE ASTM A-307. ALL STRUCTURAL STEEL SHALL BE ASTM A-36.

APPLICATION

BUSINESS DISTRICT OLD TOWN

SPECIFICATIONS

POST DESCRIPTION
 THE OLD TOWN LIGHTING POST SHALL BE ALL STEEL CONSTRUCTION WITH A FLUTED BASE DESIGN. THE SHAFT SHALL BE FLUTED AND TAPERED WITH A 5 3/4" BASE DIAMETER. THE POST SHALL BE SHIPPED WITH FINISH NOTED BELOW.

MATERIALS

THE BASE AND POLE SHALL BE CAST STEEL. THE BASE AND POLE SHALL BE PRIME PAINTED INSIDE AND OUT WITH RUST INHIBITING, EPOXY BASED PAINT, PAINTED OUTSIDE WITH URETHANE GLOSS ENAMEL OF FEDERAL COLOR STANDARD 595B, COLOR #17083 "GLOSS BLACK", AND FINISHED WITH A CLEAR COAT OF URETHANE GLOSS FINISH. ANCHOR BOLTS AND NUTS SHALL BE HOT DIPPED GALVANIZED STEEL.

CONSTRUCTION

THE SHAFT AND BASE SHALL BE CAST IN ONE PIECE OR SHALL BE DOUBLE WELDED (TOP AND BOTTOM OF BASE). WELDS SHALL BE GROUND SMOOTH. WELDS SHALL CONFORM TO AWS D1.1. POLE AND BASE SHALL BE SHIPPED AS ONE PIECE.

DIMENSIONS

THE POST SHALL BE 10' 6" IN HEIGHT WITH AN 11.5" DIAMETER BASE. THE SHAFT SHALL BE TAPERED WITH A 5 3/4" BASE DIAMETER. AT THE TOP OF THE POST, AN INTEGRAL 2 7/8" X 3" TENON SHALL BE PROVIDED FOR LUMINAIRE MOUNTING.

INSTALLATION

THE POST SHALL BE PROVIDED WITH FOUR, HOT DIP GALVANIZED L-TYPE ANCHOR BOLTS TO BE INSTALLED AS SHOWN IN THE BASE DETAIL. AN ACCESS DOOR SHALL BE PROVIDED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUNDING SCREW (5/8") SHALL BE PROVIDED INSIDE THE BASE OPPOSITE THE DOOR.

PRODUCT

VISCO V1-D42-F, ELK GROVE 3A

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**OLD TOWN ELECTROLIER
(SERIES 'B')**

APPROVED BY: _____

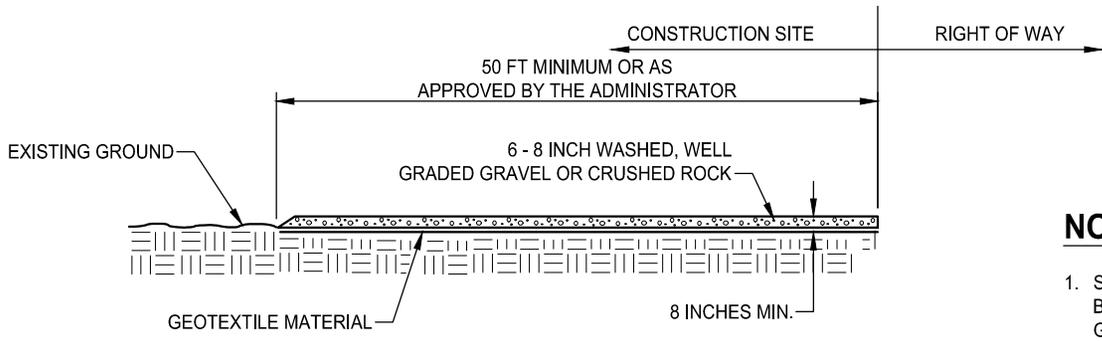
CITY ENGINEER

XX/XX/2017
DATE

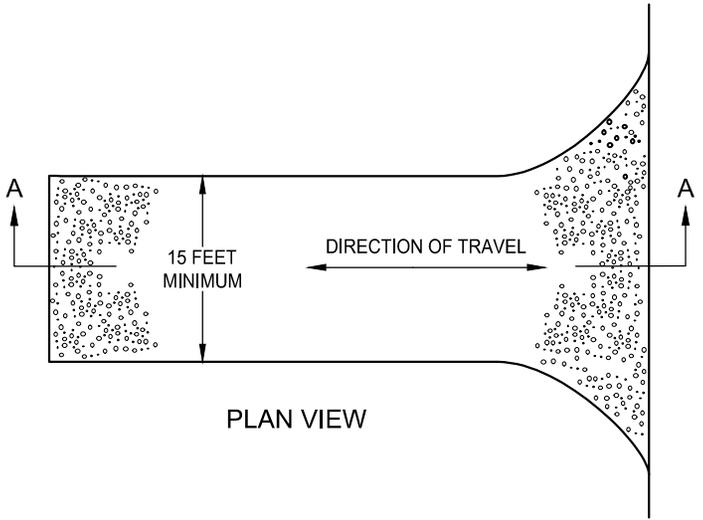
DRAWING NUMBER

SL - 46





SECTION A-A



PLAN VIEW

NOTES

1. STABILIZED CONSTRUCTION SITE ACCESS SHALL BE CONSTRUCTED OF 6 - 8 INCH WASHED, WELL GRADED GRAVEL OR CRUSHED ROCK. MATERIAL SHALL BE PLACED TO A MINIMUM THICKNESS OF 8 INCHES. ROUND ROCK (RIVER ROCK) NOT ALLOWED.
2. LENGTH OF ENTRANCE SHALL BE A MINIMUM OF 50 FEET. WIDTH SHALL BE A MINIMUM OF 15 FEET OR GREATER IF NECESSARY TO COVER ALL VEHICULAR INGRESS AND EGRESS. PROVIDE AMPLE TURNING RADII.
3. THE ENTRANCE SHALL BE KEPT IN GOOD CONDITION BY OCCASIONAL TOP DRESSING WITH MATERIAL AS SPECIFIED IN NOTE 1.
4. ACCESS SHALL BE INSPECTED WEEKLY DURING PERIODS OF HEAVY USAGE, MONTHLY DURING NORMAL USAGE, AND AFTER EACH RAINFALL, WITH MAINTENANCE PROVIDED AS NECESSARY. PERIODIC TOP DRESSING SHALL BE DONE AS NEEDED.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

STABILIZED CONSTRUCTION SITE ACCESS

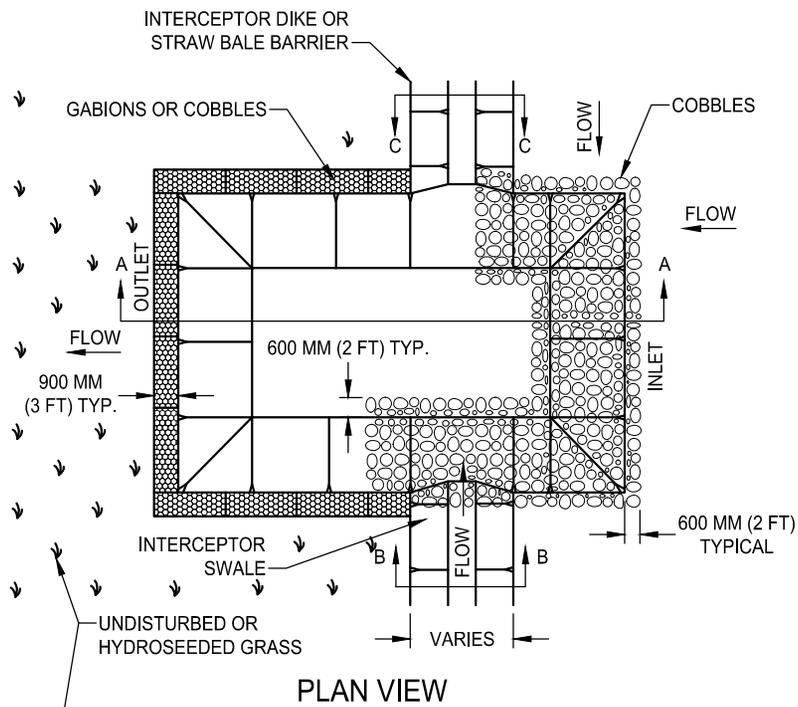
APPROVED BY: _____

CITY ENGINEER _____ DATE _____

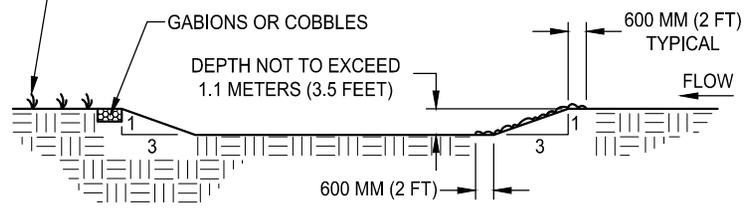
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SQ - 1

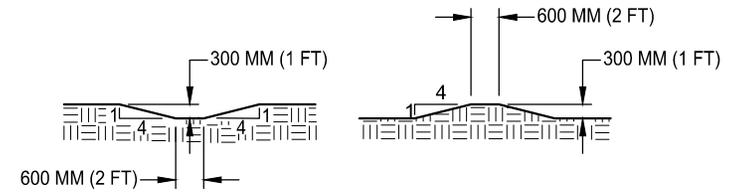




PLAN VIEW



SECTION A-A



SECTION B-B

SECTION C-C

NOTES:

1. DIMENSIONS OF SEDIMENT TRAPS, DIKES, AND SWALES SHALL BE APPROVED BY THE ADMINISTRATOR.
2. INTERCEPTION DIKES AND SWALES SHALL BE CONSTRUCTED TO DRAIN SURFACE RUNOFF INTO SEDIMENT TRAPS.
3. TRAPS SHALL BE EXCAVATED WITH APPROPRIATE EQUIPMENT, TAKING CARE NOT TO DISTURB VEGETATION OR SOIL AT OUTLET CREST. SIDE SLOPES SHALL BE 1:3 OR FLATTER. MAXIMUM TRAP DEPTH SHALL BE 1.1 METERS (3.5 FEET).
4. COBBLES CONFORMING TO CITY OF ELK GROVE SPECIFICATIONS SHALL BE PLACED ON THE TOPS, SLOPES, AND BOTTOMS OF THE INLET SIDES. COBBLES SHALL EXTEND A MINIMUM OF 600 MM (2 FEET) BEYOND THE TOP AND TOE OF SLOPES.
5. PERIMETER OF SEDIMENT TRAPS SHALL BE STABILIZED WITH GABIONS OR COBBLES AND HYDROSEEDDED 3 METERS (10 FEET) BEYOND EDGE OF EXCAVATION IF EXISTING VEGETATION IS THIN, DISTURBED OR NONEXISTENT.
6. THE CONTRACTOR SHALL INSPECT SEDIMENT TRAPS WEEKLY AND AFTER EACH RAINFALL AND CLEAN AND REPAIR AS NECESSARY. SEDIMENT SHALL BE REMOVED FROM THE BOTTOM OF THE TRAP WHEN 300 MM (1 FOOT) DEEP OR LESS.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

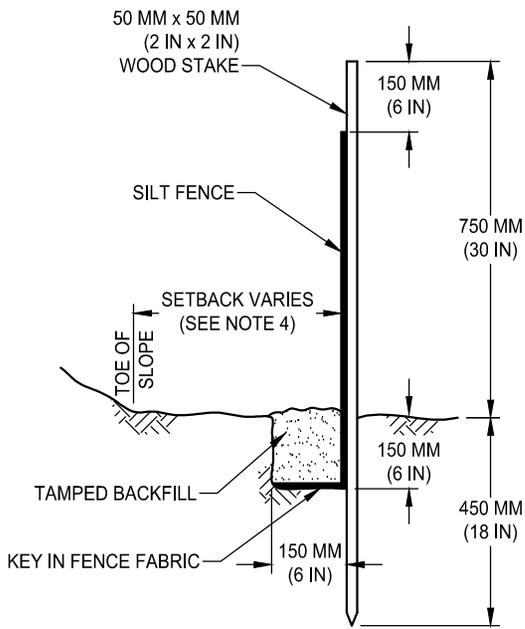
APPROVED BY:

CITY ENGINEER
XX/XX/2017
DATE

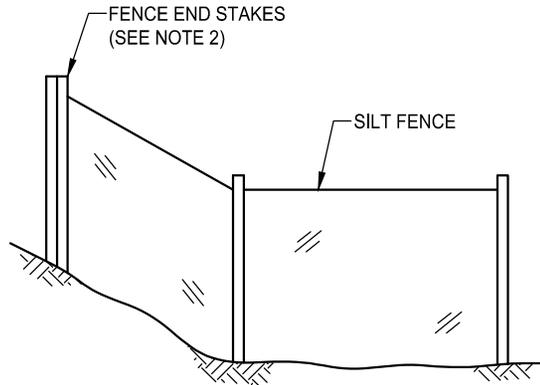
**SEDIMENT TRAP
STABILIZED OUTLET**



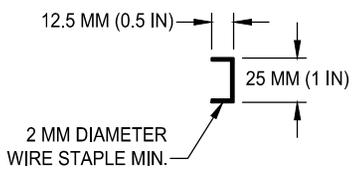
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SQ - 3



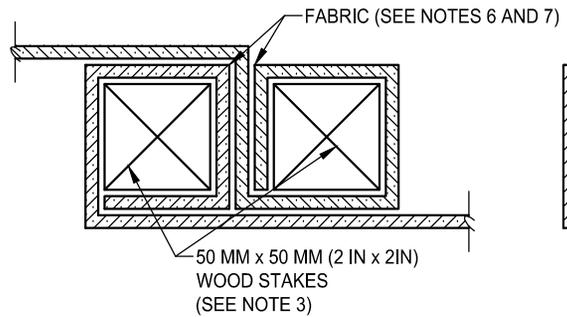
FENCE SECTION DETAIL



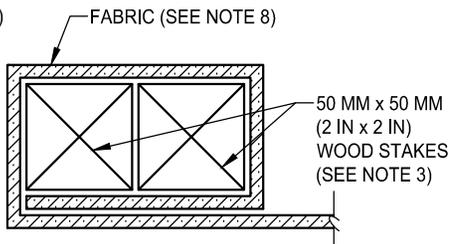
FENCE END DETAIL



STAPLE DETAIL



JOINT DETAIL

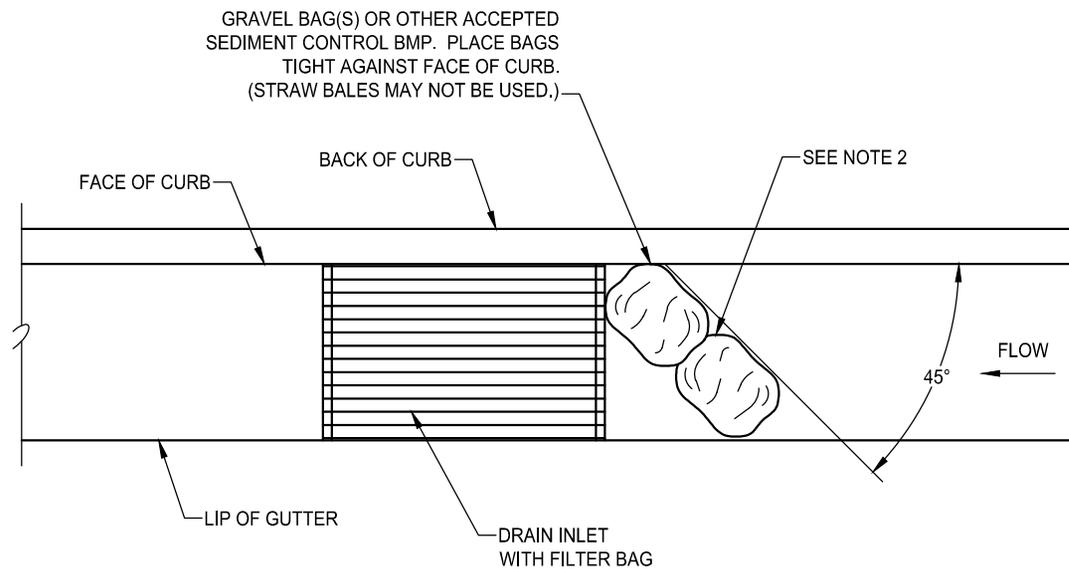


END STAKE DETAIL

NOTES:

1. CONSTRUCT THE LENGTH OF EACH REACH SO THAT THE CHANGE IN BASE ELEVATION ALONG THE REACH DOES NOT EXCEED 1/3 THE HEIGHT OF THE LINEAR BARRIER. IN NO CASE SHALL THE REACH LENGTH EXCEED 150 MM (6 IN)
2. THE LAST 2.4 M (8 FT) OF FENCE SHALL BE TURNED UP SLOPE.
3. STAKE DIMENSIONS ARE NOMINAL.
4. DIMENSIONS MAY VARY TO FIT FIELD CONDITION.
5. STAKES SHALL BE SPACED AT 2.4 M (8 FT) MAXIMUM AND SHALL BE POSITIONED ON THE DOWNSTREAM SIDE OF THE FENCE.
6. OVERLAP STAKES, AND FOLD FENCE FABRIC TO ROUND EACH STAKE ONE FULL TURN.
7. STAKES SHALL BE DRIVEN TIGHTLY TOGETHER TO PREVENT POTENTIAL FLOW THROUGH OF SEDIMENT AT THE JOINT.
8. FOR END STAKE CONDITION FOLD FENCE FABRIC AROUND (2) STAKES (1) FULL TURN AND SECURE WITH (4) STAPLES.
9. MINIMUM (4) STAPLES PER STAKE.
10. CROSS BARRIERS SHALL BE MINIMUM OF 1/3 AND MAXIMUM OF 1/2 THE HEIGHT OF THE LINEAR BARRIER.

DATE: 01/20/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	SILT FENCE		_____ XX/XX/2017	_____ DATE
						CITY ENGINEER	DRAWING NUMBER
							SQ - 5



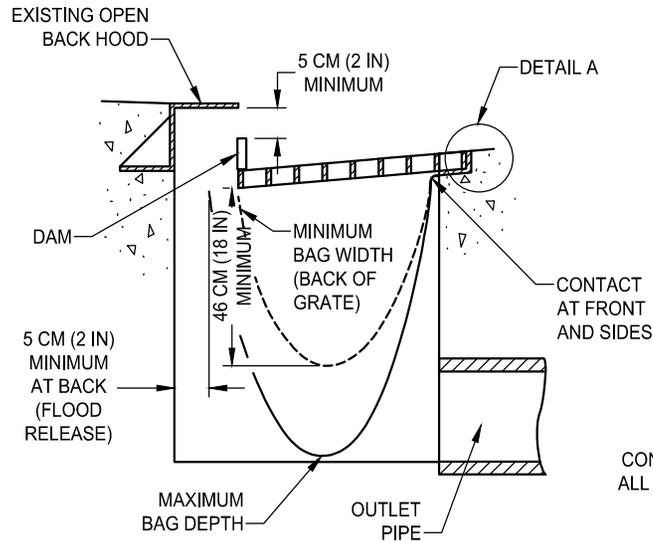
NOTES:

1. SEDIMENT TRAP UPSTREAM OF SEDIMENT CONTROL BMP SHALL BE CLEANED WEEKLY AND PRIOR TO A RAINFALL EVENT.
2. PLACE BAGS TIGHTLY TOGETHER AT JOINTS TO PREVENT OR MINIMIZE SEEPAGE AT JOINTS.

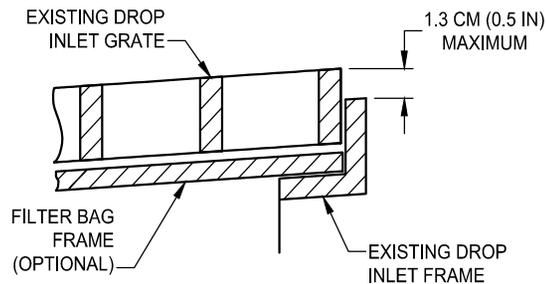
PLAN VIEW

DATE: 01/20/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	INLET SEDIMENT CONTROL		_____	XX/XX/2017
						CITY ENGINEER	DATE
						DRAWING NUMBER	
						SQ - 7	

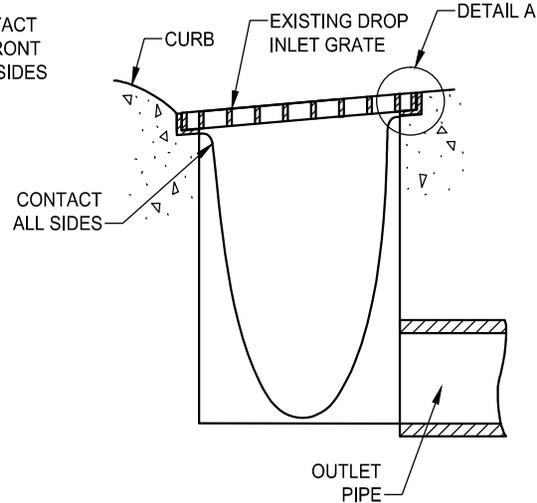




PLACEMENT AT TYPE B AND E DROP INLETS



DETAIL A



PLACEMENT AT TYPE A, C, D, & F DROP INLETS AND PARKING LOTS

NOTES:

1. THE MAXIMUM DRAINAGE AREA PER FILTER SHALL BE NO MORE THAN 0.8 HECTARES (2 ACRES).
2. THE FILTER BAG SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH A MINIMUM TENSILE STRENGTH OF 50 LBS PER LINEAL FOOT, AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH GALLONS/MINUTE/SQ FT.
3. THE FILTER BAG MAY BE SUSPENDED FROM OR HELD IN PLACE ON EXISTING INLET GRATE (OR OTHER APPROVED METHOD), PROVIDING NO MODIFICATION OR DAMAGE SHALL BE DONE TO THE INLET GRATE OR FRAME. THE INLET GRATE SHALL NOT BE CAUSED TO REST MORE THAN 13 MM (0.5 IN) ABOVE THE INLET FRAME (SEE DETAIL A).
4. THE FILTER BAG MAY EXTEND TO THE BOTTOM OF THE INLET BOX PROVIDED THE OUTLET PIPE IS UNOBSTRUCTED.
5. FLOWS SHALL NOT BE ALLOWED TO BYPASS THE BAG. THE BAG OR ITS FRAME SHALL CATCH FLOWS AT ALL SIDES OF THE INLET, EXCEPT AS SHOWN FOR FLOOD RELEASE.
6. INLET FILTER BAGS SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL DURING THE WET SEASON AND MONTHLY DURING THE DRY SEASON. SEDIMENT AND DEBRIS SHALL BE REMOVED BEFORE ACCUMULATIONS HAVE REACHED ONE THIRD THE DEPTH OF THE BAG. BAGS SHALL BE REPAIRED OR REPLACED AS SOON AS DAMAGE OCCURS.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

STORM DRAIN INLET FILTER BAG

APPROVED BY: _____

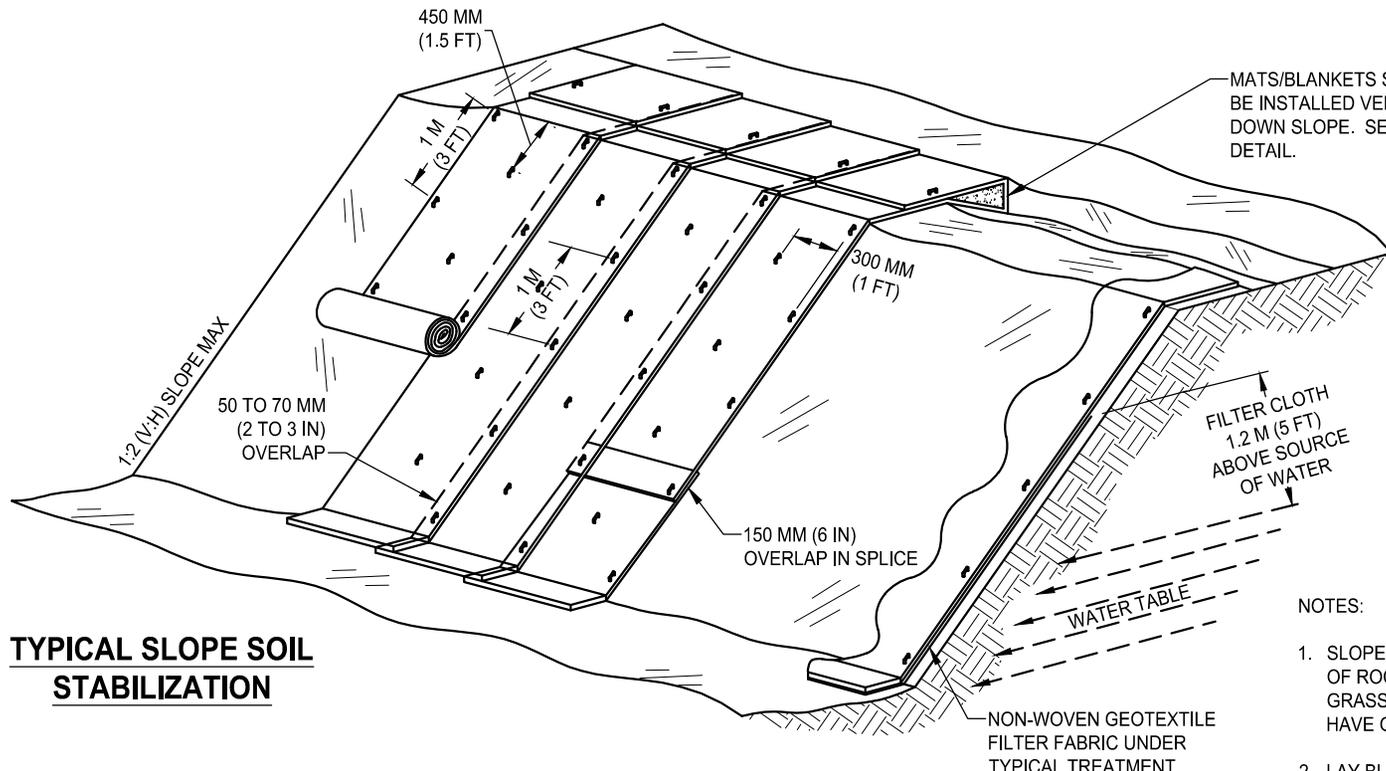
XX/XX/2017

CITY ENGINEER DATE

DRAWING NUMBER

SQ - 8





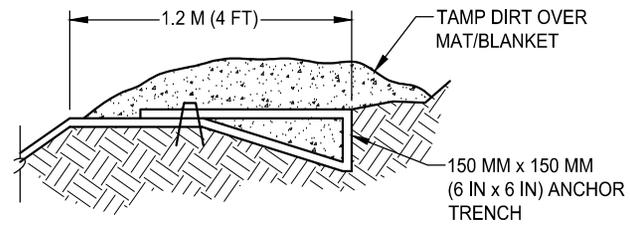
MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWN SLOPE. SEE ANCHOR DETAIL.

TYPICAL SLOPE SOIL STABILIZATION

WET SLOPE LINING

NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.



ANCHOR DETAIL

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

EROSION CONTROL BLANKETS/MATS SLOPE INSTALLATION

APPROVED BY: _____

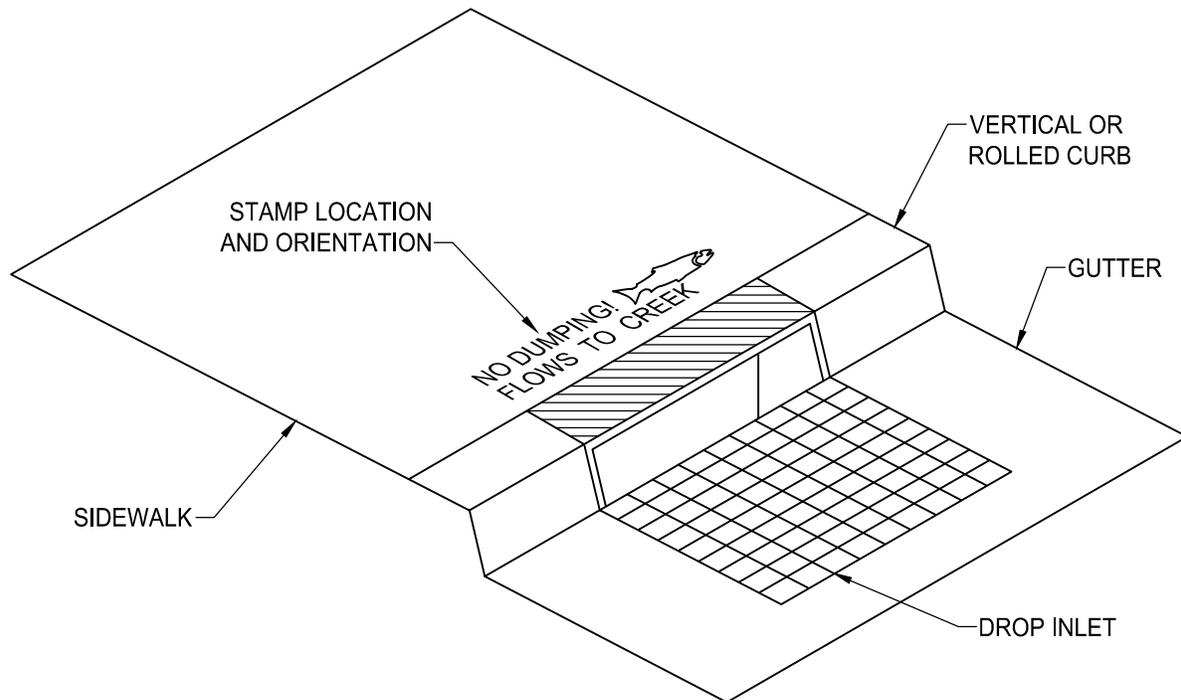
CITY ENGINEER

XX/XX/2017
DATE

DRAWING NUMBER

SQ - 9B





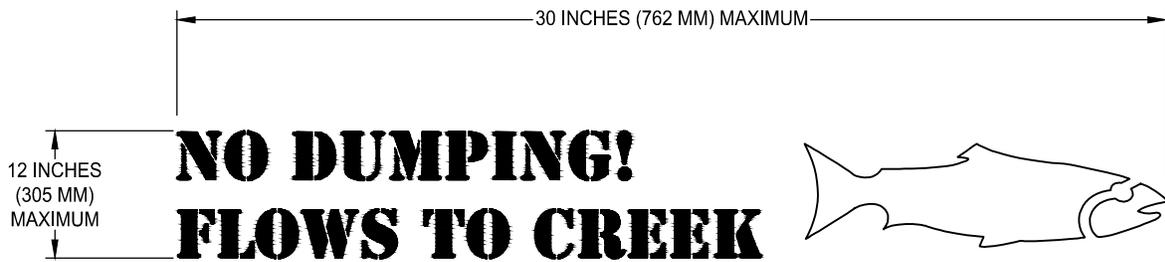
NOTES:

1. MESSAGE AND SYMBOL SHALL BE AS SHOWN ON SQ-10.2 OR AS APPROVED BY THE DIRECTOR.
2. LETTERS SHALL BE 1.5 INCHES (38 MM) IN HEIGHT. THE MESSAGE SHALL BE CENTERED ON THE BACK OF THE INLET.
3. CONCRETE SHALL BE STAMPED IN SUCH A WAY AS TO PROVIDE FOR A CLEAR AND LEGIBLE IMAGE. (APPROXIMATE DEPTH OF 0.25 INCH OR 6 MM).

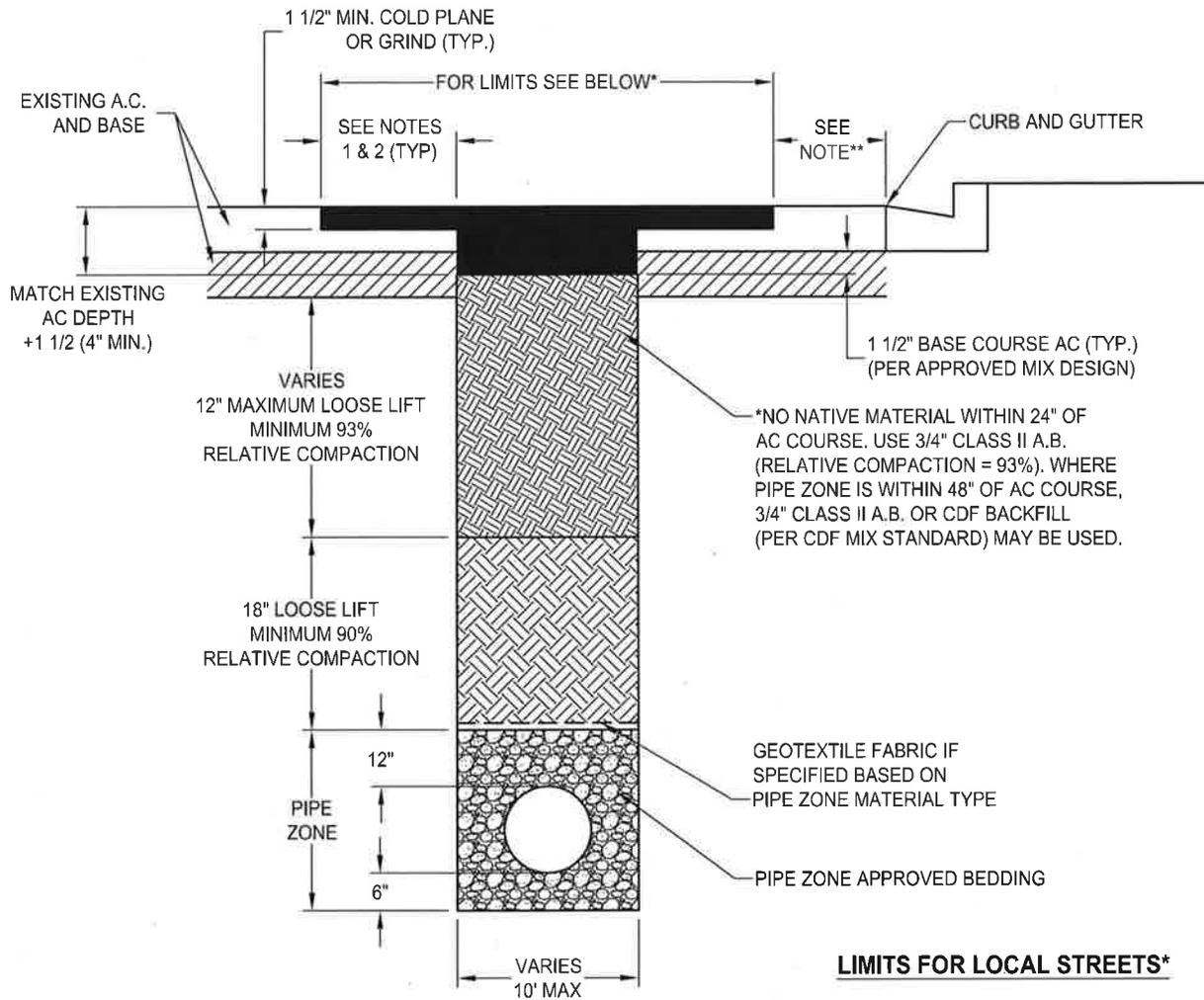
DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:			
				DROP INLET CONCRETE STAMP (SHEET 1 OF 2)					
REVISION	BY	APPROVED	DATE			_____ XX/XX/2017 CITY ENGINEER DATE		DRAWING NUMBER	
						SQ - 10.1			

STAMP MESSAGES AND SYMBOLS

DIMENSIONS MAY VARY AMONG THE STAMP DESIGNS SHOWN BELOW, BUT SHALL NOT EXCEED THE MAXIMUM DIMENSIONS.



DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	DROP INLET CONCRETE STAMP (SHEET 2 OF 2)		CITY ENGINEER _____ DATE <u>XX/XX/2017</u>	
						DRAWING NUMBER	
						SQ - 10.2	



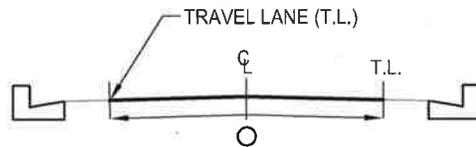
NOTES:

1. 10' MINIMUM REMOVAL REQUIRED WHEN TRENCH IS PERPENDICULAR OR ANGULAR TO FLOW OF TRAFFIC.
2. 2' MINIMUM T-SECTION (PER SIDE).
3. SEE ST-7 FOR GENERAL NOTES.

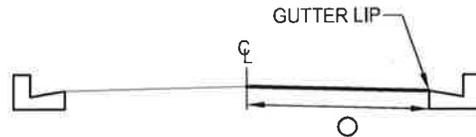
*FOR STREETS OTHER THAN LOCAL DESIGNATION GRINDING SHALL BE FROM TRAVEL LANE TO TRAVEL LANE.

**GRINDING SHALL BE TO THE GUTTER LIP FOR DISTANCES LESS THAN 6 FEET.

LIMITS FOR LOCAL STREETS*



COMPLETE REMOVAL
WHEN PIPE IS IN
CENTER OF STREET



COMPLETE REMOVAL
WHEN PIPE IS OFFSET

DATE: 10/18/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**TRENCH BACKFILLING AND
RESURFACING**
PCI = 85 - 100

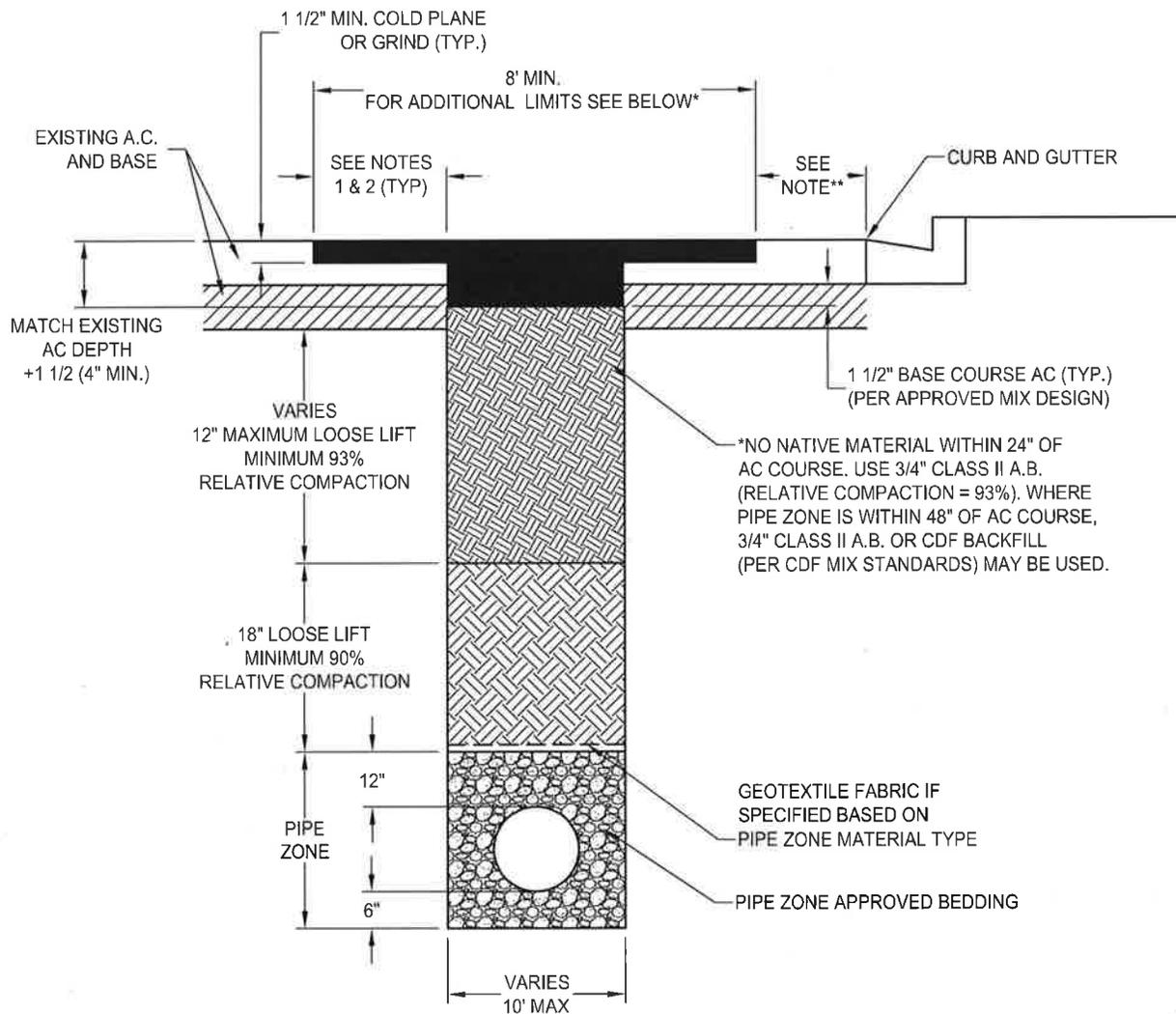
APPROVED BY:

CITY ENGINEER

DRAWING NUMBER

ST - 1





NOTES:

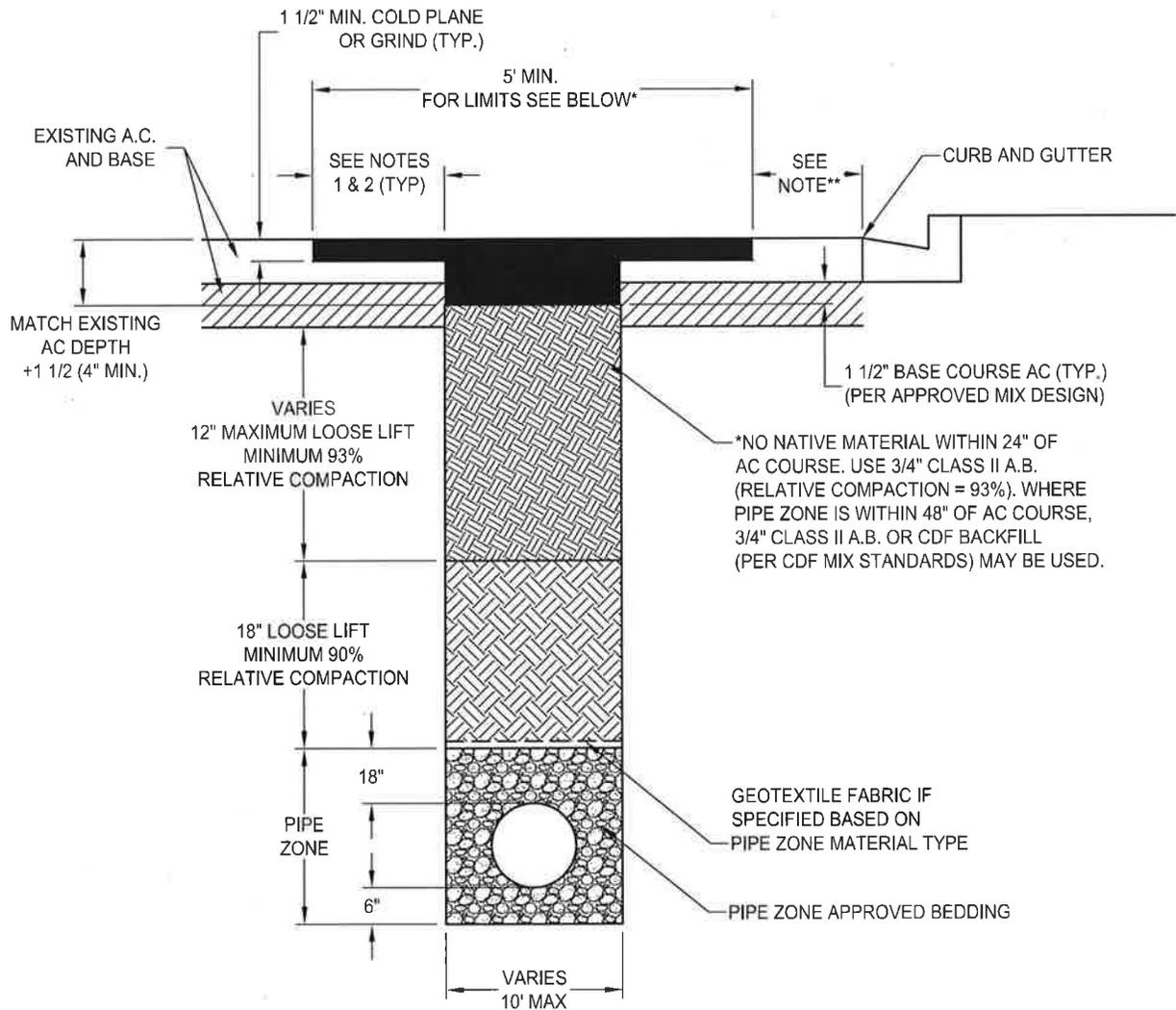
1. 5' MINIMUM REMOVAL REQUIRED WHEN TRENCH IS PERPENDICULAR OR ANGULAR TO FLOW OF TRAFFIC.
2. 2' MINIMUM T-SECTION (PER SIDE)
3. SEE ST-7 FOR GENERAL NOTES.

*FOR STREETS OTHER THAN LOCAL DESIGNATION GRINDING SHALL BE TO TRAVEL LANE WITHIN 4' OF TRENCH.

**GRINDING SHALL BE TO THE GUTTER LIP FOR DISTANCES LESS THAN 3 FEET.

DATE: 10/18/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____	
REVISION	BY	APPROVED	DATE	TRENCH AND BACKFILLING RESURFACING		CITY ENGINEER	
				PCI = 70 - 85		DRAWING NUMBER	
						ST - 2	





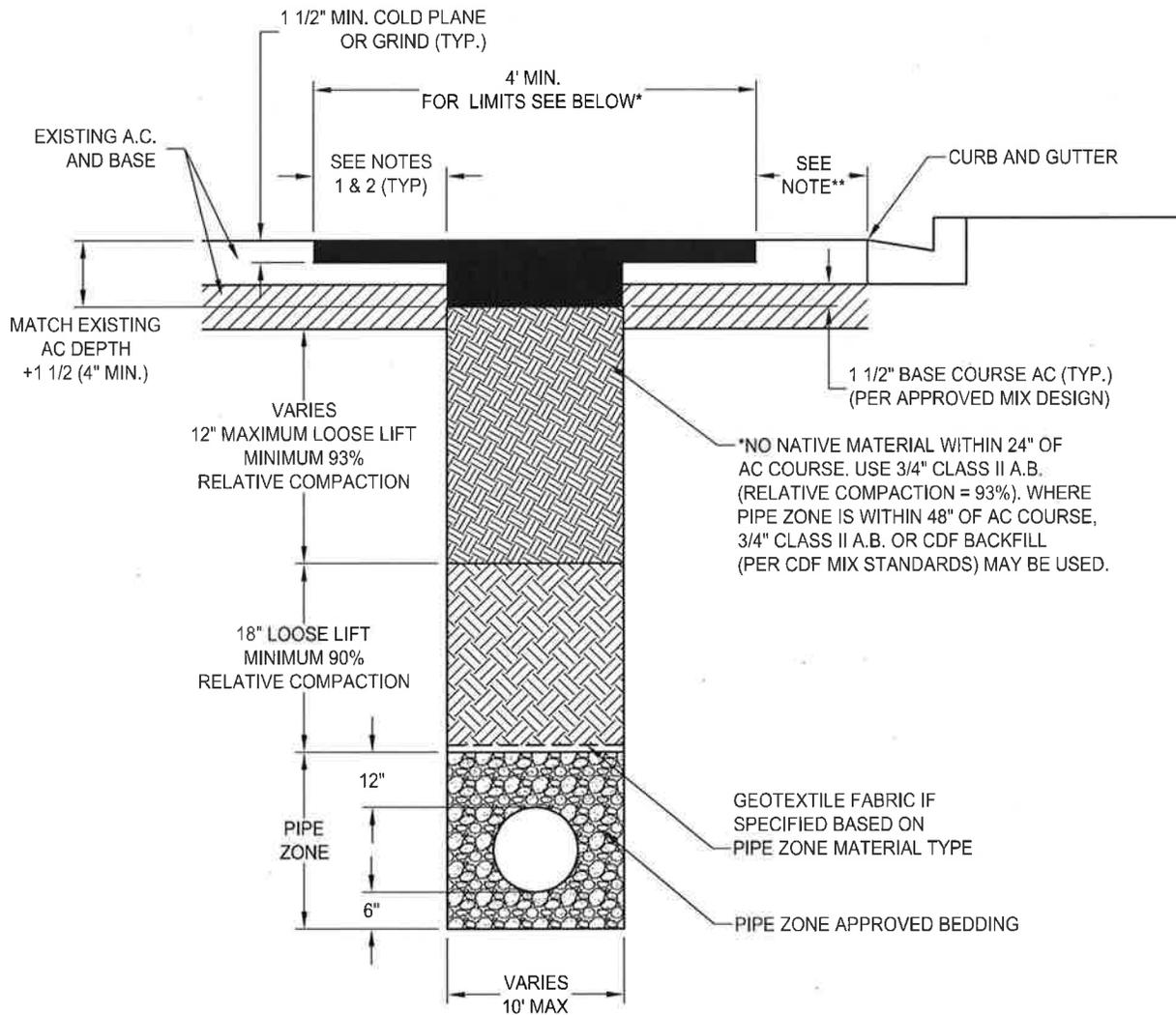
NOTES:

1. 2' MINIMUM REMOVAL REQUIRED WHEN TRENCH IS PERPENDICULAR OR ANGULAR TO FLOW OF TRAFFIC.
2. 2' MINIMUM T-SECTION (PER SIDE).
3. SEE ST-7 FOR GENERAL NOTES.

*FOR STREETS OTHER THAN LOCAL DESIGNATION GRINDING SHALL BE TO TRAVEL LANE WITHIN 4' OF TRENCH.

**GRINDNG SHALL BE TO THE GUTTER LIP FOR DISTANCES LESS THAN 3 FEET.

DATE: 10/18/2007	NOT TO SCALE	CITY OF ELK GROVE - PUBLIC WORKS	APPROVED BY: _____
REVISION	BY	TRENCH BACKFILLING AND RESURFACING	CITY ENGINEER
		PCI = 50 - 70	DRAWING NUMBER
			ST - 3



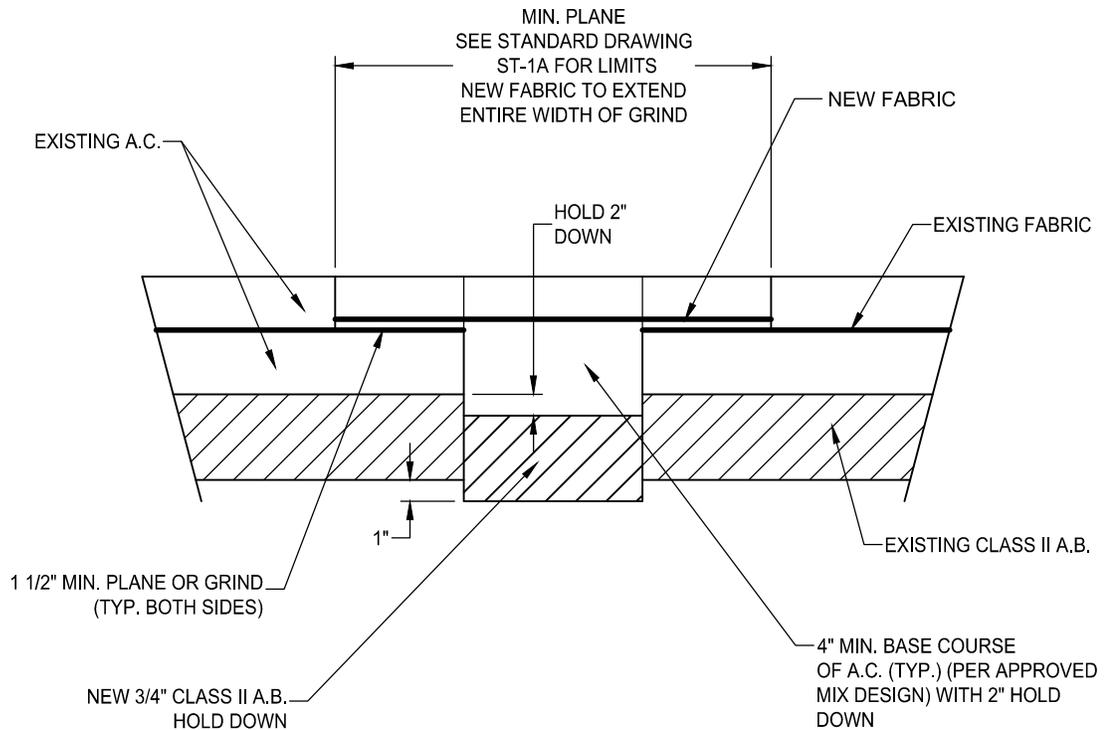
NOTES:

1. 5' MINIMUM REMOVAL REQUIRED WHEN TRENCH IS PERPENDICULAR OR ANGULAR TO FLOW OF TRAFFIC.
2. 1' MINIMUM T-SECTION (PER SIDE).
3. SEE ST-7 FOR GENERAL NOTES.
4. WHERE EXISTING AC DEPTH IS LESS THAN 2.5 INCHES, REMOVE FULL DEPTH. REPAVE AT 4" MIN.

**GRINDING SHALL BE TO THE GUTTER LIP FOR DISTANCES LESS THAN 3 FEET.

DATE: 10/18/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION		BY		APPROVED		DATE	
TRENCH BACKFILLING AND RESURFACING				CITY ENGINEER			
PCI < 50				DRAWING NUMBER			
				ST - 4			

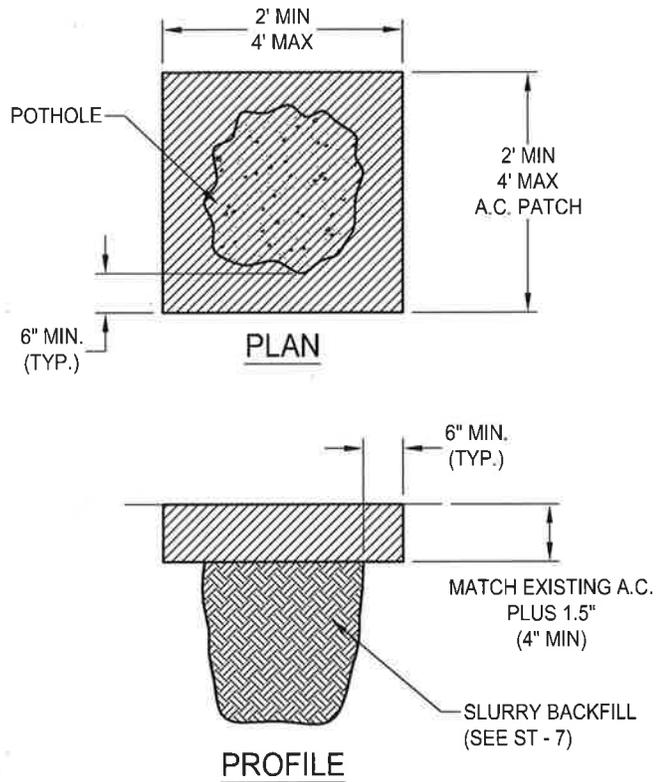
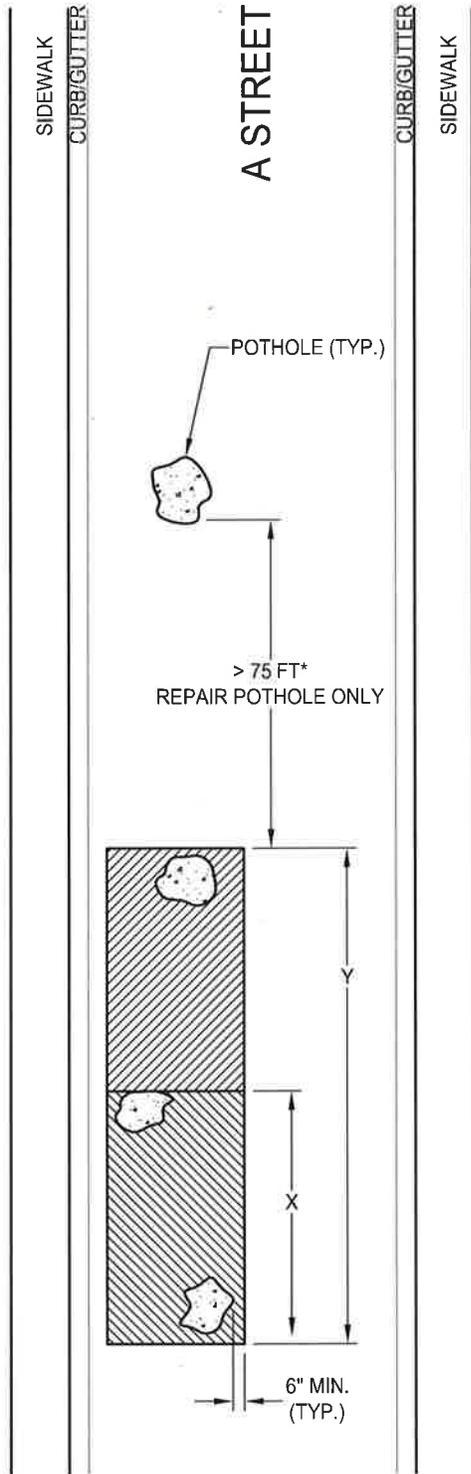




NOTES:

1. NO NATIVE MATERIAL WITHIN 24" OF AC COURSE. USE 3/4" CLASS II A.B. (RELATIVE COMPACTION = 93%). WHERE PIPE ZONE IS WITHIN 48" OF AC COURSE, 3/4" CLASS II A.B. OR CDF BACKFILL (PER CDF MIX STANDARDS) MAY BE USED.
2. ADDITIONAL GRINDING AND PAVING MAY BE REQUIRED IF WITHIN TWO (2) FEET OF A SURFACE CRACK OR A LOCATION UNSUITABLE TO PAVE AGAINST AT THE INSPECTORS DISCRETION. AT THE CONTRACTORS EXPENSE.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	TRENCH RESURFACING WHEN FABRIC IS REQUIRED		CITY ENGINEER	DATE
						DRAWING NUMBER	
						ST - 5	



<3 OR MORE POTHoles>

GRIND AND REPAIR SIMILAR TO TRENCH DETAILS WHEN
 Y < 75 FT (PCI = 85 - 100)
 OR < 50 FT (PCI = 70 - 85)
 OR < 30 FT (PCI = 50 - 70)

<2 POTHoles>

GRIND AND REPAIR SIMILAR TO TRENCH DETAIL WHEN
 X < 50 FT (PCI = 85 - 100)
 OR < 30 FT (PCI = 70 - 85)
 OR < 15 FT (PCI = 50 - 100)

REFERENCE STANDARD DETAILS:
 ST - 1, ST - 2, ST - 3,
 ST - 4, DT - 7, ST - 9

DATE: 01/17/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE	POTHOLE REPAIR				CITY ENGINEER
								DRAWING NUMBER
								ST - 6
								

GENERAL NOTES

1. PLANE EXISTING ASPHALT TO A 1 1/2" MIN. DEPTH.
2. A TACK COAT SHALL BE APPLIED TO THE AREA PRIOR TO PLACING NEW ASPHALT CONCRETE.
3. ASPHALT CONCRETE MIX SHALL BE APPROVED BY THE CITY PRIOR TO PLACEMENT.
4. ASPHALT CONCRETE SHALL BE SAND SEALED WITHIN 24 HOURS OF TRENCH RESURFACING.
5. TRAFFIC CONTROL PLAN SHALL BE REQUIRED. ALL TRENCH WORK IN RIGHT-OF-WAY WILL REQUIRE TRAFFIC CONTROL PLAN.
6. VIBRATORY ROLLERS SHALL BE USED ON ALL TRENCH REPAIRS IF CLASS II AGGREGATE BASE IS USED. VIBRATORY PLATES MAY ONLY BE USED WHERE APPROVED IN ADVANCE BY CITY ENGINEER.

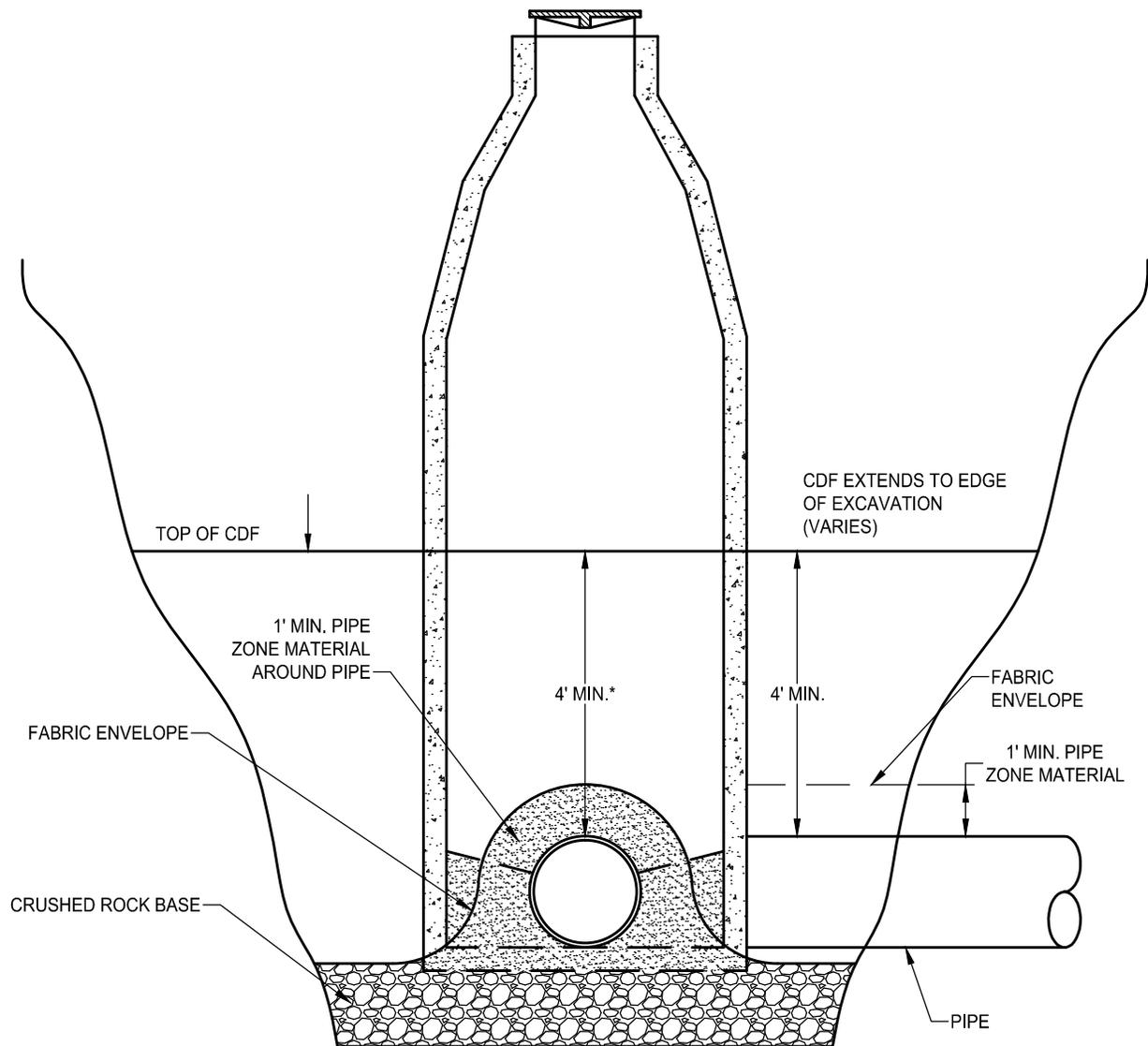
GENERAL NOTES (FOR FABRIC)

1. AN APPROVED TACK COAT IS REQUIRED PRIOR TO PLACING NEW FABRIC.
2. NEW FABRIC IS TO OVERLAP EXISTING FABRIC A MINIMUM OF 3' ON EACH SIDE OF THE TRENCH.

GENERAL NOTES (FOR NARROW TRENCH / CDF BACKFILL)

1. CDF BACKFILL SHALL HAVE A MINIMUM 8" SLUMP
2. CDF BACKFILL SHALL BE THOROUGHLY CONSOLIDATED TO ENCASE CONDUITS. CONCRETE VIBRATORS SHALL BE USED DURING PLACEMENT OF SAND CEMENT.
3. CDF SHALL BE SCREENED OFF TO MATCH PLANED PAVEMENT GRADE.
4. ALLOW CDF BACKFILL 48 HOURS MINIMUM CURE AND DRY TIME BEFORE APPLYING ASPHALT CONCRETE.
5. IN SECONDARY, MAJOR OR PRIME ARTERIAL STREETS, TO ACCELERATE CURING TIMES PER NOTE 4, AN APPROVED SET ACCELERATING ADMIXTURE MAY BE USED WITH CITY ENGINEER'S APPROVAL.
6. TYPE "F" CDF BACKFILL IS NOT ALLOWED OVER CSD-1 OR SCWA PIPES. USE TYPE "C".

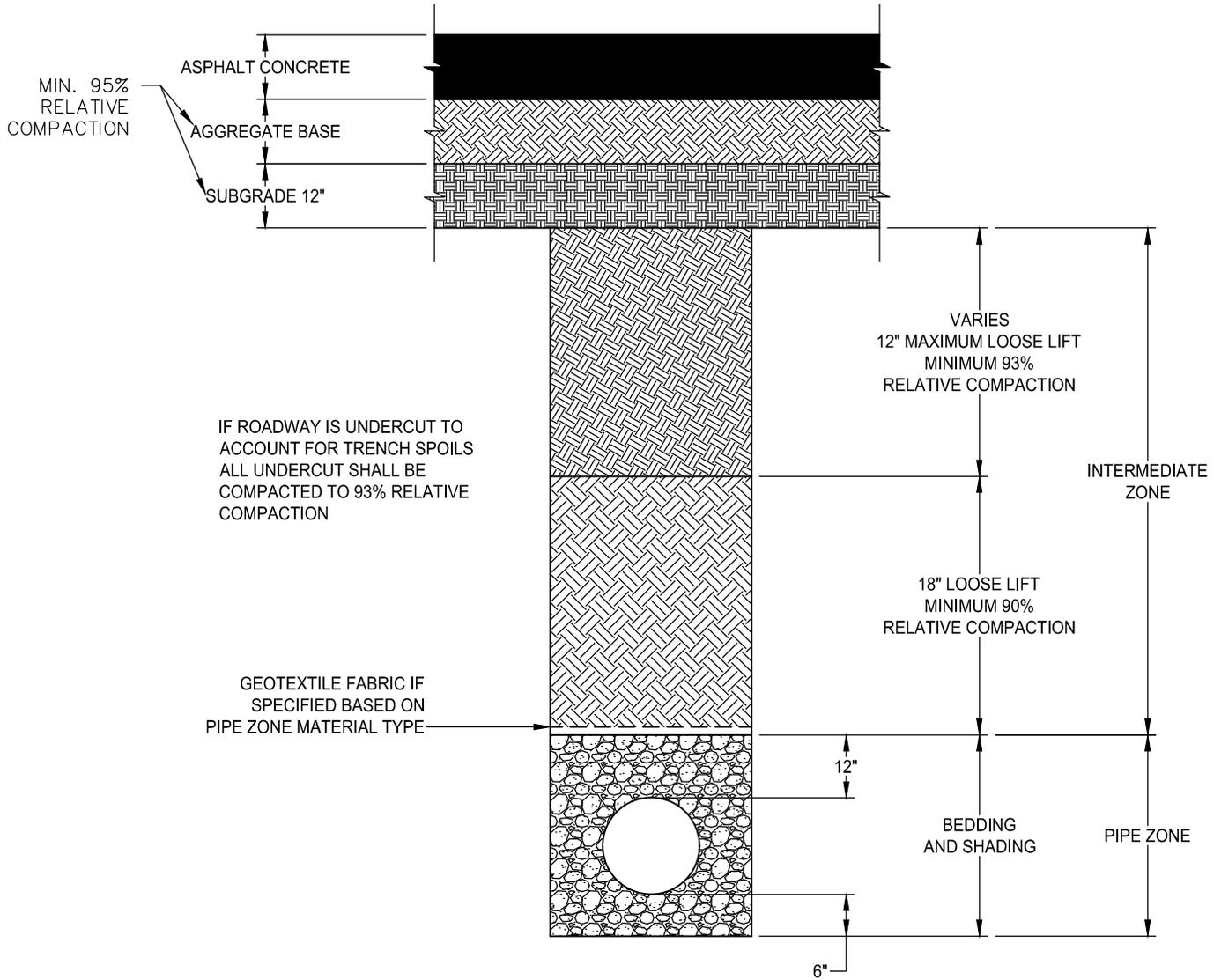
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	GENERAL NOTES		CITY ENGINEER	DATE
						DRAWING NUMBER	
						ST - 7	
							



*OR THE BASE OF CONE, WHICHEVER IS LESS. FLATTOP MANHOLES, CDF TO BE PLACED NO HIGHER THAN SUBGRADE.

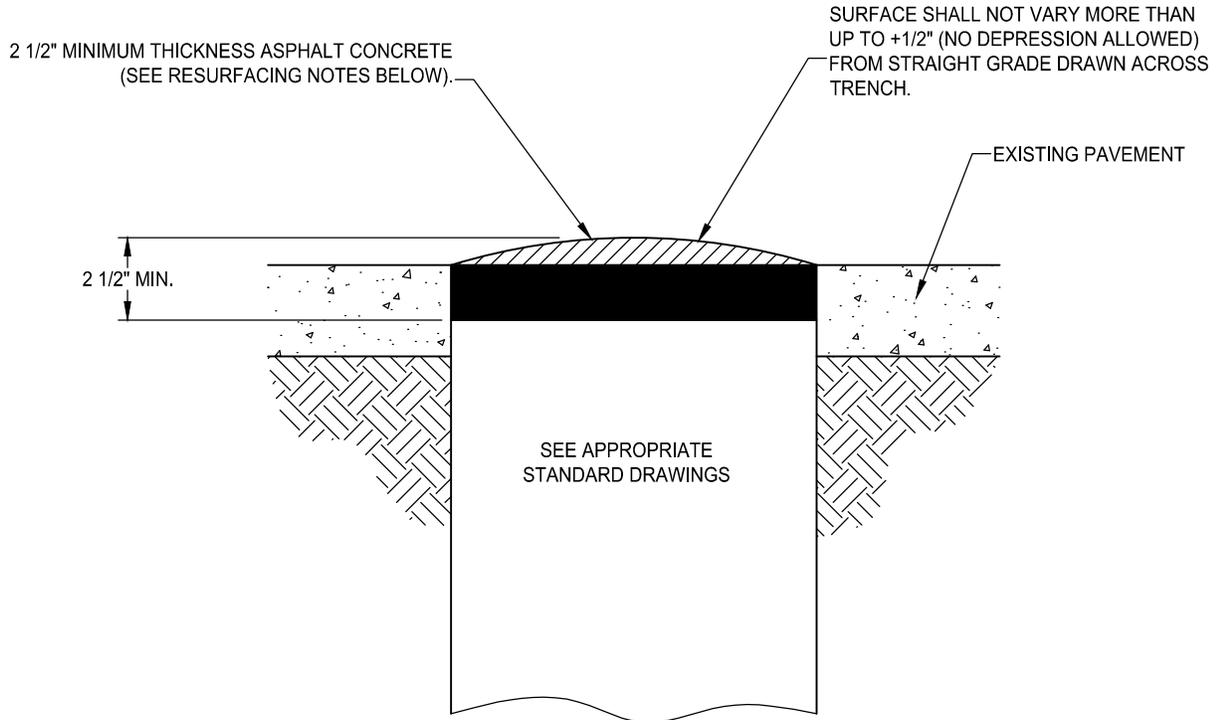
NOTE: SEE SECTION 50-15 FOR CDF MATERIAL SPECIFICATIONS.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	MANHOLE BACKFILL DETAIL		_____ XX/XX/2017 CITY ENGINEER DATE	
						DRAWING NUMBER	
						ST - 8A	
							



DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	TYPICAL TRENCH COMPACTION DETAIL		CITY ENGINEER _____ DATE _____	
						DRAWING NUMBER	
							
						ST - 8	

TEMPORARY



TEMPORARY RESURFACING

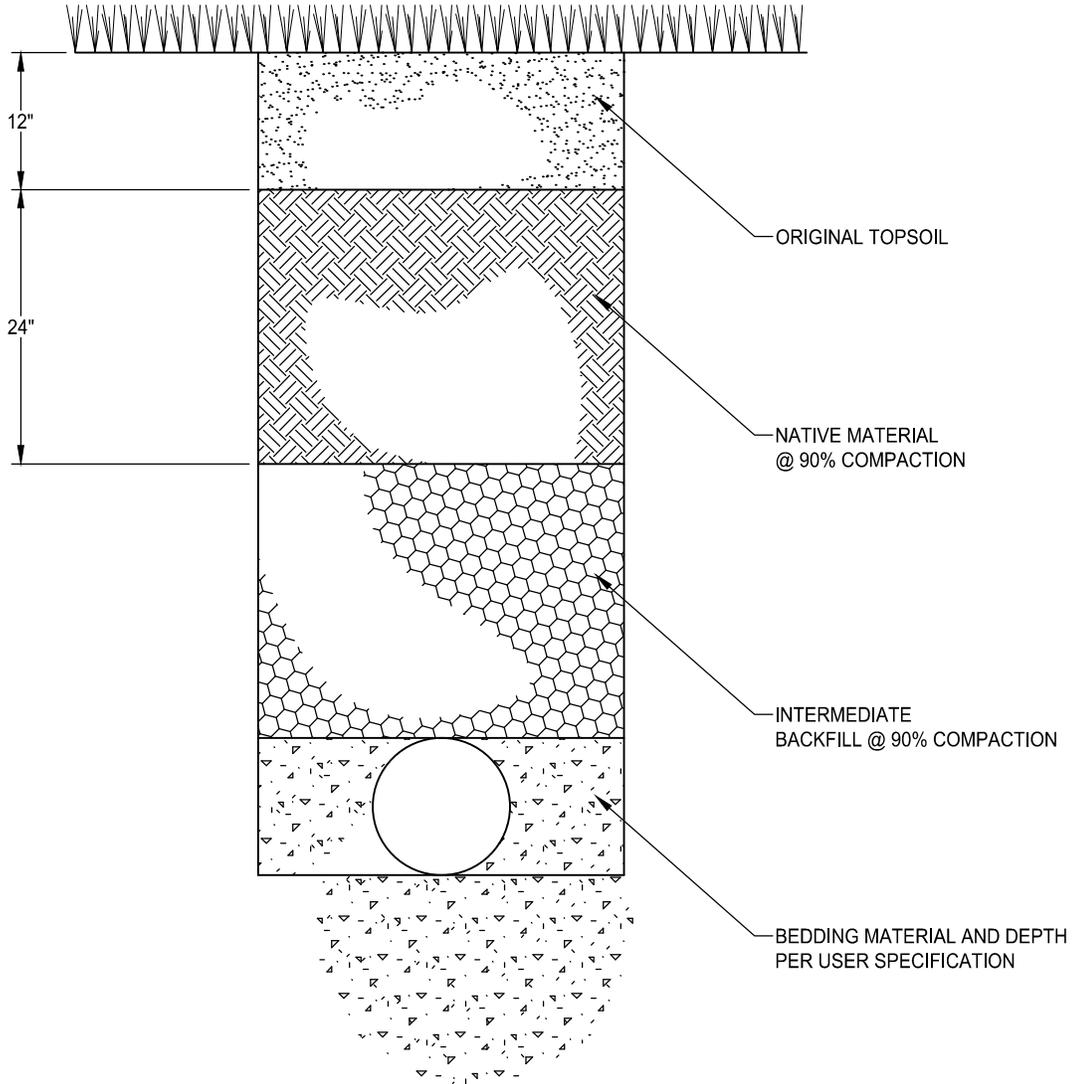
- A. 30 DAYS MAXIMUM ON NON-OCCUPIED RESIDENTIAL STREETS.
- B. 72 HOURS MAXIMUM ON OCCUPIED RESIDENTIAL STREETS.
- C. 48 HOURS MAXIMUM ON LOCAL COLLECTORS, MAJOR ROADS, AND PRIME ARTERIALS (HOT MIX ONLY 3/4" PG 64-16.
- D. TRAFFIC CONTROL PLAN REQUIRED.

GENERAL NOTES

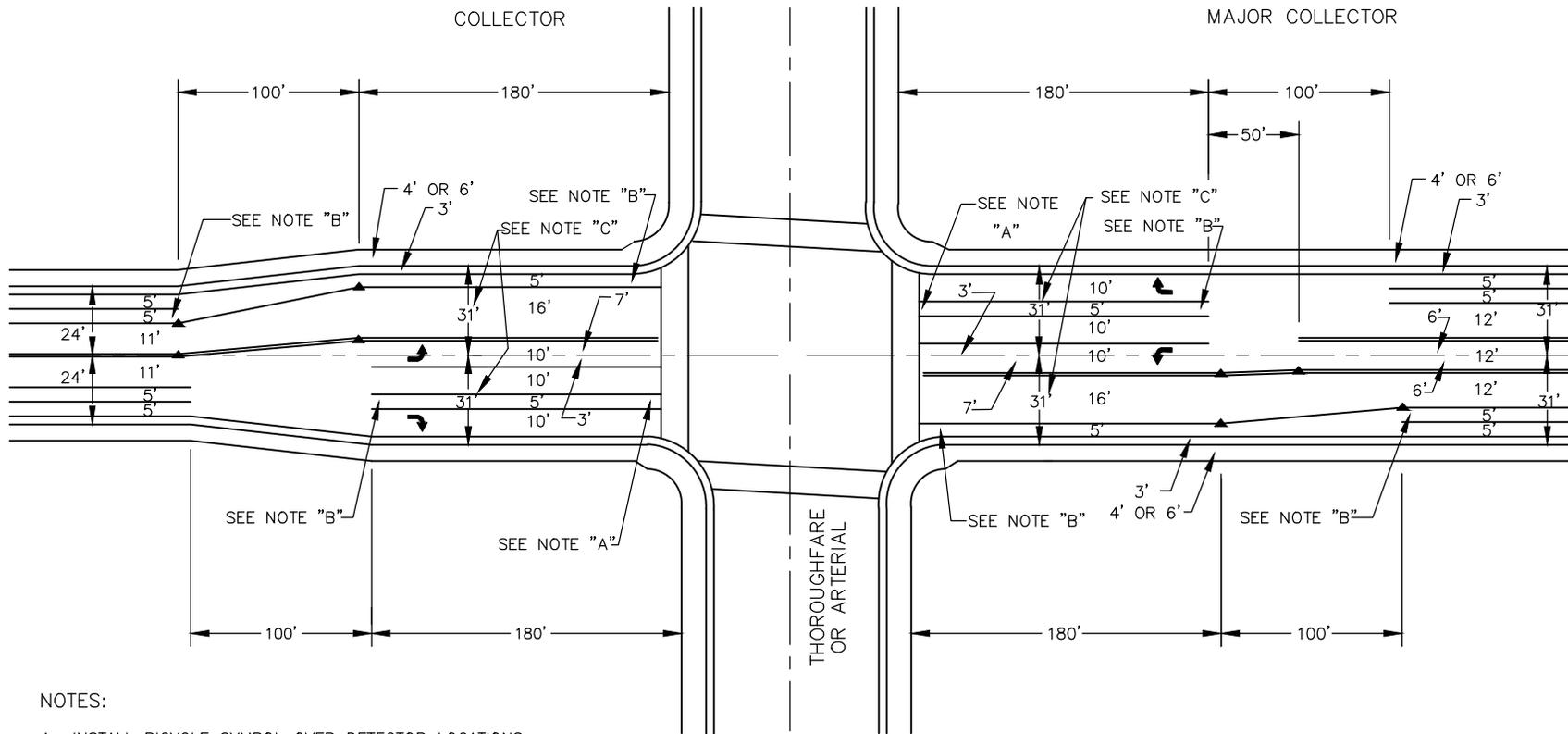
1. "COLD MIX" WILL BE ALLOWED TO REMAIN AS SURFACING FOR A MAXIMUM OF 24 HOURS. EARLIER REPLACEMENT WILL BE REQUIRED IF MAINTENANCE OF THE SURFACE IS UNSATISFACTORY, SOLELY AT THE DISCRETION OF THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	TEMPORARY TRENCH RESURFACING		_____	XX/XX/2017
						CITY ENGINEER	DATE
						DRAWING NUMBER	
						ST - 9	





DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	TRENCH SECTIONS IN IMPROVED AREAS HORTICULTURE, LAWN, OR CULTIVATED AREAS		 CITY ENGINEER _____ DATE <u>XX/XX/2017</u>	
						DRAWING NUMBER	
						ST - 10	



NOTES:

- A. INSTALL BICYCLE SYMBOL OVER DETECTOR LOCATIONS.
- B. INSTALL "BIKE", "LANE" AND " → " PAVEMENT LEGENDS AT THE FOLLOWING LOCATIONS:
 - APPROXIMATELY 10' PAST CROSSWALKS.
 - AT THE BEGINNING OF BICYCLE LANE ADJOINING RIGHT-TURN LANES.
- C. FOR COLLECTORS WITH 6' SIDEWALKS, THE RIGHT-OF-WAY WIDTH IS 37'.
- D. DIMENSIONS ARE TO CENTERLINE OF STRIPES.
- E. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.
- F. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH MUTCD, CALTRANS VERSION.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**TYPICAL STRIPING FOR COLLECTOR STREETS
WITH BICYCLE LANES AT INTERSECTIONS
WITH THOROUGHFARE OR ARTERIAL STREETS**

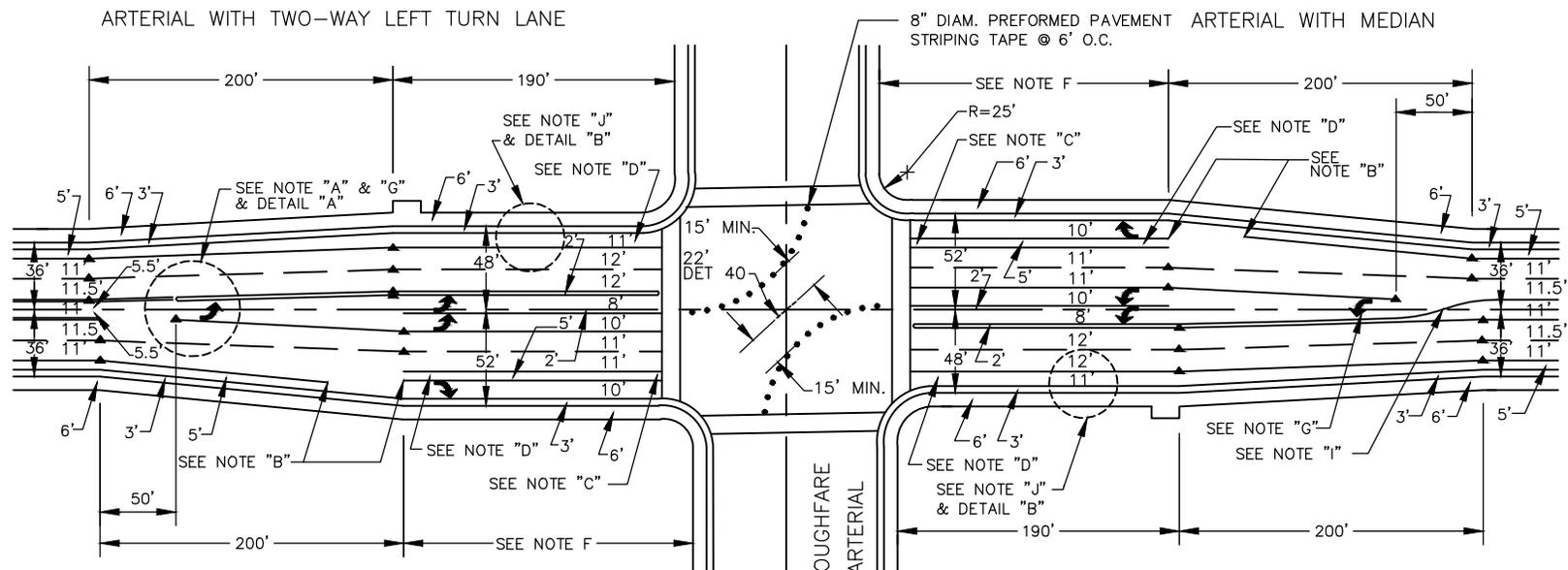
APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

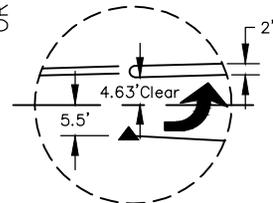
ST - 13



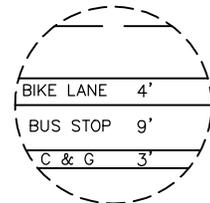


NOTES:

- A. END OF RAISED MEDIAN MAY BE MOVED AS NECESSARY FOR DRIVEWAY LOCATIONS. SEE IMPROVEMENT STANDARD SECTION 4-10 (J)
- B. BIKE LANE STRIPE TO BE DISCONTINUED APPROX. 100' FROM START OF RIGHT-TURN LANE AND RESUMED AT BEGINNING OF RIGHT-TURN-ONLY LANE.
- C. INSTALL BICYCLE SYMBOL OVER DETECTOR LOCATIONS.
- D. INSTALL "BIKE", "LANE" AND " → " PAVEMENT LEGENDS PER MUTCD 2003 AND CALTRANS STANDARD PLANS AT THE FOLLOWING LOCATIONS:
 - APPROXIMATELY 10' PAST CROSSWALKS;
 - AT BEGINNING OF BICYCLE LANE ADJOINING RIGHT-TURN LANES.
- E. DIMENSIONS ARE TO CENTERLINE OF STRIPES.
- F. LENGTH OF APPROACH ADJACENT TO RIGHT TURN LANE SHALL BE: 200' APPROACHING A THOROUGHFARE / SPECIAL THOROUGHFARE 190' APPROACHING AN ARTERIAL.
- G. DIRECTIONAL ARROWS ARE PROVIDED AT THE BEGINNING OF ALL TURN POCKETS. INSTALL ADDITIONAL ARROWS IF LENGTH OF TURN POCKET EXCEEDS 250 FT.
- H. ALL PAVEMENT MARKINGS & STRIPING PER CALTRANS STANDARD PLANS.
- I. 90° BAY TAPER PER CALTRANS STANDARD PLANS.



Detail "A"



Detail "B"

- J. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.
- K. IF THE DRIVEWAY, APPROVED BY PUBLIC WORKS, IS WITHIN THE EXPANDED INTERSECTION, ADDITIONAL 2 FEET RIGHT-OF-WAY WILL BE REQUIRED. SEE DETAIL "B".
- L. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH MUTCD, CALTRANS VERSION.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

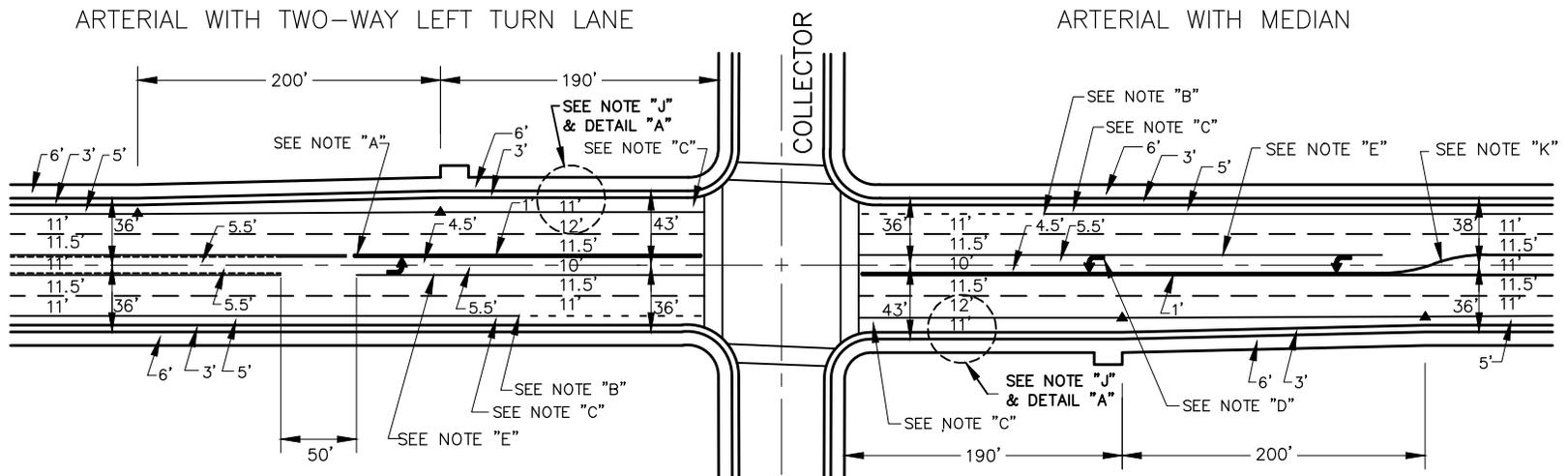
TYPICAL STRIPING FOR ARTERIAL INTERSECTIONS WITH THOROUGHFARES OR ARTERIALS

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

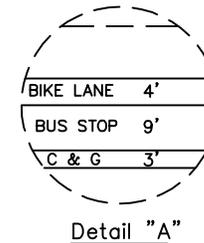
DRAWING NUMBER **ST - 14A**





NOTES:

- A. END OF RAISED MEDIAN MAY BE MOVED AS NECESSARY FOR DRIVEWAY LOCATIONS. SEE IMPROVEMENT STANDARD SECTION 4-10 (J)
- B. BIKE LANE STRIPING TO BE DASHED BEGINNING 120' FROM INTERSECTION.
- C. INSTALL "BIKE", "LANE", AND " → " PAVEMENT LEGENDS PER MUTCD 2003 AND CALTRANS STANDARD PLANS, AT THE FOLLOWING LOCATIONS:
 - APPROXIMATELY 10' PAST CROSSWALKS;
 - BEFORE START OF DASHED BICYCLE LANE STRIPING.
- D. DIRECTIONAL ARROWS ARE PROVIDED AT THE BEGINNING OF ALL TURN POCKETS. INSTALL ADDITIONAL LEFT-TURN ARROW MIDWAY IN THE LENGTH OF THE TURN LANE IF IT EXCEEDS 250'.
- E. LENGTH OF TURN POCKET IS TO BE SIZED ACCORDING TO TRAFFIC NEEDS. 180' MIN. SEE 3-10 (H) OF DEPARTMENT OF TRANSPORTATION DESIGN PRACTICE GUIDE.
- F. DIMENSIONS ARE TO CENTERLINE OF STRIPES.
- G. SHOULD DESIGN OF ROADWAY NOT INCLUDE BUS TURNOUTS, DESIGN OF INTERSECTIONS OF ARTERIAL & COLLECTOR STREETS SHALL CONFORM TO THE DETAIL ON DRAWING ST-12B
- H. ALL PAVEMENT MARKINGS & STRIPING PER CALTRANS STANDARD PLANS.
- I. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.
- J. IF THE DRIVEWAY, APPROVED BY PUBLIC WORKS, IS WITHIN THE EXPANDED INTERSECTION, ADDITIONAL 2 FEET RIGHT-OF-WAY WILL BE REQUIRED. SEE DETAIL "A".
- K. 90' BAY TAPER PER CALTRANS STANDARD PLANS.



- L. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH MUTCD, CALTRANS VERSION.

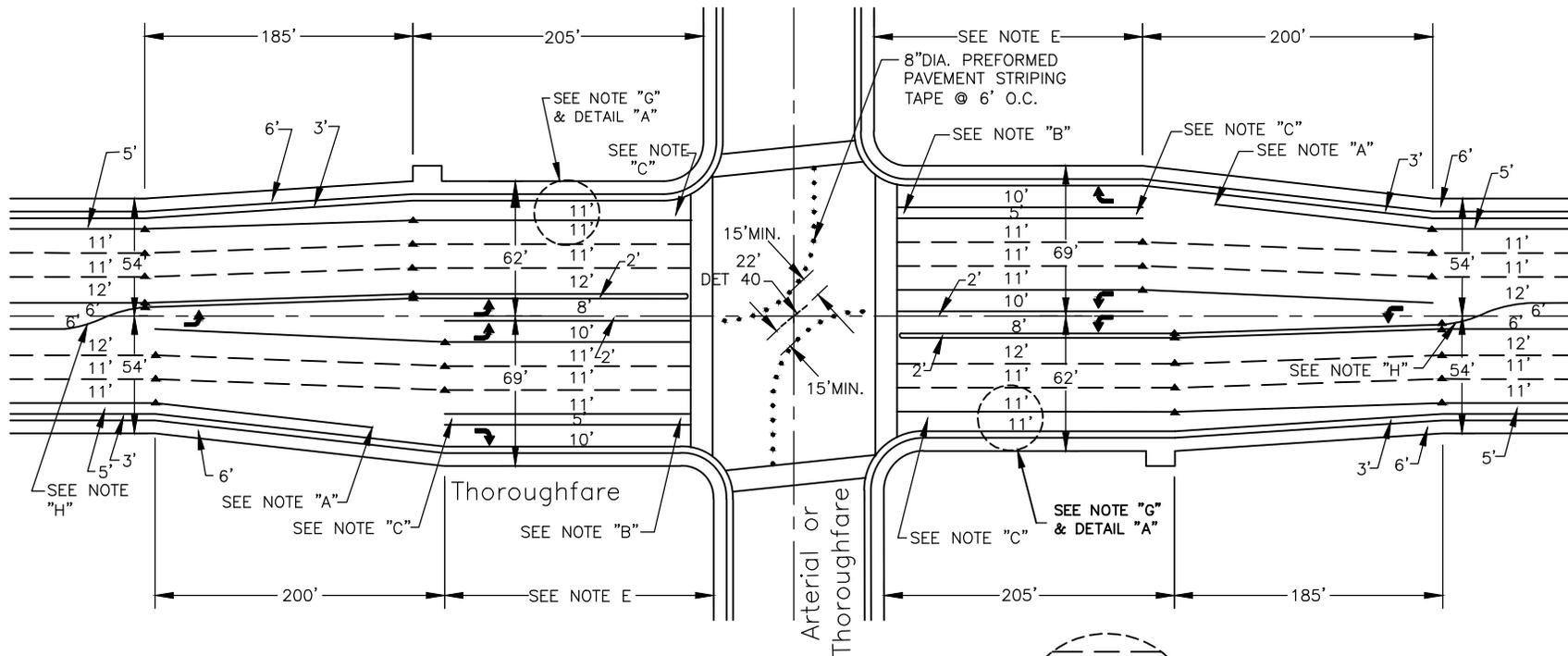
DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**TYPICAL STRIPING FOR
ARTERIAL INTERSECTIONS
WITH COLLECTORS**

APPROVED BY:	
CITY ENGINEER	DATE
DRAWING NUMBER	
ST - 14B	

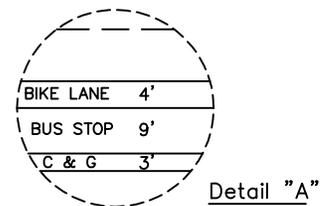




NOTES:

- A. BIKE LANE STRIPE TO BE DISCONTINUED APPROXIMATELY 100' FROM RIGHT-TURN LANE AND RESUMED AT BEGINNING OF RIGHT-TURN ONLY LANE.
- B. INSTALL BICYCLE SYMBOL OVER DETECTOR LOCATIONS.
- C. INSTALL "BIKE", "LANE" AND " → " PAVEMENT LEGENDS AT THE FOLLOWING LOCATIONS:
 - APPROXIMATELY 10' PAST CROSSWALKS.
 - AT THE BEGINNING OF BICYCLE LANE ADJOINING RIGHT-TURN LANES.
- D. DIMENSIONS ARE TO CENTERLINE OF STRIPES.
- E. LENGTH OF APPROACH ADJACENT TO RIGHT TURN LANE SHALL BE: 200' APPROACHING A THOROUGHFARE / SPECIAL THOROUGHFARE. 190' APPROACHING AN ARTERIAL / PRIMARY ARTERIAL.
- F. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.

- G. IF THE DRIVEWAY, APPROVED BY PUBLIC WORKS, IS WITHIN THE EXPANDED INTERSECTION, ADDITIONAL 2 FEET RIGHT-OF-WAY BILL BE REQUIRED. SEE DETAIL "A".
- H. 90' BAY TAPER PER CALTRANS STANDARD PLANS.
- I. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH MUTCD, CALTRANS VERSION.



DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

TYPICAL STRIPING FOR THOROUGHFARE INTERSECTIONS WITH THOROUGHFARES OR ARTERIALS

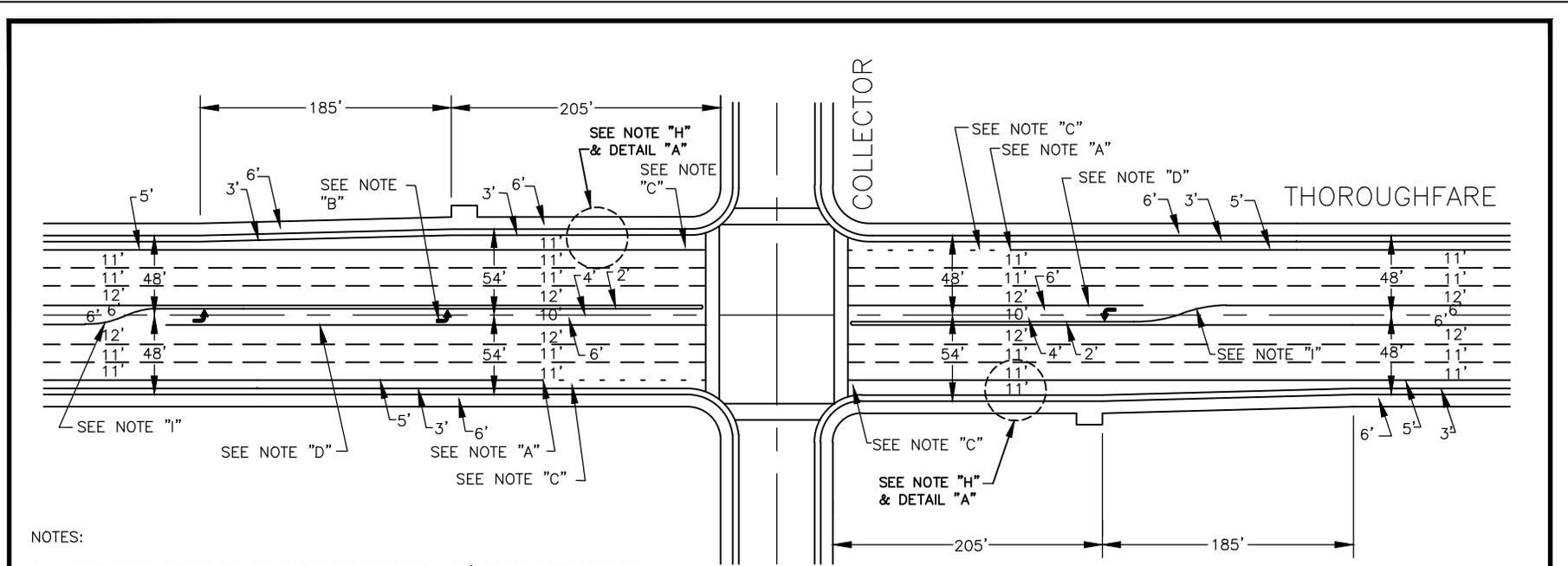
APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

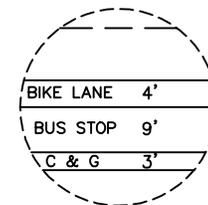
ST - 15A





NOTES:

- A. BIKE LANE STRIPE TO BE DASHED BEGINNING 120' FROM INTERSECTION.
- B. INSTALL ADDITIONAL LEFT TURN ARROW MIDWAY IN THE LENGTH OF THE TURN LANE IF IT EXCEEDS 250'.
- C. INSTALL "BIKE", "LANE" AND " → " PAVEMENT LEGENDS PER MUTCD 2003 AND CALTRANS STANDARD PLANS AT THE FOLLOWING LOCATIONS:
 - APPROXIMATELY 10' PAST CROSSWALKS;
 - BEFORE START OF DASHED BICYCLE LANE STRIPING.
- D. LENGTH OF TURN POCKET IS TO BE SIZED ACCORDING TO TRAFFIC NEEDS. 180' MIN. SEE 3-10 H OF TRANSPORTATION DIVISION DESIGN PRACTICE GUIDE. AND DIRECTIONAL ARROWS ARE PROVIDED AT THE BEGINNING OF ALL TURN POCKETS. IF POCKET IS LONGER THAN 100 FT. ADDITIONAL ARROWS SHALL BE PLACED AT THE END.
- E. DIMENSIONS ARE TO CENTERLINE OF STRIPES.
- F. ALL PAVEMENT MARKINGS & STRIPING PER CALTRANS STANDARD PLANS.
- G. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.
- H. IF THE DRIVEWAY, APPROVED BY PUBLIC WORKS, IS WITHIN THE EXPANDED INTERSECTION, ADDITIONAL 2 FEET RIGHT-OF-WAY WILL BE REQUIRED. SEE DETAIL "A".
- I. 90' BAY TAPER PER CALTRANS STANDARD PLANS.



Detail "A"

- J. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH MUTCD, CALTRANS VERSION.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

TYPICAL STRIPING FOR THOROUGHFARE INTERSECTIONS WITH COLLECTORS

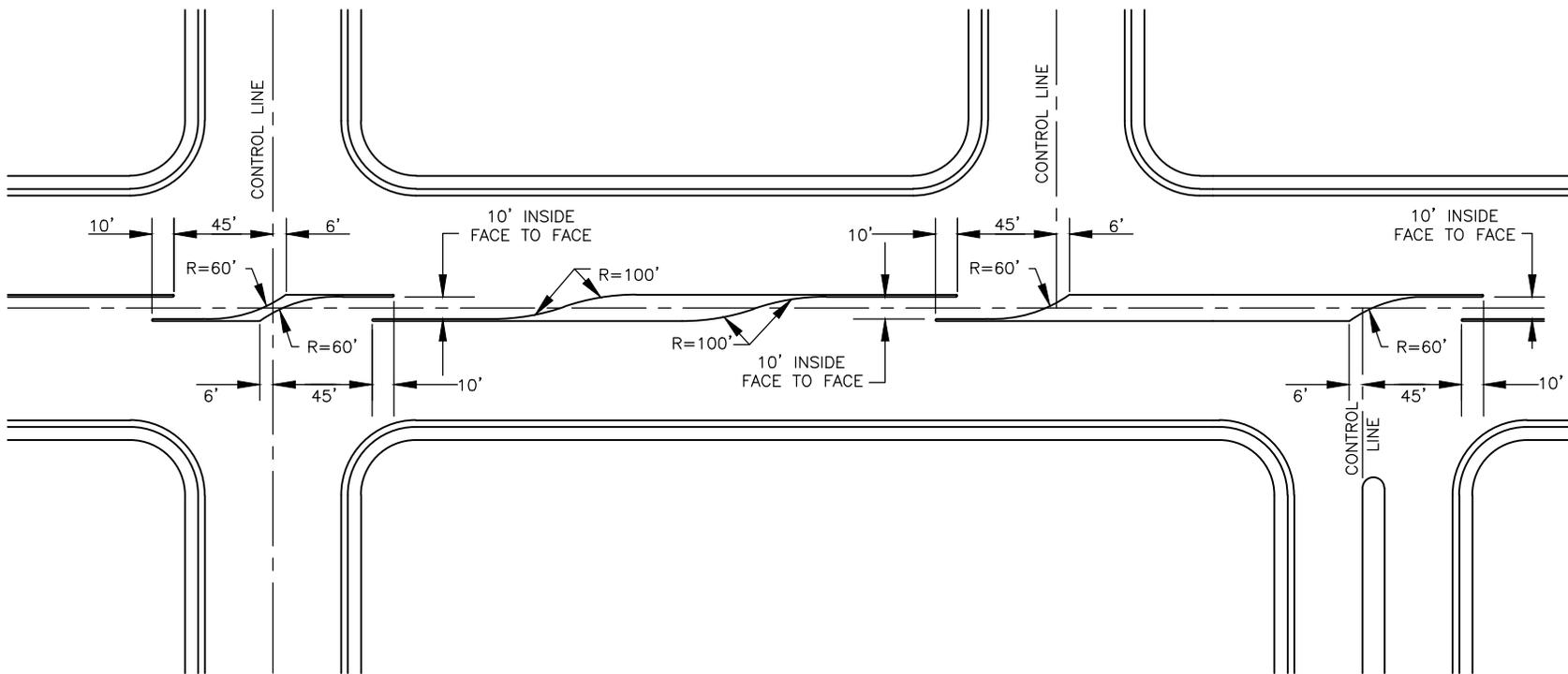
APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

ST - 15B





DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**TYPICAL RAISED ISLAND DESIGNS
FOR LIMITING ACCESS**

APPROVED BY: _____

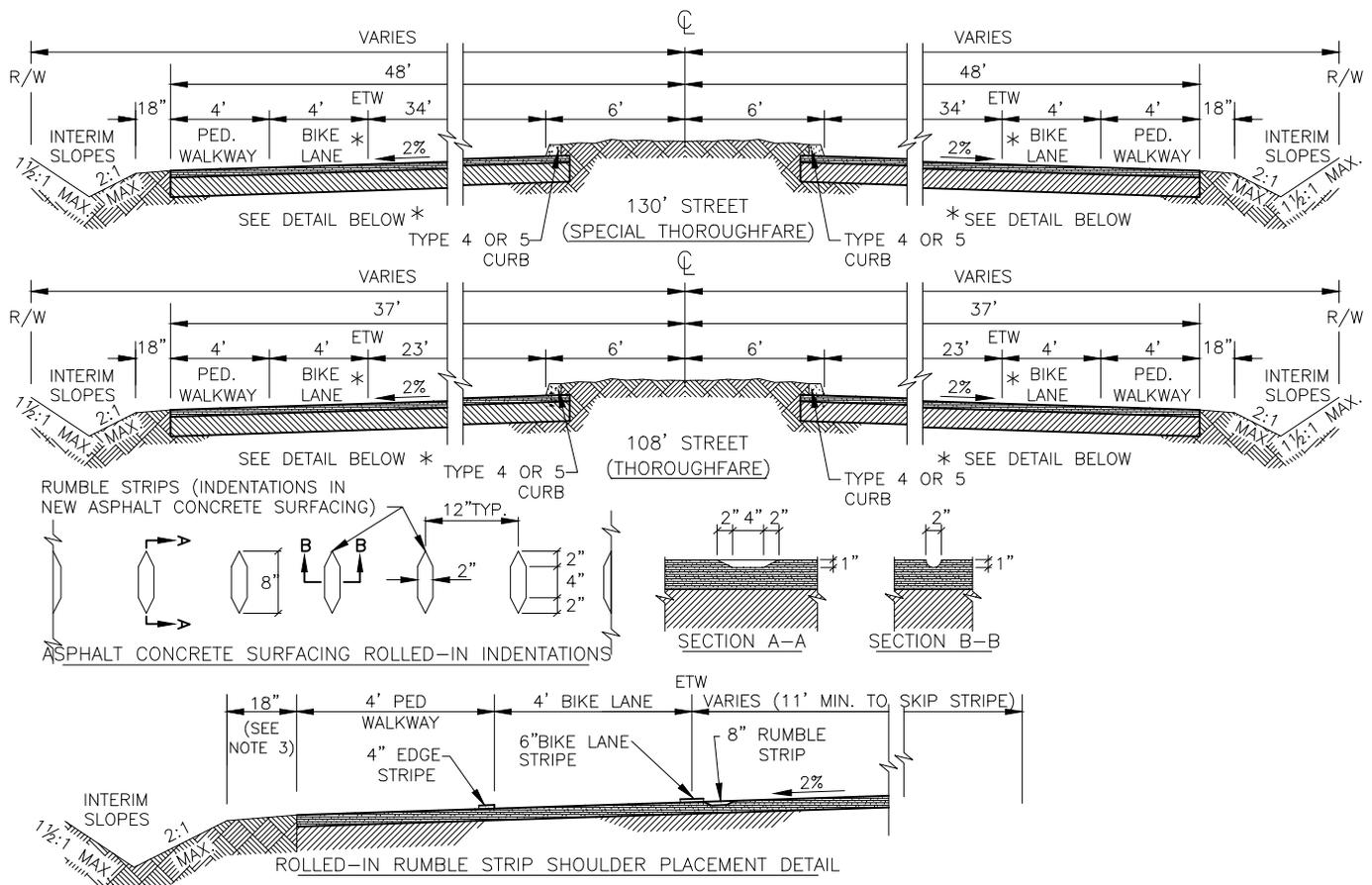
XX/XX/2017

CITY ENGINEER DATE

DRAWING NUMBER

ST - 16





1. RUMBLE STRIP SHALL STOP 120' FROM THE C.R. ON THE MAJOR ROAD APPROACHING ENTERING SIDE STREETS, AND BEGIN AT C.R. ON THE MAJOR ROAD DEPARTING ENTERING SIDE STREETS.
2. POSITION BIKE LANE LEGENDS BETWEEN RUMBLE STRIP AND EDGE LINE STRIPE.
3. EARTHEN SHOULDER MAY BE ELIMINATED IF SHOULDER CONFLICTS WITH TREES OR RIGHT-OF-WAY LIMITS AND FULL DEPTH ASPHALT SECTION IS USED.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**TYPICAL SECTIONS INTERIM IMPROVEMENTS
FOR SPECIAL THOROUGHFARE AND
THOROUGHFARE STREETS WITH ROLLED-IN
RUMBLE STRIPS**

APPROVED BY: _____

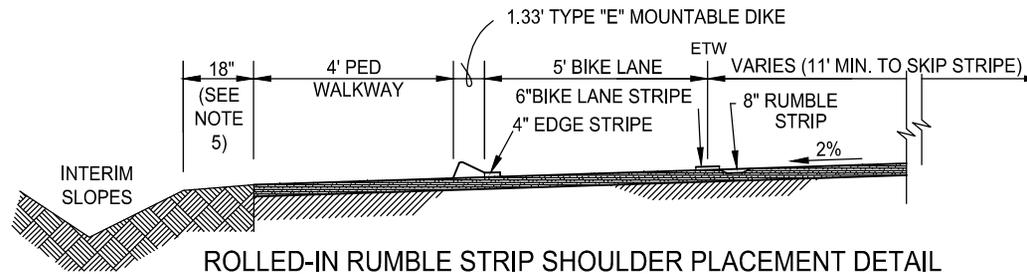
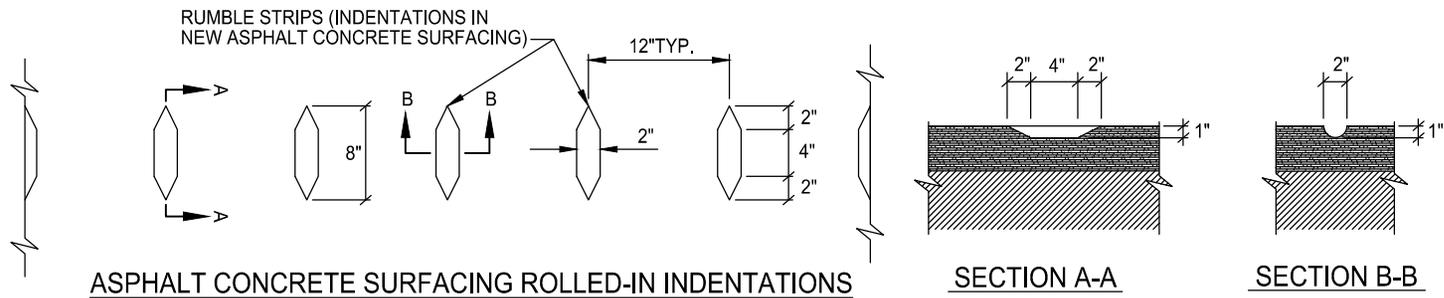
XX/XX/2017

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

ST - 17A





1. ROLLED-IN RUMBLE STRIPS SHALL BE USED WHERE REQUIRED BY THE DIRECTOR OF THE DEPARTMENT OF TRANSPORTATION.
2. ROLLED-IN RUMBLE STRIPS MAY BE USED ON ROADWAYS THAT ARE DESIGNATED FOR 80' OR MORE OF RIGHT-OF-WAY AND ARE CONSTRUCTED WITH INTERIM IMPROVEMENTS (WITHOUT CURB & GUTTER).
3. RUMBLE STRIP SHALL STOP 120' FROM THE C.R. ON THE MAJOR ROAD APPROACHING ENTERING SIDE STREETS, AND BEGIN AT C.R. ON THE MAJOR ROAD DEPARTING ENTERING SIDE STREETS.
4. POSITION BIKE LANE LEGENDS BETWEEN RUMBLE STRIP AND EDGE LINE STRIPE.
5. EARTHEN SHOULDER MAY BE ELIMINATED IF SHOULDER CONFLICTS WITH TREES OR RIGHT-OF-WAY LIMITS AND FULL DEPTH ASPHALT SECTION IS USED.
6. TYPE "E" MOUNTABLE DIKE PER CALTRANS STD. PLANS DRAWING A-87B.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**ROLLED-IN RUMBLE STRIPS
FOR INTERIM ROADWAY
IMPROVEMENTS**

APPROVED BY:

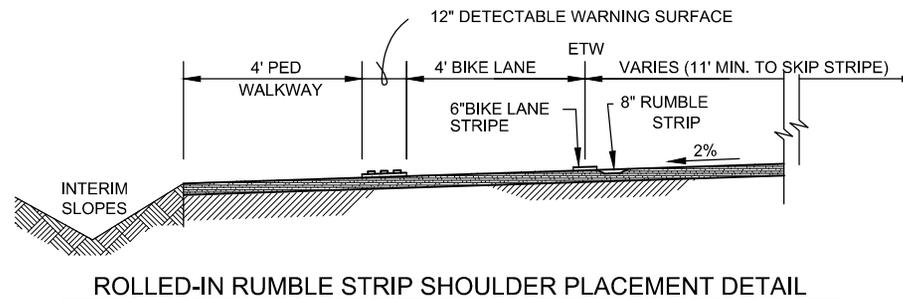
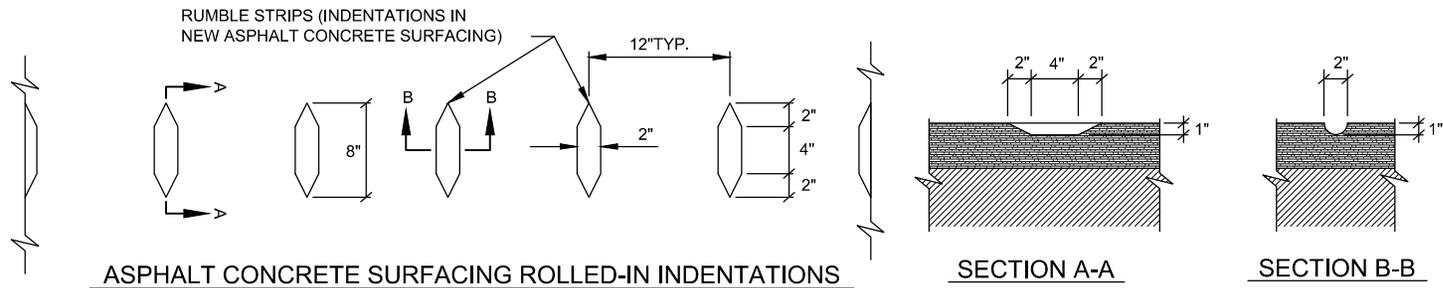
CITY ENGINEER

XX/XX/2017
DATE



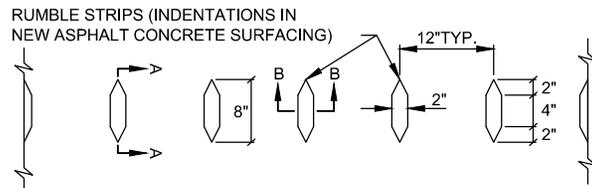
DRAWING NUMBER

ST - 17B

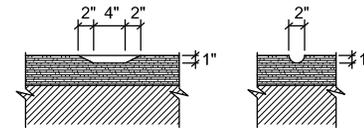


1. ROLLED-IN RUMBLE STRIPS SHALL BE USED WHERE REQUIRED BY THE DIRECTOR OF THE DEPARTMENT OF TRANSPORTATION.
2. ROLLED-IN RUMBLE STRIPS MAY BE USED ON ROADWAYS THAT ARE DESIGNATED FOR 80' OR MORE OF RIGHT-OF-WAY AND ARE CONSTRUCTED WITH INTERIM IMPROVEMENTS (WITHOUT CURB & GUTTER).
3. RUMBLE STRIP SHALL STOP 120' FROM THE C.R. ON THE MAJOR ROAD APPROACHING ENTERING SIDE STREETS, AND BEGIN AT C.R. ON THE MAJOR ROAD DEPARTING ENTERING SIDE STREETS.
4. POSITION BIKE LANE LEGENDS BETWEEN RUMBLE STRIP AND EDGE LINE STRIPE.
5. EARTHEN SHOULDER MAY BE ELIMINATED IF SHOULDER CONFLICTS WITH TREES OR RIGHT-OF-WAY LIMITS AND FULL DEPTH ASPHALT SECTION IS USED.

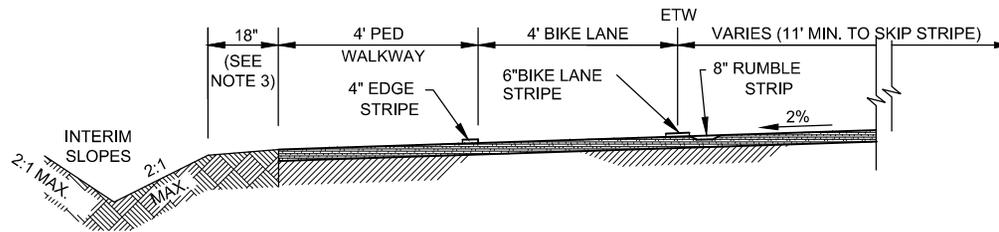
DATE: 01/20/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE	ROLLED-IN RUMBLE STRIPS FOR INTERIM ROADWAY IMPROVEMENTS		XX/XX/2017		
						CITY ENGINEER		DATE
								DRAWING NUMBER
								ST - 17C



ASPHALT CONCRETE SURFACING ROLLED-IN INDENTATIONS



SECTION A-A SECTION B-B



ROLLED-IN RUMBLE STRIP SHOULDER PLACEMENT DETAIL

1. RUMBLE STRIP SHALL STOP 120' FROM THE C.R. ON THE MAJOR ROAD APPROACHING ENTERING SIDE STREETS, AND BEGIN AT C.R. ON THE MAJOR ROAD DEPARTING ENTERING SIDE STREETS.
2. POSITION BIKE LANE LEGENDS BETWEEN RUMBLE STRIP AND EDGE LINE STRIPE.
3. EARTHEN SHOULDER MAY BE ELIMINATED IF SHOULDER CONFLICTS WITH TREES OR RIGHT-OF-WAY LIMITS AND FULL DEPTH ASPHALT SECTION IS USED.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**TYPICAL SECTIONS INTERIM IMPROVEMENTS FOR
SPECIAL THOROUGHFARE AND THOROUGHFARE
STREETS WITH ROLLED-IN RUMBLE STRIPS**

APPROVED BY: _____

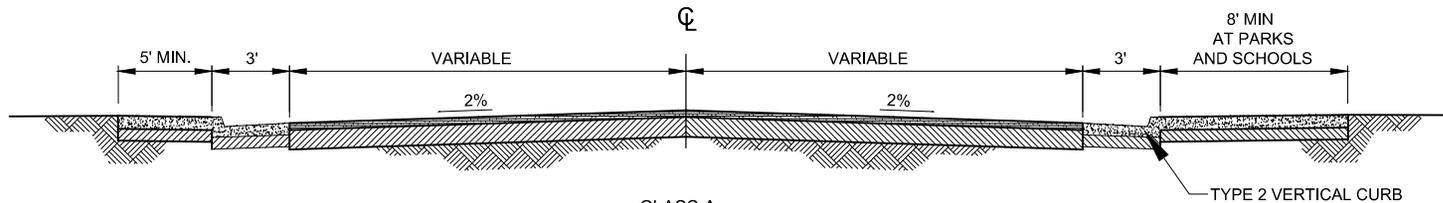
XX/XX/2017

CITY ENGINEER _____ DATE _____

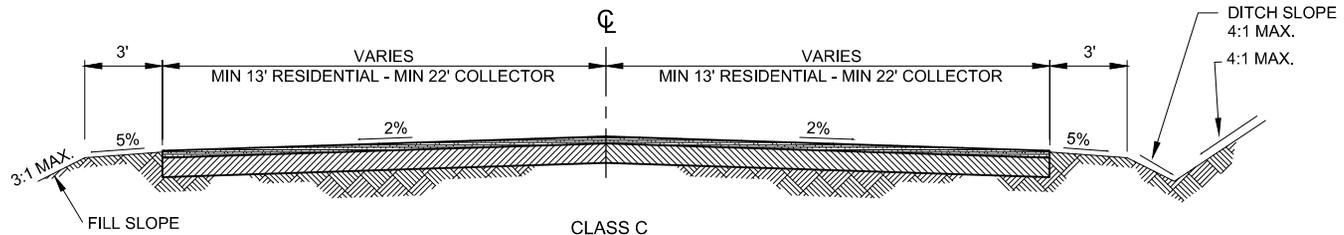
DRAWING NUMBER

ST - 17D





CLASS A
 CLASS B (SAME AS CLASS A EXCEPT SIDEWALKS MAY BE OMITTED)



CLASS C

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY:

CITY ENGINEER

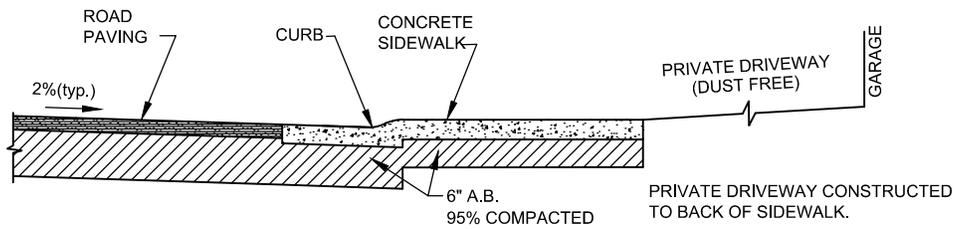
DATE

**TYPICAL SECTIONS
 STREET CLASSES
 "A", "B" & "C"**

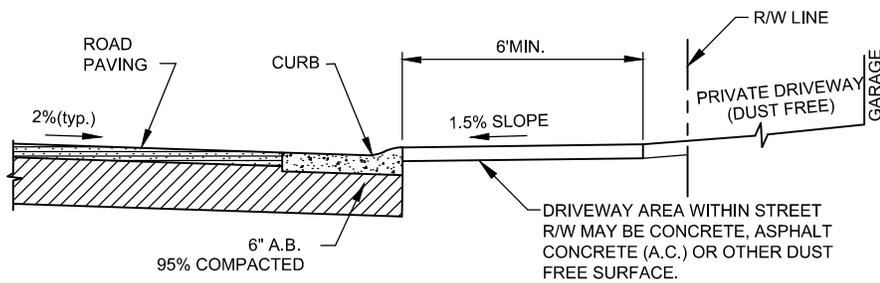


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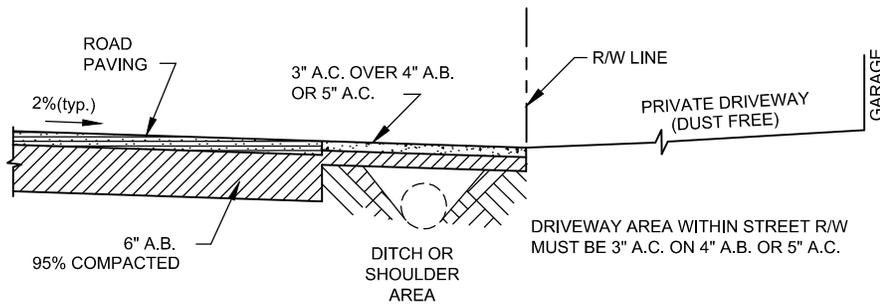
ST - 17



CLASS A
(CURB, GUTTER & SIDEWALK)



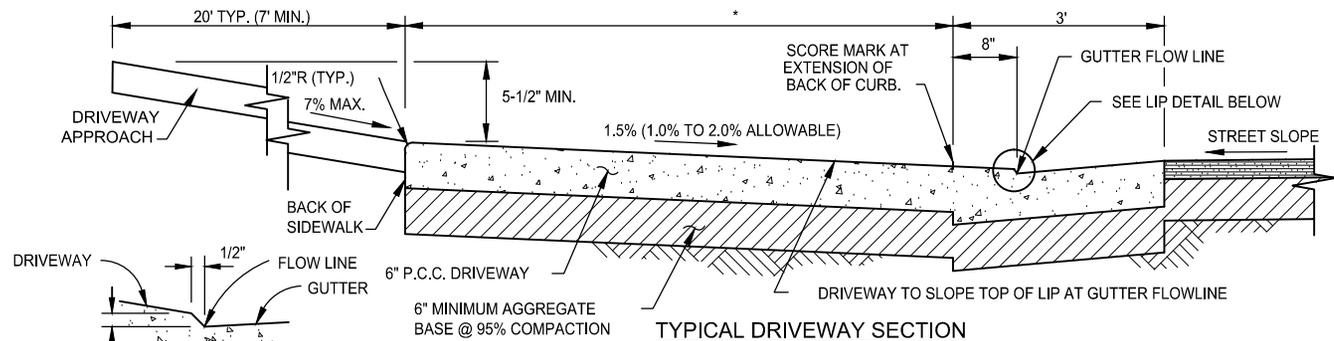
CLASS B
(CURB & GUTTER)



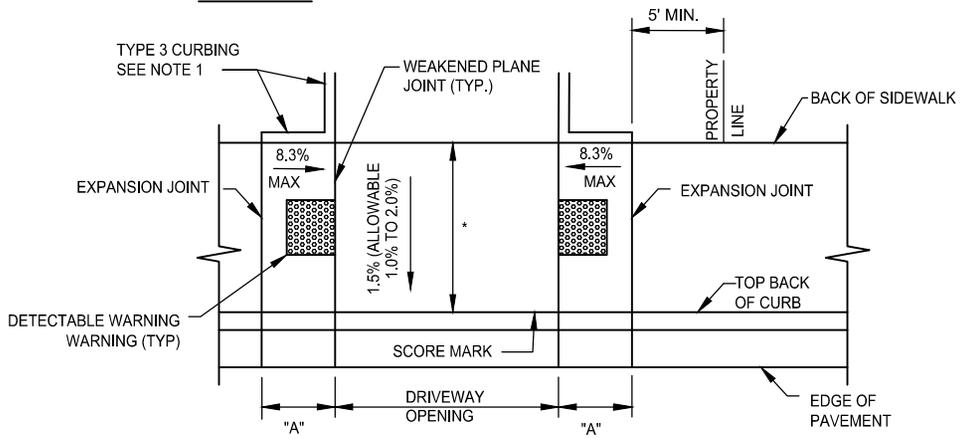
CLASS C
(DITCH OR SHOULDER)

NOTE: SEE CITY OF ELK GROVE IMPROVEMENT STANDARDS SECTION 4-10 FOR DRIVEWAY REQUIREMENTS.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE			_____ CITY ENGINEER	
				TYPICAL STREET SECTIONS AT RESIDENTIAL DRIVEWAYS		DRAWING NUMBER	
						ST - 19	
							



SLOPE OF GUTTER	"A" (APPROX. LENGTH)
0.25% TO 0.65%	6'-0"
> 0.65% TO 1.75%	7'-0"
> 1.75% TO 2.55%	8'-0"
> 2.55% TO 3.20%	9'-0"
> 3.20% TO 3.70%	10'-0"
> 3.70%	SEE NOTE 2



- NOTES:**
- * DRIVEWAY APRON MATCHES SIDEWALK WIDTH
 - 1. TYPE 3 CURBING ON SITE SHALL EXTEND TO WHERE THE DRIVEWAY APPROACH IS A MINIMUM OF FOUR INCHES ABOVE THE BACK OF SIDEWALK ELEVATION AT THE DRIVEWAY.
 - 2. LENGTH OF DRIVEWAY FLAIR ON STREETS STEEPER THAN 3.70% SHALL REQUIRE SPECIAL APPROVAL BY DESIGN CHIEF OF THE DEPARTMENT OF TRANSPORTATION.
 - 3. A 1/2-INCH CONCRETE BATTER SHALL BE PLACED ON ALL CURB LIPS.
 - 4. SEE STD. DWG. AR-4.7 FOR ELEMENTS NOT SHOWN HEREON.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

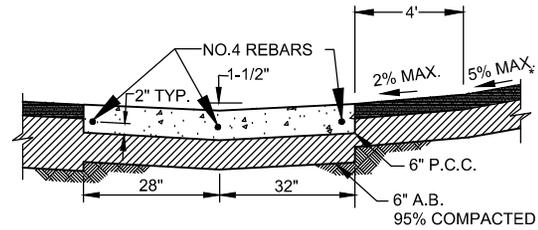
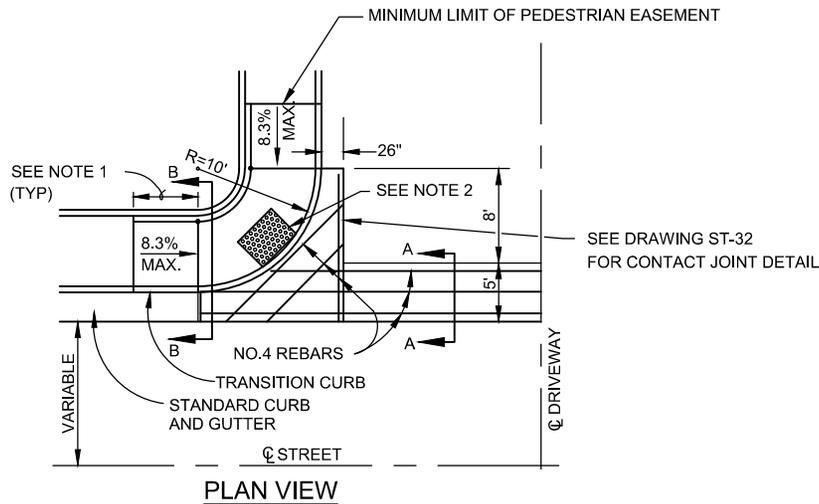
**COMMERCIAL DRIVEWAYS
TYPE A-6**

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

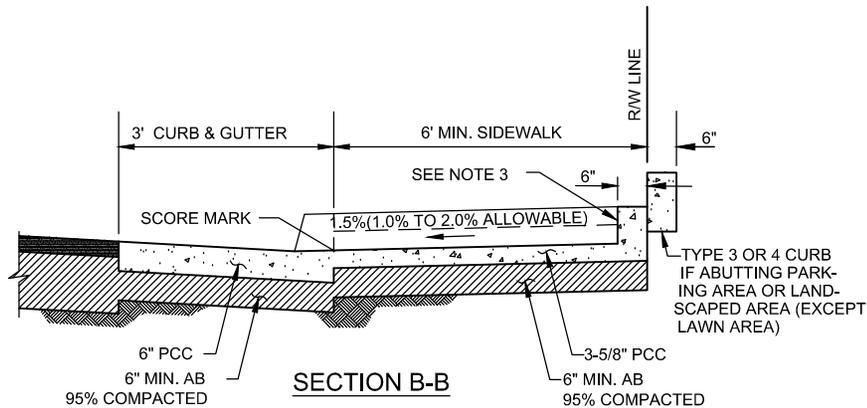
DRAWING NUMBER
ST - 20





SECTION A-A

* DRIVEWAY SLOPE NOT TO EXCEED 5% FOR A MINIMUM OF 20' FROM EDGE OF PAVEMENT. DRIVEWAY SLOPE SHALL NOT EXCEED 2% WITHIN FOUR FEET OF VALLEY GUTTER.



SECTION B-B

NOTE:

1. FOR APPROX. LENGTH OF RAMP SEE DRAWING ST-29.
2. 4'x3' DETECTABLE WARNING MATERIAL LOCATED AT CENTER OF RETURN. SEE DRAWING ST-29.
3. SEE DRAWING ST-29 FOR RETAINING CURB.
4. USE OF THIS DETAIL REQUIRES ADDITIONAL PEDESTRIAN EASEMENT.
5. A 1/2-INCH CONCRETE BATTER SHALL BE PLACED ON ALL CURB LIPS.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**SPECIAL COMMERCIAL FRONTAGE
ENTRANCE TYPE A-7**

APPROVED BY:

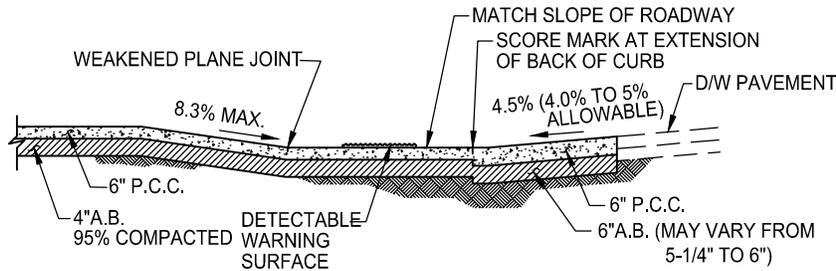
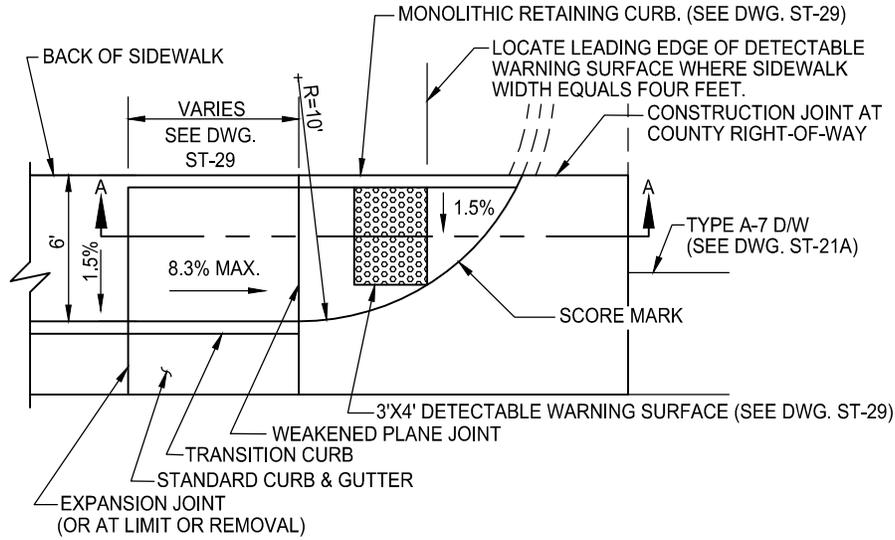
CITY ENGINEER

DATE



DRAWING NUMBER

ST -21A

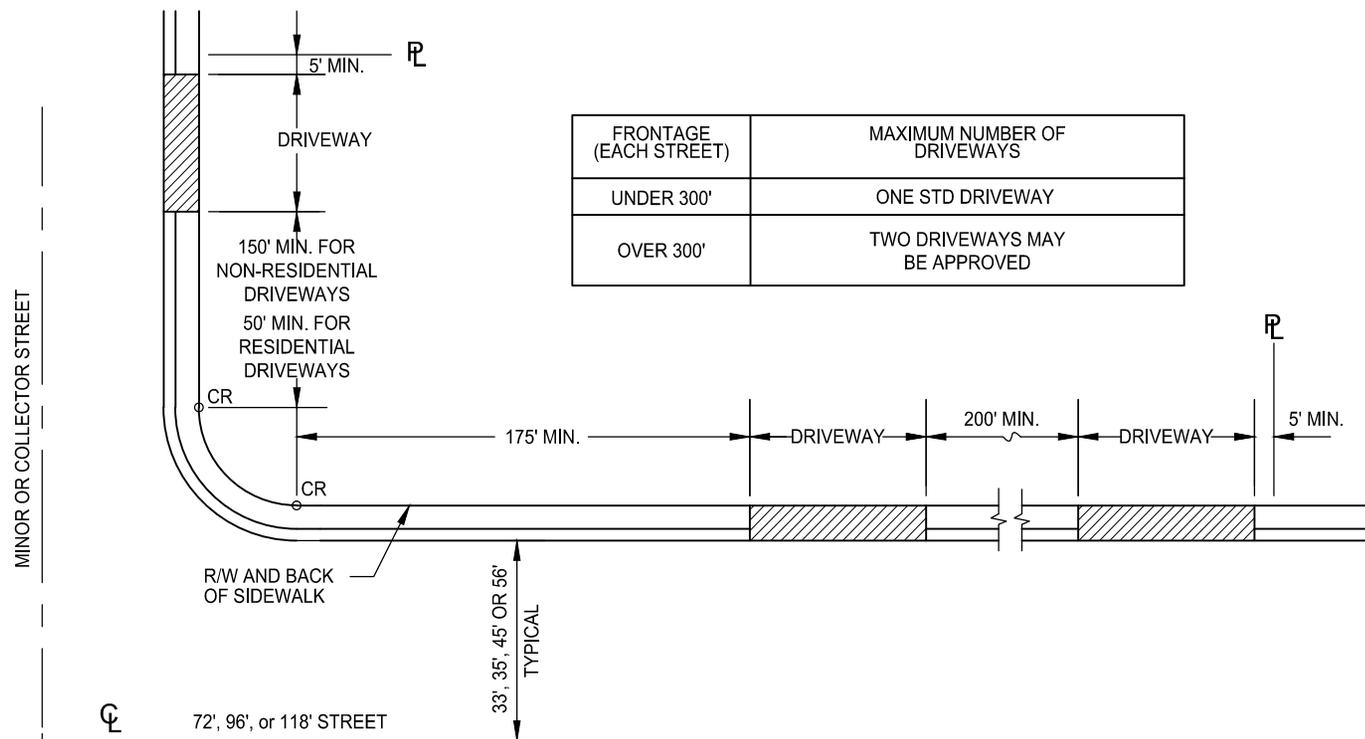


SECTION A-A
N.T.S.

NOTES:

1. SEE DRAWING ST-21A FOR REINFORCING & ADDITIONAL CONSTRUCTION NOTES.
2. IT MAY BE USED FOR RECONSTRUCTION OF TYPE A-7 DRIVEWAYS IN AREAS WITHOUT SUFFICIENT RIGHT-OF-WAY FOR STANDARD TYPE A-7 DRIVEWAY CONSTRUCTION AND WITHOUT WALKWAY EXTENSION ON TO ABUTTING PROPERTY.
3. NO PULL BOX, UTILITY VAULT, UTILITY POLE, MANHOLE OR SIMILAR APPURTENANCE SHALL BE LOCATED WITHIN SIDEWALK RAMP AREA.
4. IT IS DESIRABLE TO LOCATE ALL DRAIN INLETS OUT OF SIDEWALK RAMP AREA. USE OF DRAIN INLET WITHIN RAMP AREA REQUIRES SPECIAL DESIGN OF INLETS.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS			APPROVED BY:	
SIDEWALK RAMP FOR A-7 DRIVEWAYS WITHOUT ADDITIONAL R/W (NOT FOR NEW CONSTRUCTION)				CITY ENGINEER		DATE		
(NOT FOR NEW CONSTRUCTION)				DRAWING NUMBER		ST - 21B		



- NOTES:
1. DRIVEWAYS ON 72', 96', AND 118' STREETS SHALL HAVE A MINIMUM CLEAR SPACING OF 200' BETWEEN DRIVEWAYS. LESSER SPACING MAY BE APPROVED BY THE DIRECTOR FOR SMALL LOTS WHERE A MINIMUM OF ONE DRIVEWAY PER STREET FRONTAGE WILL BE APPROVED.
 2. FOR ADDITIONAL DRIVEWAY REQUIREMENTS SEE SECTION 4-10 OF THE CITY IMPROVEMENT STANDARDS.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

DRIVEWAY LOCATION STANDARDS

APPROVED BY: _____

XX/XX/2017

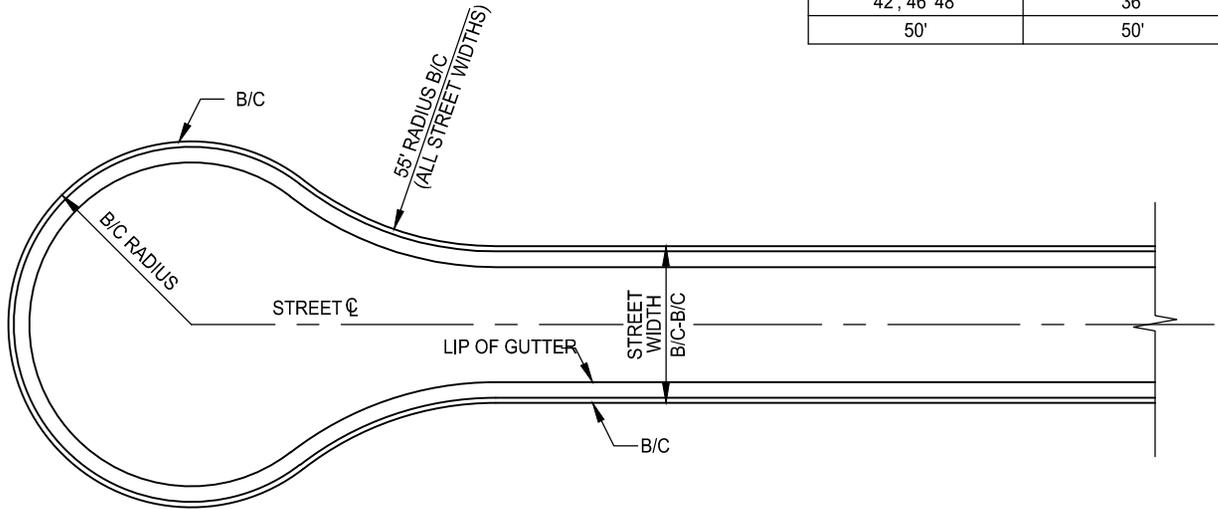
CITY ENGINEER _____ DATE _____

DRAWING NUMBER

ST - 22



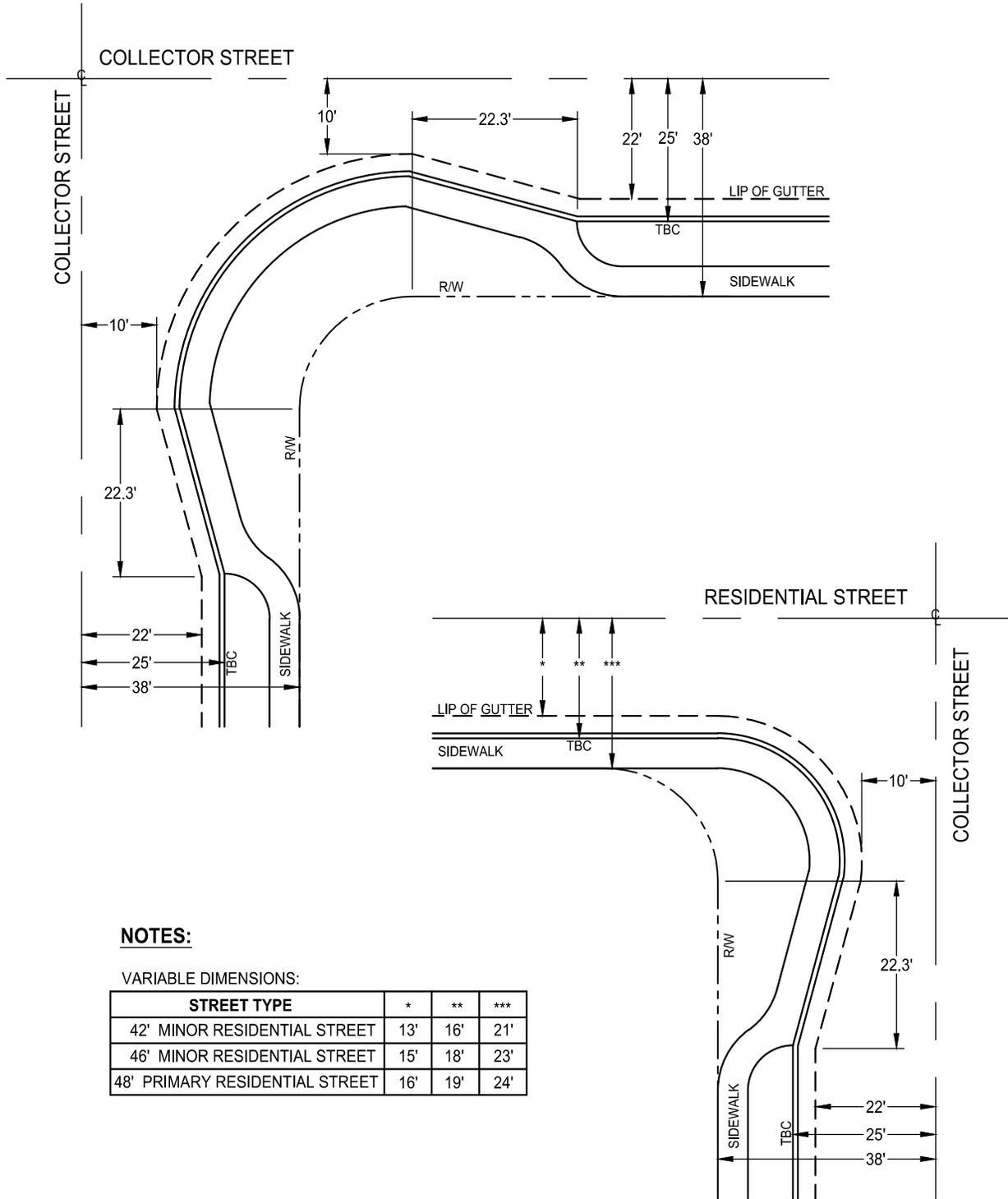
BULB RADIUS REQUIREMENTS	
STREET R/W WIDTH	B/C RADIUS @ BULB
42', 46' 48'	36'
50'	50'



NOTES:

1. A STANDARD W14-1 ("DEAD END") SIGN MAY BE REQUIRED AT THE ENTRANCE TO THE CUL-DE-SAC (SEE SECTION 4-27).
2. NO CUL-DE-SAC SHALL EXCEED 600 FEET IN LENGTH, MEASURED AS THE DISTANCE FROM THE CENTERLINE OF THE INTERSECTING STREET TO THE CENTER OF THE CUL-DE-SAC BULB.

DATE: 09/22/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE	CUL-DE-SAC		CITY ENGINEER	DATE	
							DRAWING NUMBER	
							ST - 23	



NOTES:

VARIABLE DIMENSIONS:

STREET TYPE	*	**	***
42' MINOR RESIDENTIAL STREET	13'	16'	21'
46' MINOR RESIDENTIAL STREET	15'	18'	23'
48' PRIMARY RESIDENTIAL STREET	16'	19'	24'

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

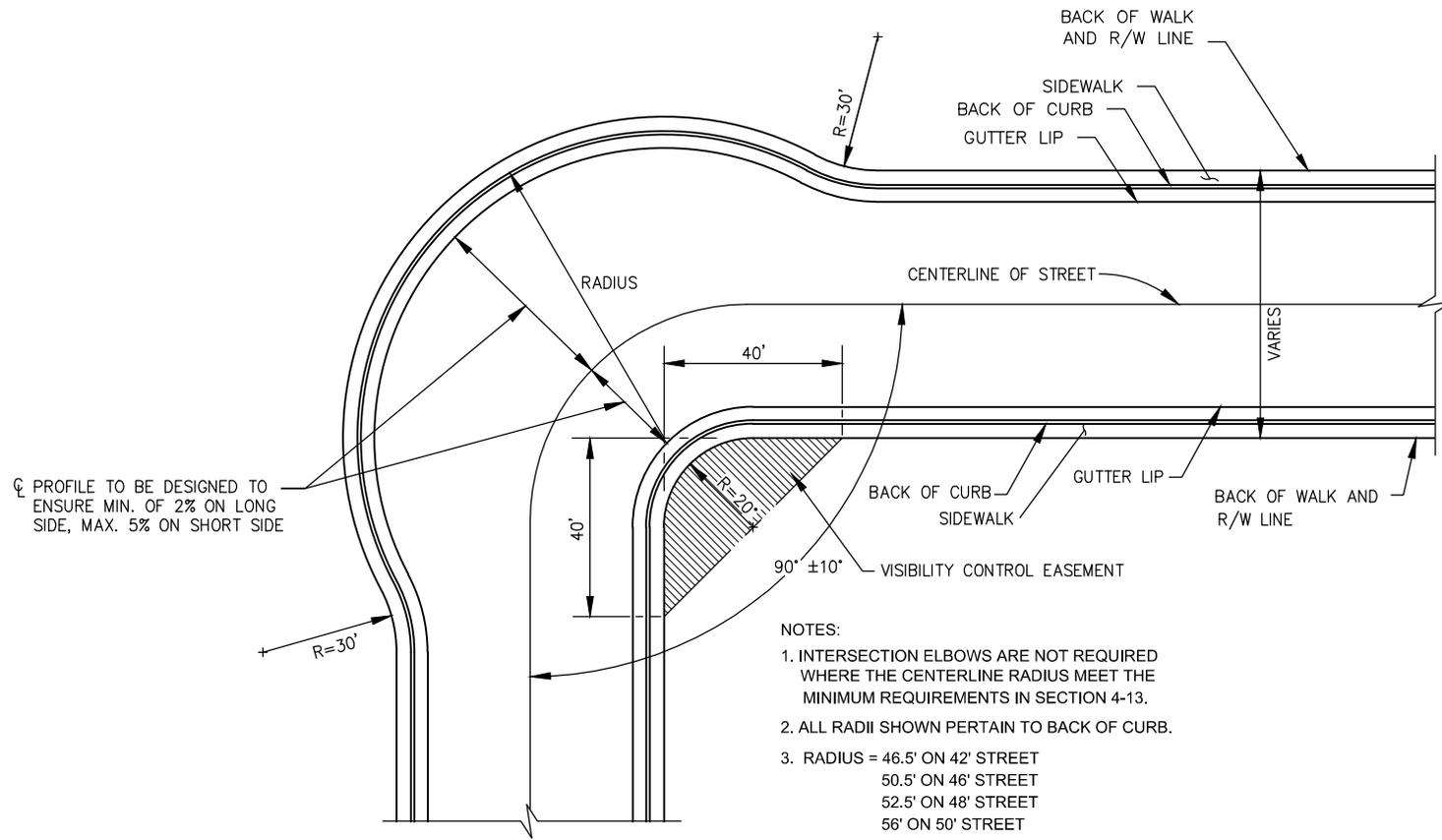
BULB-OUT DETAIL

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER
ST - 24





☑ PROFILE TO BE DESIGNED TO ENSURE MIN. OF 2% ON LONG SIDE, MAX. 5% ON SHORT SIDE

- NOTES:
1. INTERSECTION ELBOWS ARE NOT REQUIRED WHERE THE CENTERLINE RADIUS MEET THE MINIMUM REQUIREMENTS IN SECTION 4-13.
 2. ALL RADII SHOWN PERTAIN TO BACK OF CURB.
 3. RADIUS = 46.5' ON 42' STREET
50.5' ON 46' STREET
52.5' ON 48' STREET
56' ON 50' STREET
 4. INTERSECTION ANGLE SHALL BE $90^\circ \pm 5^\circ$.
 5. SHADED AREA SHALL HAVE VISIBILITY CONTROL EASEMENT IN ACCORDANCE WITH SECTION 4-14 AND STANDARD DRAWING ST-26 (PERMANENT BUILDINGS EXCEPTED WITHIN SETBACK LINE).

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

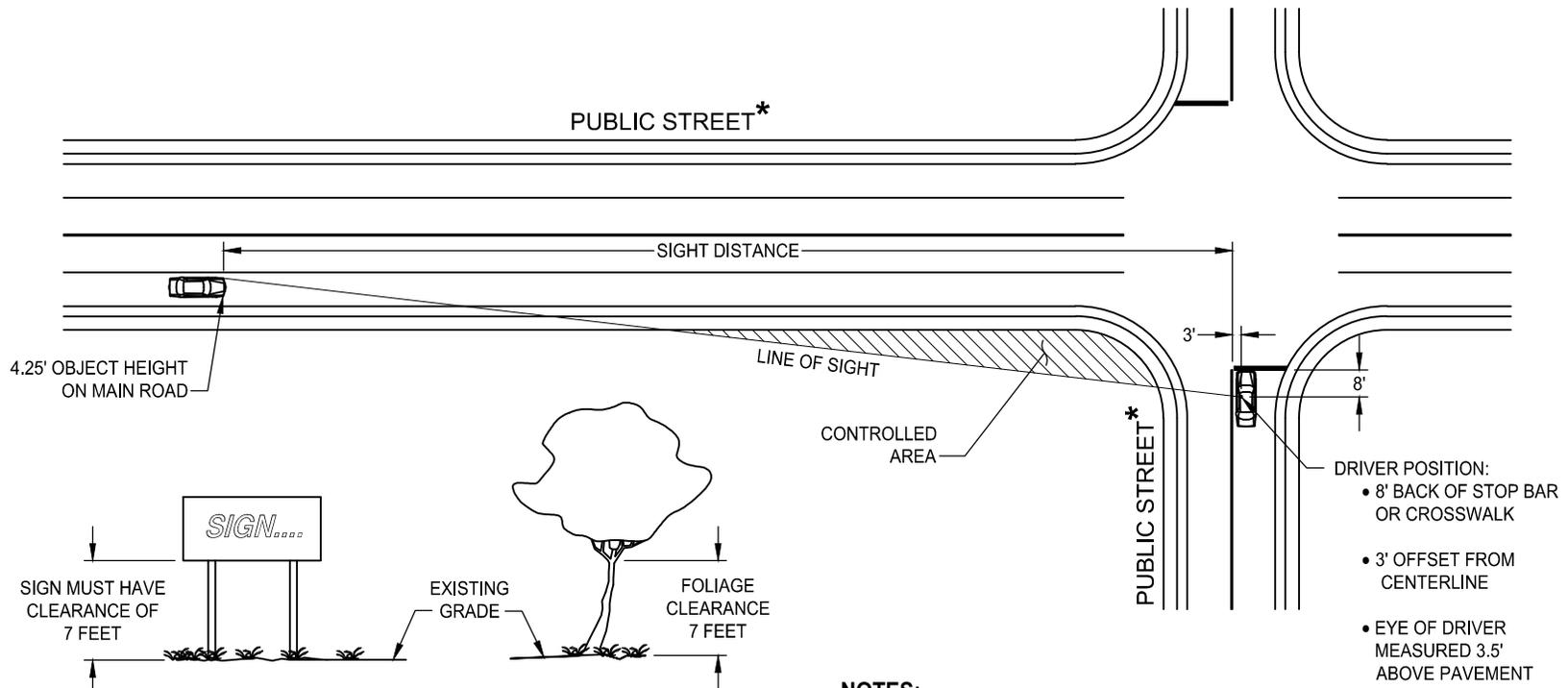
CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY: _____
CITY ENGINEER _____ DATE _____

**90 DEGREE INTERSECTION
ELBOW**



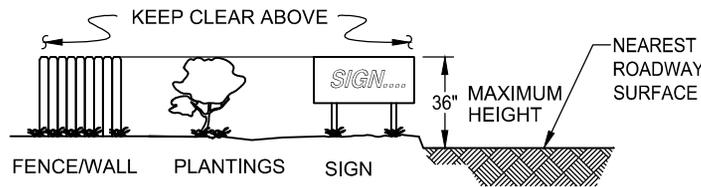
DRAWING NUMBER
ST - 25



NOTES:

1. SHOW LINE OF SIGHT AND SIGHT DISTANCE FOR ALL APPROACHES OF EACH INTERSECTION.
 2. SIGHT DISTANCE SHALL COMPLY WITH THE CITY OF ELK GROVE IMPROVEMENT STANDARDS SECTION 4-14.
- * FOR STREETS 48 FEET OR WIDER MEASURED FROM BACK OF CURB TO BACK OF CURB, OR AS REQUIRED BY THE DIRECTOR.

CLEARANCE REQUIRED WITHIN CONTROLLED AREA



DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

MINIMUM SIGHT DISTANCE AT INTERSECTIONS AND NON-RESIDENTIAL DRIVEWAYS

APPROVED BY: _____

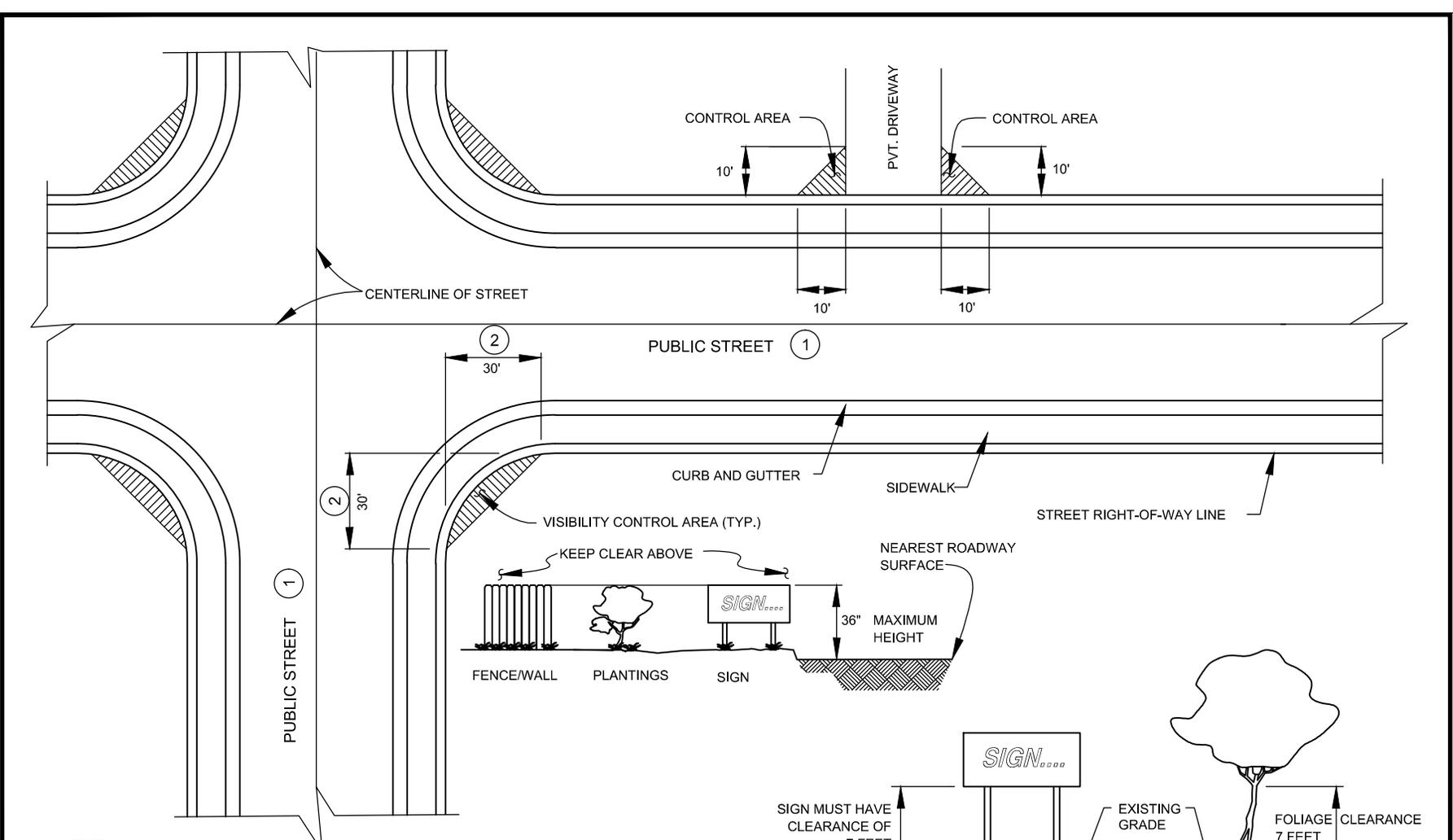
XX/XX/2017

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

ST - 26.1





NOTES:

- ① FOR STREETS LESS THAN 48 FEET MEASURED FROM BACK OF CURB TO BACK OF CURB. VISIBILITY CONTROL AREAS MAY BE REDUCED TO A 20' X 20' TRIANGLE AT STOP OR SIGNAL CONTROLLED INTERSECTIONS.
- ②

CLEARANCE REQUIRED WITHIN CONTROLLED AREA

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

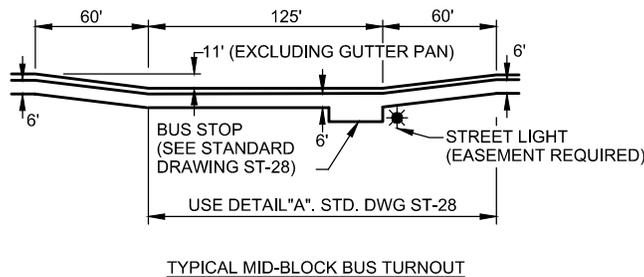
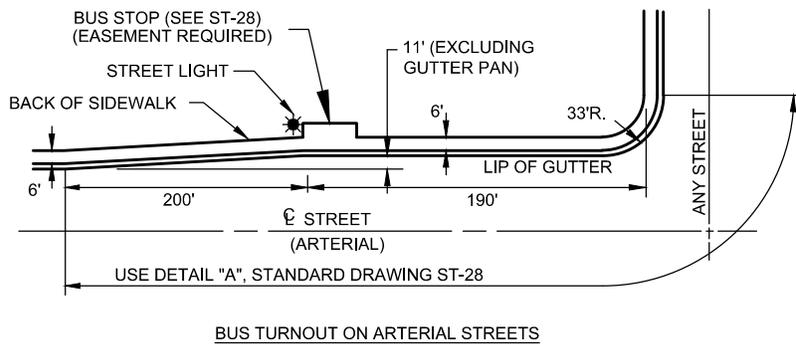
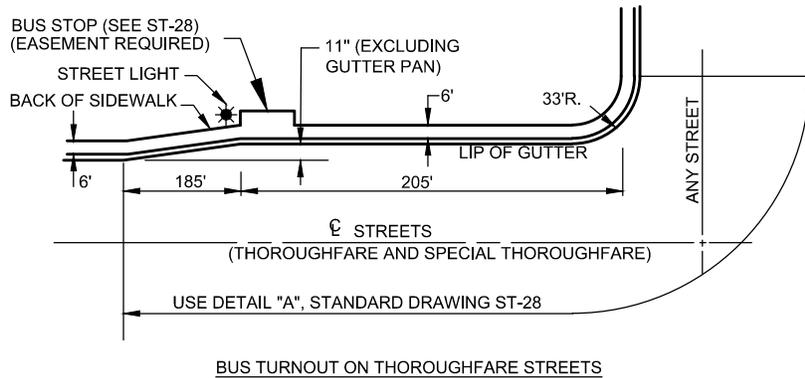
CITY OF ELK GROVE - PUBLIC WORKS

**VISIBILITY REQUIREMENTS
CITY OF ELK GROVE**

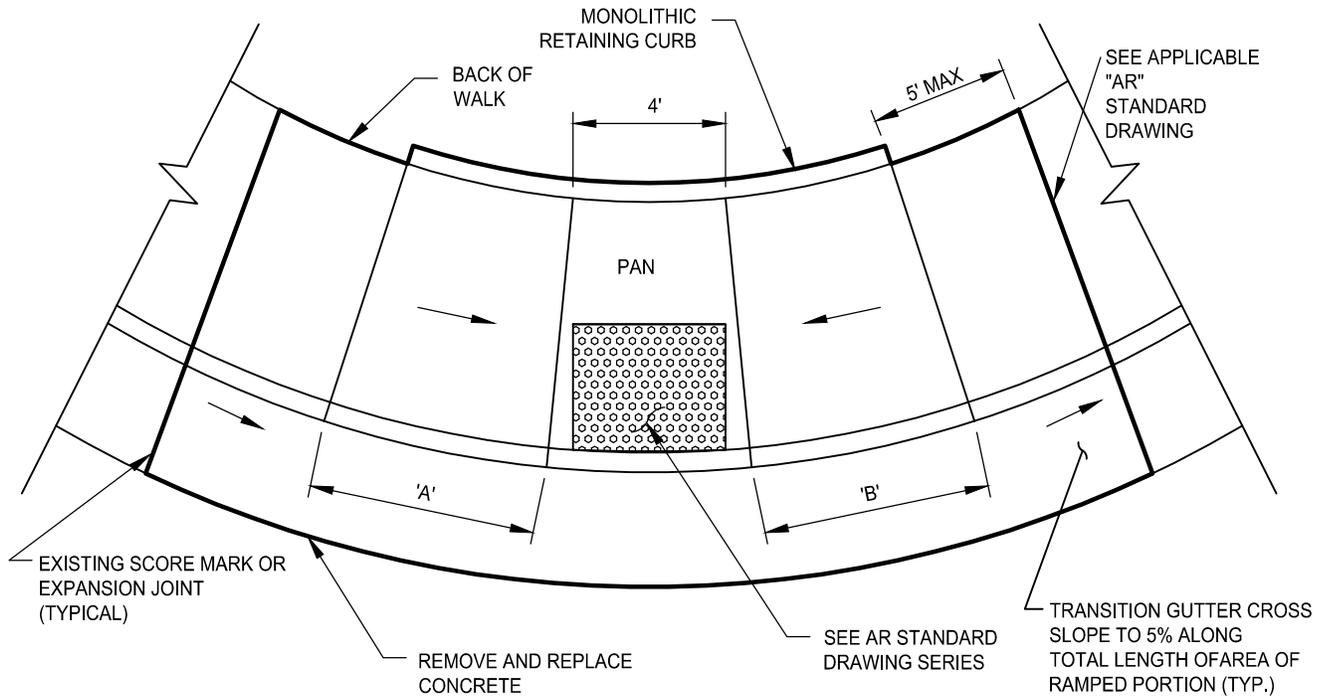
APPROVED BY: _____
XX/XX/2017
 CITY ENGINEER DATE

DRAWING NUMBER
ST - 26.2





DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION		BY				CITY ENGINEER	
				BUS TURNOUTS		DRAWING NUMBER	
						ST - 27	



RAMP PLAN

SLOPE OF GUTTER	'A' FOR TYPE 2 CURB
0.5% to 0.6%	6'-6"
>0.6% to 1.1%	7'-0"
>1.1% to 1.6%	7'-6"
>1.6% to 2.0%	8'-0"
>2.0% to 2.4%	8'-6"
>2.4% to 2.7%	9'-0"
>2.7% to 3.0%	9'-6"
>3.0% to 3.3%	10'-0"
>3.3%	SEE NOTE #4

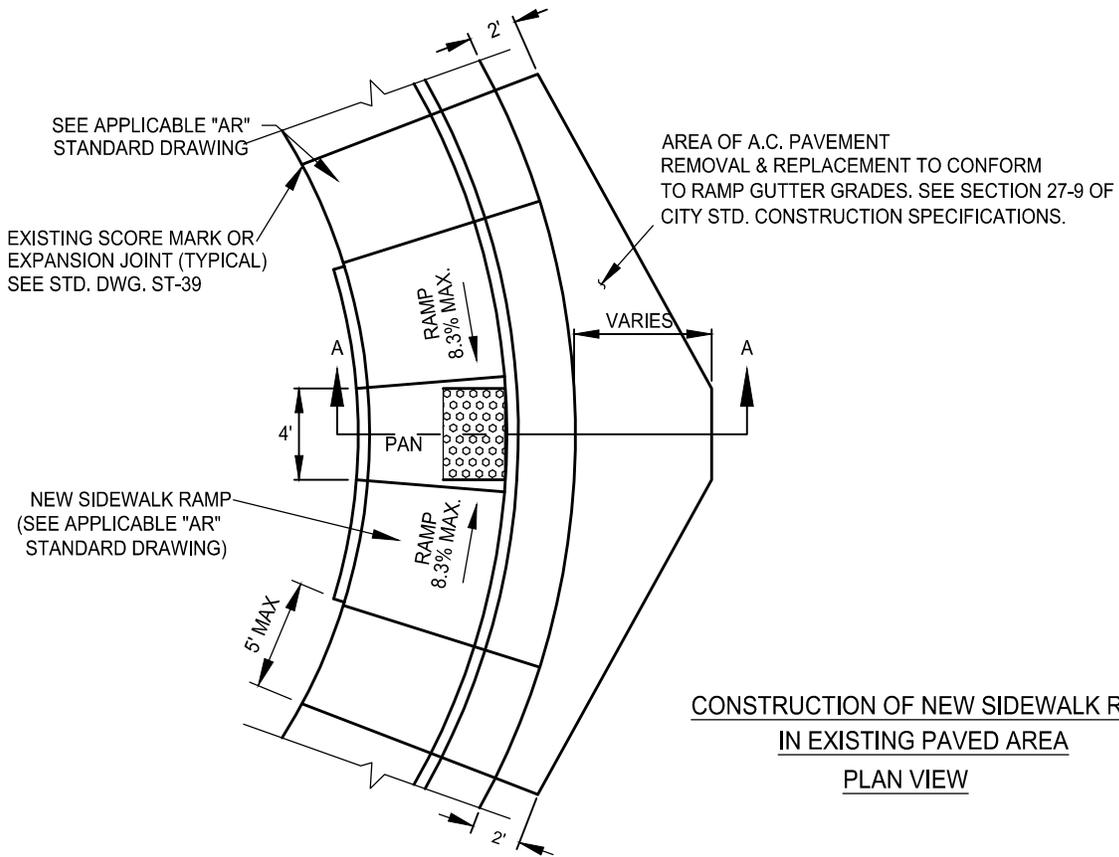
SLOPE OF GUTTER	'A' FOR TYPE 1/1A CURB
0.5% to 0.7%	4'-0"
>0.7% to 1.6%	4'-6"
>1.6% to 2.2%	5'-0"
>2.2% to 2.8%	5'-6"
>2.8% to 3.2%	6'-0"
>3.2% to 3.6%	6'-6"
>3.6% to 4.0%	7'-0"
>4.0% to 4.3%	7'-6"
>4.3%	SEE NOTE #4

CURB TYPE	TYPE 1/1A	TYPE 2
DIM 'B'	3'-6"	6'-0"

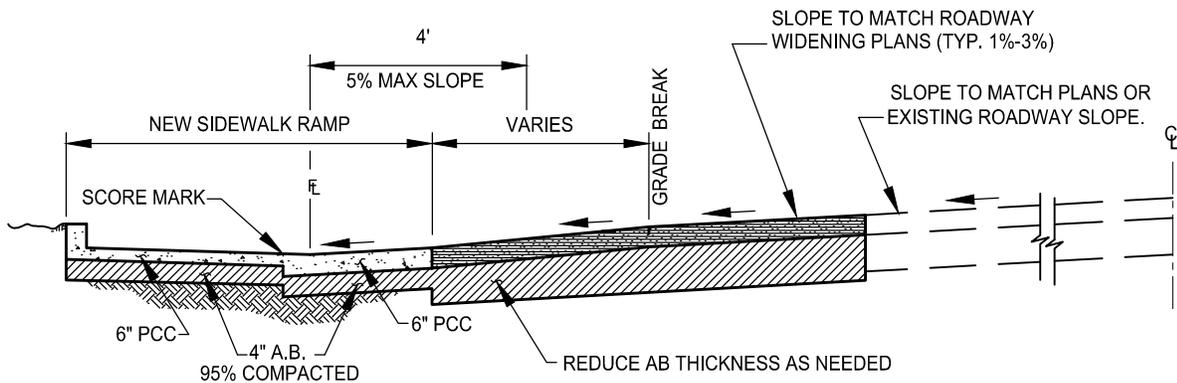
NOTE:

1. DIMENSIONS 'A' IS THE LENGTH OF THE INCLINED PORTION OF THE RAMP THAT SLOPES IN THE SAME DIRECTION AS THE FLOW OF THE GUTTER.
2. DIMENSIONS 'B' IS THE LENGTH OF THE INCLINED PORTION OF THE RAMP THAT SLOPES IN THE OPPOSITE DIRECTION AS THE FLOW OF THE GUTTER.
3. REQUIRES SPECIAL DESIGN APPROVAL BY THE CITY ENGINEER.
4. DO NOT LOCATE PULL BOX, UTILITY VAULT, UTILITY POLE, MANHOLE, OR SIMILAR APPURTENANCES WITHIN SIDEWALK RAMP AREA.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
REVISION	BY	APPROVED	DATE	SIDEWALK RAMPS DETAIL		XX/XX/2017 DATE	DRAWING NUMBER ST - 29

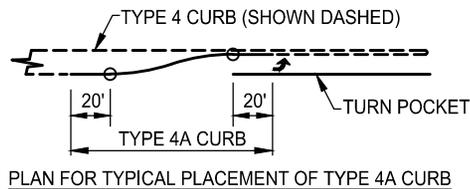
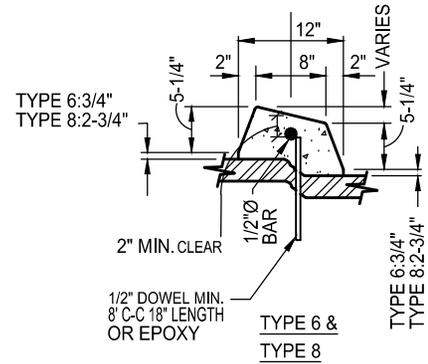
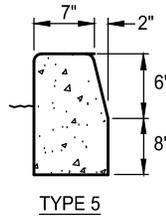
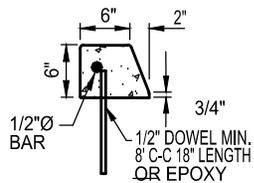
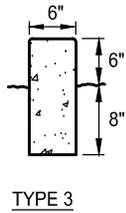
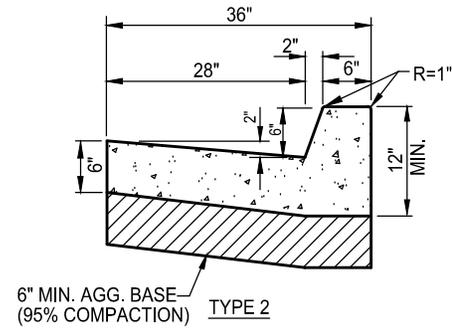
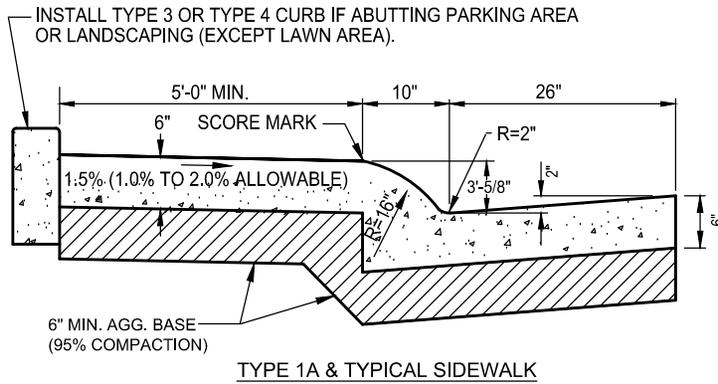


**CONSTRUCTION OF NEW SIDEWALK RAMP
IN EXISTING PAVED AREA
PLAN VIEW**



**CONSTRUCTION OF NEW SIDEWALK RAMP
WITH PAVEMENT WIDENING
SECTION A - A**

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	A.C. CONFORMS TO NEW SIDEWALK RAMP RE-CONSTRUCTION		CITY ENGINEER	DATE
						DRAWING NUMBER	
						ST - 30	
							



NOTES:
SEE SECTION 27-3.01 FOR REQUIREMENT FOR EXPANSION JOINTS, WEAKENED PLANE JOINTS AND SCORE MARKS.

1/2" RADIUS ON EXPOSED EDGES UNLESS NOTED OTHERWISE.

SEE ST-28 FOR BUS STOP DETAIL

A 1/2-INCH CONCRETE BATTER SHALL BE PLACED ON ALL CURB LIPS.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY:

CITY ENGINEER

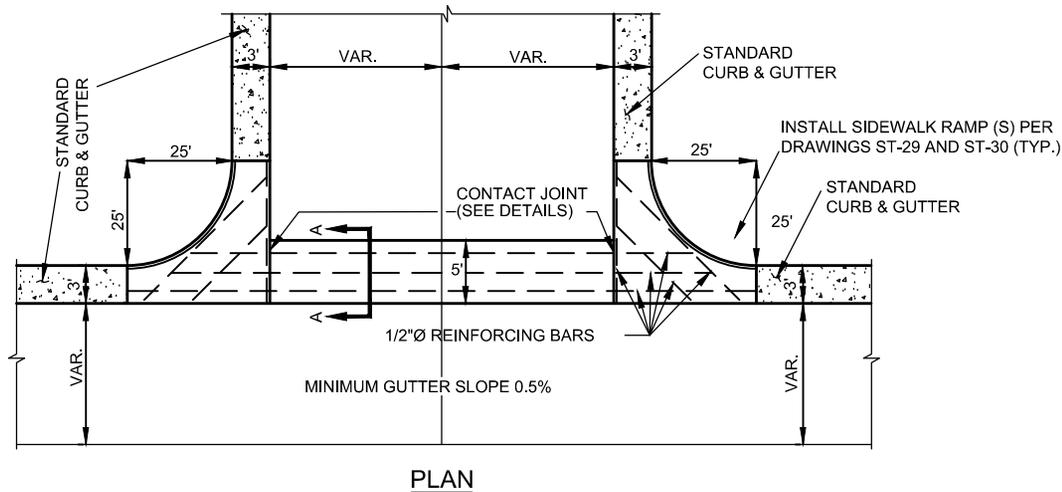
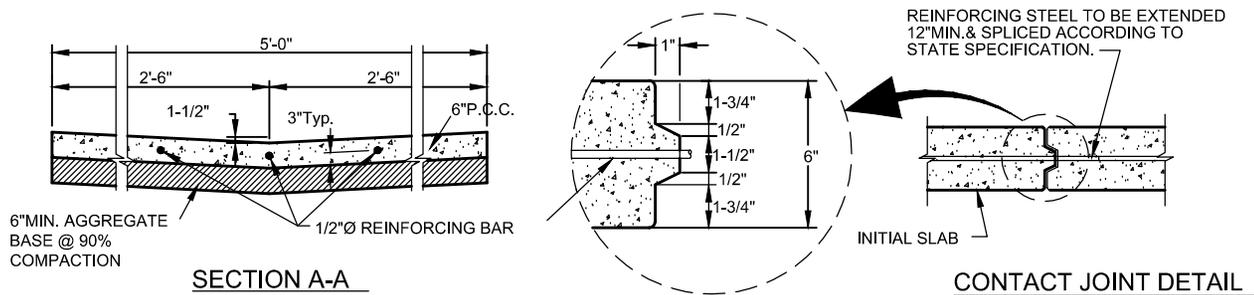
DATE

TYPICAL CURB & GUTTER SECTIONS



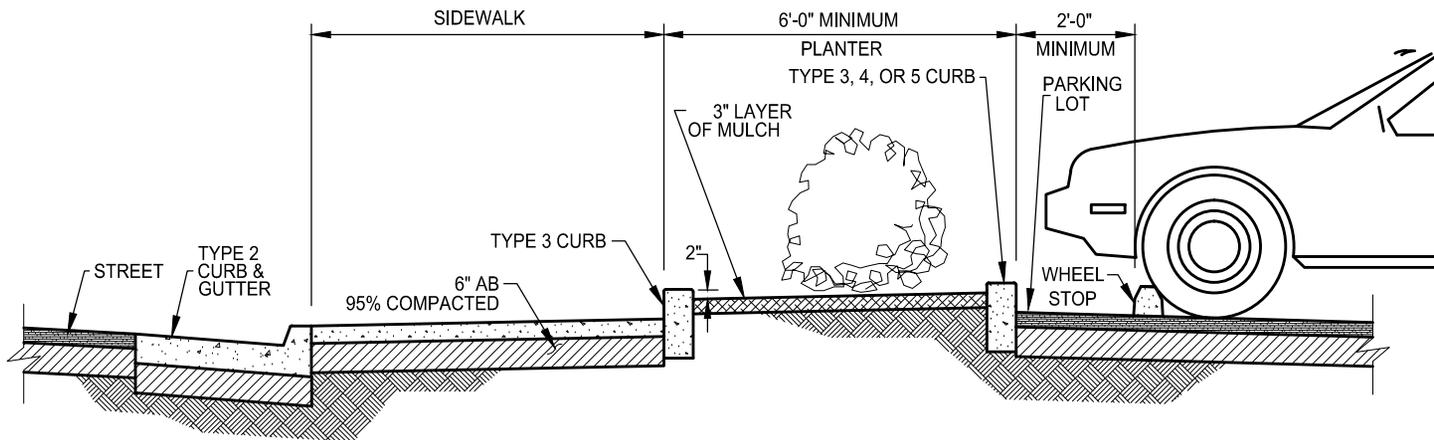
DRAWING NUMBER

ST - 31



NOTE:
 6" MIN AGGREGATE BASE (95% RELATIVE COMPACTION)
 TO BE PLACED WITHIN LIMITS OF CROSS GUTTER.

DATE: 09/22/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	CROSS GUTTER		CITY ENGINEER	DATE
						DRAWING NUMBER	
						ST - 32	
							



NOTES:

1. FOR 72', 96', & 118' STREET WIDTHS AND COMMERCIAL DEVELOPMENT.
2. SEE SECTION 4-20 FOR REQUIREMENTS.
3. TYPE 3 CURB AT THE BACK OF SIDEWALK MAY BE OMITTED IF LAWN IS PLANTED TO THE BACK OF SIDEWALK.
4. SIDEWALKS SHALL BE SEPARATED ON ALL 72', 96', & 118' STREETS

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY:

CITY ENGINEER

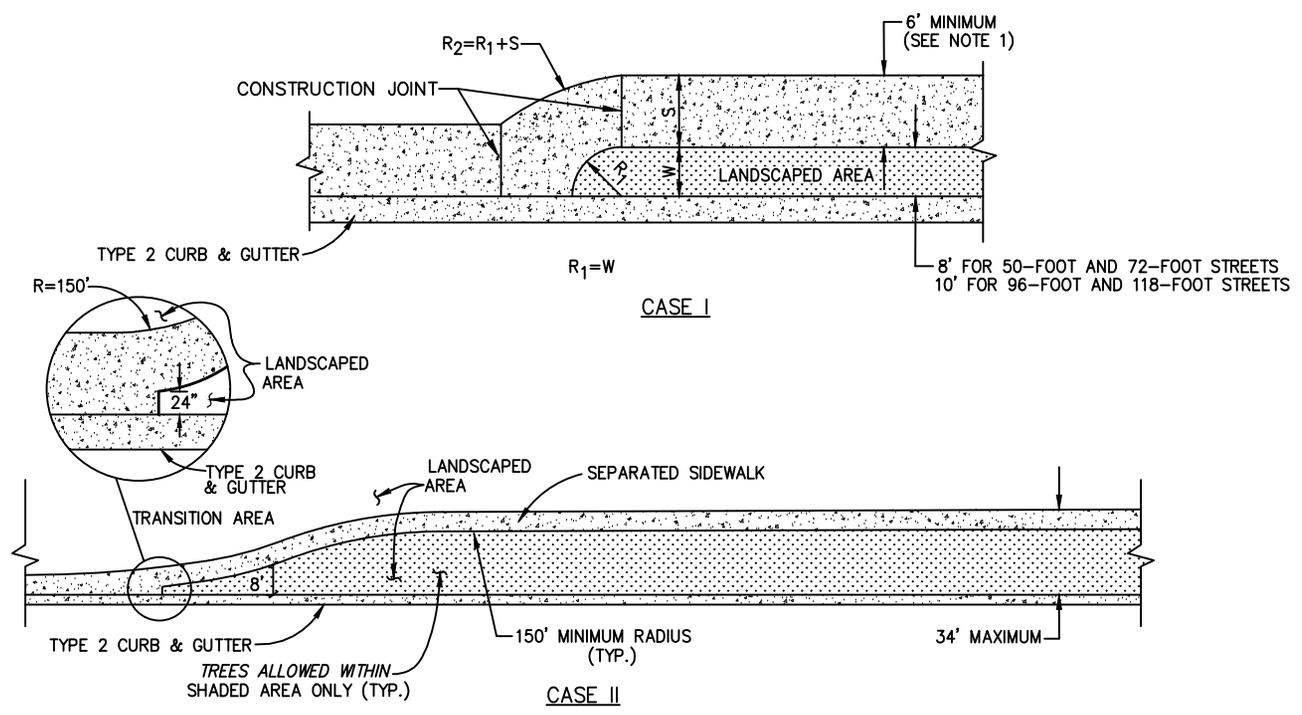
DATE

BARRIER CURB DETAIL



DRAWING NUMBER

ST - 33



- NOTE:
1. ON THOROUGHFARES, ARTERIALS, AND WHERE 6 FOOT SIDEWALKS ARE REQUIRED BY THE IMPROVEMENT STANDARDS. 5 FOOT MINIMUM ALL OTHER LOCATIONS.
 2. CROSS SLOPE OF SEPARATED SIDEWALK TO BE 1.5% (1.0% TO 2.0% ALLOWABLE). LONGITUDINAL GRADE NOT TO EXCEED 5%.
 3. USE OF SEPARATED SIDEWALKS WILL REQUIRE STREET LIGHTING REVIEW IN RELATION TO LANDSCAPE PLAN, AND MAY REQUIRE ADDITIONAL SIDEWALK LIGHTING.
 4. COMPACTION UNDER SEPARATED SIDEWALK AREA AT 90%, UNDER ATTACHED AREA AT 95%.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

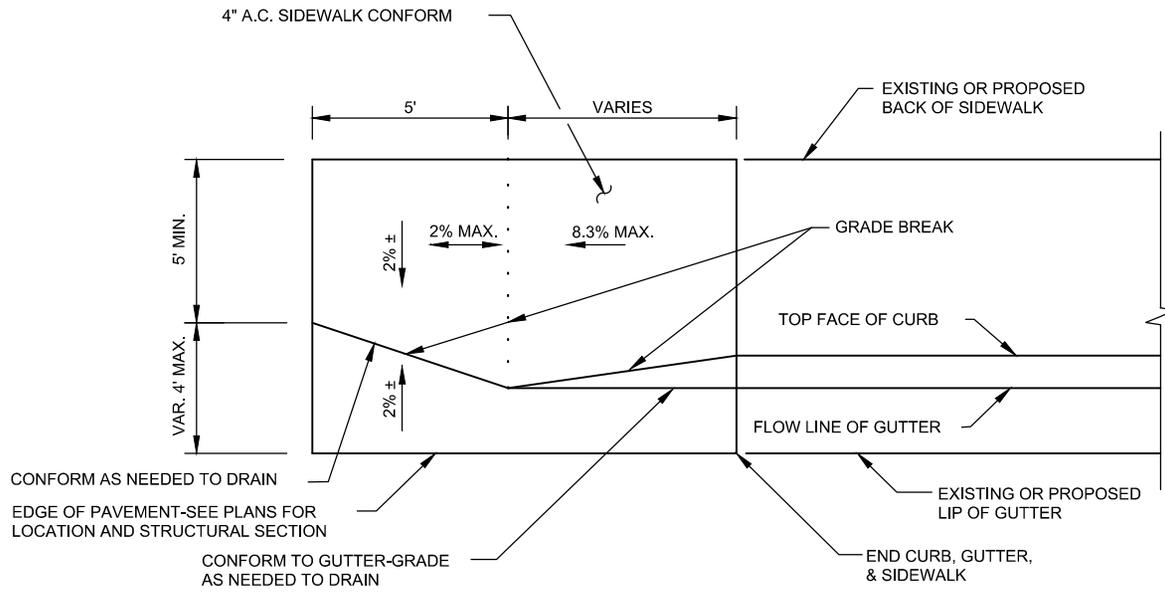
**SEPARATED (OR DETACHED)
SIDEWALK TRANSITION**

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER
ST - 35





NOTE: A SIDEWALK BARRICADE SHALL BE REQUIRED IF THE END OF THE A.C. SIDEWALK CONFORM ABUTS A DRAINAGE DITCH OR ANY OTHER SURFACE THAT WOULD POSE A HAZARD TO PEDESTRIANS.

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**A.C. SIDEWALK
CONFORM**

APPROVED BY: _____

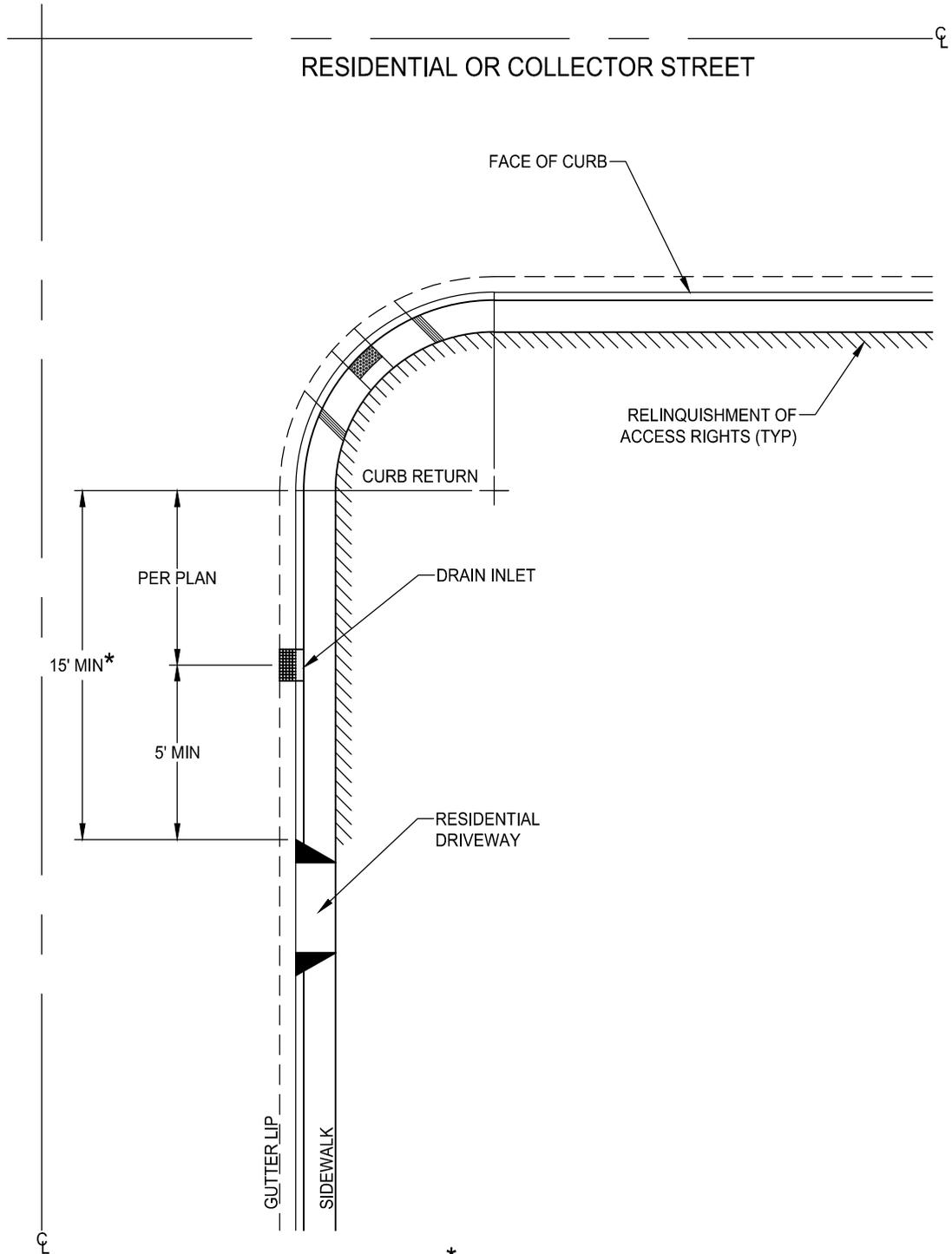
XX/XX/2017

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

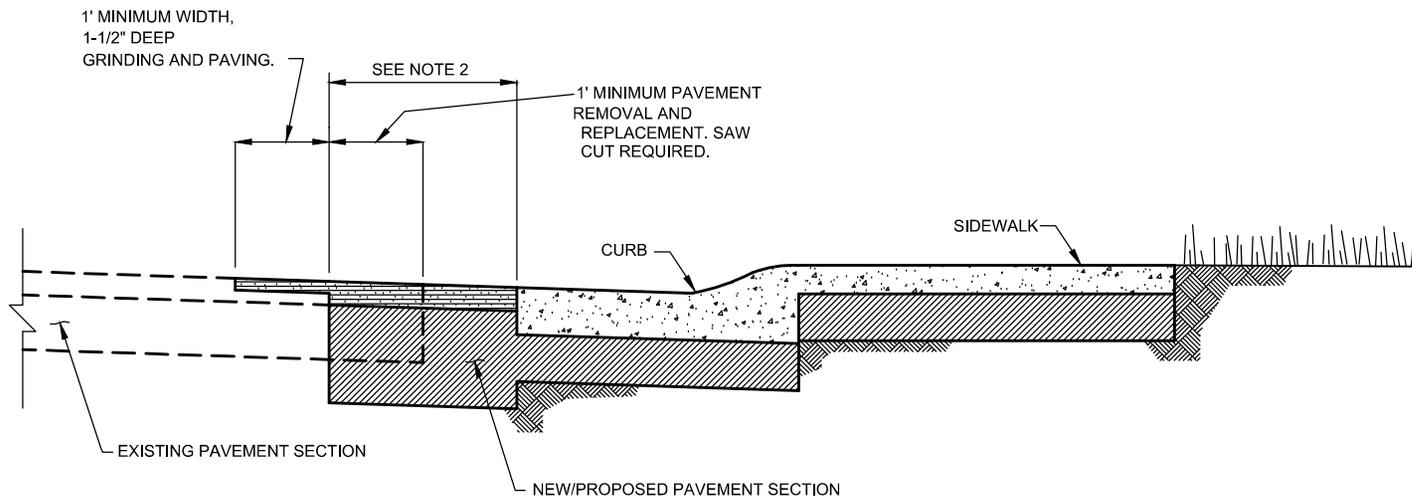
ST - 36





* THE 15' DIMENSION MAY BE REDUCED AS DETERMINED BY THE DIRECTOR WHERE LOTS ARE LESS THAN 56' WIDE.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	RESIDENTIAL CORNER LOT DRIVEWAY LOCATION RESIDENTIAL OR COLLECTOR STREETS		_____ XX/XX/2017 CITY ENGINEER DATE	
						DRAWING NUMBER	
						ST - 37	
							



NOTES:

1. THIS DETAIL IS APPLICABLE TO PAVEMENT WIDENING PROJECTS AND TO PAVEMENT EXTENSION PROJECTS (WHERE NEW ROAD CONNECTS TO EXISTING PAVEMENT).
2. 2' MINIMUM DISTANCE EXCEPT WHEN INSIDE A BIKE LANE. DISTANCE SHALL BE FROM LIP OF CURB TO FULL EXTENT OF THE BIKE LANE.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

PAVEMENT WIDENING DETAIL

APPROVED BY:

CITY ENGINEER

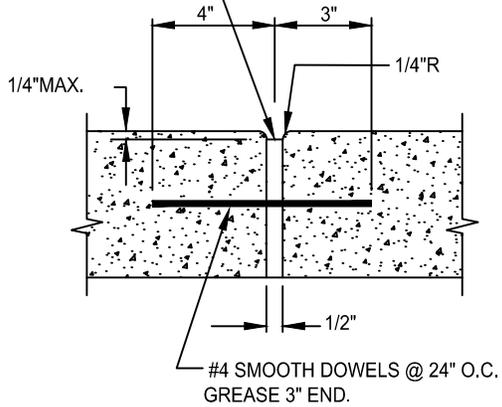
DATE



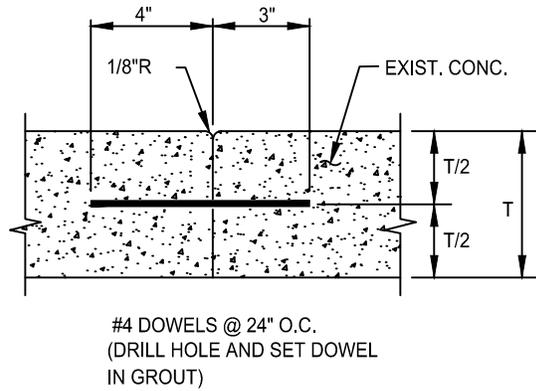
DRAWING NUMBER

ST - 38

EXPANSION JOINT
FILLER MATERIAL
(MATCH FULL
CONCRETE SECTION)

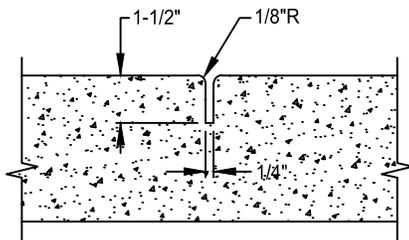


EXPANSION JOINT

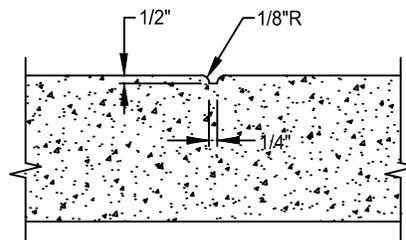


SIDEWALK CONTACT JOINT

(USE WHERE NEW CONSTRUCTION OF S/W AND
OR CURB & GUTTER ABUTS EXISTING IMPROVEMENTS.)



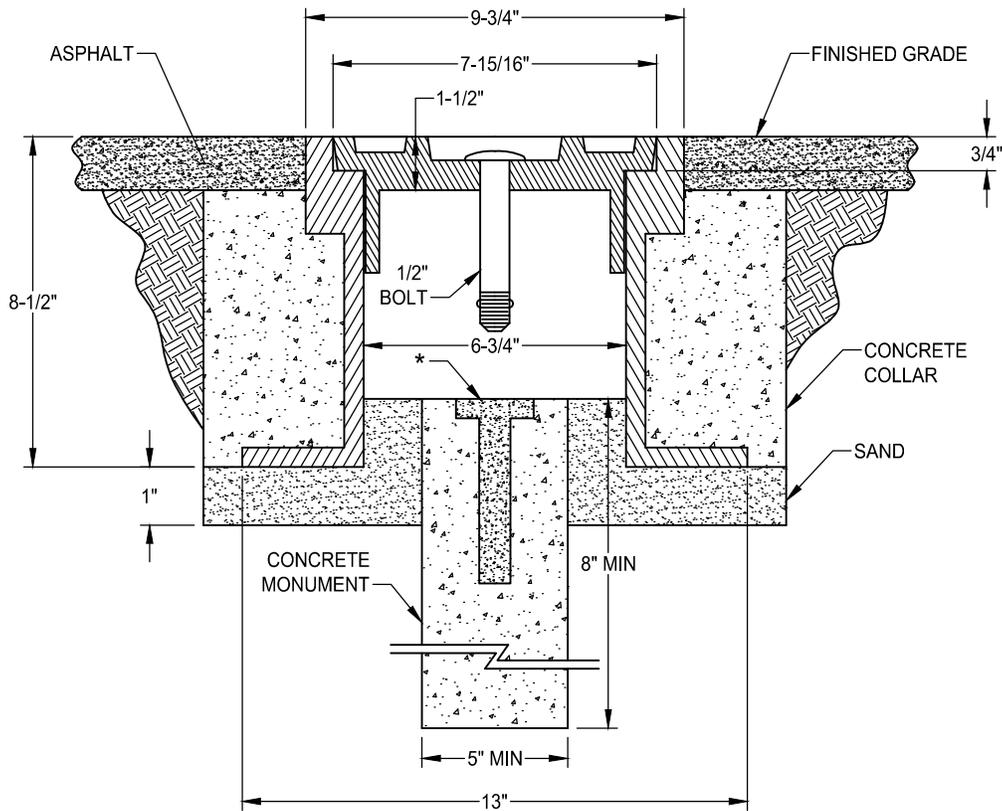
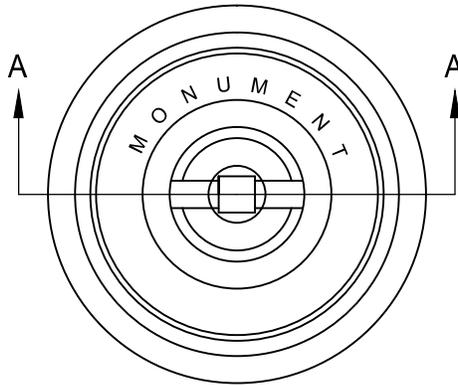
WEAKENED PLANE JOINT



SCORE MARK

NOTE:
JOINT SPACING PER SECTION 27-3.01

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	STANDARD CONCRETE JOINT DETAILS			
						CITY ENGINEER _____ DATE <u>XX/XX/2017</u>	
						DRAWING NUMBER	
						ST - 39	

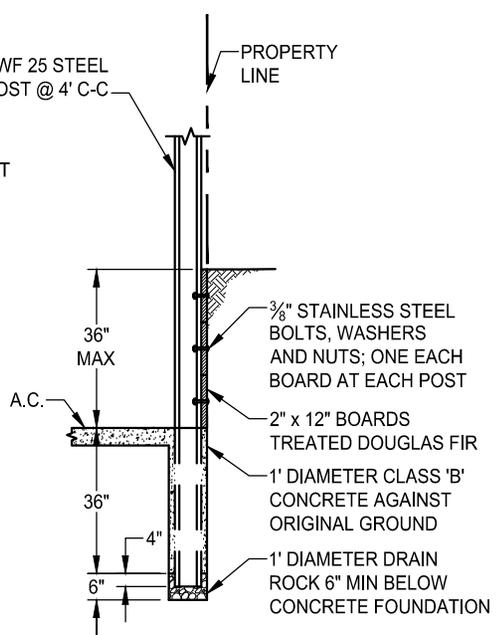
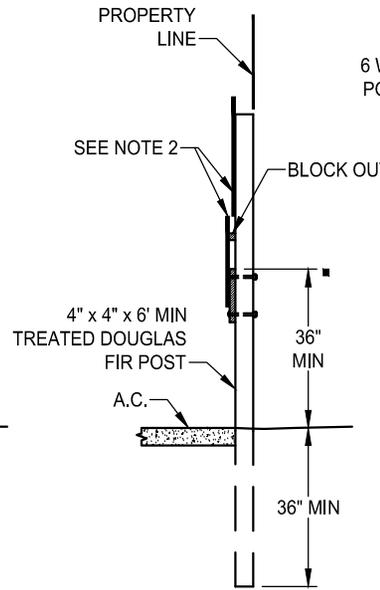
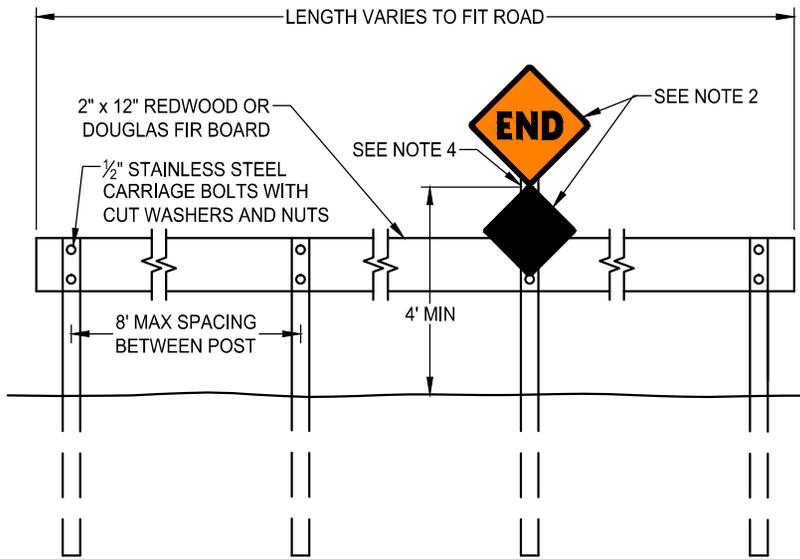


SECTION A-A

NOTES:

1. MONUMENT BOX AND COVER SHALL BE PHOENIX IRON WORKS P-2001 OR APPROVED EQUAL.
2. (*) MONUMENT MARKER SHALL BE SOLID BRASS WITH 2-1/2" DIAM TOP AND 3/4" x 2-1/2" LTZ 813-403 OR APPROVED EQUAL SET IN FRESH P.C.C. TOP OF MONUMENT SHALL BE APPROXIMATELY 6" BELOW STREET GRADE.
3. MONUMENT MAY BE FORMED BY METAL SLEEVE, WAXED CARDBOARD OR BY DRILLING THRU HOLE MADE FOR MONUMENT BOX. IF THERE IS AN OVERCUT THEN THE OVERCUT SHALL BE FILLED WITH CONCRETE TO THE SAND LEVEL.

DATE: 05/17/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____ CITY ENGINEER	
REVISION	BY	APPROVED	DATE	STREET SURVEY MONUMENT		XX/XX/2017 DATE	DRAWING NUMBER ST - 40



SIDE VIEW

STREET ENDING IN CUT WHERE SLOPE IS NOT OBTAINABLE

NOTES:

1. WHERE PERMISSION HAS BEE GRANTED TO CLOSE AN EXISTING PUBLIC STREET, A R11-2 "ROAD CLOSED" SIGN WILL BE REQUIRED ON THE CENTERLINE OF THE ROAD IN ADDITION TO THE W31(CA) "END" SIGN.
2. 24" x 24" W31(CA) SIGN AND 18" x 18" OM4-3 MARKER. BLOCK OUT AS NECESSARY FOR OM4-3 MARKER TOP MOUNTING BOLT (BOTTOM MOUNTING BOLT NORMALLY THROUGH BARRIER RAIL). OM4-3 MARKER TO HAVE SOLID RED REFLECTIVE BACKGROUND WITHOUT ADDED REFLECTORS.
3. ALL EXPOSED SURFACES OF BARRICADE SHALL BE PAINTED WITH TWO (2) COATS OF WHITE PAINT CONFORMING TO STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 91-3.
4. POST AT CENTER OR NEAREST TO CENTER ON RIGHT HAND SIDE TO BE EXTENDED TO PROVIDE MOUNTING FOR SIGNS.
5. POST SHALL BE PRESSURE TREATED PER STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 58-1.02.

RIGHT OF WAY WIDTH	W31 (CA)		OM4-3		R11-2	
	SIZE	NO.	SIZE	NO.	SIZE	NO.
40', 42'	24"	1	18"	1	36" x 24"	1
50', 56', 60'	24"	1	18"	1	48" x 30"	1
66', 70', 74'	24"	1	18"	1	48" x 30"	1
80', 84'	24"	2	18"	2	48" x 30"	1
108', 130'	24"	3	18"	3	48" x 30"	1

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

STREET CLOSURE TIMBER BARRICADE

APPROVED BY: _____

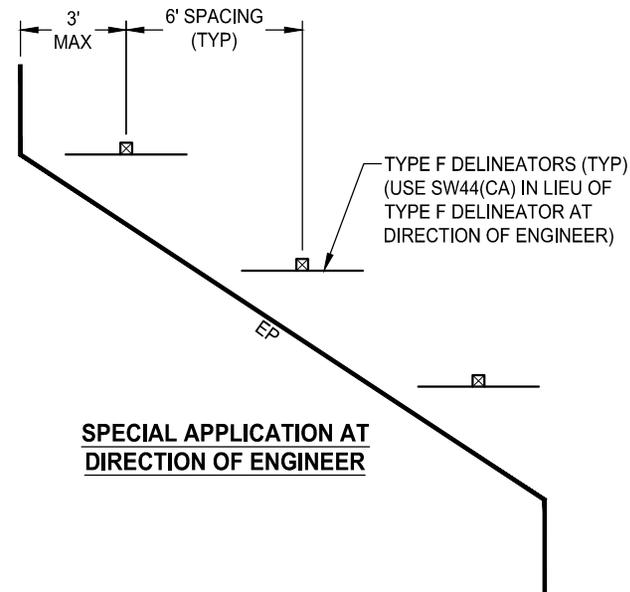
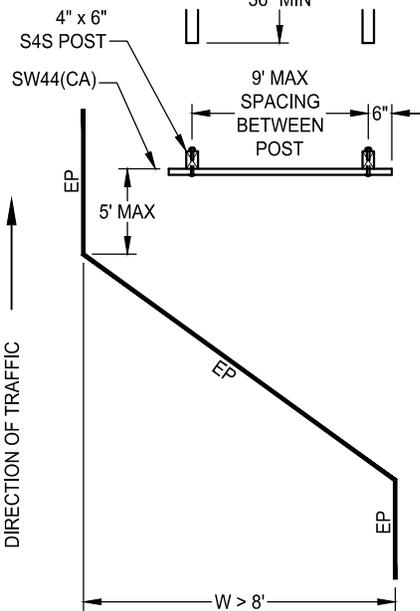
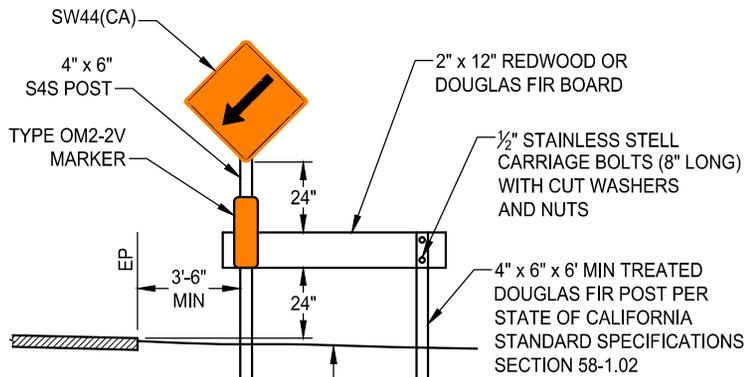
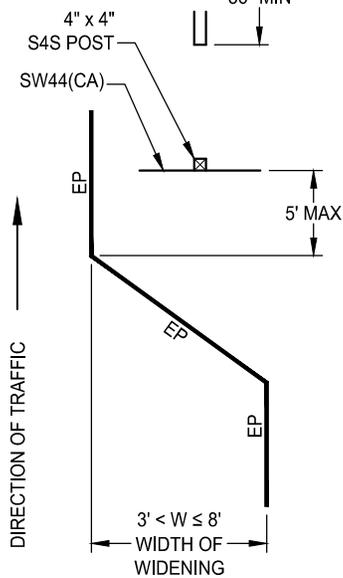
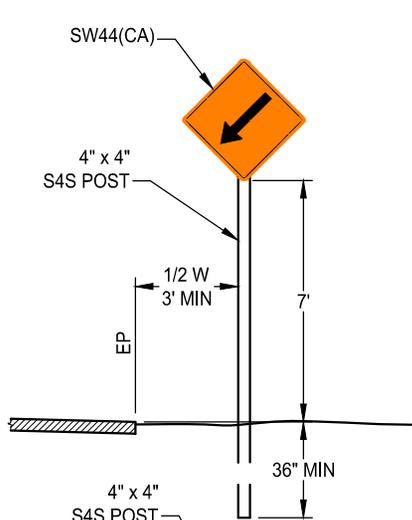
XX/XX/2017

CITY ENGINEER _____ DATE _____

DRAWING NUMBER

ST - 41





NOTE:
ALL EXPOSED SURFACES OF BARRICADE SHALL BE PAINTED WITH TWO (2) COATS OF WHITE PAINT CONFORMING TO STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 91-3.

SPECIAL APPLICATION AT DIRECTION OF ENGINEER

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

SIGNS AND BARRICADES AT ABRUPT CHANGE OF PAVEMENT WIDTH

APPROVED BY:

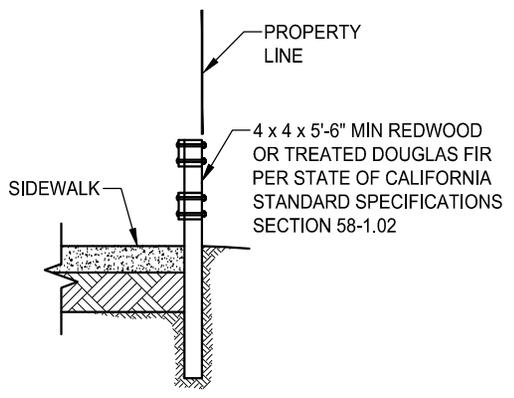
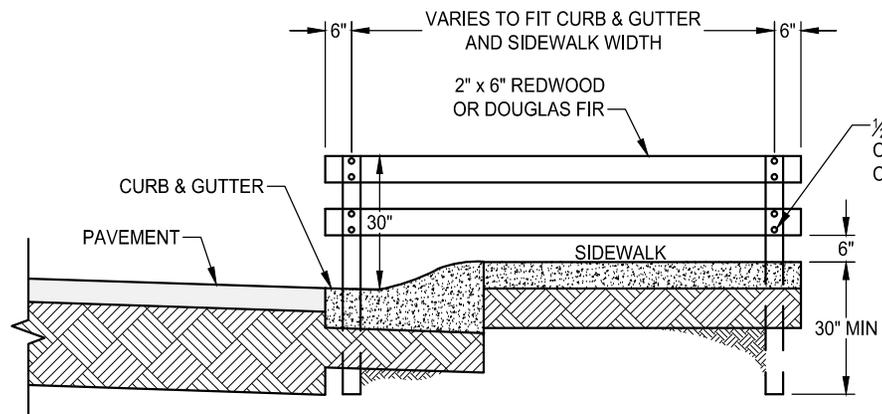
CITY ENGINEER

XX/XX/2017
DATE

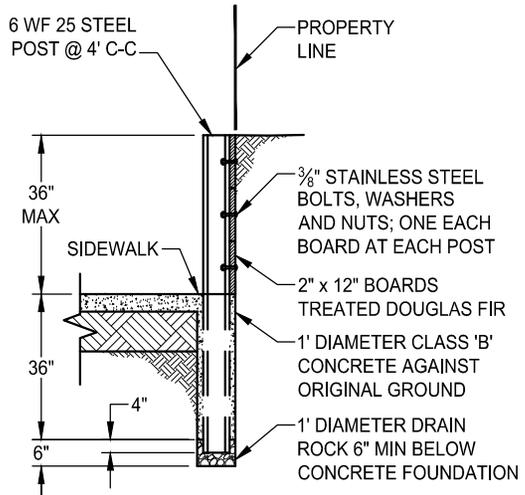
DRAWING NUMBER

ST - 42





SIDE VIEW

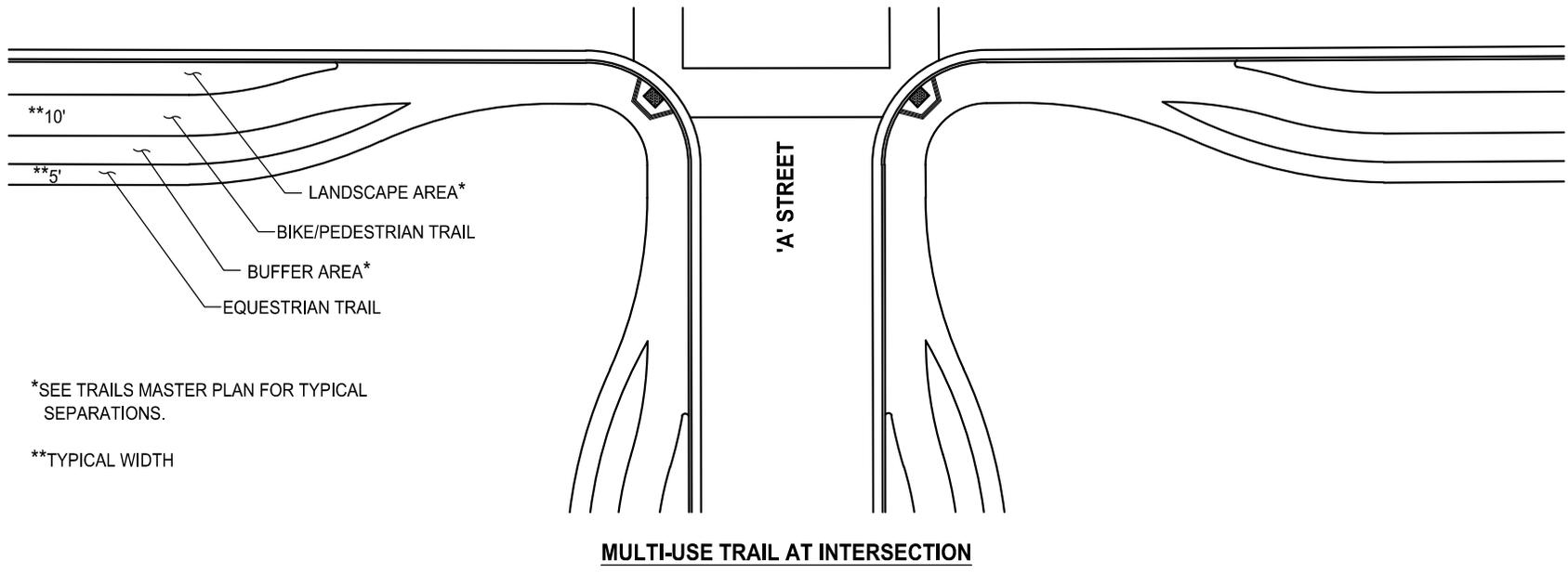
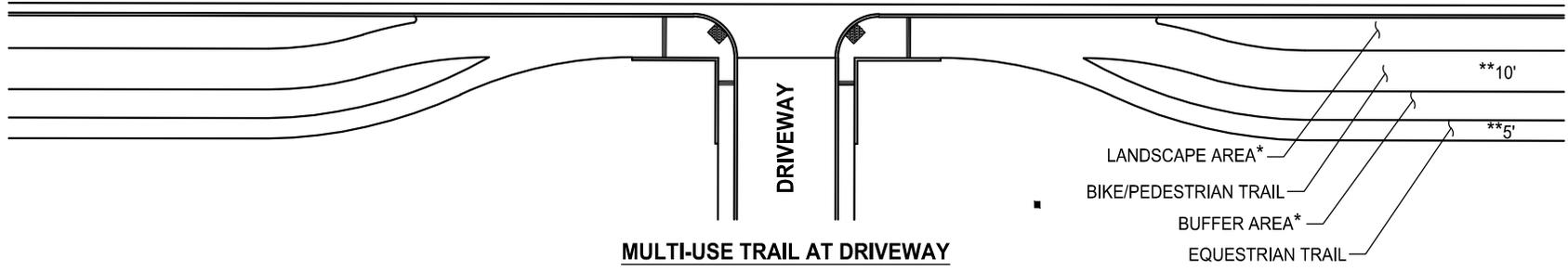


DETAIL FOR SIDEWALK BARRICADE WITH RETAINING WALL

NOTES:

1. SIDEWALK BARRICADES TO BE ERECTED AT EACH LOCATION WHERE SATISFACTORY PROVISION CAN NOT BE MADE FOR PEDESTRIAN TO CONTINUE BEYOND THE TERMINUS OF A SIDEWALK AND A HAZARD IS PRESENT.
2. ALL EXPOSED SURFACES OF BARRICADES SHALL BE PAINTED WITH TWO (2) COATS OF WHITE PAINT CONFORMING TO STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 91-3.

DATE: 01/20/2007		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE	SIDEWALK BARRICADE		XX/XX/2017		
						CITY ENGINEER		DATE
								DRAWING NUMBER
				ST - 43				



*SEE TRAILS MASTER PLAN FOR TYPICAL SEPARATIONS.

**TYPICAL WIDTH

DATE: 01/20/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**MULTI-USE TRAIL
CONNECTIONS AT DRIVEWAYS AND
INTERSECTIONS**

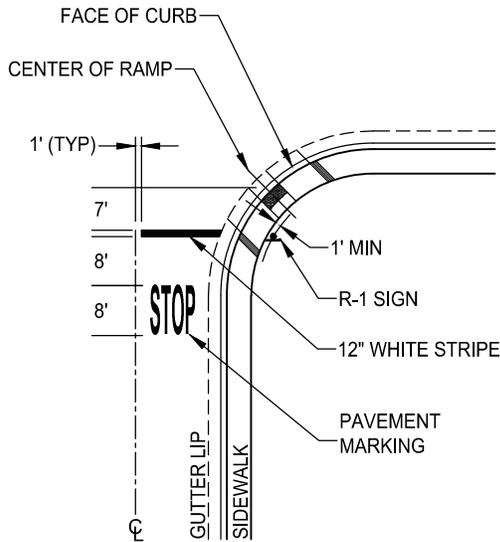
APPROVED BY: _____

CITY ENGINEER

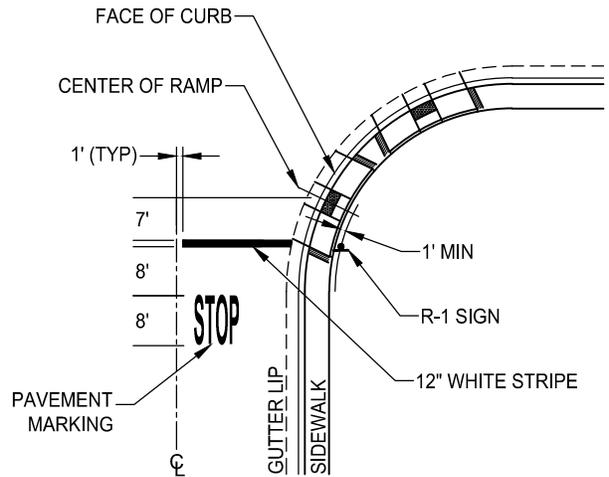
XX/XX/2017
DATE

DRAWING NUMBER
ST - 44





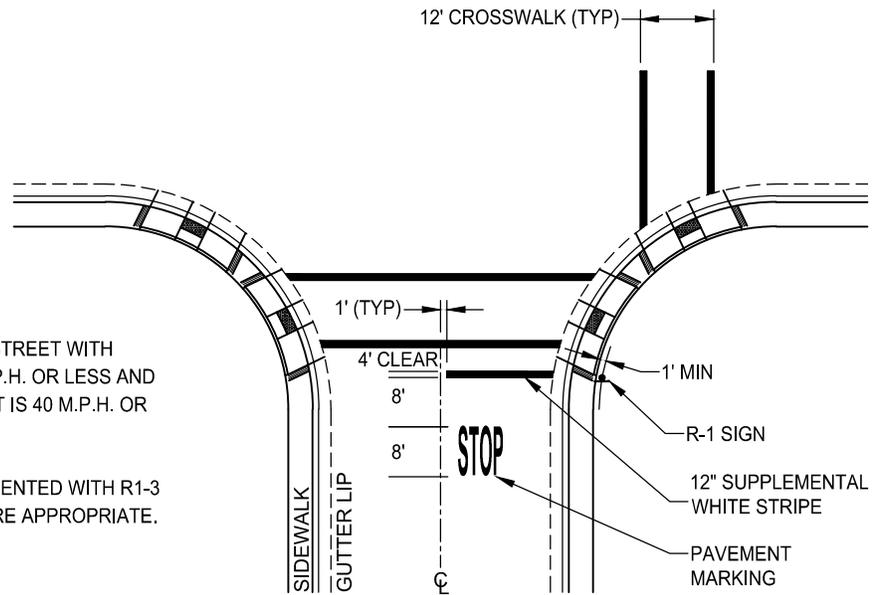
**SINGLE SIDEWALK RAMP
WITHOUT CROSSWALK**



**DUAL SIDEWALK RAMPS
WITHOUT CROSSWALK**

NOTES:

1. STOP SIGN SHALL BE 30" FOR STREET WITH POSTED SPEED LIMIT OF 35 M.P.H. OR LESS AND 36" IF THE POSTED SPEED LIMIT IS 40 M.P.H. OR GREATER.
2. STOP SIGN SHALL BE SUPPLEMENTED WITH R1-3 (3-WAY OR 4-WAY) SIGNS WHERE APPROPRIATE.



TYPICAL SIDEWALK RAMPS WITH CROSSWALK

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

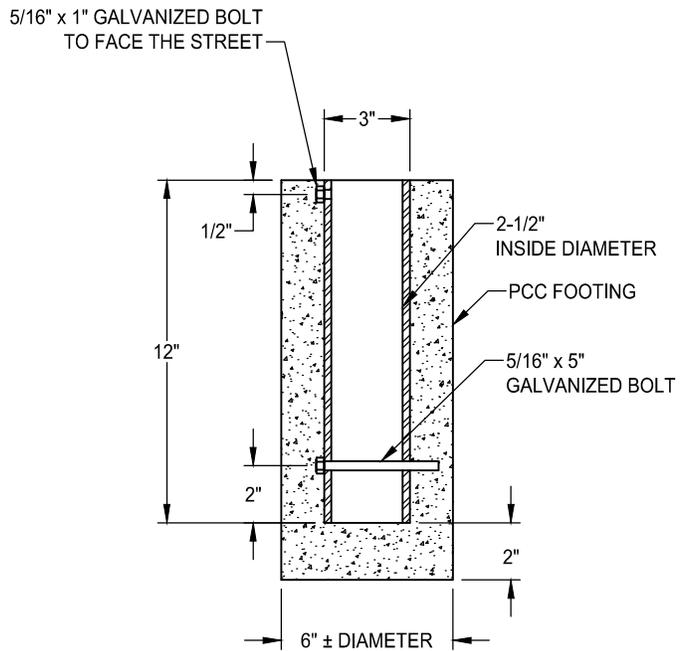
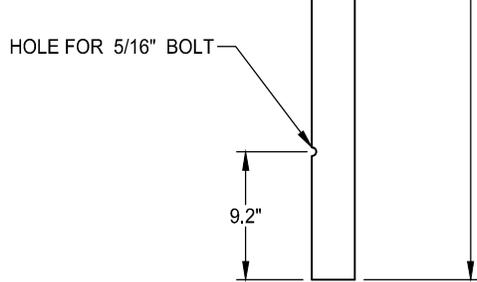
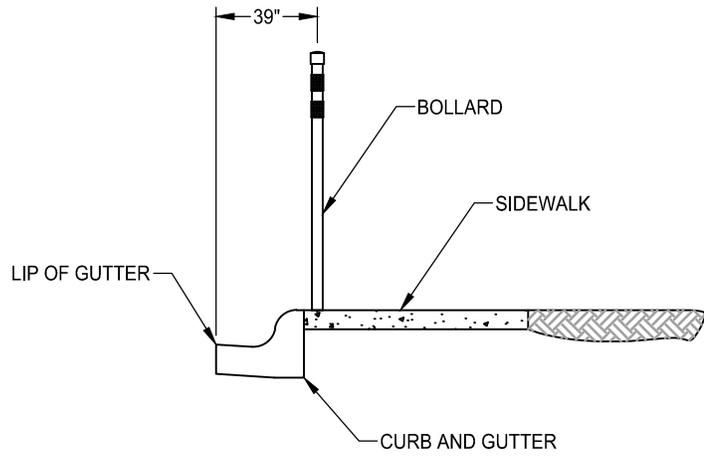
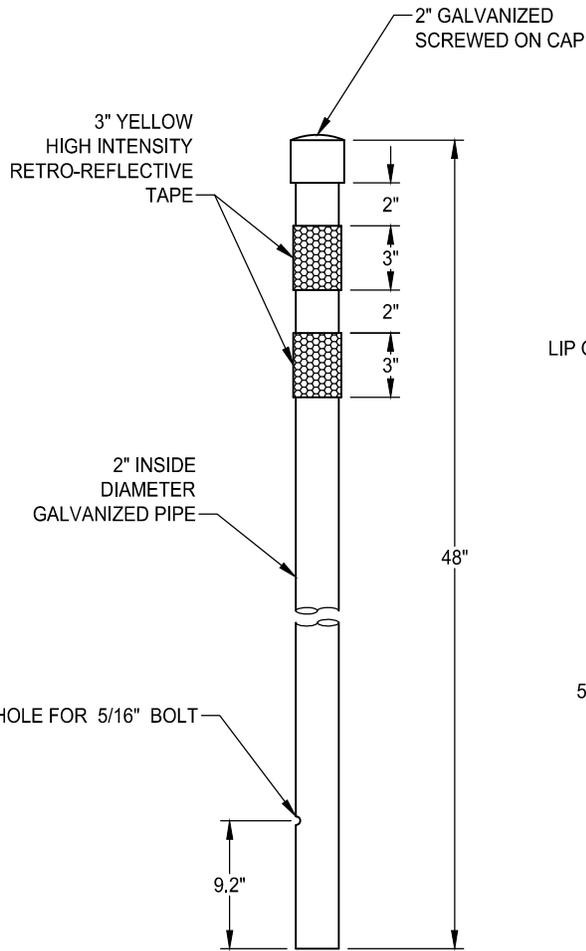
**STOP SIGN AND STOP LEGEND
LOCATION**

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 1



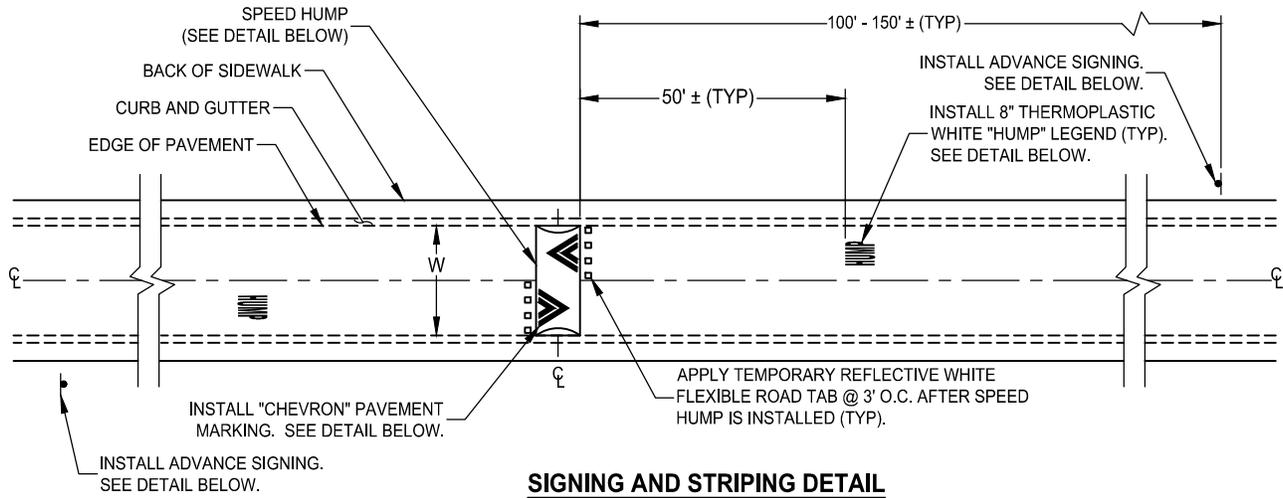


NOTE:

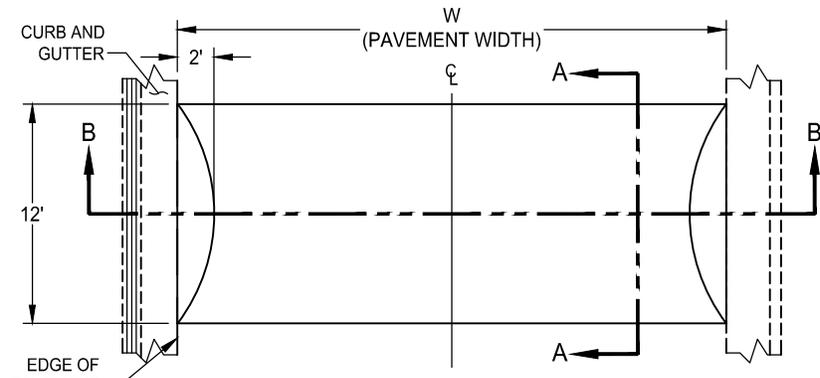
1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS.

BOLLARD FOUNDATION DETAIL
NOT TO SCALE

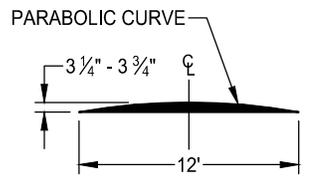
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	BOLLARD DETAIL		CITY ENGINEER	DATE
						DRAWING NUMBER	
						T - 2A	
							



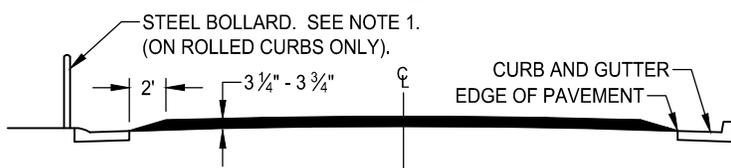
SIGNING AND STRIPING DETAIL
NOT TO SCALE



SPEED HUMP PLAN VIEW
NOT TO SCALE



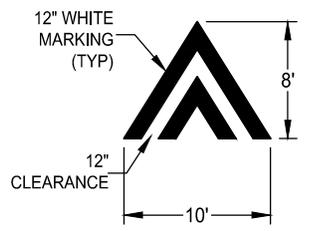
SECTION A-A
NOT TO SCALE



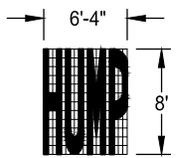
SECTION B-B
NOT TO SCALE

NOTE:

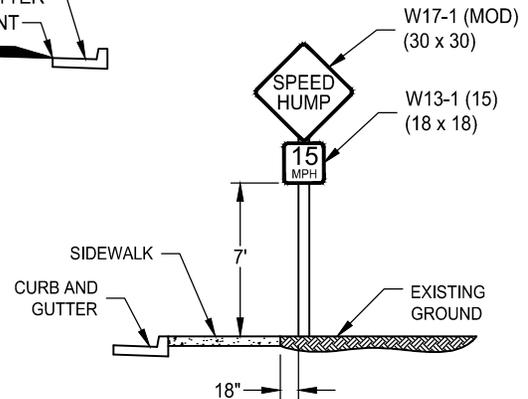
1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS. SEE STANDARD DRAWING NO. T-2A FOR DETAILS.



"CHEVRON" PAVEMENT MARKING DETAIL
NOT TO SCALE



"HUMP" PAVEMENT MARKING
NOT TO SCALE



ADVANCE SIGNING
NOT TO SCALE

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

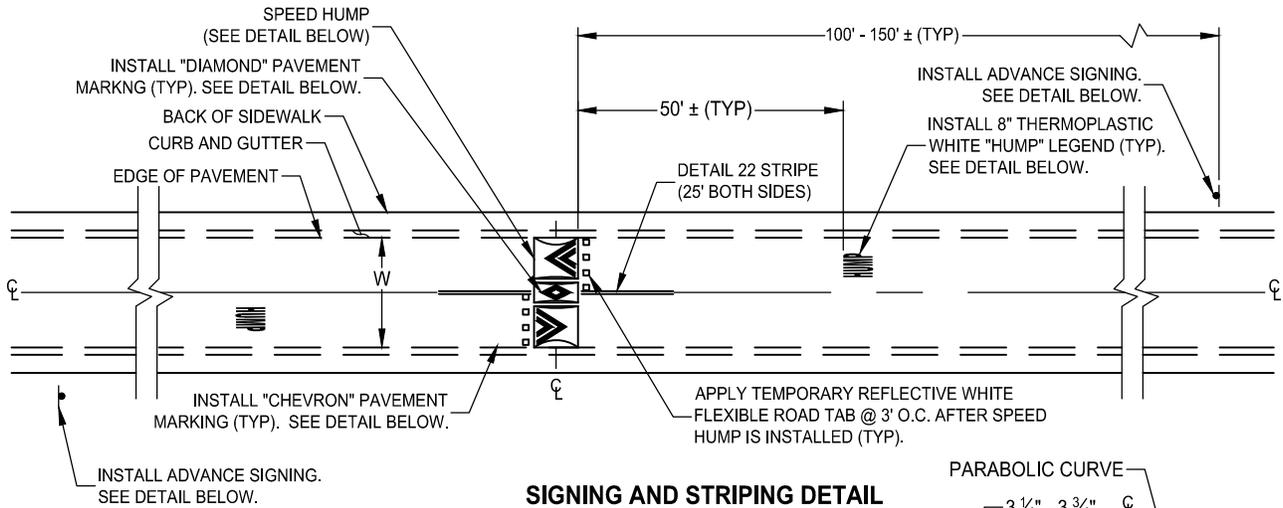
ASPHALT SPEED HUMP DETAIL
(W = 26' - 34')

APPROVED BY: _____

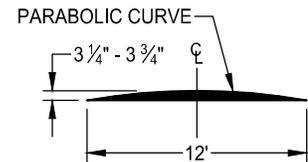
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 2B

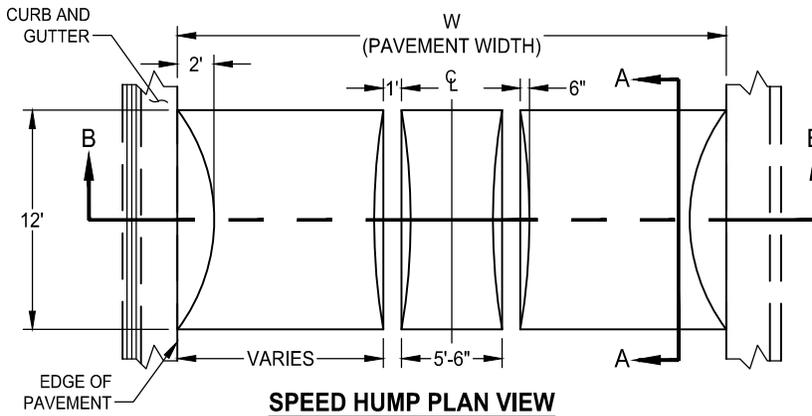




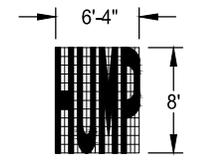
SIGNING AND STRIPING DETAIL
NOT TO SCALE



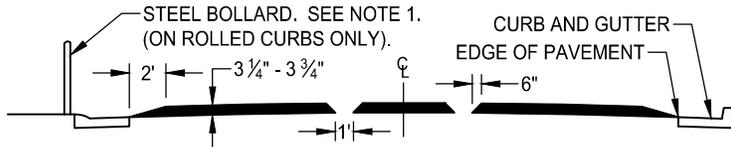
SECTION A-A
NOT TO SCALE



SPEED HUMP PLAN VIEW
NOT TO SCALE



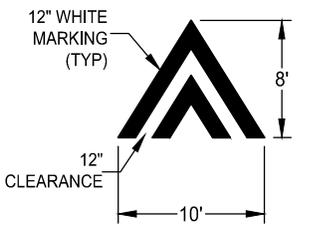
"HUMP" PAVEMENT MARKING
NOT TO SCALE



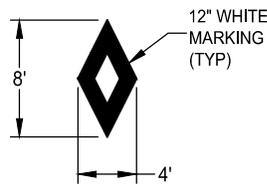
SECTION B-B
NOT TO SCALE

NOTE:

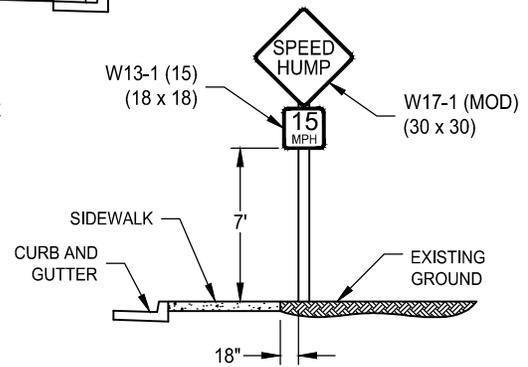
1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS. SEE STANDARD DRAWING NO. T-2A FOR DETAILS.



"CHEVRON" PAVEMENT MARKING DETAIL
NOT TO SCALE



"DIAMOND" PAVEMENT MARKING DETAIL
NOT TO SCALE



ADVANCE SIGNING
NOT TO SCALE

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

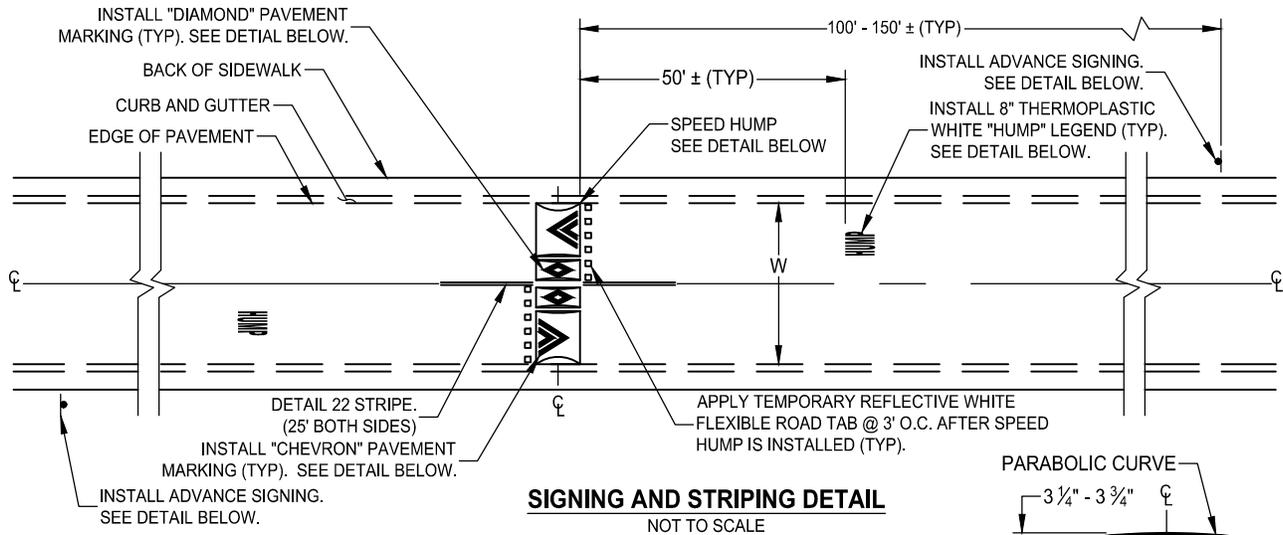
ASPHALT SPEED HUMP DETAIL (1)
(W = 26' - 34')

APPROVED BY: _____

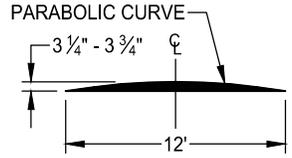
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 2C

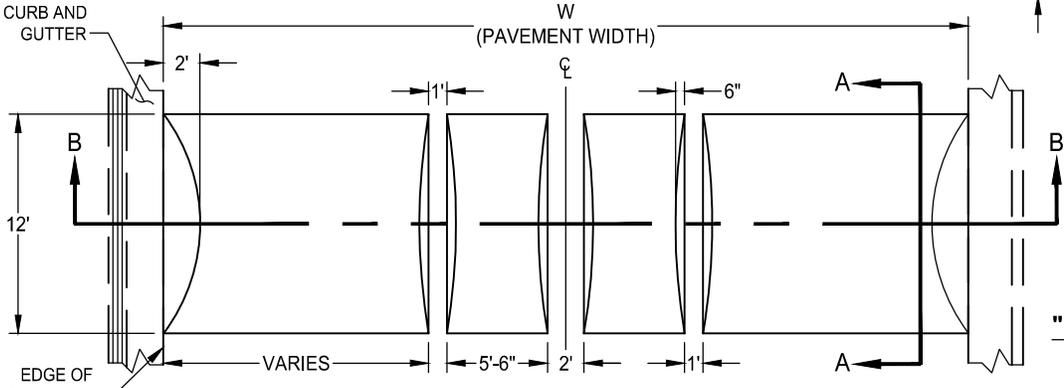




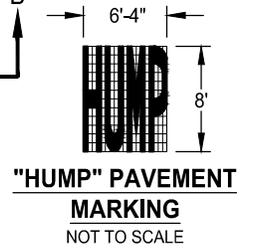
SIGNING AND STRIPING DETAIL
NOT TO SCALE



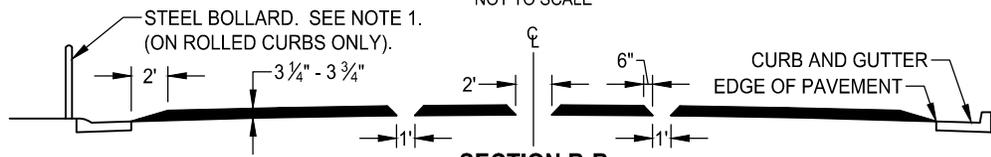
SECTION A-A
NOT TO SCALE



SPEED HUMP PLAN VIEW
NOT TO SCALE



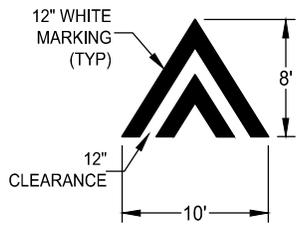
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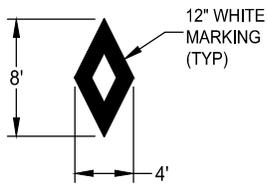
SECTION B-B
NOT TO SCALE

NOTE:

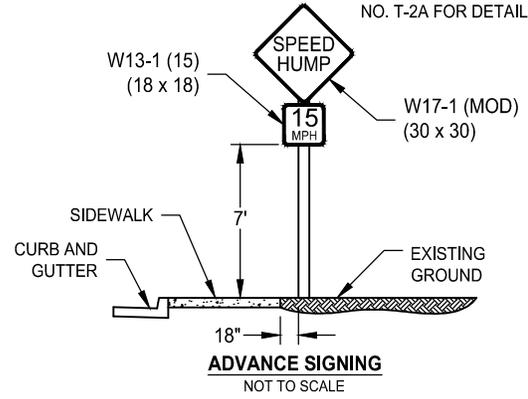
1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS. SEE STANDARD DRAWING NO. T-2A FOR DETAILS.



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ADVANCE SIGNING
NOT TO SCALE

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

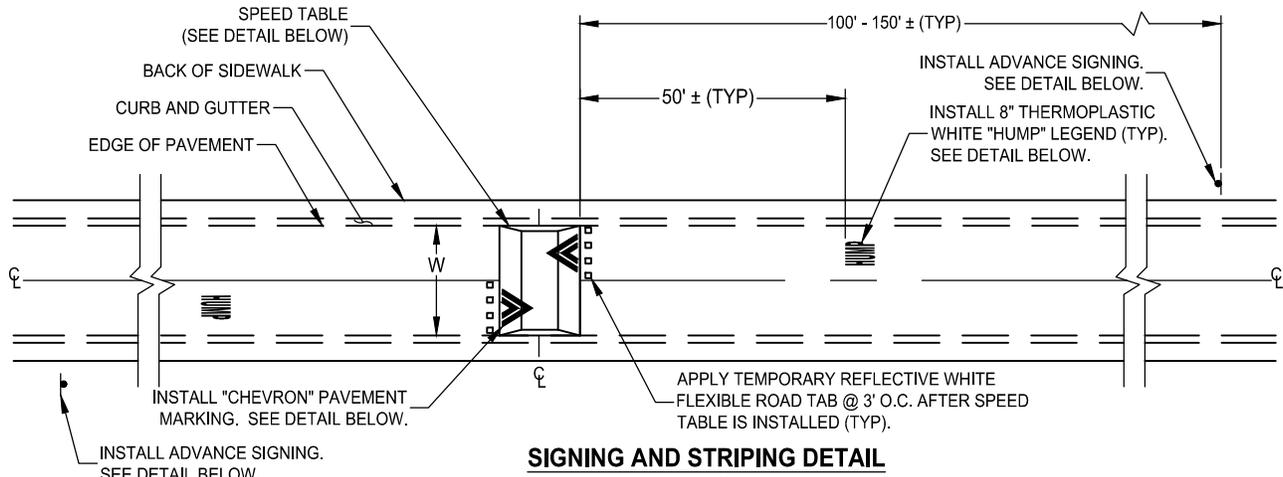
ASPHALT SPEED HUMP DETAIL (2)
(W = 36' - 44')

APPROVED BY: _____

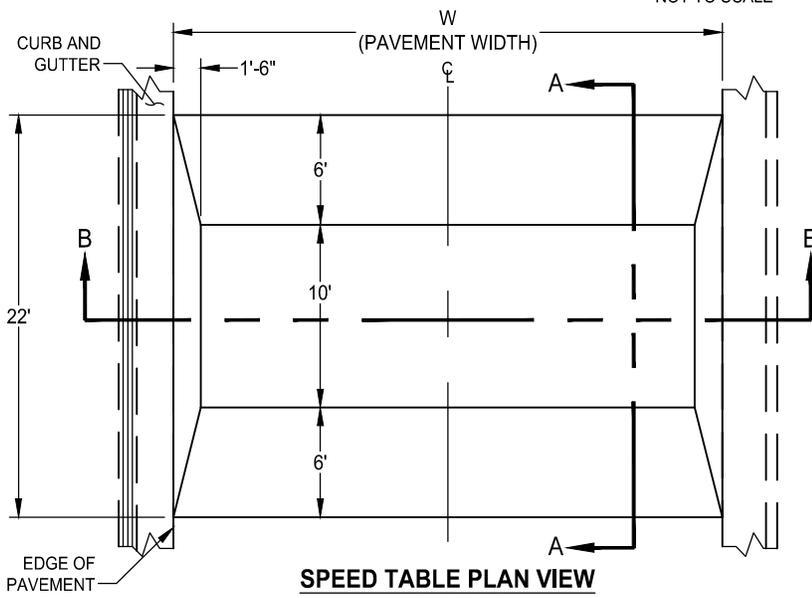
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 2D

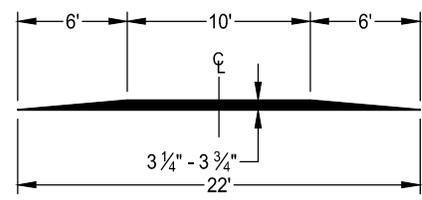




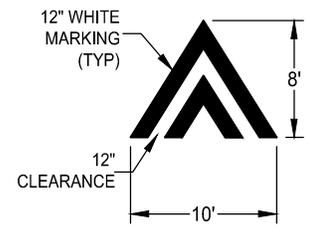
SIGNING AND STRIPING DETAIL
NOT TO SCALE



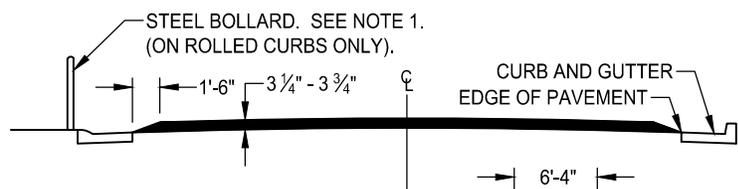
SPEED TABLE PLAN VIEW
NOT TO SCALE



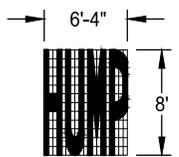
SECTION A-A
NOT TO SCALE



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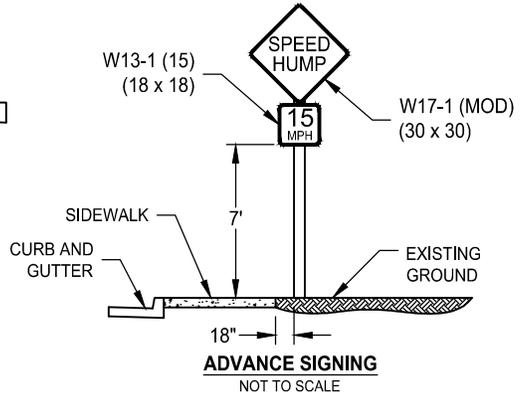
SECTION B-B
NOT TO SCALE



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NOTE:

1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS. SEE STANDARD DRAWING NO. T-2A FOR DETAILS.



ADVANCE SIGNING
NOT TO SCALE

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

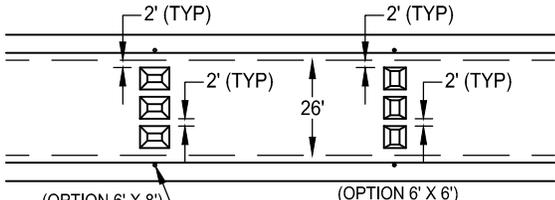
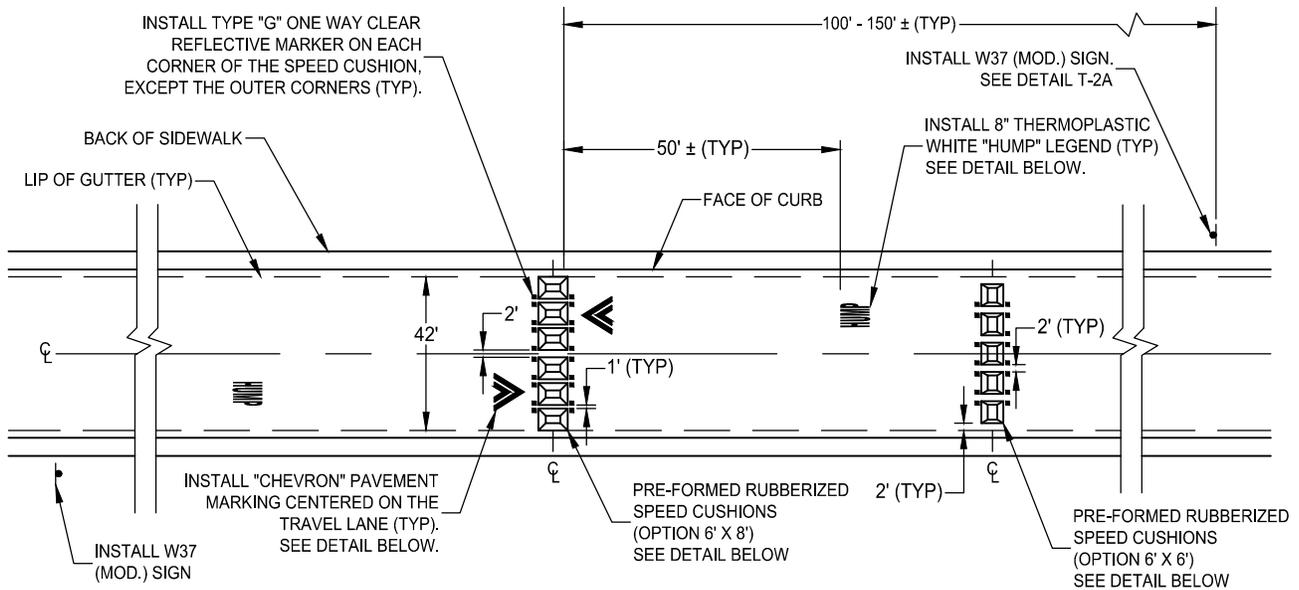
ASPHALT SPEED TABLE DETAIL
(W = 26' - 44')

APPROVED BY: _____

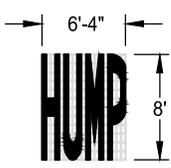
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 2E

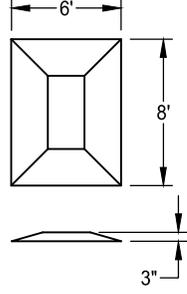




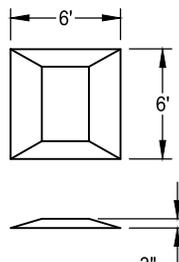
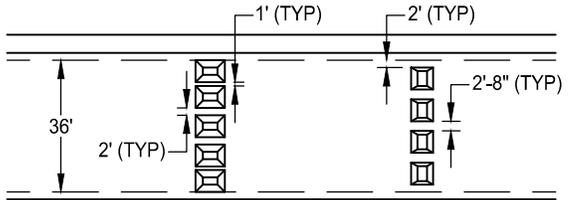
INSTALL BOLLARD BOTH SIDES TYPICAL ON 26' WIDE ROADWAY ONLY. SEE DETAIL T-2A.



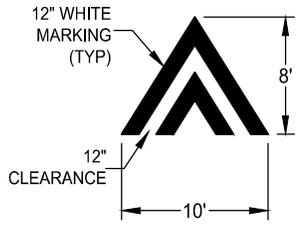
"HUMP" PAVEMENT MARKING
NOT TO SCALE



6' X 8' SPEED CUSHION DETAIL
NOT TO SCALE



6' X 6' SPEED CUSHION DETAIL
NOT TO SCALE



"CHEVRON" PAVEMENT MARKING DETAIL
NOT TO SCALE

NOTES:

1. DEVELOPER/CONTRACTOR MAY USE 6' X 6' OR 6' X 8' PRE-FORMED RUBBERIZED SPEED CUSHIONS.
2. SPEED CUSHION SHALL BE ARRANGED TO THE SATISFACTION OF THE CITY ENGINEER TO ALLOW EMERGENCY VEHICLES TO PASS WITHOUT IMPEDANCE.
3. OTHER SPEED CUSHION LAYOUTS MUST BE APPROVED BY THE CITY ENGINEER.
4. ALL SIGNING AND STRIPING SHALL APPLY TO ALL TYPES OF ROADWAY WIDTH AND EITHER SIZE OF SPEED CUSHION INSTALLATION OPTION.
5. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL SIGNING AND STRIPING AS DETERMINED BY THE CITY OF ELK GROVE FOR PUBLIC SAFETY.

SPEED CUSHION MINIMUM SPECIFICATIONS REQUIREMENTS	
RAMP GRADIENT (SIDE)	1:6
TENSILE STRENGTH	400 PSI
NUMBER OF ANCHOR BOLTS PER CUSHION	35

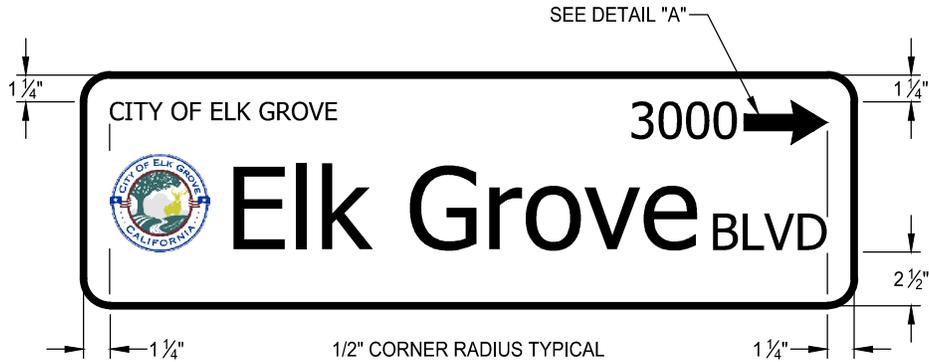
DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS
PRE-FORMED RUBBERIZED SPEED CUSHION LAYOUT AND TYPICAL SIGNING AND STRIPING (42', 36', 26' PAVED ROADWAY)

APPROVED BY: _____
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 2





SIGN BLANKS: ALL STREET NAME SIGNS SHALL BE 10 INCHES IN HEIGHT, A MINIMUM OF 30 INCHES IN LENGTH AND A MAXIMUM OF 42 INCHES IN LENGTH. SIGN BLANKS SHALL BE 0.080 INCH THICK, ASTM B209 ALLOY 6061-T6, FLAT ALUMINUM FOR CANTILEVER MOUNTED SIGNS AND SHALL BE 0.125 INCH THICK, ASTM ALLOY 6061-T6, FLAT ALUMINUM FOR CENTER MOUNTED SIGNS.

SHEETING: REFLECTIVE SHEETING SHALL BE 3M DIAMOND GRADE OR EQUIVALENT (WHITE), OVERLAYED WITH ELECTROCUT (EC) TRANSPARENT OVERLAY FILM (GREEN). GRAFFITI FILM SHALL BE APPLIED OVER THE ENTIRE SIGN.

STREET NAMES: STREET NAMES SHALL BE NO LONGER THAN 14 LETTERS LONG, INCLUDING SPACES AND SHALL BE USED TO DETERMINE SIGN LENGTH AS SPECIFIED ABOVE.

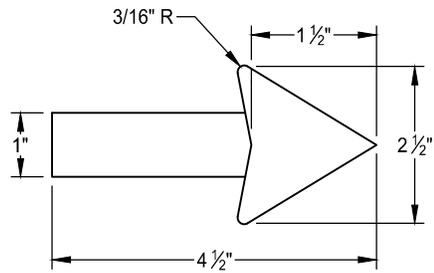
FONT: ALL LETTERS AND NUMBERS SHALL BE HIGHWAY GOTHIC FONT. MINIMUM LETTER DIMENSIONS AS LISTED BELOW ARE TO BE USED WITH LONG STREET NAMES IN ORDER TO FIT NAMES ON SIGN BLANKS.

UPPER CASE LETTERS FOR STREET NAMES:	4 INCHES
LOWER CASE LETTERS FOR STREET NAMES:	3 INCHES
UPPER CASE LETTERS FOR STREET TYPES (I.E. BLVD, WAY, RD, ST)	2 INCHES
UPPER CASE LETTERS FOR BLOCK NUMBERS:	2 INCHES
UPPER CASE LETTERS FOR CITY OF ELK GROVE:	1 INCH

CITY SEAL: CITY SEAL SHALL BE 5 INCHES IN DIAMETER ELECTROCUT (EC) FILM. A COPY OF THE SEAL CAN BE OBTAINED FROM THE ASSISTANT CITY CLERK.

COLORS: STREET NAME SIGN COLORS SHALL BE AS FOLLOWS:

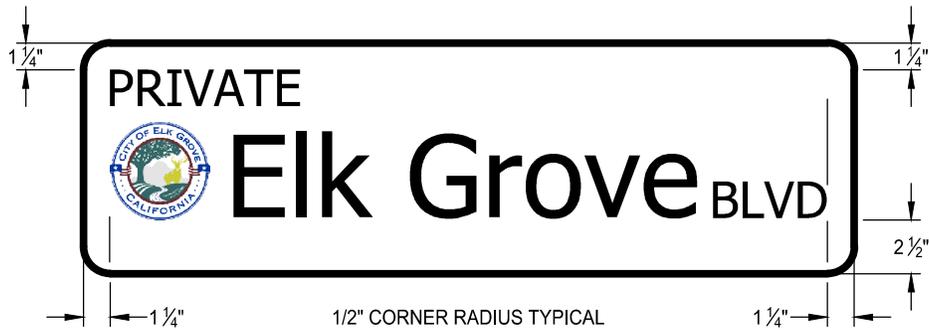
BACKGROUND:	GREEN
TEXT:	WHITE
BORDER:	WHITE
CITY SEAL:	PANTONE MATCHING SYSTEM:
	GREEN PMS 341C
	YELLOW PMS 117C
	RED PMS 209C
	BLUE PMS 287C
	COLOR OF CLOUD IS 15% OF BLUE



DETAIL "A"

LAYOUT: SIGNS SHALL BE DOUBLE FACED (FRONT AND REAR) WITH BLOCK ARROWS POINTING IN THE SAME DIRECTION (I.E. FRONT TO RIGHT AND REAR TO LEFT). LAYOUT SHALL BE AS SHOWN ABOVE.

DATE: 09/22/2017		NOT TO SCALE	CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY: _____	
REVISION	BY	APPROVED	DATE	CITY ENGINEER _____ DATE _____		DRAWING NUMBER
				STREET NAME SIGN		 T - 3



SIGN BLANKS: ALL STREET NAME SIGNS SHALL BE 10 INCHES IN HEIGHT, A MINIMUM OF 30 INCHES IN LENGTH AND A MAXIMUM OF 42 INCHES IN LENGTH. SIGN BLANKS SHALL BE 0.080 INCH THICK, ASTM B209 ALLOY 6061-T6, FLAT ALUMINUM FOR CANTILEVER MOUNTED SIGNS AND SHALL BE 0.125 INCH THICK, ASTM ALLOY 6061-T6, FLAT ALUMINUM FOR CENTER MOUNTED SIGNS.

SHEETING: REFLECTIVE SHEETING SHALL BE 3M DIAMOND GRADE OR EQUIVALENT (WHITE), OVERLAYED WITH ELECTROCUT (EC) TRANSPARENT OVERLAY FILM (GREEN). GRAFFITI FILM SHALL BE APPLIED OVER THE ENTIRE SIGN.

STREET NAMES: STREET NAMES SHALL BE NO LONGER THAN 14 LETTERS LONG, INCLUDING SPACES AND SHALL BE USED TO DETERMINE SIGN LENGTH AS SPECIFIED ABOVE.

FONTS: ALL LETTERS AND NUMBERS SHALL BE HIGHWAY GOTHIC FONT. MINIMUM LETTER DIMENSIONS AS LISTED BELOW ARE TO BE USED WITH LONG STREET NAMES IN ORDER TO FIT NAMES ON SIGN BLANKS.

UPPER CASE LETTERS FOR STREET NAMES:	4 INCHES
LOWER CASE LETTERS FOR STREET NAMES:	3 INCHES
UPPER CASE LETTERS FOR STREET TYPES (I.E. BLVD, WAY, RD, ST)	2 INCHES

CITY SEAL: CITY SEAL SHALL BE 5 INCHES IN DIAMETER ELECTROCUT (EC) FILM. A COPY OF THE SEAL CAN BE OBTAINED FROM THE ASSISTANT CITY CLERK.

COLORS: STREET NAME SIGN COLORS SHALL BE AS FOLLOWS:

BACKGROUND:	GREEN
TEXT:	WHITE
BORDER:	WHITE
CITY SEAL:	PANTONE MATCHING SYSTEM:
	GREEN PMS 341C
	YELLOW PMS 117C
	RED PMS 209C
	BLUE PMS 287C
	COLOR OF CLOUD IS 15% OF BLUE

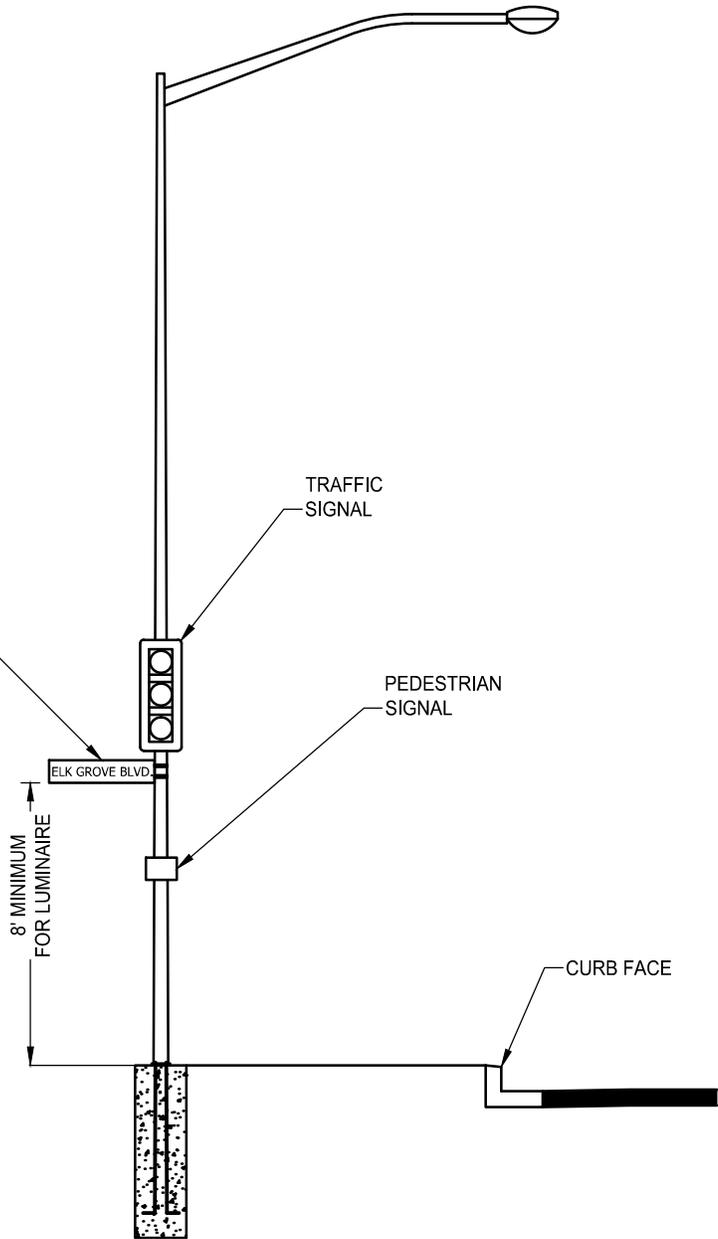
LAYOUT: SIGNS SHALL BE DOUBLE FACED (FRONT AND REAR). LAYOUT SHALL BE AS SHOWN ABOVE.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	PRIVATE STREET NAME SIGN		CITY ENGINEER	DATE
						DRAWING NUMBER	
						T - 4	
							

CANTILEVER SIGNS SHALL BE MOUNTED ON SIGNAL POLES AND LUMINAIRE POLES AWAY FROM THE CROSS STREET WITH 30-INCH BRACKETS, TOP AND BOTTOM, (SEE NOTE). BRACKETS SHALL BE FASTENED TO POLES WITH TWO (2) 0.750 INCH WIDE BY 0.30 INCH THICK TYPE 201 STAINLESS STEEL BANDS WITH HEAVY DUTY BUCKLE AND A MINIMUM OF TWO (2) VANDAL PROOF SCREWS SHALL AFFIX THE STREET SIGN TO THE BRACKET. THE SCREWS SHALL PASS THROUGH THE BRACKET AND SIGN. AT LOCATIONS WITH TWO (2) SIGNS, THE SIGNS SHALL EACH HAVE TWO (2) BANDS AFFIXING THE BRACKET TO THE POLE.

NOTE:

BRACKETS SHALL BE 30-INCH IN LENGTH, TOP AND BOTTOM OF SIGN, AND SHALL BE ASSEMBLED BY ATTACHING AN EXTRUDED ALUMINUM HEAD TO AN EXTENDED ALUMINUM "T" CHANNEL. THE BRACKET SHALL BE MADE FROM 6082-T6 ALUMINUM WITH "T" SECTION SHALL BE MADE FROM 6062-T6 ALUMINUM. THESE CANTILEVER ASSEMBLIES SHALL ACCOMMODATE UP TO 3/4" INCH STAINLESS STEEL BANDING THAT CAN BE DOUBLE WRAPPED FOR MOUNTING. THE CANTILEVER ARM SYSTEM SHALL ACCEPT SIGNS UP TO 0.125-INCH THICK. CANTILEVER ARMS SHALL BE ATTACHED TO BOTH THE TOP AND BOTTOM OF SIGN. CANTILEVER ARMS SHALL BE DESIGNED TO SUPPORT UP TO A SIGN AREA OF 6-SQ. FT. COLOR OF CANTILEVER ASSEMBLY AND BANDS SHALL MATCH POLE COLOR.



DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

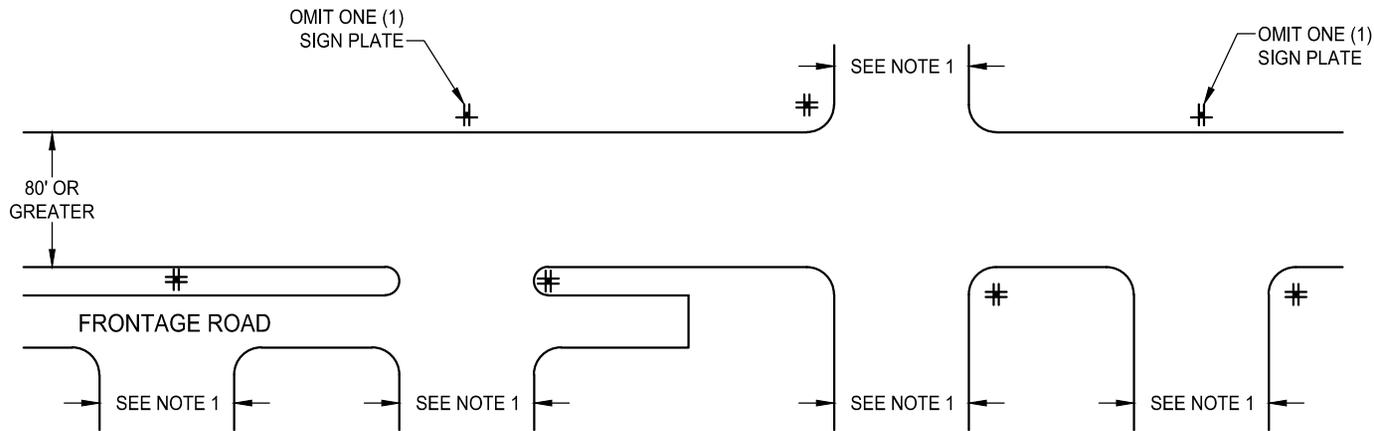
**STREET NAME SIGN ON
ELECTROLIERS**

APPROVED BY: _____

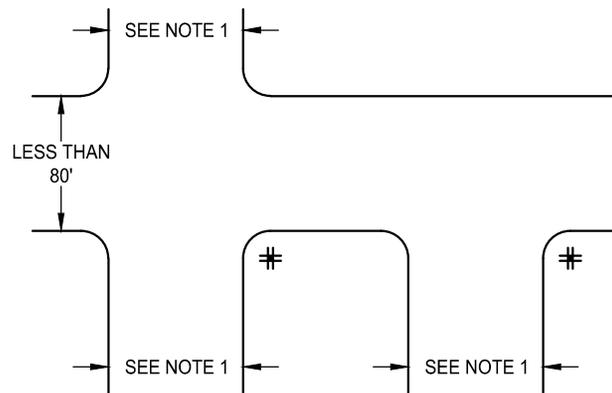
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 5B





STREETS HAVING 80' OR GREATER R/W WIDTH



STREETS HAVING LESS THAN 80' R/W WIDTH

NOTE:

1. SIDE STREETS INDICATED ARE STREETS WITH R/W WIDTHS EQUAL TO OR LESS THAN R/W WIDTH FOR THROUGH STREET
2. STREET SIGNS ARE TO BE LOCATED AT MID-RETURN APPROXIMATELY 30 INCHES BEHIND THE FACE OF CURB OR 6" BEHIND ATTACHED SIDEWALKS. SEE STANDARD DRAWING T-1 WHEN COMBINED WITH A STOP SIGN.
3. SIGNS SHALL BE INSTALLED ON NORTHEAST AND SOUTHWEST CORNERS OF INTERSECTIONS. SIGNS SHALL BE INSTALLED ON STREET LIGHTING STANDARD WHEN APPROPRIATE AND AS APPROVED BY CITY.
4. CITY TO REVIEW AND APPROVE SIGN LOCATIONS PRIOR TO INSTALLATION.
5. SEE STANDARD DRAWINGS T-1, T-3, T-4, T-5 AND T-6B.

LEGEND:

STANDARD STREET NAME SIGN INSTALLATION. FOUR (4) SIGN PLATES ON POST OR ON STREET LIGHT POLE.

THREE (3) SIGN PLATES ON POST OR ON STREET LIGHT POLE.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

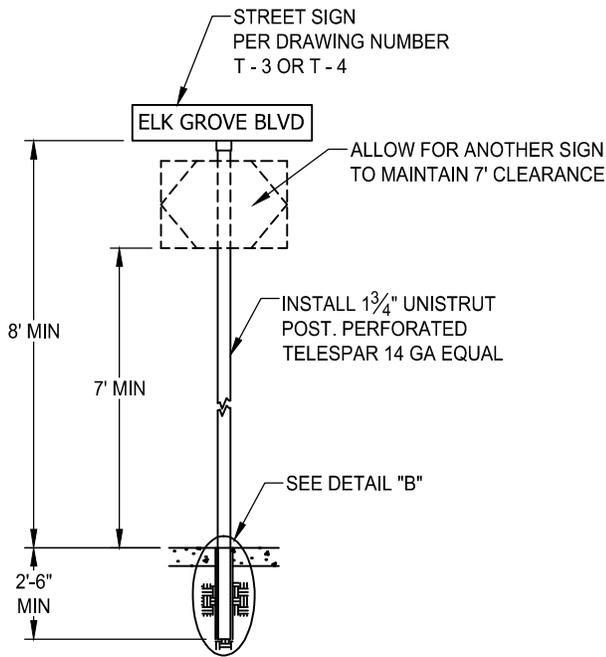
STREET NAME SIGN GENERAL LOCATION

APPROVED BY: _____
CITY ENGINEER _____ DATE _____

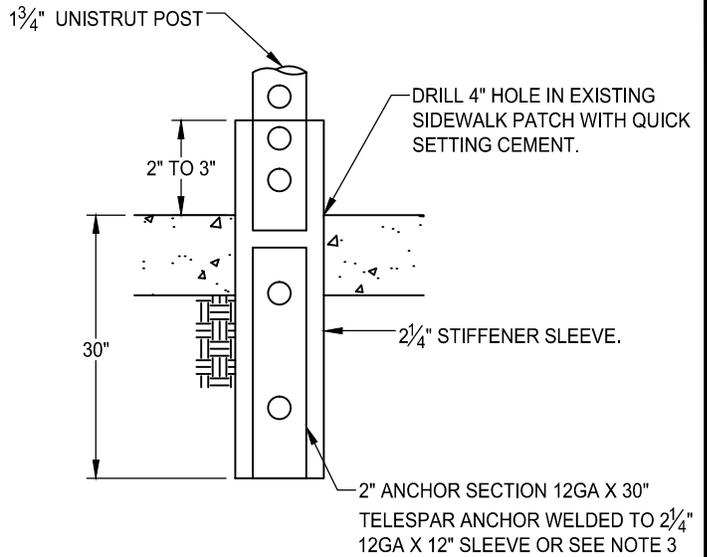


DRAWING NUMBER

T - 6A



DETAIL "A"

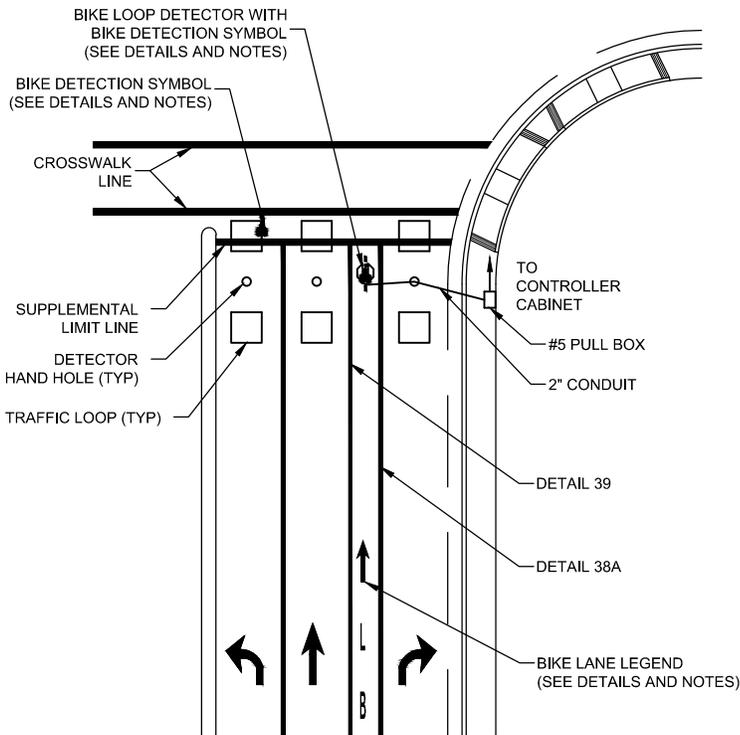


DETAIL "B" 1 3/4" UNISTRUT POST

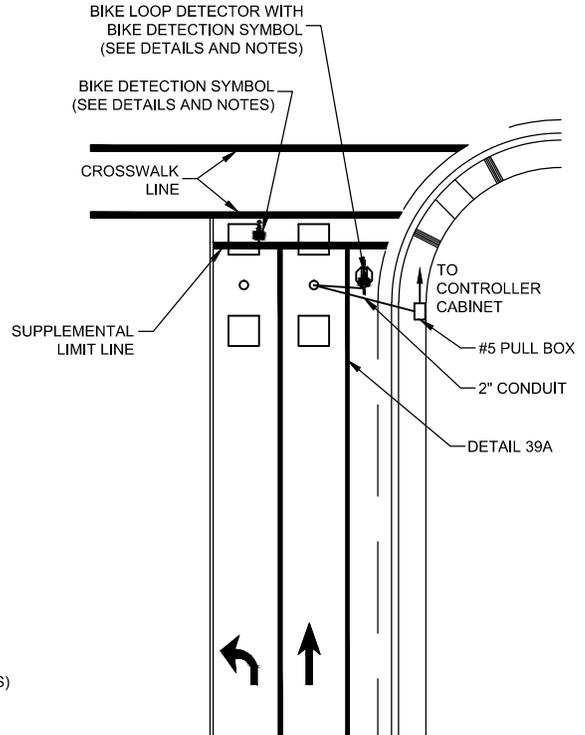
NOTES:

1. BOTTOM OF LOWEST STREET SIGN TO BE MOUNTED EIGHT (8) FEET ABOVE THE GROUND OR SIDEWALK PER DETAIL "A" SHOWN ON THIS SHEET EXCEPT, WHEN STOP SIGN IS MOUNTED ON SAME POST AS A STREET SIGN, BOTTOM OF STOP SIGN SHALL BE MOUNTED SEVEN (7) FEET ABOVE THE GROUND OR SIDEWALK AND STREET NAME SIGN TO BE MOUNTED DIRECTLY ABOVE THE STOP SIGN. IN NO CASE SHALL THE BOTTOM OF THE LOWEST SIGN BE LESS THAN SEVEN (7) FEET ABOVE THE GROUND OR SIDEWALK LEVEL.
2. WHEN INSTALLED BEFORE SIDEWALK IS CONSTRUCTED, DRIVE 2 1/4" SQUARE PIPE STIFFENER SLEEVE WITH 2" ANCHOR 30" INTO EXISTING GROUND SURFACE. SET TOP OF STIFFENER SLEEVE MINIMUM OF 2 FULL PERFORATION HOLES ABOVE ULTIMATE SIDEWALK GRADE. CAP END AND TAPE HOLES TO PREVENT CONCRETE FROM ENTERING PIPE DURING SIDEWALK CONSTRUCTION.
3. TWO (2) 3/8" DRIVE RIVETS, PERPENDICULAR TO EACH OTHER, SHALL BE USED TO INSTALL 1 3/4" PERFORATED SQUARE PIPE TO STIFFENER SLEEVE. TWO (2) 3/8" DRIVE RIVETS SHALL BE USED TO INSTALL ALL SIGNS OTHER THAN STREET NAME SIGNS TO SQUARE SIGN PIPE.
4. SQUARE PIPE TOP SIGN BRACKET SHALL BE HAWKINS, PART NUMBER V14F-(HD)SL-107(2C)-0.125 OR EQUAL. CROSSPIECE SIGN BRACKET SHALL BE 90°, HAWKINS PART NUMBER V14F-(HD)SL-105(90)-0.125 (OR EQUAL). STREET LIGHT STANDARD BRACKET SHALL BE HAWKINS, WING BRACKET, PART NO. V14F-(HD)SL-AB-0.125 OR EQUAL.

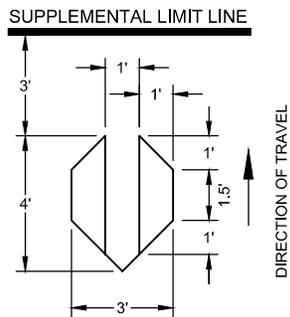
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	STREET SIGN LOCATION		CITY ENGINEER	DATE
						DRAWING NUMBER	
						T - 6B	
							



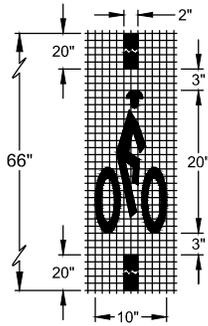
BIKE LOOP INSTALLATION AT MAJOR INTERSECTION WITH RIGHT TURN LANE



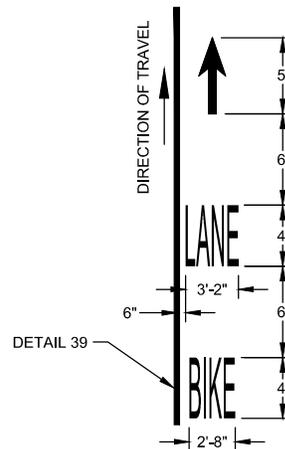
BIKE LOOP INSTALLATION ADJACENT TO CURB AND GUTTER



BIKE LOOP DETECTOR DETAIL
NOT TO SCALE



BIKE DETECTION SYMBOL DETAIL
NOT TO SCALE



BIKE LANE LEGEND DETAIL
NOT TO SCALE

NOTES:

- BIKE LOOP SHALL BE INSTALLED WITH CONDUIT, DETECTOR HANDHOLE (DH) AND DETECTOR LEAD IN CABLE (DLC) AND CONNECTED IN CONTROLLER WITH SEPARATE CHANNEL FOR OPERATION, UNLESS OTHERWISE NOTED ON THE PLANS.
- FOR BIKE LANE WITH LESS THAN 3 FEET IN WIDTH, MEASURING FROM BIKE LANE STRIPE AND LIP OF GUTTER, USE 3/4 SIZE OF BIKE LANE LEGEND.
- BIKE LANE LEGENDS, ARROWS AND BIKE DETECTION SYMBOLS SHALL BE 2 COATS WATER BASED WHITE PAINT PER SECTION 84-3.02 OF THE STATE STANDARD SPECIFICATIONS.
- BIKE DETECTION SYMBOL SHALL BE INSTALLED ON LOOP DETECTOR FOR LEFT TURN LANE, BIKE LANE AND OUTSIDE THROUGH LANE WHERE NO BIKE LANE IS PROPOSED. FOR DUAL LEFT TURN LANES, ONLY THE OUTSIDE LEFT TURN LANE SHALL BE INSTALLED WITH BIKE DETECTION SYMBOL. COORDINATE WITH SIGNAL CONTRACTOR AND CITY INSPECTOR FOR EXACT LOCATION OF DETECTION.

SEE MUTCD 2003, MUTCD 2003 CALIFORNIA SUPPLEMENT AND CALTRANS STD. PLAN A-24A AND A-24D FOR PAVEMENT MARKING, ARROW AND LEGEND.

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

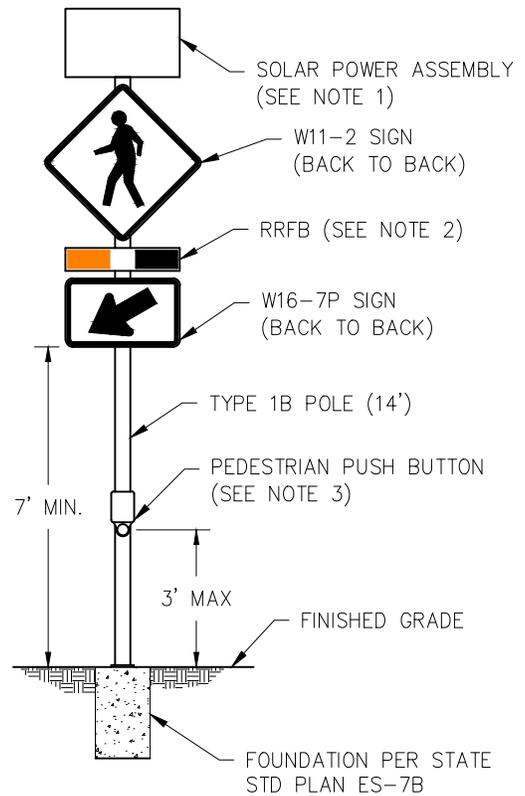
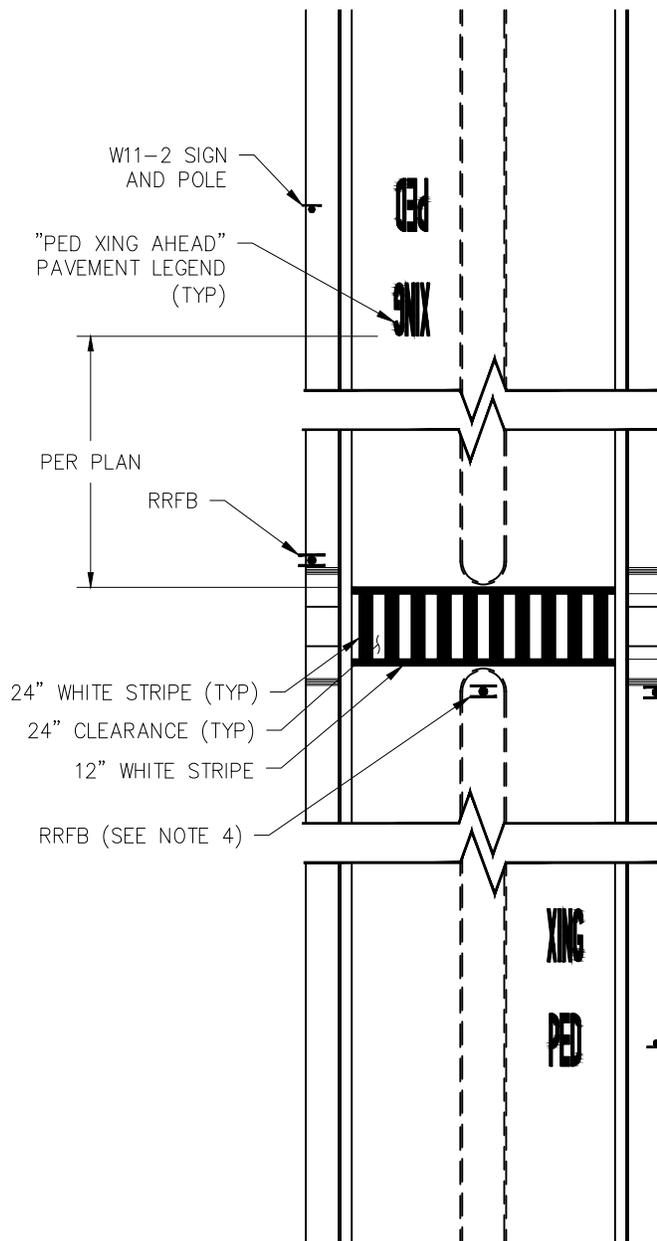
**BIKE LOOP AND BIKE LEGEND
INSTALLATION DETAIL**

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 7





RRFB DETAIL

NOTES:

1. SELF CONTAINED SOLAR ENGINE THAT HOUSES THE ENERGY MANAGEMENT SYSTEM, ON BOARD USER INTERFACE, WIRELESS COMMUNICATIONS BETWEEN UNITS, BATTERIES AND SOLAR PANEL.
2. RECTANGULAR RAPID FLASHING BEACON (RRFB) INDICATIONS SHALL FLASH IN A RAPID ALTERNATING "WIG-WAG" FLASHING SEQUENCE. RRFB SHALL BE EITHER MODEL 2180-RRFB-XL BY TAPCO TRAFFIC AND PARKING CONTROL CO. INC, MODEL R920 BY CARMANAH TECHNOLOGIES CORP., OR MODEL TS60-RRFB BY TRAFFIC SAFETY CORP., OR APPROVED EQUAL.
3. PEDESTRIAN PUSH BUTTON (PPB) SHALL BE TYPE B, LARGE A.D.A. TYPE WITH TWO-INCH DIA. BUTTON. PPB HOUSING SHALL BE EITHER DIE-CAST OR PERMANENT MOLD CAST ALUMINUM. PEDESTRIAN SIGN SHALL CONFORM TO STANDARD SIGN R10-25 OF THE CALIFORNIA MUTCD.
4. INSTALL RRFB IN THE MEDIAN ISLAND WHEN APPLICABLE.

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

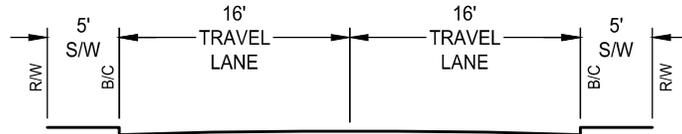
**MID-BLOCK CROSSWALK
AT UNCONTROLLED LOCATIONS**

APPROVED BY: _____

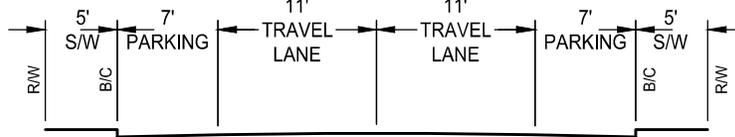
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 8

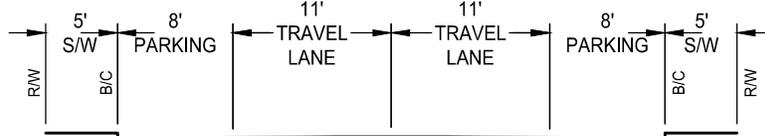




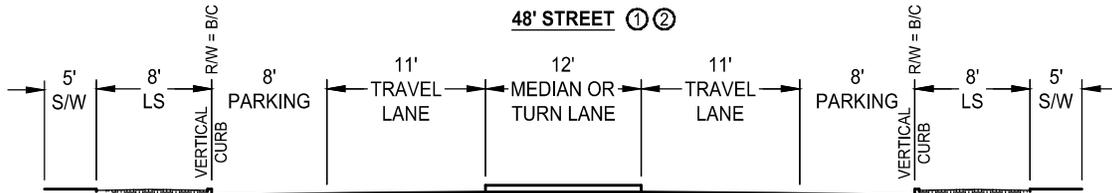
42' STREET ②



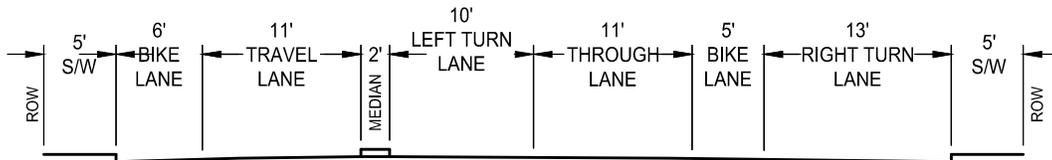
46' STREET ②



48' STREET ① ②



50' STREET ① ③ ⑤



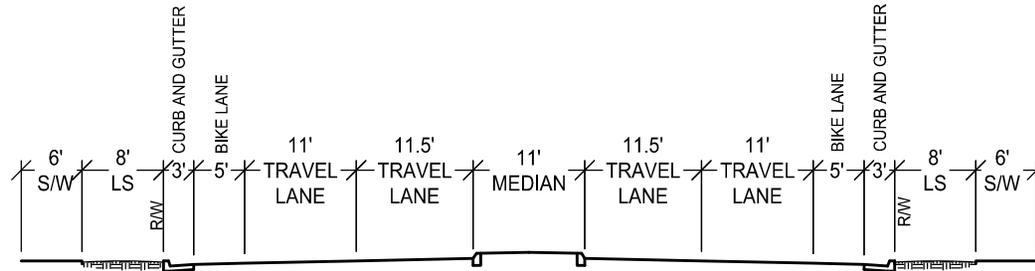
66' EXPANDED INTERSECTION ④

AT THE DISCRETION OF PUBLIC WORKS

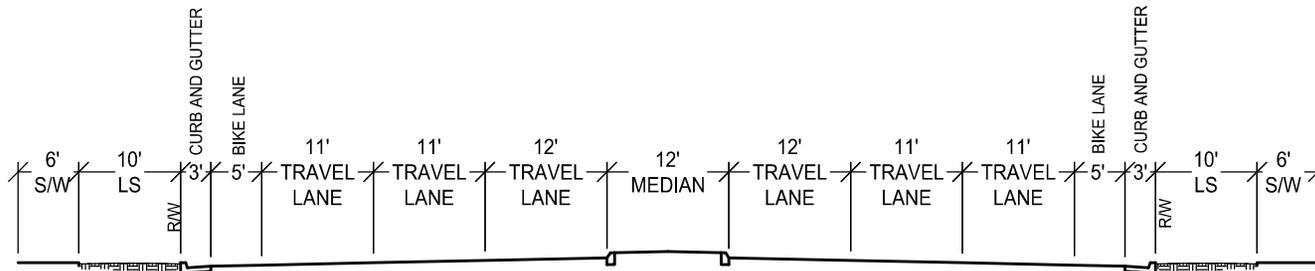
- ① ADJACENT TO SCHOOLS OR PARKS WIDEN THE SIDEWALK TO 8'.
IF PARKING IS NOT NEEDED, PARKING CAN BE CHANGED TO 6' BIKE LANE.
IF BIKE LANES ARE NEEDED, ADD 12'.
- ② 8' OF LANDSCAPING SEPARATING THE STREET FROM THE SIDEWALK MAY BE ADDED.
- ③ IF PARKING IS NOT NEEDED, IT MAY BE REMOVED. MINIMUM RIGHT-OF WAY SHALL BE 40 FEET.
ADJACENT TO SCHOOLS OR PARKS WIDEN THE SIDEWALK TO 8'.
IF PARKING IS NOT NEEDED, PARKING CAN BE CHANGED TO 6' BIKE LANE.
- ④ IF BIKE LANES ARE NOT NEEDED, REDUCE BY 11'.
- ⑤ LANDSCAPING AND SIDEWALK SHALL BE DEDICATED BY FEE TITLE OR LANDSCAPE/PEDESTRIAN EASEMENT AS APPROVED BY THE DIRECTOR.

MINOR DEVIATION MAY BE APPROVED BY THE DIRECTOR.

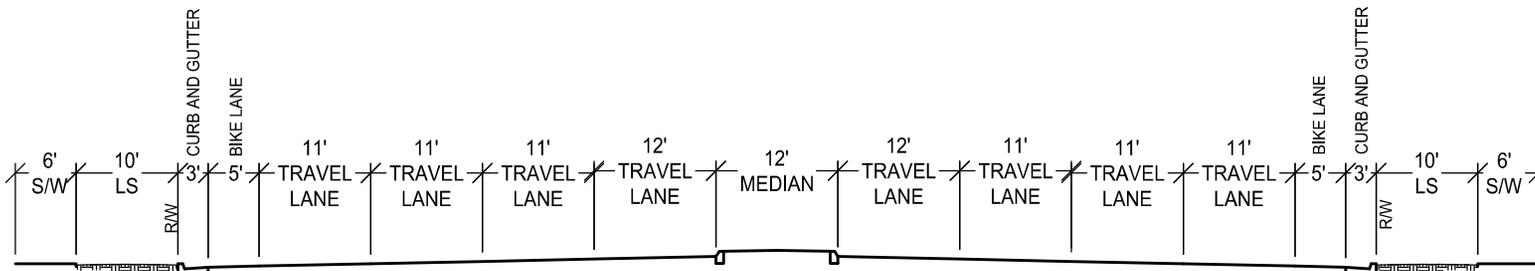
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	TYPICAL STREET CROSS SECTIONS		CITY ENGINEER	DATE
						DRAWING NUMBER	
						T - 9A	



72' STREET



96' STREET



118' STREET

AT THE DISCRETION OF PUBLIC WORKS

- ① ADJACENT TO SCHOOLS OR PARKS WIDEN THE SIDEWALK TO 8'.
- ② LANDSCAPING AND SIDEWALK SHALL BE DEDICATED BY FEE TITLE OR LANDSCAPE/PEDESTRIAN EASEMENT AS APPROVED BY THE DIRECTOR.

MINOR DEVIATION MAY BE APPROVED BY THE DIRECTOR.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

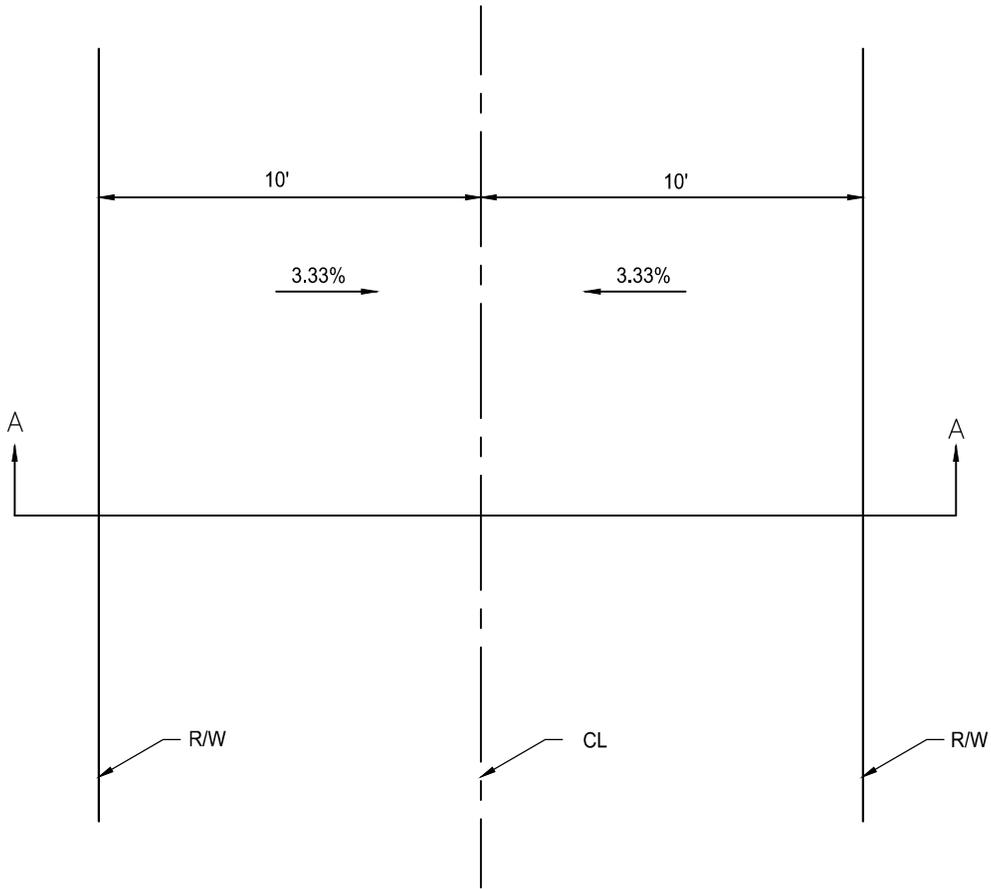
TYPICAL STREET CROSS SECTIONS
72', 96' AND 118'

APPROVED BY: _____

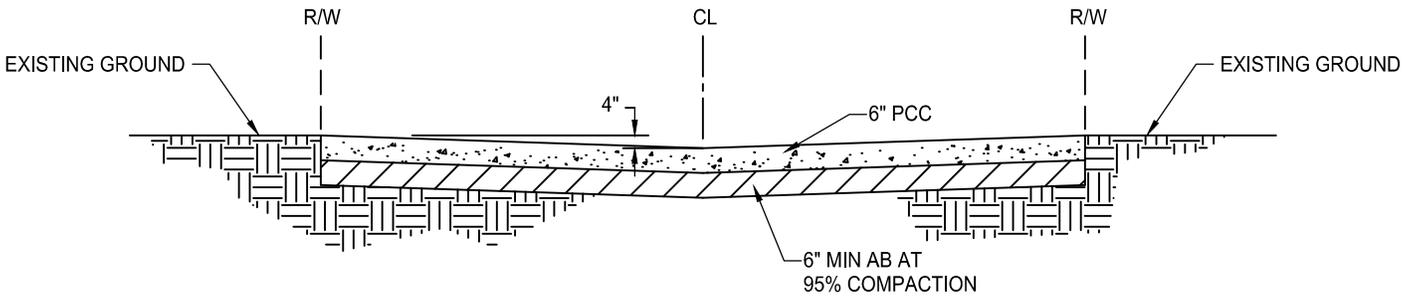
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 9B





PLAN



SECTION A-A

NOTES:

1. OTHER STRUCTURAL SECTIONS MAY BE USED WITH SPECIFIC APPROVAL OF THE DIRECTOR (SEE SECTION 4-6A)

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY:

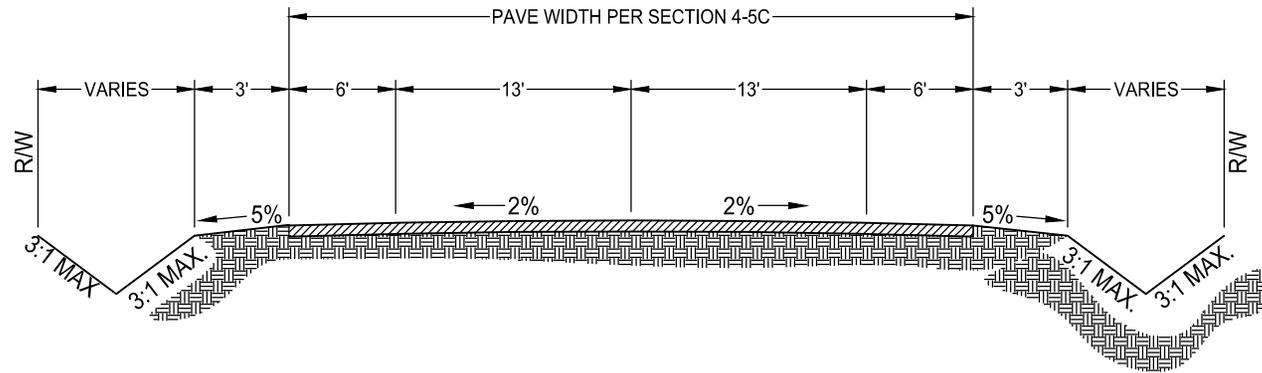
CITY ENGINEER _____ DATE _____

**20-FOOT STREET
(PRIVATE ALLEY)**



DRAWING NUMBER

T - 9D



DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

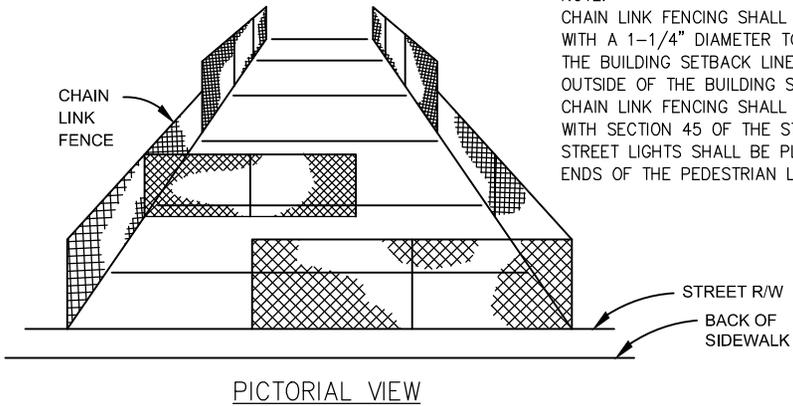
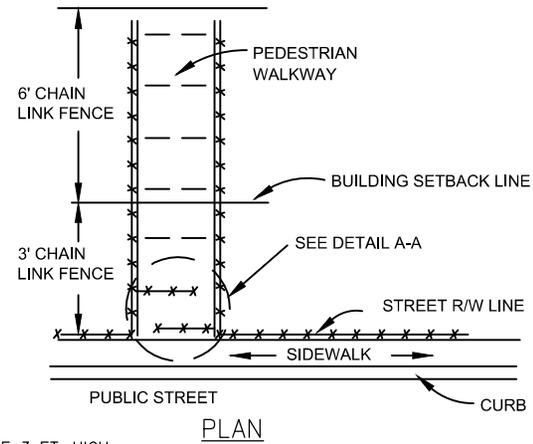
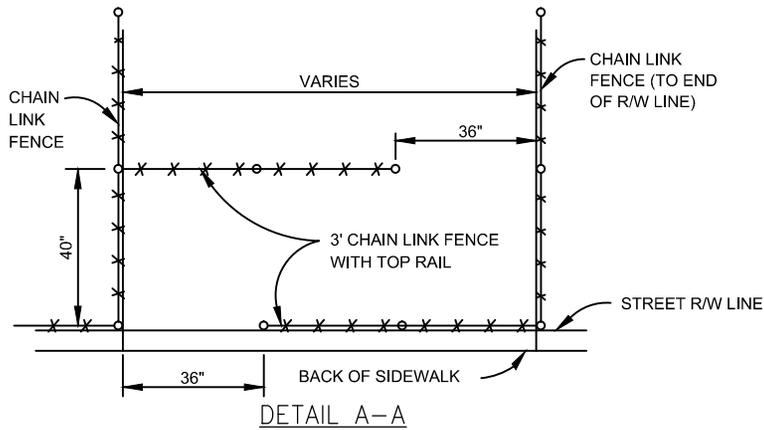
CLASS C STREET CROSS SECTION

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 10





NOTE:
 CHAIN LINK FENCING SHALL BE 3 FT. HIGH WITH A 1-1/4" DIAMETER TOP RAIL WITHIN THE BUILDING SETBACK LINE AND 6 FT. HIGH OUTSIDE OF THE BUILDING SETBACK LINE. CHAIN LINK FENCING SHALL BE IN ACCORDANCE WITH SECTION 45 OF THE STANDARD SPECIFICATIONS. STREET LIGHTS SHALL BE PLACED AT BOTH ENDS OF THE PEDESTRIAN LANE.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

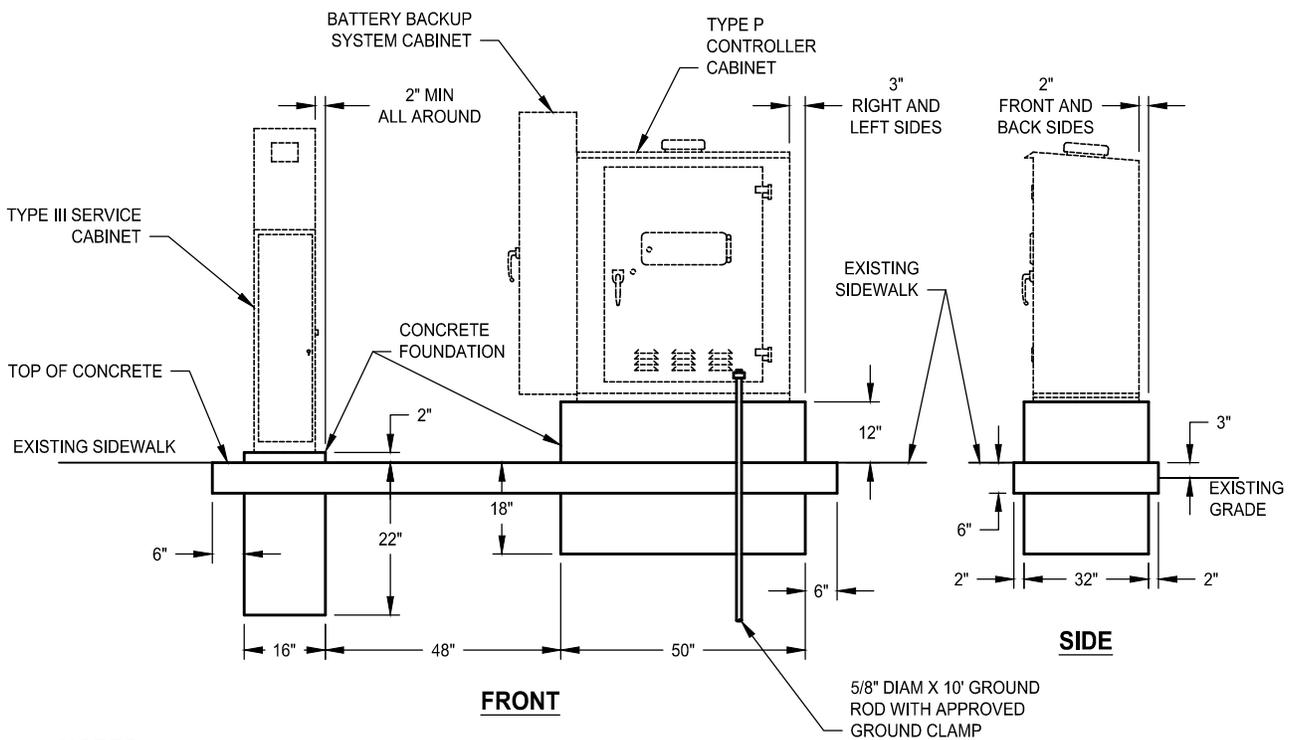
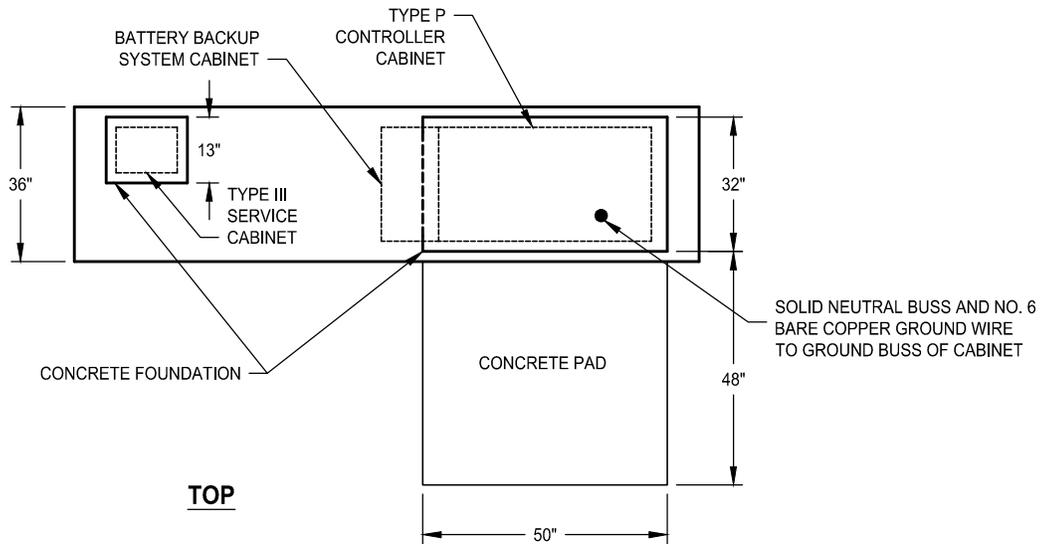
**PEDESTRIAN LANE
 WITH
 BIKE BARRIER**

APPROVED BY: _____
 CITY ENGINEER DATE



DRAWING NUMBER

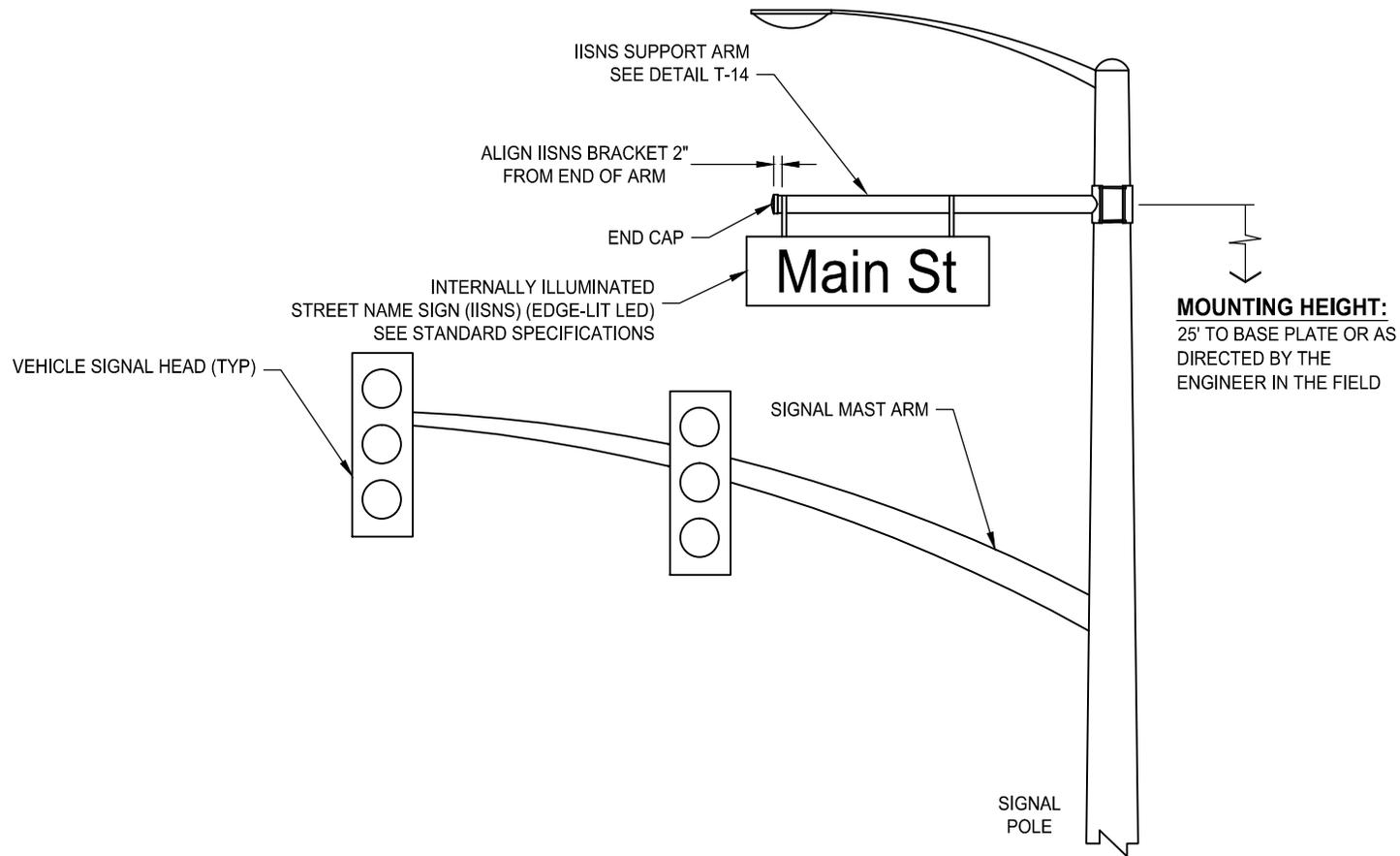
T - 11



NOTES:

1. SEE STATE STANDARD PLAN ES-2D AND ES-3C FOR STANDARD ANCHOR BOLT PATTERNS AND SIZES.
2. IN UNPAVED AREAS, A RAISED PORTLAND CEMENT PAD SHALL BE CONSTRUCTED IN FRONT OF THE FRONT DOOR OF THE CONTROLLER CABINET (50" W x 48" D x 4" THICK).
3. FRONT DOOR OF THE CONTROLLER CABINET SHALL FACE NORTH OR EAST, WHENEVER FEASIBLE. THE FINAL LOCATION OF THE CONTROLLER CABINET AND SERVICE CABINET SHALL BE APPROVED BY THE CITY ENGINEER.

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:			
REVISION	BY	APPROVED	DATE	CONCRETE FOUNDATION FOR TYPE P CONTROLLER CABINET AND TYPE III SERVICE CABINET		CITY ENGINEER _____ DATE _____			
								DRAWING NUMBER	
								T - 12	



DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

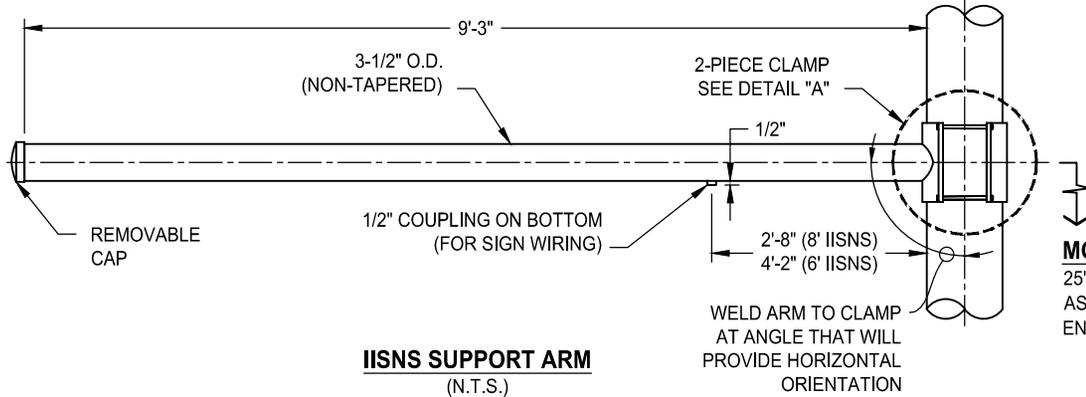
(EDGE-LIT LED) INTERNALLY ILLUMINATED STREET NAME SIGN

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

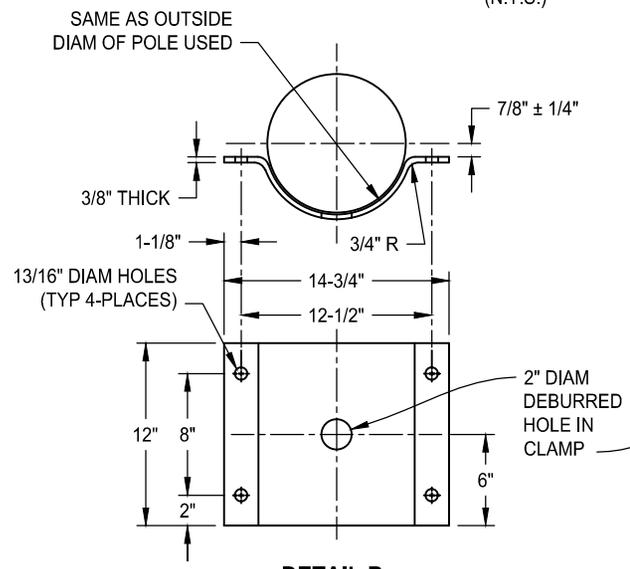
DRAWING NUMBER
T - 13



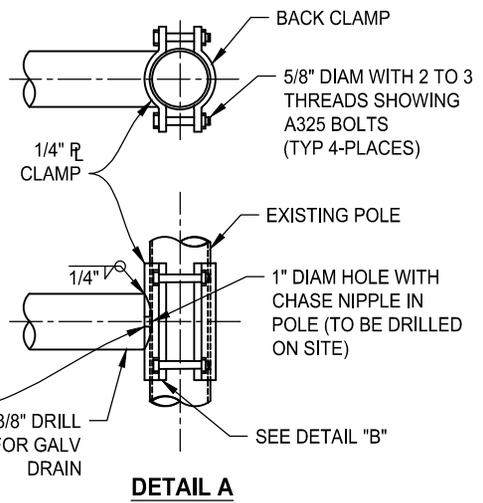


MOUNTING HEIGHT:
25' TO BASE PLATE OR
AS DIRECTED BY THE
ENGINEER IN THE FIELD

IISNS SUPPORT ARM
(N.T.S.)



DETAIL B



DETAIL A

CLAMP DETAILS
(N.T.S.)

GENERAL NOTES	
MATERIAL SPECIFICATIONS	
SHAFT	STEEL OF 48,000 PSI MINIMUM YIELD AFTER FABRICATION
CLAMP PLATE	ASTM A-572 GR. 50 STEEL
MANUFACTURING PROCESS	
LONGITUDINAL WELDS	ALL WELDS SHALL CONFORM TO AWS D1.1 WELD SPECIFICATION
FINISH COATING	
STRUCTURE	HOT DIP GALVANIZED PER ASTM A-123
HARDWARE	HOT DIP GALVANIZED PER ASTM A-153
DESIGN CRITERIA	
STRUCTURE, HARDWARE, AND WELDING	IN ACCORDANCE WITH THE "SPECIFICATIONS FOR STRUCTURAL SUPPORTS OF HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", AASHTO 1994

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

**IISNS SUPPORT ARM
TYPICAL CLAMP DETAIL**

APPROVED BY: _____

CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 14



CONDUIT SIZING

CONDUCTOR	EQUIVALENT NUMBER OF #14 A.W.G. CONDUCTORS FOR USE IN CONDUIT SIZING
#12 CONDUCTOR	1.2
#10 CONDUCTOR	1.5
#8 CONDUCTOR	2.3
#6 CONDUCTOR	3
#4 CONDUCTOR	4
#2 CONDUCTOR	5.3
#0 CONDUCTOR	11.5
INTERCONNECT CABLE	18
DETECTOR LEAD-IN CABLE	2.5
EMERGENCY VEHICLE DETECTOR CABLE	2

CONDUIT SIZE	1"	1.5"	2"	2.5"	3"	3.5"	4"
MAXIMUM NUMBER OF #14 A.W.G. CONDUCTORS	8	19	31	44	69	91	113

NOTE: MINIMUM SIZE FOR NEW CONDUITS IS 1.5".

SERVICE WIRE MAXIMUM LENGTHS
FOR TRAFFIC SIGNALS

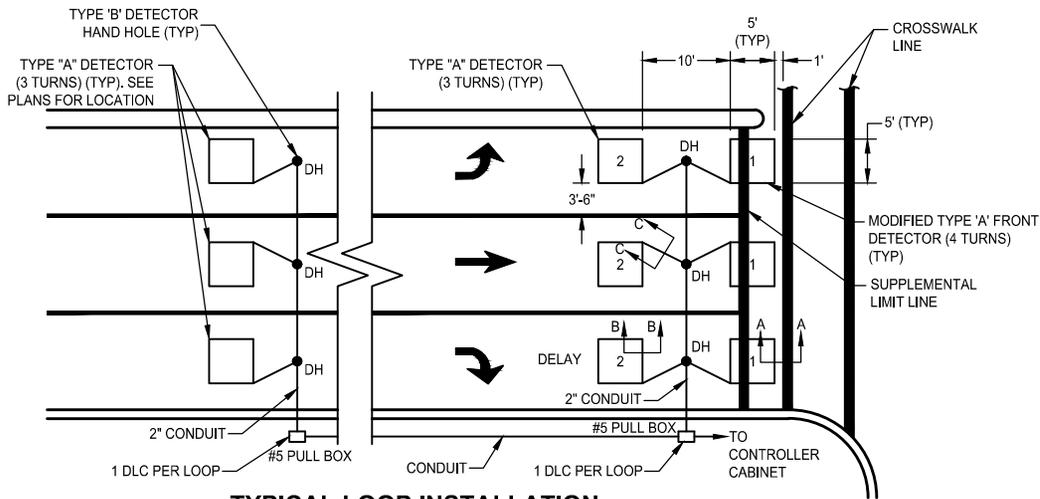
WIRE SIZE	LENGTH
#0	576'
#2	360'
#4	224'

CIRCUIT BREAKER SIZING

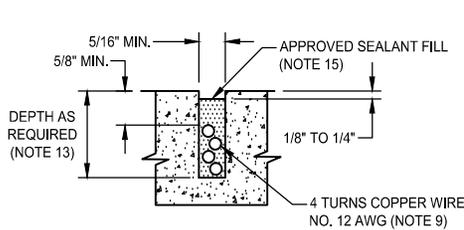
CONDUCTOR SIZE A.W.G.	MAXIMUM CIRCUIT BREAKER AMPERAGE
#2	100
#4	80
#6	50
#8	40
#10	30

NOTE
THE BREAKER SIZE SHALL BE DETERMINED BY THE LOAD REQUIREMENTS. MINIMUM BREAKER SIZE IS 30 AMPS.

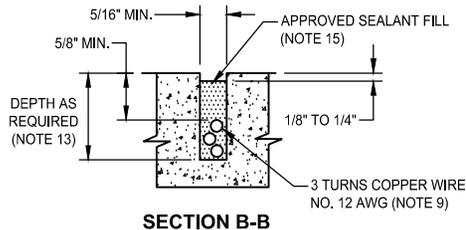
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	CONDUIT, SERVICE WIRE AND BREAKER SIZING		CITY ENGINEER	DATE
						DRAWING NUMBER	
						T - 15	
							



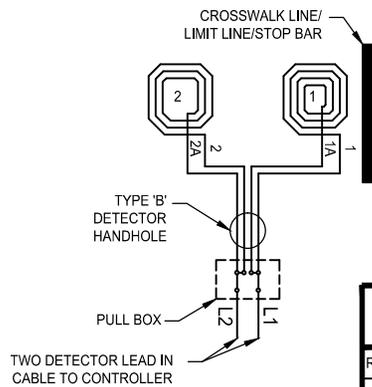
TYPICAL LOOP INSTALLATION



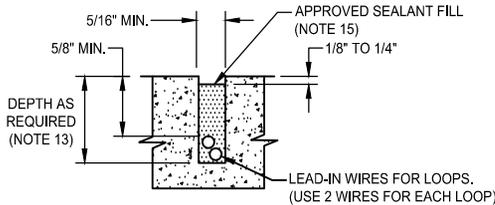
SECTION A-A



SECTION B-B



LOOP WINDING AND CONNECTION PATTERNS



SECTION C-C

LOOP INSTALLATION PROCEDURE

1. ALL LOOP WORK SHALL CONFORM TO THE LATEST VERSION OF SECTION 49-5 "DETECTOR" OF THE CITY OF ELK GROVE STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DRAWINGS.
2. SEE CURRENT STATE STANDARD PLANS ES-5 SERIES FOR ADDITIONAL DETAILS.
3. THE PLACEMENT OF LOOPS SHALL BE CENTERED IN EACH LANE, WITH THE EXCEPTION OF: LEFT TURN LANE LESS THAN 11' WIDE, THE SEPARATION DISTANCE BETWEEN THE RIGHT EDGE OF EACH LOOP AND THE LANE ON THE RIGHT (THRU LANE) SHOULD BE 3'-6".
4. NEW OR REPLACEMENT LOOP SHALL BE MARKED ON PAVEMENT AND THEIR LOCATION APPROVED BY THE ENGINEER, PRIOR TO PAVEMENT CUTTING.
5. LOOP INSTALLATION SHALL INCLUDE NEW CONDUIT, DETECTOR HANDHOLE (DH) AND DETECTOR LEAD IN CABLE (DLC), UNLESS OTHERWISE NOTED ON THE PLANS.
6. EACH DETECTOR LOOP IN EACH TRAVEL LANE SHALL BE INSTALLED WITH ITS OWN DETECTOR LEAD IN CABLE AND CONNECTED IN CONTROLLER WITH SEPARATE DETECTOR CHANNEL FOR OPERATION, UNLESS OTHERWISE NOTED ON THE PLANS.
7. DETECTOR LEAD IN CABLES SHALL BE CONTINUOUS WITHOUT SPLICES BETWEEN LOOP TERMINATION PULL BOX AND CONTROLLER.
8. LOOP INSTALLATION 250' OR MORE FROM STOP BAR SHALL HAVE 4 TURNS.
9. DETECTOR LOOP CONDUCTOR SHALL BE TYPE RHW-USE NEOPRENE-JACKETED OR TYPE USE CROSSLINKED POLYPROPYLENE INSULATED NO. 12 STRANDED COPPER WIRE, CONDUCTOR INSULATION THICKNESS SHALL BE FORTY (40) MILS MINIMUM.
10. DISTANCE BETWEEN SIDE OF LOOP AND LEAD-IN SAW CUT SHALL BE 1'-0" MINIMUM.
11. LOOPS AND LEAD-IN CUTS SHALL BE LOCATED A MINIMUM OF 2 FEET FROM THE NEAREST EDGE OF MANHOLE COVER OR VALVE BOX.
12. WIDTH OF SAW CUTS SHALL BE 1/4" WIDER THAN THICKNESS OF THE CONDUCTOR.
13. DEPTH OF SAW CUTS SHALL BE SUCH THAT THE MINIMUM SEALANT COVER SHALL BE 1/2" WITH AN ADDITIONAL 1/8" TO 1/4" GAP BETWEEN TOP OF SEALANT AND SURFACE OF PAVEMENT.
14. TEST EACH LOOP CIRCUIT AT CONTROLLER CABINET (OR, IF THESE ARE NOT INSTALLED, TEST AT TERMINATION PULL BOX) BEFORE FILLING SLOTS. PERFORM A RESISTANCE TEST BETWEEN EACH CIRCUIT AND GROUND. INSULATION RESISTANCE SHALL NOT BE LESS THAN 100 MEGA OHMS. TEST EACH LOOP CIRCUIT FOR CONTINUITY. LOOP CIRCUIT RESISTANCE SHALL NOT EXCEED 0.5 OHMS PLUS 0.35 OHMS PER 100 FEET OF LEAD-IN CABLE.
15. SEALANT FOR LOOP DETECTORS SHALL BE 3M 5000 OR APPROVED EQUAL ELASTOMERIC SEALANT.
16. CONDUIT BETWEEN DETECTOR HANDHOLE AND PULL BOX SHALL BE INSTALLED 30" MINIMUM BELOW ROADSIDE DITCH OR SWALE.
17. DETECTOR HANDHOLE (DH) SHALL BE TYPE B (SEE STD DWG T - 17).
18. ANY DAMAGE TO EXISTING LOOPS, DETECTOR HANDHOLE, CONDUIT AND DETECTOR LEAD IN CABLE SHALL BE REPLACED PER THE REQUIREMENTS SET FORTH IN THIS DETAIL.

DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

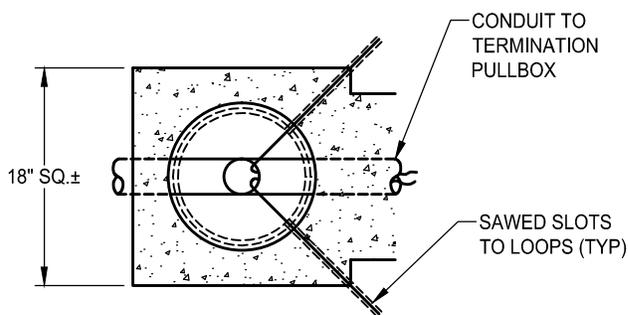
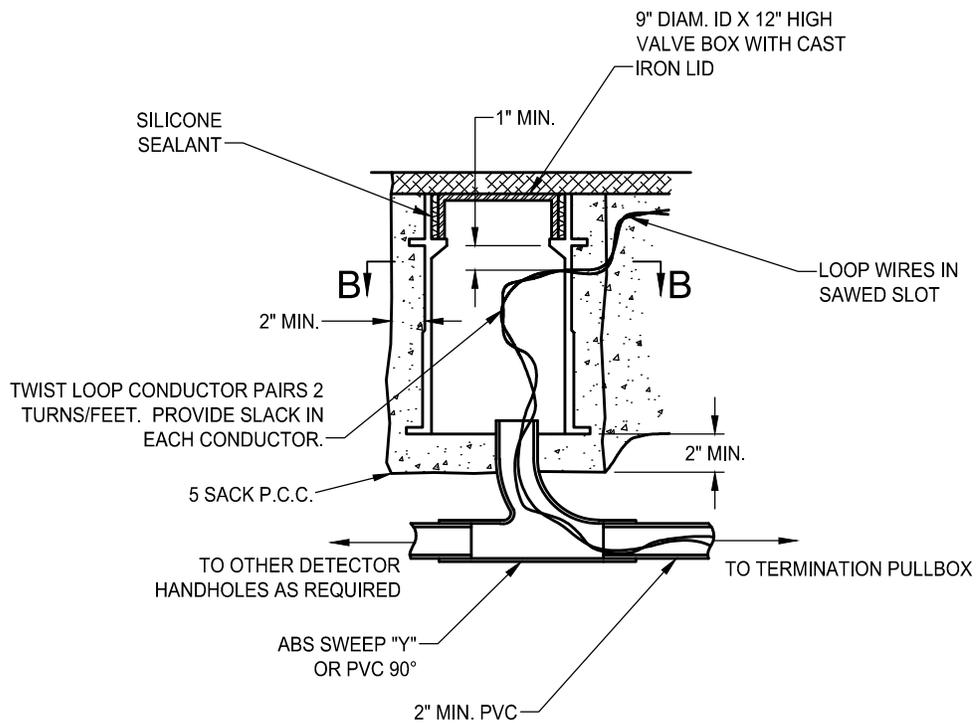
TYPICAL DETECTOR LOOP LAYOUTS

APPROVED BY: _____
 CITY ENGINEER DATE



DRAWING NUMBER

T - 16

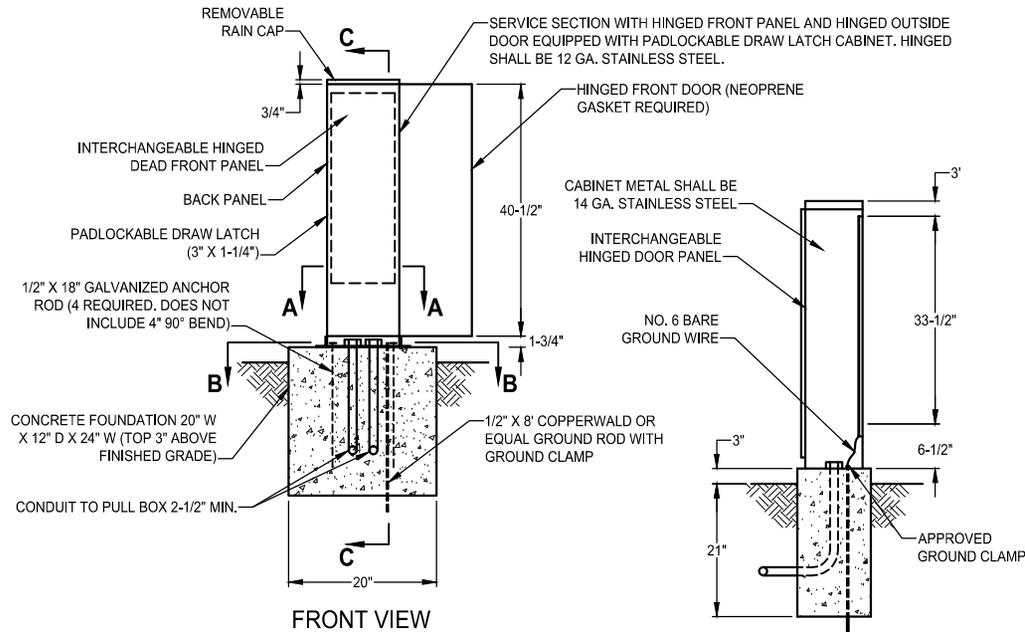


SECTION B-B

INSTALLATION REQUIREMENTS:

1. 18" SQ.± P.C.C. ENCASUREMENT OUTLINE SHALL BE SAW CUT TO A MINIMUM DEPTH OF 3", EXCEPT WHERE AC OVERLAY IS TO BE PLACED.
2. THE PRECAST VALVE BOX WITH CAST IRON LID SHALL BE FABRICATED OF CALCIUM CARBONATE AND POLYESTER RESINS WITH FIBERGLASS REINFORCING AND DESIGNED FOR HEAVY TRAFFIC LOADS.
3. CAST IRON LID SHALL BE MARKED "DETECTOR" AND SHALL BE SECURED IN PLACE BY APPLYING SILICONE SEALANT. VALVE BOX LOCATION SHALL BE AS SHOWN ON THE PLANS.
4. THE EXCAVATION AROUND THE HANDHOLE SHALL BE BACKFILLED WITH 5 SACK P.C.C.
5. THE HANDHOLE SHALL BE PROTECTED WITH COLD PATCH OR OTHER SUITABLE PROTECTION UNTIL PERMANENT A.C. BACKFILL IS PLACED.
6. THE CEMENT USED TO JOIN THE ABS SWEEP "Y" TO THE PVC CONDUIT SHALL BE CAPABLE OF PROVIDING SOLVENT TYPE WELD BETWEEN THE TWO MATERIALS.

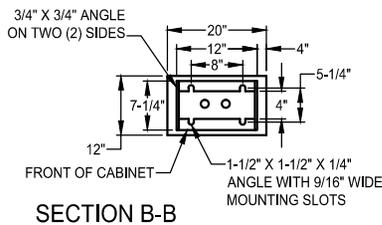
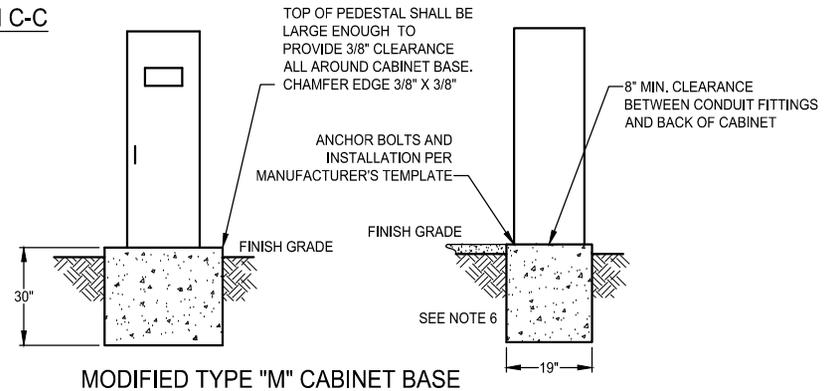
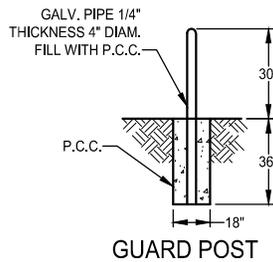
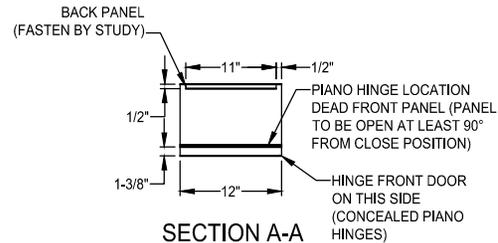
DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:		
REVISION	BY	APPROVED	DATE			CITY ENGINEER		DATE
				TYPE "B" DETECTOR HANDHOLE DETAIL		DRAWING NUMBER		
								T - 17



GENERAL INSTALLATION NOTES - ALL CABINETS

1. ALL CABINET DIMENSIONS ARE NOMINAL
2. FOUNDATION SHALL BE LOCATED AS SHOWN ON PLANS. WHERE INSTALLED IN SIDEWALK PLACE AT BACK OF WALK AND PROVIDE 48" MINIMUM CLEARANCE BETWEEN FACE OF CURB AND FRONT OF CABINET.
3. ONE ANCHOR BOLT SHALL BE BONDED TO CONDUIT OR GROUND WIRE.
4. SERVICE CAN, CONTROLLER CABINET, AND TERMINAL CABINET (IF NECESSARY) SHALL BE ON A COMMON FOUNDATION WITH 6" SPACING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE SERVICE CAN SHALL BE TO THE LEFT OF THE CONTROLLER CABINET SO AS TO NOT BE BLOCKED BY CONTROLLER CABINET DOOR WHEN FULLY OPEN.
5. APPROVED WATERPROOF SEAL TO BE APPLIED TO BASE OF CABINETS AND CONCRETE FOUNDATION.
6. IN UNIMPROVED AREAS A RAISED P.C.C. PAD OF 36" X 30" X 4" SHALL BE PLACED IN FRONT OF EACH CABINET.
7. IN ALL UNPAVED AREAS TOP OF FOUNDATION FOR CABINETS SHALL BE 6" ABOVE SURROUNDING GRADE. IN PAVED AREAS TOP OF FOUNDATION SHALL BE 3" ABOVE PAVED AREA.
8. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.
9. ALL CONDUITS SHALL BE BONDED TOGETHER IN THE CABINET.
10. LOCATIONS SHOWN FOR EQUIPMENT ARE TYPICAL ONLY.
11. A 1/2" DIAMETER DRAIN HOLE SHALL BE FORMED IN THE CABINET BASE. ALL CABINETS SHALL BE LEVELED SO THAT THE CABINET DOOR WILL OPEN AND CLOSE EASILY.

TRAFFIC SIGNAL INTERCONNECT TERMINAL CABINET OR PEDESTRIAN SIGNAL CONTROLLER CABINET



DATE: 09/22/2007		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

INTERCONNECT TERMINAL CABINET AND PEDESTRIAN SIGNAL CONTROLLER CABINET DETAILS

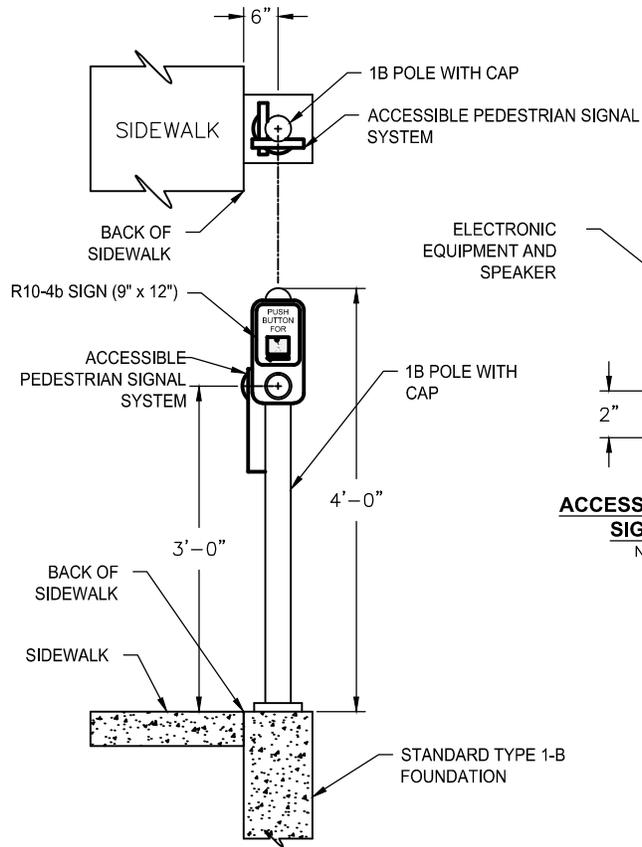
APPROVED BY: _____

CITY ENGINEER _____ DATE _____

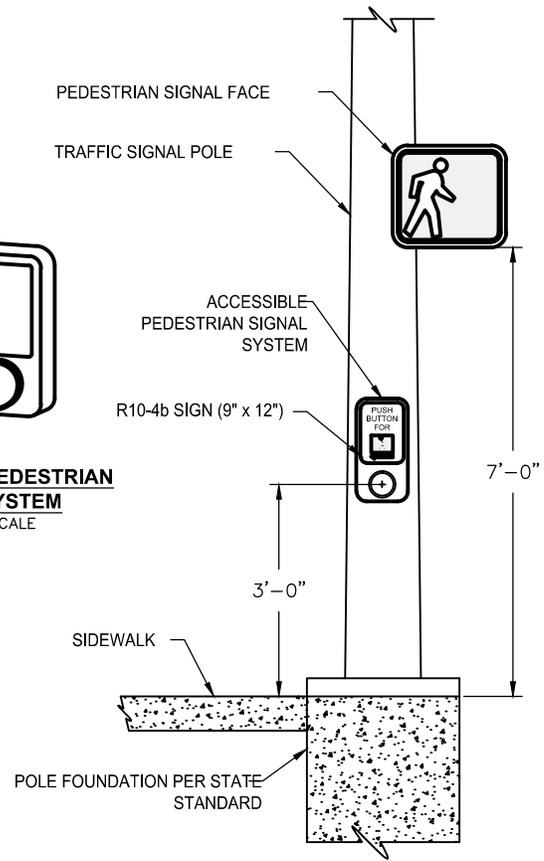
DRAWING NUMBER

T - 18





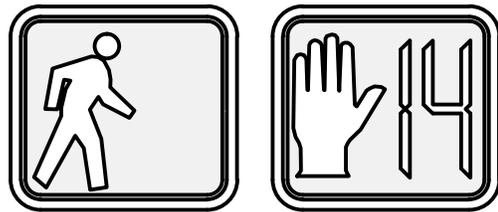
ACCESSIBLE PEDESTRIAN SIGNAL POLE
NOT TO SCALE



COMBINED TRAFFIC SIGNAL AND ACCESSIBLE PEDESTRIAN SIGNAL POLE
NOT TO SCALE

NOTES:

1. ACCESSIBLE PEDESTRIAN SIGNAL SYSTEM SHALL BE POLARA'S NAVIGATOR 2-WIRE SYSTEM OR APPROVED EQUIVALENT.
2. PEDESTRIAN SIGNS SHALL BE METAL AND SHALL CONFORM TO STANDARD SIGN NO. R10-4b (9" x 12") OF THE CALIFORNIA MUTCD.
3. PEDESTRIAN PUSH BUTTON HOUSING SHALL BE EITHER DIE-CAST OR PERMANENT MOLD CAST ALUMINUM.
4. ALL PEDESTRIAN SIGNAL HEADS SHALL BE THE "COUNTDOWN" VARIETY.
5. PEDESTRIAN HEADS SIGNAL DISPLAY SHALL BE ONE OF THE FOLLOWING:
 - DIALIGHT 430-6479-001XC
 - GE PS7-CFF1-VLA OR PS7-CFF1-27A
 - LEOTEK TSL-PED-16-CIL-P1
 THE DISPLAY SHALL INCLUDE SOLID (FILLED IN) "WALKING PERSON" AND "RAISED HAND" SYMBOLS.



PEDESTRIAN SIGNAL FACE
SYMBOL TYPE
NOT TO SCALE

DATE: 09/22/2017		NOT TO SCALE	
REVISION	BY	APPROVED	DATE

CITY OF ELK GROVE - PUBLIC WORKS

ACCESSIBLE PEDESTRIAN SIGNAL SYSTEM

APPROVED BY: _____

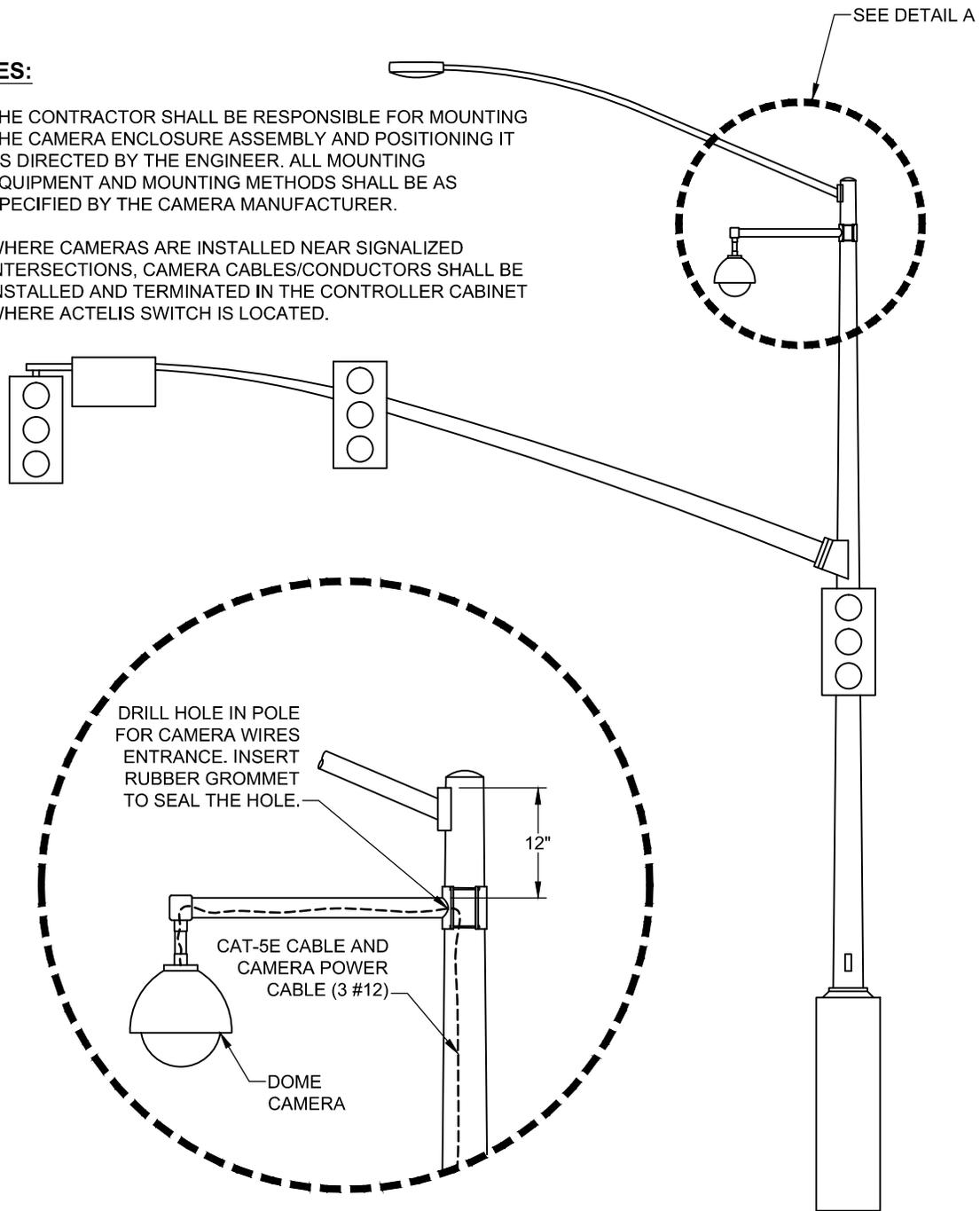
CITY ENGINEER _____ DATE _____

DRAWING NUMBER
T - 19



NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE CAMERA ENCLOSURE ASSEMBLY AND POSITIONING IT AS DIRECTED BY THE ENGINEER. ALL MOUNTING EQUIPMENT AND MOUNTING METHODS SHALL BE AS SPECIFIED BY THE CAMERA MANUFACTURER.
2. WHERE CAMERAS ARE INSTALLED NEAR SIGNALIZED INTERSECTIONS, CAMERA CABLES/CONDUCTORS SHALL BE INSTALLED AND TERMINATED IN THE CONTROLLER CABINET WHERE ACTELIS SWITCH IS LOCATED.



DETAIL A
NOT TO SCALE

DATE: 09/22/2017		NOT TO SCALE		CITY OF ELK GROVE - PUBLIC WORKS		APPROVED BY:	
REVISION	BY	APPROVED	DATE	<h2 style="margin: 0;">CCTV IP DOME CAMERA (SIGNAL POLE MOUNTED)</h2>		CITY ENGINEER	DATE
						DRAWING NUMBER	
						T - 20	