

ENGINEERING DESIGN & IMPROVEMENT STANDARDS

2016



Prepared by: Engineering Division

For latest edition of these Improvement Standards, refer to City of Visalia website at:
www.visalia.city/EngineeringDocuments



ENGINEERING DESIGN & IMPROVEMENT STANDARDS

*UNDER THE AUTHORITY OF
THE CITY OF VISALIA*

NICK MASCIA

CITY ENGINEER

EFFECTIVE DATE: SEPTEMBER 16, 2016



EXP. MARCH 2018



City of Visalia
Community Development Department
Engineering Division
315 E. Acequia Ave
Visalia, CA 93291

Revisions to Improvement Standards:

Below is a list of standards that have been revised after the release of the City's 2016 Improvement Standards implemented on September 19, 2016.

Standard	Name	Date		Description of Change
C-29	Major Commercial Drive Approach 20' Radius Curb Return - Alternative	10/28/16		Corrected some dimensions on "Section A-A" of the drawing. (15' & 18' needed to be swapped)

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TRAFFIC SIGNS

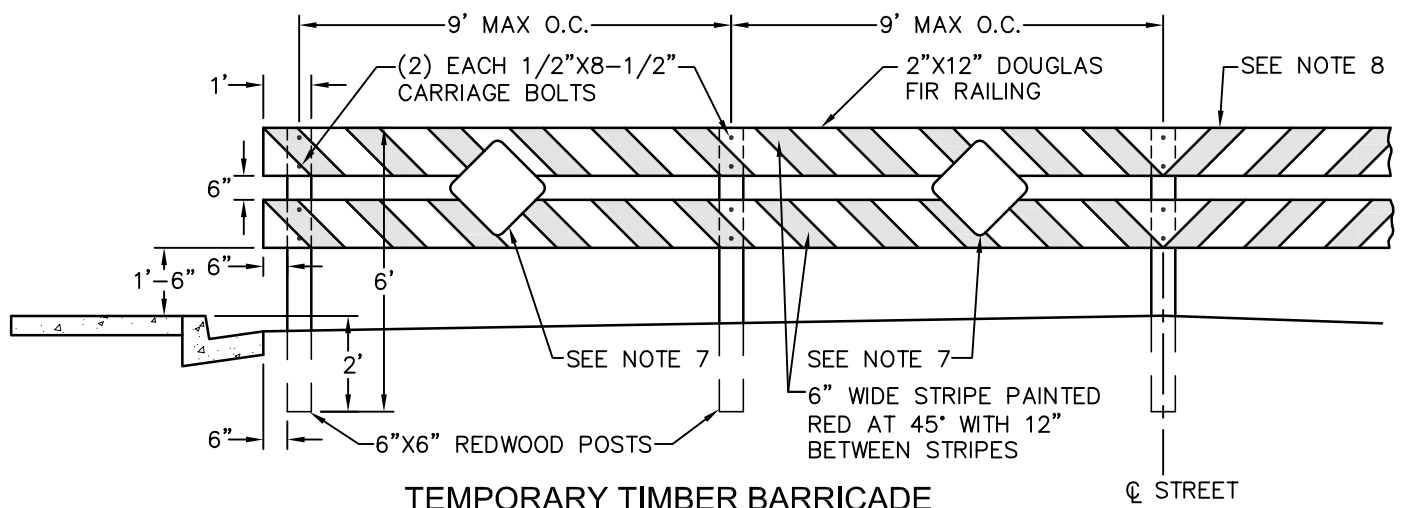
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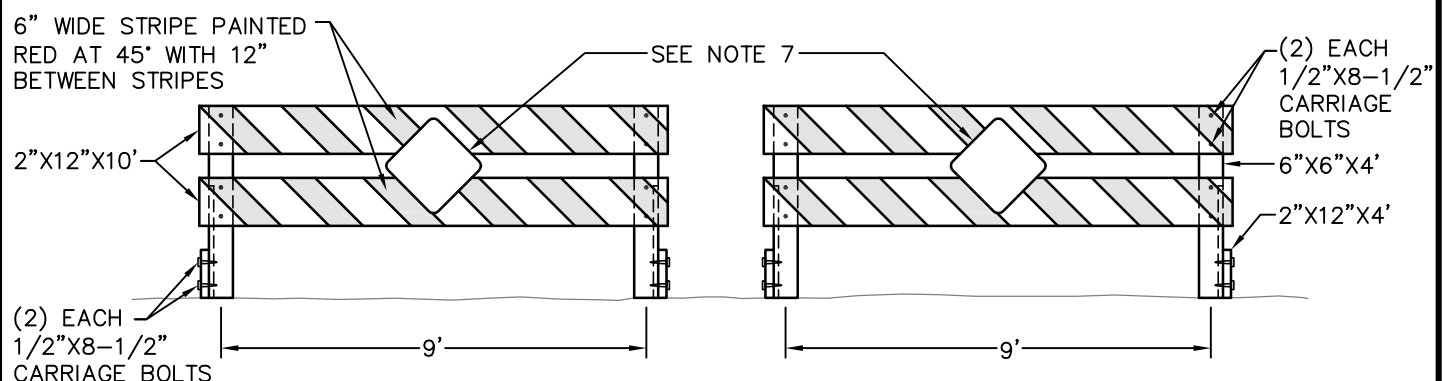
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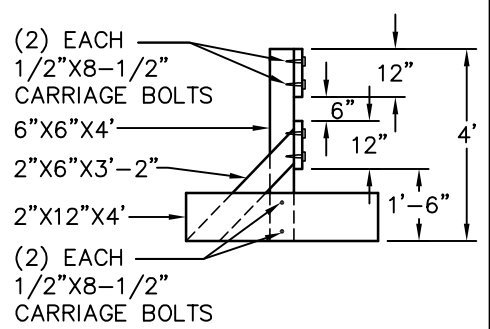
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TEMPORARY TIMBER BARRICADE
FOR TYPICAL CONDITIONS



PORTABLE TIMBER BARRICADE
FOR SPECIAL CONDITIONS



PORTABLE TIMBER BARRICADE
SIDE VIEW

NOTES:

1. BARRICADES SHALL BE FULL WIDTH OF PAVEMENT OR TRAVELED WAY OR AS APPROVED BY THE CITY ENGINEER.
2. BARRICADE SHALL BE PAINTED WITH TWO COATS OF WHITE PAINT. FOLLOWED BY TWO COATS OF RED PAINT FOR THE STRIPE. PAINT SHALL BE A PREMIUM QUALITY EXTERIOR GLOSS OR SEMI-GLOSS ENAMEL AND SHALL BE PURE WHITE IN COLOR. PAINT SHALL COMPLETELY SEAL ALL EXPOSED SURFACES OF THE BARRICADE.
3. WOOD PRESSURE TREATED WITH A PRESERVATIVE MAY BE SUBSTITUTED FOR REDWOOD MATERIAL.
4. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5. USE OF THE PORTABLE TIMBER BARRICADE OR BARRICADES WITH A LOCK AND CHAIN, SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
6. ABANDONED BARRICADES SHALL BE RECLAIMED BY THE CITY OF VISALIA.
7. REFLECTOR SIGNS - CALIFORNIA OM4-1. FASTEN REFLECTOR SIGN TO BARRICADE WITH 3/8" X 1-1/2" GALVANIZED LAG SCREWS WITH WASHERS.
8. DIAGONAL STRIPES ON BARRICADE SHALL POINT TO THE CENTER OF THE ROADWAY.

APPROVED BY:  09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS


TIMBER BARRICADES

REVISIONS
06/14/13
BK 2016

B-1

GENERAL CONCRETE NOTES

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE UNLESS OTHERWISE SPECIFIED.
2. CLASS 2 CONCRETE SHALL CONTAIN NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH MAXIMUM SLUMP. 3000 P.S.I. AT 28 DAYS.
3. CLASS 3 CONCRETE SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH MAXIMUM SLUMP. 2500 P.S.I. AT 28 DAYS.
4. CLASS 4 CONCRETE SHALL CONTAIN NOT LESS THAN 420 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH MAXIMUM SLUMP. 2500 P.S.I. AT 28 DAYS.
5. WHEN MAXIMUM DAYTIME TEMPERATURE EXCEEDS 50° F. ALL NEWLY PLACED CONCRETE SHALL BE SPRAYED UNIFORMLY WITH A CURING COMPOUND. CURING COMPOUND SHALL BE APPLIED AT A NOMINAL RATE OF ONE GALLON PER 150 SQUARE FEET, UNLESS OTHERWISE SPECIFIED.
6. ALL WORK CONSTRUCTED BY THESE STANDARDS SHALL BE IN COMPLIANCE WITH ALL CURRENT ADA AND PROWAG REGULATIONS.
7. WHERE REBAR IS USED, CONTRACTOR SHALL INSTALL WIRE TIES SECURELY AT ALL REBAR CROSSINGS. CONCRETE BLOCK OR CHAIRS AS APPROVED BY THE CITY ENGINEER SHALL BE INSTALLED PRIOR TO CONCRETE INSTALLATION TO KEEP REBAR IN THE PROPER LOCATION.
8. CONCRETE JOINTS IN THE PATH OF TRAVEL SHALL BE FINISHED WITH A 1/4" RADIUS TOOL AND SHALL MEET ADA GAP TOOL TESTING REQUIREMENTS.
9. WHERE CURBS ARE ADJACENT TO CONCRETE FLATWORK, THE JOINTS IN THE FLATWORK AND CURBING SHALL BE ALIGNED WHERE POSSIBLE.
10. NO CONCRETE FLATWORK SLOPES SHALL BE LESS THAN 1.0%. THIS IS FOR DRAINAGE PURPOSES.
11. ALL CONCRETE SURFACES SHALL BE TESTED FOR WATER FLOW.
12. ABBREVIATIONS: TYP. OR TYP = TYPICAL, MIN = MINIMUM, MAX. OR MAX = MAXIMUM, PROWAG = PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES

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CITY ENGINEER R.C.E. 71192 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CONCRETE SPECIFICATIONS

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C-1

CURBS AND GUTTERS

1. ALL CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL BE CLASS 2 OR CLASS 3 CONCRETE.
2. BARRIER TYPE CURB AND GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.20 FEET PER 100 FEET OR AS APPROVED BY THE CITY ENGINEER.
3. BARRIER TYPE CURB AND GUTTER ON THE CURVE OF CUL-DE-SACS AND STREET BULBS SHALL HAVE A MINIMUM GRADIENT OF 0.35 FEET PER 100 FEET OR AS APPROVED BY THE CITY ENGINEER.
4. ROLL TYPE CURB AND GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.35 FEET PER 100 FEET OR AS APPROVED BY THE CITY ENGINEER.
5. VEE GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.25 FEET PER 100 FEET OR AS APPROVED BY THE CITY ENGINEER.
6. ALL CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED BASE MATERIALS. 95 PERCENT MINIMUM RELATIVE COMPACTION.
7. ALL CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL HAVE A LIGHT BROOM FINISH.
8. ALL CURB AND GUTTER AND VEE GUTTER SHALL HAVE WEAKENED PLANE JOINTS CONSTRUCTED AT 15 FOOT CENTERS. MEDIAN CURB AND LANDSCAPE CURB SHALL HAVE WEAKENED PLANE JOINTS CONSTRUCTED AT 8 FOOT CENTERS. WEAKENED PLANE JOINTS SHALL BE A MINIMUM OF 1-1/2 INCHES IN DEPTH AND SHALL BE FINISHED WITH A SCORING TOOL LEAVING THE EDGES ROUNDED.
9. ALL EXPOSED SURFACES OF CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL NOT VARY IN EXCESS OF 0.02 FEET WHEN A 10 FOOT STRAIGHT EDGE IS PLACED ON THE SURFACE, EXCEPT AT GRADE CHANGES OR CURVES.
10. ALL CURB AND GUTTER AND VEE GUTTER SHALL BE WATER TESTED FOR FLOW.
11. ALL CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL BE CURED IN ACCORDANCE WITH THE PROVISIONS IN THE GENERAL CONCRETE NOTES IN THESE IMPROVEMENT STANDARDS.

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CITY ENGINEER R.C.E. 71192 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

CONCRETE SPECIFICATIONS

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C-2

SIDEWALKS AND RAMPS

1. ALL SIDEWALKS AND RAMPS SHALL BE CLASS 2 OR CLASS 3 CONCRETE.
2. SIDEWALKS AND RAMPS SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED BASE MATERIALS. 90 PERCENT RELATIVE COMPACTION UNDER SIDEWALKS. 95 PERCENT RELATIVE COMPACTION UNDER RAMPS AND SIDEWALKS AT CURB RETURNS.
3. SIDEWALKS AND RAMPS SHALL BE STEEL TROWELED AND HAVE A LIGHT BROOM FINISH UNLESS OTHERWISE NOTED. RAMPS SHALL HAVE A HEAVY BROOM FINISH ACROSS THE SLOPE OF THE RAMP.
4. SIDEWALKS AND RAMPS SHALL HAVE WEAKENED PLANE JOINTS CONSTRUCTED AT 15 FOOT CENTERS AND WHERE SHOWN IN THESE IMPROVEMENT STANDARDS. WEAKENED PLANE JOINTS SHALL BE A MINIMUM OF 1 INCH IN DEPTH AND SHALL BE FINISHED WITH A SCORING TOOL LEAVING THE EDGES ROUNDED.
5. ESTABLISHED SIDEWALK PATTERN IN BLOCK SHALL BE MATCHED.
6. SPECIAL SIDEWALK DESIGNS AND MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.
7. SIDEWALK INSTALLED IN INFILL OR EXISTING AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
8. ALL SIDEWALKS AND RAMPS SHALL BE CURED IN ACCORDANCE WITH THE PROVISIONS IN THE GENERAL CONCRETE NOTES OF THESE IMPROVEMENT STANDARDS.
9. DETECTABLE WARNING SURFACES SHALL BE INSTALLED PER THESE IMPROVEMENT STANDARDS AND AS REQUIRED BY THE CITY ENGINEER.

DRIVE APPROACHES

1. ALL DRIVE APPROACHES SHALL BE CLASS 2 OR CLASS 3 CONCRETE UNLESS OTHERWISE NOTED.
2. SINGLE FAMILY RESIDENTIAL DRIVE APPROACHES SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED BASE MATERIALS. 95 PERCENT RELATIVE COMPACTION.
3. MULTI-FAMILY RESIDENTIAL, OFFICE AND COMMERCIAL DRIVE APPROACHES SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED BASE MATERIALS. 95 PERCENT RELATIVE COMPACTION.
4. MAJOR COMMERCIAL DRIVE APPROACHES SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED CLASS 2 AGGREGATE BASE OVER 6 INCH MOIST AND COMPACTED BASE MATERIALS. 95 PERCENT RELATIVE COMPACTION.
5. DRIVE APPROACHES SHALL BE STEEL TROWELED AND HAVE A LIGHT BROOM FINISH.
6. DRIVE APPROACHES SHALL HAVE A WEAKENED PLANE JOINT CONSTRUCTED AT EACH EDGE AND AT THE CENTERLINE. WEAKENED PLANE JOINTS SHALL BE A MINIMUM OF 1-1/2 INCH IN DEPTH AND SHALL BE FINISHED WITH A SCORING TOOL LEAVING THE EDGES ROUNDED.
7. NOT MORE THAN 50 PERCENT OF PROPERTY FRONTAGE SHALL BE USED AS DRIVE APPROACH.
8. DRIVE APPROACHES ON STATE ROUTES ARE SUBJECT TO APPROVAL BY CALTRANS.
9. ALL EXPOSED SURFACES OF DRIVE APPROACHES AND FLOW LINES SHALL NOT VARY IN EXCESS OF 0.02 FEET WHEN A 10 FOOT STRAIGHT EDGE IS PLACED ON THE SURFACE, EXCEPT AT GRADE CHANGES OR CURVES.
10. ALL DRIVE APPROACHES SHALL BE CURED IN ACCORDANCE WITH THE PROVISIONS IN THE GENERAL CONCRETE NOTES OF THESE IMPROVEMENT STANDARDS.

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CITY ENGINEER

R.C.E. 71192

01/29/25

DATE

CITY OF VISALIA
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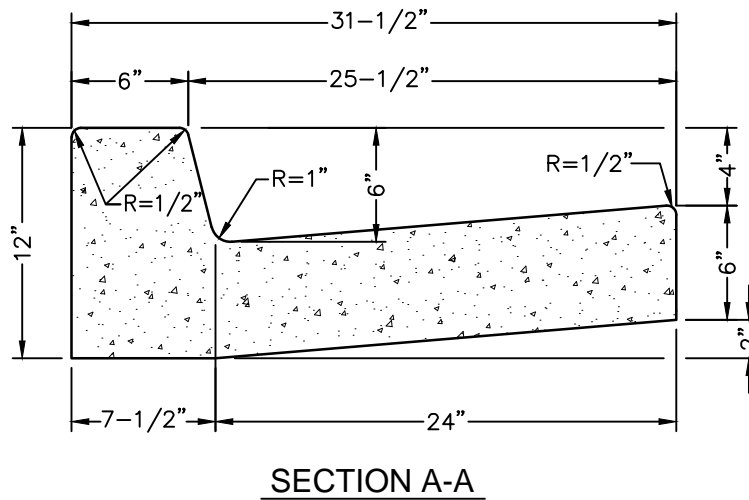
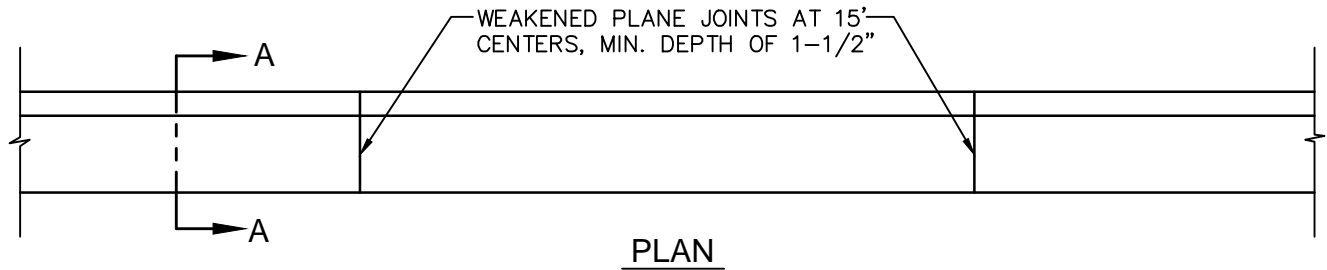
CONCRETE SPECIFICATIONS

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C-3



NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. A WEAKENED PLANE JOINT OR COLD JOINT SHALL BE INSTALLED AT THE END OF CURB RETURNS AND AT THE CENTERLINE OF PROPOSED DRIVE APPROACHES.
3. CALTRANS FACILITIES REQUIRE STATE STANDARD CURB AND GUTTER.
4. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4% MINIMUM AND 5% MAXIMUM.

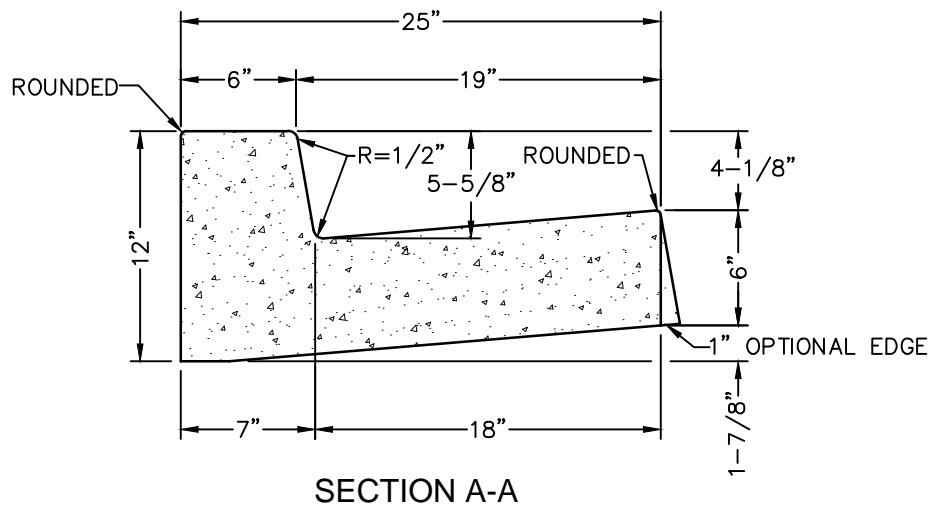
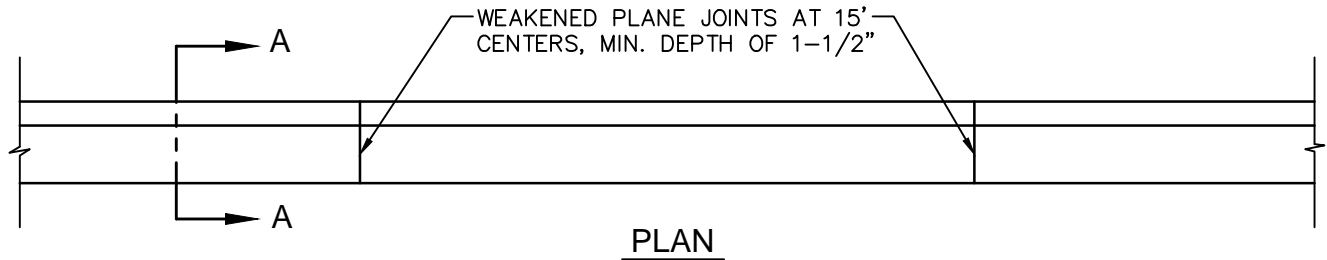
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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

BARRIER CURB AND GUTTER
TYPE A2-6

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C-4



NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. A WEAKENED PLANE JOINT OR COLD JOINT SHALL BE INSTALLED AT THE END OF CURB RETURNS AND AT THE CENTERLINE OF PROPOSED DRIVE APPROACHES.
3. ABOVE TYPE CURB AND GUTTER SHALL NOT BE CONSTRUCTED EXCEPT TO COMPLETE A BLOCK WITH EXISTING ABOVE TYPE CURB AND GUTTER OR TO REPLACE EXISTING DAMAGED ABOVE TYPE CURB.
4. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4% MINIMUM AND 5% MAXIMUM.

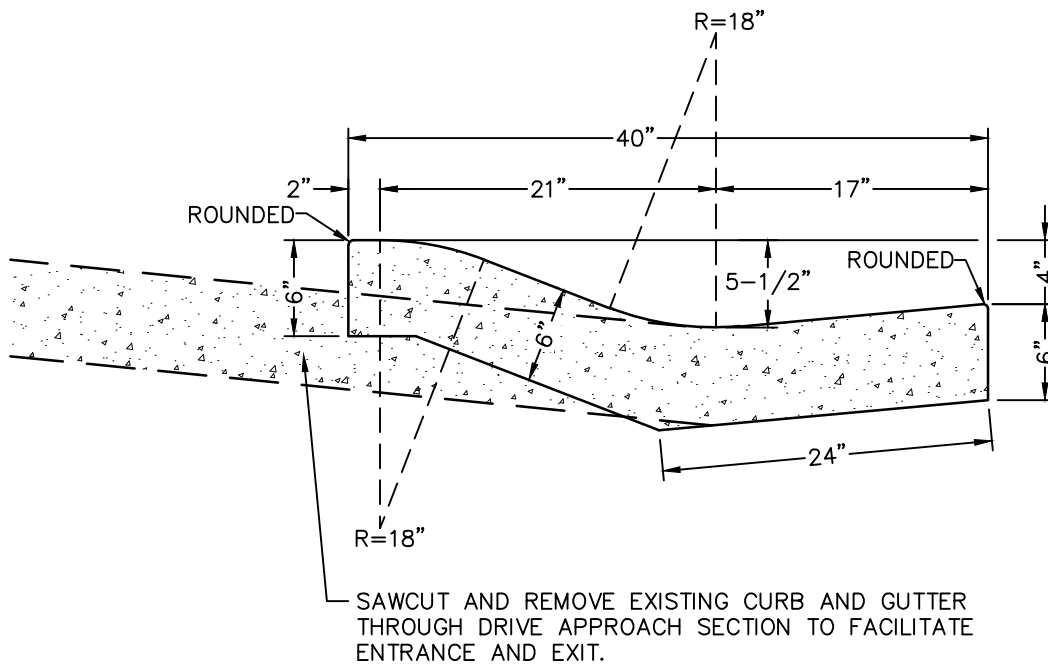
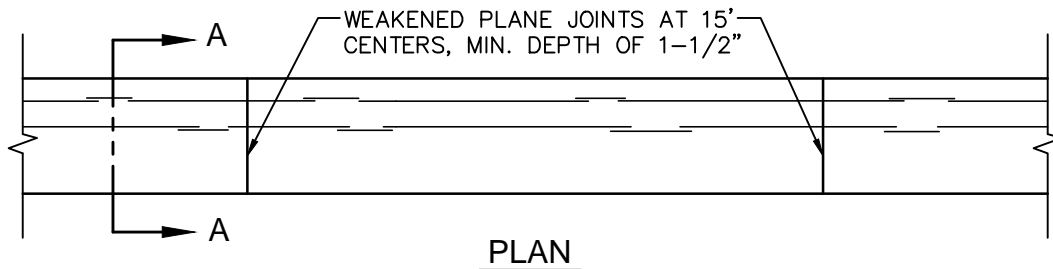
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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

BARRIER TYPE CURB AND GUTTER
(INFILL & REPLACEMENT ONLY)

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C-5



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. A WEAKENED PLANE JOINT OR COLD JOINT SHALL BE INSTALLED AT THE END OF CURB RETURNS AND AT THE CENTERLINE OF PROPOSED DRIVE APPROACHES.
3. ROLL TYPE CURB AND GUTTER SHALL NOT BE CONSTRUCTED EXCEPT TO COMPLETE A BLOCK WITH EXISTING ROLL TYPE CURB AND GUTTER OR TO REPLACE EXISTING DAMAGED ROLL CURB.
4. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4% MINIMUM AND 5% MAXIMUM.

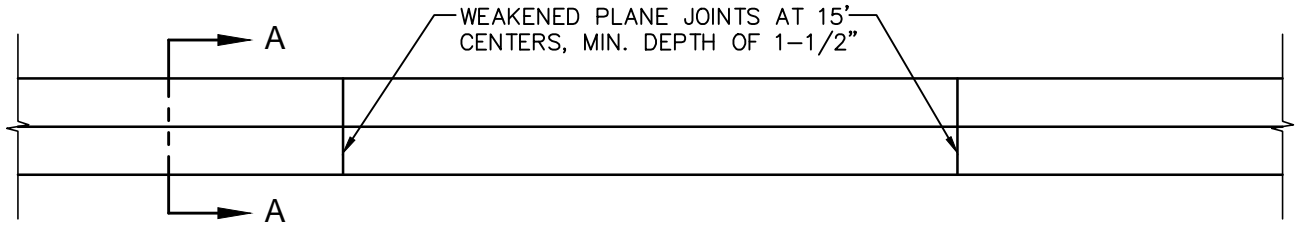
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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

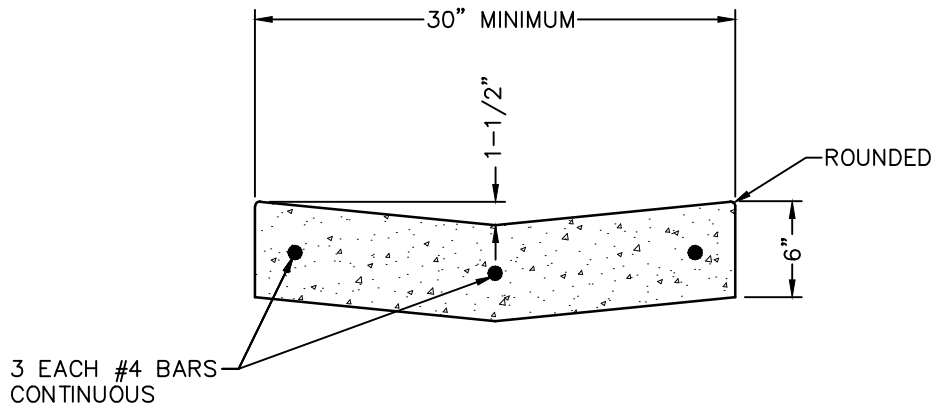
ROLL TYPE CURB AND GUTTER
(INFILL & REPLACEMENT ONLY)

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BK 2016

C-6



PLAN



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
3. REBAR SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
4. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4% MINIMUM AND 5% MAXIMUM.

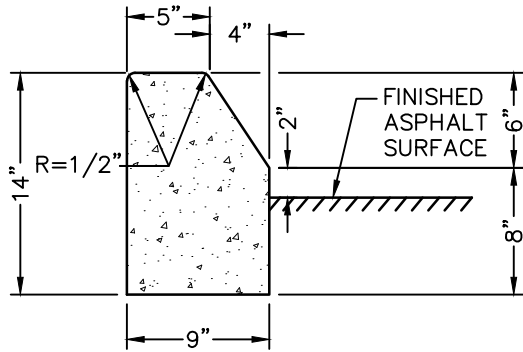
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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

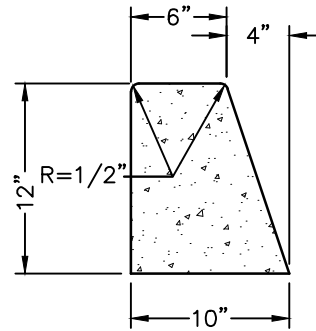
VEE GUTTER

REVISIONS
09/14/16
BK 2016

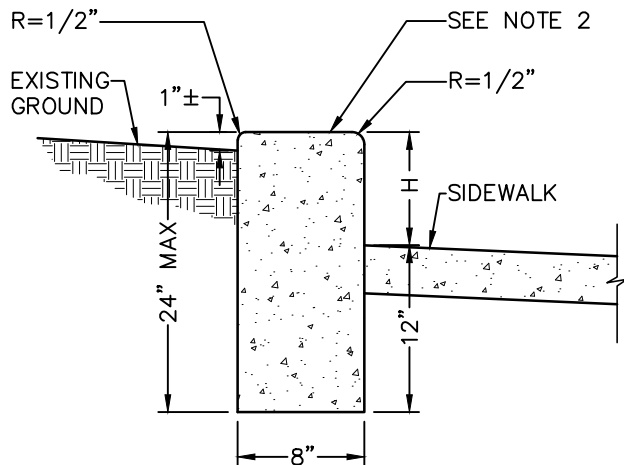
C-7



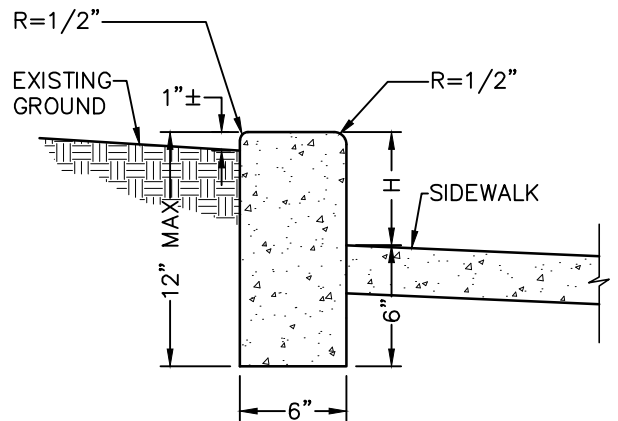
**MEDIAN CURB TYPE B1-6
STREET APPLICATIONS**



**LANDSCAPE CURB
NON-STREET APPLICATIONS**



**RETAINING CURB
NON-STREET APPLICATIONS
USE WHEN H > 6"**



**RETAINING CURB
NON-STREET APPLICATIONS
USE WHEN H ≤ 6"**

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. REBAR SHALL BE USED AT THE DISCRETION OF THE CITY ENGINEER.

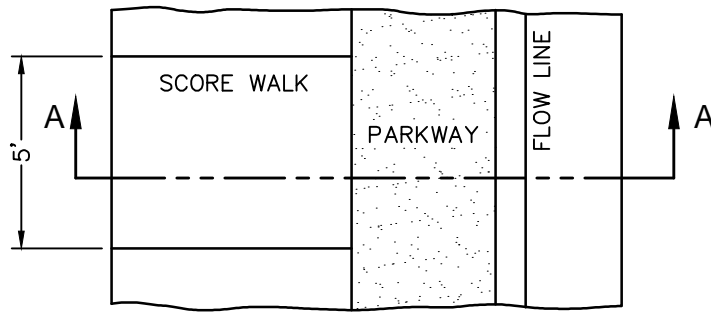
APPROVED BY:  09/16/16
CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

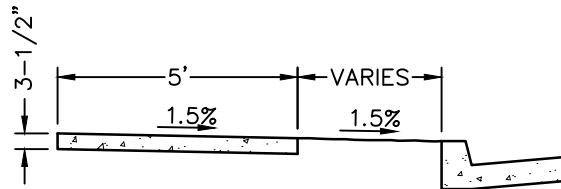
**MEDIAN CURB TYPE B1-6,
RETAINING CURB AND LANDSCAPE CURB**

REVISIONS
06/14/13
BK 2016

C-8




PLAN



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.

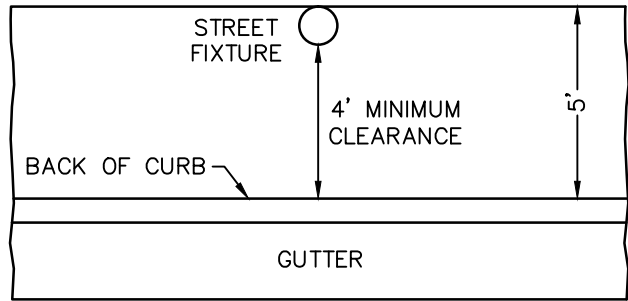
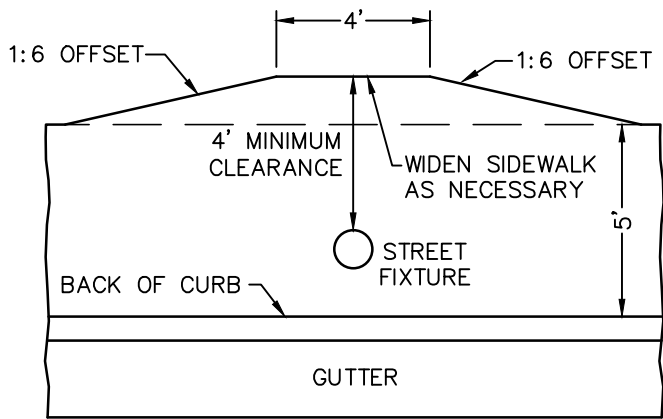
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

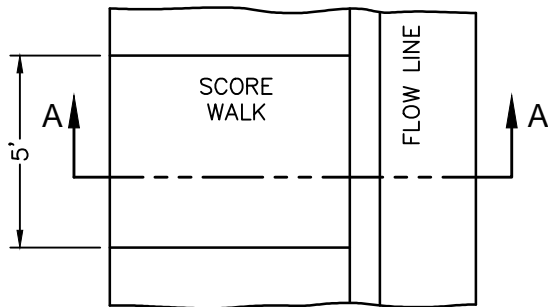
SIDEWALK – RESIDENTIAL
 WITH PARKWAY

REVISIONS
 06/30/16
 BK 2016

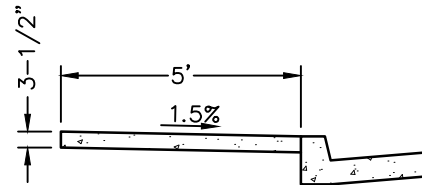
C-9



PLAN WITH STREET FIXTURE



PLAN



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. SIDEWALK SHALL BE WIDENED AT STREET FIXTURE LOCATIONS PROVIDING A MINIMUM CLEARANCE OF 4' TO BACK OF SIDEWALK, OR AS APPROVED BY CITY ENGINEER.

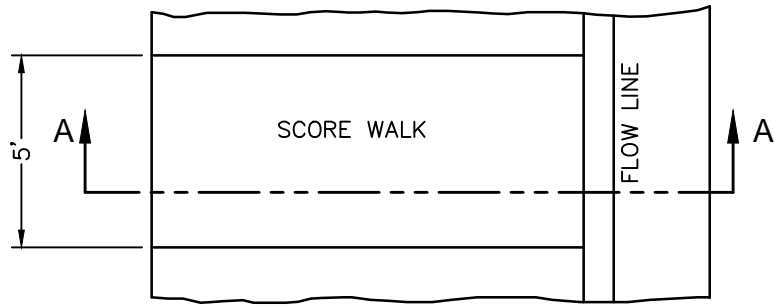
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

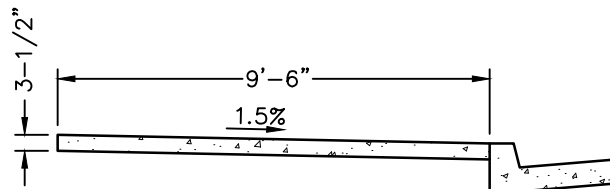
SIDEWALK – RESIDENTIAL
 ADJACENT TO CURB

REVISIONS
 06/30/16
 BK 2016

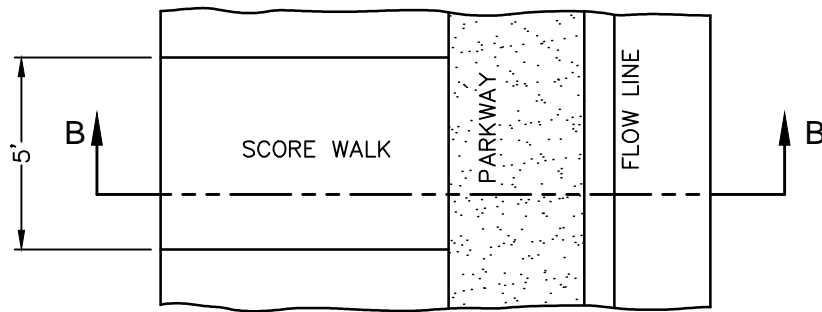
C-10



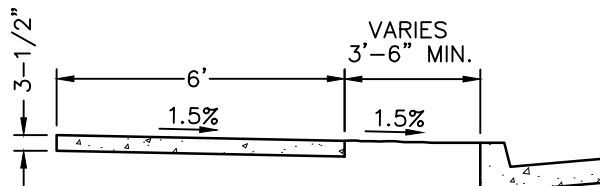
PLAN
DOWNTOWN COMMERCIAL



SECTION A-A



PLAN
WITH PARKWAY



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.

APPROVED BY: 
CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SIDEWALKS — OFFICE/COMMERCIAL

REVISIONS
06/30/16
BK 2016

C-11

SLOPE SHALL NOT EXCEED 5% IN THE PATH OF TRAVEL TYP. SEE NOTE 1.

CURB RADIUS TO BE 0.5'± AT ALL CORNERS TYP.

SEE DETECTABLE WARNING SURFACE STANDARD DRAWING

3.5" THICK CONCRETE CAP WITH BROOM FINISH. FLUSH WITH TOP OF CURB

FULL CURB HEIGHT

RETAINING CURB PER CITY STD. C-8 WITH VARYING REVEAL, 4" MIN. REVEAL TYP.

WEAKENED PLANE JOINTS TYP.

GRADE BREAK AT BOTTOM OF DETECTABLE WARNING SURFACE. SLOPE 1.5% TO FLOWLINE TYP.

WEAKENED PLANE JOINTS TYP.

LEVEL AND CLEAR LANDING, 5' DEEP AND WIDTH OF RAMP, NOT TO EXCEED 1.5% CROSS SLOPE IN ANY DIRECTION

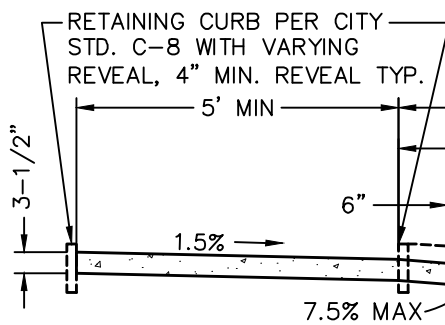
CURB RADIUS TO BE 0.5'± AT ALL CORNERS TYP.

20' R. TO FLOW LINE

WEAKENED PLANE JOINT TYP.

TOP OF CURB AND SIDEWALK FLUSH

WEAKENED PLANE JOINT TYP.



SLOPE SHALL NOT EXCEED 5% IN THE PATH OF TRAVEL. SEE NOTE 1.

FLUSH WITH FLOW LINE

ASPHALT FLUSH WITH LIP OF GUTTER AT BOTTOM OF RAMP

THICKEN RAMP 1" UNDER DETECTABLE WARNING SURFACE FOR CAST IN PLACE CONSTRUCTION OPTION.

GRADE BREAK AREA SLOPE 1.5% TO FL

DETECTABLE WARNING SURFACE PANEL ACROSS WIDTH OF RAMP. FEDERAL YELLOW IN COLOR.

NOTES:

SECTION A-A

1. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE CURB AND GUTTER FLOWLINE
2. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5% OR BE LESS THAN 1.0%
3. DEPRESSED CURB AND GUTTER LIPS AT RAMPS SHALL TRANSITION BACK TO NORMAL CURB AND GUTTER LIP SLOPES OVER A DISTANCE OF AROUND 5'
4. APPLICABLE TO LOCAL STREET INTERSECTIONS IN RESIDENTIAL AND OFFICE ZONES
5. THE DESIGN ENGINEER IS RESPONSIBLE FOR DESIGNING EACH RAMP AND ALL GRADES TO BE COMPLIANT WITH ADA AND PROWAG REQUIREMENTS
6. CONTRACTOR SHALL REFER TO CITY STANDARD DETAILS C-1 AND C-3 FOR ADDITIONAL SPECIFICATIONS

APPROVED BY: *Chris Carr* 01/29/25
CITY ENGINEER R.C.E. 71192 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

20' RADIUS CURB RETURN WITH
DIRECTIONAL RAMPS - DETAIL 1

REVISIONS
01/29/25
BK 2016

C-12

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____
CITY ENGINEER R.C.E. 71192 DATE

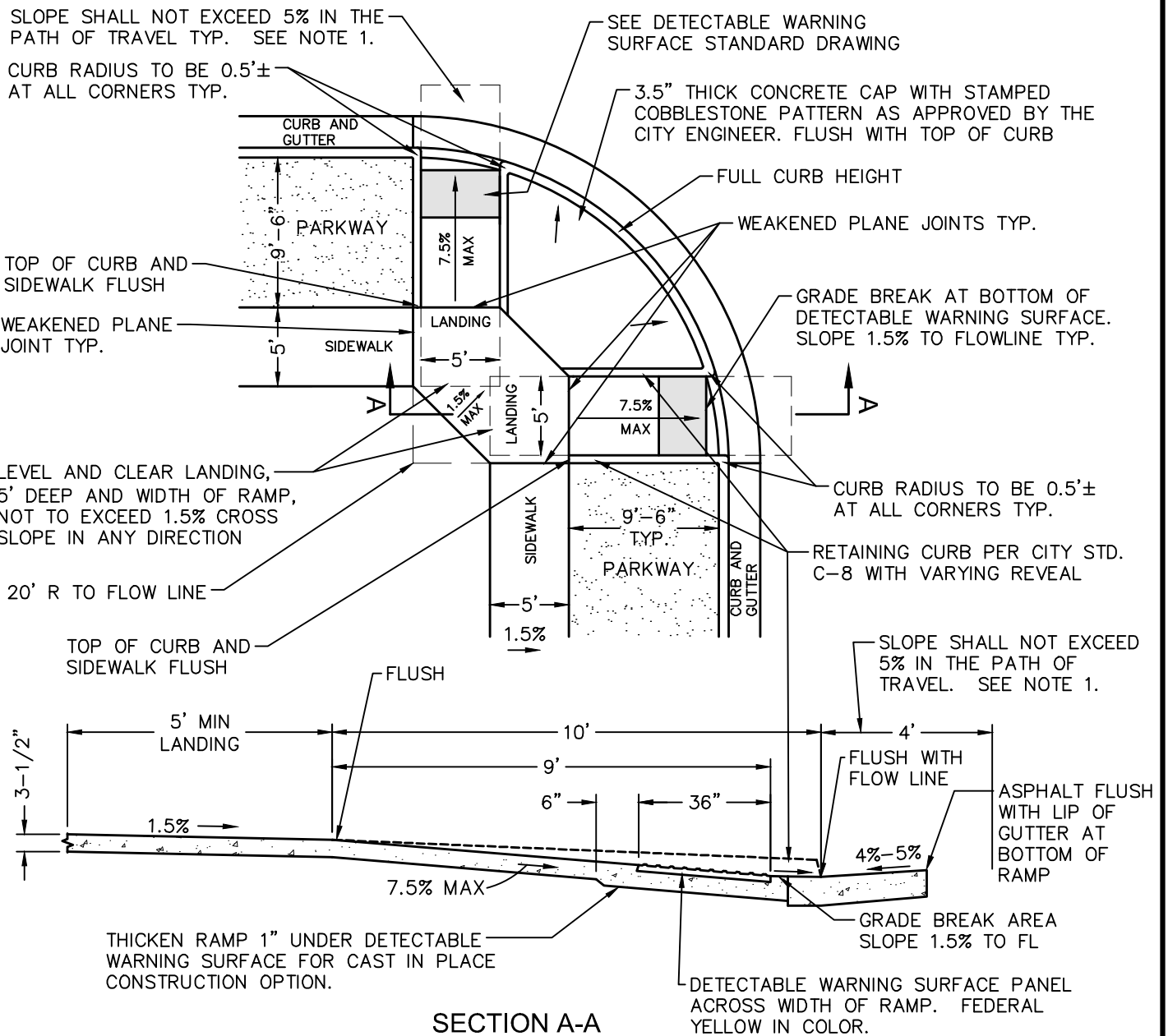
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

REVISIONS

BK 2016

C-13



NOTES:

1. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE CURB AND GUTTER FLOWLINE
2. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5% OR BE LESS THAN 1.0%
3. DEPRESSED CURB AND GUTTER LIPS AT RAMPS SHALL TRANSITION TO NORMAL CURB AND GUTTER LIP SLOPES OVER A DISTANCE OF AROUND 5'
4. APPLICABLE TO LOCAL STREET INTERSECTIONS IN RESIDENTIAL AND OFFICE ZONES
5. THE DESIGN ENGINEER IS RESPONSIBLE FOR DESIGNING EACH RAMP AND ALL GRADES TO BE COMPLIANT WITH ADA AND PROWAG REQUIREMENTS
6. CONTRACTOR SHALL REFER TO CITY STANDARD DETAILS C-1 AND C-3 FOR ADDITIONAL SPECIFICATIONS

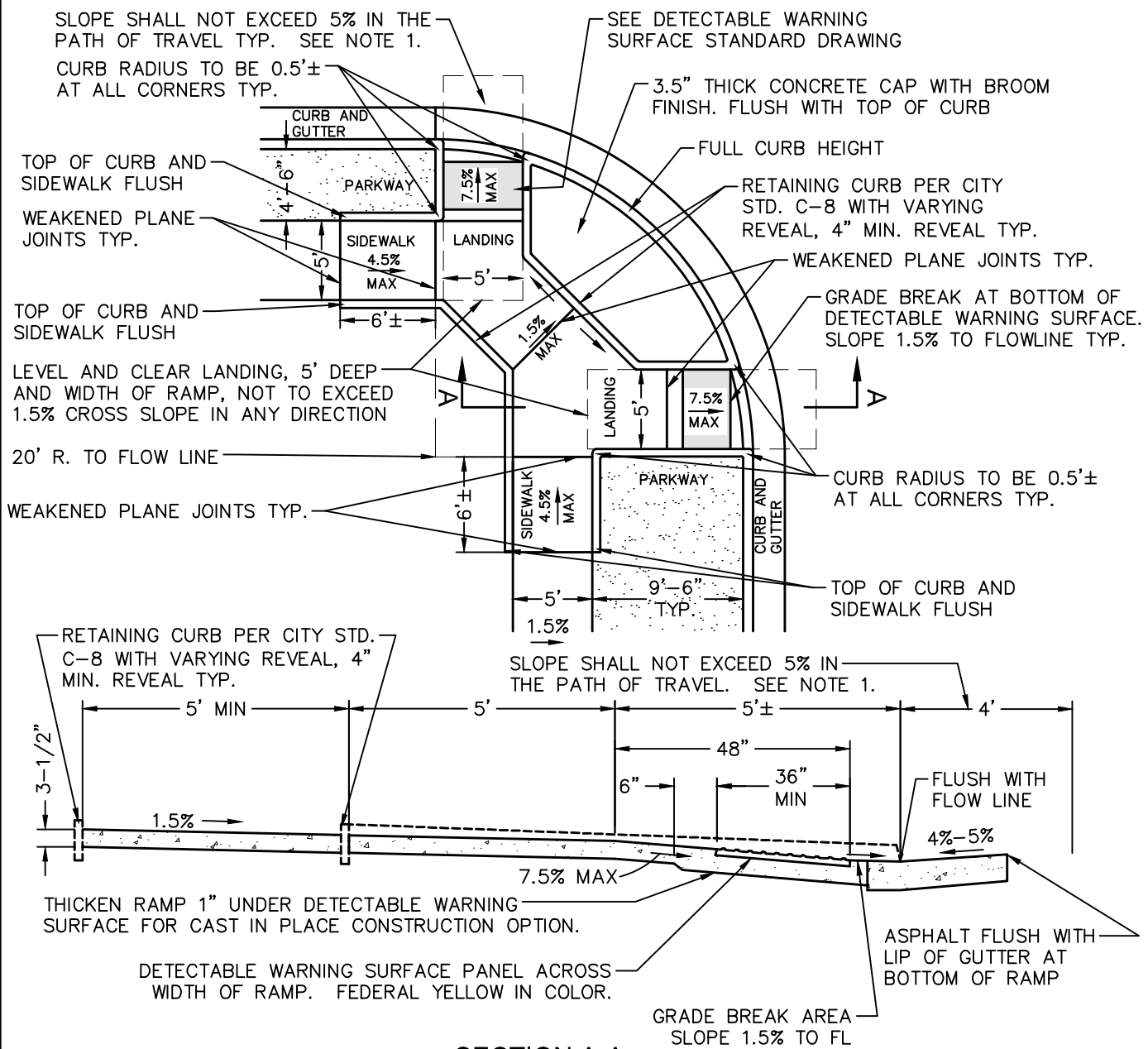
APPROVED BY: *Chris Cant*
 CITY ENGINEER R.C.E. 71192 DATE 01/29/25

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

**20' RADIUS CURB RETURN WITH
 DIRECTIONAL RAMPS - DETAIL 2**

REVISIONS
 01/29/25
 BK 2016

C-14



SECTION A-A

NOTES:

1. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE CURB AND GUTTER FLOWLINE
2. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5% OR BE LESS THAN 1.0%
3. DEPRESSED CURB AND GUTTER LIPS AT RAMPS SHALL TRANSITION BACK TO NORMAL CURB AND GUTTER LIP SLOPES OVER A DISTANCE OF AROUND 5'
4. APPLICABLE TO LOCAL STREET INTERSECTIONS IN RESIDENTIAL AND OFFICE ZONES
5. THE DESIGN ENGINEER IS RESPONSIBLE FOR DESIGNING EACH RAMP AND ALL GRADES TO BE COMPLIANT WITH ADA AND PROWAG REQUIREMENTS
6. CONTRACTOR SHALL REFER TO CITY STANDARD DETAILS C-1 AND C-3 FOR ADDITIONAL SPECIFICATIONS

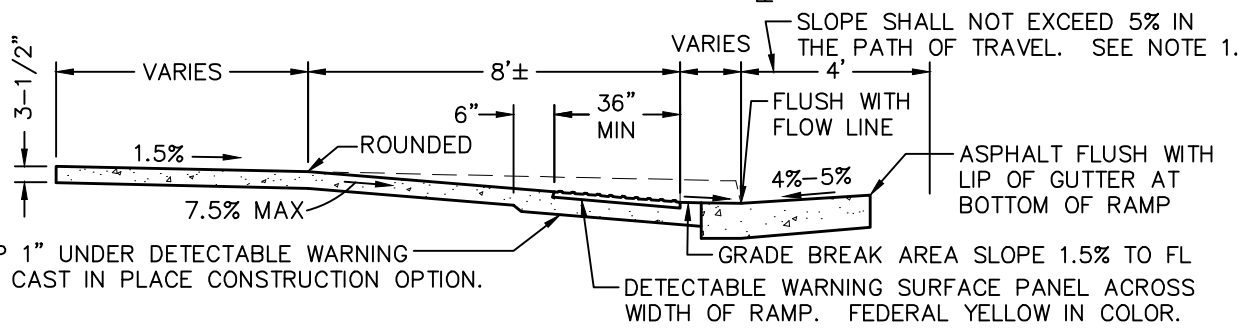
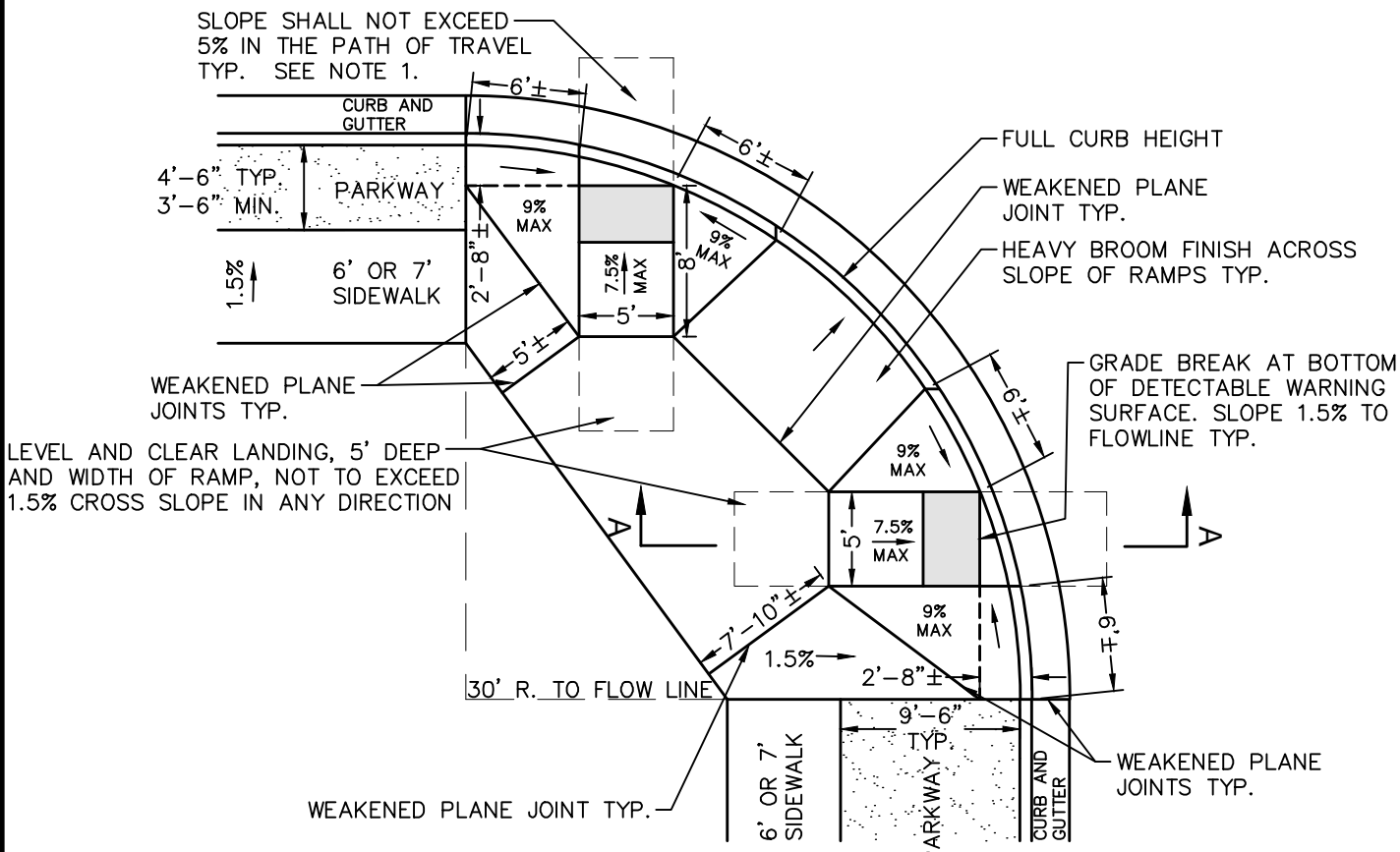
APPROVED BY: *Chris Cant*
 CITY ENGINEER R.C.E. 71192 01/29/25
 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**20' RADIUS CURB RETURN WITH
 DIRECTIONAL RAMPS - DETAIL 3**

REVISIONS
 01/29/25
 BK 2016

C-15



THICKEN RAMP 1" UNDER DETECTABLE WARNING SURFACE FOR CAST IN PLACE CONSTRUCTION OPTION.

NOTES:

SECTION A-A

1. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE CURB AND GUTTER FLOWLINE
2. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5% OR BE LESS THAN 1.0%
3. DEPRESSED CURB AND GUTTER LIPS AT RAMPS SHALL TRANSITION BACK TO NORMAL CURB AND GUTTER LIP SLOPES OVER A DISTANCE OF AROUND 5'
4. APPLICABLE TO LOCAL STREET INTERSECTIONS WITH COLLECTORS OR ARTERIALS.
5. APPLICABLE TO LOCAL STREET INTERSECTIONS IN INDUSTRIAL AND COMMERCIAL ZONES.
6. THE DESIGN ENGINEER IS RESPONSIBLE FOR DESIGNING EACH RAMP AND ALL GRADES TO BE COMPLIANT WITH ADA AND PROWAG REQUIREMENTS
7. CURB AND GUTTER AND CURB RETURN FLATWORK SHALL BE POURED MONOLITHICALLY UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER
8. CONTRACTOR SHALL REFER TO CITY STANDARD DETAILS C-1 AND C-3 FOR ADDITIONAL SPECIFICATIONS

APPROVED BY: *Chris Cook*
 CITY ENGINEER R.C.E. 71192
 02/05/25 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

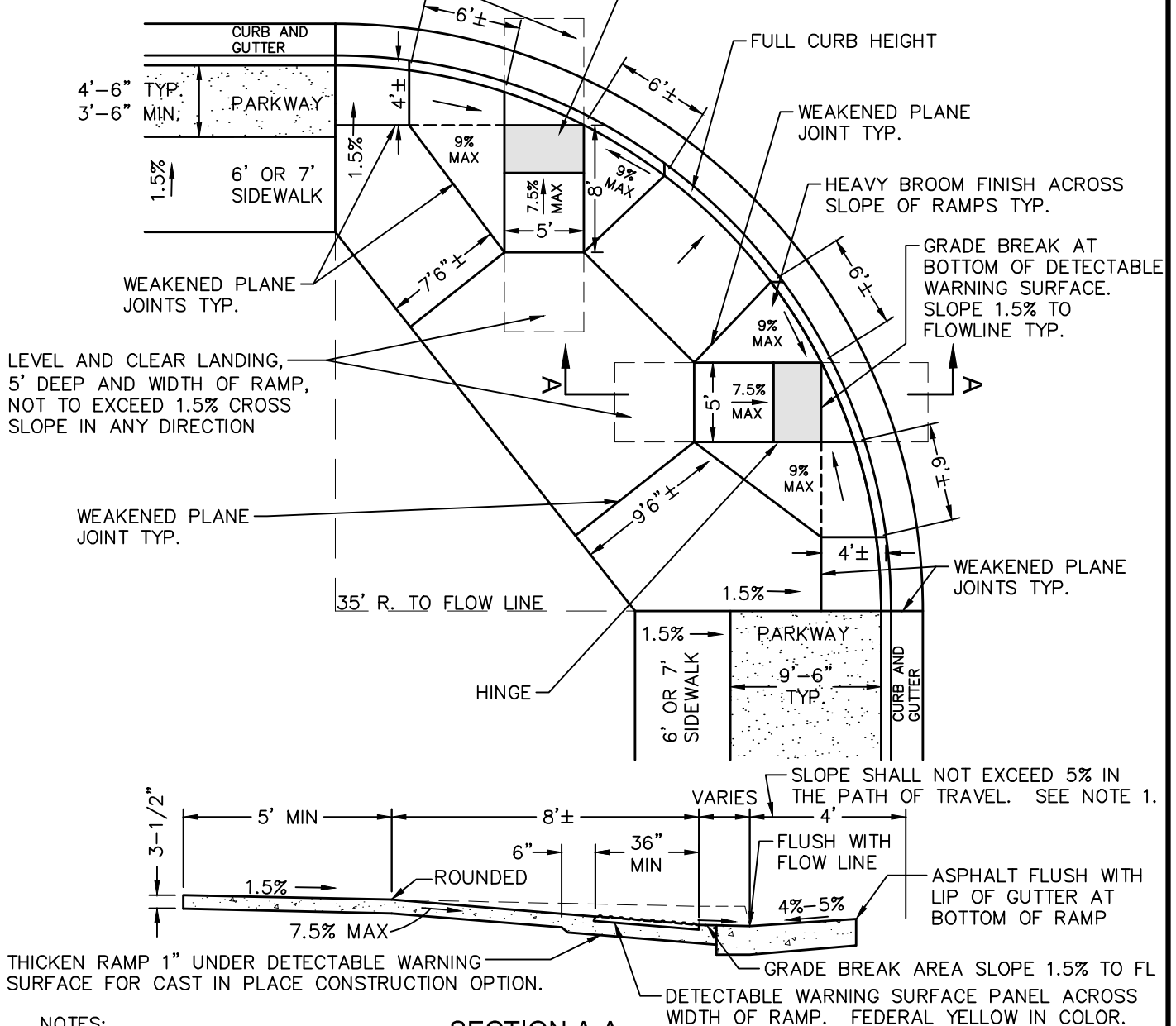
**30' RADIUS CURB RETURN WITH
 DIRECTIONAL RAMPS**

REVISIONS
 02/05/25
 BK 2016

C-16

SLOPE SHALL NOT EXCEED 5% IN THE PATH OF TRAVEL TYP. SEE NOTE 1.

SEE DETECTABLE WARNING SURFACE STANDARD DRAWING



NOTES:

SECTION A-A

1. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE CURB AND GUTTER FLOWLINE
2. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5% OR BE LESS THAN 1.0%
3. DEPRESSED CURB AND GUTTER LIPS AT RAMPS SHALL TRANSITION BACK TO NORMAL CURB AND GUTTER LIP SLOPES OVER A DISTANCE OF AROUND 5'
4. THE DESIGN ENGINEER IS RESPONSIBLE FOR DESIGNING EACH RAMP AND ALL GRADES TO BE COMPLIANT WITH ADA AND PROWAG REQUIREMENTS
5. CURB AND GUTTER AND CURB RETURN FLATWORK SHALL BE POURED MONOLITHICALLY UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER
6. CONTRACTOR SHALL REFER TO CITY STANDARD DETAILS C-1 AND C-3 FOR ADDITIONAL SPECIFICATIONS

APPROVED BY: Chris Cant 01/29/25
 CITY ENGINEER R.C.E. 71192 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

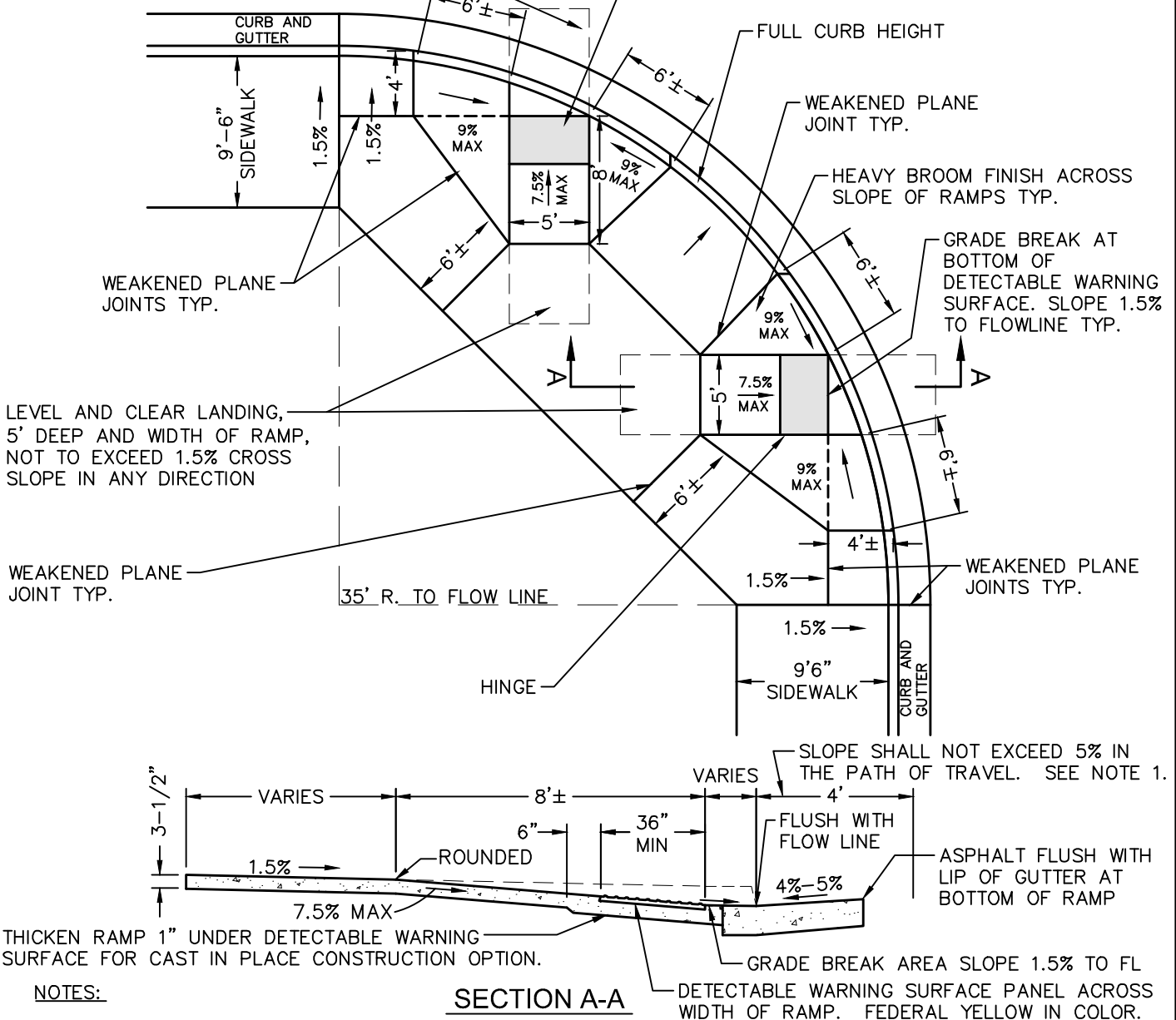
**35' RADIUS CURB RETURN WITH
 DIRECTIONAL RAMPS - DETAIL 1**

REVISIONS
 01/29/25
 BK 2016

C-17

SLOPE SHALL NOT EXCEED 5% IN THE PATH OF TRAVEL TYP. SEE NOTE 1.

SEE DETECTABLE WARNING SURFACE STANDARD DRAWING



LEVEL AND CLEAR LANDING, 5' DEEP AND WIDTH OF RAMP, NOT TO EXCEED 1.5% CROSS SLOPE IN ANY DIRECTION

WEAKENED PLANE JOINT TYP.

35' R. TO FLOW LINE

HINGE

THICKEN RAMP 1" UNDER DETECTABLE WARNING SURFACE FOR CAST IN PLACE CONSTRUCTION OPTION.

SECTION A-A

NOTES:

1. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
2. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5% OR BE LESS THAN 1.0%
3. DEPRESSED CURB AND GUTTER LIPS AT RAMPS SHALL TRANSITION BACK TO NORMAL CURB AND GUTTER LIP SLOPES OVER A DISTANCE OF AROUND 5'
4. THE DESIGN ENGINEER IS RESPONSIBLE FOR DESIGNING EACH RAMP AND ALL GRADES TO BE COMPLIANT WITH ADA AND PROWAG REQUIREMENTS
5. CURB AND GUTTER AND CURB RETURN FLATWORK SHALL BE POURED MONOLITHICALLY UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER
6. CONTRACTOR SHALL REFER TO CITY STANDARD DETAILS C-1 AND C-3 FOR ADDITIONAL SPECIFICATIONS

APPROVED BY: *Chris Carr*
CITY ENGINEER R.C.E. 71192 01/29/25 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

35' RADIUS CURB RETURN WITH DIRECTIONAL RAMPS - DETAIL 2

REVISIONS
01/29/25
BK 2016

C-18

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

REVISIONS

BK 2016

C-19

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

REVISIONS

BK 2016

C-20

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____

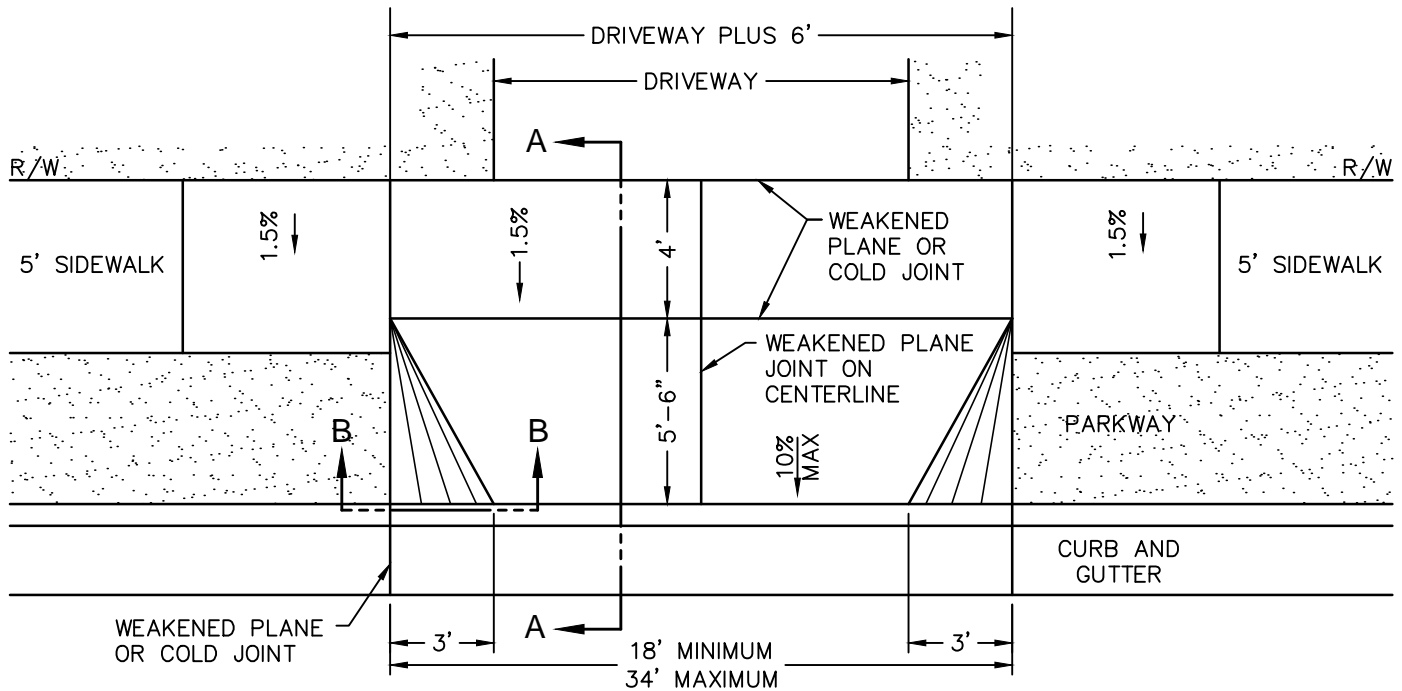
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

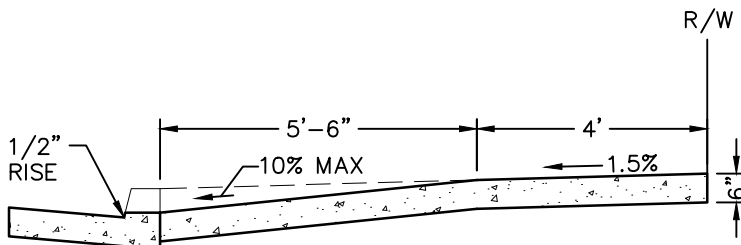
REVISIONS

BK 2016

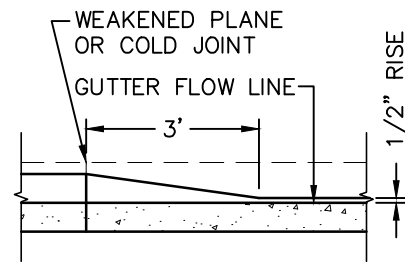
C-21



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. DRIVE APPROACHES SHALL BE NO GREATER THAN 6' WIDER THAN THE DRIVEWAY.

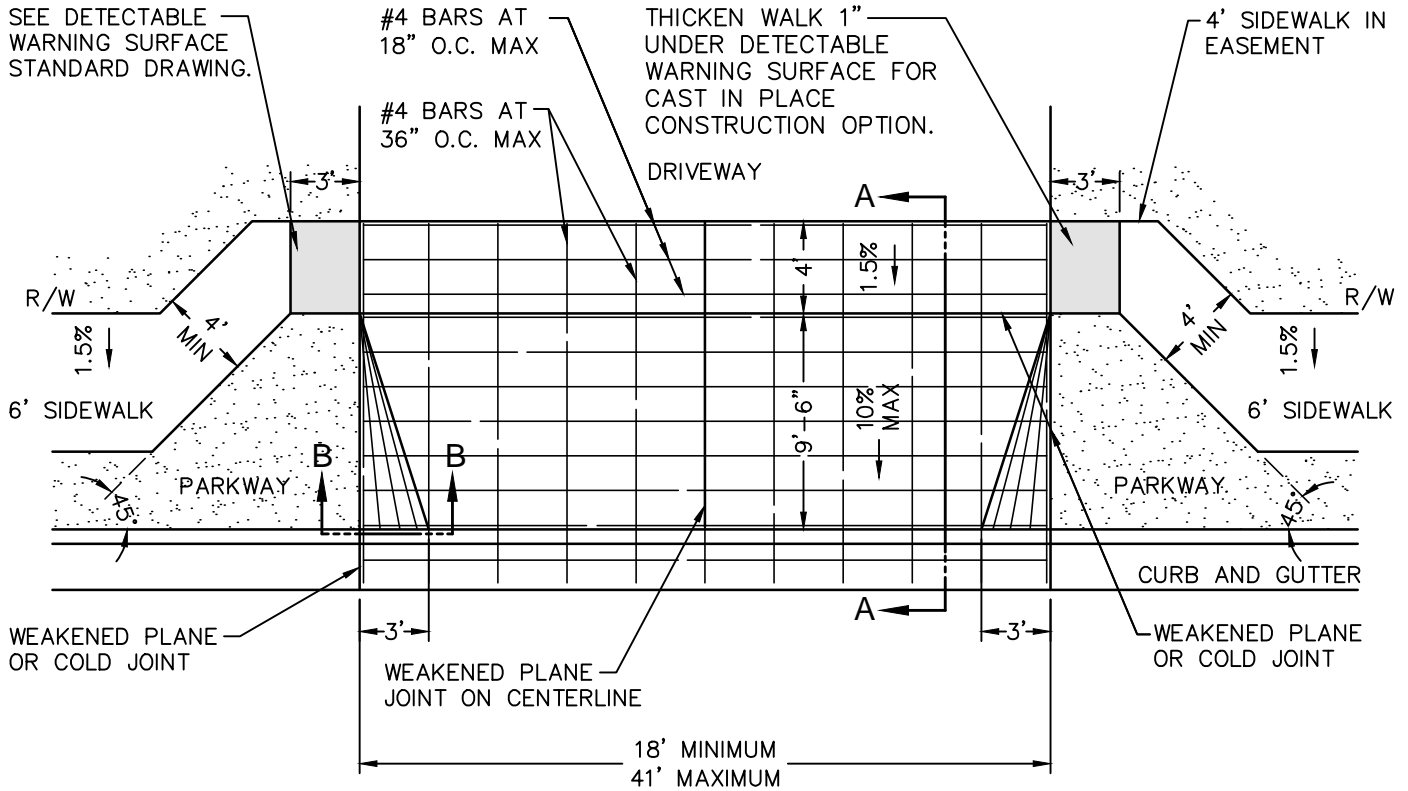
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

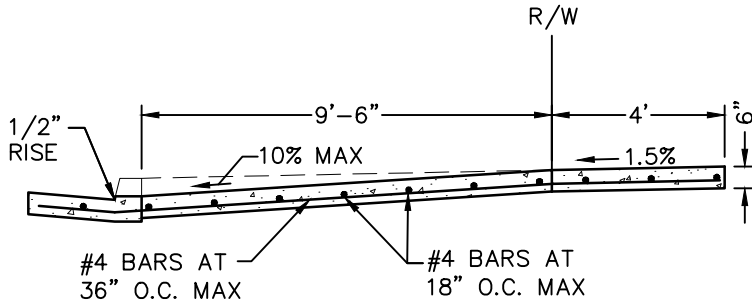
RESIDENTIAL DRIVE APPROACH

REVISIONS
 07/11/16
 BK 2016

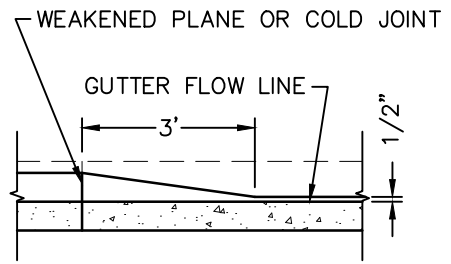
C-22



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. ON COLLECTOR AND ARTERIAL STREETS, THE MINIMUM DRIVE APPROACH WIDTH SHALL BE 21' FOR ONE-WAY DRIVE APPROACHES AND 36' FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY CITY ENGINEER.
3. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REBAR SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
5. NOT MORE THAN 50% OF PROPERTY FRONTAGE SHALL BE USED AS DRIVE APPROACH.
6. WIDTH AND LOCATION OF DRIVE APPROACHES ON STATE ROUTES IS SUBJECT TO APPROVAL BY CALTRANS.

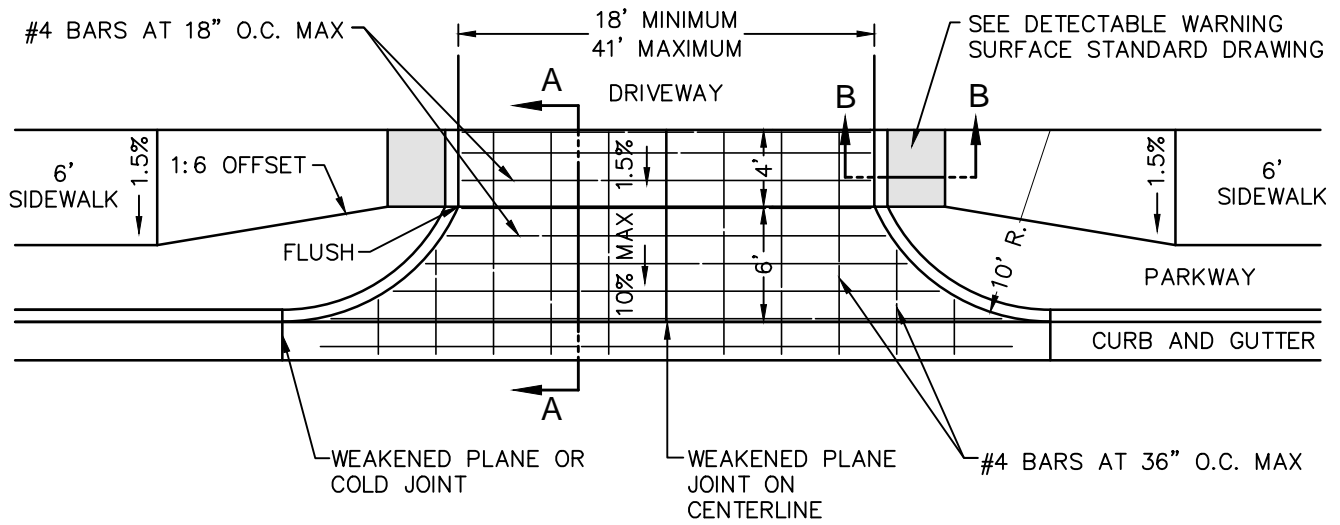
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

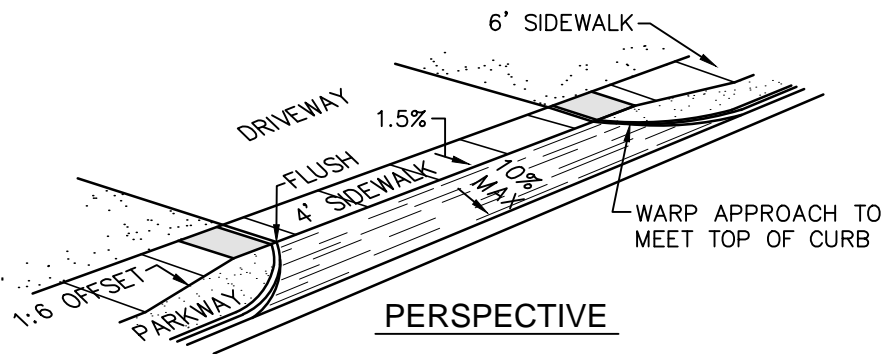
**MULTI-FAMILY RESIDENTIAL/OFFICE
 /COMMERCIAL DRIVE APPROACH**

REVISIONS
 09/15/16
 BK 2016

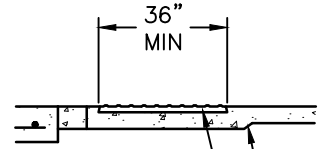
C-23



PLAN



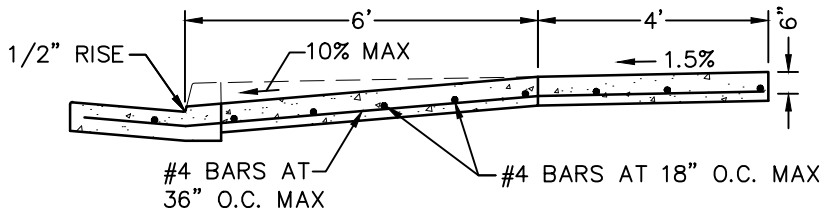
PERSPECTIVE



DETECTABLE WARNING SURFACE PANEL ACROSS WIDTH OF WALK. FEDERAL YELLOW IN COLOR.

THICKEN WALK 1" UNDER DETECTABLE WARNING SURFACE FOR CAST IN PLACE CONSTRUCTION OPTION.

SECTION B-B



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. ON COLLECTOR AND ARTERIAL STREETS, THE MINIMUM DRIVE APPROACH WIDTH SHALL BE 21' FOR ONE-WAY DRIVE APPROACHES AND 36' FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY CITY ENGINEER.
3. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REBAR SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
5. NOT MORE THAN 50% OF PROPERTY FRONTAGE SHALL BE USED AS DRIVE APPROACH.
6. WIDTH AND LOCATION OF DRIVE APPROACHES ON STATE ROUTES IS SUBJECT TO APPROVAL BY CALTRANS.

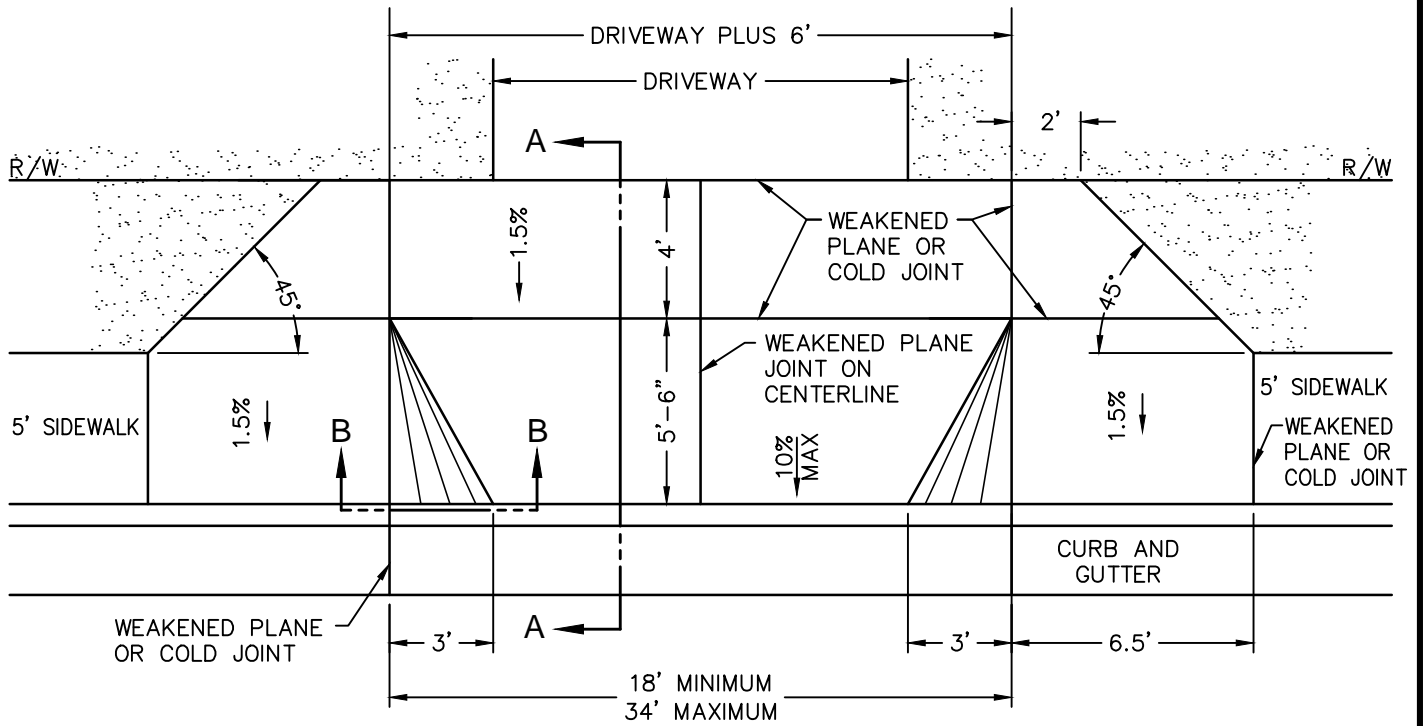
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

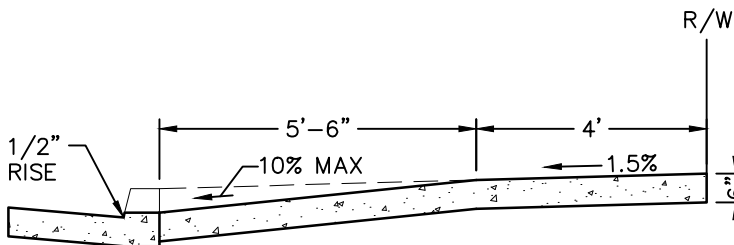
OFFICE/COMMERCIAL DRIVE APPROACH
 (ALTERNATIVE - WITH CURB RETURNS)

REVISIONS
 09/15/16
 BK 2016

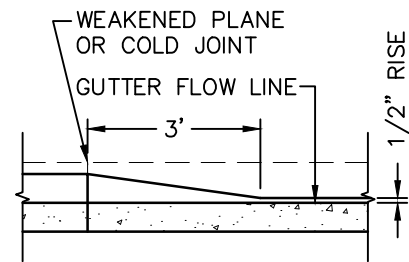
C-24



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. DRIVE APPROACHES SHALL BE NO GREATER THAN 6' WIDER THAN THE DRIVEWAY.

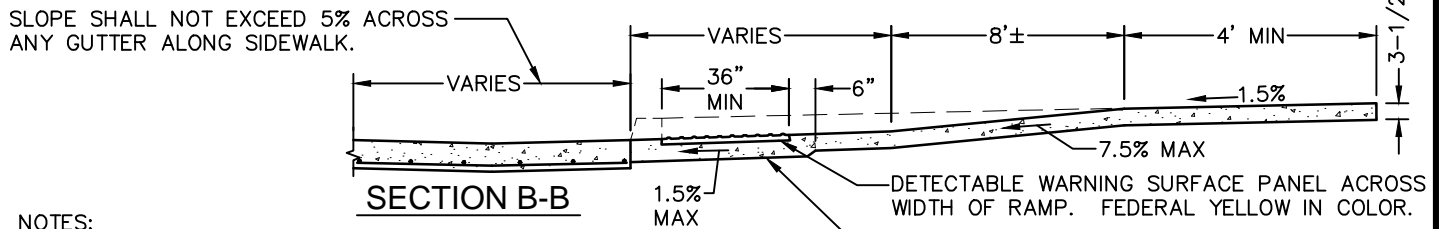
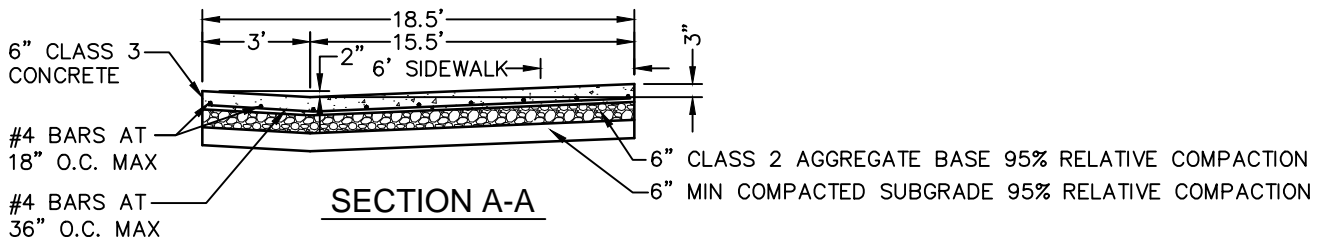
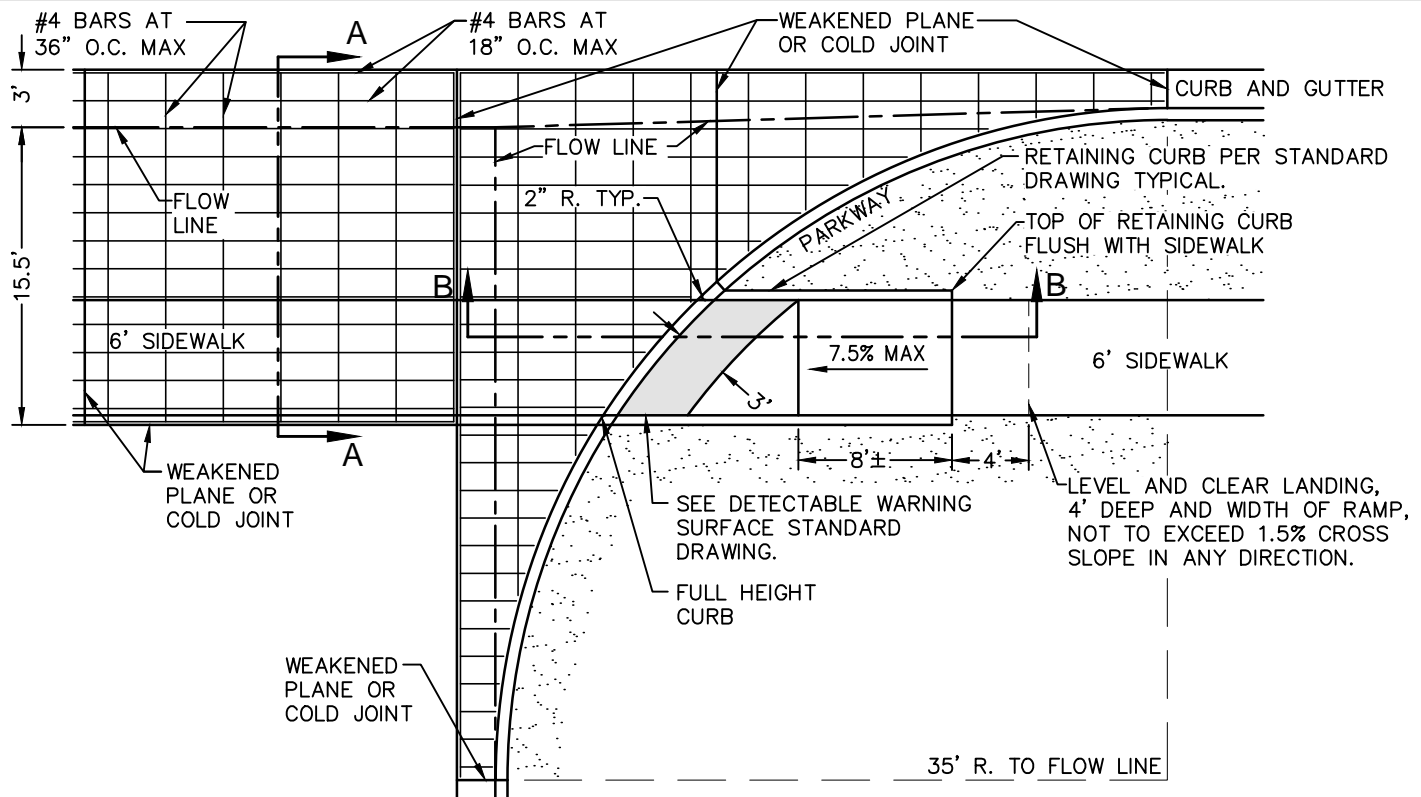
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

RESIDENTIAL DRIVE APPROACH WITH
 ADJACENT SIDEWALK (INFILL ONLY)

REVISIONS
 07/11/16
 BK 2016

C-25



NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. COMMERCIAL DRIVE APPROACH SHALL HAVE A MINIMUM GRADIENT OF 0.40%. MINIMUM GRADIENT ON INFILL PROJECTS MAY BE LESS AS APPROVED BY THE CITY ENGINEER.
3. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REBAR SHALL HAVE A MINIMUM 2" OF CLEAR COVERAGE.
5. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
6. PROVIDE A MINIMUM 6' SIDEWALK ACROSS DRIVE. MAXIMUM 1.5% CROSS SLOPE AND MAXIMUM 1.5% SLOPE IN THE DIRECTION OF SIDEWALK.
7. NO CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO EXCEED 1.5%.

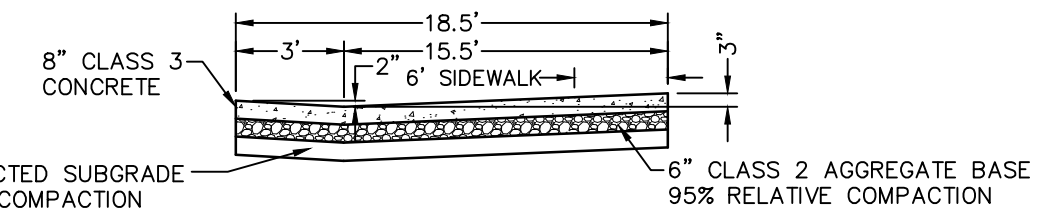
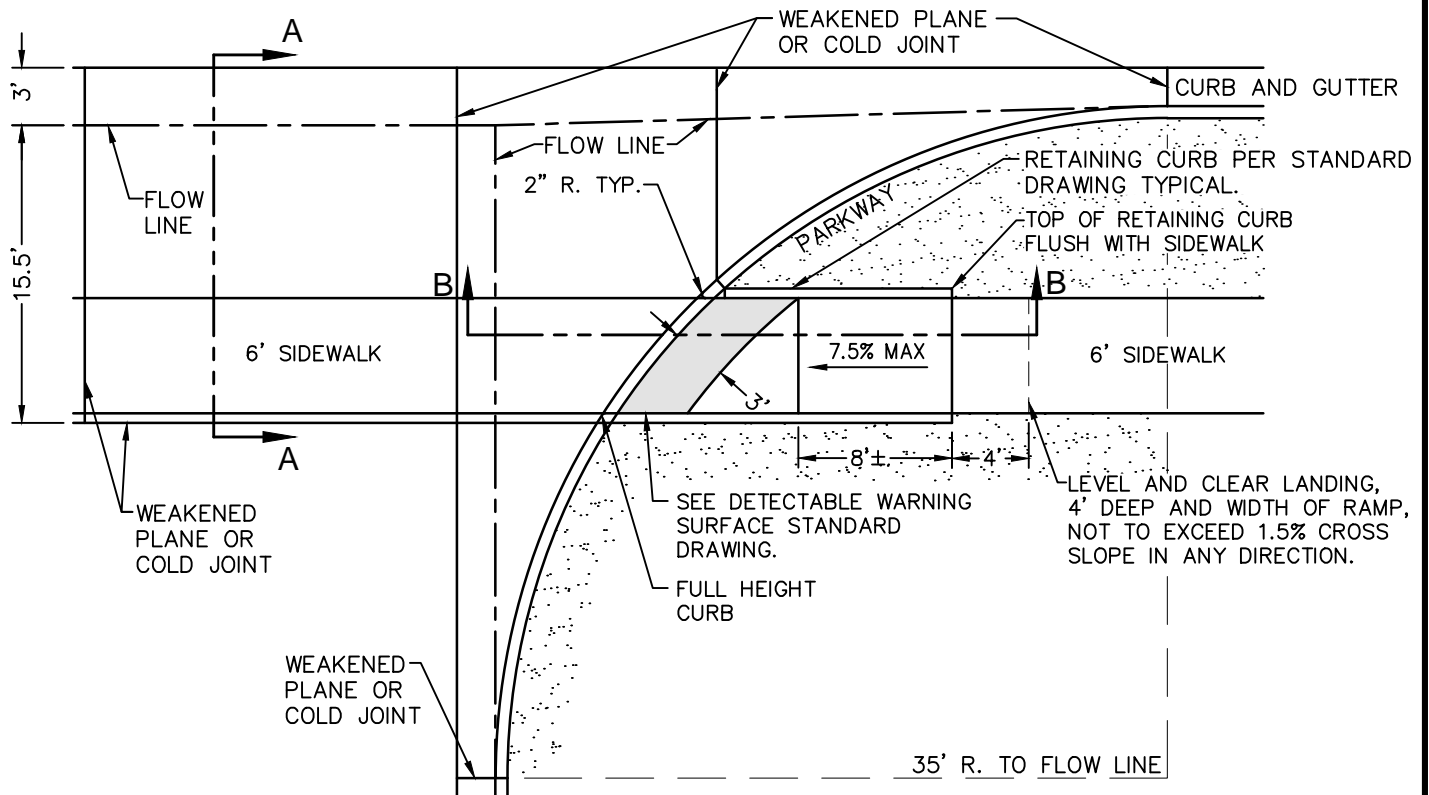
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

MAJOR COMMERCIAL DRIVE APPROACH
 35' RADIUS CURB RETURN

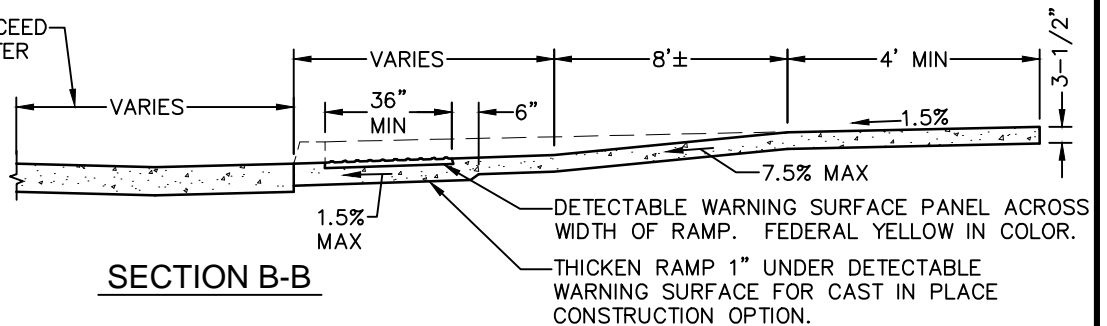
REVISIONS
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SECTION A-A

SLOPE SHALL NOT EXCEED 5% ACROSS ANY GUTTER ALONG SIDEWALK.



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. COMMERCIAL DRIVE APPROACH GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.40%. MINIMUM GRADIENT ON INFILL PROJECTS MAY BE LESS AS APPROVED BY THE CITY ENGINEER.
3. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
4. NO CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO EXCEED 1.5%.
5. PROVIDE A MINIMUM 6' SIDEWALK ACROSS DRIVE. MAXIMUM 1.5% CROSS SLOPE AND MAXIMUM 1.5% SLOPE IN THE DIRECTION OF SIDEWALK.

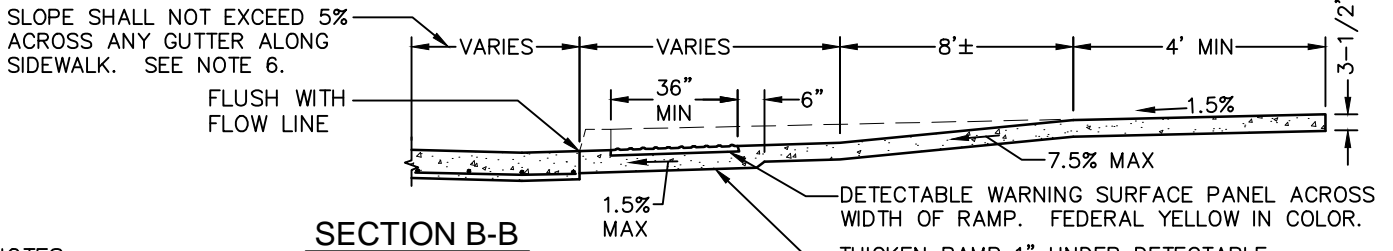
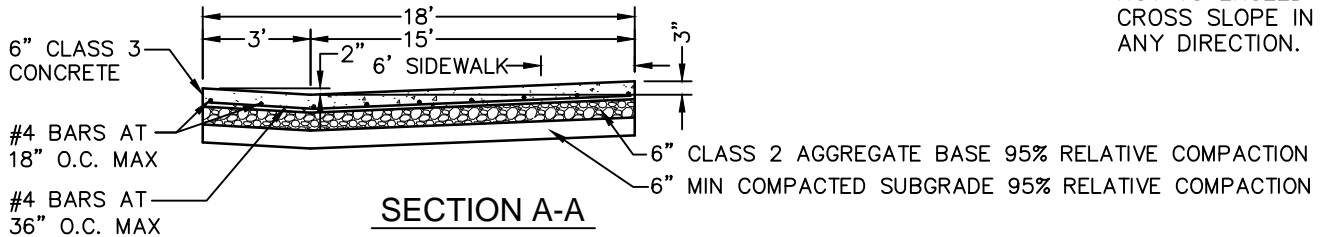
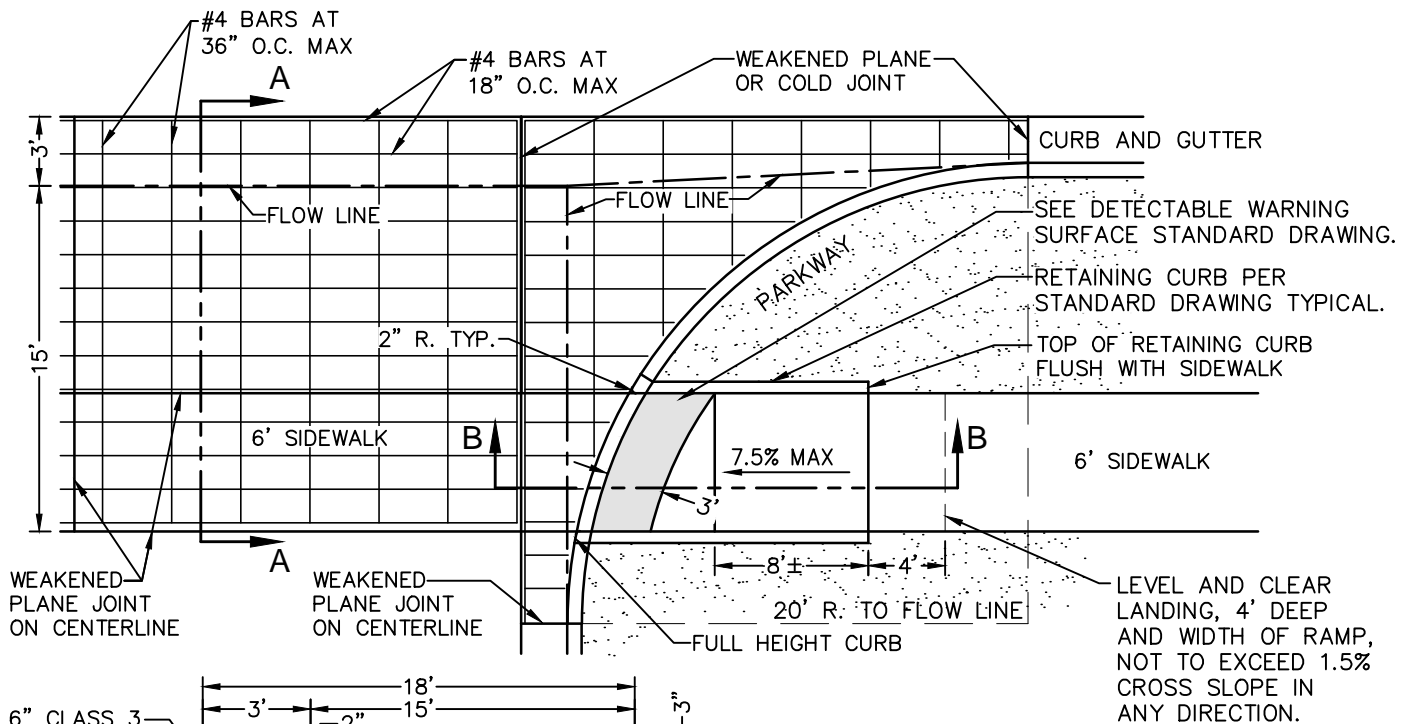
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 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**MAJOR COMMERCIAL DRIVE APPROACH
 35' RADIUS CURB RETURN-ALTERNATE**

REVISIONS
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NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. COMMERCIAL DRIVE APPROACH SHALL HAVE A MINIMUM GRADIENT OF 0.40%. MINIMUM GRADIENT ON INFILL PROJECTS MAY BE LESS AS APPROVED BY THE CITY ENGINEER.
3. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REBAR SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
5. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
6. MAXIMUM SLOPES OF ADJOINING GUTTERS IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
7. NO CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO EXCEED 1.5%.
8. PROVIDE A MINIMUM 6' SIDEWALK ACROSS DRIVE. MAXIMUM 1.5% CROSS SLOPE AND MAXIMUM 1.5% SLOPE IN THE DIRECTION OF SIDEWALK.

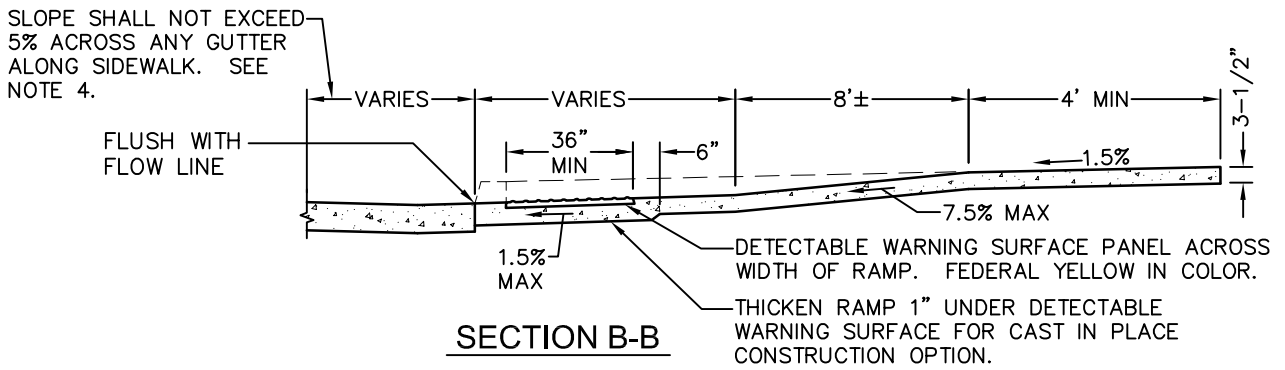
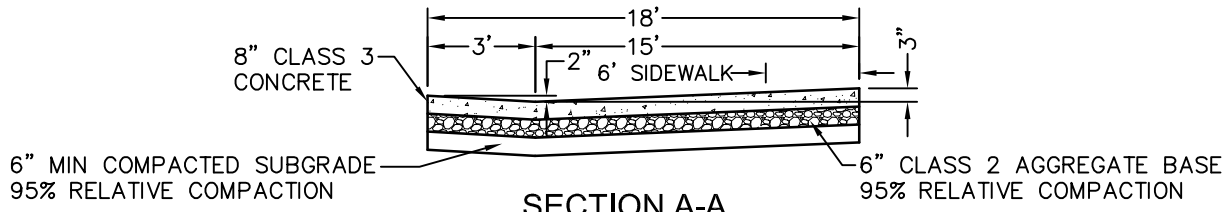
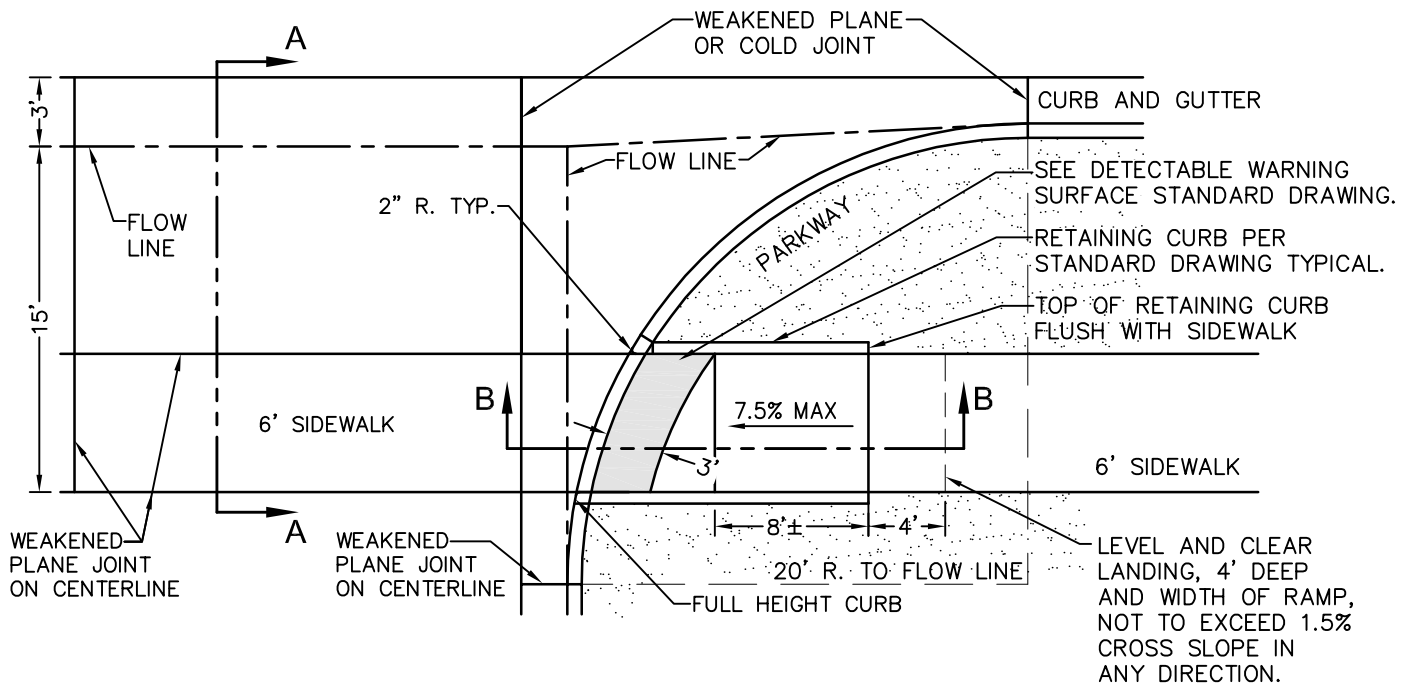
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

MAJOR COMMERCIAL DRIVE APPROACH
 20' RADIUS CURB RETURN

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NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. COMMERCIAL DRIVE APPROACH GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.40%. MINIMUM GRADIENT ON INFILL PROJECTS MAY BE LESS AS APPROVED BY THE CITY ENGINEER.
3. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
4. MAXIMUM SLOPES OF ADJOINING GUTTERS IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
5. NO CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO EXCEED 1.5%.
6. PROVIDE A MINIMUM 6' SIDEWALK ACROSS DRIVE. MAXIMUM 1.5% CROSS SLOPE AND MAXIMUM 1.5% SLOPE IN THE DIRECTION OF SIDEWALK.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

MAJOR COMMERCIAL DRIVE APPROACH
20' RADIUS CURB RETURN-ALTERNATE

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CITY OF VISALIA
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RESERVED FOR FUTURE DETAIL

APPROVED BY: _____

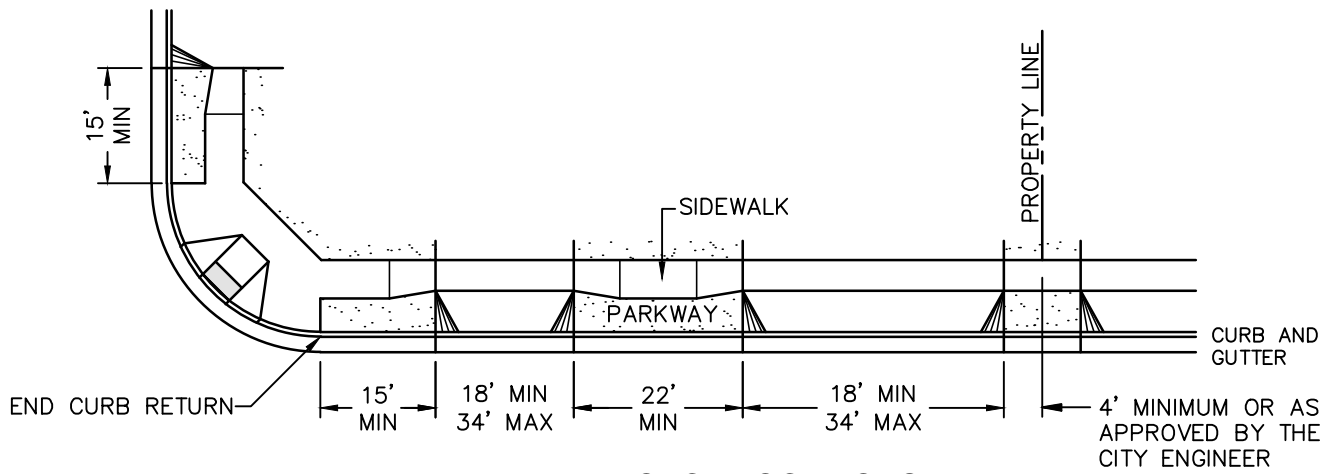
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

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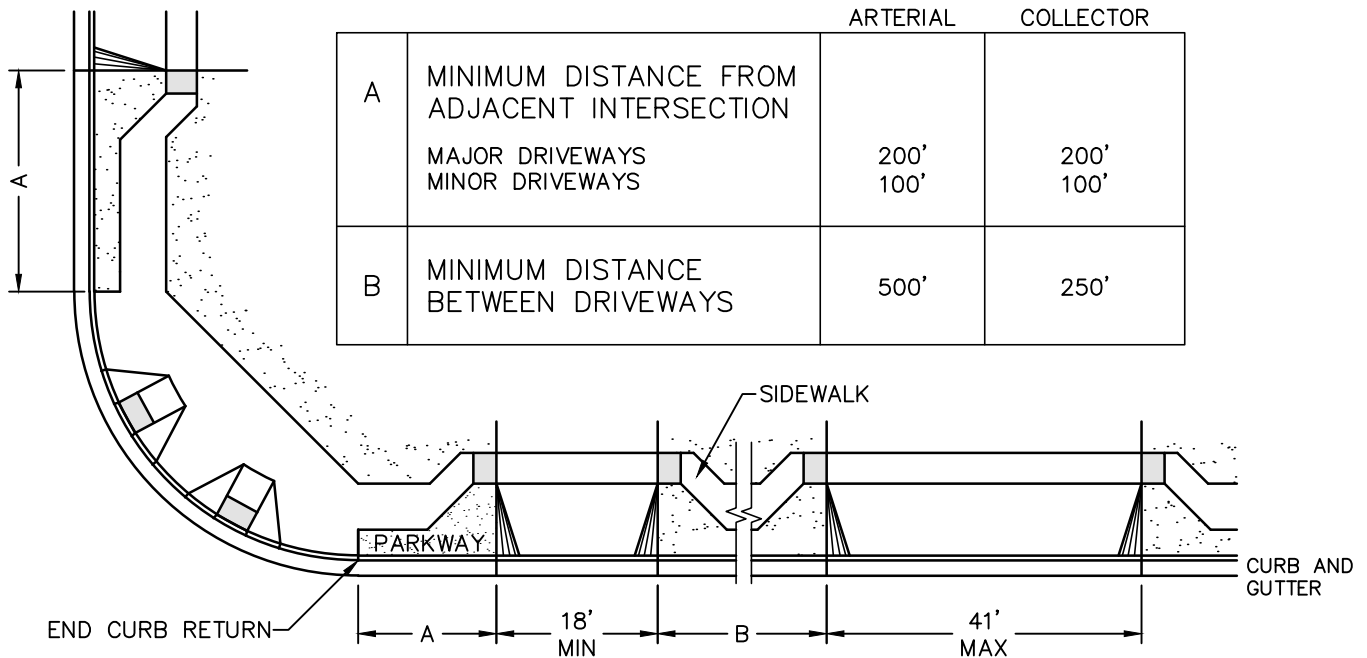
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**DRIVE APPROACH LOCATIONS
RESIDENTIAL ZONES WITH 4 UNITS OR LESS PER LOT**



**DRIVE APPROACH LOCATIONS
OFFICE / COMMERCIAL / MULTI FAMILY ZONES**

NOTES:

1. ON COLLECTOR AND ARTERIAL STREETS, THE MINIMUM DRIVE APPROACH WIDTH SHALL BE 21' FOR ONE-WAY DRIVE APPROACHES AND 36' FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY CITY ENGINEER.
2. NOT MORE THAN 50% OF PROPERTY FRONTAGE SHALL BE USED AS DRIVE APPROACH.
3. DRIVEWAYS SHOULD BE CONSOLIDATED WHENEVER POSSIBLE TO PROVIDE THE MINIMUM DISTANCE BETWEEN DRIVEWAYS AS SHOWN IN 'B' ABOVE.
4. DRIVEWAYS FROM RESIDENTIAL PROPERTIES TO ARTERIAL STREETS ARE DISCOURAGED. RESIDENTIAL PROPERTIES SHOULD RECEIVE ACCESS TO ARTERIALS FROM COLLECTOR STREETS AND LOCAL STREETS.
5. WIDTH AND LOCATION OF DRIVE APPROACHES ON STATE ROUTES IS SUBJECT TO CALTRANS APPROVAL.
6. NO VEHICULAR TRAFFIC SHALL CROSS CURB, GUTTER, OR SIDEWALK WITHOUT AN APPROVED DRIVE APPROACH.

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09/16/16
DATE

**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

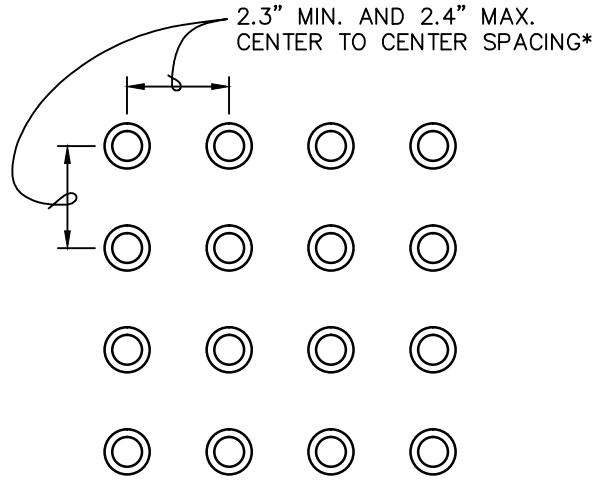
DRIVE APPROACH LOCATIONS

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06/14/13
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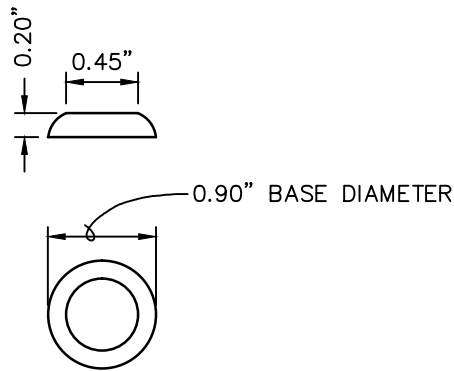
C-32

NOTE:

* WHERE INSTALLED IN A RADIAL PATTERN, TRUNCATED DOMES SHALL HAVE A CENTER TO CENTER SPACING OF 1.6" MINIMUM TO 2.4" MAXIMUM OR AS INDICATED PER CURRENT CBC.



RAISED TRUNCATED DOME PATTERN



RAISED TRUNCATED DOME

NOTES:

1. DETECTABLE WARNING SURFACE SHALL BE INSTALLED AT THE BOTTOM OF ALL CURB RAMPS.
2. DETECTABLE WARNING SHALL BE INSTALLED SO THAT IT BUTTS UP FLUSH AGAINST THE BACK OF ADJACENT CURB. WHERE CURBS ARE ON A CURVE, THE BACK OF CURB SHALL BE STRAIGHTENED AT THE DETECTABLE WARNING LOCATION SO THE WARNING BUTTS UP FLUSH AGAINST THE BACK OF CURB.
3. DETECTABLE WARNING SURFACE SHALL BE THE FULL WIDTH OF RAMP AND SHALL BE A MINIMUM OF 36" IN DEPTH.
4. DETECTABLE WARNING SURFACE SHALL BE PREMIXED FEDERAL YELLOW COLORED AND SHALL BE AN AUTHORIZED MATERIAL FROM THE CITY OF VISALIA DETECTABLE WARNING SURFACE AUTHORIZED MATERIAL LIST.
5. IN RETROFIT TYPE SITUATIONS ON EXISTING SURFACES THE CITY WILL ALLOW RETROFIT TYPE WARNING PANELS. RETROFIT PANEL MATERIALS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR ACCEPTANCE PRIOR TO CONSTRUCTION. PANELS SHALL BE GLUED AND BOLTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. BOTTOM OF PANELS SHALL BE FLUSH AGAINST THE ADJACENT CONCRETE SURFACE.

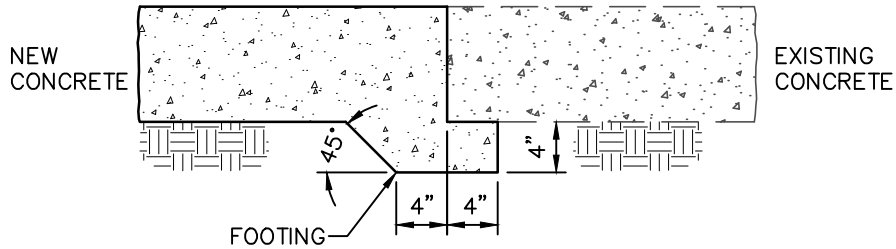
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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

DETECTABLE WARNING SURFACE DETAIL

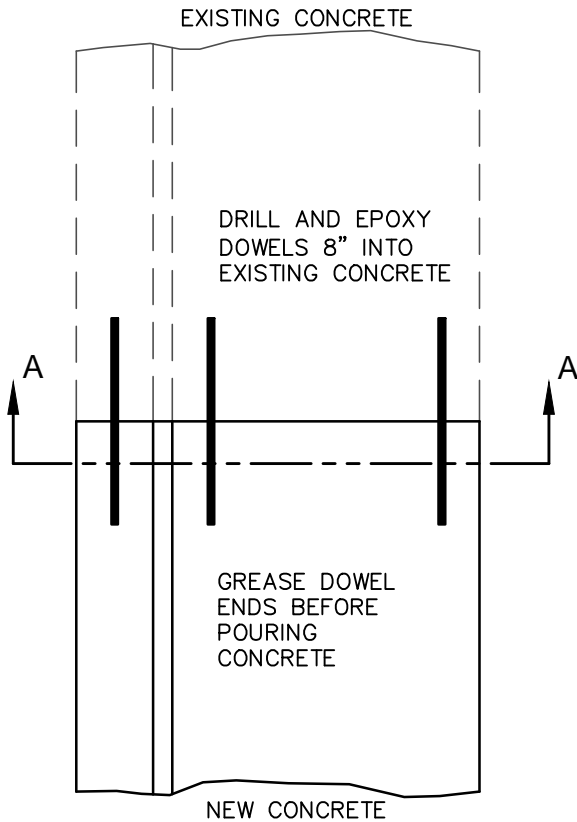
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BK 2016

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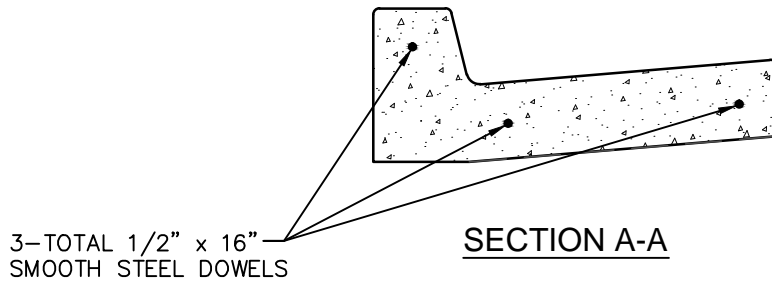


SECTION

CONCRETE FLATWORK



PLAN



CONCRETE CURBING

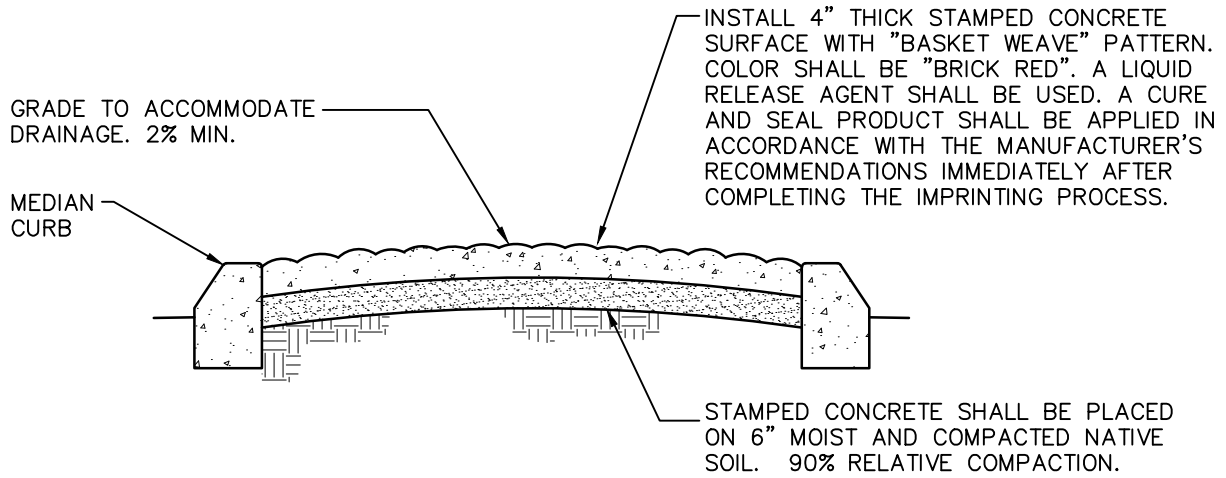
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

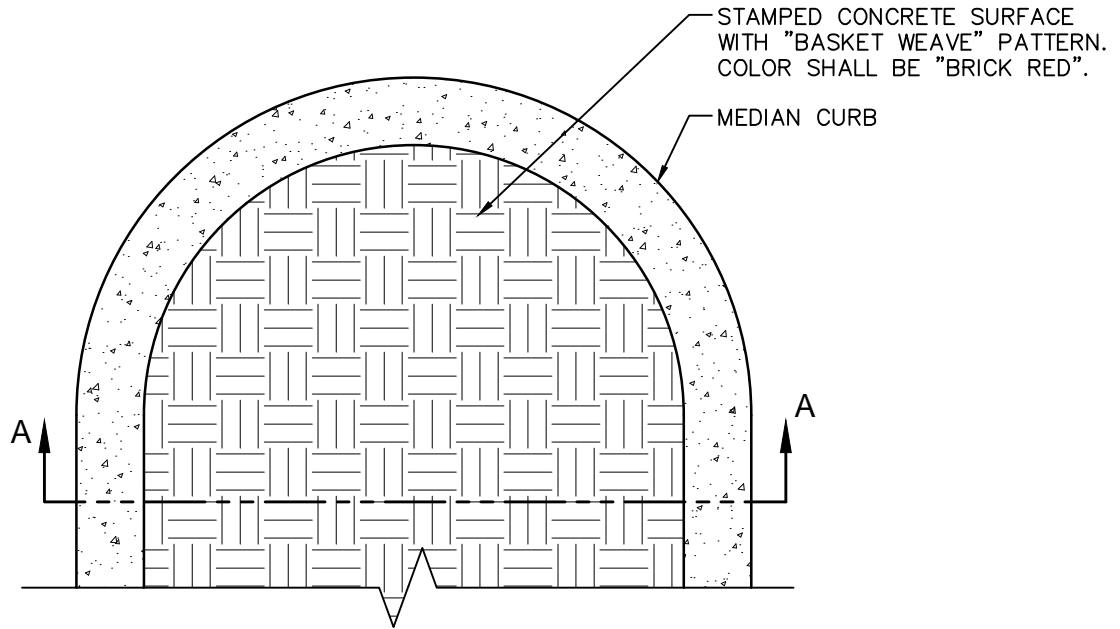
CONCRETE COLD JOINTS

REVISIONS
 10/23/12
 BK 2016

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SECTION A-A



PLAN

NOTES:

1. WHEN MATCHING AN EXISTING COBBLESTONE MEDIAN, "RIVER ROCK" PATTERN WITH "COBBLESTONE GRAY" COLOR AND A LIQUID RELEASE AGENT SHALL BE USED.

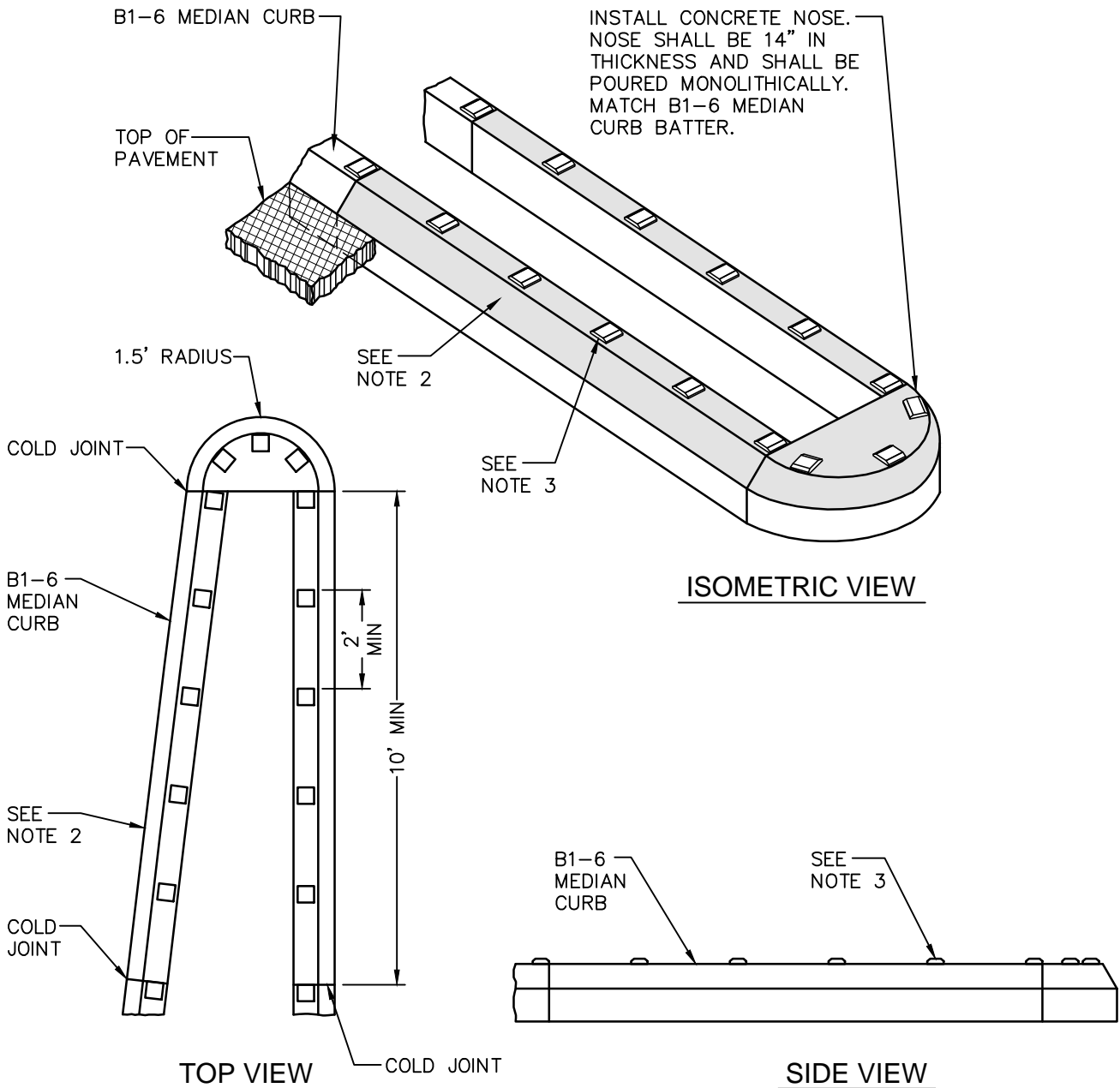
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

STAMPED CONCRETE MEDIAN

REVISIONS
 07/19/16
 BK 2016

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NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. THE TOP AND FACE OF THE CURB SHALL BE PAINTED WITH WHITE OR YELLOW WATERBORNE PAINT AND APPLY GLASS BEADS FOR RETROREFLECTIVITY IN ACCORDANCE TO CITY OF VISALIA STANDARD SPECIFICATIONS.
3. INSTALL TYPE G OR TYPE D RAISED PAVEMENT MARKERS PER CALTRANS STANDARD SPECIFICATIONS SECTION 81-3.02C. THE RAISED PAVEMENT MARKERS SHALL BE ATTACHED TO THE TOP OF THE CURB USING ADHESIVES PER CALTRANS STANDARD SPECIFICATIONS SECTIONS 81-3.02D AND 81-3.02E.

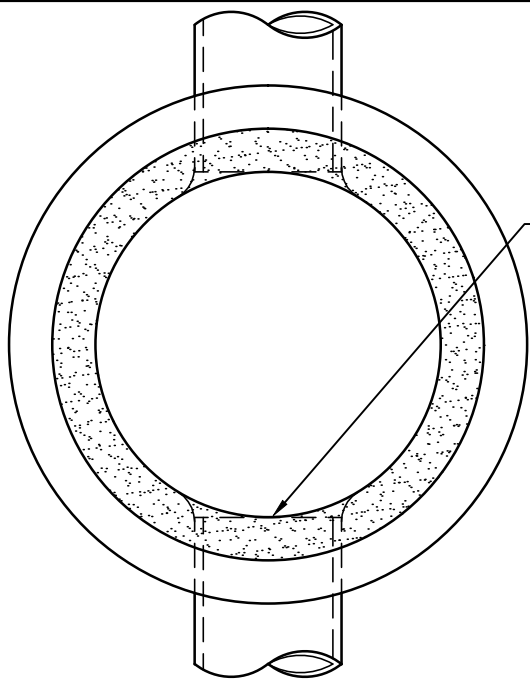
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

MEDIAN NOSE DETAIL

REVISIONS
09/08/16 BK 2016

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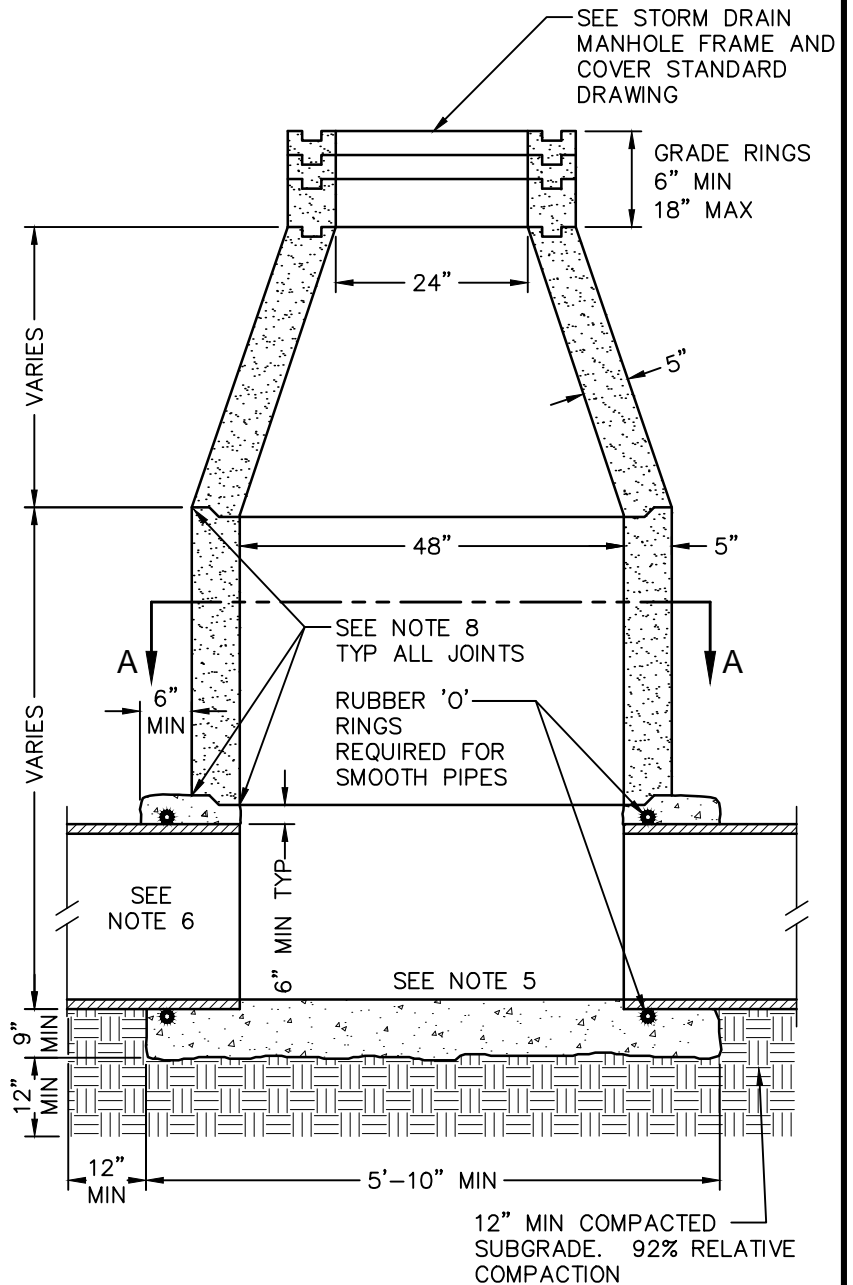


PIPE ENDS SHALL BE CUT AND MORTARED FLUSH WITH INSIDE WALL OF MANHOLE

SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS. 18" SUMP BELOW PIPE INVERT WHERE REQUIRED. SEE STORM DRAIN MANHOLE SUMP REQUIREMENTS STANDARD DRAWING.
6. 48" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 12" TO 24" OR AS REQUIRED BY THE CITY ENGINEER.
7. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF VISALIA.
8. SEE STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS STANDARD DRAWING.



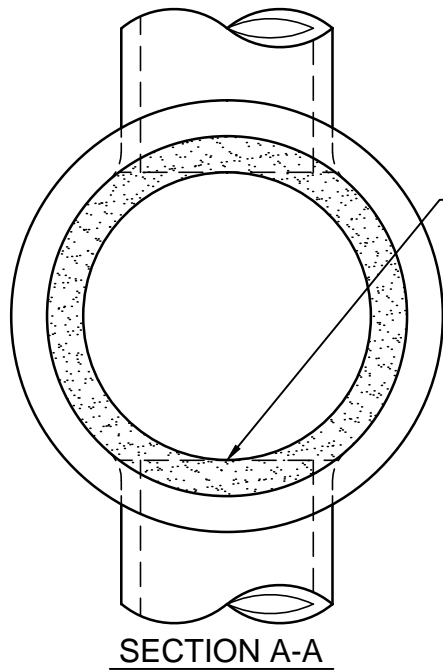
APPROVED BY:  CITY ENGINEER R.P.E. 81734
 09/16/16 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

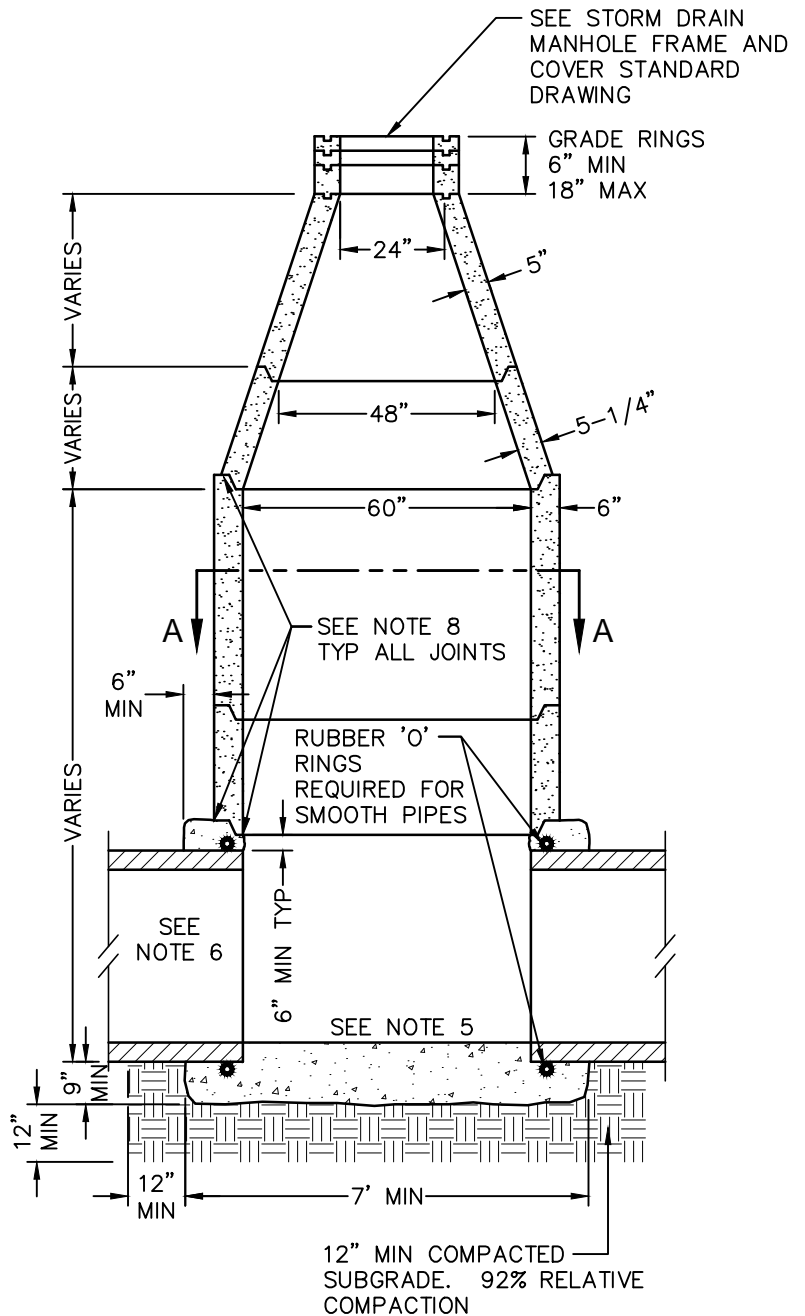
48" STORM DRAIN MANHOLE

REVISIONS
 06/14/13
 BK 2016

D-1



PIPE ENDS SHALL BE CUT AND MORTARED FLUSH WITH INSIDE WALL OF MANHOLE



NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS. 18" SUMP BELOW PIPE INVERT WHERE REQUIRED. SEE STORM DRAIN MANHOLE SUMP REQUIREMENTS STANDARD DRAWING.
6. 60" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 27" TO 36" OR AS REQUIRED BY THE CITY ENGINEER.
7. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF VISALIA.
8. SEE STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS STANDARD DRAWING.

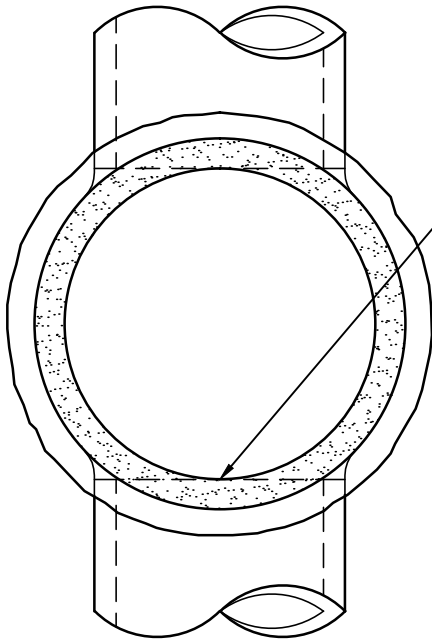
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

60" STORM DRAIN MANHOLE

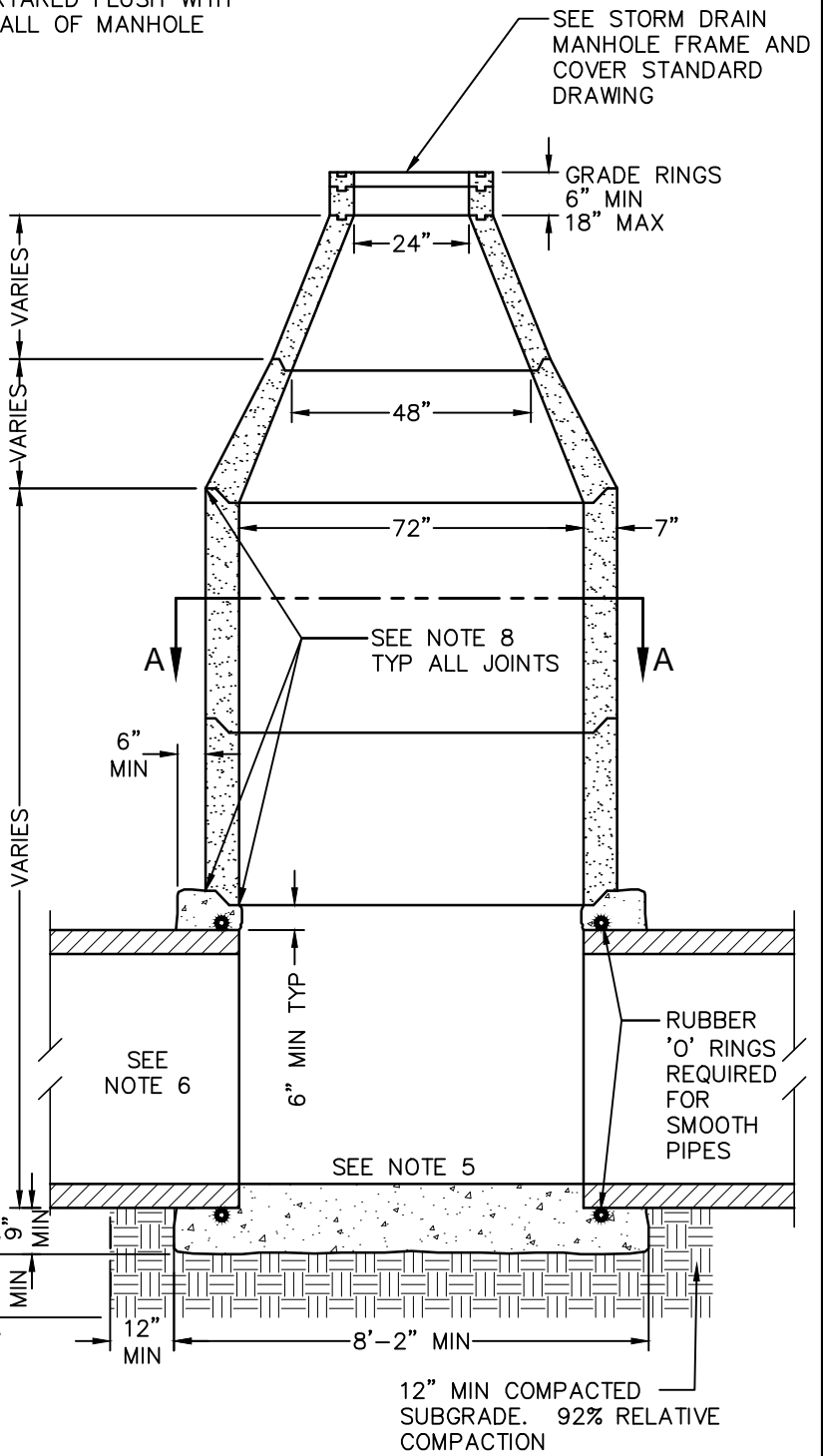
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 06/14/13
 BK 2016

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PIPE ENDS SHALL BE CUT AND MORTARED FLUSH WITH INSIDE WALL OF MANHOLE

SECTION A-A



NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS. 18" SUMP BELOW PIPE INVERT WHERE REQUIRED. SEE STORM DRAIN MANHOLE SUMP REQUIREMENTS STANDARD DRAWING.
6. 72" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 39" AND LARGER OR AS REQUIRED BY THE CITY ENGINEER.
7. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF VISALIA.
8. SEE STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS STANDARD DRAWING .

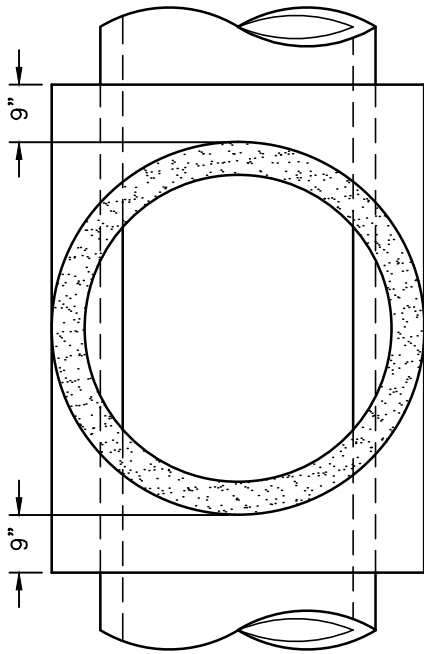
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

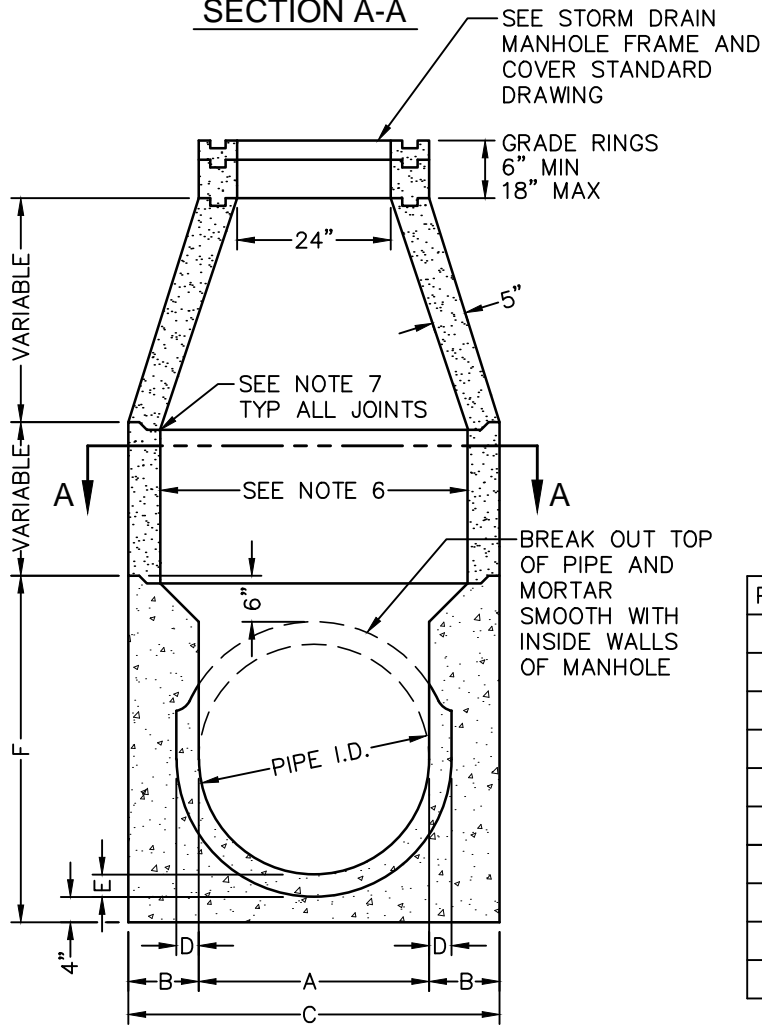
72" STORM DRAIN MANHOLE

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 BK 2016

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SECTION A-A



NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF VISALIA.
6. MANHOLE SHALL BE SIZED TO MATCH MANHOLE BASE. 48" MINIMUM INNER DIAMETER MANHOLE IS REQUIRED.
7. SEE STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS STANDARD DRAWING.

PIPE I.D.	A	B	C	MIN D	E	F
24"	24"	17"	58"	3"	3"	40"
27"	27"	15-1/2"	58"	3"	3"	43"
30"	30"	14"	58"	3"	3"	46"
36"	36"	17"	70"	3-1/2"	3-1/2"	53"
42"	42"	15"	72"	4"	4"	60"
48"	48"	12"	72"	5"	5"	68"
54"	54"	10-1/2"	75"	5-1/2"	5-1/2"	75"
60"	60"	11"	82"	6"	6"	82"
66"	66"	11-1/2"	89"	6-1/2"	6-1/2"	89"
72"	72"	12"	96"	7"	7"	96"

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 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**CAST IN PLACE CONCRETE PIPE
 MANHOLE**

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

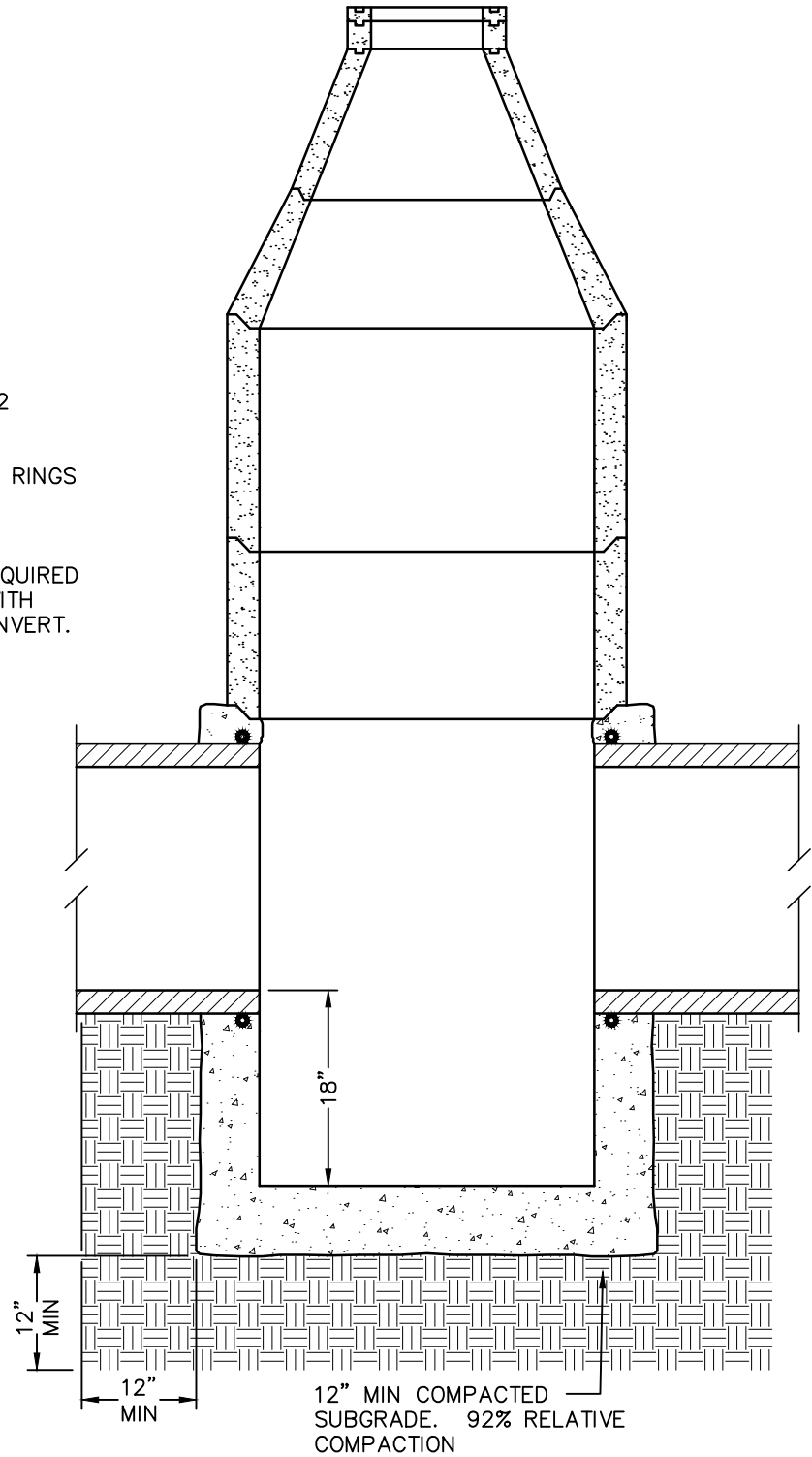
REVISIONS


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D-5

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS. 18" SUMP BELOW PIPE INVERT.



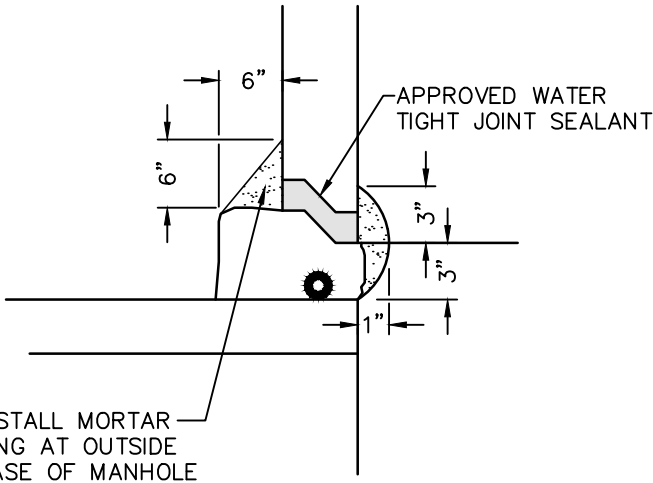
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

STORM DRAIN MANHOLE
 SUMP REQUIREMENTS

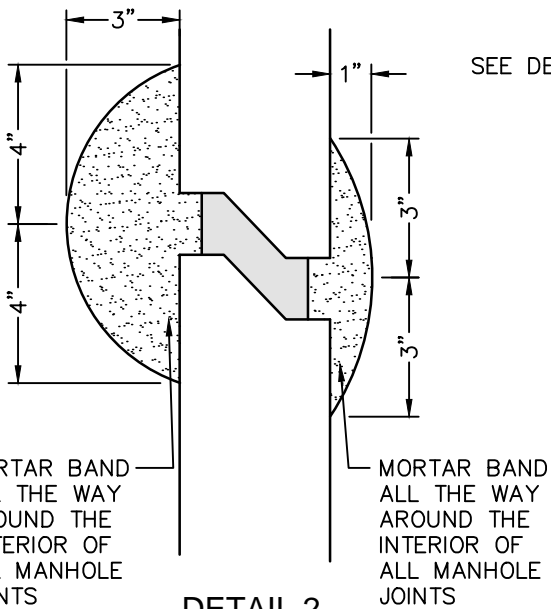
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DETAIL 1

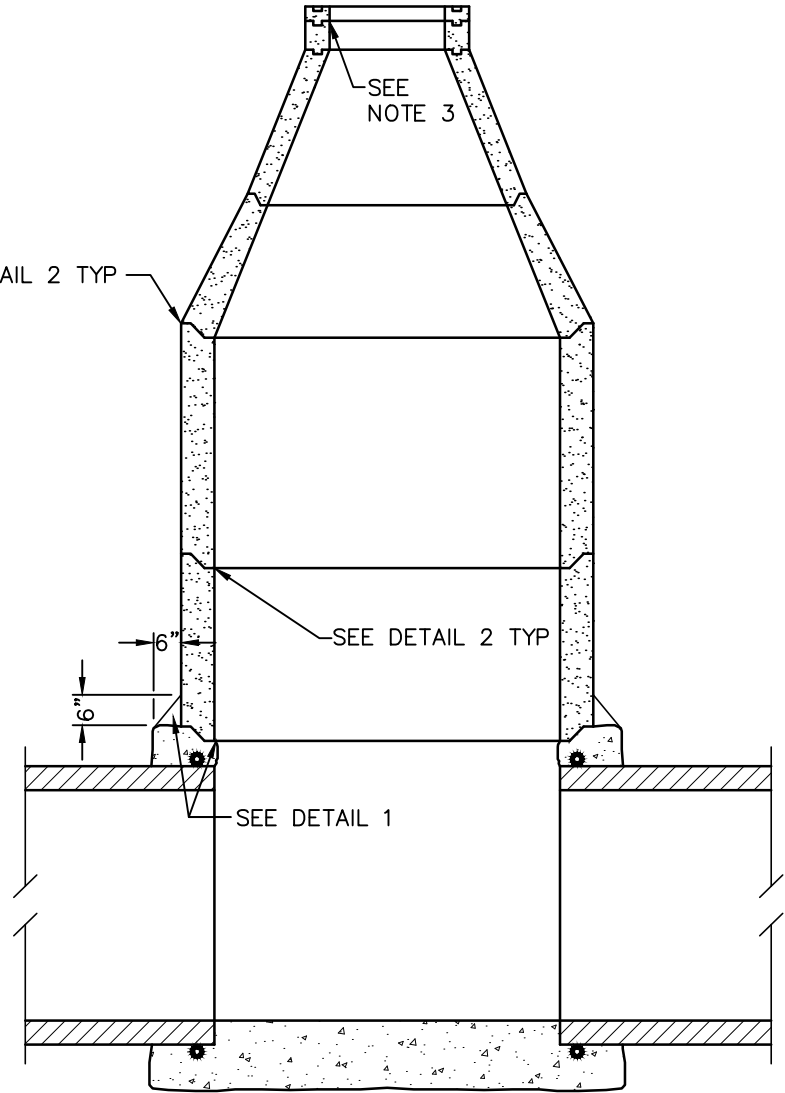
INSTALL MORTAR RING AT OUTSIDE BASE OF MANHOLE



DETAIL 2

MORTAR BAND ALL THE WAY AROUND THE EXTERIOR OF ALL MANHOLE JOINTS

MORTAR BAND ALL THE WAY AROUND THE INTERIOR OF ALL MANHOLE JOINTS



NOTES:

1. ALL JOINTS SHALL BE FINISHED WITH MORTAR AS SHOWN AND/OR NOTED ON THIS DETAIL.
2. MORTAR MIXTURE SHALL BE ONE PART CEMENT PER TWO PARTS SAND.
3. MORTAR INSIDE OF GRADE RINGS TO A SMOOTH SURFACE.
4. ALL JOINTS SHALL BE WATER TIGHT.

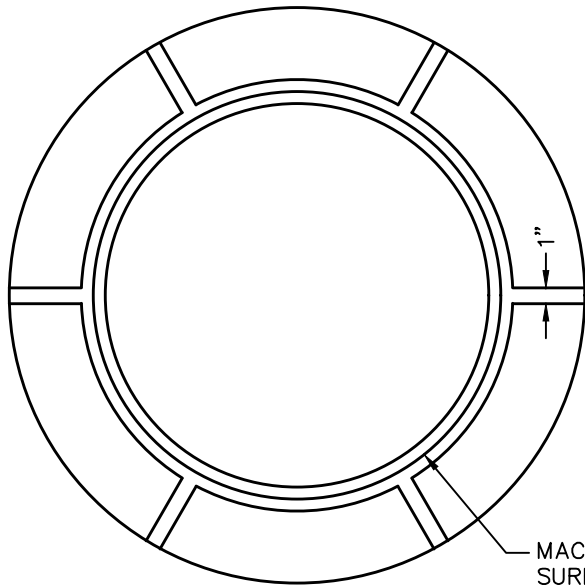
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

**STORM DRAIN MANHOLE
 JOINT FINISHING REQUIREMENTS**

REVISIONS
 06/14/13
 BK 2016

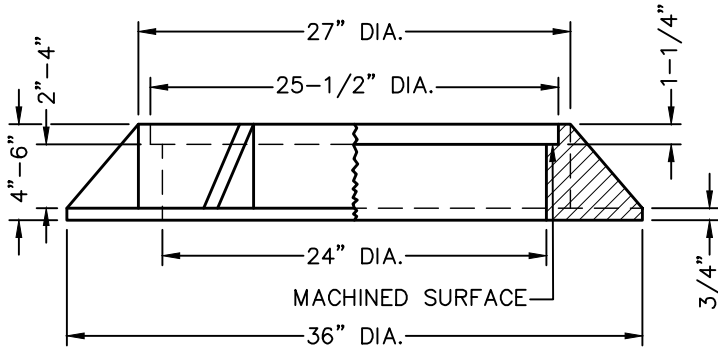
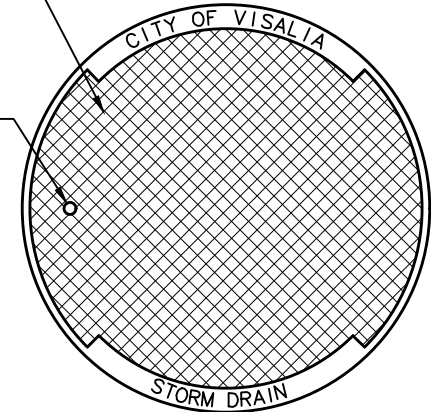
D-7



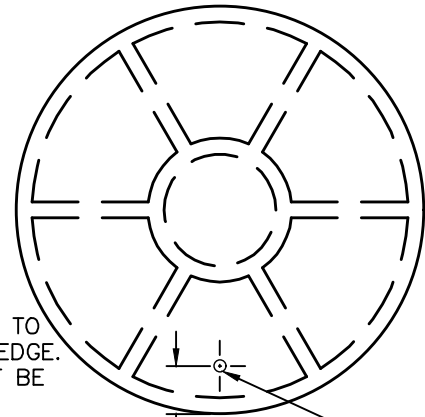
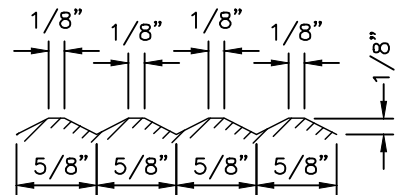
MACHINED SURFACE

CHECKERED TOP DESIGN

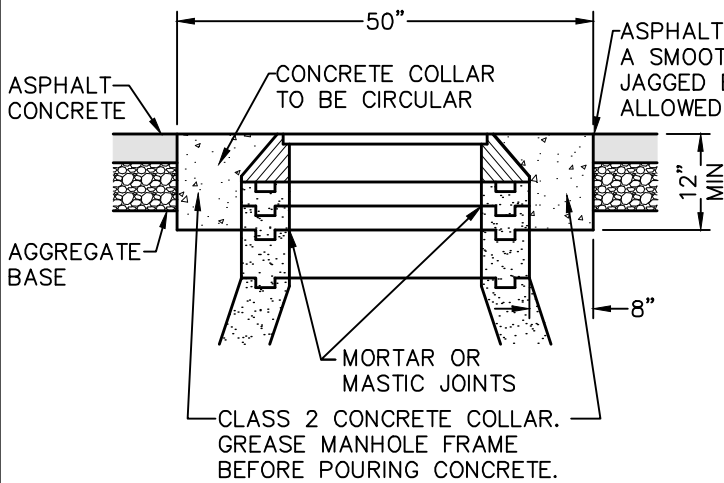
3/4" PICK HOLE



MANHOLE FRAME

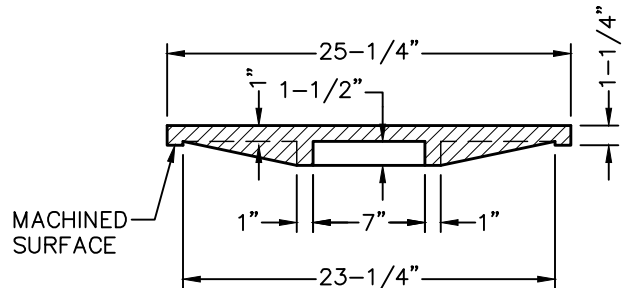


3/4" PICK HOLE



ASPHALT SHALL BE CUT TO A SMOOTH CONSISTENT EDGE. JAGGED EDGES WILL NOT BE ALLOWED.

MANHOLE ADJUSTMENT



MACHINED SURFACE

MANHOLE COVER

NOTE: FRAME, COVER AND CONCRETE COLLAR SHALL MATCH CROSS SLOPE. CURE CONCRETE A MINIMUM OF 48 HOURS PRIOR TO TRAFFIC USE.

APPROVED BY: *Chris Case* 02/05/25
 CITY ENGINEER R.C.E. 71192 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

**STORM DRAIN
 MANHOLE FRAME AND COVER**

REVISIONS
 02/05/25
 BK 2016

D-8

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____

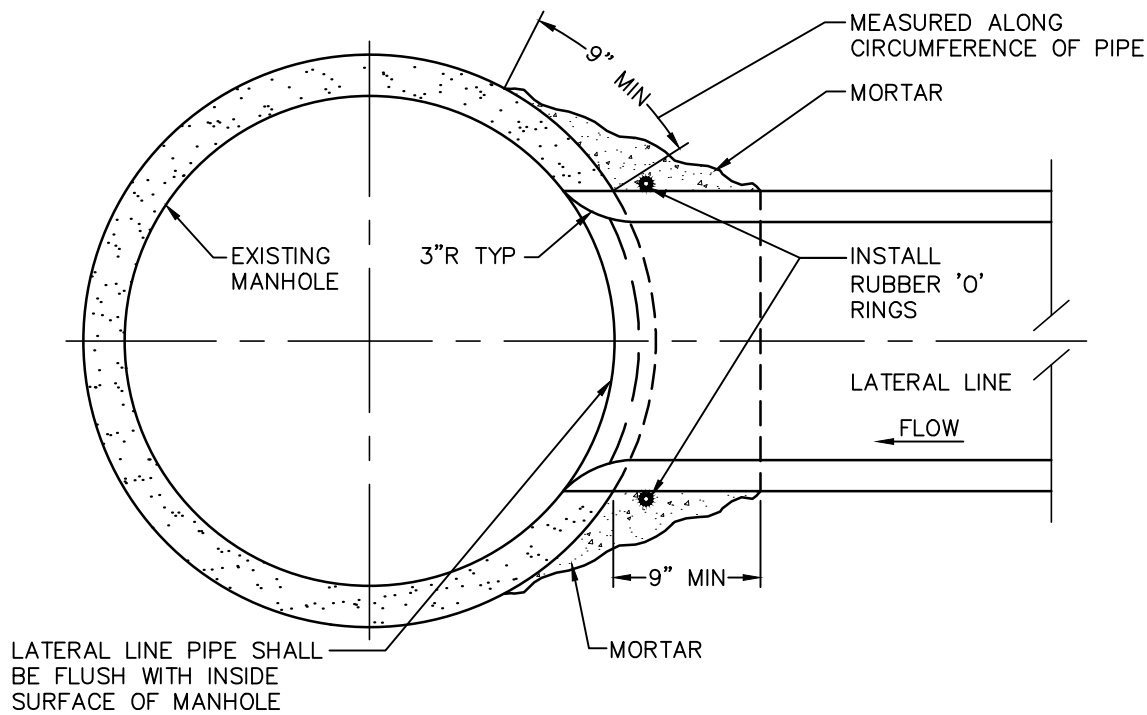
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

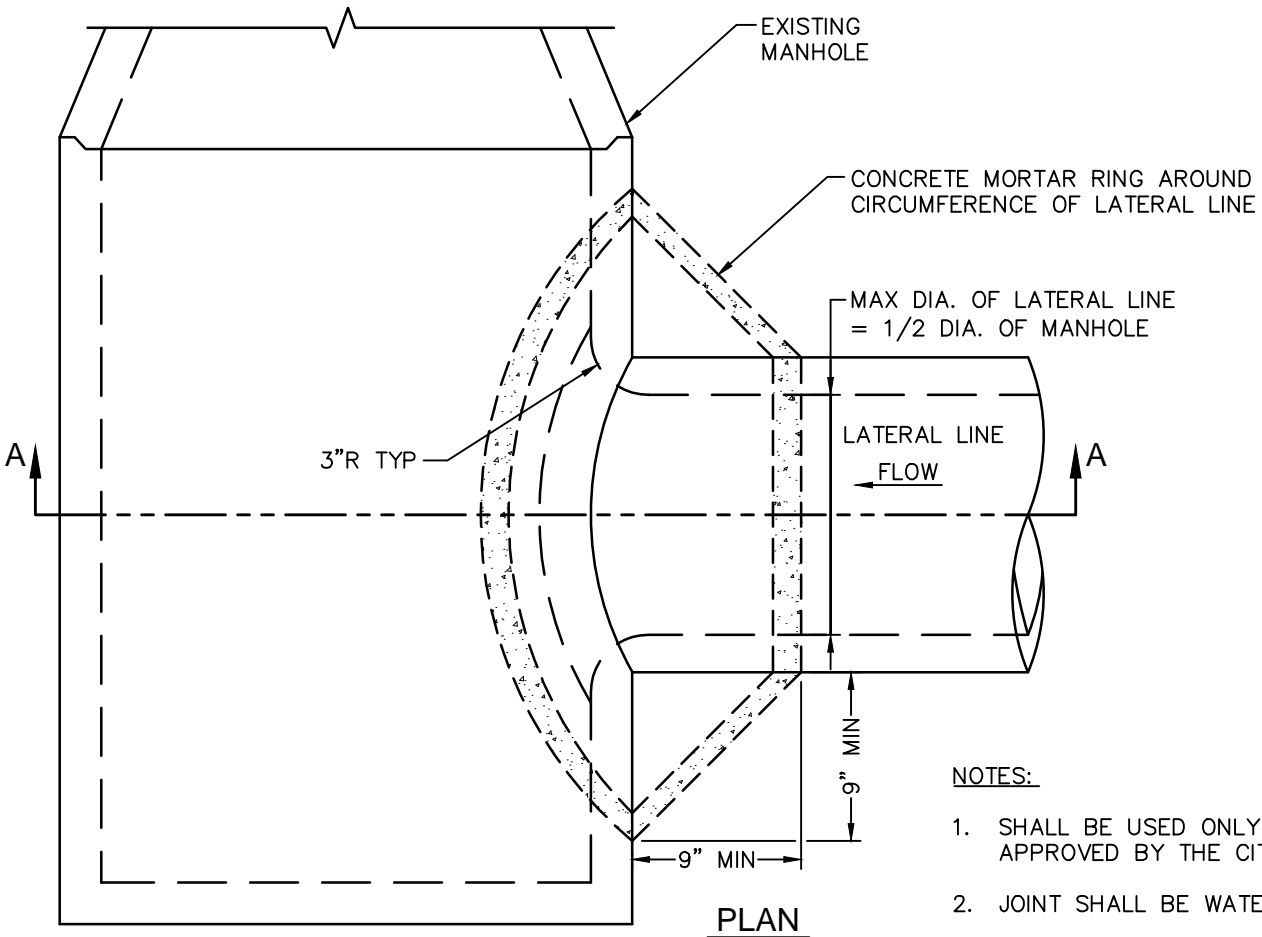
REVISIONS

BK 2016

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SECTION A-A



NOTES:

1. SHALL BE USED ONLY AS APPROVED BY THE CITY ENGINEER.
2. JOINT SHALL BE WATER TIGHT.

APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**LATERAL LINE CONNECTION
 AT EXISTING MANHOLE**

REVISIONS
 06/14/13
 BK 2016

D-10

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____

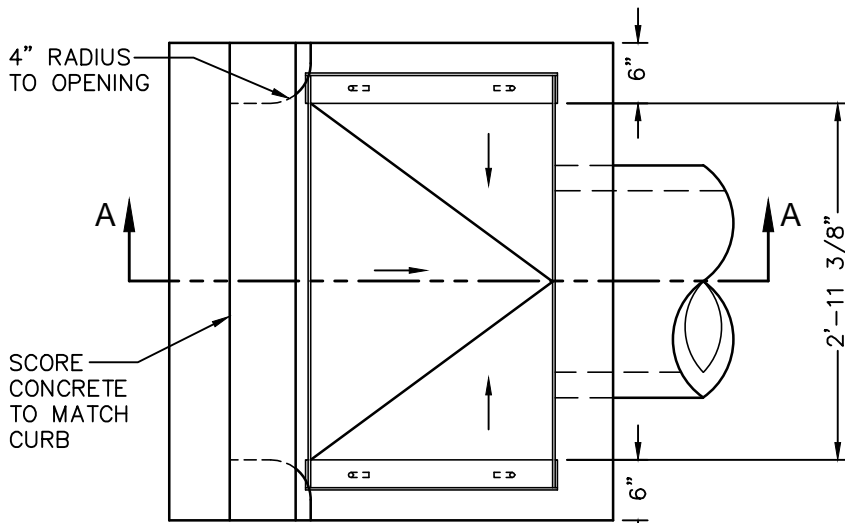
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

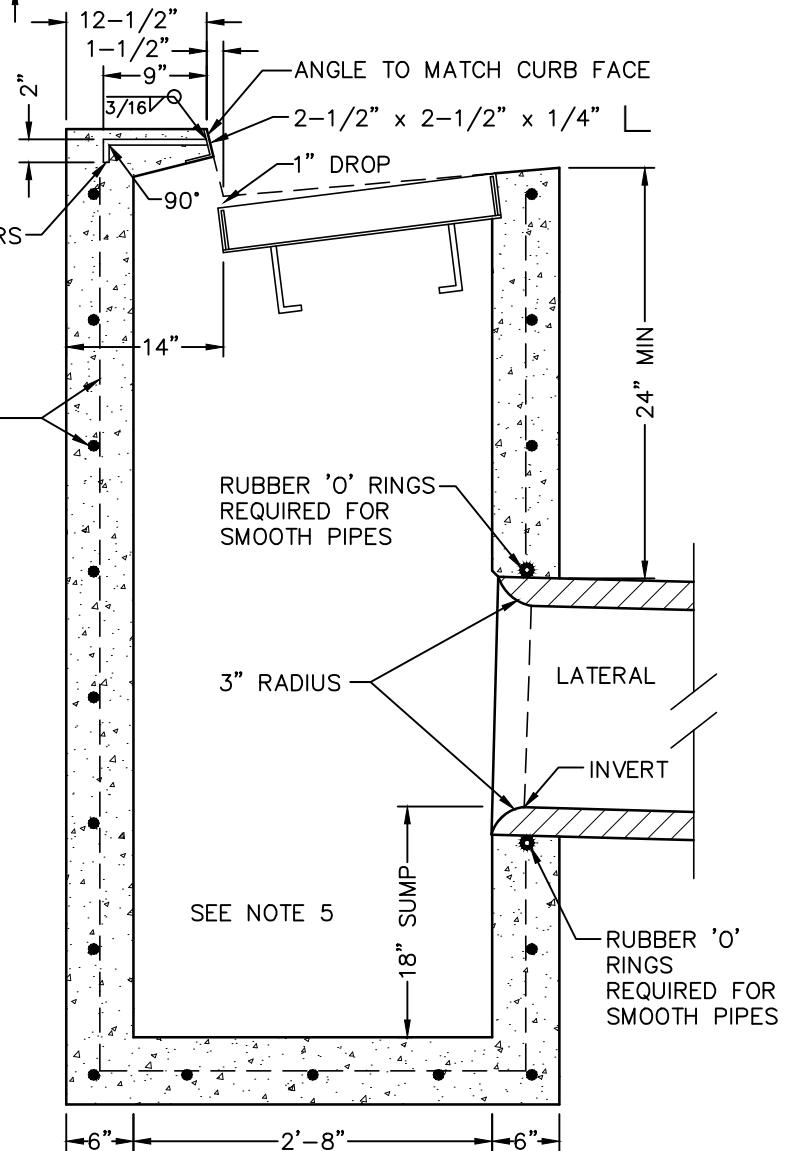
REVISIONS

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PLAN



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MAJOR TYPE DRAINAGE INLETS SHALL BE INSTALLED ON ALL PUBLIC STREETS.
3. 12" MINIMUM STORM DRAIN LATERAL ON LOCAL STREETS.
4. 18" MINIMUM STORM DRAIN LATERAL ON COLLECTOR AND ARTERIAL STREETS.
5. SUMP BOTTOM DRAIN INLETS ARE REQUIRED ON ALL STORM DRAIN SYSTEMS.
6. #4 REBAR AT 18" O.C. BOTH WAYS WHEN DRAIN INLET IS DEEPER THAN 6' BELOW TOP OF CURB.
7. MINIMUM CLEAR SPACING BETWEEN SURFACES OF CONCRETE AND REINFORCING STEEL SHALL BE 2".

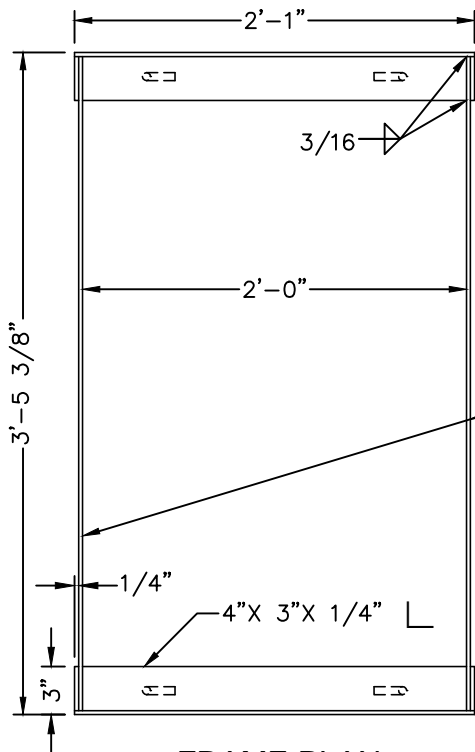
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

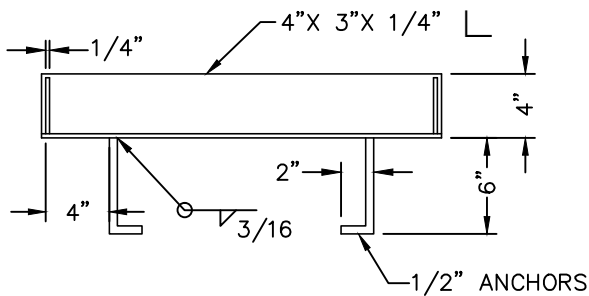
DRAINAGE INLET - GO TYPE

REVISIONS
 06/14/13
 BK 2016

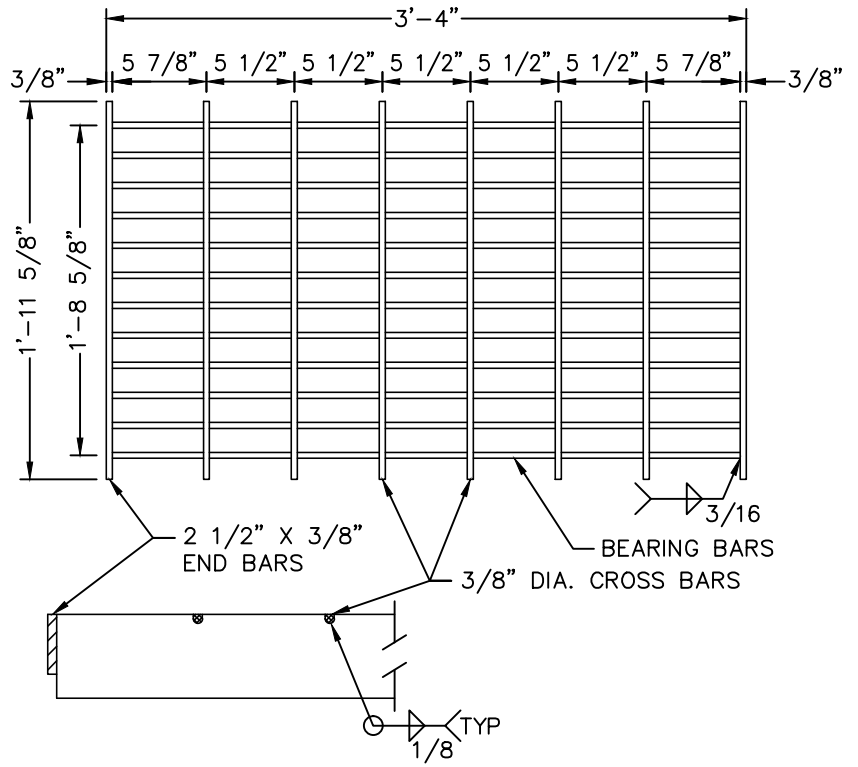
D-12



FRAME PLAN



FRAME SECTION



GRATE DETAIL

3 1/2" X 1/4" X 3'-4 7/8" BAR

NOTES:

1. BEARING BARS SHALL BE 3-1/2" X 3/8" BARS ON 1-7/8" CENTERS.
2. 3/8" DIAMETER CROSS BARS MAY BE FILLET WELDED, RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS.
3. FRAME AND GRATE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

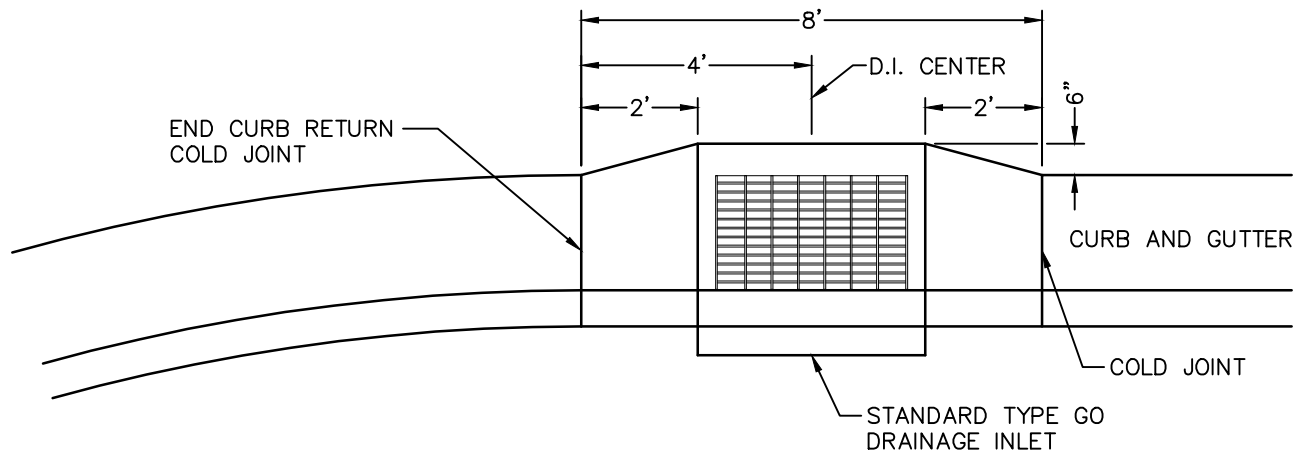
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

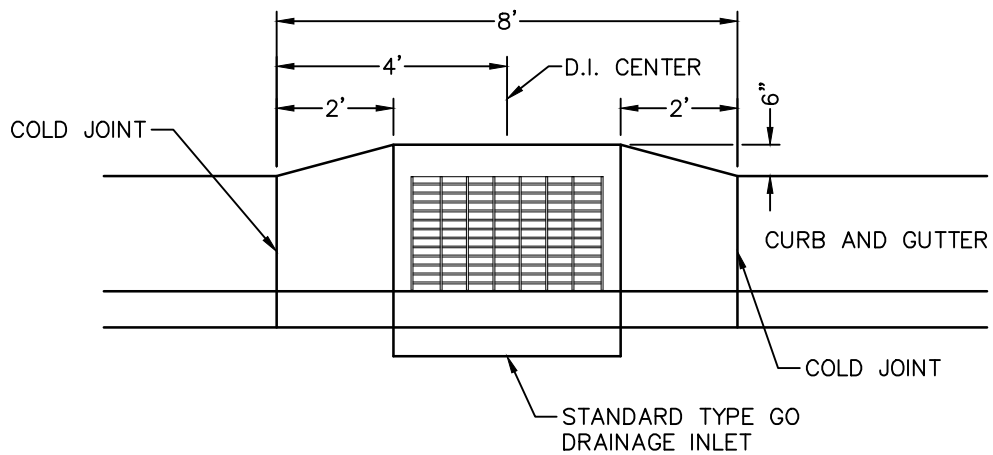
DRAINAGE INLET – GO TYPE
 FRAME AND GRATE DETAIL

REVISIONS
 06/17/04
 BK 2016

D-13



TYPE GO DRAINAGE INLET (D.I.)
INSTALLED AT CURB RETURN



TYPE GO DRAINAGE INLET (D.I.)
INSTALLED MID-BLOCK

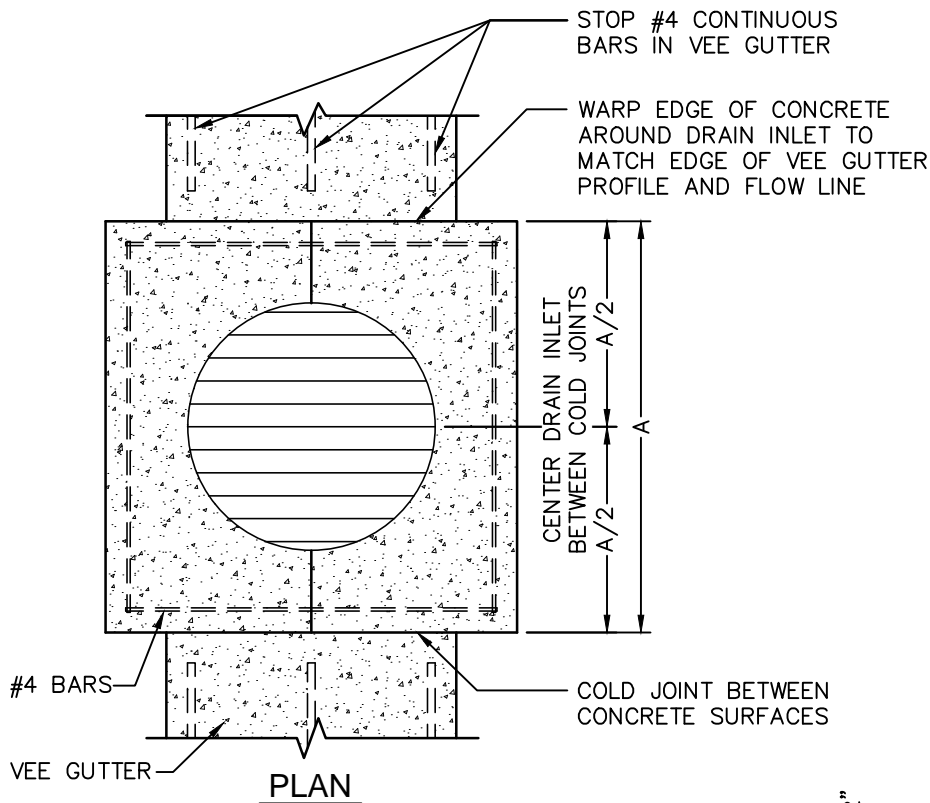
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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

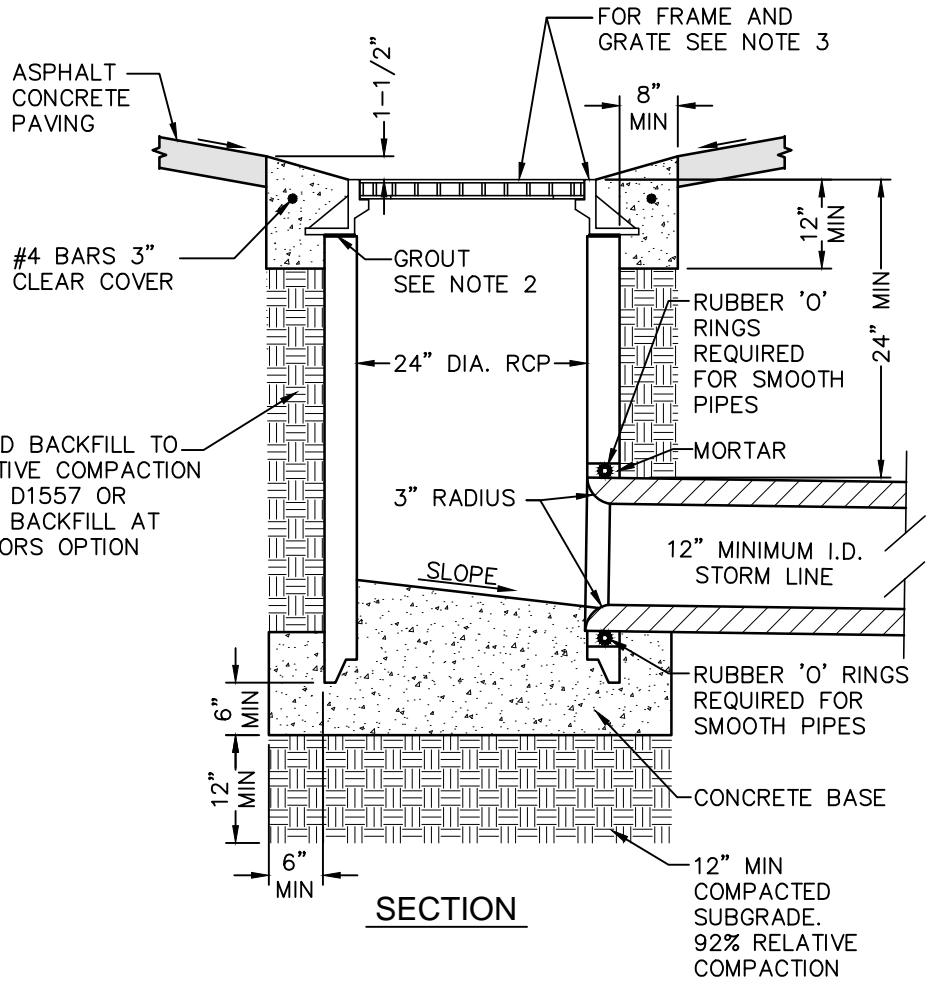
MISCELLANEOUS DRAINAGE INLET
DETAILS

REVISIONS
08/26/16
BK 2016

D-14



PLAN



SECTION

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. GROUT SHALL BE A HIGH STRENGTH, SHRINKAGE COMPENSATING, NON-METALLIC GROUT, OR EQUAL.
3. SEE VEE GUTTER DRAINAGE INLET FRAME AND GRATE STANDARD DRAWING.

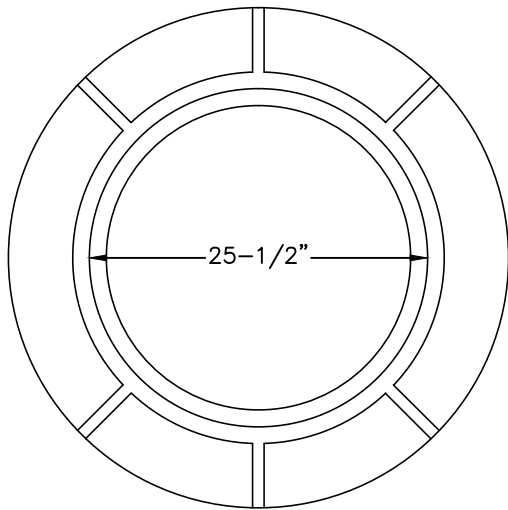
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

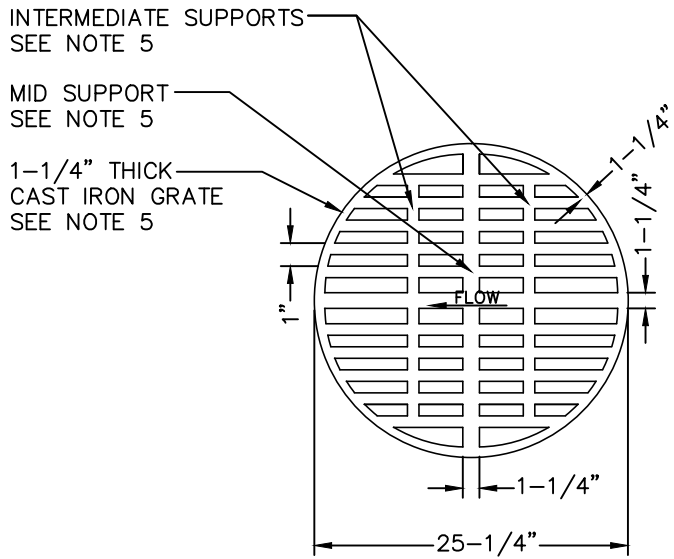
VEE GUTTER DRAINAGE INLET

REVISIONS
06/14/13
BK 2016

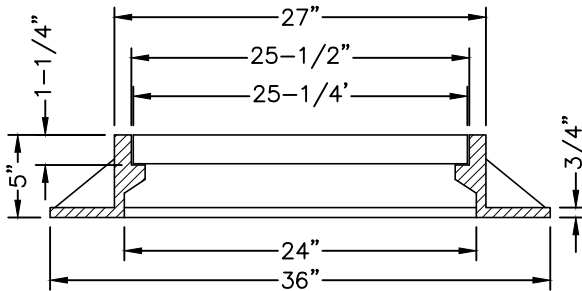
D-15



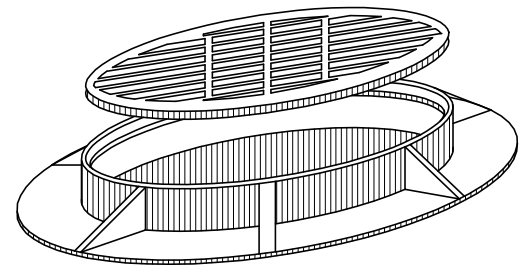
**FRAME
PLAN**



**GRATE
PLAN**




**FRAME
SECTION**



PERSPECTIVE

NOTES:

1. ALL DIMENSIONS ARE FINISHED DIMENSIONS. FRAME AND COVER BEARING SURFACE TO BE MACHINED TO ASSURE CLOSE, QUIET FIT.
2. CONSTRUCTION MATERIAL SHALL BE CAST IRON, DIPPED IN BLACK BITUMINOUS PAINT.
3. FRAME AND GRATE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM DESIGNATION 48, CLASS 35B, AND EXCEED H2O WHEEL LOADING.
4. GRATE TO BE INSTALLED SUCH THAT THE SLOTS ARE PARALLEL WITH THE DIRECTION OF WATER FLOW.
5. GRATES WITH MID AND INTERMEDIATE SUPPORTS SHALL BE USED AT ALL LOCATIONS WHERE BICYCLE OR OTHER WHEELED TRANSPORT SUCH AS WHEEL CHAIRS CAN BE ANTICIPATED. COVERS WITHOUT INTERMEDIATE SUPPORTS SHALL NOT BE USED WITHOUT APPROVAL OF THE CITY ENGINEER.
6. ALL GRATES SHALL HAVE A MINIMUM OPEN AREA OF 1.0 SQUARE FEET AND A MINIMUM WEIR PERIMETER OF 6.0 LINEAR FEET. ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR VERIFYING GRATES MEET DRAINAGE REQUIREMENTS.
7. IF GRATE IS LOCATED IN A DESIGNATED ACCESSIBLE PATH OF TRAVEL, GRATE SHALL BE A.D.A. COMPLIANT.

APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 09/16/16
 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

VEE GUTTER INLET FRAME & GRATE

REVISIONS
 06/14/13
 BK 2016

D-16

RESERVED FOR FUTURE DETAIL

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

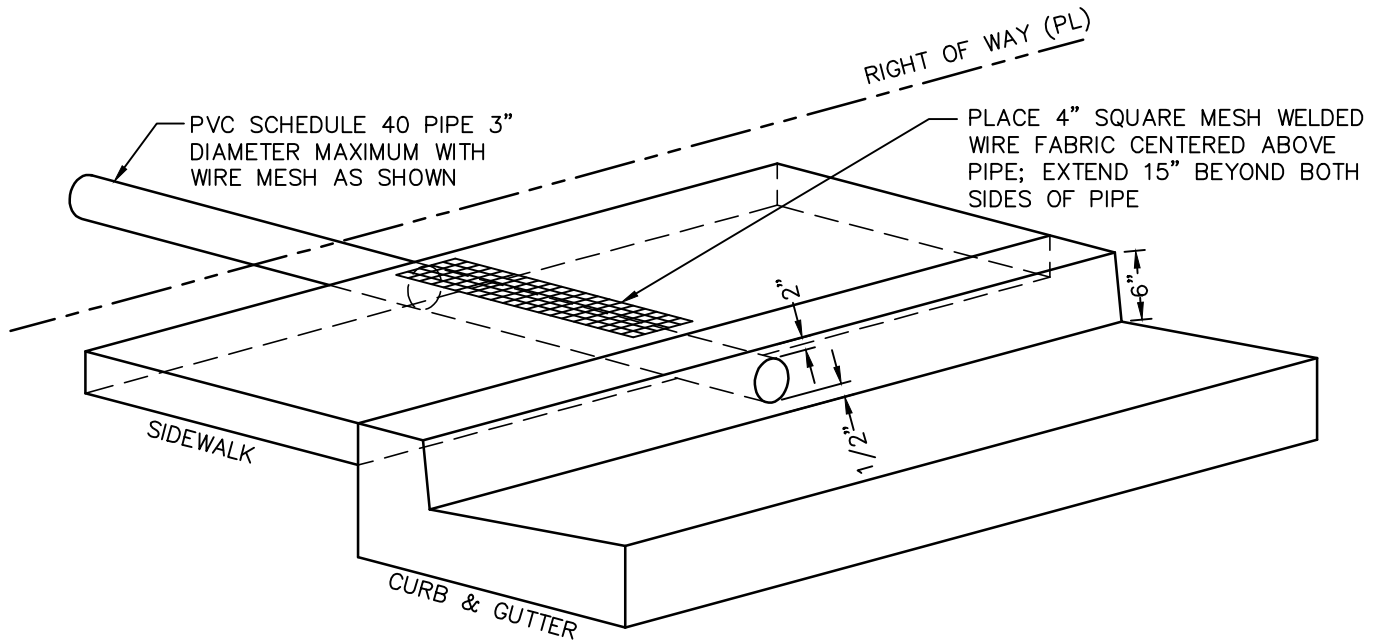
REVISIONS

BK 2016

D-17

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
RESERVED	REVISIONS BK 2016	D-18



PERSPECTIVE

NOTES:

1. WHERE SIDEWALK AND CURB AND GUTTER EXIST, SIDEWALK AND CURB AND GUTTER SHALL BE REMOVED AND REPLACED TO THE NEAREST JOINT AND SHALL BE CONSTRUCTED PER APPLICABLE CITY OF VISALIA STANDARD DRAWINGS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AN ENCROACHMENT PERMIT FOR ANY WORK WITHIN THE CITY RIGHT OF WAY, INCLUDING THE REMOVAL AND REPLACEMENT OF THE SIDEWALK AND CURB AND GUTTER AND THE CONSTRUCTION OF THE RESIDENTIAL UNDER SIDEWALK DRAIN, FROM THE CITY OF VISALIA ENGINEERING DIVISION.
3. THE ENGINEER OF RECORD SHALL DETERMINE THE NUMBER OF DRAINS REQUIRED.
4. WELDED WIRE MESH SHALL BE 4X4-W2.1XW2.1.

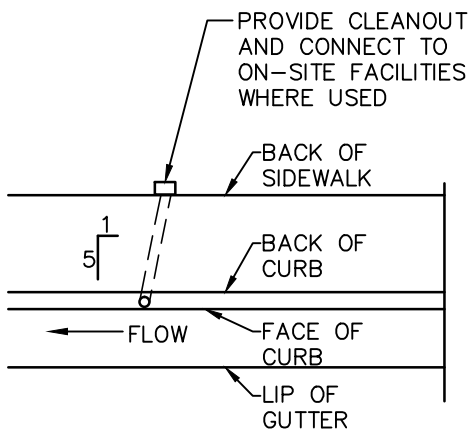
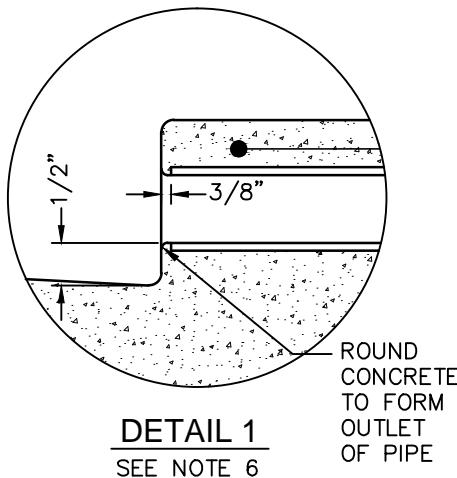
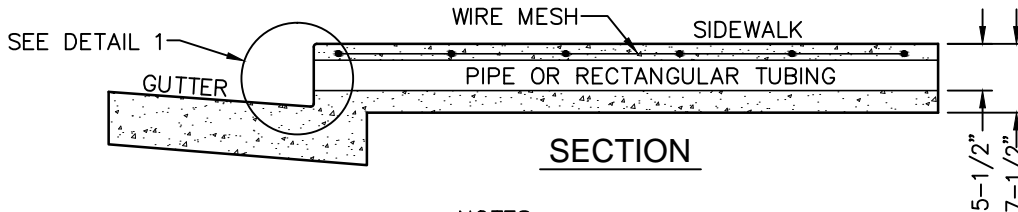
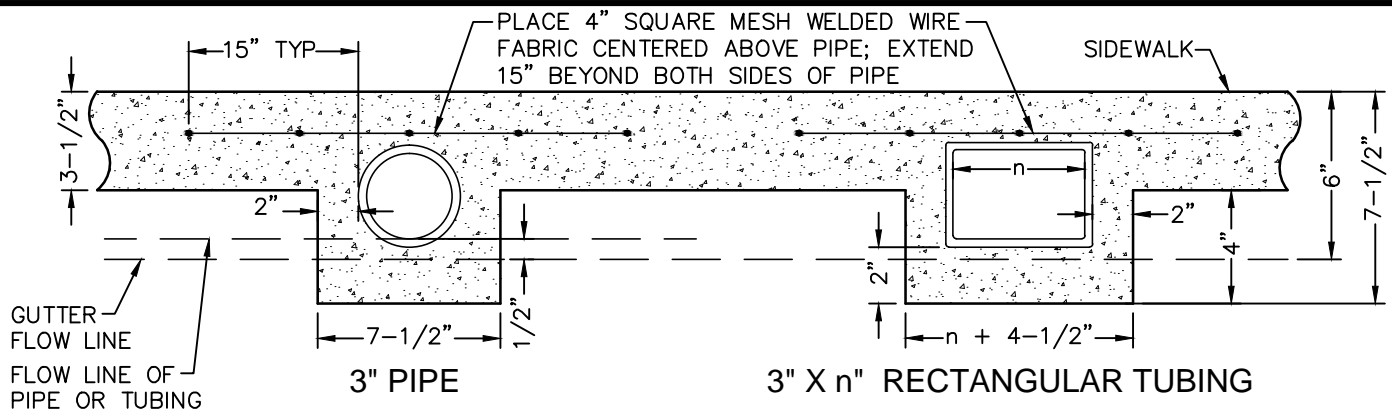
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

RESIDENTIAL SIDEWALK DRAIN

REVISIONS
 06/14/13
 BK 2016

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NOTES:

1. 3" PIPE SHALL BE GALVANIZED PIPE. RECTANGULAR TUBING SHALL BE STEEL.
2. MINIMUM WALL THICKNESS OF RECTANGULAR TUBING IS 3/16".
3. SLOPE SHALL MATCH CROSS GRADE OF SIDEWALK.
4. NO DRAIN SHALL BE PERMITTED IN DRIVE APPROACH AREAS.
5. DRAINS SHALL BE ANGLED THROUGH SIDEWALK IN DIRECTION OF GUTTER FLOW. SEE DETAIL 2.
6. PIPE OR TUBING SHALL BE CUT SQUARE AND ROUNDED WITH FACE OF CURB. SEE DETAIL 1.
7. PERMITTED SIZE AND NUMBER OF PIPES/TUBING TO BE BASED ON DRAINAGE AREA AND SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
8. AREA 3" DIA. PIPE = 7.1 SQ. IN.
 AREA 3" X 5" RECT. TUBE = 12.3 SQ. IN. (3/16" THICK)
 AREA 3" X 6" RECT. TUBE = 14.9 SQ. IN. (3/16" THICK)
 AREA 3" X 12" CHANNEL = 36 SQ. IN.
 AREA 4" X 14" CHANNEL = 56 SQ. IN.
9. WHERE SIDEWALK AND CURB AND GUTTER EXIST, SIDEWALK AND CURB AND GUTTER SHALL BE REMOVED AND REPLACED TO THE NEAREST JOINT AND SHALL BE CONSTRUCTED PER APPLICABLE CITY OF VISALIA STANDARD DRAWINGS.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AN ENCROACHMENT PERMIT FOR ANY WORK WITHIN THE CITY RIGHT OF WAY, INCLUDING THE REMOVAL AND REPLACEMENT OF THE SIDEWALK AND CURB AND GUTTER AND THE CONSTRUCTION OF THE RESIDENTIAL UNDER SIDEWALK DRAIN, FROM THE CITY OF VISALIA ENGINEERING DIVISION.
11. THE ENGINEER OF RECORD SHALL DETERMINE THE NUMBER OF DRAINS REQUIRED.
12. WELDED WIRE MESH SHALL BE 4X4-W2.1XW2.1.

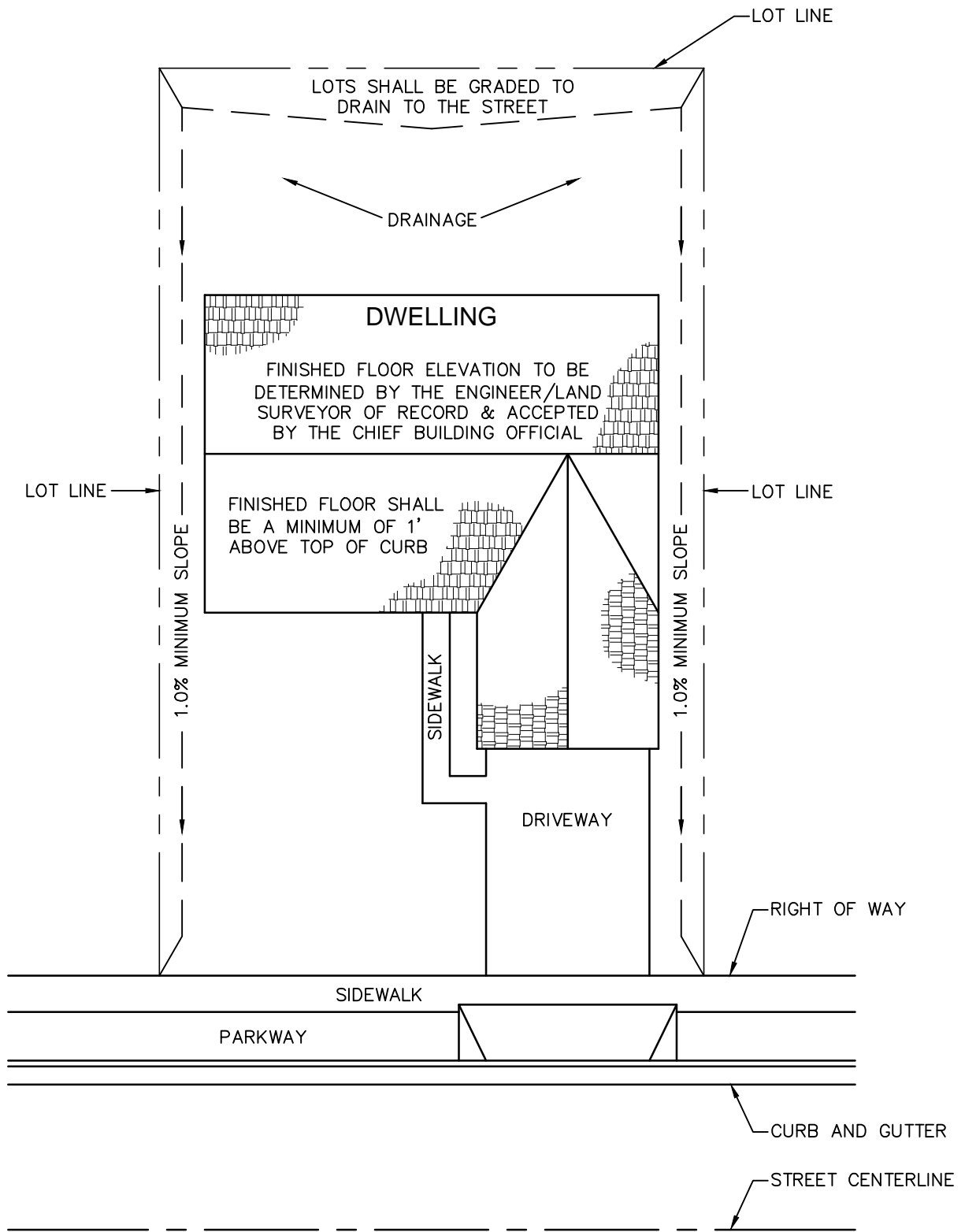
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

COMMERCIAL SIDEWALK DRAIN

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 06/14/13
 BK 2016

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APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

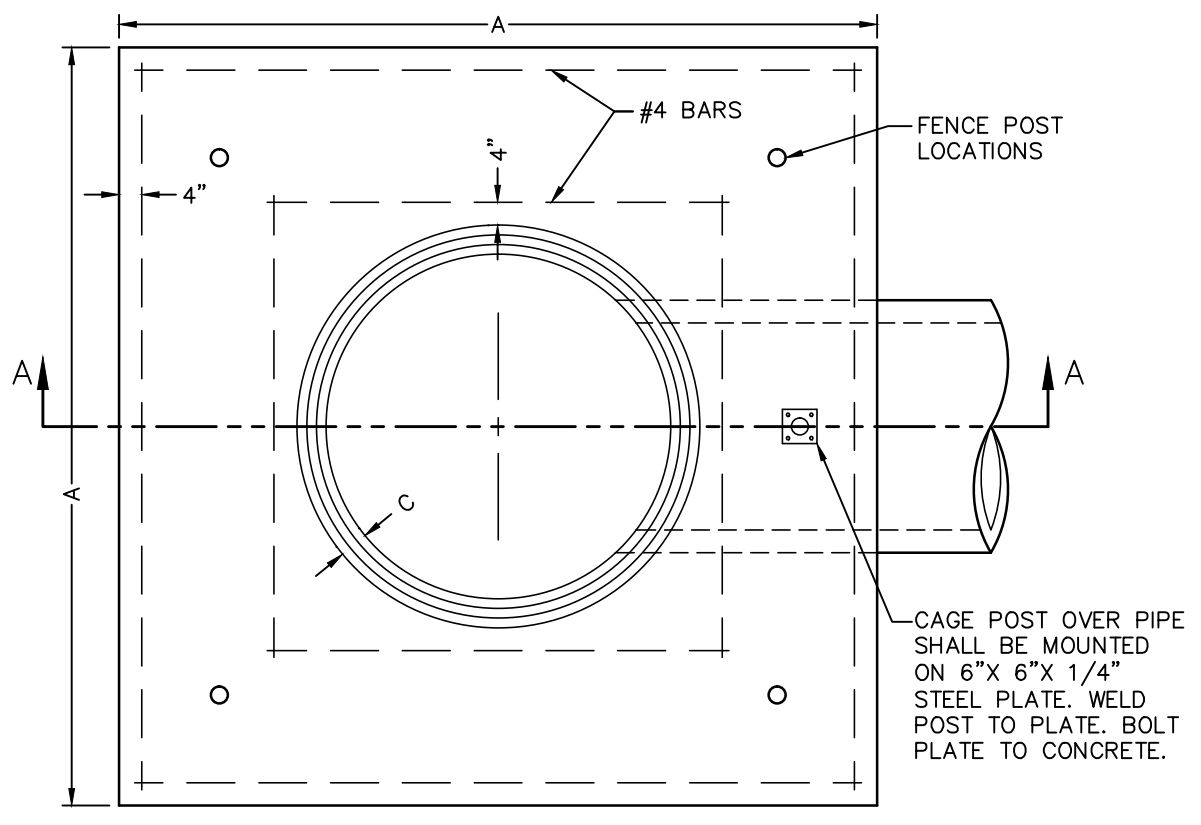
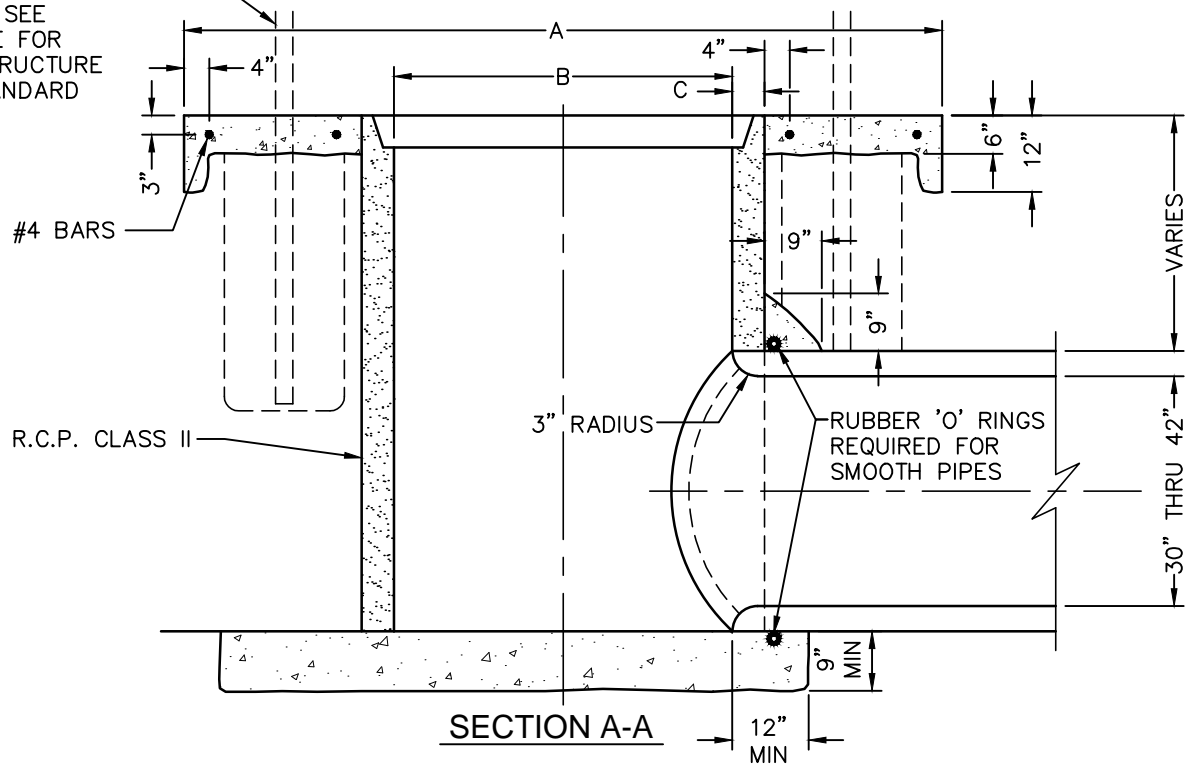
CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

TYPICAL LOT DRAINAGE

REVISIONS
 06/14/13
 BK 2016

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FOR OUTFALL CAGE
STRUCTURE SEE
FENCE CAGE FOR
OUTFALL STRUCTURE
TYPE A STANDARD
DRAWING



NOTES:

1. FOR DIMENSIONS SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE A STANDARD DRAWING.

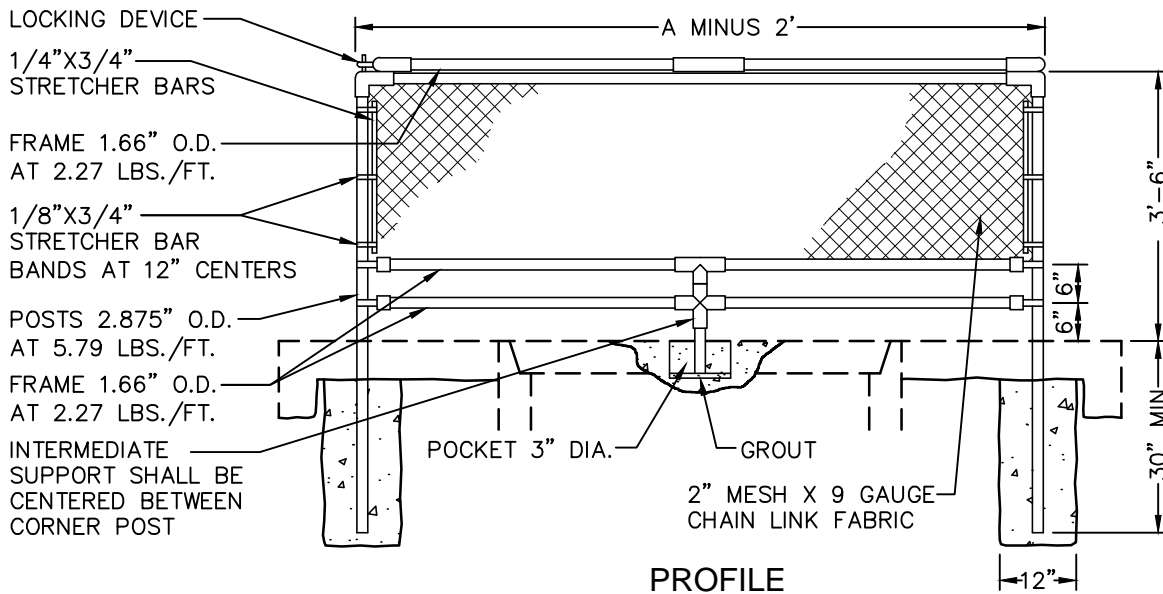
APPROVED BY: *[Signature]* 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

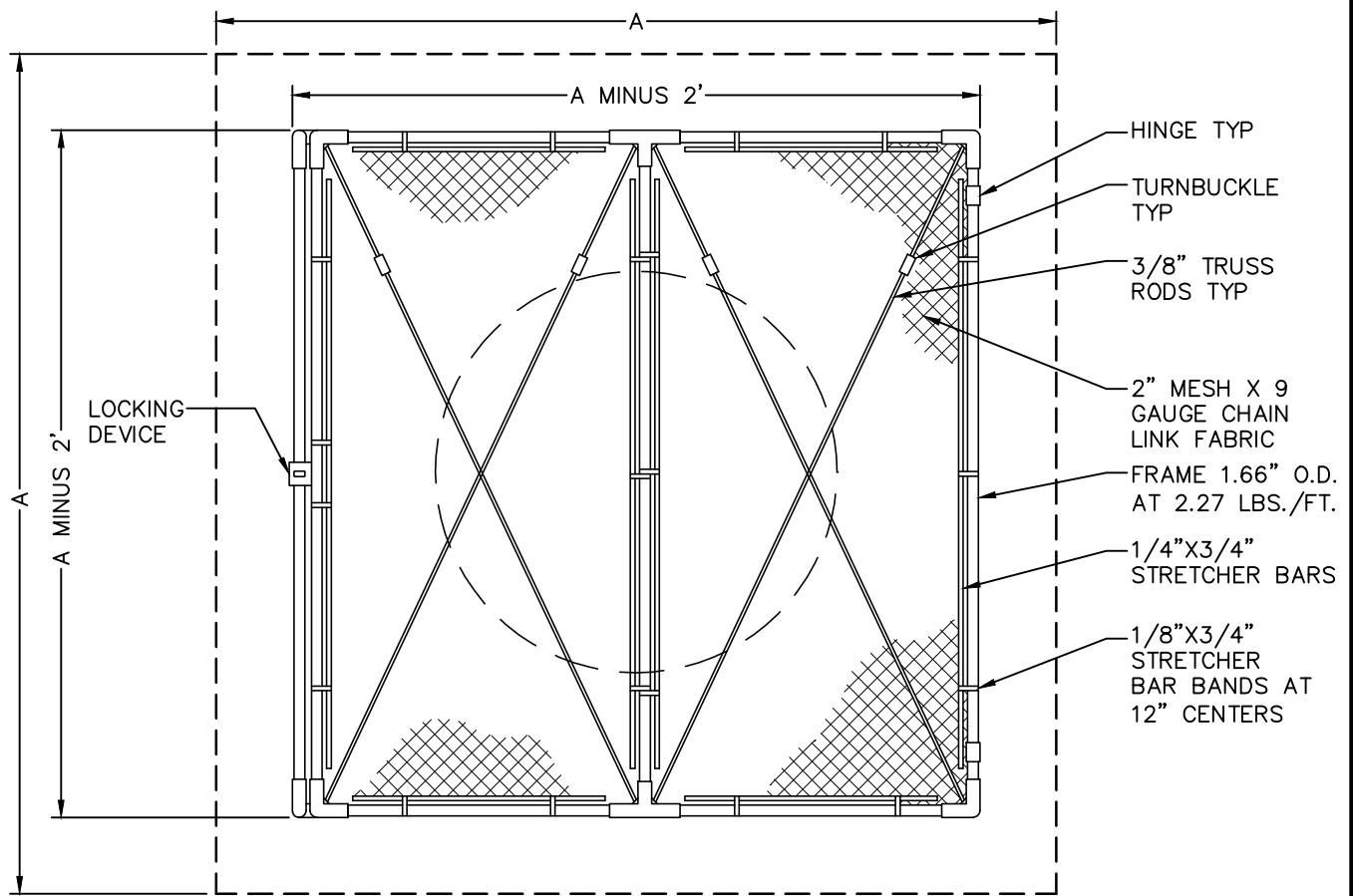
OUTFALL STRUCTURE
TYPE A

REVISIONS
11/15/07
BK 2016

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PROFILE



PLAN

NOTES:

1. LOCKING DEVICE SHALL BE APPROVED BY THE CITY ENGINEER.
2. FOR DIMENSIONS SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE A STANDARD DRAWING.

APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

FENCE CAGE FOR OUTFALL STRUCTURE
 TYPE A

REVISIONS
 11/15/07
 BK 2016

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TYPE	MAX PIPE SIZE	DESIGN (C.F.S.)	A	B	C
A	30"	12-16	8'-0"	42"	3 1/2"
A	36"	16-21	9'-0"	48"	4"
A	42"	21-29	10'-0"	54"	4 1/2"

DESIGN TABLE
TYPE A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. REINFORCING BARS SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REINFORCING BARS SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
3. REINFORCING BARS SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.

APPROVED BY:  CITY ENGINEER R.P.E. 81734	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
09/16/16 DATE	

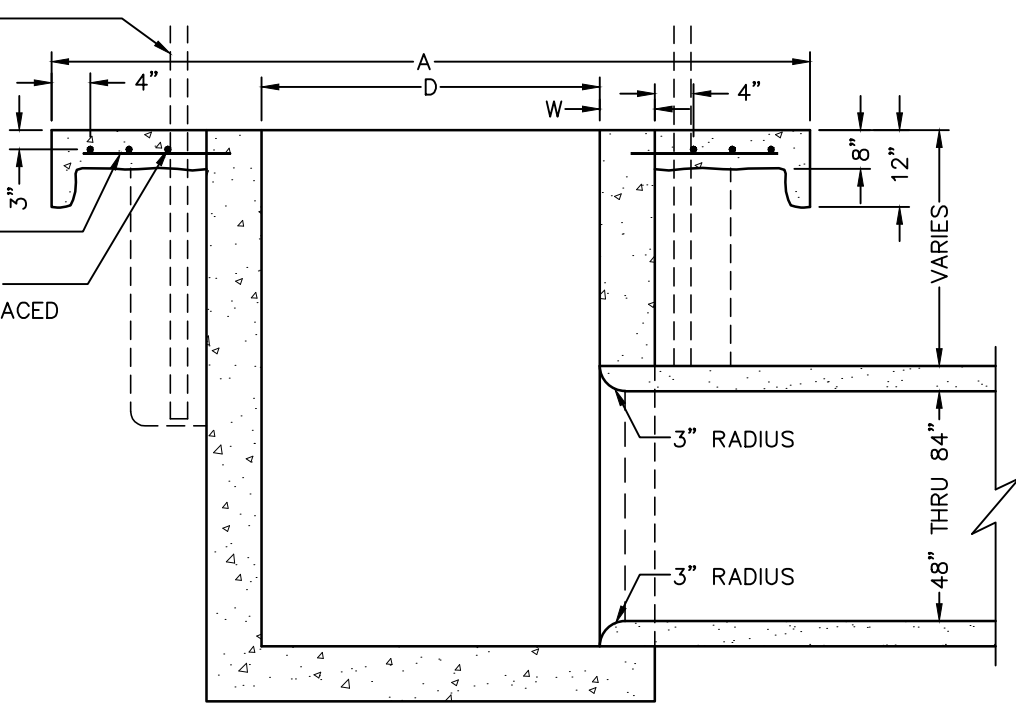
DESIGN TABLE FOR
OUTFALL STRUCTURE TYPE A

REVISIONS
12/18/07
BK 2016

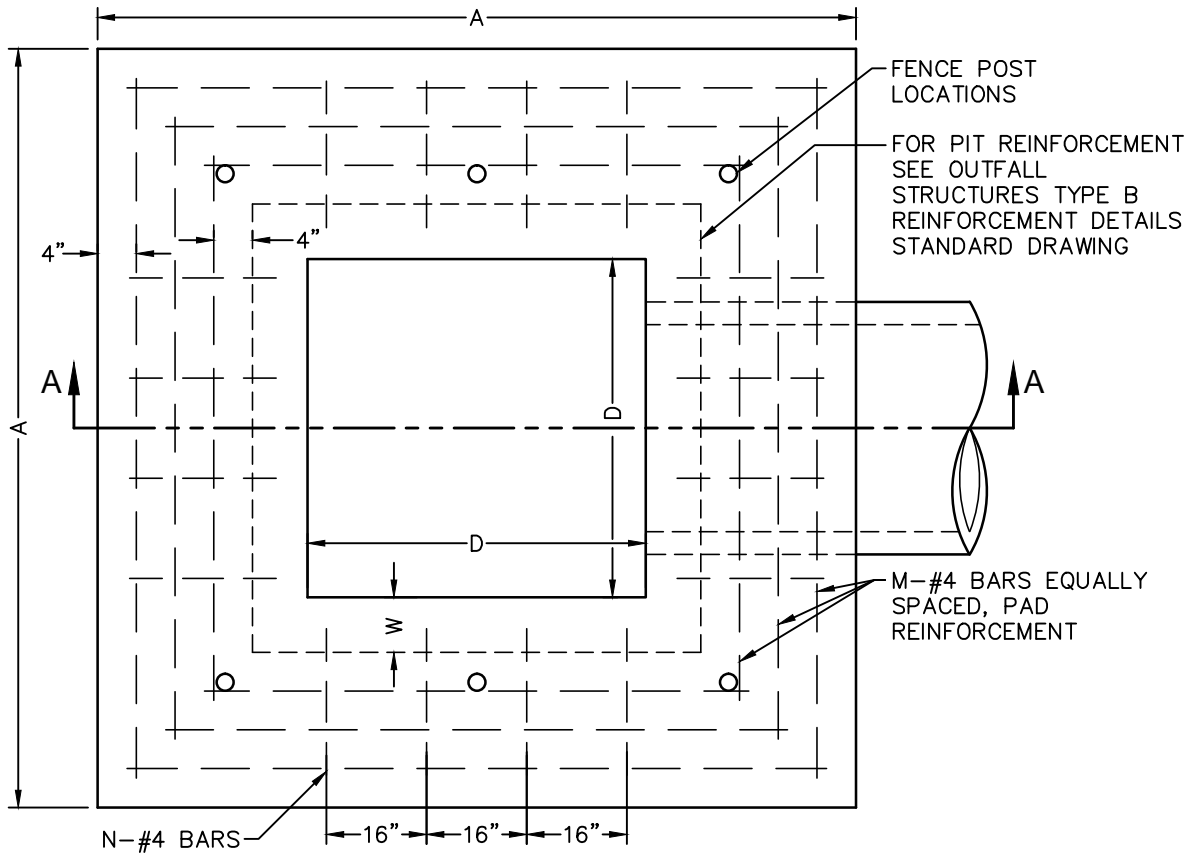
D-24

FOR OUTFALL CAGE
STRUCTURE SEE
FENCE CAGE FOR
OUTFALL STRUCTURE
TYPE B STANDARD
DRAWING

N-#4 BARS
M-#4 BARS
EQUALLY SPACED



SECTION A-A



PLAN

NOTES:

1. FOR DIMENSIONS SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE B STANDARD DRAWING.

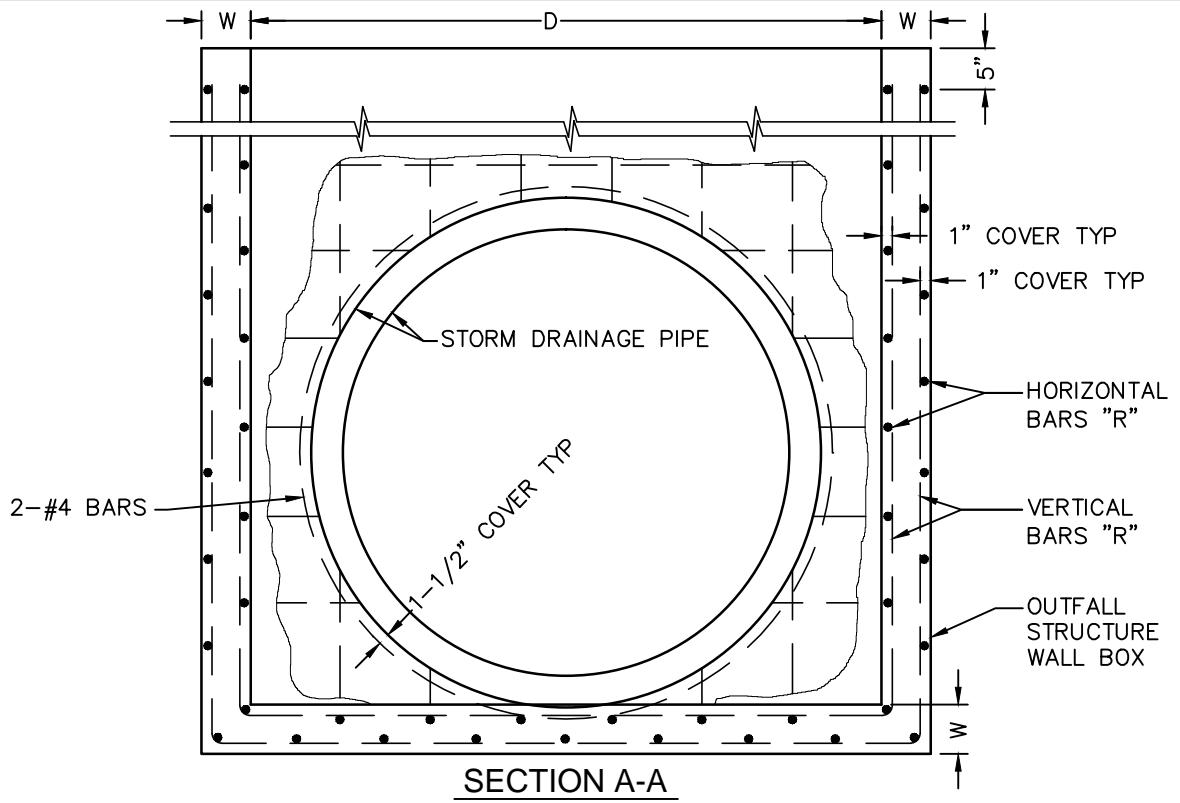
APPROVED BY: 
CITY ENGINEER R.P.E. 81734
09/16/16
DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

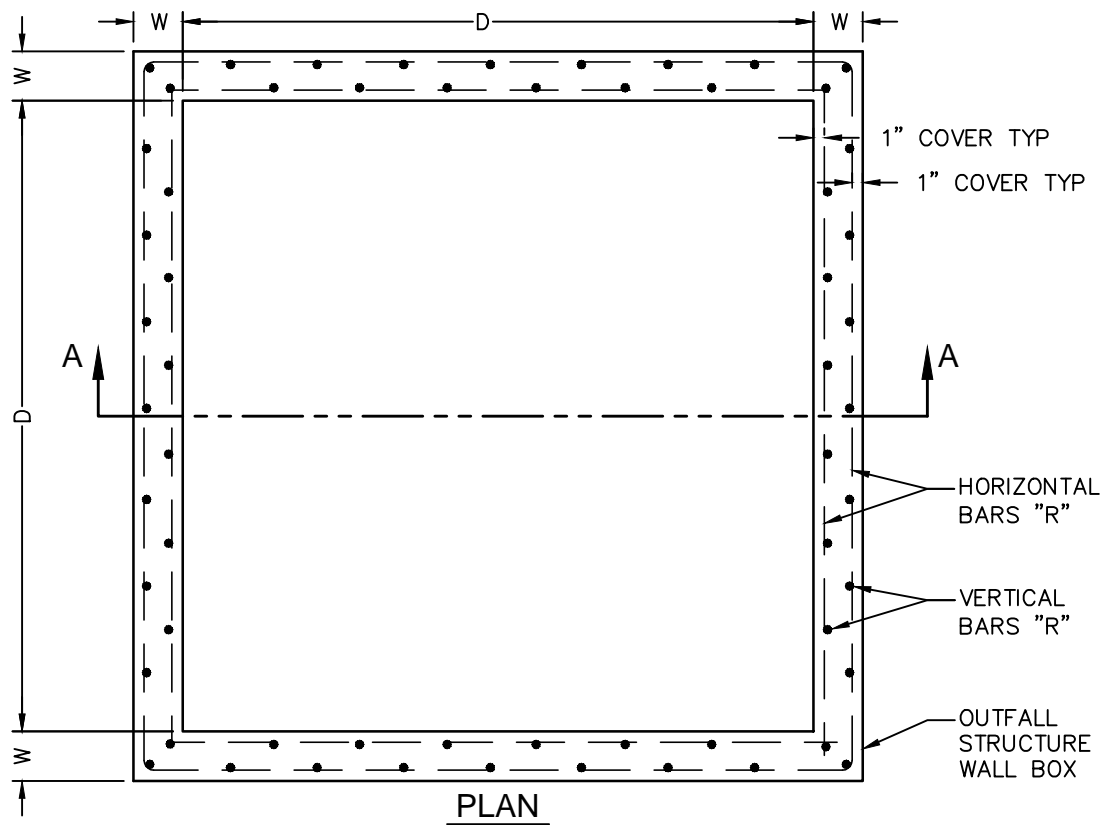
OUTFALL STRUCTURE
TYPE B

REVISIONS
11/13/07
BK 2016

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SECTION A-A



PLAN

NOTES:

1. FOR DIMENSIONS AND REBAR SIZE AND SPACING SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE B STANDARD DRAWING.
2. ALL REINFORCEMENT SHALL CONFORM WITH THE CITY OF VISALIA STANDARD SPECIFICATIONS.

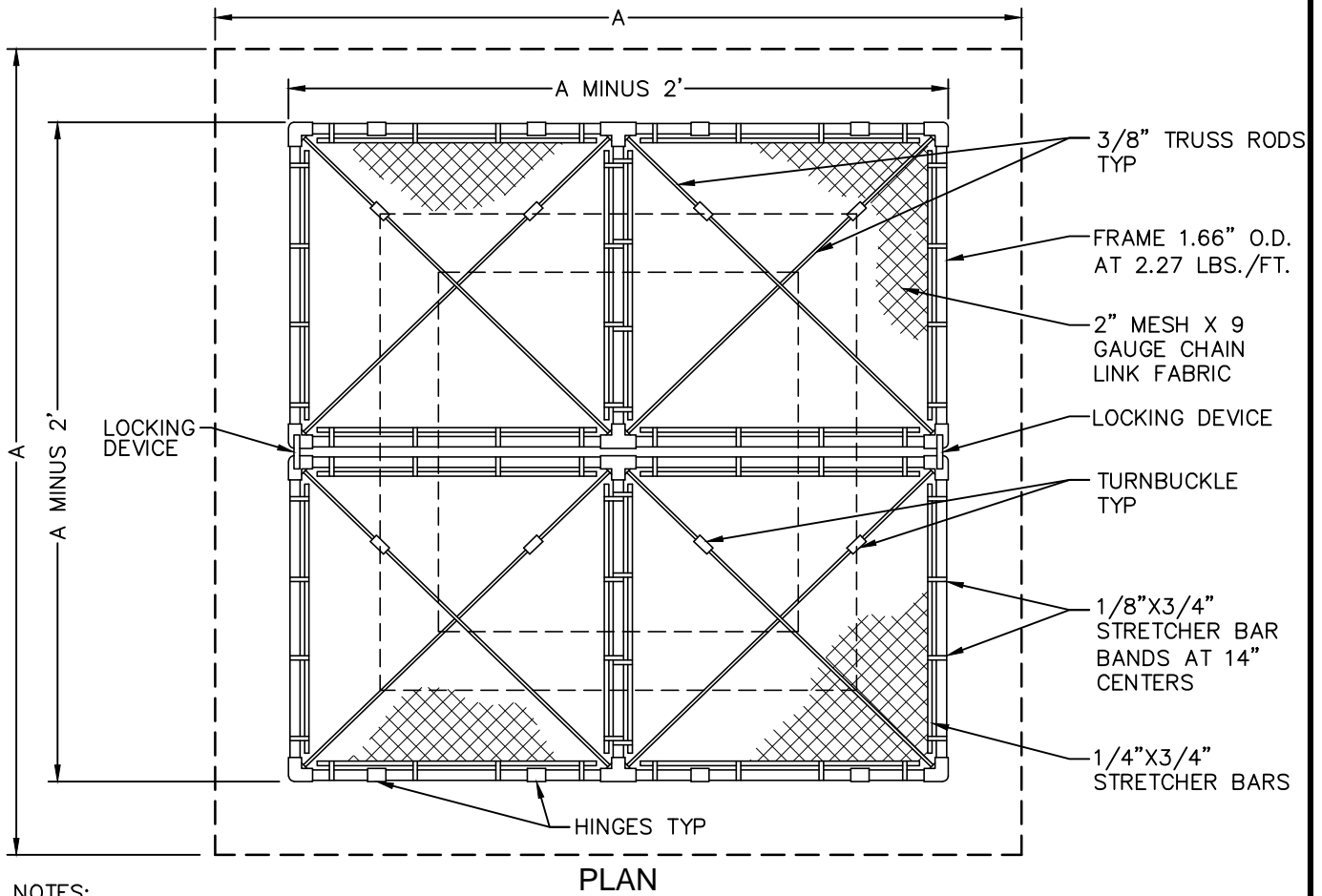
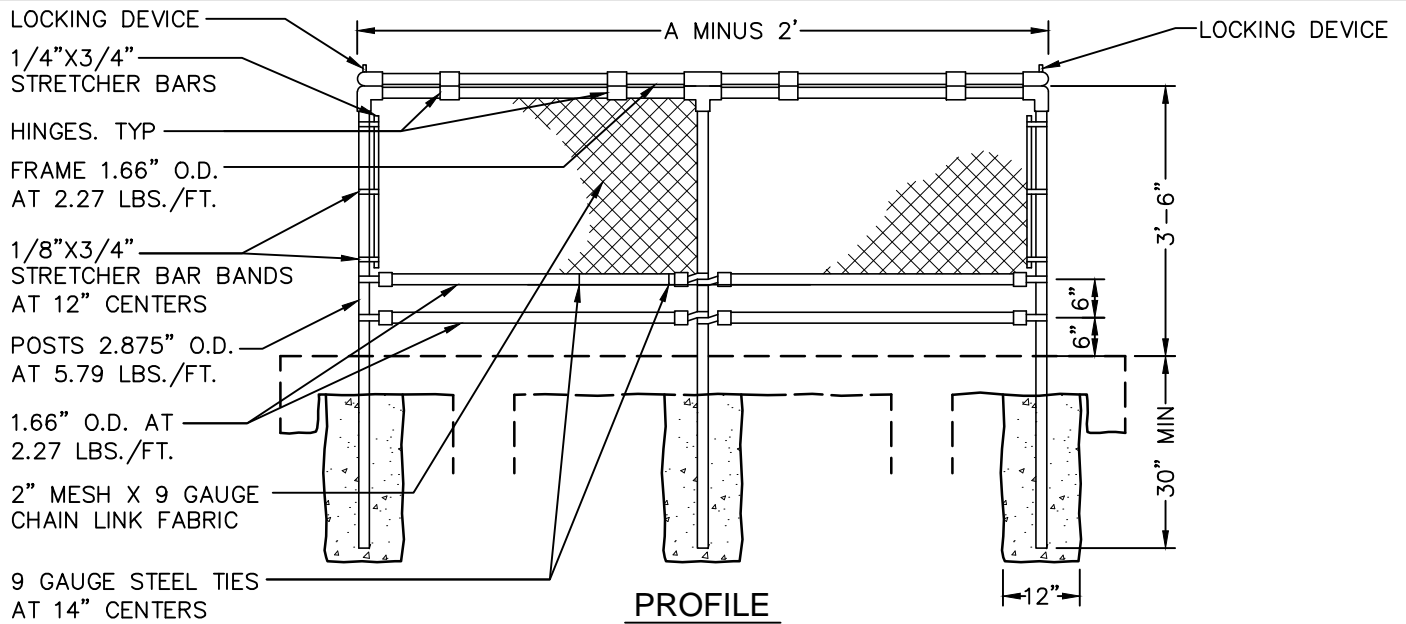
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

OUTFALL STRUCTURES TYPE B
REINFORCEMENT DETAILS

REVISIONS
 11/13/07
 BK 2016

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NOTES:

1. LOCKING DEVICE SHALL BE APPROVED BY THE CITY ENGINEER.
2. FOR DIMENSIONS SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE B STANDARD DRAWING.

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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

FENCE CAGE FOR OUTFALL STRUCTURE
 TYPE B

REVISIONS
 11/07/07
 BK 2016

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TYPE	MAX PIPE SIZE	DESIGN (C.F.S.)	A	D	F	M	N	W	R*
B	48"	38-50	10'-0"	5'-0"	2'-6"	2	3	8"	#4 AT 12"
B	60"	50-65	12'-0"	6'-0"	3'-0"	3	4	8"	#4 AT 12"
B	66"	65-85	14'-0"	7'-0"	3'-6"	3	5	8"	#4 AT 12"
B	72"	85-110	16'-0"	8'-0"	4'-0"	3	6	10"	#5 AT 10"
B	84"	110-140	18'-0"	9'-0"	4'-6"	4	8	10"	#5 AT 10"

DESIGN TABLE
TYPE B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
 2. REINFORCING BARS SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REINFORCING BARS SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
 3. REINFORCING BARS SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
- * REINFORCEMENT SHALL CONSIST OF A DOUBLE CURTAIN BOTH DIRECTIONS OF THE SIZE AND SPACING NOTED. SEE OUTFALL STRUCTURE TYPE B REINFORCEMENT DETAILS STANDARD DRAWING

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09/16/16 DATE	

DESIGN TABLE FOR
OUTFALL STRUCTURE TYPE B

REVISIONS
12/18/07
BK 2016

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RESERVED FOR FUTURE DETAIL

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

REVISIONS

BK 2016

D-29

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

REVISIONS

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D-30

RESERVED FOR FUTURE DETAIL

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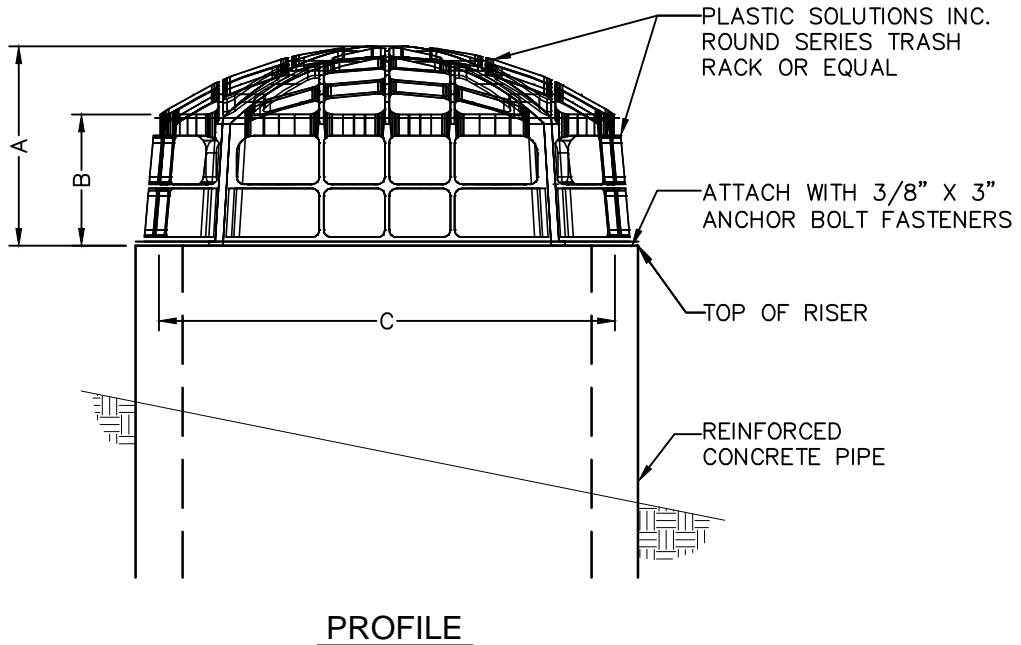
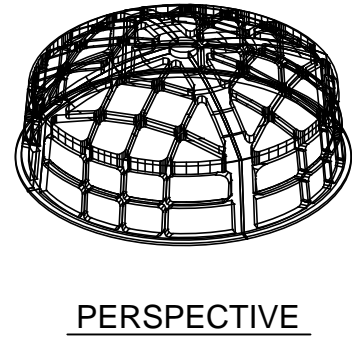
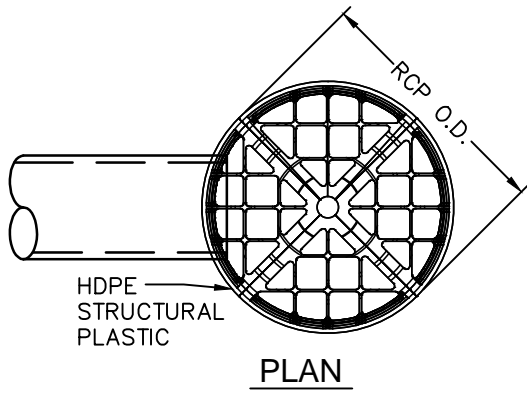
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ROUND SERIES TRASH RACKS FOR CONCRETE RISERS BY PLASTIC SOLUTIONS, INC. (DIMENSIONS IN INCHES)					
PART NO.	DIM. A	DIM. B	DIM. C	MIN. ID.	MIN. OD.
RS-24	17-1/4	14-1/4	28	24	30
RS-36	21-1/4	14-3/8	40-7/8	36	43
RS-48	27-3/4	18	54	48	57
RS-60	27-1/2	18-1/4	66-1/2	60	70

NOTES:

1. INLET STRUCTURE SHALL BE SIZED BY THE ENGINEER OF RECORD AND APPROVED BY THE CITY ENGINEER.

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ROUND TRASH RACK FOR
 BASIN PUMP INLET STRUCTURE

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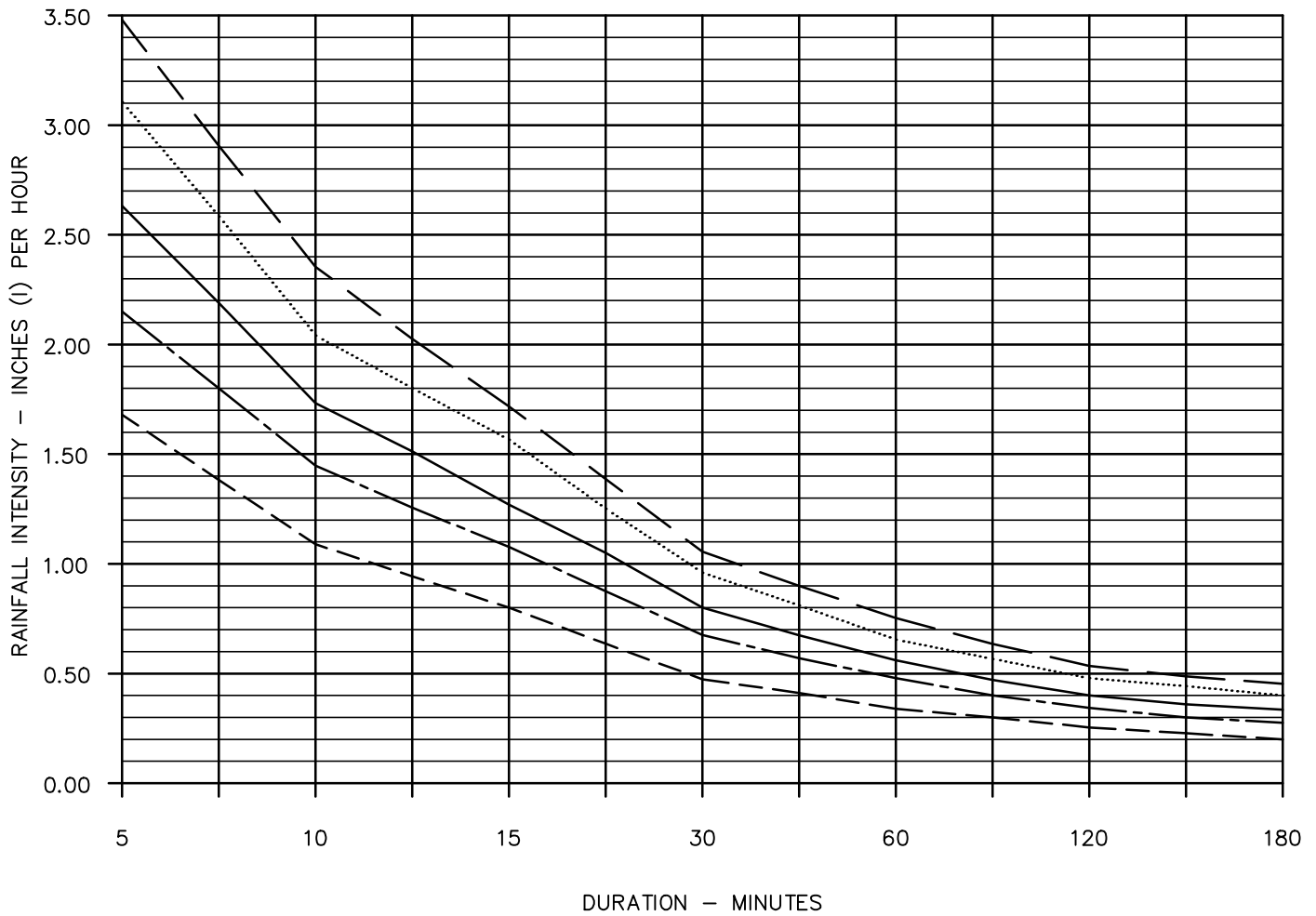
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2 YEAR - - - - -
 5 YEAR - - - - -
 10 YEAR - - - - -
 25 YEAR
 50 YEAR - - - - -



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INTENSITY DURATION CURVES

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STORM DRAINAGE DESIGN CRITERIA

LEVEL OF PROTECTION

ITEM	VOLUME	LEVEL OF PROTECTION
MINOR (COLLECTOR) DRAINS	N/A	2 YEAR
MAJOR DRAINS	N/A	10 YEAR
IN-TOWN DETENTION BASINS	10 YEAR - 1 DAY	10 YEAR - 10 DAY
IN-TOWN RETENTION BASINS	10 YEAR - 10 DAY	10 YEAR - 10 DAY
INDUSTRIAL PARK RETENTION BASINS	10 YEAR - 10 DAY	10 YEAR - 10 DAY
DOWNSTREAM ULTIMATE STORAGE BASINS	10 DAY - 50 YEAR	10 DAY - 50 YEAR

NOTES:

1. MAJOR DRAINS GENERALLY SERVE AREAS IN EXCESS OF 100 ACRES. THESE DRAINS ARE DEFINED AND ANALYZED IN THE CITY'S STORM WATER MASTER PLAN.
2. MINOR DRAINS CONVEY RUNOFF TO THE MAJOR DRAINS AND GENERALLY SERVE AREAS LESS THAN 100 ACRES.
3. THE STORAGE VOLUME FOR DETENTION STORAGE IS BASED ON A 10-YEAR, 1-DAY STORM EVENT WITH A TOTAL RAINFALL OF 2.09 INCHES. THE BASIN SHALL ALSO ACCOMMODATE A 10-YEAR, 2-DAY EVENT WITH A TOTAL RAINFALL OF 2.64 INCHES WITH FREEBOARD AND PUMPING TAKEN INTO ACCOUNT. THE MAXIMUM DESIGN DEPTH AND SIDE SLOPES OF THE BASIN MUST BE APPROVED BY THE CITY. DISCHARGE PUMPS WITH A CITY APPROVED CAPACITY SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH CITY STORM WATER DISCHARGE POLICIES.
4. THE STORAGE VOLUME FOR RETENTION STORAGE IS BASED ON A 10-YEAR, 10-DAY STORM EVENT WITH A TOTAL RAIN FALL OF 4.17 INCHES. DISCHARGE PUMPS CAN ONLY BE INSTALLED AND OPERATED WITH THE APPROVAL OF THE CITY.
5. THE DESIGN WATER SURFACE ELEVATION IN A BASIN SHALL BE A MINIMUM OF ONE FOOT BELOW THE LOWEST CATCH BASIN IN THE AREA THAT IS TRIBUTARY TO THE BASIN.
6. THE CITY DOES NOT CONSIDER PERCOLATION/INFILTRATION FACTORS IN SIZING BASINS.

RATIONAL METHOD RUNOFF COEFFICIENTS AND DESIGN CRITERIA FOR STORM WATER BASINS

LAND USE	COEFFICIENT OF RUNOFF (C)	STORAGE VOLUME (ACRE-FEET/ACRE)	
		<u>DETENTION</u>	<u>RETENTION</u>
INDUSTRIAL AND COMMERCIAL	0.85	0.148	0.295
PROFESSIONAL OFFICE	0.65	0.113	0.226
RESIDENTIAL			
- HIGH DENSITY (15-29 UNITS/ACRE)	0.55	0.096	0.191
- MEDIUM DENSITY (11-14 UNITS/ACRE)	0.45	0.078	0.156
- LOW DENSITY (3-10 UNITS/ACRE)	0.35	0.061	0.122
- RURAL (1-2 UNITS/ACRE)	0.30	0.052	0.104
PUBLIC/INSTITUTIONAL	0.40	0.070	0.139
OPEN SPACE			
- IMPROVED (PARKS)	0.25	0.044	0.087
- UNIMPROVED	0.15	0.026	0.052

DESIGN CRITERIA

1. THE RATIONAL METHOD MAY BE USED TO DETERMINE PEAK FLOWS AND RUNOFF VOLUMES FOR AREAS LESS THAN 150 ACRES.
2. ALL NEW DEVELOPMENTS SHALL BE DESIGNED SUCH THAT THE SURFACE OF PONDED WATER DURING THE 100-YEAR RAINFALL EVENT DOES NOT RISE MORE THAN ONE FOOT ABOVE THE LOWEST TOP OF CURB IN THE DEVELOPMENT.
3. LOT TO STREET TIME = 25 MINUTES. (RESIDENTIAL ONLY)
4. GUTTER VELOCITY = 2 FEET PER SECOND.

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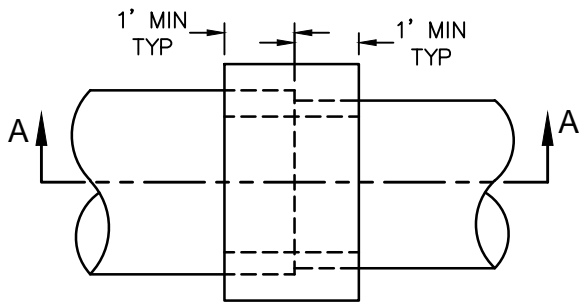
DESIGN CRITERIA FOR DRAINAGE

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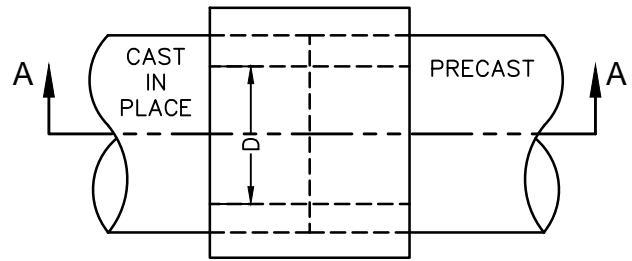
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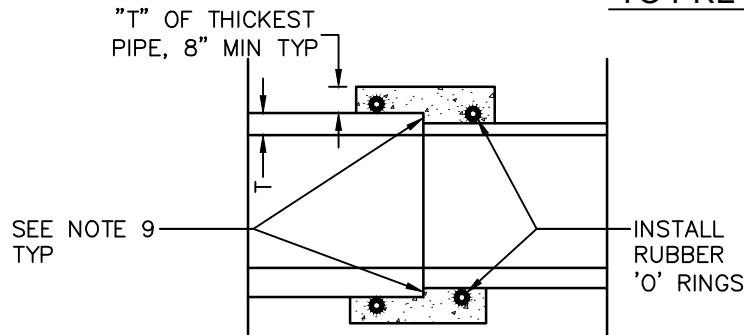
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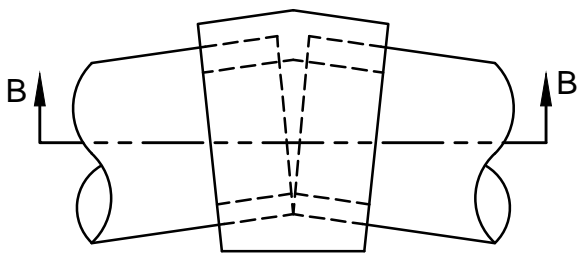
JOINING DISSIMILAR PIPES



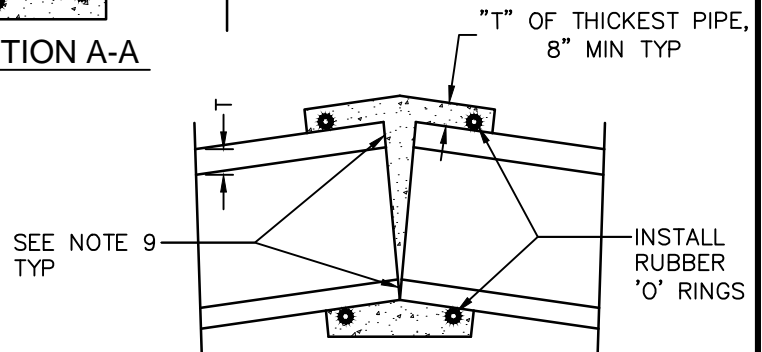
JOINING CAST-IN-PLACE
TO PRE-CAST PIPES



SECTION A-A



ANGLE EXCEEDING NORMAL
DEFLECTION ANGLE*



SECTION B-B

NOTES:

1. CONCRETE COLLAR SHALL BE CLASS 2 CONCRETE.
2. INSIDE COLLAR SHALL MATCH PIPE DIAMETER, SMOOTH STEEL TROWEL FINISH.
3. ALLOW CONCRETE TO HARDEN BEFORE BACKFILLING.
4. WHEN FORMING ANGLES ENGINEER MAY REQUIRE CHAMFERING OF PIPE ENDS.
5. JOINTS SHALL BE WATER TIGHT.
6. THIS DETAIL IS NOT FOR USE WITH PVC/PLASTIC PIPES. JOINING OF PVC/PLASTIC PIPES SHALL BE AS APPROVED BY THE CITY ENGINEER.
7. THIS DETAIL MAY BE USED FOR PIPES UP TO 48" IN DIAMETER. COLLARS FOR PIPES LARGER THAN 48" SHALL BE AS APPROVED BY THE CITY ENGINEER.
8. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02 AS IMPLEMENTED BY THE CITY OF VISALIA.
9. CONTRACTOR SHALL INSTALL A QUICK SETTING TYPE HYDRAULIC CEMENT TO ALL JOINTS PRIOR TO POURING CONCRETE COLLAR. HYDRAULIC CEMENT SHALL BE A NON-SHRINKING, NON-METALLIC AND NON-CORROSIVE TYPE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,000 P.S.I. HYDRAULIC CEMENT DATA SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. JOINT SEAL SHALL BE WATER TIGHT.

* THIS INSTALLATION METHOD SHALL ONLY BE USED WHERE APPROVED BY THE CITY ENGINEER IN WRITING. SEE NOTE 4.

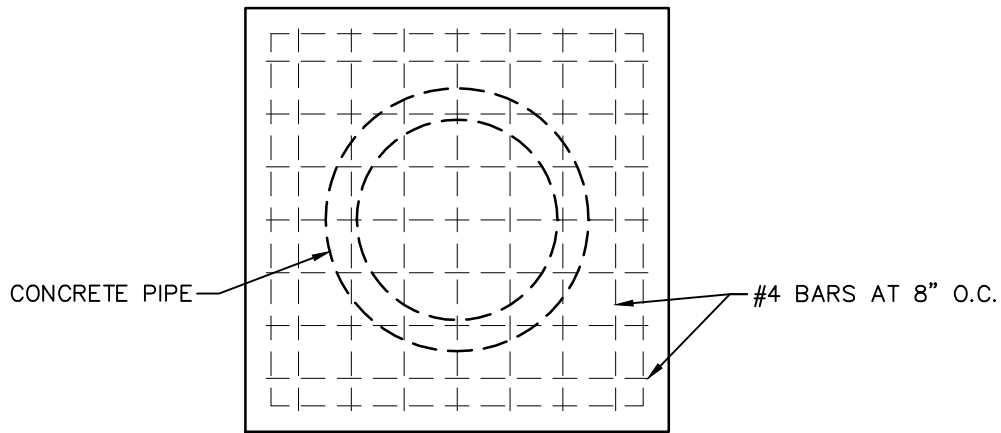
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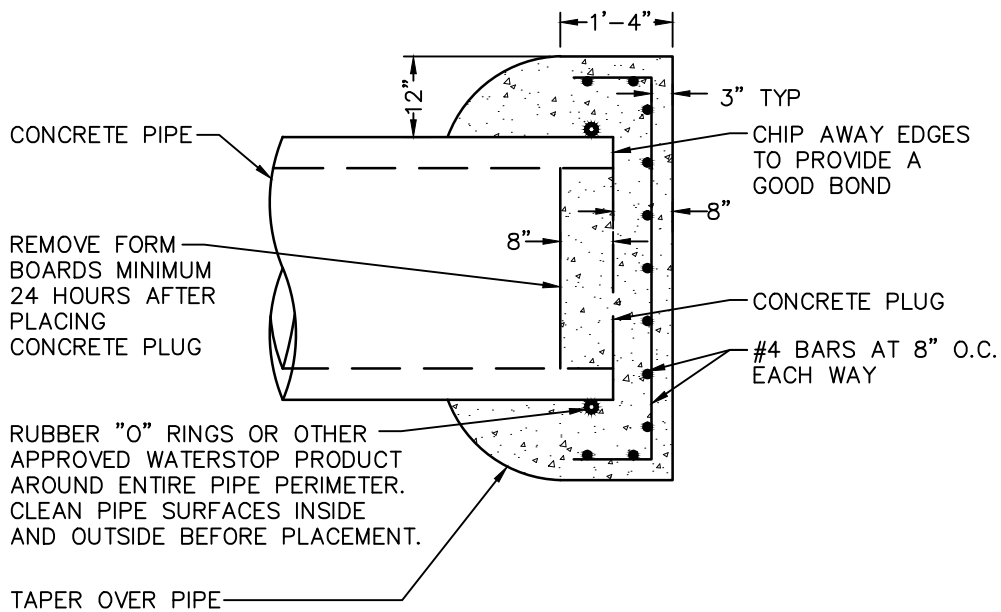
CONSTRUCTION JOINT
CONCRETE FILLED COLLAR

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FRONT VIEW



SECTION

NOTES:

1. END PLUG SHALL ONLY BE USED WHERE APPROVED BY THE CITY ENGINEER.
2. THIS PLUG SHALL BE USED ON PIPES WITH AN INNER DIAMETER OF 12" UP TO 48". END PLUGS FOR PIPES WITH AN INNER DIAMETER LARGER THAN 48" SHALL BE DESIGNED BY THE ENGINEER OF RECORD AND APPROVED BY THE CITY ENGINEER.
3. REBAR AND CONCRETE SHALL COMPLY WITH THE CITY OF VISALIA STANDARD SPECIFICATIONS.
4. CONCRETE SHALL BE CLASS 2.
5. PIPE END PLUG SHALL BE WATER TIGHT.
6. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02 AS IMPLEMENTED BY THE CITY OF VISALIA.

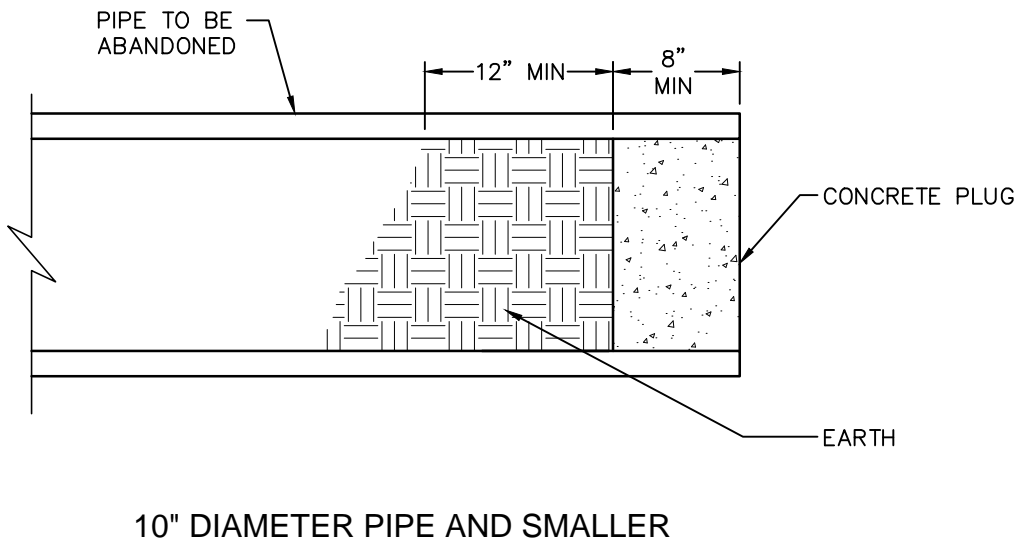
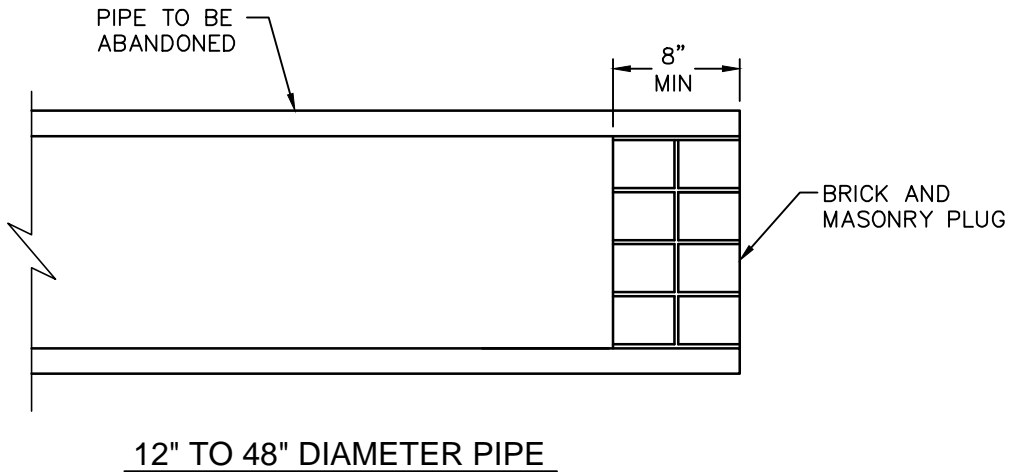
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PIPE END PLUG FOR CONCRETE PIPE

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NOTES:

1. PIPE PLUGS SHALL BE INSTALLED TO THE SATISFACTION OF THE ENGINEER.
2. WHERE REQUIRED BY THE CITY ENGINEER, ABANDONED PIPES 12" AND LARGER, SHALL BE FILLED COMPLETELY WITH CEMENT SLURRY BACKFILL.
3. ALL PLUGS SHALL COMPLY WITH THE CITY OF VISALIA STANDARD SPECIFICATIONS.
4. PIPE END PLUG SHALL BE WATER TIGHT.
5. VIDEO INSPECTION REQUIRED PRIOR TO ABANDONMENT OF PIPE.

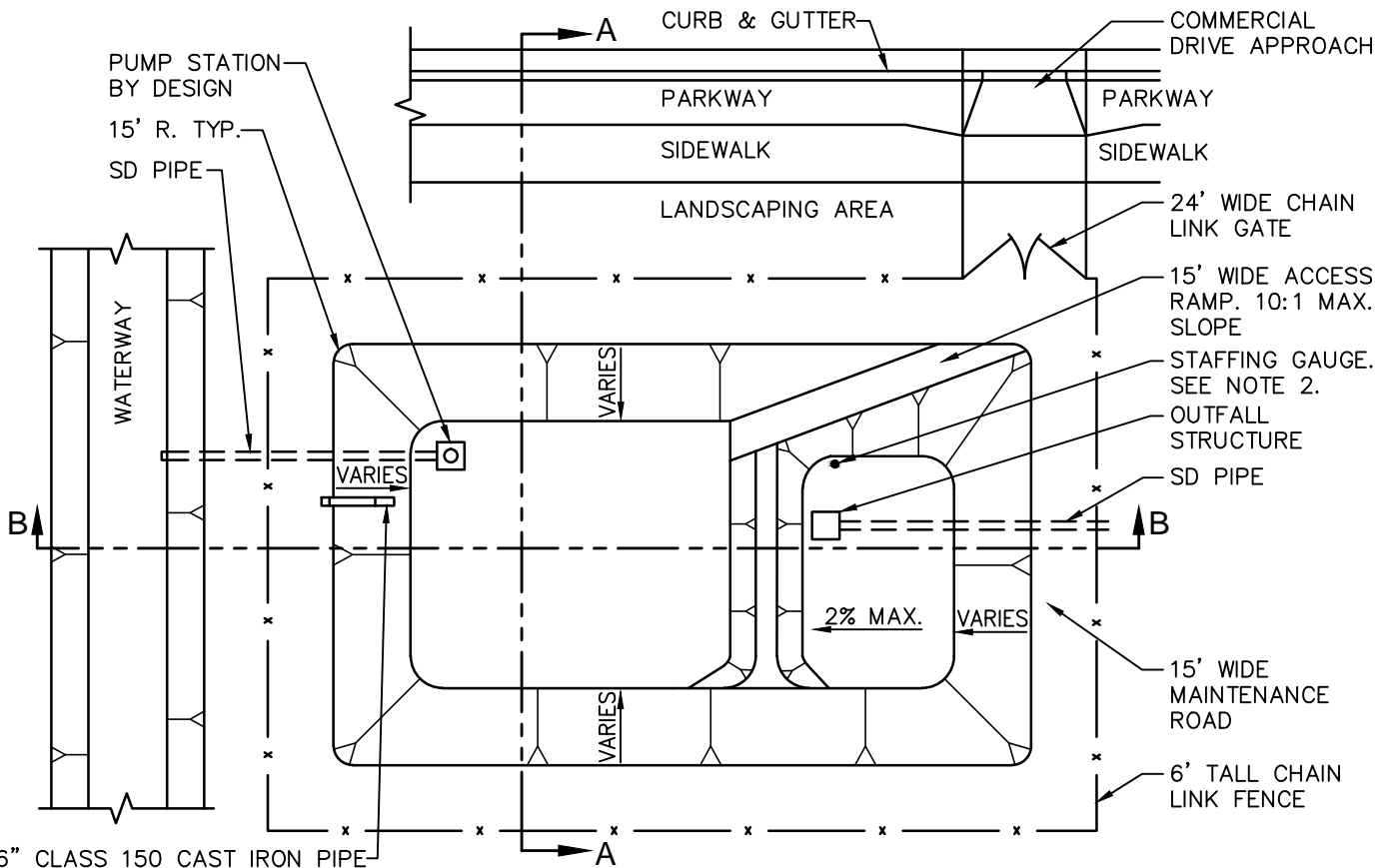
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

ABANDONED SANITARY SEWER AND
 STORM DRAIN PIPE PLUG

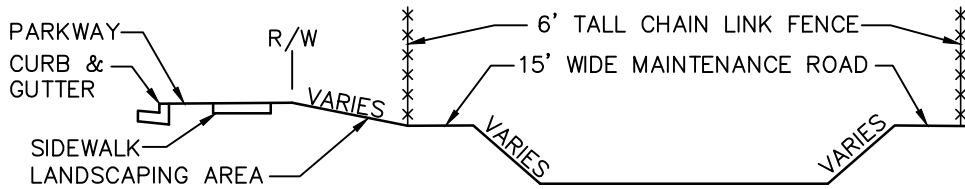
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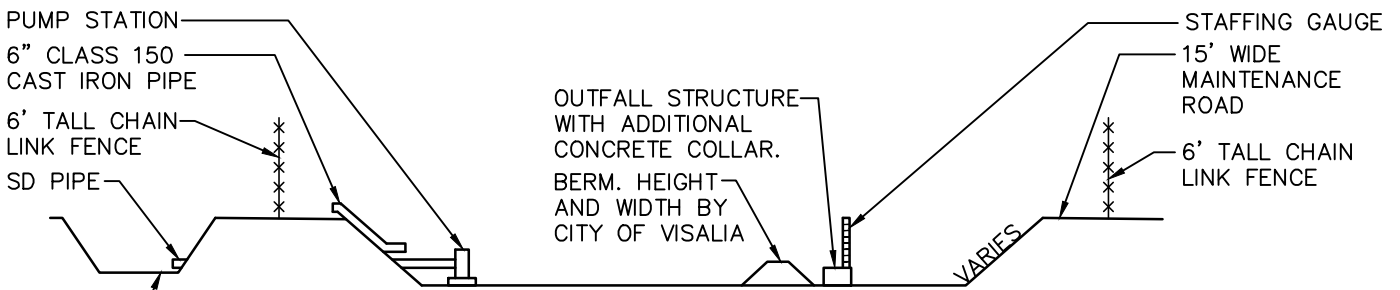


6" CLASS 150 CAST IRON PIPE TO BE INSTALLED AS REQUIRED BY CITY ENGINEER. SEE PONDING BASIN 2 OF 2 STANDARD DRAWING.

PLAN



SECTION A-A



SECTION B-B

NOTES:

1. REQUIREMENTS PER BASIN TO BE APPROVED BY CITY ENGINEER.
2. STAFFING GAUGE TO BE 4" GALVANIZED POLE. WHITE REFLECTIVE TAPE TO BE PLACED EVERY FOOT STARTING AT THE TOP OF BANK TO THE BOTTOM OF THE BANK. RED REFLECTIVE TAPE SHALL BE PLACED AT THE HIGH WATER LINE. EMBEDDING DEPTH AND FOOTING TO BE DETERMINED WITH PLANS.

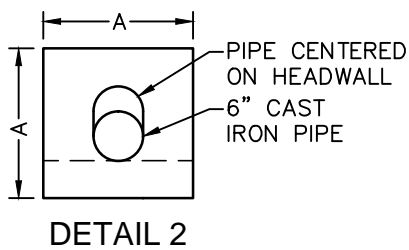
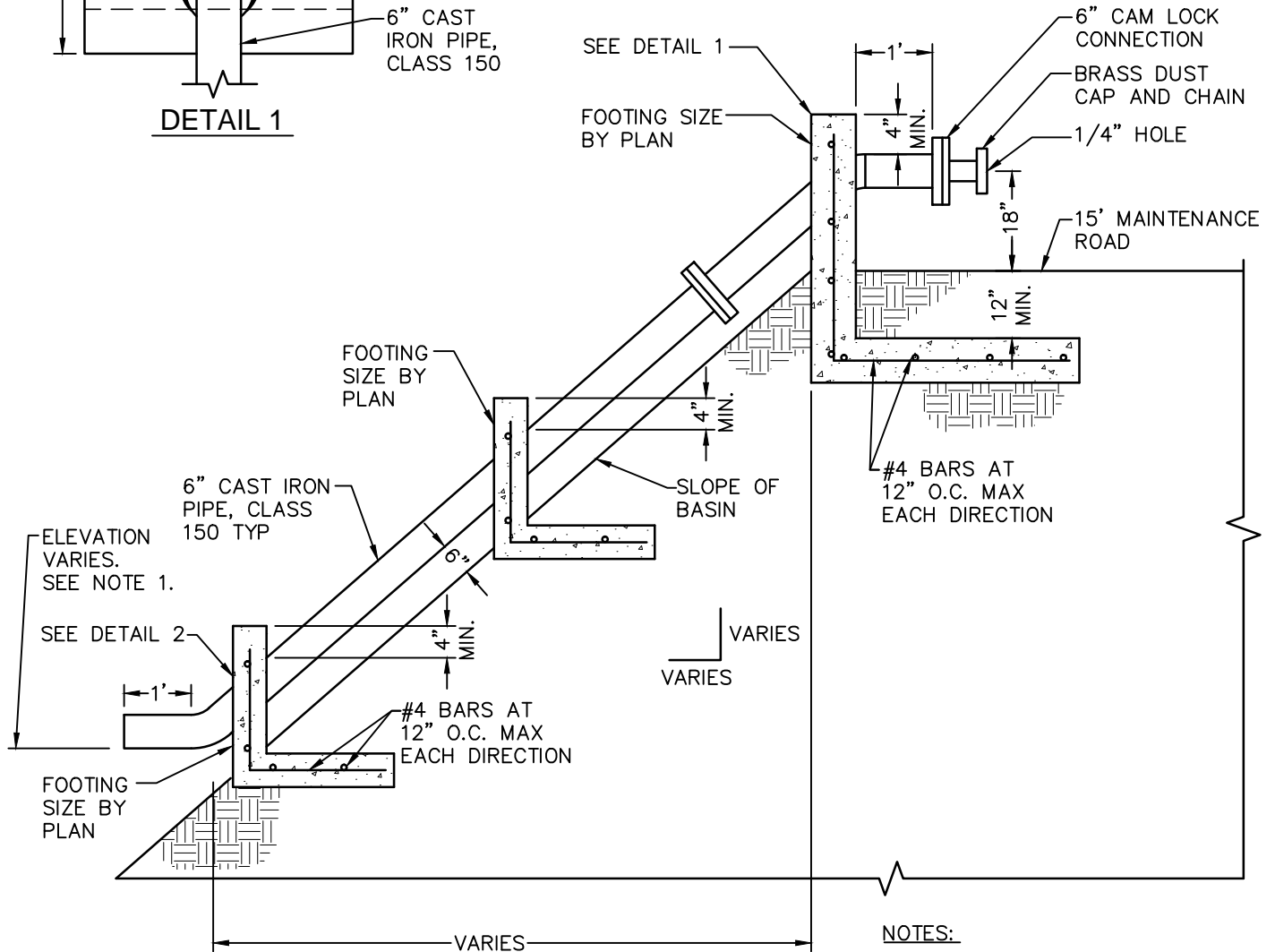
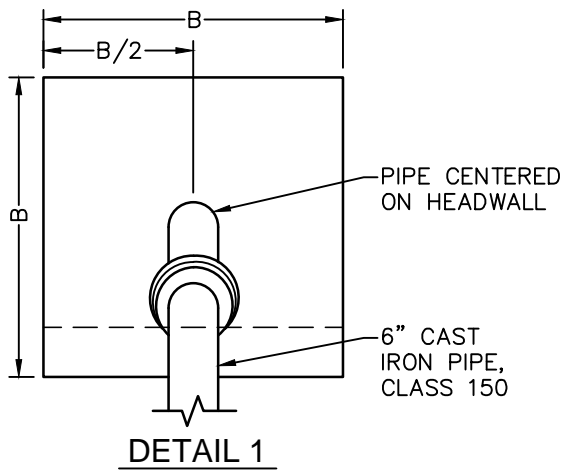
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PONDING BASIN 1 OF 2

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NOTES:

1. SET INLET PIPE ELEVATION BELOW MIDPOINT OF BASIN HIGHWATER LINE AND BOTTOM OF BASIN.
2. ALL CONCRETE SHALL BE CLASS 2.

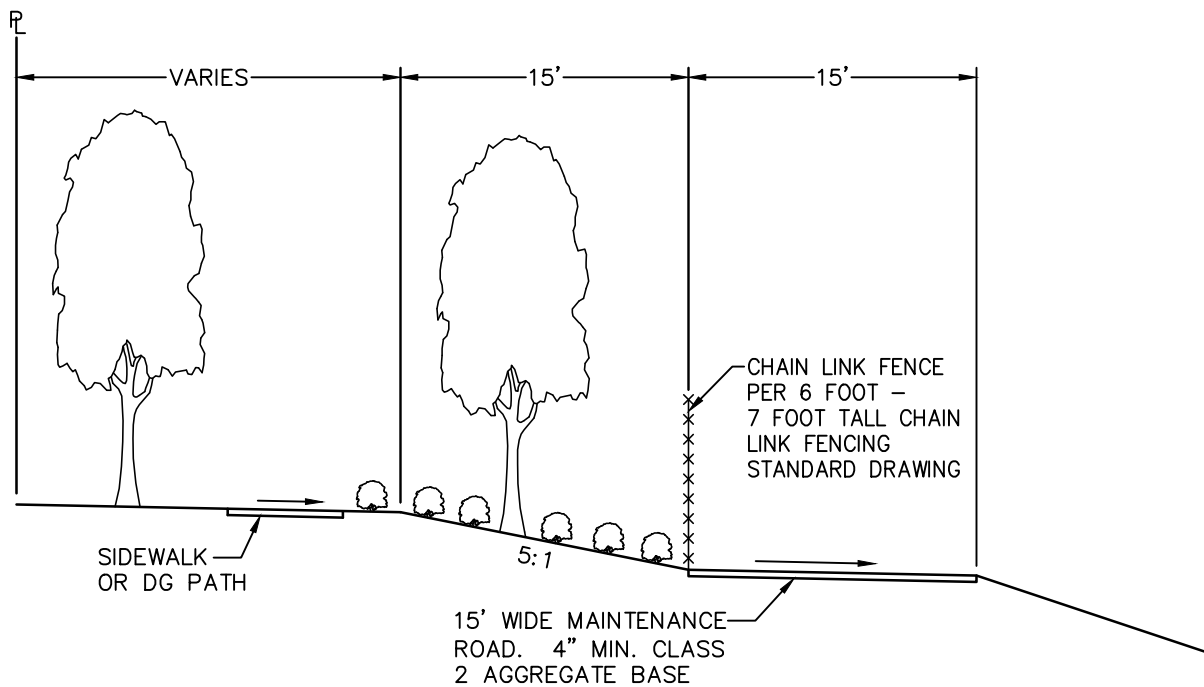
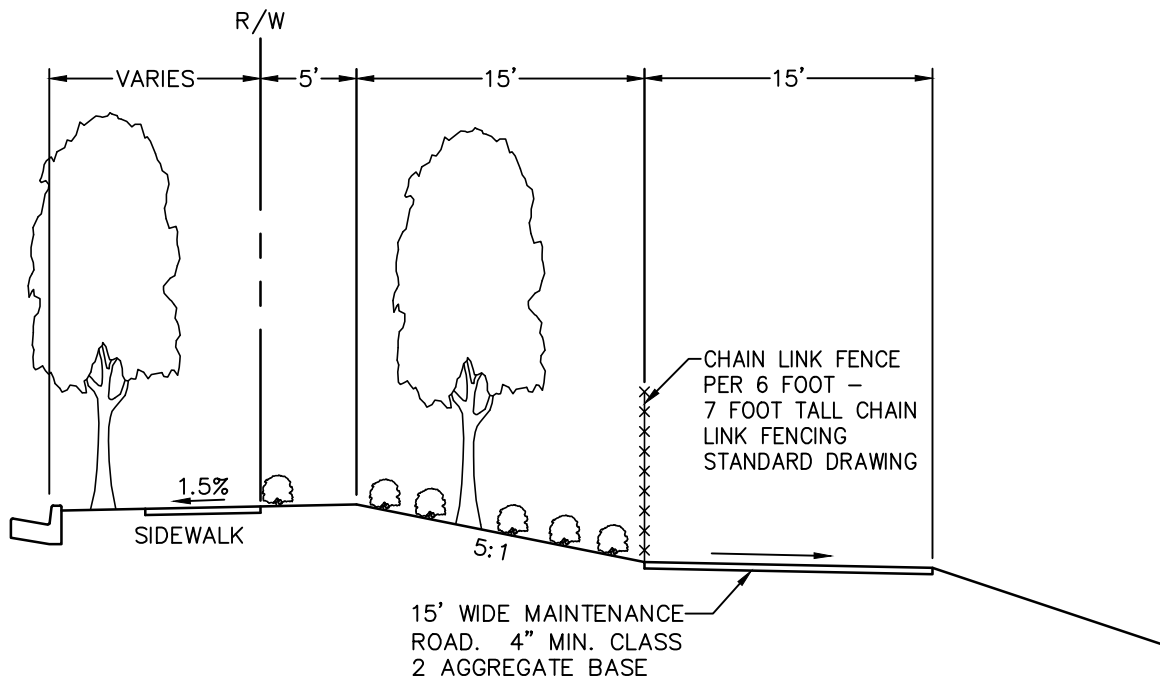
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 DESIGN & IMPROVEMENT STANDARDS

PONDING BASIN 2 OF 2

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NOTES:

1. REFER TO CONCRETE IMPROVEMENT STANDARD DRAWINGS FOR SIDEWALK AND PARKWAY REQUIREMENTS.
2. DESIGN SHALL MINIMIZE EROSION.
3. SIDE SLOPE STABILIZATION AND HYDROSEEDING REQUIREMENTS PER CITY STANDARD SPECIFICATIONS OR AS DIRECTED BY THE CITY ENGINEER.

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**BASIN PERIMETER
 LANDSCAPING SECTION**

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9" MINIMUM CLASS 2 AGGREGATE BASE OR AS DIRECTED BY THE CITY ENGINEER.

1/8"-1/4" MAXIMUM

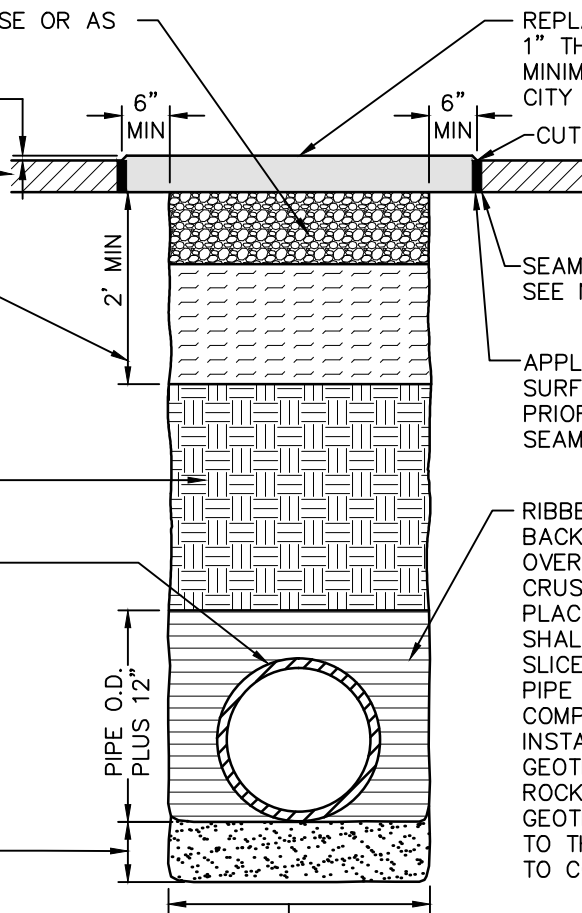
EXISTING STRUCTURE SECTION THICKNESS VARIES

COMPACT TO 95% RELATIVE COMPACTION. TWO SACK SAND CEMENT SLURRY OR CLASS 2 AGGREGATE BASE PER CITY SPECIFICATIONS REQUIRED WHERE TRENCH IS 12" WIDE OR LESS, OR AS DIRECTED BY CITY ENGINEER.

COMPACT BACKFILL TO 92% RELATIVE COMPACTION. SEE NOTE 13.

SMOOTH SURFACE PIPES SHALL BE BACKFILLED TO A HEIGHT OF 12" OVER TOP OF PIPE. FILL SHALL BE PLACED BY HAND AND TAMPED OR AS PER PIPE MANUFACTURER'S SPECIFICATIONS. COMPACT TO 92% RELATIVE COMPACTION.

SEE SPECIFICATIONS FOR BEDDING REQUIREMENTS, 92% RELATIVE COMPACTION. SEE NOTE 13.



REPLACE WITH ASPHALT CONCRETE, 1" THICKER THAN EXISTING. 4" MINIMUM OR AS DIRECTED BY THE CITY ENGINEER.

CUT TO A NEAT EDGE

SEAMLESS JOINT REQUIRED SEE NOTE 1

APPLY TACK COAT ON CUT SURFACE OF EXISTING PAVEMENT, PRIOR TO FINAL PAVING, WHEN SEAMLESS TRENCH NOT REQUIRED.

RIBBED SURFACE PIPES SHALL BE BACKFILLED TO A HEIGHT OF 6" OVER TOP OF PIPE WITH 3/4" CRUSHED ROCK. ROCK SHALL BE PLACED IN 12" MAXIMUM LIFTS AND SHALL BE RODDED OR SHOVEL SLICED TO ENSURE FILL UNDER PIPE HAUNCHES AND FOR PROPER COMPACTION. CONTRACTOR SHALL INSTALL A PERMEABLE NON-WOVEN GEOTEXTILE AROUND THE CRUSHED ROCK TO PREVENT SOIL MIGRATION. GEOTEXTILE MUST BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO CONSTRUCTION.

SEE CITY OF VISALIA STANDARD SPECIFICATIONS FOR TRENCH WIDTH REQUIREMENTS.

NOTES:

1. ALL CUTS IN EXISTING PAVEMENT THAT IS LESS THAN EIGHT YEARS OLD OR AS DIRECTED BY THE CITY ENGINEER SHALL BE REQUIRED TO HAVE SEAMLESS JOINTS WITH THE EXISTING PAVEMENT BY USING A HEATER-REMIX PROCESS.
2. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
3. ALL PROVISIONS AND REQUIREMENTS OF THE CITY OF VISALIA MUNICIPAL CODE SHALL BE FOLLOWED.
4. STREET CUTS SHALL BE MADE PARALLEL OR AT RIGHT ANGLES TO THE CENTERLINE OF THE STREET.
5. ALL TRENCHES UNDER EXISTING CURB AND GUTTER OR OTHER CITY STRUCTURES SHALL REQUIRE A TWO SACK CEMENT SLURRY BACKFILL. CEMENT SLURRY BACKFILL SHALL HAVE NOT LESS THAN 188 POUNDS OF CEMENT PER CUBIC YARD OF MATERIAL PRODUCED.
6. MANHOLE AND WATER VALVE RAISING ASSOCIATED WITH NEW STREET CONSTRUCTION IS NOT REQUIRED TO FOLLOW NOTE 1.
7. MOISTURE CONDITION AND MIX BACKFILL MATERIAL PRIOR TO PLACEMENT.
8. TEMPORARY TRENCH RESURFACING SHALL CONSIST OF A MINIMUM OF 2" COLD MIX AND SHALL BE REQUIRED WHENEVER THE STREET IS TEMPORARILY OPENED TO TRAFFIC. ALL TEMPORARY MATERIAL SHALL BE COMPLETELY REMOVED PRIOR TO FINAL PAVING.
9. TRENCH RESURFACING STRUCTURAL SECTION IN OTHER THAN PERMANENTLY PAVED OR UNPAVED AREAS SHALL BE DETERMINED BY THE CITY ENGINEER.
10. NO JETTING OR FLOODING OF TRENCH BACKFILL WILL BE ALLOWED. BACKFILL IS TO BE PLACED IN MAXIMUM 8" LOOSE LIFTS, THEN COMPACTED AS DIRECTED BY THE CITY ENGINEER.
11. FOR UTILITY POTHOLES WITH DIAMETER 9" OR LESS OR MAXIMUM DIMENSION IN ANY DIRECTION OF 9" OR LESS, OR WHERE DIRECTED BY THE ENGINEER, BACKFILL SHALL COMPLY WITH THE STANDARD CITY DRAWING FOR UTILITY POTHOLE BACKFILL.
12. IF THERE IS LESS THAN 2 FEET BETWEEN THE EDGE OF A TRENCH CUT AND A CONCRETE IMPROVEMENT, OR EDGE OF PAVING, THEN REMOVE AND REPLACE THE A.C. PAVEMENT FROM THE EDGE OF THE TRENCH CUT TO THE CONCRETE IMPROVEMENT, OR EDGE OF PAVING.
13. UNLESS OTHERWISE NOTED BACKFILL AND BEDDING SHALL BE CLEAN GRANULAR NATIVE MATERIAL PER CITY SPECIFICATIONS.

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CITY OF VISALIA
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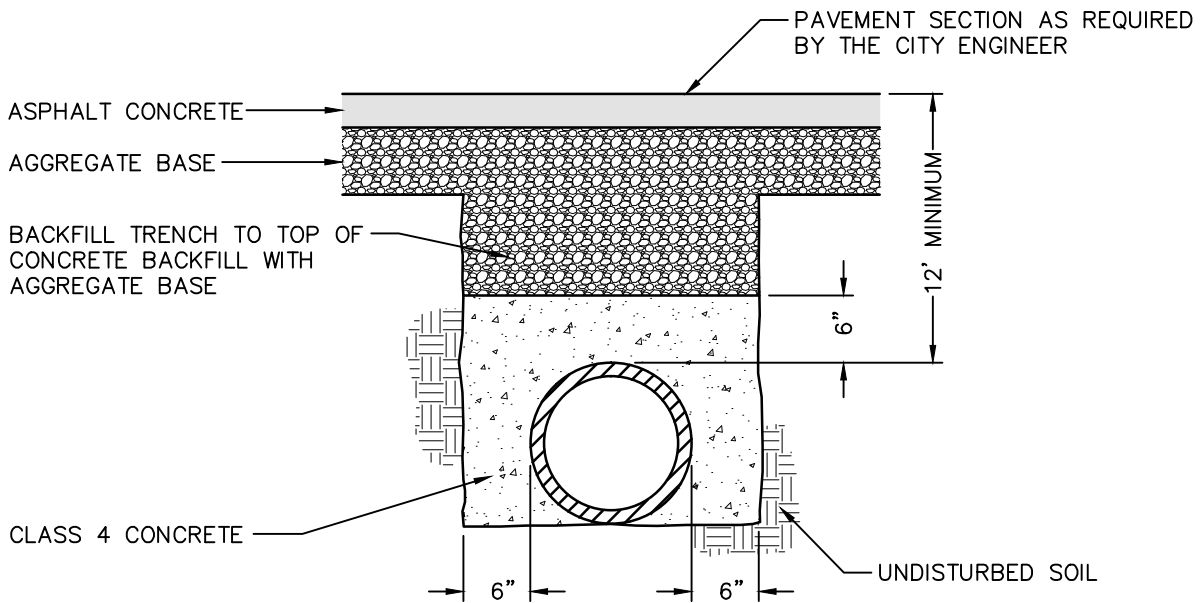
TRENCH BACKFILL/PATCH PAVING

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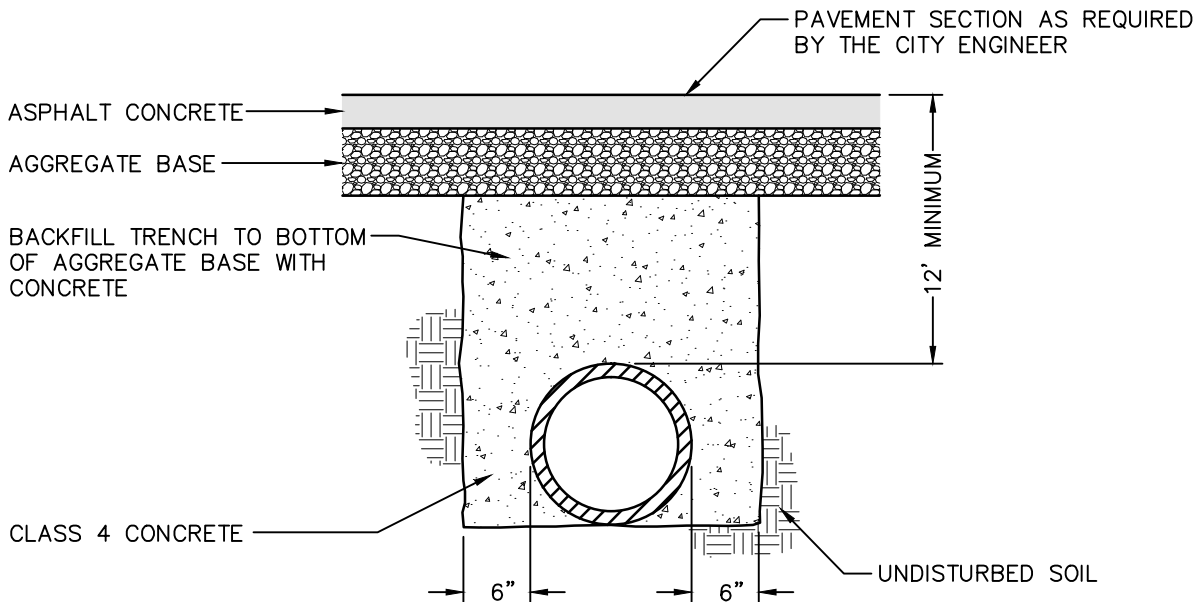
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OPTION 1



OPTION 2

NOTES:

1. PIPE CONCRETE BACKFILL SHALL BE REQUIRED FOR ALL PIPE INSTALLED WITH LESS THAN 24" OF COVER OR AS DIRECTED BY THE CITY ENGINEER.
2. ALL CONCRETE BACKFILL SHALL BE CLASS 4 CONCRETE.
3. CONCRETE BACKFILL SHALL BE PLACED IN THE TRENCH AGAINST UNDISTURBED SOIL AND SHALL BE PLACED IN A MANNER THAT WILL PREVENT FLOATING OR SHIFTING OF THE PIPE.
4. FOREIGN MATERIAL WHICH FALLS INTO THE TRENCH DURING PLACEMENT OF THE CONCRETE SHALL BE IMMEDIATELY REMOVED.
5. NO MATERIAL SHALL BE PLACED ON TOP OF THE CONCRETE BACKFILL UNTIL 8 HOURS AFTER PLACING THE CONCRETE BACKFILL, AS DIRECTED BY THE CITY ENGINEER.
6. TRENCH SHALL BE BACKFILLED AND RE-SURFACED PER TRENCH BACKFILL/PATCH PAVING STANDARD DRAWING.

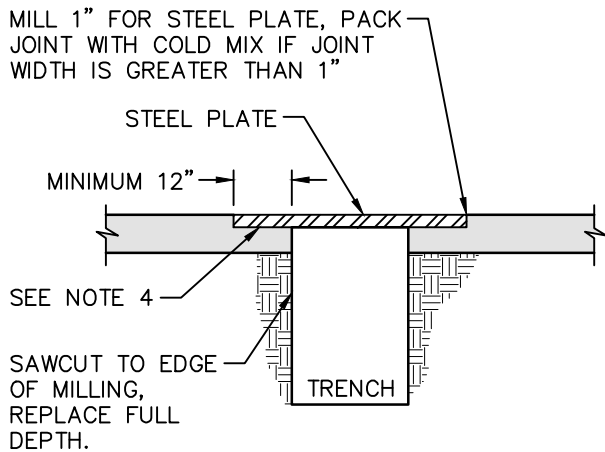
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 DESIGN & IMPROVEMENT STANDARDS**

PIPE CONCRETE BACKFILL

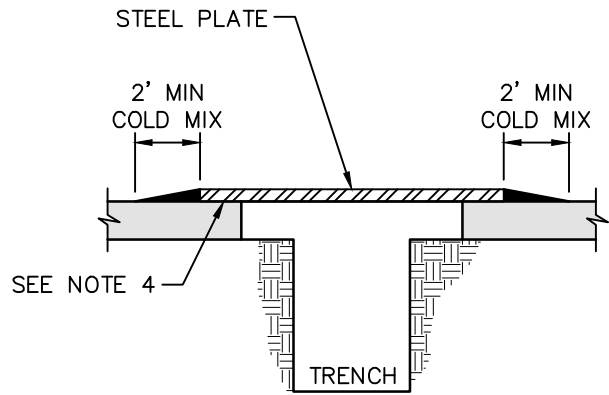
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TYPE "A" PLATING

CITY POSTED SPEEDS OF GREATER THAN 25 MPH OR BUS & TRUCK ROUTE



TYPE "B" PLATING

CITY POSTED SPEEDS OF 25 MPH AND UNDER

TRENCH WIDTH	MINIMUM PLATE THICKNESS
10" (0.25 M)	1/2" (13 MM)
1'-11" (0.58 M)	3/4" (19 MM)
2'-7" (0.80 M)	7/8" (22 MM)
3'-5" (1.04 M)	1" (25 MM)
5'-3" (1.60 M)	1 1/4" (32 MM)

NOTES:

1. WHEN BACKFILLING OPERATIONS CANNOT BE PROPERLY COMPLETED WITHIN A WORK DAY, STEEL PLATES SHALL BE INSTALLED USING EITHER TYPE "A" OR TYPE "B" PLATING METHODS, OR AS DIRECTED BY CITY ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF THE STEEL PLATES, SHORING OR BRACING OF THE TRENCH AND ENSURING THAT THEY MEET THE MINIMUM SPECIFICATIONS OF CALTRANS TR-0157.
2. USE OF STEEL PLATE BRIDGING SHOULD NOT EXCEED 4 CONSECUTIVE WORKING DAYS IN ANY GIVEN WEEK.
3. THE TRENCH SHALL BE ADEQUATELY SHORED OR BRACED TO SUPPORT THE STEEL PLATE BRIDGING AND TRAFFIC LOADS.
4. THE CONTRACTOR SHALL PROVIDE ADEQUATE OVERLAP OF PLATE ON ASPHALT TO ASSURE NO SLIPPAGE OF PLATE AND NO COLLAPSING OF TRENCH. PLATES SHALL BE PINNED TO THE PAVEMENT SURFACE, WITH A MINIMUM OF 2 DOWELS PRE-DRILLED INTO THE CORNERS OF THE PLATE AND DRILLED 2" INTO THE PAVEMENT, WITH A MINIMUM 1' OVERLAP ONTO EXISTING STABLE MATERIAL. WHEN STEEL PLATES ARE REMOVED, THE DOWEL HOLES IN THE PAVEMENT SHALL BE BACKFILLED WITH EITHER GRADED FINES OF ASPHALT CONCRETE MIX, CONCRETE SLURRY OR AN EQUIVALENT SLURRY THAT IS APPROVED BY CITY ENGINEER.
5. STEEL PLATES USED IN THE TRAVELED PORTION OF THE RIGHT OF WAY SHALL HAVE A SURFACE THAT WAS MANUFACTURED WITH A NOMINAL COEFFICIENT OF FRICTION (COF) OF 0.35 AS DETERMINED BY CALIFORNIA TEST METHOD 342, OR AS APPROVED BY CITY ENGINEER. SURFACING REQUIREMENTS ARE NOT NECESSARY FOR STEEL PLATES USED IN PARKING STRIPS, ON SHOULDERS NOT USED FOR TURNING MOVEMENTS, OR ON CONNECTING DRIVEWAYS, ETC. NOT OPEN TO THE PUBLIC. FOR SPANS GREATER THAN 5'-3", A STRUCTURAL DESIGN SHALL BE PREPARED BY A CALIFORNIA REGISTERED CIVIL ENGINEER.
6. ALL STEEL PLATES WITHIN THE RIGHT OF WAY, WHETHER USED IN OR OUT OF THE TRAVELED WAY, SHALL BE WITHOUT DEFORMATION.
7. A ROUGH ROAD SIGN (W8-8) WITH BLACK LETTERING ON AN ORANGE BACKGROUND SHALL BE USED IN ADVANCE OF STEEL PLATES IN ADDITION TO ANY OTHER REQUIRED CONSTRUCTION SIGNING.
8. "POSTED SPEED" DOES NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING.

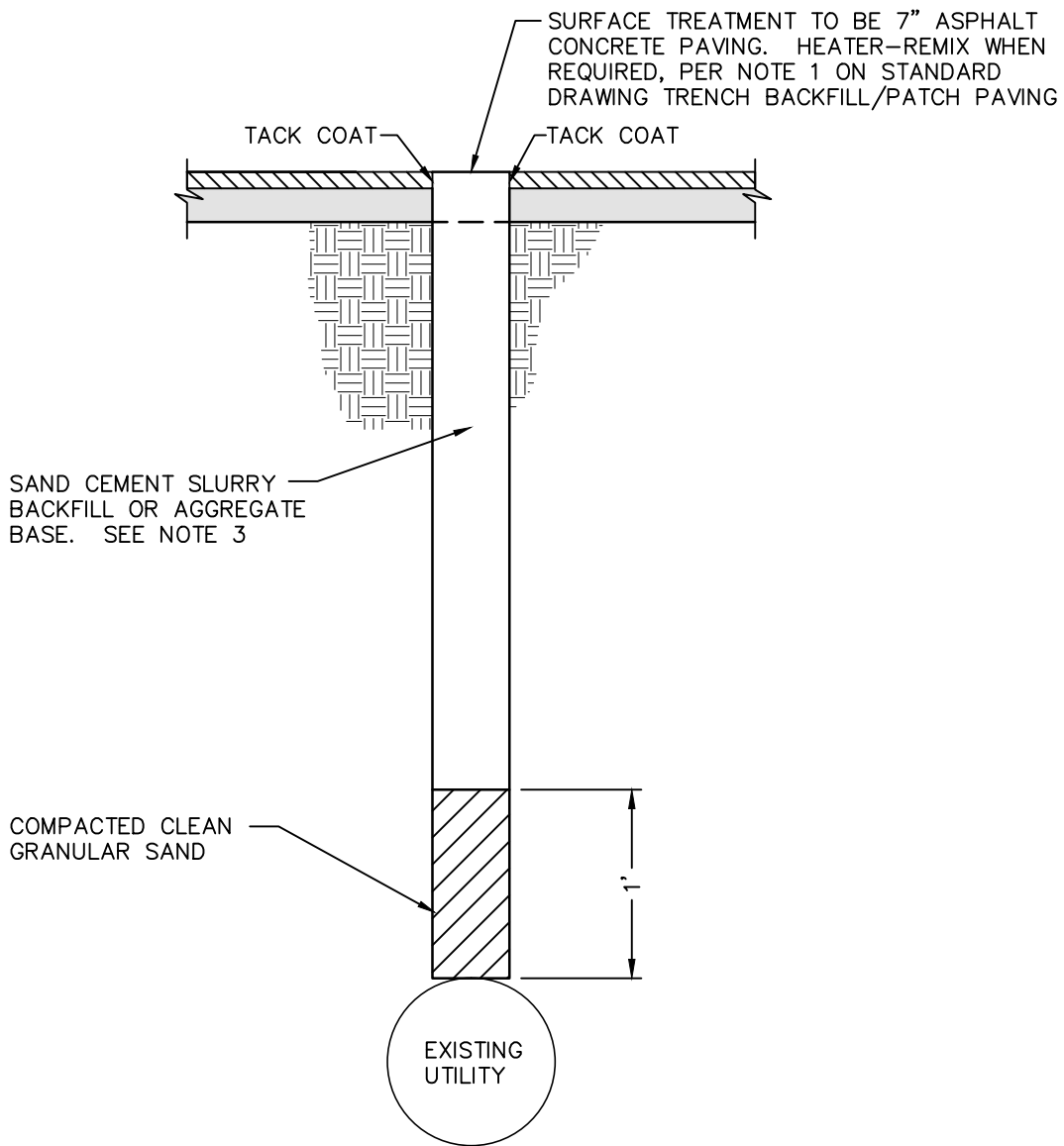
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 09/16/16
 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TRENCH PLATE DETAILS

REVISIONS
 06/14/13
 BK 2016

E-3



NOTES:

1. THIS BACKFILL METHOD IS REQUIRED FOR UTILITY POTHOLES 9" DIAMETER OR LESS, OR MAXIMUM DIMENSION IN ANY DIRECTION OF 9" OR LESS, OR ANY POTHOLE DIRECTED BY THE ENGINEER TO BE BACKFILLED BY THIS METHOD.
2. POTHOLES WITH DIMENSIONS GREATER THAN 9" SHALL BE BACKFILLED PER STANDARD DRAWING TRENCH BACKFILL/PATCH PAVING.
3. TWO SACK SAND CEMENT SLURRY BACKFILL OR CLASS 2 AGGREGATE BASE COMPACTED PER STANDARD DRAWING TRENCH BACKFILL/PATCH PAVING, SHALL CONFORM TO THE CITY OF VISALIA STANDARD SPECIFICATIONS.
4. TEMPORARY TRENCH SURFACING SHALL CONSIST OF A MINIMUM OF 2" COLD MIX AND SHALL BE REQUIRED WHENEVER THE STREET IS TEMPORARILY OPENED TO TRAFFIC. ALL TEMPORARY MATERIAL SHALL BE COMPLETELY REMOVED PRIOR TO FINAL PAVING.
5. WHEN 3 OR MORE POTHOLES HAPPEN WITHIN 12 LINEAR FEET ON A SINGLE TRAVEL LANE, THE CONTRACTOR SHALL MILL AND REPLACE THE ASPHALT CONCRETE SECTION.

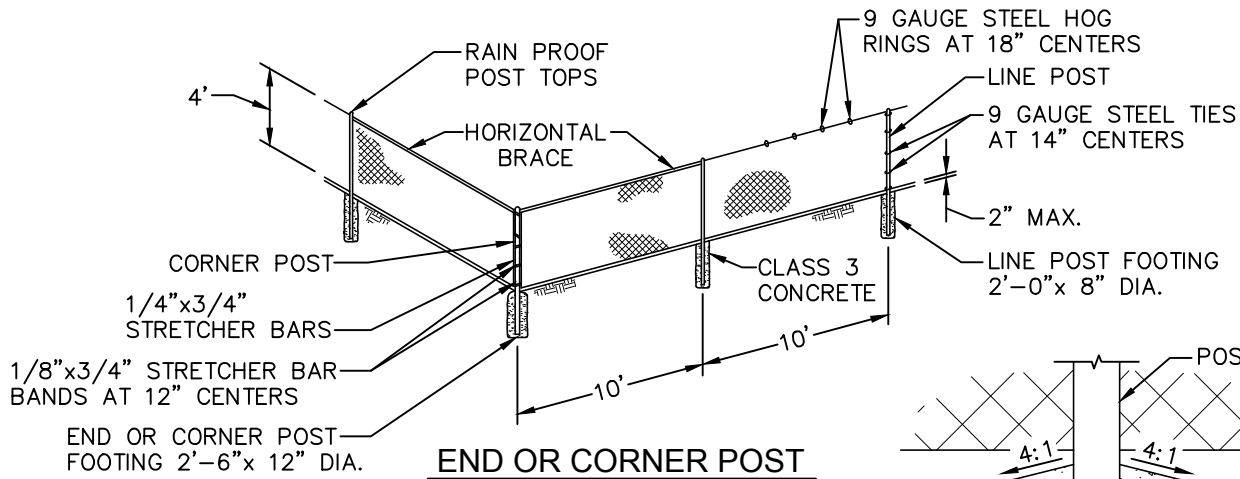
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

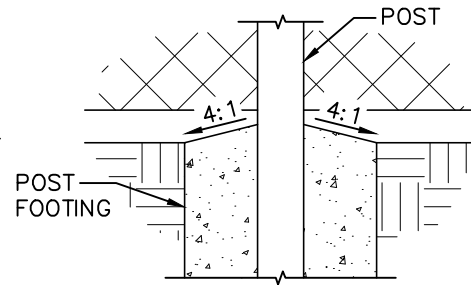
UTILITY POTHOLE BACKFILL

REVISIONS
 06/14/13
 BK 2016

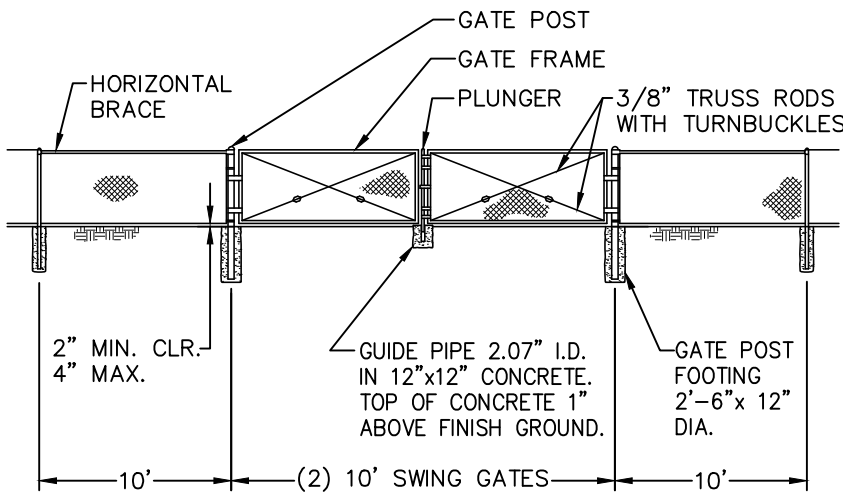
E-4



END OR CORNER POST



POST FOOTING DETAIL



GATE

**POST AND BRACE
SIZE REQUIREMENTS**

DESCRIPTION	MIN. SIZE	MIN. WEIGHT LBS./FT.
END, LATCH OR CORNER POSTS	2.375"	3.65
LINE POSTS	1.900"	2.72
BRACES	1.660"	2.27
GATE POSTS	4.500"	10.80
GATE FRAMES	1.900"	2.72
GATE PLUNGER	1.600"	2.27

NOTES:

1. POSTS, BRACES AND GATE FRAMES SHALL BE COMMERCIAL QUALITY, OR BETTER, WELDABLE STEEL.
2. POST TOPS, STRETCHER BARS AND OTHER REQUIRED FITTINGS AND HARDWARE SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON.
3. CHAIN LINK FABRIC SHALL BE 9 GAUGE WIRE WOVEN INTO APPROXIMATELY 2" MESH. FABRIC SHALL HAVE A KNUCKLE BOTTOM AND TWISTED TOP.
4. LINE POSTS SHALL BE A MINIMUM OF 6'-0" LONG. GATE, END AND CORNER POSTS SHALL BE A MINIMUM OF 6'-6" LONG.
5. GATE FRAMES SHALL BE CROSSED TRUSSED WITH 3/8" ADJUSTABLE TRUSS RODS. THE CORNERS OF GATE FRAMES SHALL BE FASTENED TOGETHER WITH A MALLEABLE IRON FITTING OR WELDED AND GALVANIZE COATED OVER WELDS.
6. GATES SHALL BE HUNG BY AT LEAST TWO STEEL OR MALLEABLE IRON HINGES NOT LESS THAN THREE INCHES IN WIDTH AND SHALL HAVE A MALLEABLE CATCH AND LOCKING ATTACHMENT.
7. ALL CHAIN LINK FENCE MATERIAL SHALL BE GALVANIZED.
8. CHAIN LINK FENCING FOR SCREENING MAY BE REQUIRED BY THE CITY ENGINEER.
9. VINYL COATING MAY BE REQUIRED BY THE CITY ENGINEER.
10. NARROWER GATE SIZES SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.

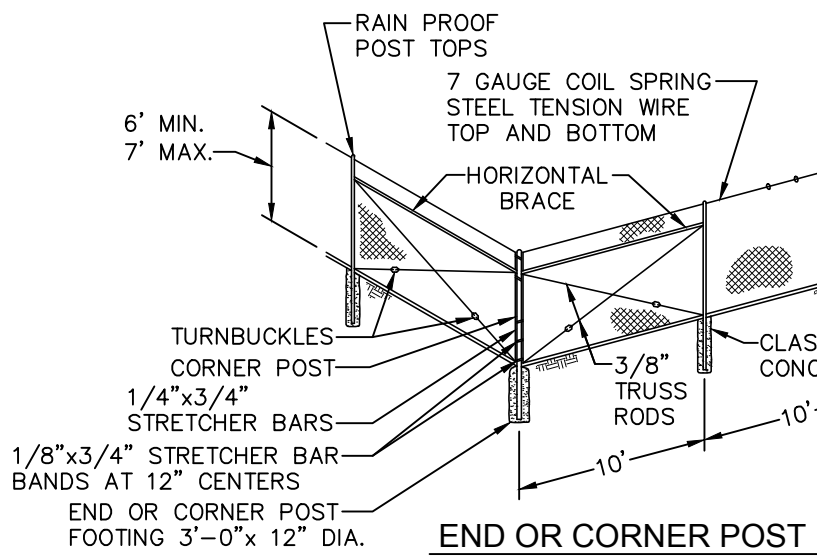
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

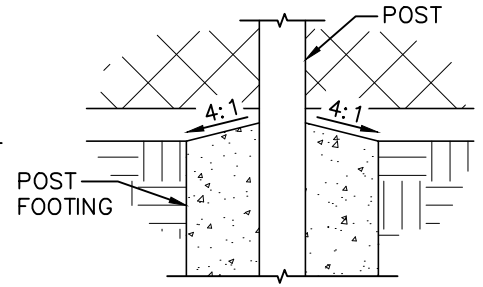
**4 FOOT TALL
CHAIN LINK FENCING**

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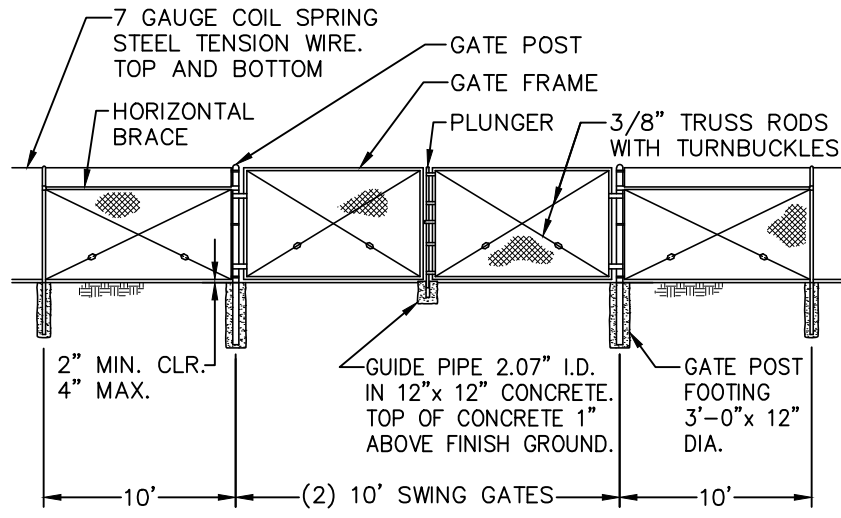
F-1



END OR CORNER POST



POST FOOTING DETAIL



GATE

POST AND BRACE SIZE REQUIREMENTS

DESCRIPTION	MIN. SIZE	MIN. WEIGHT LBS./FT.
END, LATCH OR CORNER POSTS	2.875"	5.80
LINE POSTS	2.375"	3.65
BRACES	1.660"	2.27
GATE POSTS	5.563"	14.63
GATE FRAMES	1.900"	2.72
GATE PLUNGER	1.600"	2.27

NOTES:

1. POSTS, BRACES AND GATE FRAMES SHALL BE COMMERCIAL QUALITY, OR BETTER, WELDABLE STEEL.
2. POST TOPS, STRETCHER BARS AND OTHER REQUIRED FITTINGS AND HARDWARE SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON.
3. CHAIN LINK FABRIC SHALL BE 9 GAUGE WIRE WOVEN INTO APPROXIMATELY 2" MESH. FABRIC SHALL HAVE A KNUCKLE BOTTOM AND TWISTED TOP.
4. FOR A 6' TALL FENCE, LINE POSTS SHALL BE A MINIMUM OF 8'-6" LONG. GATE, END AND CORNER POSTS SHALL BE A MINIMUM OF 9'-0" LONG.
5. END, CORNER, GATE AND LATCH POSTS SHALL BE BRACED TO THE NEAREST LINE POST WITH HORIZONTAL OR DIAGONAL BRACES USED AS COMPRESSION MEMBERS AND 3/8" STEEL TRUSS RODS WITH TURNBUCKLES USED AS TENSION MEMBERS.
6. GATE FRAMES SHALL BE CROSSED TRUSSED WITH 3/8" ADJUSTABLE TRUSS RODS. THE CORNERS OF GATE FRAMES SHALL BE FASTENED TOGETHER WITH A MALLEABLE IRON FITTING OR WELDED AND GALVANIZE COATED OVER WELDS.
7. GATES SHALL BE HUNG BY AT LEAST TWO STEEL OR MALLEABLE IRON HINGES NOT LESS THAN THREE INCHES IN WIDTH AND SHALL HAVE A MALLEABLE CATCH AND LOCKING ATTACHMENT.
8. ALL CHAIN LINK FENCE MATERIAL SHALL BE GALVANIZED.
9. CHAIN LINK FENCING FOR SCREENING MAY BE REQUIRED BY THE CITY ENGINEER.
10. VINYL COATING MAY BE REQUIRED BY THE CITY ENGINEER.
11. NARROWER GATE SIZES SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.
12. 7' TALL FENCES MAY BE REQUIRED BY CITY ENGINEER. FOR A 7' TALL FENCE, LINE POSTS SHALL BE A MINIMUM OF 9'-6" LONG. GATE, END AND CORNER POSTS SHALL BE A MINIMUM OF 10'-0' LONG.

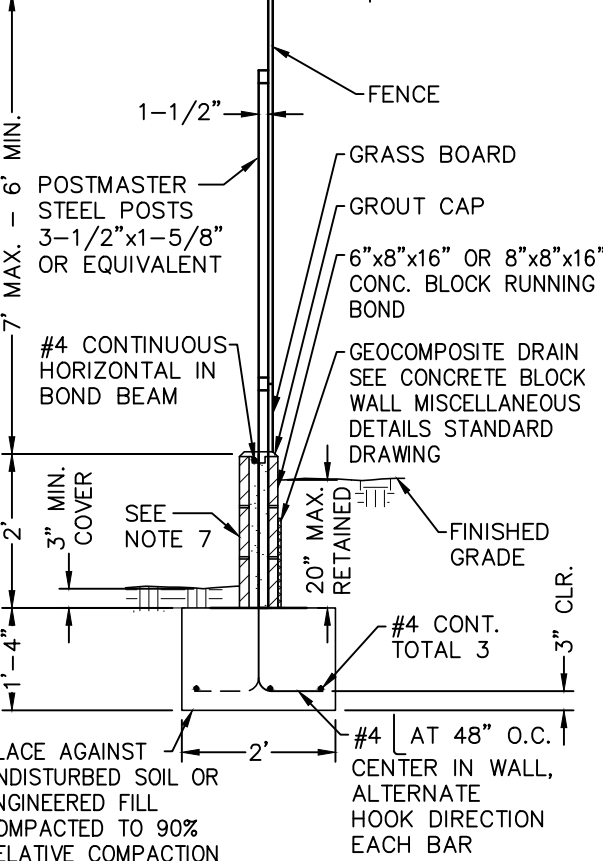
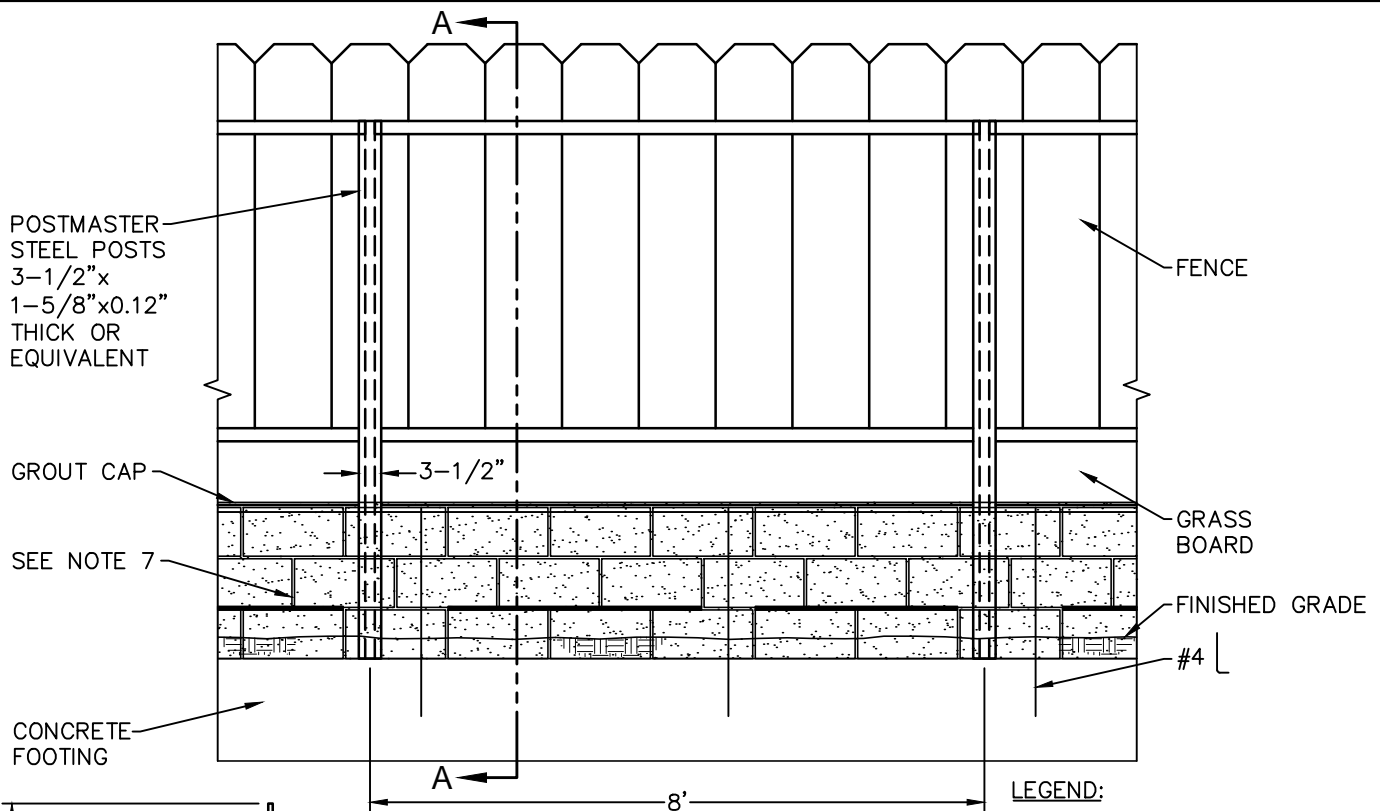
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**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**6 FOOT – 7 FOOT TALL
 CHAIN LINK FENCING**

REVISIONS
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SECTION A-A

NOTES:

1. ALL MASONRY SHALL COMPLY WITH THE CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
2. FOOTING CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
3. CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90.
4. MASONRY DESIGN IS BASED ON MINIMUM COMPRESSIVE STRENGTH OF $f'_m = 1500$ psi.
5. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
6. MORTAR SHALL BE TYPE 'S' AND CONFORM TO ASTM C270.
7. OMIT MORTAR FROM VERTICAL JOINT IN FIRST COURSE ABOVE FINISHED GRADE AT 32" CENTERS FOR WEEP HOLES. FILL ALL CELLS WITH GROUT.
8. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476. ADMIXTURES FOR GROUT MUST BE APPROVED BY THE ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT.
9. GROUT REINFORCED CELLS ONLY, UNLESS NOTED OTHERWISE.
10. WALL THICKNESS SHALL BE EITHER 6" OR 8", UNLESS NOTED OTHERWISE.
11. WALL SHALL BE CENTERED ON PROPERTY LINE WHEN LOCATED BACK TO BACK OF PRIVATE RESIDENTIAL LOTS. WALL SHOULD BE FULLY WITHIN PRIVATE PROPERTY WHEN USED ADJACENT TO R/W OR L&LD LOT.
12. CONTRACTOR SUBMITTALS SHALL CONFORM TO ARTICLE 1.5 OF TMS 602/ACI 530.1/ASCE 6
13. QUALITY ASSURANCE SHALL CONFORM TO LEVEL 'B' QUALITY ASSURANCE PER ARTICLE 1.6 OF TMS 602/ACI 530.1/ASCE 6. PERIODIC SPECIAL INSPECTION REQUIRED.
14. PLACE EXPANSION JOINT IN CONCRETE BLOCK WALL AT 96'-0" O.C. MAX., SEE CONCRETE BLOCK WALL MISCELLANEOUS DETAILS STANDARD DRAWING.

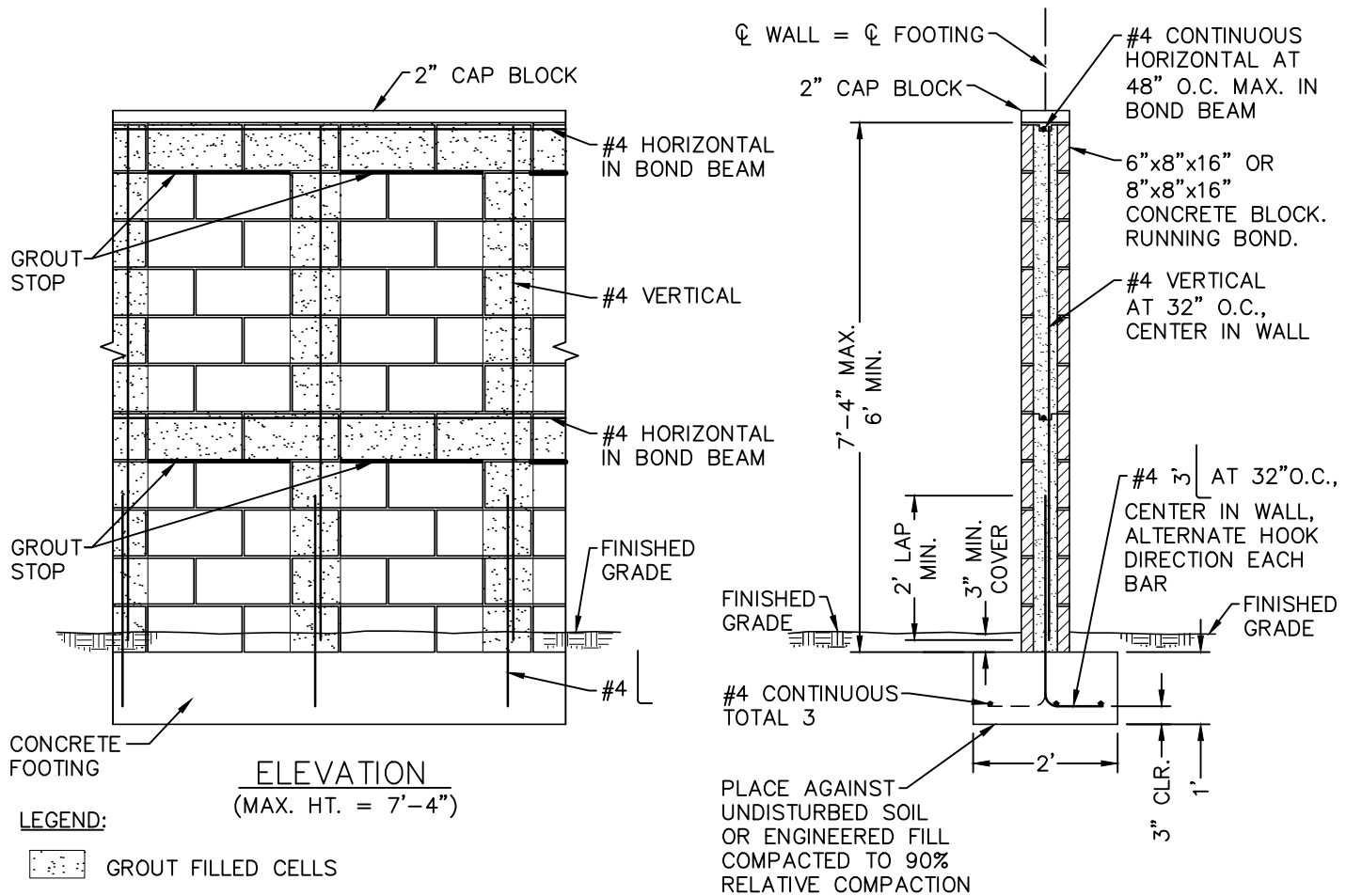
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

2 FOOT CONCRETE BLOCK WALL
 WITH WOOD FENCE

REVISIONS
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1. ALL MASONRY SHALL COMPLY WITH THE CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
2. FOOTING CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
3. CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90.
4. MASONRY DESIGN IS BASED ON MINIMUM COMPRESSIVE STRENGTH OF $f'_m = 1500$ psi.
5. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
6. MORTAR SHALL BE TYPE 'S' AND CONFORM TO ASTM C270.
7. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476. ADMIXTURES FOR GROUT MUST BE APPROVED BY THE ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT.
8. GROUT REINFORCED CELLS ONLY, UNLESS NOTED OTHERWISE.
9. GROUT STOP SHALL CONSIST OF METAL OR PLASTIC LATH APPROVED BY THE MANUFACTURER TO CREATE A BARRIER THAT STOPS THE FLOW OF GROUT WHEN FILLING BLOCK WALL CELLS.
10. WALL THICKNESS SHALL BE EITHER 6" OR 8", UNLESS NOTED OTHERWISE.
11. FINISHED GRADE ELEVATION DIFFERENCE ON OPPOSITE SIDES OF THE WALL SHALL BE 6" MAXIMUM.
12. BLOCK WALL SHALL HAVE PILASTERS OR A JOG IN PLAN EVERY 200 FT MIN. VENEERS OR OTHER ARCHITECTURAL FEATURES RECOMMENDED. LOAD ALLOWANCE FOR ARCHITECTURAL TREATMENT IS 90 plf.
13. CONTRACTOR SUBMITTALS SHALL CONFORM TO ARTICLE 1.5 OF TMS 602/ACI 530.1/ASCE 6
14. QUALITY ASSURANCE SHALL CONFORM TO LEVEL 'B' QUALITY ASSURANCE PER ARTICLE 1.6 OF TMS 602/ACI 530.1/ASCE 6. PERIODIC SPECIAL INSPECTION REQUIRED. CONTRACTOR SHALL CONTACT THE CITY FOR INSPECTIONS.
15. PLACE EXPANSION JOINT AT 96'-0" O.C. MAX., SEE CONCRETE BLOCK WALL MISCELLANEOUS DETAILS STANDARD DRAWING.
16. FOR ALTERNATE FOOTINGS, SEE CONCRETE BLOCK WALL ALTERNATE FOOTINGS STANDARD DRAWING.
17. INTERLOCKING BLOCKS ARE AN ACCEPTABLE ALTERNATIVE.
18. WHEN WALL IS BETWEEN PRIVATE PROPERTY AND L&LD LOT, THE WALL STEM SHALL BE FULLY WITHIN THE L&LD LOT WITH THE FACE OF THE WALL AT PROPERTY LINE. BLOCK WALL FOOTING EASEMENT WILL BE REQUIRED FOR PORTION OF FOOTING EXTENDING INTO PRIVATE PROPERTY.

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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

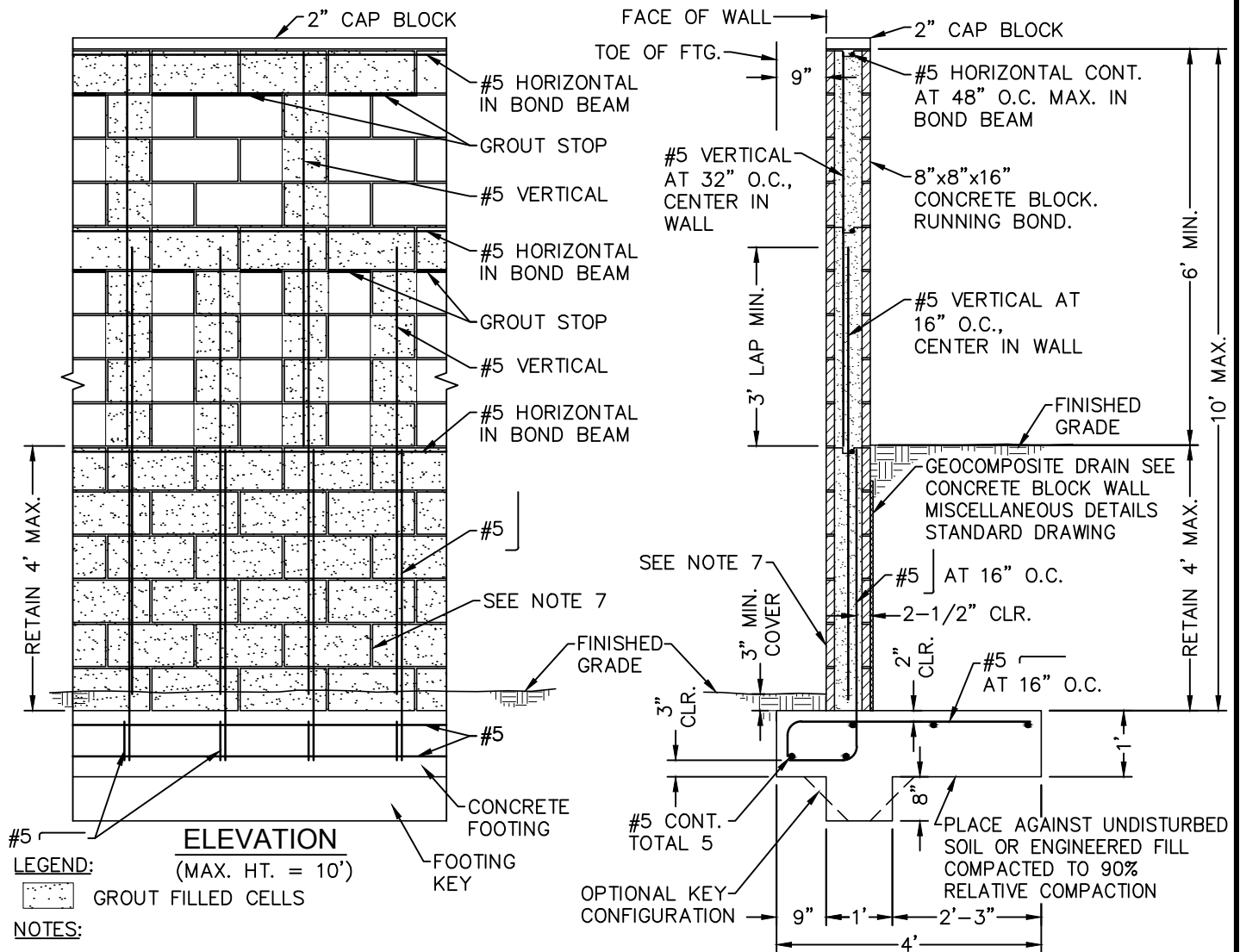
CONCRETE BLOCK WALL DETAIL

REVISIONS

07/19/16

BK 2016

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1. ALL MASONRY SHALL COMPLY WITH THE CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
2. FOOTING CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
3. CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90.
4. MASONRY DESIGN IS BASED ON MINIMUM COMPRESSIVE STRENGTH OF $f'_m = 1500$ psi.
5. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
6. MORTAR SHALL BE TYPE 'S' AND CONFORM TO ASTM C270.
7. OMIT MORTAR FROM VERTICAL JOINT IN FIRST COURSE ABOVE FINISHED GRADE AT 32" CENTERS FOR WEEP HOLES. FILL ALL CELLS WITH GROUT.
8. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476. ADMIXTURES FOR GROUT MUST BE APPROVED BY THE ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT.
9. GROUT REINFORCED CELLS ONLY, UNLESS NOTED OTHERWISE.
10. GROUT STOP SHALL CONSIST OF METAL OR PLASTIC LATH APPROVED BY THE MANUFACTURER TO CREATE A BARRIER THAT STOPS THE FLOW OF GROUT WHEN FILLING BLOCK WALL CELLS.
11. BLOCK WALL SHALL HAVE PILASTERS OR A JOG IN PLAN EVERY 200 FT MIN. VENEERS OR OTHER ARCHITECTURAL FEATURES RECOMMENDED. LOAD ALLOWANCE FOR ARCHITECTURAL TREATMENT IS 90 pif.
12. CONTRACTOR SUBMITTALS SHALL CONFORM TO ARTICLE 1.5 OF TMS 602/ACI 530.1/ASCE 6
13. QUALITY ASSURANCE SHALL CONFORM TO LEVEL 'B' QUALITY ASSURANCE PER ARTICLE 1.6 OF TMS 602/ACI 530.1/ASCE 6. PERIODIC SPECIAL INSPECTION REQUIRED. CONTRACTOR SHALL CONTACT THE CITY FOR INSPECTIONS.
14. PLACE EXPANSION JOINT AT 96'-0" O.C. MAX., SEE CONCRETE BLOCK WALL MISCELLANEOUS DETAILS STANDARD DRAWING.
15. INTERLOCKING BLOCKS ARE AN ACCEPTABLE ALTERNATIVE.
16. WHEN WALL IS BETWEEN PRIVATE PROPERTY AND L&LD LOT, THE WALL STEM SHALL BE FULLY WITHIN THE L&LD LOT WITH THE FACE OF THE WALL AT PROPERTY LINE. BLOCK WALL FOOTING EASEMENT WILL BE REQUIRED FOR PORTION OF FOOTING EXTENDING INTO PRIVATE PROPERTY.

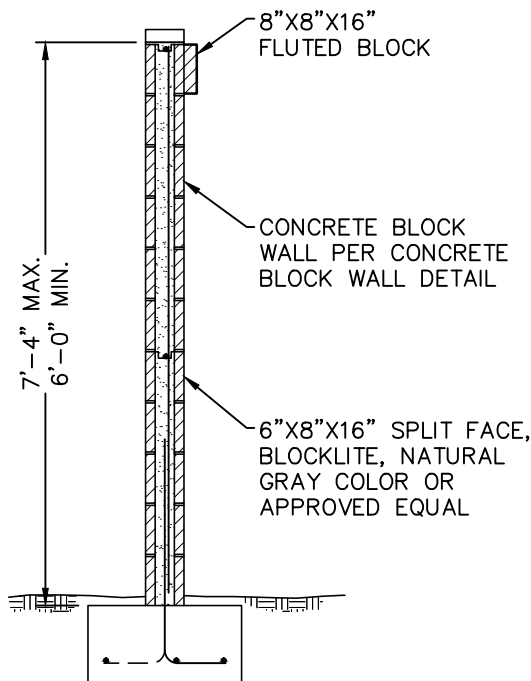
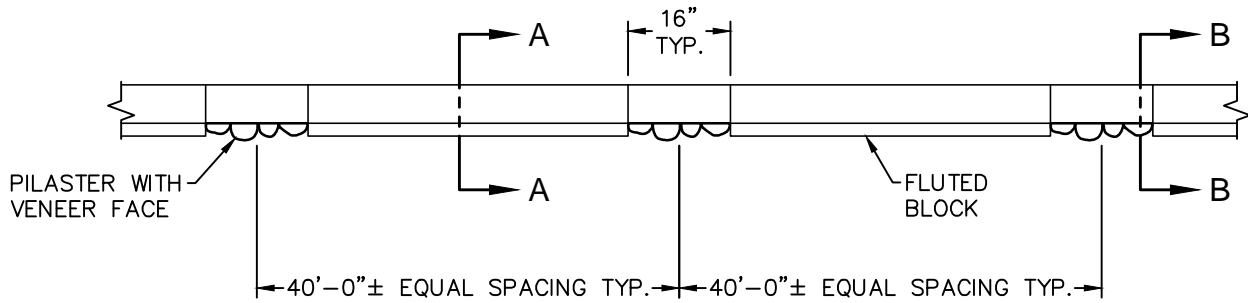
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CITY OF VISALIA
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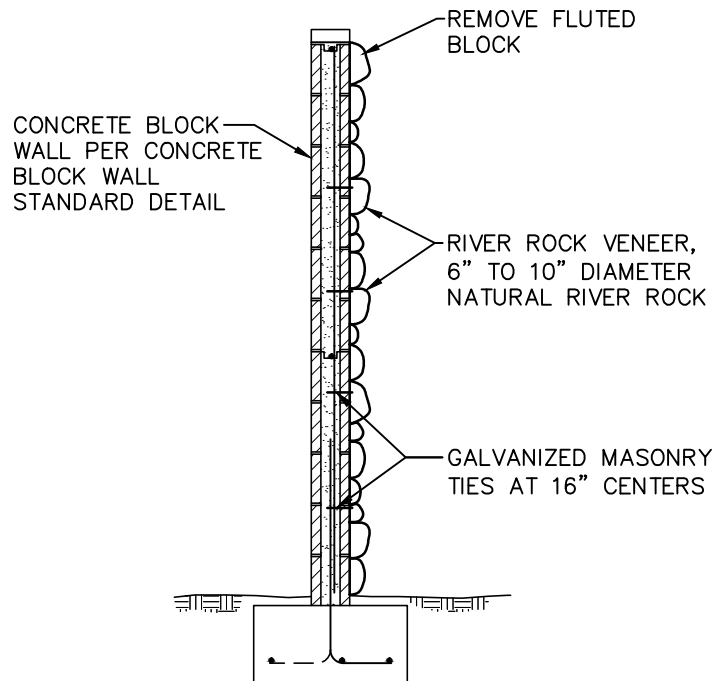
CONCRETE BLOCK
 RETAINING WALL DETAIL

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SECTION A-A



SECTION B-B

NOTES:

1. CONSTRUCTION REQUIREMENTS PER CONCRETE BLOCK WALL DETAIL SHOWN ON CONCRETE BLOCK WALL DETAIL STANDARD DRAWING.
2. FLUTED BLOCK AND RIVER ROCK VENEER ALSO COULD BE PLACED ON CONCRETE BLOCK RETAINING WALL DETAIL SHOWN ON CONCRETE BLOCK RETAINING WALL DETAIL STANDARD DRAWING. SEE CONCRETE BLOCK RETAINING WALL DETAIL STANDARD DRAWING FOR CONCRETE BLOCK RETAINING WALL FOOTING AND DIMENSION REQUIREMENTS.
3. UNIFORM HEIGHTS REQUIRED AT CURB RETURNS AND PEDESTRIAN ACCESS POINTS.

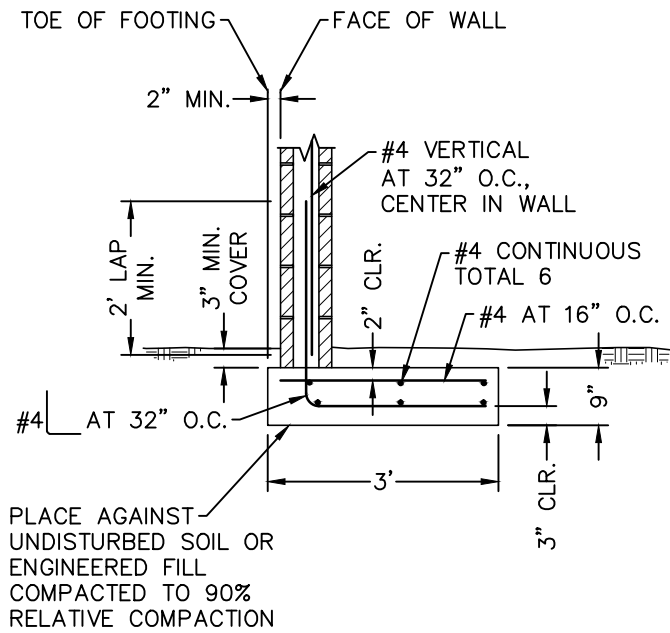
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

NORTHEAST AREA SPECIFIC PLAN
 CONCRETE BLOCK WALL

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WALL SECTION
ALTERNATE FOOTING 'A'
 (NON-RETAINING)
 FOR USE UNDER OAK TREE

NOTES:

1. CONSTRUCTION REQUIREMENTS FOR CONCRETE BLOCK WALL SHOWN ON DETAIL CONCRETE BLOCK WALL DETAIL STANDARD DRAWING.
2. FOOTING CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
3. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
4. FINISHED GRADE ELEVATION DIFFERENCE ON OPPOSITE SIDES OF THE WALL SHALL BE 6" MAXIMUM.
5. ALTERNATE FOOTINGS MAY BE USED UPON ACCEPTANCE FROM THE CITY ENGINEER. ENGINEER TO PROVIDE FOOTING DESIGN CALCULATIONS TO CONFIRM ALTERNATE FOOTING CAN BE USED IN PLACE OF THE STANDARD FOOTING SHOWN ON CONCRETE BLOCK WALL DETAIL STANDARD DRAWING.
6. ALTERNATE FOOTING 'A' IS A SHALLOW FOOTING DETAIL FOR USE UNDER OAK TREE CANOPY. TRENCHING BY HAND IS REQUIRED WHEN USED WITHIN DRIP LINE OF AN OAK TREE.

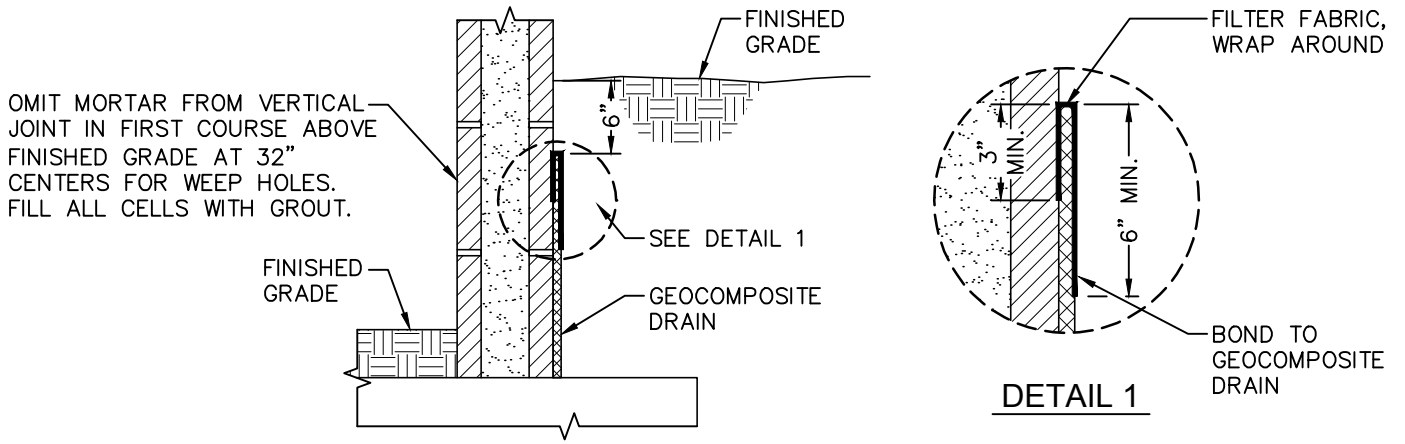
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

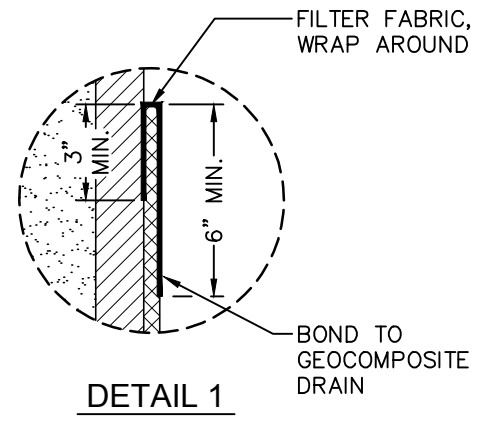
CONCRETE BLOCK WALL
ALTERNATE FOOTINGS

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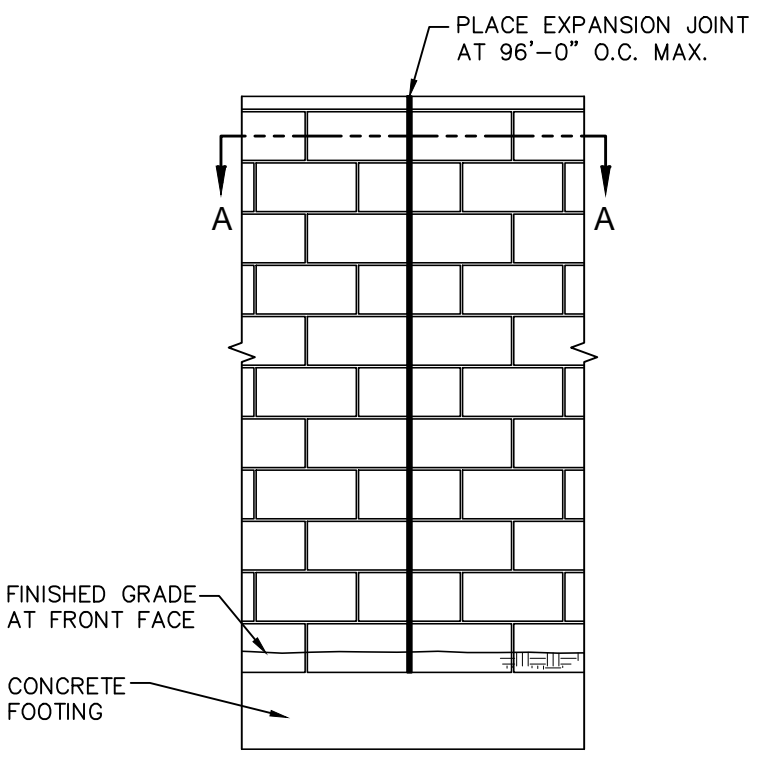
GEOCOMPOSITE DRAIN DETAIL



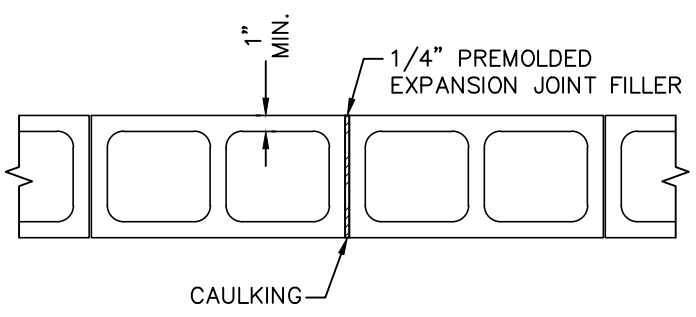
DETAIL 1

NOTES:

1. GEOCOMPOSITE DRAIN MUST CONSIST OF A POLYMERIC CORE WITH FILTER FABRIC INTEGRALLY BONDED TO ONE OR BOTH SIDES OF THE CORE CREATING A STABLE DRAINAGE VOID AND MUST BE BETWEEN 1/4 AND 2 INCHES THICK. WHEN TESTED UNDER ASTM D 4716 WITH A GRADIENT OF 1.0 AND NORMAL STRESS OF 5,000 PSF, THE TRANSMISSIVITY MUST BE 4 GAL/MIN/FT.
2. FILTER FABRIC MUST BE MANUFACTURED FROM POLYESTER, POLYPROPYLENE, OR COMBINED POLYESTER AND POLYPROPYLENE. WHEN TESTED UNDER ASTM D 4491, THE PERMITTIVITY MUST BE AT LEAST 0.5 SEC⁻¹. WHEN TESTED UNDER ASTM D 4751, THE AVERAGE APPARENT OPENING SIZE MUST BE A MAXIMUM OF US STANDARD NO. 40 SIEVE. WHEN TESTED UNDER ASTM D 6241, THE PUNCTURE STRENGTH MUST BE AT LEAST 310 LB. WHEN TESTED UNDER ASTM D 4533, THE TRAPEZOID TEARING STRENGTH MUST BE AT LEAST 56 LB.
3. INSTALL GEOCOMPOSITE DRAIN WITH FILTER FABRIC FACING THE DIRT SIDE.
4. FABRIC FACING THE DIRT SIDE MUST OVERLAP AT LEAST 3 INCHES AT ALL JOINTS AND WRAP AROUND THE EXTERIOR EDGES AT LEAST 3 INCHES BEYOND THE EXTERIOR EDGE.
5. IF ADDITIONAL FABRIC IS NEEDED TO PROVIDE OVERLAP AT JOINTS AND WRAPAROUND AT EDGES, THE ADDED FABRIC MUST OVERLAP AT LEAST 6 INCHES AND BE ATTACHED TO THE FABRIC ON THE GEOCOMPOSITE DRAIN.
6. IF THE FABRIC ON THE GEOCOMPOSITE DRAIN IS TORN OR PUNCTURED, REPLACE THE DAMAGED SECTION COMPLETELY OR REPAIR IT BY PLACING A PIECE OF FABRIC THAT IS LARGE ENOUGH TO COVER THE DAMAGED AREA AND PROVIDE AT LEAST A 6-INCH OVERLAP.



EXPANSION JOINT ELEVATION



SECTION A-A

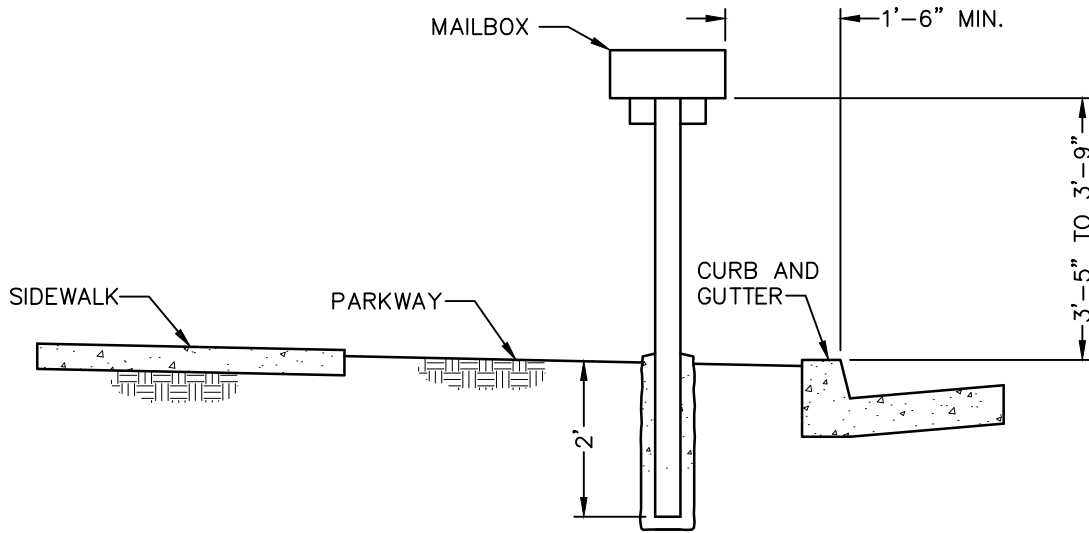
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 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

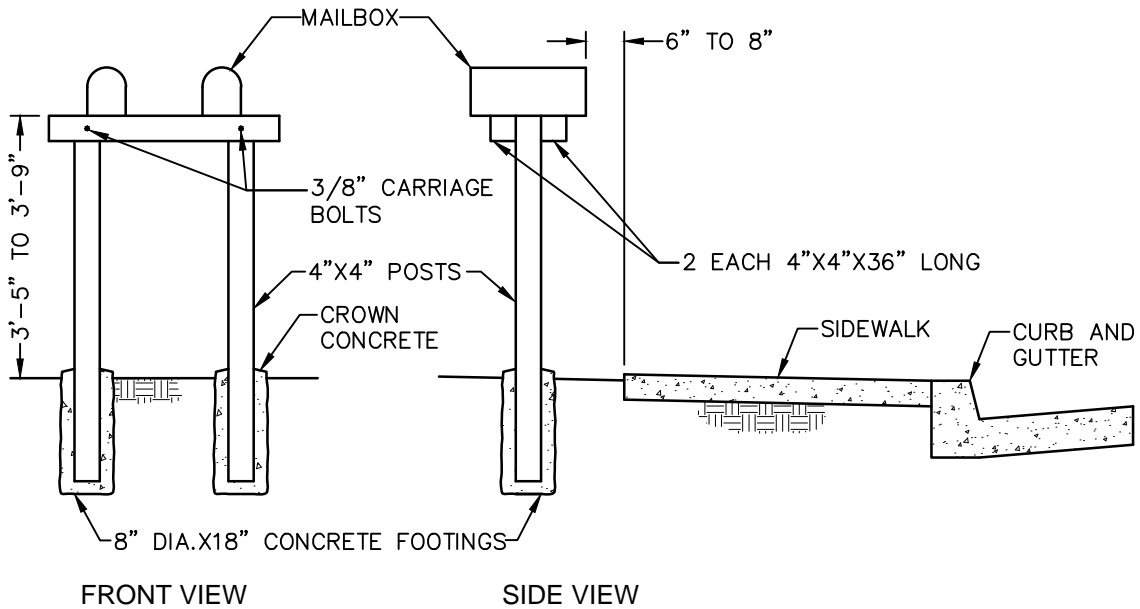
**CONCRETE BLOCK WALL
 MISCELLANEOUS DETAILS**

REVISIONS
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LOCATION WITH PARKWAY



LOCATION WITH ADJACENT SIDEWALK

NOTES:

1. MAILBOXES SHALL BE IN COLLECTIONS OF 2 MINIMUM TO 3 MAXIMUM.
2. MAILBOXES SHALL SERVE HOUSES ON ONE SIDE OF STREET ONLY.
3. HOMEOWNERS SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND REPAIR.
4. VERTICAL STACKING OF MAILBOXES IS NOT PERMITTED
5. ALL WOOD POSTS SHALL BE NO. 2 PRESSURE TREATED DOUGLAS FIR OR REDWOOD.

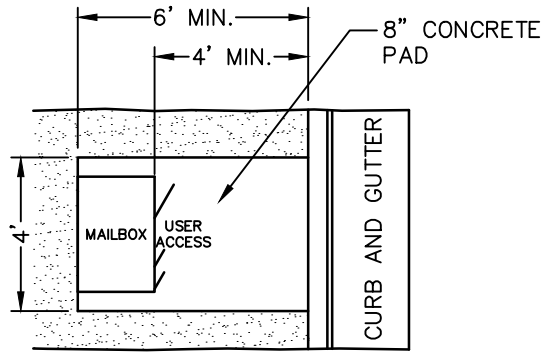
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

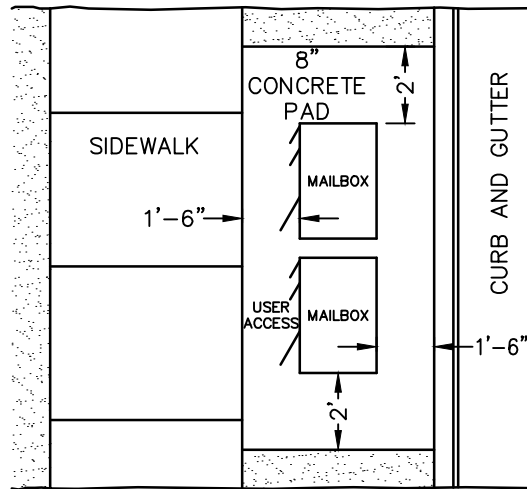
MAILBOX
 (INFILL & REPLACEMENT ONLY)

REVISIONS
 08/03/16
 BK 2016

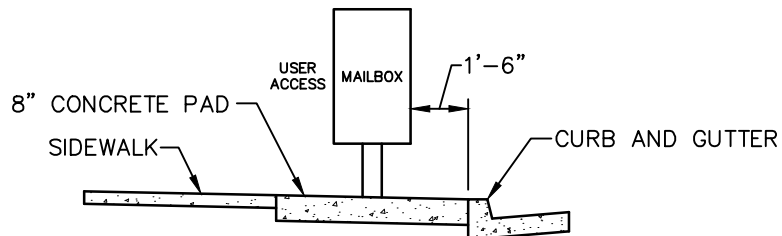
M-1



PLAN - SIDEWALK ADJACENT TO CURB (FRONT LOADING)



PLAN - WITH SIDEWALK



SECTION - WITH SIDEWALK

NOTES:

1. ALL MAILBOX CLUSTER DESIGNS SHALL BE APPROVED BY THE UNITED STATES POSTAL SERVICE PRIOR TO INSTALLATION.
2. CONCRETE PAD SHALL BE CONSTRUCTED PER UNITED STATES POSTAL SERVICE SPECIFICATIONS FOR SINGLE UNIT AND MULTIPLE UNITS.
3. MAILBOX CLUSTER SHALL BE ACCESSIBLE PER ADA REQUIREMENTS.

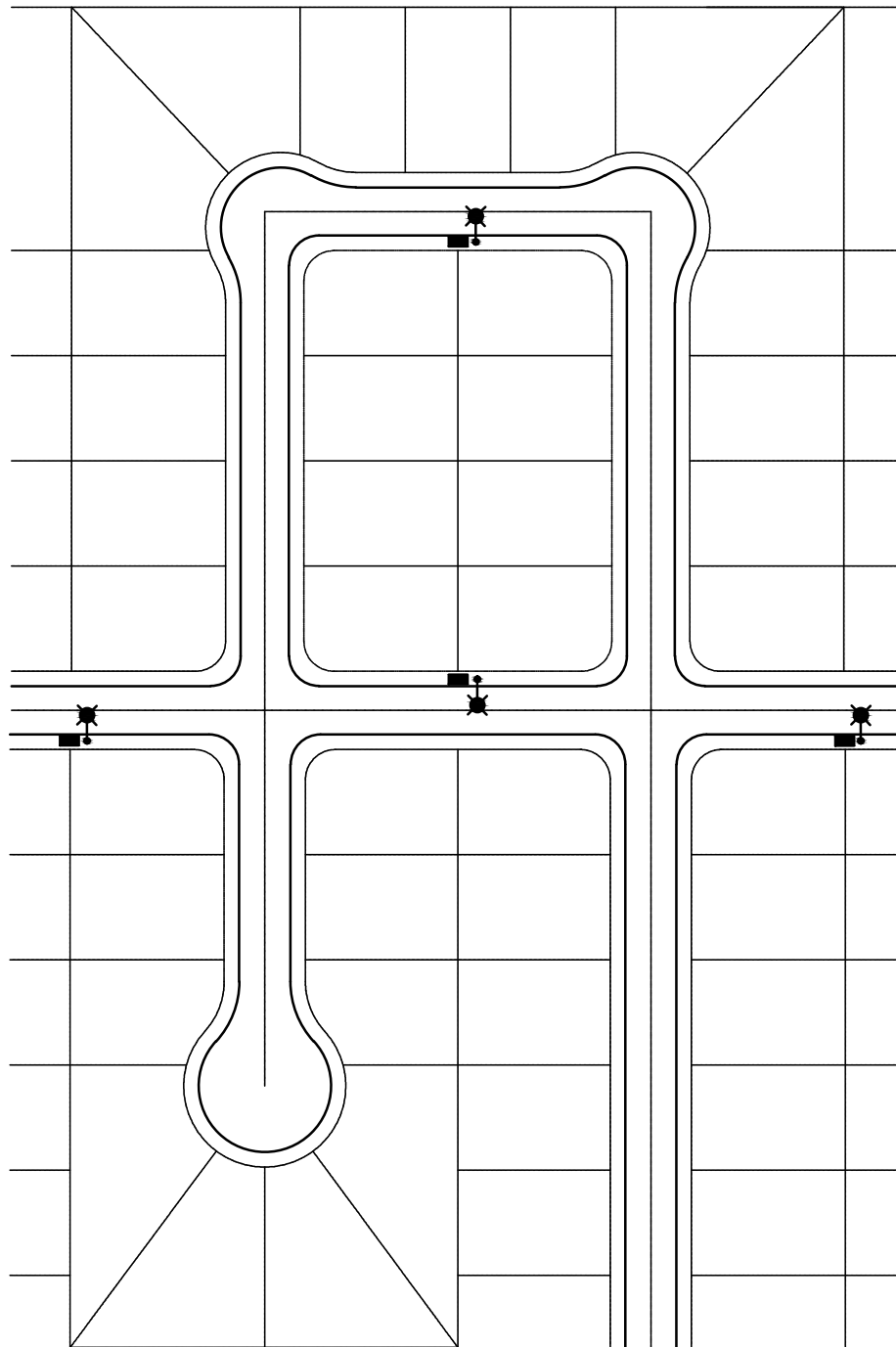
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

MAILBOX CLUSTER

REVISIONS
 08/03/16
 BK 2016

M-2



■ TYPICAL MAILBOX
CLUSTER LOCATION

NOTES:

1. MAILBOX CLUSTER LOCATIONS SHALL HAVE A STREET LIGHT LOCATED WITHIN TEN FEET OF THE CLUSTER CONCRETE PAD. ALTERNATE LIGHTING MAY BE SUPPLIED (I.E. SOLAR) WITH CITY ENGINEER APPROVAL.
2. ALL MAILBOX CLUSTER LOCATIONS SHALL BE APPROVED BY THE UNITED STATES POSTAL SERVICE.

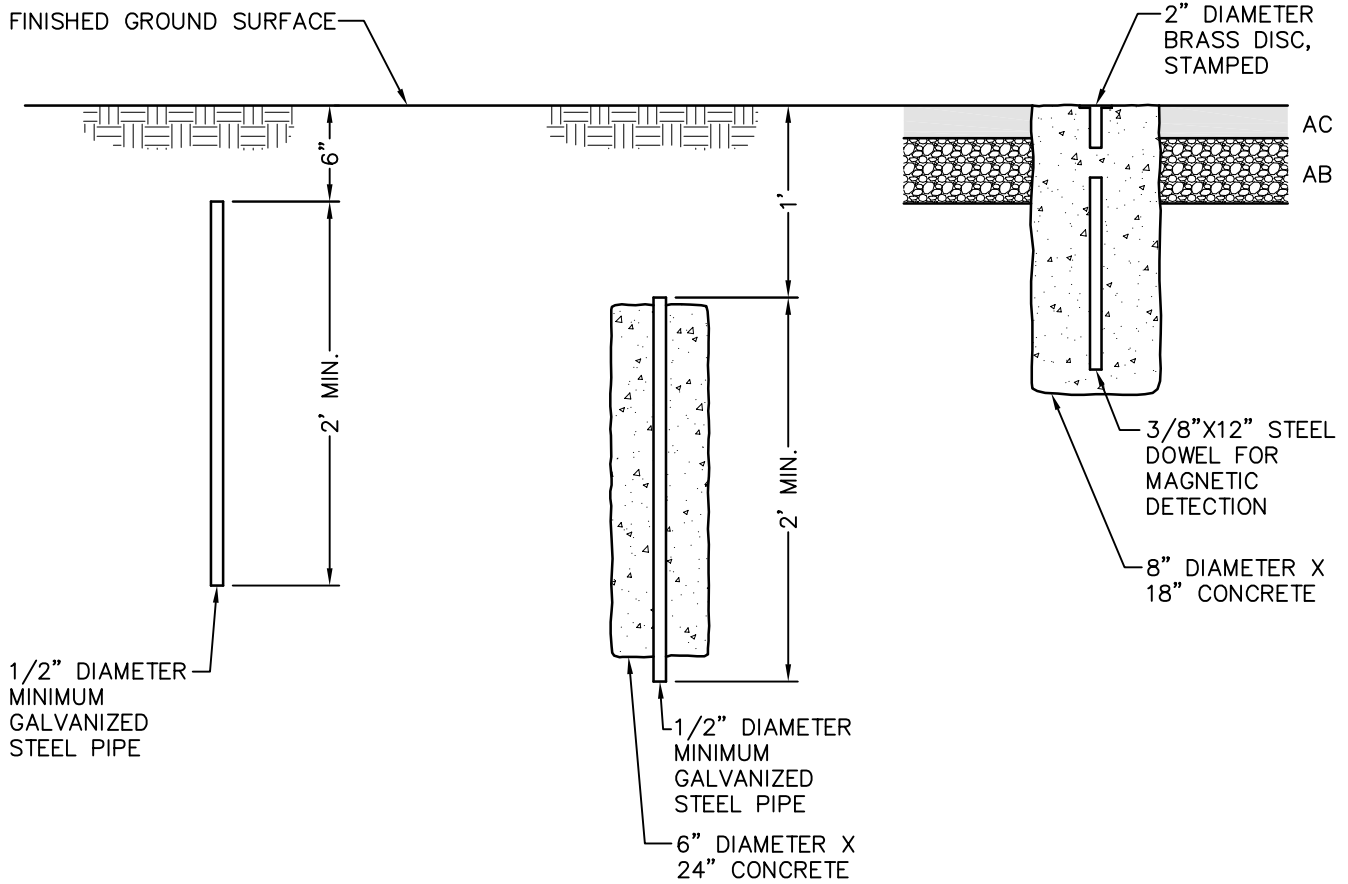
APPROVED BY: 
CITY ENGINEER R.P.E. 81734 09/16/16
DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL MAILBOX CLUSTER LOCATIONS

REVISIONS
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BK 2016

M-3



TYPE "A"
LOT CORNERS

TYPE "B"
STREET MONUMENTS
AND LANDSCAPED
MEDIAN MONUMENTS

TYPE "C"
STREET
MONUMENTS

NOTES:

1. ALL MONUMENTS SET SHALL BE PERMANENTLY AND VISIBLY MARKED OR TAGGED WITH THE LICENSE NUMBER OF THE SURVEYOR OR CIVIL ENGINEER SETTING IT.
2. ALL LOT CORNERS SHALL BE LOCATED WITH TYPE "A" MONUMENTS OR MONUMENTS APPROVED BY THE CITY SURVEYOR.
3. TYPE "C" STREET MONUMENTS SHALL BE USED TO LOCATE ALL ANGLE AND CURVE POINTS ON THE CENTERLINES OF ASPHALT CONCRETE SURFACED STREETS.
4. ADDITIONAL MONUMENTS MAY BE REQUIRED AT THE DISCRETION OF THE CITY SURVEYOR.

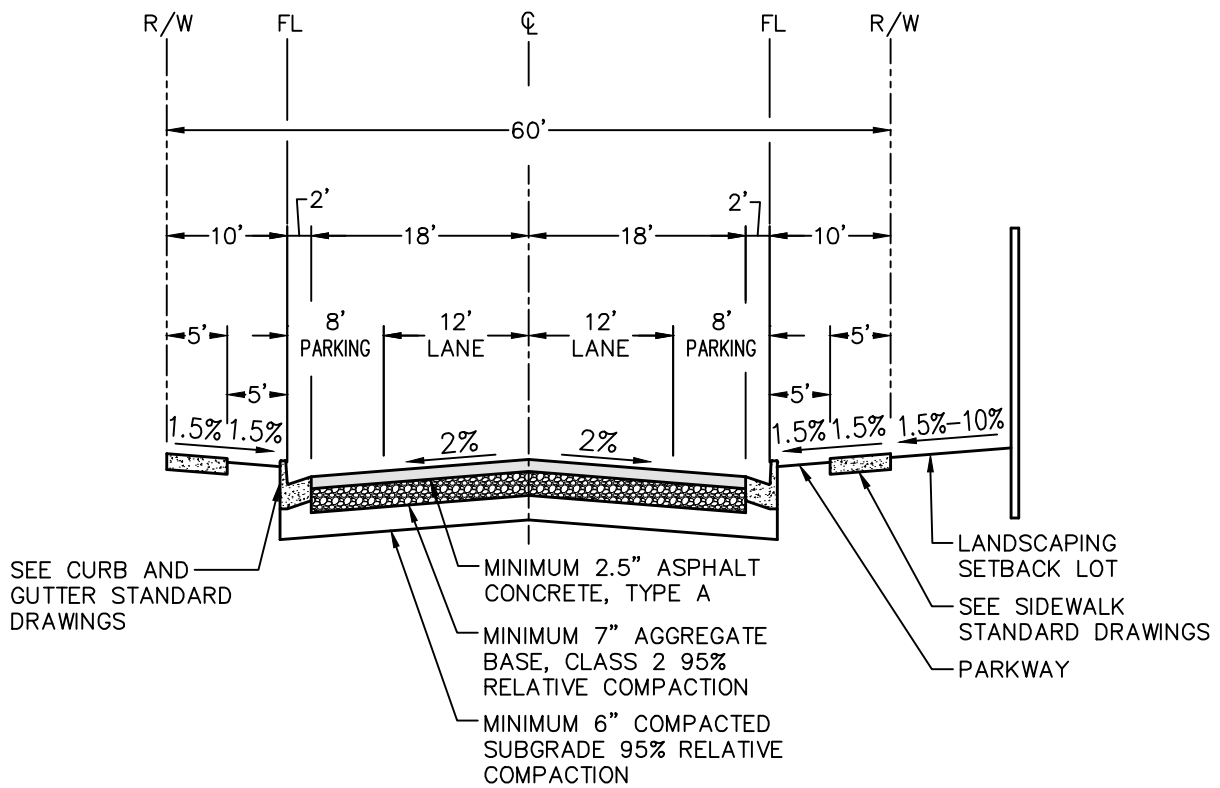
APPROVED BY: 
CITY ENGINEER R.P.E. 81734 09/16/16
DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SURVEY MONUMENTS

REVISIONS
08/03/16
BK 2016

MN-1



NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 5.5.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE REQUIREMENTS SHALL BE AS STATED IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
6. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.
7. WITH ADDITIONAL LANDSCAPE EASEMENTS, SIDEWALK MAY BE LOCATED OUTSIDE RIGHT OF WAY TO PROVIDE ADDITIONAL PARKWAY.
8. A FOOTING EASEMENT WILL BE REQUIRED AS NEEDED FOR BLOCK WALL FOOTINGS THAT EXTEND INTO PRIVATE PROPERTY.
9. STREET TREES ARE REQUIRED IN ADDITION TO THE ON-SITE LANDSCAPE REQUIREMENT.
10. FOR PARTIAL WIDTH STREETS A MINIMUM OF 30 FT OF PAVEMENT AND 8 FT SHOULDERS ARE REQUIRED.
11. SOIL ADJACENT TO CONCRETE CURB AND SIDEWALK SHALL BE GRADED 3" BELOW TOP OF CURB TO ALLOW ROOM FOR MULCH.

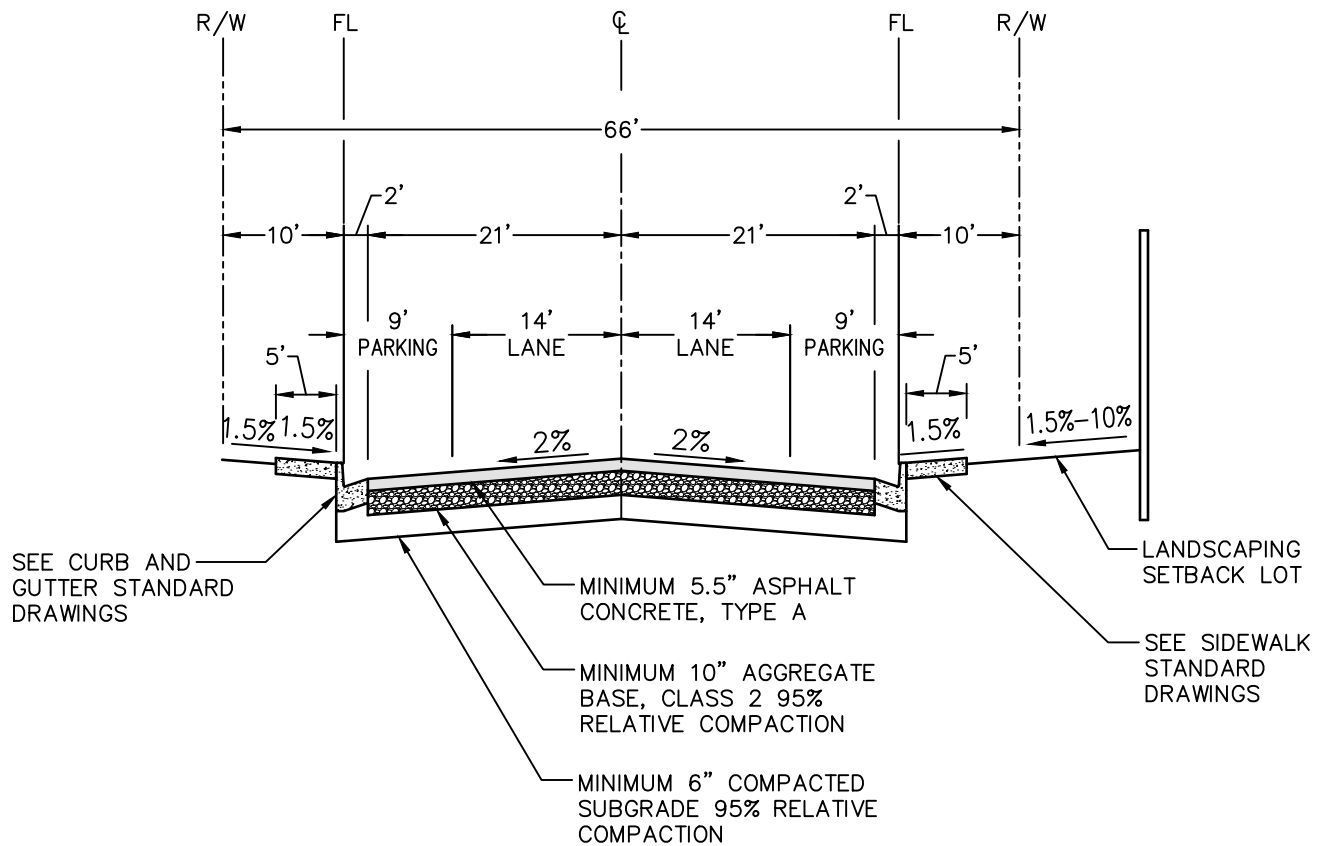
APPROVED BY: Chris Carr 01/17/25
 CITY ENGINEER R.C.E. 71192 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

2 LANE LOCAL – RESIDENTIAL

REVISIONS
 01/17/25
 BK 2016

P-1



NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 9.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
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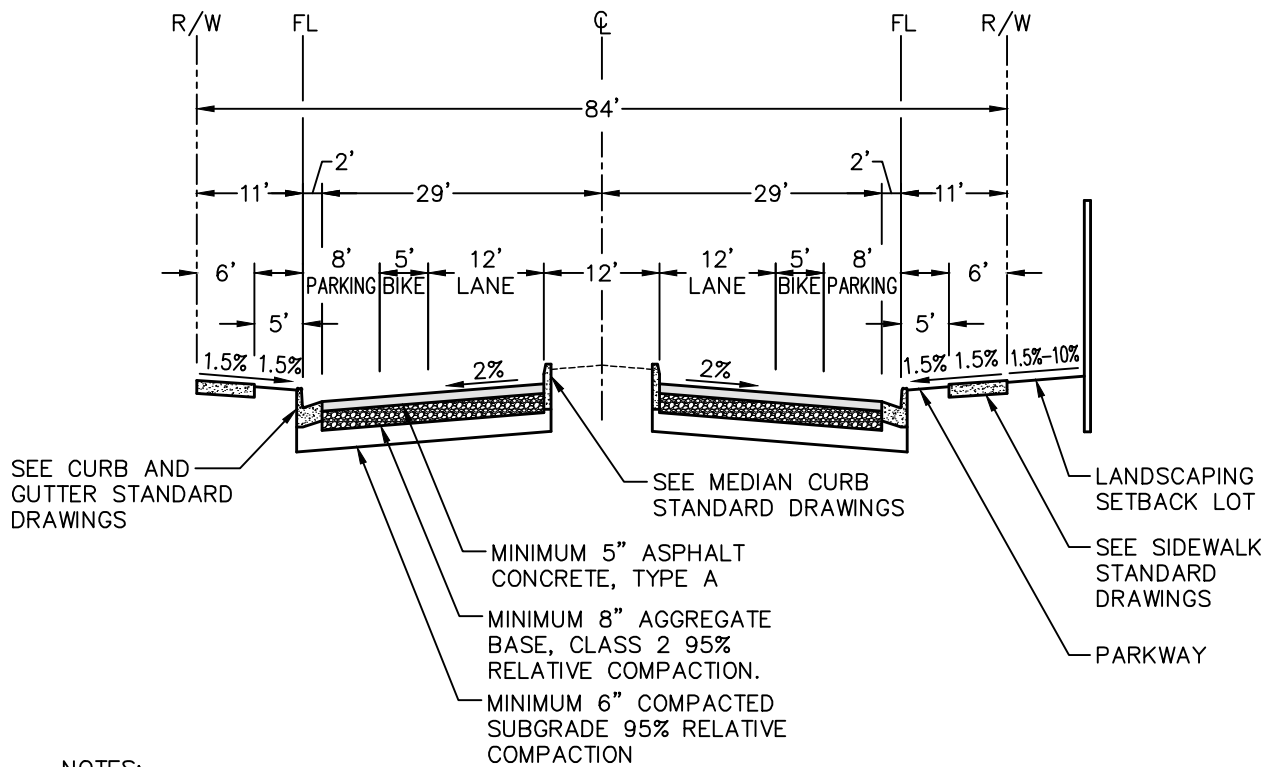
APPROVED BY: Chris Cant 01/23/25
 CITY ENGINEER R.C.E. 71192 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

2 LANE LOCAL – INDUSTRIAL

REVISIONS
 01/23/25
 BK 2016

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NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 8.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
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11. MEDIAN BREAK LOCATIONS AND U-TURN MOVEMENT LOCATIONS ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.
12. UNIMPROVED MEDIAN SHALL BE LEFT WITH NATIVE SOILS 3" BELOW THE TOP OF CURB.
13. SOIL ADJACENT TO CONCRETE CURB AND SIDEWALK SHALL BE GRADED 3" BELOW TOP OF CURB TO ALLOW ROOM FOR MULCH.

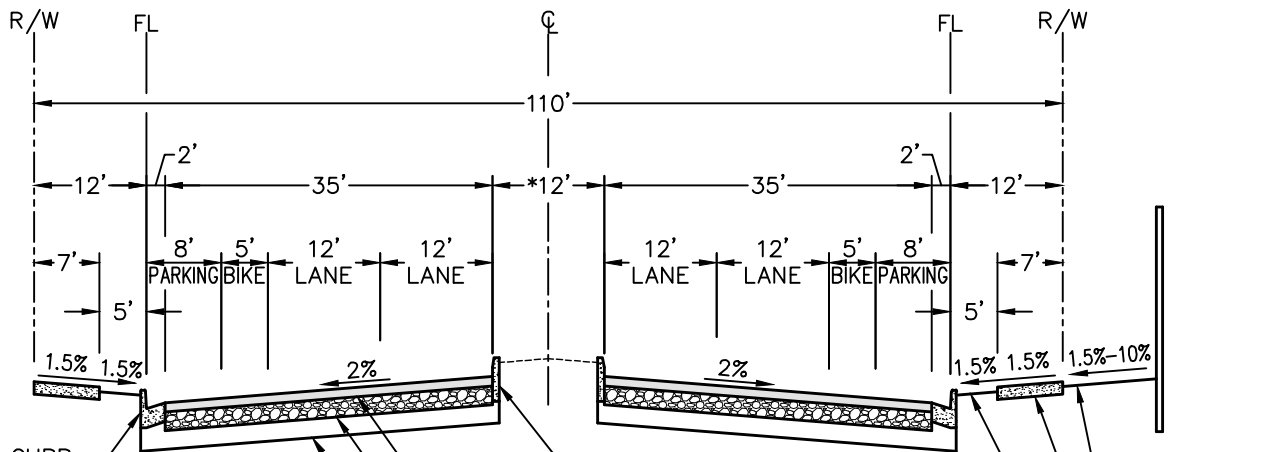
APPROVED BY: Chris Carr 01/17/25
 CITY ENGINEER R.C.E. 71192 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

2 LANE COLLECTOR

REVISIONS
 01/17/25
 BK 2016

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SEE CURB AND GUTTER STANDARD DRAWINGS

SEE MEDIAN CURB STANDARD DRAWINGS

LANDSCAPING SETBACK LOT

SEE SIDEWALK STANDARD DRAWINGS

PARKWAY

*MEDIAN MUST BE INCLUDED AT INTERSECTION, BUT OPTIONAL ALONG ROADWAY UPON CITY ENGINEER'S APPROVAL. MEDIAN WIDTH ALONG ROADWAY MAY BE REDUCED AT OPTION OF CITY ENGINEER.

MINIMUM 7.5" ASPHALT CONCRETE, TYPE A

MINIMUM 12" AGGREGATE BASE, CLASS 2
95% RELATIVE COMPACTION

MINIMUM 6" COMPACTED SUBGRADE
95% RELATIVE COMPACTION

NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 11.
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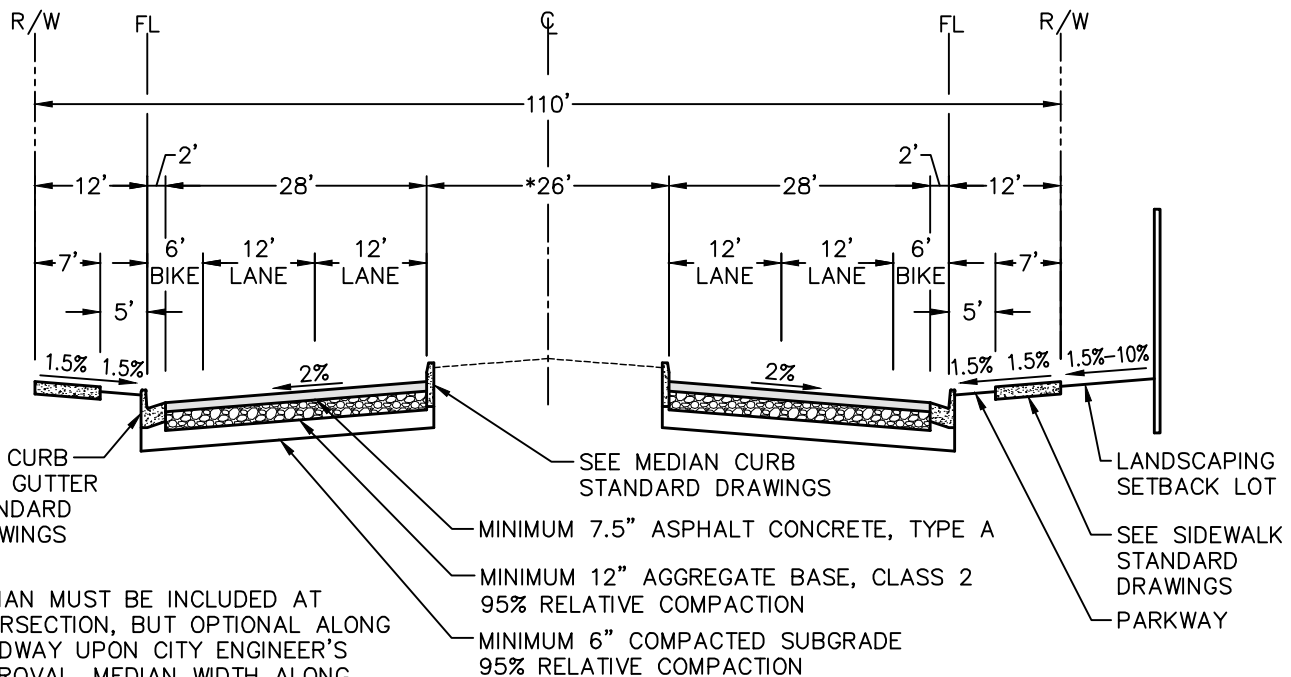
APPROVED BY: Chris Carr 01/17/25
CITY ENGINEER R.C.E. 71192 DATE

**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

4 LANE COLLECTOR

REVISIONS
01/17/25
BK 2016

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*MEDIAN MUST BE INCLUDED AT INTERSECTION, BUT OPTIONAL ALONG ROADWAY UPON CITY ENGINEER'S APPROVAL. MEDIAN WIDTH ALONG ROADWAY MAY BE REDUCED AT OPTION OF CITY ENGINEER.

NOTES:

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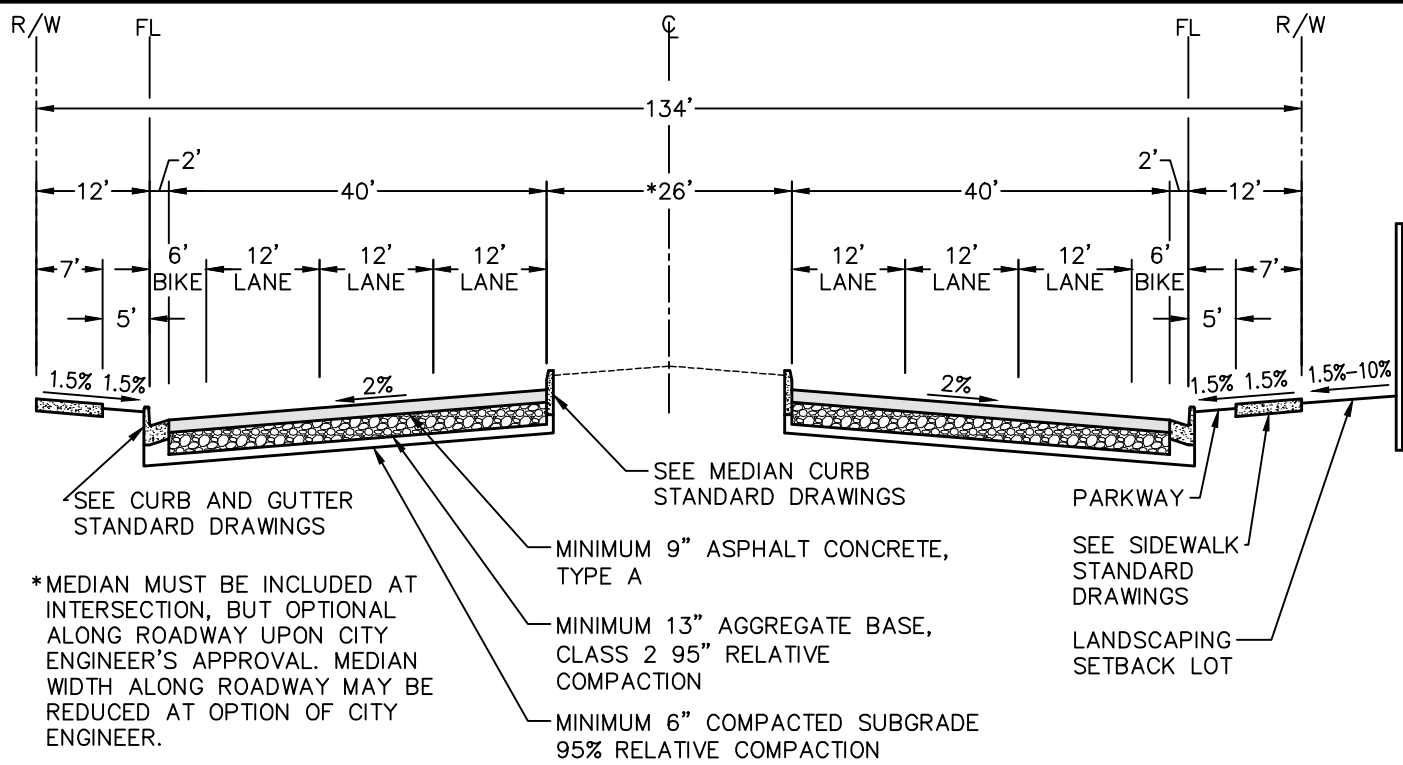
APPROVED BY: Chris Carr 01/17/25
 CITY ENGINEER R.C.E. 71192 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

4 LANE ARTERIAL

REVISIONS
 01/17/25
 BK 2016

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*MEDIAN MUST BE INCLUDED AT INTERSECTION, BUT OPTIONAL ALONG ROADWAY UPON CITY ENGINEER'S APPROVAL. MEDIAN WIDTH ALONG ROADWAY MAY BE REDUCED AT OPTION OF CITY ENGINEER.

- SEE CURB AND GUTTER STANDARD DRAWINGS
- SEE MEDIAN CURB STANDARD DRAWINGS
- MINIMUM 9" ASPHALT CONCRETE, TYPE A
- MINIMUM 13" AGGREGATE BASE, CLASS 2 95" RELATIVE COMPACTION
- MINIMUM 6" COMPACTED SUBGRADE 95% RELATIVE COMPACTION

- PARKWAY
- SEE SIDEWALK STANDARD DRAWINGS
- LANDSCAPING SETBACK LOT

NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 13.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
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APPROVED BY: Chris Carr 01/17/25
 CITY ENGINEER R.C.E. 71192 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

6 LANE ARTERIAL

REVISIONS
 01/17/25
 BK 2016

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RESERVED FOR FUTURE DETAIL

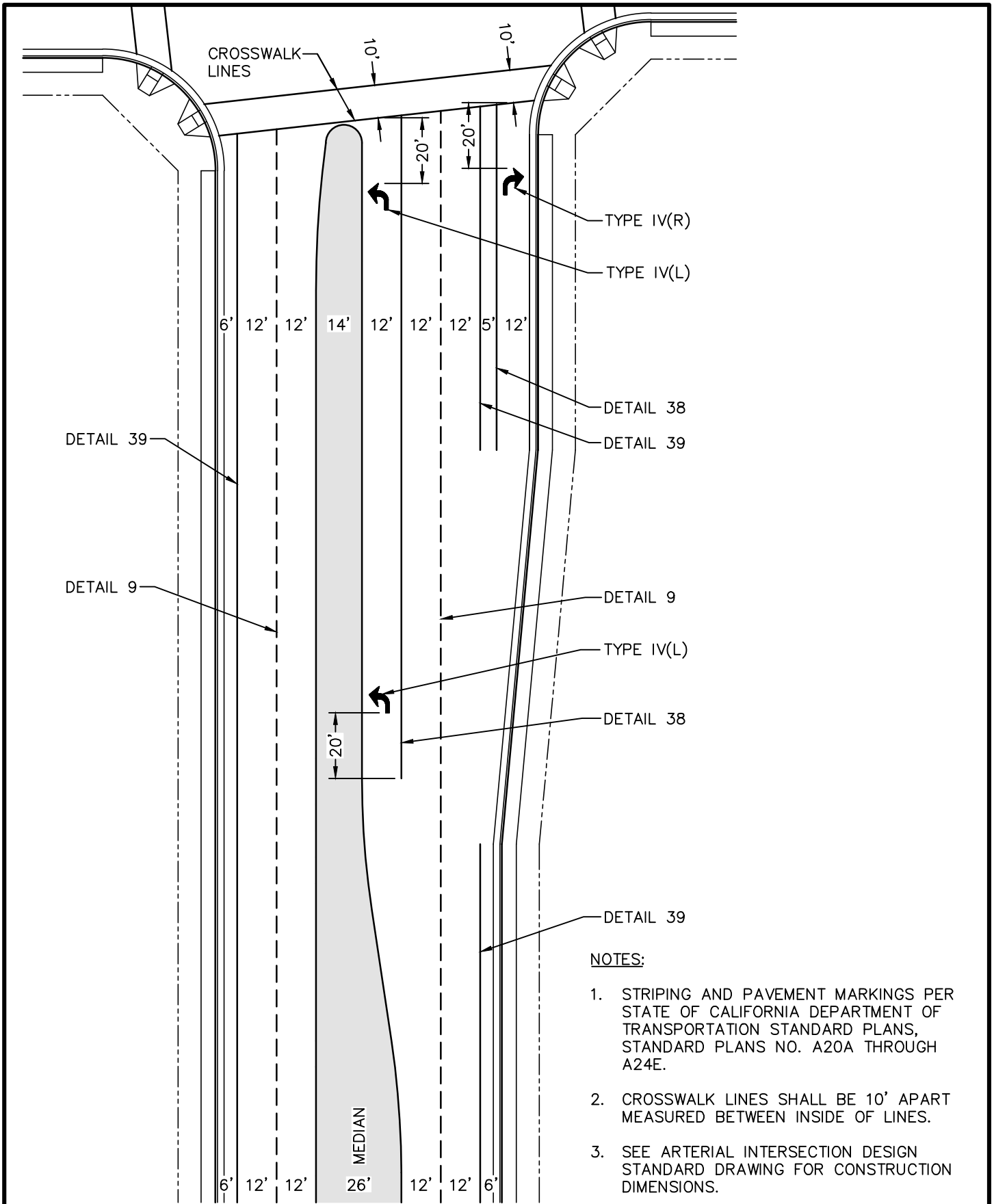
APPROVED BY: _____

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

RESERVED

REVISIONS
09/09/16
BK 2016

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NOTES:

1. STRIPING AND PAVEMENT MARKINGS PER STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS, STANDARD PLANS NO. A20A THROUGH A24E.
2. CROSSWALK LINES SHALL BE 10' APART MEASURED BETWEEN INSIDE OF LINES.
3. SEE ARTERIAL INTERSECTION DESIGN STANDARD DRAWING FOR CONSTRUCTION DIMENSIONS.

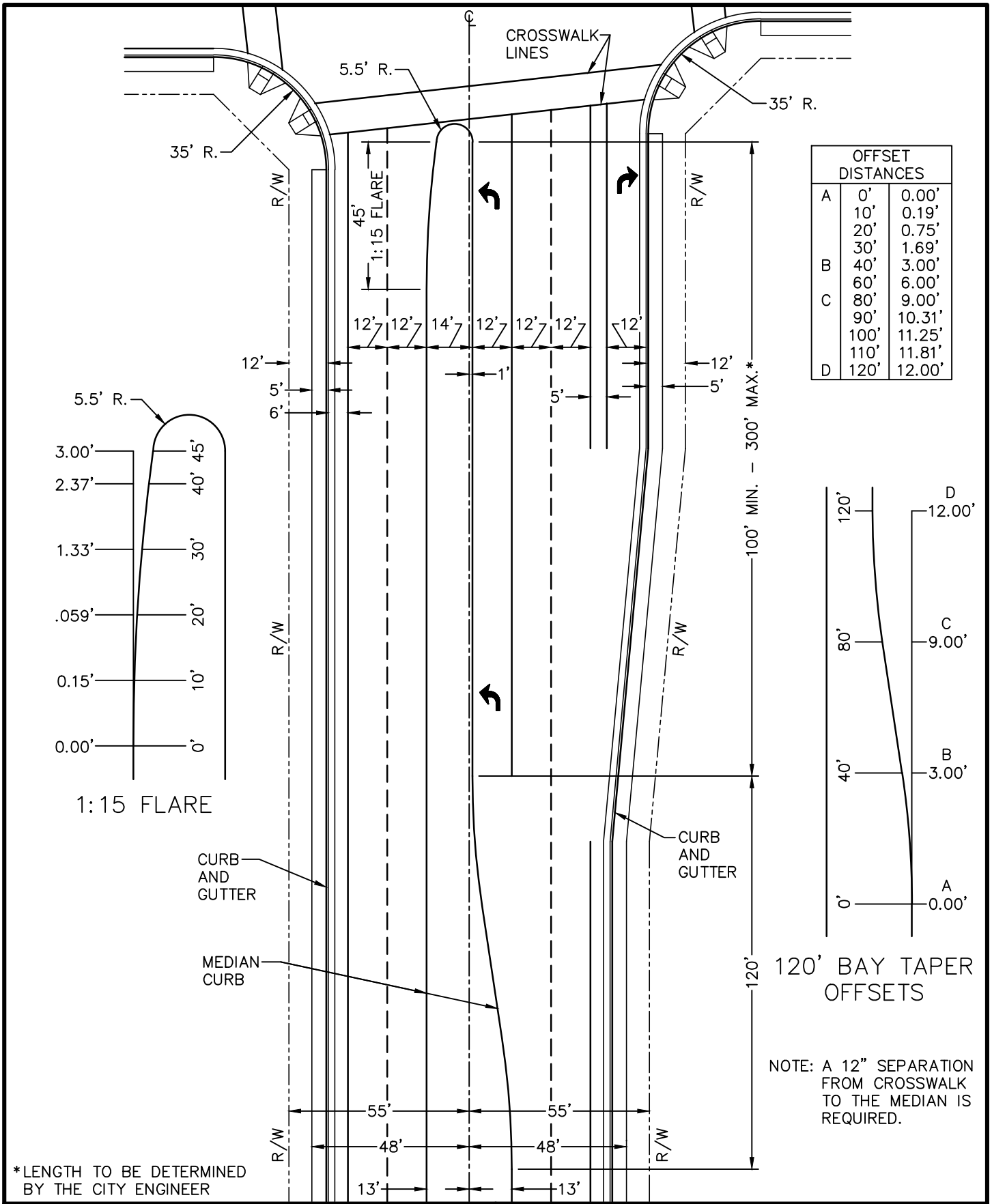
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

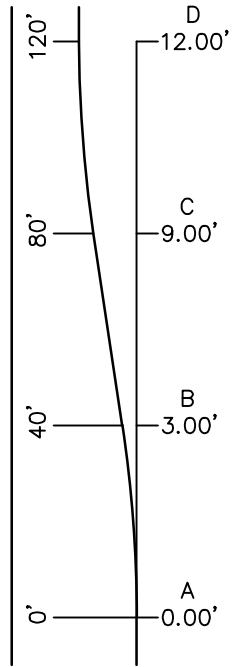
ARTERIAL INTERSECTION STRIPING

REVISIONS
 08/04/16
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OFFSET DISTANCES		
A	0'	0.00'
	10'	0.19'
	20'	0.75'
	30'	1.69'
B	40'	3.00'
	60'	6.00'
	80'	9.00'
C	90'	10.31'
	100'	11.25'
	110'	11.81'
	120'	12.00'



120' BAY TAPER OFFSETS

NOTE: A 12" SEPARATION FROM CROSSWALK TO THE MEDIAN IS REQUIRED.

*LENGTH TO BE DETERMINED BY THE CITY ENGINEER

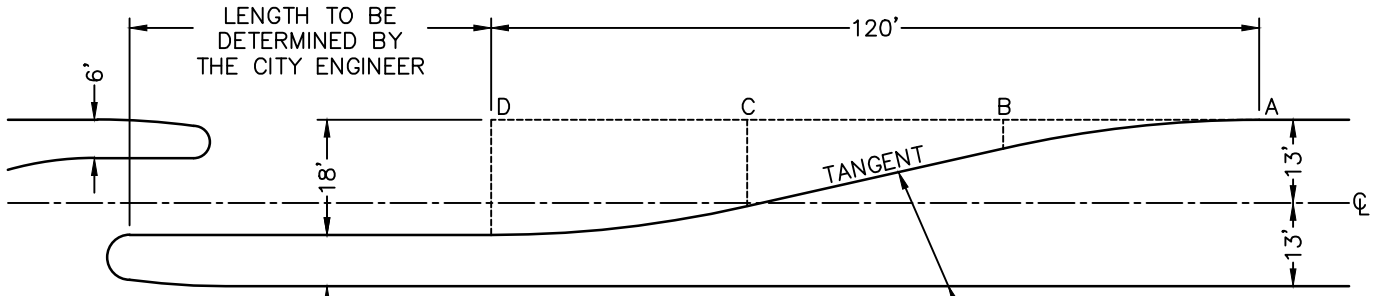
APPROVED BY: *[Signature]* CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS

ARTERIAL INTERSECTION DESIGN

REVISIONS 08/04/16 BK 2016

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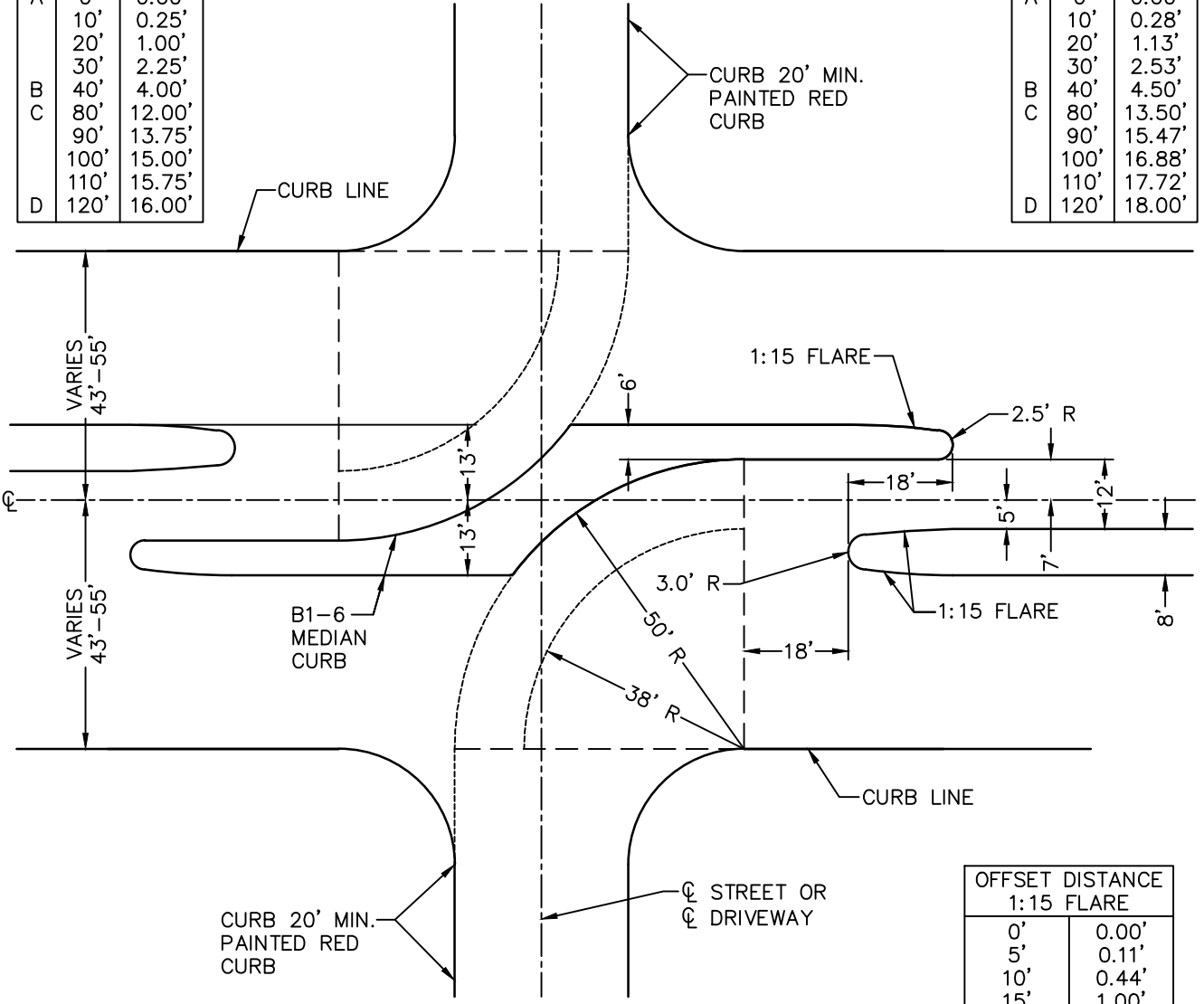


NOTE: MEDIAN WIDTH MAY BE REDUCED AT OPTION OF THE CITY ENGINEER.

B1-6 MEDIAN CURB

OFFSET DISTANCES		
A	0'	0.00'
	10'	0.25'
	20'	1.00'
	30'	2.25'
B	40'	4.00'
C	80'	12.00'
	90'	13.75'
	100'	15.00'
	110'	15.75'
D	120'	16.00'

OFFSET DISTANCES		
A	0'	0.00'
	10'	0.28'
	20'	1.13'
	30'	2.53'
B	40'	4.50'
C	80'	13.50'
	90'	15.47'
	100'	16.88'
	110'	17.72'
D	120'	18.00'



OFFSET DISTANCE 1:15 FLARE	
0'	0.00'
5'	0.11'
10'	0.44'
15'	1.00'

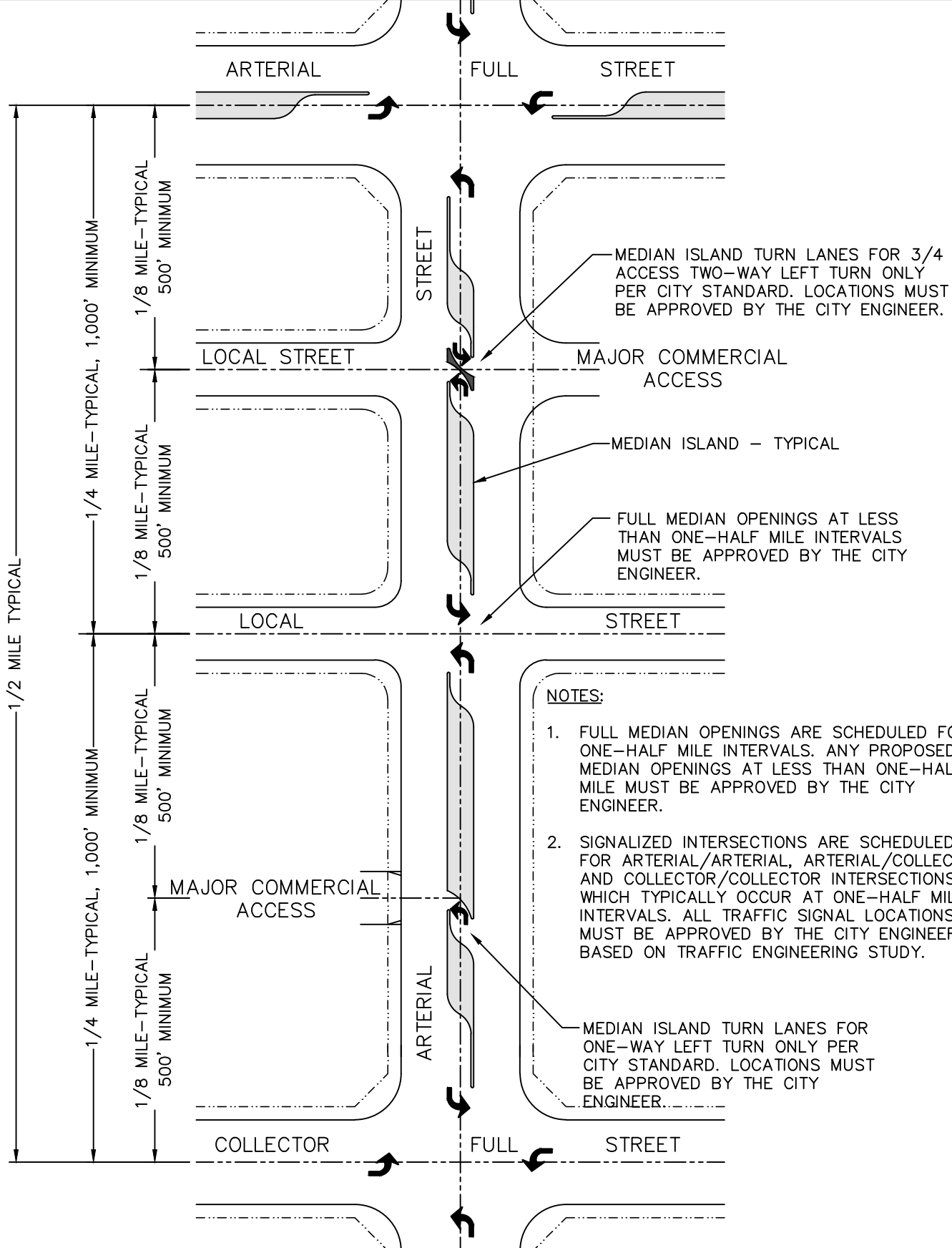
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

ARTERIAL MEDIAN ISLAND OPENING
 FOR TWO-WAY LEFT TURN ONLY

REVISIONS
 08/05/16
 BK 2016

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- NOTES:**
1. FULL MEDIAN OPENINGS ARE SCHEDULED FOR ONE-HALF MILE INTERVALS. ANY PROPOSED MEDIAN OPENINGS AT LESS THAN ONE-HALF MILE MUST BE APPROVED BY THE CITY ENGINEER.
 2. SIGNALIZED INTERSECTIONS ARE SCHEDULED FOR ARTERIAL/ARTERIAL, ARTERIAL/COLLECTOR AND COLLECTOR/COLLECTOR INTERSECTIONS WHICH TYPICALLY OCCUR AT ONE-HALF MILE INTERVALS. ALL TRAFFIC SIGNAL LOCATIONS MUST BE APPROVED BY THE CITY ENGINEER BASED ON TRAFFIC ENGINEERING STUDY.

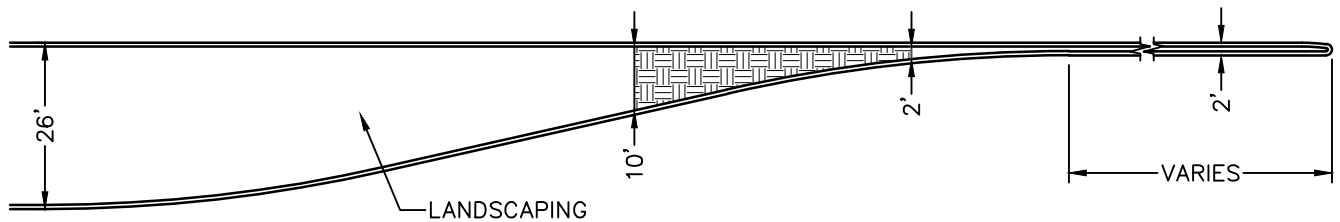
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

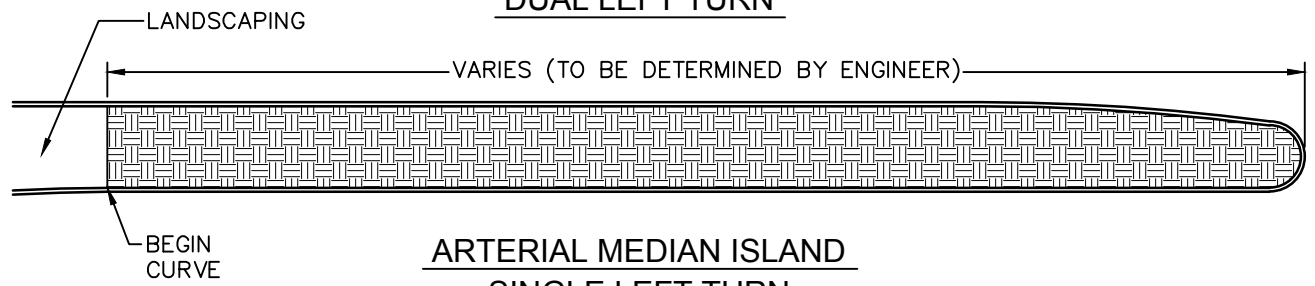
TYPICAL MEDIAN BREAK LOCATIONS

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08/05/16 BK 2016

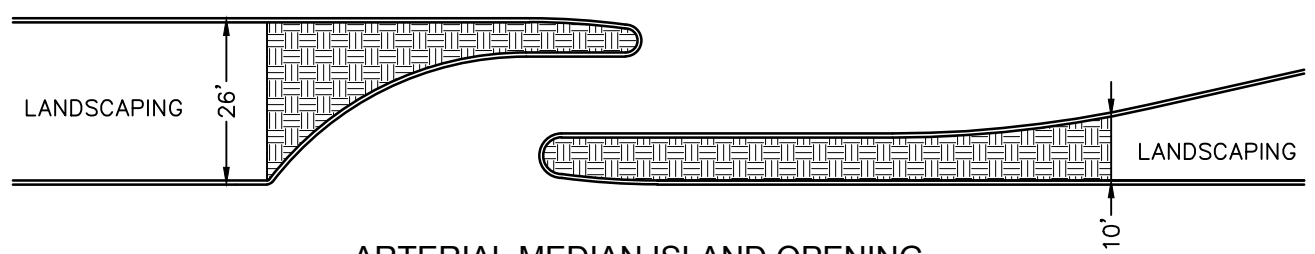
P-12



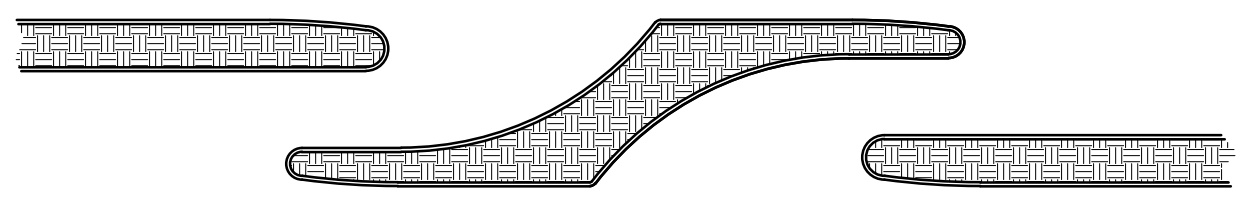
ARTERIAL MEDIAN ISLAND
DUAL LEFT TURN



ARTERIAL MEDIAN ISLAND
SINGLE LEFT TURN



ARTERIAL MEDIAN ISLAND OPENING
FOR ONE-WAY LEFT TURN ONLY



ARTERIAL MEDIAN ISLAND OPENING
FOR TWO-WAY LEFT TURN ONLY

LEGEND:

 STAMPED CONCRETE PER CITY STANDARD SPECIFICATIONS
OR AS DIRECTED BY CITY ENGINEER

NOTES:

1. ANY MEDIAN SPACE LESS THAN 2' BACK OF CURB TO BACK OF CURB SHALL BE SOLID CONCRETE FINISH.
2. END STAMPED CONCRETE WHERE MEDIAN ISLAND WIDTH IS 10' BACK OF CURB TO BACK OF CURB.
3. SLEEVES SHALL BE PROVIDED THROUGH MEDIAN CONCRETE. IF CONDUIT OR OTHER IMPROVEMENT NEEDS TO RUN THROUGH MEDIAN CONCRETE IT SHALL BE DONE THROUGH BORING, NOT TRENCHING.

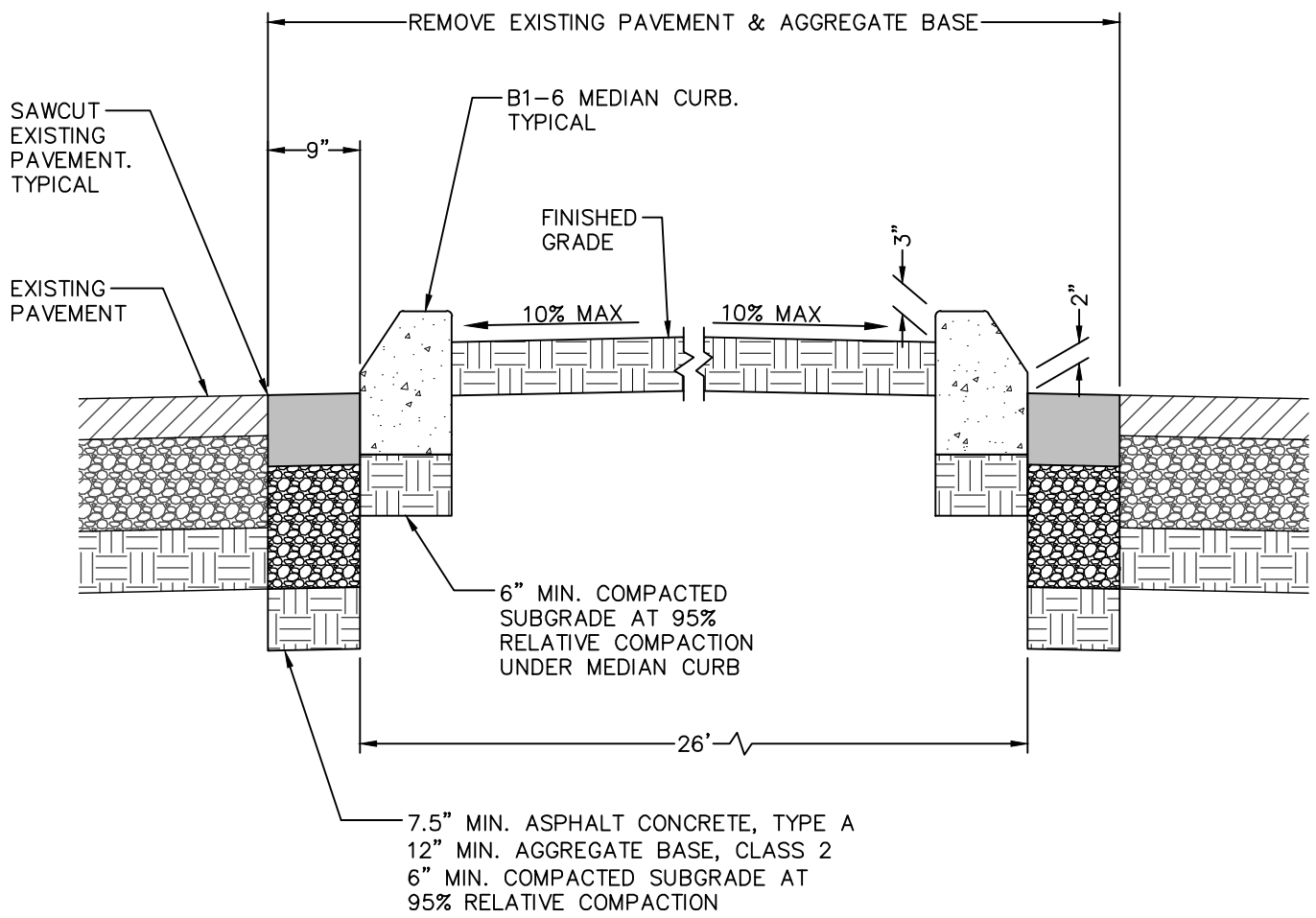
APPROVED BY: 
CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STAMPED CONCRETE & LANDSCAPING
LOCATIONS IN ARTERIAL MEDIANS

REVISIONS
08/05/16
BK 2016

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NOTE:

1. IF EXISTING PAVEMENT SECTION IS THICKER THAN SECTION THICKNESS MENTIONED ABOVE, THE PAVEMENT TO BE INSTALLED SHALL MATCH EXISTING.
2. IF MEDIAN WIDTH IS LESS THAN 6 FEET, THE MEDIAN SLOPE MAY BE INCREASED UP TO 25%.
3. MEDIAN IMPROVEMENTS, INCLUDING LANDSCAPING, SHALL NOT EXCEED 30" IN HEIGHT WITHIN THE SIGHT TRIANGLE AREA.
4. FULL DEPTH ASPHALT CONCRETE PLUG MAY BE ALLOWED WITH APPROVAL OF CITY ENGINEER.

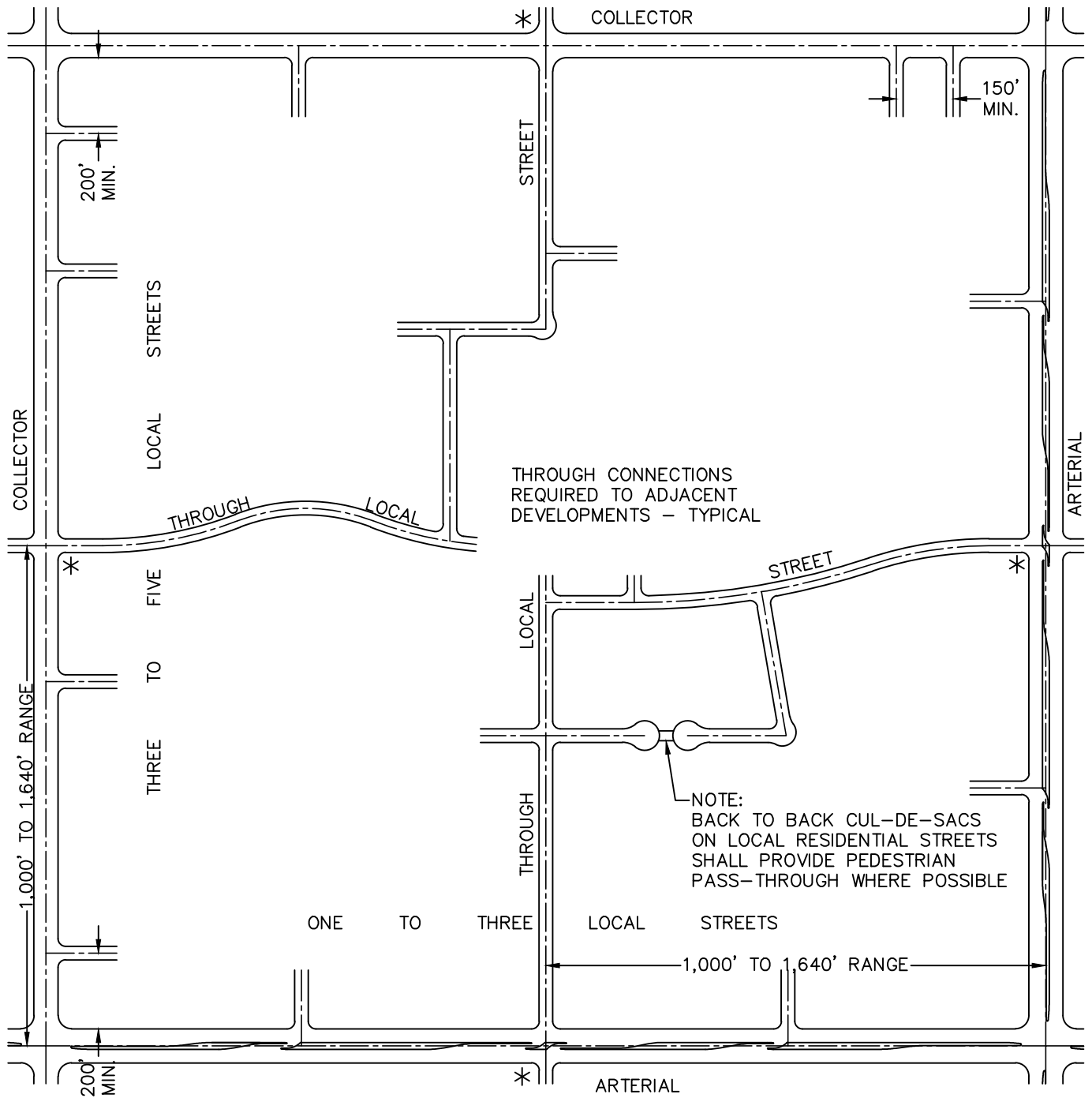
APPROVED BY: Chris Carr 01/17/25
 CITY ENGINEER R.C.E. 71192 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

ARTERIAL MEDIAN INSTALLATION IN
 EXISTING PAVEMENT

REVISIONS
 01/17/25
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* THE INTENT OF THIS POLICY IS TO PROVIDE FULL ACCESS FROM EACH ASTRISK NOTED INTERSECTION TO EACH DEVELOPMENT WITHIN THE SUPER BLOCK WITHOUT USING A COLLECTOR OR ARTERIAL.

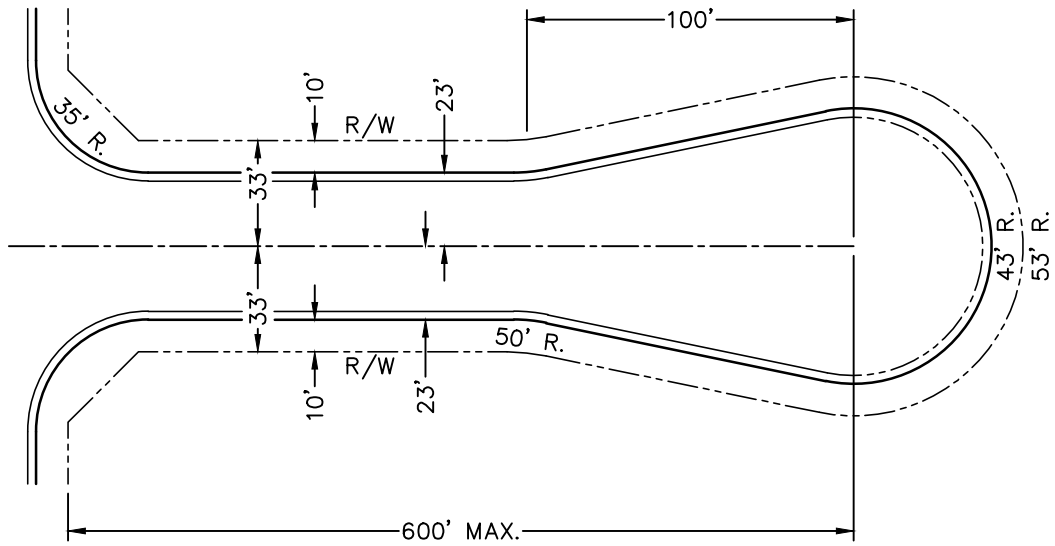
APPROVED BY: *[Signature]* 09/16/16
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

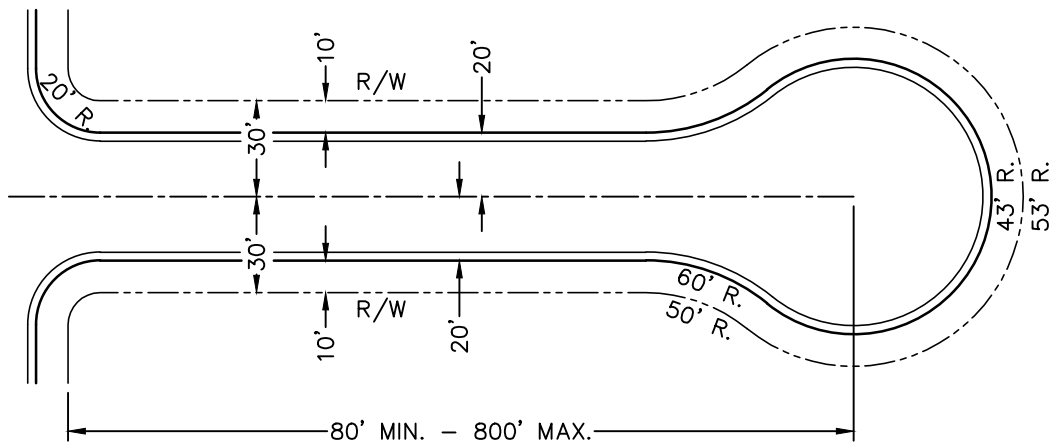
SUPER BLOCK CONNECTIVITY

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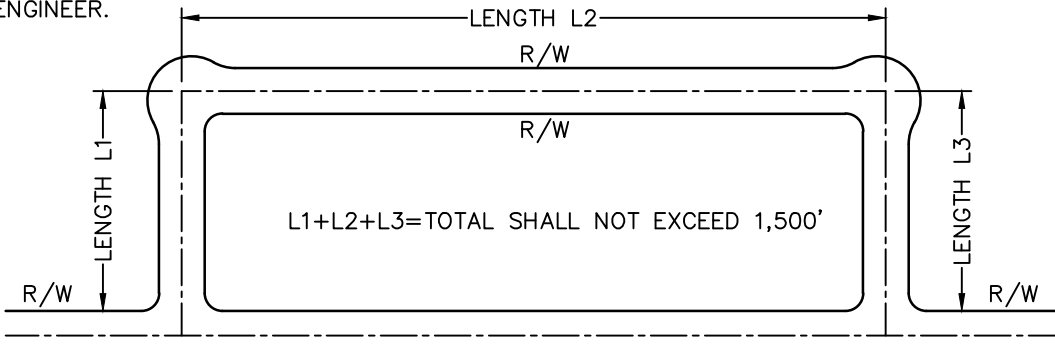


COMMERCIAL AND INDUSTRIAL CUL-DE-SAC



RESIDENTIAL CUL-DE-SAC

NOTE:
DESIGNS TO PERMIT PARKING
IN CUL-DE-SAC CENTERS
ARE SUBJECT TO APPROVAL
OF THE CITY ENGINEER.



LOCAL MINOR LOOP STREET

APPROVED BY: *[Signature]*
CITY ENGINEER R.P.E. 81734
09/16/16
DATE

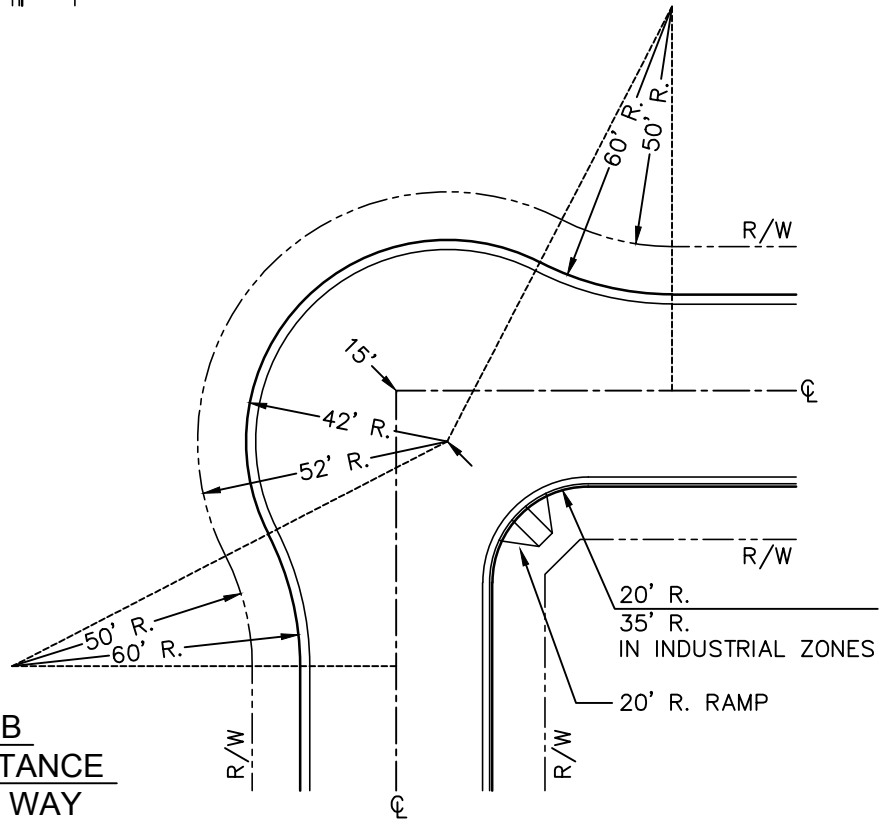
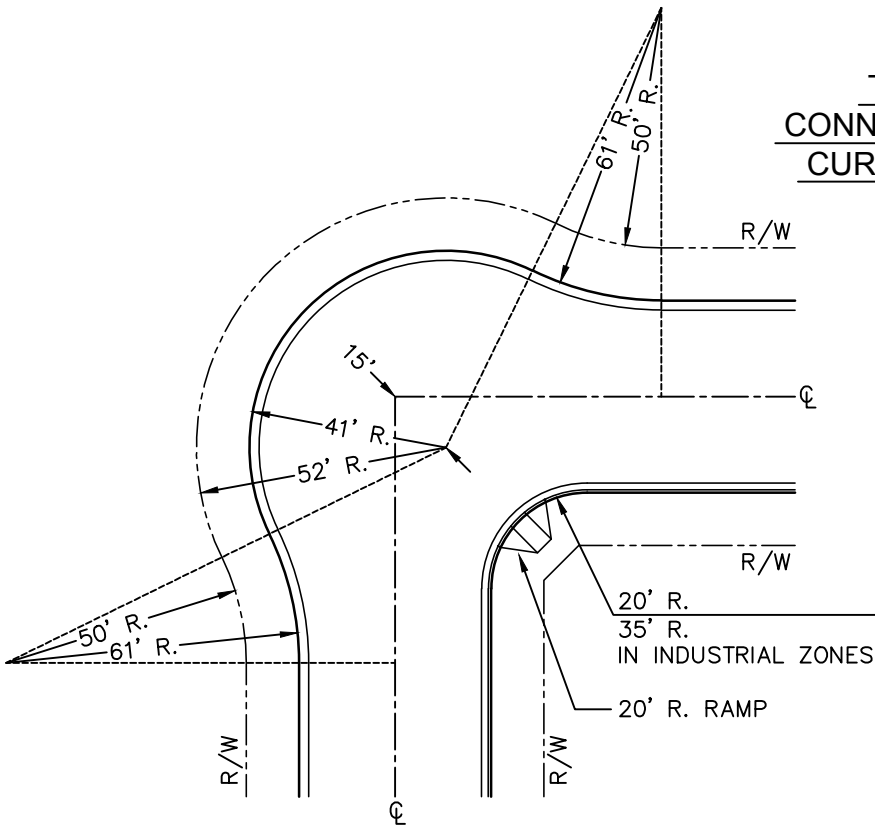
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CUL-DE-SAC
AND LOCAL MINOR LOOP LAYOUT

REVISIONS
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TYPICAL STREET BULB CONNECTION WITH 11' DISTANCE CURB FACE TO RIGHT OF WAY



TYPICAL STREET BULB CONNECTION WITH 10' DISTANCE CURB FACE TO RIGHT OF WAY

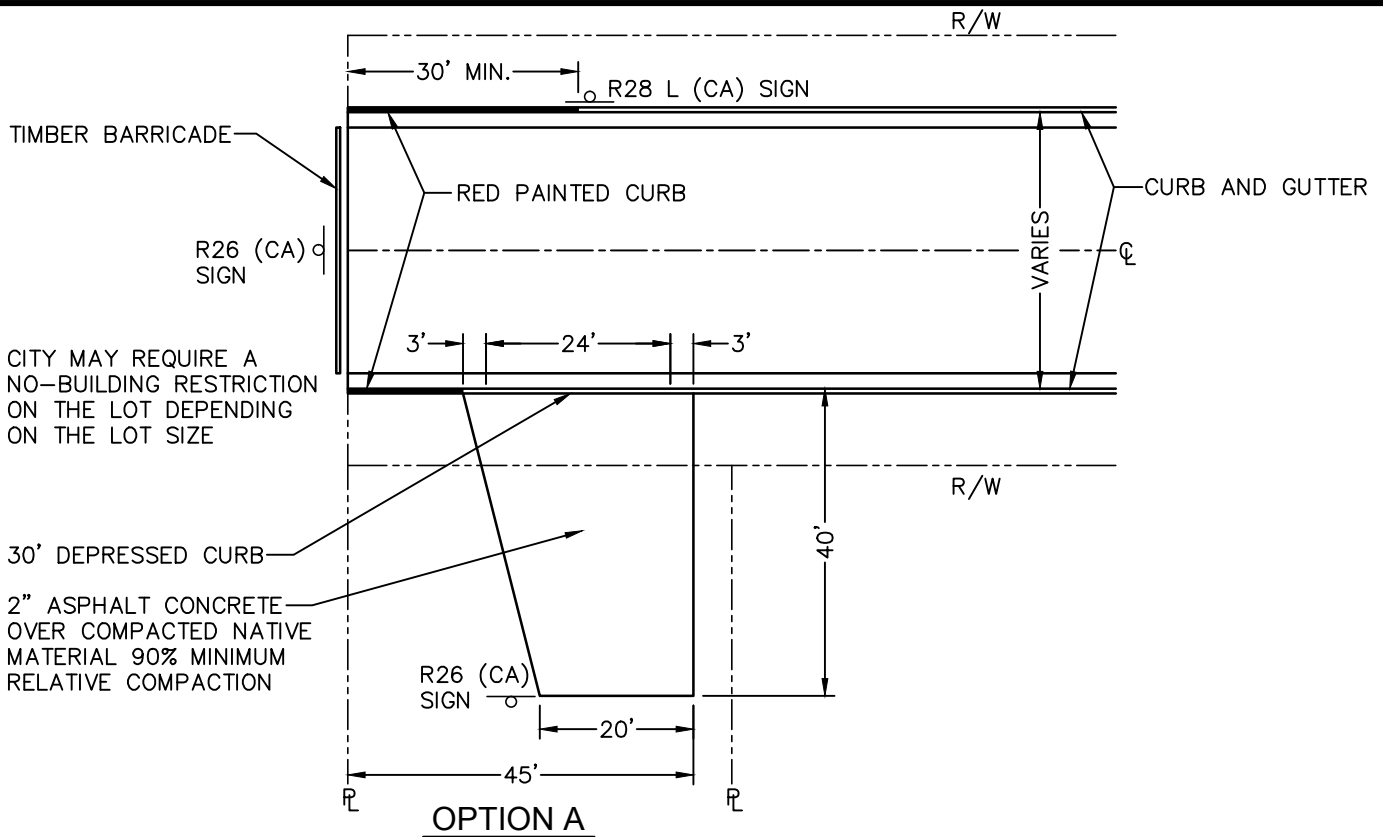
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

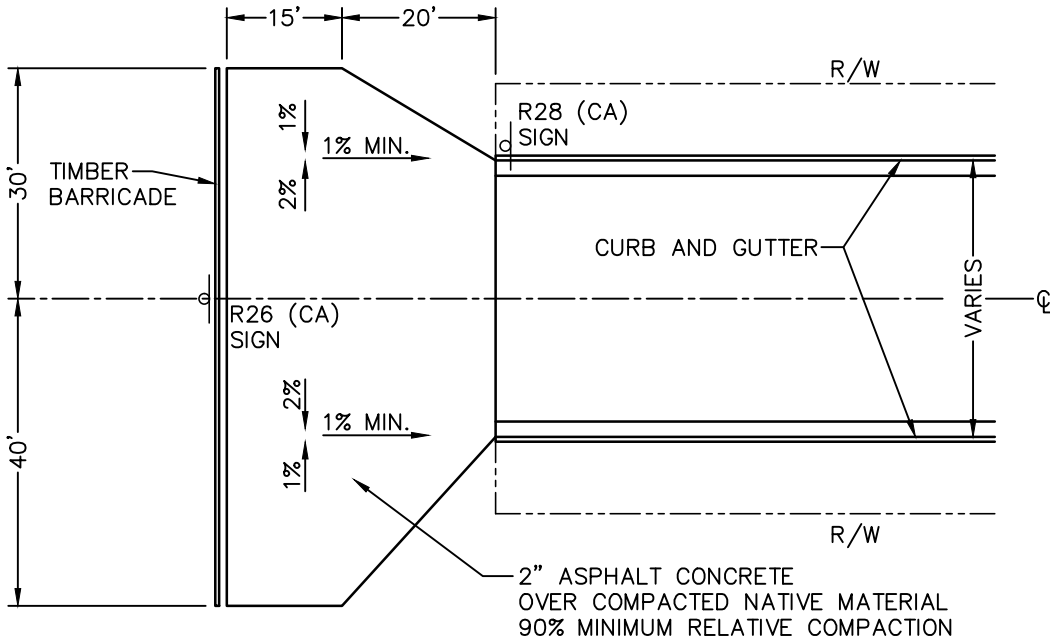
STREET BULB CONNECTION

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OPTION A



OPTION B

NOTES:

1. THESE STANDARDS ARE INTENDED FOR PUBLIC STREETS IN PHASED DEVELOPMENTS ON A TEMPORARY BASIS ONLY.
2. TURNAROUND SHALL BE REQUIRED WHEN A STUB STREET IS IN EXCESS OF 2 LOTS OR IN EXCESS OF 150 FEET FROM THROUGH STREET.
3. USE OTHER THAN TEMPORARY SHALL BE AT THE DISCRETION OF THE CITY ENGINEER.

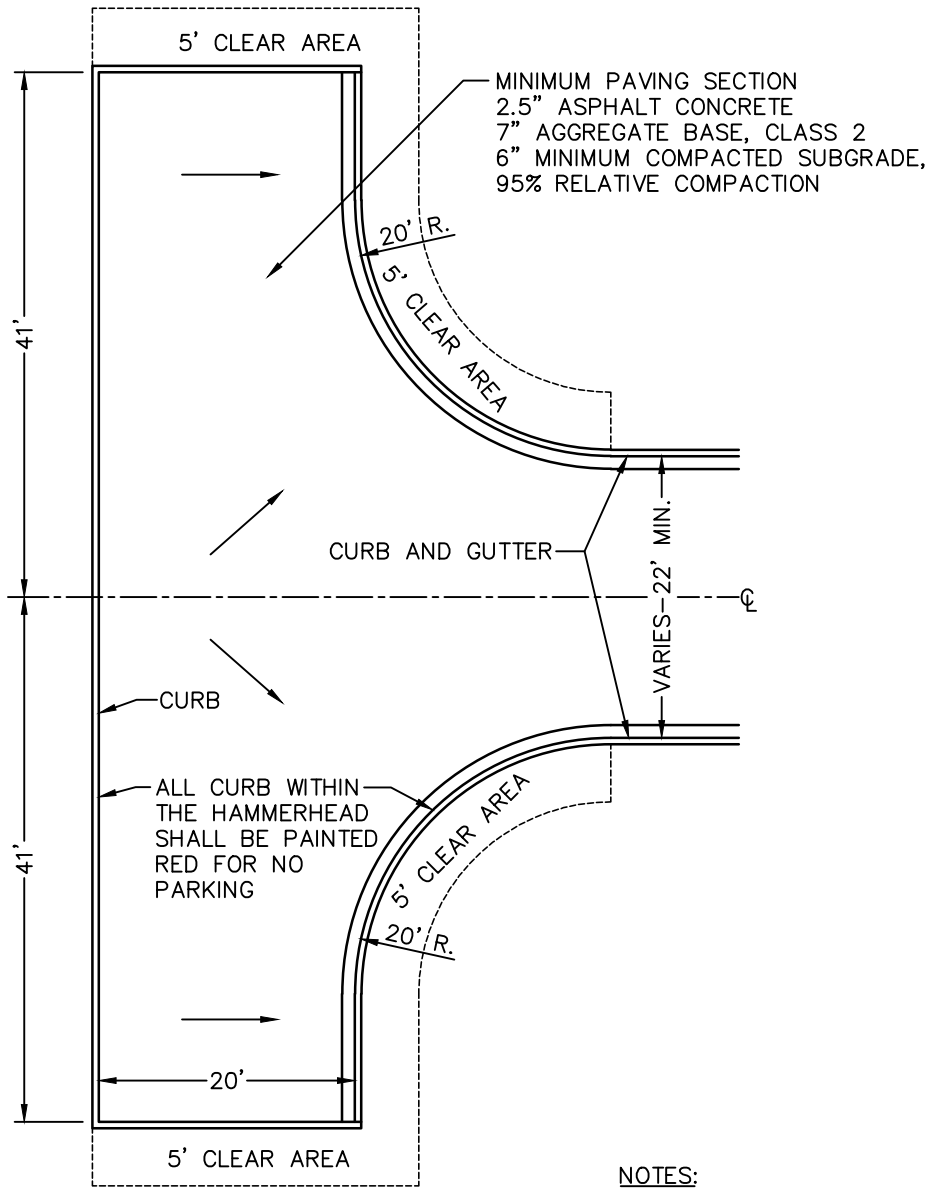
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**TEMPORARY HAMMERHEAD TURNAROUND
 PUBLIC STREET**

REVISIONS
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NOTES:

1. NO PARKING ALLOWED.
2. DESIGN CRITERION: TRAFFIC INDEX 5.5.
3. CURB OR CURB AND GUTTER REQUIRED AT ALL PAVEMENT EDGES.
4. NO ABOVE GROUND STRUCTURES SHALL BE ALLOWED IN THE 5' CLEAR AREAS AS SHOWN.
5. THE USE OF THIS STANDARD MUST BE APPROVED BY THE CITY OF VISALIA SOLID WASTE DIVISION.

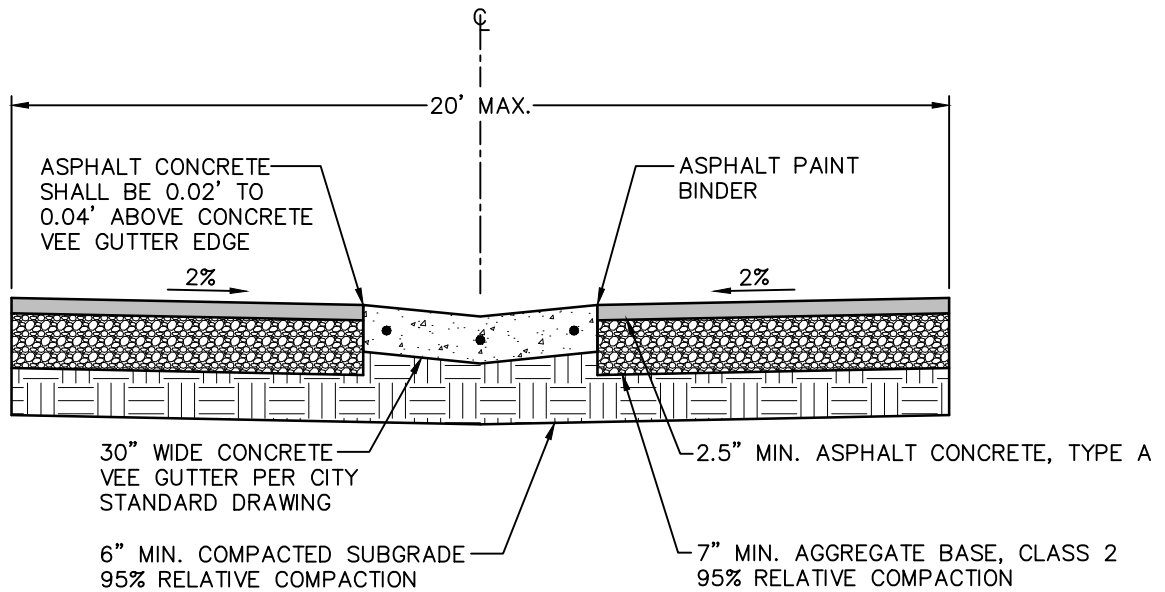
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

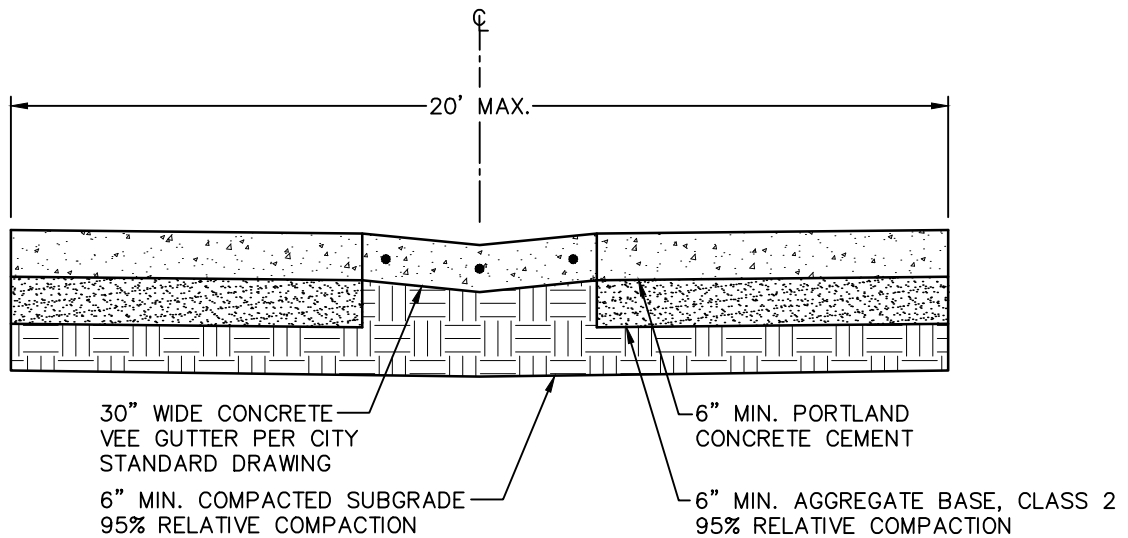
PERMANENT HAMMERHEAD
 TURNAROUND

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ASPHALT CONCRETE SURFACE



CONCRETE SURFACE

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. ALL CONCRETE SHALL HAVE A LIGHT BROOM FINISH.
3. DESIGN CRITERIA: TRAFFIC INDEX 5.5
4. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTION REQUIREMENTS STANDARD DETAIL.

APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 09/16/16
 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

ALLEY PAVING SECTIONS

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PRIVATE STREET GUIDELINES

PAVEMENT WIDTHS:

1. PRIVATE STREETS SHALL PROVIDE A PAVEMENT WIDTH COMMENSURATE WITH THE PROPOSED DESIGN SPEED, TRAFFIC VOLUME, ALIGNMENT AND PARKING REQUIREMENTS.
2. A STREET PAVEMENT WIDTH OF 24', AND PARKING STALLS 20' IN LENGTH SHALL BE CONSIDERED MINIMUM IF THE PARKING STALLS ARE ORIENTED PERPENDICULAR TO THE STREET AND IF VEHICLES BACK INTO THE STREET TO EXIT. PARKING SPACES ORIENTED OTHERWISE SHALL CONFORM TO THE CITY OF VISALIA PARKING STANDARDS.
3. PRIVATE STREETS WITH ENTRY GATES SHALL PROVIDE A U-TURN AREA WITHIN THE PUBLIC RIGHT OF WAY. THE MINIMUM TURNING RADIUS SHALL BE 24'.
4. STREET ENDS, COURTS OR DRIVEWAYS SHALL PROVIDE SOLID WASTE TRUCKS SERVICING INDIVIDUAL REFUSE CONTAINERS A MINIMUM OUTSIDE TURNING RADIUS OF 35' AND A MAXIMUM INSIDE TURNING RADIUS OF 20'. SOLID WASTE TRUCKS PROVIDING SERVICE TO REFUSE BINS REQUIRE A MINIMUM OUTSIDE TURNING RADIUS OF 50' AND A MAXIMUM INSIDE TURNING RADIUS OF 36'.
5. THE UNIFORM FIRE CODE REQUIRES THAT THE MOST REMOTE WALL OF ANY BUILDING MUST BE WITHIN 150' OF A PAVED DRIVE OR STREET NOT LESS THAN 20' WIDE. ACCESS TO BUILDINGS CONFORMING TO THIS REQUIREMENT SHALL PROVIDE A 14' MINIMUM PAVED ACCESS DRIVE AND A 20' MINIMUM UNOBSTRUCTED ACCESS EASEMENT. ACCESS TO BUILDINGS IN EXCESS OF TWO STORIES SHALL COMPLY TO MORE STRINGENT REQUIREMENTS OF THE FIRE CODE.

STRUCTURAL SECTIONS:

1. THE STRUCTURAL SECTIONS OF STREETS UTILIZING ASPHALT CONCRETE SURFACING SHALL BE DESIGNED BY AN ACCEPTED FLEXIBLE PAVEMENT DESIGN METHOD.
2. THE MINIMUM STREET SECTION SHALL CONSIST OF A 2-1/2" TYPE A, 3/4" MAXIMUM, MEDIUM GRADE ASPHALT CONCRETE SURFACE, A 7" SECTION OF AGGREGATE BASE, CLASS 2, AND A 6" MINIMUM SOIL SUBGRADE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION.
3. PARKING AREAS AND ACCESS DRIVES MAY USE A PORTLAND CEMENT CONCRETE SURFACE A MINIMUM OF 6" THICK OVER A 6" AGGREGATE BASE OVER A 6" MINIMUM SOIL SUBGRADE COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION.

TRAFFIC INDEXES:

1. THE CITY ENGINEER SHALL ESTABLISH TRAFFIC INDEXES FOR PRIVATE STREETS BASED UPON EXPECTED TRAFFIC VOLUMES AS INDICATED BELOW:

RESIDENTIAL UNITS USING STREET
1-150

MINIMUM TRAFFIC INDEX
5.5

APPROVED BY: 
CITY ENGINEER R.P.E. 81734 09/16/16
DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PRIVATE STREET GUIDELINES
SHEET 1 OF 2

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PRIVATE STREET GUIDELINES CONTINUED

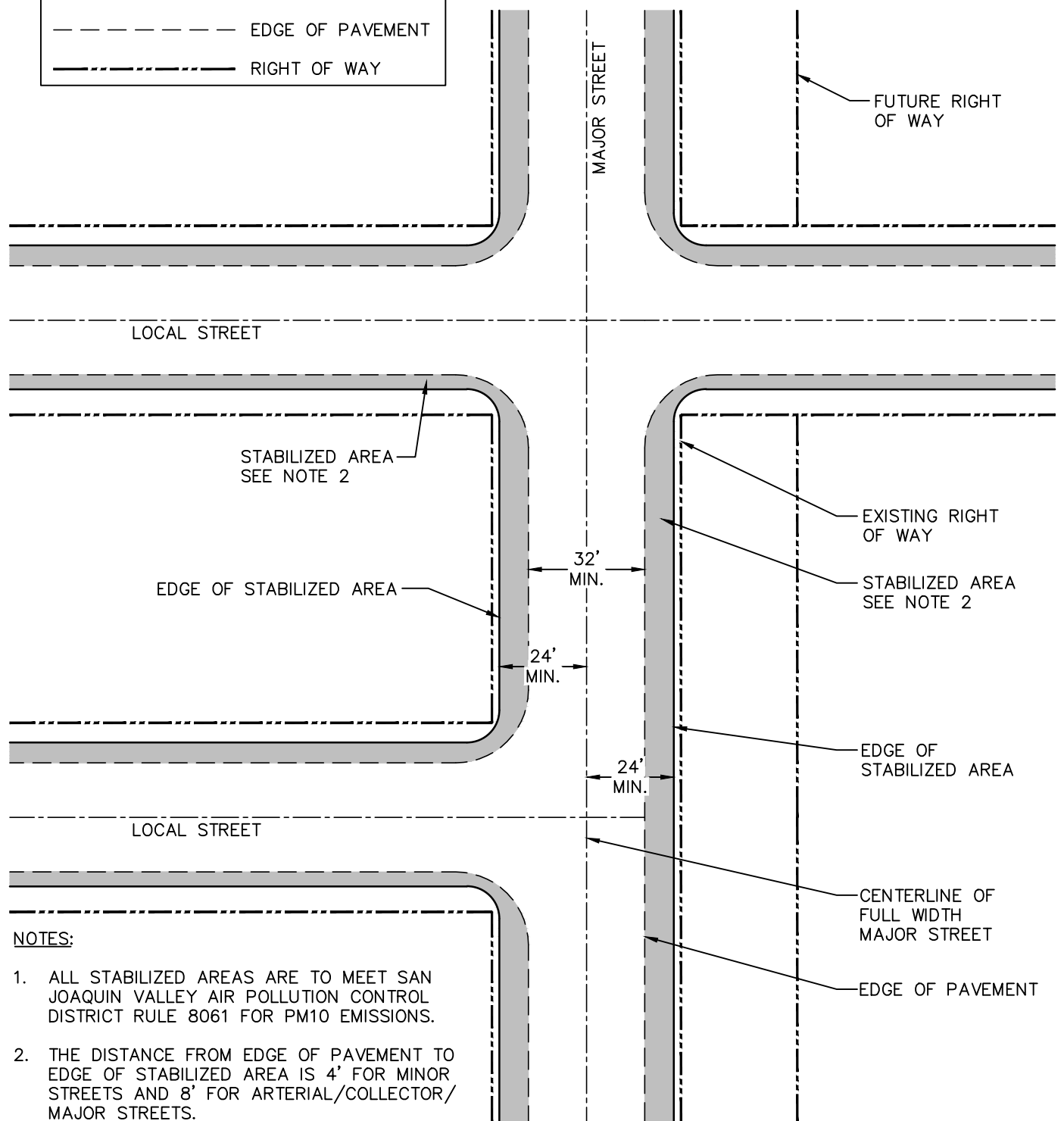
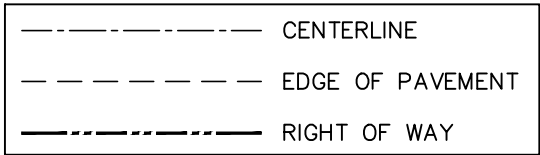
GEOMETRIC SECTIONS

1. DRIVES SERVING 1 TO 4 UNITS SHALL USE A LOCAL ROAD PAVING SECTION STANDARD EXCEPTING THAT PAVEMENT EDGES SHALL BE PROTECTED WITH A 6" TALL CONCRETE CURB. SUBJECT TO SITE PLAN REVIEW, THE CURBING REQUIREMENT MAY BE WAIVED.
2. DRIVES OR STREETS SERVING 5 OR MORE UNITS SHALL PROVIDE A CURB OR CURB AND GUTTER AT ALL PAVEMENT EDGES.
3. PAVEMENT SHALL HAVE A MINIMUM CROSS SLOPE OF 1% AND PAVEMENT SECTIONS SHOULD MATCH THE EQUIVALENT LOCAL PUBLIC STREET.
4. BARRIER TYPE CURB AND GUTTER TYPE A2-6, IS RECOMMENDED FOR PRIVATE STREETS. THE FOLLOWING ARE PERMITTED OPTIONS.
 - A. VEE GUTTER, 24" MINIMUM WIDTH, SLOPE = 0.25 FEET PER 100 FEET MINIMUM.
 - B. MINI CURB AND GUTTER, 4" CURB HEIGHT AND 12" GUTTER, SLOPE = 0.20 FEET PER 100 FEET MINIMUM.
 - C. MINI ROLL CURB AND GUTTER, 4" CURB HEIGHT AND 12" GUTTER, SLOPE = 0.30 FEET PER 100 FEET MINIMUM.
5. FOR NEW ROADWAYS THAT ARE BEING CONSTRUCTED WHERE A PREVIOUS ROAD DID NOT EXIST, ALL ROADWAY INFRASTRUCTURE SHALL BE INSTALLED & OPERATIONAL PRIOR TO OPENING. THIS INCLUDES SIGNAGE, STRIPING, AND ROADWAY LIGHTING.

REQUIRED SIGNS:

1. THE ENTRANCE TO ANY PRIVATE STREET FROM A PUBLIC RIGHT OF WAY SHALL HAVE A SIGN "PRIVATE STREET" POSTED AT THE ENTRANCE.

APPROVED BY:  CITY ENGINEER R.P.E. 81734	09/16/16 DATE CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
PRIVATE STREET GUIDELINES SHEET 2 OF 2	REVISIONS 08/10/16 BK 2016	P-22



NOTES:

1. ALL STABILIZED AREAS ARE TO MEET SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT RULE 8061 FOR PM10 EMISSIONS.
2. THE DISTANCE FROM EDGE OF PAVEMENT TO EDGE OF STABILIZED AREA IS 4' FOR MINOR STREETS AND 8' FOR ARTERIAL/COLLECTOR/MAJOR STREETS.
3. NEW PAVED ROADS OR MODIFICATIONS TO EXISTING PAVED ROADS WITH PROJECTED AVERAGE DAILY TRIPS OF 500 VEHICLES OR MORE SHALL BE CONSTRUCTED WITH PAVED SHOULDERS.

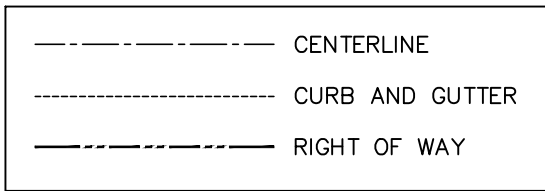
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

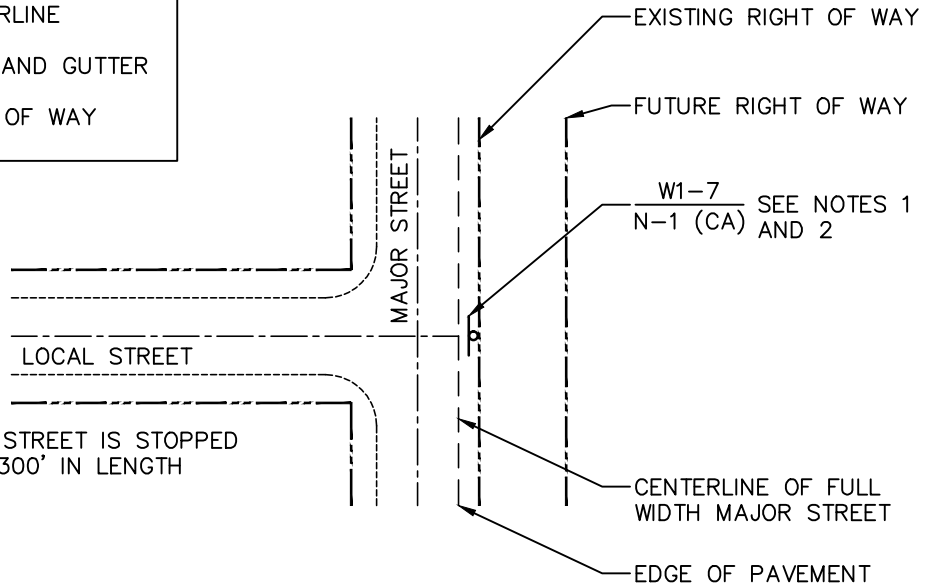
UNPAVED STREET & SHOULDER
 S.J.V.A.P.C.D. STANDARD REQUIREMENTS

REVISIONS
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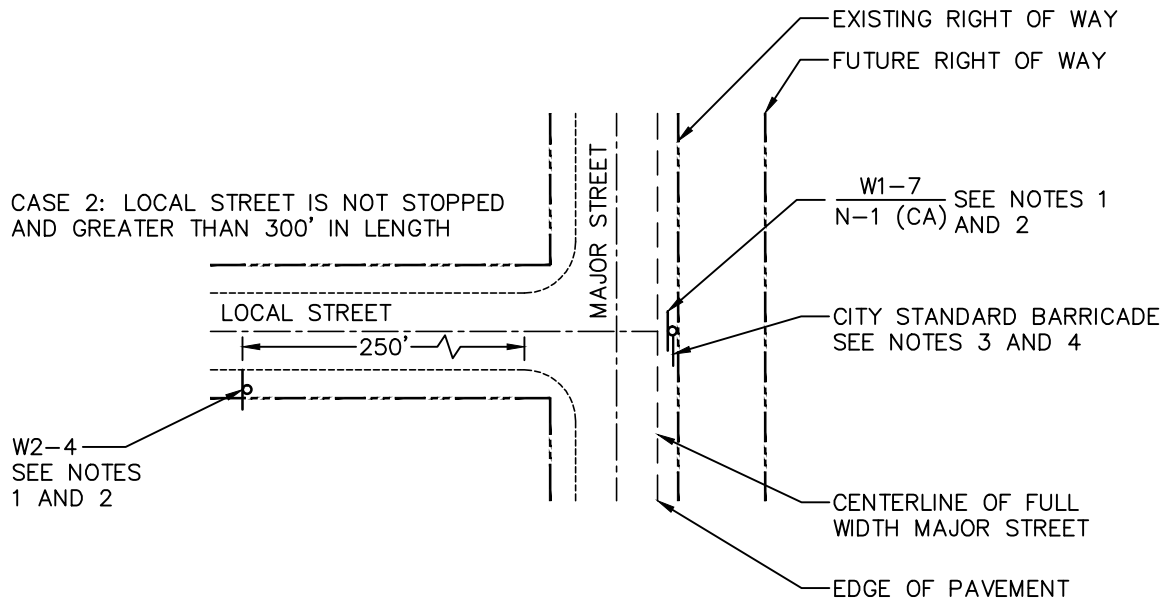
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CASE 1: LOCAL STREET IS STOPPED OR LESS THAN 300' IN LENGTH



CASE 2: LOCAL STREET IS NOT STOPPED AND GREATER THAN 300' IN LENGTH



NOTES:

1. ALL SIGNS ARE TO MEET CITY STANDARDS FOR RETROREFLECTIVITY, FACE SHEETING, SIGN GAUGE, POST TYPE, AND ANCHORING/FOOTING PROCEDURES.
2. SIGNS ARE TO BE INSTALLED A MINIMUM OF 4' BACK FROM EDGE OF PAVEMENT.
3. CITY STANDARD BARRICADE IS TO BE INSTALLED IF OBJECTS IN THE PATH OF ONCOMING TRAFFIC MAY FORM A HAZARD (I.E. ORCHARD, TREE STAND, EARTHWORK, BUILDING, ETC.).
4. IF REQUIRED, CITY STANDARD BARRICADE IS TO BE INSTALLED BETWEEN 4' AND 8' BACK FROM EDGE OF PAVEMENT, DEPENDENT ON SURROUNDING AREA.
5. ALL SIGNS ARE TO MEET THE LATEST CALIFORNIA MUTCD GUIDELINES.

APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

"T" INTERSECTION
 TEMPORARY HALF STREET TREATMENTS

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R-VALUE OF SUBGRADE	TRAFFIC INDEX (TI)																							
	5.5		6		6.5		7		7.5		8		9		10		11		12		13			
	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB		
10	2.5	12	2.5	14	3	15	5	13	5	15	5	16	5.5	19	6	22	7.5	23	8	26	8.5	30		
12	2.5	12	2.5	14	3	15	5	12	5	14	5	16	5.5	19	6	21	7.5	23	8	25	8.5	29		
14	2.5	12	2.5	13	3	14	5	12	5	14	5	15	5.5	18	6	21	7.5	22	8	24	8.5	28		
16	2.5	11	2.5	13	3	14	5	11	5	13	5	15	5.5	17	6	20	7.5	21	8	23	8.5	27		
18	2.5	11	2.5	12	3	13	5	11	5	13	5	14	5.5	17	6	19	7.5	20	8	23	8.5	26		
20	2.5	11	2.5	12	3	13	5	10	5	12	5	14	5.5	16	6	19	7.5	20	8	22	8.5	25		
22	2.5	10	2.5	11	3	12	5	10	5	12	5	13	5.5	15	6	18	7.5	19	8	21	8.5	24		
24	2.5	10	2.5	11	3	12	5	9	5	11	5	12	5.5	15	6	17	7.5	18	8	20	8.5	24		
26	2.5	9	2.5	11	3	11	5	9	5	11	5	12	5.5	14	6	16	7.5	17	8	19	8.5	23		
28	2.5	9	2.5	10	3	11	5	8	5	10	5	11	5.5	14	6	16	7.5	16	8	19	8.5	22		
30	2.5	9	2.5	10	3	10	5	8	5	10	5	11	5.5	13	6	15	7.5	16	8	18	8.5	21		
32	2.5	8	2.5	9	3	10	5	7	5	9	5	10	5.5	12	6	14	7.5	15	8	17	8.5	20		
34	2.5	8	2.5	9	3	10	5	7	5	9	5	10	5.5	12	6	14	7.5	14	8	16	8.5	19		
36	2.5	7	2.5	9	3	9	5	7	5	8	5	9	5.5	11	6	13	7.5	13	8	15	8.5	18		
38	2.5	7	2.5	8	3	9	5	7	5	8	5	9	5.5	10	6	12	7.5	13	8	15	8.5	17		
40	2.5	7	2.5	7	3	8	5	7	5	7	5	8	5.5	10	6	12	7.5	12	8	14	8.5	16		
42	2.5	7	2.5	7	3	8	5	7	5	7	5	8	5.5	10	6	11	7.5	12	8	13	8.5	15		
44	2.5	7	2.5	7	3	8	5	7	5	7	5	8	5.5	10	6	11	7.5	12	8	12	8.5	14		

NOTES:

1. AB = CLASS 2 AGGREGATE BASE. HMA = HOT MIX ASPHALT. ALL AB AND HMA SHALL CONFORM WITH THE CITY OF VISALIA ENGINEERING STANDARD SPECIFICATIONS.
2. TRAFFIC INDEXES USED SHALL BE AS APPROVED BY THE CITY ENGINEER.
3. A CALIFORNIA R-VALUE REPORT SHALL BE SUBMITTED TO THE CITY ENGINEERING DEPARTMENT FOR REVIEW AND ACCEPTANCE. THIS REPORT SHALL BE STAMPED AND SIGNED BY A REGISTERED CIVIL ENGINEER FROM A CERTIFIED TESTING LABORATORY. THE REPORT SHALL INCLUDE THE TEST RESULTS, DATA SHEETS, AND SOIL CLASSIFICATION OF ALL R-VALUE TESTS AND A MAP THAT SHOWS THE LOCATION OF ALL TESTS TAKEN AND THE R-VALUES ON THE SITE. IN GENERAL R-VALUE TESTING SHALL BE PERFORMED AT 300' INTERVALS IN A ROADWAY UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
4. WHERE SUBGRADE R-VALUES ARE LESS THAN 30 A MODIFIED STREET SECTION MAY BE PROPOSED. ALL MODIFIED STREET SECTIONS MUST BE ACCOMPANIED BY A LETTER OF APPROVAL STAMPED AND SIGNED BY A REGISTERED CIVIL ENGINEER FROM A CERTIFIED TESTING LABORATORY. PROPOSALS SHALL BE REVIEWED BY THE CITY ENGINEER. THE CITY IS UNDER NO OBLIGATION TO ACCEPT ANY MODIFIED STREET SECTION PROPOSALS.
5. STREET SECTION REQUIREMENTS SHOWN ON THIS DETAIL SUPERCEDE STREET SECTIONS SHOWN ON ALL OTHER PAVEMENT SECTION DETAILS.

APPROVED BY:  CITY ENGINEER R.C.E. 71192 DATE 01/17/25

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STREET SECTION REQUIREMENTS

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01/17/25
BK 2016

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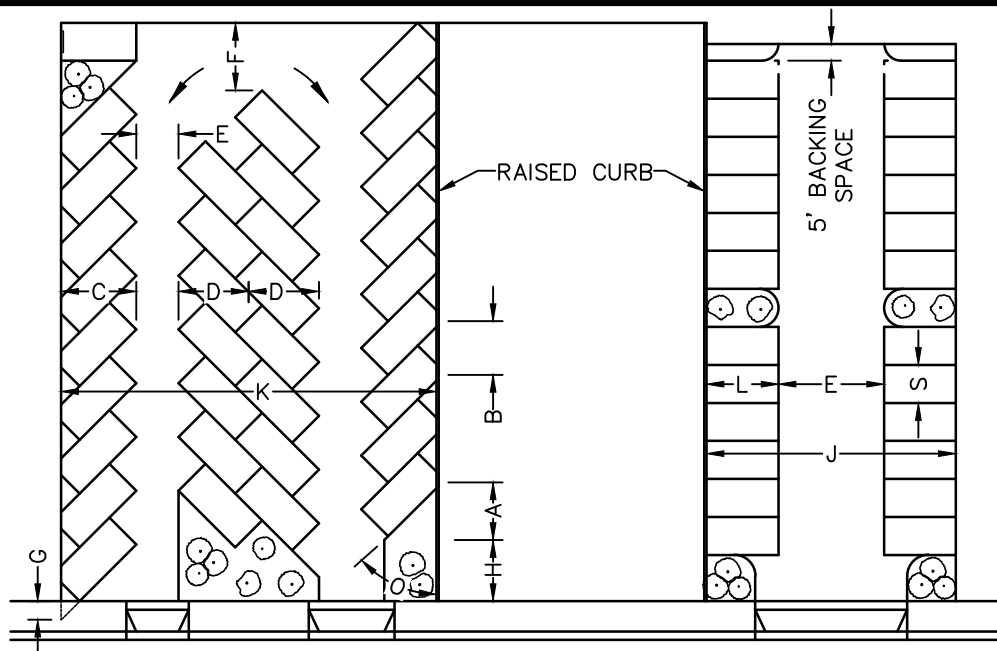


TABLE OF DIMENSIONS IN FEET

O	S	L	A	B	C	D	E	F	G	H	J	K
0°	8.0	22.0	0.0	22.0	8.0	8.0	12.0		0.0	5.0	28.0	
	8.0	24.0	0.0	24.0	8.0	8.0	11.0		0.0	5.0	27.0	
	8.0	26.0	0.0	26.0	8.0	8.0	10.0		0.0	5.0	26.0	
30°	8.5	19.0	29.2	17.0	16.9	13.2	10.0		12.8	6.0	43.8	
	9.0	19.0	30.0	18.0	17.3	13.4	9.0		13.5	6.0	43.6	
45°	8.5	19.0	19.4	12.0	19.4	16.4	10.8	15.5	6.0	9.5	49.6	93.2
	9.0	19.0	19.8	12.7	19.8	16.6	10.0	16.0	6.4	9.0	49.6	92.8
	9.5	19.0	20.1	13.4	20.1	16.7	9.5	16.5	6.7	8.5	49.7	92.6
	10.0	19.0	20.5	14.1	20.4	16.9	9.0	17.0	7.0	8.0	49.8	92.6
60°	8.5	19.0	12.0	9.8	20.8	18.7	18.0		2.5	12.5	59.6	115.0
	9.0	19.0	12.1	10.4	21.0	18.8	17.0	15.0	2.6	12.0	59.0	113.6
	9.5	19.0	12.3	11.0	21.3	18.9	15.5	15.0	2.8	11.5	58.1	111.4
	10.0	19.0	12.4	11.5	21.5	19.0	14.0	15.0	2.9	11.0	57.0	109.0
COMPACT	7.5	15.0	0.0	7.5	15.0	15.0	24.0	20.0	0.0	5.0	54.0	108.0
90°	8.5	19.0	0.0	8.5	19.0	19.0	27.0	20.0	0.0	5.0	65.0	130.0
	9.0	19.0	0.0	9.0	19.0	19.0	25.0	20.0	0.0	5.0	63.0	126.0
	9.5	19.0	0.0	9.5	19.0	19.0	24.0	20.0	0.0	5.0	62.0	124.0
	10.0	19.0	0.0	10.0	19.0	19.0	23.0	20.0	0.0	5.0	61.0	122.0

NOTES:

1. PARKING LOT STRUCTURAL SECTION SHALL CONSIST OF 2" ASPHALT CONCRETE OVER 4" AGGREGATE BASE, CLASS 2, OVER 6" MINIMUM OF SUB-BASE COMPACTED TO 95% RELATIVE COMPACTION. DESIGN STRUCTURAL PAVING SECTION TO TRAFFIC INDEX OF 5.5 MINIMUM FOR SOLID WASTE TRUCK TRAVEL PATH. CITY PARKING LOT PAVEMENT SHALL BE DESIGNED PER STREET SECTION REQUIREMENTS STANDARD DRAWING.
2. MINIMUM SLOPE OF ASPHALT CONCRETE SURFACE SHALL BE 1%.
3. A LANDSCAPED ISLAND SHALL BE INSTALLED EVERY 10 SPACES.
4. MINIMUM AMOUNT OF LANDSCAPED AREA SHALL BE 5% TOTAL AREA.
5. ACCESSIBLE ROUTES SHALL BE PROVIDED TO THE CITY STREET RIGHT OF WAY, TO BUILDINGS, AND FACILITY ARRIVAL POINTS.
6. PARKING STALL LENGTH (L) CAN BE REDUCED BY 2 FT WHERE VEHICLES HAVE SPACE TO OVER HANG BY 2 FT WHILE MAINTAINING AN ACCESSIBLE ROUTE.

APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

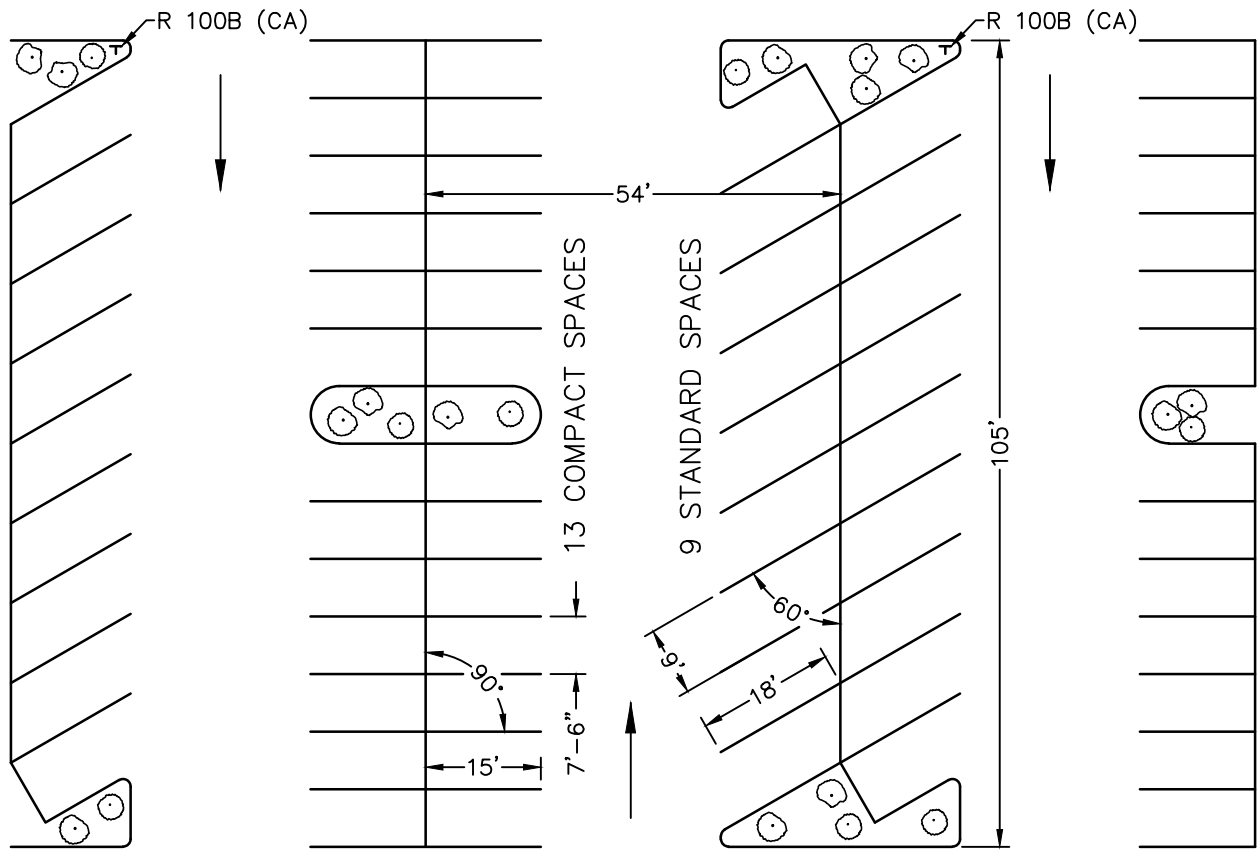
PARKING STANDARDS

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PK-1



BASIC CONCEPT

THE DRACHMAN SYSTEM USES 90 DEGREE ANGLE SPACES FOR SMALL CARS IN THE SAME BAY IN WHICH 45 OR 60 DEGREE ANGLE SPACES ARE PROVIDED FOR LARGE CARS. THIS SELF ENFORCING PLAN USES STANDARD SPACE STALLS 8.5 OR 9.0 FEET WIDE BY 18 FEET LONG, WHILE COMPACT SPACES ARE 7.5 FEET WIDE BY 15 FEET LONG WITHIN A BAY WIDTH OF 54 FEET.

COMPARISON OF DRACHMAN SYSTEM TO STANDARD SYSTEM

DRACHMAN SYSTEM	
STANDARD SPACES	9
COMPACT SPACES	13
TOTAL	
STANDARD SYSTEM	
STANDARD SPACES	18
INCREASE IN SPACES DRACHMAN OVER STANDARD PERCENTAGE	22%

NOTES:

1. PARKING LOT STRUCTURAL SECTION SHALL CONSIST OF 2" ASPHALT CONCRETE OVER 4" AGGREGATE BASE, CLASS 2, OVER 6" MINIMUM OF SUB-BASE COMPACTED TO 95% RELATIVE COMPACTION. DESIGN STRUCTURAL PAVING SECTION TO TRAFFIC INDEX OF 5.5 MINIMUM FOR SOLID WASTE TRUCK TRAVEL PATH. CITY PARKING LOT PAVEMENT SHALL BE DESIGNED PER STREET SECTION REQUIREMENTS STANDARD DRAWING.
2. MINIMUM SLOPE OF ASPHALT CONCRETE SURFACE SHALL BE 1%.
3. A LANDSCAPED ISLAND SHALL BE INSTALLED EVERY 10 SPACES.
4. MINIMUM AMOUNT OF LANDSCAPED AREA SHALL BE 5% TOTAL AREA.
5. CITY ORDINANCE ALLOWS A MAXIMUM OF 30% COMPACT PARKING SPACES WITHIN A PARKING LOT, UNLESS EXTRA SPACES ARE PROVIDED.

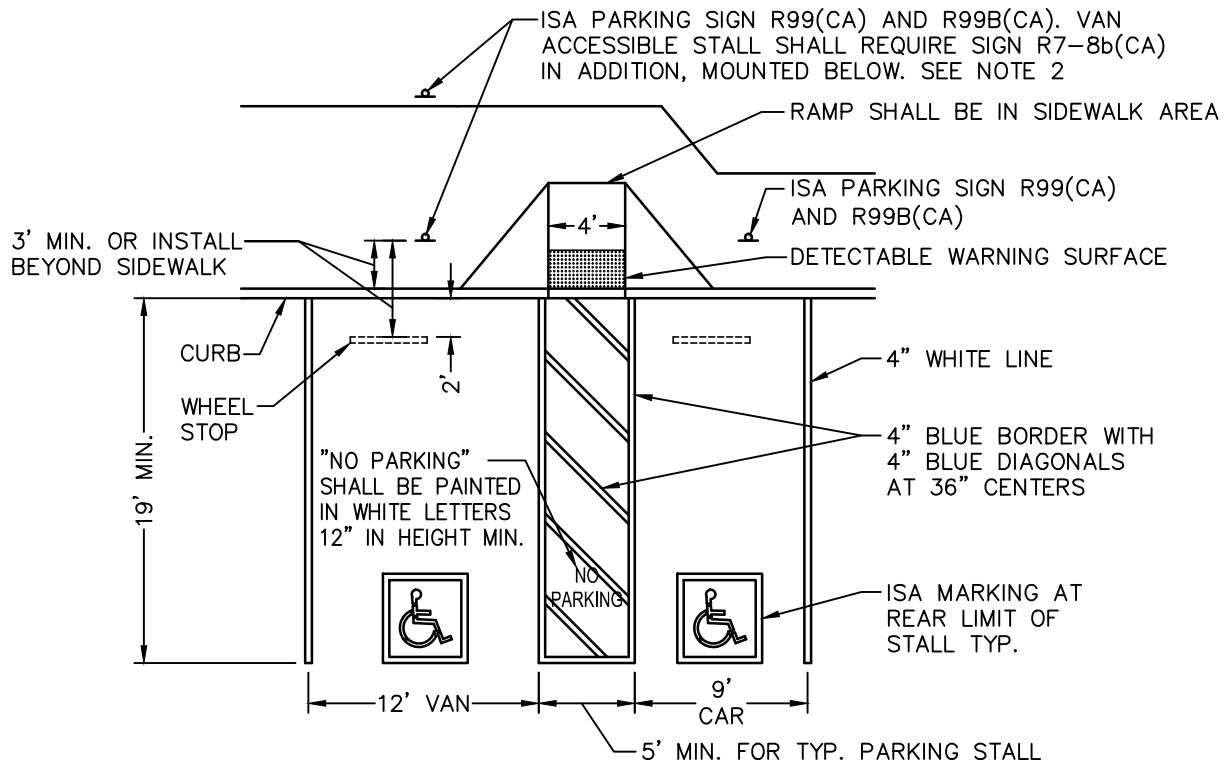
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

PARKING STANDARD
 DRACHMAN SYSTEM

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 08/11/16
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PK-2



TYPICAL CONFIGURATION

NOTE:

1. SEE PARKING STANDARDS AND PARKING STANDARDS DRACHMAN SYSTEM FOR REQUIRED LENGTH OF STALLS.
2. A R99C(CA) SIGN CAN BE USED IN PLACE OF THE R99(CA) AND R99B(CA) SIGNS.
3. A MAX SLOPE OF 1.5% IN ALL DIRECTIONS ON ACCESSIBLE PARKING STALLS AND AISLES.
4. ACCESSIBLE PARKING STALLS SHALL BE LOCATED AS CLOSE AS POSSIBLE, AND ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL, TO THE PEDESTRIAN ENTRANCE OF THE SITE.
5. ACCESSIBLE PARKING STALLS SHALL BE SO LOCATED THAT USERS ARE NOT COMPELLED TO WHEEL OR WALK BEHIND PARKED CARS OTHER THAN THEIR OWN.
6. ONE IN EVERY SIX ACCESSIBLE PARKING STALLS, BUT NOT LESS THAN ONE, SHALL BE VAN ACCESSIBLE. VAN ACCESSIBLE PARKING STALLS SHALL HAVE AN ACCESS AISLE 5' MINIMUM IN WIDTH, PLACED ON THE SIDE OPPOSITE OF THE DRIVER'S SIDE OF THE VEHICLE.
7. RAMPS SHALL NOT ENCROACH INTO ANY ACCESSIBLE PARKING STALL OR ACCESS AISLE.
8. WHERE R99(CA) AND R99B(CA) SIGNS ARE INSTALLED ON SIDEWALKS OR OTHER PATHS OF TRAVEL, THE BOTTOM OF SIGN PANEL SHALL BE A MINIMUM OF 7' ABOVE THE SURFACE OF THE SIDEWALK OR PATH. WHERE R99(CA) AND R99B(CA) SIGNS ARE NOT INSTALLED ON SIDEWALKS OR PATHS OF TRAVEL, THE BOTTOM OF THE SIGN PANEL SHALL BE AT LEAST 5' ABOVE THE SURFACE OF THE PARKING LOT.
9. WHERE THERE IS A CLUSTER OF ACCESSIBLE PARKING STALLS, THE VAN ACCESSIBLE PARKING STALL SHALL BE FURTHEST FROM THE ACCESSIBLE FACILITY ENTRANCE, WITHIN SUCH CLUSTER OF ACCESSIBLE PARKING STALLS.

APPROVED BY:

Robert M. ...
CITY ENGINEER

09/16/16
DATE

R.P.E. 81734

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

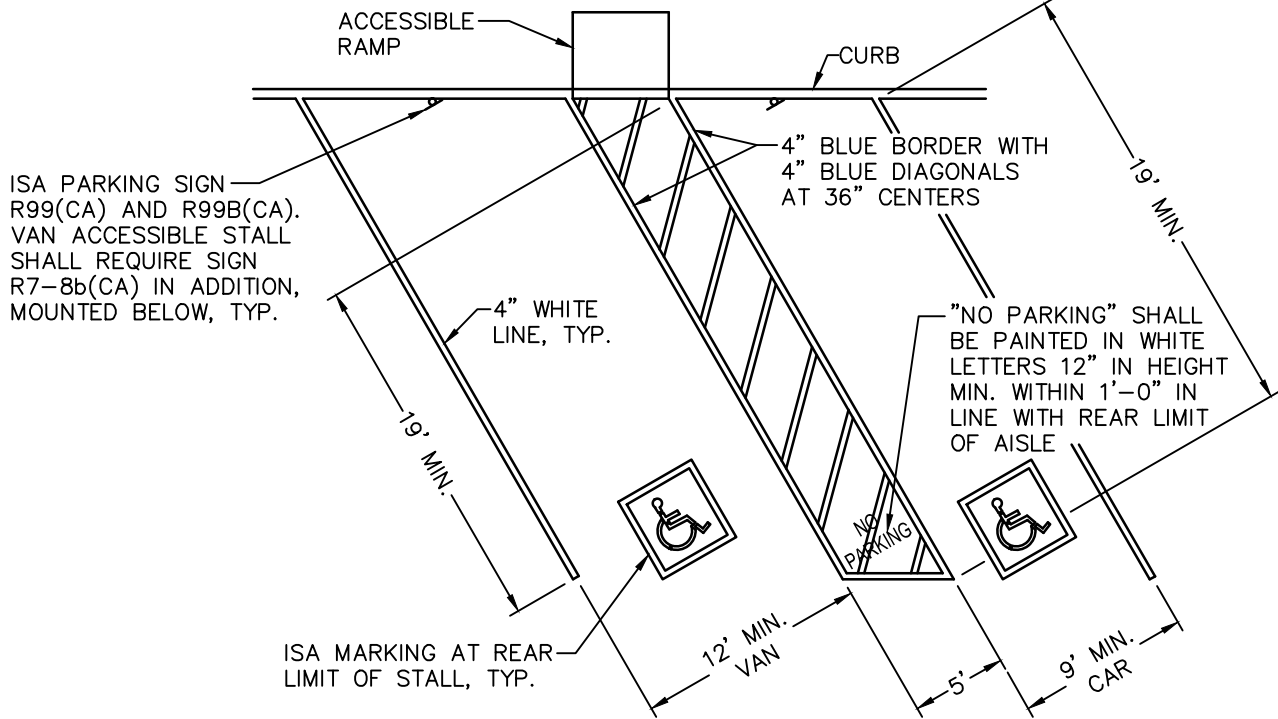
ACCESSIBLE PARKING 1 OF 3

REVISIONS

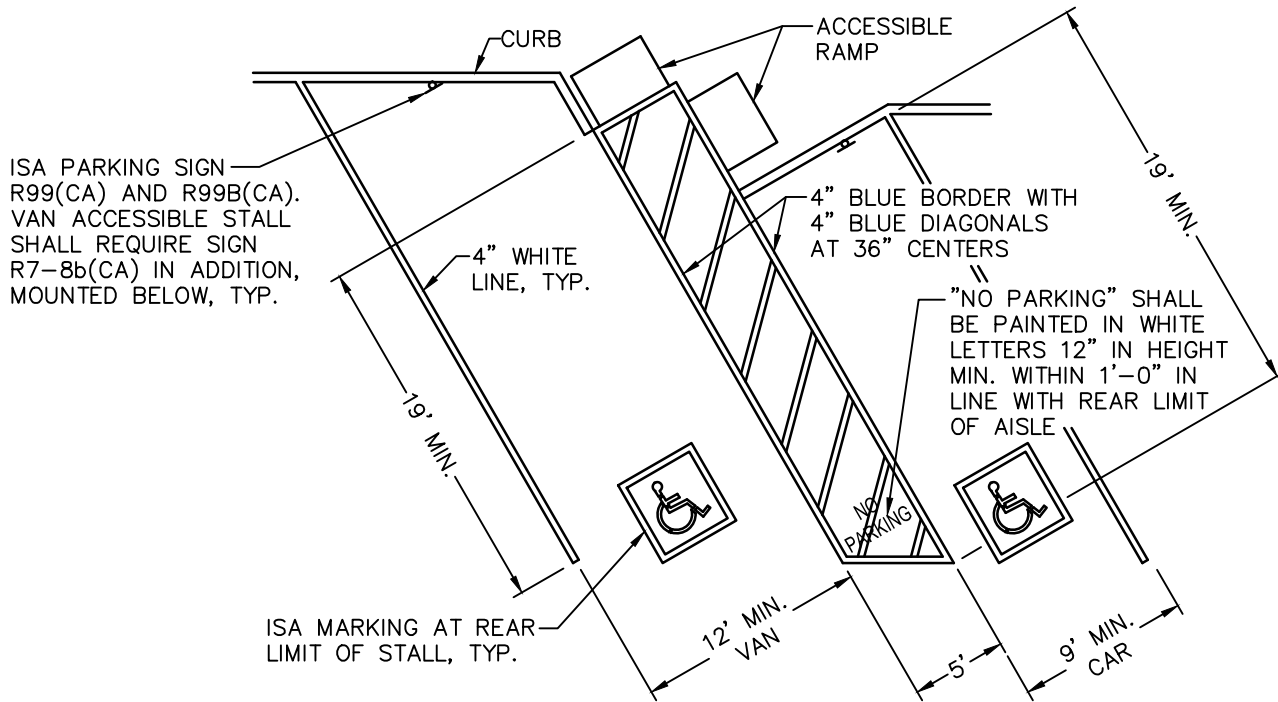
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TYPICAL CONFIGURATION



TYPICAL CONFIGURATION

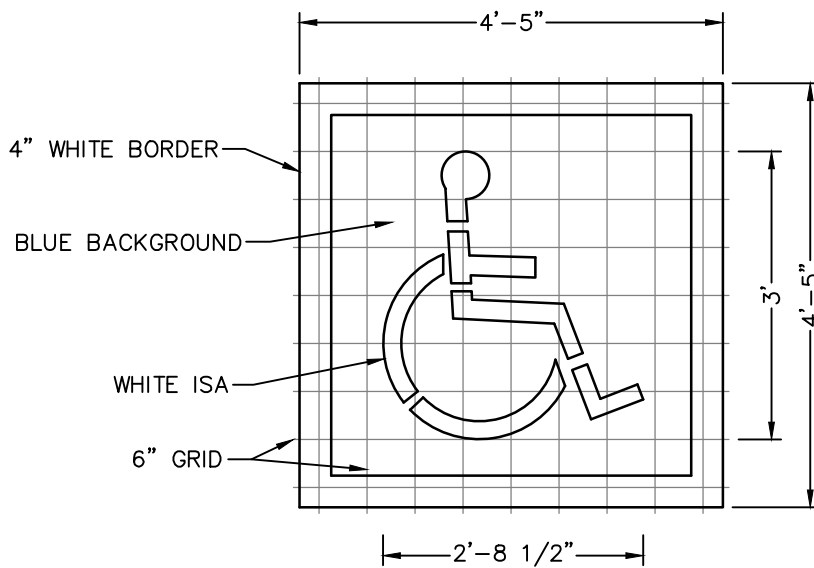
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

ACCESSIBLE PARKING 2 OF 3

REVISIONS
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ISA MARKING FOR ACCESSIBLE
PARKING SPACE OR STALL

TOTAL NUMBER OF PARKING SPACES OR STALLS	MINIMUM NUMBER OF DISABLED ACCESSIBLE PARKING SPACES OR STALLS
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2 PERCENT OF TOTAL
GREATER THAN 1001	20 PLUS 1 FOR EACH 100 OR FRACTION THEREOF OVER 1000

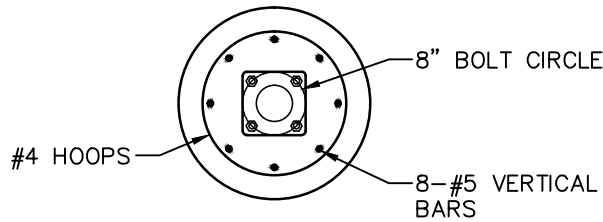
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CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

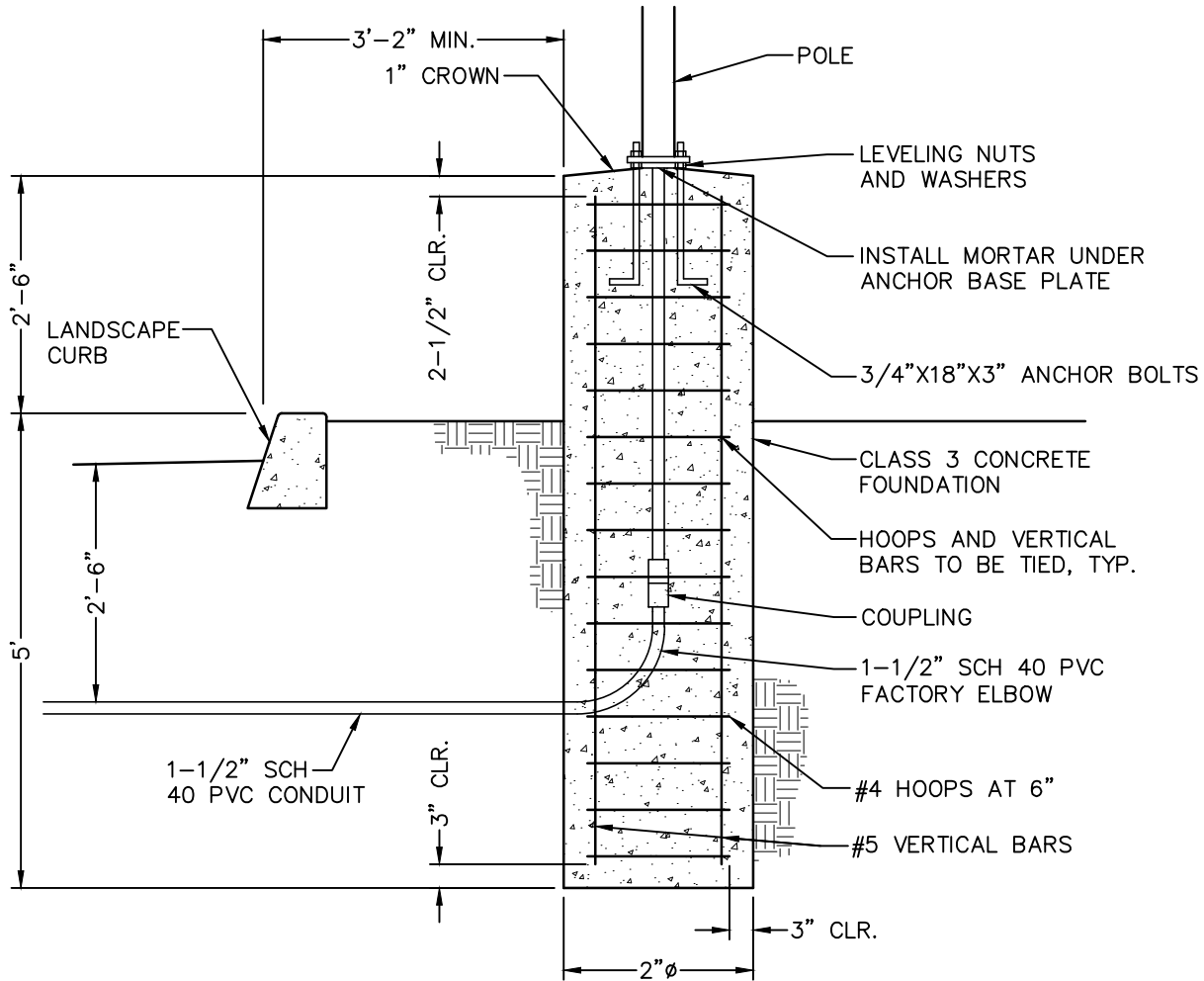
ACCESSIBLE PARKING 3 OF 3

REVISIONS
08/12/16
BK 2016

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PLAN



NOTES:

1. POLES SHALL BE 25'-0" ROUND STRAIGHT STEEL, LITHONIA RSS 25 4B OR APPROVED EQUAL.
2. LIGHTING SHALL BE LITHONIA KAD R5S 400W HIGH PRESSURE SODIUM OR APPROVED EQUAL MOUNTED WITH A 4" MAST ARM.
3. ALL POLES, MAST ARMS AND LIGHTING SHALL BE MEDIUM BRONZE IN COLOR.

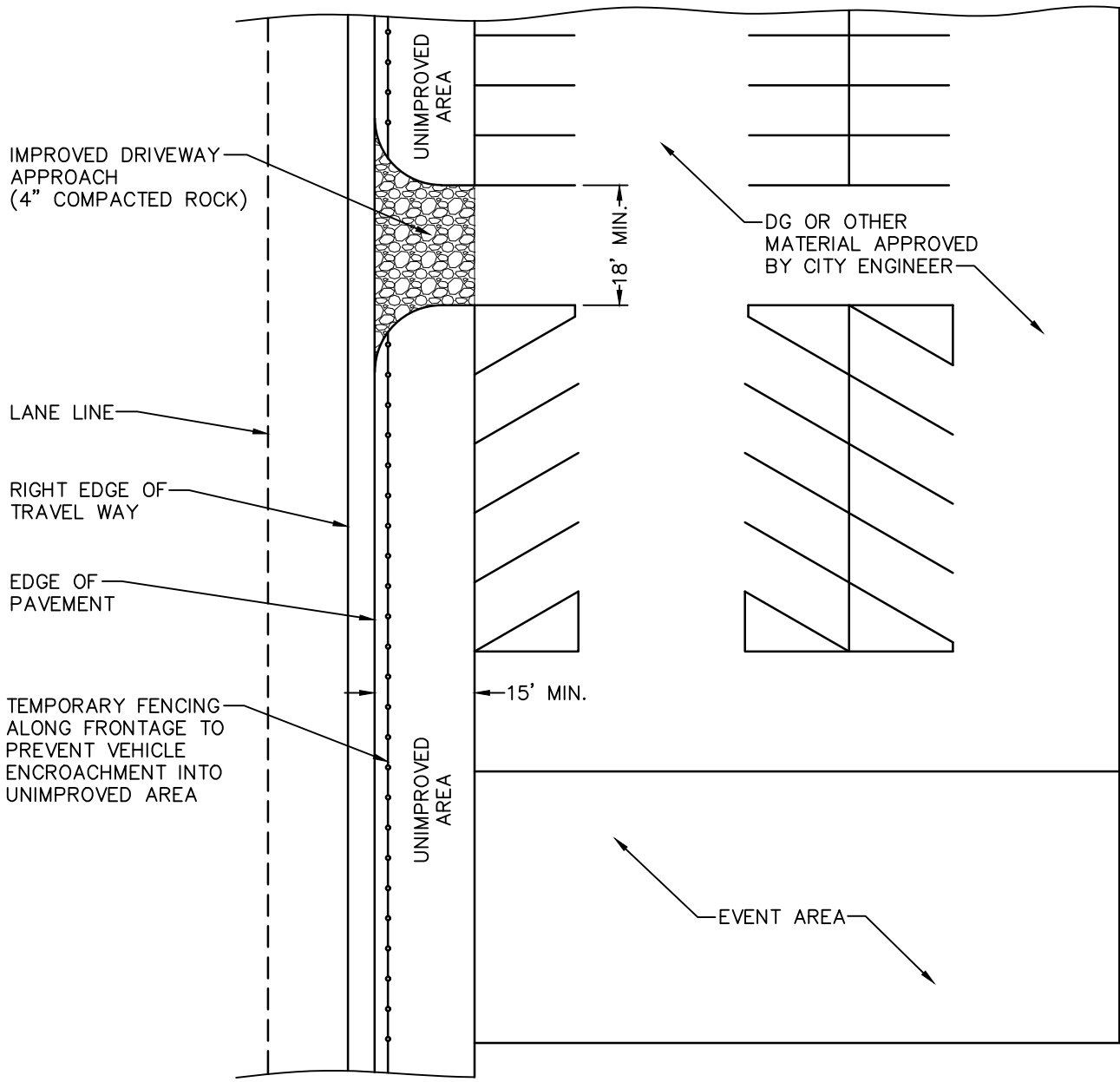
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

CITY PARKING LOT LIGHTING

REVISIONS
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NOTES:

1. APPLICABLE TO TEMPORARY PARKING LOTS FOR TEMPORARY FUNCTIONS SUCH AS CARNIVALS, CHRISTMAS TREE LOTS, PUMPKIN PATCHES AND SIMILAR EVENTS WITH APPROVAL OF CITY ENGINEER.
2. TEMPORARY PARKING LOT REQUIRES A TEMPORARY CONDITIONAL USE PERMIT (TCUP). APPLICANT IS RESPONSIBLE FOR ALL TRACK-OUT DAILY. TEMPORARY PARKING SHALL BE LIMITED TO 3 MONTHS MAX.
3. SEE OTHER PARKING DETAILS FOR DIMENSIONS AND OTHER REQUIREMENTS.
4. NOT APPLICABLE FOR PERMANENT FACILITIES WITH TEMPORARY PARKING USE SUCH AS STORAGE FACILITIES, INDUSTRIAL PARKING LOTS, GARAGE SHOPS, ETC.
5. APPLICANT IS RESPONSIBLE FOR ON-SITE DRAINAGE.

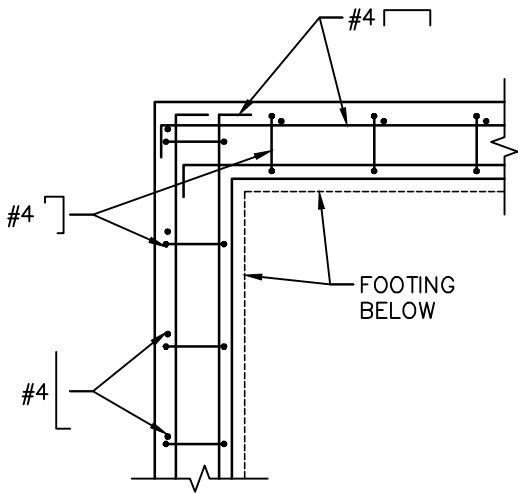
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

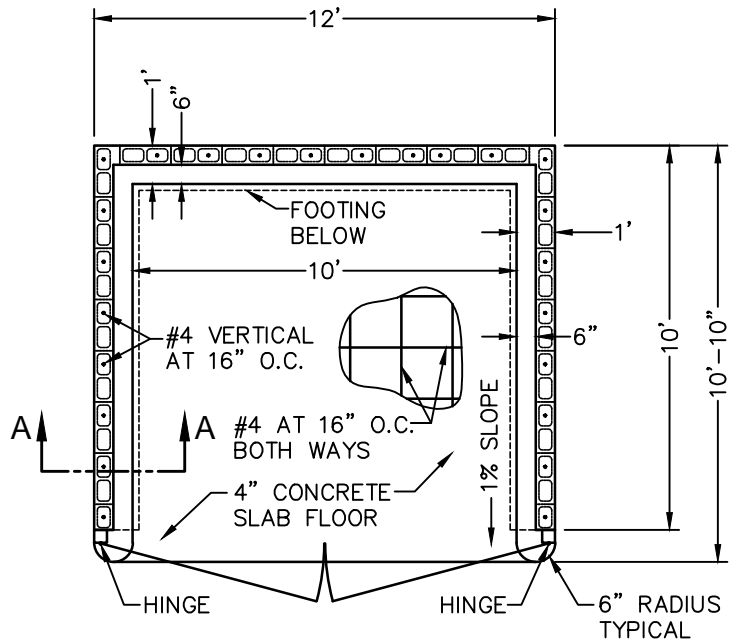
TEMPORARY PARKING LOT STANDARDS

REVISIONS
08/12/16
BK 2016

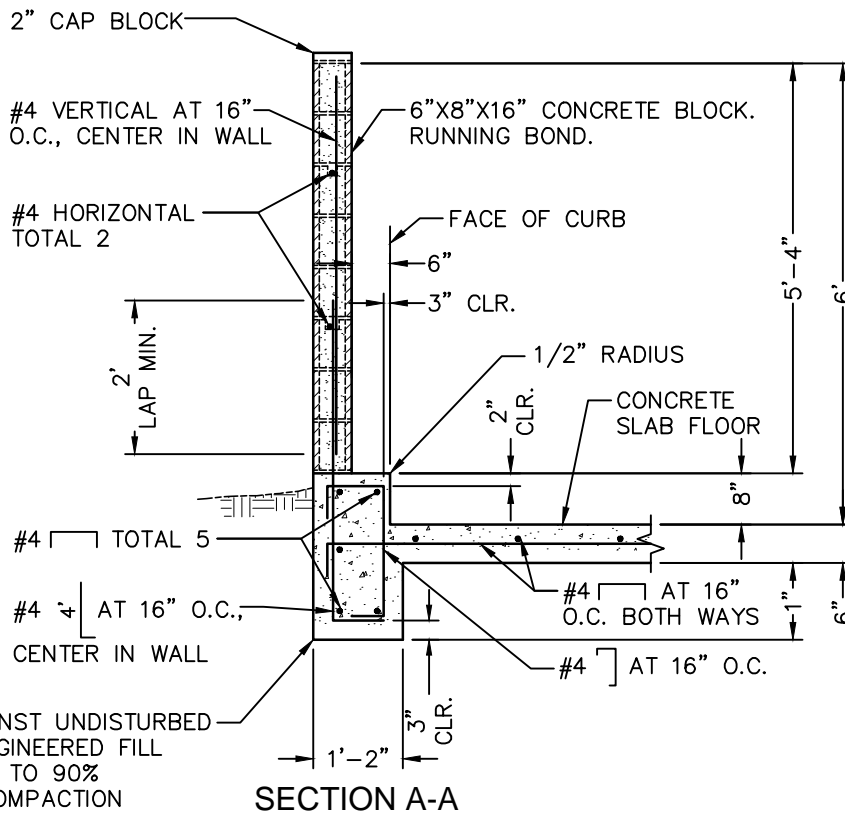
PK-7



CURB CORNER DETAIL
FOOTING CORNER DETAIL SIMILAR



PLAN



NOTE:
FOR ALL APPLICABLE NOTES, SEE REFUSE CONTAINER ENCLOSURE NOTES STANDARD DRAWING.

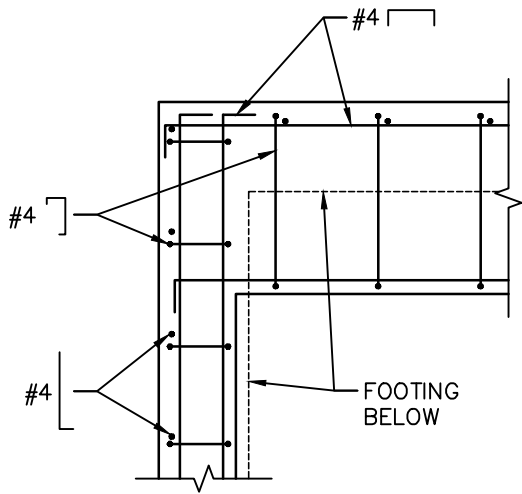
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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

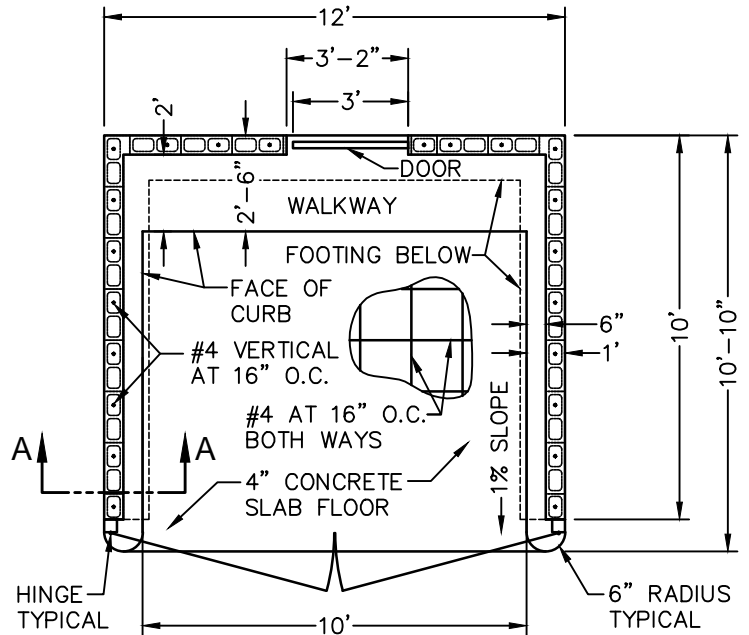
12' REFUSE CONTAINER ENCLOSURE

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08/15/16
BK 2016

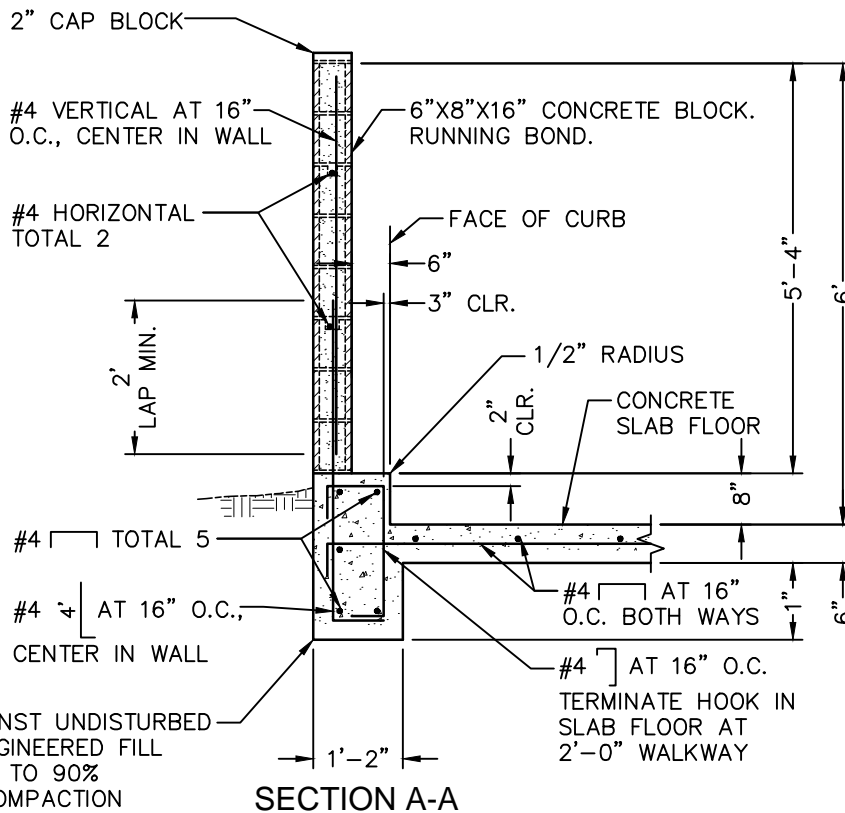
R-1



CURB CORNER DETAIL
FOOTING CORNER DETAIL SIMILAR



PLAN



SECTION A-A

NOTE:
FOR ALL APPLICABLE NOTES, SEE REFUSE CONTAINER ENCLOSURE NOTES STANDARD DRAWING.

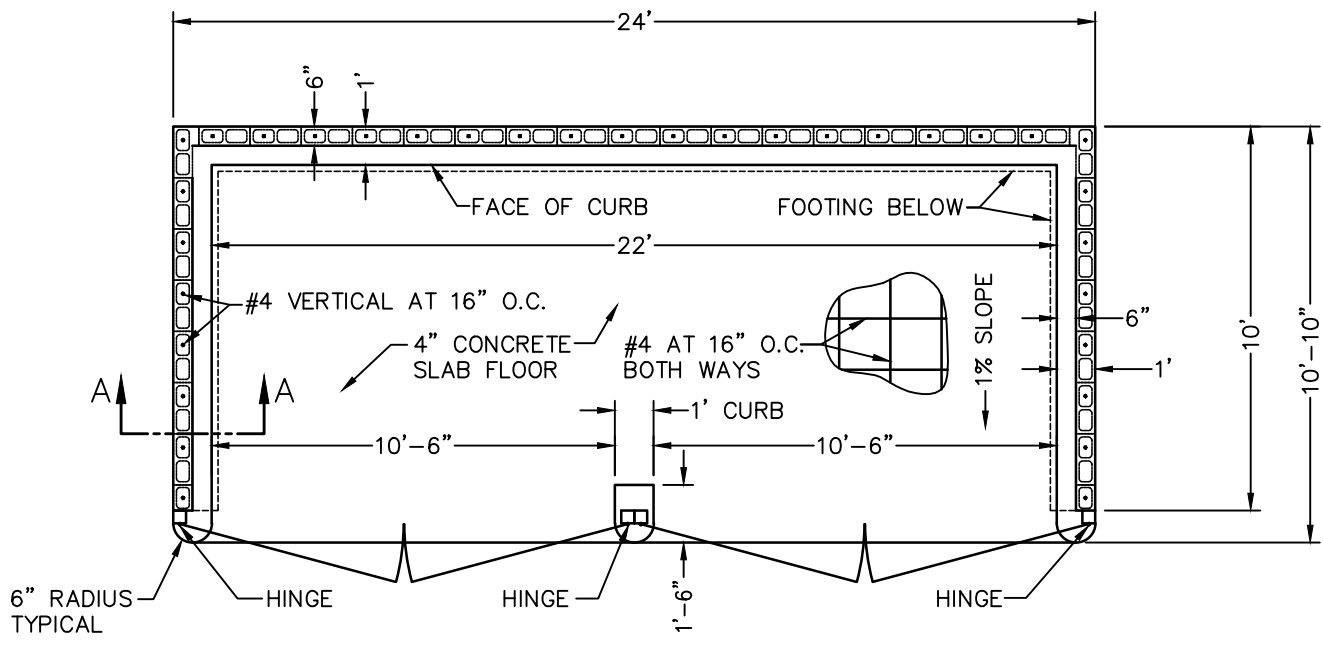
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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

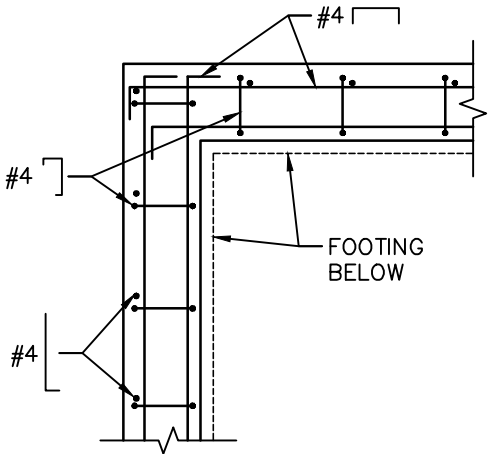
12' REFUSE CONTAINER
ENCLOSURE - WITH DOOR

REVISIONS
08/15/16
BK 2016

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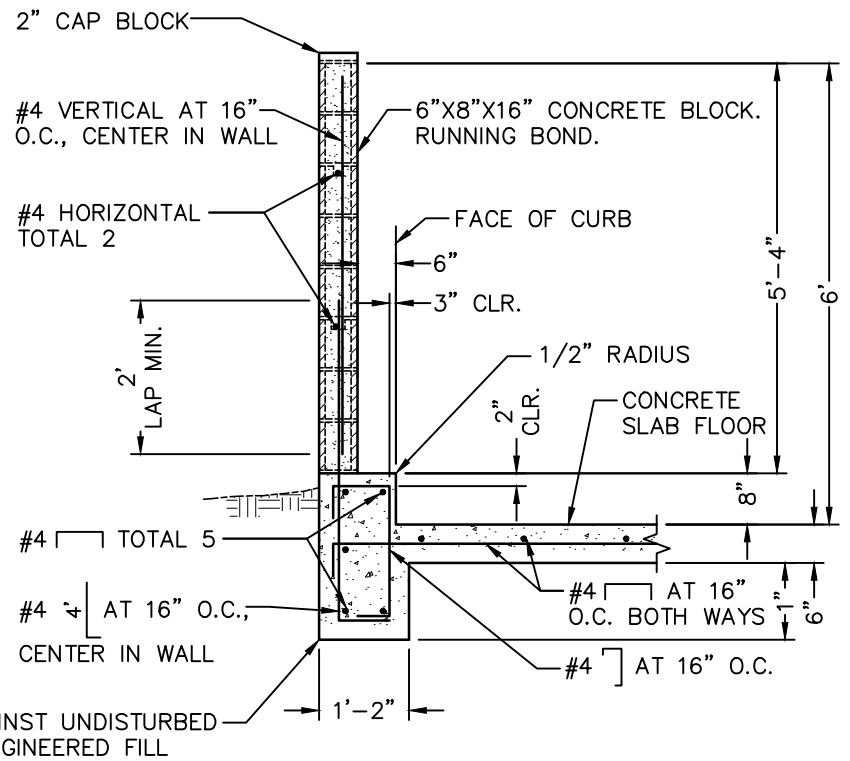


PLAN



CURB CORNER DETAIL
FOOTING CORNER DETAIL SIMILAR

NOTE:
FOR ALL APPLICABLE NOTES, SEE
REFUSE CONTAINER ENCLOSURE
NOTES STANDARD DRAWING.



SECTION A-A

PLACE AGAINST UNDISTURBED
SOIL OR ENGINEERED FILL
COMPACTED TO 90%
RELATIVE COMPACTION

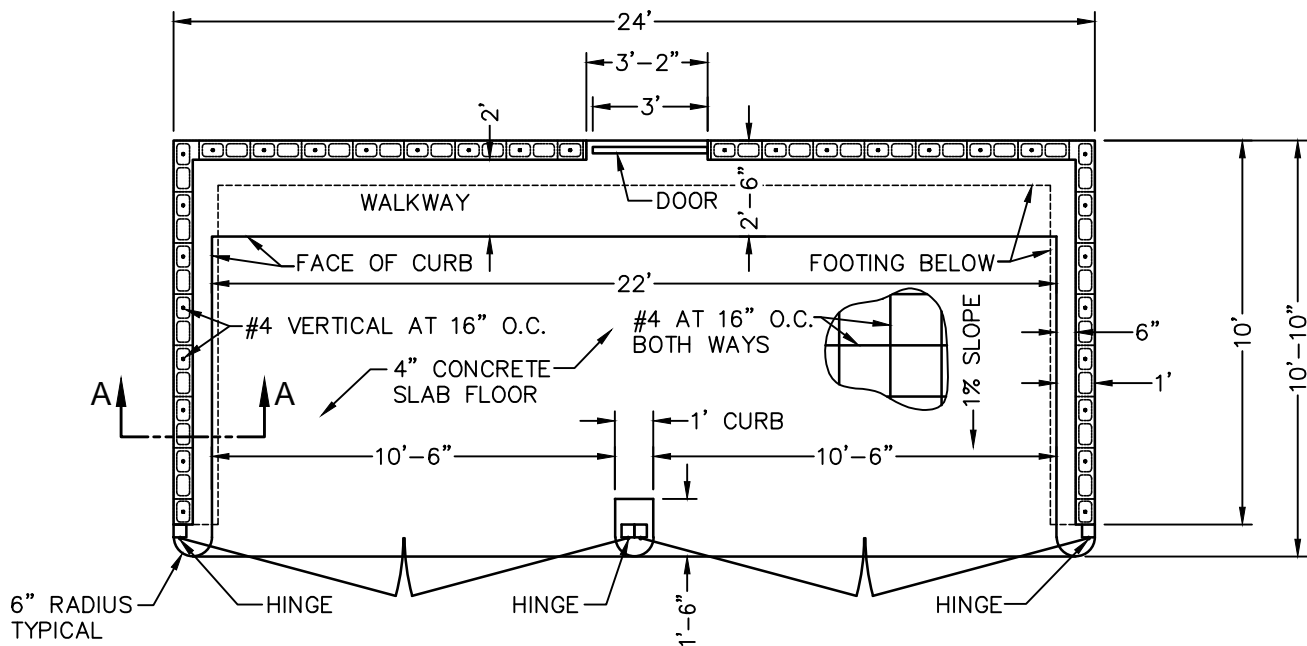
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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

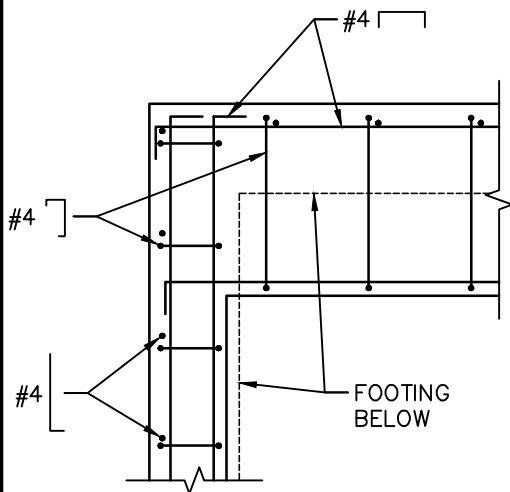
24' REFUSE CONTAINER ENCLOSURE

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PLAN

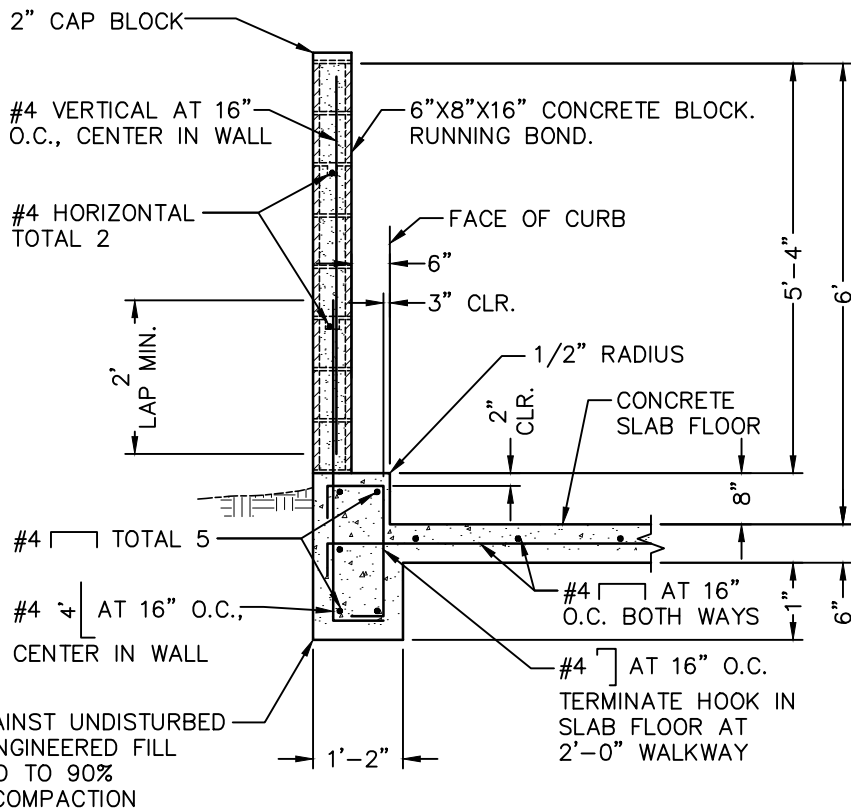


CURB CORNER DETAIL
FOOTING CORNER DETAIL SIMILAR

NOTE:

FOR ALL APPLICABLE NOTES, SEE REFUSE CONTAINER ENCLOSURE NOTES STANDARD DRAWING.

PLACE AGAINST UNDISTURBED SOIL OR ENGINEERED FILL COMPACTED TO 90% RELATIVE COMPACTION



SECTION A-A

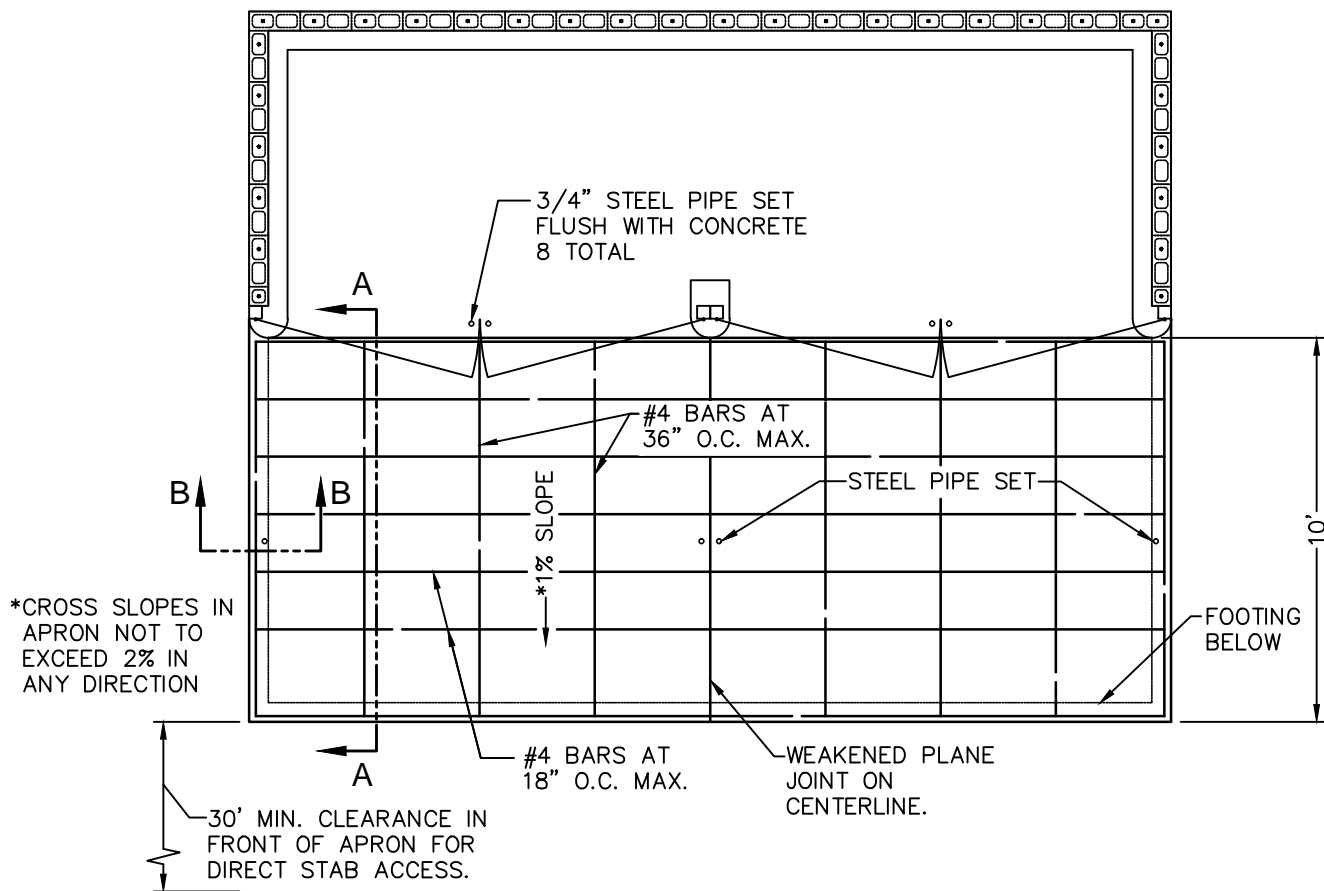
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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

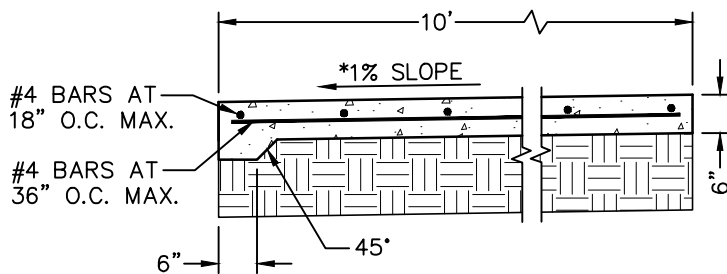
24' REFUSE CONTAINER
ENCLOSURE - WITH DOOR

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BK 2016

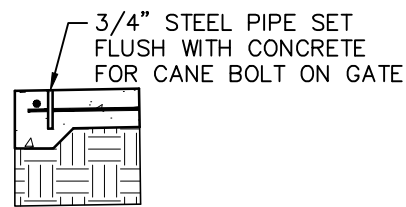
R-4



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
2. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 MINIMUM DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
3. REINFORCING BARS SHALL HAVE A MINIMUM OF 3" OF CLEAR COVERAGE FROM THE COMPACTED EARTH AND 2" FROM FINISH GRADE.
4. ALL REFUSE CONTAINER ENCLOSURES SHALL HAVE A CONCRETE APRON.
5. CONCRETE PAD SHALL BE PLACED ON MOIST AND COMPACTED BASE MATERIALS. 95% RELATIVE COMPACTION.
6. STEEL PIPE LOCATION IN CONCRETE PAD SHALL BE DETERMINED BY CANE BOLT LOCATION ON GATE. SEE REFUSE CONTAINER ENCLOSURE GATE DETAILS STANDARD DRAWING.

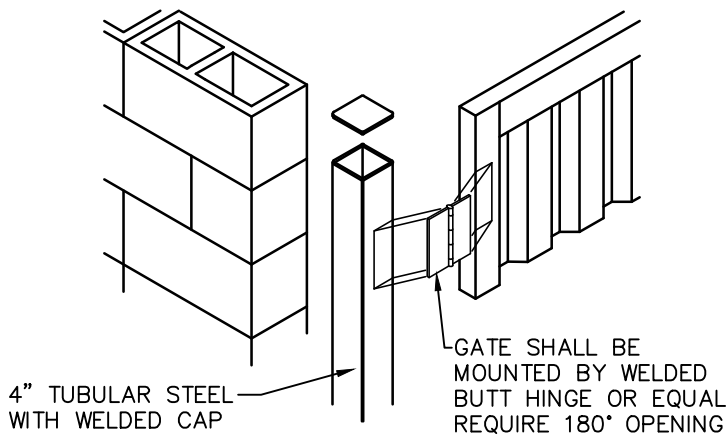
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 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

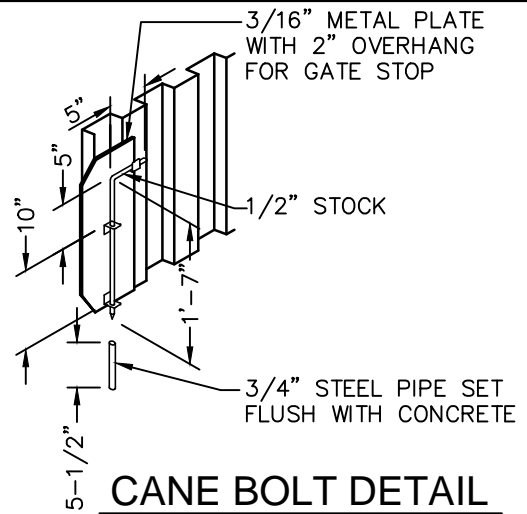
REFUSE CONTAINER ENCLOSURE
 CONCRETE APRON DETAILS

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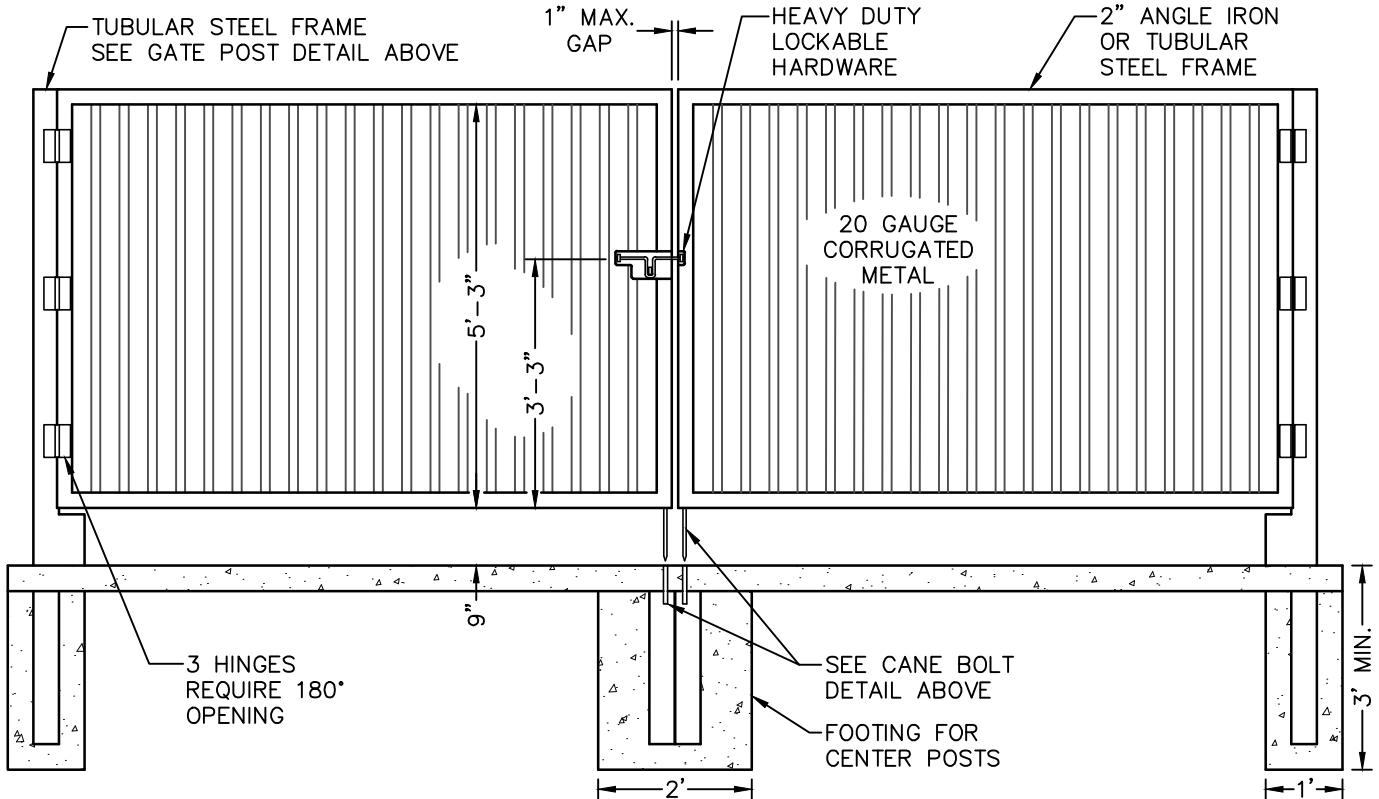
GATE POST DETAIL



CANE BOLT DETAIL

NOTES:

1. GATES TO BE PAINTED TO MATCH BUILDING ACCENT FEATURES.
2. DESIGN, ENGINEERING AND CONSTRUCTION NOT SPECIFICALLY NOTED SHALL BE IN ACCORDANCE WITH ACCEPTED INDUSTRY STANDARDS & OF FIRST QUALITY.
3. CONCRETE APRON SHALL INCLUDE TWO 3/4" STEEL PIPES SET FLUSH WITH THE CONCRETE FOR EACH GATE DOOR, BASED ON LOCATION OF CANE BOLTS ON GATE, TO SECURE THE GATE IN THE OPEN OR CLOSED POSITION. SEE REFUSE CONTAINER ENCLOSURE CONCRETE APRON DETAILS STANDARD DRAWING.
4. GATE POST SHALL ABUT REFUSE CONTAINER ENCLOSURE.
5. SUBMIT DETAILS OF REFUSE CONTAINER ENCLOSURES AND/OR REFUSE CONTAINERS REQUIRED TO BE ACCESSIBLE UNDER THE CURRENT CBC, OR MODIFY THIS DETAIL AS NECESSARY FOR REVIEW AND ACCEPTANCE FROM THE CITY ENGINEER.



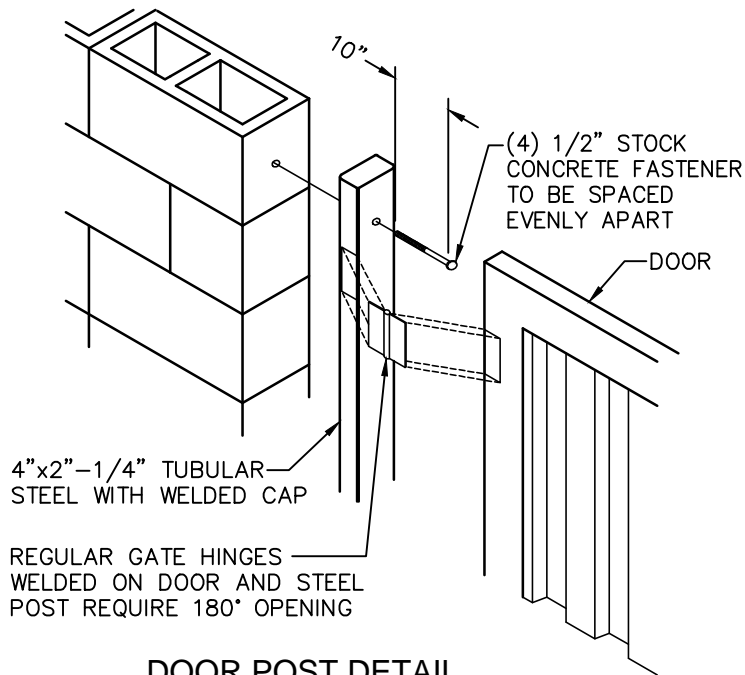
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

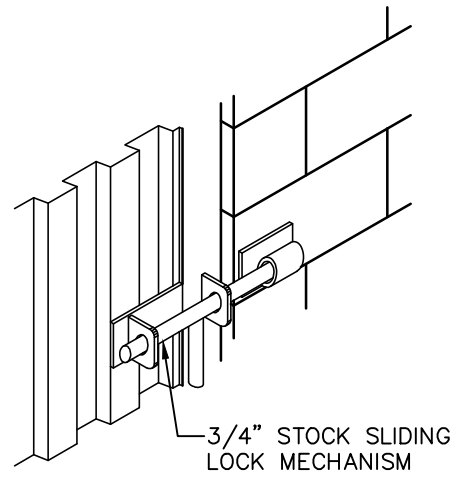
REFUSE CONTAINER ENCLOSURE
 GATE DETAILS

REVISIONS
 09/08/16
 BK 2016

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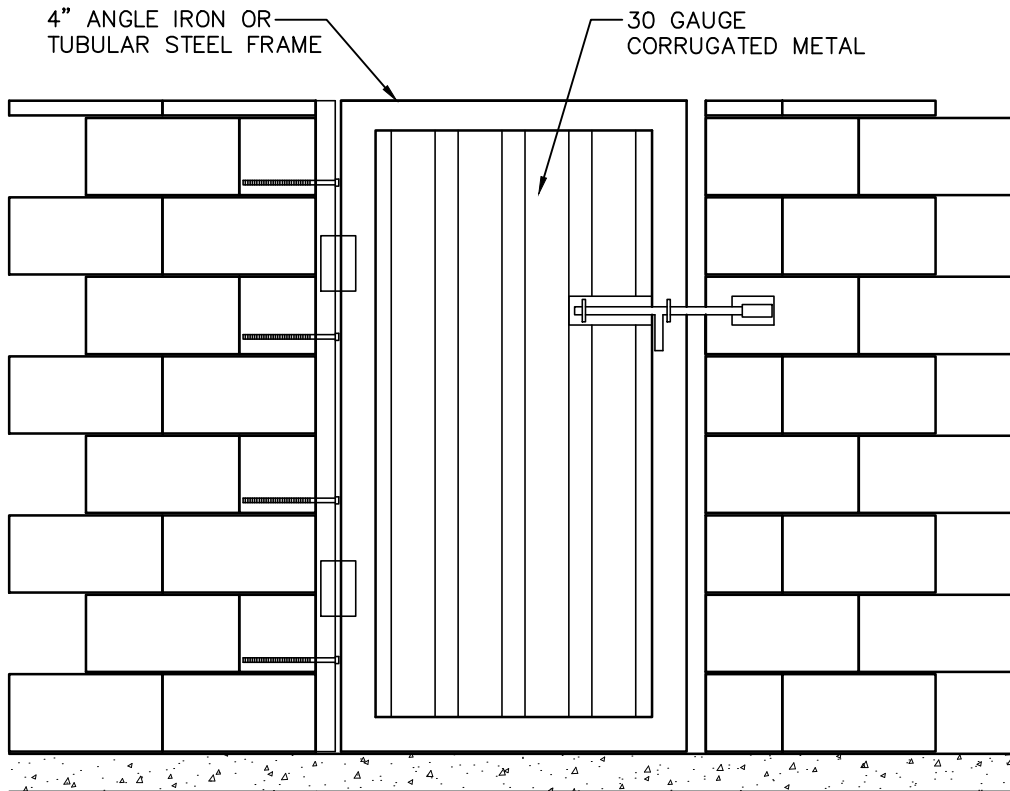
DOOR POST DETAIL



LOCKABLE HARDWARE DETAIL

NOTE:

1. SUBMIT DETAILS OF REFUSE CONTAINER ENCLOSURES AND/OR REFUSE CONTAINERS REQUIRED TO BE ACCESSIBLE UNDER THE CURRENT CBC, OR MODIFY THIS DETAIL AS NECESSARY FOR REVIEW AND ACCEPTANCE FROM THE CITY ENGINEER.



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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS


REFUSE CONTAINER ENCLOSURE
 DOOR DETAILS

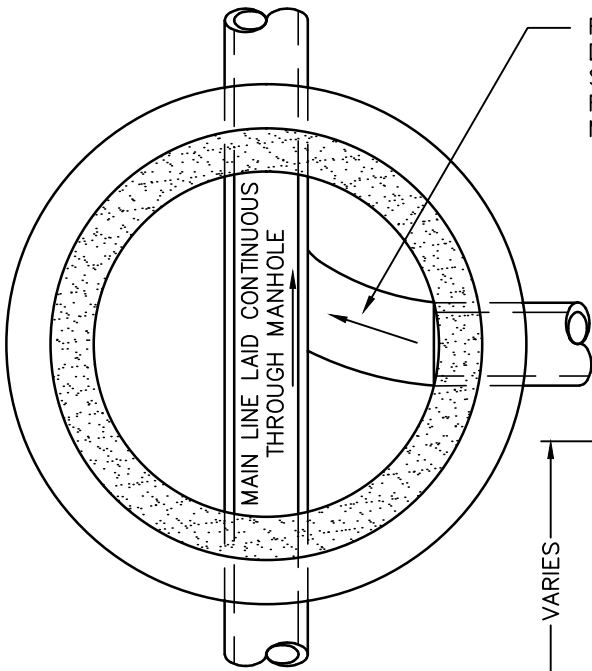
REVISIONS
 08/16/16
 BK 2016

R-7

NOTES:

1. MASONRY ENCLOSURE WALLS SHALL BE FULLY GROUTED.
2. ALL MASONRY SHALL COMPLY WITH CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
3. SLAB FLOOR AND FOOTING CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 P.S.I. MINIMUM.
4. MASONRY DESIGN IS BASED ON MINIMUM COMPRESSIVE STRENGTH OF $f'_m = 1500$ P.S.I.
5. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
6. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476 AND ATTAIN A 28-DAY STRENGTH OF 2000 P.S.I. ADMIXTURES FOR GROUT MUST BE APPROVED BY THE ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT.
7. GROUT STOP SHALL CONSIST OF METAL OR PLASTIC LATH APPROVED BY THE MANUFACTURER TO CREATE A BARRIER THAT STOPS THE FLOW OF GROUT WHEN FILLING BLOCK WALL CELLS.
8. REFUSE CONTAINER ENCLOSURE SHALL BE LOCATED A MINIMUM OF 5'-0" FROM ANY BUILDING WALL LINE. OTHERWISE ENCLOSURE MUST COMPLY WITH STRICTER REQUIREMENTS PER THE CALIFORNIA FIRE CODE.
9. ALL HORIZONTAL AND VERTICAL JOINTS SHALL HAVE A CONCAVE FINISH JOINT.
10. GROUND SHALL BE SLOPED AWAY FROM ENCLOSURE WALLS.
11. REFUSE CONTAINER ENCLOSURE SHALL HAVE SOLID FACE GATES.
12. LOCATION OF REFUSE CONTAINER ENCLOSURE SHALL BE APPROVED BY THE CITY OF VISALIA SOLID WASTE DIVISION.
13. ALL REFUSE CONTAINER ENCLOSURES SHALL HAVE A CONCRETE APRON PER REFUSE CONTAINER ENCLOSURE CONCRETE APRON DETAILS STANDARD DRAWING.
14. SUBMIT DETAILS OF REFUSE CONTAINER ENCLOSURES AND/OR REFUSE CONTAINERS REQUIRED TO BE ACCESSIBLE UNDER THE CURRENT CBC, OR MODIFY THIS DETAIL AS NECESSARY FOR REVIEW AND ACCEPTANCE FROM THE CITY ENGINEER.
15. WHERE REQUIRED, PROVIDE ACCESSIBLE TRASH CONTAINERS MEETING THE ACCESSIBILITY REQUIREMENTS UNDER THE CURRENT CBC. COORDINATE WITH SOLID WASTE DIVISION FOR SERVICEABILITY.
16. CONTRACTOR SUBMITTALS SHALL CONFORM TO ARTICLE 1.5 OF TMS 602/ACI 530.1/ASCE 6.
17. QUALITY ASSURANCE SHALL CONFORM TO LEVEL 'B' QUALITY ASSURANCE PER ARTICLE 1.6 OF TMS 602/ACI 530.1/ASCE 6. PERIODIC SPECIAL INSPECTION REQUIRED. CONTRACTOR SHALL CONTACT THE CITY FOR INSPECTIONS.
18. INTERLOCKING BLOCKS ARE AN ACCEPTABLE ALTERNATIVE.

APPROVED BY:  CITY ENGINEER R.P.E. 81734	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
09/16/16 DATE		
REFUSE CONTAINER ENCLOSURE NOTES	REVISIONS 09/08/16 BK 2016	R-8



SECTION A-A

FORM TROUGH IN BOTTOM OF MANHOLE IN DIRECTION OF FLOW. TROUGH SHALL BE STEEL TROWELED SMOOTH. SEE TYPICAL FLOW CHANNELS FOR SANITARY SEWER MANHOLES STANDARD DRAWING.

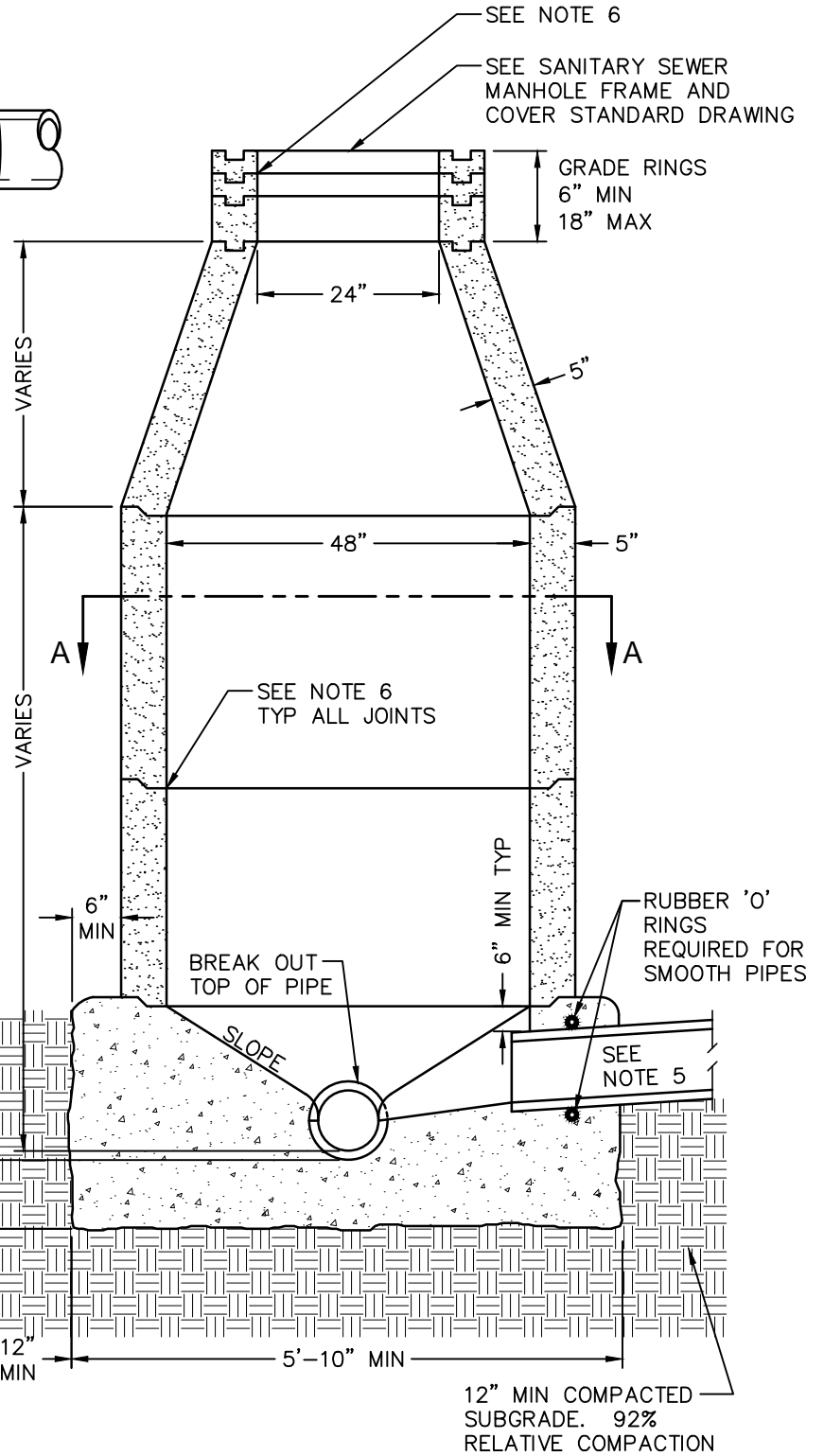
SEE NOTE 6

SEE SANITARY SEWER MANHOLE FRAME AND COVER STANDARD DRAWING

GRADE RINGS
6" MIN
18" MAX

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. 48" MANHOLES ARE REQUIRED FOR SEWER PIPE SIZES FROM 8" TO 24" OR AS REQUIRED BY THE CITY ENGINEER.
6. MORTAR INSIDE OF GRADE RINGS AND ALL INTERIOR JOINTS TO A SMOOTH FINISH.
7. A MAXIMUM OF 2 SEWER LATERAL CONNECTIONS WILL BE ALLOWED AT EACH SEWER MANHOLE, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.



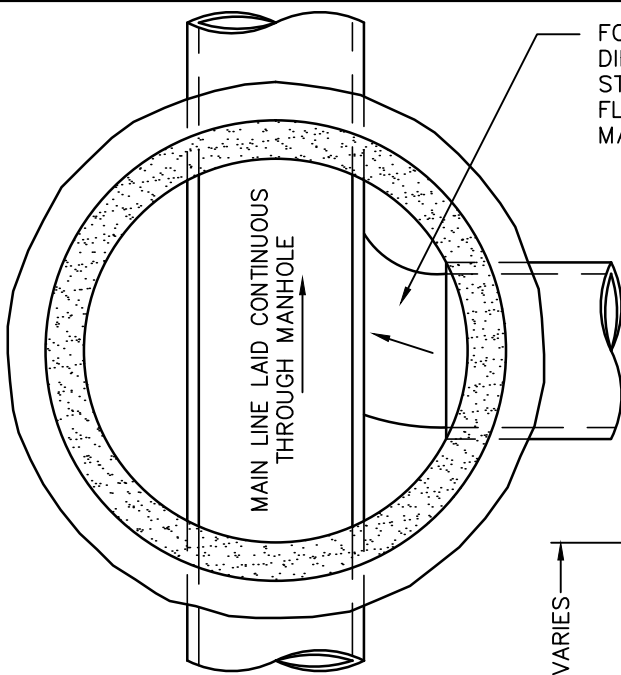
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CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

48" SANITARY SEWER MANHOLE

REVISIONS
09/27/13
BK 2016

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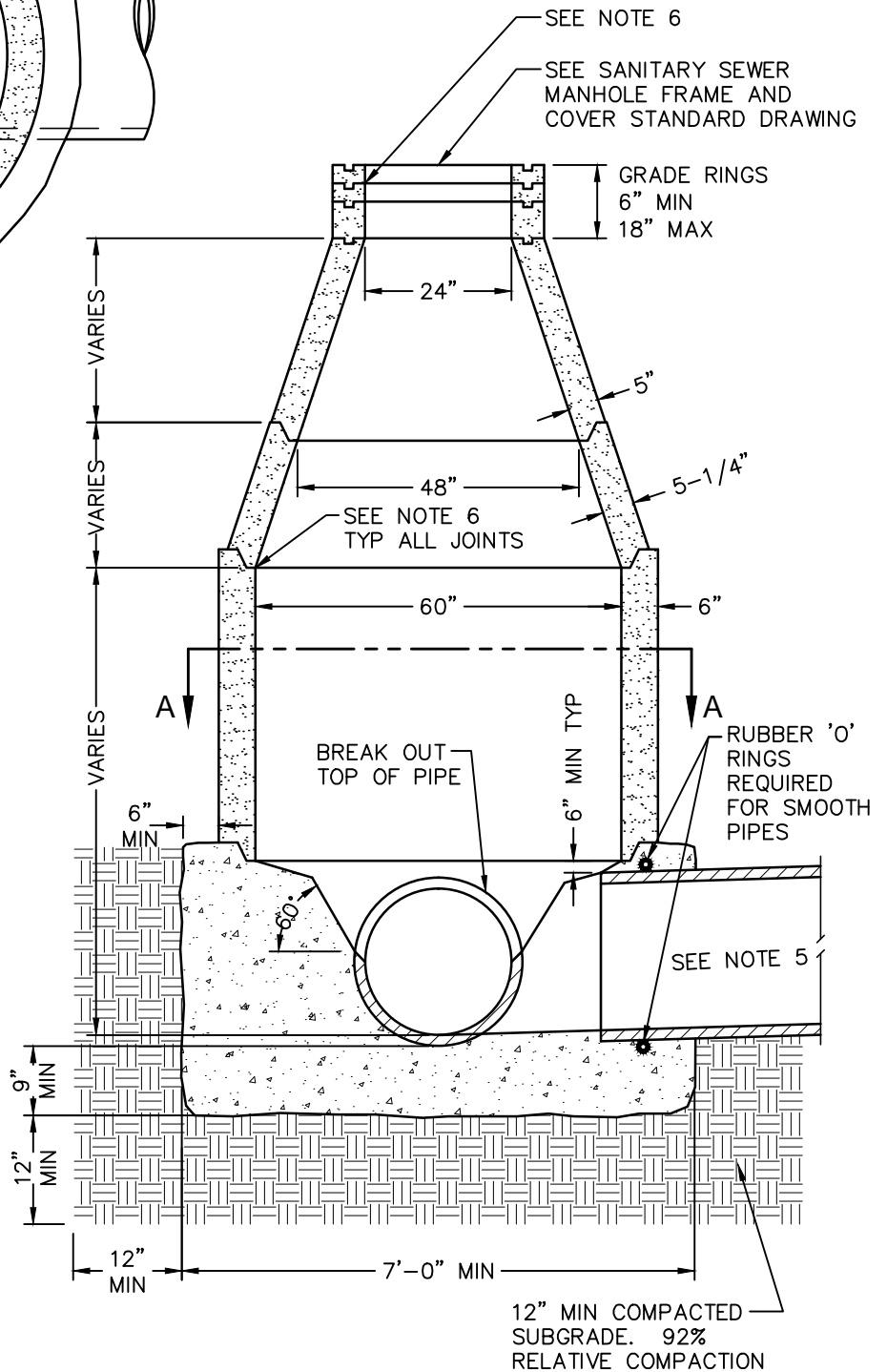


SECTION A-A

FORM TROUGH IN BOTTOM OF MANHOLE IN DIRECTION OF FLOW. TROUGH SHALL BE STEEL TROWELED SMOOTH. SEE TYPICAL FLOW CHANNELS FOR SANITARY SEWER MANHOLES STANDARD DRAWING.

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. 60" MANHOLES ARE REQUIRED FOR SEWER PIPE SIZES FROM 27" TO 36" OR AS REQUIRED BY THE CITY ENGINEER.
6. MORTAR INSIDE OF GRADE RINGS AND ALL INTERIOR JOINTS TO A SMOOTH FINISH.
7. A MAXIMUM OF 2 SEWER LATERAL CONNECTIONS WILL BE ALLOWED AT EACH SEWER MANHOLE, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.



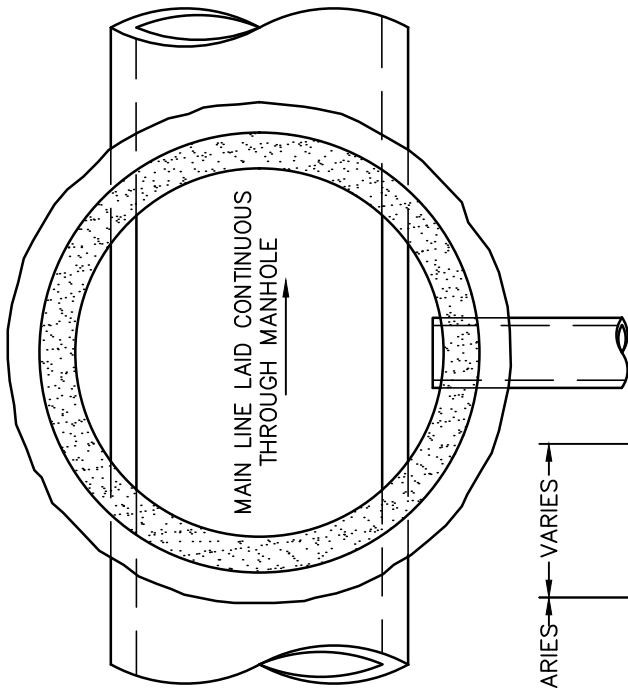
APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

60" SANITARY SEWER MANHOLE

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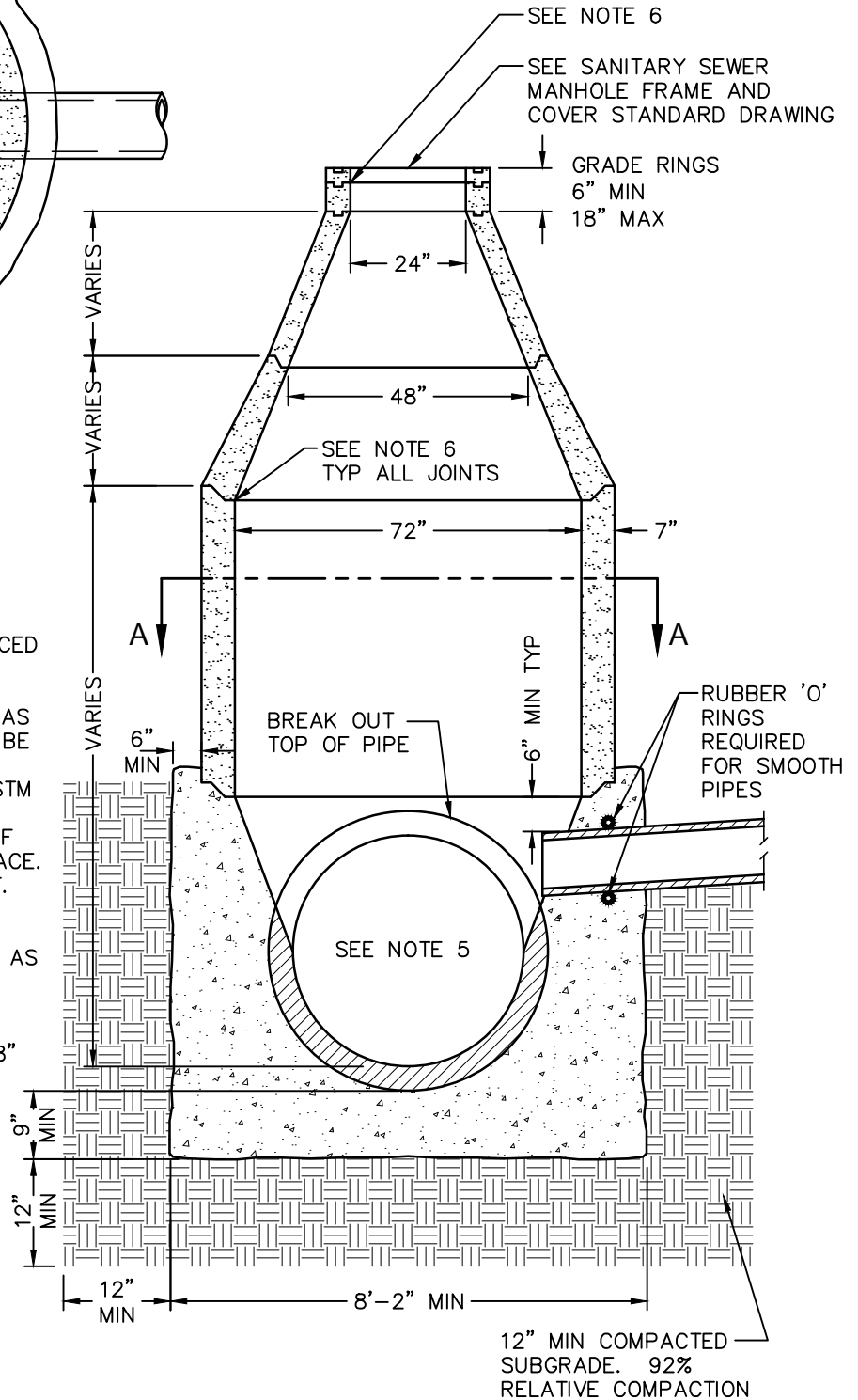
S-2



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. 72" MANHOLES ARE REQUIRED FOR SEWER PIPE SIZES FROM 39" TO 48" OR AS REQUIRED BY THE CITY ENGINEER.
6. MORTAR INSIDE OF GRADE RINGS AND ALL INTERIOR JOINTS TO A SMOOTH FINISH.
7. A MAXIMUM OF 2 SEWER LATERAL CONNECTIONS WILL BE ALLOWED AT EACH SEWER MANHOLE, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.



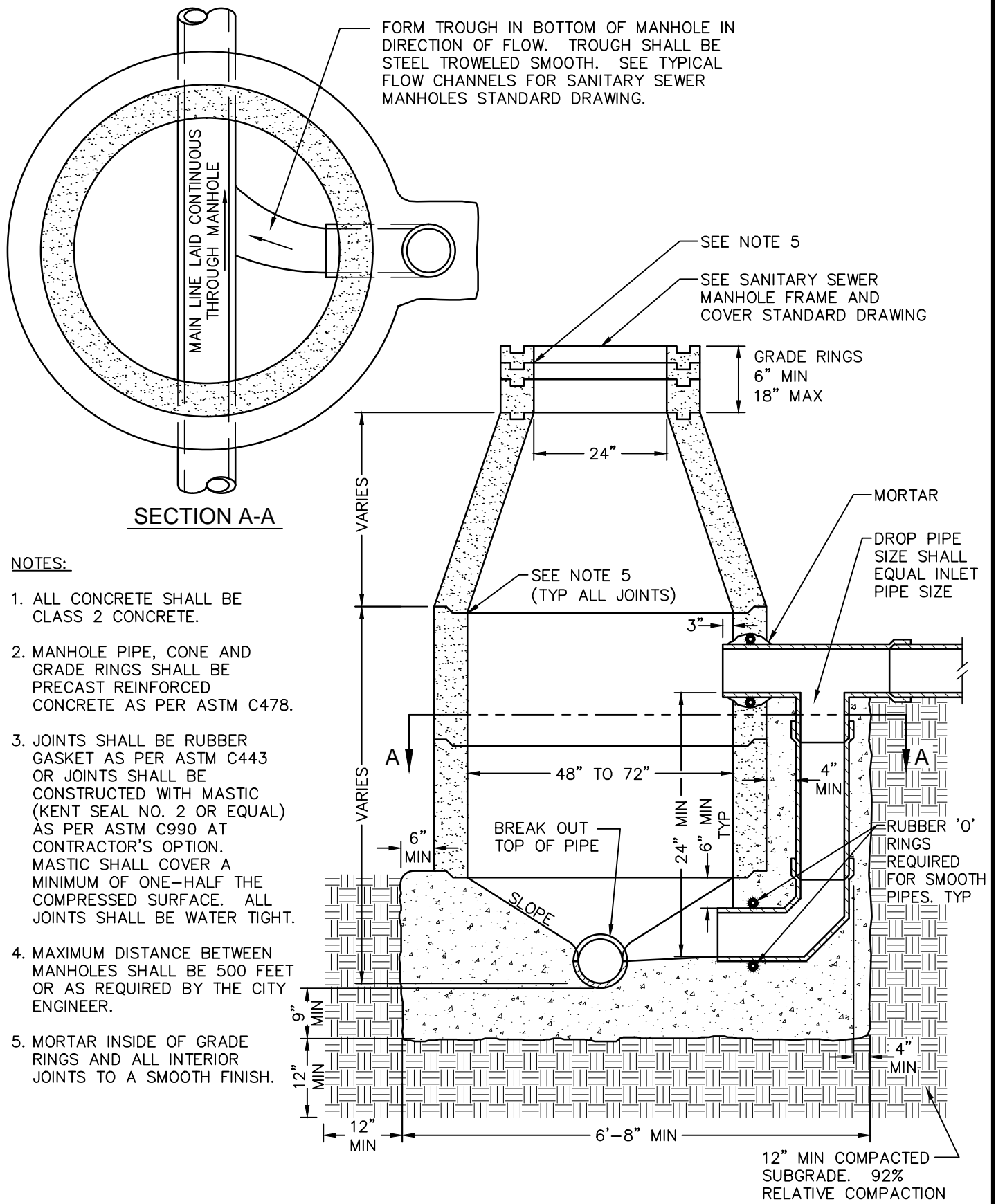
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 CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

72" SANITARY SEWER MANHOLE

REVISIONS
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NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. MORTAR INSIDE OF GRADE RINGS AND ALL INTERIOR JOINTS TO A SMOOTH FINISH.

APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

SANITARY SEWER DROP MANHOLE

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APPROVED BY: _____

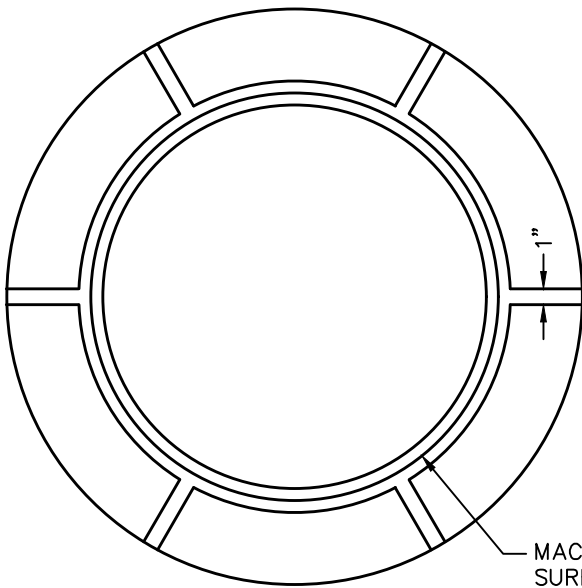
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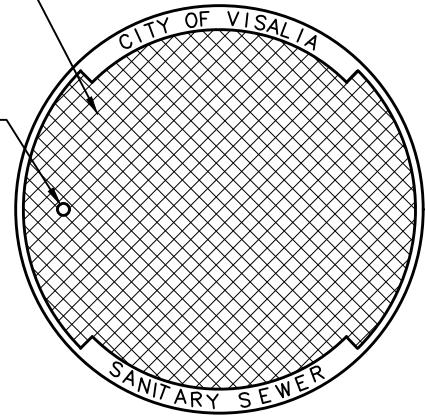
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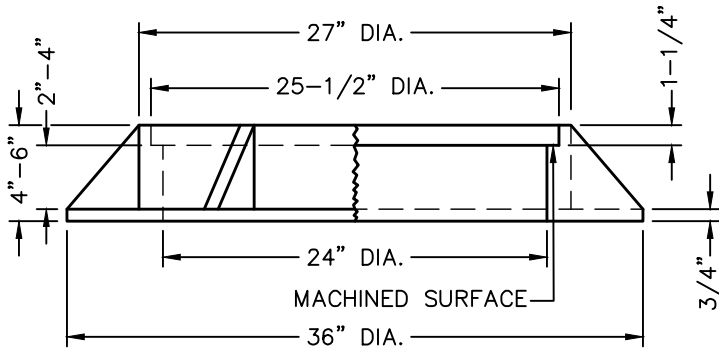


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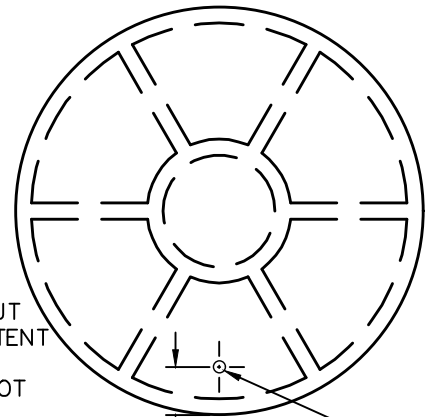
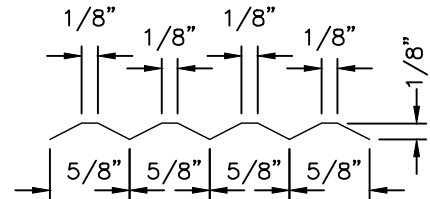
3/4" PICK HOLE



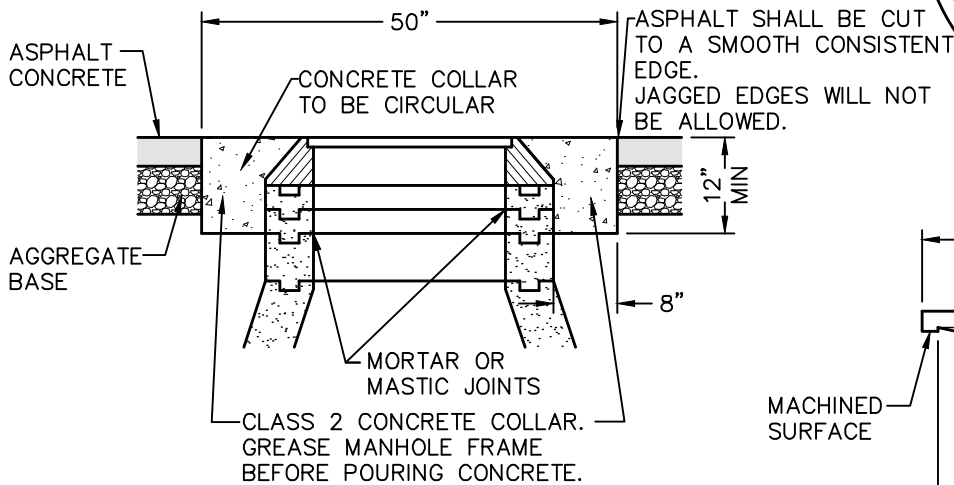
MACHINED SURFACE



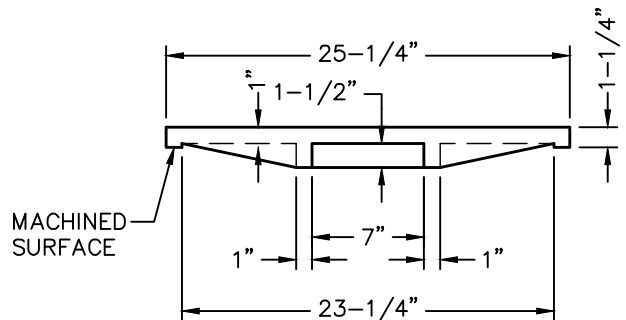
MANHOLE FRAME



3/4" PICK HOLE



MANHOLE ADJUSTMENT



MANHOLE COVER

NOTE: FRAME, COVER AND CONCRETE COLLAR SHALL MATCH CROSS SLOPE.
CURE CONCRETE A MINIMUM OF 48 HOURS PRIOR TO TRAFFIC USE.

APPROVED BY: *Chris Carr* 02/05/25
CITY ENGINEER R.C.E. 71192 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SANITARY SEWER
MANHOLE FRAME AND COVER

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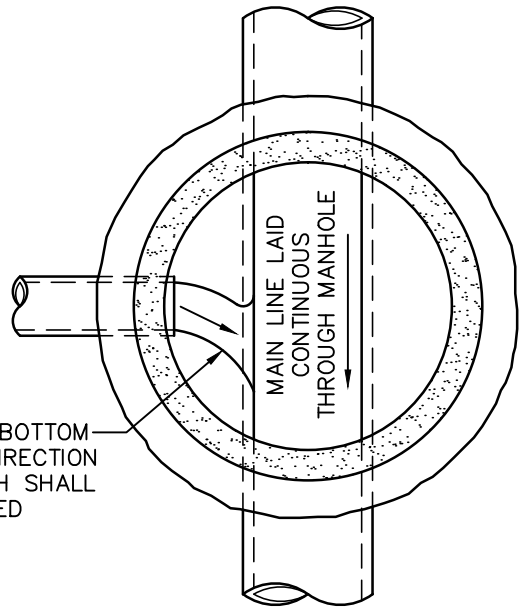
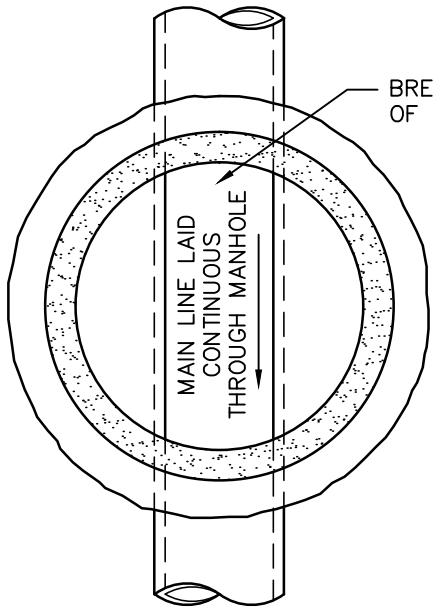
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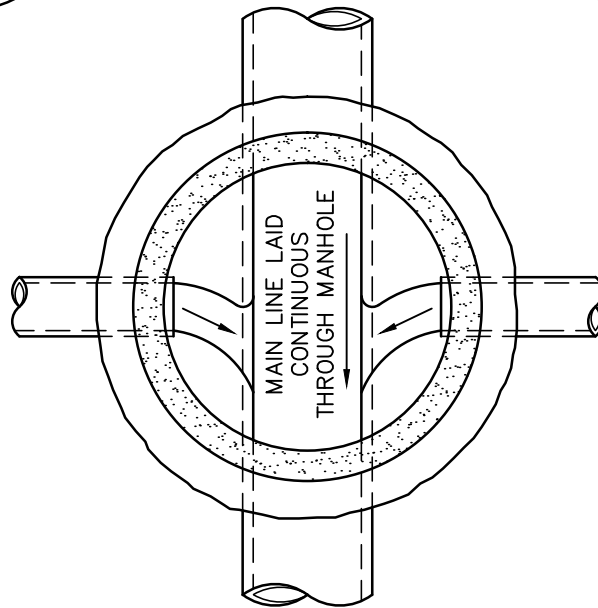
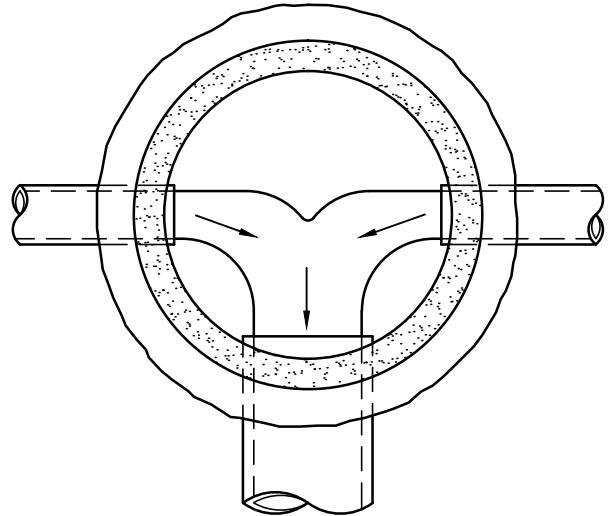
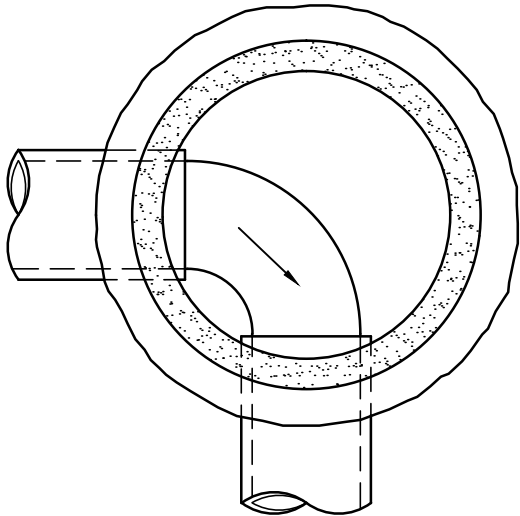
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FORM TROUGH IN BOTTOM OF MANHOLE IN DIRECTION OF FLOW. TROUGH SHALL BE STEEL TROWELED SMOOTH. TYP.



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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

TYPICAL FLOW CHANNELS FOR
 SANITARY SEWER MANHOLES

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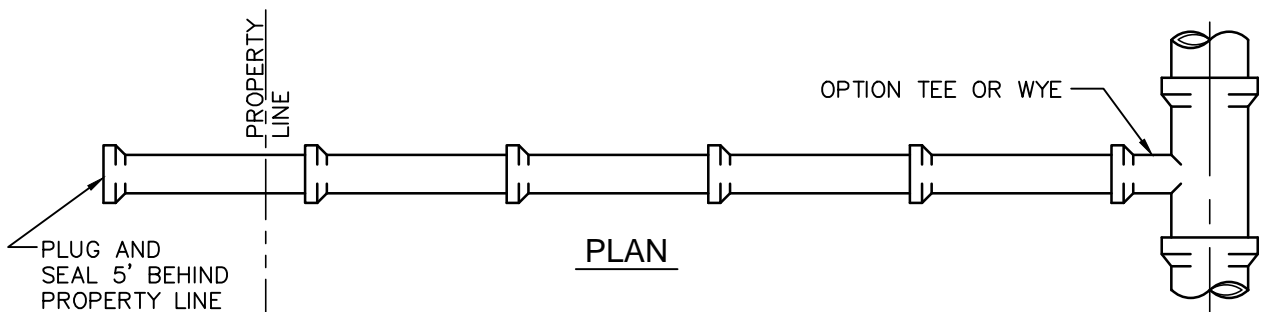
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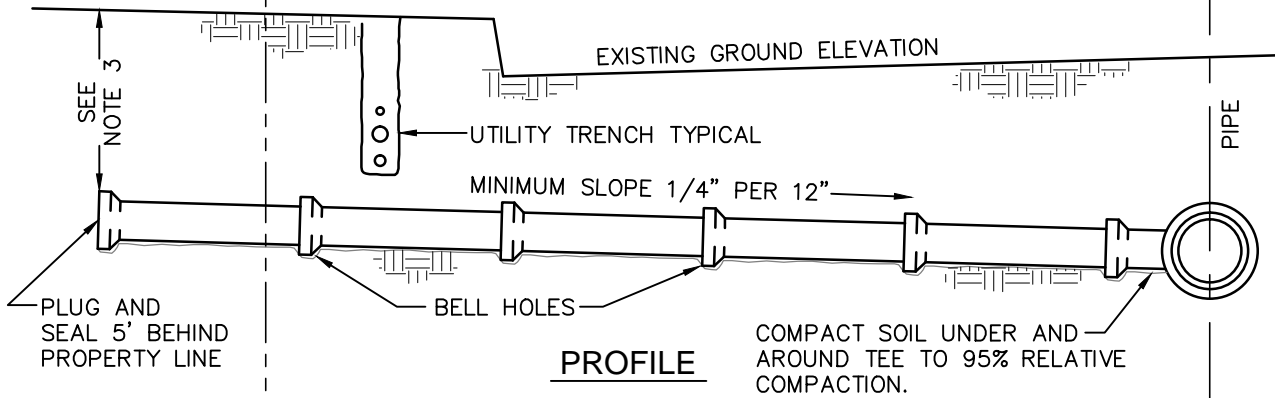
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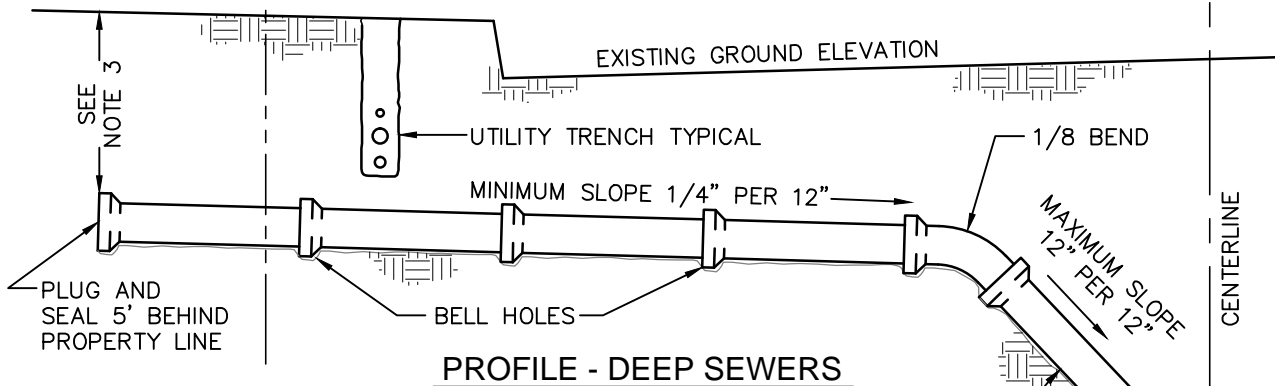


PLAN



PROFILE

COMPACT SOIL UNDER AND AROUND TEE TO 95% RELATIVE COMPACTION.



PROFILE - DEEP SEWERS

NOTES:

1. SEWER CONNECTIONS SHALL BE 4" OR 6" PVC WITH A MINIMUM PIPE STIFFNESS OF 46 AT 5% DEFLECTION.
2. THE GRADE OF SEWER LATERALS SHALL BE A MINIMUM OF 1/4 INCH PER 12 INCHES AND A MAXIMUM OF 12 INCHES PER 12 INCHES FOR DEEP SEWERS. UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
3. THE END OF SEWER LATERALS SHALL BE A MINIMUM 5' DEEP OR AS APPROVED BY THE CITY ENGINEER AND SHALL BE PLUGGED PRIOR TO BACKFILL WITH A CAP APPROVED BY THE PIPE MANUFACTURER FOR USE WITH THE PRODUCT.
4. SADDLES MOUNTED ON ALL PIPES SHALL HAVE A RUBBER GASKET AND SHALL BE SECURED WITH STAINLESS STEEL BANDS AND HARDWARE. CONNECTION SHALL BE WATER TIGHT.
5. A 3" "S" SHALL BE CHISELED OR STAMPED ON THE TOP OF CONCRETE CURB TO VERIFY SEWER LATERAL LOCATION.

COMPACT SOIL UNDER AND AROUND TEE TO 95% RELATIVE COMPACTION.

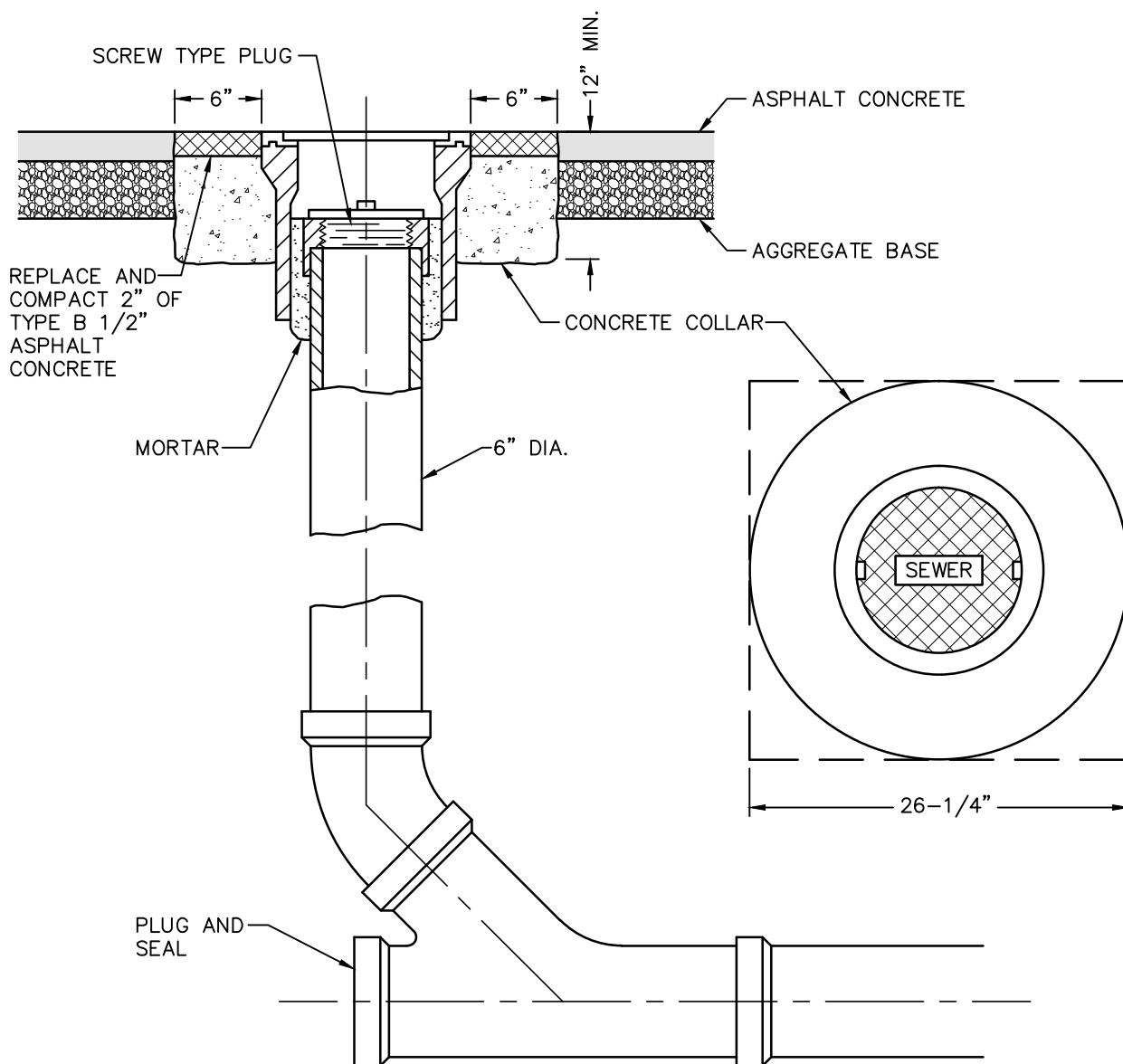
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**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

SEWER CONNECTION

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NOTES:

1. SEWER CLEANOUT RISER SHALL BE 6" MINIMUM PVC WITH A MINIMUM PIPE STIFFNESS OF 46 AT 5% DEFLECTION.
2. SEWER CLEANOUT FRAME AND COVER SHALL BE CHRISTY G5 TRAFFIC VALVE BOX OR EQUAL.
3. PLUG MAIN LINE END WITH CAP APPROVED BY THE PIPE MANUFACTURER FOR USE WITH THE PRODUCT.
4. CONCRETE COLLAR SHALL BE CLASS 3 CONCRETE.
5. CONCRETE COLLAR SHALL BE 26-1/4" IN DIAMETER OR ALTERNATIVE 26-1/4"x26-1/4" SQUARE.
6. MORTAR MIXTURE SHALL BE ONE PART CEMENT PER TWO PARTS SAND.

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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

SANITARY SEWER CLEANOUT

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DESIGN & IMPROVEMENT STANDARDS

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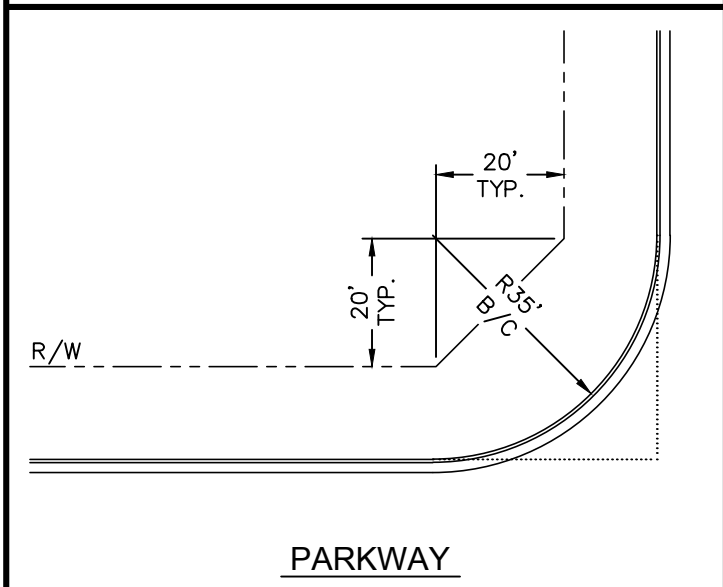
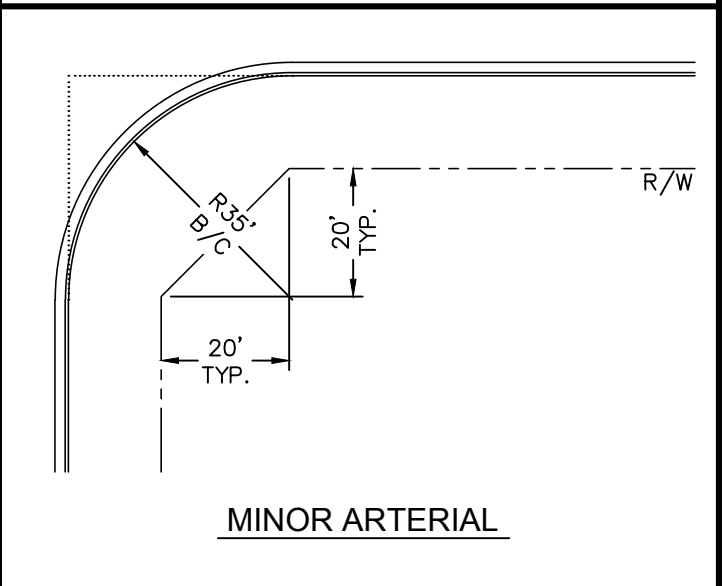
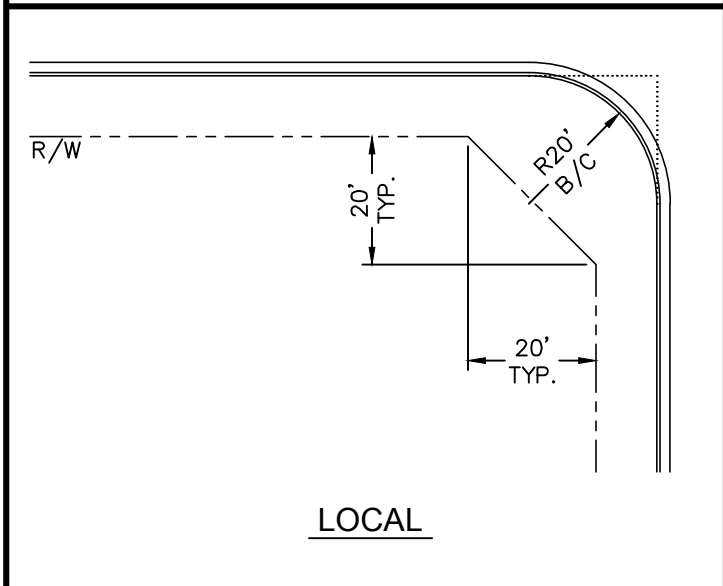
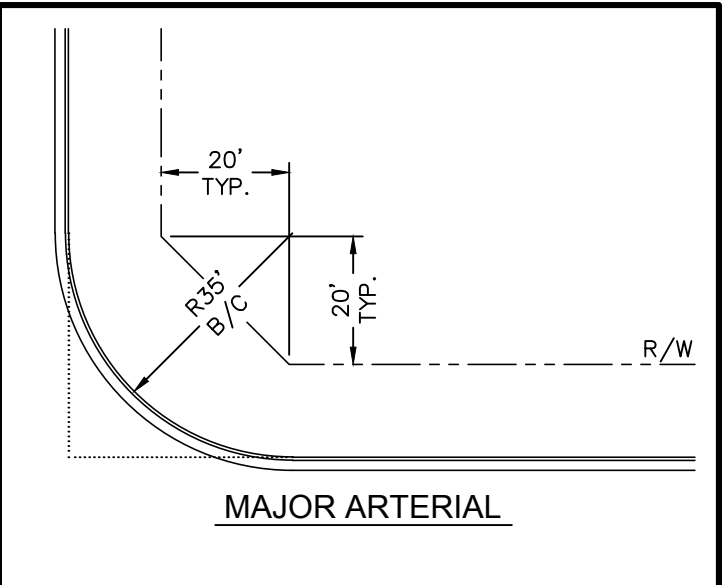
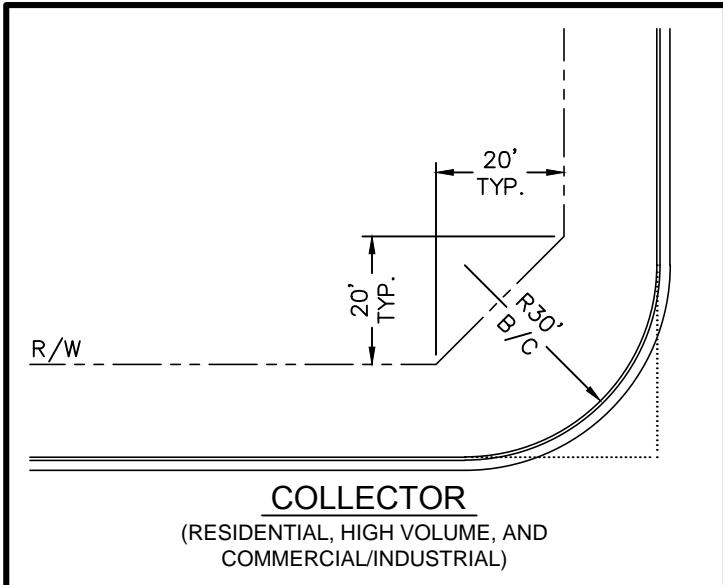
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OUTSIDE COMMERCIAL AND INDUSTRIAL SAND, SILT, GREASE, OIL, AND GARBAGE INTERCEPTORS

1. THE SIZE AND DETAILS OF ALL INTERCEPTORS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA PLUMBING CODE, CURRENT EDITION, HEREINAFTER REFERRED TO AS CPC. ALL INTERCEPTORS SHALL BE SEALED AND WATER TIGHT.
2. INTERCEPTORS SHALL BE CONSTRUCTED AND VENTED IN ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE CPC.
3. THE LOCATION OF THE INTERCEPTOR SHALL BE APPROVED BY THE COMMUNITY DEVELOPMENT DEPARTMENT PRIOR TO CONSTRUCTION.
4. ALL CAST IN PLACE OR PRECAST INTERCEPTOR UNITS SHALL BE APPROVED BY THE COMMUNITY DEVELOPMENT DEPARTMENT PRIOR TO CONSTRUCTION.
5. THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING ALL DOCUMENTATION AND TESTING TO CERTIFY THAT THE INTERCEPTORS AND WASTE STREAMS MEETS THE REQUIREMENTS OF ALL CURRENT REGULATIONS AND THE QUALITY ASSURANCE DIVISION REQUIREMENTS.
6. PRE -CAST INTERCEPTORS SHALL BE LABELED WITH THE MANUFACTURERS NAME, MODEL NUMBER AND SHALL HAVE AN I.A.P.M.O. CERTIFICATION MARK.
7. ALL CONCRETE FOR CAST-IN-PLACE INTERCEPTORS SHALL BE CLASS 2 CONCRETE IN ACCORDANCE WITH THE CITY OF VISALIA STANDARD SPECIFICATIONS AND ENGINEERING DESIGN & IMPROVEMENT STANDARDS.
8. CAST IRON FRAMES MAY BE CAST INTO THE INTERCEPTOR LID.
9. ALL INTERCEPTORS SHALL BE ACCESSIBLE TO THE QUALITY ASSURANCE DIVISION FOR TESTING AT ANY TIME.

CITY OF VISALIA QUALITY ASSURANCE DIVISION
7579 AVENUE 288
VISALIA, CA. 93277-9435
TEL. 559-713-4529

APPROVED BY:  <small>CITY ENGINEER</small> <small>R.P.E. 81734</small> <small>09/16/16</small> <small>DATE</small>	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
OUTSIDE COMMERCIAL AND INDUSTRIAL SAND, SILT, GREASE, OIL AND GARBAGE INTERCEPTORS	REVISIONS 09/27/13 BK 2016	S-13



NOTES:

1. ALL CURB RETURNS SHALL HAVE SIDEWALK RAMPS PER CITY OF VISALIA CONCRETE STANDARD DRAWINGS.
2. THE CITY ENGINEER MAY REQUEST DIFFERENT DIMENSIONS TO ACCOMMODATE THE CITY'S SPECIAL NEEDS.

ABBREVIATIONS:

B/C = BACK OF CURB

R/W = RIGHT OF WAY

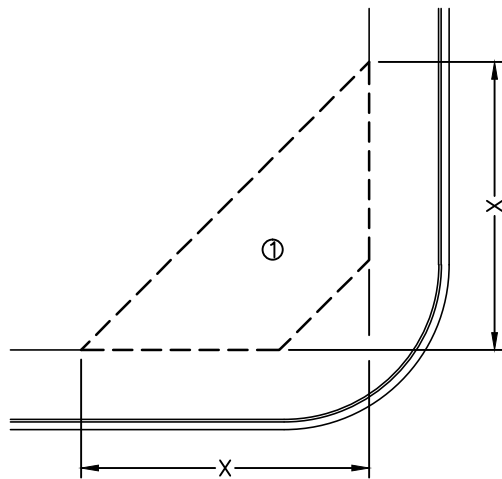
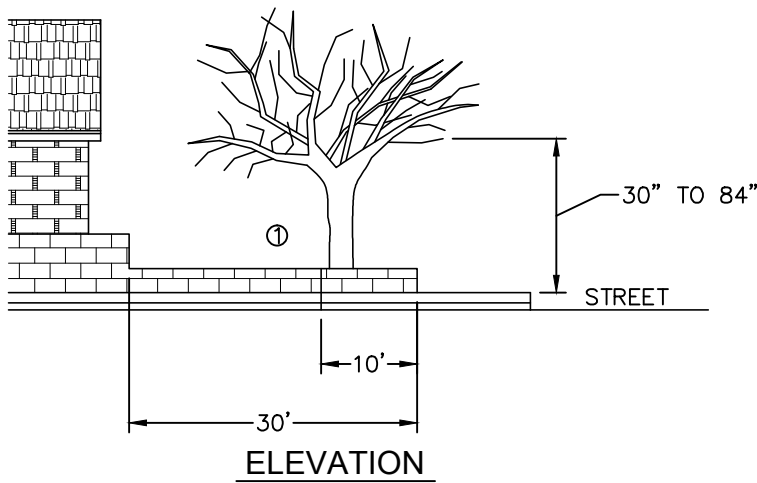
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CITY ENGINEER R.P.E. 81734 DATE 09/16/16

**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

CORNER RADII DEDICATIONS

REVISIONS
08/18/16
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CONSTRUCTION NOTES:

① VERTICAL CLEAR ZONE

ROADWAY TYPE	X
6 LANE ARTERIAL	40'
4 LANE ARTERIAL	40'
4 LANE COLLECTOR	40'
2 LANE COLLECTOR	30'
LOCAL	30'

NOTES:

1. SIGNS, FENCES, WALLS, UTILITY BOXES, STRUCTURES, SHRUBS, HEDGES OR OTHER PLANTS, BUT EXCLUDING TREES OVER 30 INCHES IN HEIGHT SHALL NOT BE PERMITTED WITHIN THE RESTRICTED AREAS EXCEPT AS APPROVED BY CITY ENGINEER.
2. PLANTING WITHIN THE R/W IN THE VERTICAL CLEAR ZONE SHALL BE PER THE APPROVED TYPES AND DIMENSIONS AND SHALL NOT ENCROACH WITHIN THE SIGHT TRIANGLE PER AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) GUIDELINES.
3. TREES ARE PERMITTED WITHIN THE RESTRICTED AREAS PROVIDED:
 - A. NO LIMBS, LEAVES, NEEDLES OR OTHER FOLIAGE ABOVE 30 INCHES OR BELOW 84 INCHES ARE PERMITTED.
 - B. TREES ARE PLANTED SO AS NOT TO OBSTRUCT MORE THAN 20% OF THE VISIBILITY WHEN COMBINED WITH OTHER OBSTRUCTIONS PRESENT.
4. COLLECTOR AND ARTERIAL ROADS SHALL ADHERE TO SIGHT VISIBILITY REQUIREMENTS PER SIGHT DISTANCE REQUIREMENTS STANDARD DRAWING AND SHALL COMPLY WITH AASHTO.

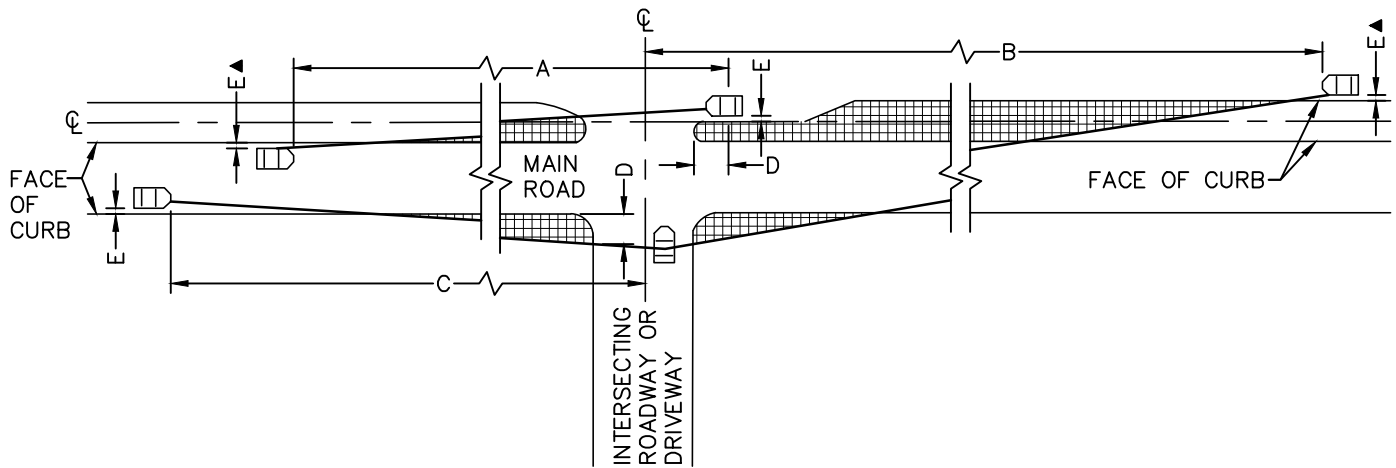
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

SIGHT VISIBILITY TRIANGLE

REVISIONS
 08/26/16
 BK 2016

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LEGEND:

- ▲ WHERE NO MEDIAN IS PRESENT USE CENTER OF ROADWAY AS A SUBSTITUTE FOR E

HEIGHT RESTRICTED AREA (SEE NOTE 4)

TABLE A

STREET	A	B*	C**	D	E
COLLECTOR	355'	500'	385'	18'	3'
ARTERIAL	480'	700'	480'	18'	3'

* REDUCE COLUMN "B" BY 165 FEET FOR SIGNALIZED INTERSECTIONS

** DIMENSION "C" IS FOR RIGHT-TURNS AT SIDE STREET APPROACHES PROVIDING ONLY RIGHT-IN/RIGHT-OUT MOVEMENTS. WHERE LEFT TURNS ARE ALLOWED, DIMENSION "C" SHALL EQUAL DIMENSION "B".

NOTES:

1. DIMENSIONS SHOWN IN TABLE "A" SHALL BE VERIFIED BASED ON AASHTO STANDARDS.
2. SIGHT DISTANCE FOR A COLLECTOR ROADWAY IS BASED ON A PASSENGER CAR ON A ROADWAY THAT PROVIDES 2-LANES IN EACH DIRECTION WITH A 14' RAISED MEDIAN, A DESIGN SPEED OF 40 MPH, AND AN APPROACH GRADE OF LESS THAN THREE PERCENT.
3. SIGHT DISTANCE FOR AN ARTERIAL ROADWAY IS BASED ON A PASSENGER CAR ON A ROADWAY THAT PROVIDES 3-LANES IN EACH DIRECTION WITH A 24' RAISED MEDIAN, A DESIGN SPEED OF 50 MPH, AND AN APPROACH GRADE OF LESS THAN THREE PERCENT.
4. NO SIGNS, FENCES, WALLS, UTILITY BOXES, STRUCTURES, SHRUBS, HEDGES, OR OTHER PLANTS, (EXCLUDING TREES), OVER 30 INCHES IN HEIGHT SHALL BE PERMITTED WITHIN THE RESTRICTED AREAS.
5. TREES ARE PERMITTED WITHIN THE RESTRICTED AREAS PROVIDED:
 - A. NO LIMBS, LEAVES NEEDLES OR OTHER FOLIAGE ABOVE 30 INCHES OR BELOW 84 INCHES ARE PERMITTED.
 - B. TREES ARE PLANTED SO AS NOT TO OBSTRUCT 20% OF THE VISIBILITY WHEN COMBINED WITH OTHER OBSTRUCTIONS PRESENT.
6. SIGHT DISTANCE FOR TYPICAL RIGHT ANGLE INTERSECTION ONLY. SKEWED INTERSECTIONS WILL REQUIRE ADDITIONAL DESIGN FOR REVIEW AND APPROVAL FROM CITY ENGINEER.

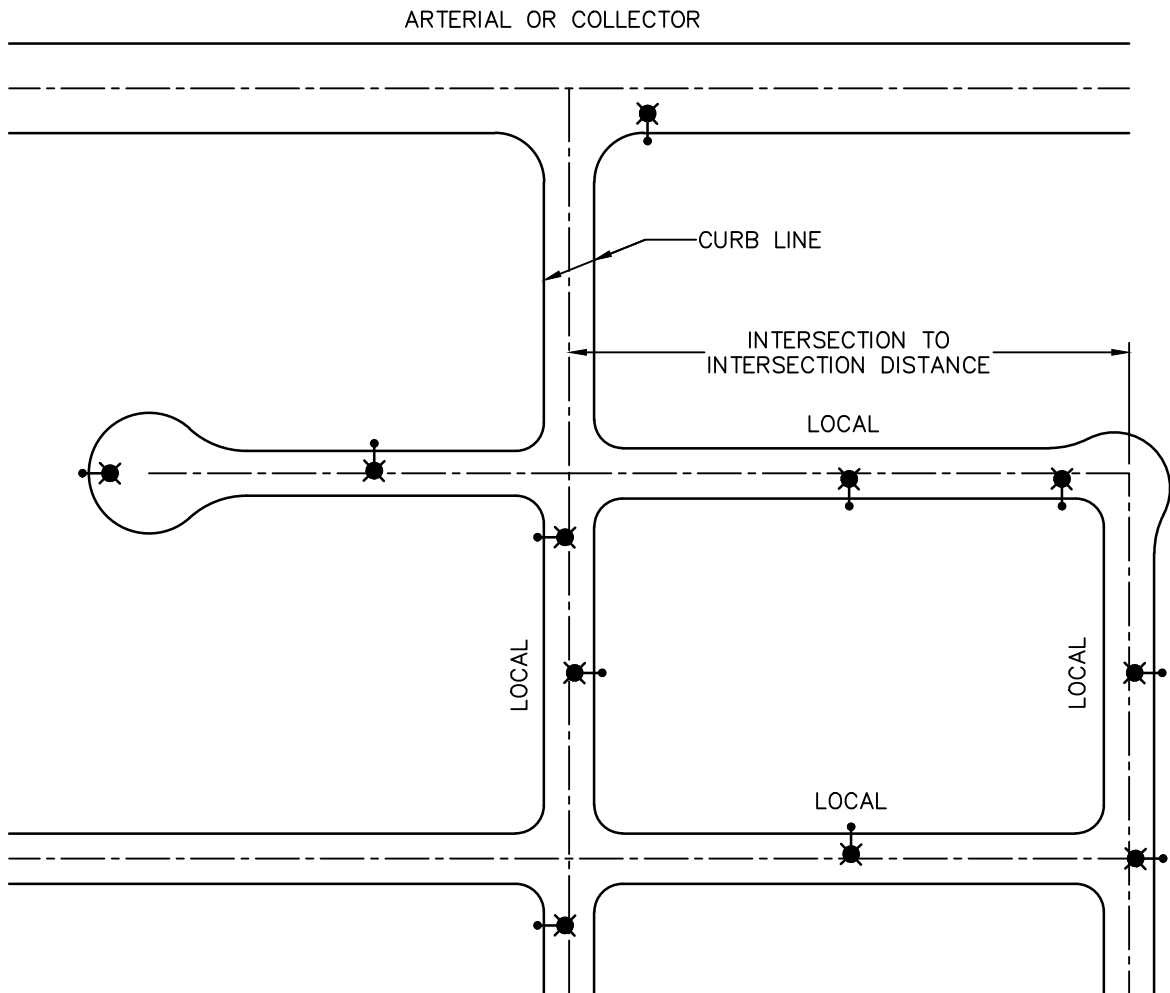
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

**SIGHT DISTANCE REQUIREMENTS
 FOR ARTERIAL & COLLECTOR STREETS**

REVISIONS
 08/26/16
 BK 2016

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NOTES:

1. STREETLIGHTS ON LOCAL STREETS SHALL BE LED – MINIMUM 5,800 LUMEN WITH CUT-OFF LUMINAIRES, LUMINAIRE ELEVATION OF 26', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS. ALTERNATIVE STREETLIGHT POLES ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.
2. STREETLIGHTS SHALL BE INSTALLED AT LOCATIONS AS DETERMINED BY THE CITY ENGINEER UPON REVIEW OF SUBMITTED IMPROVEMENT PLANS.
3. A STREETLIGHT SHALL BE INSTALLED AT EACH INTERSECTION. SHOULD THE DISTANCE EXCEED 360' BETWEEN INTERSECTIONS AN INTERMEDIATE STREETLIGHT, OR STREETLIGHTS, SHALL BE INSTALLED. SPACING OF STREET LIGHTS BETWEEN INTERSECTIONS WHERE REQUIRED SHALL BE 180' MINIMUM TO 240' MAXIMUM.
4. CUL-DE-SACS SHALL HAVE A MINIMUM OF ONE STREETLIGHT AND SHALL FOLLOW THE ABOVE SPACING REQUIREMENTS.
5. A STREET LIGHTING PLAN PREPARED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO THE CITY. THE PLAN SHALL INCLUDE LOCATIONS OF STREETLIGHTS, PULL BOXES, CONDUIT, METER PEDESTAL, POINT OF SERVICE, AND VOLTAGE DROP CALCULATIONS. THE LIGHTING SYSTEM MUST COMPLY WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC) AND THE CALIFORNIA ELECTRICAL CODE (CEC).
6. STREET LIGHTING SHALL BE DESIGNED TO MINIMIZE THE NUMBER OF METER PEDESTALS.
7. A "WILL SERVE" LETTER FROM SOUTHERN CALIFORNIA EDISON SHALL BE SUBMITTED TO THE CITY PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
8. A MINIMUM SEPARATION OF 20' IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
9. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE CENTRAL BUSINESS DISTRICT ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.

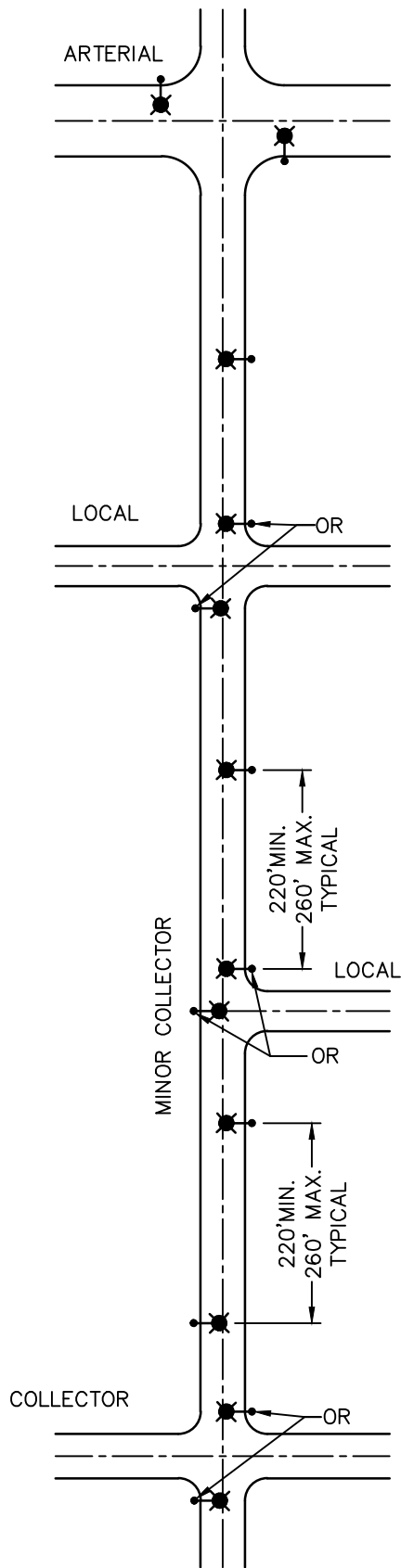
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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

LOCAL STREET LIGHTING
RESIDENTIAL & INDUSTRIAL

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SL-1



NOTES:

1. STREETLIGHTS ON MINOR COLLECTOR STREETS SHALL BE LED – MINIMUM 9,500 LUMEN WITH CUT-OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29’ MOUNTED ON MARBLELITE POLES WITH 8’ ALUMINUM MAST ARMS.
2. STREETLIGHTS SHALL BE INSTALLED AT LOCATIONS AS DETERMINED BY THE CITY ENGINEER UPON REVIEW OF SUBMITTED IMPROVEMENT PLANS.
3. A STREETLIGHT SHALL BE INSTALLED AT EACH INTERSECTION. STREETLIGHT SPACING SHALL BE 220’ MINIMUM TO 260’ MAXIMUM.
4. STREETLIGHTS SHALL BE STAGGERED FROM SIDE TO SIDE OF STREET, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. IF AN INTERSECTION IS SIGNALIZED, A STREETLIGHT SHALL BE INSTALLED ON EACH CORNER AS A PART OF THE TRAFFIC SIGNAL SYSTEM.
6. A STREET LIGHTING PLAN PREPARED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO THE CITY. THE PLAN SHALL INCLUDE LOCATIONS OF STREETLIGHTS, PULL BOXES, CONDUIT, METER PEDESTAL, POINT OF SERVICE, AND VOLTAGE DROP CALCULATIONS. THE LIGHTING SYSTEM MUST COMPLY WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC) AND THE CALIFORNIA ELECTRICAL CODE (CEC).
7. STREET LIGHTING SHALL BE DESIGNED TO MINIMIZE THE NUMBER OF METER PEDESTALS.
8. A "WILL SERVE" LETTER FROM SOUTHERN CALIFORNIA EDISON SHALL BE SUBMITTED TO THE CITY PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
9. A MINIMUM SEPARATION OF 20’ IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
10. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE CENTRAL BUSINESS DISTRICT ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.

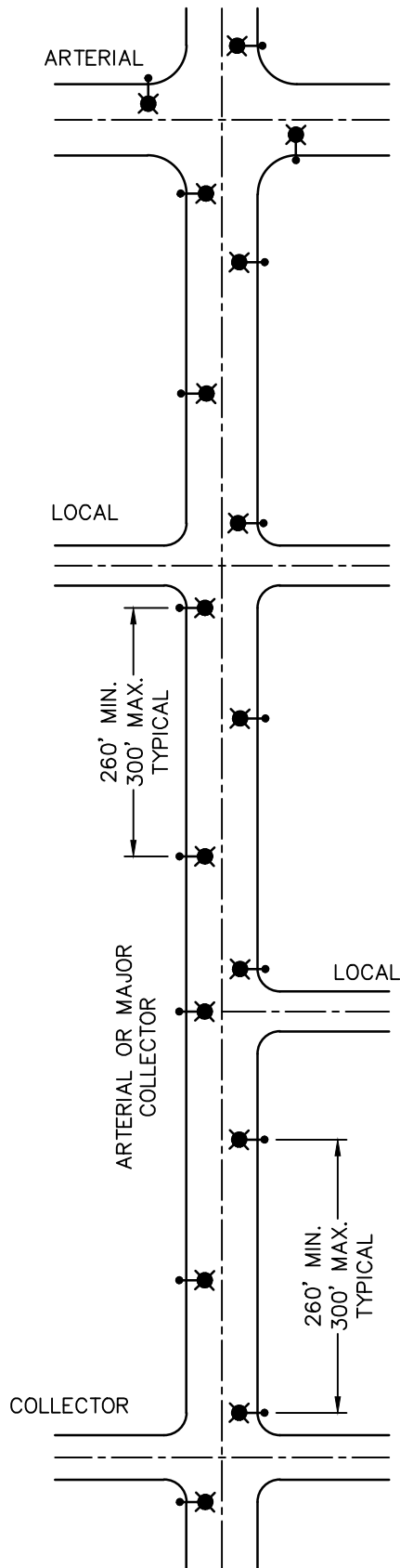
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**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

MINOR COLLECTOR STREET LIGHTING

REVISIONS
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NOTES:

1. STREETLIGHTS ON ARTERIAL STREETS SHALL BE LED – MINIMUM 16,000 LUMEN WITH CUT-OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
2. STREETLIGHTS ON MAJOR COLLECTOR STREETS SHALL BE LED – MINIMUM 9,500 LUMEN WITH CUT-OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
3. STREETLIGHTS SHALL BE INSTALLED AT LOCATIONS AS DETERMINED BY THE CITY ENGINEER UPON REVIEW OF SUBMITTED IMPROVEMENT PLANS.
4. TWO STREETLIGHTS SHALL BE INSTALLED AT EACH INTERSECTION. STREETLIGHT SPACING SHALL BE 260' MINIMUM TO 300' MAXIMUM.
5. STREETLIGHTS SHALL BE INSTALLED ON BOTH SIDES OF THE STREET.
6. IF AN INTERSECTION IS SIGNALIZED, A STREETLIGHT SHALL BE INSTALLED ON EACH CORNER AS A PART OF THE TRAFFIC SIGNAL SYSTEM.
7. A STREETLIGHT PLAN PREPARED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO THE CITY. THE PLAN SHALL INCLUDE LOCATIONS OF STREETLIGHTS, PULL BOXES, CONDUIT, METER PEDESTAL, POINT OF SERVICE, AND VOLTAGE DROP CALCULATIONS. THE LIGHTING SYSTEM MUST COMPLY WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC) AND THE CALIFORNIA ELECTRICAL CODE (CEC).
8. STREET LIGHTING SHALL BE DESIGNED TO MINIMIZE THE NUMBER OF METER PEDESTALS.
9. A "WILL SERVE" LETTER FROM SOUTHERN CALIFORNIA EDISON SHALL BE SUBMITTED TO THE CITY PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
10. A MINIMUM SEPARATION OF 20' IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
11. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE CENTRAL BUSINESS DISTRICT ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.

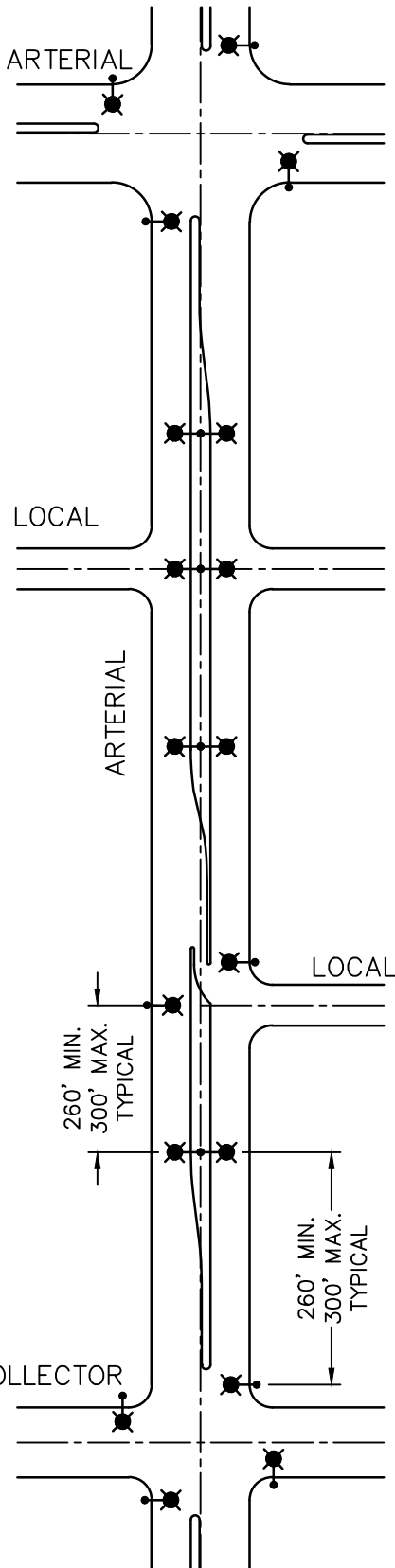
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**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**ARTERIAL AND MAJOR
 COLLECTOR STREET LIGHTING**

REVISIONS
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NOTES:

1. STREET LIGHTS SHALL BE INSTALLED IN MEDIAN. STREET LIGHTS INSTALLED IN MEDIAN POLES SHALL BE INSTALLED ON SINGLE OCTAGONAL POLES WITH A POLE HEIGHT OF 25'-9" AND SHALL HAVE DUAL MAST ARMS WITH A LENGTH OF 8' EACH.
2. INTERSECTIONS MAY BE SUPPLEMENTED WITH LIGHTING BEHIND CURB AND GUTTER IF MEDIAN LIGHTING CANNOT BE POSITIONED TO PROVIDE ADEQUATE ILLUMINATION.
3. STREETLIGHTS ON ARTERIAL STREETS SHALL BE LED - MINIMUM 16,000 LUMEN WITH CUT-OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
4. STREETLIGHTS ON MAJOR COLLECTOR STREETS SHALL BE LED - MINIMUM 9,500 LUMEN WITH CUT-OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
5. STREETLIGHTS SHALL BE INSTALLED AT LOCATIONS AS DETERMINED BY THE CITY ENGINEER UPON REVIEW OF SUBMITTED IMPROVEMENT PLANS.
6. STREETLIGHT SPACING SHALL BE 260' MINIMUM TO 300' MAXIMUM.
7. IF AN INTERSECTION IS SIGNALIZED, A STREETLIGHT SHALL BE INSTALLED ON EACH CORNER AS A PART OF THE TRAFFIC SIGNAL SYSTEM.
8. A STREETLIGHT PLAN PREPARED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO THE CITY. THE PLAN SHALL INCLUDE LOCATIONS OF STREETLIGHTS, PULL BOXES, CONDUIT, METER PEDESTAL, POINT OF SERVICE, AND VOLTAGE DROP CALCULATIONS. THE LIGHTING SYSTEM MUST COMPLY WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC) AND THE CALIFORNIA ELECTRICAL CODE (CEC).
9. STREET LIGHTING SHALL BE DESIGNED TO MINIMIZE THE NUMBER OF METER PEDESTALS.
10. A "WILL SERVE" LETTER FROM SOUTHERN CALIFORNIA EDISON SHALL BE SUBMITTED TO THE CITY PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
11. A MINIMUM SEPARATION OF 20' IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
12. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE CENTRAL BUSINESS DISTRICT ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.

APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

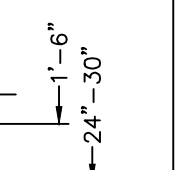
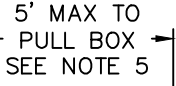
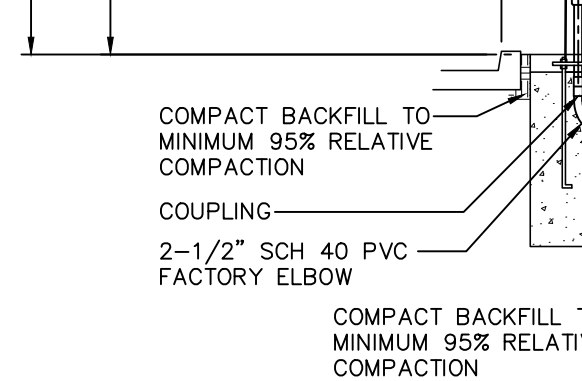
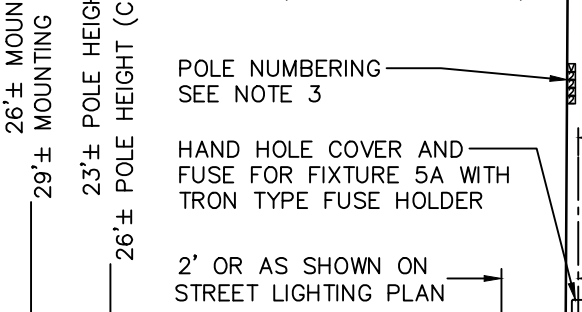
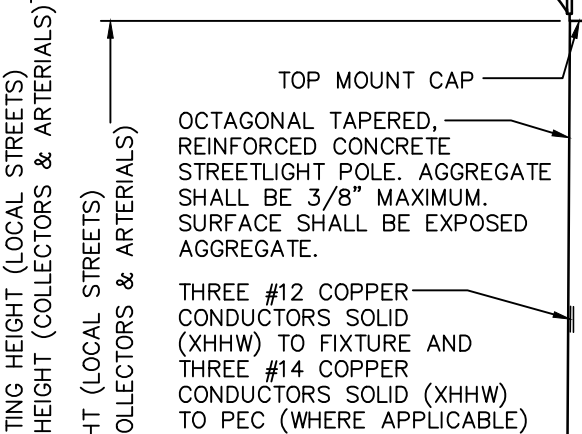
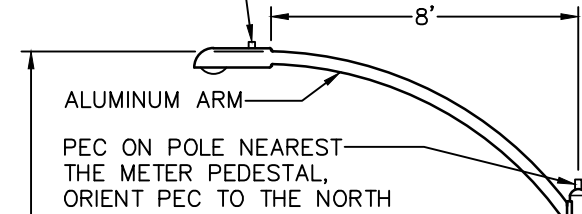
CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

ARTERIAL STREET LIGHTING
 WITH MEDIAN CURB

REVISIONS
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PEC RECEPTACLE AND SHORTING CAP NOT ALLOWED



- NOTES:**
1. ALL WORK SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE SPECIFICATIONS ENTITLED "STANDARD SPECIFICATIONS, STATE OF CALIFORNIA, BUSINESS, TRANSPORTATION AND HOUSING AGENCY, DEPARTMENT OF TRANSPORTATION" AND THE NATIONAL ELECTRICAL CODE.
 2. LUMINAIRE SHALL BE 120V LED, COBRA HEAD STYLE WITH TYPE II CUTOFF.
 3. ALL STREETLIGHTS SHALL BE NUMBERED. NUMERICAL SEQUENCE TO BE OBTAINED FROM THE CITY OF VISALIA. EACH CHARACTER SHALL BE 2-1/2" TEXT HEIGHT. ALUMINUM TAGS SHALL BE INSTALLED VERTICALLY. THE BOTTOM TAG SHALL BE 10'-6" ABOVE FINISH GRADE.
 4. FOR BASE PLATE AND FOUNDATION INFORMATION SEE STREETLIGHT FOUNDATION STANDARD DRAWING.
 5. PULL BOX SHALL NOT BE INSTALLED WITHIN SIDEWALK, UNLESS APPROVED BY THE CITY ENGINEER.

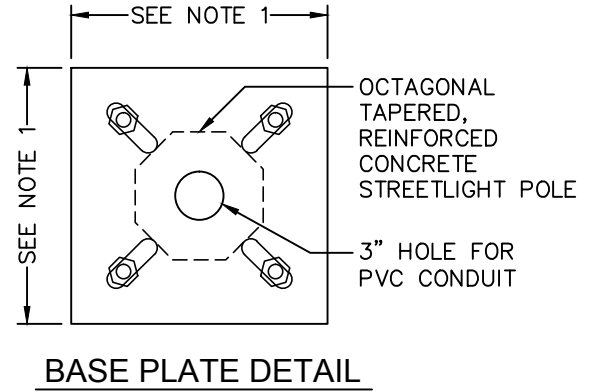
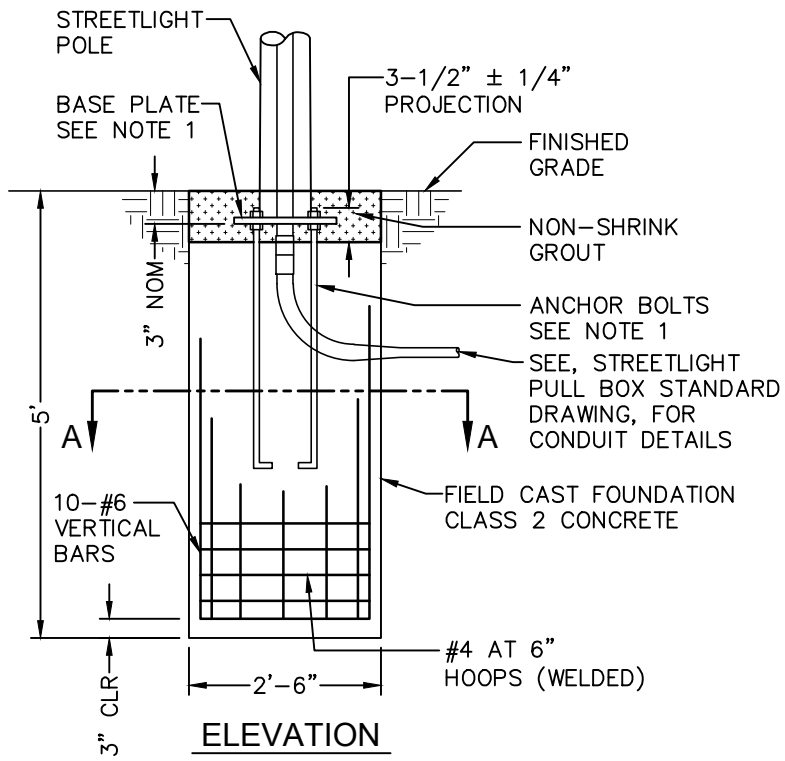
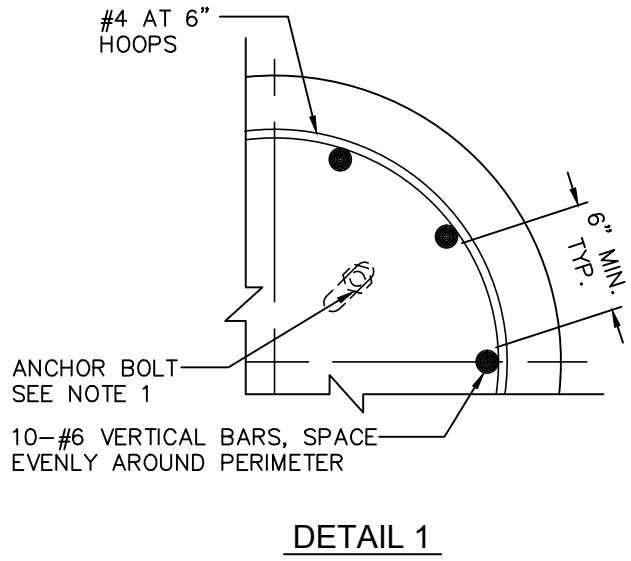
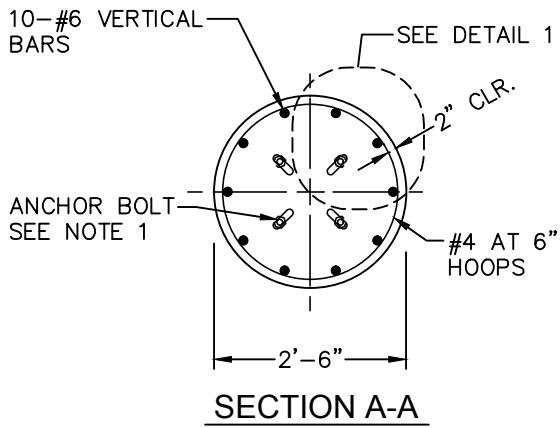
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

STREETLIGHT POLE

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08/22/16
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**CAST-IN-DRILLED HOLE PILE FOUNDATION
REINFORCED PILE**

NOTE:

1. BASE PLATE AND ANCHOR BOLT DIMENSIONS PER MANUFACTURER SPECIFICATIONS. AT MINIMUM, ANCHOR BOLTS 1"Øx36"x4". INSTALL PER MANUFACTURERS RECOMMENDATION.

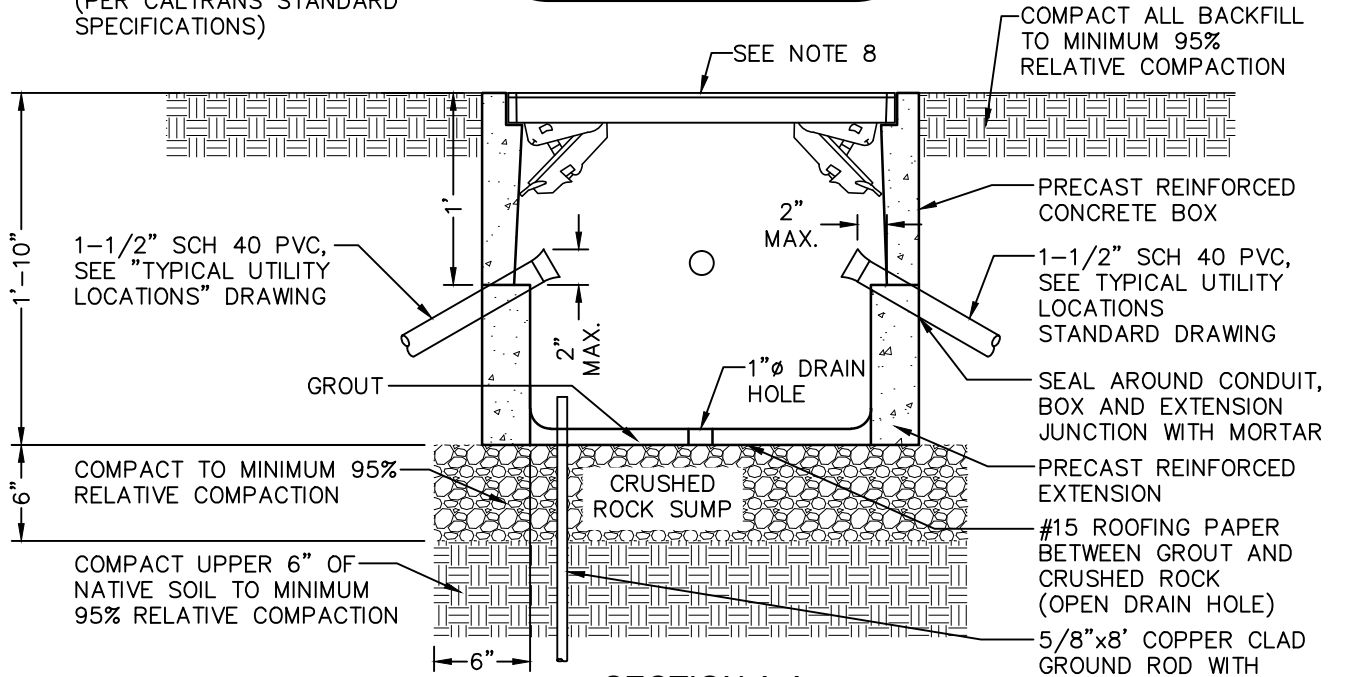
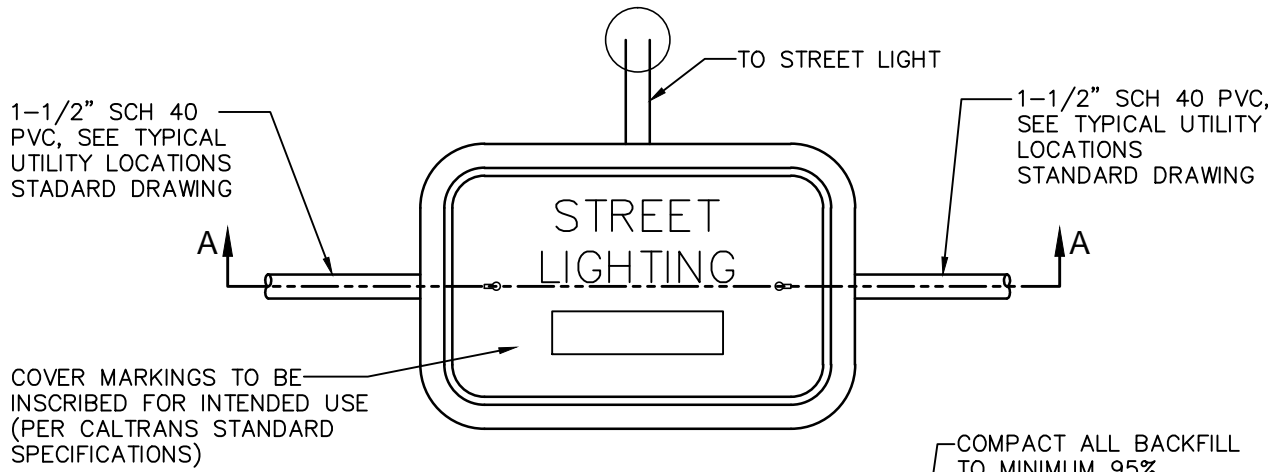
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**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

STREETLIGHT FOUNDATION

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SECTION A-A

NOTES:

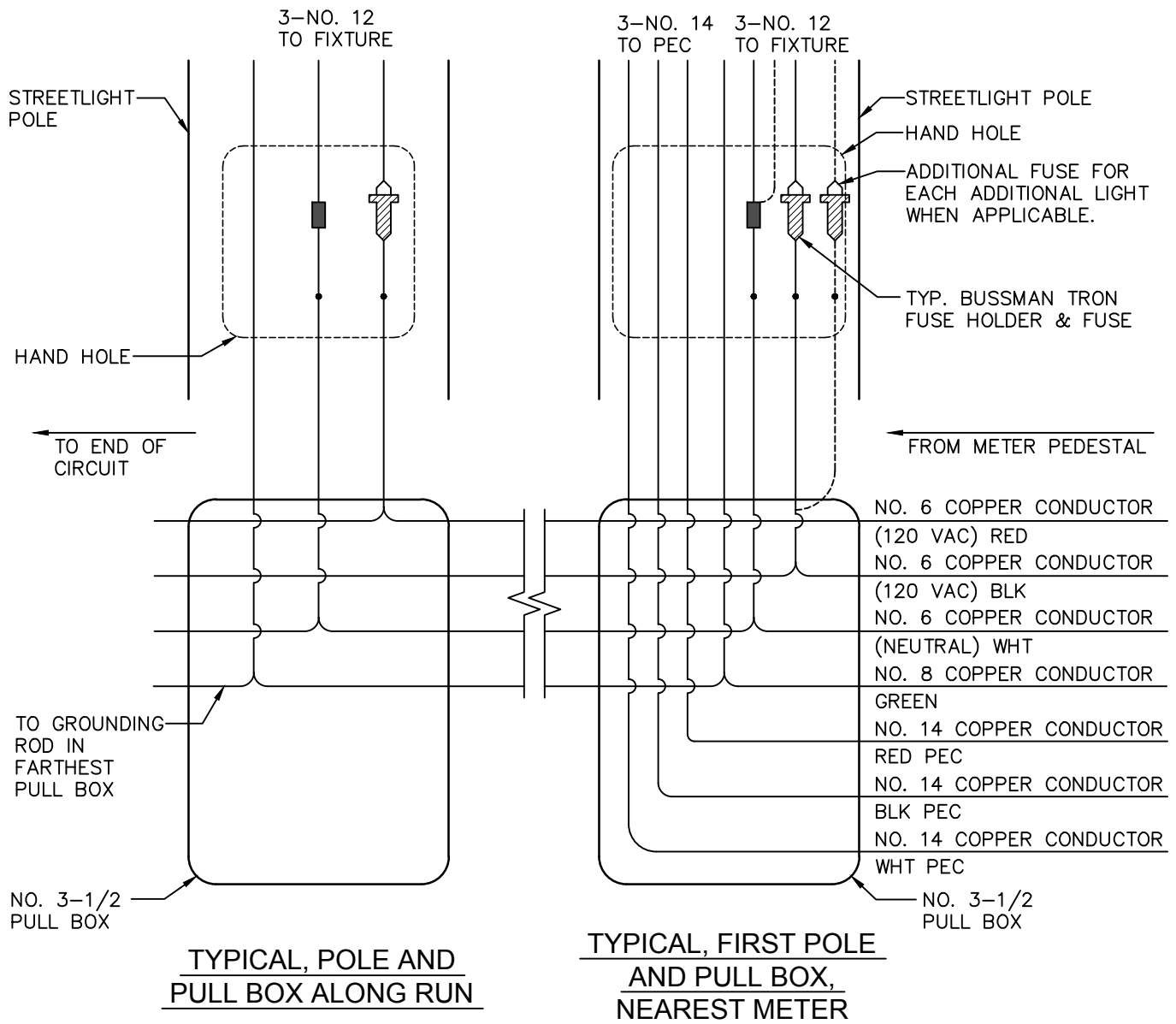
1. PULL BOXES SHALL BE NO. 3-1/2 UNLESS OTHERWISE NOTED ON PLANS.
2. PULL BOXES SHALL BE GROUTED PRIOR TO INSTALLATION OF CONDUCTORS. SLOPED TOWARD THE DRAIN HOLE. PLACE A LAYER OF ROOFING PAPER BETWEEN THE CRUSHED ROCK AND GROUT. OPEN AT DRAIN HOLE.
3. PULL LIDS BEFORE POURING CONCRETE AROUND PULL BOXES.
4. WRAP BOX WITH ROOFING PAPER BEFORE BACKFILLING.
5. PULL BOX SHALL BE TRAFFIC RATED PER CALTRANS STANDARDS IF NOT LOCATED BEHIND A CURB.
6. STREET LIGHT CONDUCTORS SHALL BE INSTALLED CONTINUOUS. SPLICES SHALL ONLY BE PERMITTED AT THE PULL BOX.
7. FIRMLY INSTALL DUCT SEAL AFTER INSTALLATION OF CONDUCTORS.
8. A LOCKING LID SHALL BE INSTALLED. LID SHALL BE GALVANIZED STEEL DIAMOND PLATE, MINIMUM THICKNESS 3/16", WITH MINIMUM TWO CLAMPING JAWS. DELIVER ONE KEY PER PROJECT TO THE CITY OF VISALIA REPRESENTATIVE OR AS DIRECTED BY THE CITY REPRESENTATIVE. LID SHALL BE LOCKJAW BRAND OR APPROVED EQUAL. LID SHALL BE BONDED PER CALTRANS STANDARDS FOR TRAFFIC RATED LIDS.
9. A MINIMUM OF 2' OF SLACK IN EACH CONDUCTOR SHALL BE LEFT IN EACH PULL BOX. TWIST AND PUSH TO BOTTOM OF PULL BOX TO PREVENT WIRE FROM PULLING THROUGH.
10. CONDUIT SHALL HAVE BELL ENDS. EMPTY CONDUITS SHALL BE CAPPED WITHOUT GLUE.
11. CONDUIT SHALL BE MANDREL TESTED AFTER BACKFILL AND COMPACTION IN THE PRESENCE OF THE CITY OF VISALIA REPRESENTATIVE.
12. REFER TO TYPICAL UTILITY LOCATIONS STANDARD DRAWING FOR PLACEMENT OF STREET LIGHTING CONDUIT IN UTILITY TRENCHES.
13. GROUND RODS REQUIRED ONLY IN PULL BOX FARTEST FROM THE METER PEDESTAL AND IN THE METER PEDESTAL.

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 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

STREETLIGHT PULL BOX

REVISIONS	
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NOTES:

1. ALL CONDUCTORS SHALL BE (XHHW) TYPE, OR AS APPROVED BY CITY ENGINEER.
2. VOLTAGE DROP CALCULATIONS SHALL BE PERFORMED BY A LICENSED ENGINEER AND SUBMITTED TO THE CITY OF VISALIA FOR REVIEW.
3. 240V CIRCUITS ARE NOT STANDARD BUT MAY BE USED IF WARRANTED BY SPECIAL CIRCUMSTANCES. 240V CIRCUITS REQUIRE APPROVAL OF THE CITY ENGINEER AND SHALL BE DESIGNED BY A LICENSED ENGINEER.
4. SPLICES SHALL BE PER CALTRANS STANDARD PLAN ES-13A, TYPE "S" OR TYPE "ST" AS APPLICABLE. SPLICES SHALL BE INSULATED IN ACCORDANCE WITH METHOD "B".
5. SPLIT BOLT CONNECTOR (KEARNEY CONNECTORS, OR EQUAL), MAY BE USED TO SPLICE NO. 8 CONDUCTORS OR LARGER WITH METHOD "B" INSULATION.
6. WIRE NUTS ARE NOT ALLOWED FOR SPLICING.
7. THIS WIRING DIAGRAM DOES NOT SHOW THE SEPARATE GFI CIRCUIT REQUIRED IN THE DOWNTOWN AREA.

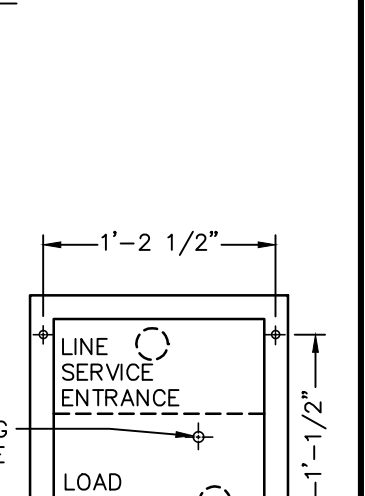
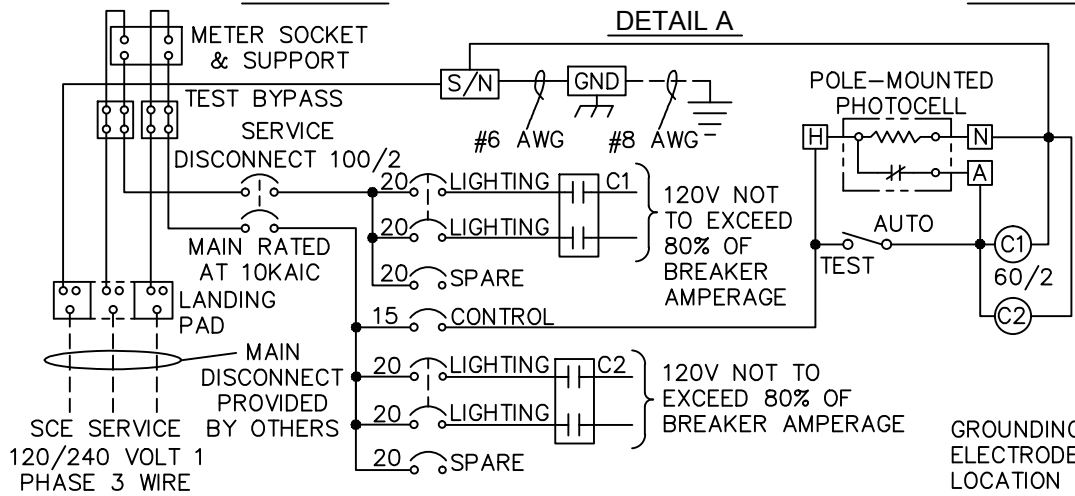
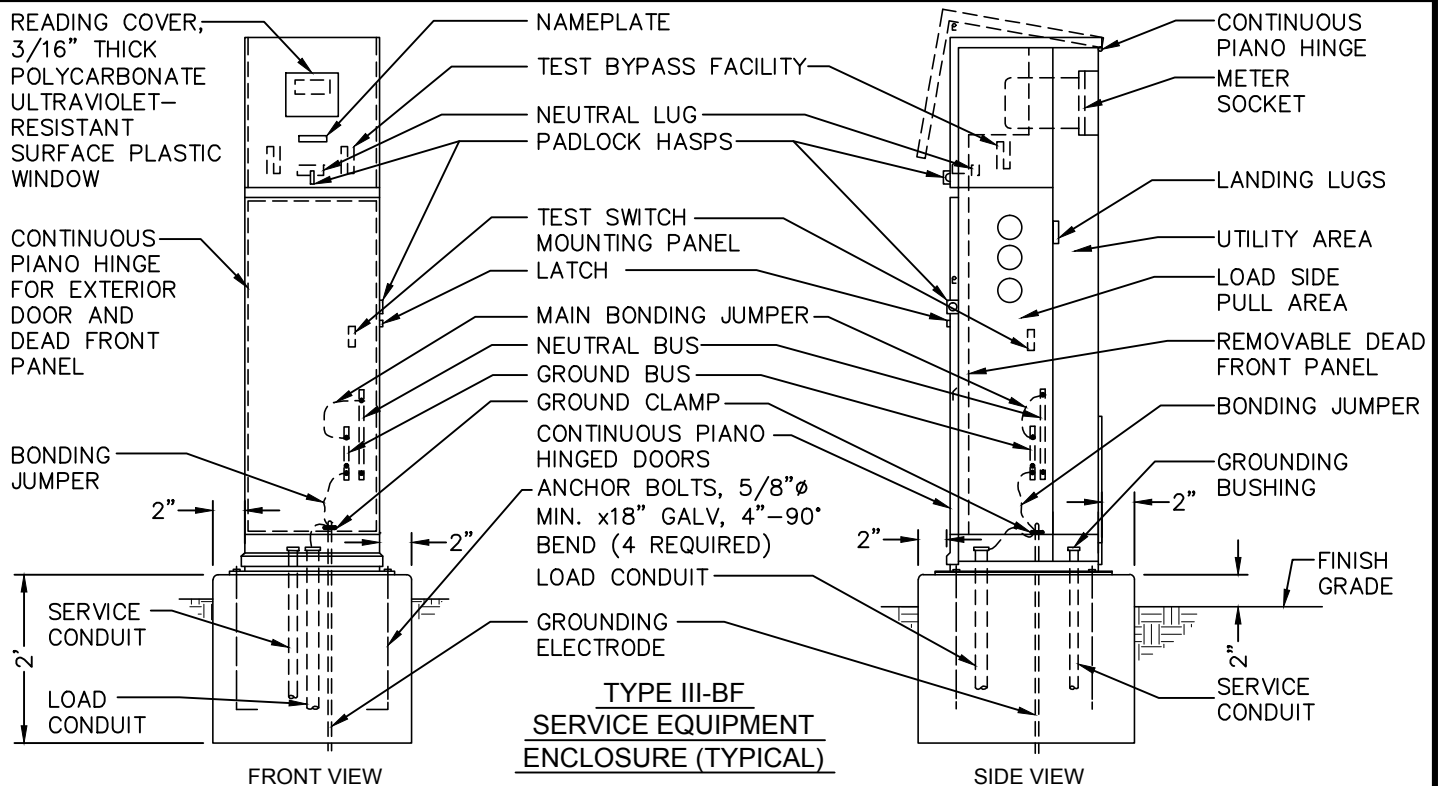
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**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

STREETLIGHT CONNECTION DIAGRAM

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NOTE: LOAD CURRENT FOR ALL BREAKERS NOT TO EXCEED 80% OF BREAKER AMPERAGE

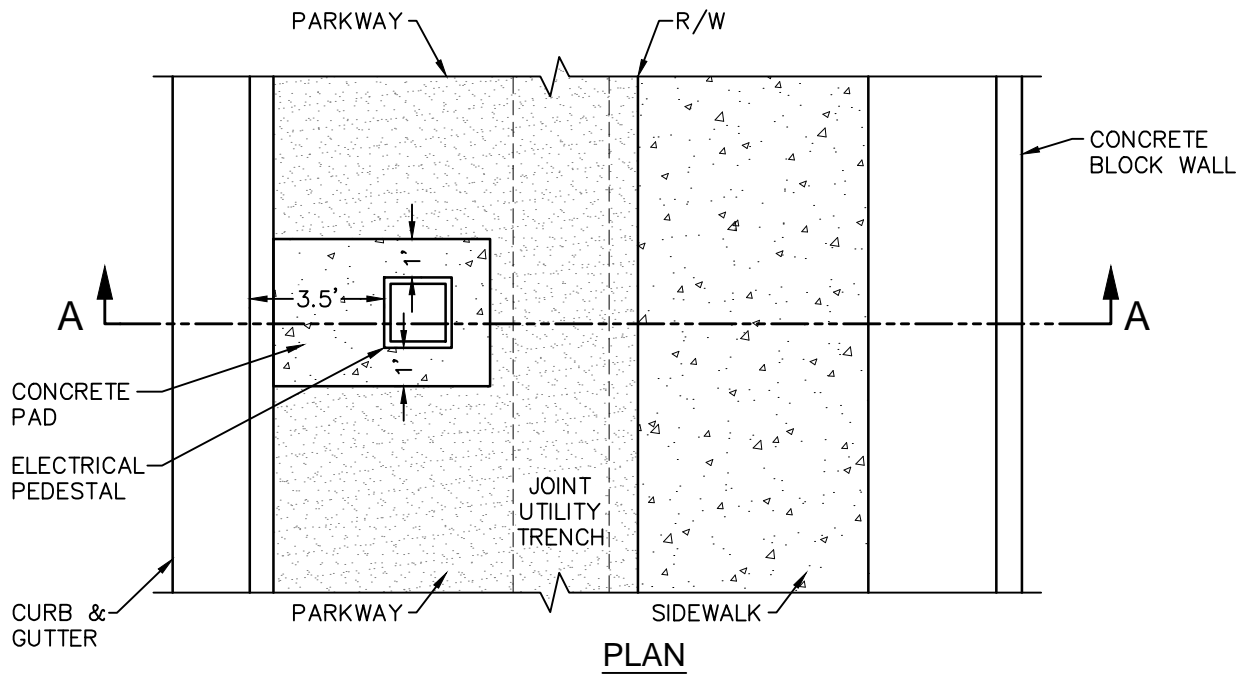
ENCLOSURE CONSTRUCTION NOTES:

1. EXTERIOR, 1/8" ALUMINUM, AND INTERIOR 14 GA COLD ROLLED STEEL, ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION WILL BE NEMA 3R, RAIN-TIGHT.
3. ALL NUTS, BOLTS AND SCREWS WILL BE STAINLESS STEEL.
4. NUTS, BOLTS & SCREWS WILL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
5. NAMEPLATES WILL BE PROVIDED AS REQUIRED.
6. CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA AND UL 508A STANDARDS.
9. COLOR TO BE: ANODIZED ALUMINUM
10. CONDUIT FROM SOUTHERN CALIFORNIA EDISON (SCE) POINT OF SERVICE SHALL BE 3" SCH. 80 PVC WITH A PULL ROPE PER SCE STANDARDS.
11. METER PEDESTAL SHALL CONFORM TO EUSERC DRAWING NO. 308.

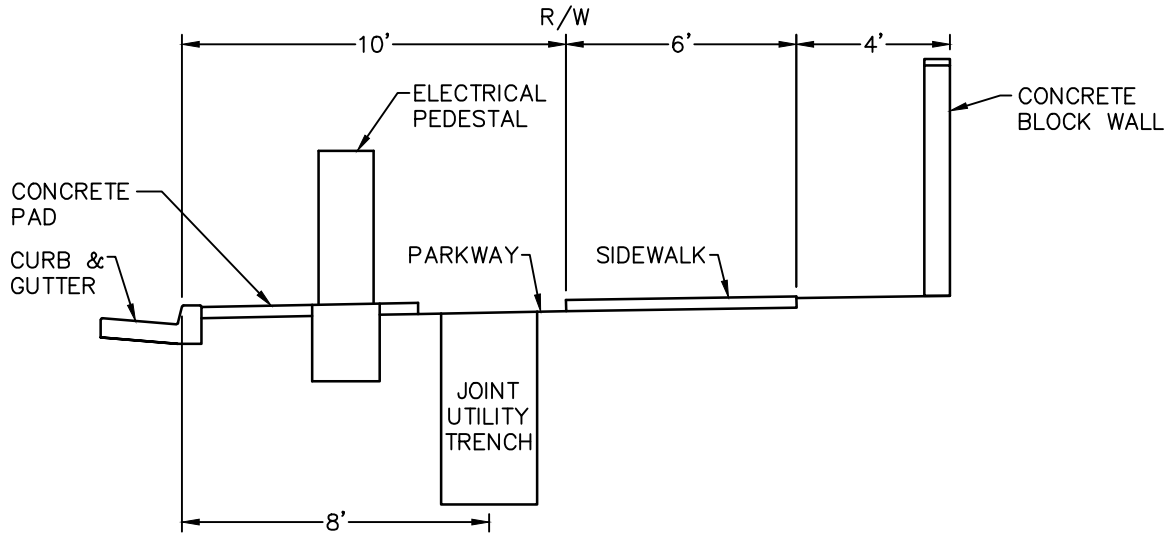
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CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS

<h1>STREETLIGHT METER PEDESTAL</h1> <h2>TYPE III-BF</h2>	REVISIONS 08/22/16 BK 2016	SL-9



PLAN



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. A PLASTIC COVERED SET OF ELECTRICAL PLANS SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.

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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

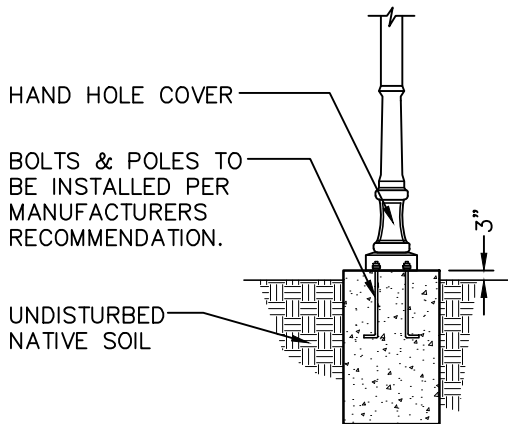
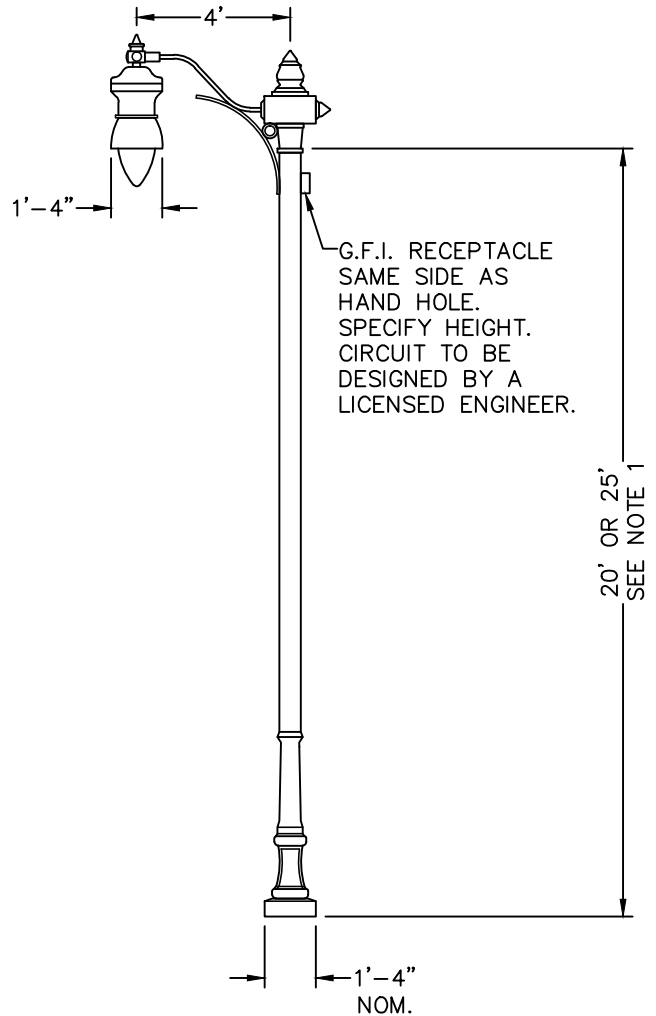
ELECTRICAL PEDESTAL LOCATION FOR
 COLLECTOR AND ARTERIAL STREETS

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SL-10

NOTES:

1. DOWNTOWN AND TRANSIT AREA STREET LIGHT HEIGHT WILL BE 25'. RESIDENTIAL STREET LIGHT HEIGHT WILL BE 20'.
2. MEDIAN STREET LIGHTS WILL BE DUAL HEAD.
3. POLE SHALL BE STEEL.
4. MANUFACTURER AND MODEL NUMBER SHALL BE PROVIDED TO THE CITY FOR REVIEW. VISUAL CHARACTERISTICS SHALL BE SIMILAR TO POLES CURRENTLY EXISTING IN THE CITY OF VISALIA.
5. LUMINAIRE SHALL BE LED.
6. USE OF ORNAMENTAL STREETLIGHTS IS RESTRICTED AND SHALL BE APPROVED BY THE CITY ENGINEER.
7. FOR FOUNDATION INFORMATION SEE STREETLIGHT FOUNDATION STANDARD DRAWING.



SECTION

ELEVATION

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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

ORNAMENTAL STREETLIGHT 1 OF 2

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SPECIFICATIONS

LUMINAIRE: SEALED LED OPTICAL MODULE, LOW COPPER A356 ALLOY (<0.2% COPPER) CAST ALUMINUM HOUSING. TOP AND BOTTOM ARE HINGED FOR ACCESS WITH SEPARATE DRIVER AND LED COMPARTMENTS.

VLED OPTICAL MODULE: SEALED LED OPTICAL MODULE, LOW COPPER A356 ALLOY (<0.2% COPPER) CAST ALUMINUM HOUSING, INTEGRATED CLEAR PRISMATIC BOROSILICATE GLASS REFRACTOR SEALED WITH A CONTINUOUS SILICONE GASKET. ENTIRE MODULE MUST MEET IP67 RATING.

VLED EMITTERS AND OPTICS: 80 LUXEON T EMITTERS (LED'S) DRIVEN AT 525 mA FOR 132 TOTAL INPUT WATTS. HIGH OUTPUT, NEUTRAL WHITE NOMINAL 4000K CCT FOR THE ENTIRE MODULE. EACH EMITTER TO BE OPTICALLY CONTROLLED BY A REFLECTOR-PRISM INJECTION MOLDED FROM H12 ACRYLIC. REFLECTOR-PRISMS TO BE ARRAYED TO PRODUCE IES TYPE III LIGHT DISTRIBUTION. OPTICAL MODULE TO BE FIELD ROTABLE IN THE LUMINAIRE.

VLED DRIVER: CONSTANT CURRENT LED DRIVER OPERATES ON INPUT VOLTAGES FROM 120-277 V., 50/60 Hz. FACTORY WIRED DRIVER TO BE INDEPENDENTLY SEALED AND UL LISTED FOR WET LOCATIONS. 20 KA SURGE PROTECTOR WITH "ON" LED OPERATIONAL INDICATER AND END OF LIFE OPEN CIRCUIT PROTECTION FOR LUMINAIRE.

ARM: DURABLE CORROSION RESISTANT, ALUMINUM CONSTRUCTION.

SHAFT: 16 SHARP FLUTE, ROUND TAPERED STEEL SHAFT WITH 7.0" BUTT TAPERING TO 3.5" TOP (11 GAGE). MINIMUM YIELD STRENGTH 55,000 P.S.I. HAND HOLE WITH COVER AT 20" FROM BOTTOM OF BASE PLATE. SHAFT TO BE PROVIDED WITH 42" SMOOTH BOTTOM SECTION.

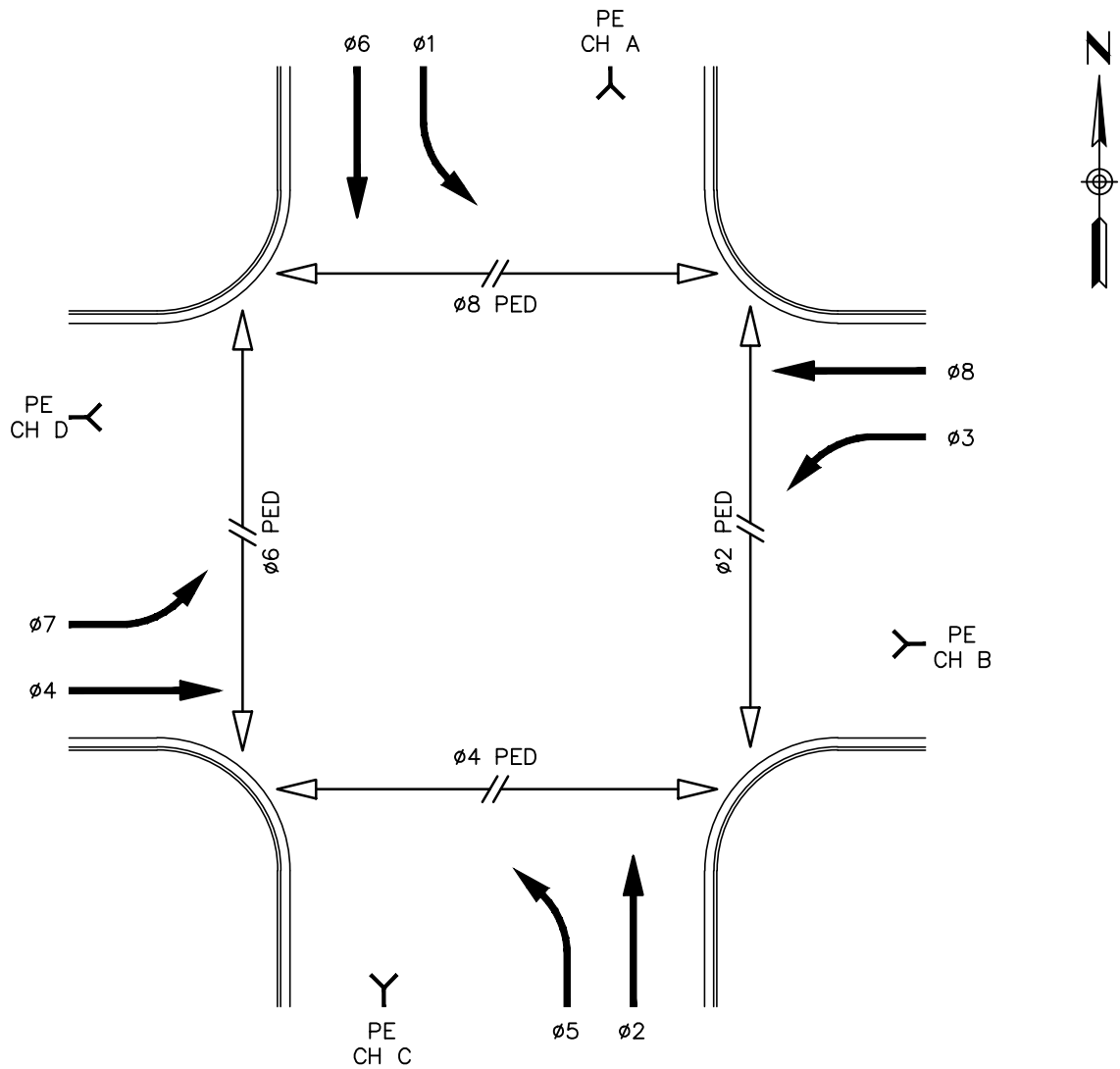
ANCHOR BASE: FABRICATED FROM STRUCTURAL QUALITY HOT ROLLED STEEL. BASE TELESCOPES AND TO BE CIRCUMFERENTIALLY WELDED TO SHAFT.

BASE COVER: TWO PIECE WRAPAROUND, CORROSION RESISTANT, DURABLE CAST ALUMINUM CONSTRUCTION. MINIMUM 0.250 WALL THICKNESS. BASE CONSISTS OF A SMOOTH TAPERED BOTTOM SECTION AND A DECORATIVE TAPERED FLUTED SECTION WITH EVENLY SPACED RAISED VERTICAL FLUTES. BASE TO BE FURNISHED WITH A CONTOURED, FLUTED FLUSH HAND HOLE AND COVER. HAND HOLE COVER TO INCLUDE TAMPER RESISTANT HARDWARE. (4) 1/4" - 20 SET SCREWS PROVIDED TO SECURE DECORATIVE BASE TO SHAFT.

ANCHORAGE: (4) 1" X 36" ANCHOR BOLT, EACH SUPPLIED WITH TWO NUTS AND TWO WASHERS.

FINISH: FIXTURE, ARM, AND BASE: POLYESTER POWDER COAT. (COLOR: GREEN TEXTURED, RAL-6005-T) OR APPROVED EQUAL.
POLE ASSEMBLY: POLYESTER POWDER COAT. (COLOR: GREEN, SMOOTH, RAL-6005) OR APPROVED EQUAL.

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ORNAMENTAL STREETLIGHT 2 OF 2	REVISIONS 09/15/16 BK 2016	SL-12



PREEMPTION (PE) CHANNELS

- PE CHANNEL A = NB PREEMPTOR 3 (ø2)
- PE CHANNEL B = EB PREEMPTOR 4 (ø4)
- PE CHANNEL C = SB PREEMPTOR 5 (ø6)
- PE CHANNEL D = WB PREEMPTOR 6 (ø8)

- EVP A = ø2 + ø5
- EVP B = ø4 + ø7
- EVP C = ø6 + ø1
- EVP D = ø8 + ø3

NOTES:

1. PHASE 2 IS ALWAYS NORTHBOUND, REGARDLESS OF STREET CLASSIFICATION.

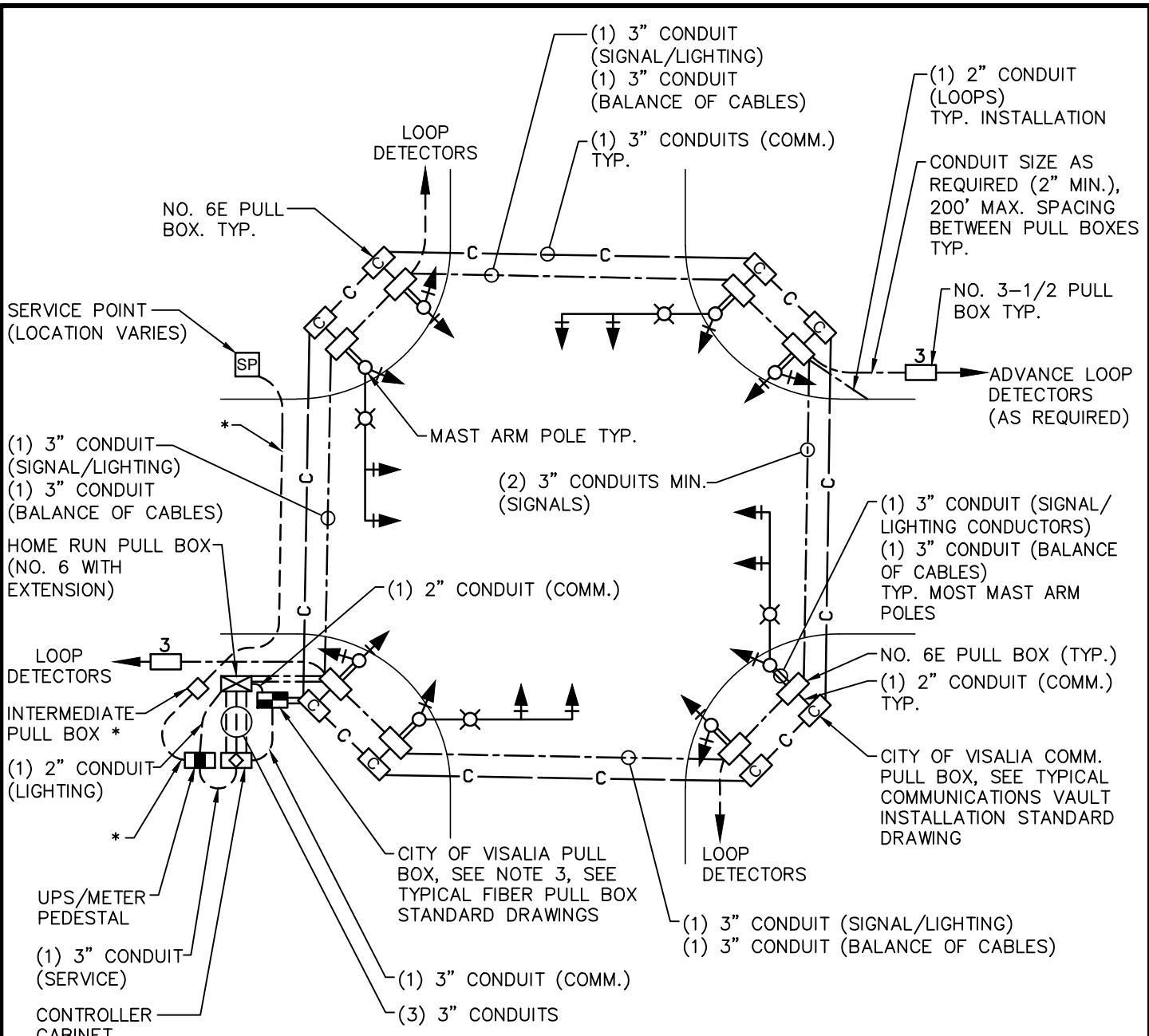
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 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

STANDARD TRAFFIC SIGNAL PHASING

REVISIONS
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TE-1



LEGEND:

* = PER ELECTRICAL UTILITY REQUIREMENTS

NOTES:

1. DRAWINGS ACCURATE FOR CONDUIT INFORMATION ONLY.
2. CONDUITS FOR LOOP DETECTORS ARE TYPICAL FOR ALL QUADRANTS.
3. WHEN CONDUIT AND PULL BOXES ARE BEING CONSTRUCTED PRIOR TO TRAFFIC SIGNAL DESIGN AND INSTALLATION, CITY OF VISALIA COMMUNICATION PULL BOXES SHALL BE INSTALLED ON ALL CORNERS OR AS DIRECTED BY THE CITY ENGINEER.
4. ALL EMPTY CONDUITS SHALL HAVE A #12 TRACING WIRE INSTALLED.

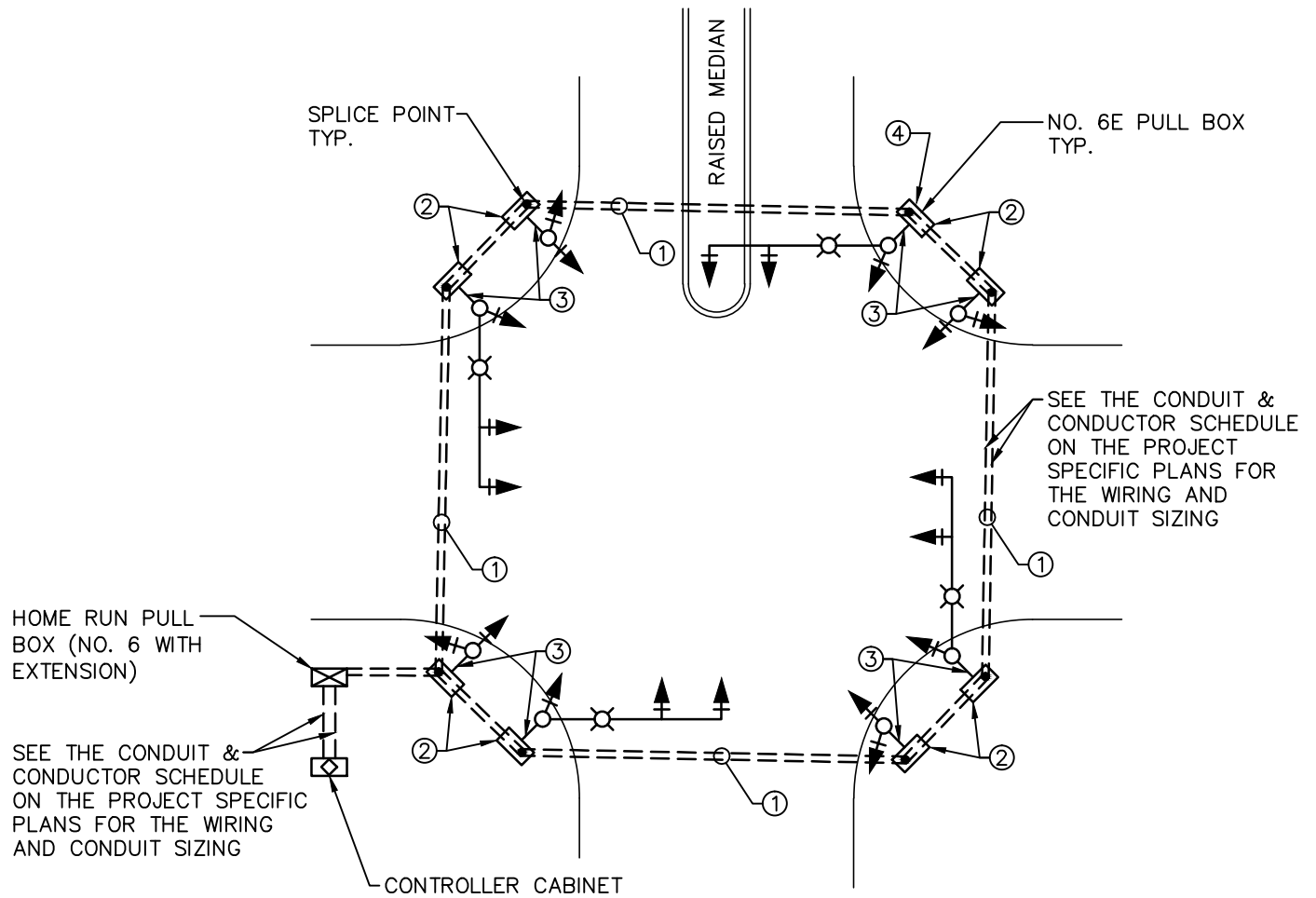
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**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**TYPICAL TRAFFIC SIGNAL CONDUIT
 SCHEMATIC**

REVISIONS
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NOTES:

1. DRAWINGS ACCURATE FOR CABLING INFORMATION ONLY.

CONSTRUCTION NOTES:

- ① SPLICE PERMITTED ONLY AT DESIGNATED SPLICE LOCATIONS AS SHOWN ON THIS PLAN. EACH SIGNAL CABLE IN USE AS SHOWN SHALL BE CONTINUOUS AND UNSPLICED BETWEEN PULL BOXES.
- ② PROVIDE 1 WRAP OF SLACK (3' MIN.) FOR EACH SIGNAL CABLE IN EACH PULL BOX. TERMINATE BETWEEN PULL BOXES.
- ③ LINE REPRESENTS CABLING AS SHOWN IN TRAFFIC SIGNAL WIRING SCHEMATIC STANDARD DRAWING.
- ④ INSTALL A GROUNDING ROD IN THE PULL BOX OPPOSITE THE TRAFFIC SIGNAL CABINET.

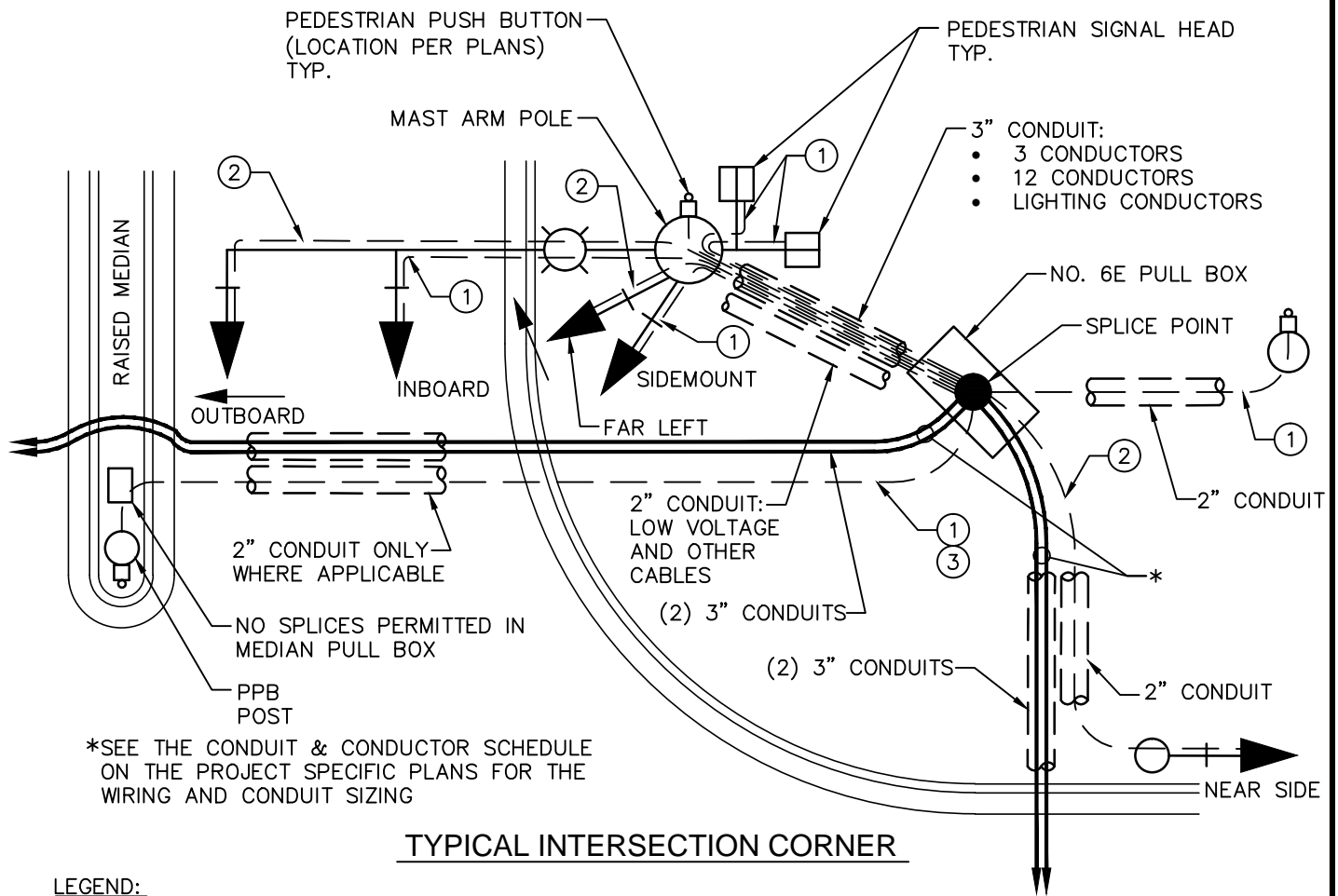
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

TYPICAL TRAFFIC SIGNAL CABLE
 SCHEMATIC

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TE-3



LEGEND:

- — EXISTING 3 OR 12CSC CONDUCTOR (IMSA 19-1)
- PROPOSED 3 OR 12CSC CONDUCTOR (IMSA 19-1)

NOTES:

1. QUANTITY OF CABLES MAY VARY BASED ON ACTUAL FIELD CONDITIONS OR AS DIRECTED BY THE CITY ENGINEER.
2. DRAWING ACCURATE FOR WIRING INFORMATION ONLY.

CONSTRUCTION NOTES:

- ① INSTALL 3 OR 12CSC CONDUCTOR (IMSA 19-1) CABLE CONTINUOUS AND UNSPLICED AS SHOWN FROM PULL BOX TO EACH OF THE FOLLOWING:
 - SIDEMOUNT VEHICULAR SIGNAL
 - PEDESTRIAN SIGNAL HEAD
 - PEDESTRIAN PUSH BUTTON
 - INBOARD
- ② INSTALL 3 OR 12CSC CONDUCTOR (IMSA 19-1) CABLE CONTINUOUS AND UNSPLICED AS SHOWN FROM PULL BOX TO EACH OF THE FOLLOWING:
 - OUTBOARD VEHICULAR SIGNAL
 - FAR LEFT MOUNTED VEHICULAR SIGNAL
 - NEAR SIDE/RIGHT TURN OVERLAP VEHICULAR SIGNAL
- ③ CONDUCTORS TO MEDIAN SHALL BE SPLICED IN THE BULL BOX ON THE ADJACENT CORNER IN THE CLOCKWISE DIRECTION FROM THE MEDIAN.

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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

TRAFFIC SIGNAL WIRING SCHEMATIC

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TE-4

3/8" STAINLESS
STEEL PENTA HEAD
BOLT. TYP.

1/8" STAINLESS
STEEL FLAT WASHER
TYP.

1/2"x4" PULL SLOT
WITH 1/4" CENTER PIN
TYP.

GROUNDING LUG

36" CABLE RACK
(2 EACH SIDE WALL)

1/2" LIFTING BOLT
TYP.

LETTERS SHALL
BE 1" MINIMUM,
ALL UPPERCASE

VISALIA
COMMUNICATIONS

LOGO DETAIL

SKID RESISTANT SURFACE

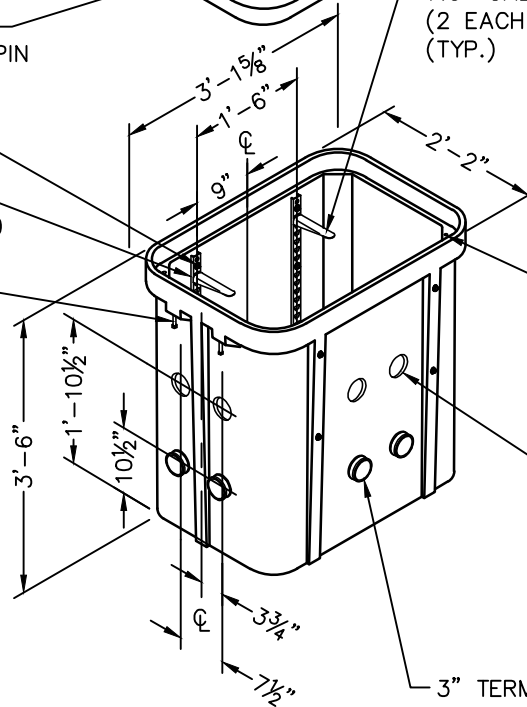
5/8" THRU HOLE WITH
1-1/4"x 1/2" COUNTER
BORE

7.5" CABLE RACK HOOKS
(2 EACH SIDE WALL)
(TYP.)

3/8" SELF ALIGNING,
REPLACEABLE STAINLESS
STEEL EZ-NUT TYP.

KNOCKOUT FOR 3"
TERMINATOR (2 EACH
SIDE DIRECTLY ACROSS
FROM EACH OTHER)

3" TERMINATOR (2 EACH SIDE DIRECTLY
ACROSS FROM EACH OTHER),
TERMINATORS SHALL BE MANUFACTURER
INSTALLED, NO PLASTIC INSERTS WILL
BE ACCEPTED TYP.



PLAN SYMBOL:

NEW

EXISTING

NOTE:

THE BOX OF THIS ASSEMBLY SHALL MEET BOTH PERFORMANCES AND TESTING OF ANSI/SCTE 77 TIER 15. INDEPENDENT THIRD PARTY VERIFICATION OF TEST REPORTS STAMPED BY A REGISTERED PROFESSIONAL ENGINEER CERTIFYING THAT ALL TEST PROVISIONS OF THIS SPECIFICATION HAVE BEEN MET ARE REQUIRED WITH EACH SUBMITTAL. SEE THE FOLLOWING TYPICAL FIBER PULL BOX STANDARD DRAWINGS FOR INSTALLATION INFORMATION.

TYPICAL PULL BOX

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DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

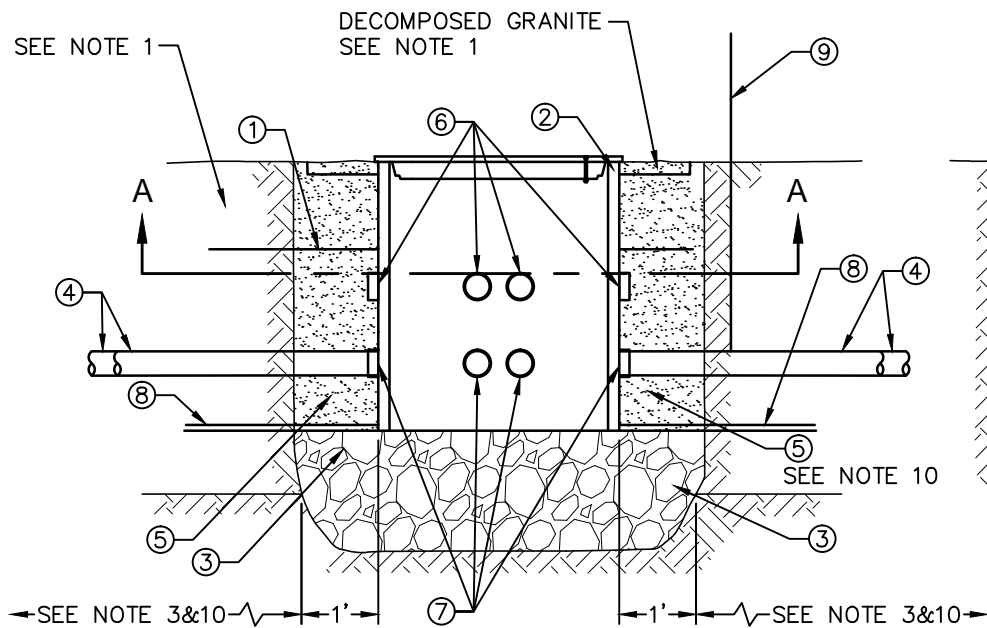
TYPICAL FIBER PULL BOX

REVISIONS

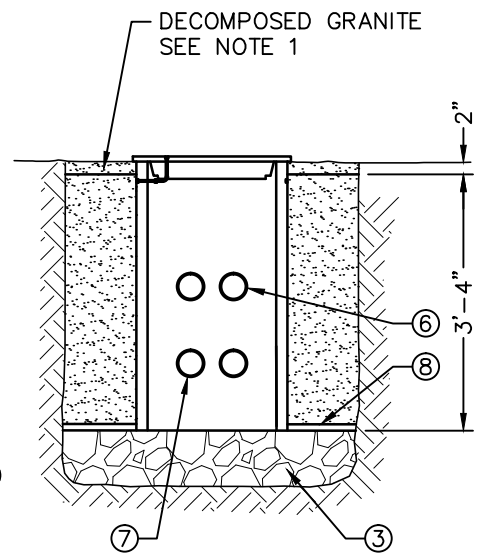
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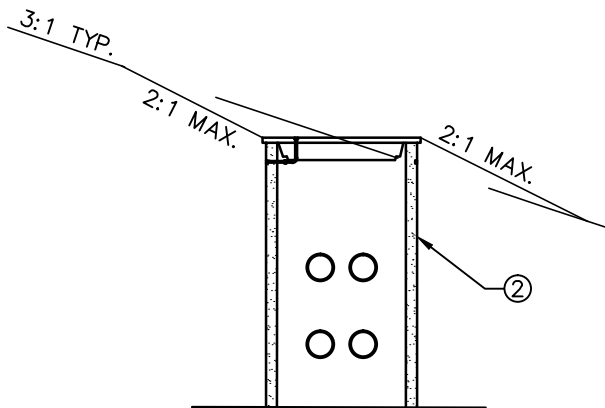
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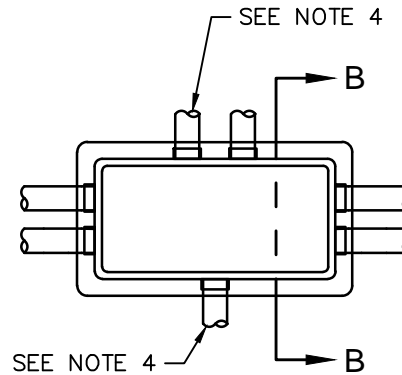
INSTALLATION FOR FIBER PULL BOX



SECTION B-B



INSTALLATION ON SLOPE



SECTION A-A

NOTES:

1. SEE TYPICAL FIBER TRENCH DETAILS STANDARD DRAWING AND TYPICAL FIBER TRENCH & STREET LIGHT JOINT TRENCH DETAIL STANDARD DRAWING FOR TRENCH REQUIREMENTS.
2. SEE TYPICAL FIBER PULL BOX INSTALLATION NOTES STANDARD DRAWING FOR ADDITIONAL NOTES.
3. STRICTER REQUIREMENTS AS DIRECTED BY THE CITY ENGINEER IF PULL BOX IS WITHIN ROADWAY.

MATERIAL LIST

ITEM	DESCRIPTION
①	WARNING TAPE—"CAUTION FIBER OPTIC LINE BURIED BELOW"
②	CITY OF VISALIA FIBER PULL BOX - SEE TYPICAL FIBER PULL BOX STANDARD DRAWINGS
③	3/4" CLEAN CRUSHED ROCK
④	3" DIAMETER SCHEDULE 40 PVC CONDUITS
⑤	CONTROLLED LOW STRENGTH MATERIAL-SEE NOTE 10
⑥	3" TERMINATOR KNOCK OUT - SEE TYPICAL FIBER PULL BOX STANDARD DRAWINGS
⑦	3" TERMINATOR
⑧	30# FELT PAPER & GALVANIZED STEEL SCREEN - SEE NOTE 8
⑨	PULL BOX DELINEATOR (FLEXIBLE IDENTIFICATION MARKER)-SEE NOTE 9

APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

**CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS**

**TYPICAL FIBER PULL BOX
 INSTALLATION 1 OF 2**

REVISIONS
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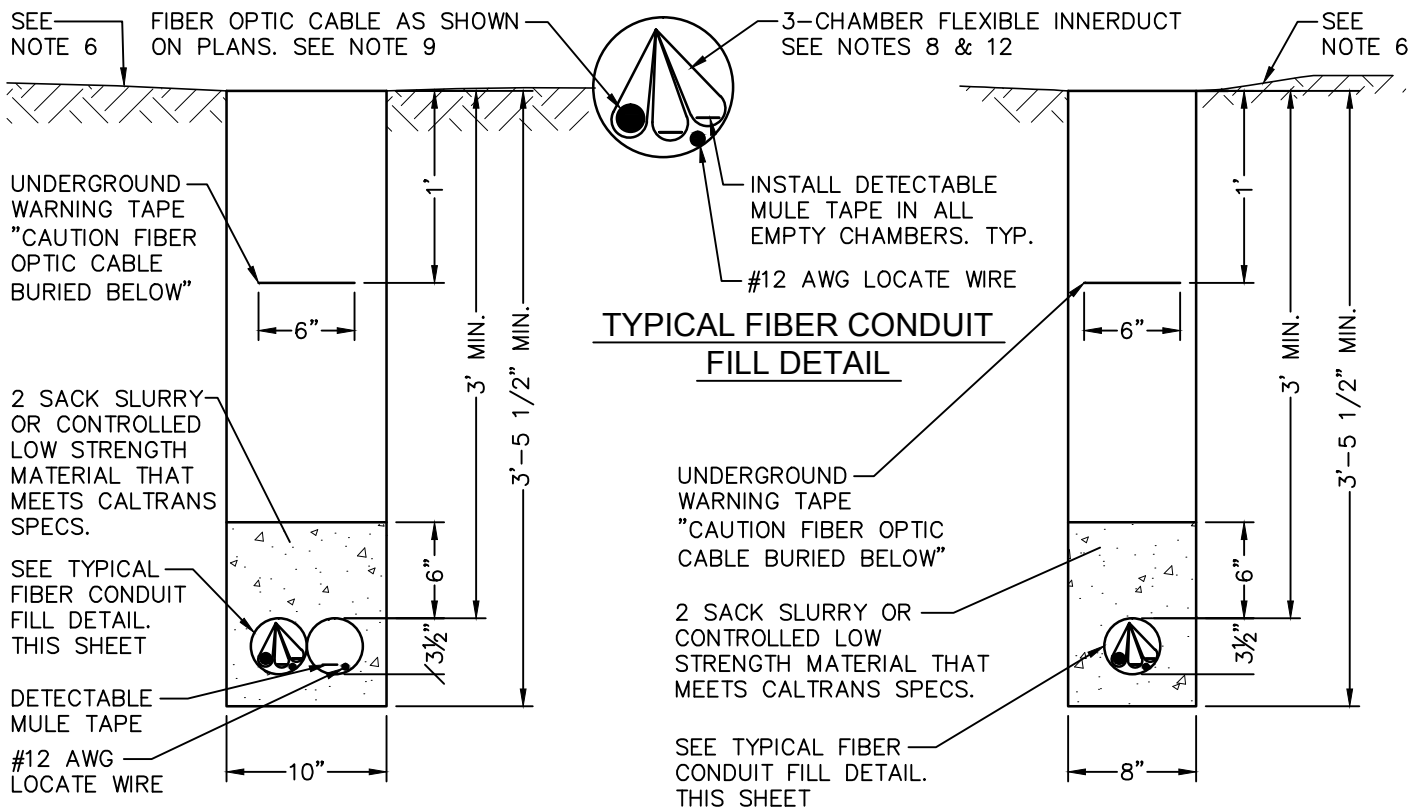
TYPICAL FIBER PULL BOX INSTALLATION NOTES:

1. BACKFILL WITH DESIGNATED 3/4" CLASS 2 AGGREGATE BASE TO SIX (6) INCHES BELOW FINISH GRADE. BACKFILL WITH FOUR (4) INCHES OF WITH SELECT EXCAVATED MATERIAL AND THOROUGHLY COMPACT. TWO (2) INCHES OF DECOMPOSED GRANITE SHALL BE USED TO MATCH SLOPES.
2. THIS PULL BOX IS DESIGNED FOR NON-TRAFFIC AREAS.
3. CONDUIT FROM THE TYPICAL TRENCH SECTION SHALL NOT DEFLECT BY MORE THAN ONE (1) INCHES PER FOOT FROM THE ALIGNMENT PRECEDING OR FOLLOWING THE PULL BOX.
4. LATERAL CONDUIT AS REQUIRED.
5. ALL POWER AND COMMUNICATIONS CABLE SHALL BE TAGGED WITH CABLE IDENTIFICATION.
6. "VISALIA COMMUNICATIONS" SHALL BE THE TITLE EMBOSSED ON THE LID.
7. PVC CONDUIT SHALL BE USED TO ATTACH TO PULL BOX TERMINATORS. SEE TYPICAL FIBER PULL BOX STANDARD DRAWING.
8. 30# FELT PAPER AND A GALVANIZED STEEL SCREEN WITH NO LARGER THAN THREE QUARTERS (3/4) OF AN INCH OPENINGS SHALL BE INSTALLED BETWEEN PULL BOX AND AGGREGATE.
9. INSTALL ORANGE FLEXIBLE IDENTIFICATION MARKERS TWELVE (12) INCHES IN FRONT OF EACH PULL BOX WITHOUT TOUCHING CONDUIT. MARKER HEIGHT SHALL BE THREE (3) FEET ABOVE GRADE AND LABELED "FIBER OPTIC CABLE". FLEXIBLE IDENTIFICATION MARKERS SHALL NOT BE INSTALLED AT PULL BOXES AT SIGNALIZED INTERSECTIONS.
10. POUR 2-SACK SLURRY, OR A CONTROLLED LOW STRENGTH MATERIAL THAT MEETS CALTRANS SPECIFICATIONS, WITHIN TWELVE (12) INCHES OF PULL BOX.
11. PULL BOX HEIGHT ABOVE FINISHED GRADE SHALL PERMIT TWO (2) INCHES OF DECOMPOSED GRANITE TO BE USED TO MATCH SLOPE.
12. REFER TO TYPICAL FIBER PULL BOX STANDARD DRAWING FOR PULL BOX DIMENSIONS.
13. EXISTING PULL BOX CONFIGURATIONS MAY VARY. LOCATIONS WHERE PULL BOXES ARE BEING REPLACED, FIBER PULL BOXES SHALL BE INSTALLED AS SHOWN ON THIS SHEET UNLESS DIRECTED OTHERWISE BY THE CITY ENGINEER OR DESIGNEE.
14. EXISTING CONDUIT ENTERING A PULL BOX MAY NOT BE CORRECTLY ALIGNED TO FACILITATE PULLING CABLES THROUGH THE PULL BOX BY USE OF A PULLING SHOE. THE FORCE ACCOUNT ITEM FOR CONDUIT RECONDITIONING DOES NOT COVER REALIGNMENT OF CONDUIT TO ALLOW FOR PULLING THROUGH AN EXISTING PULL BOX, THEREBY ELIMINATING IT AS A PULL POINT.
15. IN ALL LOCATIONS WHERE FIBER OPTIC CABLE ENTERS A PULL BOX, CABLE SLACK SHALL BE LOOSELY LOOPED USING THE RACK AND HOOK SYSTEM. THIRTY FOOT (30') OF SLACK SHALL BE LEFT WHERE THE FIBER OPTIC CABLE ENTERS/EXITS THE COMMUNICATION VAULT PROVIDING A SIXTY FOOT (60') COIL OF SLACK.
16. A GROUNDING ELECTRODE REQUIRED WHEN SPECIFIED.

INSTRUCTIONS:

IT IS INTENDED THAT THESE NOTES SHALL BE PLACED ON THE PLANS WHERE APPROPRIATE TO FIT SPECIFIC PROJECT CONDITIONS. IF THEY ARE EDITED OR ALTERED, THESE NOTES SHALL REQUIRE APPROVAL BY THE CITY ENGINEER OR DESIGNEE.

APPROVED BY:  CITY ENGINEER R.P.E. 81734	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
TYPICAL FIBER PULL BOX INSTALLATION 2 OF 2	REVISIONS 09/15/16 BK 2016	TE-7



**(2) 3" PVC CONDUIT
OPEN TRENCH INSTALLATION**

**(1) 3" PVC CONDUIT
OPEN TRENCH INSTALLATION**

NOTES:

1. CONDUIT CONTENTS ARE ORIENTED ASSUMING THE SECTION FACING IN THE DIRECTION OF TRAVEL FOR THE MAJOR ARTERIAL.
2. ALL SPOIL MATERIAL SHALL BE REMOVED OFFSITE BY THE CONTRACTOR.
3. AREA SHALL BE RETURNED TO EXISTING GRADE.
4. CONDUIT COUPLINGS SHALL BE STAGGERED.
5. #12 AWG LOCATE WIRE SHALL BE INSTALLED IN ALL CONDUITS. DETECTABLE MULE TAPE SHALL BE INSTALLED IN ALL UNUSED CONDUITS AND FLEXIBLE INNERDUCT CHAMBERS. LEAVE A 10 FOOT LOOP OF WIRE IN A SMALL JUNCTION BOX WITHIN 5 FEET OF THE CONTROLLER CABINET, OR WITHIN THE CABINET.
6. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT TO 95% OF MAXIMUM DENSITY.
7. CONTROLLED LOW STRENGTH MATERIAL REQUIRED WHEN TRUNK AND/OR BRANCH FIBER-OPTIC CABLES INSTALLED IN CONDUIT (2-SACK SLURRY).
8. FLEXIBLE INNERDUCT, MULE TAPE, AND LOCATE WIRE SHALL BE INSTALLED AT TIME OF CONDUIT INSTALLATION AND SHALL TERMINATE AT EACH PULL BOX LOCATED ON PLANS.
9. IF FIBER IS BEING INSTALLED IN EXISTING CONDUIT AND INNERDUCT IS NOT PRESENT, THE 3 CHAMBER FLEXIBLE INNERDUCT SHALL BE INSTALLED PRIOR TO FIBER INSTALLATION.
10. TRENCH UNDER PAVEMENT OR SIDEWALK SHALL REQUIRE MINIMUM ONE-SACK SLURRY (DIRECTED BY CITY ENGINEER OR DESIGNEE) AND BACKFILL PER CITY OF VISALIA EXCAVATION STANDARD DRAWINGS.
11. FIBER INSTALLATION AND TESTING SHALL CONFORM TO THE CITY OF VISALIA STANDARDS AND SPECIFICATIONS.
12. IN CASES WHERE FIBER IS NOT BEING INSTALLED (I.E., CONDUIT ONLY INSTALLATIONS), THE FLEXIBLE INNERDUCT SHALL NOT BE INSTALLED.
13. WHERE CONDUIT IS PLACED IN AN OPEN TRENCH, IT SHALL NOT DEVIATE MORE THAN ONE INCH PER FOOT (1":12" MAX.) IN EITHER THE HORIZONTAL OR VERTICAL PLANES.
14. CONDUIT RUNS SHALL FOLLOW THE MOST DIRECT ROUTE POSSIBLE WITH NO MORE THAN TWO 90° BENDS BETWEEN PULL POINTS AND NO MORE THAN A TOTAL OF 270° OF BEND BETWEEN PULL POINTS.
15. NO MORE THAN ONE WEEK PRIOR TO THE INSTALLATION OF ANY CABLE, ALL NEW AND EXISTING CONDUIT RUNS IN WHICH CABLE IS TO BE INSTALLED SHALL BE CLEARED BY PULLING A METAL-DISC MANDREL OF 90% DIAMETER OF THE CONDUIT.
16. WHEN CONDUIT IS TRENCHED UNDER ROADWAY PAVEMENT, THERE SHALL BE SUFFICIENT VERTICAL CLEARANCE BETWEEN CONDUIT AND PAVEMENT STRUCTURAL SECTION AS DIRECTED BY THE CITY ENGINEER.

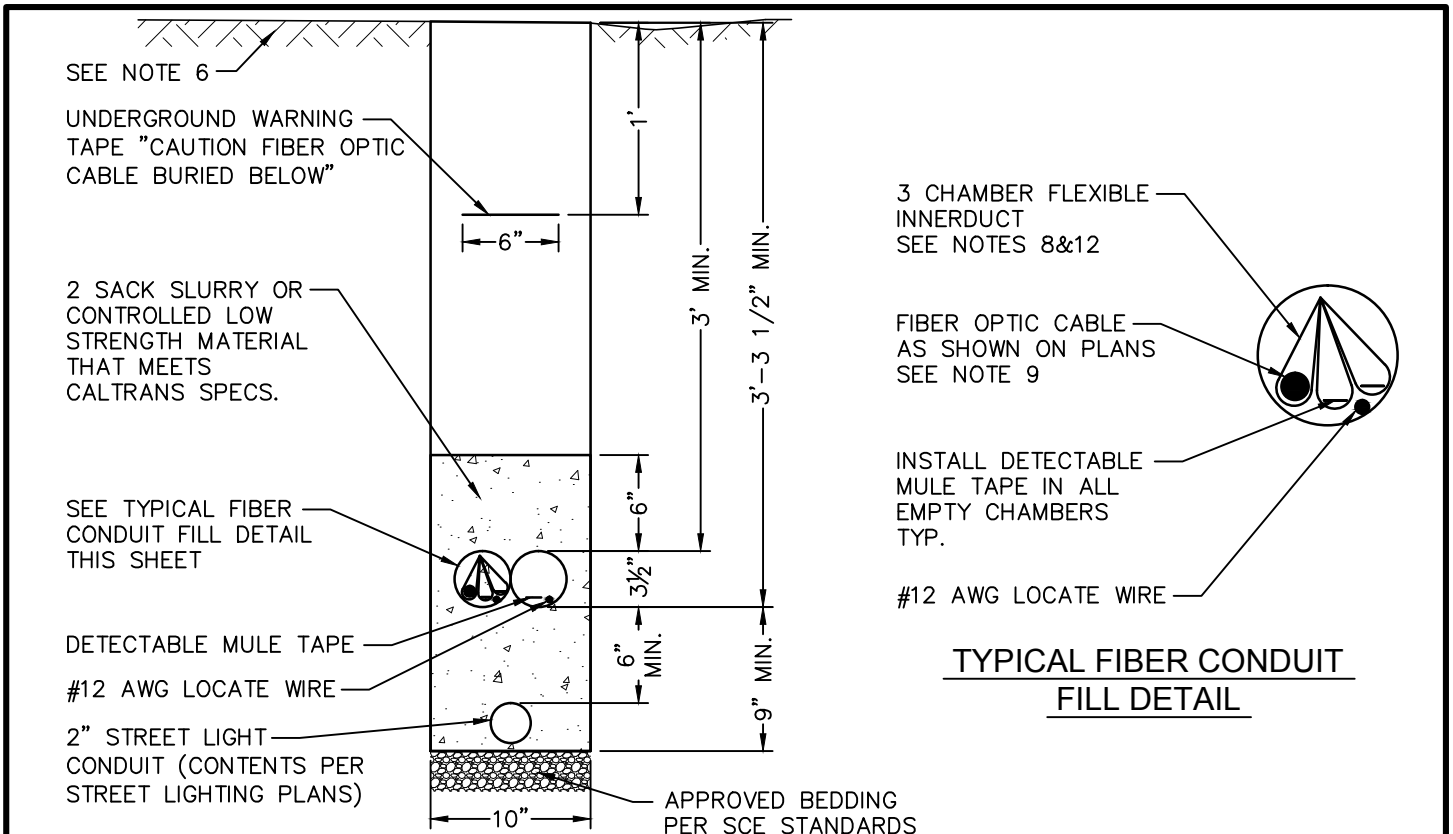
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

TYPICAL FIBER TRENCH DETAILS

REVISIONS
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 BK 2016


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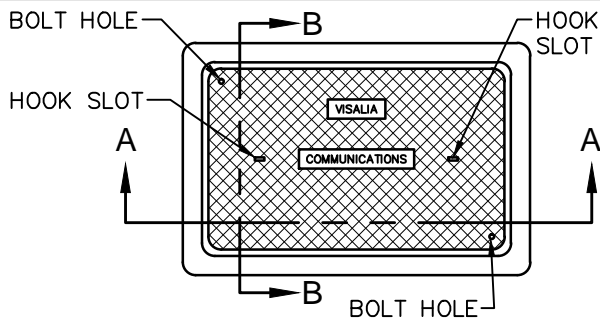
**(2) 3" PVC CONDUIT
OPEN TRENCH INSTALLATION**

NOTES:

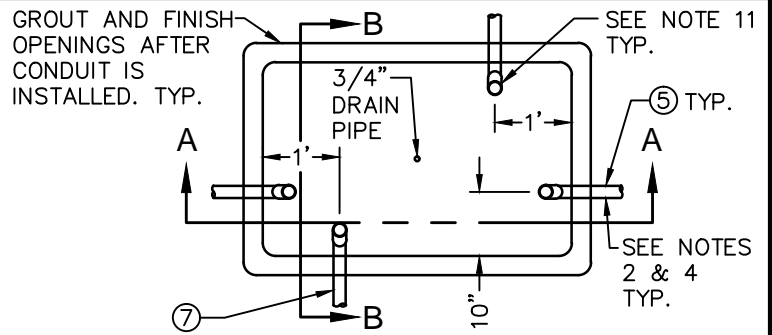
1. CONDUIT CONTENTS ARE ORIENTED ASSUMING THE SECTION FACING IN THE DIRECTION OF TRAVEL FOR THE MAJOR ARTERIAL.
2. ALL SPOIL MATERIAL SHALL BE REMOVED OFFSITE BY THE CONTRACTOR.
3. AREA SHALL BE RETURNED TO EXISTING GRADE.
4. CONDUIT COUPLINGS SHALL BE STAGGERED.
5. #12 AWG LOCATE WIRE SHALL BE INSTALLED IN ALL CONDUITS. LEAVE A 10 FOOT LOOP OF WIRE IN A SMALL JUNCTION BOX (CHRISTY FIBERLYTE FL9 OR APPROVED EQUAL) WITHIN 5 FEET OF THE CONTROLLER CABINET. DETECTABLE MULE TAPE SHALL BE INSTALLED IN ALL UNUSED CONDUITS AND FLEXIBLE INNERDUCT CHAMBERS.
6. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT TO 95% OF MAXIMUM DENSITY.
7. CONTROLLED LOW STRENGTH MATERIAL REQUIRED WHEN TRUNK AND/OR BRANCH FIBER-OPTIC CABLES INSTALLED IN CONDUIT.
8. FLEXIBLE INNERDUCT, MULE TAPE, AND LOCATE WIRE SHALL BE INSTALLED AT TIME OF CONDUIT INSTALLATION AND SHALL TERMINATE AT EACH PULL BOX LOCATED ON PLANS.
9. IF FIBER IS BEING INSTALLED IN EXISTING CONDUIT AND INNERDUCT IS NOT PRESENT, THE 3 CHAMBER FLEXIBLE INNERDUCT SHALL BE INSTALLED PRIOR TO FIBER INSTALLATION.
10. TRENCH UNDER PAVEMENT OR SIDEWALK SHALL REQUIRE MINIMUM ONE-SACK SLURRY (DIRECTED BY CITY ENGINEER OR DESIGNEE) BACKFILL PER CITY OF VISALIA EXCAVATION STANDARD DRAWINGS.
11. FIBER INSTALLATION AND TESTING SHALL CONFORM TO THE CITY OF VISALIA STANDARDS AND SPECIFICATIONS.
12. IN CASES WHERE FIBER IS NOT BEING INSTALLED (I.E., CONDUIT ONLY INSTALLATIONS), THE FLEXIBLE INNERDUCT SHALL NOT BE INSTALLED.
13. WHERE CONDUIT IS PLACED IN AN OPEN TRENCH, IT SHALL NOT DEVIATE MORE THAN ONE INCH PER FOOT (1":12" MAX.) IN EITHER THE HORIZONTAL OR VERTICAL PLANES.
14. CONDUIT RUNS SHALL FOLLOW THE MOST DIRECT ROUTE POSSIBLE WITH NO MORE THAN TWO 90° BENDS BETWEEN PULL POINTS AND NO MORE THAN A TOTAL OF 270° OF BEND BETWEEN PULL POINTS.
15. NO MORE THAN ONE WEEK PRIOR TO THE INSTALLATION OF ANY CABLE, ALL NEW AND EXISTING CONDUIT RUNS IN WHICH CABLE IS TO BE INSTALLED SHALL BE CLEARED BY PULLING A METAL-DISC MANDREL OF 90% DIAMETER OF THE CONDUIT.

APPROVED BY:  CITY ENGINEER R.P.E. 81734	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS 09/16/16 DATE
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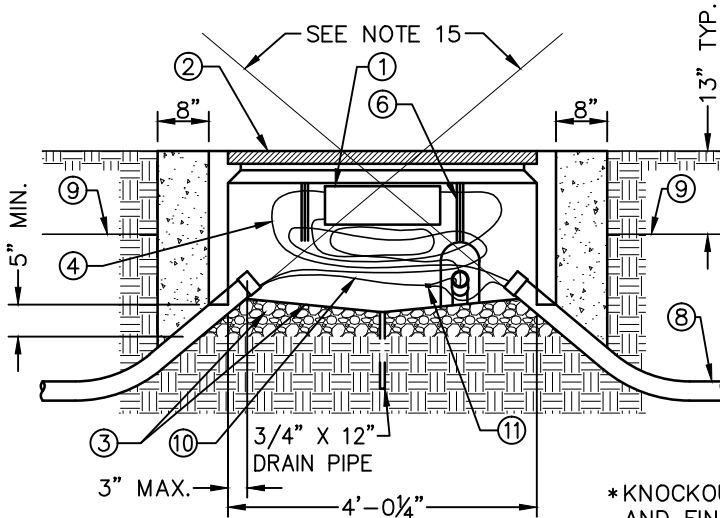
TYPICAL FIBER AND STREET LIGHTING JOINT TRENCH DETAIL	REVISIONS 08/24/16 BK 2016	TE-9
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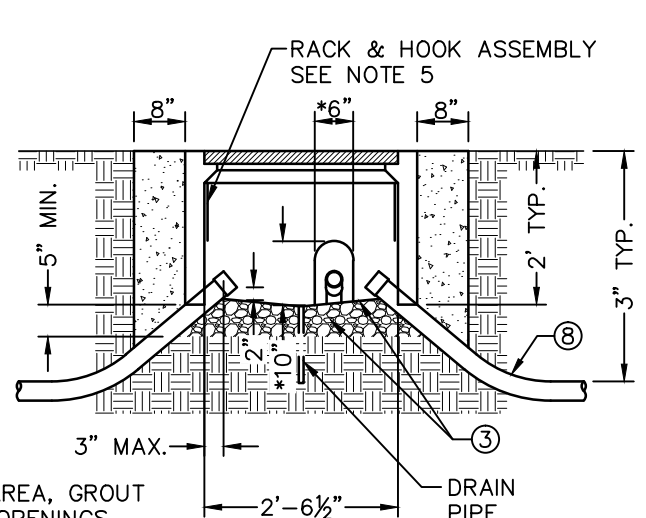
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PLAN-NO LID



SECTION A-A



SECTION B-B

*KNOCKOUT AREA, GROUT AND FINISH OPENINGS AFTER CONDUIT IS INSTALLED

LEGEND:

- ① FIBER OPTIC CABLE SPLICE CLOSURE.
- ② FIBER OPTIC SPLICE VAULT LID.
- ③ 1.5 INCH MAXIMUM COARSE AGGREGATE WITH 2 INCHES GROUT COVER OVER THE AGGREGATE. THE GROUT COVER SHALL BE SLOPED TOWARD THE DRAIN FOR DRAINAGE.
- ④ FIBER OPTIC CABLE. COIL AS REQUIRED.
- ⑤ PROPOSED SMFO BRANCH OR TRUNKLINE CONDUIT, IF NEEDED SEE PLANS
- ⑥ RACK & HOOK ASSEMBLY. SEE NOTE 5 ON TYPICAL COMMUNICATIONS VAULT INSTALLATION NOTES STANDARD DRAWING
- ⑦ TRAFFIC SIGNAL CONDUIT TYP. IF NEEDED. SEE PLANS.
- ⑧ 45 DEGREE ELBOW, 36" RADIUS MIN. ELBOW AND COUPLING MAY NOT BE NECESSARY FOR NEW CONDUIT INSTALLED BY DIRECTIONAL BORING. NEW CONDUIT INSTALLED BY DIRECTIONAL DRILLING SHALL ENTER SPLICE VAULT WITH BENDING RADIUS OF 36" MIN. SEE NOTE 15.
- ⑨ WARNING TAPE. FOR NEW CONDUIT INSTALLED BY TRENCHING
- ⑩ COIL 3 FEET OF TRACER WIRE.
- ⑪ SPLICE TRACER WIRE PER CALTRANS STANDARD SPECIFICATIONS FOR CONDUCTOR SPLICING.

NOTE: STRICTER REQUIREMENTS AS DIRECTED BY THE CITY ENGINEER IF PULL BOX IS WITHIN ROADWAY.

APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

**TYPICAL COMMUNICATIONS
 VAULT INSTALLATION 1 OF 2**

REVISIONS
 09/13/16
 BK 2016

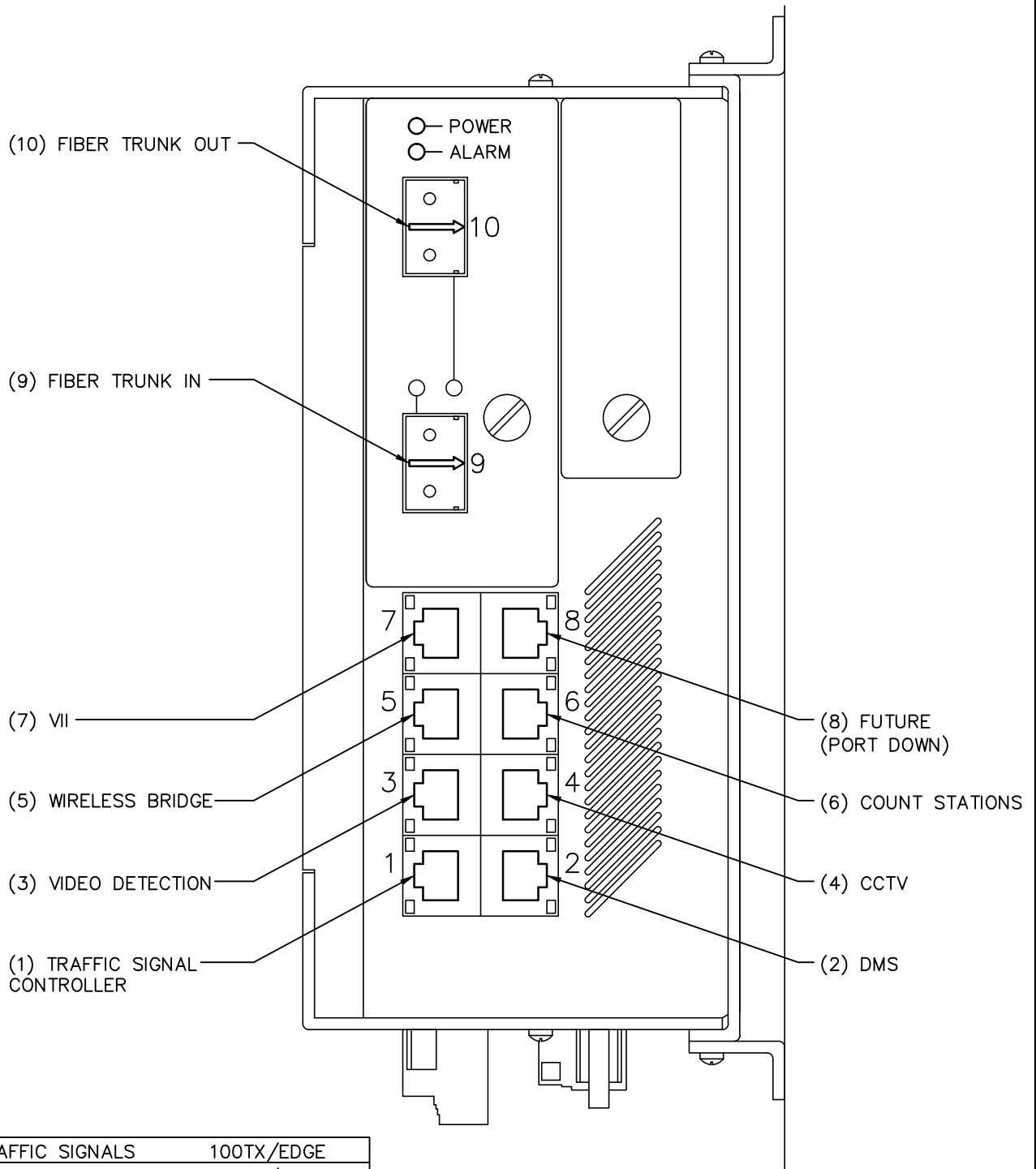
TE-10

TYPICAL COMMUNICATIONS VAULT INSTALLATION NOTES:

1. TRUNKLINE CONDUIT(S) FROM THE TYPICAL BORE OR TRENCH SECTION SHOULD NOT DEFLECT BY MORE THAN ONE FOOT PER 10 FEET FROM THE ALIGNMENT PRECEDING OR FOLLOWING PULL BOX/SPLICE VAULT ENTRANCE/EXIT.
2. EXCESS CONDUIT FOR ALL CONDUIT ENDS SHALL BE CUT BACK TO PROVIDE STUB ENDS OF 1" MINIMUM TO 2" MAXIMUM.
3. SEE PLAN SHEETS FOR NUMBER AND SIZE OF CONDUIT.
4. IF MORE THAN 3 CONDUITS ARE REQUIRED IN SAME KNOCKOUT, KNOCKOUT SHALL BE WIDENED TO 1/2" MORE THAN THE COMBINED CONDUIT WIDTH.
5. ALL SPLICE VAULTS SHALL BE FURNISHED WITH TWO RACKS AND HOOKS INSTALLED ON EACH OF THE TWO LONG SIDES.
6. TRUNKLINE CONDUITS SHALL ENTER THROUGH KNOCKOUTS.
7. SPLICE VAULTS, VAULT EXTENSION, AND VAULT LIDS SHALL BE CHRISTY N48 UTILITY BOX OR APPROVED EQUIVALENT, AND SUPPORT MINIMUM TEST LOAD OF 12,500 LBS. IF SPLICE VAULT IS LOCATED IN TRAVEL WAY, SPLICE VAULT AND LID SHALL CONFORM VERTICAL PROOF LOAD STRENGTH REQUIREMENT AS PER CALTRANS STANDARD SPECIFICATIONS, SECTION 86-2.07.
8. LOCKING MECHANISM SHALL BE PROVIDED FOR VAULT LID. TWO 3/8" PENTA HEAD BOLTS AT 90° SHALL BE USED, ONE 3/8" PENTA HEAD SOCKET AND RATCHET SHALL BE PROVIDED TO CITY OF VISALIA FOR EVERY 10 SPLICE VAULTS.
9. "VISALIA COMMUNICATIONS" SHALL BE CASTED ON THE TOP FACE OF ALL VAULT LIDS.
10. CUT CONDUIT, DE-BURR, AND RE-THREAD PRIOR TO INSTALLING FIBER OPTIC CABLE AND/OR OTHER CABLES/CONDUCTORS. ALL METALLIC CONDUITS SHALL HAVE THREADED METALLIC BUSHINGS. ALL PVC AND HDPE CONDUITS SHALL HAVE BELL ENDS.
11. FURNISH AND INSTALL CAPS OR DUCT PLUGS FOR ALL UNUSED CONDUIT.
12. SPLICE CLOSURE SHALL BE ATTACHED TO THE RACK AND HOOK SYSTEM ON THE SAME SIDE AS THE FIBER OPTIC CABLE. THE SPLICE CLOSURE SHALL BE ANGLED TO FACILITATE MINIMUM BENDING RADIUS IN THE CABLE.
13. IF APPLICABLE, SPLICE VAULT HEIGHT ABOVE EXISTING DIRT GRADE SHALL PERMIT 1" OF FUTURE SURFACE LANDSCAPING. WHEN SPLICE VAULT IS INSTALLED IN EXISTING SIDEWALK, SPLICE VAULT LID SHALL SIT FLUSH WITH THE SIDEWALK. COORDINATE WITH ENGINEER WHERE THIS APPLIES.
14. EACH FIBER OPTIC SPLICE VAULT SHALL BE EQUIPPED WITH 50' MIN. OF SLACK IN THE TRUNKLINE CABLE AND 25' MIN. OF SLACK IN THE BRANCH CABLE, ON EACH SIDE OF FIBER OPTIC SPLICE CLOSURE. (I.E. THE TRUNKLINE CABLE TYPICALLY WILL HAVE 50' OF SLACK AND THE BRANCH CABLE WILL TYPICALLY HAVE 25' OF SLACK.)
15. BOTTOM OF CONDUIT CENTERLINE SHALL BE ALIGNED TO EXIT TOP OF SPLICE VAULT TO FACILITATE CABLE PULLING.
16. MINIMUM SPLICE VAULT DEPTH SHALL BE 2'. IF NECESSARY, AN EXTENSION MAY BE USED TO MEET THIS REQUIREMENT.

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09/16/16 DATE	

TYPICAL COMMUNICATIONS VAULT INSTALLATION 2 OF 2	REVISIONS 09/15/16 BK 2016	TE-11
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PORT 1	TRAFFIC SIGNALS	100TX/EDGE
PORT 2	DMS	100TX/EDGE
PORT 3	VIDEO DETECTION	100TX/EDGE
PORT 4	CCTV	100TX/EDGE
PORT 5	WIRELESS	100TX/TRUNK
PORT 6	COUNT STATIONS	100TX/EDGE
PORT 7	VII (FUTURE)	100TX/EDGE
PORT 8	SPARE	100TX/OFF
PORT 9	FIBER IN	1000FX/TRUNK
PORT 10	FIBER OUT	1000FX/TRUNK

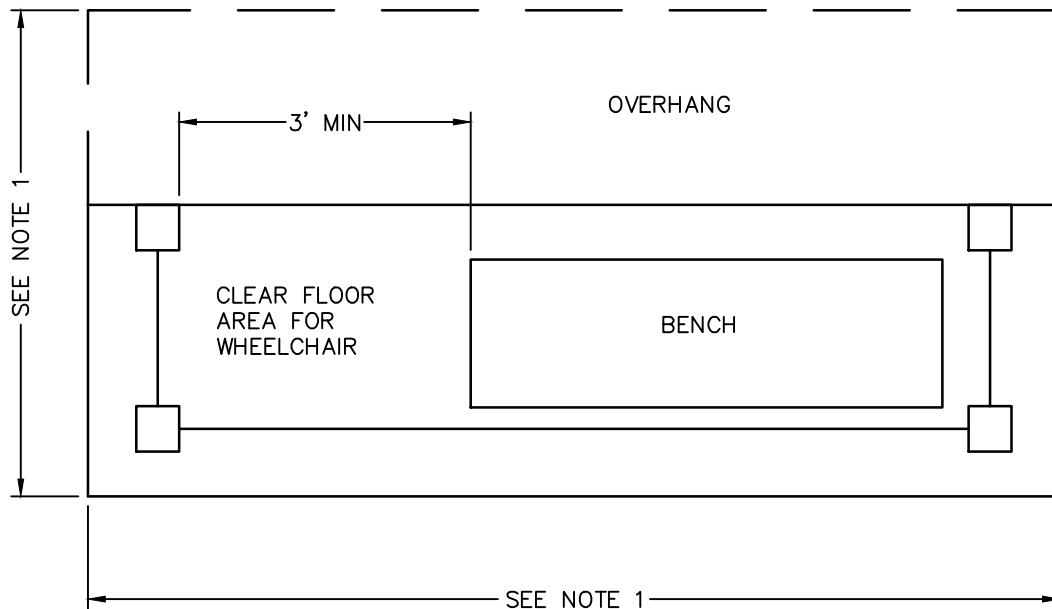
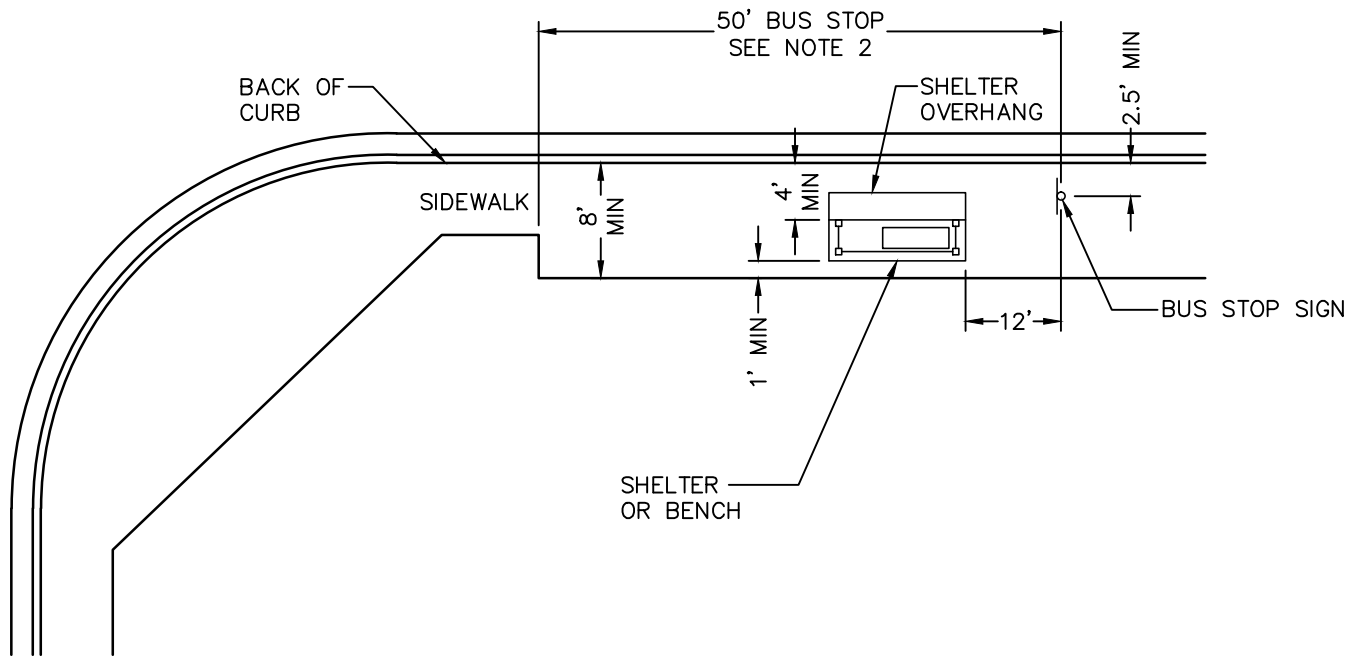
APPROVED BY: 
 CITY ENGINEER R.P.E. 81734 DATE 09/16/16

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

ITS FIELD SWITCH STATIC PORT
 ASSIGNMENTS

REVISIONS
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TE-12



NOTES:

1. ALL SHELTERS SHALL BE PROPERLY CONSTRUCTED ACCORDING TO THE CITY'S ENGINEERED PLANS. CONTACT THE TRANSIT DEPARTMENT TO OBTAIN THE STRUCTURAL ENGINEERING PLANS FOR THE SHELTER. SIZE OF SHELTER SHALL BE VERIFIED WITH THE TRANSIT DEPARTMENT PRIOR TO CONSTRUCTION.
2. 8' MIN SIDEWALK DEPTH MUST EXTEND AT LEAST 25' ENDING AT BUS STOP SIGN POLE. DESIRABLE LENGTH IS 50'.

APPROVED BY: *[Signature]* 09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

**BUS SHELTER AND SIGN LOCATION
 WITH WHEELCHAIR AREA**

REVISIONS
 09/27/13
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TR-1



CONTACT CITY OF VISALIA TRANSIT FOR BUS STOP SIGN.

TELESPAR 2"X12' 14 GAUGE SIGN POST

7' MIN

CURB

SIDEWALK

STREET

3' MIN

NOTES:

- 1. MINIMUM CLEARANCE PREVENTS DAMAGE TO THE BUS.
- 2. INSTALL POST AND FOOTING IN ACCORDANCE WITH STREET NAME SIGN INSTALLATION STANDARD DRAWING.

APPROVED BY:

[Signature]
CITY ENGINEER

09/16/16
DATE

R.P.E. 81734

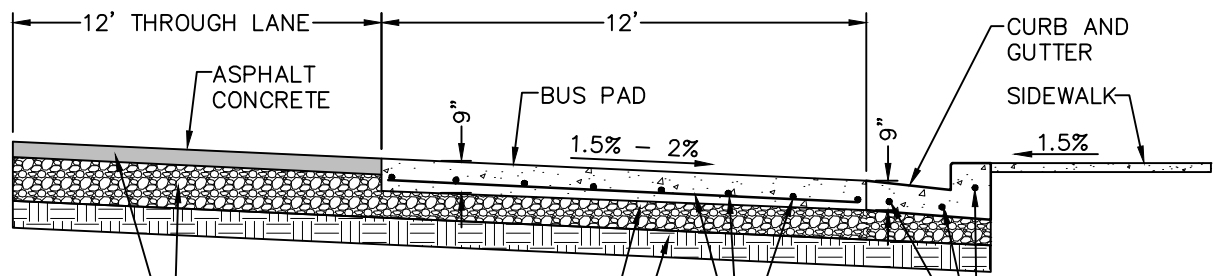
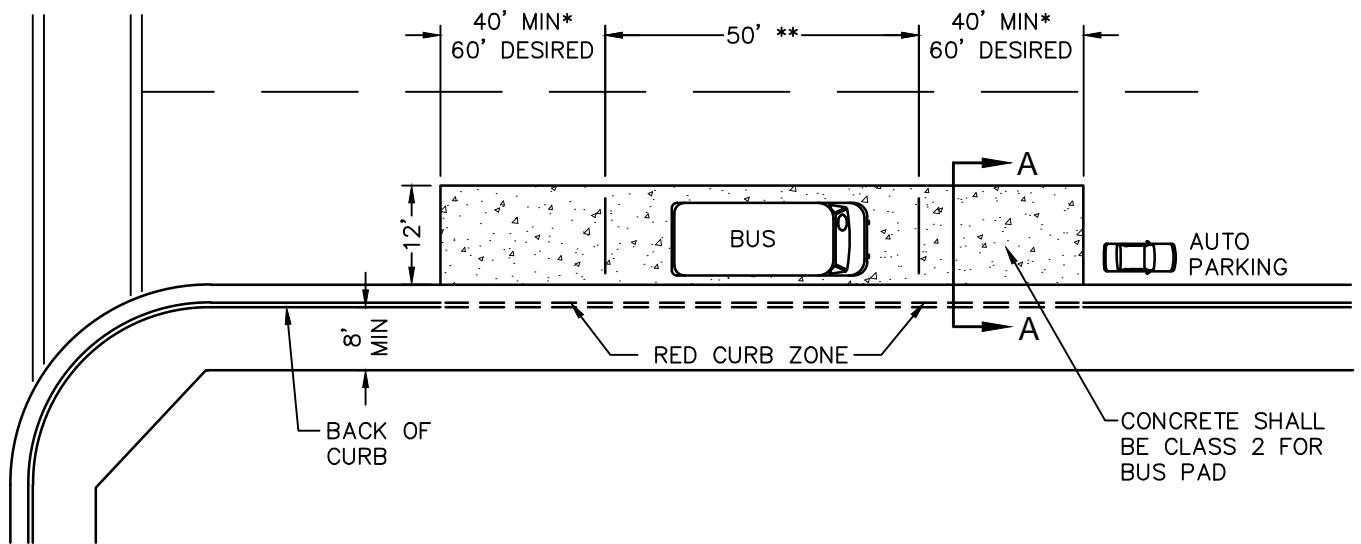
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

BUS STOP SIGN

REVISIONS

09/15/16
BK 2016

TR-2



ASPHALT CONCRETE AND AGGREGATE BASE PER PLANS OR TRENCH BACKFILL/PATCH PAVING STANDARD DRAWING AS REQUIRED BY THE CITY ENGINEER

6" CLASS 2 AGGREGATE BASE
95% RELATIVE COMPACTION

6" COMPACTED SUB-GRADE
95% RELATIVE COMPACTION

#4 BARS AT 18" O.C. BOTH DIRECTIONS

3-#4 BARS IN THE LONGITUDINAL DIRECTION AS SHOWN

SECTION A-A

NOTES:

1. CONCRETE FOR BUS PAD SHALL BE CLASS 2.
2. CONCRETE FOR SIDEWALK AND CURB AND GUTTER SHALL BE CLASS 2 OR CLASS 3.
3. REINFORCING BARS SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REINFORCING BARS SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REINFORCING BARS SHALL HAVE A MINIMUM OF 3" OF CLEAR COVERAGE.
5. WEAKEND PLANE JOINTS SHALL BE PLACED IN THE BUS PAD AT 10'-15' CENTERS, MINIMUM DEPTH OF 2". JOINTS IN CURB AND GUTTER SHALL ALIGN WITH JOINTS IN BUS PAD WHERE POSSIBLE.

* 40' MINIMUM FOR SPEED LIMIT 30 MPH AND UNDER. 60' DESIRABLE FOR SPEED LIMIT ABOVE 30 MPH.

** FOR EACH ADDITIONAL PASS THROUGH BUS BERTH ADD 50', AND FOR EACH ADDITIONAL LAYOVER BUS BERTH ADD 80'.

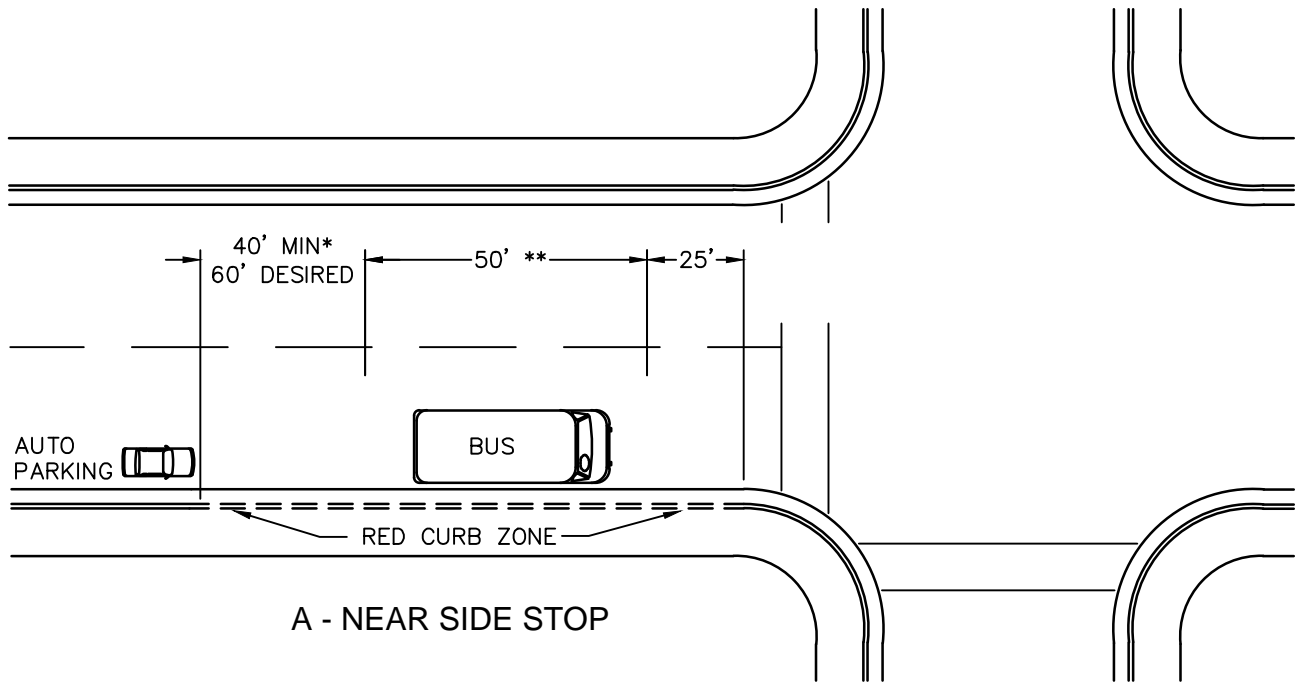
APPROVED BY:  09/16/16
CITY ENGINEER R.P.E. 81734 DATE

**CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS**

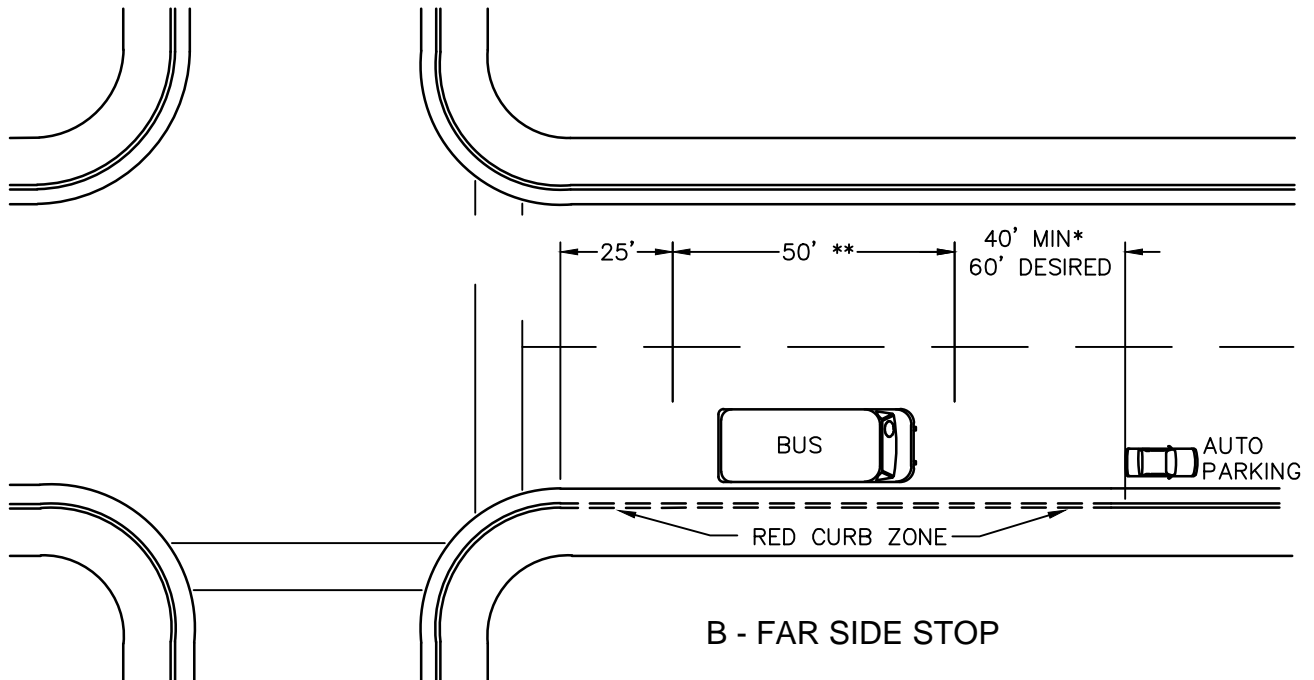
BUS PAD

REVISIONS
09/27/13
BK 2016

TR-3



A - NEAR SIDE STOP



B - FAR SIDE STOP

NOTES:

* 40' MINIMUM FOR SPEED LIMIT 30 MPH AND UNDER. 60' DESIRABLE FOR SPEED LIMIT ABOVE 30 MPH.

** FOR EACH ADDITIONAL PASS THROUGH BUS BERTH ADD 50', AND FOR EACH ADDITIONAL LAYOVER BUS BERTH ADD 80'.

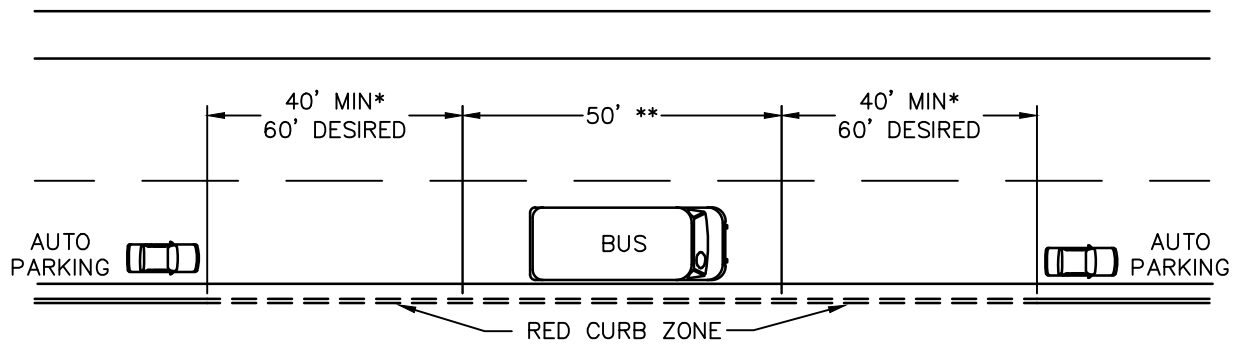
APPROVED BY:  09/16/16
 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

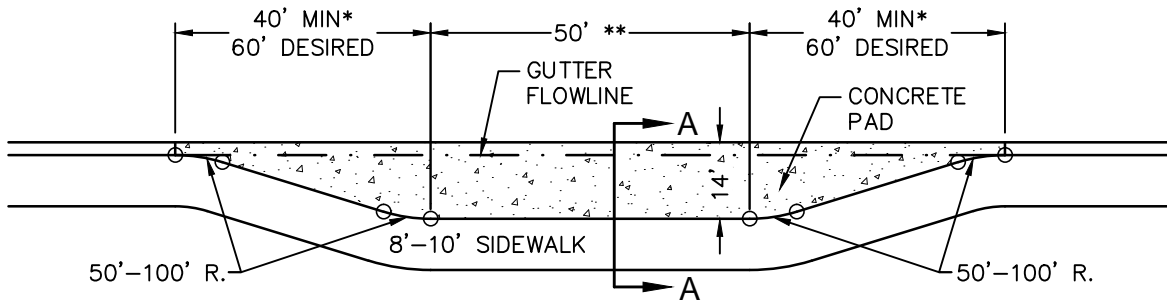
BUS STOPS A & B

REVISIONS
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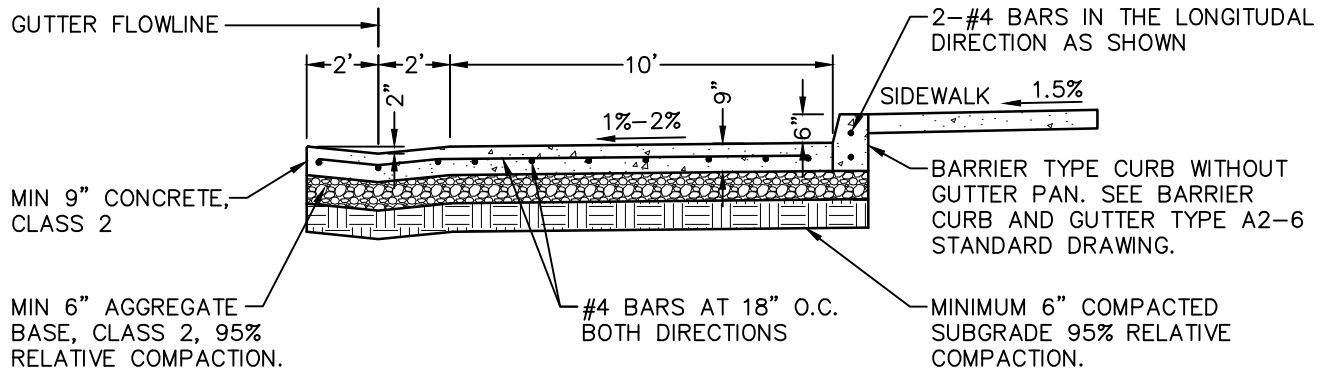
TR-4



C - MID-BLOCK STOP



D - TURNOUT STOP



SECTION A-A

NOTES:

1. CONCRETE FOR VEE GUTTER AND BUS PAD SHALL BE CLASS 2.
2. CONCRETE FOR SIDEWALK AND CURB AND GUTTER SHALL BE CLASS 2 OR CLASS 3.
3. REINFORCING BARS SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REINFORCING BARS SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REINFORCING BARS SHALL HAVE A MINIMUM OF 3" OF CLEAR COVERAGE.
5. WEEKEND PLANE JOINTS SHALL BE PLACED IN THE BUS PAD AT 12'-15' CENTERS, MINIMUM DEPTH OF 2". JOINTS IN CURB AND GUTTER SHALL ALIGN WITH JOINTS IN BUS PAD WHERE POSSIBLE.

* 40' MINIMUM FOR SPEED LIMIT 30 MPH AND UNDER. 60' DESIRABLE FOR SPEED LIMIT ABOVE 30 MPH.

** FOR EACH ADDITIONAL PASS THROUGH BUS BERTH ADD 50', AND FOR EACH ADDITIONAL LAYOVER BUS BERTH ADD 80'.

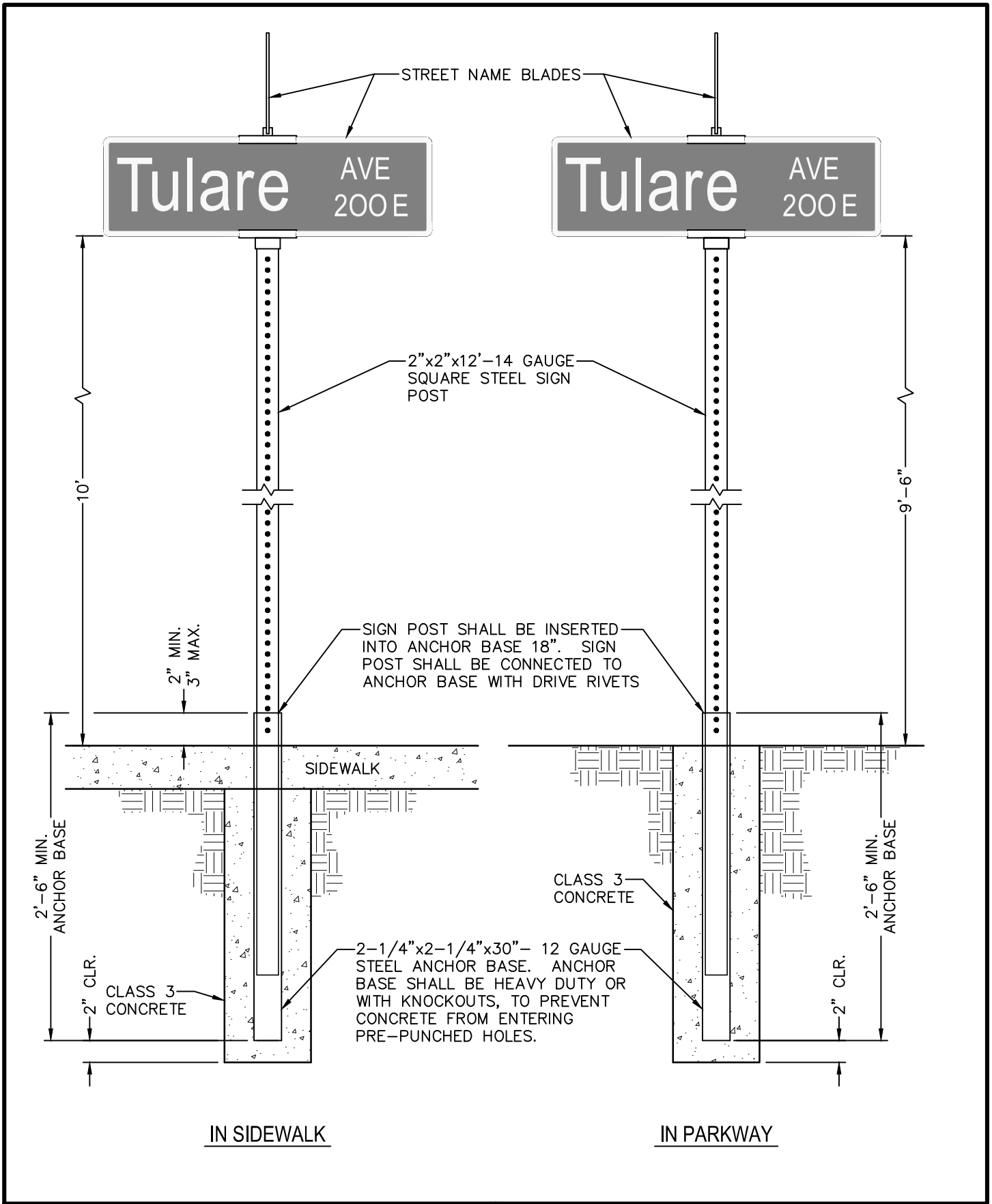
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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

BUS STOPS C & D

REVISIONS
09/27/13
BK 2016

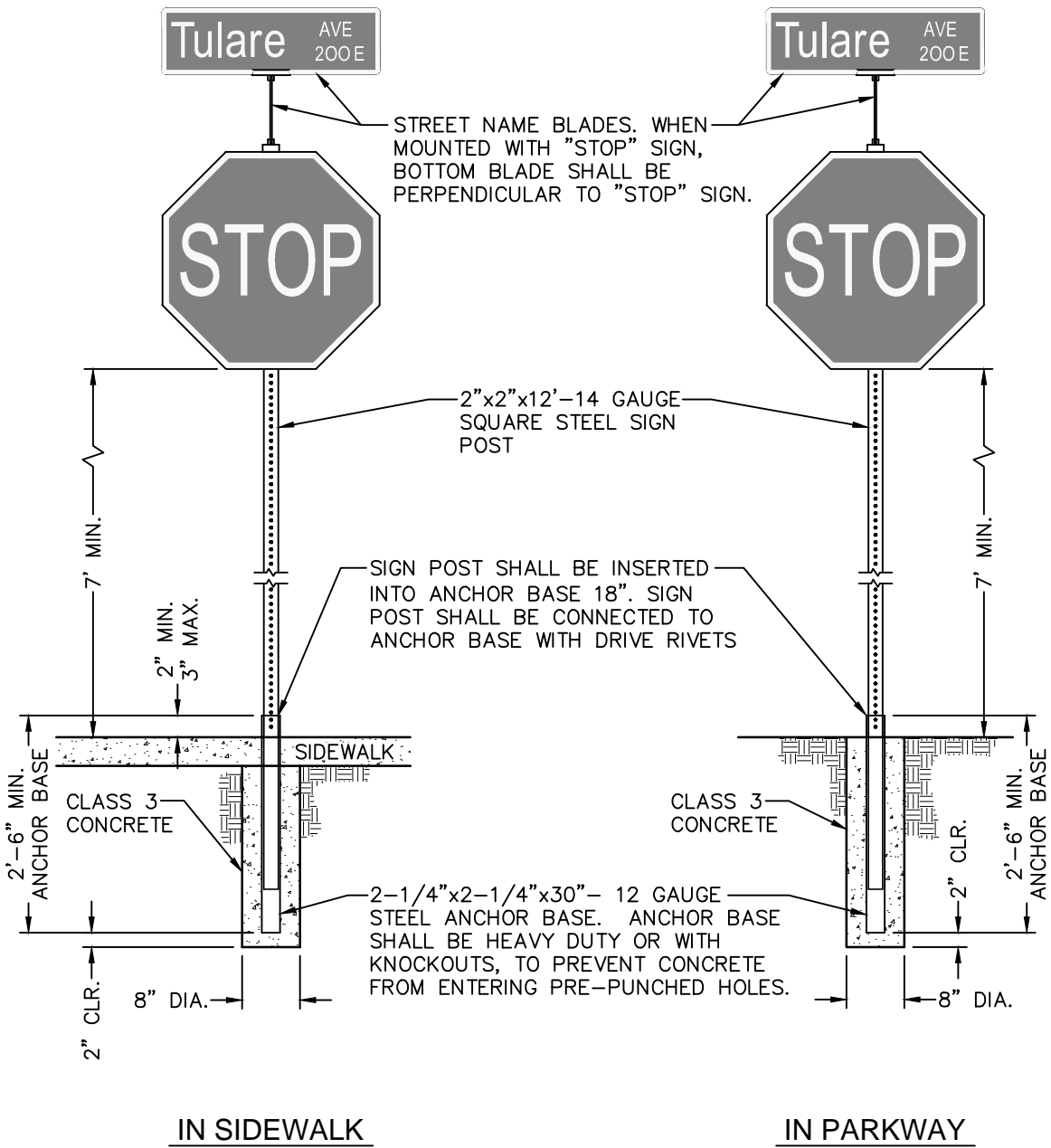
TR-5



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CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS

STREET NAME SIGN INSTALLATION	REVISIONS	TS-1
	09/13/16 BK 2016	



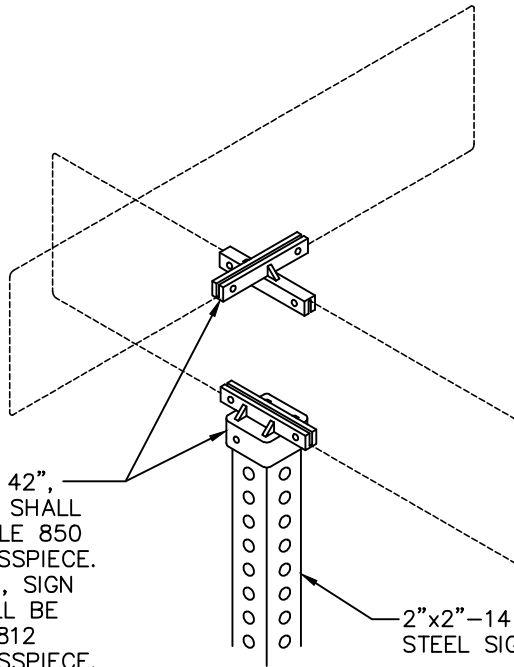
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

STREET NAME SIGN INSTALLATION
 WITH "STOP" (R1) SIGN

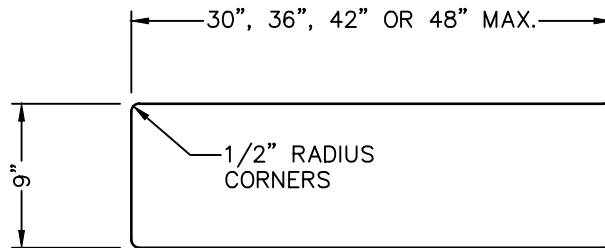
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 09/13/16
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TS-2



FOR SIGNS SHORTER THAN 42",
SIGN MOUNTING HARDWARE SHALL
BE ZUMAR INDUSTRIES STYLE 850
LONG, TUBE CAP AND CROSSPIECE.
FOR SIGNS 42" OR LONGER, SIGN
MOUNTING HARDWARE SHALL BE
ZUMAR INDUSTRIES STYLE 812
LONG, TUBE CAP AND CROSSPIECE.

2"x2"-14 GAUGE SQUARE
STEEL SIGN POST



SIGN DIMENSIONS

NOTE:

ALL SIGN MATERIAL SHALL CONFORM TO THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. SIGN BLANKS SHALL
BE 0.08" IN THICKNESS AND SHALL BE ALUMINUM ALLOY #5052-H38.

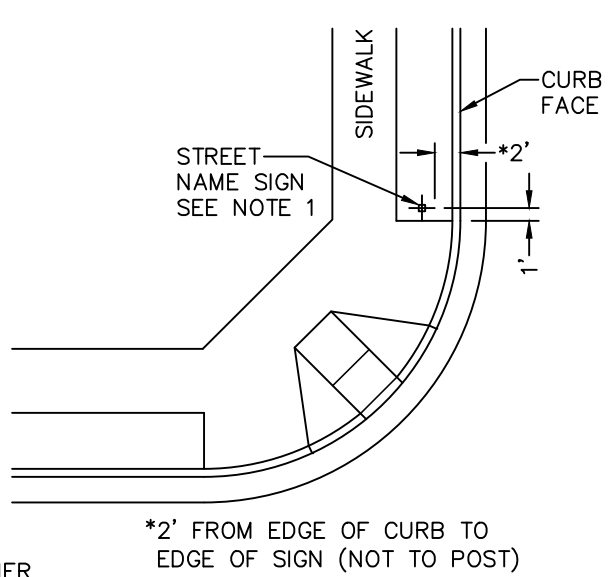
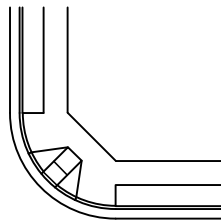
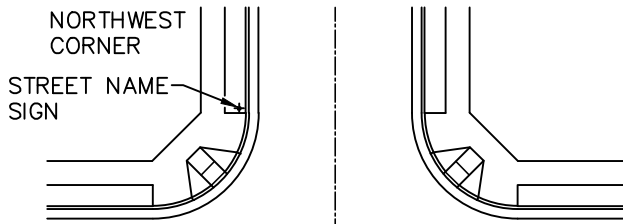
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DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

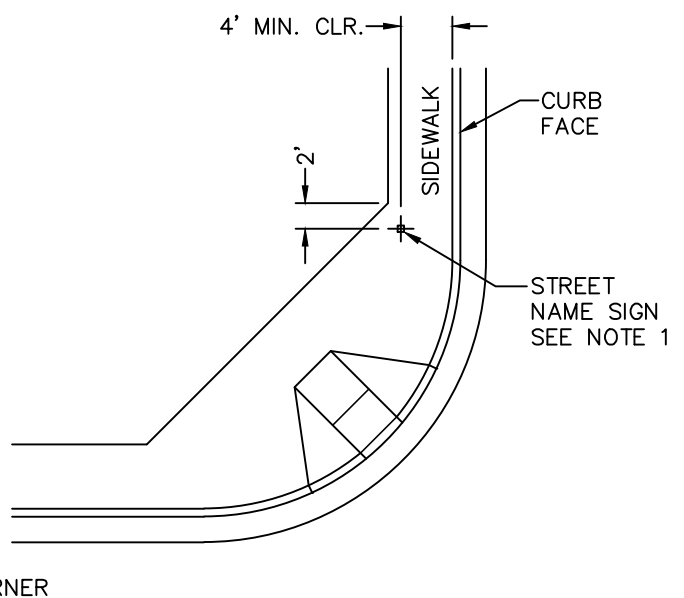
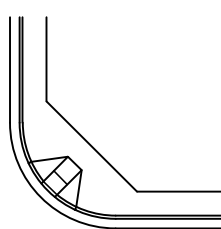
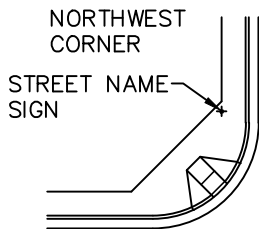
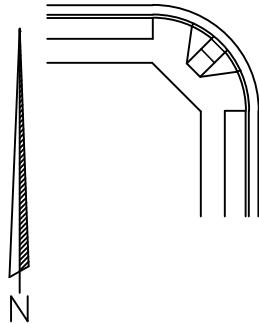
STREET NAME SIGNS
TYPE 1

REVISIONS
09/13/16
BK 2016

TS-3



WITH PARKWAY



WITHOUT PARKWAY

NOTES:

1. STREET NAME SIGNS SHALL BE TYPICALLY LOCATED ON THE NORTHWEST OR SOUTHEAST CORNER OF AN INTERSECTION UNLESS PLACED ON A STOP SIGN PER STREET NAME SIGN INSTALLATION WITH "STOP" (R1) SIGN.
2. STREET NAME SIGNS SHALL BE PLACED ON STOP SIGNS AND ATTACHED TO STREET LIGHTS WHENEVER POSSIBLE.
3. STREET NAME SIGNS LOCATED IN SIDEWALK AREAS SHALL MAINTAIN A FOUR FOOT HORIZONTAL CLEAR PEDESTRIAN ACCESS ROUTE.
4. IF NO CURB IS PRESENT, SIGNS ARE TO BE INSTALLED A MINIMUM OF 6FT-12FT FROM EDGE OF PAVEMENT AND/OR AS REQUIRED PER THE CA MUTCD.

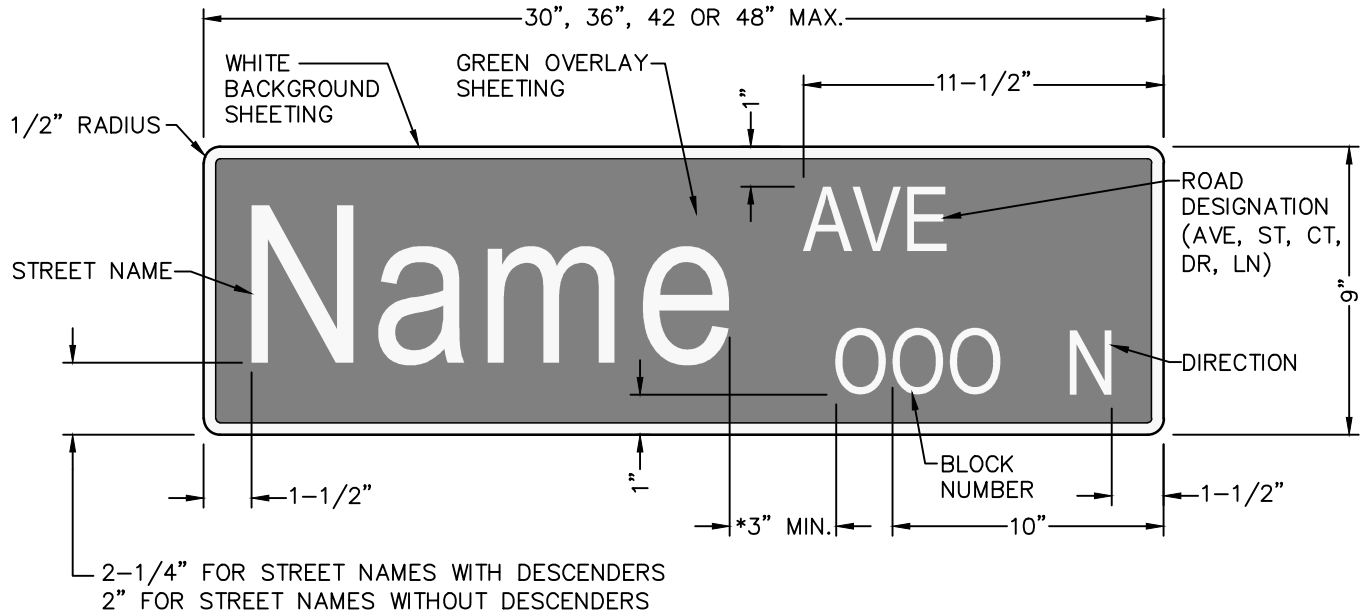
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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STREET NAME SIGN LOCATIONS
LOCAL STREETS

REVISIONS
08/25/16
BK 2016

TS-4



*MINIMUM WIDTH MAY BE REDUCED TO 1" ONLY ON 48" BLADES TO FIT STREET NAME

NOTES:

1. ALL SIGN MATERIAL SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. SIGN BLANKS SHALL BE 0.08" MINIMUM IN THICKNESS AND SHALL BE ALUMINUM ALLOY #5052-H38.
2. ALL SHEETING SHALL BE 3M BRAND SCOTCHLITE REFLECTIVE MATERIAL. NO SUBSTITUTIONS WILL BE ACCEPTED.
3. BACKGROUND SHEETING SHALL BE WHITE #4090 (DIAMOND GRADE). OVERLAY SHEETING SHALL BE GREEN #1177C ELECTRONIC CUTTABLE FILM.
4. STREET NAME LETTERS SHALL BE 6" IN SIZE, "ROAD GEEK" OR "HIGHWAY GOTHIC" FONT, SERIES 'C' WITH AN UPPER CASE INITIAL FOLLOWED BY LOWER CASE LETTERS.
5. ROAD DESIGNATION, BLOCK NUMBER AND DIRECTION LETTERS SHALL BE 3" UPPER CASE, SERIES 'C' (DIECUT).
6. WHEN STREET NAME LENGTH DOES NOT FIT ON 48" BLADE, LETTERS MAY BE REDUCED TO SERIES 'B'. SERIES 'A' IS NOT ALLOWED.
7. WHEN STREET NAME LENGTH IS SHORT, USE SERIES 'D'.

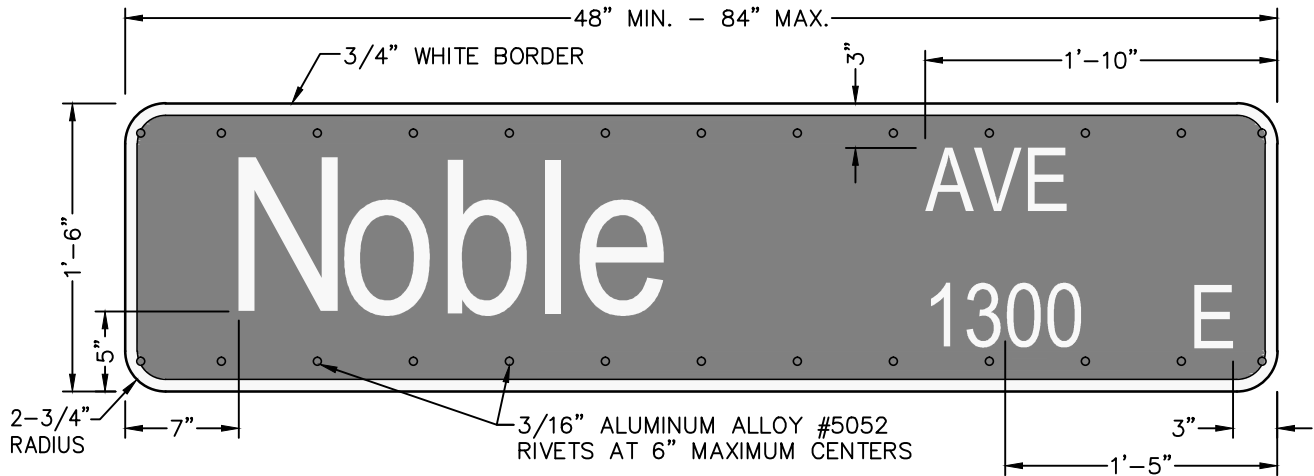
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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

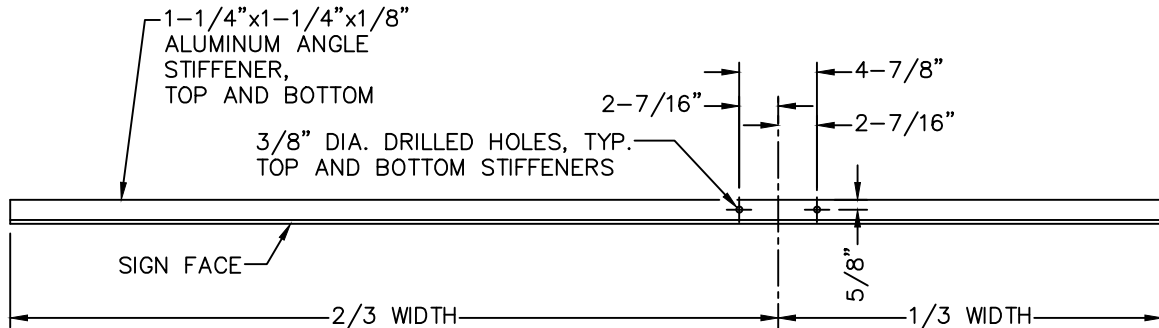
STREET NAME SIGN
STREET INTERSECTIONS

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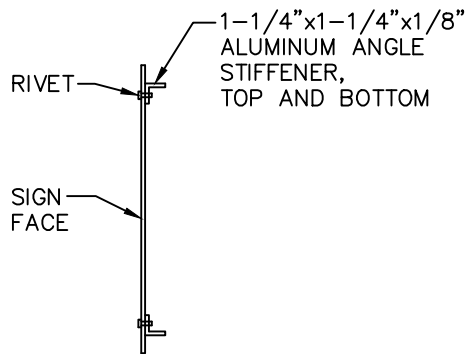
TS-5



FRONT VIEW



TOP VIEW



SIDE VIEW

NOTES:

1. SIGN BLANK SHALL BE ALUMINUM ALLOY 6061-T6 OR 5052-H38.
2. ALL SHEETING, LETTERS AND NUMERALS SHALL BE 3M BRAND DIAMOND GRADE 3 (DG3) SCOTCHLITE REFLECTIVE MATERIAL. NO SUBSTITUTIONS WILL BE ACCEPTED.
3. BACKGROUND SHEETING SHALL BE GREEN (#4097).
4. BORDER, LETTERS AND NUMERALS SHALL BE WHITE (#3970).
5. STREET NAME LETTERS SHALL BE 12", "HIGHWAY GOTHIC" FONT, SERIES 'E' MODIFIED UPPER CASE INITIAL WITH LOWER CASE SUBSEQUENT LETTERS. "AVE", "ST", "DR", "LN", BLOCK NUMBER AND DIRECTION SHALL BE 5", "HIGHWAY GOTHIC" FONT, SERIES 'E' MODIFIED UPPER CASE LETTERS.
6. SEE STREET NAME SIGN BRACKET STANDARD DRAWING FOR BRACKET INFORMATION.

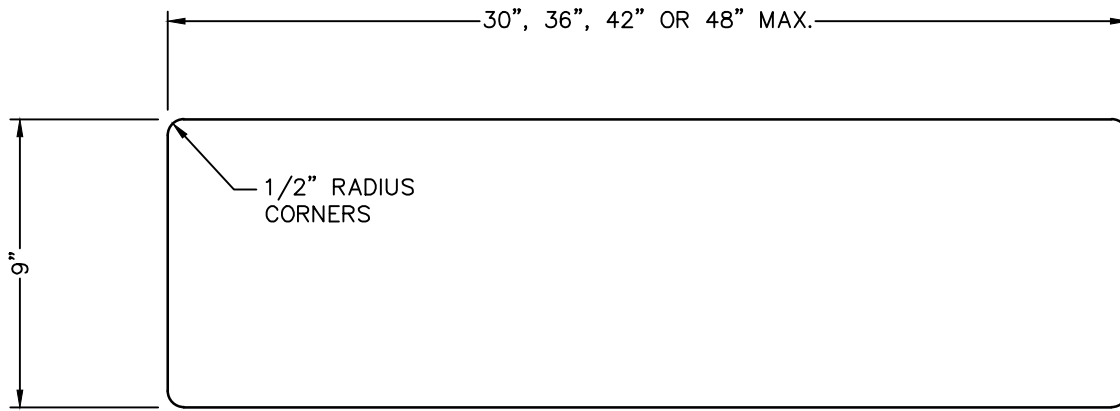
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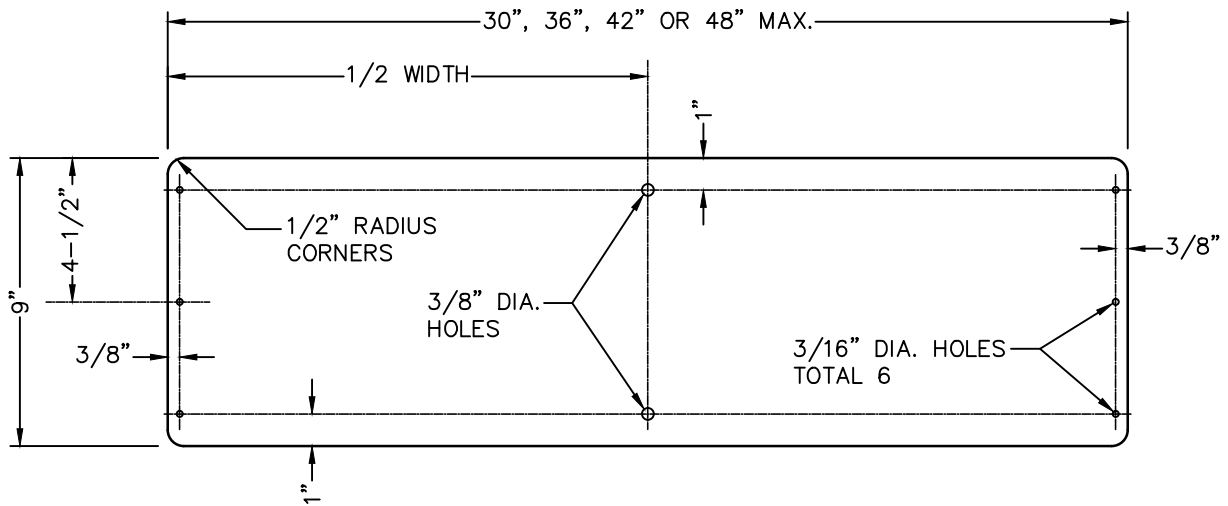
STREET NAME SIGN
 SIGNALIZED INTERSECTION

REVISIONS
 08/25/16
 BK 2016

TS-6



TYPE 1



TYPE 2

NOTE:
 ALL SIGN MATERIAL SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. SIGN BLANKS SHALL BE 0.08" IN THICKNESS AND SHALL BE ALUMINUM ALLOY #5052-H38. TYPE 2 SIGN BLANKS SHALL BE DRILLED AS SHOWN.

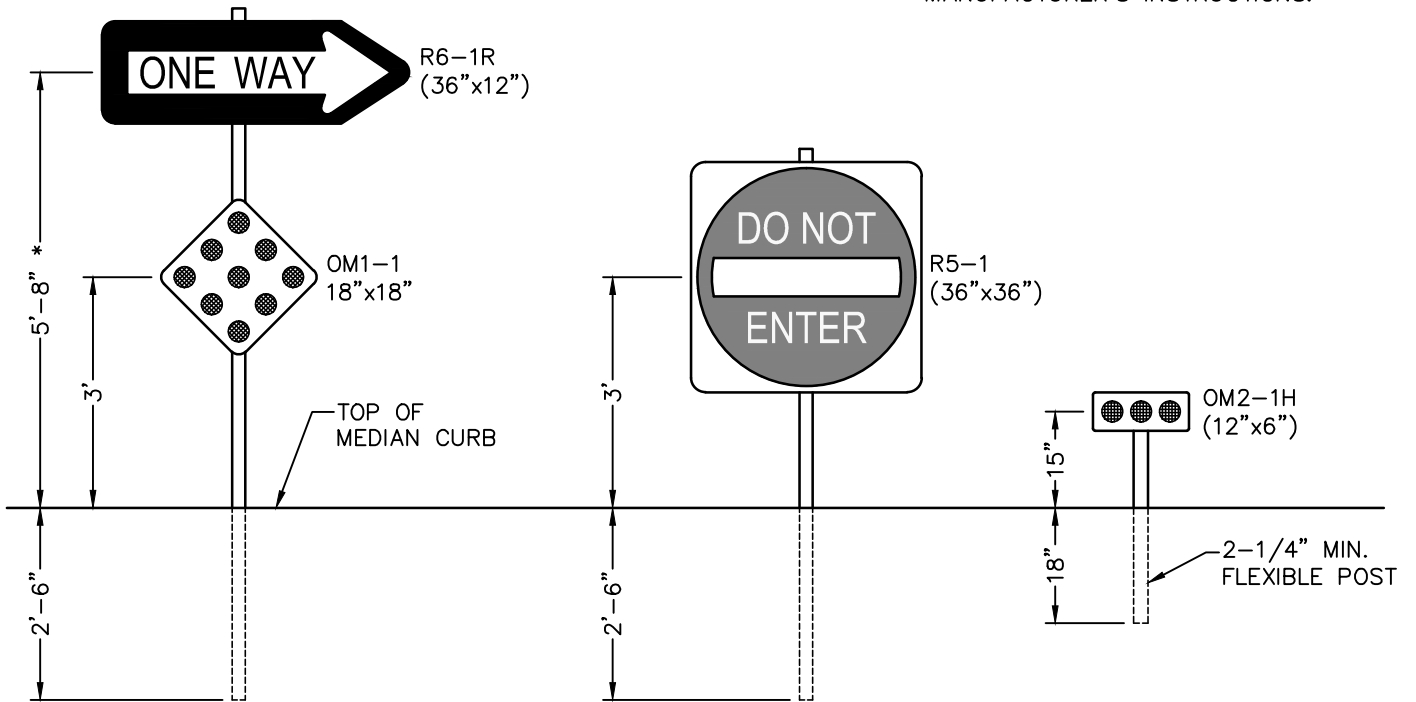
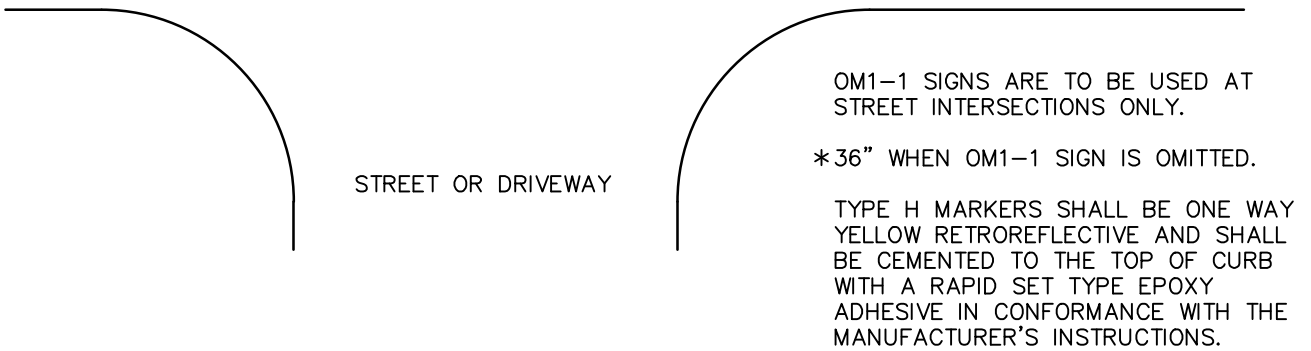
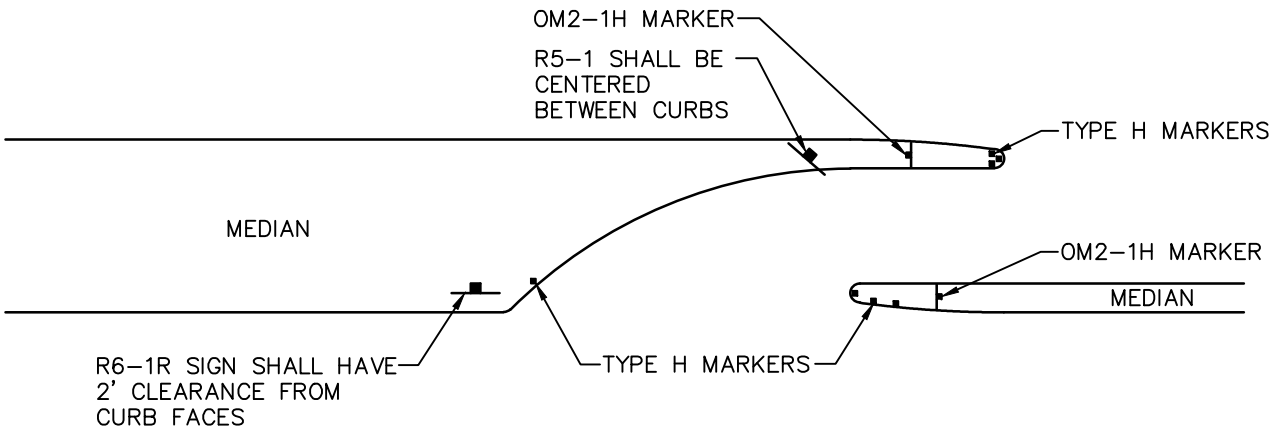
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

STREET NAME BLANK

REVISIONS
 08/25/16
 BK 2016

TS-7



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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

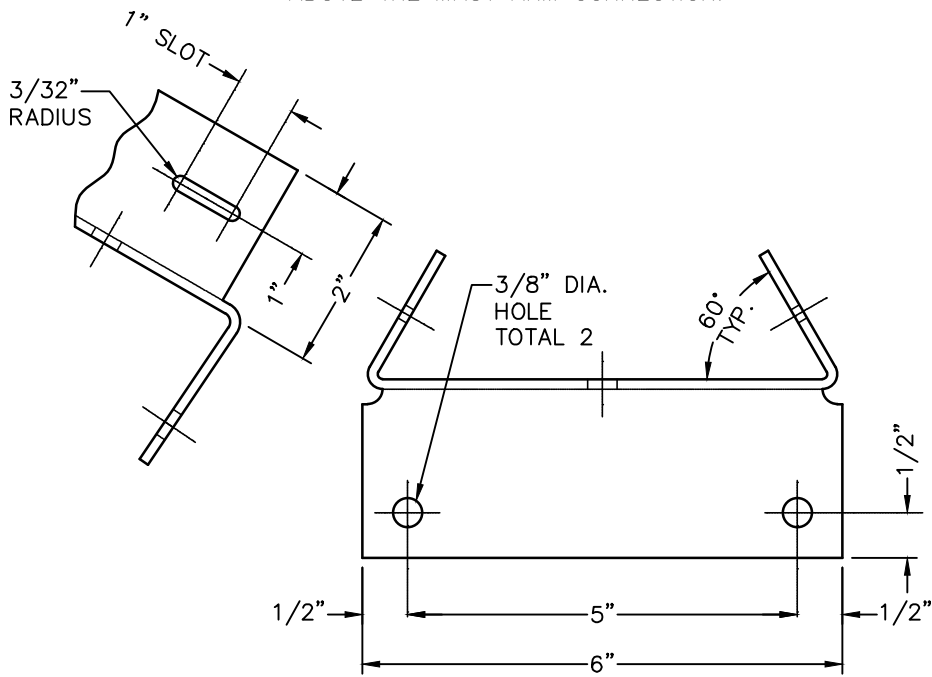
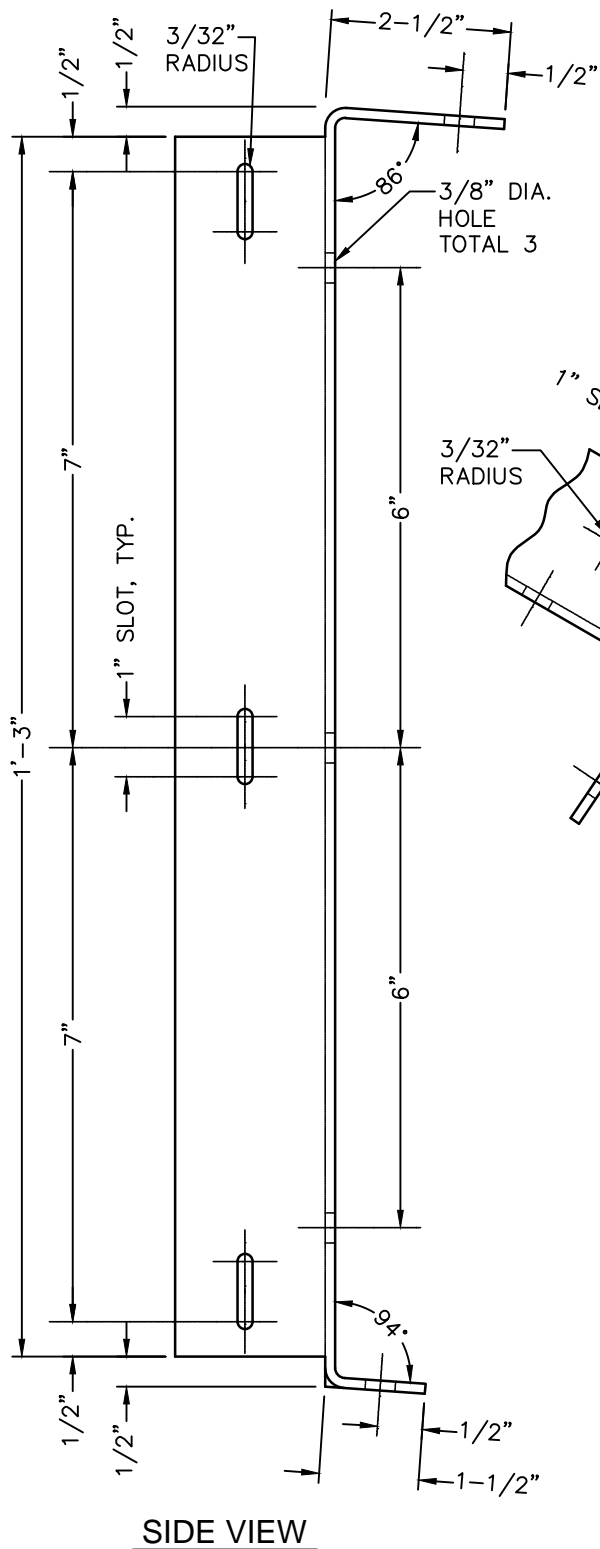
MEDIAN ISLAND OPENING
 SIGNING

REVISIONS
 08/25/16
 BK 2016

TS-8

NOTES:

1. ALL MATERIAL SHALL BE 12 GAUGE HOT ROLLED STEEL SHEET, LOW CARBON COMMERCIAL QUALITY. SPECIFICATION QQS-636. GRADE 1010.
2. ALL BRACKETS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION PER SPECIFICATION ASTM A 123/A 123M.
3. ALL BENDS SHALL BE 1/8" RADIUS.
4. ALL SHARP EDGES SHALL BE DEBURRED.
5. TOLERANCES: DIMENSIONS 1/32"±
ANGLES 0°30'±
6. ATTACH BRACKET TO THE TRAFFIC SIGNAL POLE USING (3) 3/4" STAINLESS STEEL BANDS, 2 FEET ABOVE THE MAST ARM CONNECTION.



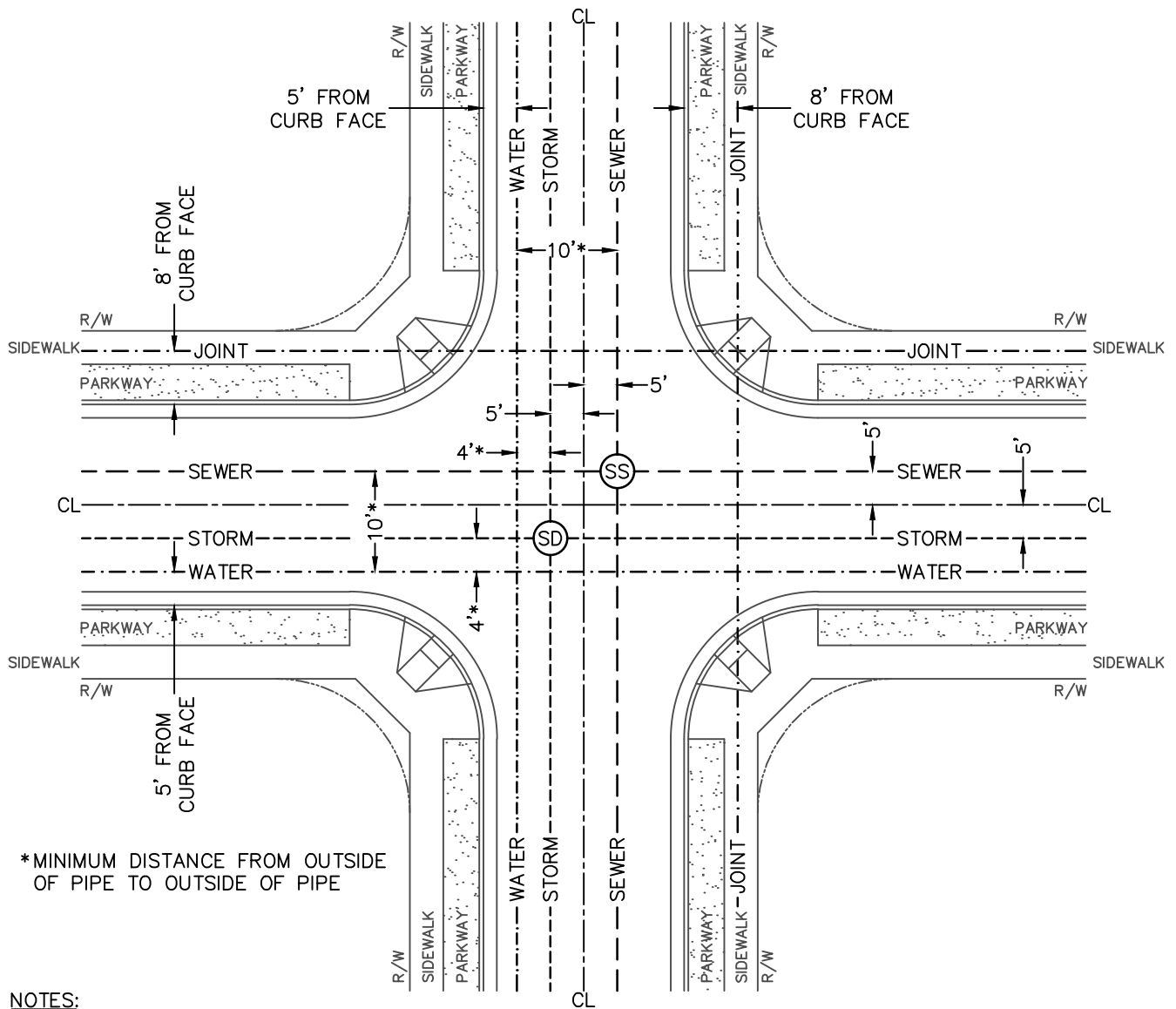
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CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

STREET NAME
 SIGN BRACKET

REVISIONS
 08/26/16
 BK_2015

TS-9



*MINIMUM DISTANCE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE

NOTES:

1. SANITARY SEWER LINES SHALL BE LOCATED NORTH OR EAST OF THE STREET CENTERLINE AND AT LEAST 10 FT HORIZONTALLY AND 1 FT LOWER THAN WATER MAIN.
2. STORM DRAIN LINES SHALL BE LOCATED SOUTH OR WEST OF THE STREET CENTERLINE.
3. WATER MAIN SHALL BE LOCATED SOUTH OR WEST OF THE STREET CENTERLINE. HORIZONTAL AND VERTICAL CLEARANCES TO SANITARY SEWER AND STORM DRAIN LINES SHALL MEET THE REQUIREMENTS OF THE "STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES GUIDANCE MEMO NO. 2003-02: GUIDANCE FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES".
4. JOINT UTILITY FACILITIES (GAS, ELECTRIC, TELEPHONE AND CABLE TELEVISION) SHALL BE LOCATED NORTH OR EAST OF THE STREET CENTERLINE.
5. IF EXISTING UTILITY LOCATIONS DO NOT CONFORM TO THIS STANDARD, ALTERNATE LOCATIONS MAY BE APPROVED BY CITY ENGINEER.
6. UTILITY LINES SHOULD BE PLACED OUTSIDE THE TRAVELED WAY WHERE POSSIBLE.
7. MINIMUM VERTICAL SEPARATION AT ALL UTILITY CROSSINGS SHALL BE 1 FT OR AS REQUIRED BY THE UTILITY COMPANY; WHICHEVER IS MORE RESTRICTIVE.

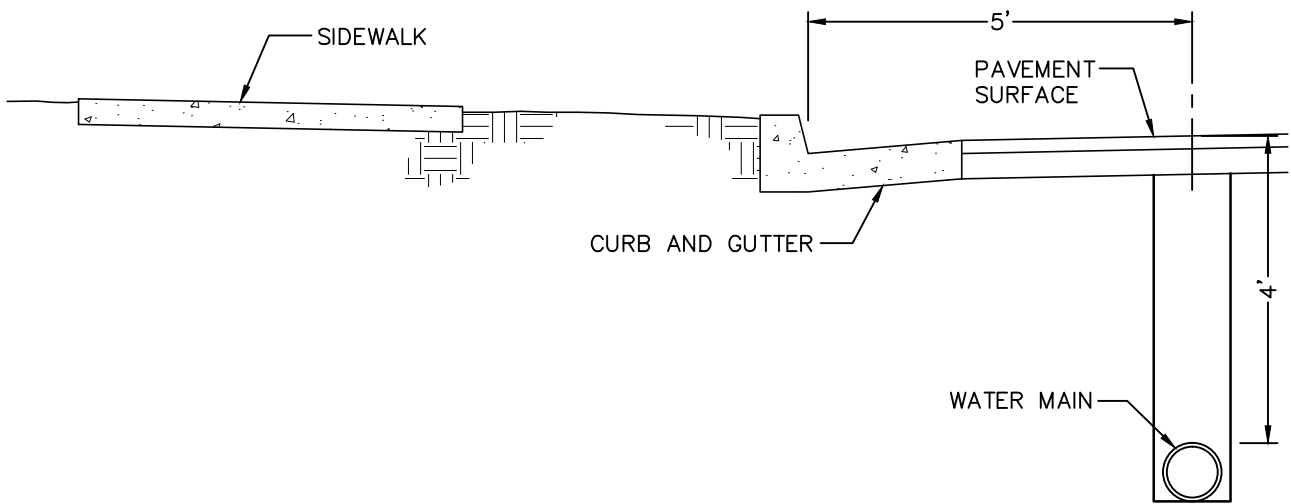
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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

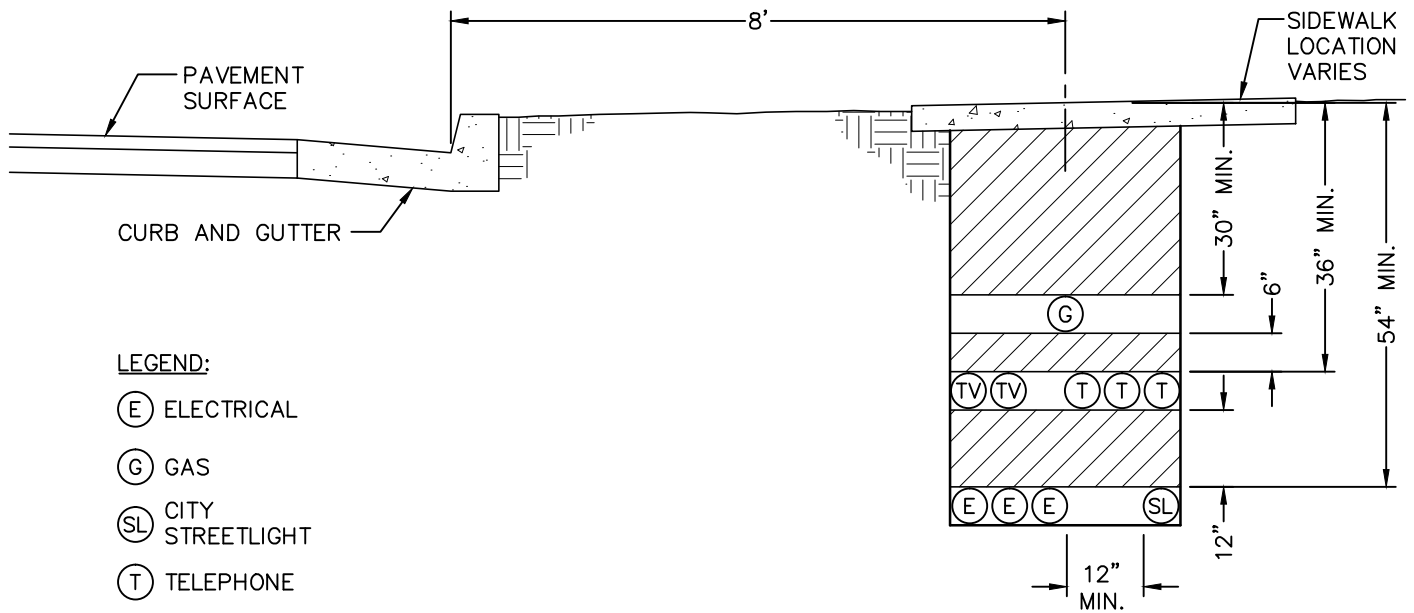
UTILITY LOCATIONS

REVISIONS
 08/26/16
 BK 2016

U-1



TYPICAL WATER MAIN TRENCH



LEGEND:

- (E) ELECTRICAL
- (G) GAS
- (SL) CITY STREETLIGHT
- (T) TELEPHONE
- (TV) CABLE TELEVISION

TYPICAL JOINT UTILITY TRENCH

NOTES:

1. SEE TRENCH BACKFILL/PATCH PAVING STANDARD DRAWING FOR TRENCH BACKFILL STANDARDS.
2. ALTERNATE TRENCH CONFIGURATIONS MAY BE PROPOSED AND ARE SUBJECT TO APPROVAL BY THE CITY ENGINEER AND THE UTILITY COMPANIES.

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 CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
 DESIGN & IMPROVEMENT STANDARDS

JOINT UTILITY TRENCH

REVISIONS
 09/15/16
 BK 2016

U-2

HYDRANT OUTLETS SHALL FACE STREET AT 45° ANGLES (UNLESS DIRECTED OTHERWISE BY CITY OF VISALIA OR FIRE PROTECTION AGENCY.)

FINISHED GRADE

VALVE CASING & COVER ASSEMBLY PER VALVE CASING, COVER & FRAME INSTALLATION DETAILS

6" GATE VALVE PO WITH "FIELD-LOK" GASKETS

TEE PO WITH ONE "FIELD-LOK" GASKET

CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED GROUND, CONSTRUCTION SHALL BE PER TYPICAL THRUST BLOCK INSTALLATION.

6" DUCTILE IRON PIPE

6" DUCTILE IRON PIPE, PO "FIELD-LOK" GASKETS ALL JOINTS

±2"
SEE NOTE 3

EXTENSION, SEE NOTE 2

MEG-A-LUG

18" MIN.

CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED GROUND. (8 SQ. FT. MIN. BEARING AREA)

HYDRANT BURY MECH. JOINT X FLG. (CLOW, SBF, SIGMA, OR STAR PIPE)

**STANDARD
INSTALLATION**

6" GATE VALVE PO X FLG WITH "FIELD-LOK" GASKET
FLANGE-TYTE GASKET AND STAINLESS STEEL #304 BOLTS AND NUTS

TEE PO X FLG

6" DUCTILE IRON PIPE, PO "FIELD-LOK" GASKET ALL JOINTS
MEG-A-LUG

**ALTERNATE
INSTALLATION**

NOTES:

1. ALL FIRE HYDRANT MATERIALS SHALL COMPLY WITH MATERIAL SPECIFICATIONS.
2. A HYDRANT EXTENSION MAY BE REQUIRED TO ADJUST FOR FINISHED GRADE.
3. FOR WET BARREL HYDRANTS THIS DIMENSION IS FROM FINISHED GRADE TO BURY'S FLANGE OR EXTENSION'S FLANGE WHEN AN EXTENSION IS REQUIRED.
4. PUSH-ON, FLANGED FITTING JOINTS, AND/OR THREADED-FLANGED RISERS MAY BE REQUIRED. VERIFY WITH A CITY OF VISALIA REPRESENTATIVE ALL FIRE HYDRANT MATERIAL PRIOR TO THE INSTALLATION.
5. FIRE HYDRANT BARRICADES SHALL BE REQUIRED WHEN A VERTICAL OR ROLLED CURB DOES NOT EXIST, OR WHEN THE FIRE HYDRANT NEEDS TO BE PROTECTED FROM MOVING VEHICLES.
6. ALL MACHINE BOLTS AND NUTS SHALL BE #304 STAINLESS STEEL, EXCEPT FOR BREAKOFF BOLTS.
7. A 90° ELBOW WITH "FIELD-LOK" GASKETS MAY BE REQUIRED FOR THE FIRE HYDRANT INSTALLATION WHEN SPACE IS LIMITED AND THE HYDRANT LEAD MUST RUN PARALLEL TO THE MAIN OR THE LOCATION OF THE FIRE HYDRANT REQUIRES THE BEND.

APPROVED BY:

[Signature]
PUBLIC WORKS DIRECTOR

09/16/16
DATE

R.C.E. 50022

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

REVISIONS

11/26/07

W-1

TYPICAL FIRE HYDRANT INSTALLATION

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