



IMPROVEMENT STANDARDS
NOVEMBER 2022



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CITY OF FARMERSVILLE IMPROVEMENT STANDARDS

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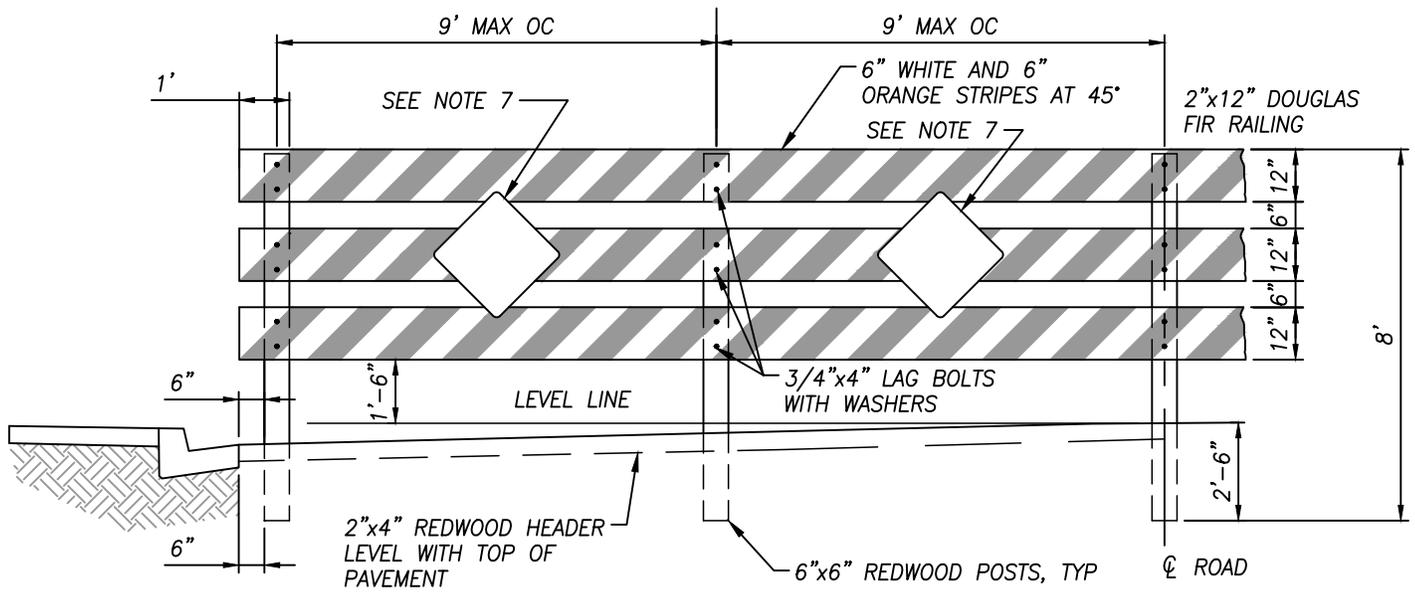
CITY OF FARMERSVILLE IMPROVEMENT STANDARDS

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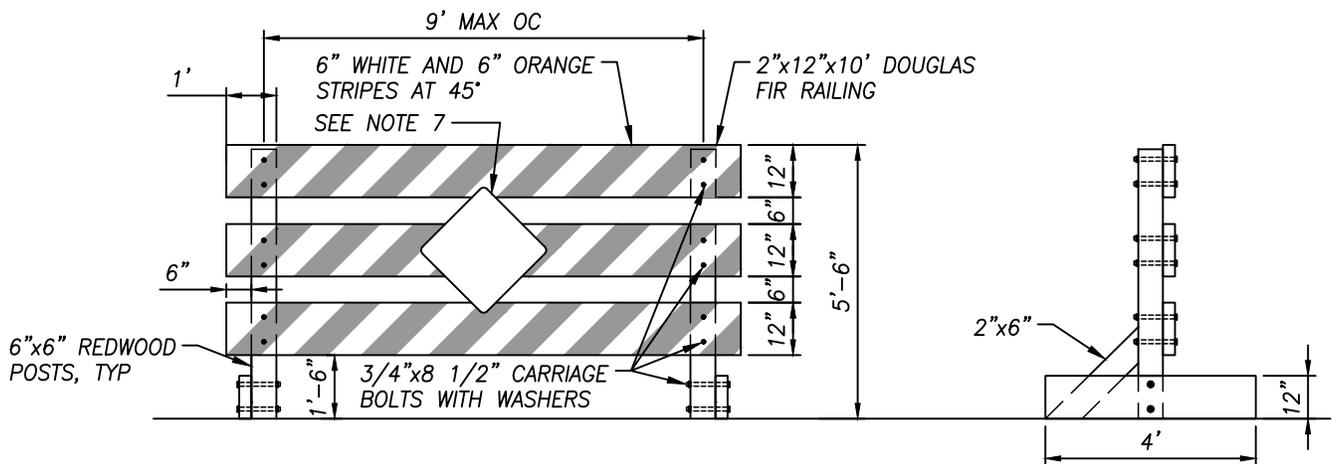
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TEMPORARY TIMBER BARRICADE FOR TYPICAL CONDITIONS



PORTABLE TEMPORARY TIMBER BARRICADE FOR TYPICAL CONDITIONS

NOTES:

1. PAINT SHALL COMPLETELY SEAL ALL EXPOSED SURFACES OF BARRICADE.
2. BARRICADE SHALL BE EXTENDED ACROSS THE FULL WIDTH OF THE TRAVELED WAY.
3. PERMISSION TO PERFORM REQUIRED SLOPING SHALL BE ACQUIRED FROM THE AFFECTED PROPERTY OWNER IN WRITING PRIOR TO STARTING WORK.
4. BARRICADE SHALL BE PAINTED WITH TWO COATS OF WHITE PAINT. FOLLOWED BY TWO COATS OF ORANGE PAINT FOR 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.
5. WOOD PRESSURE TREATED WITH A PRESERVATIVE MAY BE SUBSTITUTED FOR REDWOOD MATERIAL.
6. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
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.



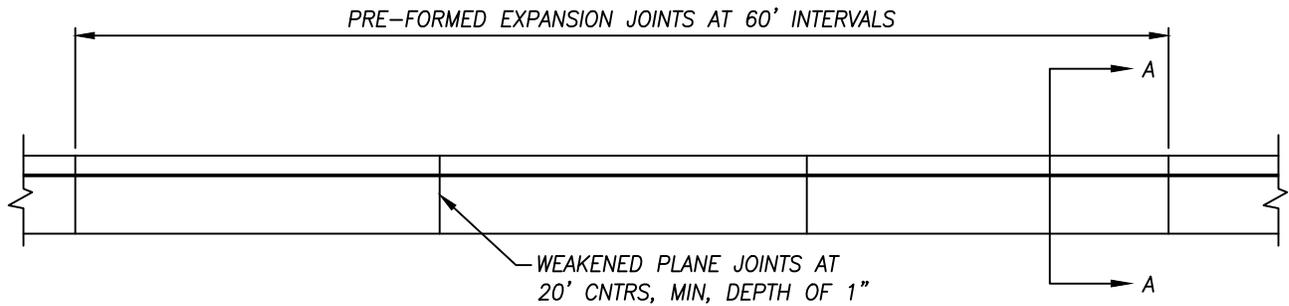
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TIMBER BARRICADE

City Engineer

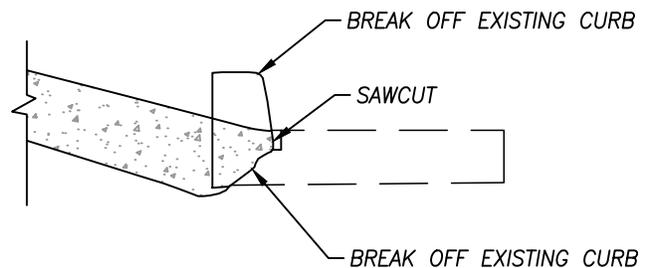
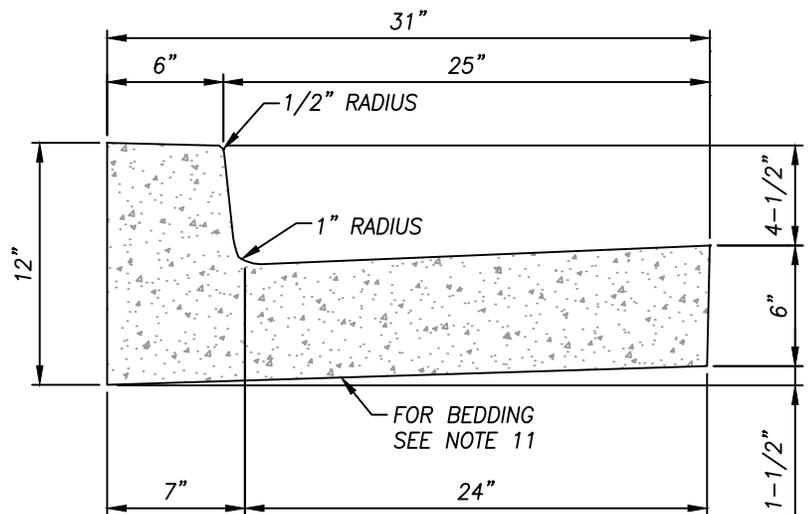
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STANDARD
No.
B-1



NOTES:

1. 16-18 INCH GUTTER TO BE INSTALLED WHERE SIMILAR EXIST OR AS DIRECTED BY THE CITY ENGINEER.
2. THE MAXIMUM SPACING FOR EXPANSION JOINTS FOR CURB & GUTTER IS 40 FEET.
3. WEAKENED PLANE JOINTS SHALL BE PLACED AT A SPACING OF 10 FEET. FOR CURB & GUTTER.
4. THE MAXIMUM SPACING FOR EXPANSION JOINTS IS 20 FEET.
5. ALL CONCRETE USED IN CURB & GUTTER SHALL BE 2,500 P.S.I. CONCRETE AT 28 DAYS, CONTAINING NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
6. ALL CURB & GUTTER SHALL HAVE A LIGHT BROOM FINISH.
7. GUTTER FLOW SLOPE = 0.2% MINIMUM.
8. BARRIER TYPE CURB & 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.
9. STAMP CURB FACE AT SEWER & WATER LATERAL HOUSE BRANCH LOCATIONS PER CITY SPECIFICATIONS.
10. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN DIRECTION OF TRAVEL SHALL BE 4% MINIMUM AND 5% MAXIMUM.
11. ALL CURB & GUTTER SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF MOIST SAND BASE MATERIALS. 95% MINIMUM RELATIVE COMPACTION.
12. SEE C-5 FOR COLD JOINT DETAIL.



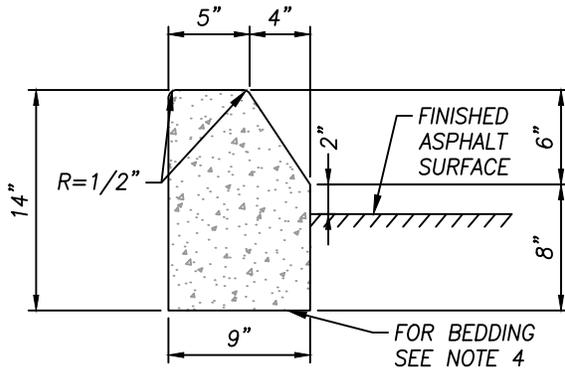
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CURB &
GUTTER/CURB
SAWCUT

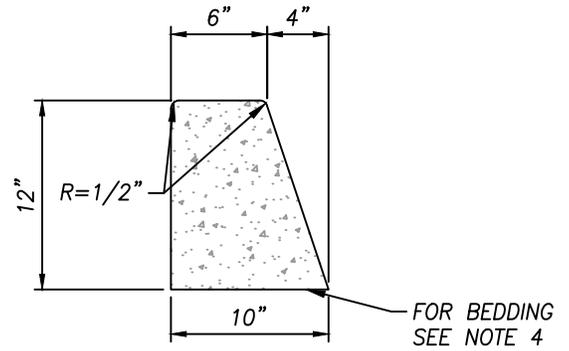
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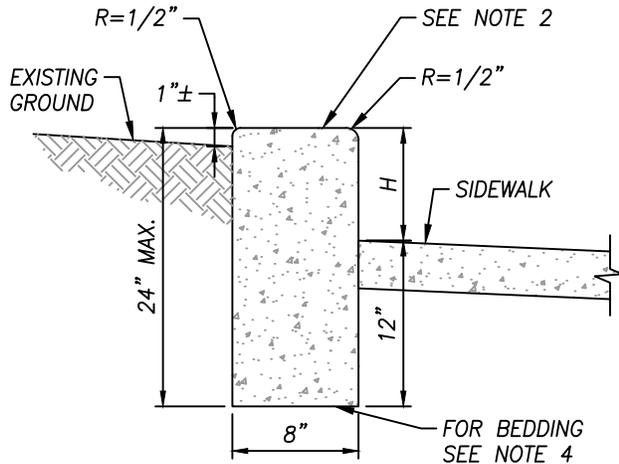
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C-1



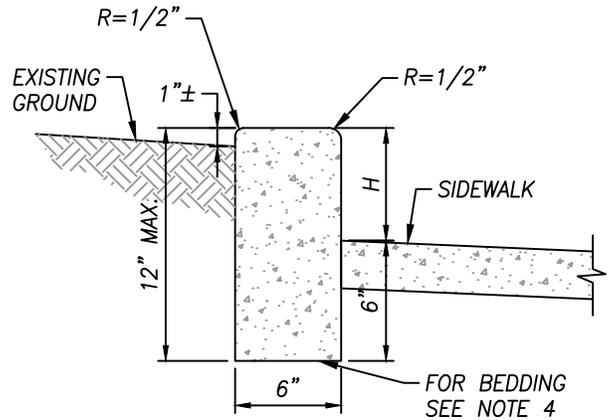
MEDIAN CURB TYPE B1-6
STREET APPLICATIONS



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 CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH MAXIMUM SLUMP. 2,500 P.S.I. AT 28 DAYS.
2. REBAR SHALL BE USED AT THE DISCRETION OF THE CITY ENGINEER.
3. ALL CURBING SHALL HAVE A LIGHT BROOM FINISH.
4. ALL CURBING SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF MOIST SAND BASE MATERIALS. 95% MINIMUM RELATIVE COMPACTION.

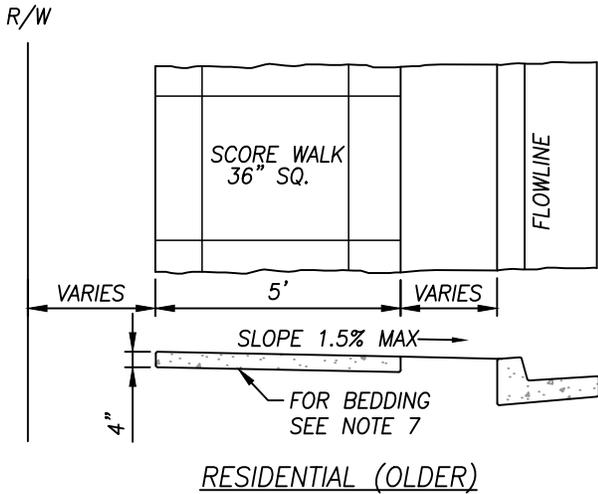
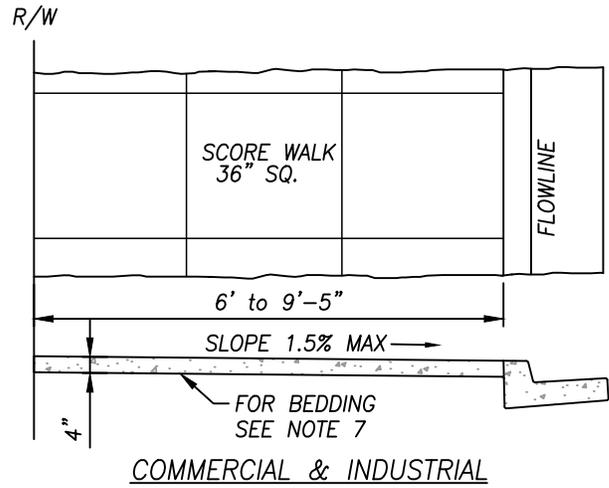
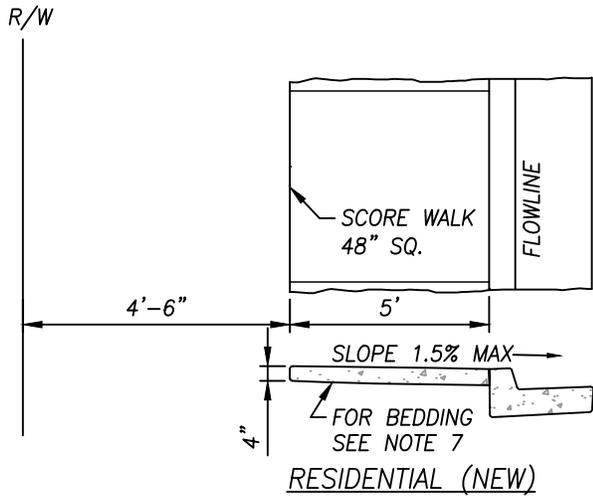


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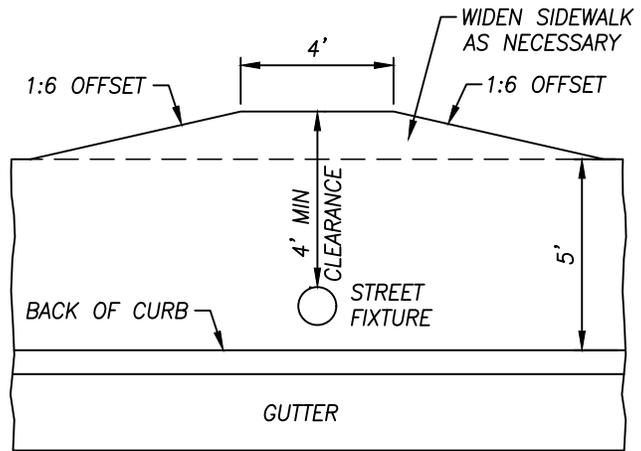
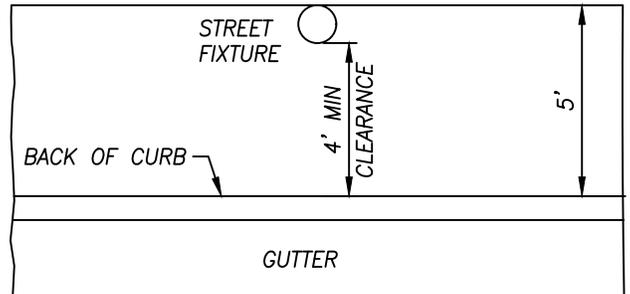
STANDARD CURBING

City Engineer _____ Date _____

STANDARD
No.
C-2



PLAN WITH STREET FIXTURE



NOTES:

1. CONCRETE SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS.
2. EXPANSION JOINTS 1/2 INCH WIDE SHALL BE INSTALLED AT 60 FOOT INTERVALS WITH WEAKENED PLANE JOINTS AT 20 FOOT INTERVALS.
3. CONCRETE SHALL BE STEEL TROWELED AND FINISHED WITH A LIGHT BROOM TEXTURE.
4. ESTABLISHED SIDEWALK PATTERN IN BLOCK TO BE MATCHED.
5. ASPHALT PAVING IS NOT PERMITTED WITHIN SIDEWALK AREA.
6. SPECIAL SIDEWALK DESIGNS AND MATERIALS WILL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.
7. CONCRETE SIDEWALK TO BE PLACED ON A MINIMUM 6 INCHES OF MOIST SAND BASE MATERIAL. 95% PERCENT RELATIVE COMPACTION.



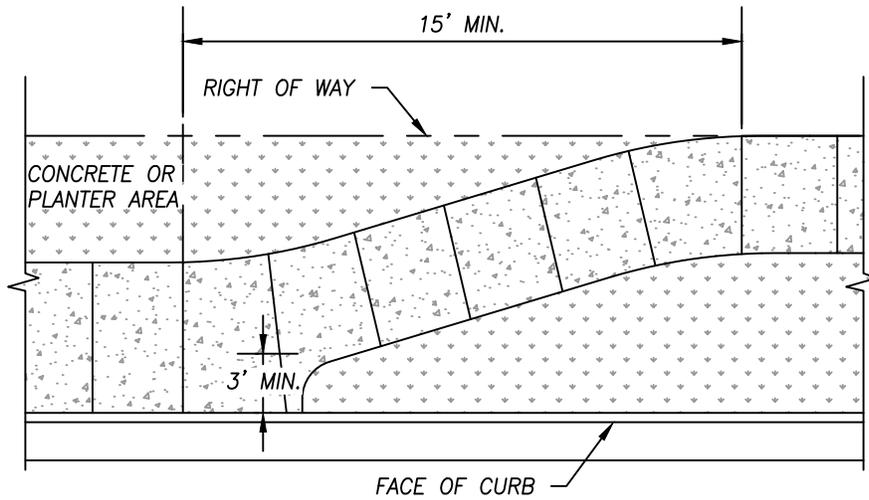
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SIDEWALKS

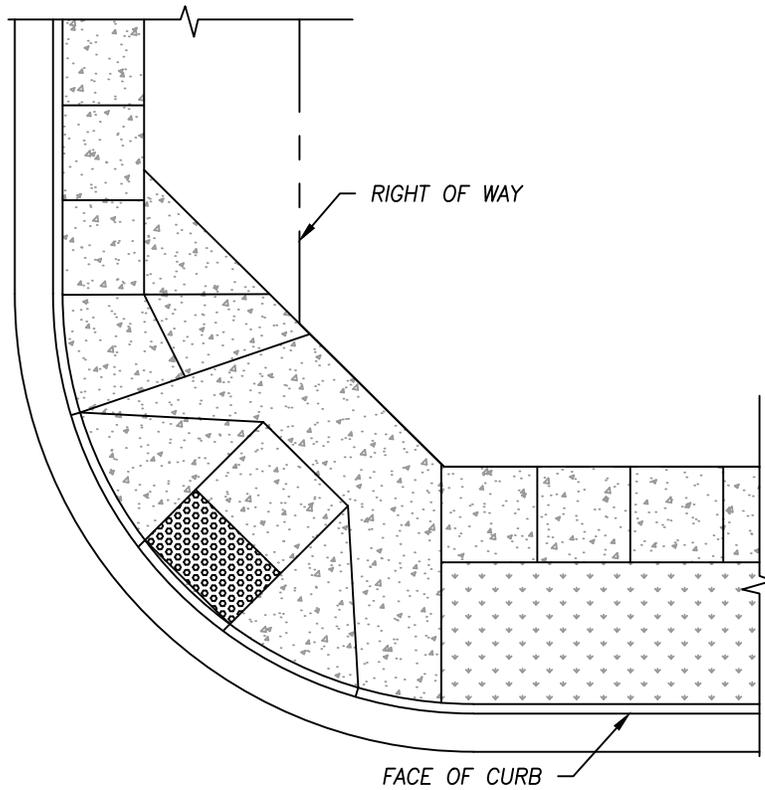
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Date

STANDARD
No.
C-3



MIDBLOCK SIDEWALK TRANSITION



INTERSECTION SIDEWALK TRANSITION



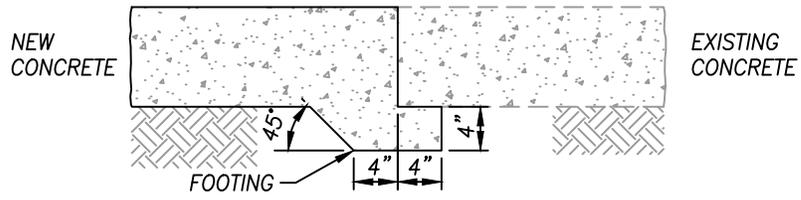
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SIDEWALK
TRANSITION
DETAILS

City Engineer

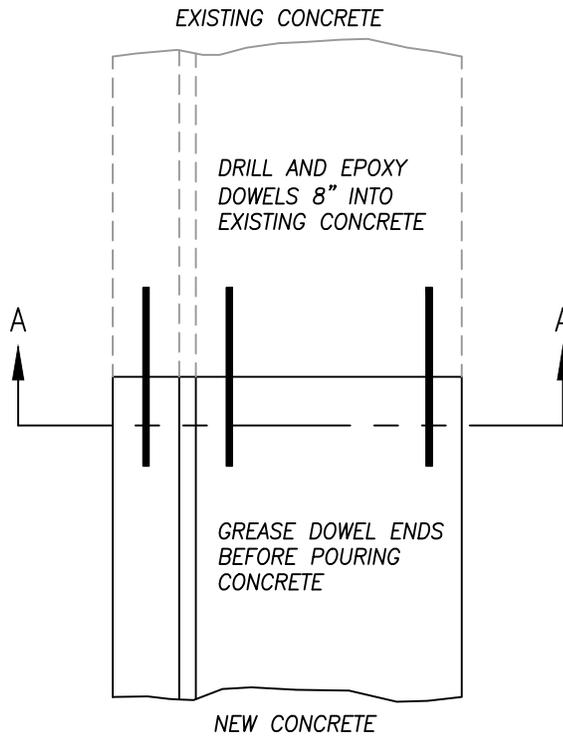
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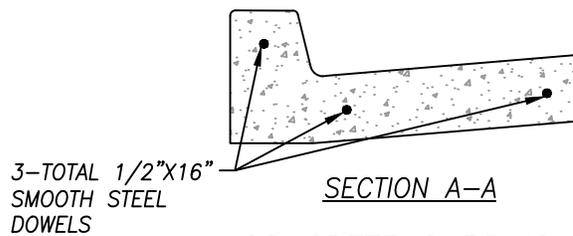


SECTION

CONCRETE FLATWORK



PLAN



CONCRETE CURBING

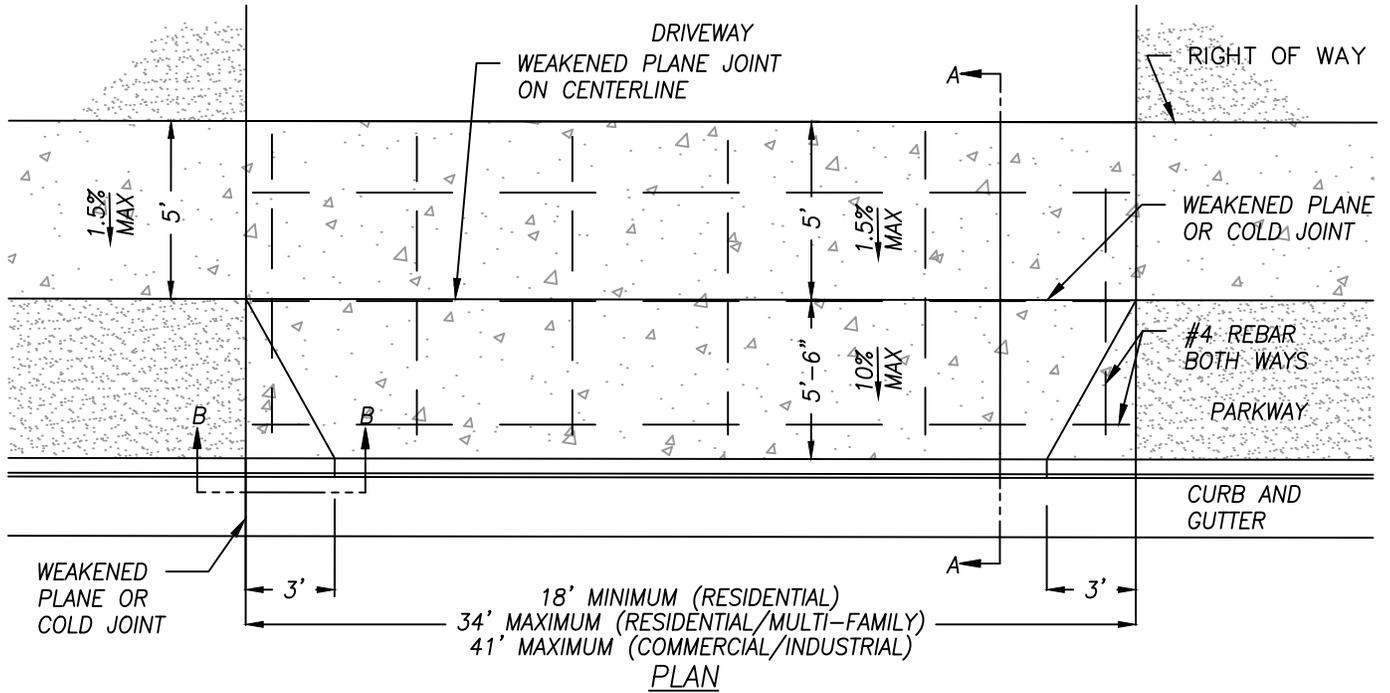


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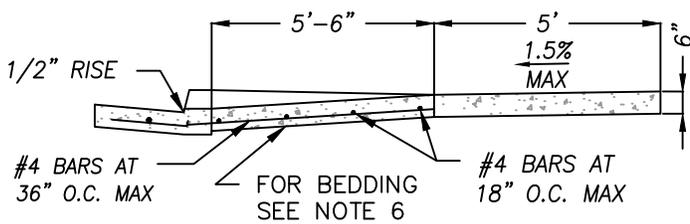
CONCRETE COLD JOINTS

City Engineer Date

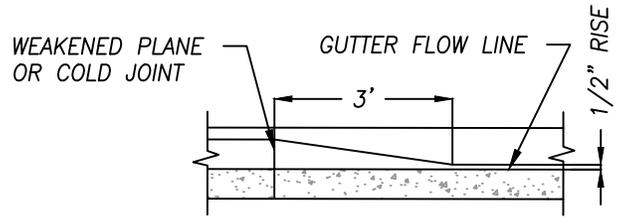
STANDARD
No.
C-5



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. MUST REMOVE ENTIRE CURB & GUTTER WHEN RECONSTRUCTION IS REQUIRED.
2. NOT MORE THAN 60% OF LOT FRONTAGE MEASURED AT STREET SIDE (TOP OF CURB BETWEEN LOT LINES EXTENDED) MAY BE USED FOR DRIVEWAY OPENING.
3. ALL CONCRETE FOR DRIVE APPROACH SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAINING NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
4. DEEP JOINT REQUIRED IN CENTER OF DRIVE APPROACH. BROOM SWEEP FINISH ON DRIVEWAY APPROACH.
5. DETECTABLE WARNING SURFACE SHALL BE INSTALLED ON EACH SIDE OF COMMERCIAL AND INDUSTRIAL DRIVE APPROACHES.
6. DRIVE APPROACH SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF MOIST SAND BASE MATERIALS. 95% MINIMUM RELATIVE COMPACTION.
7. FOR MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DRIVE APPROACHES THE MINIMUM WIDTH SHALL BE 21 FEET FOR ONE-WAY DRIVE APPROACHES AND 25 FEET FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY THE CITY ENGINEER.
8. REBAR IS REQUIRED FOR MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DRIVE APPROACHES.
9. 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.
10. REBAR SHALL HAVE A MINIMUM OF 2 INCHES OF CLEAR COVERAGE.

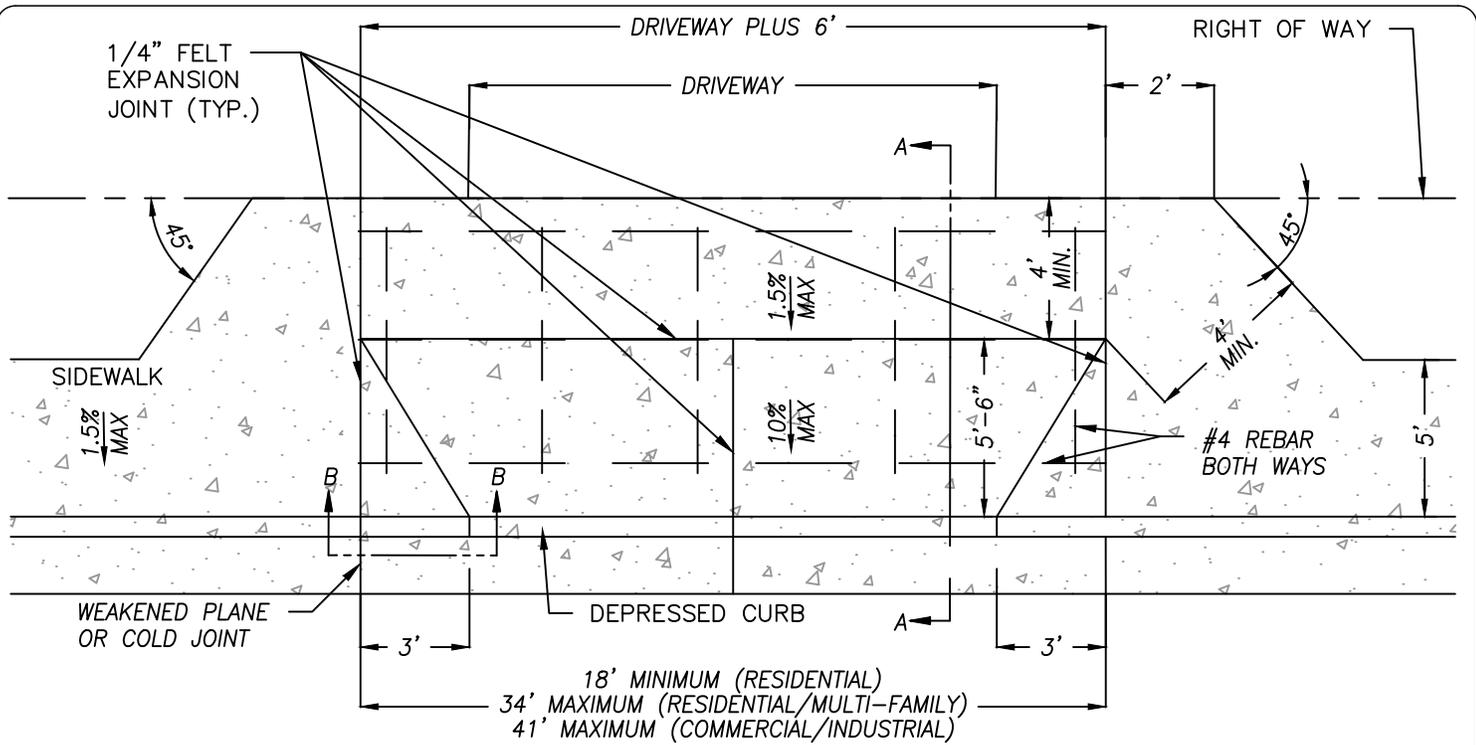


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DRIVE APPROACH –
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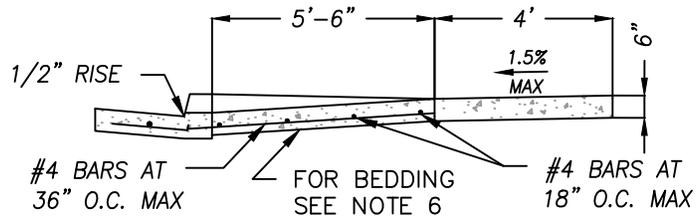
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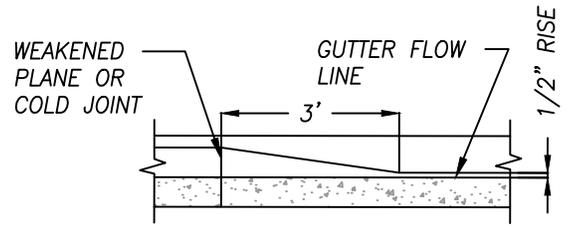


18' MINIMUM (RESIDENTIAL)
 34' MAXIMUM (RESIDENTIAL/MULTI-FAMILY)
 41' MAXIMUM (COMMERCIAL/INDUSTRIAL)

PLAN



SECTION A-A



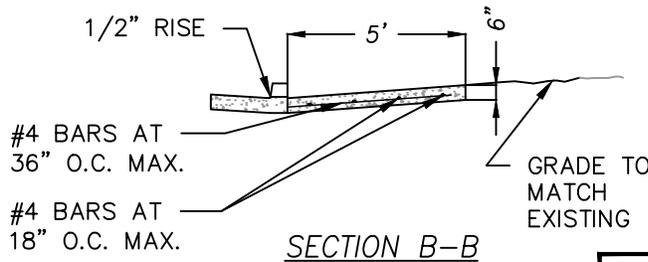
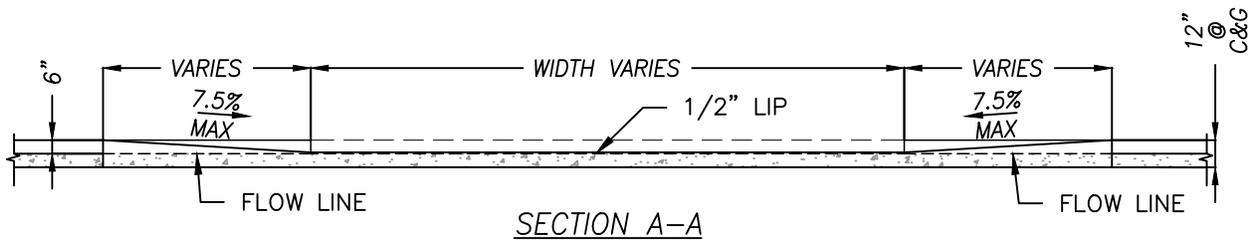
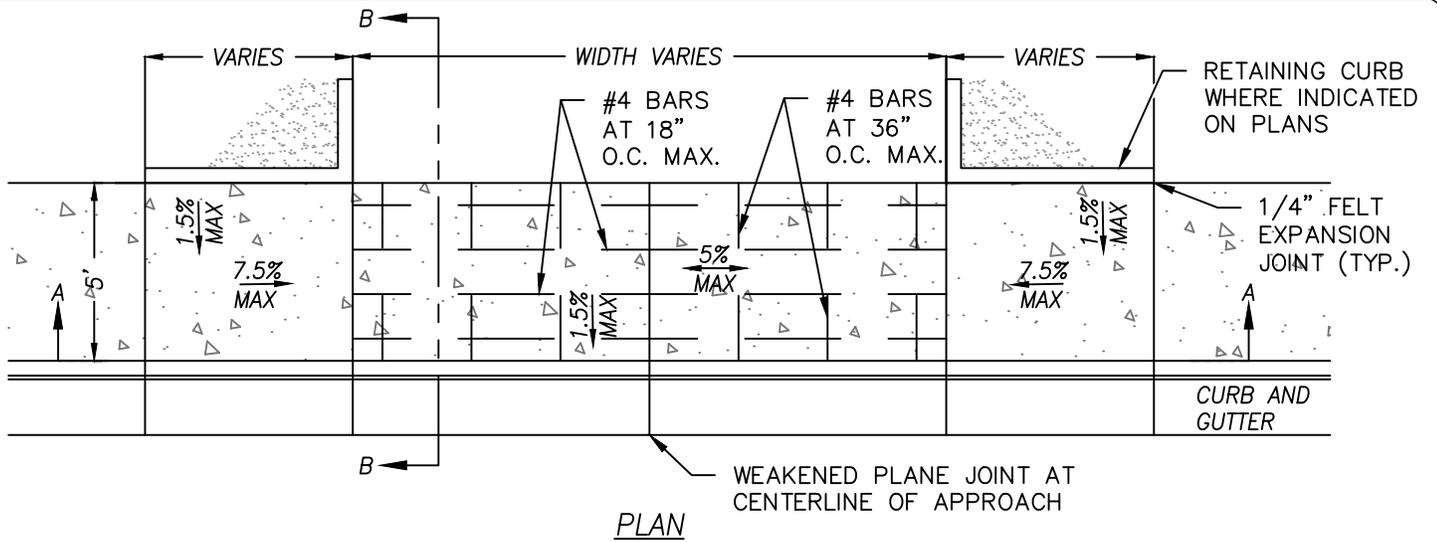
SECTION B-B

REQUIRED CITY ENGINEER APPROVAL

NOTES:

1. MUST REMOVE ENTIRE CURB & GUTTER WHEN RECONSTRUCTION IS REQUIRED.
2. NOT MORE THAN 60% OF LOT FRONTAGE MEASURED AT STREET SIDE (TOP OF CURB BETWEEN LOT LINES EXTENDED) MAY BE USED FOR DRIVEWAY OPENING.
3. ALL CONCRETE FOR DRIVE APPROACH SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAINING NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
4. DEEP JOINT REQUIRED IN CENTER OF DRIVE APPROACH. BROOM SWEEP FINISH ON DRIVEWAY APPROACH.
5. DETECTABLE WARNING SURFACE SHALL BE INSTALLED ON EACH SIDE OF COMMERCIAL AND INDUSTRIAL DRIVE APPROACHES.
6. DRIVE APPROACH SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF MOIST SAND BASE MATERIALS. 95% MINIMUM RELATIVE COMPACTION.
7. FOR MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DRIVE APPROACHES THE MINIMUM WIDTH SHALL BE 21 FEET FOR ONE-WAY DRIVE APPROACHES AND 25 FEET FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY THE CITY ENGINEER.
8. REBAR IS REQUIRED FOR MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DRIVE APPROACHES.
9. 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.
10. REBAR SHALL HAVE A MINIMUM OF 2 INCHES OF CLEAR COVERAGE.

	SCALE: NOT TO SCALE	DRIVE APPROACH – ALTERNATIVE 1	_____ City Engineer	STANDARD No. C-7	
	REVISED: NOVEMBER 2022				_____ Date
	JOB NUMBER: 220145				



REQUIRED CITY ENGINEER APPROVAL

NOTES:

1. MUST REMOVE ENTIRE CURB & GUTTER WHEN RECONSTRUCTION IS REQUIRED.
2. NOT MORE THAN 60% OF LOT FRONTAGE MEASURED AT STREET SIDE (TOP OF CURB BETWEEN LOT LINES EXTENDED) MAY BE USED FOR DRIVEWAY OPENING.
3. ALL CONCRETE FOR DRIVE APPROACH SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAINING NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
4. DEEP JOINT REQUIRED IN CENTER OF DRIVE APPROACH. BROOM SWEEP FINISH ON DRIVEWAY APPROACH.
5. DETECTABLE WARNING SURFACE SHALL BE INSTALLED ON EACH SIDE OF COMMERCIAL AND INDUSTRIAL DRIVE APPROACHES.
6. DRIVE APPROACH SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF MOIST SAND BASE MATERIALS. 95% MINIMUM RELATIVE COMPACTION.
7. FOR MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DRIVE APPROACHES THE MINIMUM WIDTH SHALL BE 21 FEET FOR ONE-WAY DRIVE APPROACHES AND 25 FEET FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY THE CITY ENGINEER.
8. REBAR IS REQUIRED FOR MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DRIVE APPROACHES.
9. 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.
10. REBAR SHALL HAVE A MINIMUM OF 2 INCHES OF CLEAR COVERAGE.
11. ENTIRE WIDTH OF DRIVE APRON SHALL HAVE A MIN. THICKNESS OF 6" OF CONCRETE.
12. APPROACH SHALL BE FORMED TO FULL DEPTH OF POUR, WOOD FORMS SHALL HAVE A NOMINAL THICKNESS OF 2". FORMS TO REMAIN FOR A MIN. OF 24 HOURS.
13. APPROACH SURFACE SHALL HAVE A HEAVY BROOM FINISH.

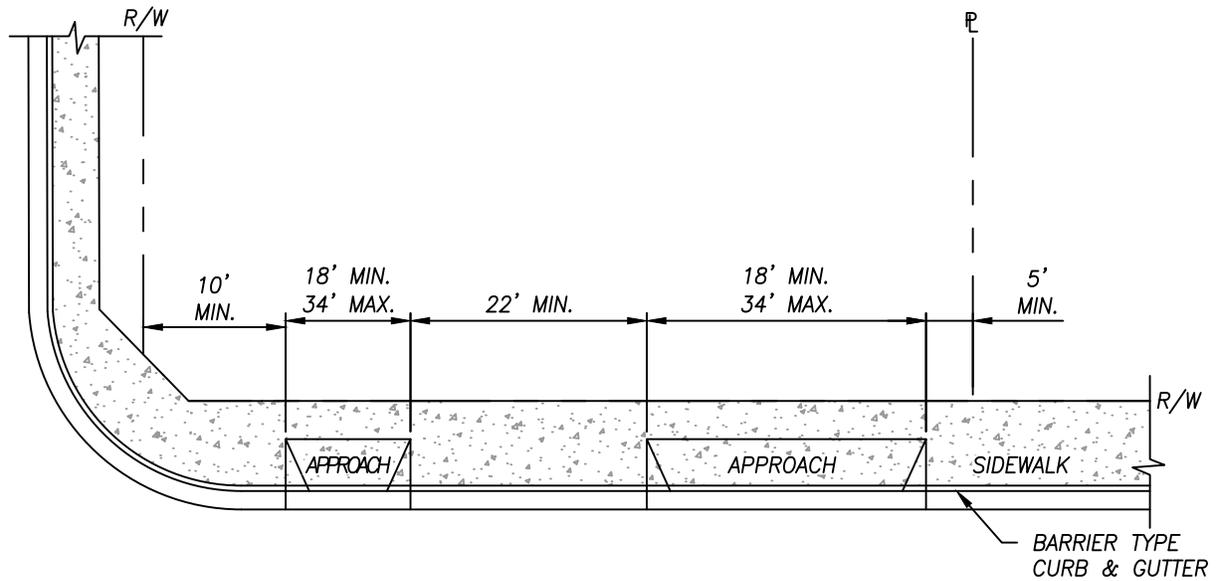


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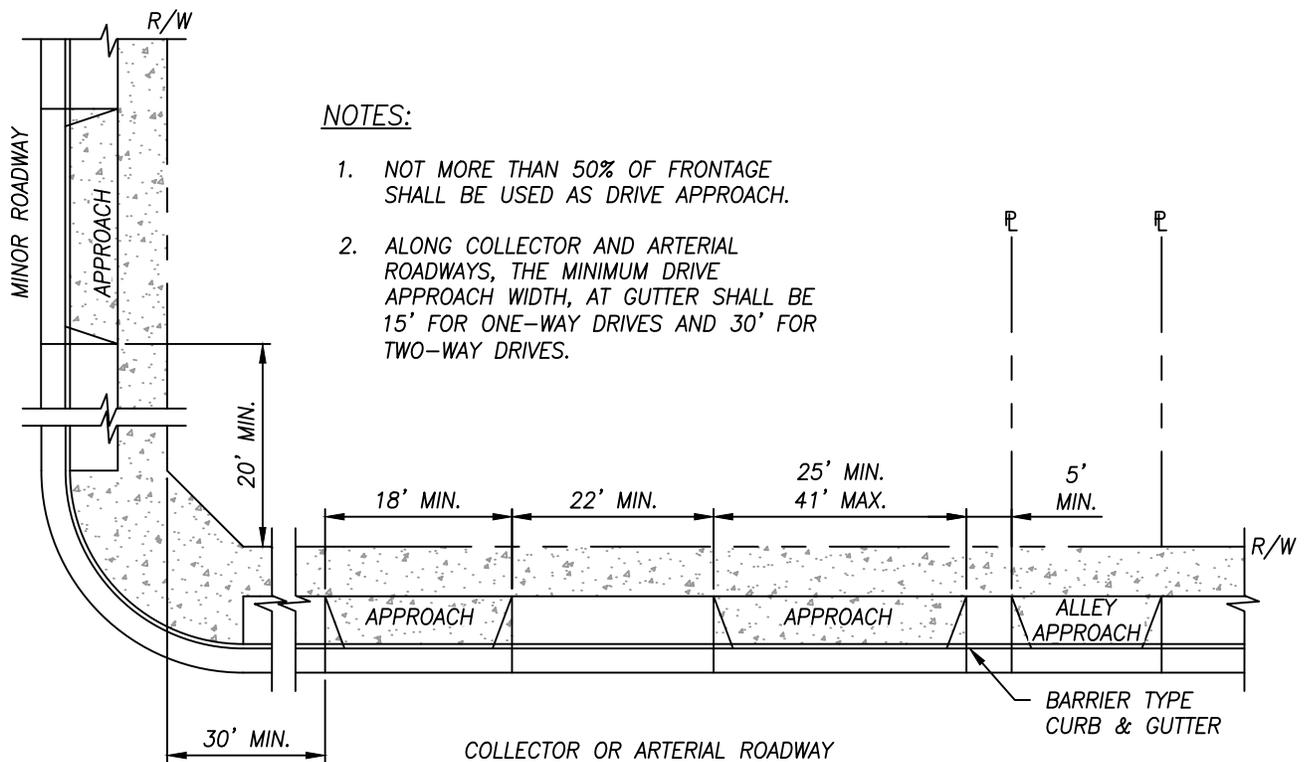
**DRIVE APPROACH –
ALTERNATIVE 2**

City Engineer _____ Date _____

STANDARD
No.
C-8



DRIVE APPROACH LOCATIONS: RESIDENTIAL



NOTES:

1. NOT MORE THAN 50% OF FRONTAGE SHALL BE USED AS DRIVE APPROACH.
2. ALONG COLLECTOR AND ARTERIAL ROADWAYS, THE MINIMUM DRIVE APPROACH WIDTH, AT GUTTER SHALL BE 15' FOR ONE-WAY DRIVES AND 30' FOR TWO-WAY DRIVES.

DRIVE APPROACH LOCATIONS: COMMERCIAL



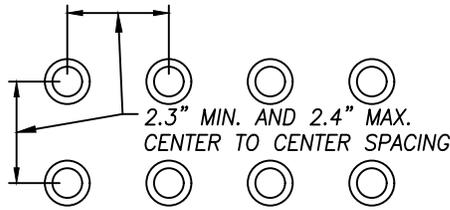
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DRIVEWAY OPENING
& SPACING

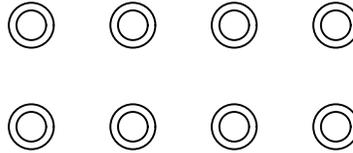
City Engineer

Date

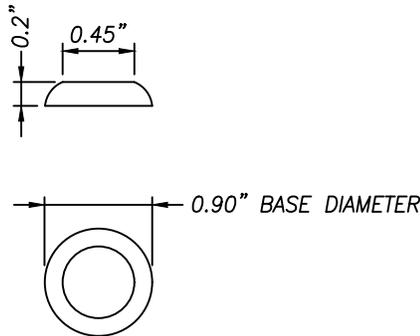
STANDARD
No.
C-9



NOTE: WHERE INSTALLED IN A RADIAL PATTERN, TRUNCATED DOMES SHALL HAVE A CENTER TO CENTER SPACING OF 1.6" MINIMUM OR 2.4" MAXIMUM OR AS INDICATED PER CURRENT CALIFORNIA BUILDING CODE (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 (LESS 2 INCHES) AND SHALL BE A MINIMUM OF 36 INCHES IN DEPTH.
4. DETECTABLE WARNING SURFACE SHALL BE PREMIXED FEDERAL YELLOW COLORED AND SHALL BE OF AN AUTHORIZED MATERIAL BY THE CITY OF FARMERSVILLE.
5. IN RETROFIT TYPE SITUATIONS ON EXISTING SURFACES THE CITY WILL ALLOW RETROFIT TYPE WARNING PANELS. RETROFIT WARNING PANEL MATERIALS MUST 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.



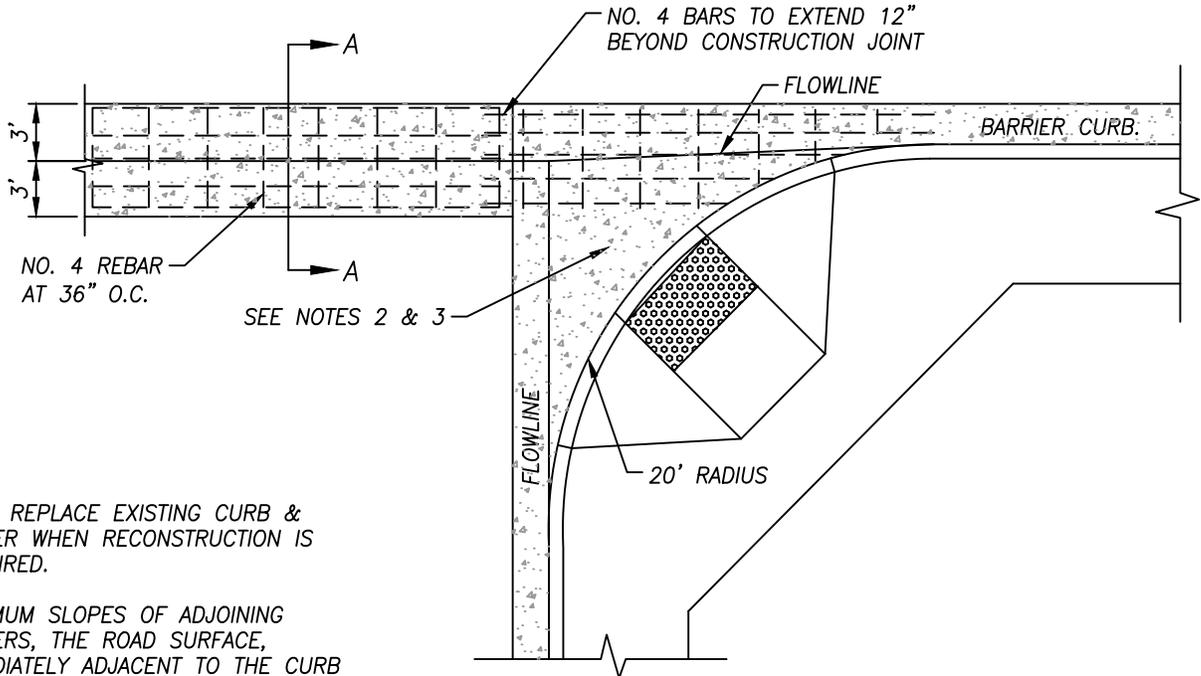
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DETECTABLE
WARNING SURFACE

City Engineer

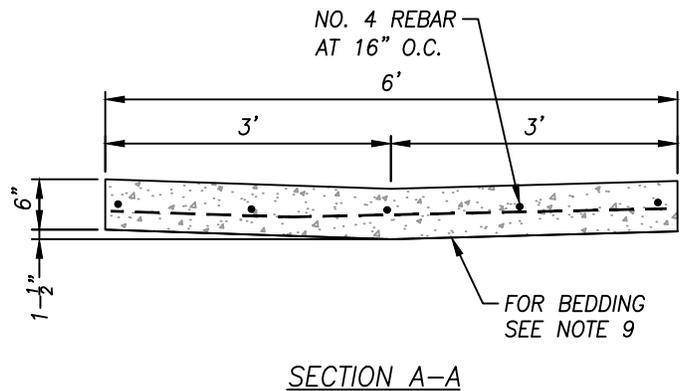
Date

STANDARD
No.
C-12



NOTES:

1. MUST REPLACE EXISTING CURB & GUTTER WHEN RECONSTRUCTION IS REQUIRED.
2. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE, IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4 FEET OF THE BOTTOM OF THE CURB RAMP.
3. CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO SHALL NOT EXCEED 1.5%.
4. CONCRETE SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH MAXIMUM SLUMP. 2,500 P.S.I. AT 28 DAYS.
5. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST, PLACED AS SHOWN, AND SHALL HAVE A MINIMUM 2 INCHES OF CLEAR COVERAGE.
6. SHALL HAVE A LIGHT BROOM FINISH.
7. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
8. CONTINUOUS CONCRETE CROSS GUTTER TO HAVE MINIMUM SLOPE OF 0.4%.
9. CONCRETE CROSS GUTTER SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF CLASS 2 AGGREGATE BASE AND A MINIMUM OF 6 INCHES OF COMPACTED NATIVE SOIL. 95% MINIMUM RELATIVE COMPACTION FOR BOTH.



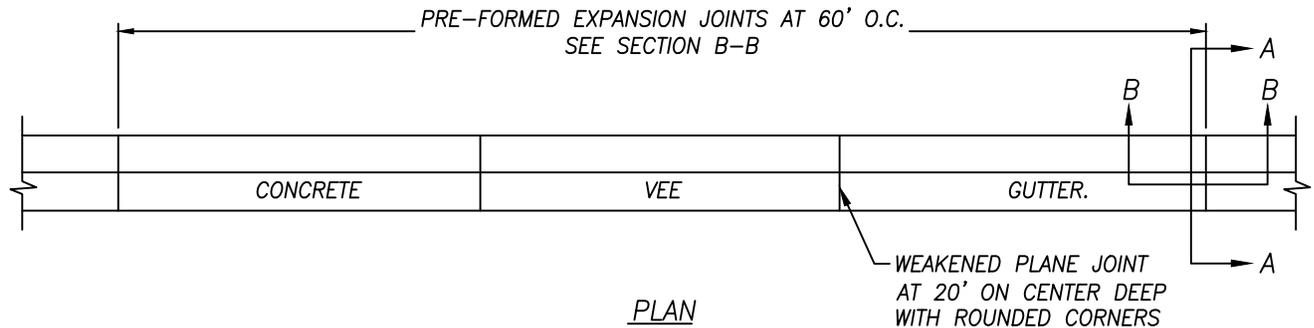
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JOB NUMBER:
220145

**CONCRETE CROSS
GUTTER**

City Engineer

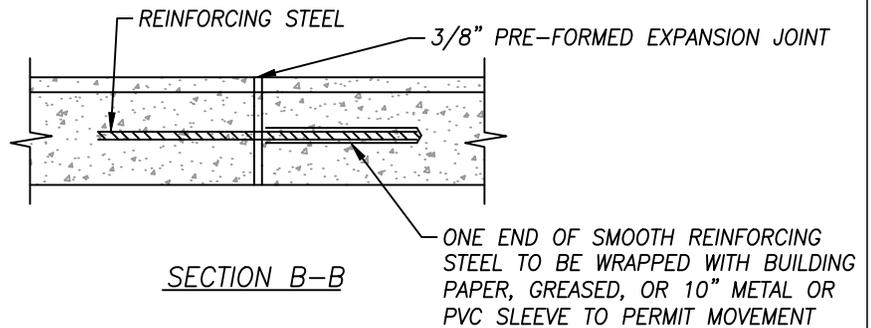
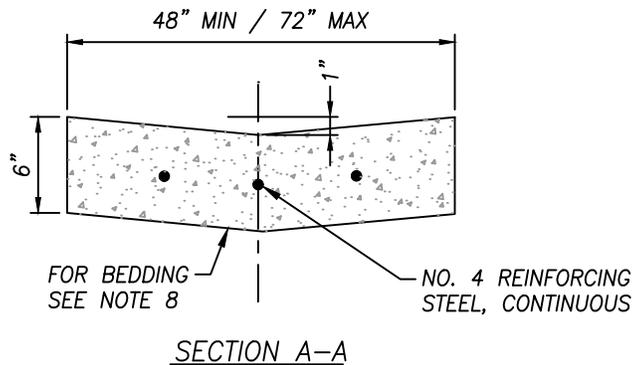
Date

STANDARD
No.
C-13



NOTES:

1. VEE TYPE GUTTERS SHALL HAVE A MIN. SLOPE OF 0.25% (MAY BE USED IN INDUSTRIAL AREAS AND ALLEYS WITH APPROVAL FROM THE CITY ENGINEER).
2. MUST REPLACE EXISTING CURB & GUTTER WHEN RECONSTRUCTION IS REQUIRED.
3. CONCRETE SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH SLUMP MAXIMUM. 2,500 P.S.I. AT 28 DAYS.
4. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST, PLACED AS SHOWN, AND SHALL HAVE A MINIMUM 2 INCHES OF CLEAR COVERAGE.
5. WHERE ADA ACCESSIBLE ROUTES CROSS GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4 PERCENT MINIMUM AND 5 PERCENT MAXIMUM.
6. SHALL HAVE A LIGHT BROOM FINISH.
7. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
8. VEE GUTTER SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF CLASS 2 AGGREGATE BASE AND A MINIMUM 6 INCHES OF COMPACTED NATIVE SOIL. 95% MINIMUM RELATIVE COMPACTION FOR BOTH.



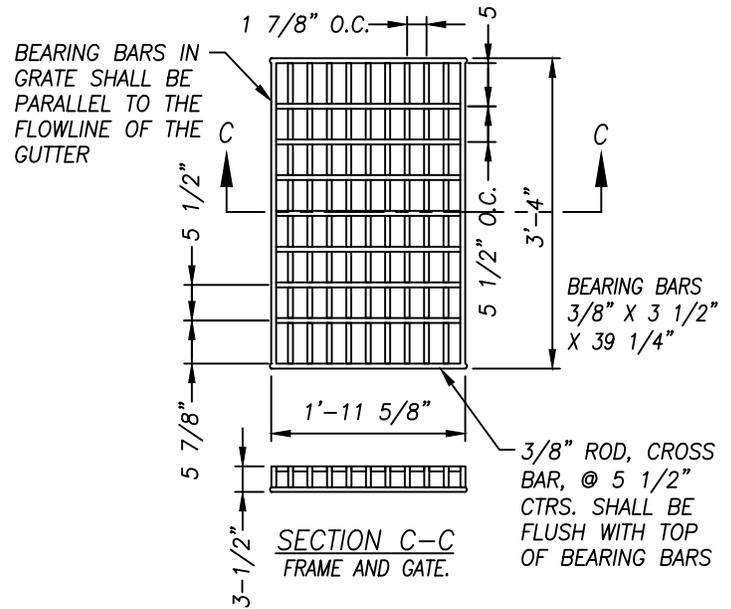
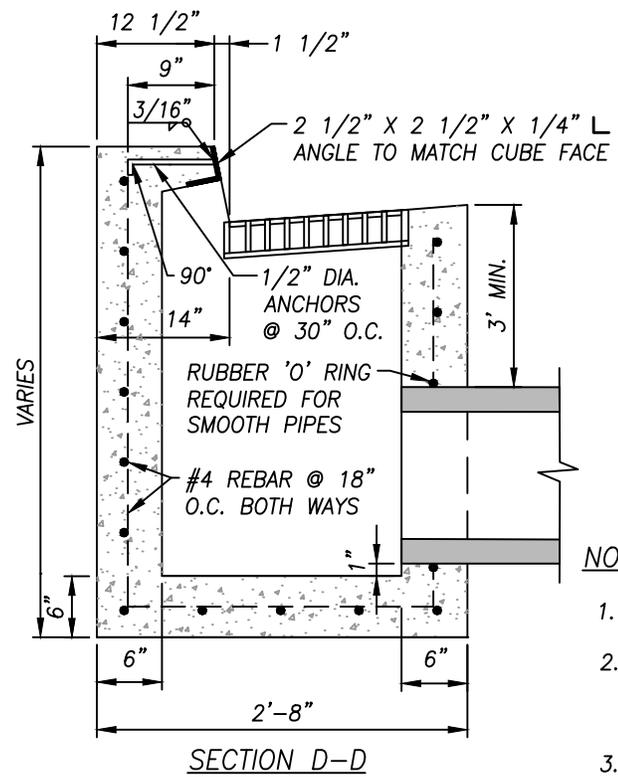
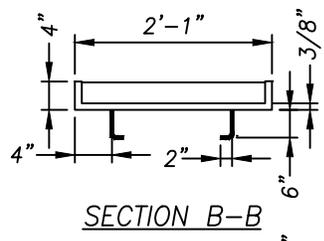
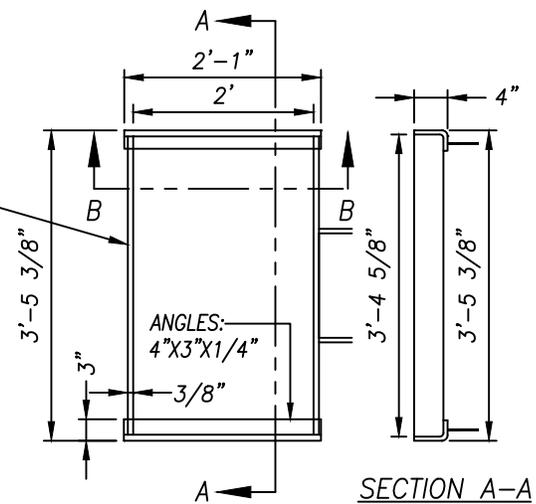
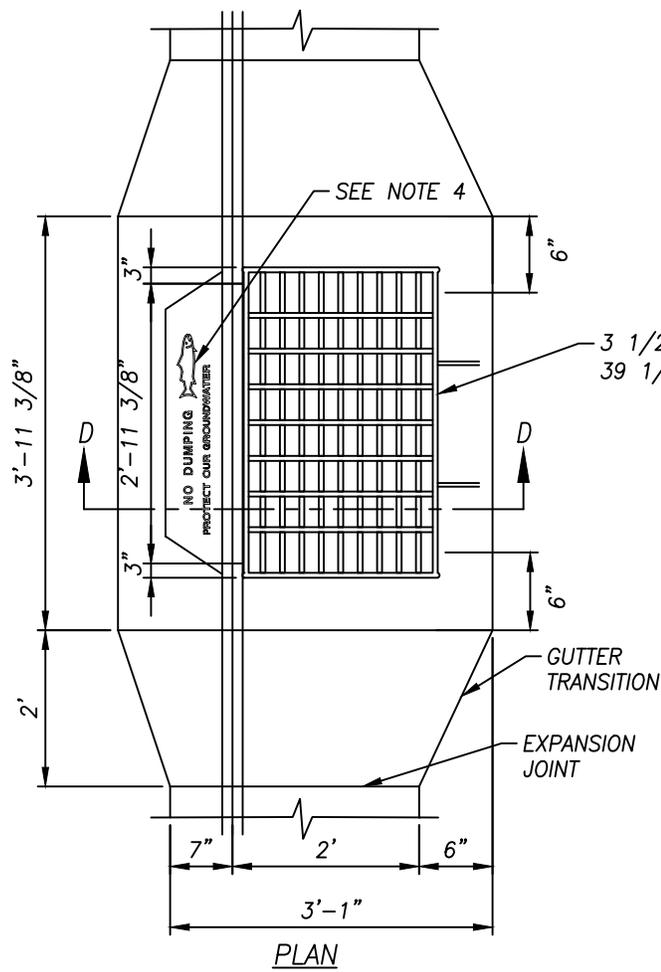
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

VEE GUTTER

City Engineer

Date

STANDARD
No.
C-14



- NOTES:**
1. METAL FRAME & GRATE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATED WITH CURB OPENING OR EQUAL.
 2. CONCRETE DRAINAGE INLET SHALL BE 3,000 P.S.I. CONCRETE AT 28 DAYS. CONTAINING NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
 3. MINIMUM 2 INCHES CLEARANCE BETWEEN SURFACES AND REBAR.
 4. SEE D-2 FOR DRAIN INLET MARKER DETAIL.

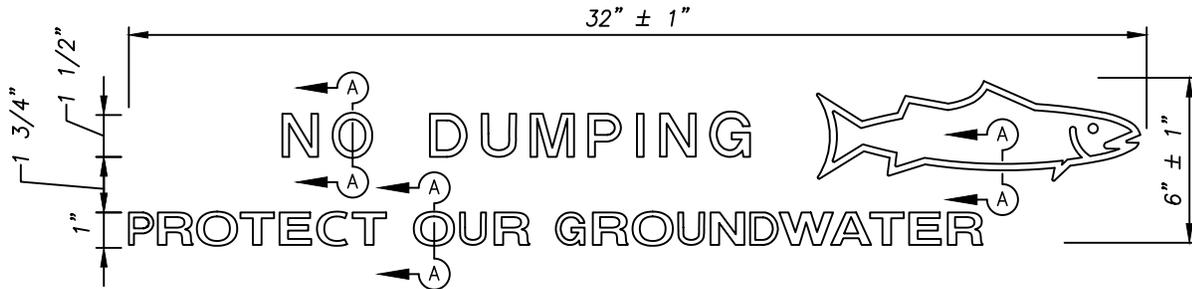


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220145

DRAINAGE INLET "TYPE GO"

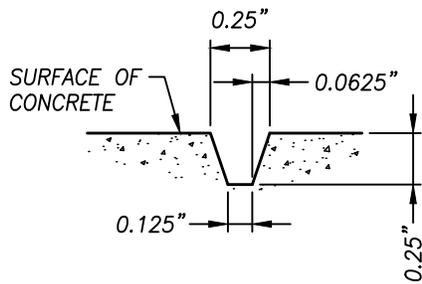
City Engineer Date

STANDARD
No.
D-1



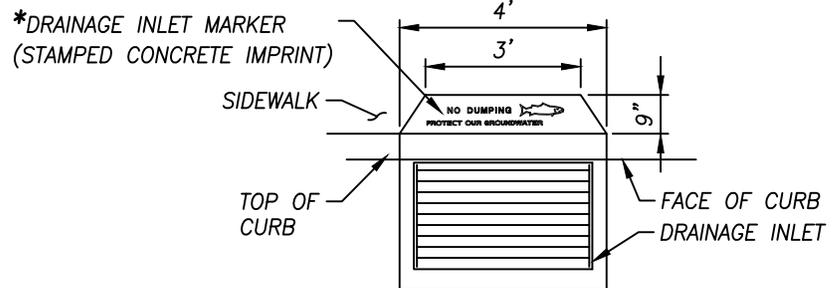
PLAN

DRAINAGE INLET MARKER
(STAMPED CONCRETE IMPRINT)



SECTION A-A

STAMPED CONCRETE
IMPRINT DETAIL



*PLACE 4" THICK CONCRETE AREA FOR IMPRINT WHERE REQUIRED. TO BE PLACED AT TIME OF DRAINAGE INLET CONSTRUCTION.

DRAINAGE INLET MARKER
ON DRAINAGE INLET



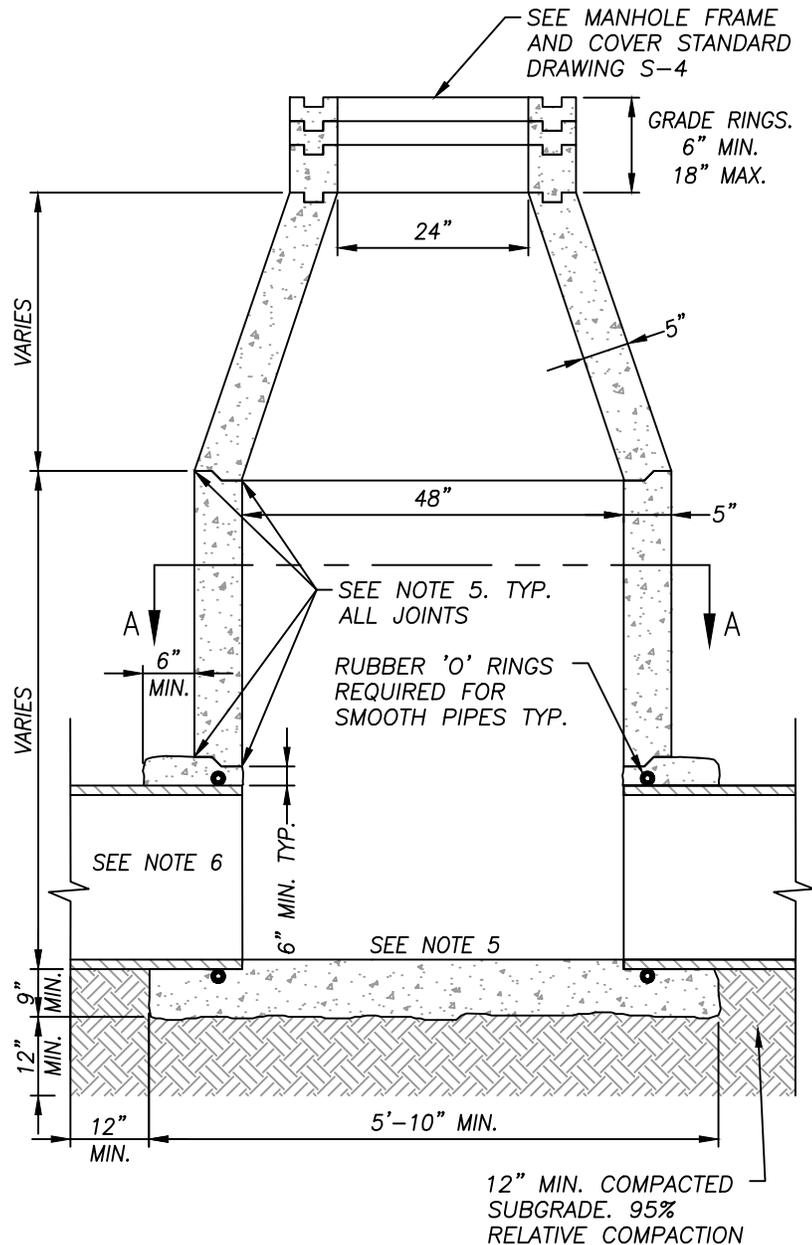
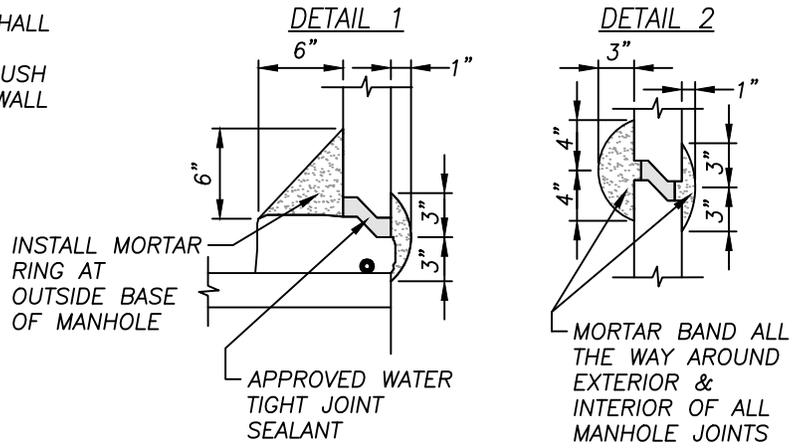
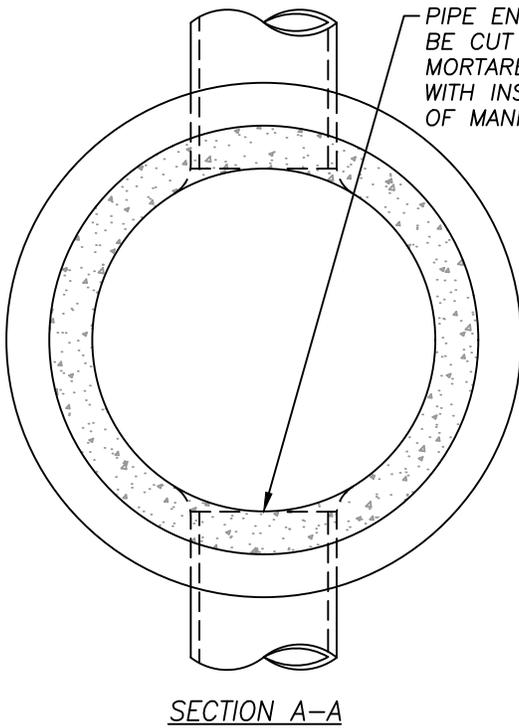
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

DRAINAGE INLET
MARKER

City Engineer

Date

STANDARD
No.
D-2



NOTES:

1. ALL CONCRETE SHALL BE 590 LBS, 1 INCH AGGREGATE, 5 INCHES MAX SLUMP, 4,000 P.S.I. AT 28 DAYS.
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 BAND ALL THE WAY AROUND EXTERIOR AND INTERIOR OF ALL MANHOLE JOINTS. SEE DETAILS 1 AND 2.
6. 48 INCHES MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 12 INCHES TO 24 INCHES OR AS REQUIRED BY THE CITY ENGINEER.
7. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF FARMERSVILLE.



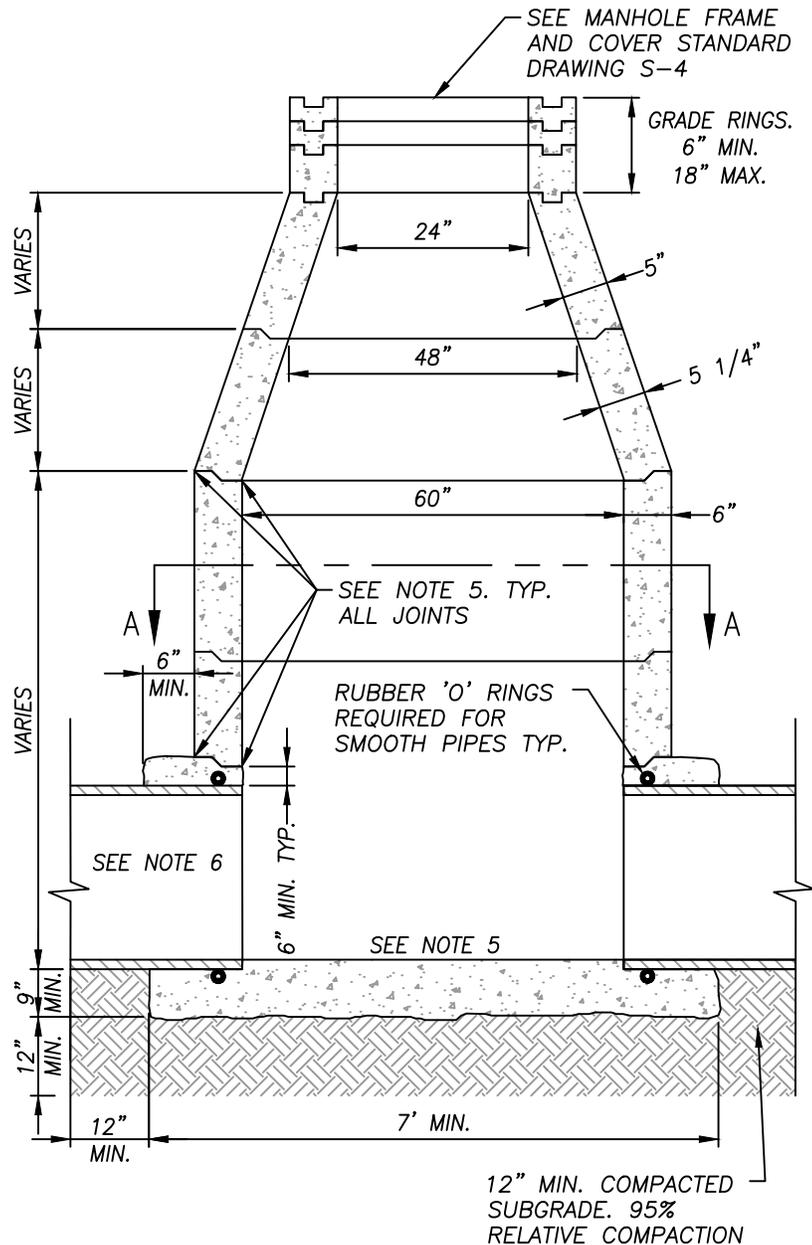
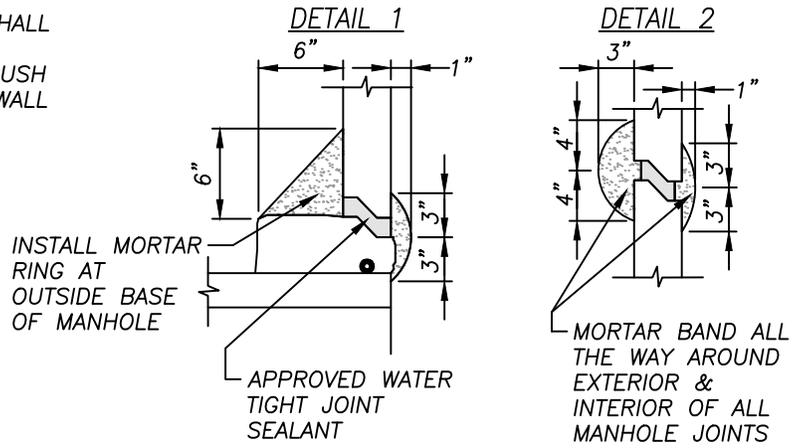
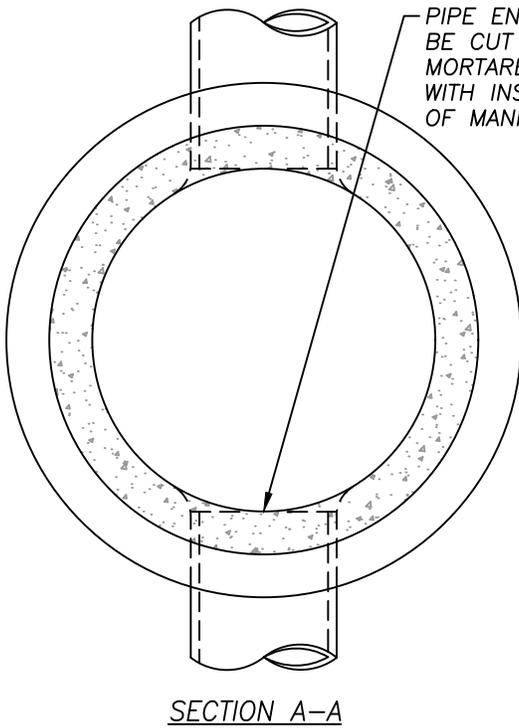
SCALE:
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

**48" STORM DRAIN
MANHOLE**

City Engineer

Date

STANDARD
No.
D-3



NOTES:

1. ALL CONCRETE SHALL BE 590 LBS, 1 INCH AGGREGATE, 5 INCHES MAX SLUMP, 4,000 P.S.I. AT 28 DAYS.
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 BAND ALL THE WAY AROUND EXTERIOR AND INTERIOR OF ALL MANHOLE JOINTS. SEE DETAILS 1 AND 2.
6. 60 INCHES MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 27 INCHES TO 36 INCHES OR AS REQUIRED BY THE CITY ENGINEER.
7. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF FARMERSVILLE.

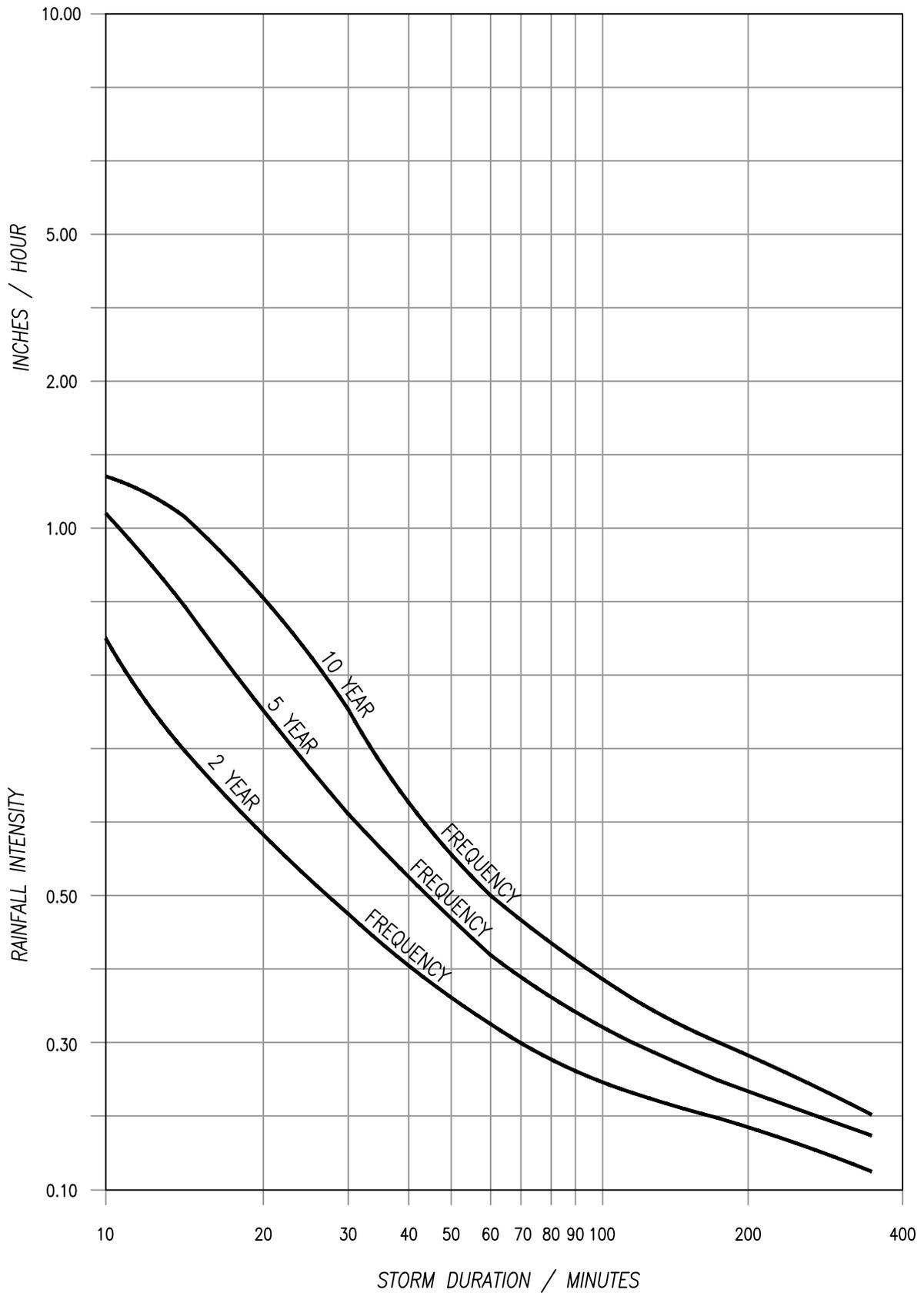


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220145

**60" STORM DRAIN
MANHOLE**

City Engineer _____ Date _____

STANDARD
No.
D-4



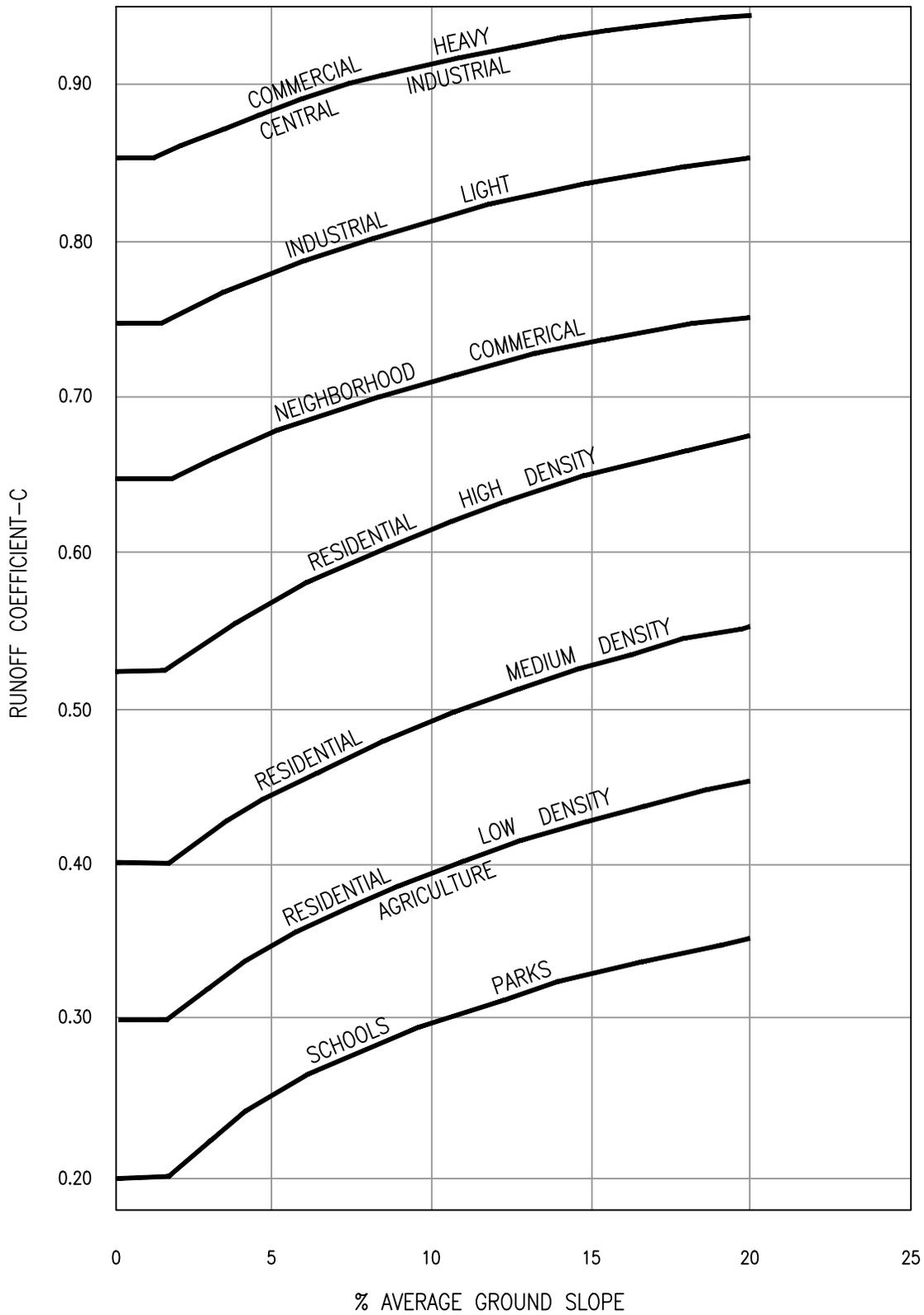
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

INTENSITY – DURATION CURVE

City Engineer

Date

STANDARD
No.
D-5



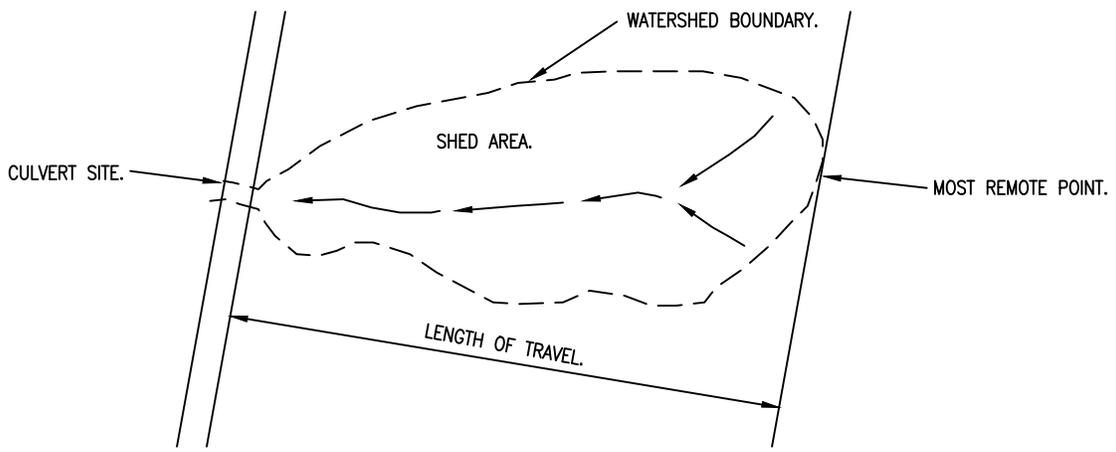
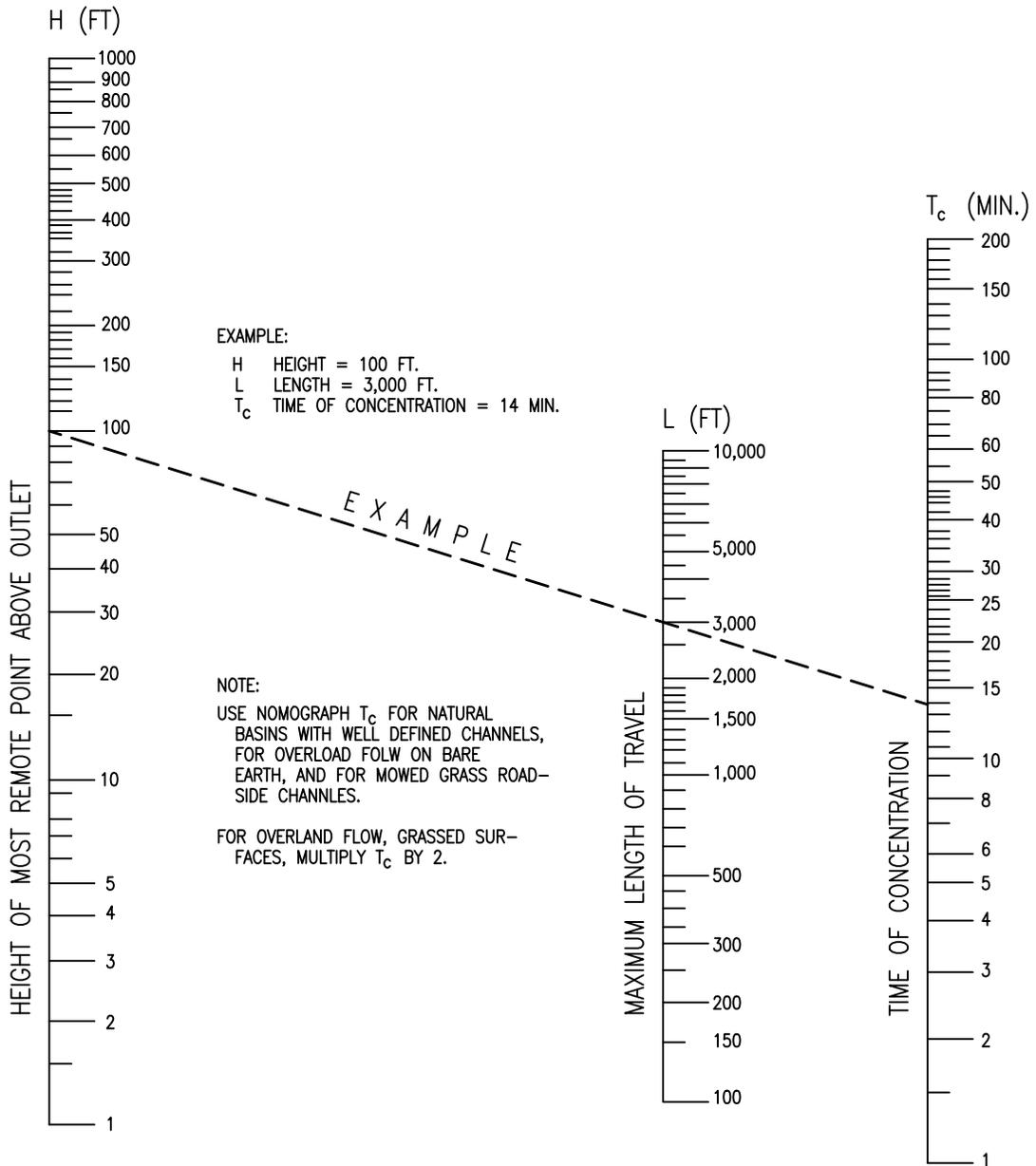
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

RUNOFF COEFFICIENT

City Engineer

Date

STANDARD
No.
D-6

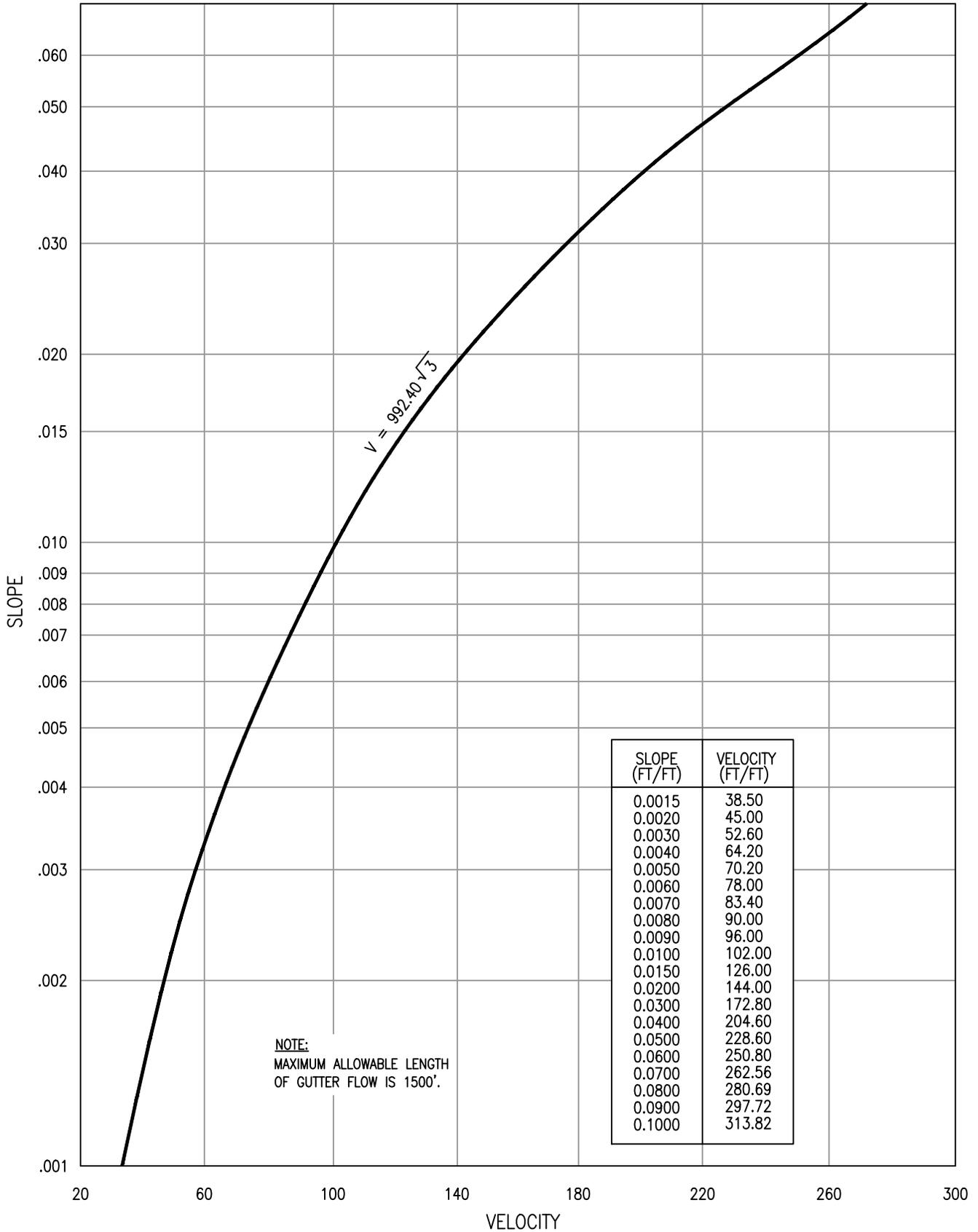


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NOVEMBER 2022
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220145

TIME OF
CONCENTRATION

City Engineer _____ Date _____

STANDARD
No.
D-7



SLOPE (FT/FT)	VELOCITY (FT/FT)
0.0015	38.50
0.0020	45.00
0.0030	52.60
0.0040	64.20
0.0050	70.20
0.0060	78.00
0.0070	83.40
0.0080	90.00
0.0090	96.00
0.0100	102.00
0.0150	126.00
0.0200	144.00
0.0300	172.80
0.0400	204.60
0.0500	228.60
0.0600	250.80
0.0700	262.56
0.0800	280.69
0.0900	297.72
0.1000	313.82

NOTE:
MAXIMUM ALLOWABLE LENGTH
OF GUTTER FLOW IS 1500'.

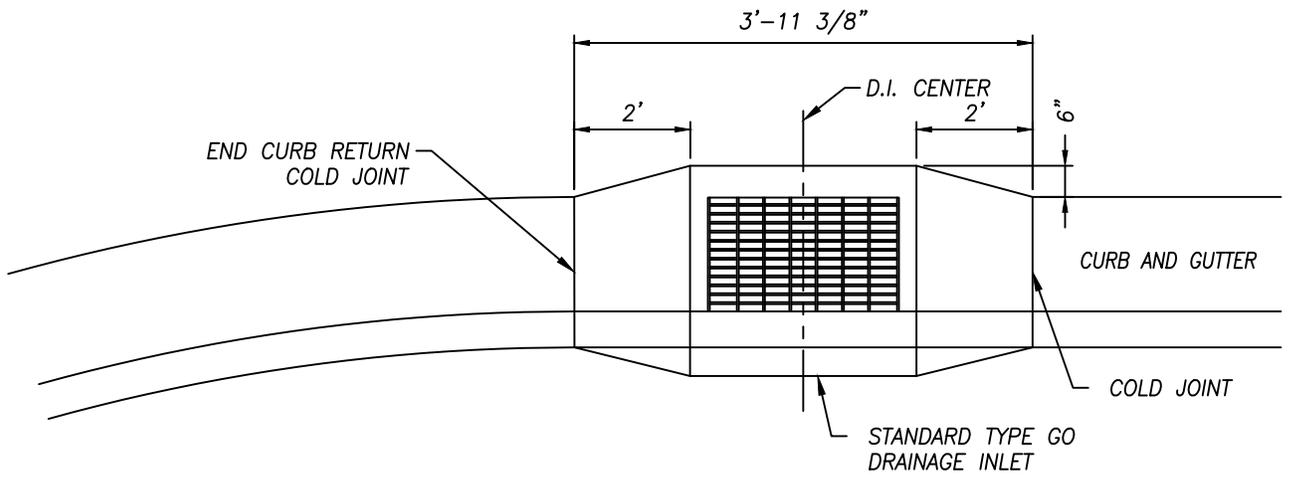


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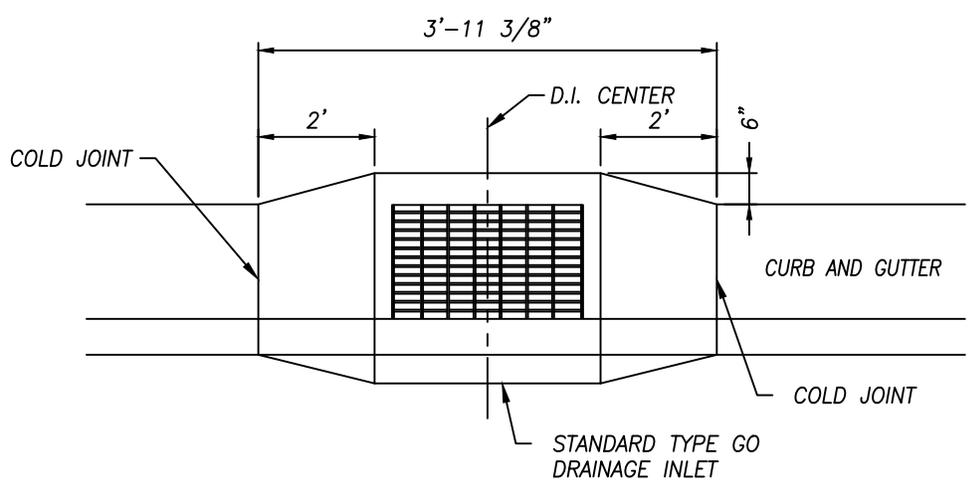
VELOCITY FOR STORM RUNOFF

City Engineer Date

STANDARD
No.
D-8



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



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

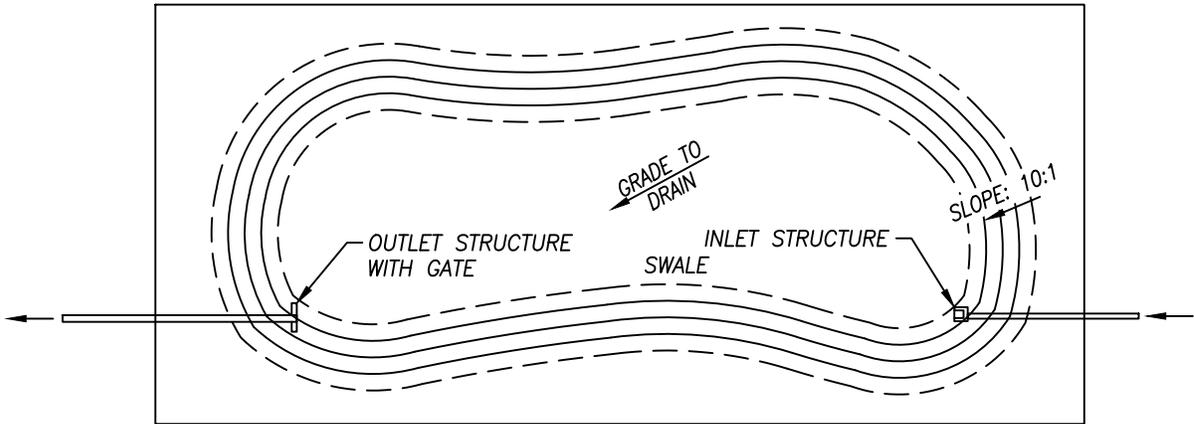


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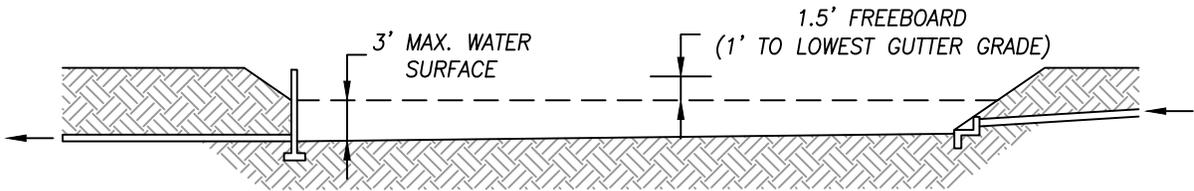
MISCELLANEOUS
DRAINAGE INLET
LOCATIONS

City Engineer Date

STANDARD
No.
D-10



PLAN VIEW



SECTION

NOTES:

1. THE BASIN SHALL BE CONTROLLED WITH GENTLE SLOPES AND MOUNDS.
2. THE BASIN SHALL BE LANDSCAPED WITH TURF AND TREES CONFORMING TO PLANS APPROVED BY THE CITY ENGINEER.
3. THE GROUND SHALL BE PROVIDED WITH AN AUTOMATIC IRRIGATION SYSTEM.
4. THE CAPACITY OF BASIN SHALL BE DETERMINED BY:
 $VOLUME = KCA$
 $K=0.25$ FOR DETENTION
 $K=0.50$ FOR RETENTION
 $C=RUNOFF$ COEFFICIENT
 $A=AREA$ DRAINED



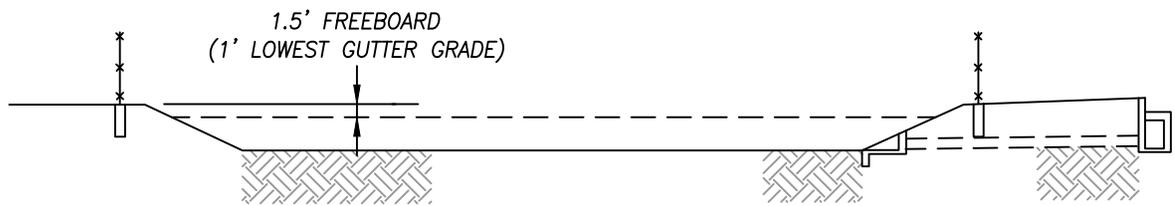
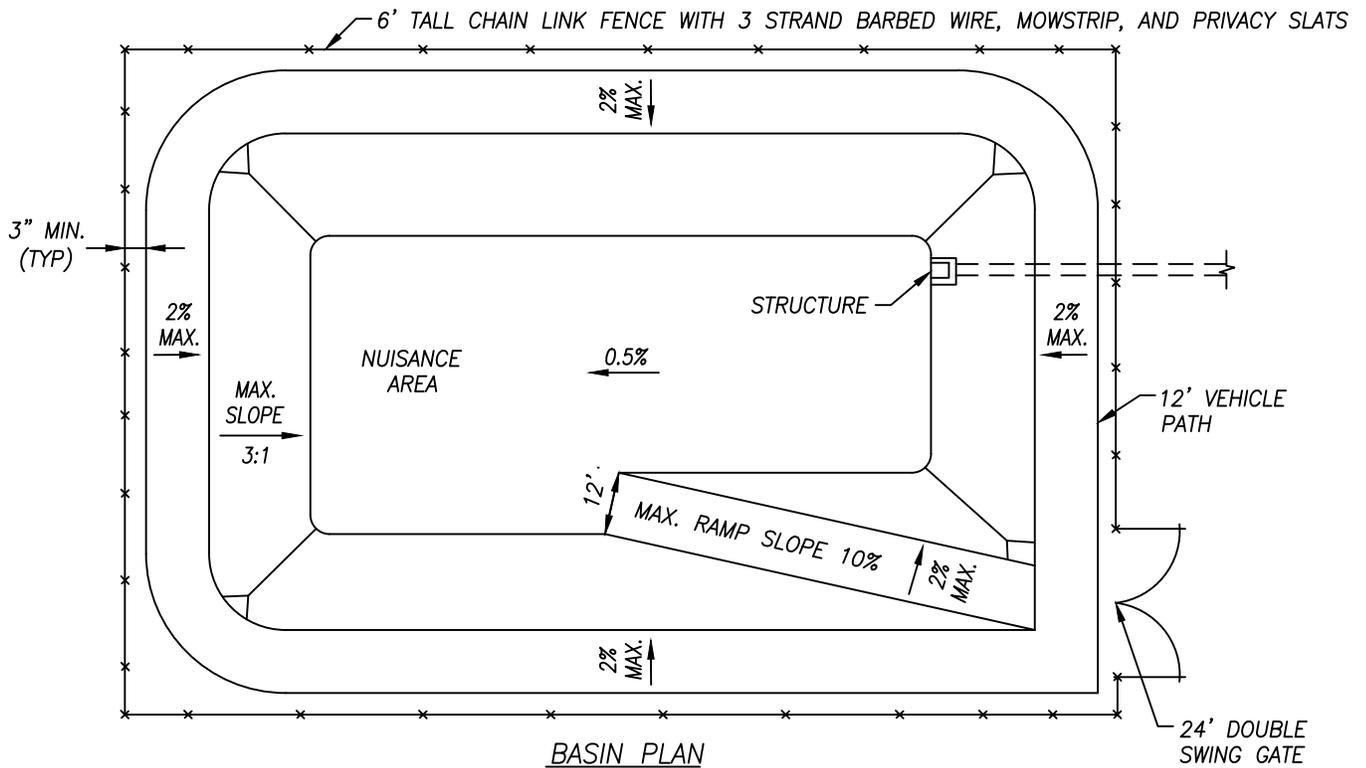
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

STORM DRAIN BASIN
TYPE "A"

City Engineer

Date

STANDARD
No.
D-11



NOTES:

1. OVERFLOW MUST BE TO THE STREET, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. DESIGNED WATER SURFACE ELEVATION SHALL BE 1 FOOT BELOW THE LOWEST INLET FLOW OR POND PERIPHERAL ELEVATION, WHICHEVER IS LOWER.
3. TO DETERMINE CAPACITY OF BASIN REFER TO APPENDIX A, DRAINAGE ENGINEERING DESIGN CRITERIA.
4. PROVIDE COMPOSITE "C" CALCULATIONS.
5. VEHICLE RAMP SHALL BE 12 FEET WIDE WITH A MAXIMUM SLOPE OF 10% REQUIRED.
6. BASIN SHALL BE SIZED TO HANDLE THE REQUIRED STORAGE VOLUME WITHOUT EXCEEDING AN EXCAVATION DEPTH OF 12 FEET.
7. ADEQUATE AREA AT THE FLOOR OF THE BASIN SHALL BE PROVIDED FOR MANEUVERING MAINTENANCE EQUIPMENT.
8. LANDSCAPING OF THE BASIN MAY NOT BE NECESSARY IF SCREENED FENCING IS PROVIDED. HOWEVER, LANDSCAPING TREATMENT BETWEEN THE FENCE AND THE STREET MAY BE REQUIRED.
9. FENCING IS NOT REQUIRED ON BASINS WHERE THE MAXIMUM POSSIBLE WATER DEPTH DOES NOT EXCEED 18 INCHES AND THE SIDE SLOPES ARE 6 TO 1 OR FLATTER.
10. A SOIL BORING LOG TO A DEPTH OF NOT LESS THAN 30 FEET SHALL BE SUBMITTED TO THE CITY ENGINEER.



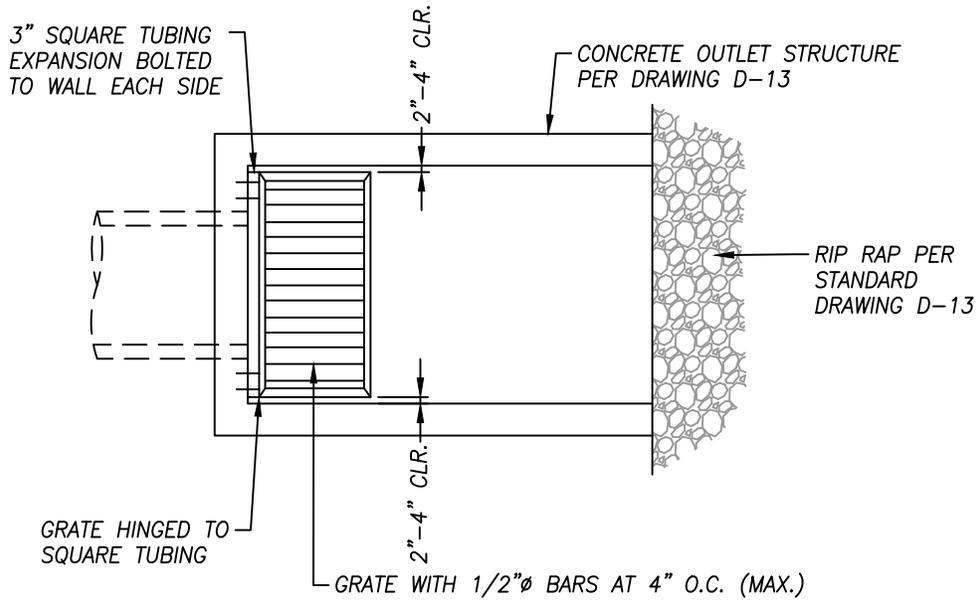
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**STORM DRAIN BASIN
TYPE "B"**

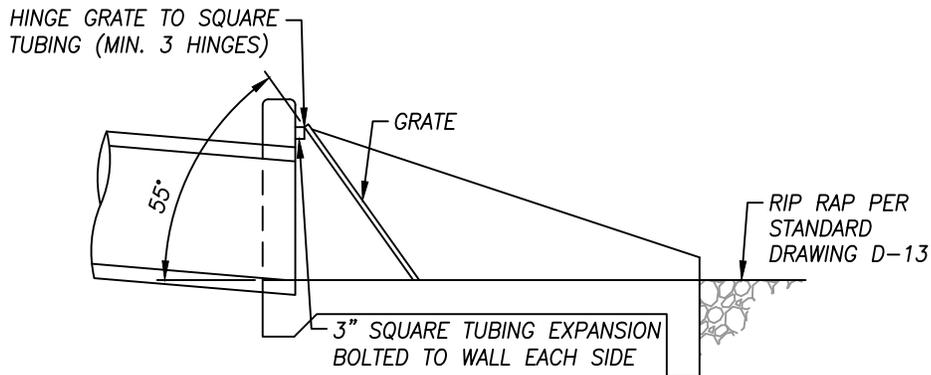
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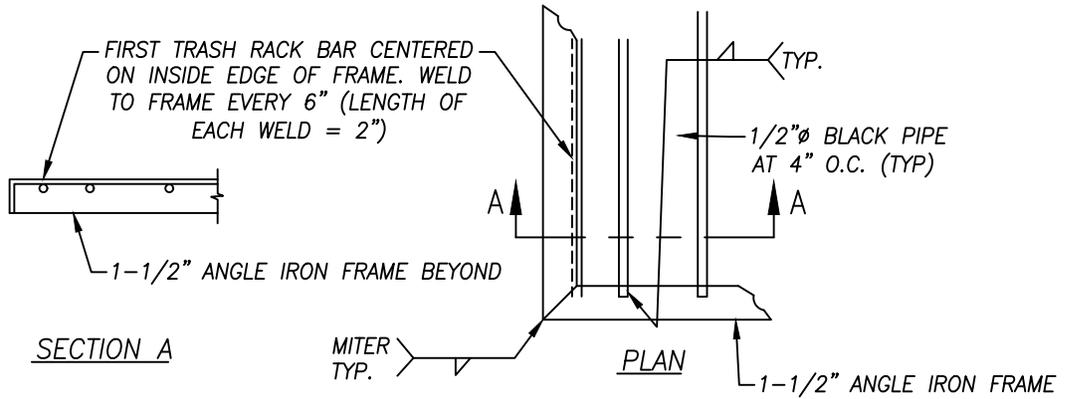
STANDARD
No.
D-12



PLAN VIEW



SIDE VIEW



GRATE CONSTRUCTION

NOTE:

1. METAL TUBING, FRAME PARTS, & GRATE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATED.



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CAST-IN-PLACE
OUTLET STRUCTURE
- GRATE

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STANDARD
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D-14

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

1/8"-1/4" MAXIMUM

6" MIN.

6" MIN.

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

EXISTING STRUCTURE SECTION THICKNESS VARIES

CUT TO A NEAT EDGE

SEAMLESS JOINT REQUIRED. SEE NOTE 1

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

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

COMPACT BACKFILL TO 92% RELATIVE COMPACTION. SEE NOTE 12

6" WIDE DETECTABLE UNDERGROUND WARNING TAPE

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

10-GA INSULATED COPPER TRACER WIRE, SECURED TO THE CENTER TOP OF PIPE WITH TAPE AT 5' INTERVALS

6" MINIMUM SAND BEDDING UNDER PIPE. COMPACT SAND BACKFILL TO SPRINGLINE OF PIPE. 92% RELATIVE COMPACTION.

RIBBED SURFACE PIPES SHALL BE BACKFILLED TO A HEIGHT OF 12" OVER TOP OF PIPE WITH 3/4" CRUSHED ROCK. ROCK SHALL BE PLACED IN 6" MAXIMUM LIFTS AND SHALL BE RODDED OR SHOVEL SLICED.

PIPE O.D. PLUS 12"

12" MIN.

MINIMUM TRENCH WIDTH = PIPE O.D. PLUS 18", OR PER MANUFACTURER REQUIREMENTS

NOTES:

1. ALL CUTS IN EXISTING PAVEMENT THAT ARE LESS THAN EIGHT YEARS OLD OR AS REQUIRED 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 FARMERSVILLE STANDARD SPECIFICATIONS.
3. ALL PROVISIONS AND REQUIREMENTS OF THE CITY OF FARMERSVILLE 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 NOT HAVE 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 PAVEMENT.
8. TEMPORARY TRENCH RESURFACING SHALL CONSIST OF A MINIMUM OF 2 INCHES 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 6 INCH LOOSE LIFTS, THEN COMPACTED AS DIRECTED BY THE CITY ENGINEER.
11. 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 HMA PAVEMENT FROM THE EDGE OF THE TRENCH CUT TO THE CONCRETE IMPROVEMENT, OR EDGE OF PAVING.
12. UNLESS OTHERWISE NOTED BACKFILL SHALL BE CLEAN GRANULAR NATIVE MATERIAL, FREE FROM DEBRIS, LUMPS, HARDPAN CHUNKS, PAVING MATERIALS, COBBLES LARGER THAN 3 INCHES, OR ORGANIC MATTER OF OTHER DEFLECTIONS OR UNSUITABLE SUBSTANCE OR SHALL BE IMPORT BORROW.



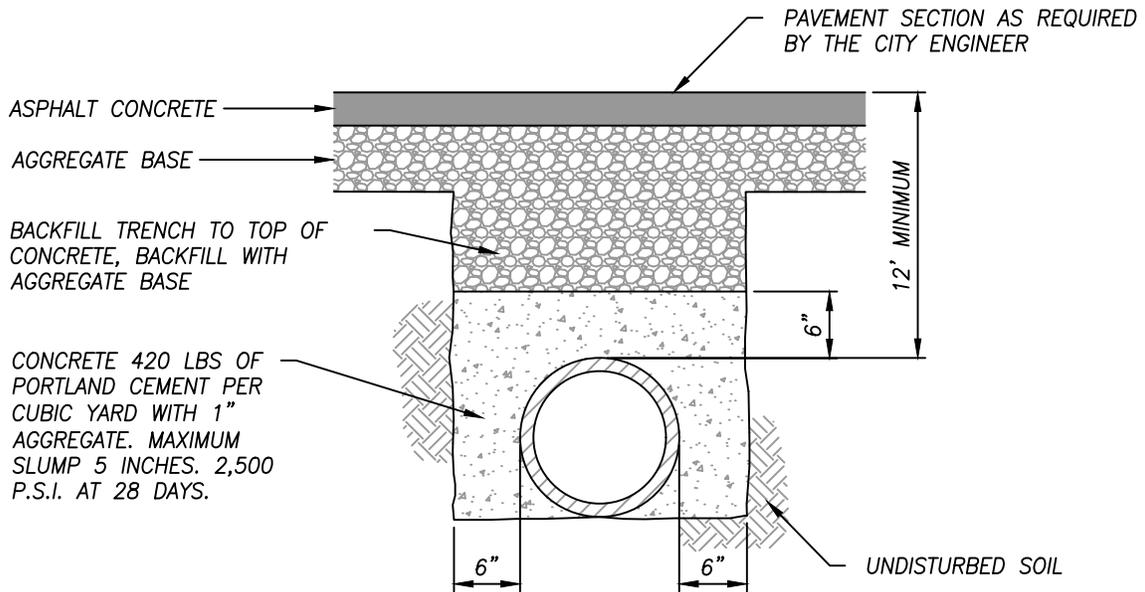
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TRENCH
BACKFILL/PATCH
PAVING

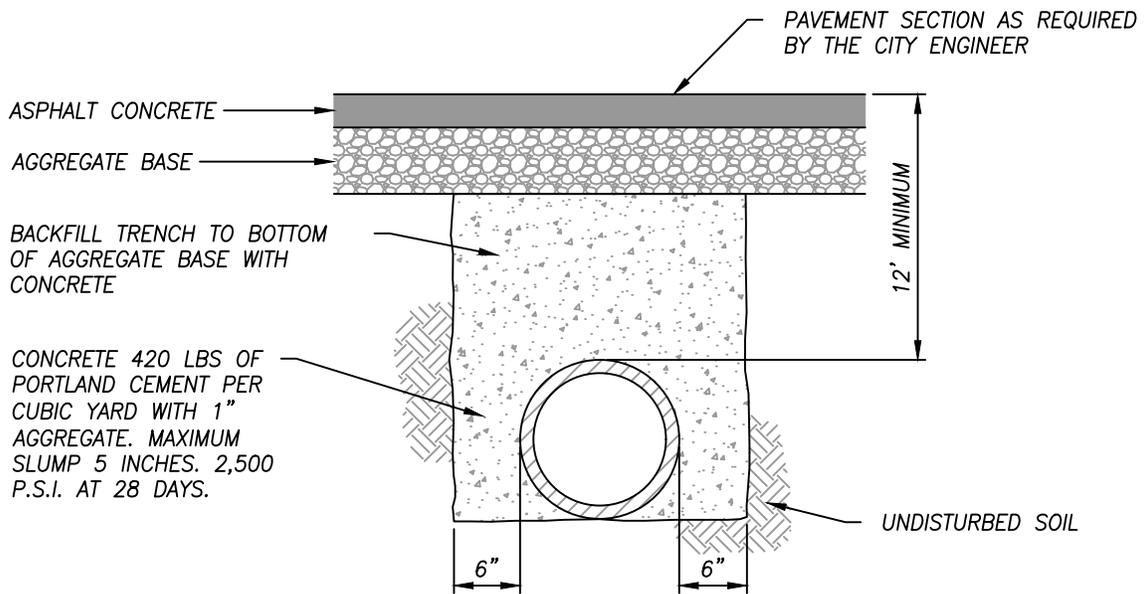
City Engineer

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STANDARD
No.
E-1



OPTION 1



OPTION 2

NOTES:

1. PIPE CONCRETE BACKFILL SHALL BE REQUIRED FOR ALL PIPE INSTALLED WITH LESS THAN 24 INCHES OF COVER OR AS DIRECTED BY THE CITY ENGINEER.
2. 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.
3. FOREIGN MATERIAL WHICH FALLS INTO THE TRENCH DURING PLACEMENT OF THE CONCRETE SHALL BE IMMEDIATELY REMOVED.
4. 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.
5. TRENCH SHALL BE BACKFILLED AND RE-SURFACED PER TRENCH BACKFILL/PATCH PAVING STANDARD DRAWING E-1.

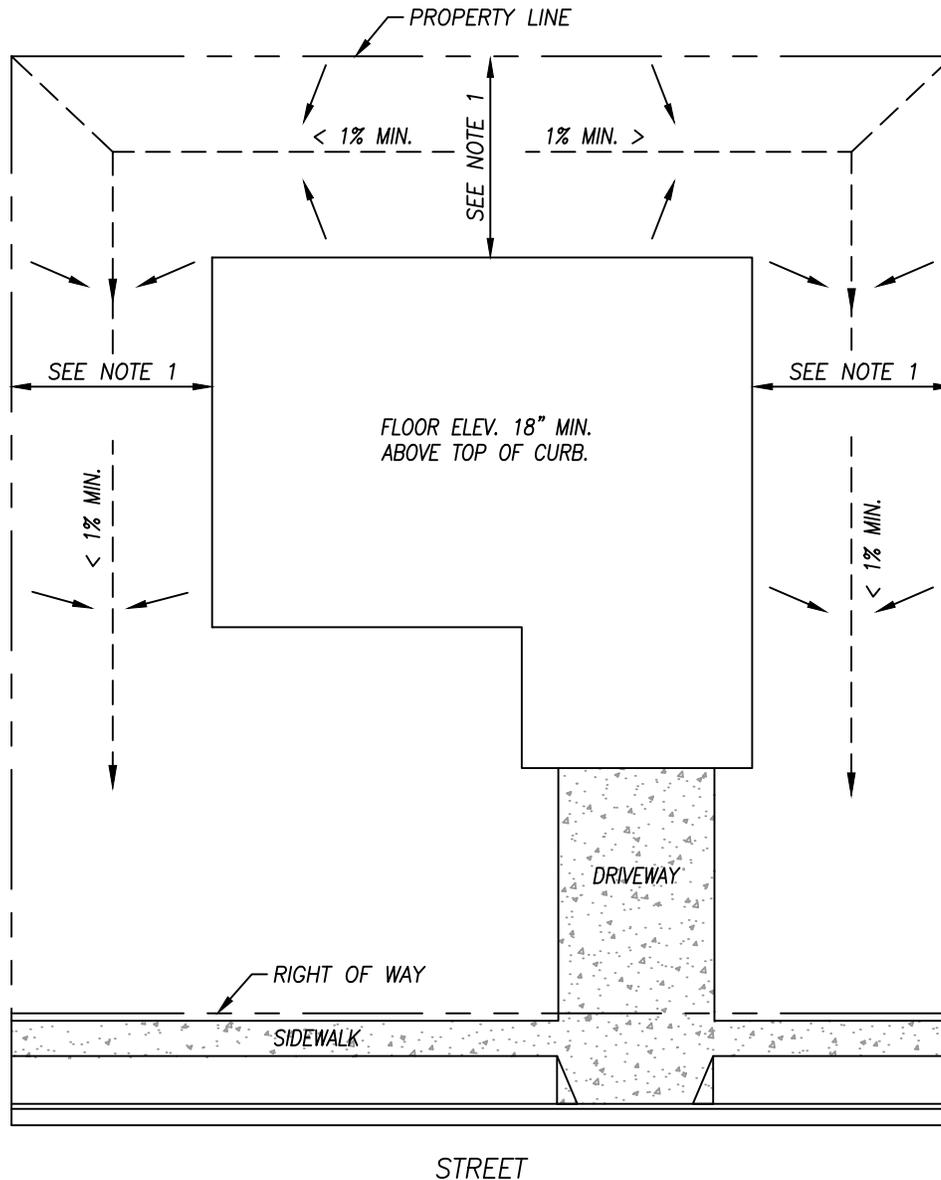


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PIPE CONCRETE
BACKFILL

City Engineer _____ Date _____

STANDARD
No.
E-2



NOTES:

1. FOR LOT REQUIREMENTS, SEE CITY ZONING ORDINANCE.
2. LOTS SHALL BE GRADED TO DRAIN AWAY FROM FOUNDATION TO THE STREET PER BUILDING CODE.



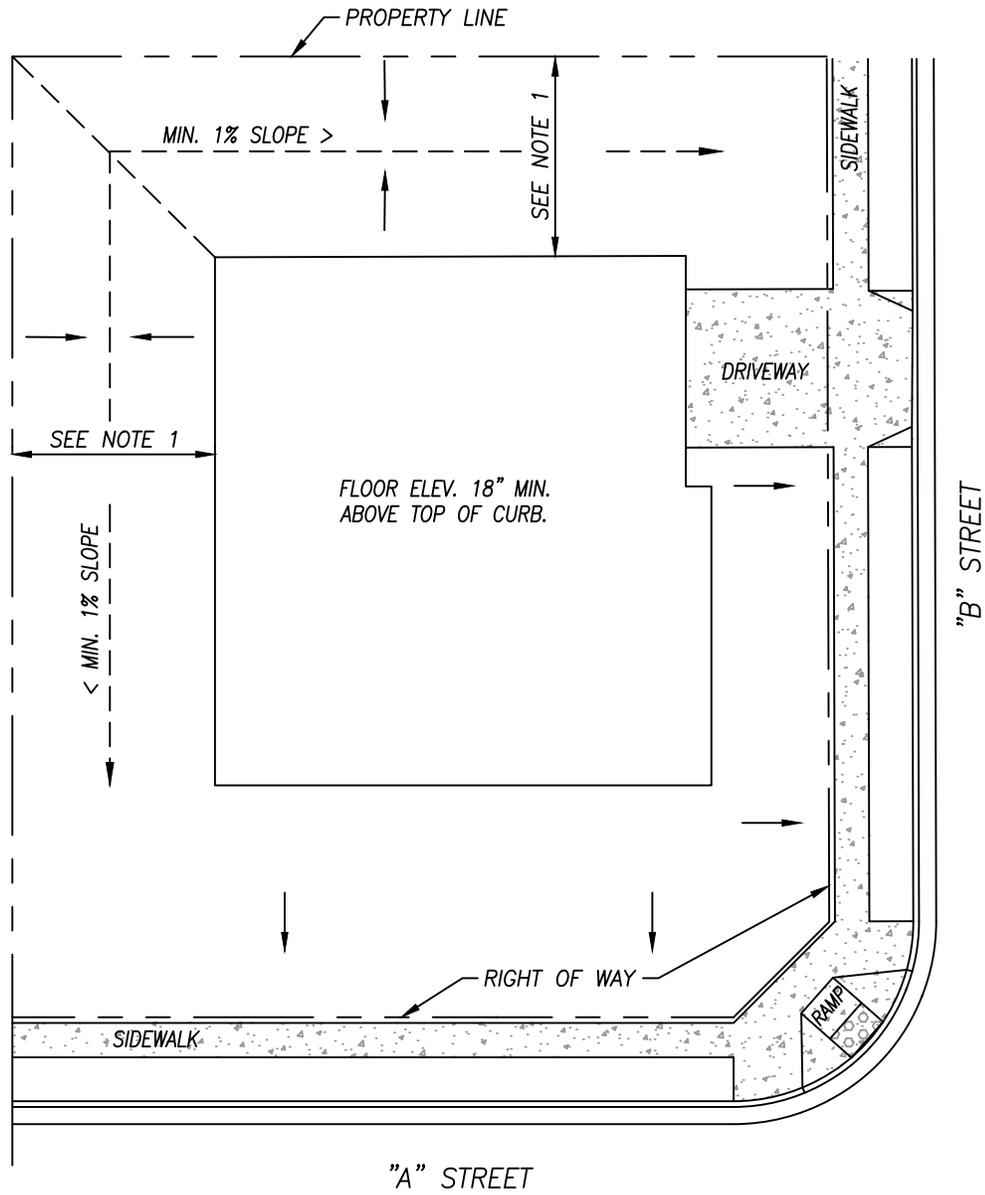
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INTERIOR LOT
REQUIREMENTS

City Engineer

Date

STANDARD
No.
L-1



NOTES:

1. FOR LOT REQUIREMENTS, SEE CITY ZONING ORDINANCE.
2. LOTS SHALL BE GRADED TO DRAIN AWAY FROM FOUNDATION TO THE STREET PER BUILDING CODE.



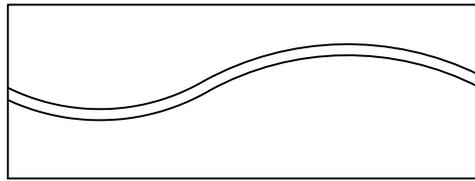
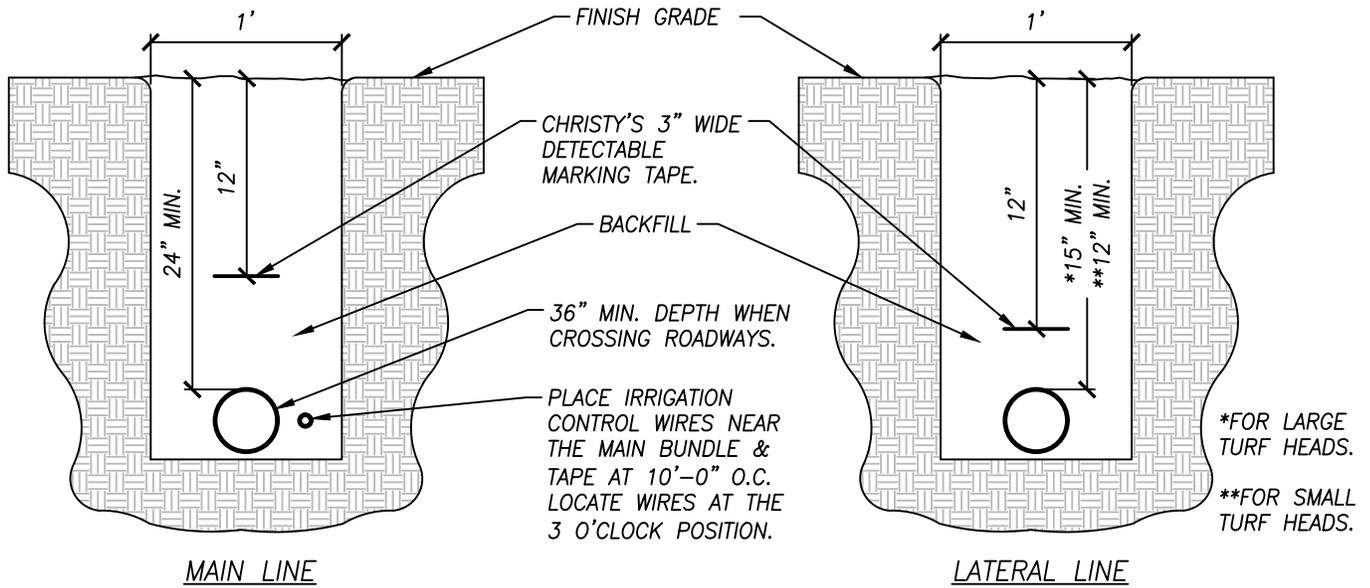
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**CORNER LOT
REQUIREMENTS**

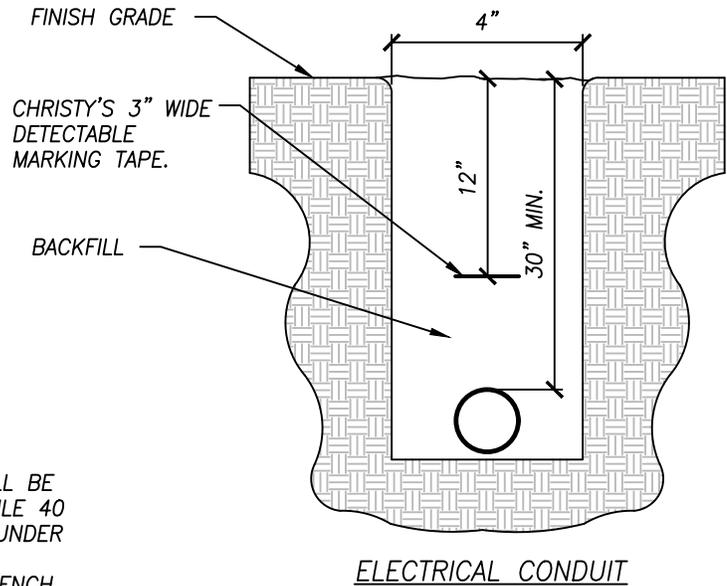
City Engineer

Date

STANDARD
No.
L-2



ALL SOLVENT WELD PIPE SHALL BE SNAKED INTO TRENCHES AS SHOWN TO ALLOW FOR EXPANSION & CONTRACTION.



NOTES:

1. ALL ELECTRICAL WIRING AND WATER LINES SHALL BE INSTALLED 36 INCHES MIN. DEEP IN A SCHEDULE 40 PVC CONDUIT WHEN CROSSING ROADWAYS OR UNDER ANY HARD SURFACE.
2. IF MORE THAN ONE LINE IS INSTALLED PER TRENCH, PROVIDE 6 INCHES MIN. HORIZONTAL AND VERTICAL SEPARATION.
3. ALL PVC SOLVENT (GLUE) SHALL BE #711 (PRIMER IS REQUIRED ON MAIN LINE ONLY).
4. LANDSCAPE AND IRRIGATION IMPROVEMENTS WITH THE DEDICATED STREET RIGHT OF WAY MAY REQUIRE AN ENCROACHMENT PERMIT. CHECK WITH PUBLIC WORKS DEPARTMENT FOR REQUIREMENTS.
5. WHERE OPEN STREET CUTS ARE REQUIRED TO INSTALL VARIOUS IRRIGATION AND/OR WIRES, ALL BACKFILL, COMPACTING AND FINAL SURFACE PATCH WITHIN THE CITY RIGHT OF WAY SHALL BE IN ACCORDANCE WITH CITY STANDARD OR AS DIRECTED BY THE CITY ENGINEER.
6. WHEN THERE IS A CHANGE IN FITTED DIRECTION, ALL IRRIGATION MAINLINES LARGER THAN 2 INCHES IN DIAMETER (PRESSURE LINES) SHALL BE SECURED WITH THRUST BLOCKS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION, OR AS DIRECTED BY THE CITY ENGINEER.
7. ALL IRRIGATION LATERAL LINES SHALL BE SCHEDULE 40 PVC.
8. ALL IRRIGATION MAIN LINES 2 INCHES IN DIAMETER AND LESS SHALL BE SCHEDULE 40 PVC. IRRIGATION MAIN LINES GREATER THAN 2 INCHES IN DIAMETER SHALL BE SCHEDULE 40 PVC OR APPROVED EQUAL BY THE CITY ENGINEER.
9. ANY AND ALL CHANGES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
10. ALL IRRIGATION INSTALLATION SHALL BE IN ACCORDANCE WITH CITY STANDARDS, THE LATEST APPROVED EDITION OF THE UNIFORM PLUMBING CODE, MANUFACTURE'S RECOMMENDATIONS, AND AS DIRECTED BY THE CITY ENGINEER.
11. ALL MATERIALS USED SHALL BE NEW AND FREE FROM IMPERFECTIONS.
12. SEE APPROVED LANDSCAPE AND IRRIGATION PLANS AND LEGENDS FOR SPECIFIC MODEL NUMBER, SIZE, QUANTITY, MANUFACTURER, AND PERFORMANCE REQUIREMENTS.



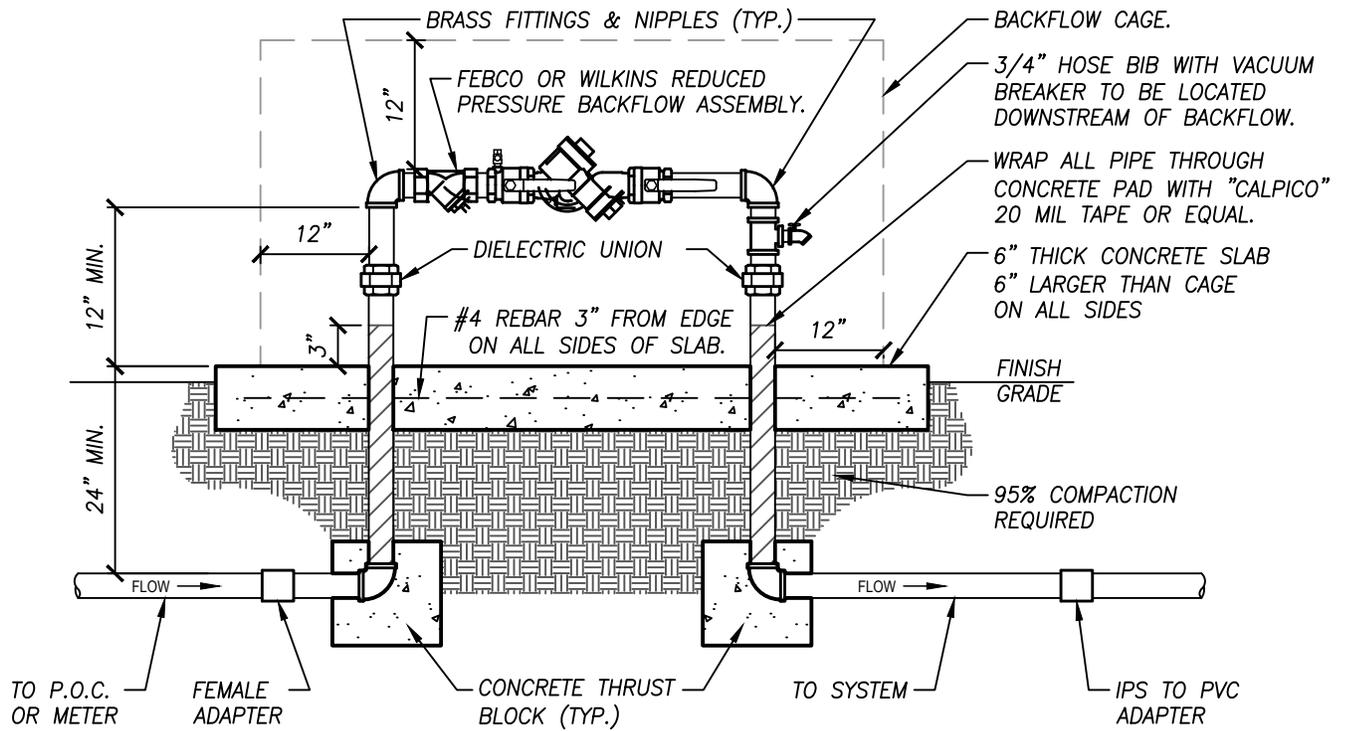
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**CONDUIT & IRRIGATION
PIPING, TRENCHING &
BACKFILL**

City Engineer

Date

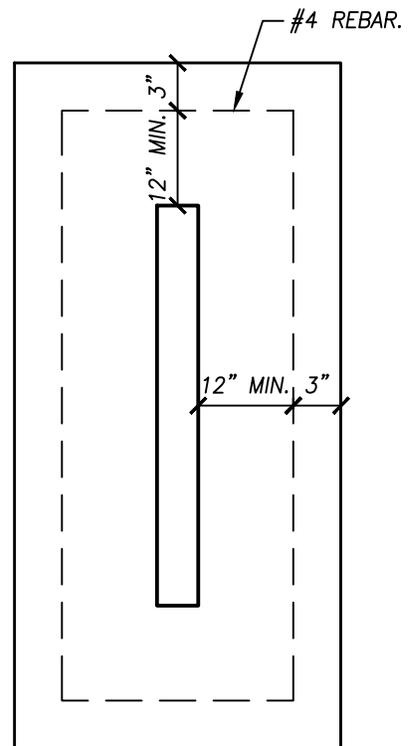
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LS-1



BACKFLOW PREVENTER
CAN BE USED FOR CONSTRUCTION WATER ALSO

NOTES:

1. EXCEPT AS NOTED, ALL PIPING AND FITTINGS SHALL BE BRASS UNLESS APPROVED BY THE CITY ENGINEER.
2. USE TEFLON TAPE ON ALL THREADED JOINTS OR APPROVED EQUAL BY THE CITY ENGINEER.
3. ALL MATERIALS USED SHALL BE NEW AND FREE FROM IMPERFECTIONS.
4. SEE APPROVED LANDSCAPE AND IRRIGATION PLANS AND LEGENDS FOR SPECIFIC MODEL NUMBER, SIZE, QUANTITY, MANUFACTURER, AND PERFORMANCE REQUIREMENTS.
5. ALL TRANSITIONS FROM BRASS PIPE TO PVC SHALL BE CONSTRUCTED WITH SCHEDULE 80 FEMALE ADAPTER OR APPROVED EQUAL BY THE CITY ENGINEER.
6. A 6 INCHES THICK CONCRETE (4,000 P.S.I.) SLAB IS REQUIRED FOR ALL WATER PROTECTION DEVICES. #4 REBAR REINFORCEMENT REQUIRED. MINIMUM CLEARANCE SHALL BE 12 INCHES ON ALL SIDES OF THE DEVICE, 3 INCHES FROM EDGE OF SLAB ON ALL SIDES, AND AS DIRECTED BY THE CITY ENGINEER.
7. ALL IRRIGATION INSTALLATION SHALL BE IN ACCORDANCE WITH CITY STANDARDS, THE LATEST APPROVED EDITION OF THE UNIFORM PLUMBING CODE, MANUFACTURE'S RECOMMENDATIONS, AND AS DIRECTED BY THE CITY ENGINEER.
8. ANY AND ALL CHANGES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
9. BEFORE ACCEPTANCE OF WORK BY CITY, THE BACKFLOW PREVENTER SHALL BE TESTED AND CERTIFIED BY A LICENSED BACKFLOW PLUMBER. CERTIFICATION SHALL BE DELIVERED TO THE CITY ENGINEER.
10. INSTALL BACKFLOW ENCLOSURE PER CITY STANDARD LS-3.



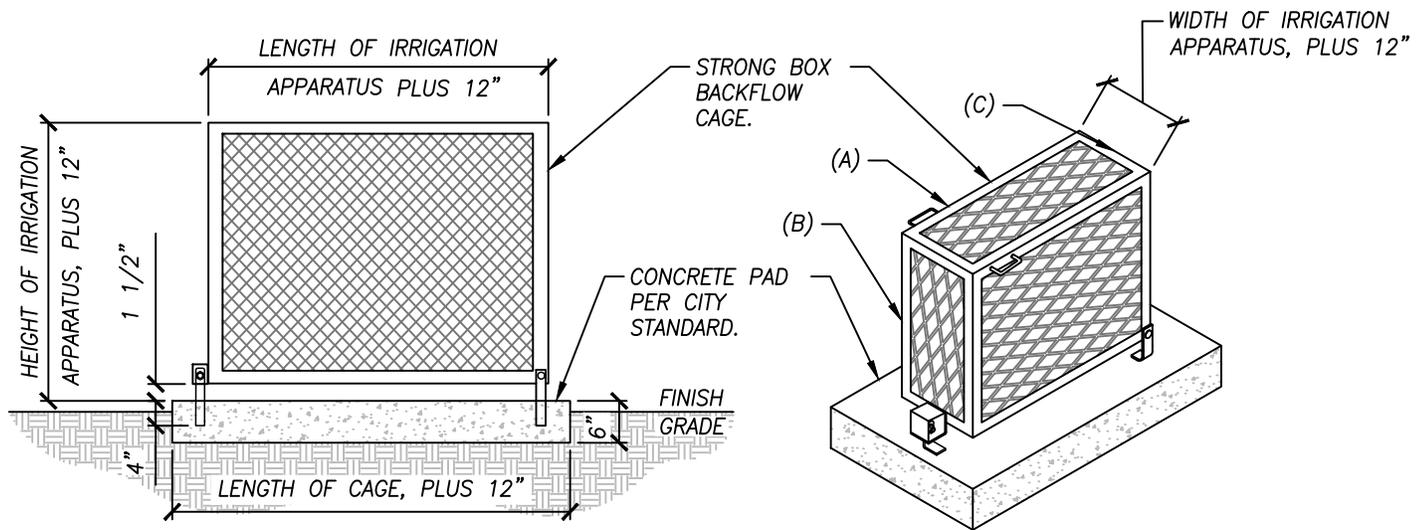
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**BACKFLOW
PREVENTER**

City Engineer

Date

STANDARD
No.
LS-2



SINGLE-LIFT:

PART #	"A" WIDTH	"B" HEIGHT	"C" DEPTH
BC-30CR	30"	25.5"	12"
BC-45CR	45"	31.5"	18"

DOUBLE-LIFT:

PART #	"A" WIDTH	"B" HEIGHT	"C" DEPTH
BC-75CR	75"	43.5"	30"

NOTES:

1. POWDER COATED EXPANDED METAL BACKFLOW COVER.
2. FRAME CONSTRUCTED OF 1 1/2" BY 1 1/2" ANGLE IRON.
3. CONCRETE SHALL BE 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS.
4. 1/2" x 2" HEX CAP BOLT, GRADE 2 WITH 2 NUTS EACH.
5. PREFABRICATED SINGLE-LIFT OR DOUBLE-LIFT BACKFLOW ENCLOSURES AVAILABLE FROM: STRONG BOX, 2320 MEYERS AVE. ESCONDIDO, CA 92029. PHONE: 1-800-729-1314, FAX: 1888-310-3946.
6. A BACKFLOW PREVENTER FREEZE PROTECTION COVER SHALL BE INSTALLED OVER THE BACKFLOW PREVENTER. COLOR: HUNTER GREEN

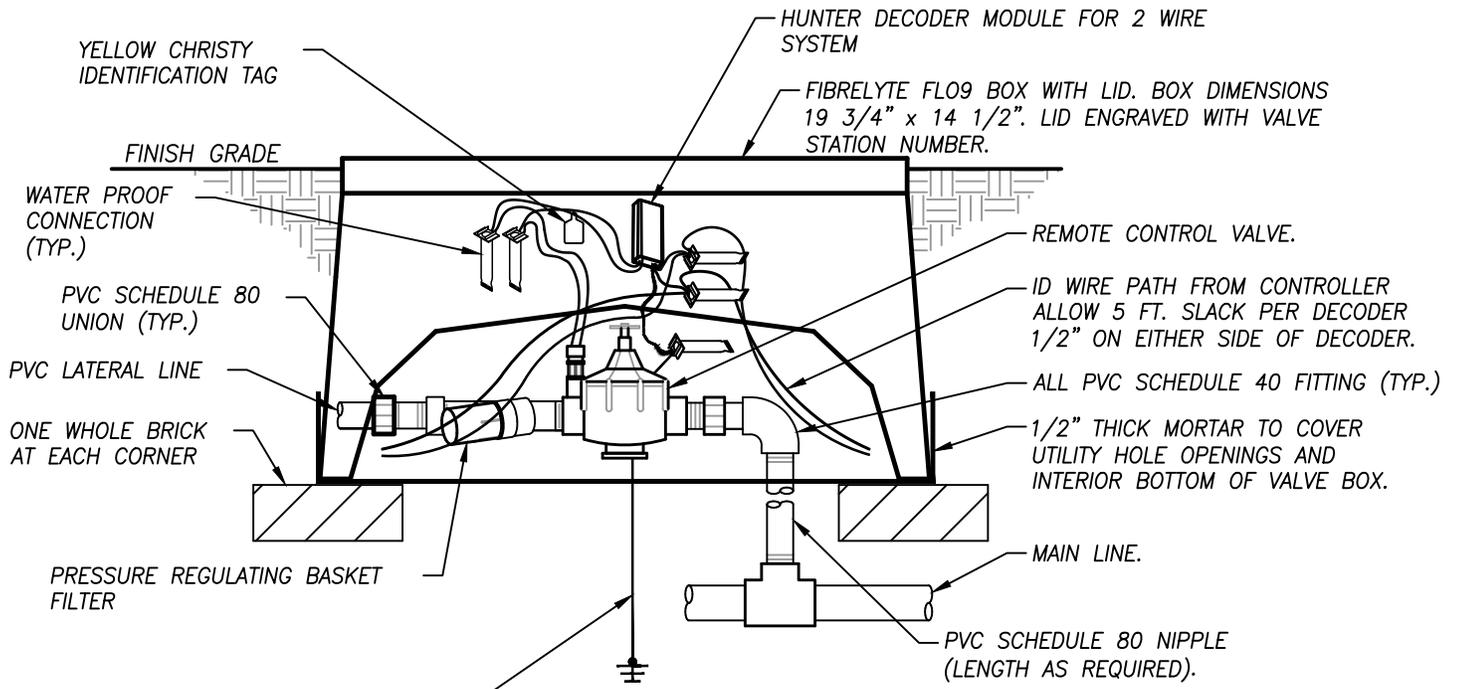


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BACKFLOW PREVENTER
ENCLOSURE

City Engineer _____ Date _____

STANDARD
No.
LS-3



TO EARTH GROUND INSTALLED PER BASIC GUIDELINES. 1 PER 12 DECODERS OR EVERY 1000ft./330M.

REMOTE CONTROL VALVE – GLOBE

CONTROL WIRE SIZE

CONTROL WIRING SHALL BE DIRECT BURIAL AWG-UF TYPE, "HOT" WIRE NOT SMALLER THAN AWG NO. 14, COMMON WIRE NOT SMALLER THAN AWG NO.12.

NOTES:

1. USE TEFLON TAPE ON ALL THREADED JOINTS OR APPROVED EQUAL BY THE CITY ENGINEER.
2. ALL NIPPLES SHALL BE SCHEDULE 80 PVC. ALL FITTINGS SHALL BE SCHEDULE 40 PVC.
3. ALL IRRIGATION CONTROL VALVES SHALL BE PLACED IN A CHRISTY FIBRELYTE FLO9 BOX WITH LID OF VALVE BOX EVEN WITH FINISH GRADE IN TURF AND 2 INCHES ABOVE FINISH GRADE IN PLANTER AREA. THE FOLLOWING FIBRELYTE BOX AND LID ARE DEEMED ACCEPTABLE. ANY DEVIATION FROM THE ACCEPTED AND LID BELOW MUST BE APPROVED BY THE CITY ENGINEER. CHRISTY: FLO9 FIBRELYTE BOX, FLO9T FIBRELYTE LID.
4. INSTALLATION OF EXTRA IRRIGATION CONTROL WIRE FROM IRRIGATION CONTROL TO REMOVE CONTROL VALVE IS REQUIRED FOR EACH MANIFOLD (BUNDLE OF VALVES). EXTRA WIRE SHALL BE A DIFFERENT COLOR THAN THE ONE USED TO OPERATE VALVES.
5. ALL IRRIGATION CONTROL WIRES (CONTROL AND COMMON) SHALL BE U.L. SINGLE STRAND COPPER WIRE, TAPED AND BUNDLED AT 10 FEET INTERVALS AND PLACED NEAR THE IRRIGATION MAINLINE AT 3 O'CLOCK POSITION.
6. ALL WIRE CONNECTIONS SHALL BE WATER PROOF AND APPROVED BY THE CITY ENGINEER. SPLICES WILL NOT BE ALLOWED UNLESS APPROVED BY THE CITY ENGINEER. THE APPROVED SPLICES WILL REQUIRE THE USE OF A SPLICE BOX.
7. MAINTAIN 2 FEET SEPARATION BETWEEN REMOTE CONTROL VALVES (CENTERLINE TO CENTERLINE) WHEN MORE THAN ONE VALVE IS INSTALLED IN THE SAME LOCATION.
8. WHERE POSSIBLE, LOCATE VALVES IN THE PLANTER AREAS.
9. ALL IRRIGATION INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS, THE LATEST APPROVED EDITION OF THE UNIFORM PLUMBING CODE, MANUFACTURER'S RECOMMENDATIONS, AND AS DIRECTED BY THE CITY ENGINEER.
10. ALL MATERIALS USED SHALL BE NEW AND FREE FROM IMPERFECTIONS.
11. ANY AND ALL CHANGES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
12. SEE APPROVED LANDSCAPE AND IRRIGATION PLANS AND LEGENDS FOR SPECIFIC MODEL NUMBER, SIZE, QUANTITY, MANUFACTURER, AND PERFORMANCE REQUIREMENTS.

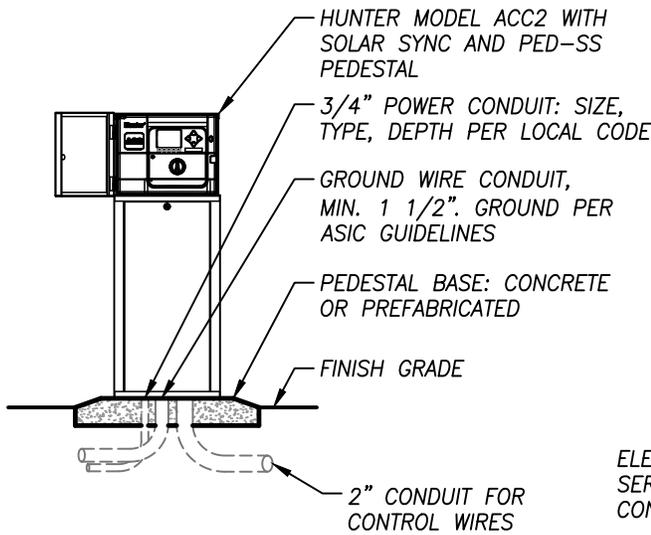


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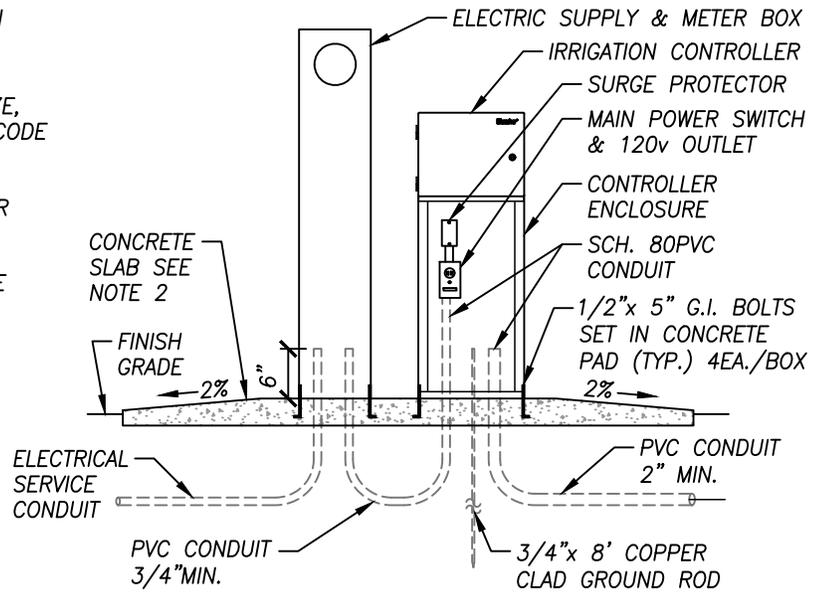
REMOTE CONTROL VALVE

City Engineer _____ Date _____

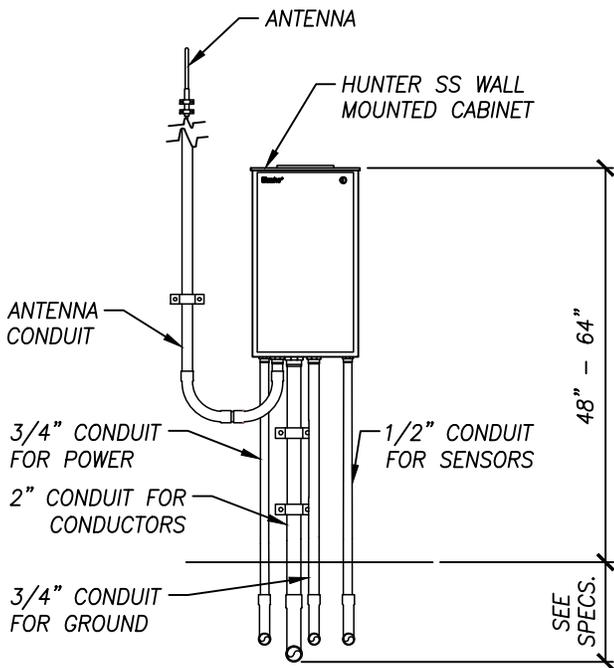
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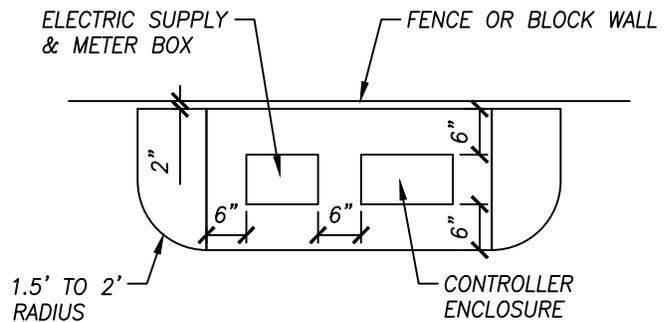
CONTROLLER & SS PEDESTAL CABINET



IRRIGATION CONTROLLER & SERVICE



CONTROLLER & SS WALL MOUNTED CABINET
SEE NOTE 7



PLAN VIEW OF CONTROLLER & SERVICE

NOTES:

1. USE SCHEDULE 80 PVC CONDUIT WITHIN ENCLOSED PEDESTAL, SLOPE CONDUIT TO DRAIN 1/8 INCH PER 1 FEET.
2. CONSTRUCT 6 INCHES 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS. CONCRETE SLAB AS REQUIRED TO RECEIVE THE PEDESTAL MOUNTED IRRIGATION CONTROLLER. COMPACT 6 INCHES BASE TO 90% RELATIVE COMPACTION PRIOR TO PLACEMENT OF CONCRETE SLAB.
3. ALL MATERIALS USED SHALL BE NEW AND FREE FROM IMPERFECTIONS.
4. SEE APPROVED LANDSCAPE AND IRRIGATION PLANS AND LEGENDS FOR SPECIFIC MODEL NUMBER, SIZE, REQUIREMENTS.
5. ANY AND ALL CHANGES FROM THIS STANDARD SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ANY CONSTRUCTION.
6. CONTROLLER TO BE PROPERLY GROUNDED PER NATIONAL ELECTRICAL CODE, ARTICLE 250, AND LOCAL REGULATIONS.
7. HUNTER STAINLESS STEEL WALL MOUNTED CABINET MAY BE INSTALLED WITH CITY ENGINEER APPROVAL.



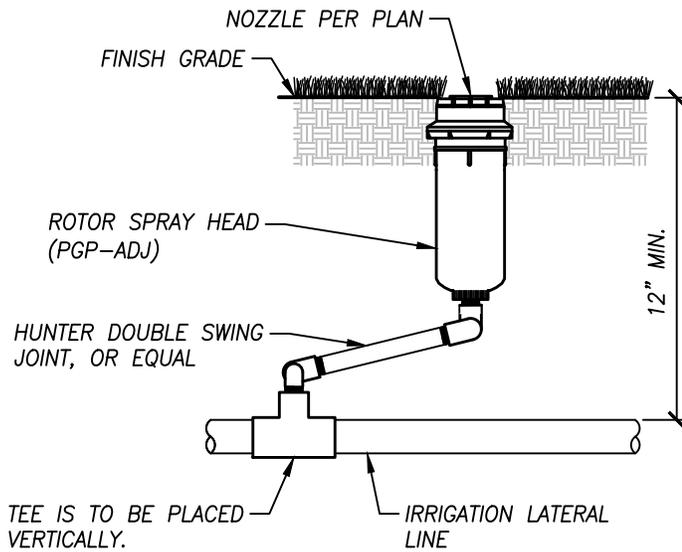
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IRRIGATION
CONTROLLER &
SERVICE

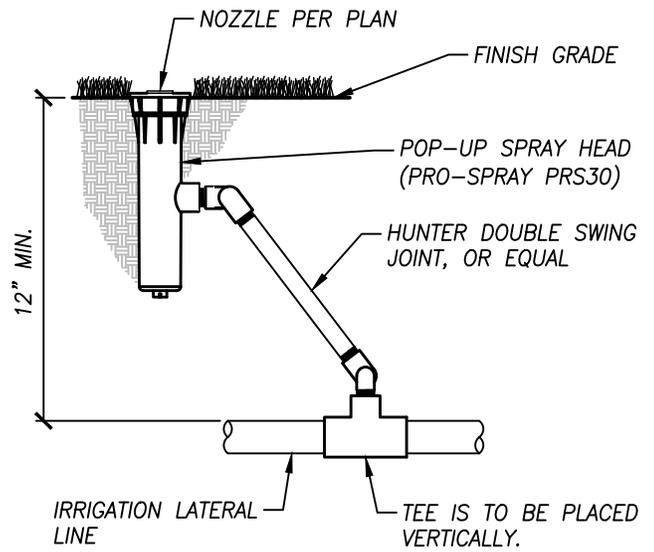
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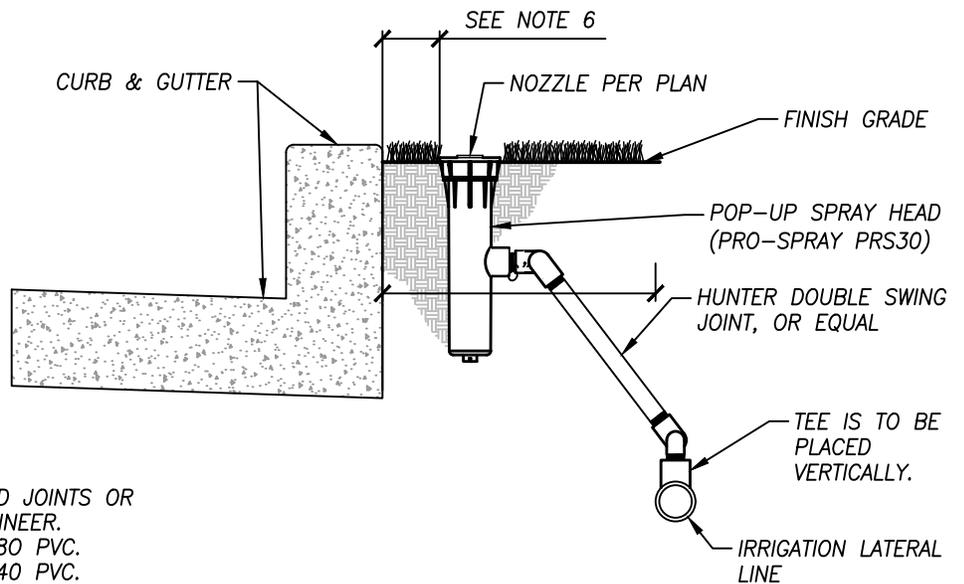
POP-UP SPRAY ROTOR



POP-UP SPRAY

PER CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE, OVERHEAD IRRIGATION SHALL BE PERMITTED NEXT TO NON-PERMEABLE SURFACES WHERE:

1. THE LANDSCAPE AREA IS ADJACENT TO PERMEABLE SURFACING AND NO RUNOFF OCCURS.
2. THE ADJACENT NON-PERMEABLE SURFACES ARE DESIGNED AND CONSTRUCTED TO DRAIN ENTIRELY TO LANDSCAPING.



POP-UP SPRAY NEXT TO CURB

NOTES:

1. USE TEFLON TAPE ON ALL THREADED JOINTS OR APPROVED EQUAL BY THE CITY ENGINEER.
2. ALL NIPPLES SHALL BE SCHEDULE 80 PVC.
3. ALL FITTINGS SHALL BE SCHEDULE 40 PVC.
4. ALL LATERALS SHALL BE SCHEDULE 40 PVC OR AS NOTED ON LANDSCAPE/IRRIGATION PLANS.
5. WHERE IRRIGATION HEADS ARE INSTALLED WITHIN EMBANKMENTS, A DRAIN VALVE OR CHECK VALVE IS REQUIRED TO PREVENT EROSION. CHECK VALVES AND RAIN VALVES SHALL BE INSTALLED AT LOCATIONS AS PRESCRIBED BY THE SPECIFIC FIELD CONDITIONS AND SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO USE AND PLACEMENT.
6. ALL POP-UP HEADS SHALL BE 1 INCH FROM CONCRETE AND ASPHALT AREAS. ALL LARGE ROTOR HEADS SHALL BE 4 INCHES FROM CONCRETE AND ASPHALT AREAS. HEIGHT OF POP-UP HEADS SHALL BE AS FOLLOWS:
6 INCHES FOR TURF AREAS
12 INCHES FOR SHRUBS
12 INCHES FOR GROUND COVERS
7. WHERE PART CIRCLE IRRIGATION HEADS ADJACENT TO A BUILDING WALL, LOCATE IRRIGATION HEAD 1 FEET FROM FACE OF BUILDING WALL TO BACK OF IRRIGATION HEAD.

8. SWING JOINTS SHALL BE ALLOWED ON ALL IRRIGATION HEADS EVEN WHERE NOT REQUIRED.
9. ALL IRRIGATION INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS, THE LATEST APPROVED EDITION OF THE UNIFORM PLUMBING CODE, MANUFACTURER'S RECOMMENDATIONS, AND AS DIRECTED BY THE CITY ENGINEER.
10. ALL MATERIALS USED SHALL BE NEW AND FREE FROM IMPERFECTIONS.
11. ANY AND ALL CHANGES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
12. SEE APPROVED LANDSCAPE AND IRRIGATION PLANS AND LEGENDS FOR SPECIFIC MODEL NUMBER, SIZE, QUANTITY, MANUFACTURER, AND PERFORMANCE REQUIREMENTS.



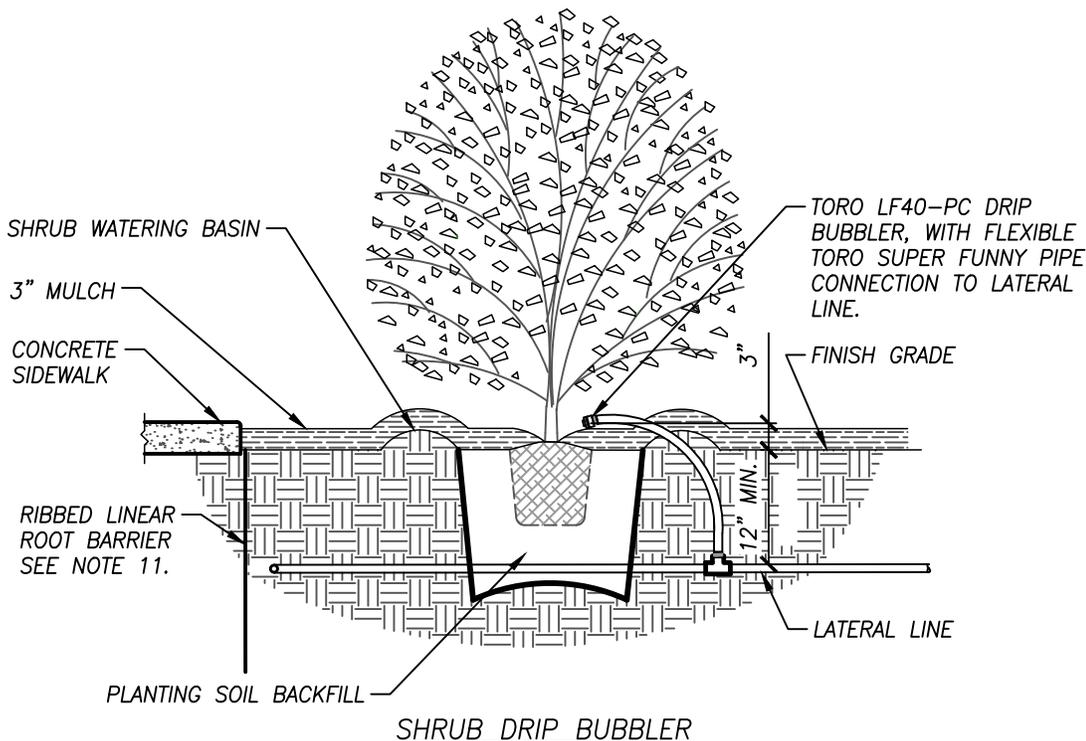
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POP-UP &
ROTOR HEADS

City Engineer

Date

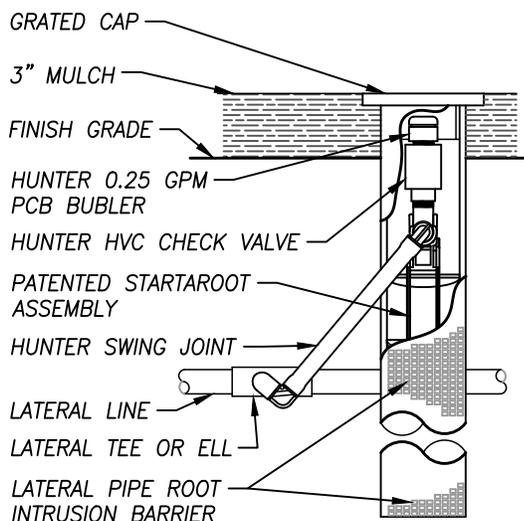
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LS-6



SHRUB DRIP BUBBLER

NOTES:

1. USE TEFLON TAPE ON ALL THREADED JOINTS OR APPROVED EQUAL BY THE CITY ENGINEER.
2. ALL NIPPLES SHALL BE SCHEDULE 80 PVC.
3. ALL FITTINGS SHALL BE SCHEDULE 40 PVC.
4. ALL LATERALS SHALL BE SCHEDULE 40 PVC OR AS NOTED ON LANDSCAPE/IRRIGATION PLANS.
5. WHERE IRRIGATION HEADS ARE INSTALLED WITHIN EMBANKMENTS, A DRAIN VALVE OR CHECK VALVE IS REQUIRED TO PREVENT EROSION. CHECK VALVES AND DRAIN VALVES SHALL BE INSTALLED AT LOCATIONS AS PRESCRIBED BY THE SPECIFIC FIELD CONDITIONS AND SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO USE AND PLACEMENT.
6. SWING JOINTS SHALL BE ALLOWED ON ALL IRRIGATION HEADS EVEN WHERE NOT REQUIRED.
7. ALL IRRIGATION INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS, THE LATEST APPROVED EDITION OF THE UNIFORM PLUMBING CODE, MANUFACTURER'S RECOMMENDATIONS, AND AS DIRECTED BY THE CITY ENGINEER.
8. ALL MATERIALS USED SHALL BE NEW AND FREE FROM IMPERFECTIONS.
9. ANY AND ALL CHANGES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
10. SEE APPROVED LANDSCAPE AND IRRIGATION PLANS AND LEGENDS FOR SPECIFIC MODEL NUMBER, SIZE, QUANTITY, MANUFACTURER, AND PERFORMANCE REQUIREMENTS.
11. 24 INCHES LINEAR RIBBED VINYL ROOT BARRIER IS REQUIRED AGAINST ALL HARD SURFACES WHEN LARGE WOODY SHRUB IS PLANTED WITHIN 2 FEET OR LESS FROM ANY HARD SURFACE. ROOT BARRIER SHALL BE UB-24 OR APPROVED EQUAL BY THE CITY ENGINEER. VERTICAL ROOT DEFLECTING ROOT RIBS ON PANEL MUST FACE INWARD TOWARD ROOT BALL. TOP OF ROOT BARRIER SHALL BE 1/2 INCH BELOW FINISH GRADE.



NOTE: INSTALL HUNTER FILTER FABRIC SLEEVE #RZWS-SLEEVE

TREE BUBBLER



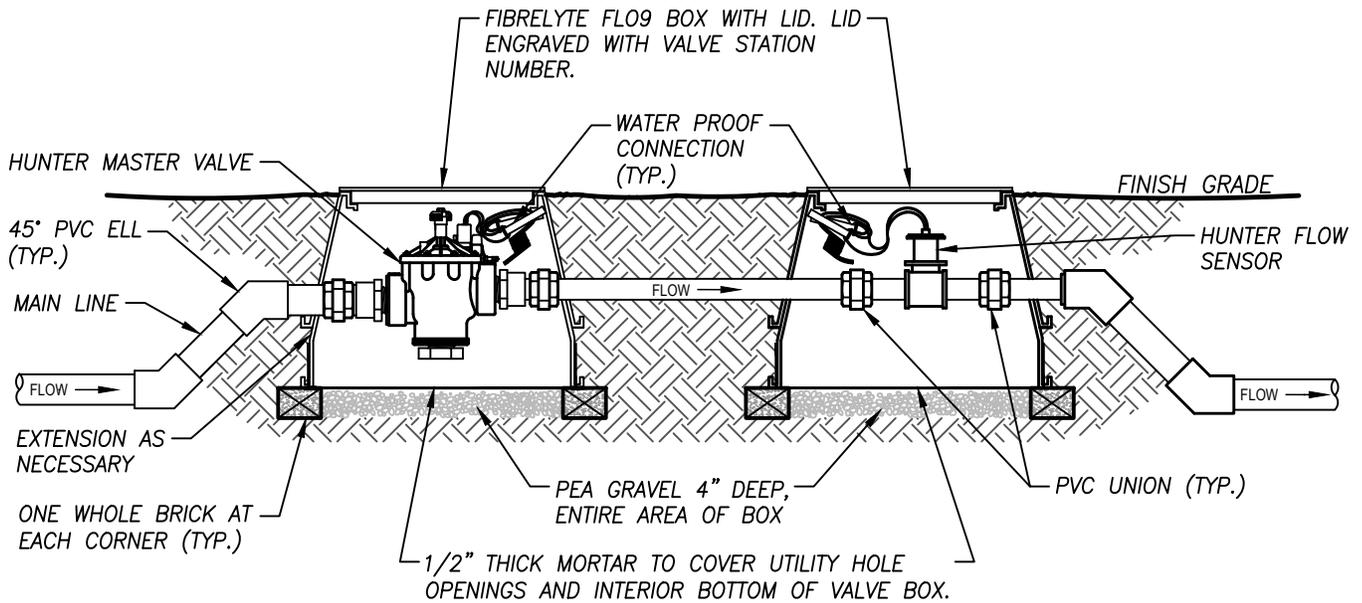
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DRIP BUBBLER &
BUBBLER

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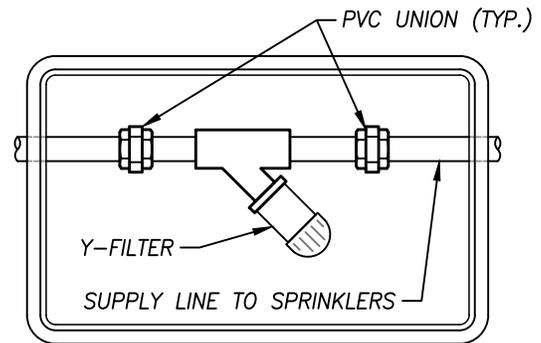
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MASTER VALVE & FLOW SENSOR

CONTROL WIRE SIZE

CONTROL WIRING SHALL BE DIRECT BURIAL AWG-UF TYPE, "HOT" WIRE NOT SMALLER THAN AWG NO. 14, COMMON WIRE NOT SMALLER THAN AWG NO. 12.



2" MIN. CLEARANCE FOR IRRIGATION ITEMS FROM ALL SIDES.

NOTES:

1. USE TEFLON TAPE ON ALL THREADED JOINTS OR APPROVED EQUAL BY THE CITY ENGINEER.
2. ALL NIPPLES SHALL BE SCHEDULE 80 PVC. ALL FITTINGS SHALL BE SCHEDULE 40 PVC.
3. ALL IRRIGATION CONTROL VALVES SHALL BE PLACED IN A CHRISTY FIBRELYTE FLO9 BOX WITH LID OF VALVE BOX EVEN WITH FINISH GRADE IN TURF AND 2 INCHES ABOVE FINISH GRADE IN PLANTER AREA. THE FOLLOWING FIBRELYTE BOX AND LID ARE DEEMED ACCEPTABLE. ANY DEVIATION FROM THE ACCEPTED AND LID BELOW MUST BE APPROVED BY THE CITY ENGINEER.
CHRISTY: FLO9 FIBRELYTE BOX, FLO9T FIBRELYTE LID.
4. INSTALLATION OF EXTRA IRRIGATION CONTROL WIRE FROM IRRIGATION CONTROL TO REMOVE CONTROL VALVE IS REQUIRED. EXTRA WIRE SHALL BE A DIFFERENT COLOR THAN THE ONE USED TO OPERATE VALVE.
5. ALL IRRIGATION CONTROL WIRES (CONTROL AND COMMON) SHALL BE U.L. SINGLE STRAND COPPER WIRE, TAPED AND BUNDLED AT 10 FEET INTERVALS AND PLACED NEAR THE IRRIGATION MAINLINE AT 3 O'CLOCK POSITION.
6. ALL WIRE CONNECTIONS SHALL BE WATER PROOF AND APPROVED BY THE CITY ENGINEER. SPLICES WILL NOT BE ALLOWED UNLESS APPROVED BY THE CITY ENGINEER. THE APPROVED SPLICES WILL REQUIRE THE USE OF A SPLICE BOX.
7. MAINTAIN 2 FT. SEPARATION BETWEEN REMOTE CONTROL VALVES (CENTERLINE TO CENTERLINE) WHEN MORE THAN ONE VALVE IS INSTALLED IN THE SAME LOCATION.
8. WHERE POSSIBLE, LOCATE VALVES IN THE PLANTER AREAS.
9. ALL IRRIGATION INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS, THE LATEST APPROVED EDITION OF THE UNIFORM PLUMBING CODE, MANUFACTURER'S RECOMMENDATIONS, AND AS DIRECTED BY THE CITY ENGINEER.
10. ALL MATERIALS USED SHALL BE NEW AND FREE FROM IMPERFECTIONS.
11. ANY AND ALL CHANGES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
12. SEE APPROVED LANDSCAPE AND IRRIGATION PLANS AND LEGENDS FOR SPECIFIC MODEL NUMBER, SIZE, QUANTITY, MANUFACTURER, AND PERFORMANCE REQUIREMENTS.



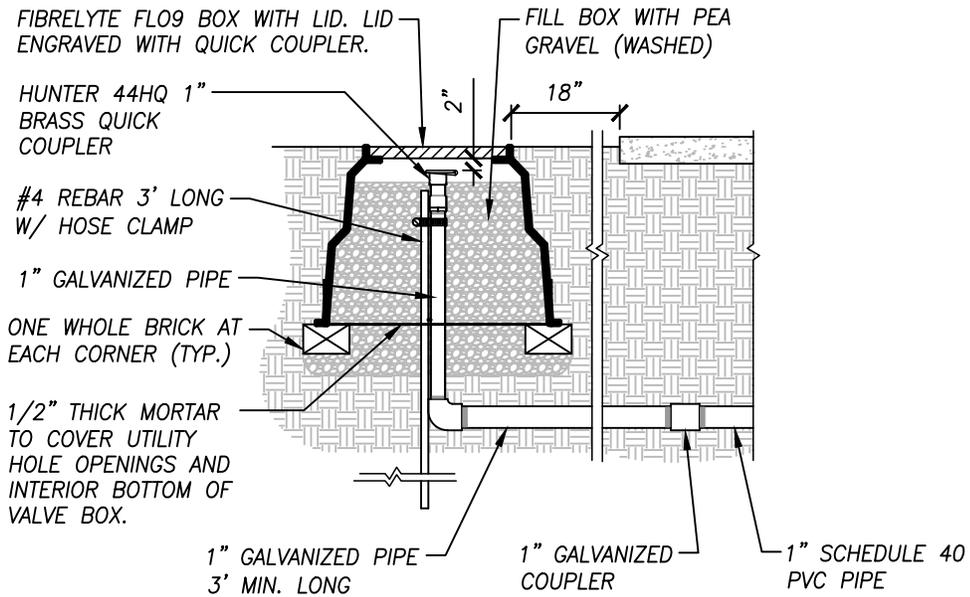
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MASTER VALVE,
FLOW SENSOR &
FILTER

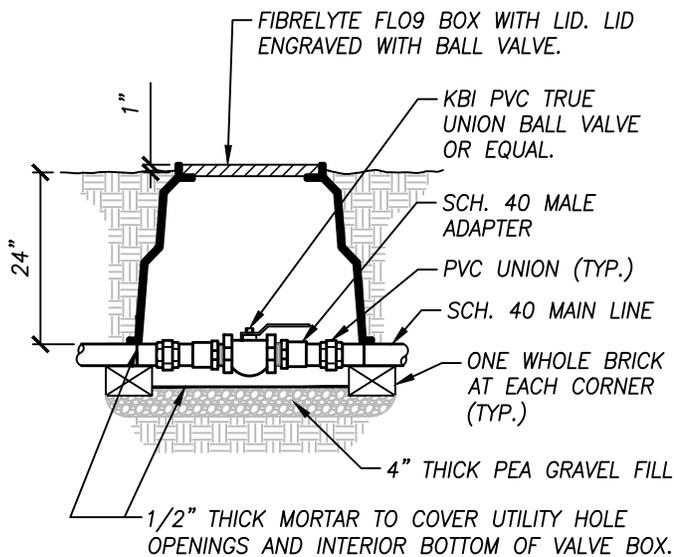
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STANDARD
No.
LS-8



QUICK COUPLER



BALL VALVE

NOTES:

1. USE TEFLON TAPE ON ALL THREADED JOINTS OR APPROVED EQUAL BY THE CITY ENGINEER.
2. ALL RISERS AND NIPPLES SHALL BE SCHEDULE 80 PVC. ALL FITTINGS SHALL BE SCHEDULE 40 PVC.
3. ALL LATERALS SHALL BE SCHEDULE 40 PVC OR AS NOTED ON THE LANDSCAPE/IRRIGATION PLANS.
4. ALL IRRIGATION INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS, THE LATEST APPROVED EDITION OF THE UNIFORM PLUMBING CODE, MANUFACTURER'S RECOMMENDATIONS, AND AS DIRECTED BY THE CITY ENGINEER.
5. ALL MATERIALS USED SHALL BE NEW AND FREE FROM IMPERFECTIONS.
6. ANY AND ALL CHANGES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
7. SEE APPROVED LANDSCAPE AND IRRIGATION PLANS AND LEGENDS FOR SPECIFIC MODEL NUMBER, SIZE, QUANTITY, MANUFACTURER, AND PERFORMANCE REQUIREMENTS.
8. PLACE (4) BRICKS AT EACH RECTANGULAR SHAPED BOXES, ONE ON EACH CORNER. PLACE (3) BRICKS FOR CIRCULAR BOXES, SPACE EVENLY.



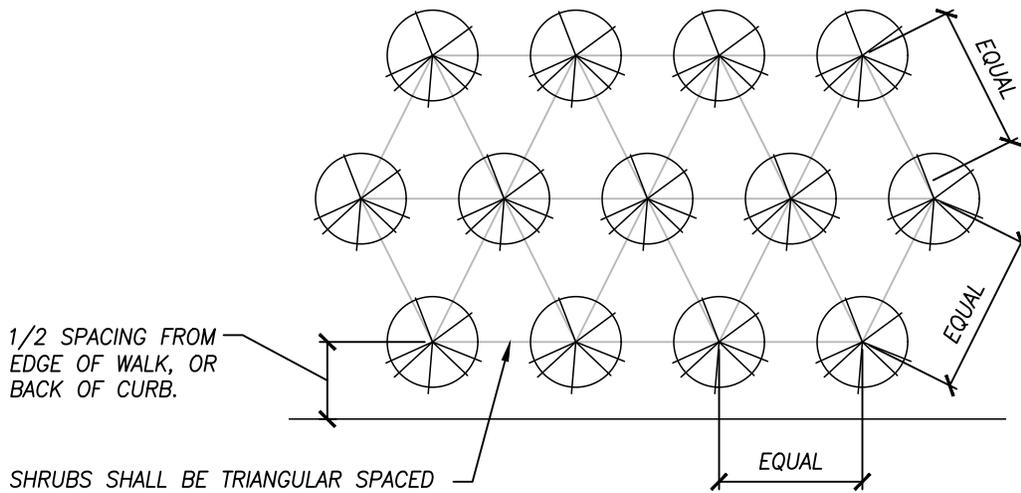
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QUICK COUPLER
& BALL VALVE

City Engineer

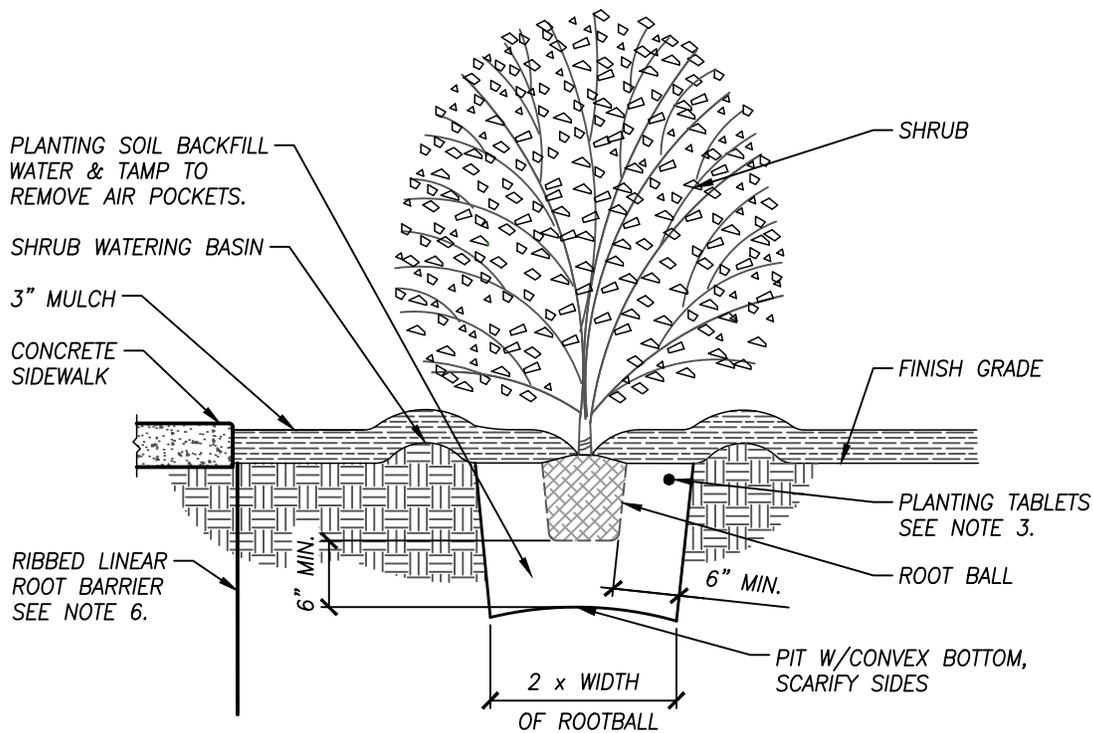
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SHRUBS SHALL BE TRIANGULAR SPACED PER O.C. SPACING ON PLANTING LEGEND AND/OR PLANTING PLAN.

SHRUB SPACING



SHRUB PLANTING

NOTES:

1. APPLY SOIL AMENDMENT AS PER SOIL TEST.
2. CONSTRUCT MOUND AS REQUIRED TO SECURE PLANTS STABILITY DURING CONSTRUCTION INSTALLATION.
3. PLANTING TABLET SHALL BE PLACED 2 INCHES BELOW FINISHED GRADE NEAR ROOT FOUNDATION AS FOLLOWS:
1 - TABLET PER 1 GAL. 3 - TABLETS PER 5 GAL. 6 - TABLETS PER 15 GAL. 9 - TABLETS PER 24 INCH BOX
4. ANY AND ALL DEVIATIONS FROM THIS STANDARD SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
5. ALL LANDSCAPE PLANTING AND INSTALLATION SHALL BE IN ACCORDANCE WITH APPROVED SPECIFIC LANDSCAPE/IRRIGATION CONSTRUCTION PLANS, AND AS DIRECTED BY THE CITY ENGINEER.
6. 24 INCH LINEAR RIBBED VINYL ROOT BARRIER IS REQUIRED AGAINST ALL HARD SURFACES WHEN LARGE WOODY SHRUB IS PLANTED WITHIN 2 FEET OR LESS FROM ANY HARD SURFACE. ROOT BARRIER SHALL BE UB-24 OR APPROVED EQUAL BY THE CITY ENGINEER. VERTICAL ROOT DEFLECTING ROOT RIBS ON PANEL MUST FACE INWARD TOWARD ROOT BALL. TOP OF ROOT BARRIER SHALL BE 1/2 INCH BELOW FINISH GRADE.



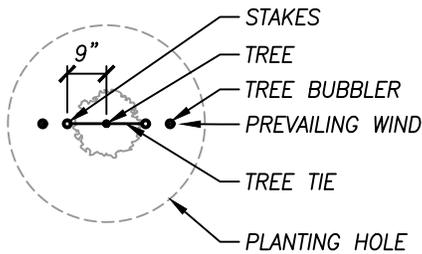
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SHRUB PLANTING

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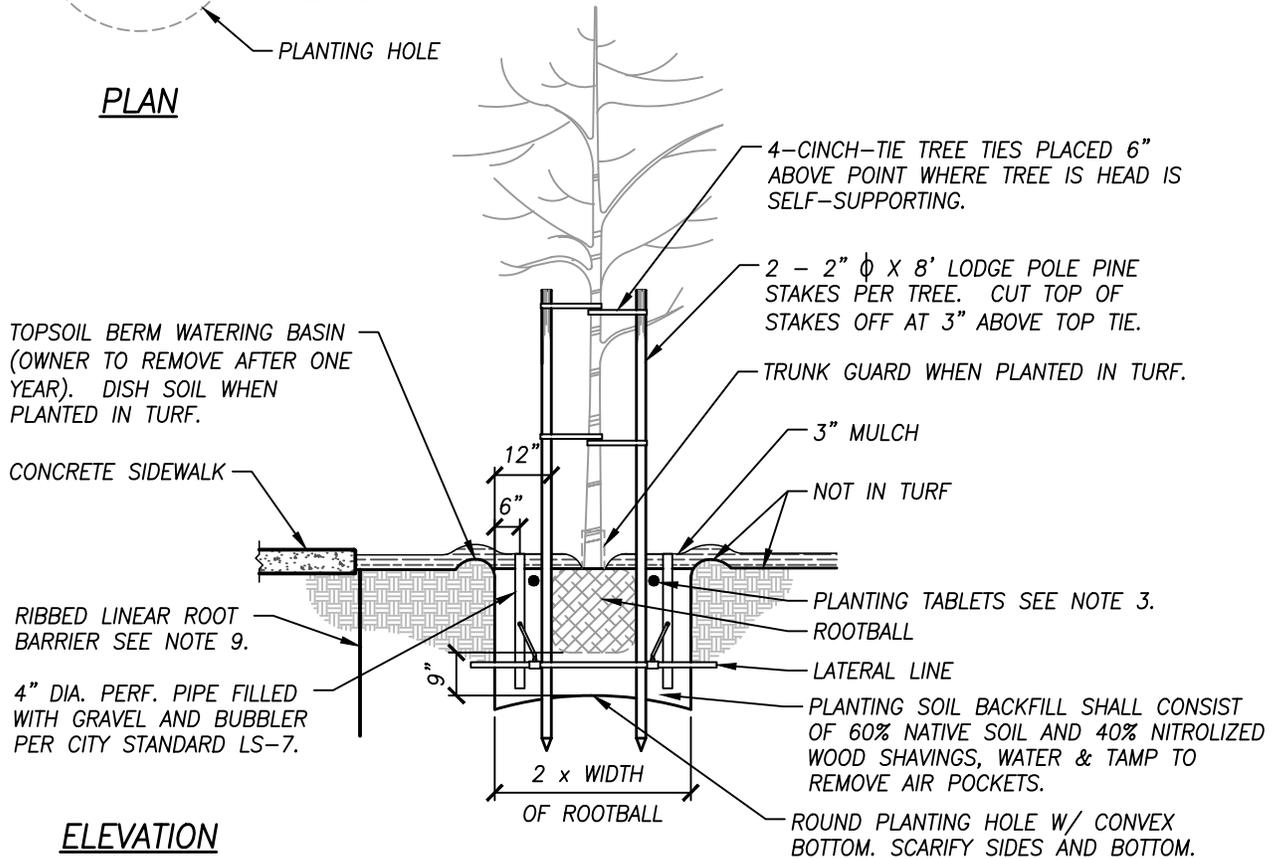
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STANDARD
No.
LS-10



PLAN

NOTE: PLACE FIRST TREE TIE 6" ABOVE THE POINT WHERE THE TREE HEAD IS SELF-SUPPORTING.



ELEVATION

TREE PLANTING

NOTES:

1. APPLY SOIL AMENDMENT AS PER SOIL TEST.
2. CONSTRUCT MOUND AS REQUIRED TO SECURE PLANTS STABILITY DURING CONSTRUCTION INSTALLATION.
3. PLANTING TABLET SHALL BE PLACED 2 INCHES BELOW FINISHED GRADE NEAR ROOT FOUNDATION AS FOLLOWS:
 - 1 - TABLET PER 1 GALLON
 - 3 - TABLETS PER 5 GALLON
 - 6 - TABLETS PER 15 GALLON
 - 9 - TABLETS PER 24 INCH BOX
4. 6 INCHES MINIMUM ARBOR TREE GUARD OR APPROVED EQUAL IS REQUIRED AROUND ALL TREE TRUNKS PLANTED IN TURF AREAS.
5. ALL TREES SHALL BE STAKED WITH NEW 2 INCH DIAMETER (PRESSURE TREATED) LODGE POLE PINE. REMOVE ORIGINAL TREE STAKES FROM ALL PLANT MATERIAL DELIVERED TO THE PROJECT SITE AND INSTALL NEW TREE STAKES.
6. 24 INCH LINEAR RIBBED VINYL ROOT BARRIER 10 FEET LONG IS REQUIRED AGAINST ALL HARD SURFACES WHEN TREE IS PLANTED WITHIN 8 FEET OR LESS FROM ANY HARD SURFACE. CENTER ROOT BARRIER LENGTH ON TREE. TOP OF ROOT BARRIER SHALL BE 1/2 INCH BELOW FINISH GRADE. UB-24 OR APPROVED EQUAL.
7. PLANTING DEPTH TO BE DICTATED BY POINT OF FIRST ROOT FLAIR (EXCLUDING ADVENTITIOUS ROOTS).
8. ROOT BALL SHALL BE 1 INCH ABOVE FINISH GRADE BY END OF MAINTENANCE PERIOD.
9. 24 INCH LINEAR RIBBED VINYL ROOT BARRIER IS REQUIRED AGAINST ALL HARD SURFACES WHEN TREE IS PLANTED WITHIN 8 FEET OR LESS FROM ANY HARD SURFACE. ROOT BARRIER SHALL BE UB-24 OR APPROVED EQUAL BY THE CITY ENGINEER. VERTICAL ROOT DEFLECTING ROOT RIBS ON PANEL MUST FACE INWARD TOWARD ROOT BALL. TOP OF ROOT BARRIER SHALL BE 1/2 INCH BELOW FINISH GRADE.



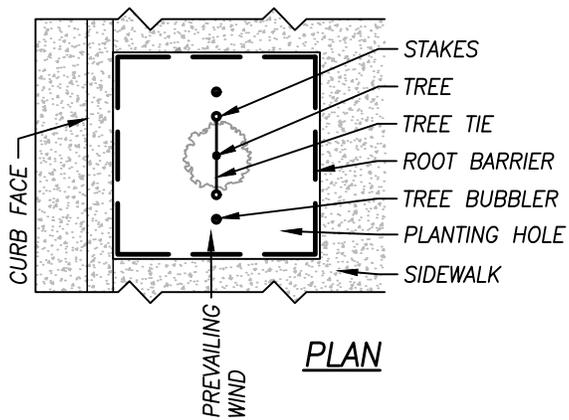
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TREE PLANTING

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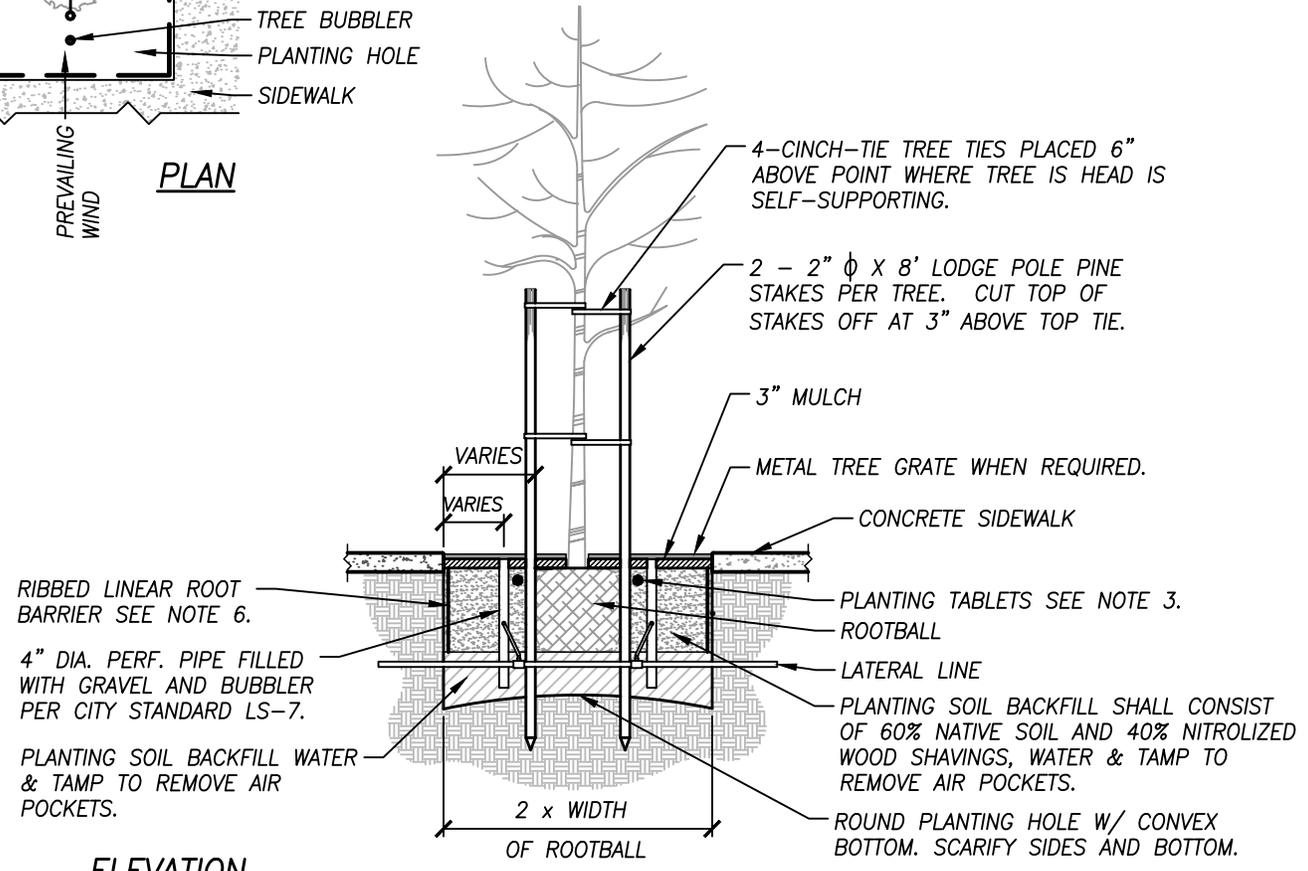
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STANDARD
No.
LS-11



PLAN

NOTE: PLACE FIRST TREE TIE 6" ABOVE THE POINT WHERE THE TREE HEAD IS SELF-SUPPORTING.



ELEVATION

TREE WELL PLANTING

NOTES:

1. APPLY SOIL AMENDMENT AS PER SOIL TEST.
2. TREE VARIETY AND PLANTER SPACING TO CONFORM TO THE LIST OF APPROVED STREET TREES AND THE REQUIREMENTS OF THE CITY ENGINEER. ALL TREES PLANTED MUST HAVE STRONG CENTRAL LEADER.
3. PLANTING TABLET SHALL BE PLACED 2 INCHES BELOW FINISHED GRADE NEAR ROOT FOUNDATION AS FOLLOWS:
1 - TABLET PER 1 GAL., 3 - TABLETS PER 5 GAL., 6 - TABLETS PER 15 GAL., 9 - TABLETS PER 24 INCH BOX
4. INSTALLATION SUBJECT TO ENCROACHMENT PERMIT ISSUED BY THE CITY PUBLIC WORKS DEPARTMENT.
5. ALL TREES SHALL BE STAKED WITH NEW 2 INCHES DIAMETER (PRESSURE TREATED) LODGE POLE PINE. REMOVE ORIGINAL TREE STAKES FROM ALL PLANT MATERIAL DELIVERED TO THE PROJECT SITE AND INSTALL NEW TREE STAKES. WOOD STAKE PLACED ON PREVAILING WINDWARD SIDE OF TREE WITH RUBBER TIE STRAPS.
6. 24 INCH LINEAR RIBBED VINYL ROOT BARRIER IS REQUIRED AGAINST ALL HARD SURFACES WHEN TREE IS PLANTED WITHIN 8 FEET OR LESS FROM ANY HARD SURFACE. ROOT BARRIER SHALL BE UB-24 OR APPROVED EQUAL BY THE CITY ENGINEER. VERTICAL ROOT DEFLECTING ROOT RIBS ON PANEL MUST FACE INWARD TOWARD ROOT BALL. TOP OF ROOT BARRIER SHALL BE 1/2 INCH BELOW FINISH GRADE.
7. PLANTING DEPTH TO BE DICTATED BY POINT OF FIRST ROOT FLAIR (EXCLUDING ADVENTITIOUS ROOTS).
8. ROOT BALL SHALL BE 1 INCH ABOVE FINISH GRADE BY END OF MAINTENANCE PERIOD.
9. IRRIGATION SYSTEM WITH DEEP EMITTER OR BUBBLER TO BE EXTENDED TO EACH TREE FROM CITY WATER SUPPLY.
10. TREE MAINTENANCE INCLUDING WATERING, FERTILIZING, AND LEAF PICKUP TO BE THE RESPONSIBILITY OF THE PUBLIC WORKS DEPARTMENT FOR CITY OWNED PROPERTY.
11. MINIMUM VERTICAL CLEARANCE TO LOWEST LIMB:
(A) LIMB OVERHANGING PARKING LANE = 14 FEET
(B) LIMB OVERHANGING SIDEWALK = 7 FEET

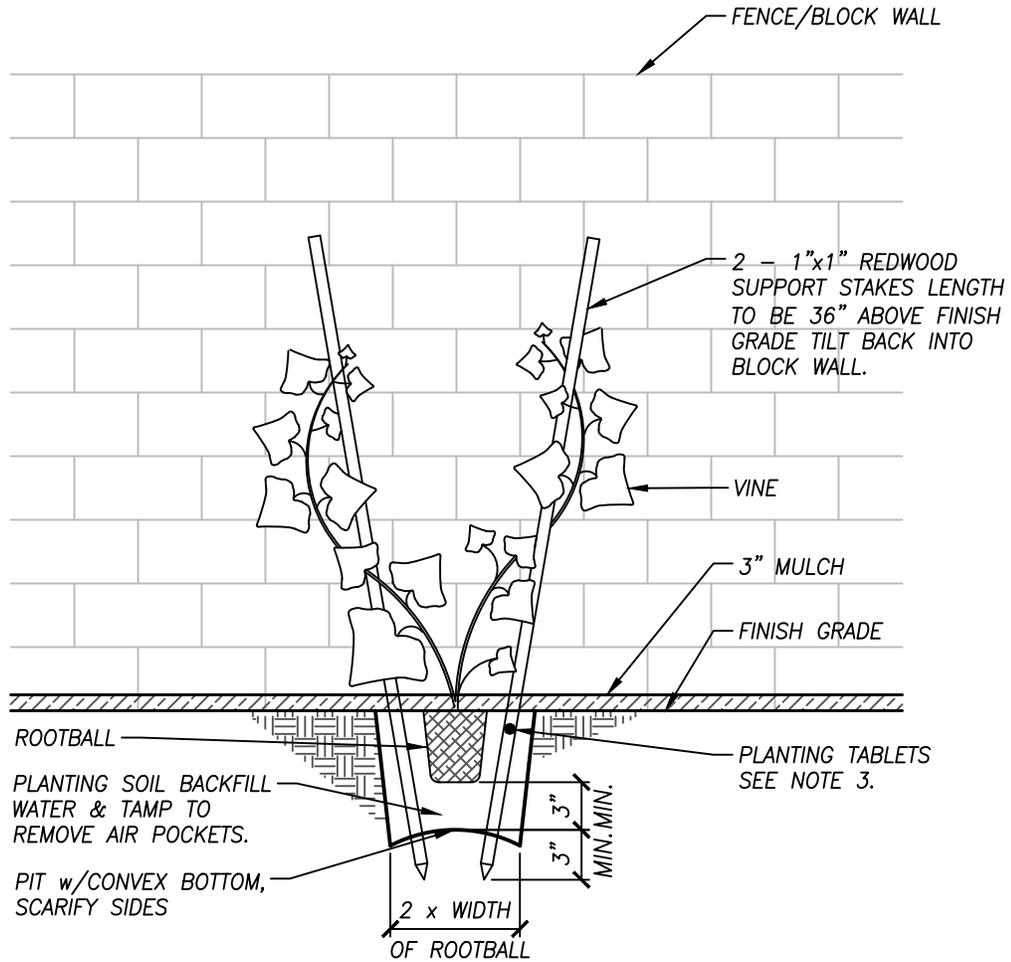


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**TREE WELL
PLANTING**

City Engineer _____ Date _____

STANDARD
No.
LS-12



VINE PLANTING

NOTES:

1. APPLY SOIL AMENDMENT AS PER SOIL TEST.
2. CONSTRUCT MOUND AS REQUIRED TO SECURE PLANTS STABILITY DURING CONSTRUCTION INSTALLATION.
3. PLANTING TABLET SHALL BE PLACED 2 INCHES BELOW FINISHED GRADE NEAR ROOT FOUNDATION AS FOLLOWS:
 1 - TABLET PER 1 GALLON
 3 - TABLETS PER 5 GALLON
 6 - TABLETS PER 15 GALLON
 9 - TABLETS PER 24 INCH BOX
4. ANY AND ALL DEVIATIONS FROM THIS STANDARD SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.
5. ALL LANDSCAPE PLANTING AND INSTALLATION SHALL BE IN ACCORDANCE WITH APPROVED SPECIFIC LANDSCAPE/IRRIGATION CONSTRUCTION PLANS, AND AS DIRECTED BY THE CITY ENGINEER.



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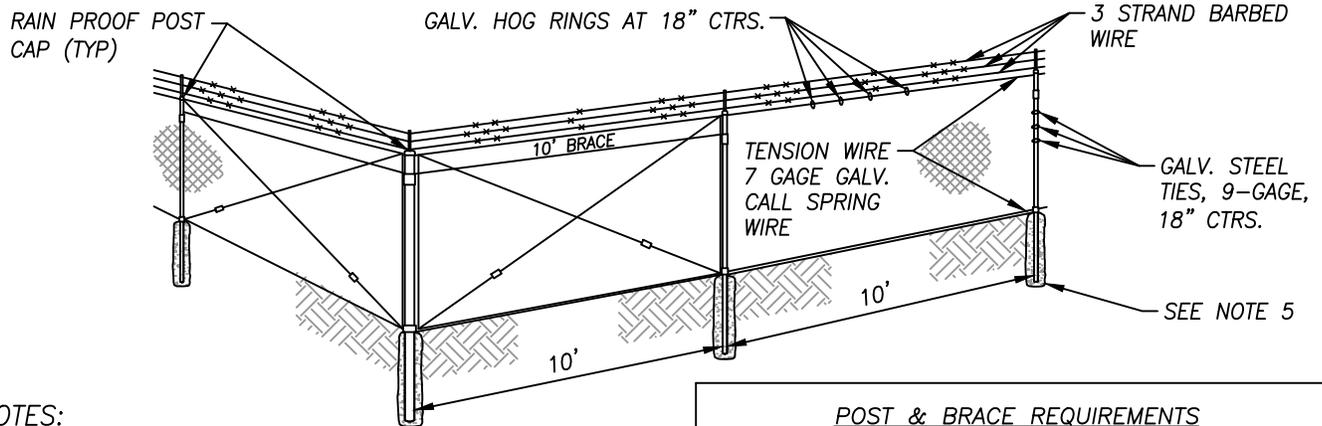
VINE PLANTING

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No.
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NOTES:

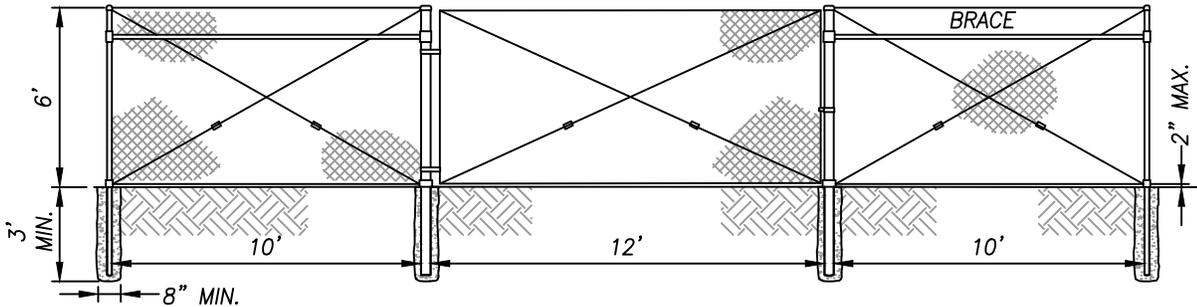
1. COMMERCIAL QUALITY POST TOPS, EXTENSION ARMS, STRETCHER BARS AND OTHER REQUIRED FITTINGS AND HARDWARE SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON AND SHALL BE GALVANIZED.
2. WIRE USED IN THE MANUFACTURE OF THE FABRIC SHALL BE 9-GAGE FOR ALL FENCES 84 INCHES OR LESS IN HEIGHT, AND SHALL BE WOVEN INTO APPROXIMATELY 2-INCH MESH.



NOTES:

3. LINE POSTS SHALL BE SPACED AT NOT MORE THAN 10-FOOT INTERVALS, MEASURED FROM CENTER TO CENTER OF POSTS.
4. END, CORNER AND GATE POSTS SHALL BE BRACED TO THE NEAREST LINE POST WITH GALVANIZED DIAGONAL OR HORIZONTAL BRACES USED AS COMPRESSION MEMBERS AND GALVANIZED 3/8 INCH STEEL TRUSS RODS WITH TURNBUCKLES USED AS TENSION MEMBERS.

POST & BRACE REQUIREMENTS			
LOCATION	TYPE	MIN. SIZE	MIN. WT(LB./FT.)
END AND CORNER POSTS	PIPE	2.351 O.D.	2.78
LINE POSTS	PIPE	1.869 O.D.	2.20
BRACES	PIPE	1.630 O.D.	1.75
GATE POSTS	PIPE	3.960 O.D.	9.11



NOTES:

5. COMMERCIAL QUALITY GATE FRAME SHALL BE CONSTRUCTED OF NOT LESS THAN 1.86 INCH DIA. GALVANIZED PIPE AND SHALL BE CROSS TRUSSED WITH 3/8 INCH ADJUSTABLE TRUSS RODS. THE CORNER OF GATE FRAMES SHALL BE FASTENED TOGETHER WITH A MALLEABLE IRON FITTING OR WELDED & GALVANIZE COATED OVER WELDS.
6. THE GATE SHALL BE HUNG BY AT LEAST TWO (2) STEEL OR MALLEABLE IRON HINGES NOT LESS THAN 3 INCHES IN WIDTH, AND A MALLEABLE CATCH AND LOCKING ATTACHMENT.
7. ALL COMMERCIAL QUALITY POSTS SHALL BE A MINIMUM OF 9 FEET LONG.
8. COMMERCIAL QUALITY CHAIN LINK FENCING FOR SCREENING SHALL BE RUSTAKE OR EQUAL.
9. CONCRETE SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS.
10. WHEN SLATS ARE REQUIRED MESH SHALL BE 3 1/2 INCHES AND SLATS SHALL BE 2 INCHES WIDE. COLOR OF SLATS SHALL BE APPROVED BY CITY ENGINEER.
11. NOT ALLOWED IN RESIDENTIAL AREAS.



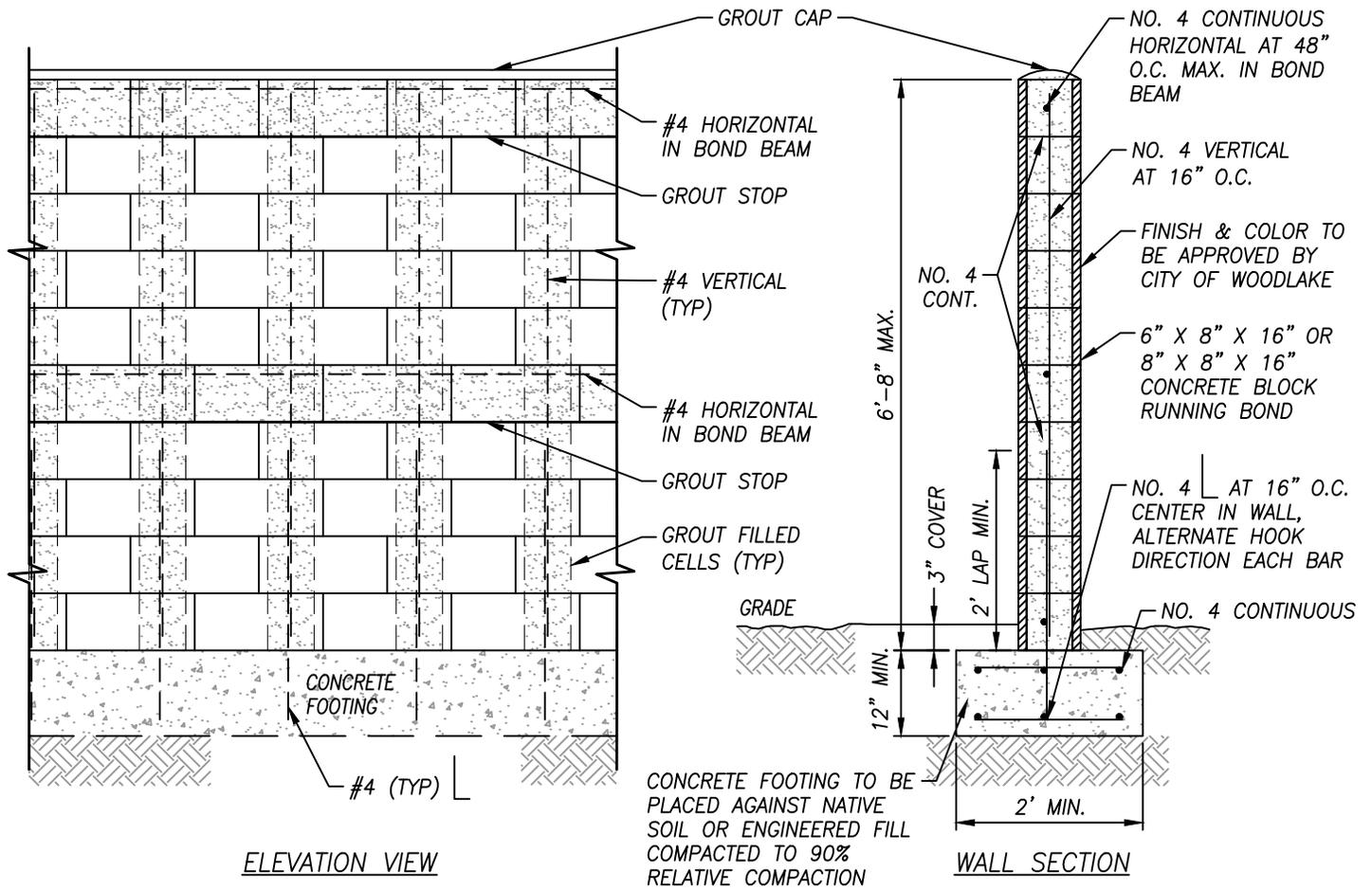
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CHAIN LINK FENCE

City Engineer

Date

STANDARD
No.
M-1



LEGEND:

 **GROUT FILLED CELLS**

NOTES:

- DESIGN SHALL COMPLY WITH APPLICABLE SECTIONS OF THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE, CHAPTER 21 – MASONRY.
- WALL THICKNESS SHALL BE 6 OR 8 INCHES. WALL HEIGHT SHALL BE A MINIMUM OF 6 FEET.
- GROUT SHALL BE PLACED AT THE LOCATION OF VERTICAL REINFORCING BARS.
- MORTAR SHALL BE PORTLAND CEMENT, TYPE "S".
- STRUCTURAL CALCULATIONS, PREPARED BY A REGISTERED CIVIL ENGINEER, SHALL ACCOMPANY ANY DESIGN WHICH VARIES FROM THIS STANDARD.
- MATCH WALL FINISH TO BUILDING FINISH, OR USE SPLIT FACED BLOCK. COLOR TO BE APPROVED BY CITY ENGINEER.
- BLOCK WALL SHALL HAVE PILASTERS AS STATED BY CITY ENGINEER.
- CONCRETE FOOTING SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS.
- CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90.
- REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN DIRT AND RUST BEFORE PLACEMENT.
- GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476. ADMIXTURES FOR GROUT MUST BE APPROVED BY CITY ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT.
- GROUT STOP SHALL CONSIST OF METAL OR PLASTIC LATH APPROVED BY THE MANUFACTURER TO CREATE A BARRIER THAT STOPS THE FLOW OF GROUT WHEN FILL BLOCK WALL CELLS.
- FINISH GRADE ELEVATION DIFFERENCE ON OPPOSITE OF THE SHALL BE 6 INCHES MAXIMUM.
- PLACE EXPANSION JOINT AT 96 FEET O.C. MAXIMUM.
- 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 WALL AT PROPERTY LINE. BLOCK WALL FOOTING EASEMENT WILL BE REQUIRED FOR PORTION OF FOOTING EXTENDING INTO PRIVATE PROPERTY.



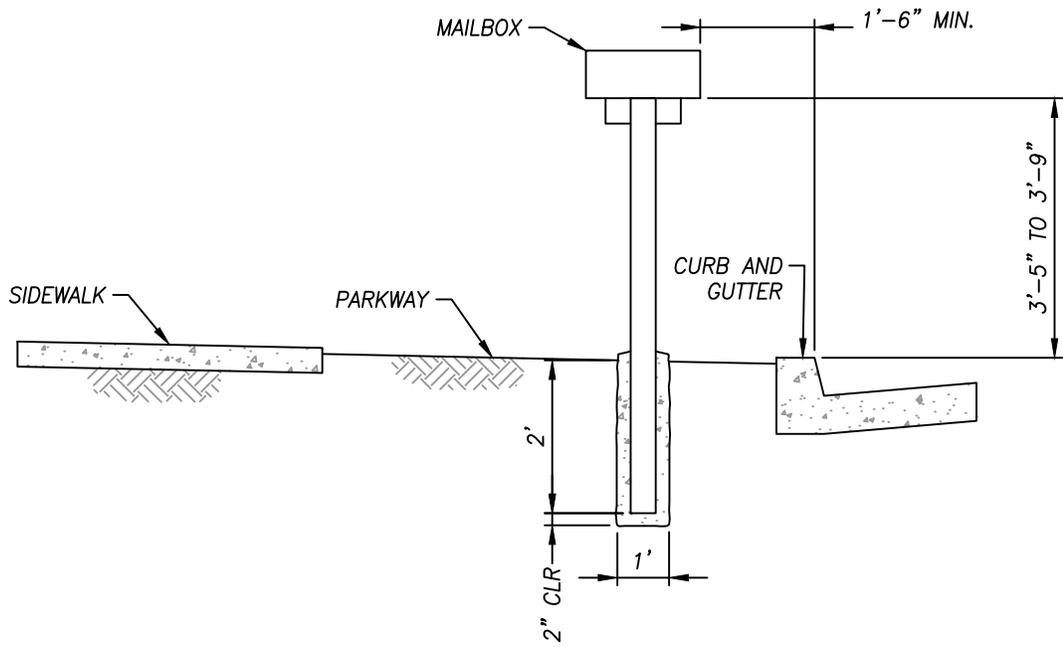
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CONCRETE BLOCK WALL

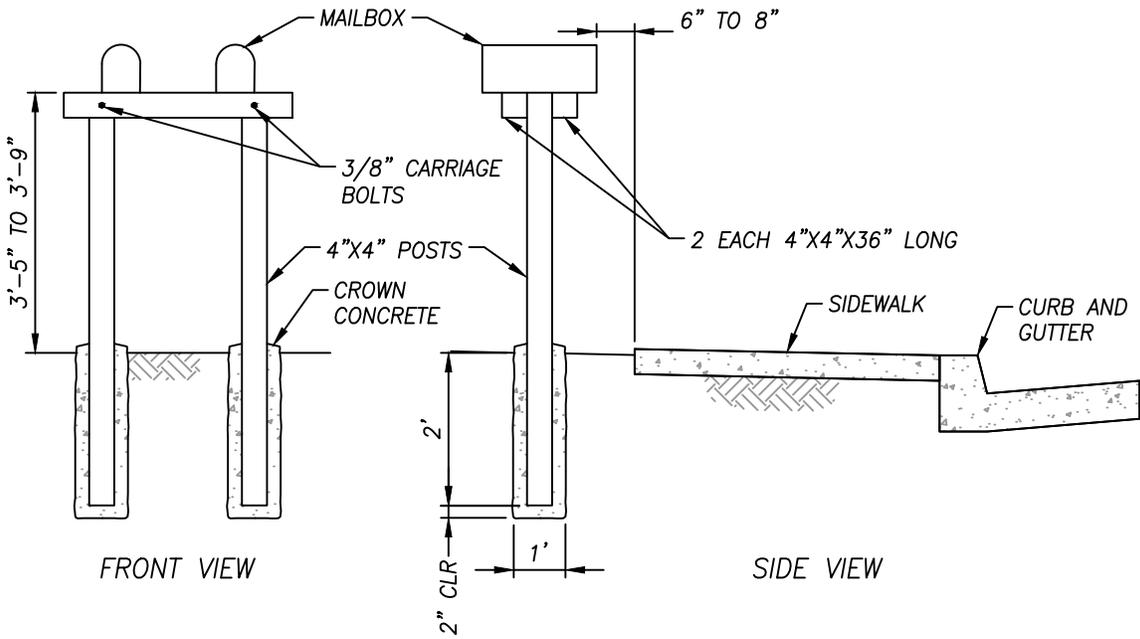
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STANDARD
No.
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LOCATION WITH PARKWAY



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.
6. CONCRETE SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS.



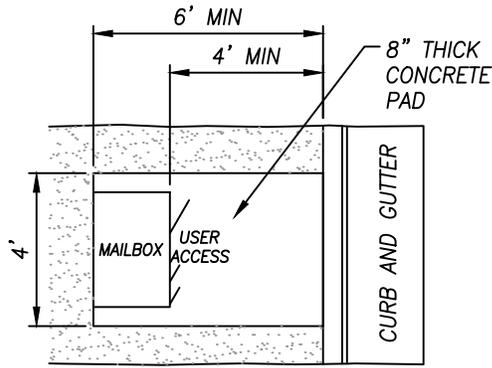
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MAILBOX (INFILL &
REPLACEMENT ONLY)

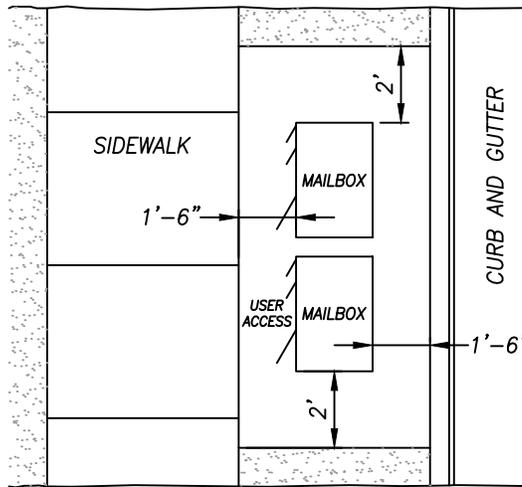
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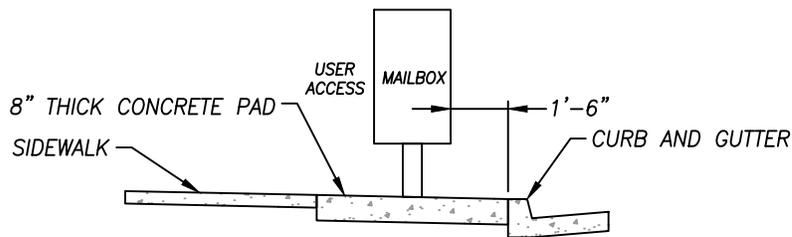
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PLAN – SIDEWALK ADJACENT TO CURB (FRONT LOADING)



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.
4. CONCRETE SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS.



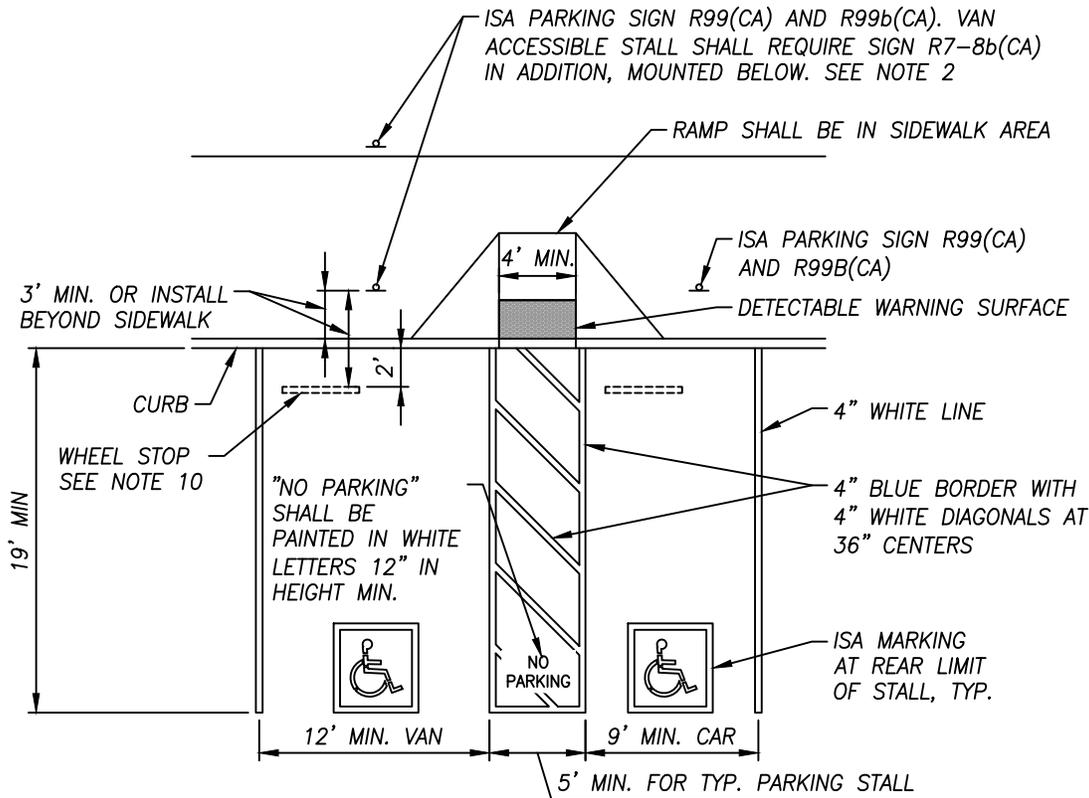
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MAILBOX CLUSTER

City Engineer

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No.
M-4



TYPICAL CONFIGURATION

NOTES:

1. SEE PARKING STANDARDS FOR REQUIRED LENGTH OF STALLS.
2. A R99C(CA) SIGN CAN BE USED IN PLACE OF THE R99(CA) AND R99B(CA) SIGNS. A R100B (CA) SIGN SHALL BE POSTED IN A CONSPICUOUS PLACE AT EACH ENTRANCE TO OFF-STREET PARKING FACILITIES OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL. THE SIGN SHALL INCLUDE THE ADDRESS WHERE THE VEHICLE MAY BE RECLAIMED AND THE TELEPHONE NUMBER OF THE LOCAL TRAFFIC LAW ENFORCEMENT AGENCY.
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 LOCATED SO 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 FEET 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 FEET 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 FEET 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.
10. CONCRETE WHEEL STOP SHALL BE 3,500 P.S.I., 4 FEET LONG BY 8 INCHES WIDE BY 5.5 INCHES HIGH, REINFORCED WITH #4 REBAR. ANCHOR CONCRETE WHEEL STOP WITH #8 X 22 INCH LONG PINS.



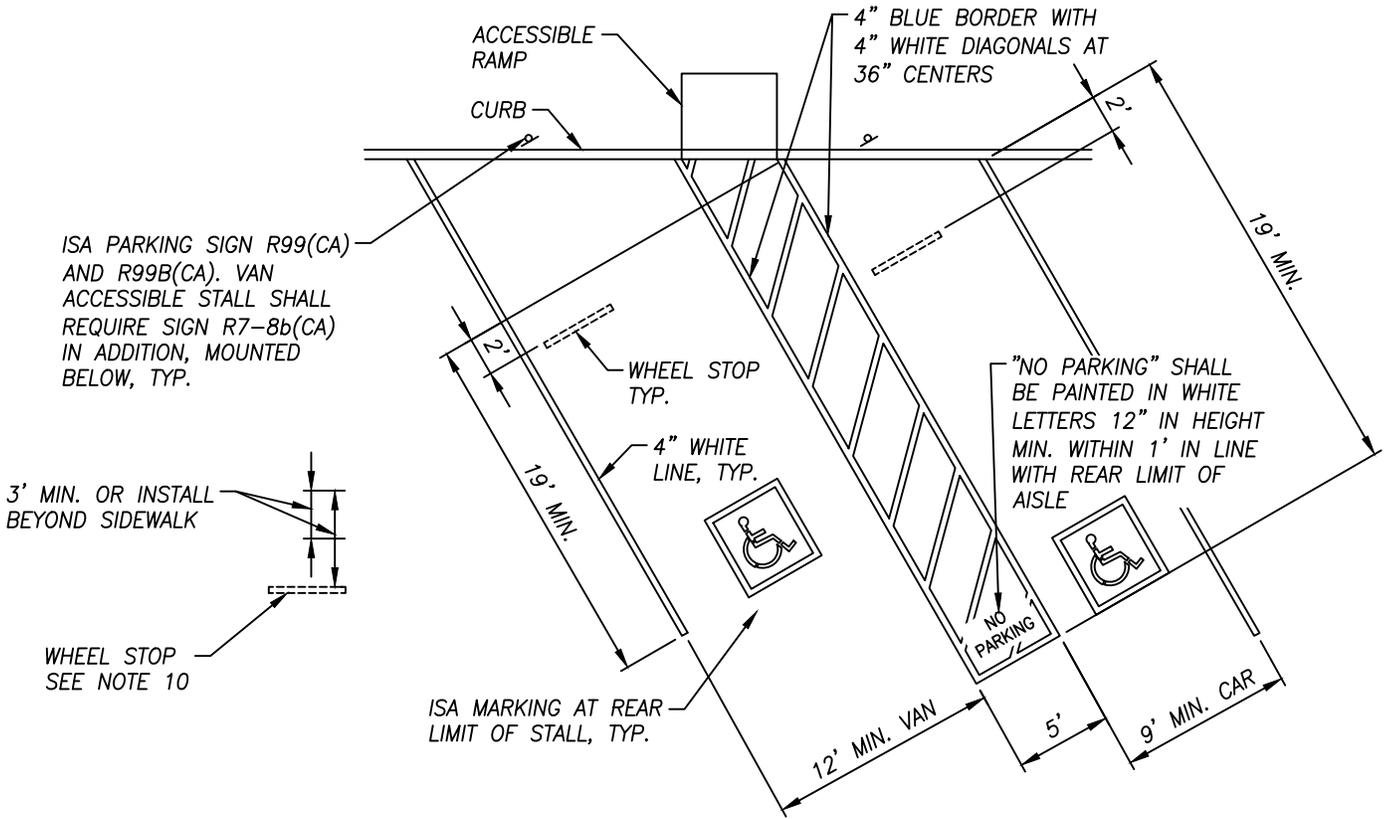
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ACCESSIBLE
PARKING 1 OF 3

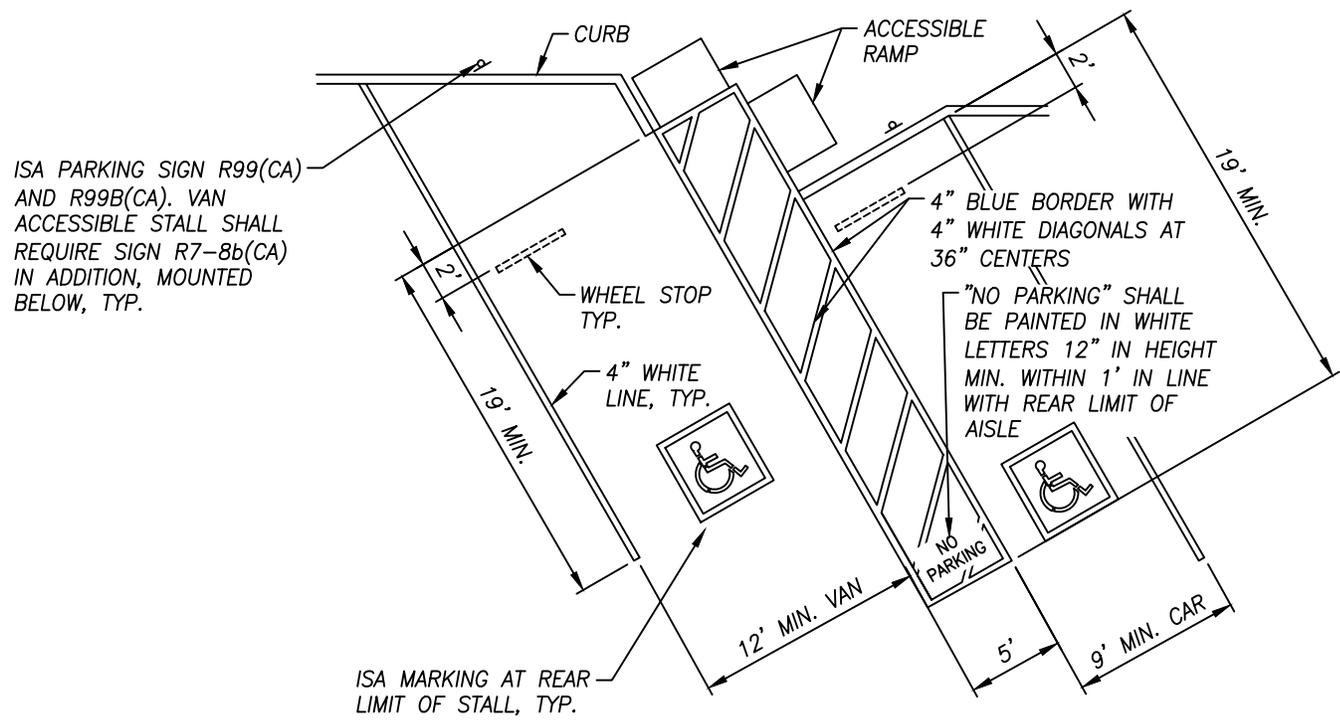
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No.
PK-1



TYPICAL CONFIGURATION



TYPICAL CONFIGURATION

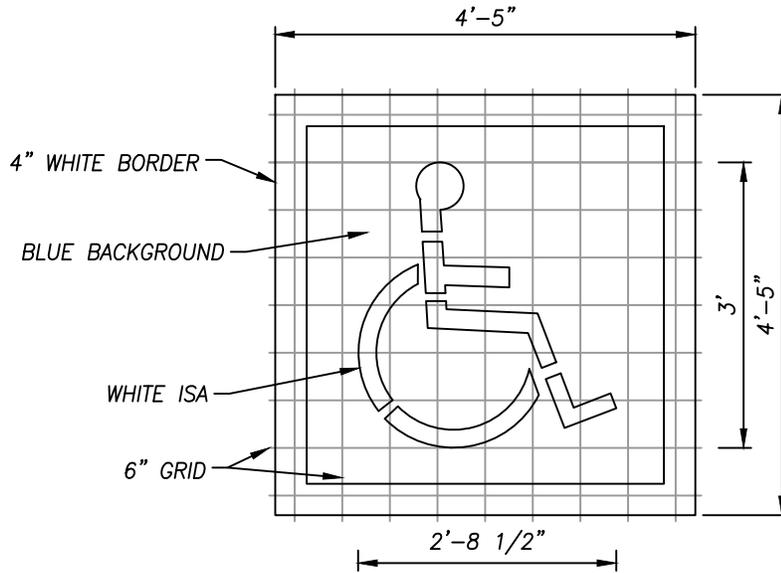


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ACCESSIBLE
PARKING 2 OF 3

City Engineer _____ Date _____

STANDARD
No.
PK-2



ISA MARKING FOR ACCESSIBLE
PARKING SPACE OR STALL

TOTAL NUMBER OF PARKING SPACES OR STALLS	MINIMUM NUMBER OF 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
GREATER THAN 1001	20 PLUS 1 FOR EACH 100 OR FRACTION THEREOF OVER 1000

*ACCESSIBLE PARKING STALL REQUIREMENTS FOR
OFF-STREET PARKING*



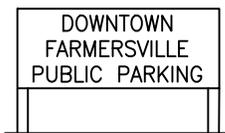
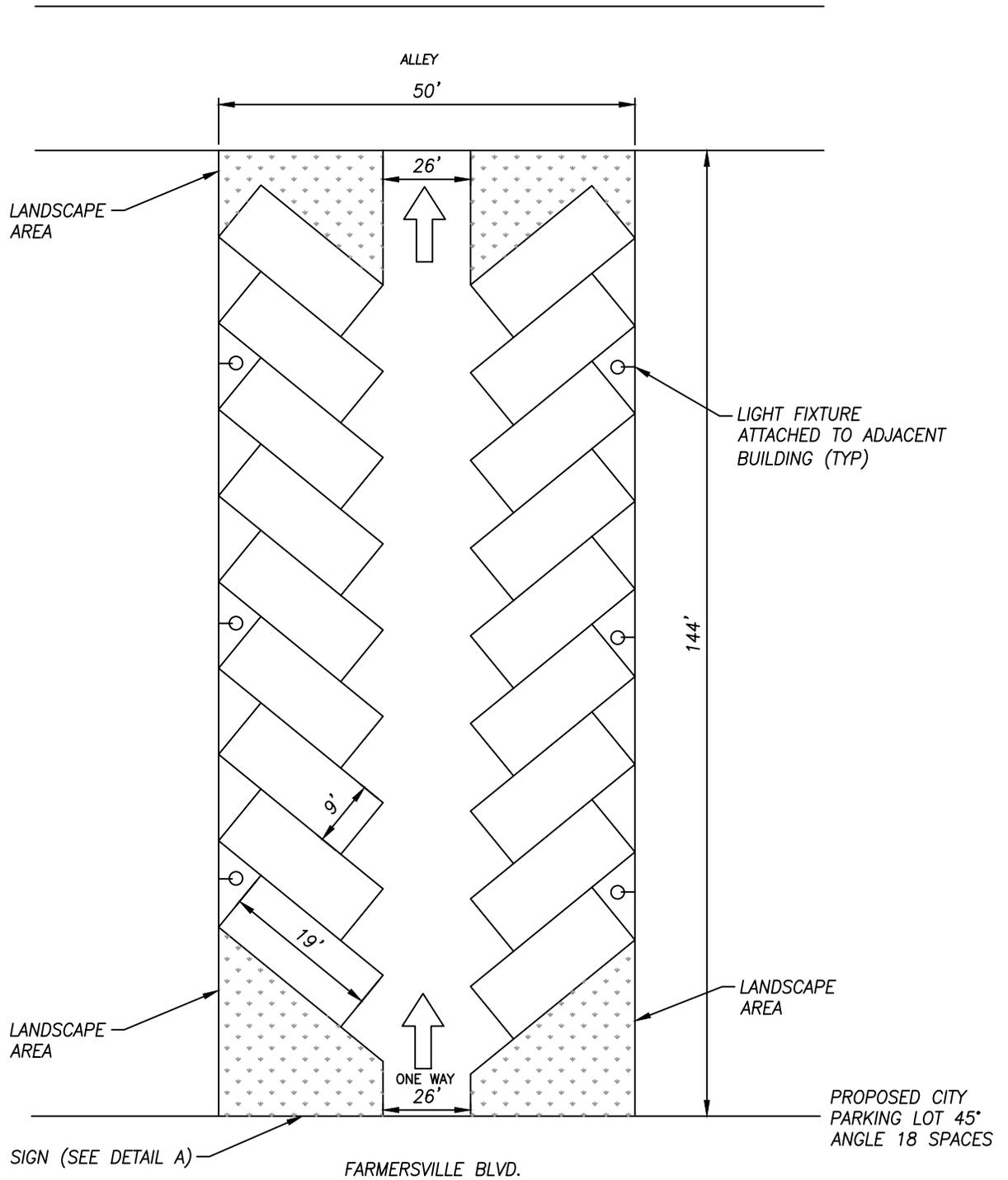
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ACCESSIBLE
PARKING 3 OF 3

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No.
PK-3



DETAIL "A"
SIGN



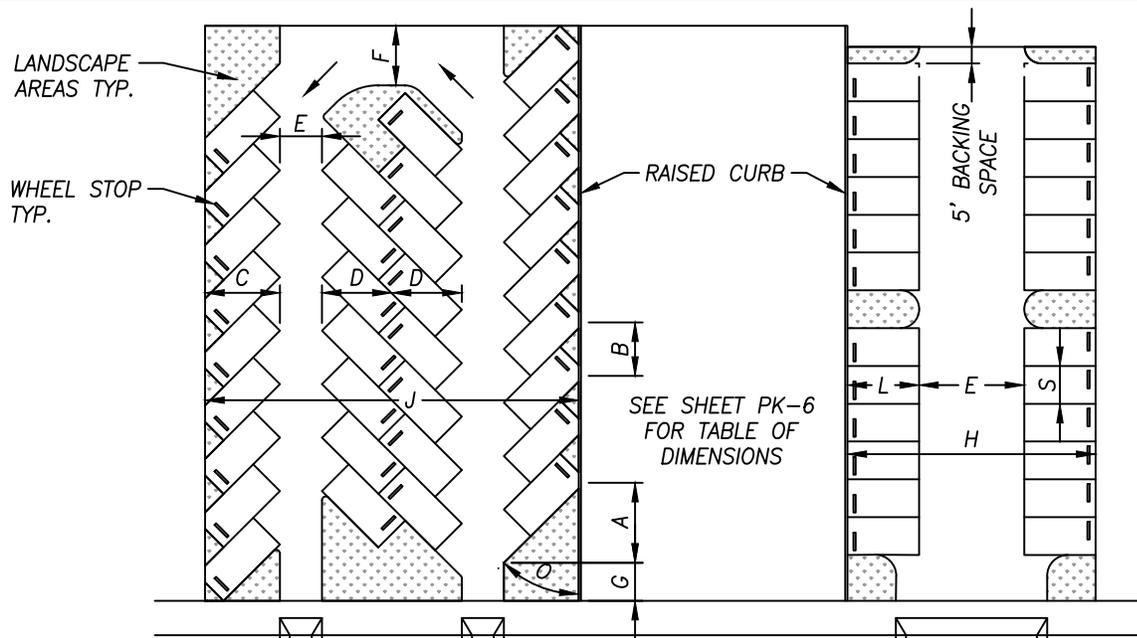
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CITY PARKING LOT
WITH LIGHTS

City Engineer

Date

STANDARD
No.
PK-4



NOTES:

1. PARKING LOT STRUCTURAL SECTION SHALL CONSIST OF 3 INCHES MINIMUM OF ASPHALT CONCRETE OVER 6 INCHES MINIMUM OF CLASS 2 AGGREGATE BASE, OVER 6 INCHES MINIMUM OF COMPACTED SUBGRADE 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 DRAWINGS.
2. MINIMUM SLOPE OF ASPHALT CONCRETE SURFACE SHALL BE 2%.
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.

TABLE OF DIMENSIONS IN FEET

Q	S	L	A	B	C	D	E	F	G	H	J
0°	8.0	22.0	0.0	22.0	8.0	8.0	12.0		5.0	28.0	
	8.0	24.0	0.0	24.0	8.0	8.0	11.0		5.0	27.0	
	8.0	26.0	0.0	26.0	8.0	8.0	10.0		5.0	26.0	
30°	9.0	19.0	30.0	18.0	17.3	13.4	9.0		6.0	43.6	
45°	9.0	19.0	19.8	12.7	19.8	16.6	10.0	16.0	9.0	49.6	92.8
	9.5	19.0	20.1	13.4	20.1	16.7	9.5	16.5	8.5	49.7	92.6
	10.0	19.0	20.5	14.1	20.4	16.9	9.0	17.0	8.0	49.8	92.6
60°	9.0	19.0	12.1	10.4	21.0	18.8	17.0	15.0	12.0	59.0	113.6
	9.5	19.0	12.3	11.0	21.3	18.9	15.5	15.0	11.5	58.1	111.4
	10.0	19.0	12.4	11.5	21.5	19.0	14.0	15.0	11.0	57.0	109.0
90°	9.0	19.0	0.0	9.0	19.0	19.0	25.0	20.0	5.0	63.0	126.0
	9.5	19.0	0.0	9.5	19.0	19.0	24.0	20.0	5.0	62.0	124.0
	10.0	19.0	0.0	10.0	19.0	19.0	23.0	20.0	5.0	61.0	122.0



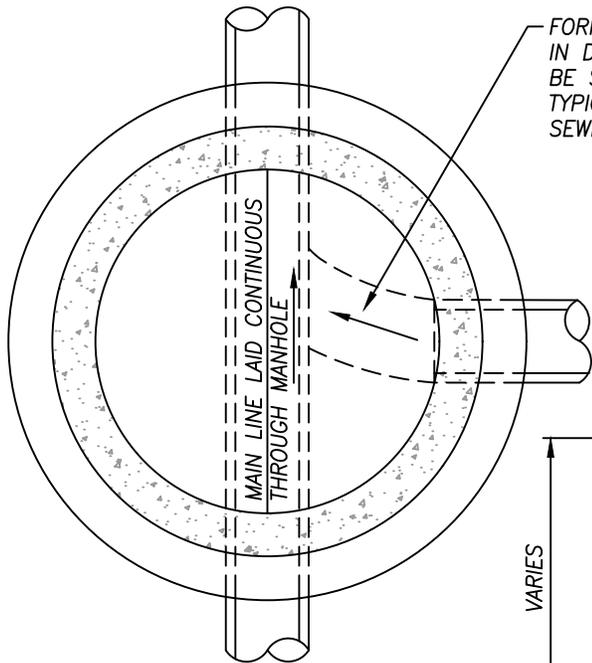
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**SPACE
REQUIREMENTS**

City Engineer

Date

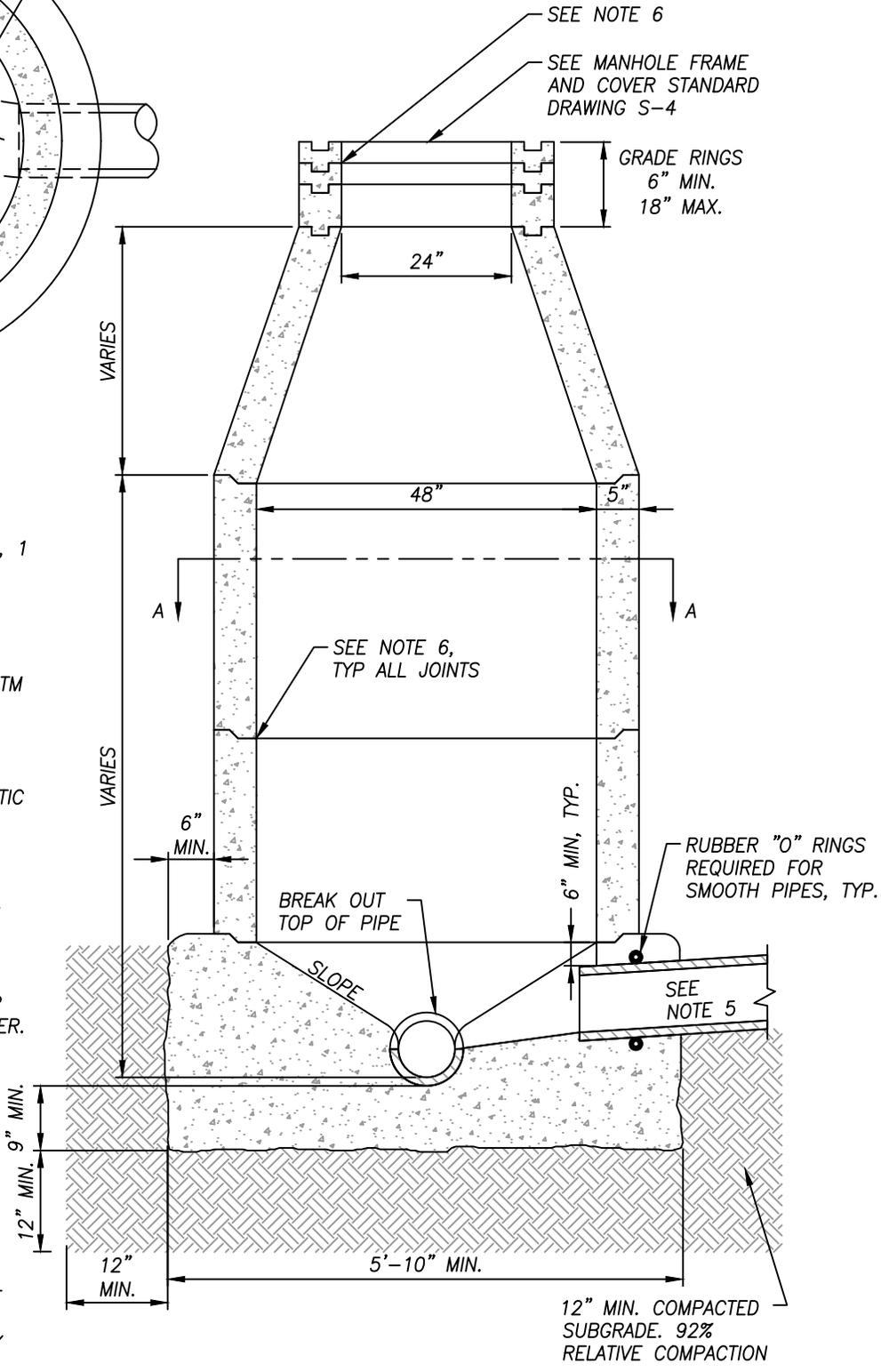
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PK-5



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE 590 LBS, 1 INCH AGGREGATE, 5 INCHES MAX SLUMP, 4,000 P.S.I. AT 28 DAYS.
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 CONTRACTORS 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 350 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. 48 INCH MANHOLES ARE REQUIRED FOR SEWER PIPE SIZES FROM 8 INCHES TO 24 INCHES 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.



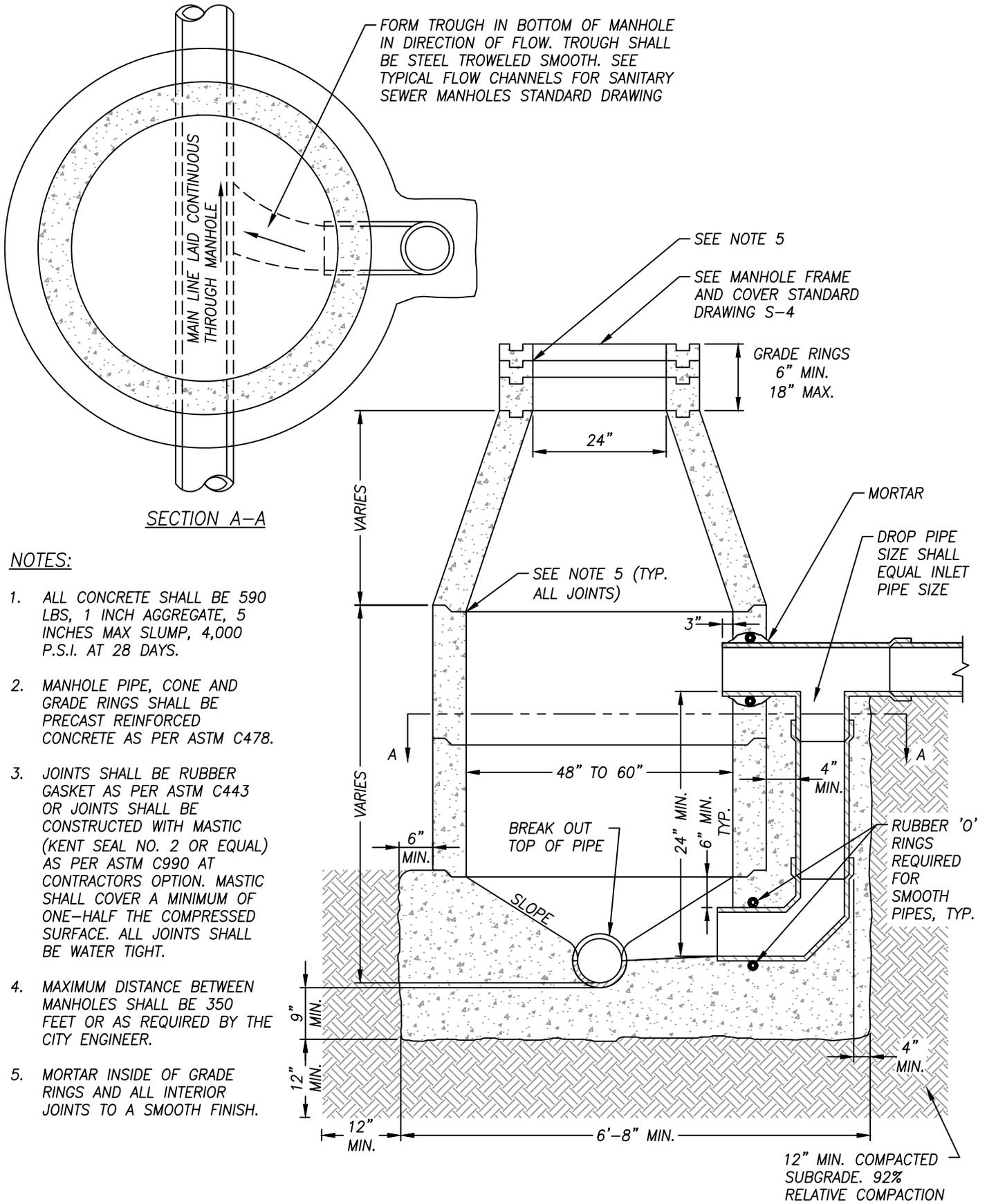
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48" SANITARY SEWER MANHOLE

City Engineer

Date

STANDARD No. S-1



NOTES:

1. ALL CONCRETE SHALL BE 590 LBS, 1 INCH AGGREGATE, 5 INCHES MAX SLUMP, 4,000 P.S.I. AT 28 DAYS.
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 CONTRACTORS 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 350 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. MORTAR INSIDE OF GRADE RINGS AND ALL INTERIOR JOINTS TO A SMOOTH FINISH.

SEE NOTE 5

SEE MANHOLE FRAME AND COVER STANDARD DRAWING S-4

GRADE RINGS
6" MIN.
18" MAX.

MORTAR

DROP PIPE
SIZE SHALL
EQUAL INLET
PIPE SIZE

SEE NOTE 5 (TYP.
ALL JOINTS)

RUBBER 'O'
RINGS
REQUIRED
FOR
SMOOTH
PIPES, TYP.

12" MIN. COMPACTED
SUBGRADE. 92%
RELATIVE COMPACTION



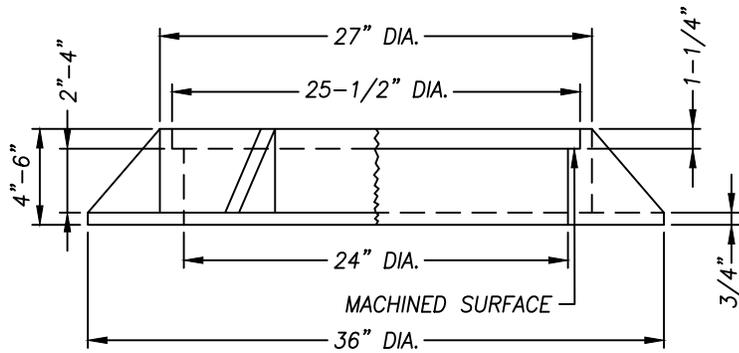
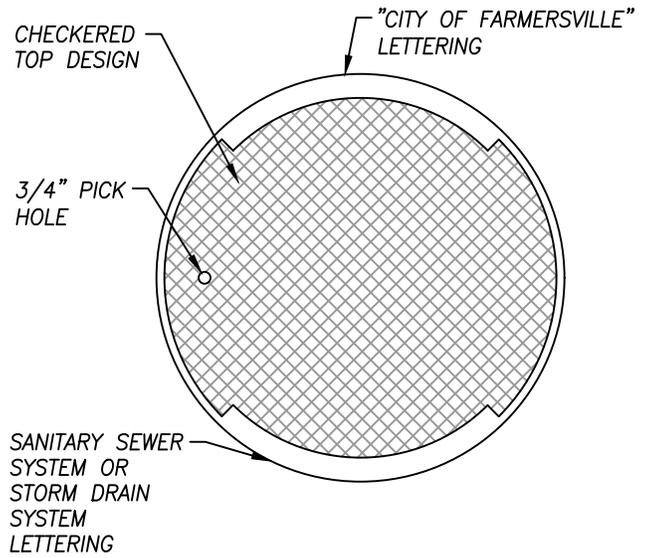
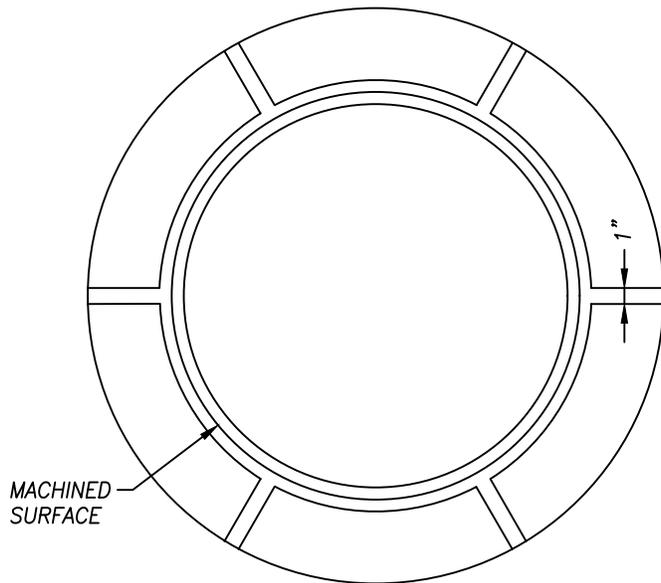
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**DROP CONNECTION
SANITARY SEWER
MANHOLE**

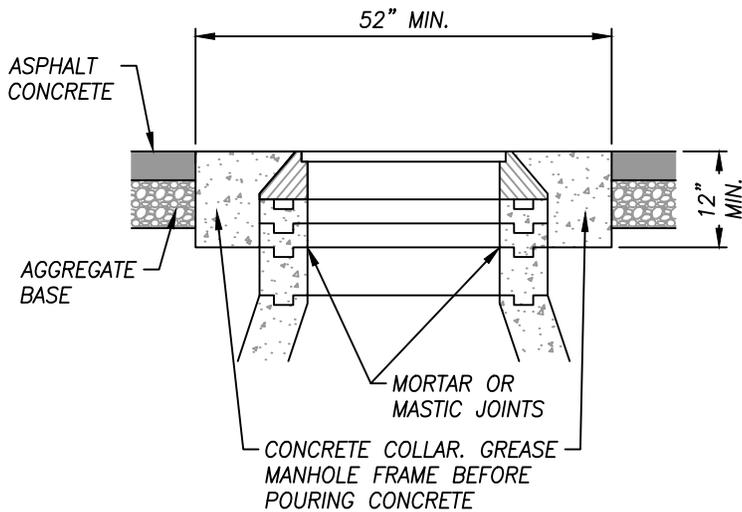
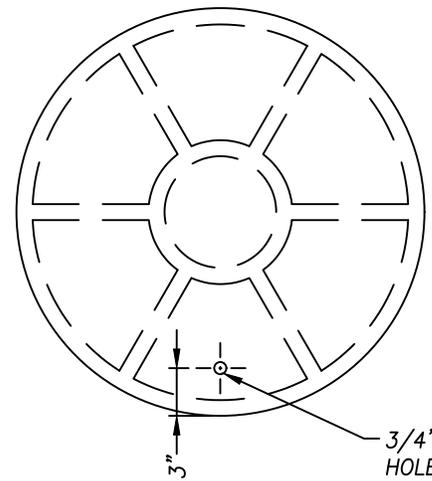
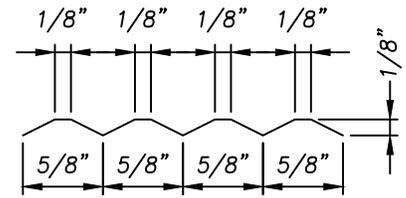
City Engineer

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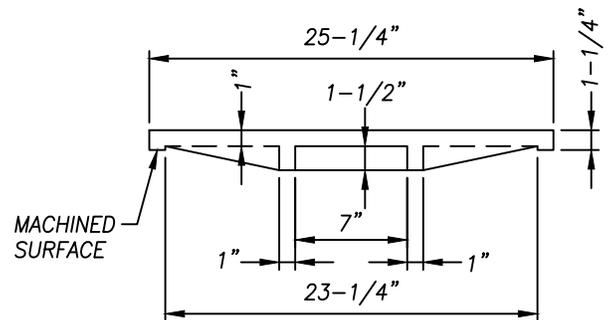
STANDARD
No.
S-3



MANHOLE FRAME



MANHOLE ADJUSTMENT



MANHOLE COVER

NOTES:

1. FRAME & COVER SHALL MATCH CROSS SLOPE.
2. CONCRETE SHALL BE 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS.



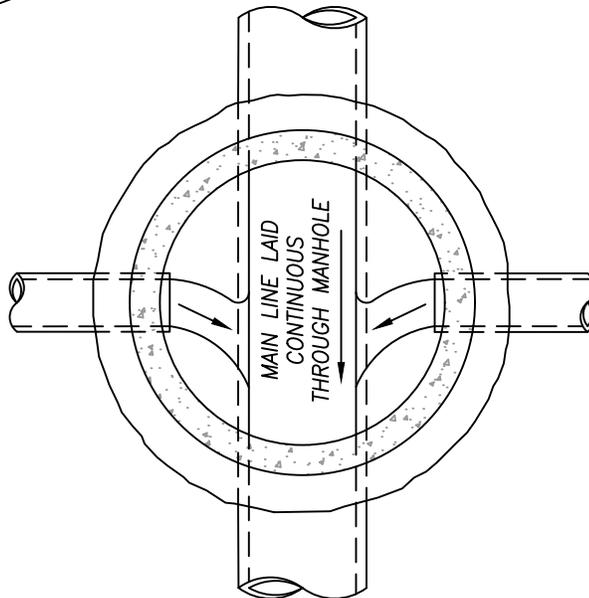
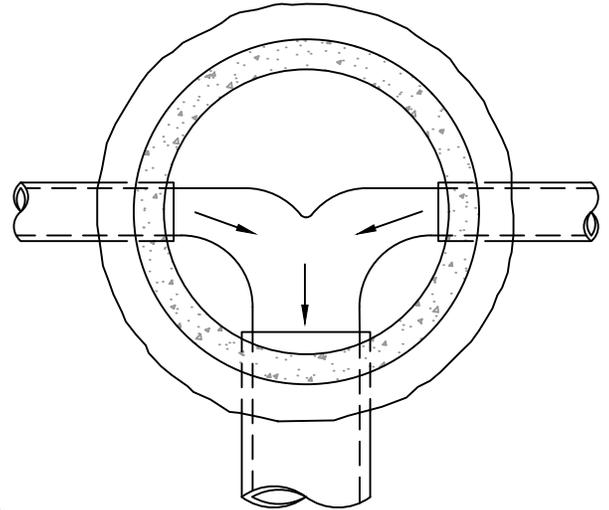
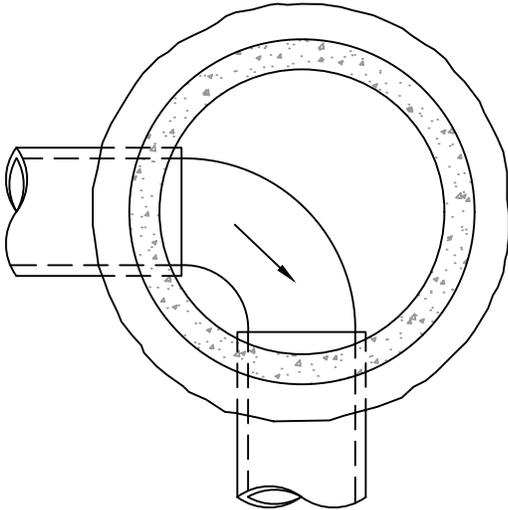
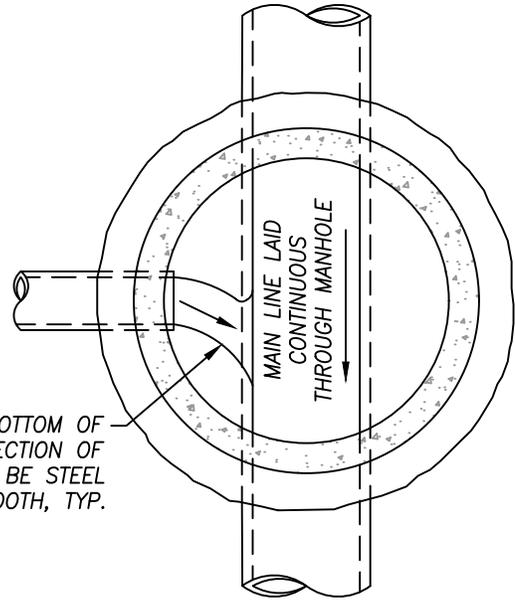
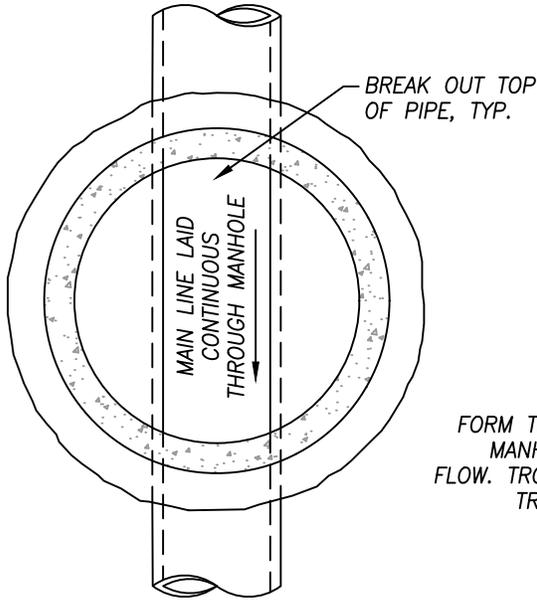
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MANHOLE FRAME &
COVER

City Engineer

Date

STANDARD
No.
S-4



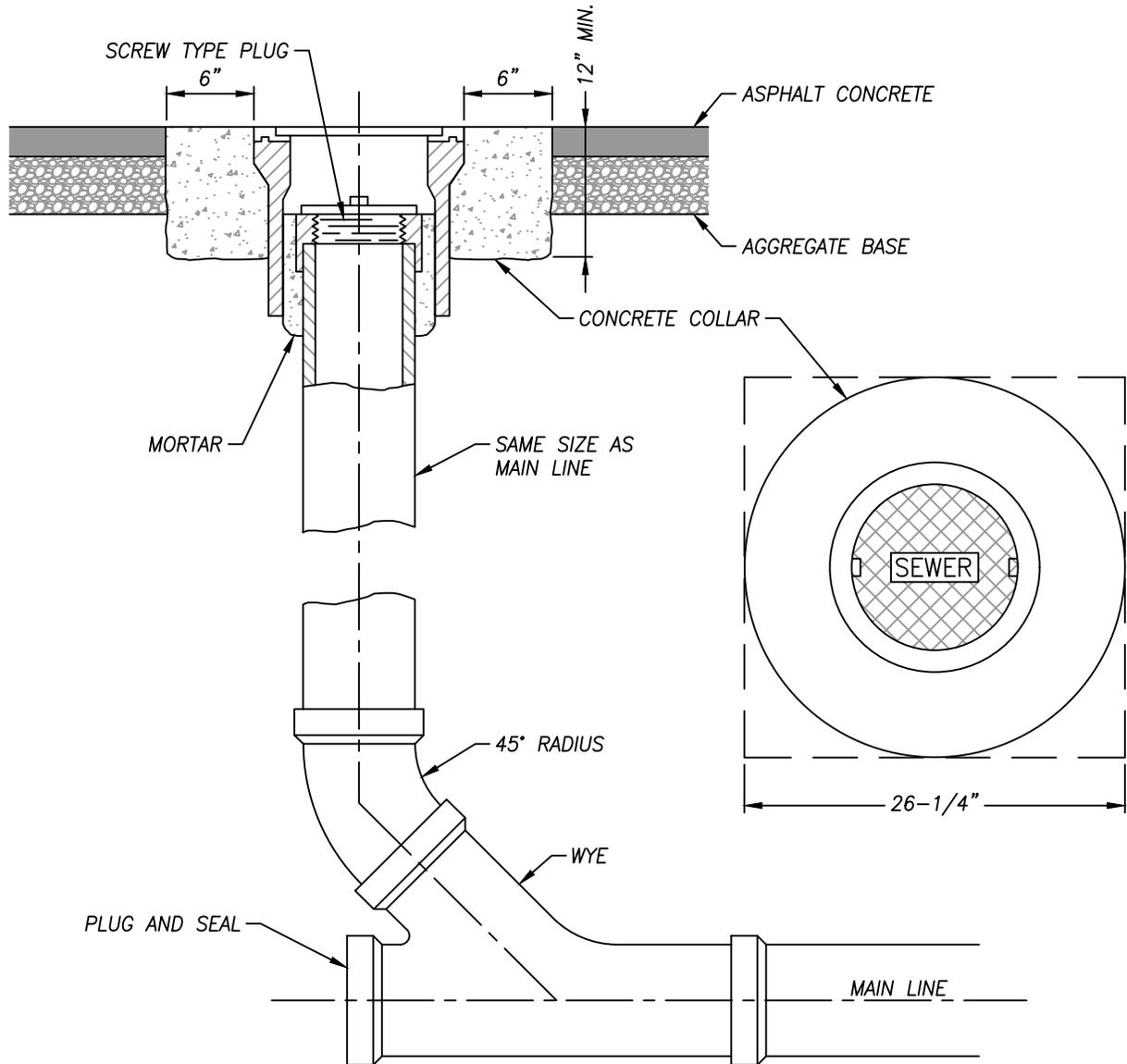
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TYPICAL FLOW CHANNELS FOR SANITARY SEWER MANHOLES

City Engineer

Date

STANDARD No. S-5



NOTES:

1. SEWER CLEANOUT RISER SHALL BE 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 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. MAXIMUM SLUMP 5 INCHES. 2,500 P.S.I. AT 28 DAYS.
5. CONCRETE COLLAR SHALL BE 26-1/4" DIAMETER OR ALTERNATIVE 26-1/4"X26-1/4" SQUARE.
6. MORTAR MIXTURE SHALL BE ONE PART CEMENT PER TWO PARTS SAND.



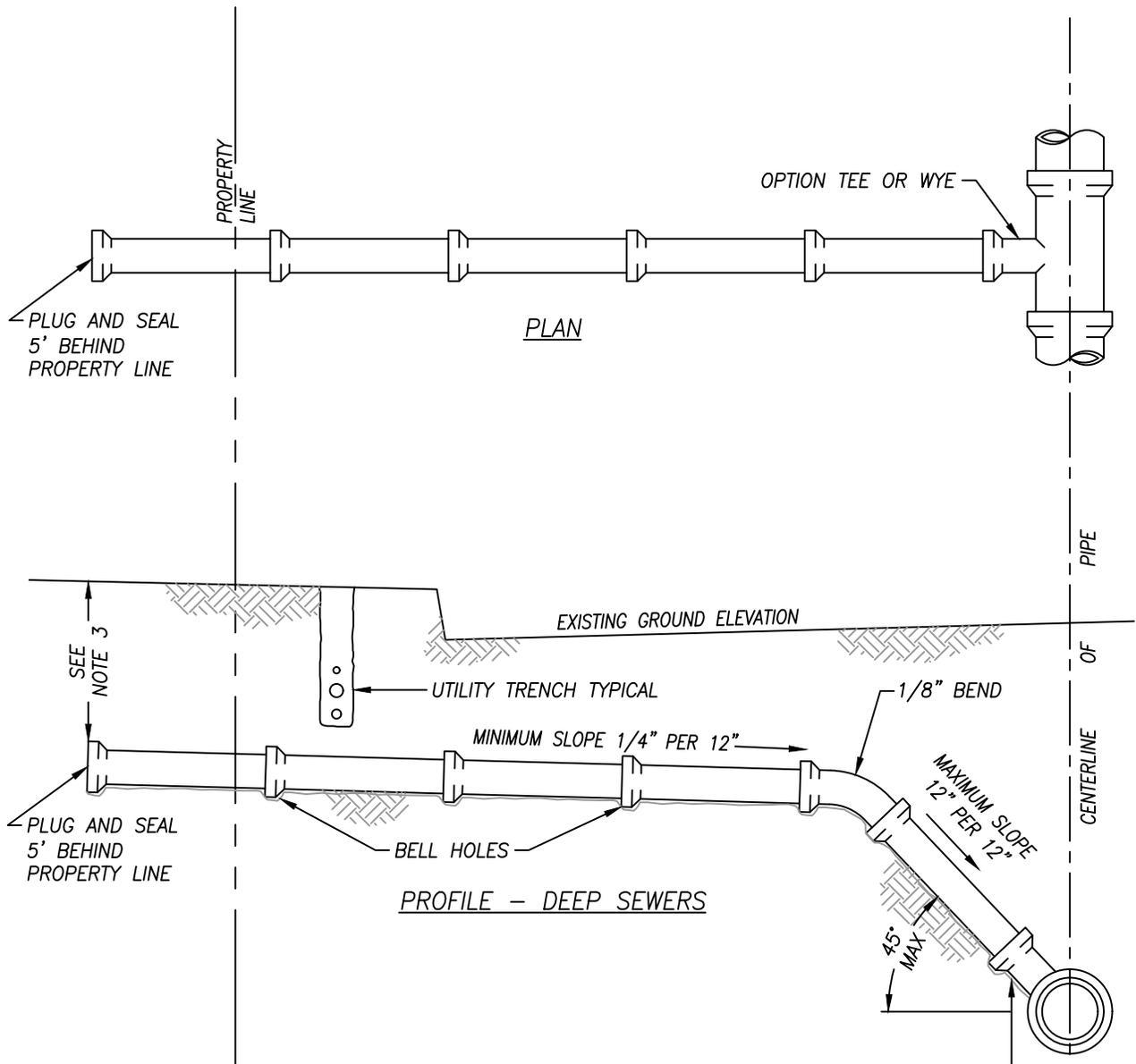
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**SANITARY SEWER
CLEANOUT**

City Engineer

Date

STANDARD
No.
S-6



NOTES:

1. SEWER CONNECTIONS SHALL BE 4 INCHES OR 6 INCHES 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 OF 5 FEET 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 INCH "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

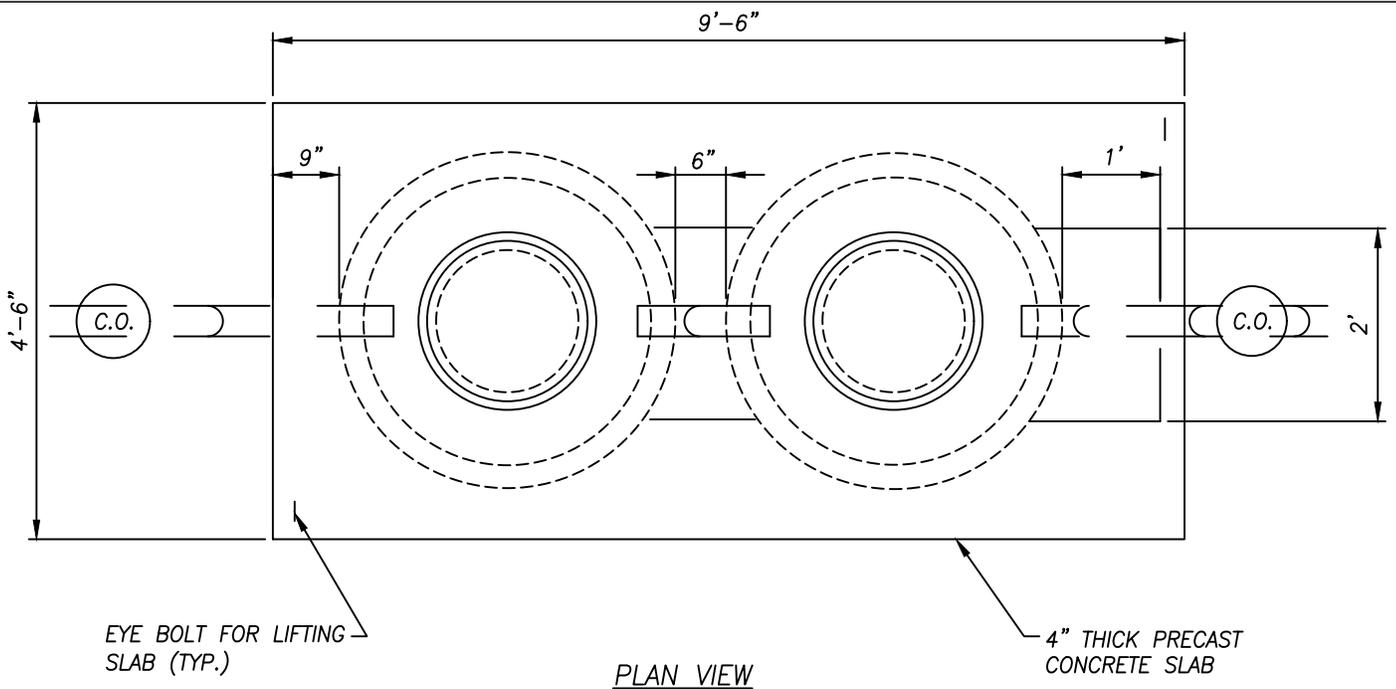


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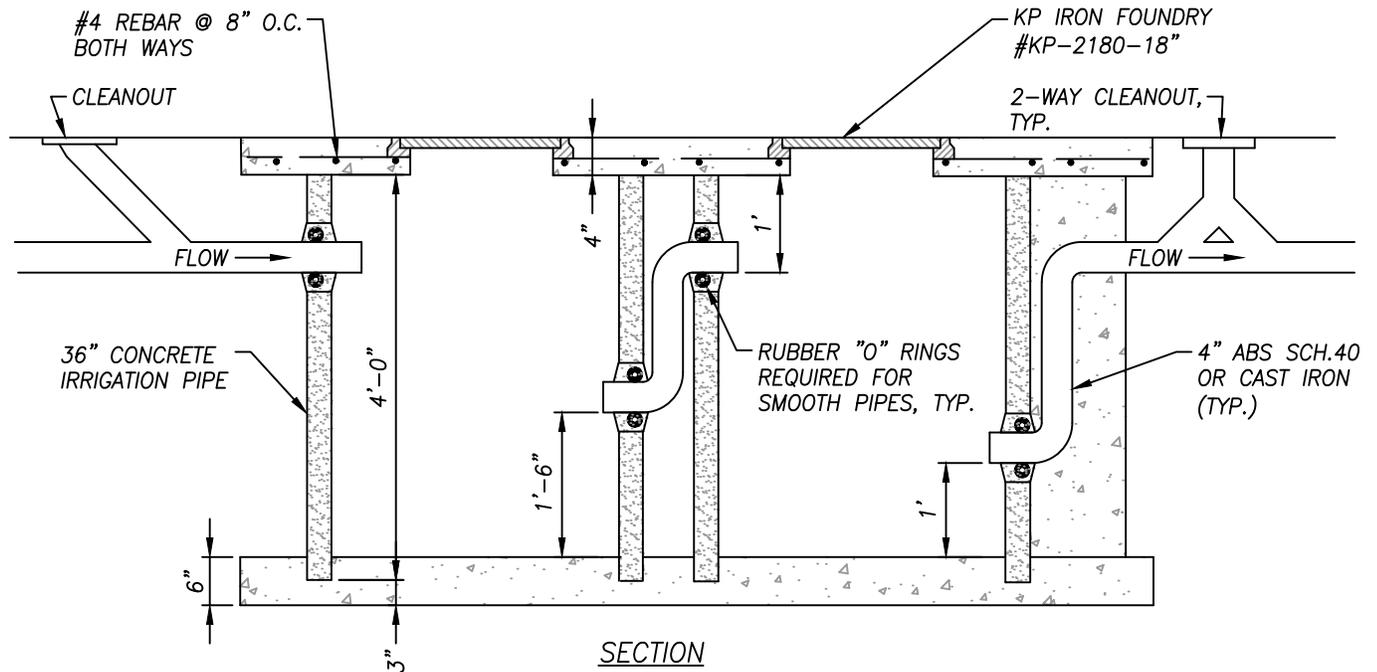
SEWER CONNECTION

City Engineer _____ Date _____

STANDARD
No.
S-7



PLAN VIEW



SECTION

NOTES:

1. CONCRETE SLAB FOR GREASE TRAP SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAINING NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
2. CONTRACTOR MAY SUBSTITUTE A MANUFACTURED GREASE TRAP WITH APPROVAL OF CITY ENGINEER.
3. THE ABOVE DRAWING DEPICTS A MINIMUM SIZE GREASE TRAP ENCLOSURE. ACTUAL SIZE WILL VARY DEPENDING UPON QUANTITY OF FLOW. THE CITY ENGINEER MUST APPROVE ALL INSTALLATIONS.
4. MORTAR INSIDE ALL INTERIOR JOINTS TO A SMOOTH FINISH.



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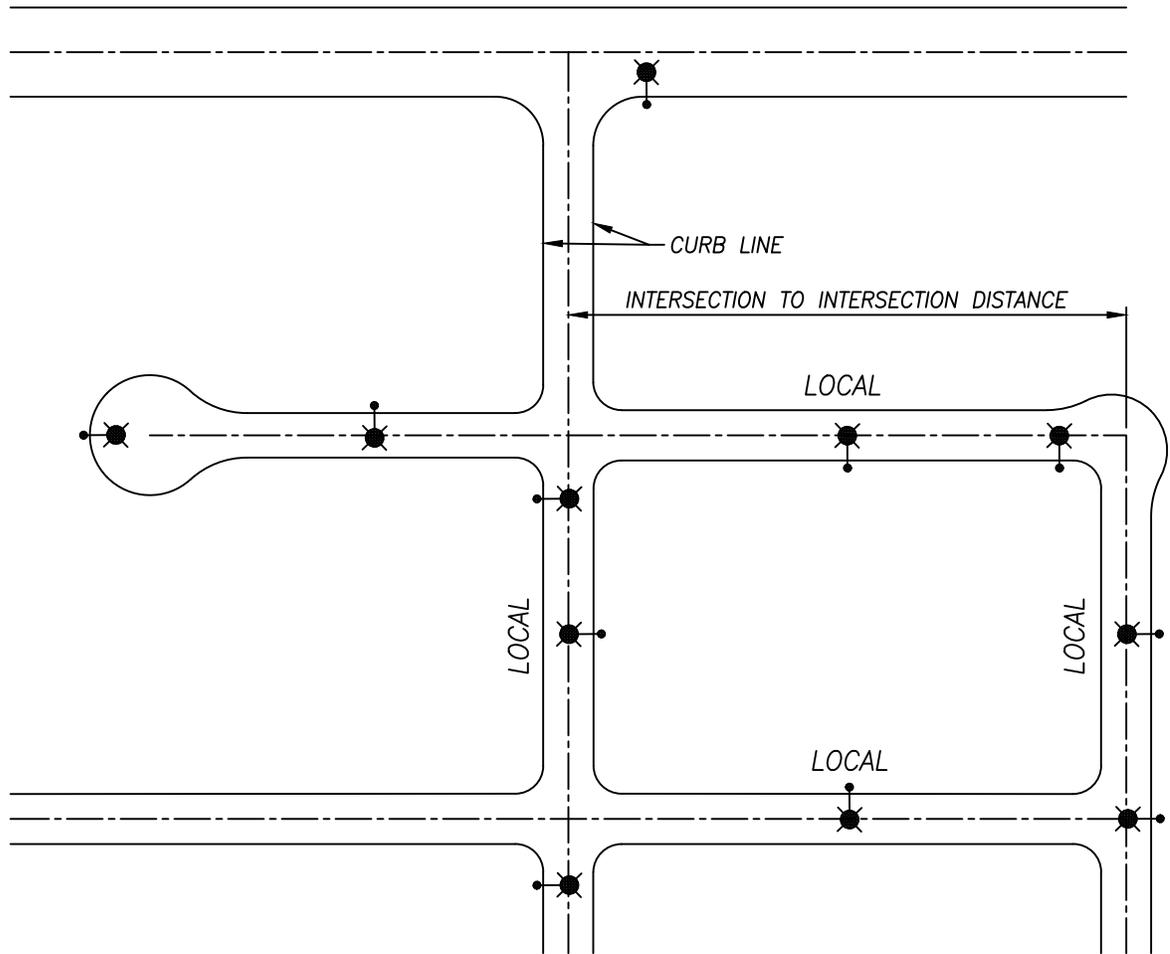
GREASE TRAP

City Engineer

Date

STANDARD
No.
S-8

ARTERIAL OR COLLECTOR



NOTES:

1. STREETLIGHTS ON LOCAL STREETS SHALL BE LED – MINIMUM 5,800 LUMEN WITH CUT-OFF LUMINARIES, LUMINARIE ELEVATION OF 25 FEET, MOUNTED ON MARBLELITE POLES WITH 6 FEET 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 FEET BETWEEN INTERSECTIONS AN INTERMEDIATE STREETLIGHT, OR STREETLIGHTS, SHALL BE INSTALLED. SPACING OF STREET LIGHTS BETWEEN INTERSECTIONS WHERE REQUIRED SHALL BE 180 FEET MINIMUM TO 240 FEET 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 ENGINEER PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
8. A MINIMUM SEPARATION OF 20 FEET IS REQUIRED BETWEEN TREES AND STREETLIGHT PLANS.
9. ALL STREETLIGHTS INSTALLED OR REPLACED WITHIN THE DOWNTOWN OVERLAY AREA ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.



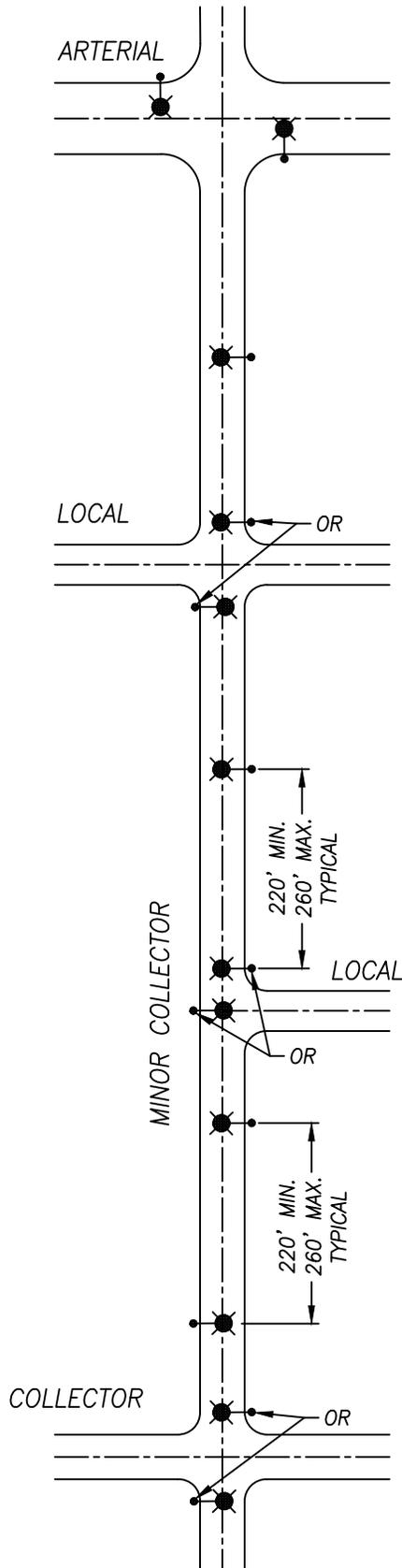
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LOCAL STREET
LIGHTING

City Engineer

Date

STANDARD
No.
SL-1



NOTES:

1. STREETLIGHTS ON MINOR COLLECTOR STREETS SHALL BE LED – MINIMUM 9,500 LUMEN WITH CUT-OFF LUMINARIES, LUMINAIRE ELEVATION OF 25 FEET MOUNTED ON MARBLELITE POLES WITH 6 FEET 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 FEET MINIMUM TO 260 FEET 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 FEET IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
10. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE DOWNTOWN OVERLAY AREA ARE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.



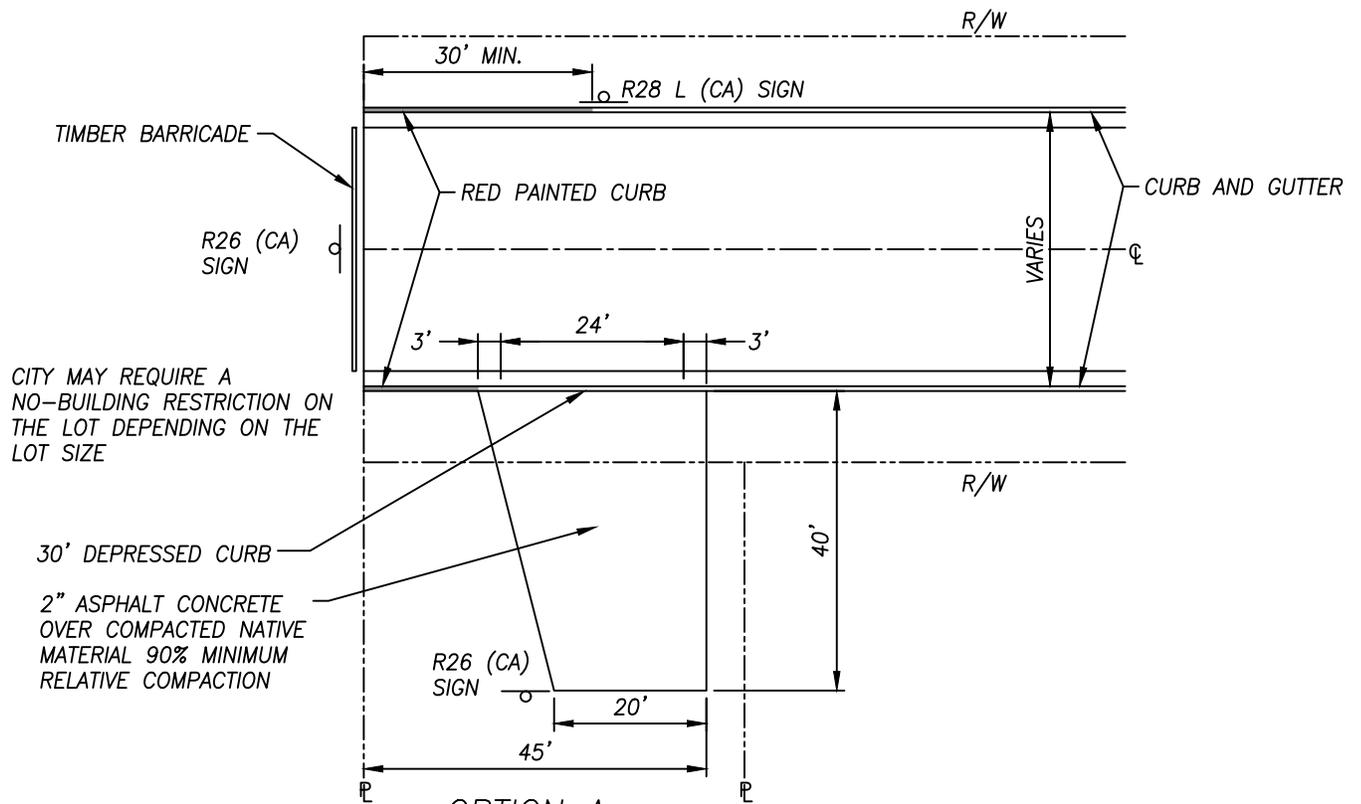
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**MINOR COLLECTOR
STREET LIGHTING**

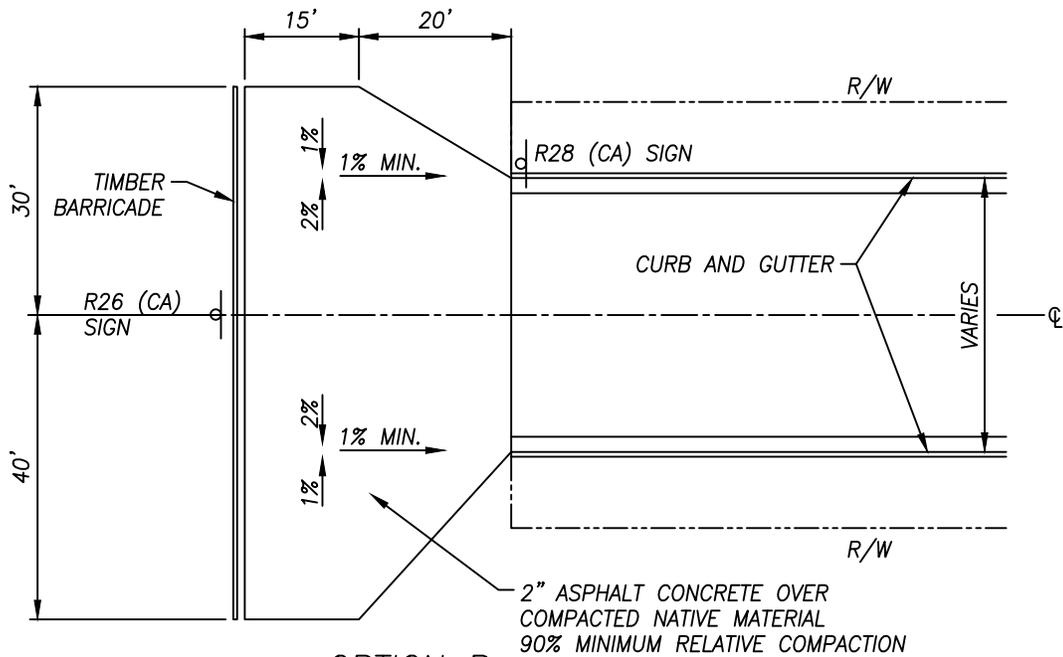
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STANDARD
No.
SL-2



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. USES OTHER THAN TEMPORARY SHALL BE AT THE DISCRETION OF THE CITY ENGINEER.



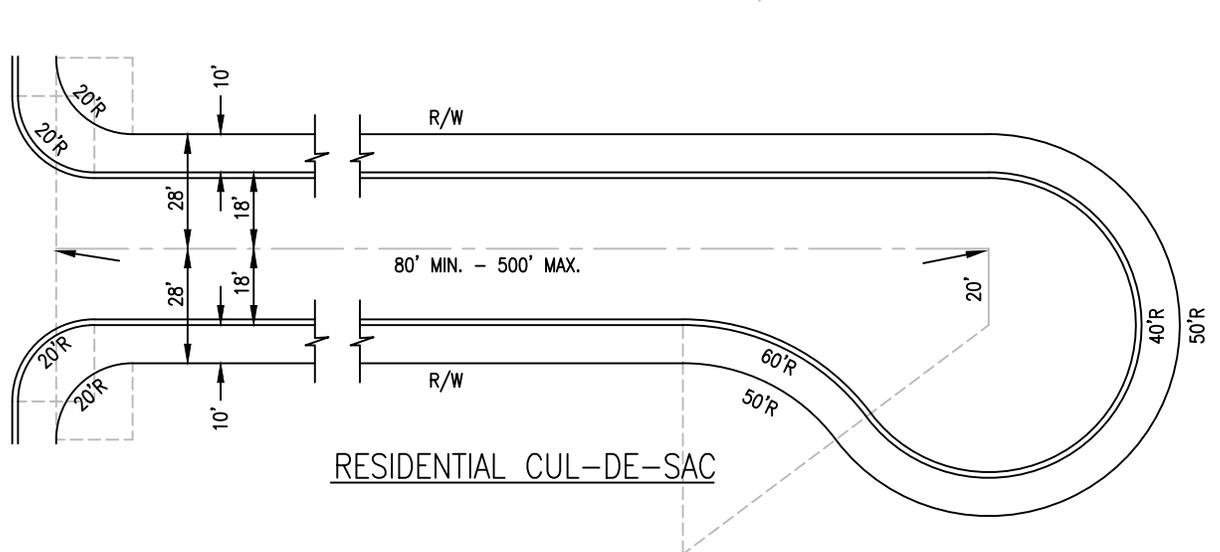
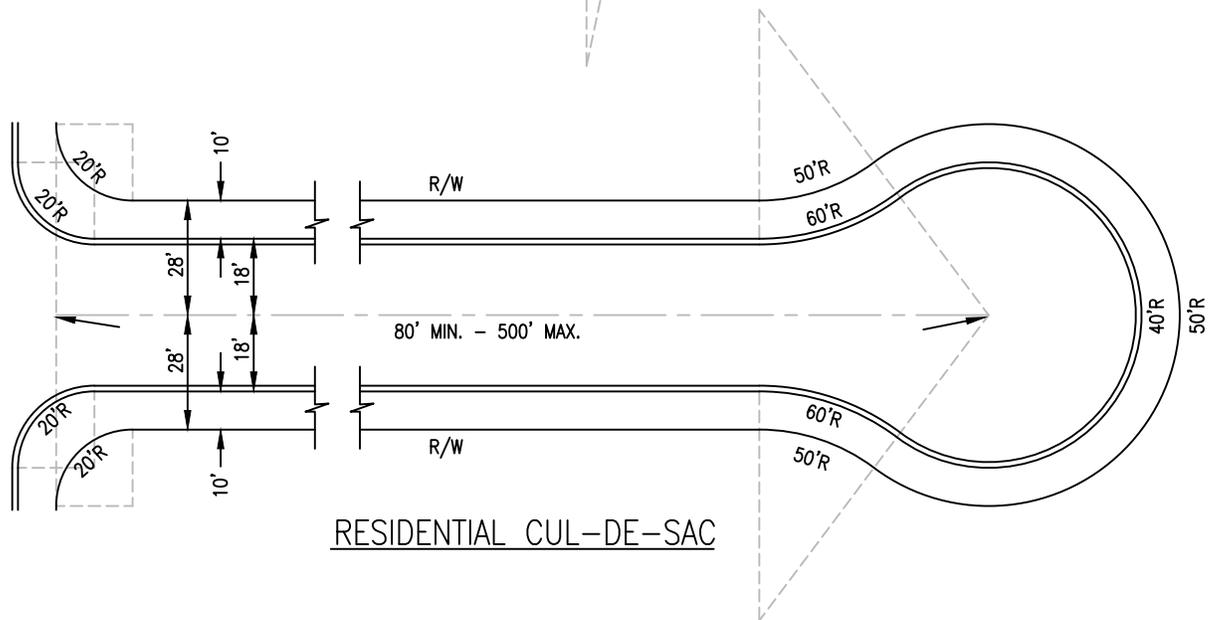
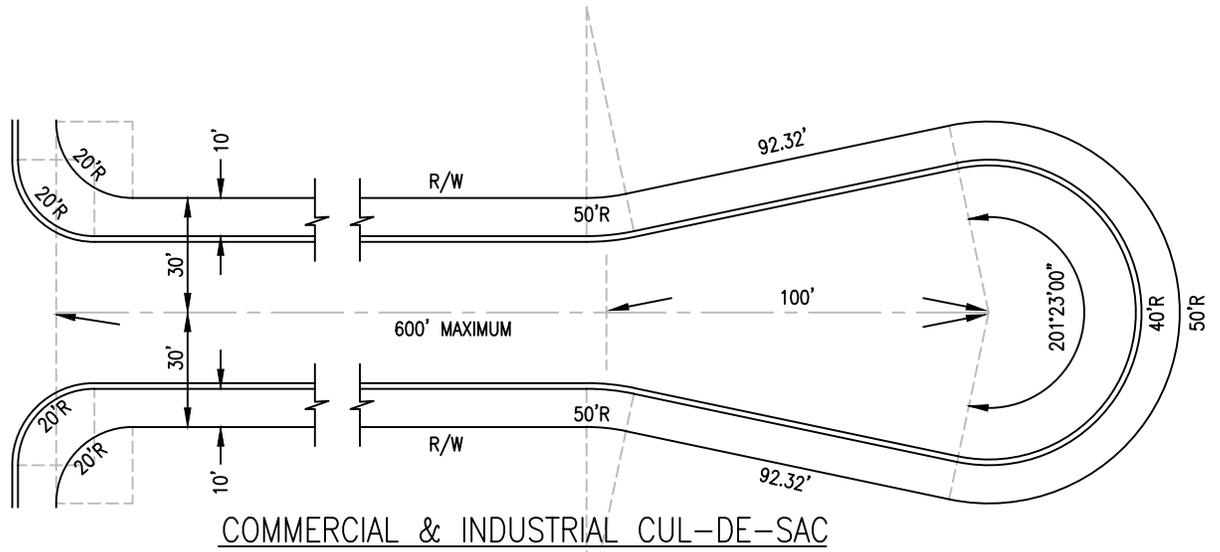
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

TEMPORARY
HAMMERHEAD
TURNAROUND PUBLIC
STREET

City Engineer

Date

STANDARD
No.
ST-1



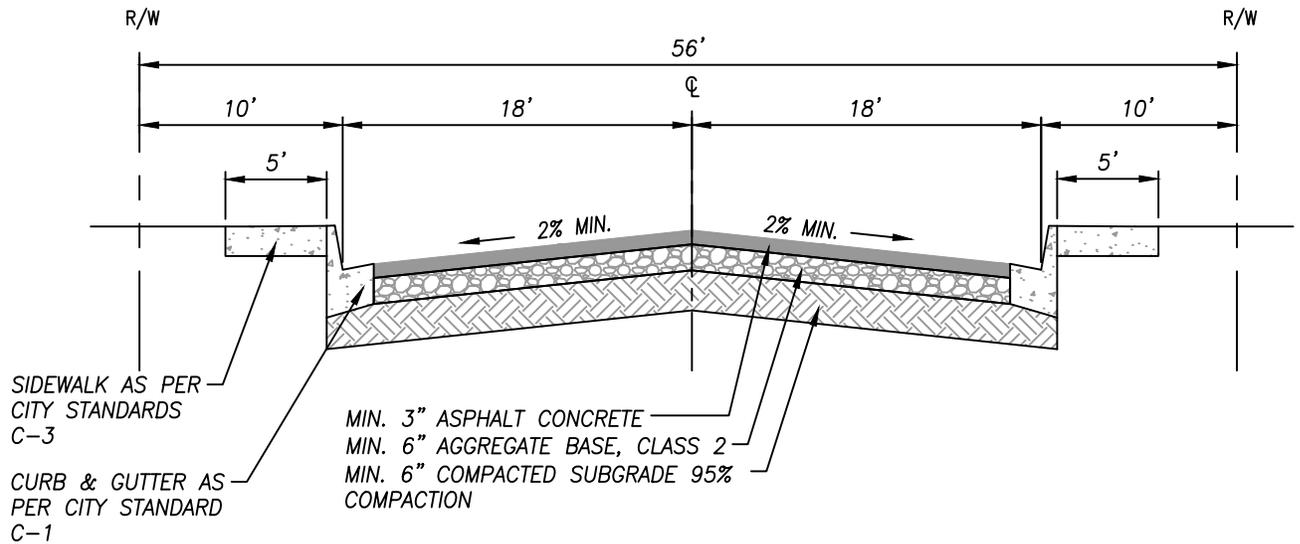
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

CUL-DE-SAC LAYOUT

City Engineer

Date

STANDARD
No.
ST-2



CUL-DE-SAC STREET
DESIGN CRITERION: TRAFFIC INDEX OF 6.0

NOTES:

1. A FOG SEAL COAT SHALL BE APPLIED TO ALL NEW PAVEMENT SURFACES IN ACCORDANCE WITH CHAPTER 6, FOG AND REJUVENATING SEALS, OF THE CALTRANS FLEXIBLE PAVEMENT PRESERVATION MANUAL, MOST RECENT EDITION.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON TRAFFIC INDEX AND R-VALUES.
3. ASPHALT CONCRETE SHALL BE TYPE B, WITH 3/4 INCH AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER UNLESS STATED OTHERWISE BY CITY ENGINEER.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.



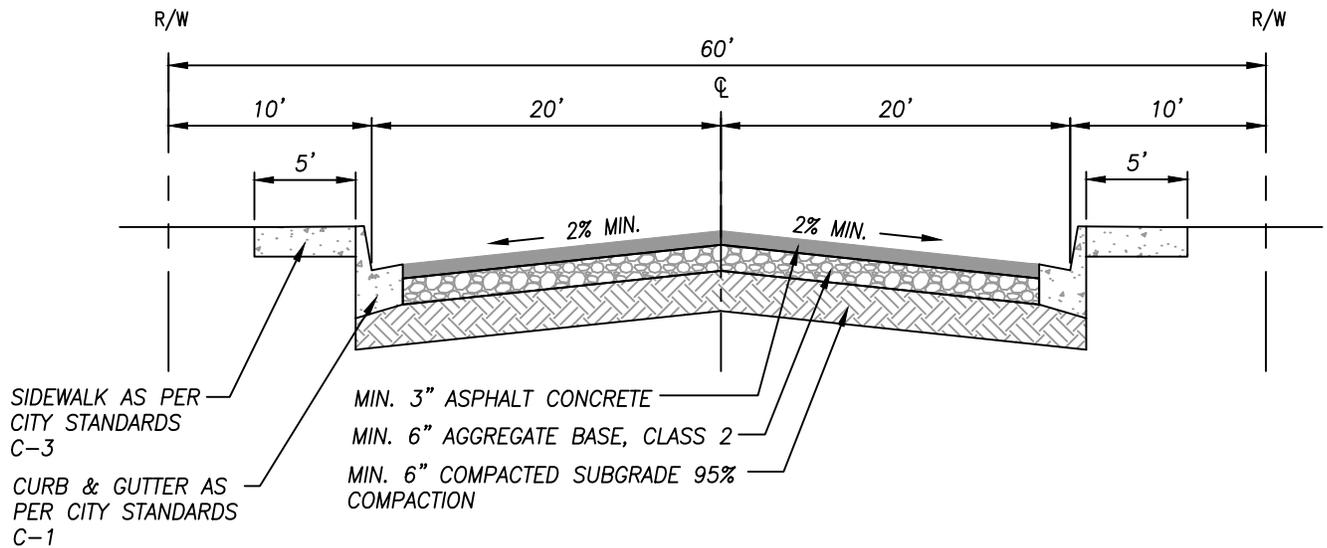
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

TYPICAL STREET
SECTION:
CUL-DE-SAC

City Engineer

Date

STANDARD
No.
ST-3



LOCAL & COLLECTOR STREET
 DESIGN CRITERION: TRAFFIC INDEX OF LOCAL: 6.0, COLLECTOR: 8.0

NOTES:

1. A FOG SEAL COAT SHALL BE APPLIED TO ALL NEW PAVEMENT SURFACES IN ACCORDANCE WITH CHAPTER 6, FOG AND REJUVENATING SEALS, OF THE CALTRANS FLEXIBLE PAVEMENT PRESERVATION MANUAL, MOST RECENT EDITION.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON TRAFFIC INDEX AND R-VALUES.
3. ASPHALT CONCRETE SHALL BE TYPE B, WITH 3/4 INCH AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER UNLESS STATED OTHERWISE BY CITY ENGINEER.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.



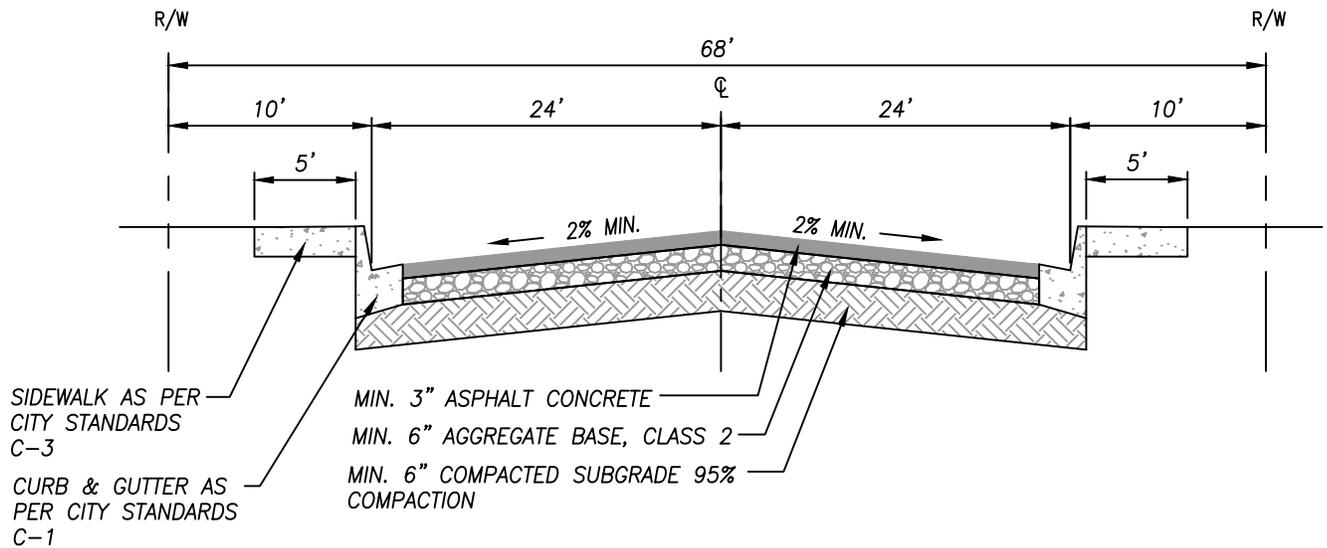
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 REVISED:
NOVEMBER 2022
 JOB NUMBER:
220145

TYPICAL STREET
SECTION: LOCAL &
COLLECTOR

City Engineer

Date

STANDARD
No.
ST-4



INDUSTRIAL, COMMERCIAL, & OFFICE STREET
 DESIGN CRITERION: TRAFFIC INDEX OF 9.0 – 11.0

NOTES:

1. A FOG SEAL COAT SHALL BE APPLIED TO ALL NEW PAVEMENT SURFACES IN ACCORDANCE WITH CHAPTER 6, FOG AND REJUVENATING SEALS, OF THE CALTRANS FLEXIBLE PAVEMENT PRESERVATION MANUAL, MOST RECENT EDITION.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON TRAFFIC INDEX AND R-VALUES.
3. ASPHALT CONCRETE SHALL BE TYPE B, WITH 3/4 INCH AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER UNLESS STATED OTHERWISE BY CITY ENGINEER.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.



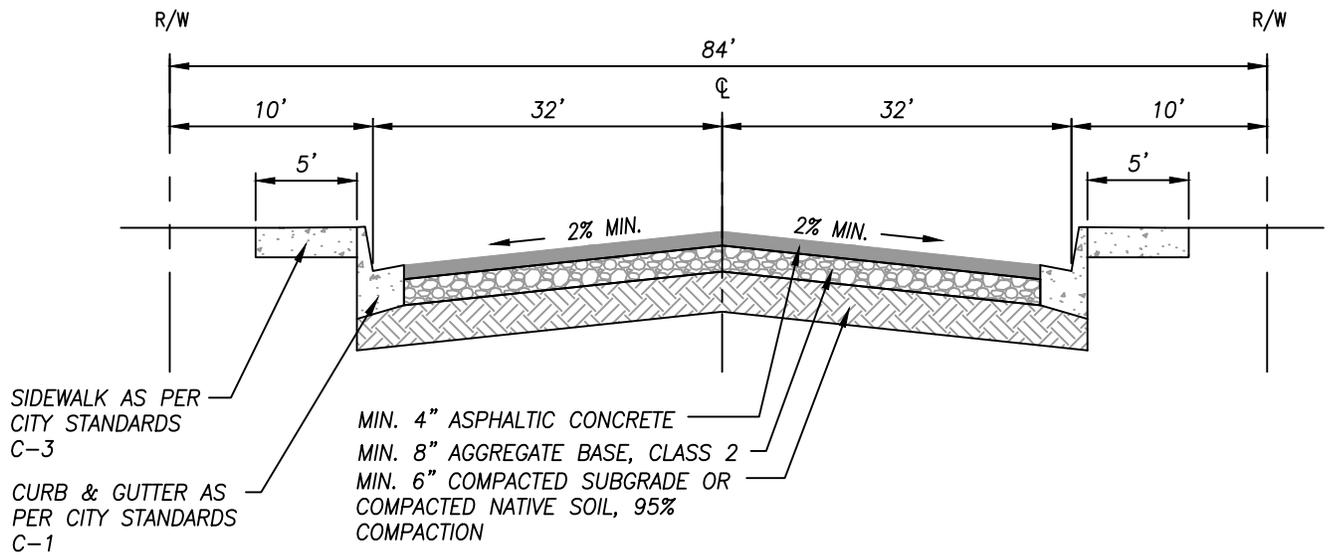
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 REVISED:
 NOVEMBER 2022
 JOB NUMBER:
 220145

TYPICAL STREET
 SECTION: INDUSTRIAL,
 COMMERCIAL & OFFICE

City Engineer

Date

STANDARD
 No.
 ST-5



SELECT SYSTEM ROADS & MINOR ARTERIALS
DESIGN CRITERION: TRAFFIC INDEX OF 9.0 - 11.0

NOTES:

1. A FOG SEAL COAT SHALL BE APPLIED TO ALL NEW PAVEMENT SURFACES IN ACCORDANCE WITH CHAPTER 6, FOG AND REJUVENATING SEALS, OF THE CALTRANS FLEXIBLE PAVEMENT PRESERVATION MANUAL, MOST RECENT EDITION.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON TRAFFIC INDEX AND R-VALUES.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4 INCH AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER UNLESS STATED OTHERWISE BY CITY ENGINEER.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.



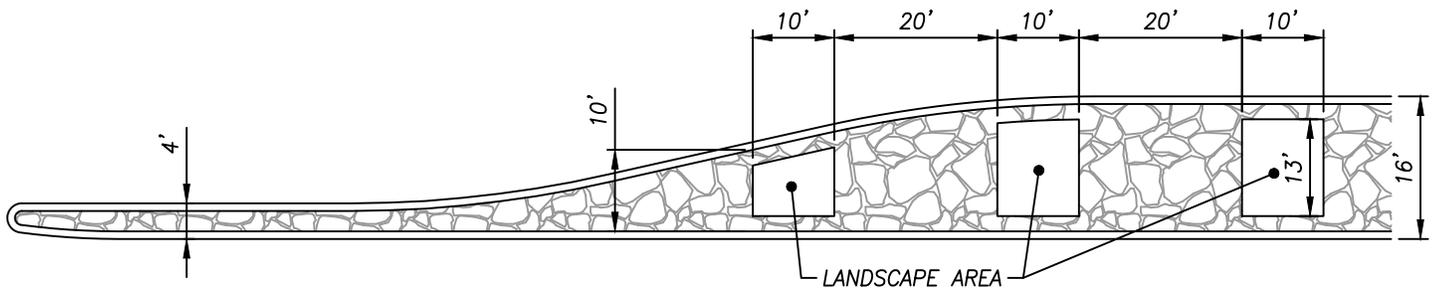
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 REVISED:
NOVEMBER 2022
 JOB NUMBER:
220145

TYPICAL STREET
 SECTION: SELECT
 ROADS & MINOR
 ARTERIALS

City Engineer

Date

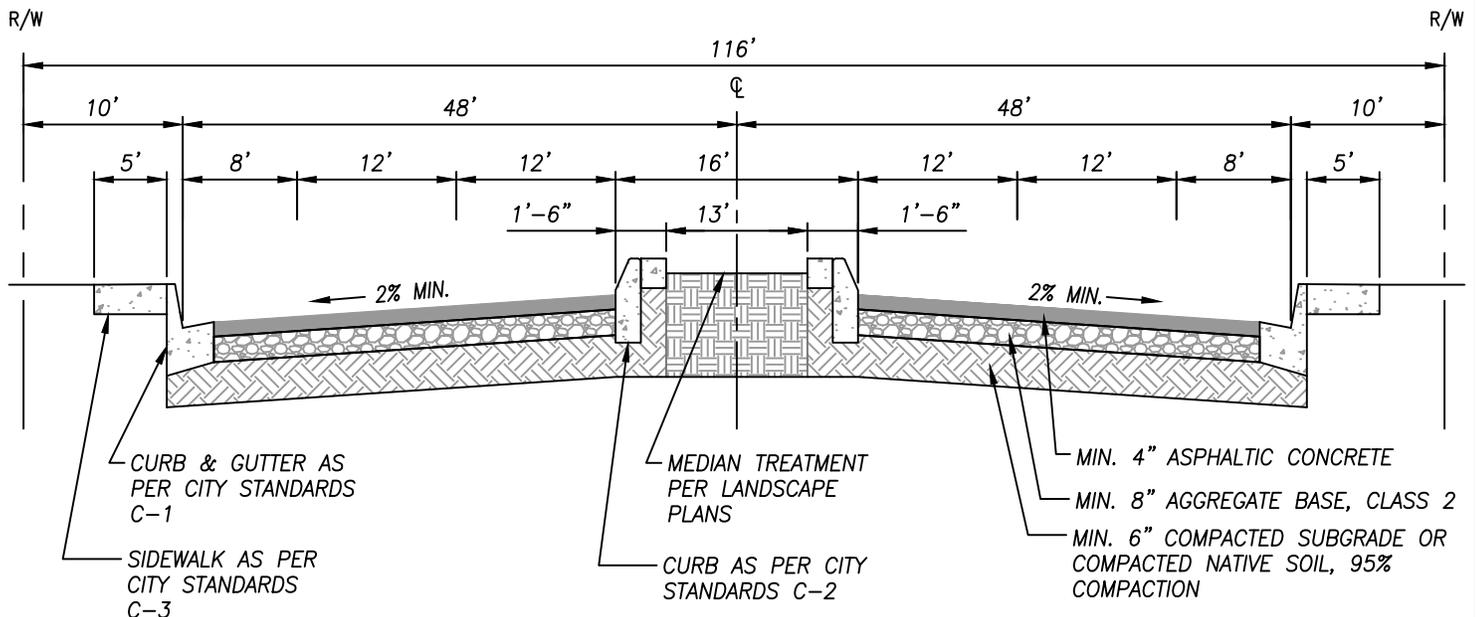
STANDARD
 No.
 ST-6



PLAN VIEW

NOTES:

1. ANY MEDIAN SPACE LESS THAN 3 FEET BACK OF CURB TO BACK OF CURB SHALL BE SOLID CONCRETE FINISH.
2. END STAMPED CONCRETE WHERE MEDIAN ISLAND WIDTH IS 10 FEET 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



SELECT SYSTEM MEDIAN
DESIGN CRITERION: TRAFFIC INDEX OF 9.0 – 11.0

NOTES:

1. A FOG SEAL COAT SHALL BE APPLIED TO ALL NEW PAVEMENT SURFACES IN ACCORDANCE WITH CHAPTER 6, FOG AND REJUVENATING SEALS, OF THE CALTRANS FLEXIBLE PAVEMENT PRESERVATION MANUAL, MOST RECENT EDITION.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON TRAFFIC INDEX AND R-VALUES.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4 INCH AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER UNLESS STATED OTHERWISE BY CITY ENGINEER.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.



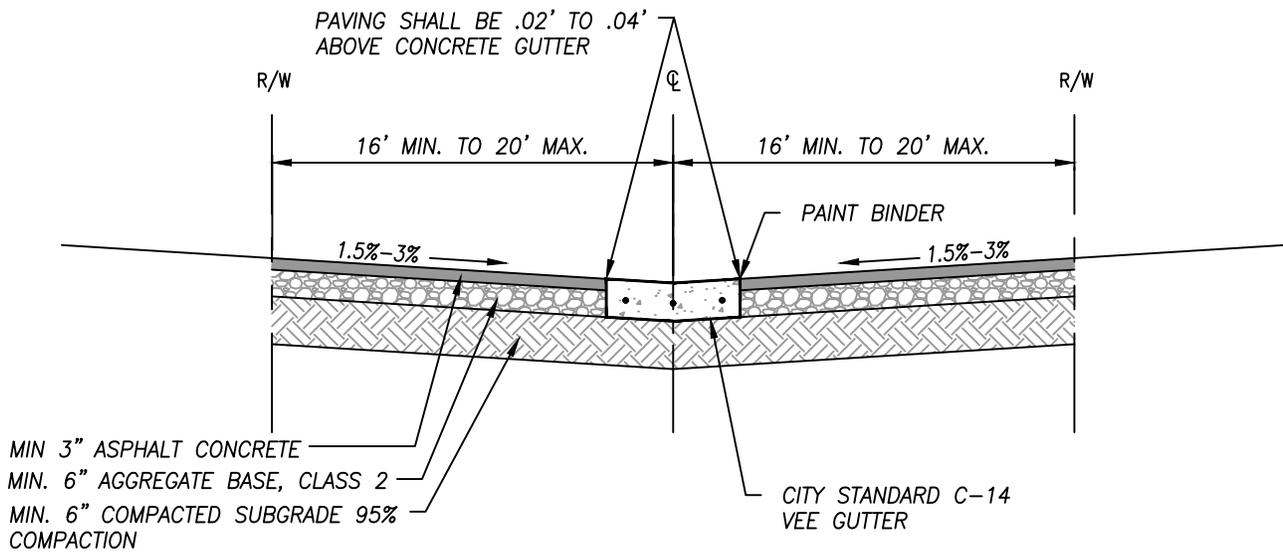
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 JOB NUMBER:
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TYPICAL STREET
 SECTION: MEDIAN

City Engineer

Date

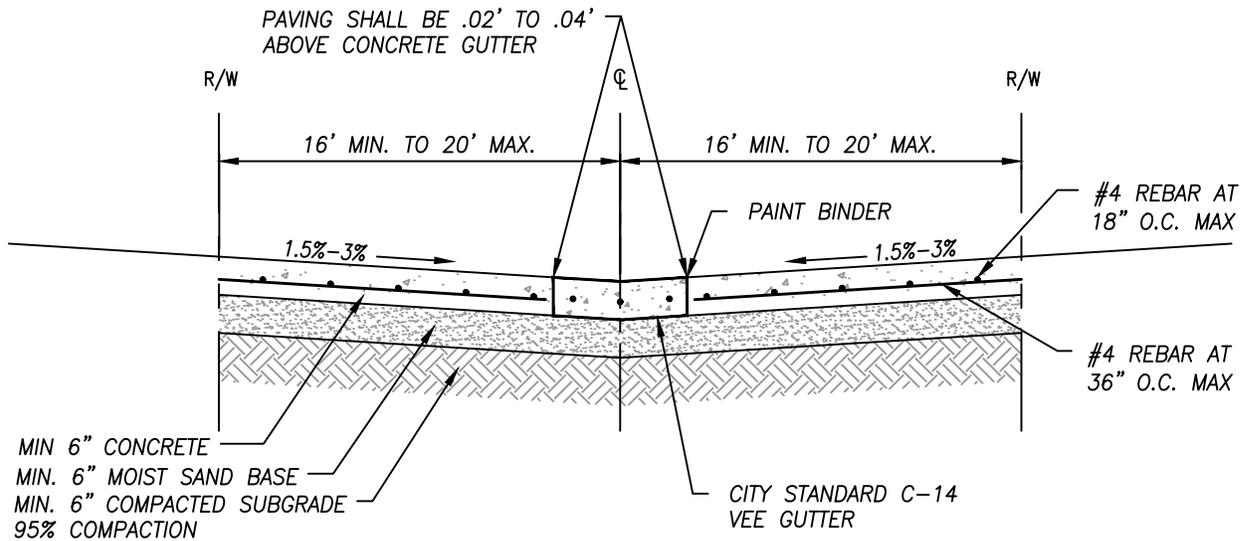
STANDARD
 No.
 ST-7



ASPHALT CONCRETE ALLEY

NOTES:

1. A FOG SEAL COAT SHALL BE APPLIED TO ALL NEW PAVEMENT SURFACES IN ACCORDANCE WITH CHAPTER 6, FOG AND REJUVENATING SEALS, OF THE CALTRANS FLEXIBLE PAVEMENT PRESERVATION MANUAL, MOST RECENT EDITION.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON TRAFFIC INDEX AND R-VALUES.
3. ASPHALT CONCRETE SHALL BE TYPE B, WITH 3/4 INCH AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER UNLESS STATED OTHERWISE BY CITY ENGINEER.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.



CONCRETE ALLEY

NOTES:

1. ALL CONCRETE SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAIN NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
2. REINFORCING REBAR SHALL BE ASTM A615 GRADE 40 MINIMUM DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
3. REINFORCING REBAR SHALL HAVE A MINIMUM OF 3 INCHES OF CLEAR COVERAGE FROM THE COMPACTED EARTH AND 2 INCHES FROM FINISH GRADE.
4. CONCRETE SHALL BE PLACED ON MINIMUM 6 INCHES OF MOIST SAND BASE MATERIALS. 95% RELATIVE COMPACTION.
5. CONCRETE SHALL HAVE A LIGHT BROOM FINISH.



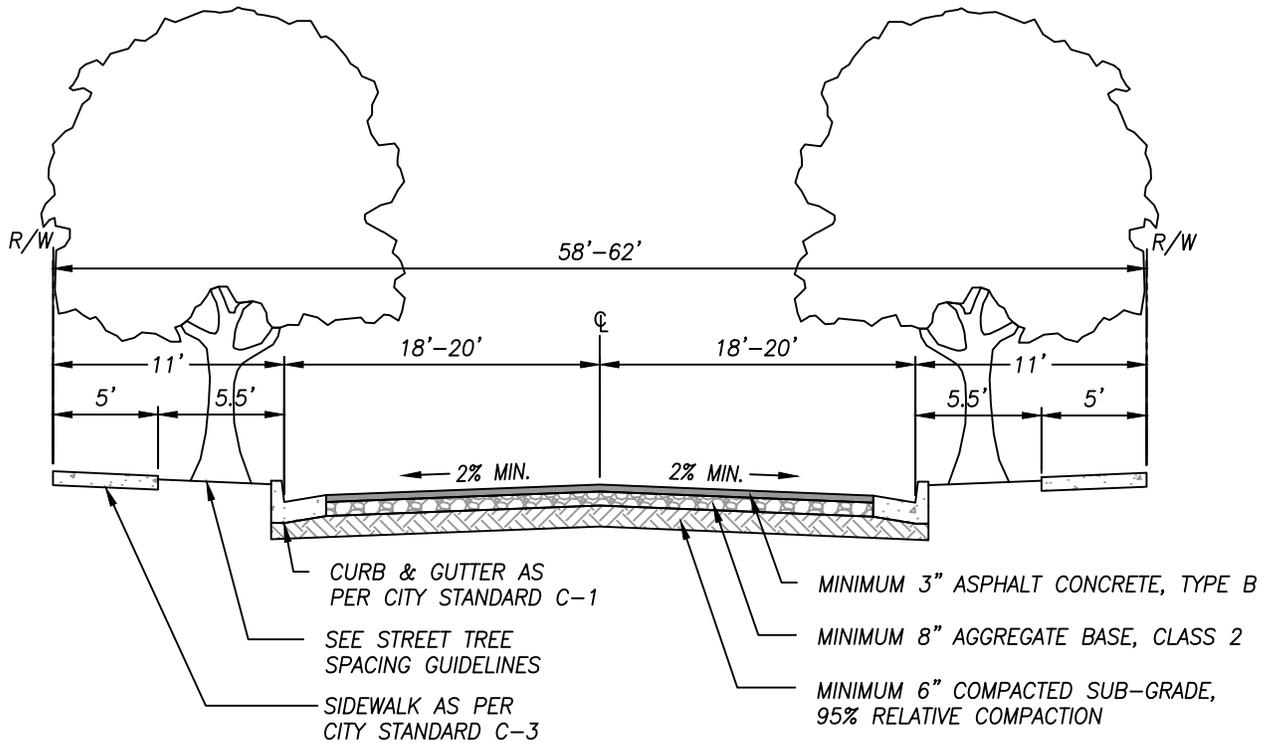
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

TYPICAL STREET
SECTION: ALLEY

City Engineer

Date

STANDARD
No.
ST-8



CUL-DE-SAC & LOCAL STREET WITH PARKWAY
 DESIGN CRITERION: TRAFFIC INDEX OF 6.0

NOTES:

1. A FOG SEAL COAT SHALL BE APPLIED TO ALL NEW PAVEMENT SURFACES IN ACCORDANCE WITH CHAPTER 6, FOG AND REJUVENATING SEALS, OF THE CALTRANS FLEXIBLE PAVEMENT PRESERVATION MANUAL, MOST RECENT EDITION.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON TRAFFIC INDEX AND R-VALUES.
3. ASPHALT CONCRETE SHALL BE TYPE B, WITH 3/4 INCH AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER UNLESS STATED OTHERWISE BY CITY ENGINEER.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.



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 NOVEMBER 2022
 JOB NUMBER:
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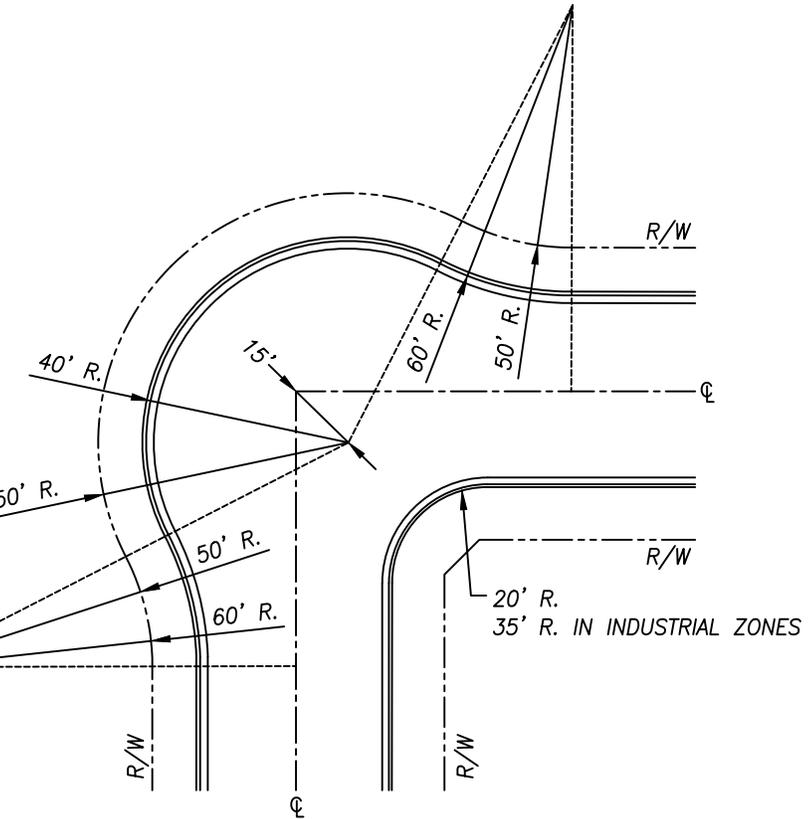
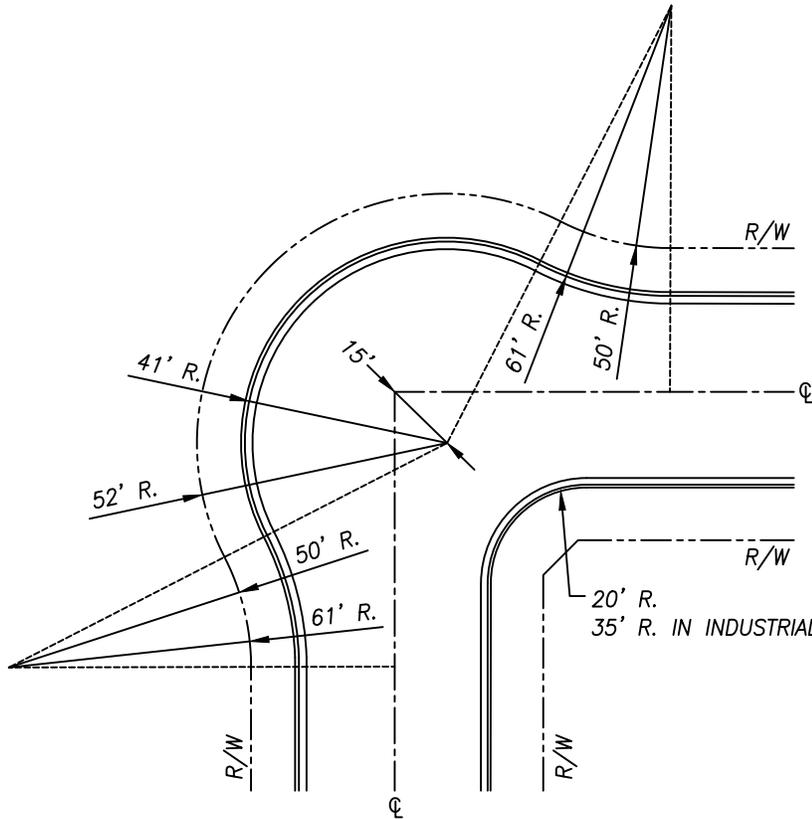
TYPICAL STREET
 SECTION: CUL-DE-SAC
 & LOCAL STREET WITH
 PARKWAY

City Engineer

Date

STANDARD
 No.
 ST-9

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

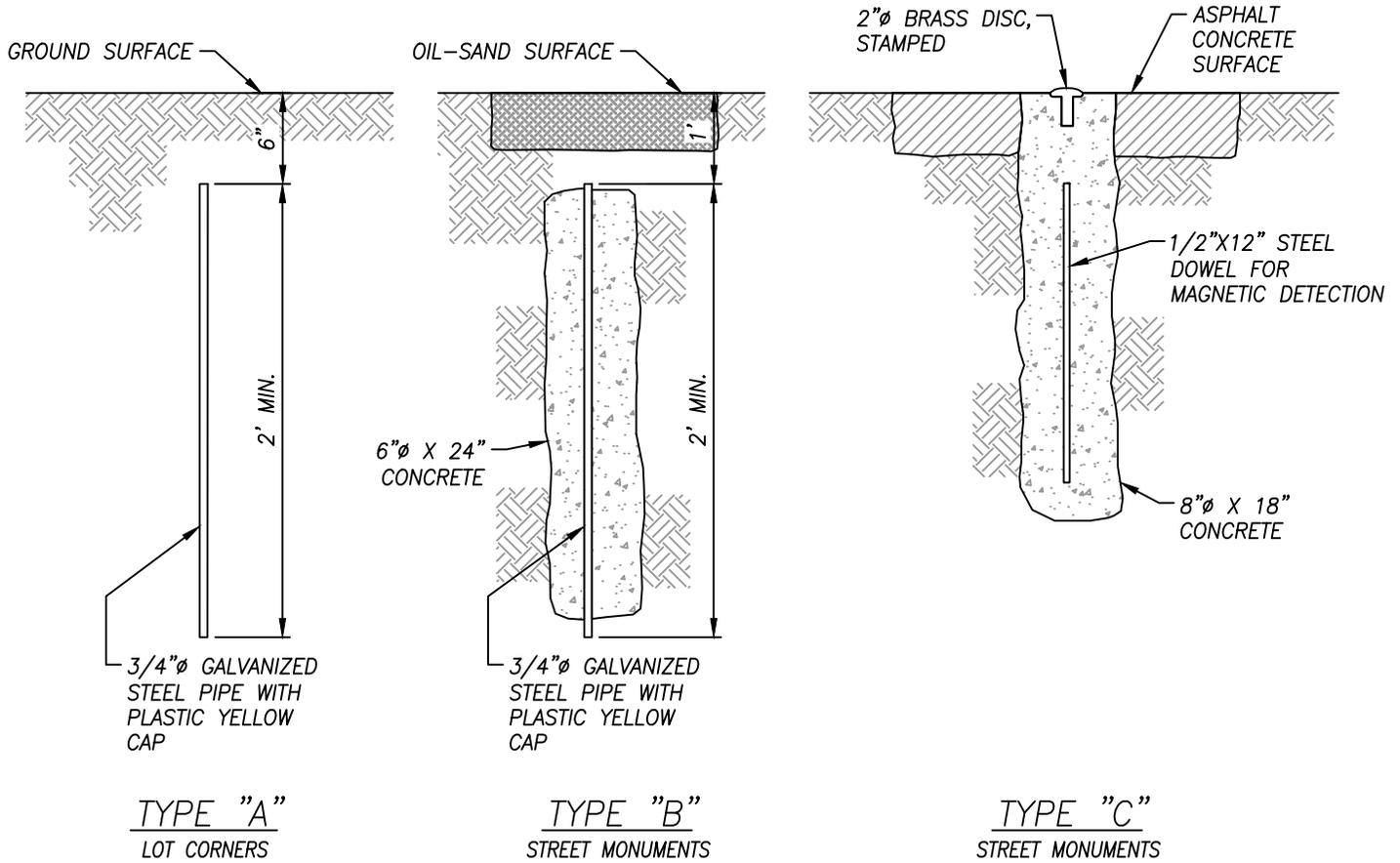


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NOVEMBER 2022
JOB NUMBER:
220145

STREET BULB CONNECTION

City Engineer _____ Date _____

STANDARD No. ST-10



TYPE "A"
LOT CORNERS

TYPE "B"
STREET 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. TYPE "C" STREET MONUMENTS SHALL BE USED TO LOCATE ALL ANGLE AND CURVE POINTS ON THE CENTERLINES OF ASPHALT CONCRETE SURFACED STREETS.
3. ALL LOT CORNERS SHALL BE MARKED WITH MONUMENT "A".
4. ADDITIONAL MONUMENTS MAY BE REQUIRED AT THE DISCRETION OF THE CITY SURVEYOR.

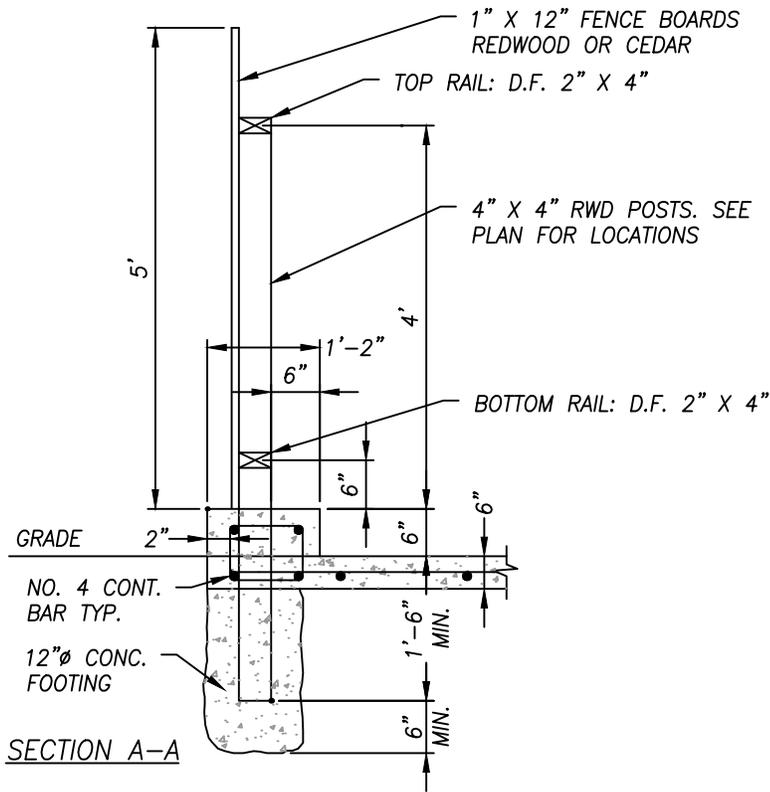
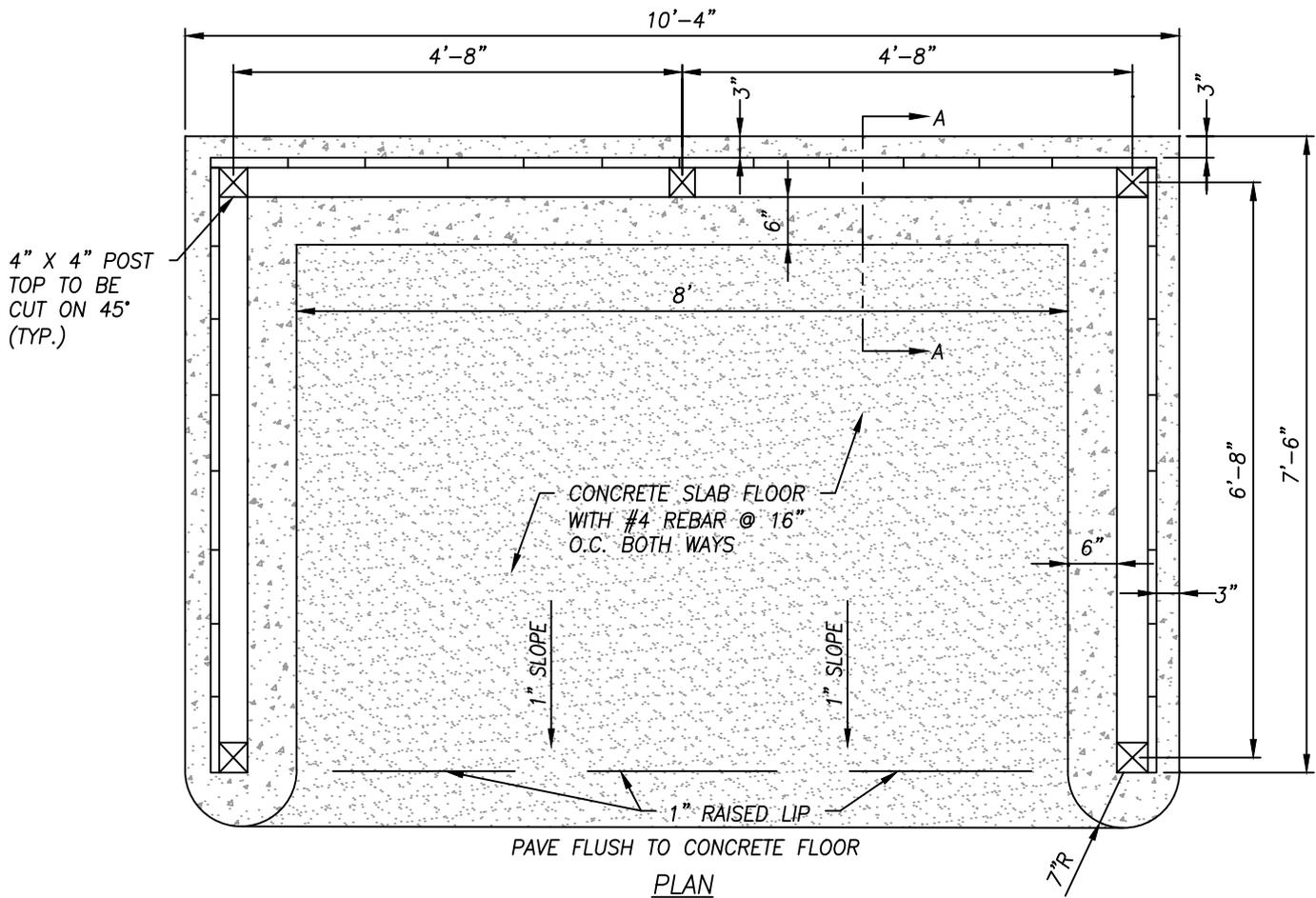


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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

MONUMENT DETAILS

City Engineer _____ Date _____

STANDARD
No.
ST-11



NOTES:

1. SLAB FLOOR AND FOOTINGS SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAIN NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
2. 4" X 4" REDWOOD. POSTS TO BE TREATED WITH AN APPROVED WOOD PRESERVATIVE UP TO THE TOP OF THE SLAB FOOTING.
3. GROUND TO BE SLOPED AWAY FROM THE SLAB FOOTING.
4. REINFORCE BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
5. MULTIPLE BIN ENCLOSURES SHALL BE MULTIPLES OF 9'-4" WIDTH.
6. LOCATION OF CONTAINER ENCLOSURE TO BE APPROVED BY THE CITY OF FARMERSVILLE.
7. NO WOOD TRASH ENCLOSURES IN COMMERCIAL OR INDUSTRIAL AREAS. CAN ONLY BE USED IN SINGLE FAMILY RESIDENTIAL AREAS.



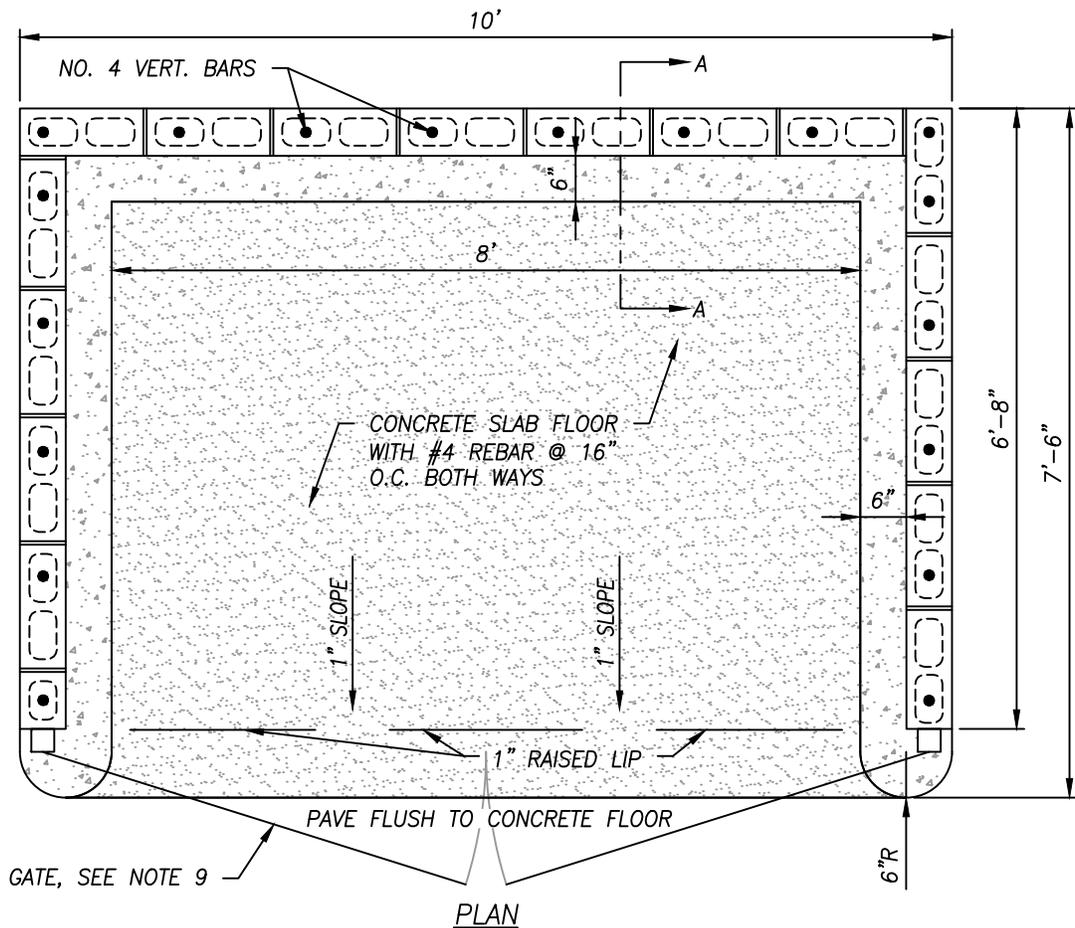
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NOVEMBER 2022
JOB NUMBER:
220145

**WOOD TRASH
ENCLOSURE**

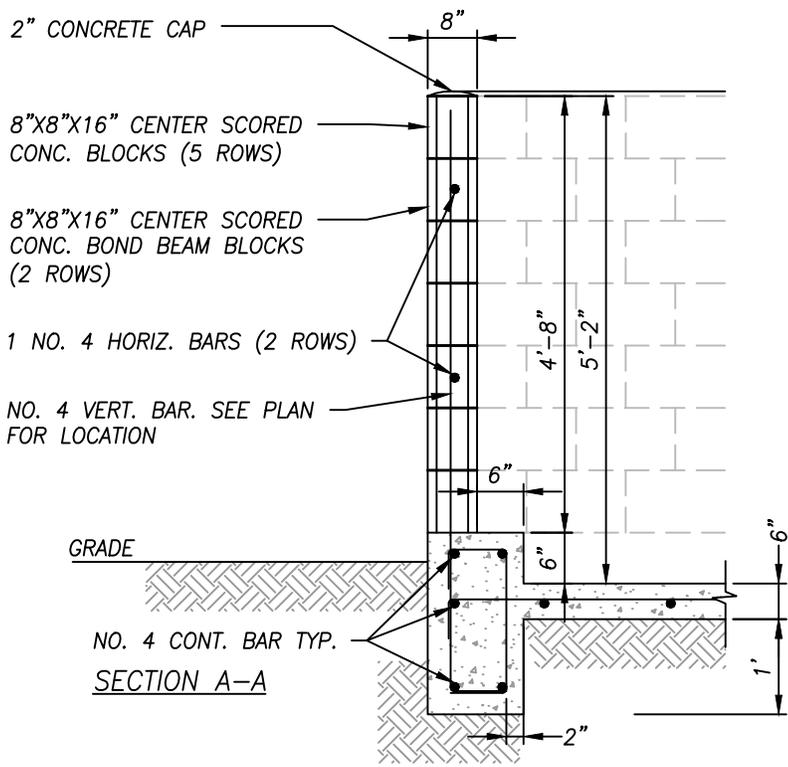
City Engineer

Date

STANDARD
No.
T-1



PLAN



SECTION A-A

NOTES:

1. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH COARSE GROUT.
2. CORNER BLOCK ENDS AND CENTER WEB SHALL BE CUT TO FORM CONTINUOUS BOND BEAM.
3. ALL HORIZONTAL AND VERTICAL JOINTS SHALL BE RAKED TO MATCH CENTER SCORED BLOCK.
4. CONCRETE BLOCK, MORTAR AND COARSE GROUT SHALL CONFORM WITH CURRENT CALIFORNIA BUILDING CODE (CBC) STANDARDS.
5. SLAB FLOOR AND FOOTING SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAIN NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
6. GROUND TO BE SLOPED AWAY FROM WALLS.
7. MULTIPLE BIN ENCLOSURES SHALL BE EVEN MULTIPLES OF 10 FEET IN WIDTH.
8. REINFORCE BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
9. TRASH ENCLOSURE SHALL BE A MINIMUM 5 FEET FROM ANY BUILDING WALL LINE. OTHERWISE MUST COMPLY TO STRICTER REQUIREMENTS PER CALIFORNIA FIRE CODE.
10. LOCATION OF CONTAINER ENCLOSURE TO BE APPROVED BY THE CITY OF FARMERSVILLE.
11. FOR GATE DETAIL, SEE T-3
12. FOR CONCRETE APRON DETAIL, SEE T-6.

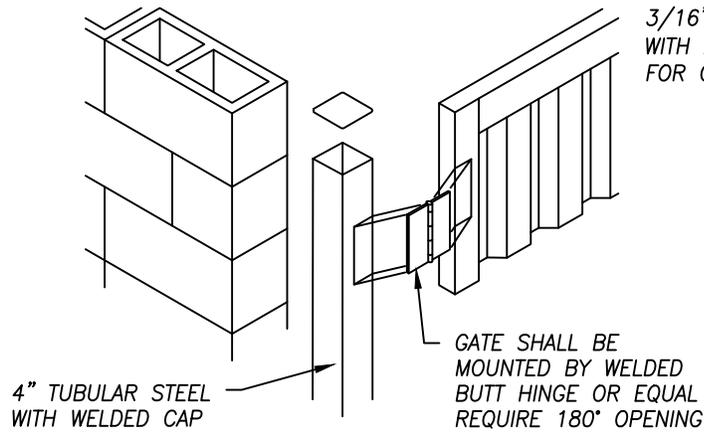


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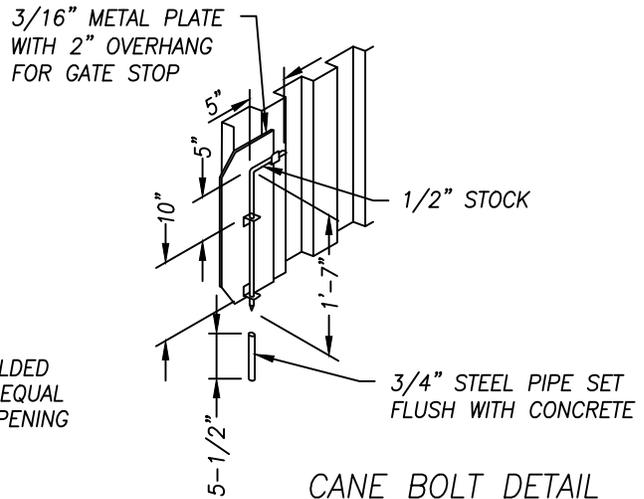
BLOCK TRASH ENCLOSURE

City Engineer _____ Date _____

STANDARD No. T-2



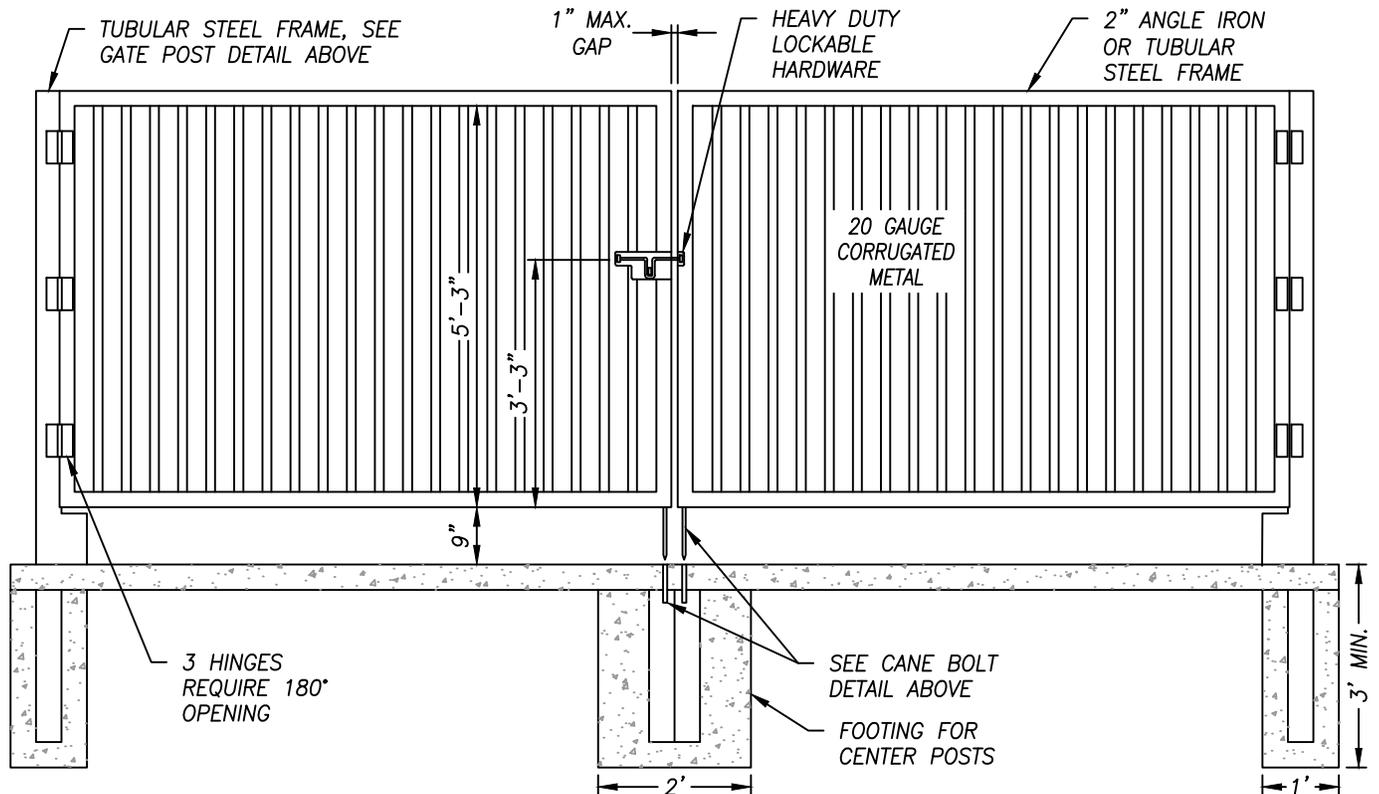
GATE POST DETAIL



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 AND OF FIRST QUALITY.
3. CONCRETE APRON SHALL INCLUDE TOE 3/4 INCH 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 TRASH ENCLOSURE CONCRETE APRON DETAIL T-6.
4. GATE POST SHALL ABUT TRASH ENCLOSURE.
5. SUBMIT DETAILS OF TRASH ENCLOSURES AND/OR TRASH CONTAINERS REQUIRED TO BE ACCESSIBLE UNDER THE CURRENT CALIFORNIA BUILDING CODE (CBC), OR MODIFY THIS DETAIL AS NECESSARY FOR REVIEW AND ACCEPTANCE FROM THE CITY ENGINEER.



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JOB NUMBER:
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TRASH ENCLOSURE
GATE

City Engineer

Date

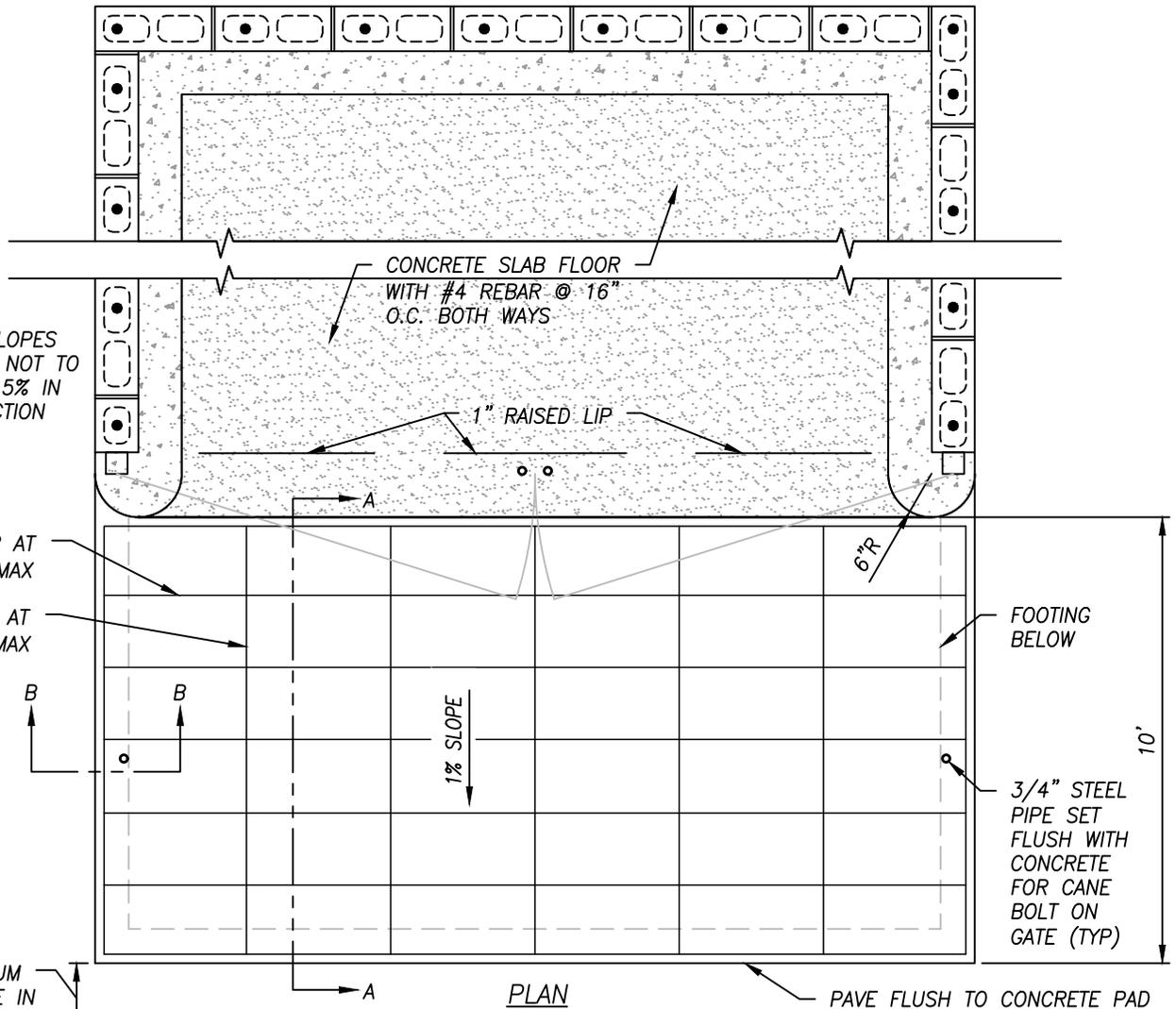
STANDARD
No.
T-3

*CROSS SLOPES
IN APRON NOT TO
EXCEED 1.5% IN
ANY DIRECTION

#4 REBAR AT
18" O.C. MAX

#4 REBAR AT
36" O.C. MAX

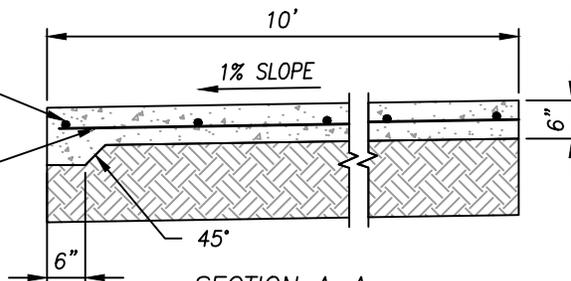
30' MINIMUM
CLEARANCE IN
FRONT OF
APRON FOR
DIRECT STAB
ACCESS



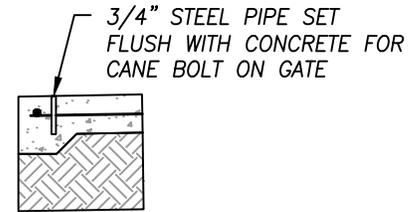
PLAN

#4 REBAR AT
18" O.C. MAX

#4 REBAR AT
36" O.C. MAX



SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAIN NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
2. REINFORCING REBAR SHALL BE ASTM A615 GRADE 40 MINIMUM DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
3. REINFORCING REBAR SHALL HAVE A MINIMUM OF 3 INCHES OF CLEAR COVERAGE FROM THE COMPACTED EARTH AND 2 INCHES FROM FINISH GRADE.
4. ALL REFUSE CONTAINER ENCLOSURES SHALL HAVE A CONCRETE APRON.
5. CONCRETE PAD SHALL BE PLACED ON MOIST BASE MATERIALS. 95% RELATIVE COMPACTION.
6. STEEL PIPE LOCATION IN CONCRETE PAD SHALL BE DETERMINED BY CANE BOLT LOCATION ON GATE.



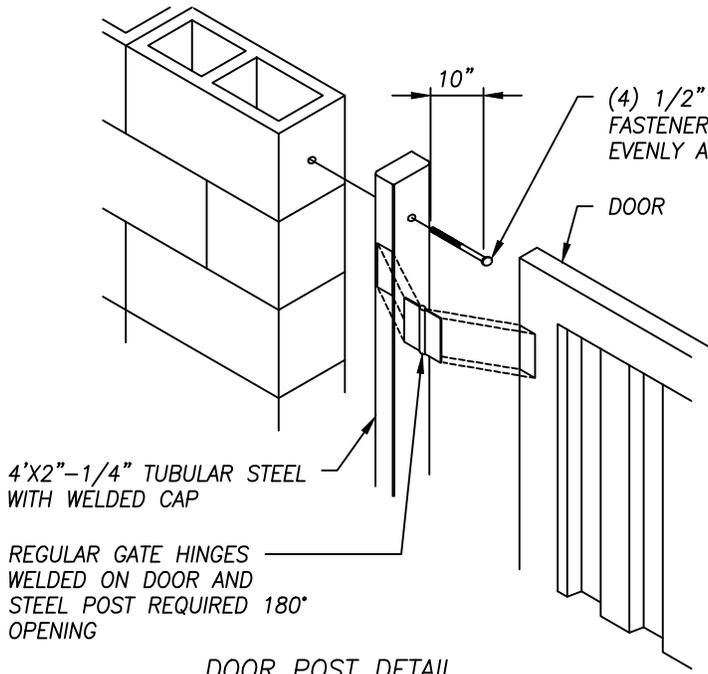
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JOB NUMBER:
220145

TRASH ENCLOSURE
CONCRETE APRON

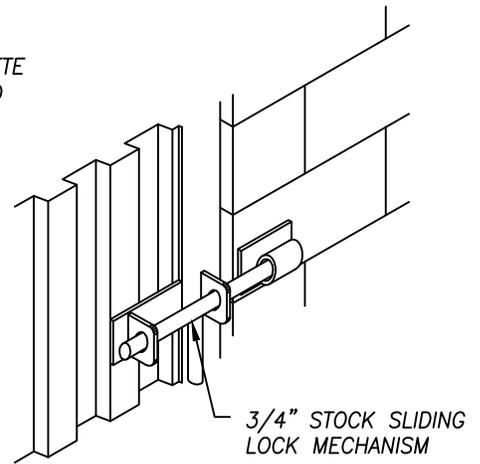
City Engineer

Date

STANDARD
No.
T-4



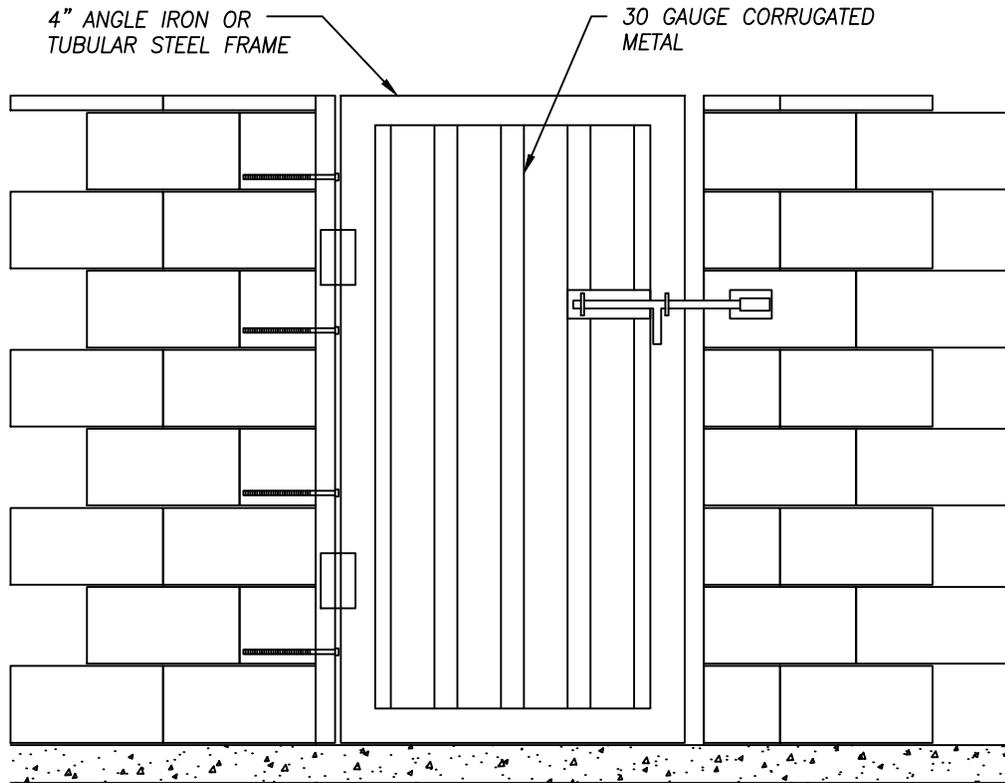
DOOR POST DETAIL



LOCKABLE HARDWARE DETAIL

NOTES:

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



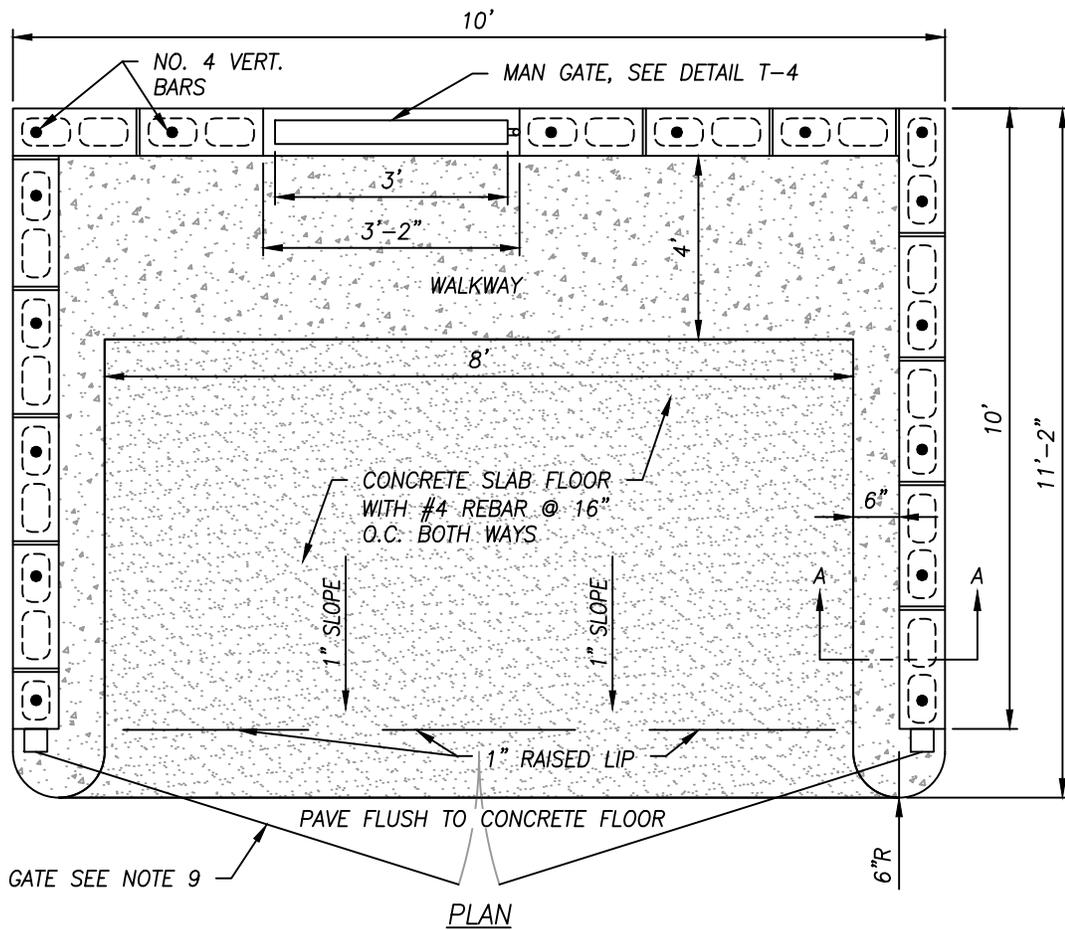
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REVISED:
NOVEMBER 2022
JOB NUMBER:
220145

TRASH ENCLOSURE
MAN GATE

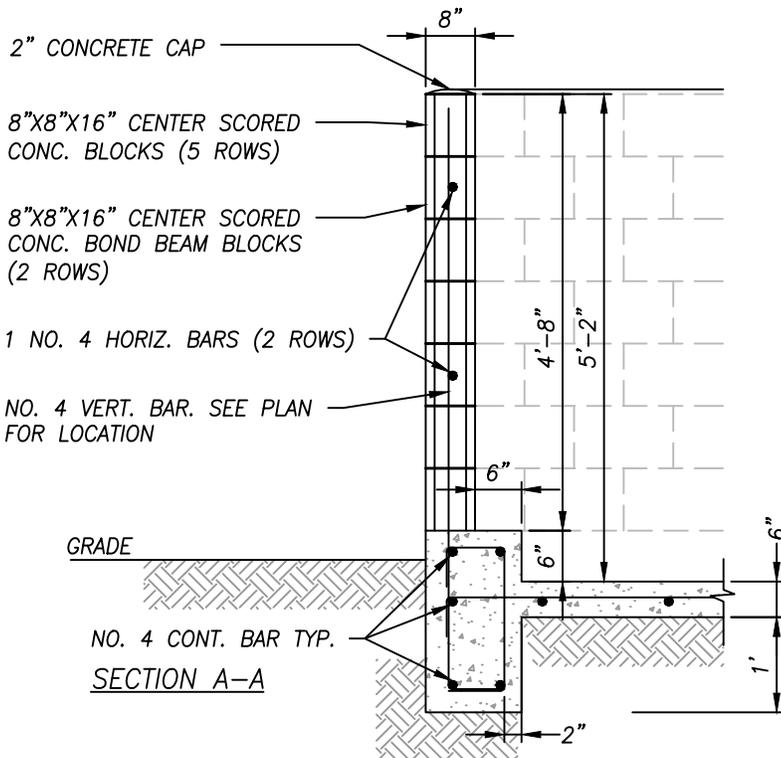
City Engineer

Date

STANDARD
No.
T-5



PLAN



NOTES:

1. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH COARSE GROUT.
2. CORNER BLOCK ENDS AND CENTER WEB SHALL BE CUT TO FORM CONTINUOUS BOND BEAM.
3. ALL HORIZONTAL AND VERTICAL JOINTS SHALL BE RAKED TO MATCH CENTER SCORED BLOCK.
4. CONCRETE BLOCK, MORTAR AND COARSE GROUT SHALL CONFORM WITH CURRENT CALIFORNIA BUILDING CODE (CBC) STANDARDS.
5. SLAB FLOOR AND FOOTING SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAIN NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
6. GROUND TO BE SLOPED AWAY FROM WALLS.
7. MULTIPLE BIN ENCLOSURES SHALL BE EVEN MULTIPLES OF 10 FEET IN WIDTH.
8. REINFORCE BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
9. TRASH ENCLOSURE SHALL BE A MINIMUM 5 FEET FROM ANY BUILDING WALL LINE. OTHERWISE MUST COMPLY TO STRICTER REQUIREMENTS PER CALIFORNIA FIRE CODE.
10. LOCATION OF CONTAINER ENCLOSURE TO BE APPROVED BY THE CITY OF FARMERSVILLE.
11. FOR GATE DETAIL, SEE T-3
12. FOR CONCRETE APRON DETAIL, SEE T-6.



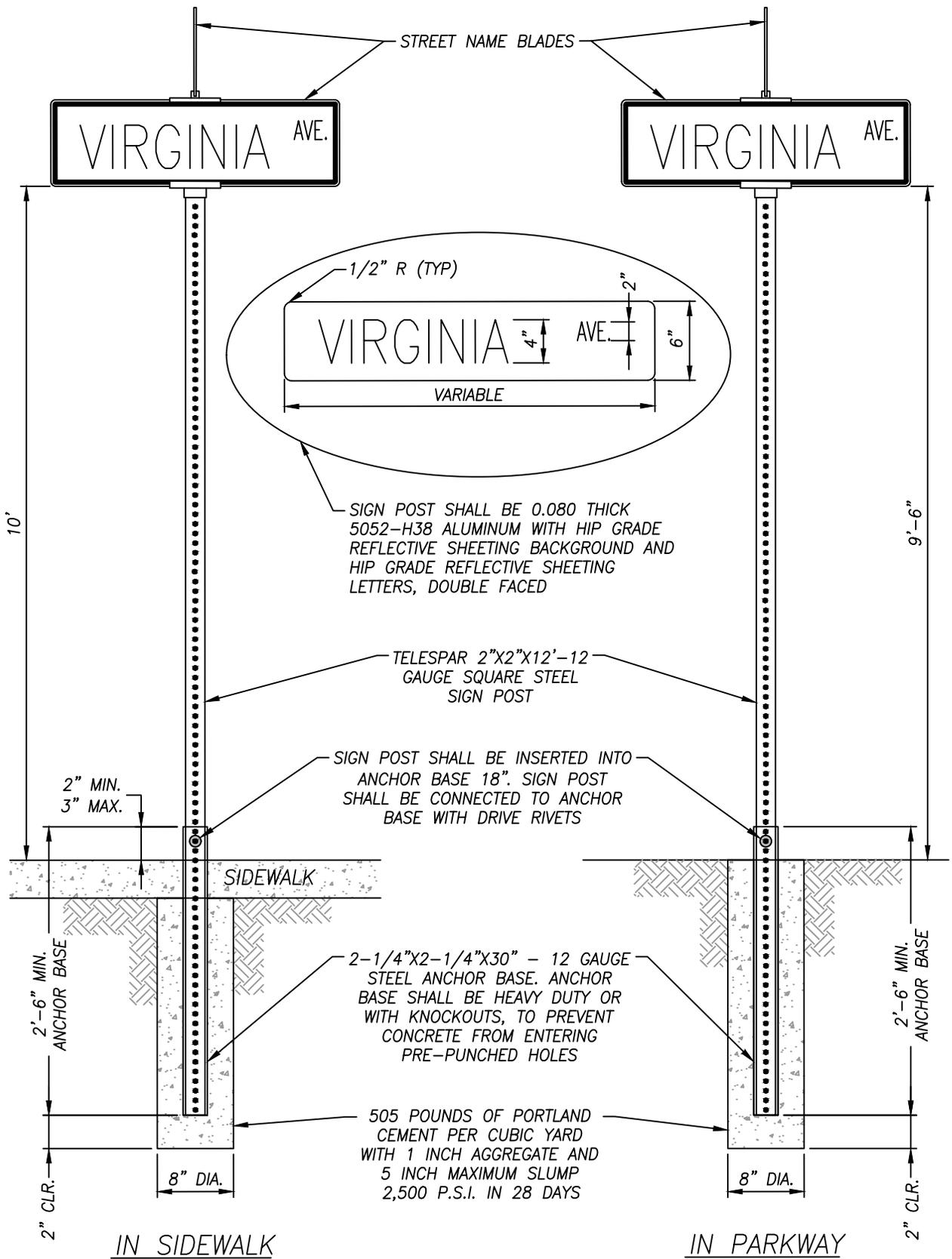
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JOB NUMBER:
220145

BLOCK TRASH
ENCLOSURE WITH
MAN GATE

City Engineer

Date

STANDARD
No.
T-6



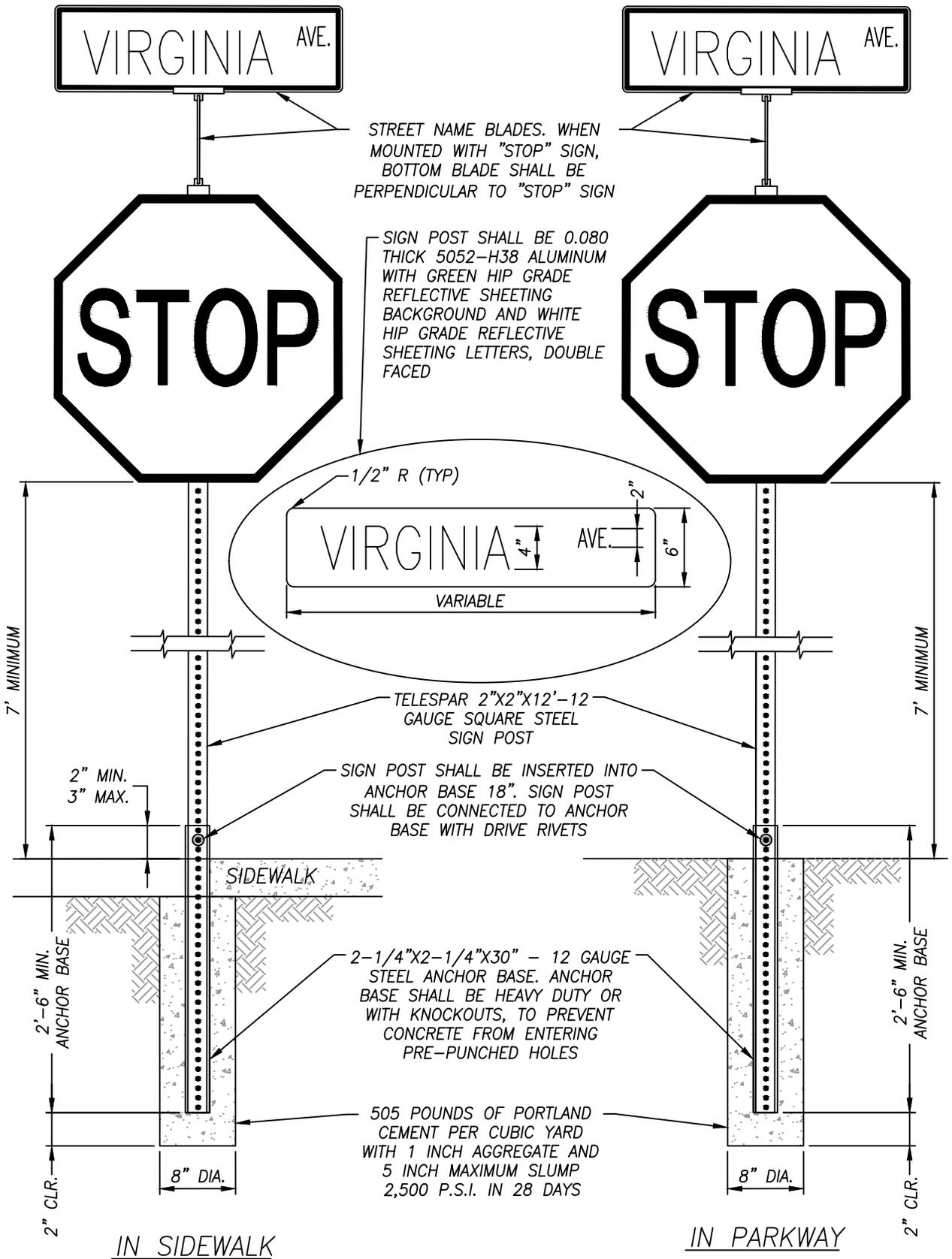
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STREET NAME SIGN INSTALLATION

City Engineer

Date

STANDARD
No.
TS-1



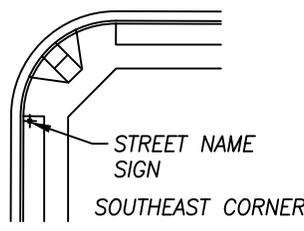
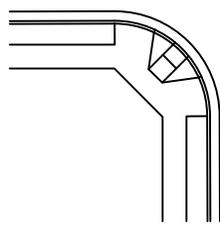
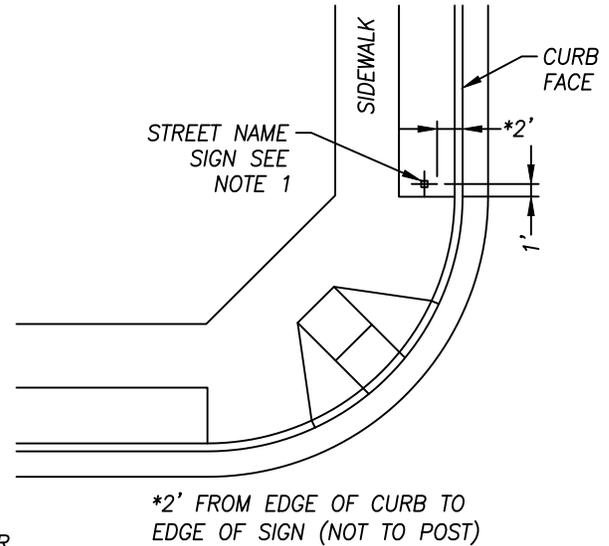
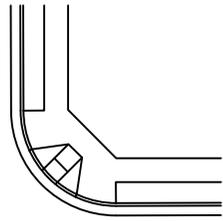
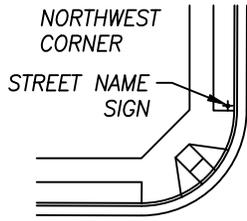
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JOB NUMBER:
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STREET NAME SIGN
INSTALLATION WITH
"STOP" (R1) SIGN

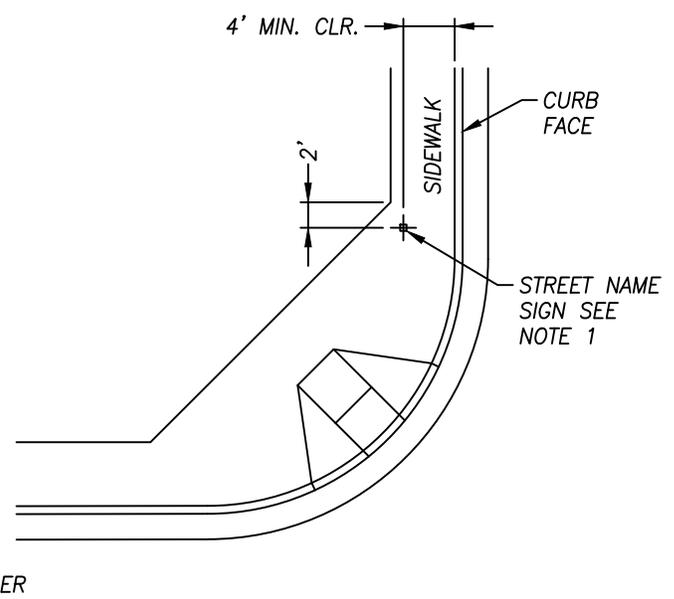
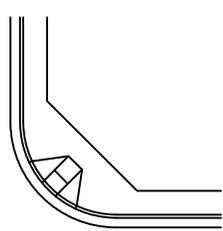
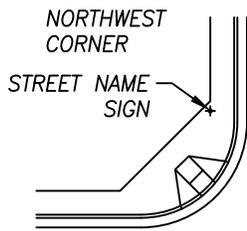
City Engineer

Date

STANDARD
No.
TS-2



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 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 6 FEET-12 FEET FROM EDGE OF PAVEMENT AND/OR AS REQUIRED PER THE CA MUTCD.

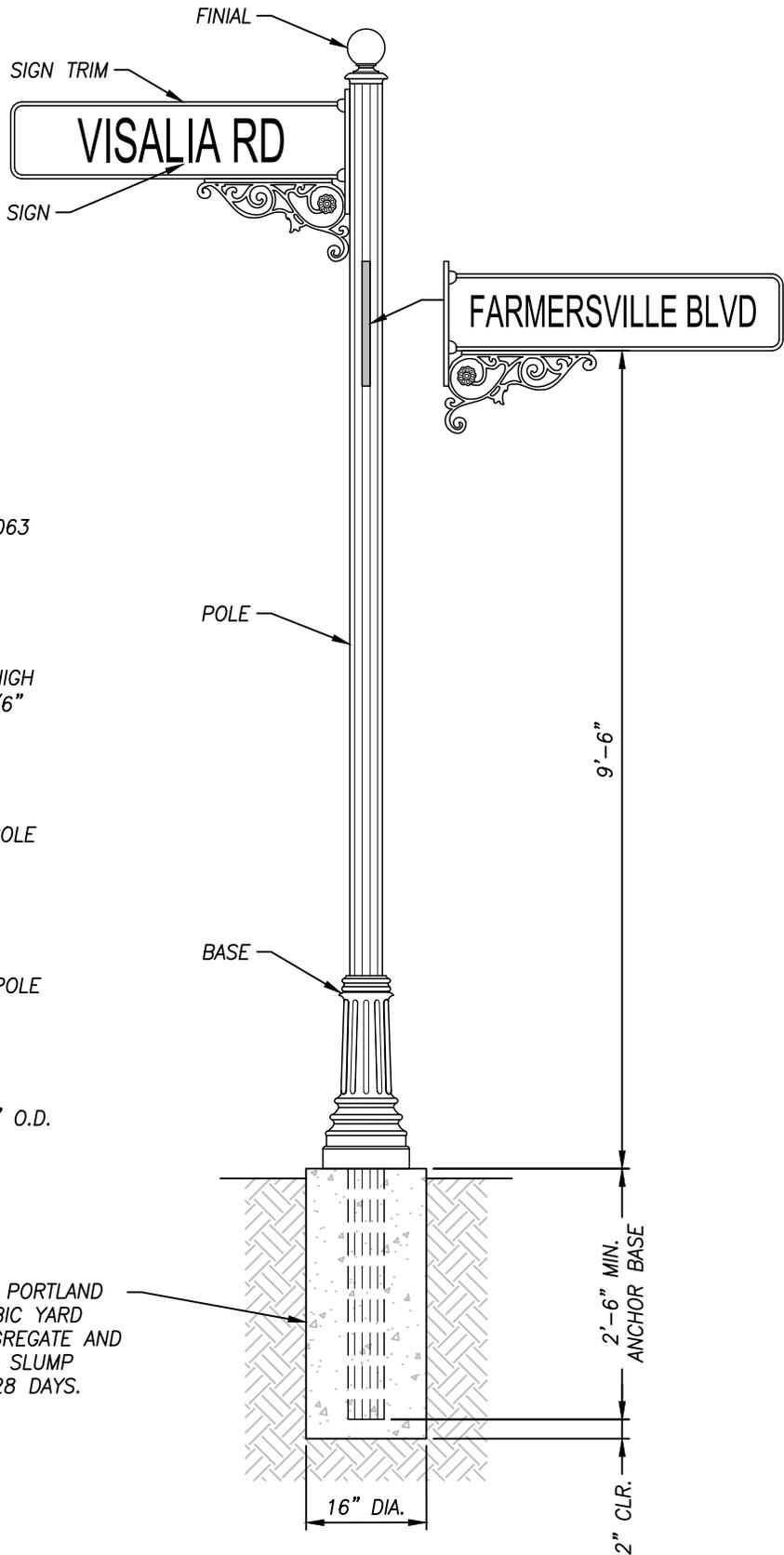


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STREET NAME SIGN
LOCATION (LOCAL
STREETS)

City Engineer _____ Date _____

STANDARD
No.
TS-3



MANUFACTURER:
SIGNATURE STREETSCAPES

SIGN TRIM:
CT-9B3 CLASSIC SIGN TRIM
SIGN SIZE: 36" x 9"
FITS SIGN THICKNESS: 0.080
EXTRUDED ALUMINUM FRAME: ALLOY 6063
CAST ALUMINUM BRACKET: ALLOY 356
SCROLL OPTION: BELLFLOWER
COLOR: BLACK POWDER COAT FINISH

SIGN:
SIGN SIZE: 36" x 9" DOUBLE-SIDED HIGH
INTENSITY REFLECTIVE STREET SIGN w/6"
LETTERS
COLOR: GREEN w/WHITE LETTERING

POLE:
POST PROFILE: 4" DIAMETER FLUTED POLE
EXTRUDED: ALUMINUM ALLOY 6063
WALL THICKNESS: 0.125"
COLOR: BLACK POWDER COAT FINISH

FINIAL:
FN-0204 GLOBE FINIAL FOR 4" O.D. POLE
CAST ALUMINUM ALLOY 356
COLOR: BLACK POWDER COAT FINISH

BASE:
BS-04B COLONIAL SPLIT BASE FOR 4" O.D.
POLE CAST ALUMINUM ALLOY 356
COLOR: BLACK POWDER COAT FINISH

505 POUNDS OF PORTLAND
CEMENT PER CUBIC YARD
WITH 1 INCH AGGREGATE AND
5 INCH MAXIMUM SLUMP
2,500 P.S.I. IN 28 DAYS.



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DOWNTOWN STREET
NAME SIGN
INSTALLATION

City Engineer _____ Date _____

STANDARD
No.
TS-4

MANUFACTURER:
SIGNATURE STREETSCAPES

SIGN TRIM:
30" X 30" STOP SIGN: SF-SS03
HIGH INTENSITY REFLECTIVE STANDARD
HOLE PUNCH
2" WIDE EXTRUDED ALUMINUM ALLOY 6063
COLOR: BLACK POWDER COAT FINISH

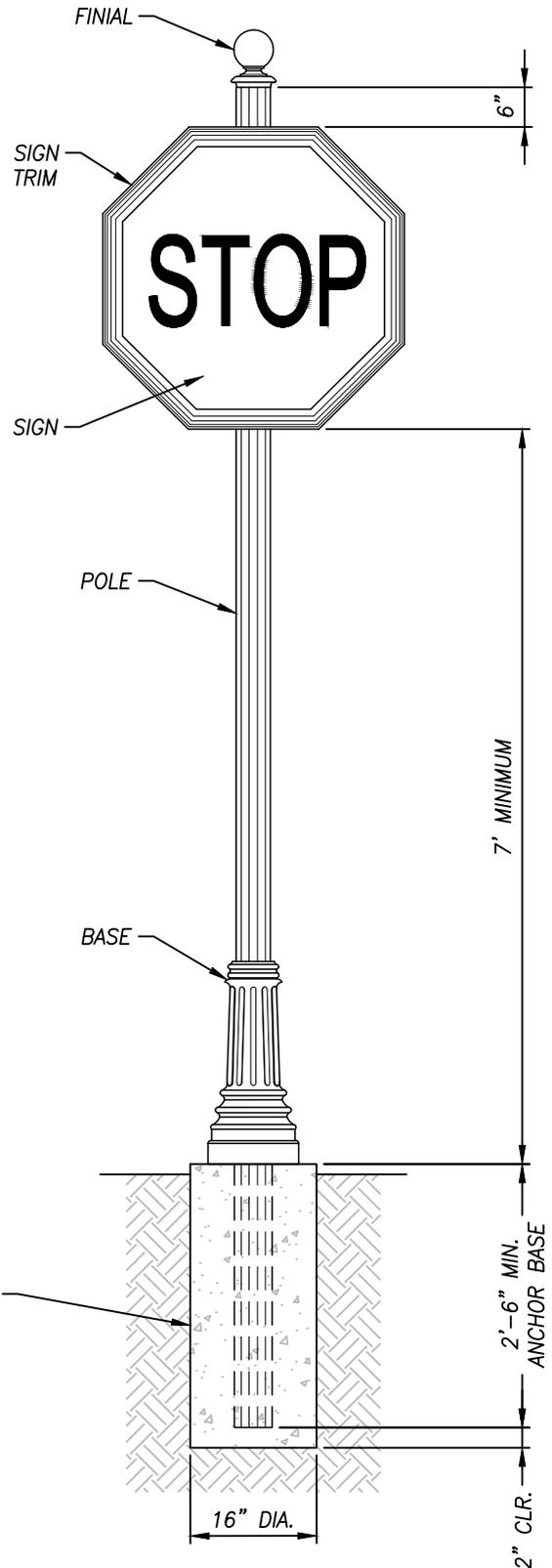
SIGN:
SIGN SIZE: 30" STOP SIGN R1-1-30
HIGH INTENSITY REFLECTIVE STANDARD
HOLE PUNCH
THICKNESS: 0.080 ALUMINUM

POLE:
POST PROFILE: 4" DIAMETER FLUTED POLE
EXTRUDED: ALUMINUM ALLOY 6063
WALL THICKNESS: 0.125"
COLOR: BLACK POWDER COAT FINISH

FINIAL:
FN-0204 GLOBE FINIAL FOR 4" O.D. POLE
CAST ALUMINUM ALLOY 356
COLOR: BLACK POWDER COAT FINISH

BASE:
BS-04B COLONIAL SPLIT BASE FOR 4" O.D.
POLE CAST ALUMINUM ALLOY 356
COLOR: BLACK POWDER COAT FINISH

505 POUNDS OF PORTLAND
CEMENT PER CUBIC YARD
WITH 1 INCH AGGREGATE AND
5 INCH MAXIMUM SLUMP
2,500 P.S.I. IN 28 DAYS.



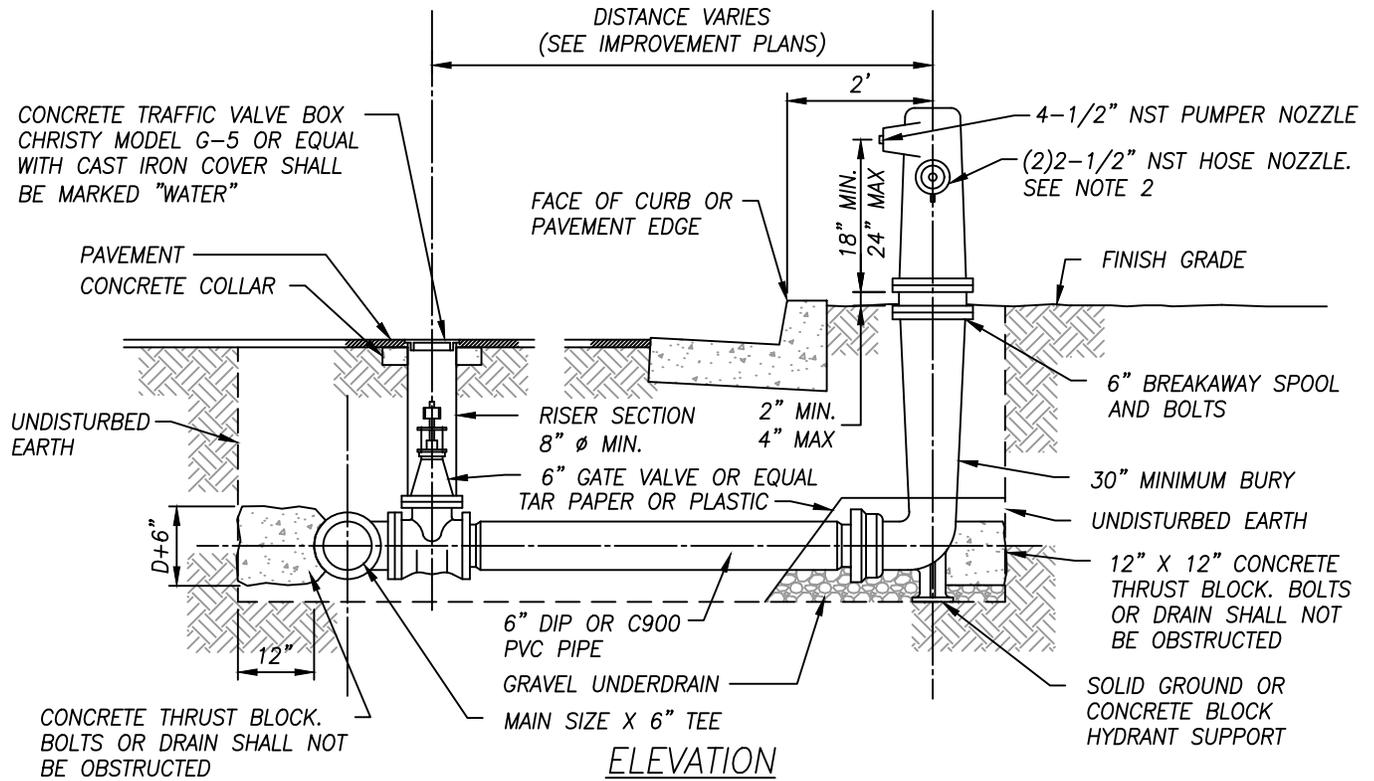
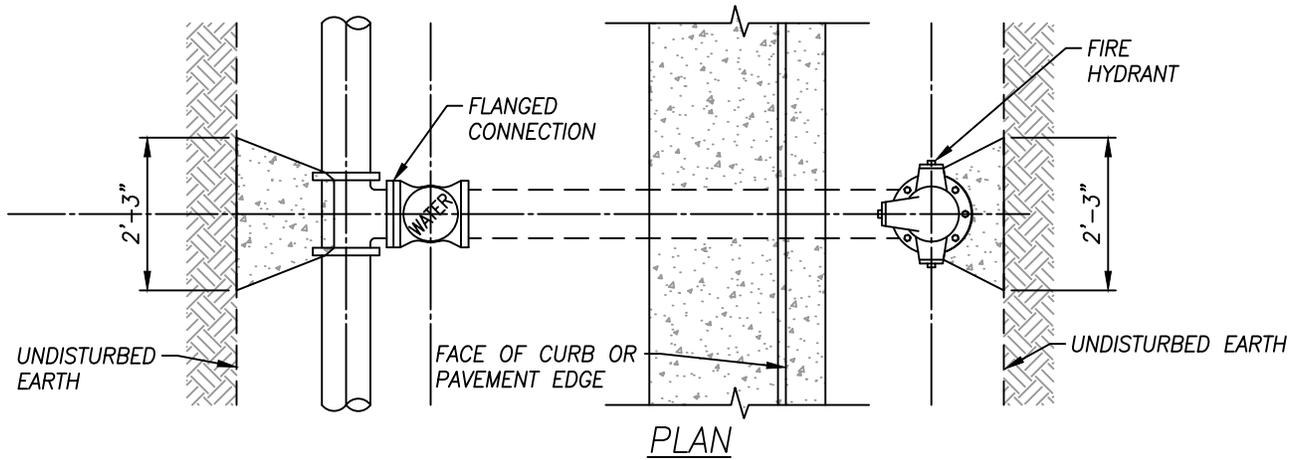
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JOB NUMBER:
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DOWNTOWN "STOP"
(R1) SIGN
INSTALLATION

City Engineer

Date

STANDARD
No.
TS-5



NOTES:

1. TRADE NAMES ARE SPECIFIED AS A STANDARD OF ACCEPTABLE QUALITY; EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY OF FARMERSVILLE.
2. HYDRANTS: WATEROUS PACER WB 67 X MJ 2-1/2 INCH NOZZLES, 4-1/2 INCH PUMPER NOZZLE WITH MJ FITTING TO PIPE.
3. NOZZLES TO BE LOCATED NOT LESS THAN 18 INCHES FROM FINISH GRADE TO CENTERLINE, AND HYDRANT TO BE 12 INCHES FROM BACK OF CURB TO FACE OF BARREL.
4. 24" x 24" x 12" THICK CONCRETE PAD TO BE INSTALLED AROUND HYDRANT BURY.
5. FIRE HYDRANT TO BE PAINTED SAFETY YELLOW NUMBER 80 (2-COATS).
6. GATE VALVES TO BE "RESILIENT SEAL" TYPE FLANGE TO MAIN LINE. SEE DETAIL W-2.
7. HYDRANT SHALL HAVE A DRY BARREL.
8. HYDRANT SHALL BE EQUIPPED WITH A "BREAKAWAY" TYPE SPOOL, AND "BREAKAWAY" BOLTS BETWEEN HYDRANT AND BURY.
9. A BLUE TWO-WAY REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED 1 FOOT OFF OF CENTERLINE OF THE STREET, SAME SIDE AS AND ALIGNED WITH HYDRANT.
10. TOP AND FACE OF CURB SHALL BE PAINTED RED 20 FEET TOTAL LENGTH CENTERED ON HYDRANT.
11. FIRE HYDRANT TO BE SET 10 FT. FROM CURB RETURNS.
12. 3 FOOT CIRCUMFERENCE CLEARANCE MUST BE MAINTAINED AROUND FIRE HYDRANT PER FIRE CODE.
13. INSTALL CLOW BREAK OFF CHECK VALVE 400A OR EQUAL AND WRAP IN 8 MIL.
14. SINGLE STAND 10 GAUGE COPPER WIRE TO BE LAID ALONG TOP OF NONMETALLIC PIPE AND HELD IN PLACE AT 5 FOOT INTERVALS BY DUCT OR PLUMBERS TAPE AND CONNECTED TO ALL VALVES AND FITTINGS.



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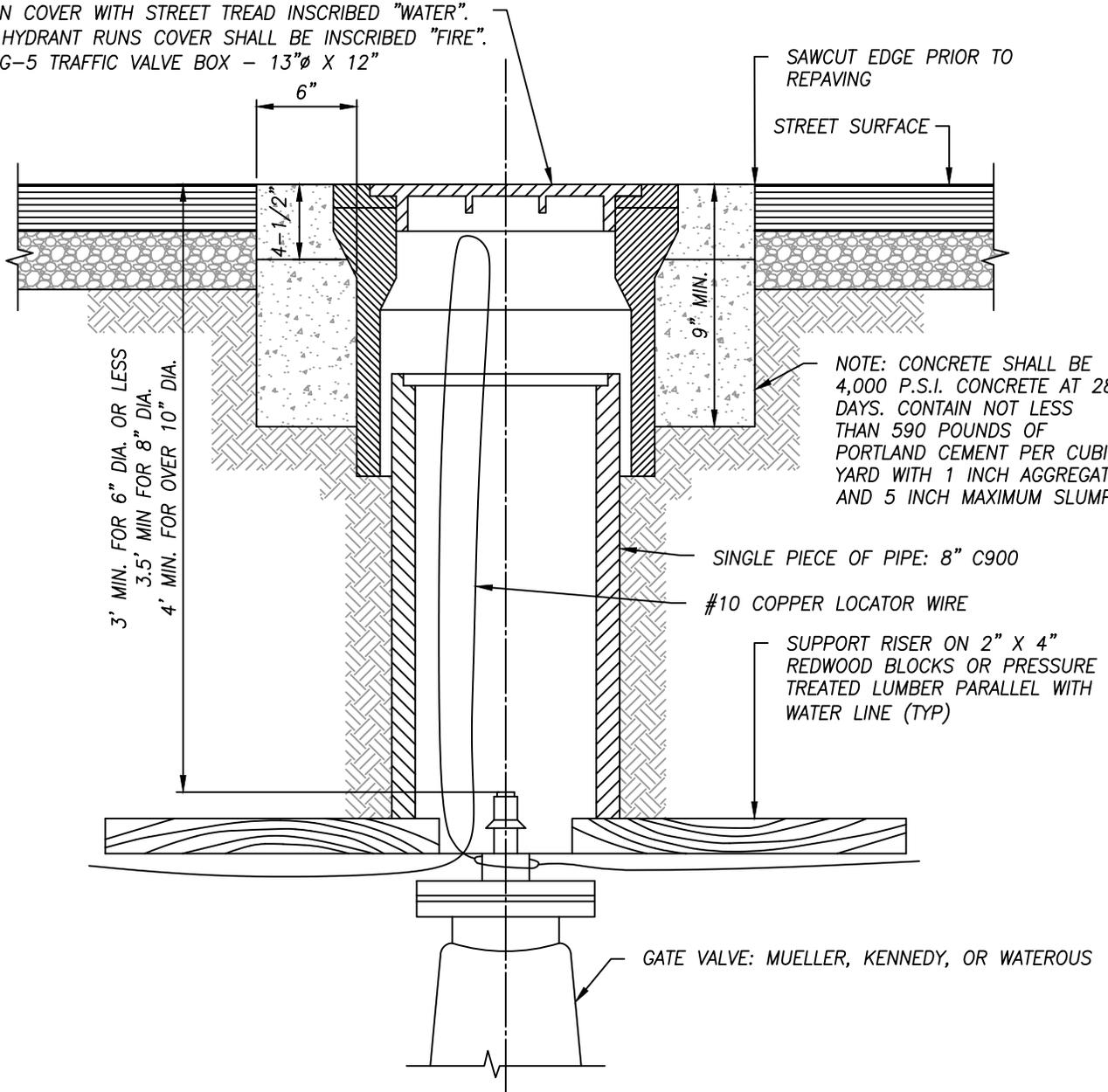
**FIRE HYDRANT
ASSEMBLY**

City Engineer

Date

STANDARD
No.
W-1

CAST IRON COVER WITH STREET TREAD INSCRIBED "WATER".
 ON FIRE HYDRANT RUNS COVER SHALL BE INSCRIBED "FIRE".
 CHRISTY G-5 TRAFFIC VALVE BOX - 13"Ø X 12"



NOTES:

1. FULL DEPTH COLLAR SHALL BE INSTALLED IN DIRT AREAS ONLY.
2. VALVE CASING MAY BE PVC PIPE, SDR 35, OR C900.
3. VALVE FITTINGS SHALL BE FLANGED FITTINGS AS SPECIFIED ON THE PLANS.
4. NOMINAL DIAMETER OF VALVE SHALL EQUAL NOMINAL DIAMETER OF PIPE.
5. VALVE BOX SHALL BE CLEANED AND THE OPERATOR NUT VISIBLE AND OPERATIONAL PRIOR TO ACCEPTANCE OF WORK.
6. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY. EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
7. IF DISTANCE FROM THE VALVE BOX COVER TO THE OPERATING NUT EXCEEDS 40 INCHES AND APPROVED EXTENSION MAST SHALL BE INSTALLED.
8. SINGLE STRAND 10 GAUGE COPPER WIRE TO BE LAID ALONG TOP OF NON-METALLIC PIPE AND HELD IN PLACE AT 5 FOOT INTERVALS BY DUCT OR PLUMBERS TAPE AND CONNECTED TO ALL VALVES AND FITTINGS.
9. STAINLESS STEEL MECHANICAL JOINTS TAPPING SLEEVE MAY BE USED WITH EXISTING INSTALLATION AFTER APPROVAL BY THE CITY ENGINEER.
10. MECHANICAL FLANGE JOINTS TO BE USED ON ALL FITTINGS.
11. ALL VALVES SHALL BE AWWA APPROVED "RESILIENT WEDGE" FLANGE X FLANGE.



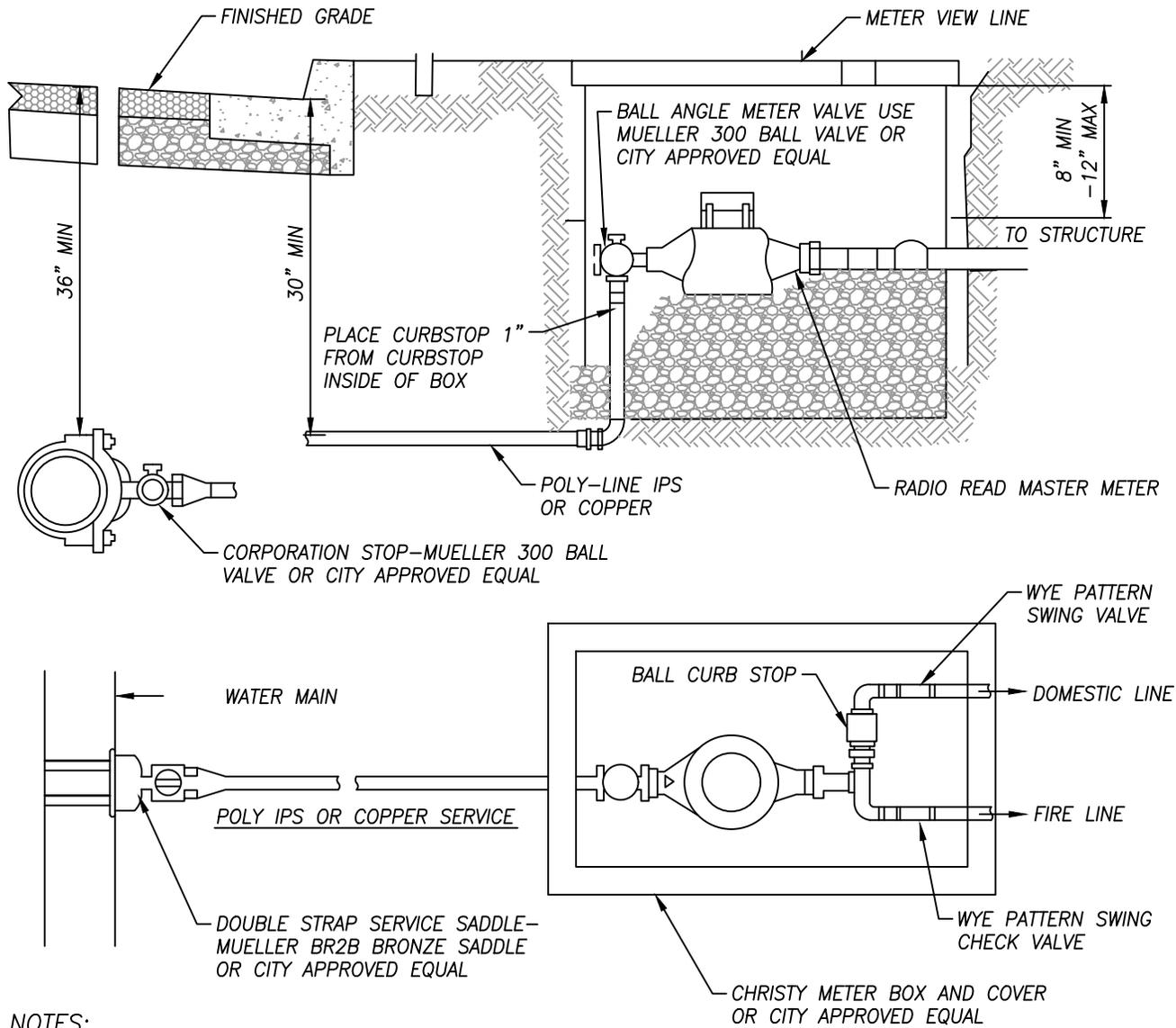
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**GATE VALVE &
 COVER**

City Engineer

Date

STANDARD
 No.
 W-2



NOTES:

1. 1" SERVICE SHALL BE COPPER TYPE "K" SOFI.
2. SPLICES IN THE SERVICE LINE ARE TO BE AVOIDED, BUT WHERE APPROVED, THEY SHALL BE MADE USING CTS GRIP-TYPE COMPRESSION COUPLING.
3. ALL FITTINGS ARE COPPER OR BRASS AND SHALL BE MUELLER 110 (CONDUCTIVE TYPE) COMPRESSION CONNECTIONS OR CITY APPROVED EQUAL.
4. WHEN BACKFLOW PREVENTER IS REDUCED, SEE DETAIL W-7.
5. ROCK BOTTOM OF BOX WITH 3 INCHES MINIMUM OF 3/4 INCH MINUS CRUSHED ROCK.
6. PACK JOINT FITTINGS ARE NOT ACCEPTABLE.
7. METER BOXES PLACED IN CONCRETE SHALL BE CHRISTY MODEL N-36, STEEL-36 W/ PROBE HOLE.
8. METER BOXES PLACES IN LANDSCAPE AREAS SHALL BE CHRISTY MODEL N-36, FIBERUTE-36 WITH PROBE HOLE.
9. FOR 1 INCH WATER SERVICE, METER SHALL BE MASTER METER BOTTOM LOAD MULTI-JET METER.
10. NO WATER SERVICE SHALL BE INSTALLED IN A DRIVE APPROACH OR WING



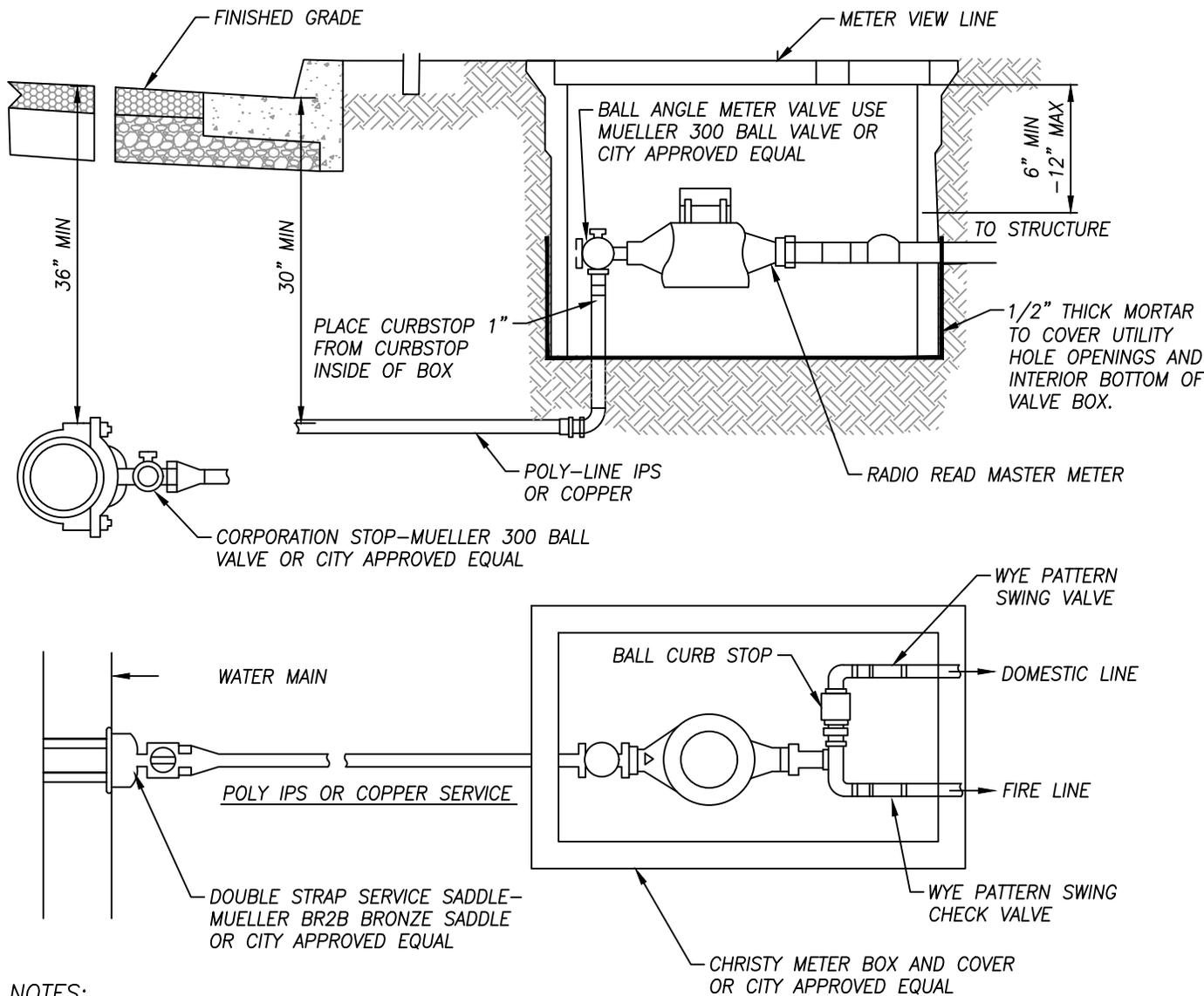
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1" DUAL WATER SERVICE

City Engineer

Date

STANDARD No. W-3



NOTES:

1. 1 1/2" AND 2" SERVICE SHALL BE COPPER TYPE "K" SOFI.
2. SPLICES IN THE SERVICE LINE ARE TO BE AVOIDED, BUT WHERE APPROVED, THEY SHALL BE MADE USING CTS GRIP-TYPE COMPRESSION COUPLING.
3. ALL FITTINGS ARE COPPER OR BRASS AND SHALL BE MUELLER 110 (CONDUCTIVE TYPE) COMPRESSION CONNECTIONS OR CITY APPROVED EQUAL.
4. WHEN BACKFLOW PREVENTER IS REDUCED, SEE DETAIL W-7.
5. ROCK BOTTOM OF BOX WITH 3 INCHES MINIMUM OF 3/4 INCH MINUS CRUSHED ROCK.
6. PACK JOINT FITTINGS ARE NOT ACCEPTABLE.
7. METER BOXES PLACED IN CONCRETE SHALL BE CHRISTY MODEL N-40, STEEL-40 W/ PROBE HOLE.
8. METER BOXES PLACES IN LANDSCAPE AREAS SHALL BE CHRISTY MODEL N-40, FIBERUTE-40 WITH PROBE HOLE.
9. FOR 1 1/2 INCH AND 2 INCH WATER SERVICE, METER SHALL BE MASTER METER BOTTOM LOAD MULTI-JET METER.



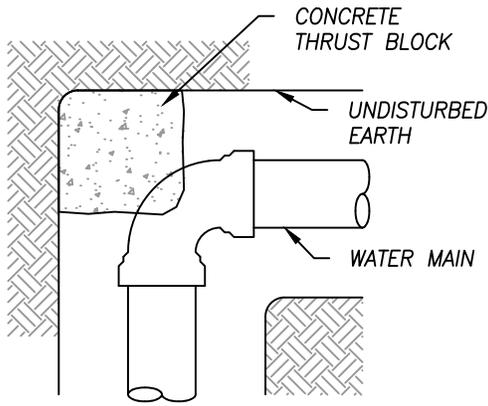
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1 1/2" & 2"
 DUAL WATER
 SERVICE

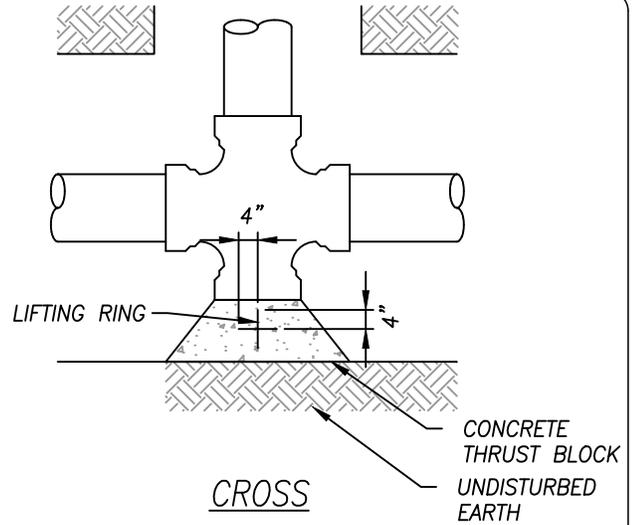
City Engineer

Date

STANDARD
 No.
 W-4



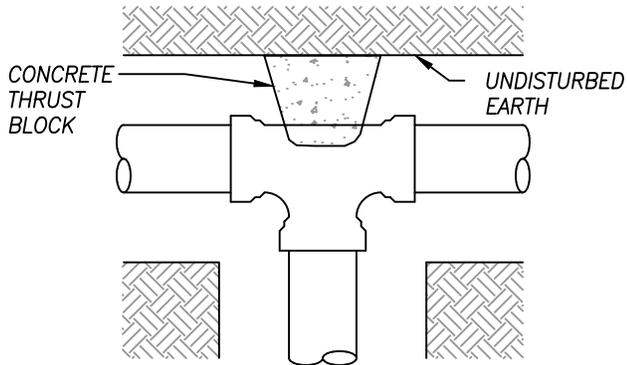
BEND



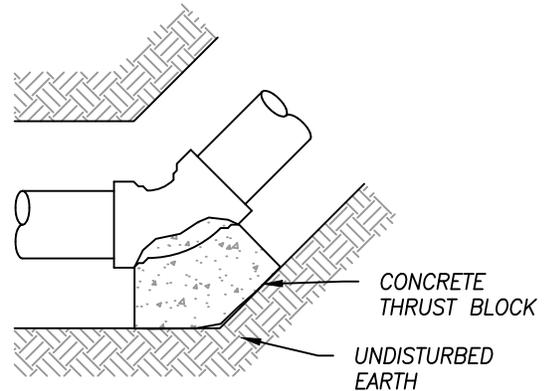
CROSS

NOTES:

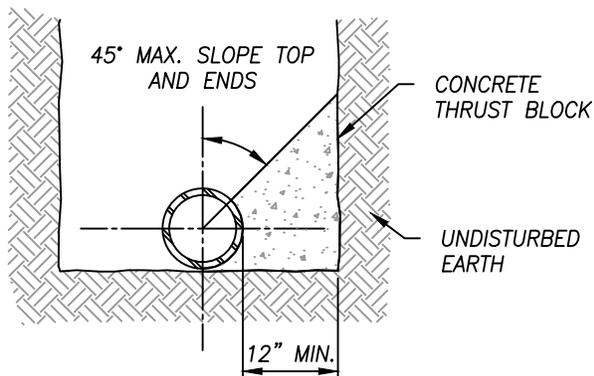
1. 6 INCH THROUGH 12 INCH THRUST.
2. POUR CONCRETE THRUST BLOCKS AGAINST UNDISTURBED EARTH EXCAVATION, BLOCKS ON ALL BRANCHES SHALL HAVE LIFTING RING, USE NO. 5 REBAR TO FABRICATE RING AT CENTER OF BLOCK.



TEE



ANGLE BEND



TRENCH SECTION

NOTES:

1. ENGINEER TO COMPUTE BEARING AREAS FOR CASES NOT COVERED HEREIN.
2. CONCRETE FOR THRUST BLOCKS SHALL BE 4,000 P.S.I. CONCRETE AT 28 DAYS. CONTAIN NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE AND 5 INCH MAXIMUM SLUMP.
3. MINIMUM THICKNESS OF THRUST BLOCK TO BE 6 INCHES.
4. THRUST BLOCK TO BE POURED AGAINST UNDISTURBED SOIL.
5. THRUST BLOCKS SHALL BE POURED A MINIMUM OF 5 DAYS BEFORE PRESSURIZING THE SYSTEM.
6. ALL PIPE IN CONTACT WITH CONCRETE SHALL BE WRAPPED WITH PLASTIC TO A THICKNESS OF 20 MIL.

SCHEDULE (MINIMUM SQUARE FEET)

PIPE SIZE	45° BEND	TEE	90° BEND	DEAD END
6"	3.0	4.0	5.5	4.0
8"	5.0	6.5	9.5	6.5
10"	8.5	11.0	13.5	11.0
12"	12.0	15.0	22.0	15.5



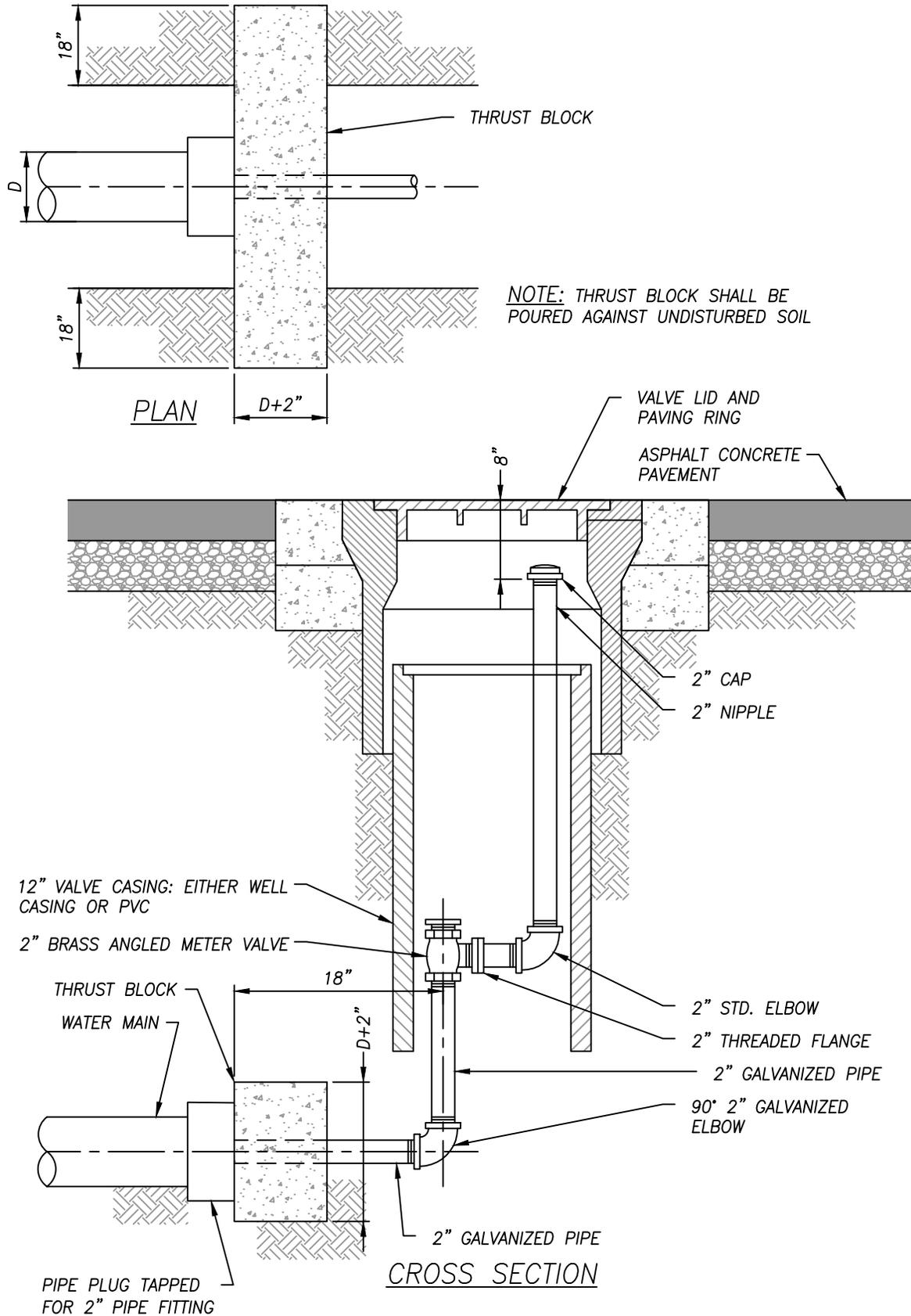
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CONCRETE THRUST
BLOCKS

City Engineer

Date

STANDARD
No.
W-5



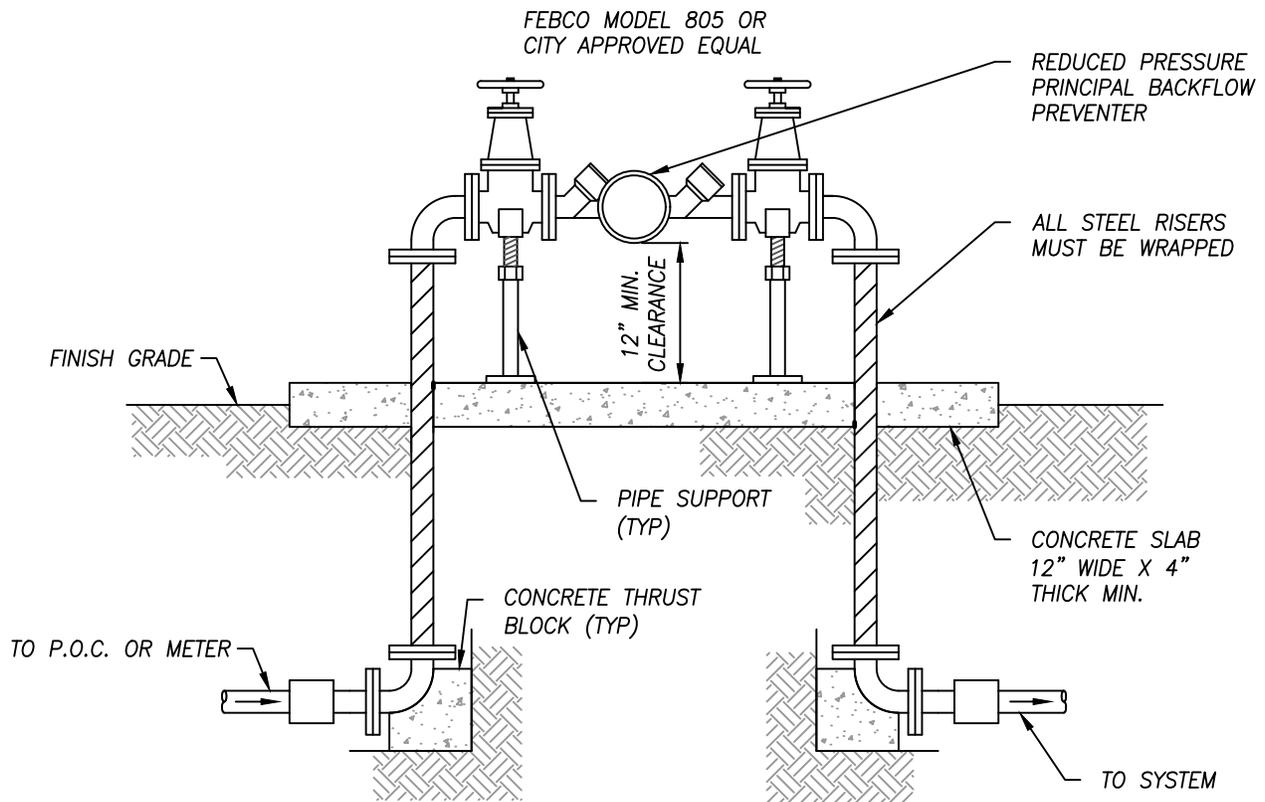
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WATER BLOW-OFF

City Engineer

Date

STANDARD
No.
W-6



NOTES:

1. DOUBLE CHECK VALVE ASSEMBLIES IN SIZES 3/4 INCH THRU 4 INCHES SHALL CONSIST OF TWO BRASS, INTERNALLY SPRING-LOADED CHECK VALVES, TWO GATE VALVES AND FOUR TEST COCKS.
2. DOUBLE CHECK VALVE ASSEMBLIES IN SIZES 6 INCHES, 8 INCHES AND 10 INCHES SHALL CONSIST OF TWO INTERNALLY SPRING-LOADED CHECK VALVES WITH CAST IRON BODIES AND BRONZE INTERNAL PARTS, TWO GATE VALVES AND FOUR TEST COCKS.
3. INTERNAL PARTS OF ALL CHECK VALVES SHALL BE EASILY ACCESSIBLE FROM THE TOP OF THE DEVICE WITHOUT REMOVING THE CHECK VALVE BODY FROM THE LINE. THE ASSEMBLY SHALL BE RATED 150 P.S.I. WORKING PRESSURE (300 P.S.I. HYDROSTATIC TEST) AND SHALL WITHSTAND TEMPERATURES OF 32°F TO 140°F.
4. THE ASSEMBLY MUST MEET ALL OF THE REQUIREMENTS OF STATE AND LOCAL REGULATORY AGENCIES.
5. ASSEMBLY SHALL BE TESTED AND APPROVED BY CERTIFIED TECHNICIAN PRIOR TO REQUEST FOR FINAL INSPECTION.
6. ASSEMBLY SHALL BE INSTALLED WHERE IT WILL BE ACCESSIBLE FOR PERIODIC (ANNUAL TESTS BY A STATE LICENSED TECHNICIAN ARE THE OWNER'S RESPONSIBILITY).
7. DOUBLE CHECK VALVE ASSEMBLIES ARE FOR DOMESTIC, NON-TOXIC APPLICATIONS ONLY. THE PRESENCE OF TOXIC MATERIALS NECESSITATES THE REQUIREMENT FOR A REDUCED PRESSURE (RP) DEVICE, APPROVED BY THE CITY.
8. CHECK VALVES IN POPULATED AREAS SHALL BE CAGED WITH LOCKS.



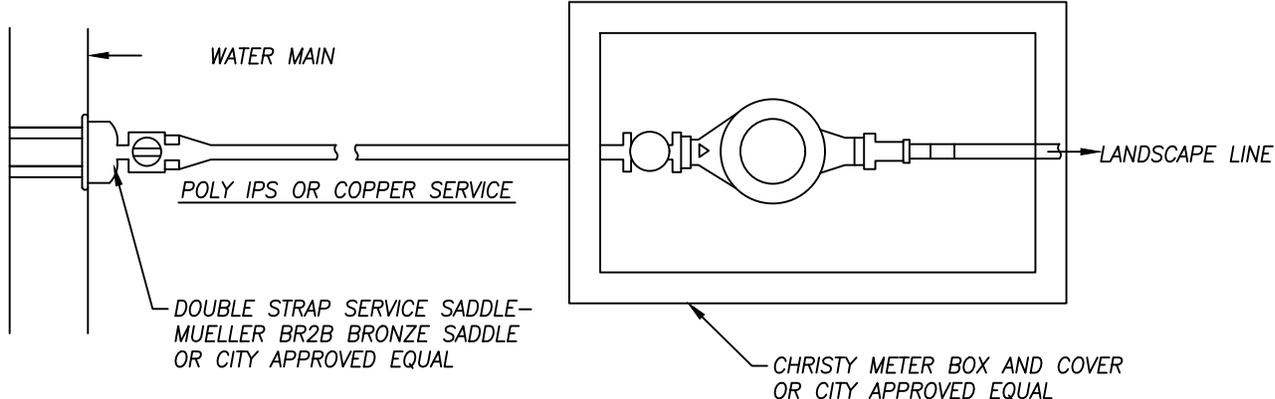
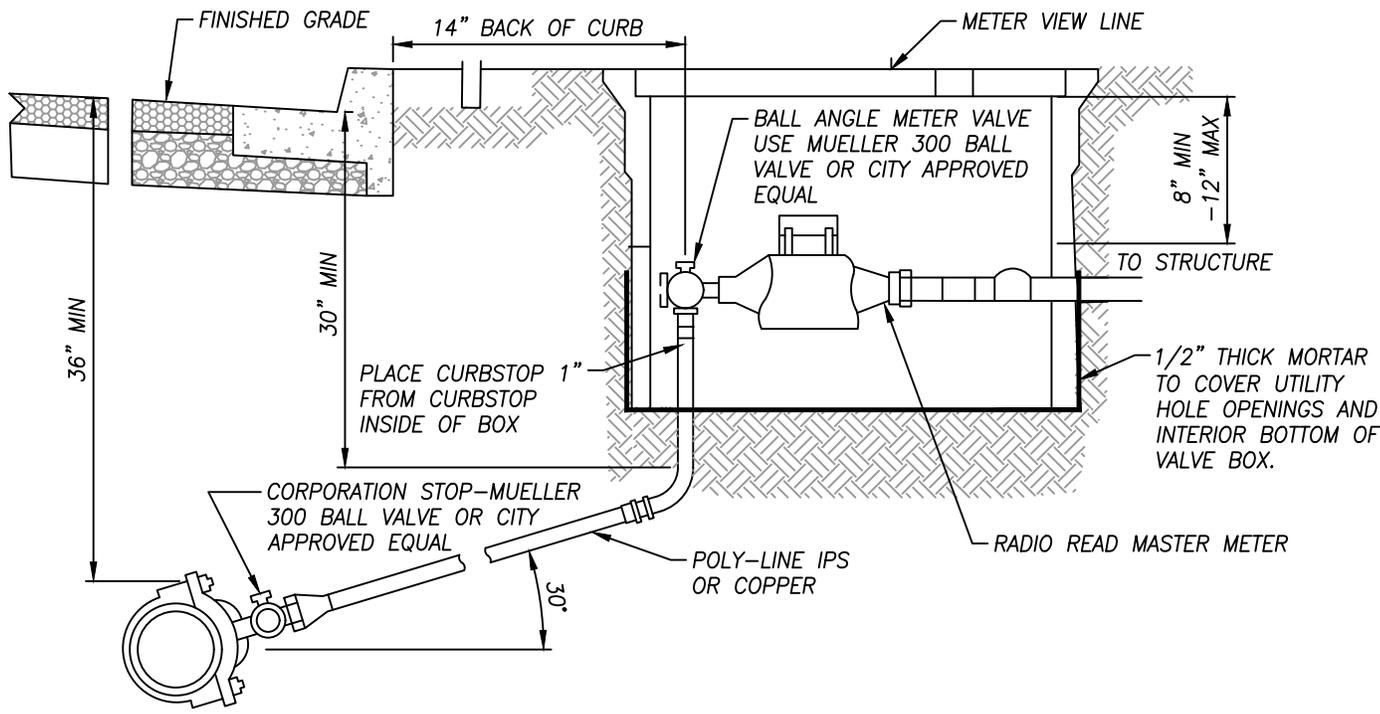
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BACKFLOW PREVENTION
ASSEMBLY

City Engineer

Date

STANDARD
No.
W-7



NOTES:

1. 1" SERVICE SHALL BE COPPER TYPE "K" SOFI.
2. SPLICES IN THE SERVICE LINE ARE TO BE AVOIDED, BUT WHERE APPROVED, THEY SHALL BE MADE USING CTS GRIP-TYPE COMPRESSION COUPLING.
3. ALL FITTINGS ARE COPPER OR BRASS AND SHALL BE MUELLER 110 (CONDUCTIVE TYPE) COMPRESSION CONNECTIONS OR CITY APPROVED EQUAL.
4. WHEN BACKFLOW PREVENTER IS REDUCED, SEE DETAIL W-7.
5. ROCK BOTTOM OF BOX WITH 3 INCHES MINIMUM OF 3/4 INCH MINUS CRUSHED ROCK.
6. PACK JOINT FITTINGS ARE NOT ACCEPTABLE.
7. METER BOXES PLACED IN CONCRETE SHALL BE CHRISTY MODEL N-36, STEEL-36 W/ PROBE HOLE.
8. METER BOXES PLACES IN LANDSCAPE AREAS SHALL BE CHRISTY MODEL N-36, FIBERUTE-36 WITH PROBE HOLE.
9. FOR 3/4 INCH & 1 INCH LANDSCAPE WATER SERVICE, METER SHALL BE MASTER METER BOTTOM LOAD MULTI-JET METER.
10. NO WATER SERVICE SHALL BE INSTALLED IN A DRIVE APPROACH OR WING



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3/4" & 1"
LANDSCAPE
WATER SERVICE

City Engineer _____ Date _____

STANDARD
No.
W-8

APPENDIX A

DRAINAGE ENGINEERING DESIGN CRITERIA

Appendix A

ENGINEERING DESIGN CRITERIA

RATIONAL METHOD

The City of Farmersville predominantly uses the Rational Method formula:

$$Q = CIA$$

Where:

- Q = Peak flow rate (cfs)
- C = Coefficient of runoff (dimensionless)
- I = Average rainfall rate (inches per hour)
- A = Drainage area (acres)

The coefficient of runoff (C) can be found on Runoff Coefficient graph, City Standard Detail D-6.

The rainfall intensity (I) can be determined using the Intensity Duration Curve, City Standard Detail D-5.

The time of concentration (Tc) is the time runoff takes to travel from the furthest high point of the drainage area to the lowest point and consists of two segments; lot time and travel time. The below table shows typical lot times. In rural areas, where large open lots may act more like basins rather than traditional graded lots, it would be more appropriate to consider the use of the Time of Concentration Nomograph, City Standard Detail D-7, to determine the appropriate Tc.

Typical Lot Times¹	
Lot Size	Lot Times
Commercial and Industrial	5 minutes
Residential (lots ½ acre and smaller)	10 minutes
Residential (lots greater than ½ acre up to 5 acres)	15 minutes
Parks, School, Cemeteries (lots greater than 5 acres)	20 minutes

¹ The Lot Times listed herein are generally applicable to the specified lot sizes. The fact that Lot Times have been identified should not preclude the designer's use of engineering judgment to adjust a Lot Time at a given location in order to better model the hydrologic response of a specific site should site inspection or other investigation indicate such an adjustment is warranted.

Appendix A

For the purpose of design:

- Curb and gutter runoff velocities should be determined using the Velocity for Storm Runoff Chart, City Standard Detail D-8.
- Gutter flow velocities shall be used for the first 1,500 feet of travel. Any remaining length shall be assumed to be piped, and pipe velocities shall be used in computing travel times.
- Flow in gutters shall be contained within the curbed street section for the 5-year design flows and within right of way for 100-year storms.
- Pipeline and swale water velocities for time calculations should be determined based on Manning's Equation calculations that consider slope, the Manning's roughness coefficient (n), and depth of flow.
- Pipelines shall be designed 3/4 full flow.
- The minimum lateral size is 12 inches, except within Caltrans right of way.
- The minimum main line size is 18 inches, except within Caltrans right of way.
- At inlets and manholes, 0.5 feet of freeboard shall be provided above the water surface.
- A 0.10-foot head loss shall be assumed at each inlet and manhole.
- Manholes shall be provided at all junctions and at the end of a curved alignment.
- A pumping system shall provide dual alternating pumps, with a combined discharge equal to the peak design flow. The sump shall provide storage in gallons equal to approximately twice the pump capacity in gallons per minute.

Where overall shed areas are being considered and where specified site details, such as slope, have not been determined, Tc can reasonably be estimated using conservative runoff velocities. The following table shows the conservative runoff velocities used for the large shed areas.

Conveyance Method	Runoff Velocity (fps)
Overland flow, unchannelized	1.0
Overland flow, channelized	1.5
Standard Curb and Gutter	2.0
Pipeline	2.5

² The conservative runoff velocities listed herein are generally applicable to the specified conveyances. The fact that conservative runoff velocities have been identified should not preclude the designer's use of engineering judgment to adjust runoff velocities for a given conveyance in order to better model the hydrologic response of a specific site should site inspection or other investigation indicate such an adjustment is warranted.

Appendix A

STORM FREQUENCY

The following table summarizes the storm frequencies, levels of protection, used for the design of various components of the storm drain system:

<u>Storm Drain System Component</u>	<u>Storm Frequency</u>
Existing drainage areas, excluding open channels`	2 year
New drainage areas, excluding open channels	5 year
Minor open channels (Deep Creek)	5 year
Major open channels (Main Canal, Cameron Creek)	10 year
Retention Basins ³	25 year – 10 day volume
Detention Basins	25 year – (varies) day volume

RETENTION BASINS

The basic storm criterion for the sizing of a holding basin is a 25-year return period storm that has duration of 10 days.

The Storage Equation used is:

$$S=(P/12)CA$$

Where:

- S = Storage volume (acre-feet)
- P = Precipitation or Rainfall depth for a given design storm (inches)
- C = Coefficient of Runoff (dimensionless)
- A = Drainage area (acres)

Rainfall depth, P, is the total amount of rainfall that will occur for a given design storm. For the City of Farmersville, a 25-year return period/10-day duration storm will yield a total of 5.25 inches⁴.

DETENTION BASINS

For detention basins, same 25-year storm is used, except that the duration period is chosen for that point during the design storm where the difference between total inflow and total discharge is the greatest. This duration period varies for each drainage area. The same formula above, is used for its calculations of storage needed and will be determined by the City Engineer for each circumstance.

³ Basin volume is determined without any pump discharge during storm event.

⁴ Precipitation data was extrapolated from *National Oceanic and Atmospheric Administration (NOAA) Atlas 14: Volume 6, Version 2.3 – California; Precipitation Frequency Data Server* (<http://hdsc.nws.noaa.gov/hdsc/pfds>) for a 25-year 10-day precipitation (in.)