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**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

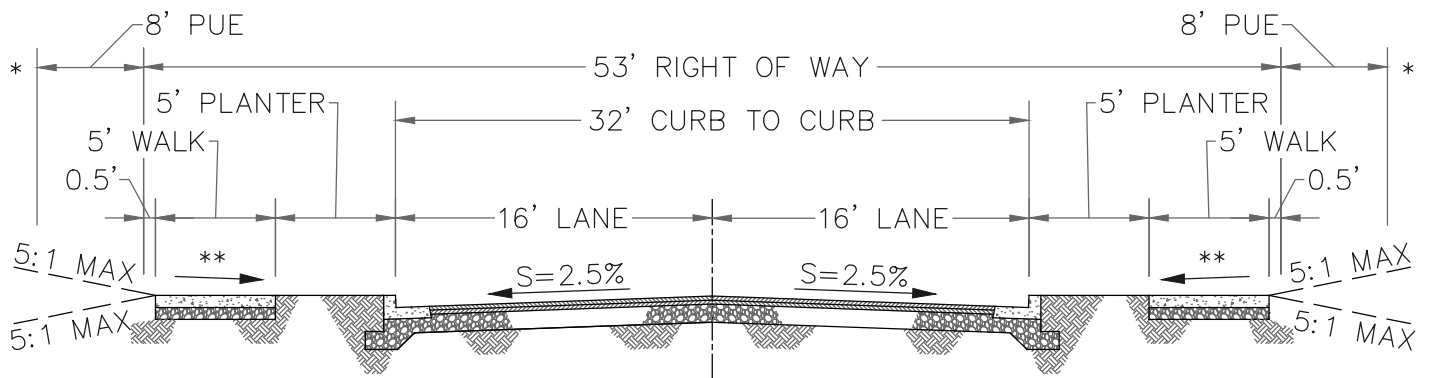
DWG NO: 005

CITY ENGINEER
CAROL EARLE, P.E.

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DATE: 4/1/2019

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LOCAL STREET SECTION

PARKING BOTH SIDES

SCALE = N.T.S.

* SEE NOTE 4

** 2% MAX, SLOPE DOWN
TOWARD STREET

NOTES:

1. PLANTER STRIPS ARE REQUIRED.
2. PAVED WIDTH AND PLANTER STRIP ARE MEASURED TO FACE OF CURB.
3. STREET TREES AND STREET LIGHTS ARE REQUIRED AND SHALL BE LOCATED WITHIN THE PLANTER STRIP.
4. MAX SLOPE BEYOND PUE IS 2:1.



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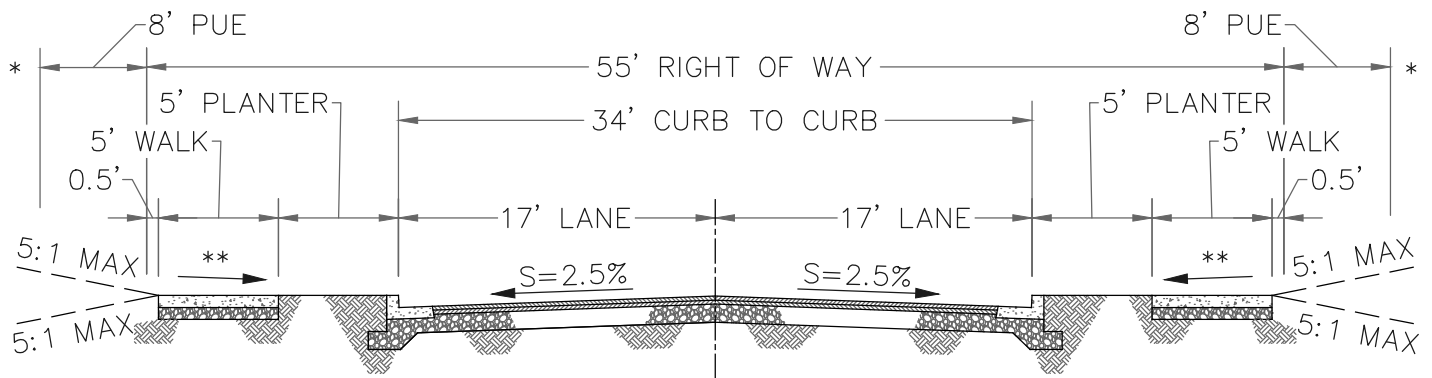
DWG NO: 100

CITY ENGINEER
CAROL EARLE, P.E.

LOCAL STREET SECTIONS

DATE: 4/1/2019

REVISED BY: PCB/JHH



NEIGHBORHOOD STREET SECTION

PARKING BOTH SIDES

SCALE = N.T.S.

* SEE NOTE 4

** 2% MAX, SLOPE DOWN
TOWARD STREET

NOTES:

1. PLANTER STRIPS ARE REQUIRED.
2. PAVED WIDTH AND PLANTER STRIP ARE MEASURED TO FACE OF CURB.
3. STREET TREES AND STREET LIGHTS ARE REQUIRED AND SHALL BE LOCATED WITHIN THE PLANTER STRIP.
4. MAX SLOPE BEYOND PUE IS 2:1.



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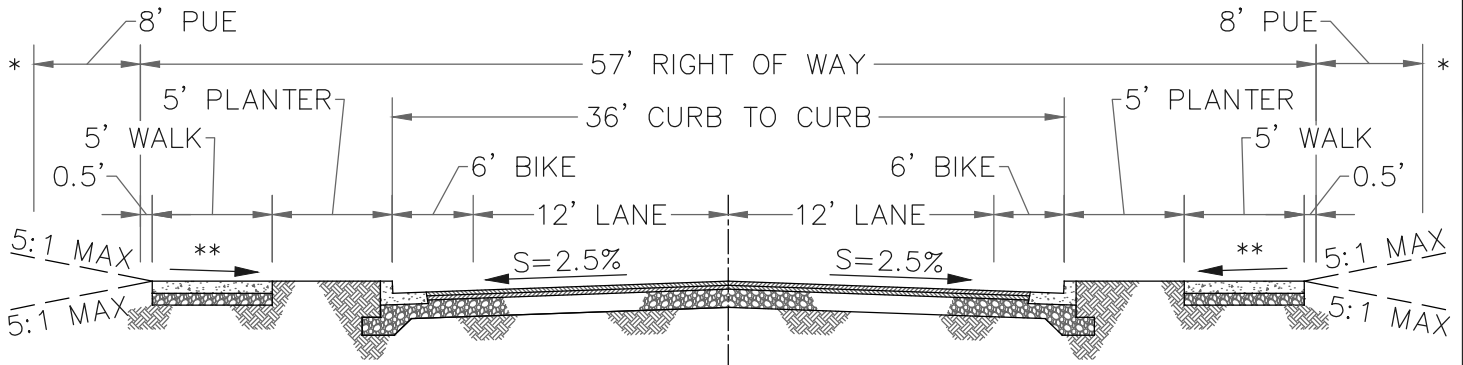
DWG NO: 105

CITY ENGINEER
CAROL EARLE, P.E.

**NEIGHBORHOOD STREET
SECTIONS**

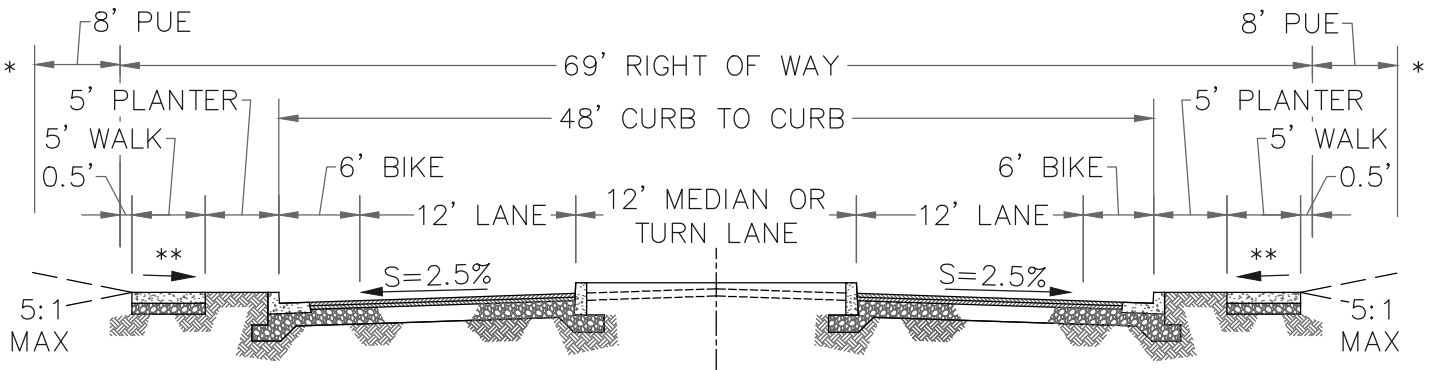
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COLLECTOR 2-LANE STREET SECTION

NO PARKING PERMITTED WITHIN THIS ROADWAY SECTION
SCALE = N.T.S.



COLLECTOR 3-LANE STREET SECTION

SCALE = N.T.S.

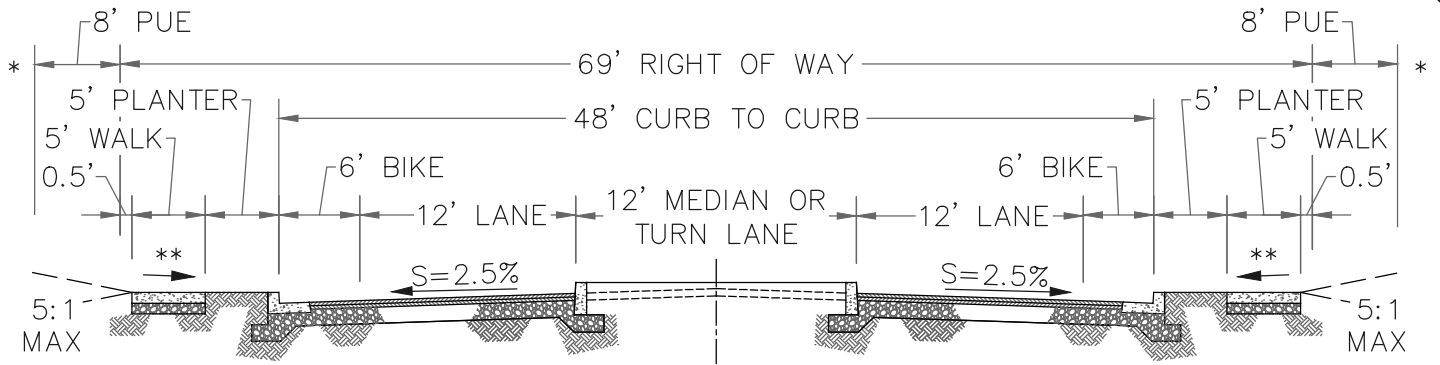
- * SEE NOTE 4
- ** 2% MAX, SLOPE DOWN TOWARD STREET

NOTES:

1. PLANTER STRIPS ARE REQUIRED.
2. PAVED WIDTH AND PLANTER STRIP ARE MEASURED TO FACE OF CURB.
3. STREET TREES AND STREET LIGHTS ARE REQUIRED AND SHALL BE LOCATED WITHIN THE PLANTER STRIP.
4. MAX SLOPE BEYOND PUE IS 2:1.

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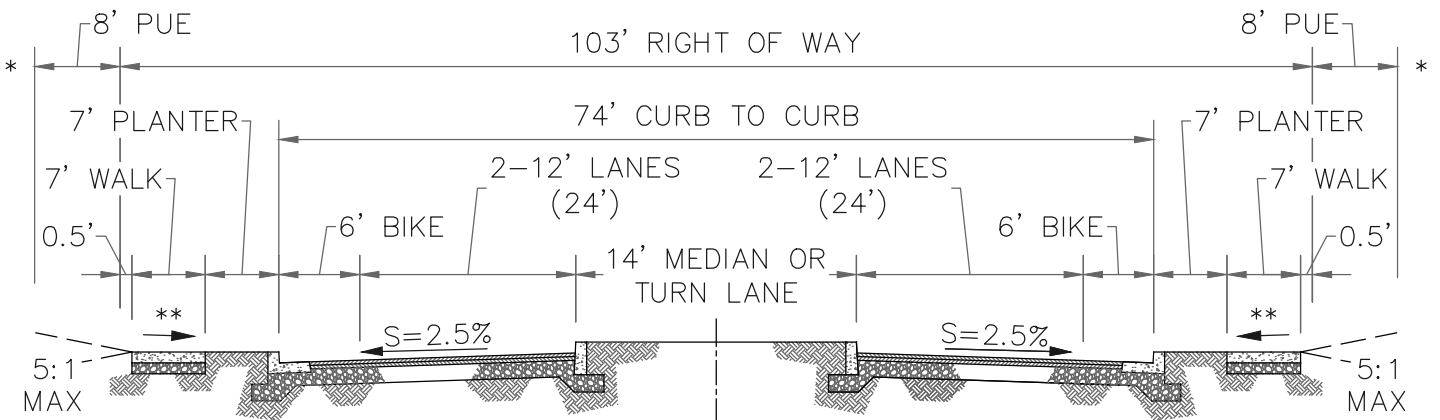
DWG NO: 110	COLLECTOR STREET SECTIONS	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH



MINOR ARTERIAL 3-LANE STREET SECTION

NO PARKING PERMITTED WITHIN THIS ROADWAY SECTION

SCALE = N.T.S.



MAJOR ARTERIAL 5-LANE STREET SECTION

NO PARKING PERMITTED WITHIN THIS ROADWAY SECTION

SCALE = N.T.S.

* SEE NOTE 4

** 2% MAX, SLOPE DOWN TOWARD STREET

NOTES:

1. PLANTER STRIPS ARE REQUIRED.
2. PAVED WIDTH AND PLANTER STRIP ARE MEASURED TO FACE OF CURB.
3. STREET TREES AND STREET LIGHTS ARE REQUIRED AND SHALL BE LOCATED WITHIN THE PLANTER STRIP.
4. MAX SLOPE BEYOND PUE IS 2:1.
5. ALONG COMMERCIAL ZONING FRONTAGE AND MAJOR TRANSIT STOPS, THE SIDEWALK AND PLANTER STRIP WIDTH MAY BE COMBINED TO PROVIDE SIDEWALKS AND STREET TREE WELLS.



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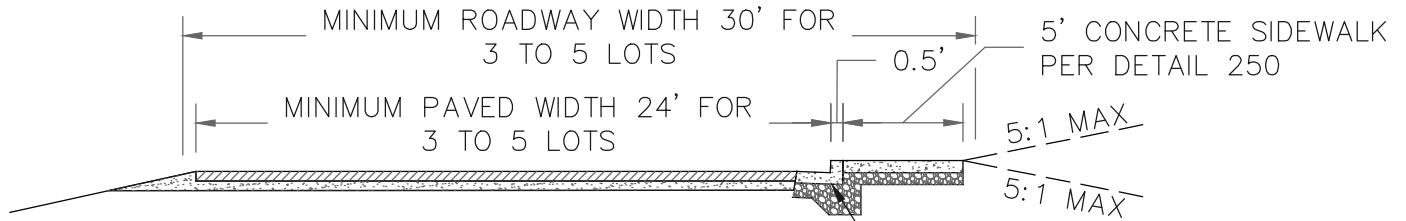
DWG NO: 115

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ARTERIAL STREET SECTIONS

DATE: 4/1/2019

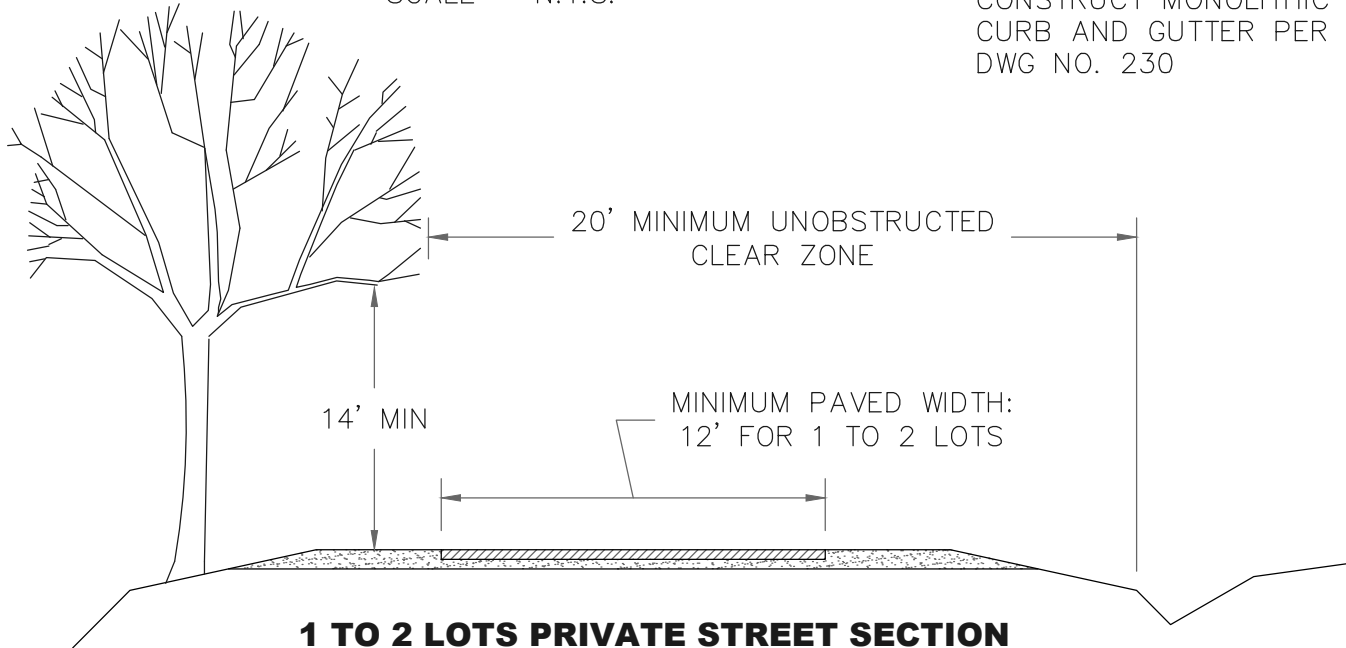
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3 TO 5 LOTS PRIVATE STREET SECTION

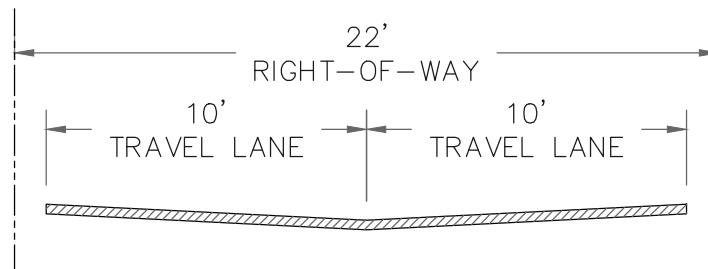
SCALE = N.T.S.

CONSTRUCT MONOLITHIC
CURB AND GUTTER PER
DWG NO. 230



1 TO 2 LOTS PRIVATE STREET SECTION

SCALE = N.T.S.



PRIVATE ALLEYWAY

SCALE = N.T.S.

NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO CURRENT CITY STANDARDS.
2. PRIVATE ACCESS ROADS SERVE A MAXIMUM OF 5 LOTS.
3. ALL PRIVATE ACCESS ROADS SHALL MEET ALL CURRENT CLACKAMAS COUNTY FIRE DISTRICT DEVELOPMENT CODES INCLUDING REQUIREMENTS FOR GRADES, LENGTH, WIDTH, SEPARATION, SIGNAGE, AND TURNING RADII.



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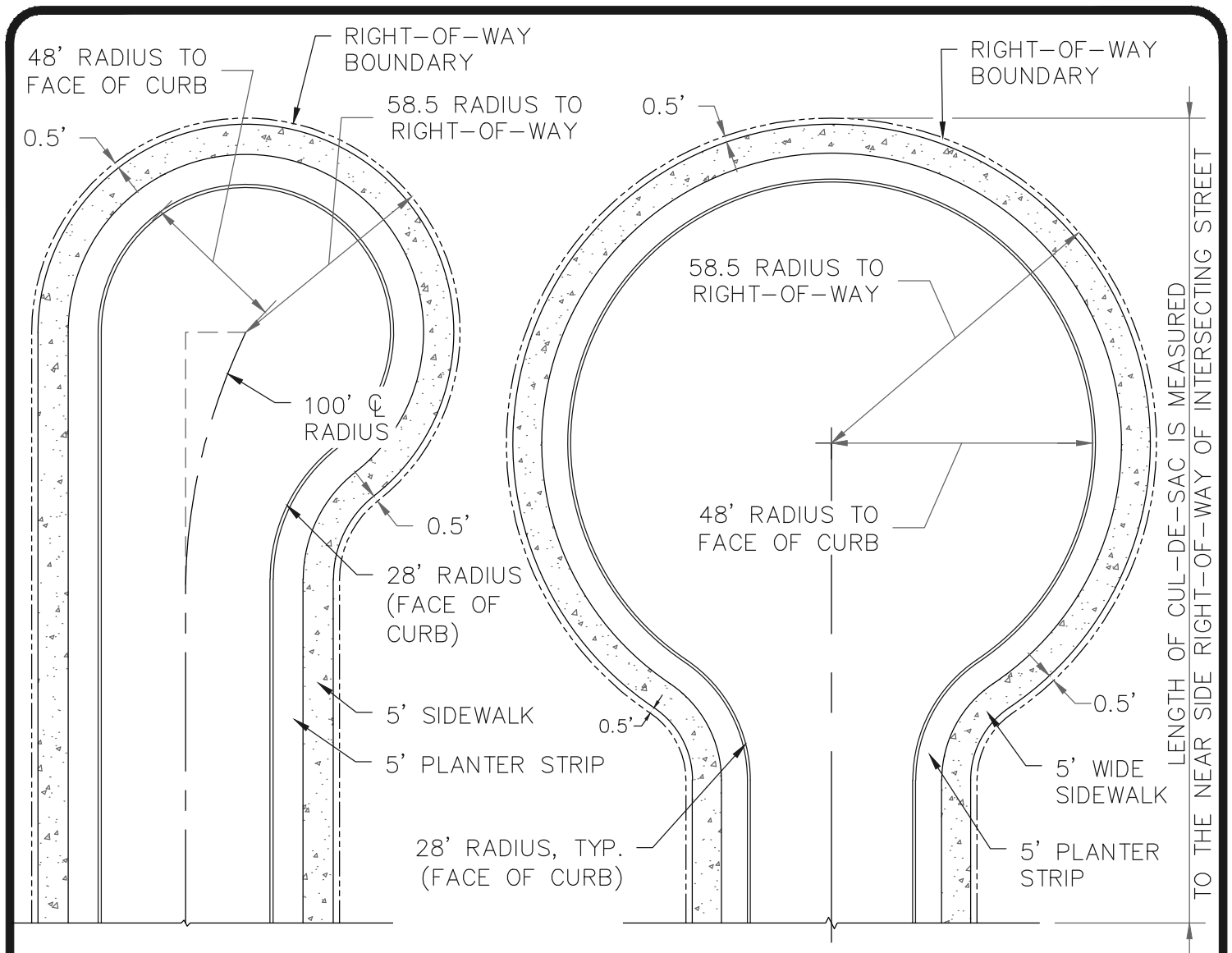
DWG NO: 120

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PRIVATE STREET & ALLEY
SECTIONS

DATE: 4/1/2019

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EYELET/HALF CUL-DE-SAC

SCALE = N.T.S.

FULL CUL-DE-SAC

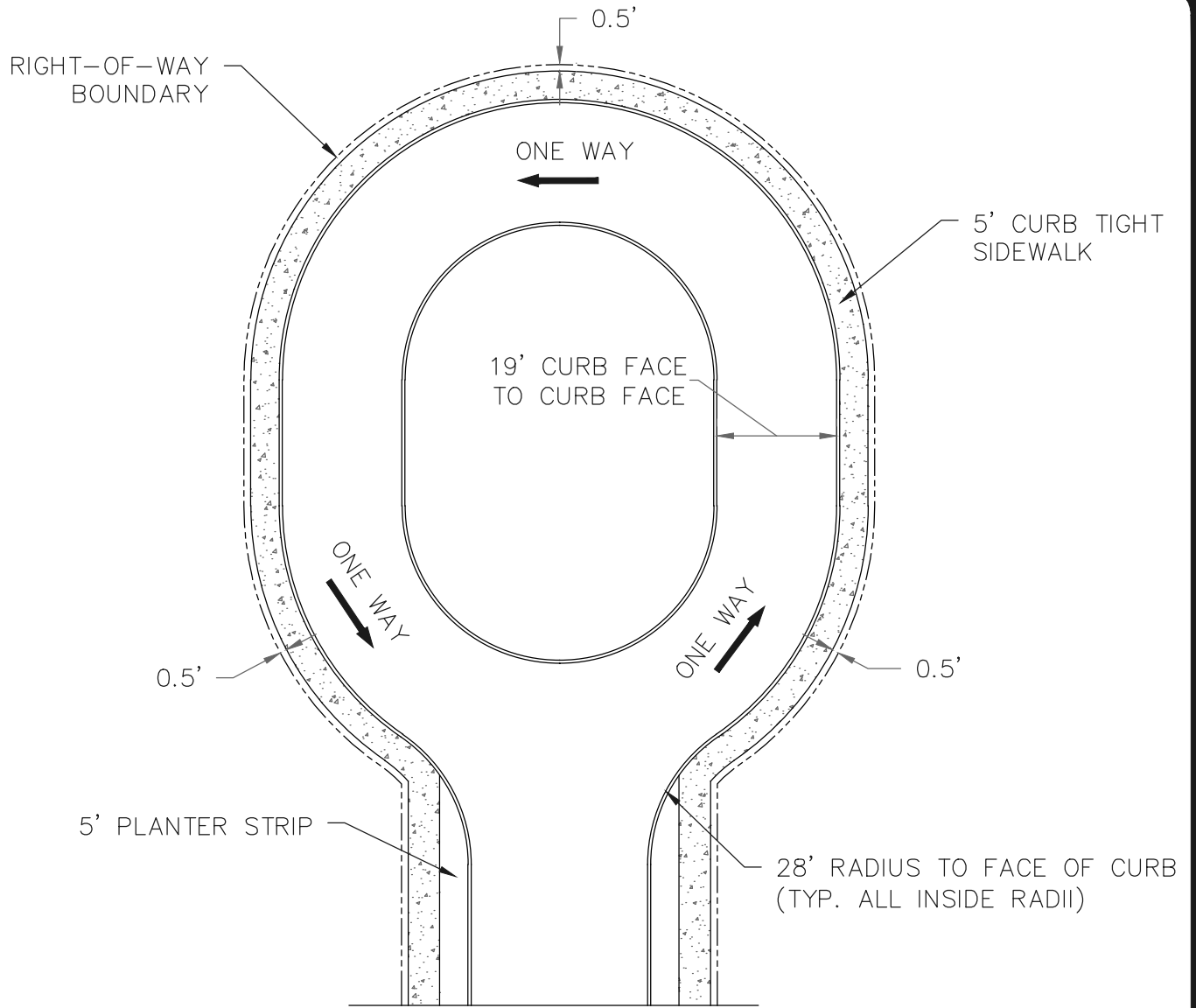
SCALE = N.T.S.

NOTES:

1. SEE LOCAL STREET SECTION DETAIL 100 FOR RIGHT-OF-WAY AND PAVED WIDTH STANDARDS.
2. A PLANTER STRIP IS REQUIRED AROUND ALL CUL-DE-SACS.
3. PAVED WIDTH AND PLANTER STRIP ARE MEASURED TO FACE OF CURB.
4. STREET TREES AND STREET LIGHTS ARE REQUIRED AND SHALL BE LOCATED WITHIN THE PLANTER STRIP.

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16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 140		CUL-DE-SACS	
CITY ENGINEER CAROL EARLE, P.E.		DATE: 4/1/2019	REVISED BY: PCB/JHH



LOOP TURN-AROUND (PLAN VIEW)

SCALE = N.T.S.

NOTES:

1. SEE LOCAL STREET SECTION DETAIL NO. 100 FOR RIGHT-OF-WAY AND PAVED WIDTH STANDARDS.
2. LOOP DIMENSIONS SHALL ACCOMMODATE EMERGENCY VEHICLES.
3. NO ON-STREET PARKING WITHIN LOOP.
4. THE INTERIOR OF THE LOOP SHALL BE LANDSCAPED AND BE A SEPARATE TRACT OWNED AND MAINTAINED BY HOMEOWNERS ASSOCIATION (HOA).



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HAPPY VALLEY, OR 97086

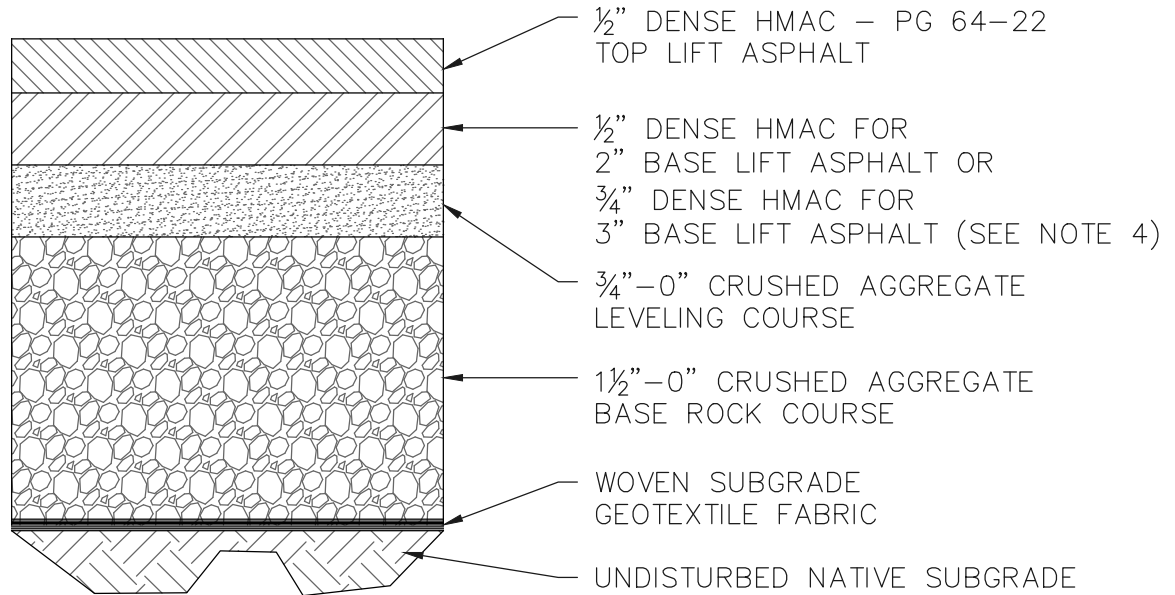
DWG NO: 145

CITY ENGINEER
CAROL EARLE, P.E.

LOOP TURNAROUND

DATE: 4/1/2019

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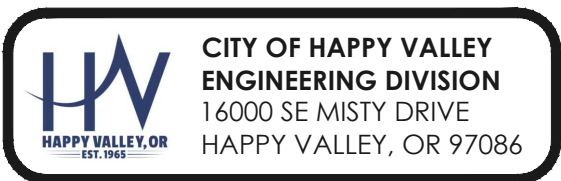


**PAVEMENT SECTION CHART
COMPONENT THICKNESS (INCHES)**

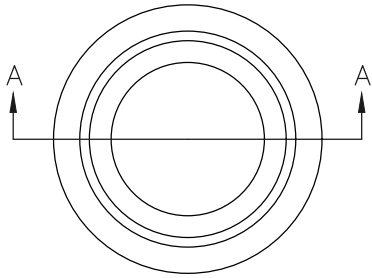
STREET FUNCTIONAL CLASSIFICATION	LEVEL HMAC	BINDER GRADE	TOP LIFT HMAC THICKNESS	BASE LIFT HMAC THICKNESS	LEVELING COURSE THICKNESS	BASE ROCK COURSE THICKNESS	GEOTEXT FABRIC REQUIRED
PRIVATE	2	PG64-22	3"		2"	8"	YES
LOCAL	2	PG64-22	2"	2"	2"	8"	YES
NEIGHBORHOOD	3	PG64-22	2"	2"	2"	9"	YES
COLLECTOR	3	PG64-22	2-1/2"	2-1/2"	3"	9"	YES
ARTERIAL	3	PG64-22	2-1/2"	2-1/2"	4"	10"	YES

NOTES:

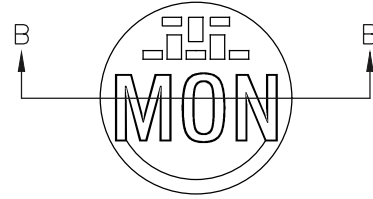
- MATERIALS AND PLACEMENT OF THE HOT MIXED ASPHALT CONCRETE (HMAC) SHALL CONFORM TO THE REQUIREMENTS DELINEATED IN SECTION 00744 OF THE ODOT/APWA, OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, EXCEPT AS MODIFIED BY THE CITY AND/OR APPROVED BY CITY ENGINEER.
- THE TOP LIFT OF HMAC SHALL BE PLACED PRIOR TO CITY FINAL ACCEPTANCE OF PUBLIC INFRASTRUCTURE IMPROVEMENTS.
- CRUSHED AGGREGATE USED FOR BASE ROCK AND LEVELING COURSE SHALL CONFORM TO THE REQUIREMENTS DELINEATED IN SECTION 02630 - BASE AGGREGATE, OF THE ODOT/APWA, OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION. MAXIMUM MOISTURE DENSITY BY AASHTO T-180 ASTM D-1557 AS SPECIFIED.
- 1/2" DENSE HMAC MAY BE USED IN-LIEU-OF 3/4" DENSE HMAC FOR THE BASE LIFT OF ASPHALT.
- PAVEMENT DESIGN SHALL BE BASED ON SITE SPECIFIC CONDITIONS. THE ABOVE PAVEMENT SECTIONS REPRESENT THE MINIMUM THICKNESS AFTER COMPACTION



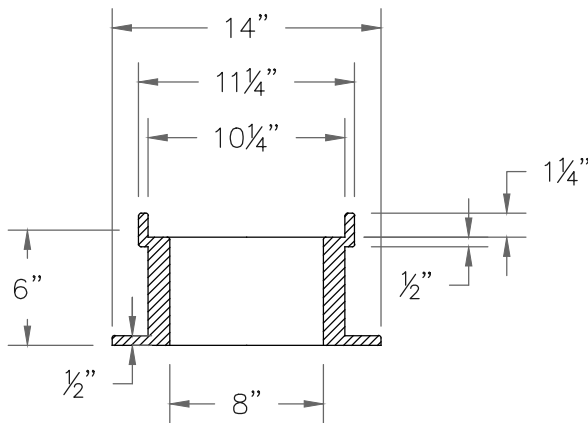
DWG NO: 160	PAVEMENT SECTIONS	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH



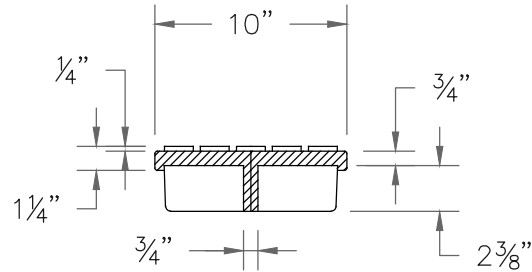
MONUMENT BOX
SCALE = N.T.S.



MONUMENT BOX LID
SCALE = N.T.S.



SECTION A - A
WEIGHT = 52 LBS
SCALE = N.T.S.



SECTION B - B
WEIGHT = 25 LBS
SCALE = N.T.S.

NOTES:

1. MONUMENT BOXES ARE REQUIRED FOR ALL PUBLIC LAND CORNER MONUMENTS THAT FALL WITHIN PAVED AREAS AS WELL AS FOR CENTERLINE MONUMENTS.
2. 8" BOXES ARE ACCEPTABLE FOR STREETS WITH SPEEDS LESS THAN 35 MPH.
3. 12" BOXES ARE REQUIRED FOR STREETS WITH SPEEDS GREATER THAN 35 MPH.
4. IF BOXES ARE INSTALLED AFTER THE PAVEMENT IS PLACED, USE A CIRCULAR CUT. FILL THE VOID WITH CONCRETE OR APPROVED EQUAL.
5. MUST BE FLUSH WITH SURROUNDING SURFACE.



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HAPPY VALLEY, OR 97086

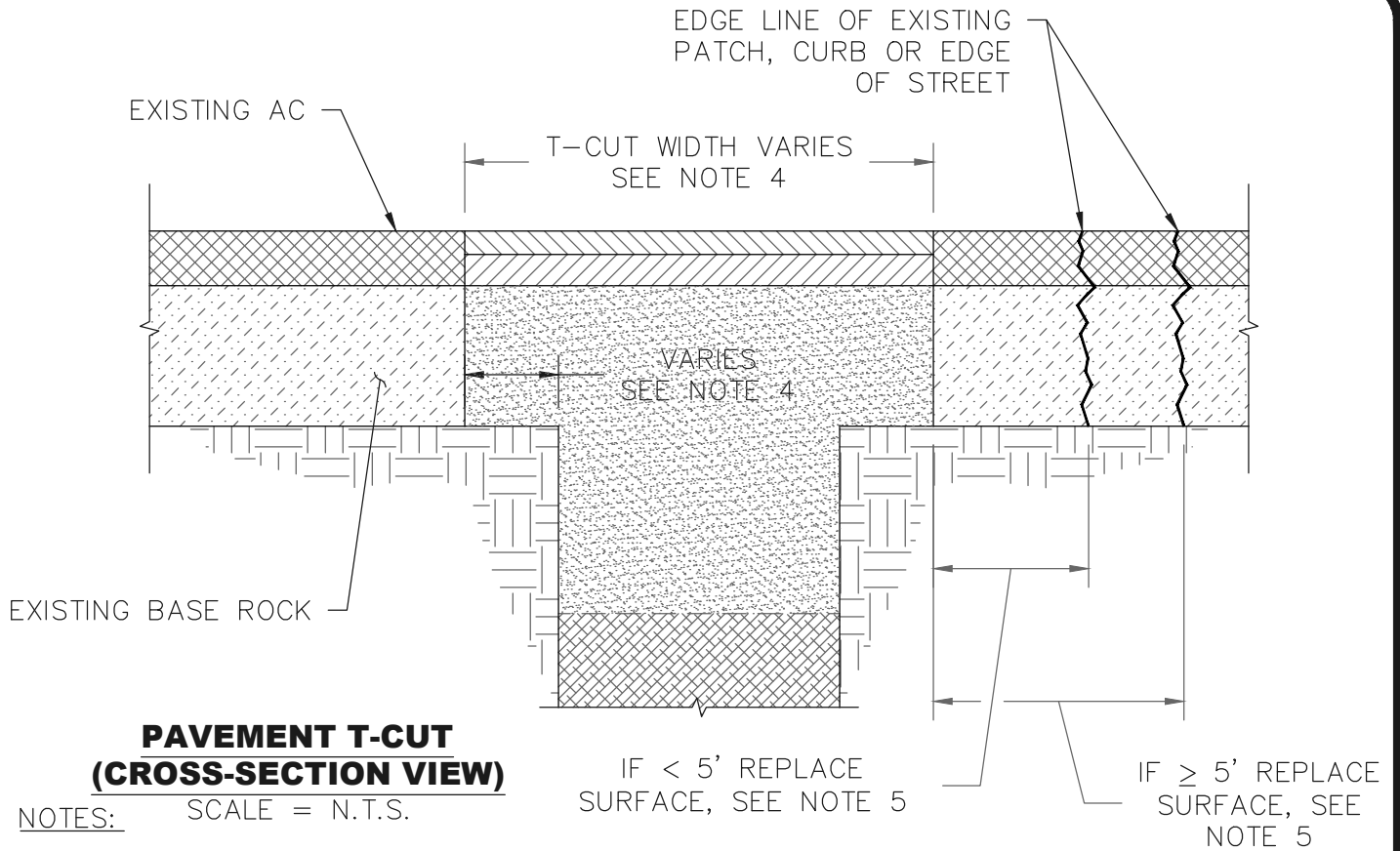
DWG NO: 170

CITY ENGINEER
CAROL EARLE, P.E.

MONUMENT BOXES

DATE: 4/1/2019

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1. THIS DRAWING APPLIES TO TRENCH CUTS AND OTHER KINDS OF STREET CUTS.

STREET FUNCTIONAL CLASSIFICATION	WIDTH OF T-CUT BEYOND EDGE OF TRENCH
LOCAL	12"
NEIGHBORHOOD	36"
COLLECTOR	
ARTERIAL	
T-CUT MUST HAVE SUFFICIENT WIDTH TO ALLOW USE OF A PLATE COMPACTOR	

TABLE 200-1

SHALL BE WIDENED WHERE NECESSARY TO MOVE THE EDGE LINE OUT OF THE WHEEL PATH SO THAT BOTH CONDITIONS BELOW ARE SATISFIED;

(A) NEW EDGE OF PAVEMENT IS AT LEAST 12" FROM THE WHEEL PATH AND

(B) NEW EDGE OF PAVEMENT COMPLIES WITH NOTES 4 AND TABLE 200-1.

2. SEE DETAIL 160 FOR TYPICAL STREET PAVEMENT SECTION AC, THICKNESS TO MATCH PAVING SURROUNDING TRENCH. SEE DWG NO. 205 AND 210 FOR TRENCH RESTORATION INFORMATION.

3. THERE IS A 5 YEAR MORATORIUM FOR STREET CUTS ON NEWLY PAVED STREETS.

4. IF NEW EDGE OF PAVEMENT IS LESS THAN 5 FT FROM ANOTHER PATCH, CURB OR EDGE OF STREET, REPLACE THE PAVEMENT IN BETWEEN. REMOVE AND REPLACE ANY PRE-EXISTING PATCHES THAT ARE LOCATED ENTIRELY WITHIN THE 5 FT.

5. NEW EDGE OF PAVEMENT (EDGE LINE) SHALL NOT LIE IN A WHEEL PATH. WIDTH OF T-CUT



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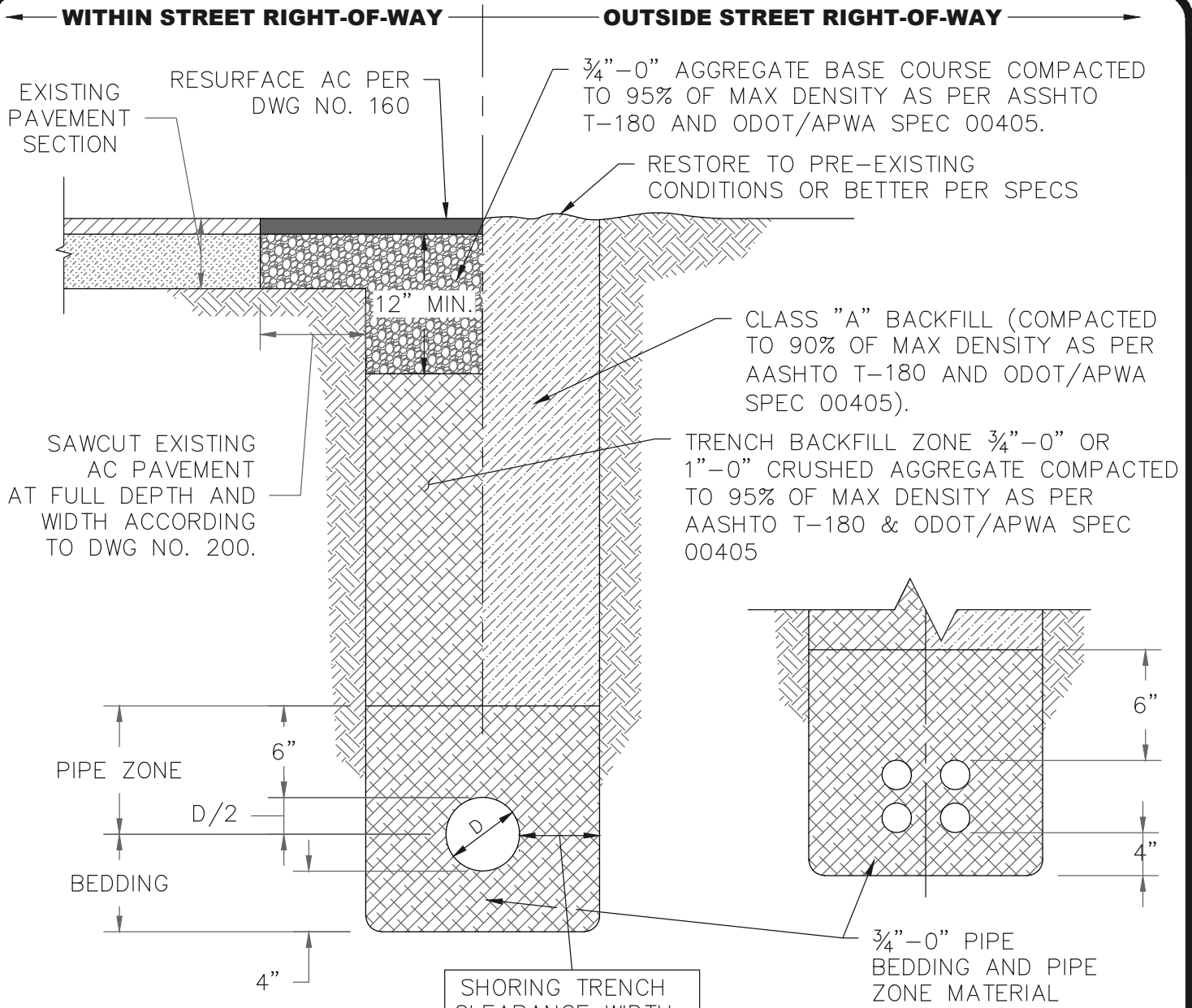
DWG NO: 200

CITY ENGINEER
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PAVEMENT T-CUT

DATE: 4/1/2019

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**TRENCH RESTORATION:
GRANULAR BACKFILL
(CROSS-SECTION VIEW)**

SCALE = N.T.S.

NOTES:

1. SAWCUT EDGES TO BE TACKED WITH EMULSIFIED ASPHALT.
2. ASPHALT JOINTS SHALL BE SAND SEALED WITH CRS-1 OR CRS-2 EMULSIFIED ASPHALT OR EQUIVALENT.
3. CONTROL DENSITY FILL SHALL BE USED ON COLLECTOR AND ARTERIAL STREETS. REFER TO CITY DETAIL 210.

SHORING TRENCH CLEARANCE WIDTH	
D (IN.)	TRENCH(IN)
4-10	9
12-16	12
18-21	16
24-30	18
36-72	24

**CONDUIT TRENCH PIPE ZONE
(CROSS-SECTION VIEW)**

SCALE = N.T.S.

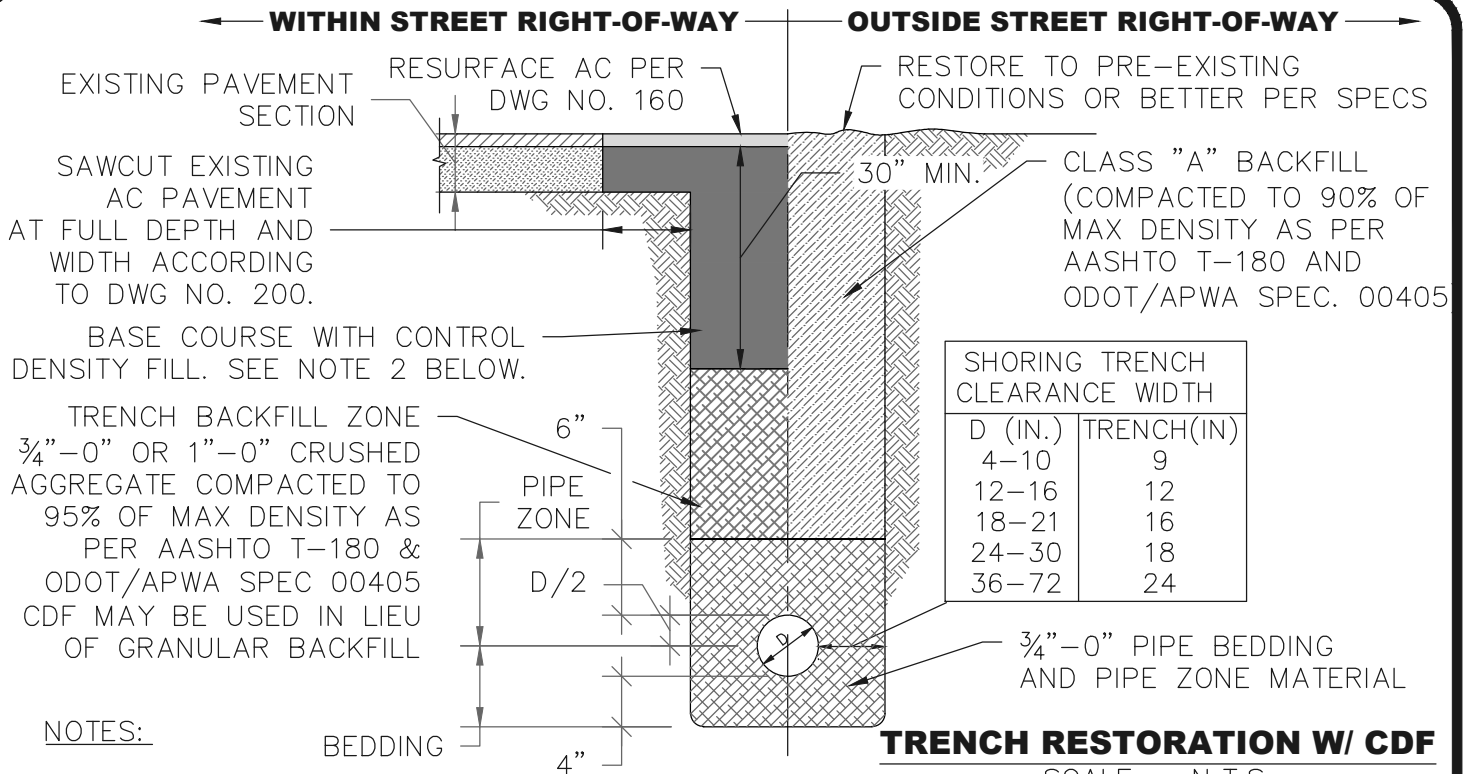
**CITY OF HAPPY VALLEY
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HAPPY VALLEY, OR 97086

DWG NO: 205

CITY ENGINEER
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**TRENCH RESTORATION
WITH GRANULAR BACKFILL**

DATE: 4/1/2019 REVISED BY: PCB/JHH



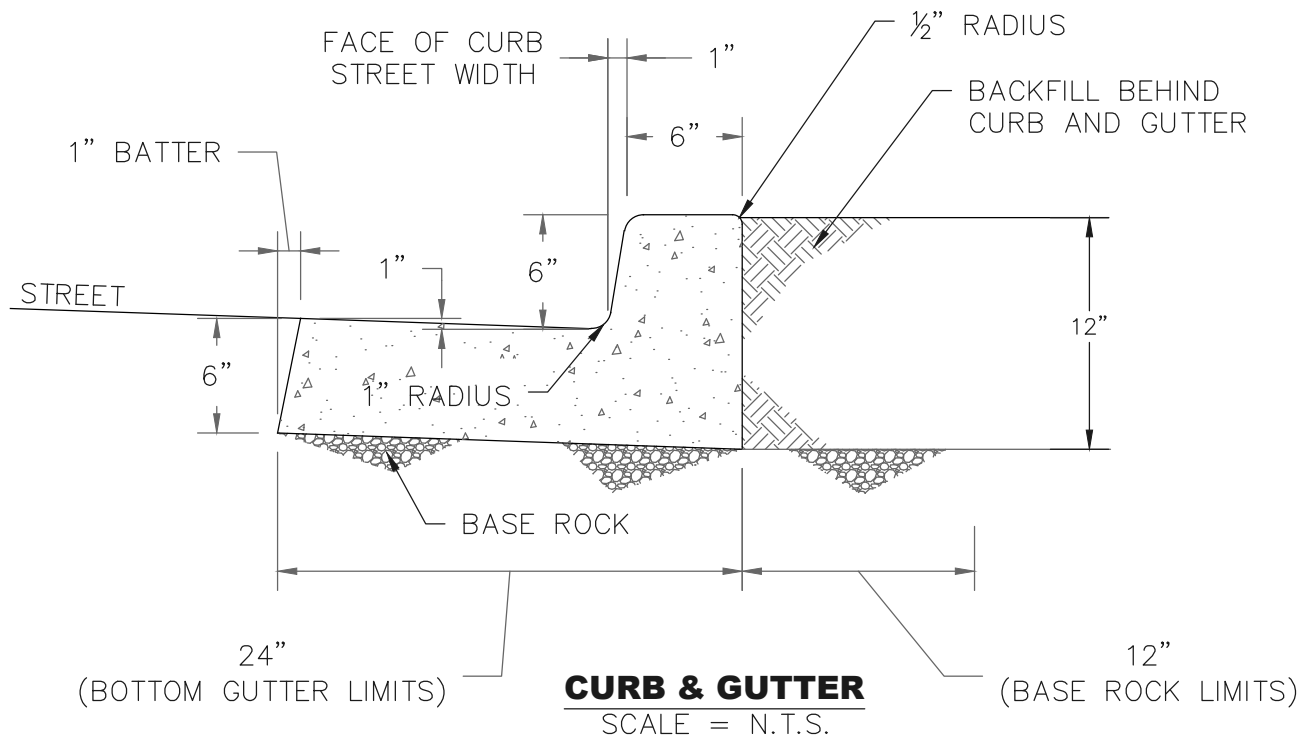
NOTES:

1. SAWCUT EDGES TO BE TACKED WITH EMULSIFIED ASPHALT
2. ASPHALT JOINTS SHALL BE SAND SEALED WITH CRS-1 OR CRS-2 EMULSIFIED ASPHALT OR EQUIVALENT.
3. CONTROL DENSITY FILL (CDF) CONSISTS OF A MIXTURE OF PORTLAND CEMENT, FLY ASH, AGGREGATES, WATER AND ADMIXTURES PROPORTIONED TO PROVIDE A NON-SEGREGATING, SELF-CONSOLIDATING, FREE-FLOWING MATERIAL WHICH WILL RESULT IN A HARDENED, DENSE, NON-SETTLING FILL PRODUCING UNCONFINED COMPRESSIVE 28 DAY STRENGTH FROM 100 PSI TO A MAXIMUM OF 200 PSI.
 - 3.1. CONTRACTOR WILL PROVIDE BATCH WEIGHTS SHOWING THE AMOUNTS OF ALL INGREDIENTS IN THE MIX, BATCH TIME, AND THE TOTAL AMOUNT OF THE BATCH.
 - 3.2. CDF SHALL BE PERFORMANCE BASED AND MEET THE FOLLOWING CRITERIA:
 - TYPE F FLY ASH: 200 LB MIN, TYPE I OR II CEMENT: 50 LB MIN
 - SETTLING SHALL BE LESS THAN 1/8" PER FT DEPTH
 - FINE AGGREGATE (LESS THAN 3/8") SHALL BE USED
 - CONCRETE UNIT WEIGHT SHALL BE 100 PCF MIN
 - 3.3. CDF SHALL NOT BE PLACED ON FROZEN GROUND. DURING PLACEMENT TEMPERATURE MUST BE AT LEAST 34 DEGREES F. AND RISING. CDF PLACING SHALL STOP WHEN TEMPERATURE IS 38 DEGREES F OR LESS AND FALLING.
 - 3.4. TRENCH SECTIONS TO BE FILLED WITH CDF SHALL BE CONTAINED AT EITHER END OF THE TRENCH SECTION BY BULKHEADS OR EARTH FILL.
 - 3.5. DURING CDF CURE TIME THE CONTRACTOR SHALL INSTALL STEEL SHEETS OR OTHER PROTECTIVE DEVICES TO ALLOW FOR THE PASSAGE AND SAFETY OF TRAFFIC AND SO NO LOAD IS TRANSFERRED TO THE CDF.
 - 3.6. CONTRACTOR SHALL ALLOW FOR A MINIMUM 48 HOUR CURE TIME FOR CDF PRIOR TO PLACING ASPHALT.
 - 3.7. 30 INCH DEPTH OF CDF MAY BE REDUCED IF CONFLICTING WITH PIPE ZONE BACKFILL.



**CITY OF HAPPY VALLEY
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16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 210	TRENCH RESTORATION WITH CDF	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH



NOTES:

1. CONCRETE SHALL BE COMMERCIAL MIX WITH A 28-DAY COMPRESSIVE STRENGTH OF 3300 PSI AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00440.
2. CONSTRUCT EXPANSION JOINTS AT 200' MAXIMUM SPACING, AND AT POINTS OF TANGENCY, AND AT ENDS OF EACH DRIVEWAY.
3. EXPANSION JOINT MATERIAL SHALL BE PREFORMED FILLER NOT LESS THAN 1/2" WIDE AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00759.
4. CONTRACTION JOINTS SHALL HAVE:
 - A. SPACING OF NOT MORE THAN 15 FEET.
 - B. DEPTH OF JOINT OF AT LEAST 1 1/2".
5. BASE ROCK SHALL BE 3/4"-0", COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-180. BASE ROCK SHALL BE TO SUBGRADE OF STREET STRUCTURES OR 4", WHICHEVER IS GREATER, AND SHALL EXTEND 12" BEHIND CURB.
6. FOR CURB AND GUTTER REQUIREMENTS ON SHED AND SUPERELEVATED ROAD SECTIONS, REVERSE THE GUTTER PAN SLOPE SO THAT THERE IS A 1" DROP FROM FACE OF CURB TO THE EDGE OF THE GUTTER PAN.
7. AT CATCH BASIN INLETS TRANSITION GUTTER LINE TO MATCH CATCH BASIN OVER A 3' DISTANCE.
8. WEEP HOLES ARE NOT ALLOWED THROUGH THE CURB.



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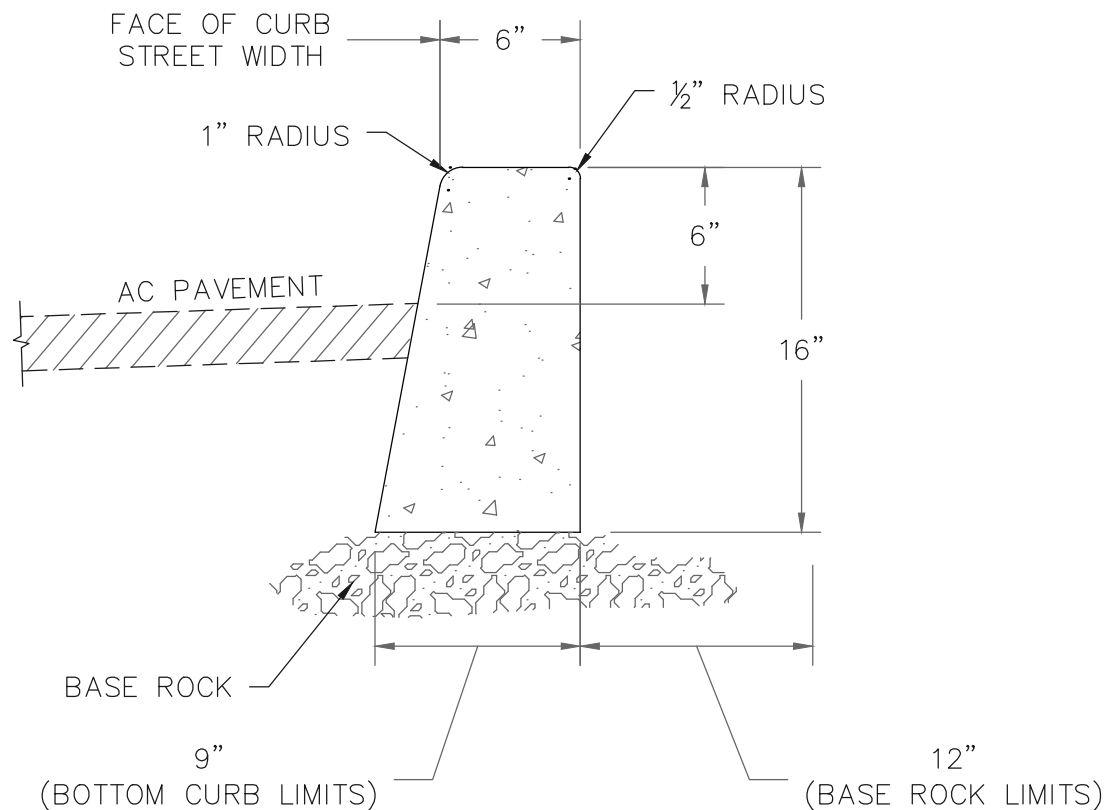
DWG NO: 230

CITY ENGINEER
CAROL EARLE, P.E.

MONOLITHIC CURB AND GUTTER

DATE: 4/1/2019

REVISED BY: PCB/JHH



STANDARD VERTICAL CURB

SCALE = N.T.S.

NOTES:

1. VERTICAL CURB MAY BE USED AT MEDIANS AND MEDIAN PLANTING STRIPS, OR IN REPLACEMENT OF DAMAGED EXISTING VERTICAL CURBS.
2. CONCRETE SHALL BE COMMERCIAL MIX WITH A 28-DAY COMPRESSIVE STRENGTH OF 3300 PSI AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00440.
3. CONSTRUCT EXPANSION JOINTS AT 200' MAXIMUM SPACING, AND AT POINTS OF TANGENCY, AND AT ENDS OF EACH DRIVEWAY.
4. EXPANSION JOINT MATERIAL SHALL BE PREFORMED FILLER NOT LESS THAN 1/2" WIDE AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00759.
5. CONTRACTION JOINTS SHALL HAVE:
 - A. SPACING OF NOT MORE THAN 15 FEET.
 - B. DEPTH OF JOINT OF AT LEAST 1 1/2".
6. BASE ROCK SHALL BE 3/4"—0", COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-180. BASE ROCK SHALL BE TO SUBGRADE OF STREET STRUCTURES OR 4", WHICHEVER IS GREATER, AND SHALL EXTEND 12" BEHIND CURB.
7. WEEP HOLES ARE NOT ALLOWED THROUGH THE CURB.



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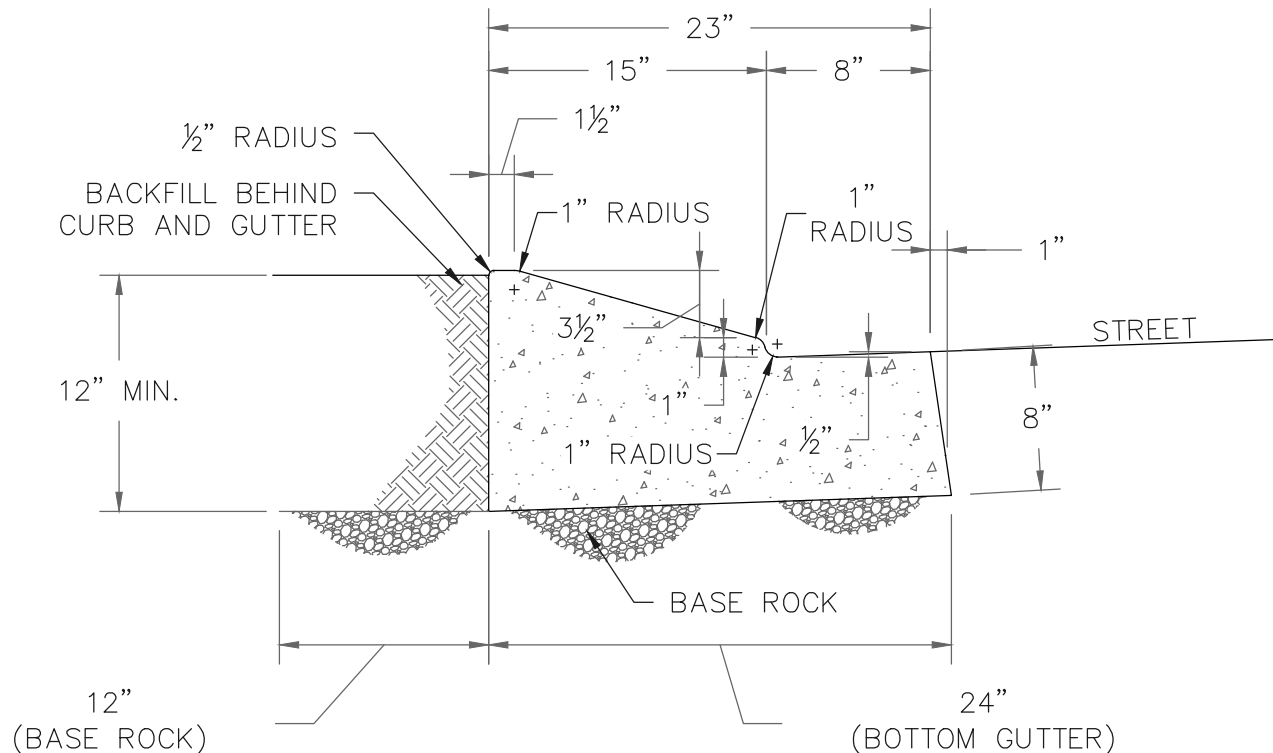
DWG NO: 235

CITY ENGINEER
CAROL EARLE, P.E.

VERTICAL CURB

DATE: 4/1/2019

REVISED BY: PCB/JHH



MOUNTABLE CURB & GUTTER

SCALE = N.T.S.

NOTES:

1. MOUNTABLE CURB MAY BE USED IN CUL-DE-SACS, OR IN REPLACEMENT OF DAMAGED EXISTING MOUNTABLE CURBS.
2. CONCRETE SHALL BE COMMERCIAL MIX WITH A 28-DAY COMPRESSIVE STRENGTH OF 3300 PSI AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00440.
3. CONSTRUCT EXPANSION JOINTS AT 200' MAXIMUM SPACING, AND AT POINTS OF TANGENCY, AND AT ENDS OF EACH DRIVEWAY.
4. EXPANSION JOINT MATERIAL SHALL BE PREFORMED FILLER NOT LESS THAN 1/2" WIDE AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00759.
5. CONTRACTION JOINTS SHALL HAVE:
 - A. SPACING OF NOT MORE THAN 15 FEET.
 - B. DEPTH OF JOINT OF AT LEAST 1 1/2".
6. BASE ROCK SHALL BE 3/4"-0", COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-180. BASE ROCK SHALL BE TO SUBGRADE OF STREET STRUCTURES OR 4", WHICHEVER IS GREATER, AND SHALL EXTEND 12" BEHIND CURB.
7. AT CATCH BASIN INLETS TRANSITION GUTTER LINE TO MATCH CATCH BASIN OVER A 3' DISTANCE.
8. WEEP HOLES ARE NOT ALLOWED THROUGH THE CURB.



**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

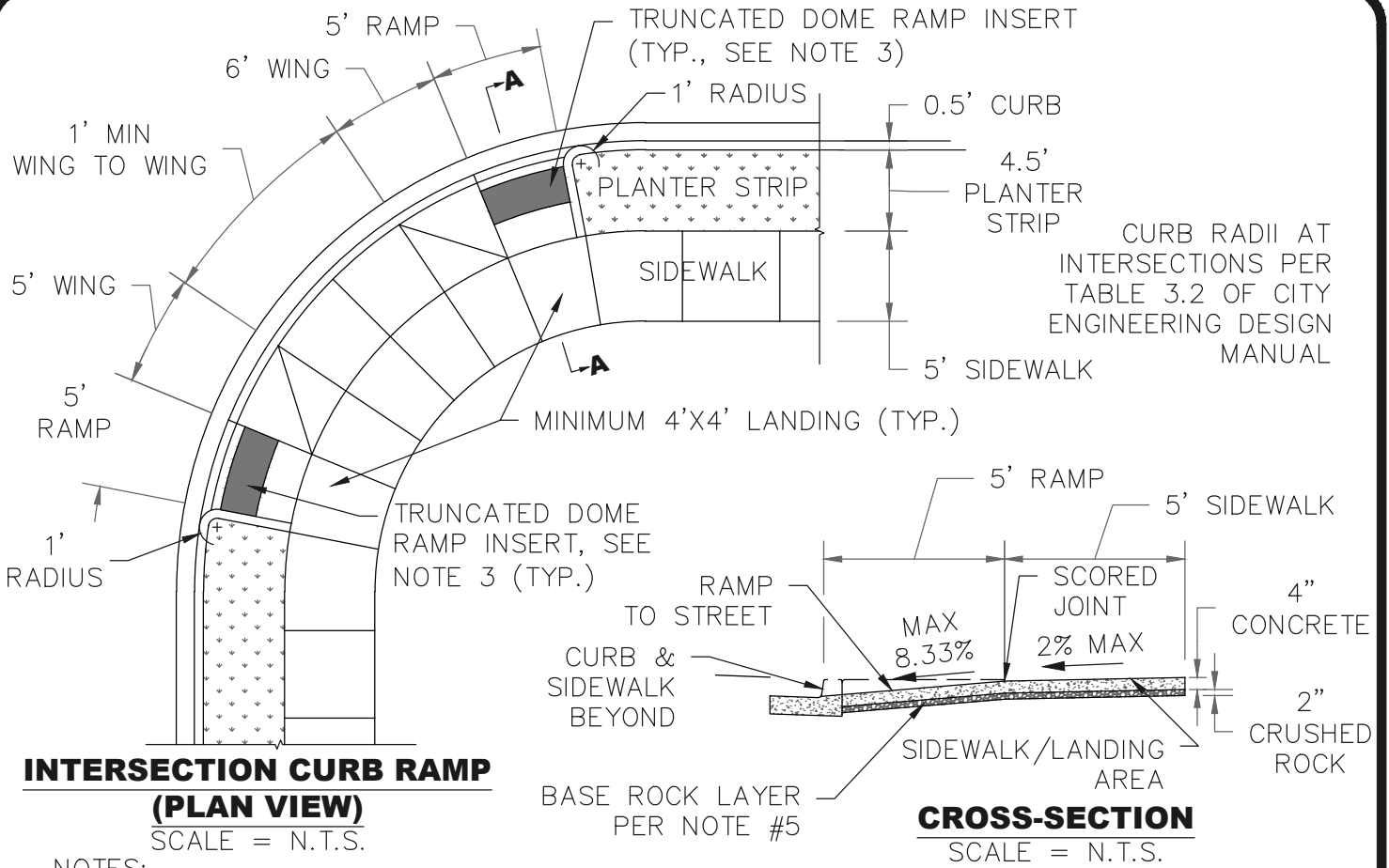
DWG NO: 240

CITY ENGINEER
CAROL EARLE, P.E.

MOUNTABLE CURB AND GUTTER

DATE: 4/1/2019

REVISED BY: PCB/JHH

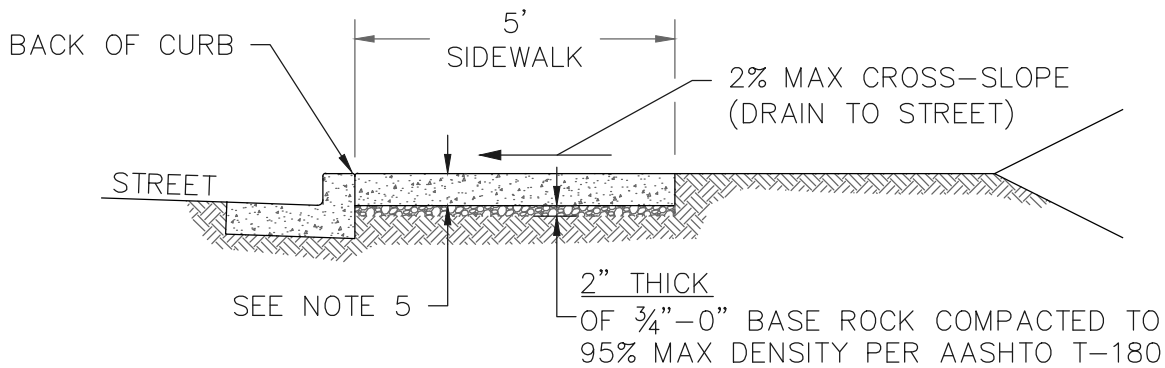
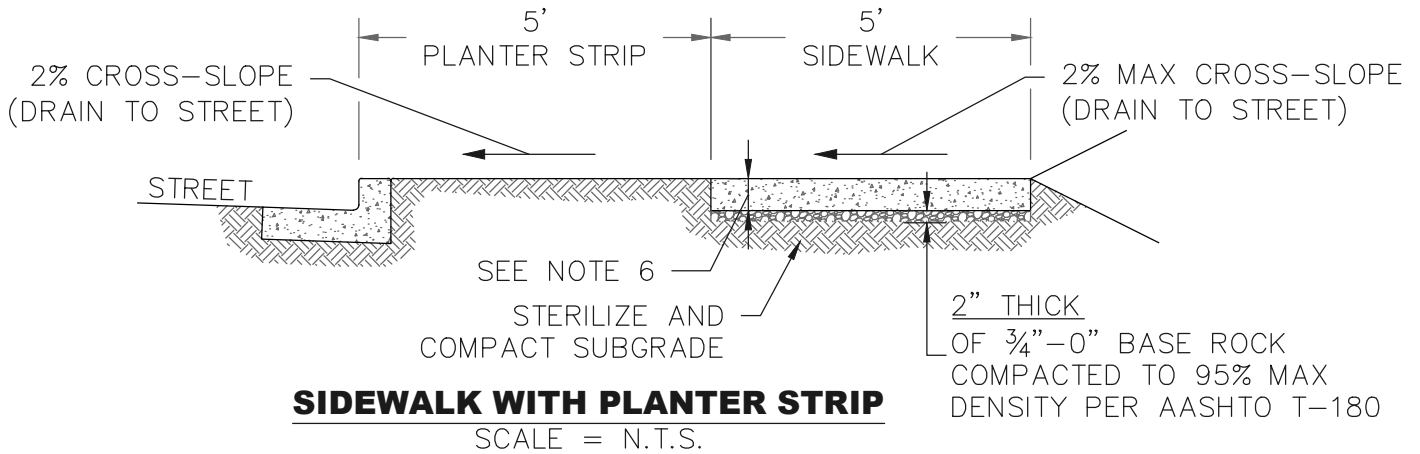


NOTES:

1. PROJECT ENGINEER SHALL USE THIS DRAWING AS A GUIDE FOR DESIGNING RAMPS AND SHALL PREPARE A SITE SPECIFIC DRAWING FOR EACH RAMP.
2. SIDEWALK RAMP SHALL MEET CURRENT ADA STANDARDS. CONSTRUCT ALL RAMPS PERPENDICULAR TO THE CURB. CITY TO INSPECT FORMS PRIOR TO POUR.
3. DETECTABLE WARNING SHALL BE TRUNCATED DOME TYPE, 24" LONG IN DIRECTION OF TRAVEL AND FULL WIDTH OF RAMP, WITH DOMES ALIGNED ON A SQUARE GRID WITH ITS GRIDLINES PARALLEL AND PERPENDICULAR TO THE CENTERLINE OF THE RAMP. COLOR OF DETECTABLE WARNING SURFACE SHALL BE YELLOW AND CONTRAST FROM ADJACENT SURFACE.
4. CURB INLET OR CATCH BASIN SHALL NOT BE ALLOWED IN FRONT OF RAMP.
5. CONCRETE SHALL BE 4" THICK LAYER OF COMMERCIAL MIX WITH A 28 DAY COMPRESSIVE STRENGTH OF 3300 PSI AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00440, OVER 2" LAYER OF 3/4"-0" BASE ROCK COMPACTED TO 95% MAX. DENSITY PER AASHTO T-180.
6. SCORE CONCRETE AT GRADE CHANGES, SURFACE TEXTURE CHANGES AND AT ALL OTHER POINTS SHOWN.
7. CONCRETE SURFACE SHALL HAVE BROOM FINISH, AND EDGE ALL JOINTS.

**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 245	CURB RAMPS	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH



NOTES:

1. CONCRETE SHALL BE A COMMERCIAL MIX WITH A 28 DAY COMPRESSIVE STRENGTH OF 3300 PSI AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00440.
2. SIDEWALK PANELS TO BE SQUARE (5' LONG x 5' WIDE TYP.).
4. EXPANSION JOINT MATERIAL SHALL BE PREFORMED FILLER NOT LESS THAN 1/2" WIDE AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00759.
5. FOR SIDEWALKS ADJACENT TO THE CURB AND POURED AT THE SAME TIME AS THE CURB, THE JOINT BETWEEN THEM SHALL BE A TROWELED JOINT WITH A MINIMUM 1/2" RADIUS.
6. SIDEWALKS SHALL HAVE A MINIMUM THICKNESS OF 6" IF MOUNTABLE CURB IS USED, OR IF SIDEWALK IS INTENDED AS A PORTION OF A DRIVEWAY. OTHERWISE SIDEWALK SHALL HAVE A MINIMUM THICKNESS OF 4".
7. CONCRETE SHALL HAVE A BROOM FINISH, ALL JOINTS SHALL BE EDGED.
8. WIDTH OF PLANTER STRIP IS MEASURED FROM FACE OF CURB. WIDTH OF A CURB-TIGHT SIDEWALK IS MEASURED FROM BACK OF CURB.



CITY OF HAPPY VALLEY
 ENGINEERING DIVISION
 16000 SE MISTY DRIVE
 HAPPY VALLEY, OR 97086

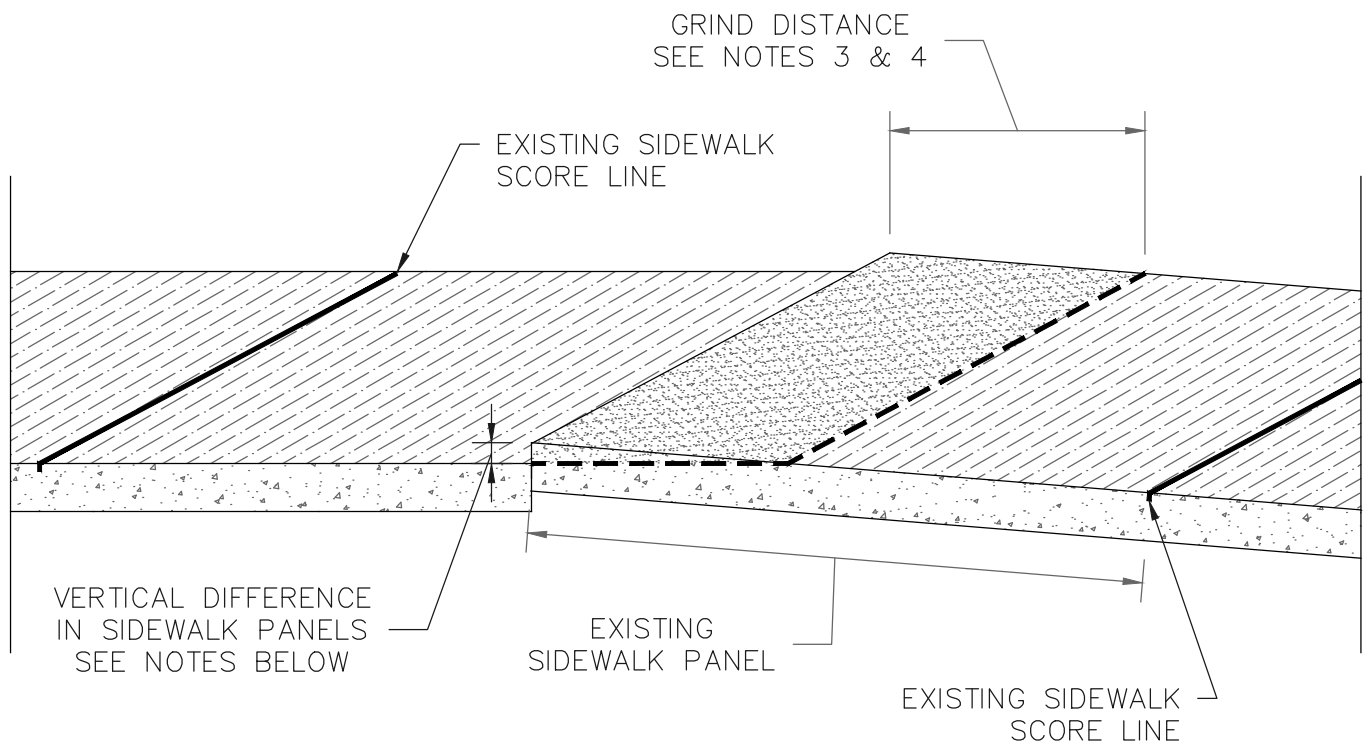
DWG NO: 250

CITY ENGINEER
 CAROL EARLE, P.E.

SIDEWALK

DATE: 4/1/2019

REVISED BY: PCB/JHH



NOTES:

1. A SIDEWALK TRIP HAZARD EXISTS IF THERE IS A VERTICAL HEIGHT DIFFERENCE BETWEEN ADJACENT SIDEWALK PANEL SECTIONS.
2. IF THE SIDEWALK IS RAISED NOT MORE THAN ONE (1) INCH AND THE CONCRETE EDGES ARE SOLID, THE CONCRETE MAY BE GROUND TO REMOVE THE TRIP HAZARD.
3. FOR A TRIP HAZARD OF $\frac{1}{2}$ ", GRIND BACK A MINIMUM OF SIX (6) INCHES.
4. FOR A TRIP HAZARD OF BETWEEN $\frac{1}{2}$ " AND 1", GRIND BACK A MINIMUM OF TWELVE (12) INCHES.
5. FOR A TRIP HAZARD OF MORE THAN 1", REMOVE AND REPLACE ENTIRE PANEL IN ACCORDANCE WITH DWG NO. 250.



**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

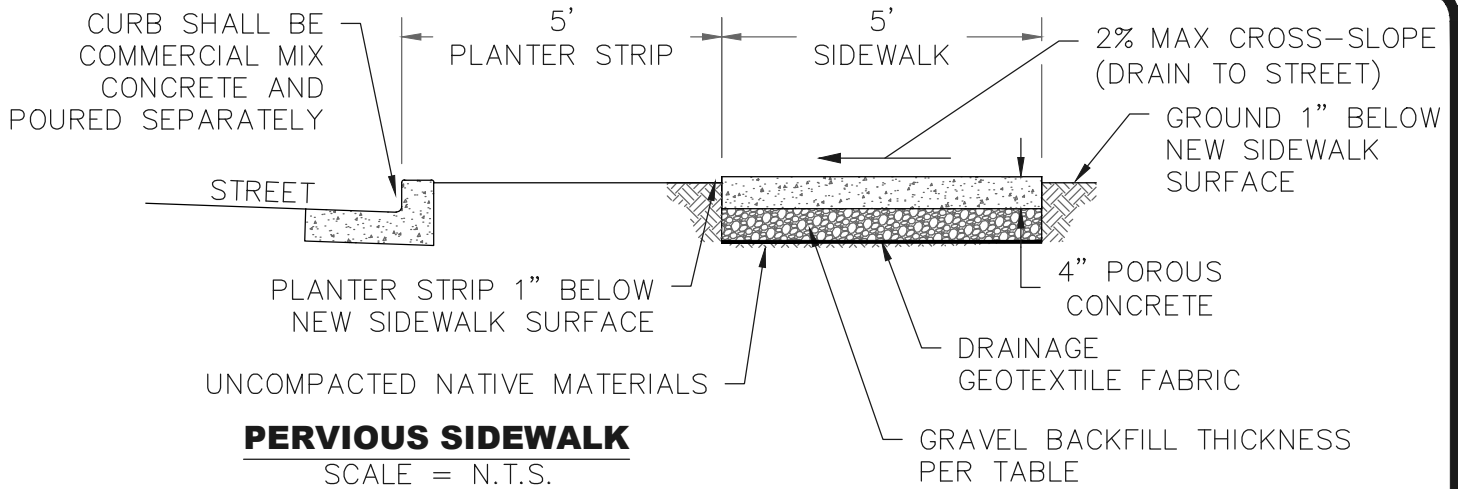
DWG NO: 255

CITY ENGINEER
CAROL EARLE, P.E.

SIDEWALK TRIP HAZARD

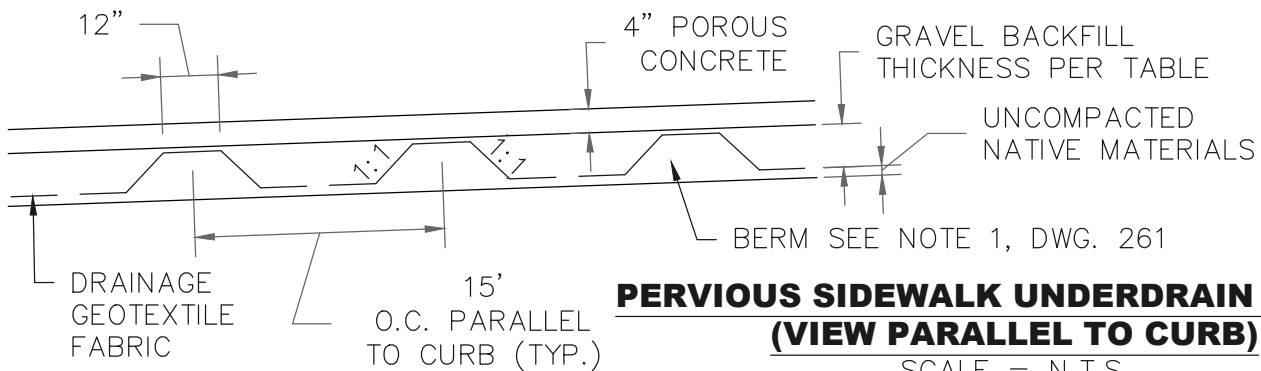
DATE: 4/1/2019

REVISED BY: PCB/JHH



PERVIOUS SIDEWALK

SCALE = N.T.S.



**PERVIOUS SIDEWALK UNDERDRAIN SYSTEM
(VIEW PARALLEL TO CURB)**

SCALE = N.T.S.

GRAVEL DATA SPECIFICATIONS:

GRAVEL BACKFILL SHALL CONSIST OF CLEANED CRUSHED GRAVEL MATERIAL AND MEET THE GRADUATION SPECIFIED IN TABLE 1

GRAVEL BACKFILL SHALL BE COMPACTED BY ROLLER OR VIBRATOR PLATE COMPACTOR PRIOR TO PLACING PERVIOUS CONCRETE.

THICKNESS OF GRAVEL BACKFILL SHALL FOLLOW THE SCHEDULE AS SPECIFIED IN TABLE 2.

SIEVE SIZE	% PASSING
1 1/2"	100%
1/2"	30 TO 60%
SIEVE #4	5% MAX
US No. 200	2% MAX

GUTTER SLOPE (%)	THICKNESS
0.0 – 0.5	7.0"
0.5 – 1.5	7.5"
1.5 – 2.5	8.0"
2.5 – 3.5	9.0"
3.5 – 4.5	10.0"
4.5 – 5.5	11.0"
5.5 – 6.5	12.0"
6.5 – 7.5	13.0"
7.5 – 8.5	14.0"
8.5 – 9.5	15.0"
9.5 & GREATER	IMPERVIOUS S/W ONLY



**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 260

CITY ENGINEER
CAROL EARLE, P.E.

PERVIOUS SIDEWALK 1

DATE: 4/1/2019

REVISED BY: PCB/JHH

PERVIOUS SIDEWALK NOTES:

1. COMPACTION REQUIREMENTS
 - A. THE BERM SHALL CONSIST OF NATIVE MATERIALS AND/OR FILL MATERIAL.
 - B. THE BERM SHALL BE COMPACTED TO 95% OF MAXIMUM (TOP OF BERM ONLY).
 - C. NO COMPACTION OF NATIVE MATERIALS OUTSIDE OF BERMS.

2. SIDEWALK CONSTRUCTION REQUIREMENTS
 - A. CONCRETE SUPPLIER SHALL SUBMIT A MIX DESIGN AND BATCHING PROCEDURE TO CITY ENGINEER PRIOR TO BATCHING PERVIOUS CONCRETE.
 - B. CONCRETE SHALL NOT BE BATCHED IF AIR TEMPERATURE IS GREATER THAN 87° F.
 - C. THE CONTRACTOR SHALL BE REQUIRED TO HAVE A KNOWLEDGEABLE FOREMAN ON THE JOB DURING ALL POURING AND FINISHING WORK TO ENSURE PROPER PERVIOUS CONCRETE INSTALLATION.
 - D. CITY SHALL BE NOTIFIED 24 HOURS PRIOR TO CONCRETE PLACEMENT.
 - E. EXPANSION JOINTS TO BE PLACED AT SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, CURB RAMPS, AND/OR POINTS OF TANGENCY IN CURB AS SHOWN ON THE STANDARD DRAWINGS FOR SIDEWALK RAMPS, AND AT SPACING NOT TO EXCEED 200’.
 - F. SIDEWALKS SHALL HAVE A MINIMUM THICKNESS OF 6” IF MOUNTABLE CURB IS USED OR IF SIDEWALK IS INTENDED AS PORTION OF DRIVEWAY. OTHERWISE SIDEWALK SHALL HAVE A MINIMUM THICKNESS OF 4”.
 - G. CONCRETE SHALL BE FINISHED SMOOTH.

3. QUALITY TESTING:
 - A. PRIOR TO FINAL ACCEPTANCE THE CONTRACTOR SHALL SCHEDULE AND PERFORM A PRESSURE WASH TEST ON THE PERVIOUS SIDEWALK IN THE PRESENCE OF CITY INSPECTORS
 - a. PRESSURE WASHER SHALL BE SHOWN TO WORK AT A MINIMUM OF 3000 PSI AND 1.0 GPM.
 - b. NOZZLE SHALL BE HELD A MAXIMUM OF 3” OFF THE CONCRETE.
 - c. CONTRACTOR SHALL WASH THE ENTIRE TOP SURFACE OF THE PERVIOUS CONCRETE SIDEWALK.
 - d. ANY PANELS THAT BREAK UP, PIT CRACK OR DO NOT INFILTRATE SHALL BE REPLACED AND RETESTED.



**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

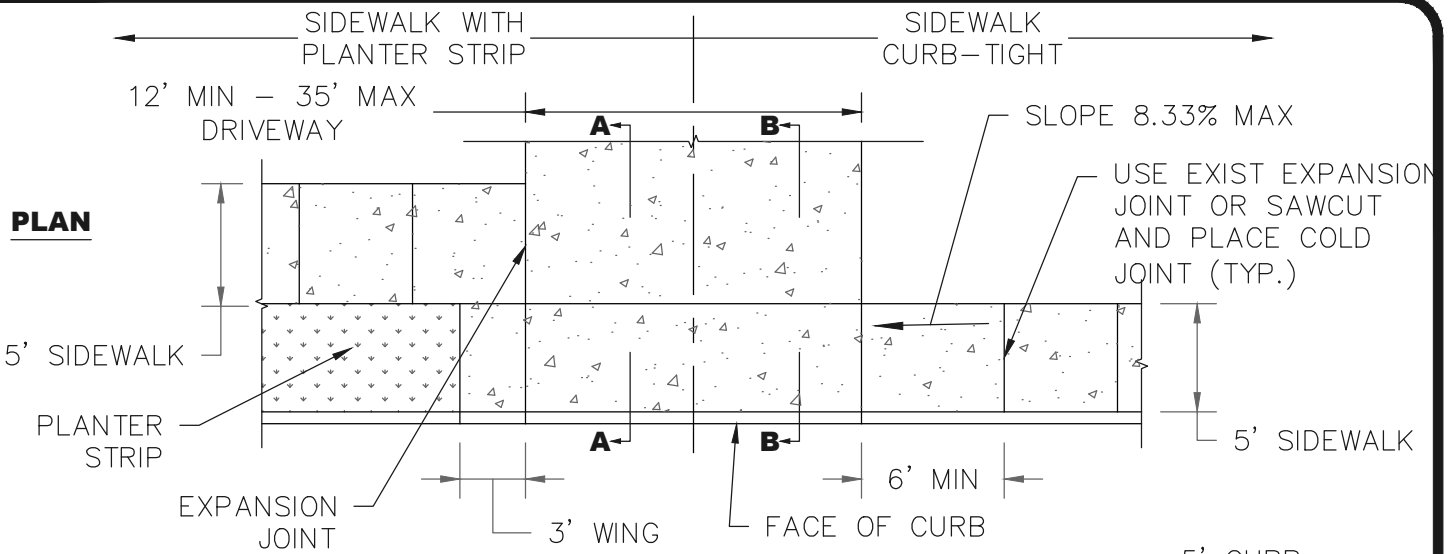
DWG NO: 261

CITY ENGINEER
CAROL EARLE, P.E.

PERVIOUS SIDEWALK 2

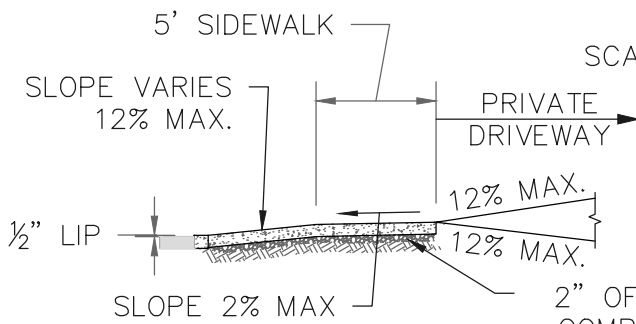
DATE: 4/1/2019

REVISED BY: PCB/JHH

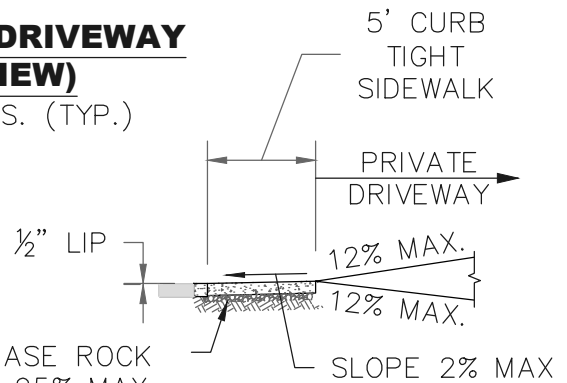


**RESIDENTIAL DRIVEWAY
(PLAN VIEW)**

SCALE = N.T.S. (TYP.)



SECTION A - A



SECTION B - B

2" OF 3/4"-0" BASE ROCK
COMPACTED TO 95% MAX
DENSITY PER AASHTO T-180

NOTES:

1. CURB JOINT SHALL BE A TROWELED JOINT WITH A MINIMUM 1/2" RADIUS ALONG BACK OF CURB.
2. EXPANSION JOINT MATERIAL SHALL BE PREFORMED FILLER NOT LESS THAN 1/2" WIDE AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00759.
3. CONCRETE SHALL HAVE A BROOM FINISH AND EDGE ALL JOINTS.
4. IF DURING CURB REMOVAL THE GUTTER BECOMES SEPERATED FROM THE STREET SURFACE IN EXCESS OF 1/16", THEN THE GUTTER SHALL ALSO BE REMOVED AND REPLACED.
5. SLOPE OF THE DRIVEWAY MAY BE AWAY FROM THE CURB WHEN PRE-APPROVED BY THE CITY ENGINEER.
6. EDGE OF DRIVEWAY WINGS MUST BE A MINIMUM OF 10' FROM ANY FIRE HYDRANTS.
7. SECTION A-A MAY BE USED FOR CURB-TIGHT SIDEWALK DRIVEWAY APRONS IF SIDEWALK WIDTH IS 10' OR GREATER.

DRIVEWAY WIDTH	CONCRETE THICKNESS	CONCRETE TYPE
< 24'	6"	COMMERCIAL MIX W/A 28-DAY COMPRESSIVE STRENGTH OF 3300psi. SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00440.
≥ 24'	7"	

**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

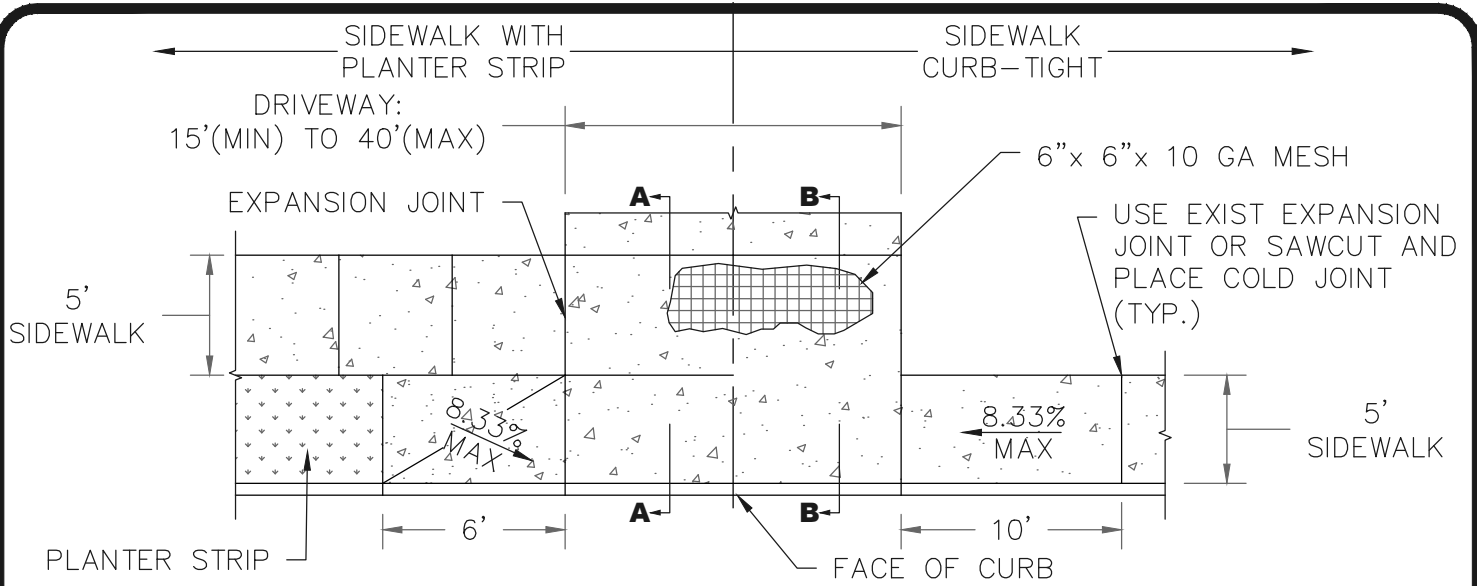
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RESIDENTIAL DRIVEWAY

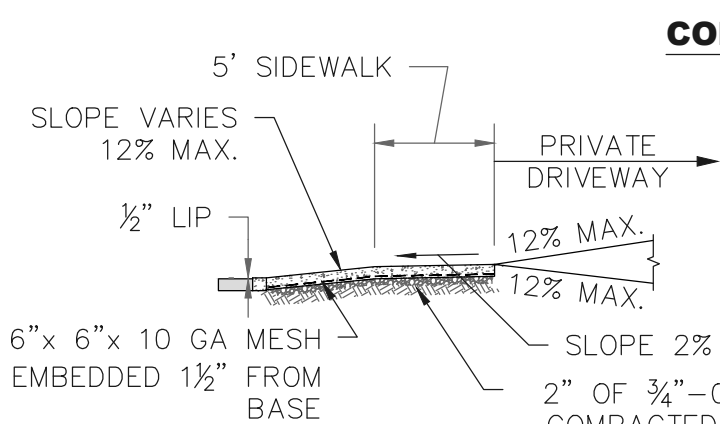
CITY ENGINEER
CAROL EARLE, P.E.

DATE: 4/1/2019

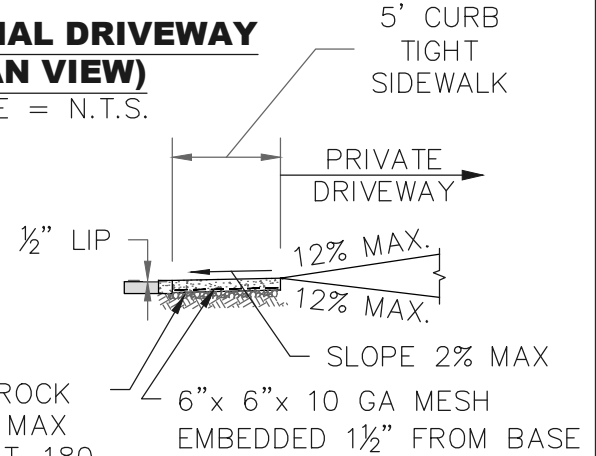
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**COMMERCIAL DRIVEWAY
(PLAN VIEW)**
SCALE = N.T.S.



SECTION A - A



SECTION B - B

NOTES:

- CURB JOINT SHALL BE A TROWELED JOINT WITH A MINIMUM 1/2" RADIUS ALONG BACK OF CURB.
- EXPANSION JOINT MATERIAL SHALL BE PREFORMED FILLER NOT LESS THAN 1/2" WIDE AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00759.
- CONCRETE SHALL HAVE A BROOM FINISH AND EDGE ALL JOINTS.
- IF DURING CURB REMOVAL THE GUTTER BECOMES SEPERATED FROM THE STREET SURFACE IN EXCESS OF 1/16", THEN THE GUTTER SHALL ALSO BE REMOVED AND REPLACED.
- SLOPE OF THE DRIVEWAY MAY BE AWAY FROM THE CURB WHEN PRE-APPROVED BY THE CITY ENGINEER.
- EDGE OF DRIVEWAY WINGS MUST BE A MINIMUM OF 10' FROM ANY FIRE HYDRANTS.

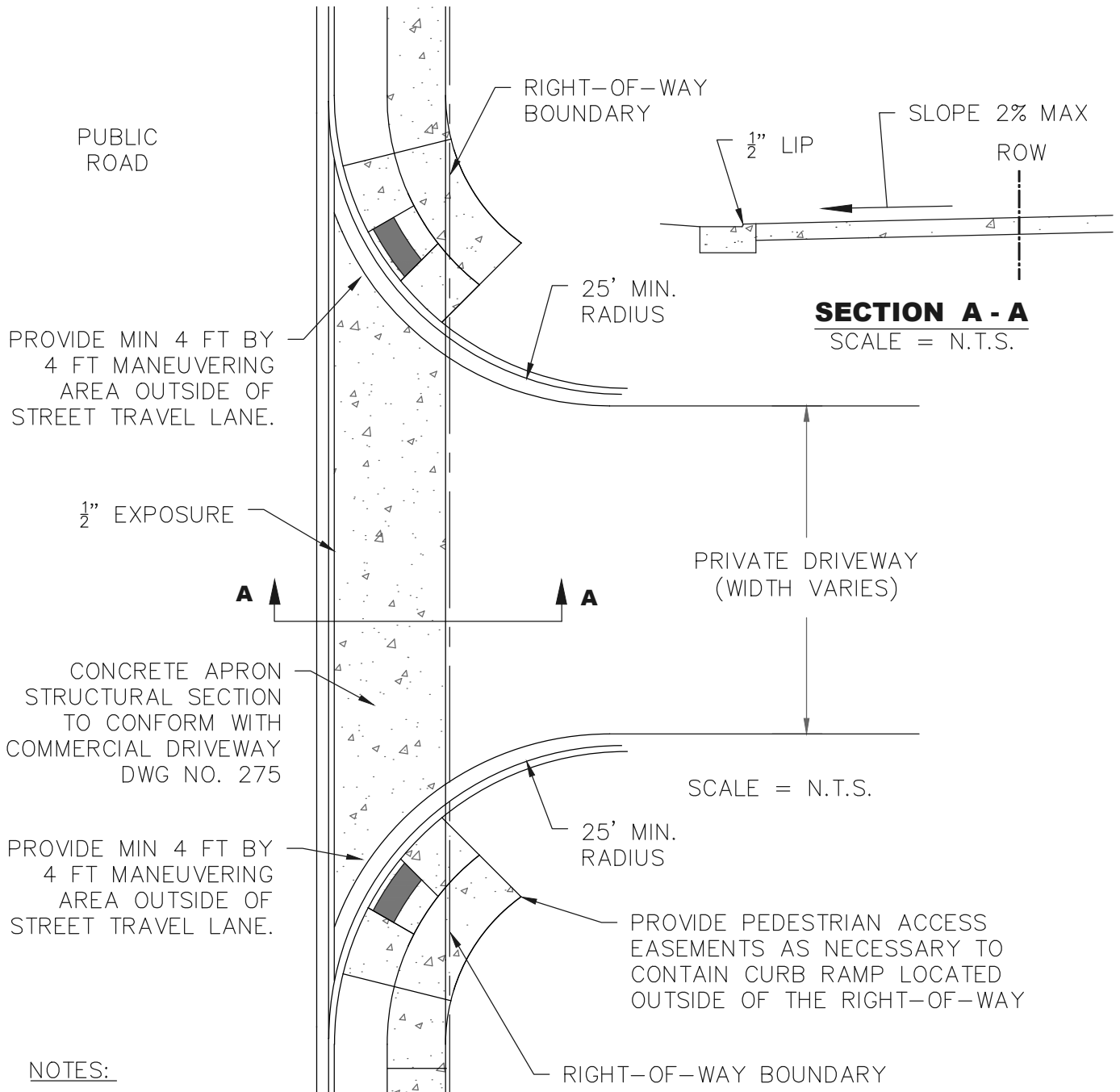
DRIVEWAY WIDTH	CONCRETE THICKNESS	CONCRETE TYPE
< 24'	6"	COMMERCIAL MIX W/A 28-DAY COMPRESSIVE STRENGTH OF 3300psi. SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00440.
≥ 24'	7"	

**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 275

COMMERCIAL DRIVEWAY

CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH
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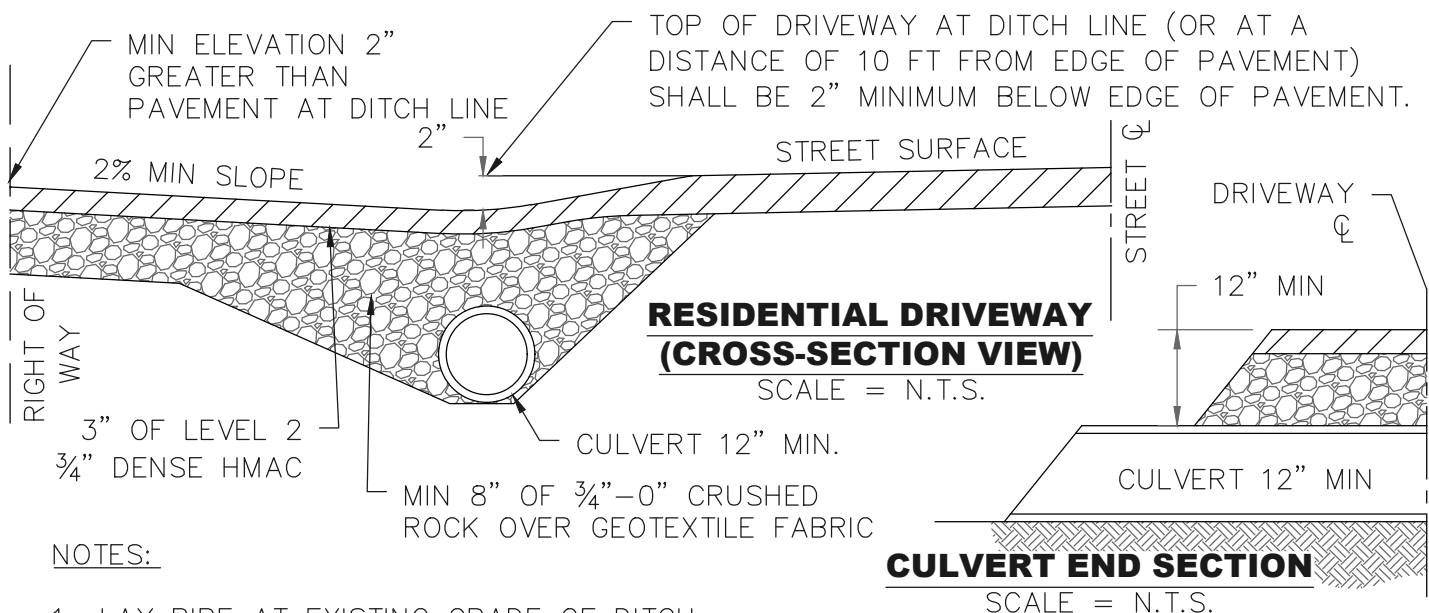
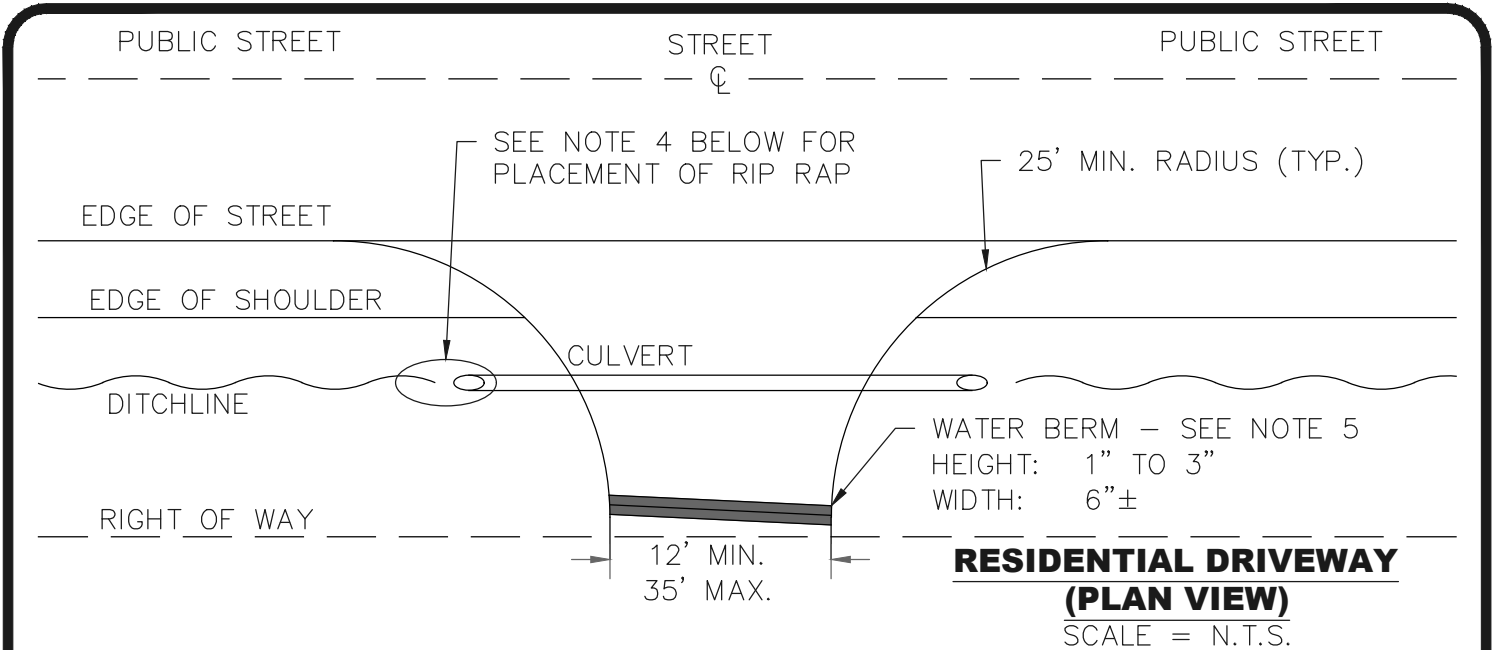


NOTES:

1. SIDEWALK RAMP SHALL MEET CURRENT ADA STANDARDS. CONSTRUCT ALL RAMPS PERPENDICULAR TO THE CURB. SEE DWG NO. 245.
2. DETECTABLE WARNING SHALL BE TRUNCATED DOME TYPE, 24" LONG IN DIRECTION OF TRAVEL AND FULL WIDTH OF RAMP, WITH DOMES ALIGNED ON A SQUARE GRID WITH ITS GRIDLINES PARALLEL AND PERPENDICULAR TO THE CENTERLINE OF THE RAMP. COLOR OF DETECTABLE WARNING SURFACE SHALL BE YELLOW AND CONTRAST FROM ADJACENT SURFACE.
3. CURB INLET OR CATCH BASIN SHALL NOT BE ALLOWED IN FRONT OF RAMP.

**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 280	COMMERICAL DRIVEWAY WITH CURBS	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH

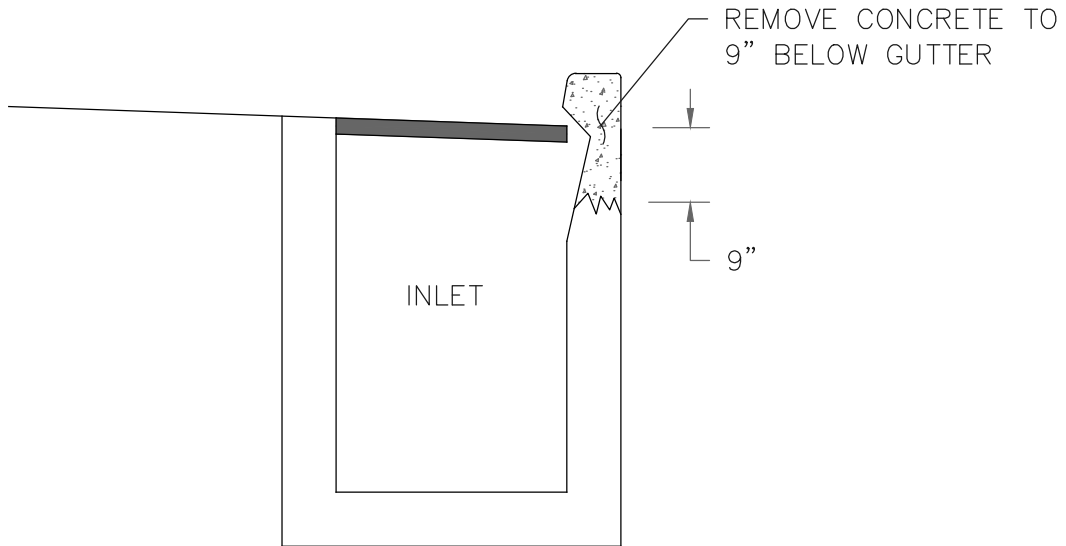


NOTES:

1. LAY PIPE AT EXISTING GRADE OF DITCH.
2. PIPE SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS TO SUPPORT H-20 LOADING.
3. ACCEPTABLE PIPE MATERIAL - CONCRETE, PVC, HDPE, DUCTILE IRON.
4. PROVIDE 5'X5'X12" DEEP CLASS 10 RIP-RAP AT PIPE OUTLET WHEN THE PIPE SLOPE IS GREATER THAN 5%.
5. WATER BERM REQUIRED WHERE DRIVEWAY CONTINUES PAST ROW OF WAY LINE AT A SLOPE GREATER THAN 10%. PURPOSE OF BERM TO TO KEEP WATER FLOW OFF OF PUBLIC ROAD. WATER BERM REQUIRES A TACK COAT OF LIQUID ASPHALT TO BE APPLIED PRIOR TO PLACING THE BERM. CONSTRUCT IN A MANNER TO ENSURE CONTROL OF WATER FLOW INTO DITCH.

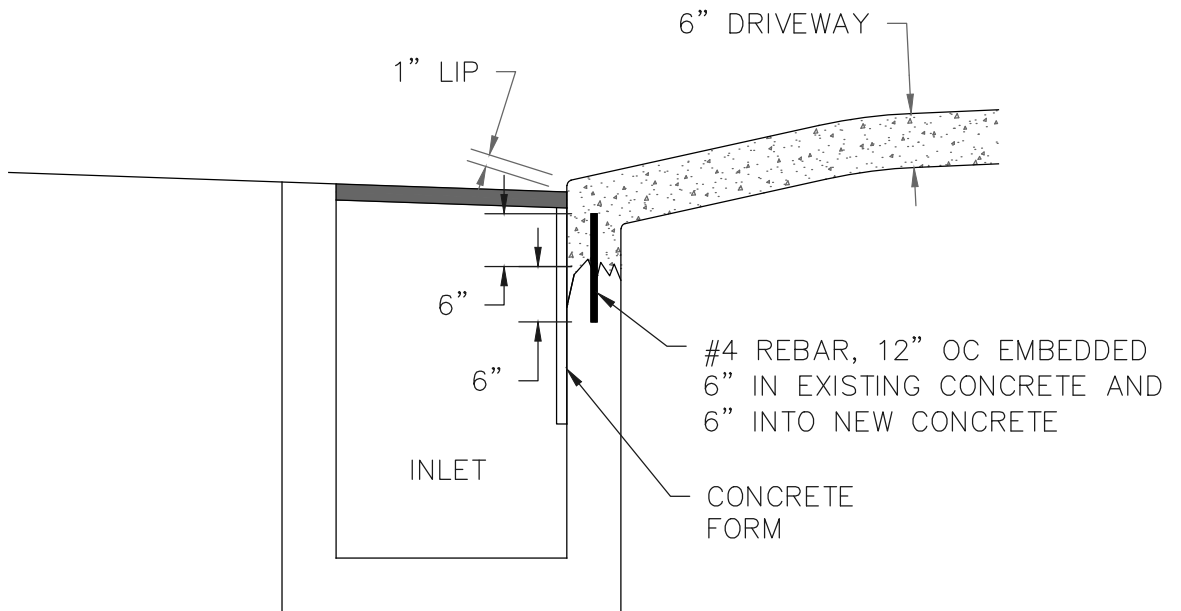
**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 285	RESIDENTIAL DRIVEWAY FOR NON CURBED STREETS	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH



**DEMOLITION OF INLET COLLAR
(CROSS-SECTION VIEW)**

SCALE = N.T.S.



**RE-CONSTRUCTION OF INLET COLLAR
(CROSS-SECTION VIEW)**

SCALE = N.T.S.

NOTE:

1. TO BE USED WHERE AN EXISTING CURBSIDE INLET IS LOCATED IN FRONT OF PROPOSED DRIVEWAY.



CITY OF HAPPY VALLEY
ENGINEERING DIVISION
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 290

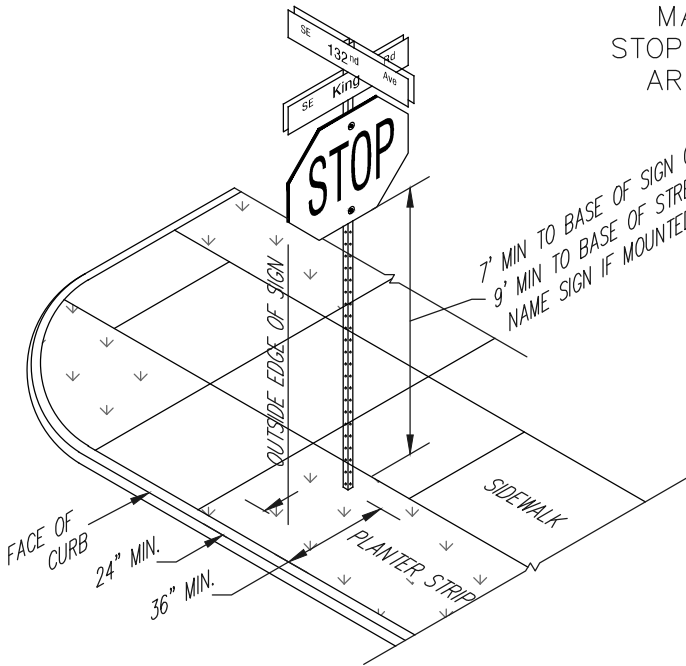
CITY ENGINEER
CAROL EARLE, P.E.

RETROFIT OF INLET AT DRIVEWAY

DATE: 4/1/2019

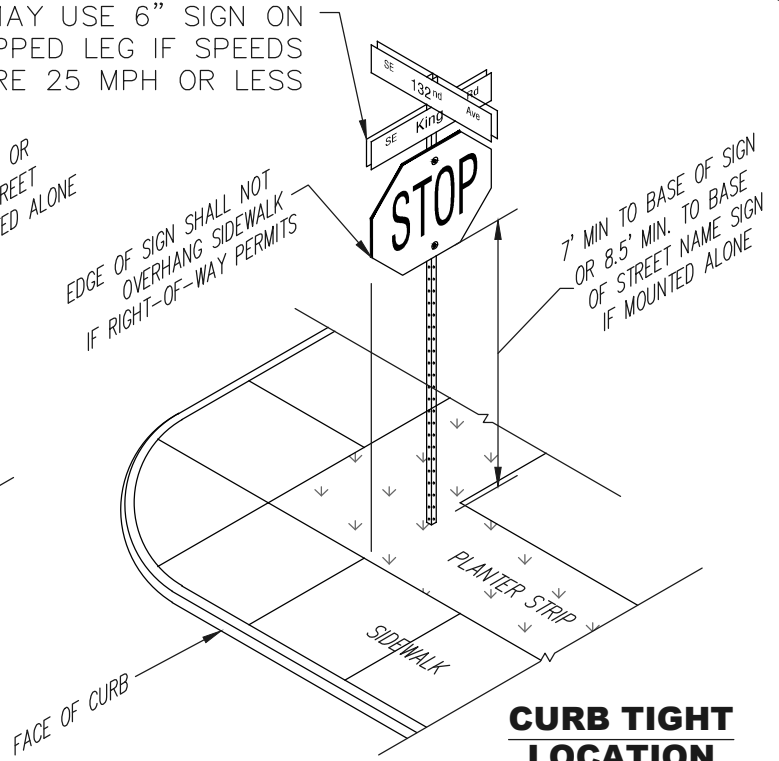
REVISED BY: PCB/JHH

MAY USE 6" SIGN ON STOPPED LEG IF SPEEDS ARE 25 MPH OR LESS



PLANTER STRIP LOCATION

SCALE = N.T.S. (TYP.)



CURB TIGHT LOCATION

SCALE = N.T.S., TYP.

SQUARE SIGN SUPPORT ANCHOR TAPCO, V-LOC, MODEL 200-VS2 INSTALLED IN 3/4"-0" CRUSHED ROCK OUTSIDE OF CONCRETE AREA IF PLACEMENT IN CONCRETE IS NECESSARY CITY APPROVAL OF MOUNTING SYSTEM IS REQUIRED

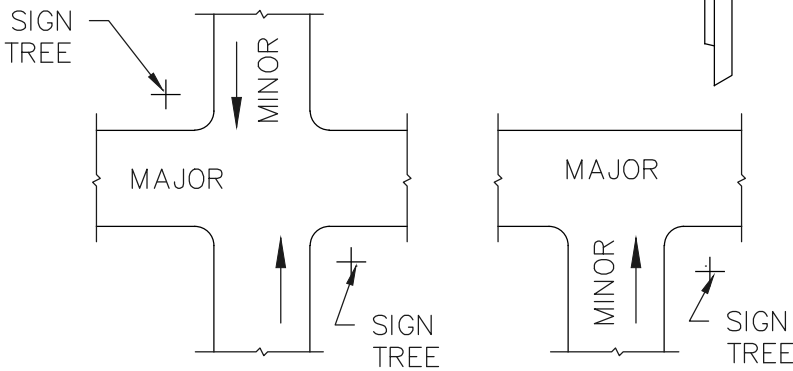
PREDRILLING ON 1" CENTERS FOR RIVETING TO POST



TYPICAL SIGN ATTACHMENT

SIGN POST ANCHOR

5" MIN. IMBEDMENT



CROSS INTERSECTION TEE INTERSECTION

TYPICAL STREET SIGN LOCATIONS

GENERAL NOTES:

1. SIGNS SHALL BE AFFIXED TO SIGN POSTS USING ALUMINUM DRIVE RIVETS THAT LAY FLUSH WITH SIGN PANEL AFTER INSTALLATION.
2. NO PARKING SIGNS SHALL BE INSTALLED AT A 45 DEGREE ANGLE TO THE DIRECTION OF TRAFFIC.
3. A 2"X2" GA GALVANIZED "UNISTRUT TELESAR" OR 12 GA PERFORATED POSTS OR APPROVED EQUIVALENT SHALL BE USED. SIGN COMBINATION AND MINIMUM SIGN MOUNTING HEIGHT SHALL DETERMINE POST LENGTH.
4. SEE ADDITIONAL SIGNAGE NOTES AND REQUIREMENTS ON DWG NO. 305.



CITY OF HAPPY VALLEY
ENGINEERING DIVISION
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

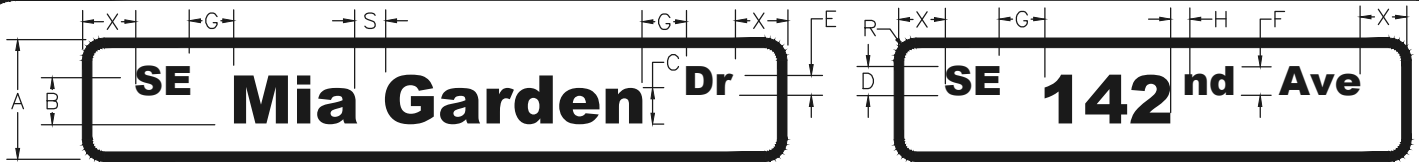
DWG NO: 300

CITY ENGINEER
CAROL EARLE, P.E.

STREET SIGNING

DATE: 4/1/2019

REVISED BY: PCB/JHH



POSTED SPEED (MPH)	PANEL HT. A	PRIMARY LETTERING SIZE		SUPPLEMENTAL LETTERING SIZE		SUPER-SCRIPT HT. (rd,th,st) F	SPACING BETWEEN CHARACTERS		BORDER RADIUS R	SPACE S
		UPPER B	LOWER C	UPPER D	LOWER E		G	H		
< 25	6	4	3	2½	2	2	1½	½	1½	5/8 B
> 30	8 OR 9	6	4½	4	3	3	2½	¾	1 ½	5/8 B

TABLE NOTES:

- ALL UNITS IN INCHES UNLESS SHOWN OTHERWISE.
- X, Y = ½ OF REMAINING SPACE. SHOULD BE APPROXIMATELY EQUAL TO LETTER HT (B) AND NO LESS THAN ½ B.

GENERAL NOTES:

1. CONTRACTOR SHALL SUPPLY AND INSTALL ALL SIGNS, AND SHALL BE RESPONSIBLE FOR STAKING SIGN LOCATIONS AND OBTAINING UTILITY LOCATES FOR STAKED SIGN LOCATIONS. SIGNS SHALL BE LOCATED PER TYPICAL SIGN LOCATION AS SHOWN ON DWG. NO. 300 OR AS SHOWN ON PLANS.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THE FINAL STREET NAMES WITH THE CITY BEFORE ORDERING AND INSTALLING STREET NAME SIGNS.
3. SIGNING TO COMPLY TO THE MANUAL OF TRAFFIC CONTROL DEVICES (MUTCD, LATEST ED.)

SIGN PANELS

4. ALL SIGNS SHALL BE ALUMINUM WITH 0.08 MIN THICKNESS.
5. SIGN PANELS SHALL BE AFFIXED TO SIGN POSTS USING ALUMINUM DRIVE RIVETS THAT LAY FLUSH WITH SIGN FACE AFTER INSTALLATION.
6. SIGNING IS TO BE RETROREFLECTIVE AND ASTM TYPE III OR TYPE I

LETTERING

7. LETTERING SHALL BE FHWA SERIES C AT 100% WIDTH UNLESS SPECIFIED OTHERWISE.
8. THE PREFIX SHALL BE ABBREVIATED UPPER-CASE LETTERS.
9. THE STREET NAME SHALL CONSIST OF LOWER-CASE LETTERS WITH AN INITIAL UPPER-CASE LETTER.
10. THE SUFFIX SHALL BE ABBREVIATED AND CONSIST OF AN INITIAL UPPER-CASE LETTER FOLLOWED BY LOWER-CASE LETTER(S). ("HANGING TAILS")
11. THE DESCENDERS OF LOWER CASE LETTERS SHALL NOT BE USED IN THE VERTICAL SPACING OF THE LETTERING. INCREASE THE SIGN PANEL HEIGHT BY 1" IF "HANGING TAILS" ARE USED.

STREET NAME SIGN SPECIFICATIONS

12. STREET NAME SIGN COLOR:

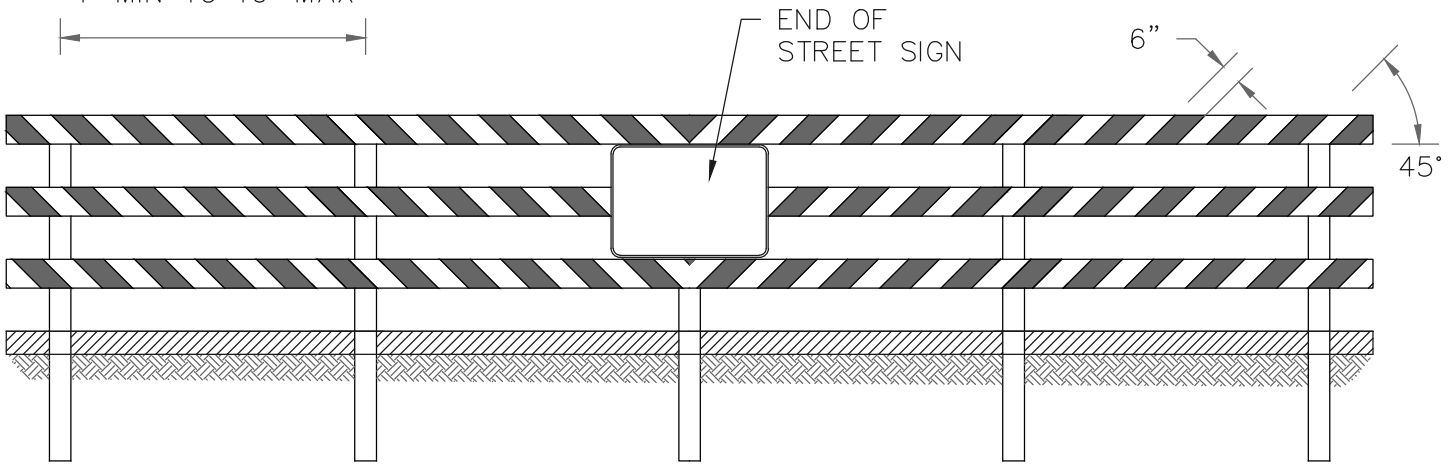
- CITY AND PUBLIC ROAD SIGNS SHALL BE GREEN WITH WHITE LETTERS.
- PRIVATE ROAD SIGNS SHALL BE WHITE WITH BLACK LETTERS.
- COMMON PREFIX AND SUFFIX ABBREVIATIONS:

AVE = AVENUE	DR = DRIVE	PKWY= PARKWAY	ST = STREET
BLVD = BOULEVARD	LN = LANE	PL = PLACE	TER = TERRACE
CIR = CIRCLE	LP = LOOP	RD = ROAD	WAY = WAY
CT = COURT			

**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

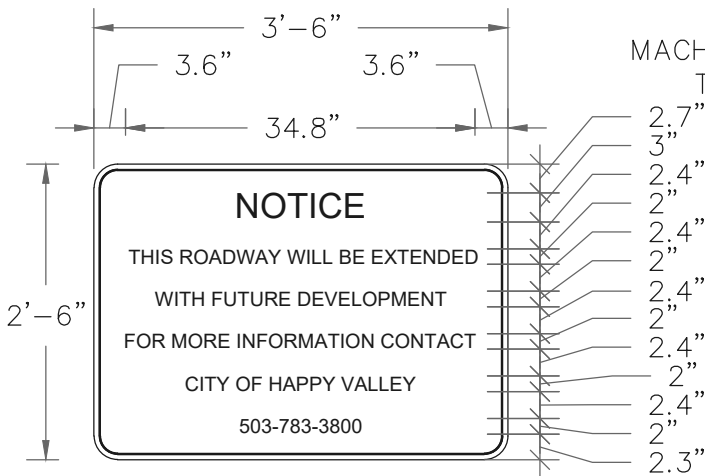
DWG NO: 305	STREET SIGNING NOTES	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH

POST SPACING, TYP.
4' MIN TO 10' MAX



STREET BARRICADE

SCALE = N.T.S.



- INSTALL IN CENTER OF STREET BARRICADES.
- REFLECTIVE WHITE WITH BLACK 0.5" BORDER.
- 0.080 THICK ALUMINUM
- 3" CORNER RADIUS.
- ASTM TYPE III/IV

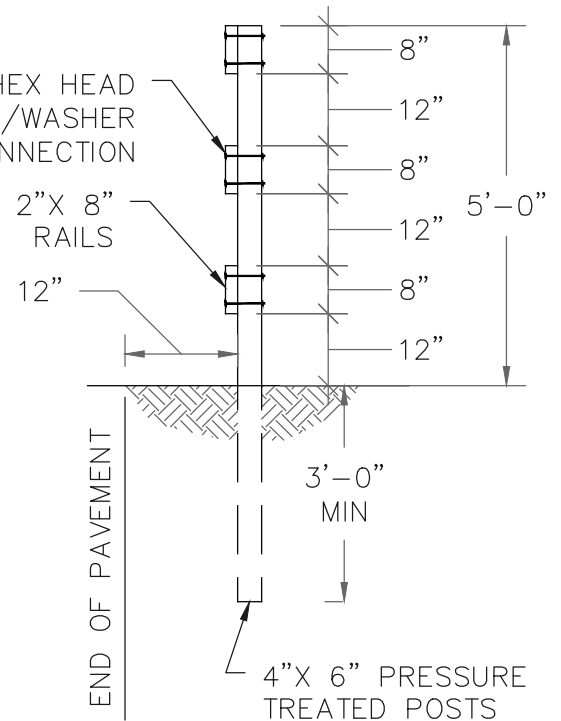
END OF STREET SIGN

SCALE = N.T.S.

NOTES:

1. STREET BARRICADES SHALL BE USED TO WARN ROAD USERS OF THE END OF A STREET WHERE A DROP OFF HAZARD EXISTS (SLOPES GREATER THAN 3:1). IF THERE IS NO DROP OFF HAZARD USE DWG NO. 315.
2. RAILS ARE TO BE WHITE AND RED UNCAPSULATED LENS SHEETING, 0.08 THICK ALUMINUM.
3. SEE SECTION 6F.68 TYPE 1, 2 OR 3 BARRICADES FROM THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD, LATEST EDITION).

5/8" GALV. HEX HEAD
MACHINE BOLT W/WASHER
TWO PER CONNECTION



STREET BARRICADE

CROSS-SECTION

SCALE = N.T.S.



CITY OF HAPPY VALLEY
ENGINEERING DIVISION
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

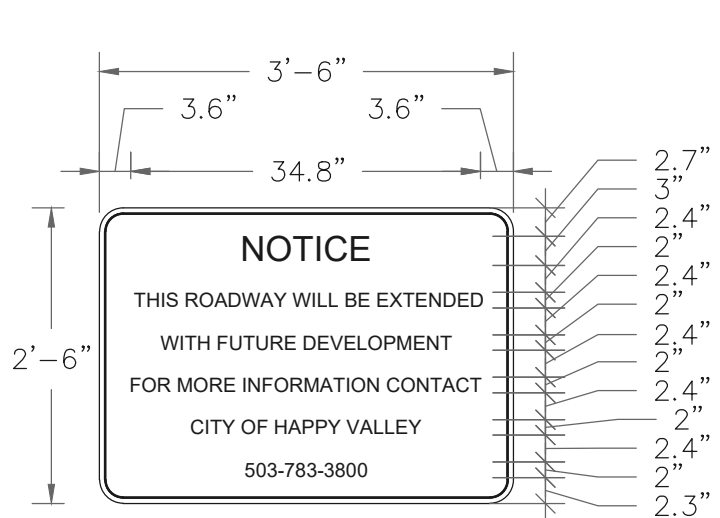
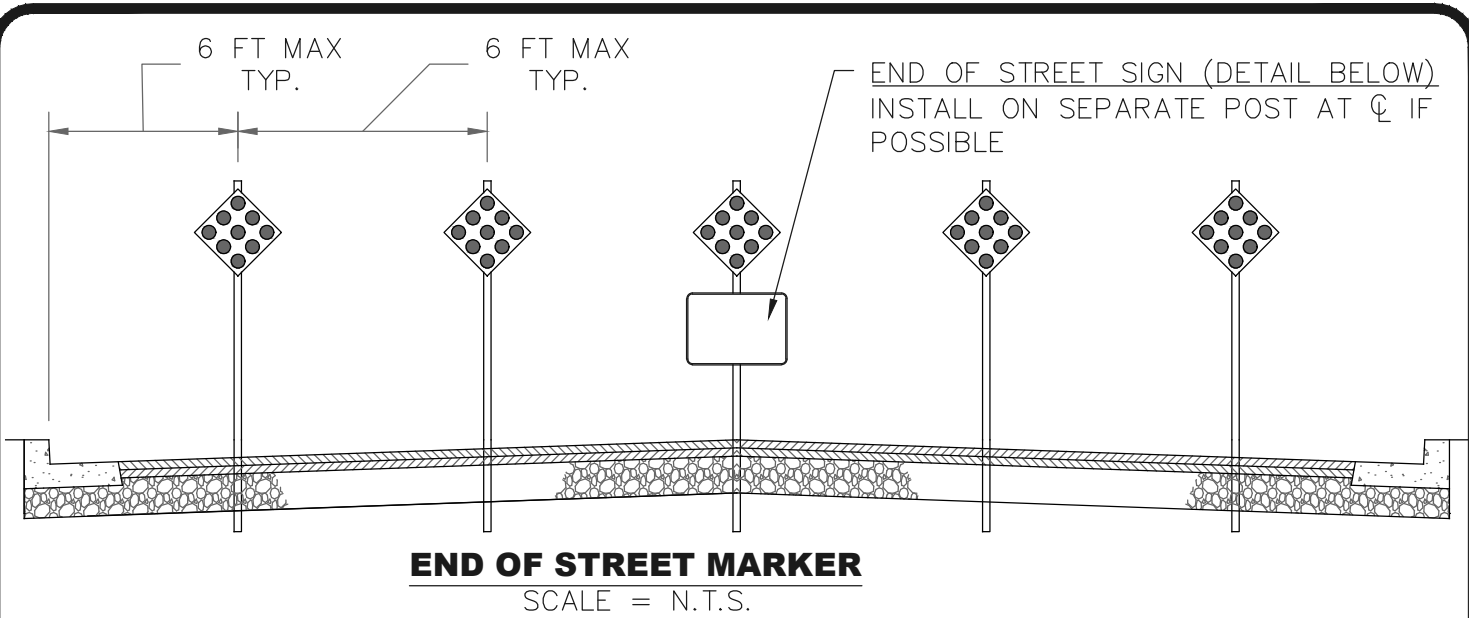
DWG NO: 310

CITY ENGINEER
CAROL EARLE, P.E.

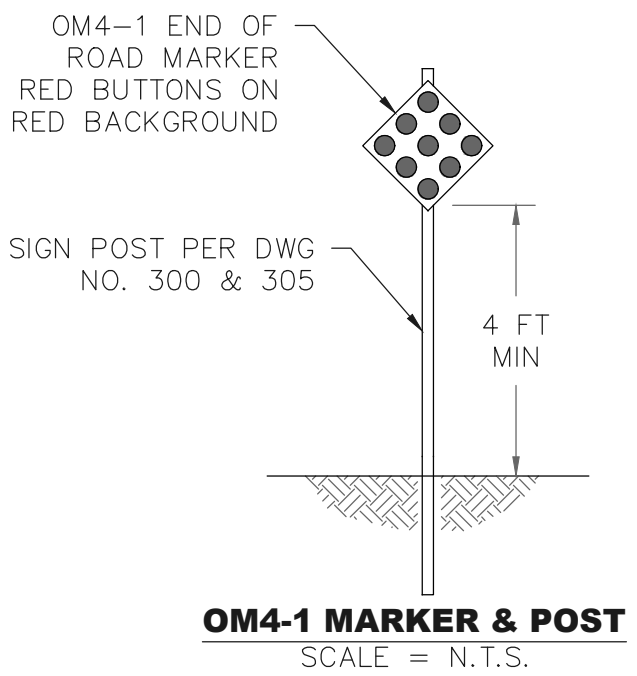
TYPE III STREET BARRICADE

DATE: 4/1/2019

REVISED BY: PCB/JHH



- INSTALL IN CENTER OF STREET BARRICADES.
- REFLECTIVE WHITE WITH BLACK 0.5" BORDER.
- 0.080 THICK ALUMINUM
- 3" CORNER RADIUS.
- ASTM TYPE III/IV

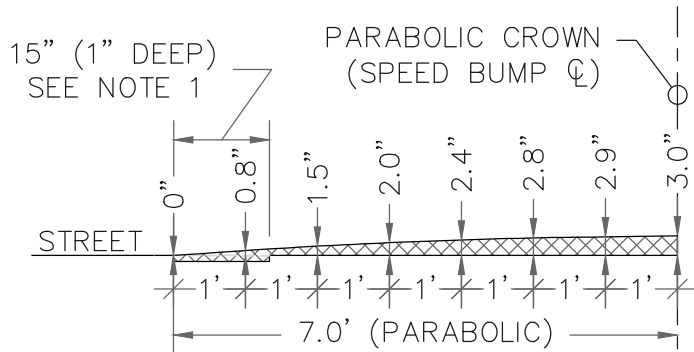
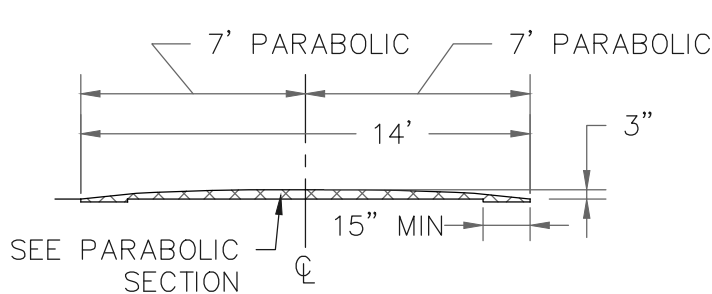
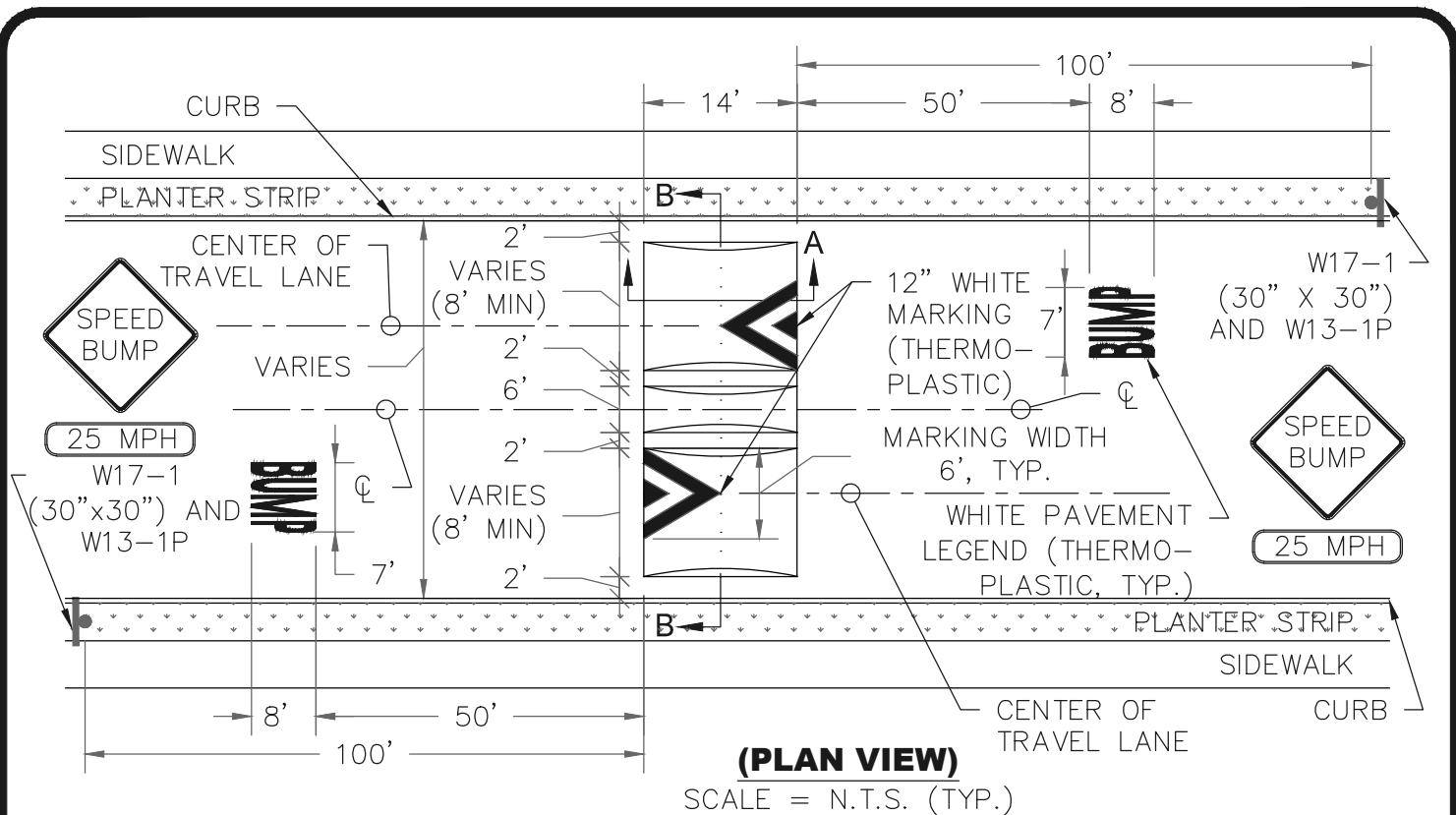


NOTES:

1. END OF STREET MARKERS SHALL BE USED TO WARN ROAD USERS OF THE END OF A STREET WHERE NO DROP OFF HAZARD EXISTS (SLOPES GREATER THAN 3:1). IF THERE IS A DROP OFF HAZARD USE DWG NO. 310.
2. SEE SECTION 2C.66 OBJECT MARKERS FOR ENDS OF ROADWAYS FROM THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD, LATEST EDITION).

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16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 315	END OF STREET MARKERS	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH

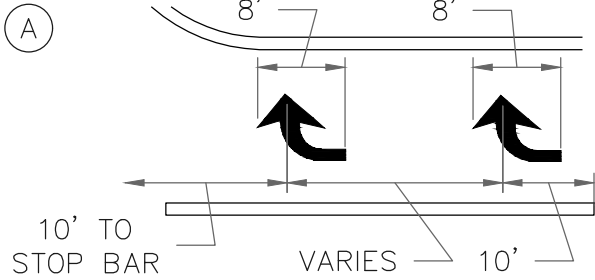


NOTES:

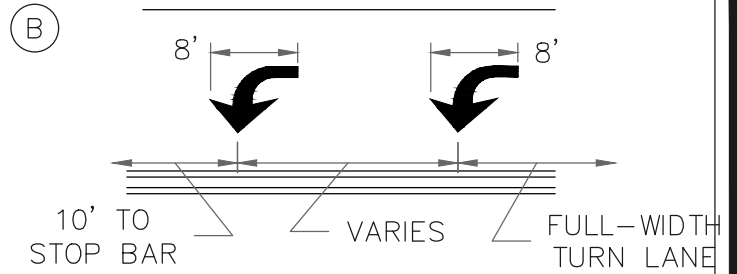
1. GRIND 1" DEEP X 15" WIDE FOR EXTRA DEPTH AT BUMP EDGE. SEE PARABOLIC SECTION.
2. APPLY TACK COAT OVER AIR-BLOWN CLEANED AND SWEEPED ASPHALT CONCRETE.
3. ASPHALT SHALL BE ROLLED FOR COMPACTION.
4. FINISH EDGES BY APPLYING TACK COAT AND SAND SWEEPING. TACK COAT SHALL CONFORM TO ODOT SECTION 00730.
5. SURFACES OUTSIDE APPROVED WORK AREAS TO BE KEPT CLEAN AND FREE OF BITUMEN AND ASPHALT.
6. IF A SERIES OF SPEED BUMPS EXISTS W13-1P MAY BE ELIMINATED ON ALL BUT THE FIRST SIGN.

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HAPPY VALLEY, OR 97086

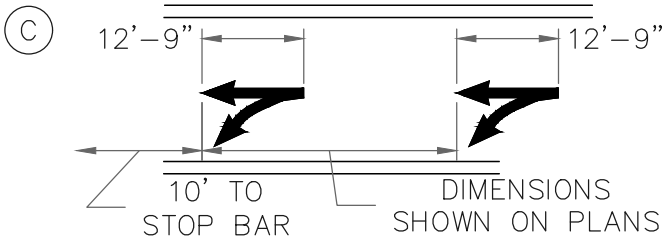
DWG NO: 320	SPEED BUMP	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH



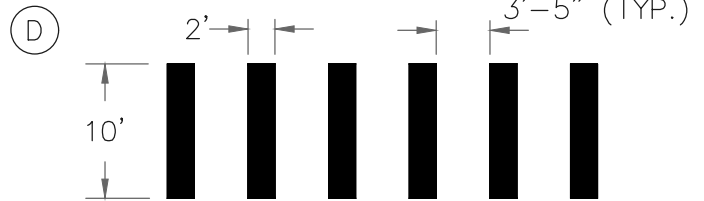
CENTER ARROW IN TURN LANE.
SEE MUTCD FOR DETAILS.
RIGHT TURN LANE MARKINGS



CENTER ARROW IN TURN LANE.
SEE MUTCD FOR DETAILS.
LEFT TURN LANE MARKINGS



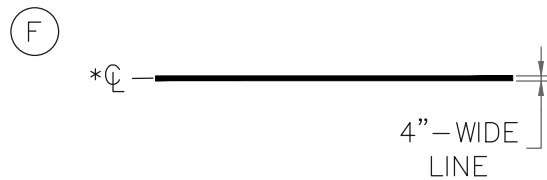
CENTER ARROW IN TURN LANE.
SEE MUTCD FOR DETAILS.
THRU AND TURN LANE MARKINGS



LOCATE CROSSWALKS PER ODOT STANDARD
DRAWING TM530. ADJUST SPACING TO
AVOID WHEEL PATHS.
CROSSWALK



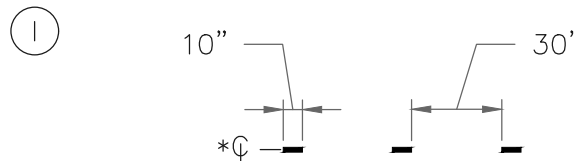
LOCATE STOP BARS PER ODOT STANDARD
DRAWING TM530.
12" STOP BAR



4" WHITE OR YELLOW LINE



8" WHITE LINE



4" YELLOW SKIP CENTER LINE

*CL LANE MARKING DIMENSION LOCATION AT CENTERLINE OF STRIPING UNLESS OTHERWISE NOTED

NOTES:

1. ALL LONGITUDINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, INSTALLED PER ODOT STANDARD SPECIFICATION SECTION 00865 (LATEST EDITION).
2. ALL LEGENDS AND BARS SHALL BE THERMOPLASTIC, INSTALLED PER ODOT STANDARD SPECIFICATION SECTION 00867 (LATEST EDITION).



**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

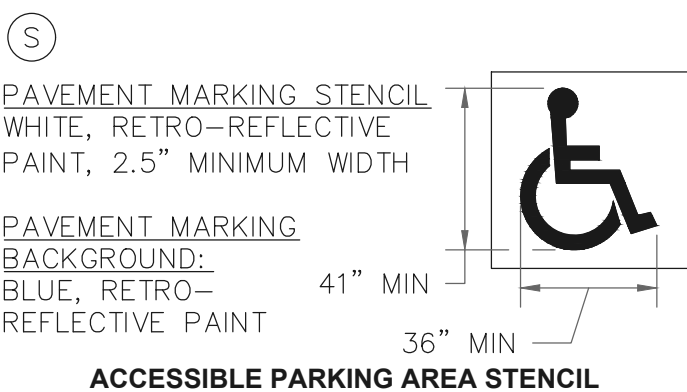
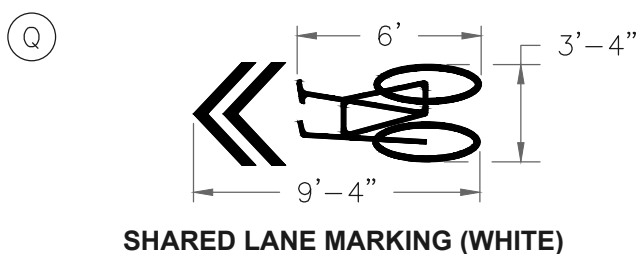
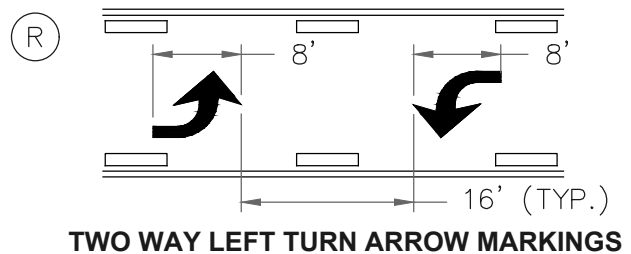
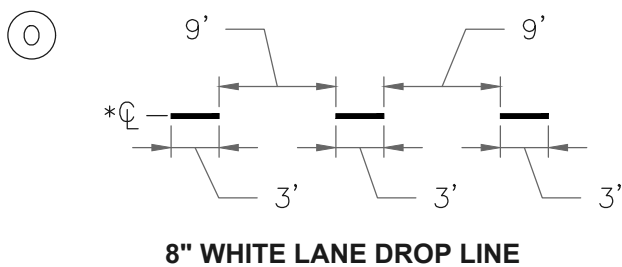
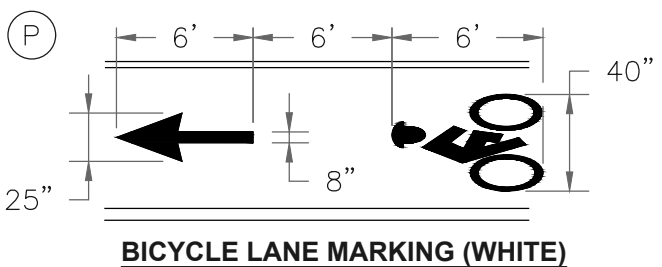
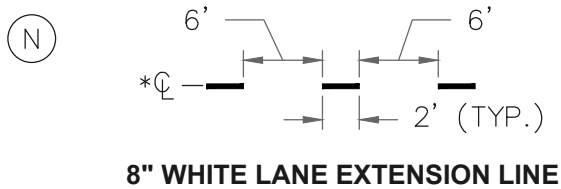
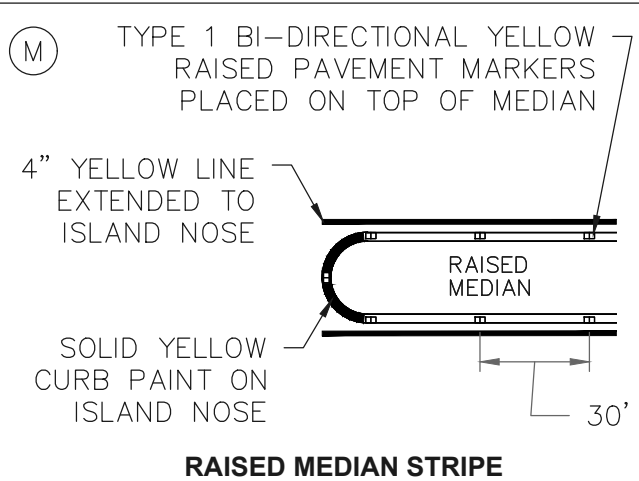
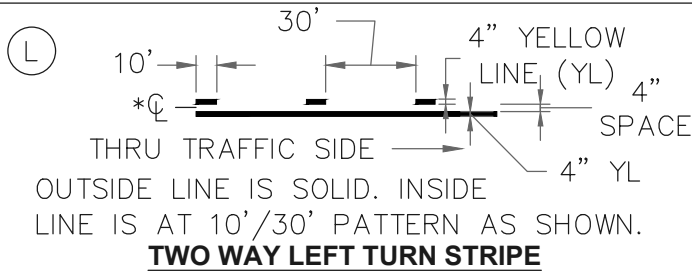
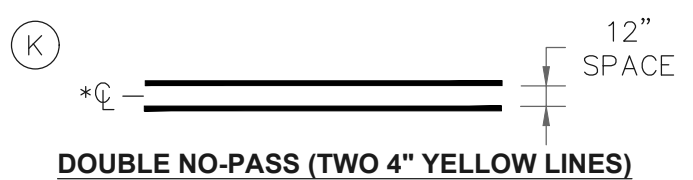
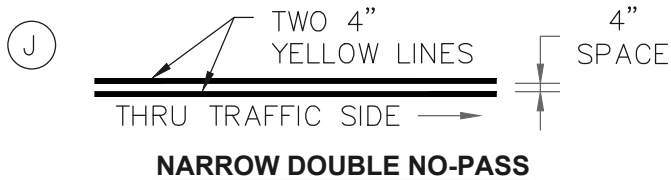
DWG NO: 330

CITY ENGINEER
CAROL EARLE, P.E.

STRIPING DETAILS 1

DATE: 4/1/2019

REVISED BY: PCB/JHH



NOTES:

1. ALL LONGITUDINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, INSTALLED PER ODOT SPECIFICATION SECTION 00865. (LATEST EDITION, LE)
2. ALL LEGENDS AND BARS SHALL BE THERMOPLASTIC, INSTALLED PER ODOT STANDARD SPECIFICATION SECTION 00867. (LE)

*CL LANE MARKING DIMENSION LOCATION AT CENTERLINE OF STRIPING UNLESS OTHERWISE NOTED.



**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

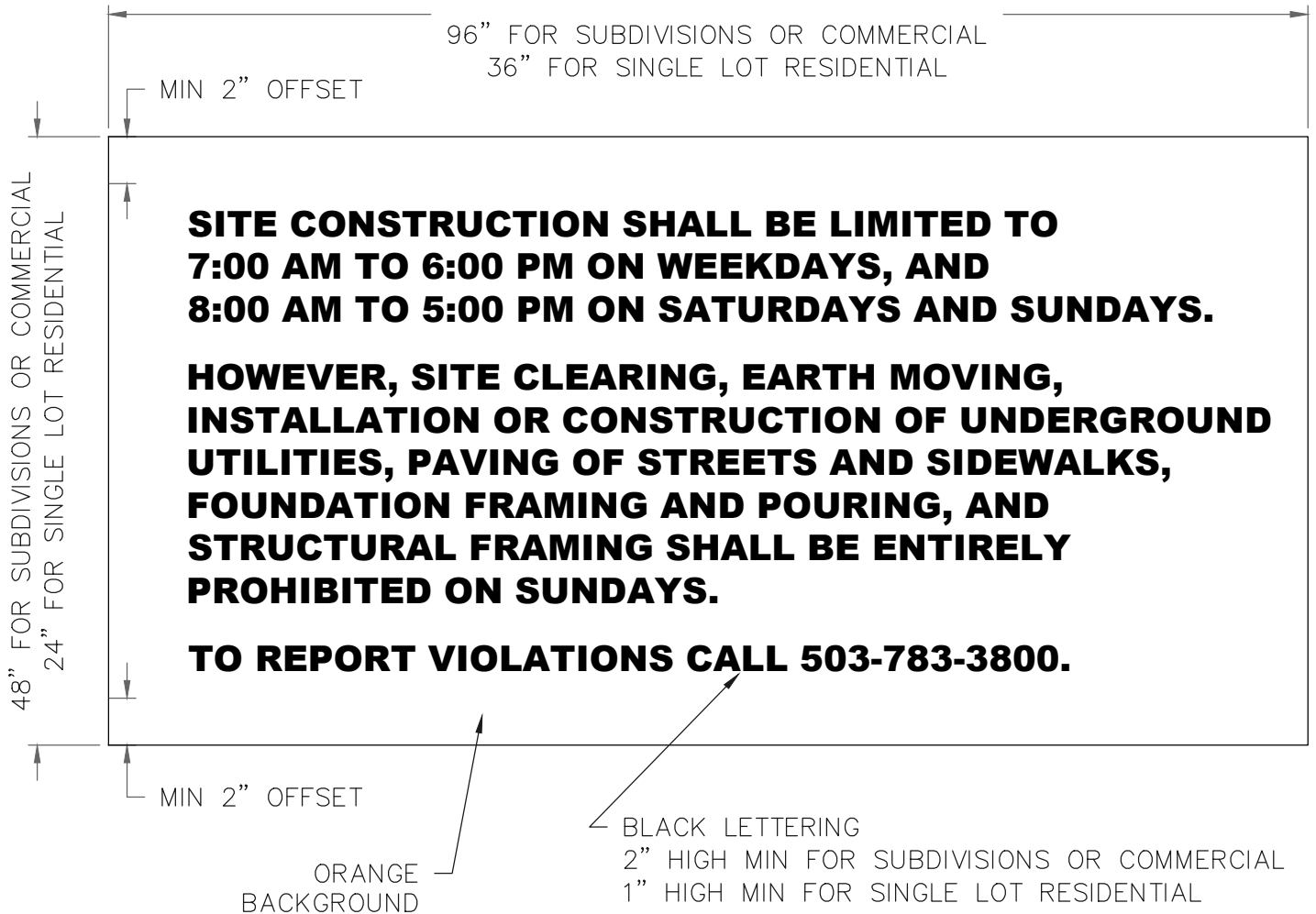
DWG NO: 335

CITY ENGINEER
CAROL EARLE, P.E.

STRIPING DETAILS 2

DATE: 4/1/2019

REVISED BY: PCB/JHH



ORANGE CONSTRUCTION HOURS SIGN
(FRONT VIEW)

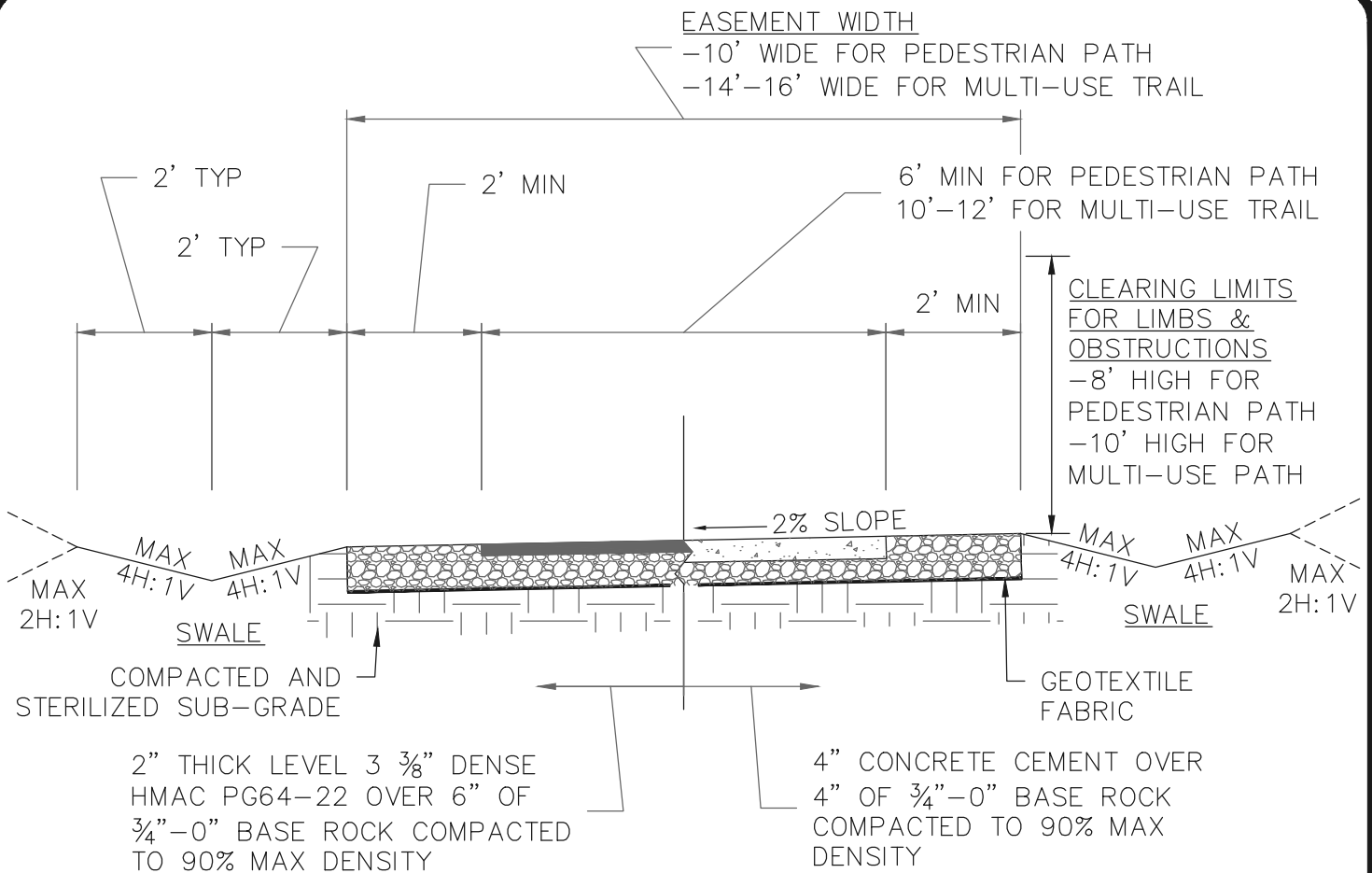
NOTES:

SCALE = N.T.S.

1. THE CONSTRUCTION HOURS NOTICE SIGN SHALL BE POSTED CONSPICUOUSLY AT THE JOB SITE ENTRANCE PRIOR TO SITE CONSTRUCTION, AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
2. FAILURE TO COMPLY WITH THESE HOURS MAY RESULT IN FINES OR A STOP WORK ORDER.
3. THE CITY MANAGER OR THE DIRECTOR OF COMMUNITY SERVICES MAY ALLOW LONGER, OR REQUIRE SHORTER WORK HOURS DEPENDING ON SITE SPECIFIC CONDITIONS. THE FOLLOWING HOLIDAYS ARE CONSIDERED AS SUNDAYS: NEW YEARS DAY, INDEPENDENCE DAY, THANKSGIVING DAY AND CHRISTMAS DAY.
4. NO PAVING ON WEEKENDS OR HOLIDAYS.
5. NOISE SHALL COMPLY WITH CITY CODE 8.08.310.A.6.

**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 350	CONSTRUCTION HOURS NOTICE SIGN	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH



**PEDESTRIAN PATH & MULTI-USE TRAIL
 (CROSS-SECTION VIEW)**

NOTES:

SCALE = N.T.S.

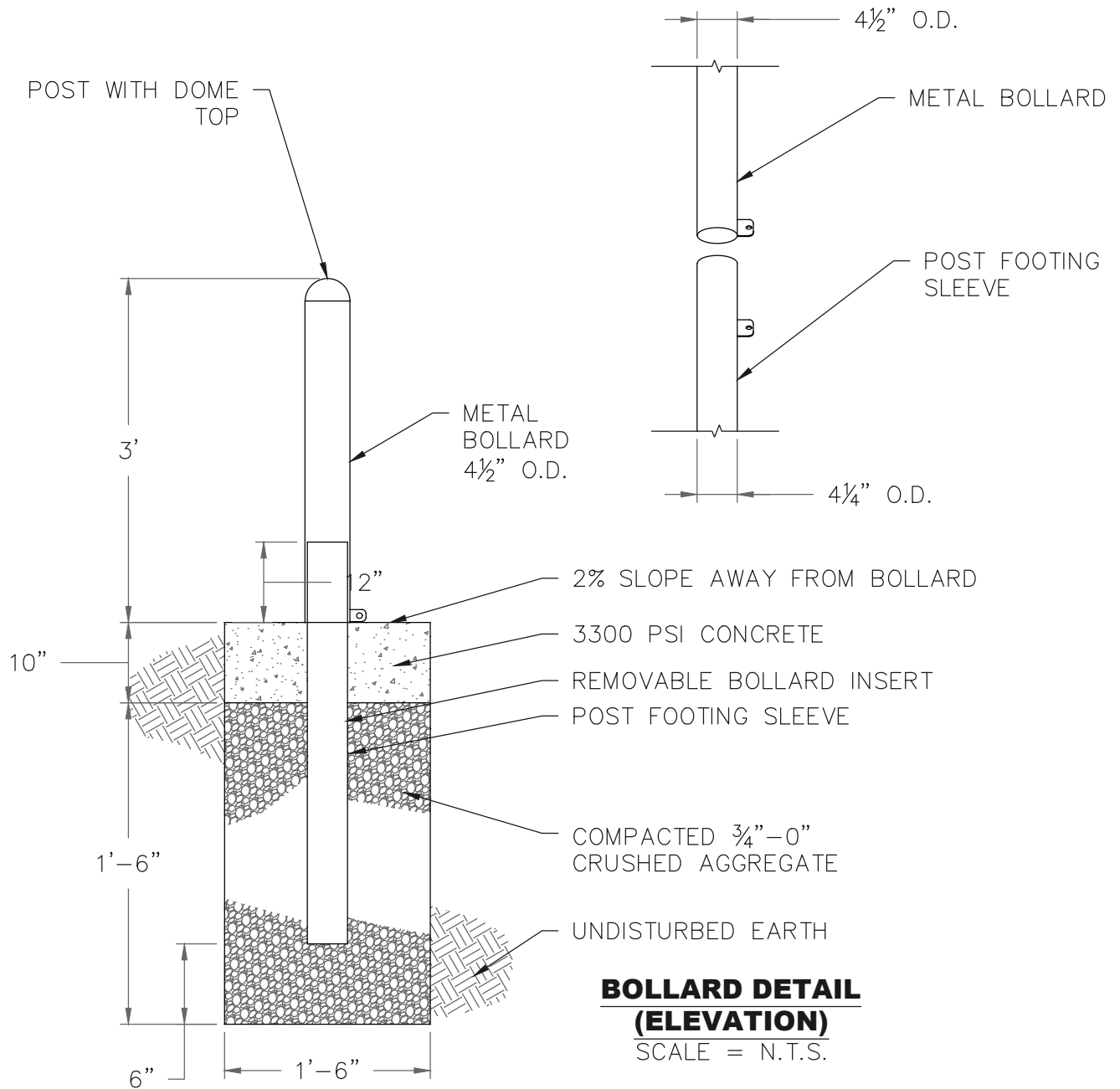
1. REFER TO THE HAPPY VALLEY TRAIL DEVELOPMENT HANDBOOK FOR FURTHER TRAIL DEVELOPMENT GUIDELINES AND RECOMMENDATIONS.
2. MAX ALLOWABLE GRADE IS 20% FOR PEDESTRIAN PATHS AND 10% FOR MULTI-USE TRAILS.
3. PEDESTRIAN PATHS MAY ALTERNATIVELY USE A 8' WIDE CROSS SECTION CONSISTING OF EITHER:
 - 5" OF 3/4"-0" BASE ROCK OR
 - 6" OF 1" TO 1 1/4" HEMLOCK BARK OR
 - 6" OF FIBER ENGINEERED WOOD FIBER OR APPROVED EQUAL
 THE MATERIAL SHALL BE PLACED OVER GEOTEXTILE FABRIC AND COMPACTED/STERILIZED SUBGRADE.
5. CONCRETE SHALL BE A COMMERCIAL MIX WITH A 28 DAY COMPRESSIVE STRENGTH OF 3300 PSI AND SHALL MEET ALL REQUIREMENTS FROM ODOT SECTION 00440.
6. FOR CONCRETE PATHWAY SEE CITY STANDARD DRAWING NO. 250 FOR ADDITIONAL SIDEWALK DETAILS.

**CITY OF HAPPY VALLEY
 ENGINEERING DIVISION**
 16000 SE MISTY DRIVE
 HAPPY VALLEY, OR 97086

DWG NO: 400	PEDESTRIAN PATH & MULTI-USE TRAIL CROSS-SECTIONS	
CITY ENGINEER CAROL EARLE, P.E.	DATE: 4/1/2019	REVISED BY: PCB/JHH

**BOLLARD SLEEVE & POST DETAIL
(CROSS-SECTION VIEW)**

SCALE = N.T.S.



NOTES:

1. DECORATIVE STANDARD BOLLARD MAY BE USED IF PRE-APPROVED BY CITY.
2. BOLLARD TO BE POWDER COATED BLACK OR DARK GREEN.



**CITY OF HAPPY VALLEY
ENGINEERING DIVISION**
16000 SE MISTY DRIVE
HAPPY VALLEY, OR 97086

DWG NO: 410

CITY ENGINEER
CAROL EARLE, P.E.

BOLLARDS

DATE: 4/1/2019

REVISED BY: PCB/JHH