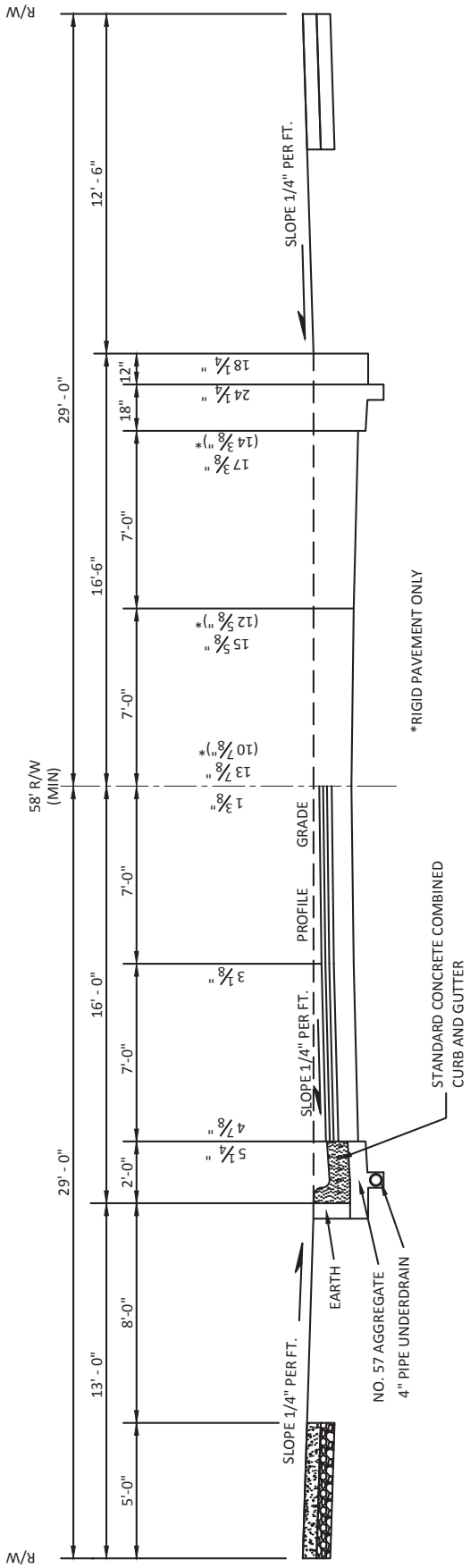
EST 1808

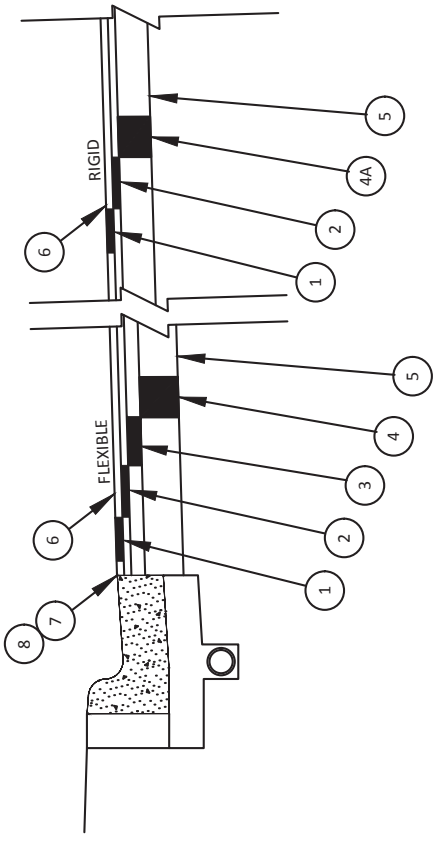
CITY OF DELAWARE OHIO

ROADWAY STANDARD CONSTRUCTION DRAWINGS



PAVEMENT SECTION

1. 1-1/2" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
2. 2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)
3. 3" ITEM 301, ASPHALT CONCRETE BASE
4. 6" ITEM 304, AGGREGATE BASE
4A. 6" ITEM 305, CONCRETE BASE, CLASS COC 6 OR ITEM 307, ROLLER COMPACTED CONCRETE (RCC)
5. ITEM 204, SUBGRADE COMPACTION
6. ITEM 1540, ASPHALT REJUVENATING AGENT
7. ITEM 407, TACK COAT (FACE OF CURB PRIOR TO PAVING)
8. ITEM 423, CRACK SEALING, TYPE I (EDGE JOINTS)



PAVEMENT DETAIL

EST 1808
CITY OF
DELAWARE
OHIO
Public Works Department

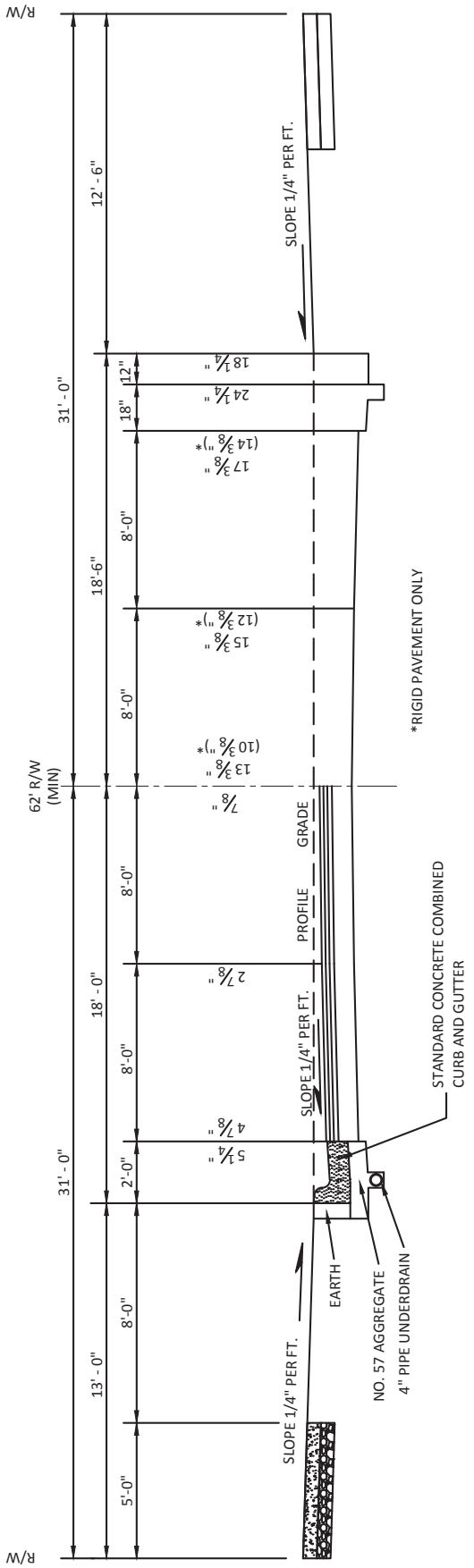
STANDARD DETAIL

28'-0" LOCAL PAVEMENT SECTION

ROADWAY

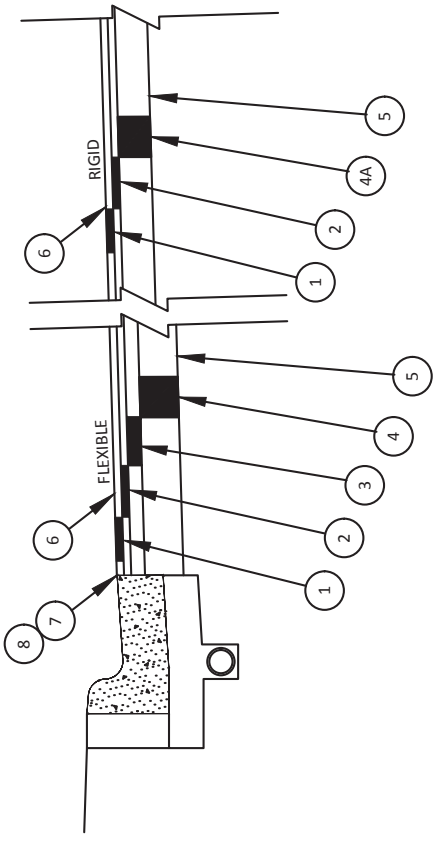
RDWD-1.0

Revised 12/31/2018



PAVEMENT SECTION

1. 1-1/2" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
2. 2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)
3. 3" ITEM 301, ASPHALT CONCRETE BASE
4. 6" ITEM 304, AGGREGATE BASE
4A. 6" ITEM 305, CONCRETE BASE, CLASS COC 6 OR ITEM 307, ROLLER COMPACTED CONCRETE (RCC)
5. ITEM 204, SUBGRADE COMPACTION
6. ITEM 1540, ASPHALT REJUVENATING AGENT
7. ITEM 407, TACK COAT (FACE OF CURB PRIOR TO PAVING)
8. ITEM 423, CRACK SEALING, TYPE I (EDGE JOINTS)



PAVEMENT DETAIL

EST 1808
CITY OF
DELAWARE
OHIO
Public Works Department

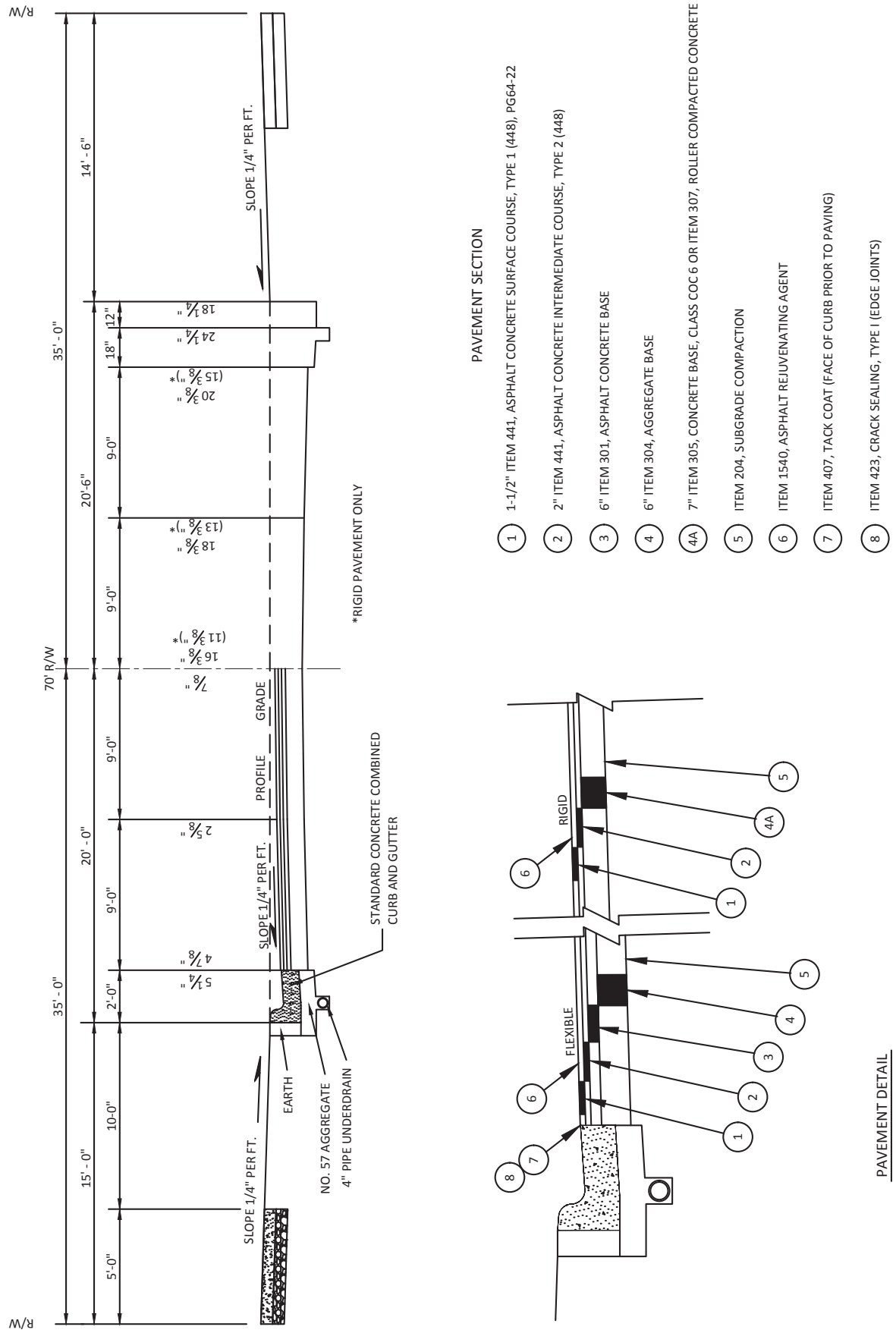
STANDARD DETAIL

32'-0" LOCAL PAVEMENT SECTION

ROADWAY

RDWD-2.0

Revised 12/31/2018



PAVEMENT SECTION

1. 1-1/2" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
2. 2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)
3. 6" ITEM 301, ASPHALT CONCRETE BASE
4. 6" ITEM 304, AGGREGATE BASE
4A. 7" ITEM 305, CONCRETE BASE, CLASS COC 6 OR ITEM 307, ROLLER COMPACTED CONCRETE (RC
5. ITEM 204, SUBGRADE COMPACTION
6. ITEM 1540, ASPHALT REJUVENATING AGENT
7. ITEM 407, TACK COAT (FACE OF CURB PRIOR TO PAVING)
8. ITEM 423, CRACK SEALING, TYPE I (EDGE JOINTS)

PAVEMENT DETAIL

EST 1808
CITY OF
DELAWARE
OHIO
Public Works Department

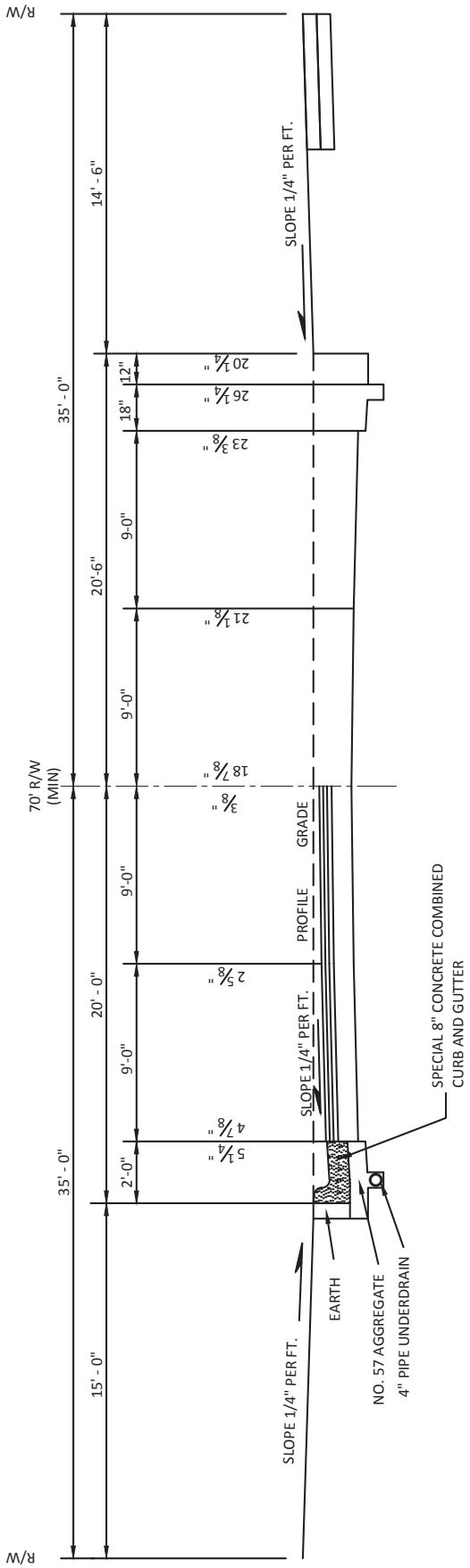
STANDARD DETAIL

36'-0" COLLECTOR PAVEMENT SECTION

ROADWAY

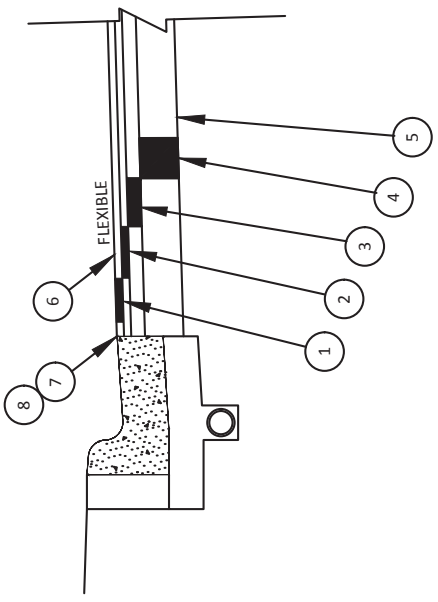
RDWD-3.0

Revised 12/31/2018



PAVEMENT SECTION

1. 1-1/2" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG70-22
2. 2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)
3. 6" ITEM 301, ASPHALT CONCRETE BASE
4. 9" ITEM 304, AGGREGATE BASE
5. ITEM 204, SUBGRADE COMPACTION
6. ITEM 1540, ASPHALT REJUVENATING AGENT
7. ITEM 407, TACK COAT (FACE OF CURB PRIOR TO PAVING)
8. ITEM 423, CRACK SEALING, TYPE I (EDGE JOINTS)



PAVEMENT DETAIL

EST 1808
CITY OF
DELAWARE
OHIO
Public Works Department

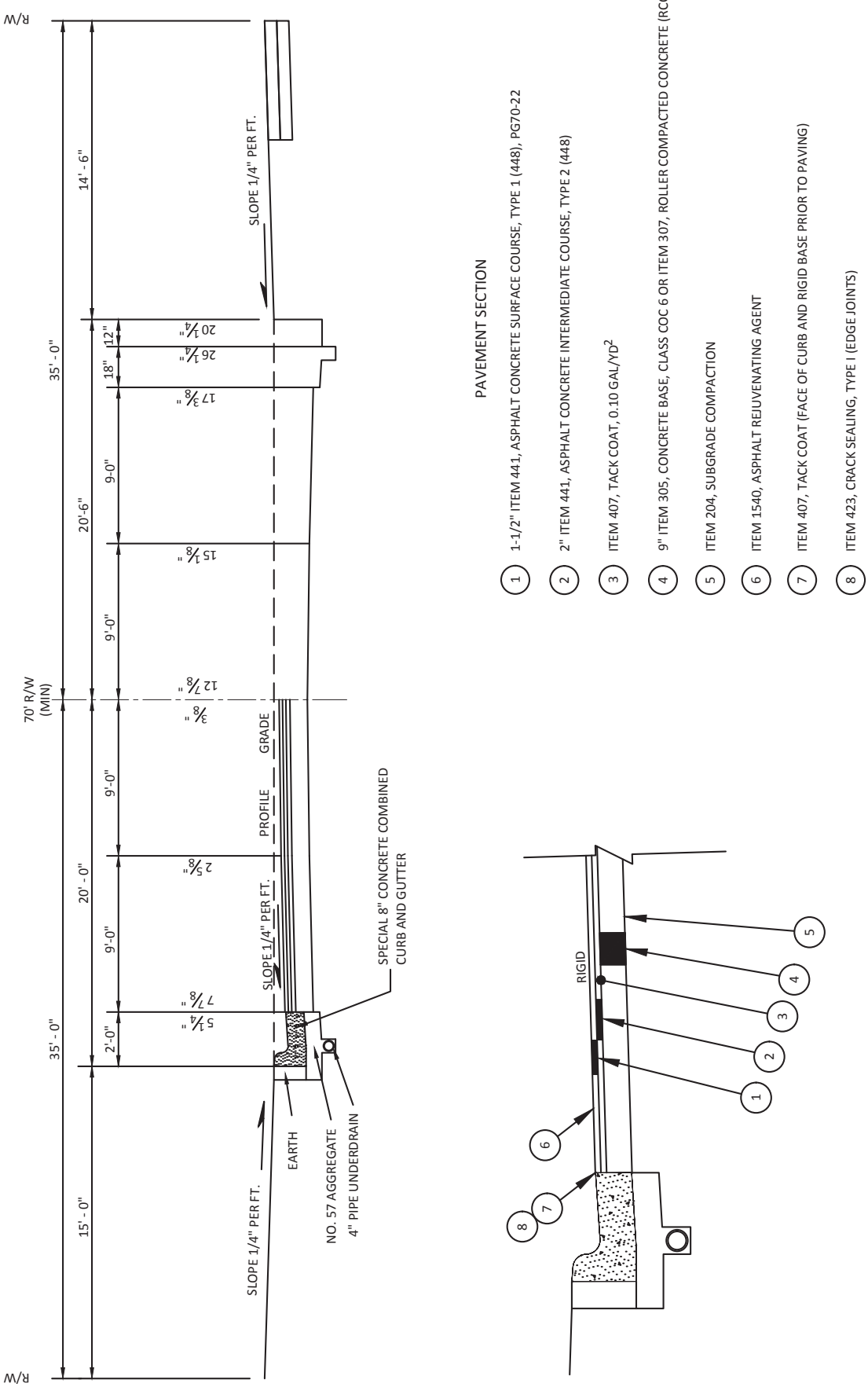
STANDARD DETAIL

36'-0 ARTERIAL/INDUSTRIAL FLEXIBLE PAVEMENT W/ CURBS

ROADWAY

RDWD-4.0

Revised 12/31/2018



PAVEMENT SECTION

1. 1-1/2" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG70-22
2. 2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)
3. ITEM 407, TACK COAT, 0.10 GAL/YD^2
4. 9" ITEM 305, CONCRETE BASE, CLASS COC 6 OR ITEM 307, ROLLER COMPACTED CONCRETE (RCC)
5. ITEM 204, SUBGRADE COMPACTION
6. ITEM 1540, ASPHALT REJUVENATING AGENT
7. ITEM 407, TACK COAT (FACE OF CURB AND RIGID BASE PRIOR TO PAVING)
8. ITEM 423, CRACK SEALING, TYPE I (EDGE JOINTS)

PAVEMENT DETAIL

EST 1808
CITY OF
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OHIO
Public Works Department

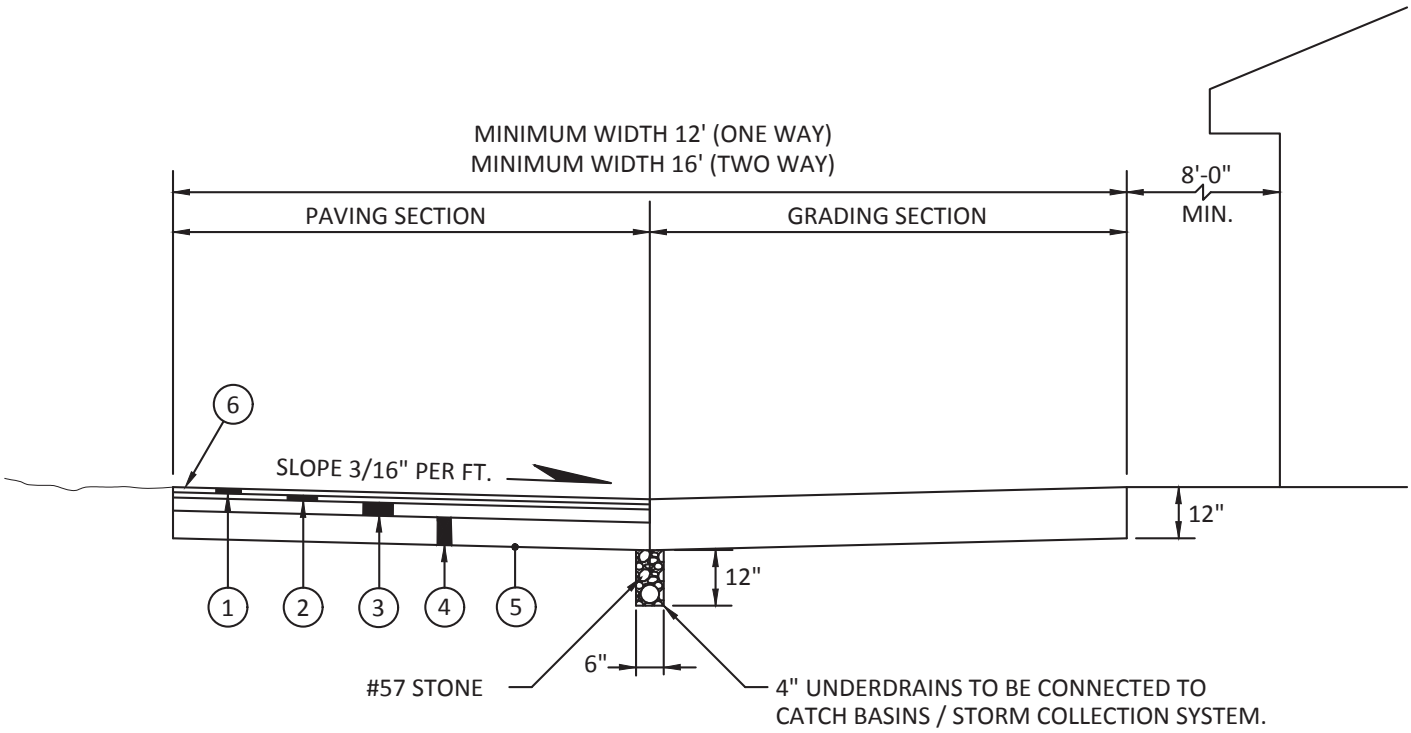
STANDARD DETAIL

36'-0 ARTERIAL/INDUSTRIAL RIGID PAVEMENT W/ CURBS

ROADWAY

RDWD-5.0

Revised 12/31/2018



ALLEY PAVEMENT SECTION

(1) 1-1/2" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22

(2) 2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)

(3) 3" ITEM 301, ASPHALT CONCRETE BASE

(4) 6" ITEM 304, AGGREGATE BASE

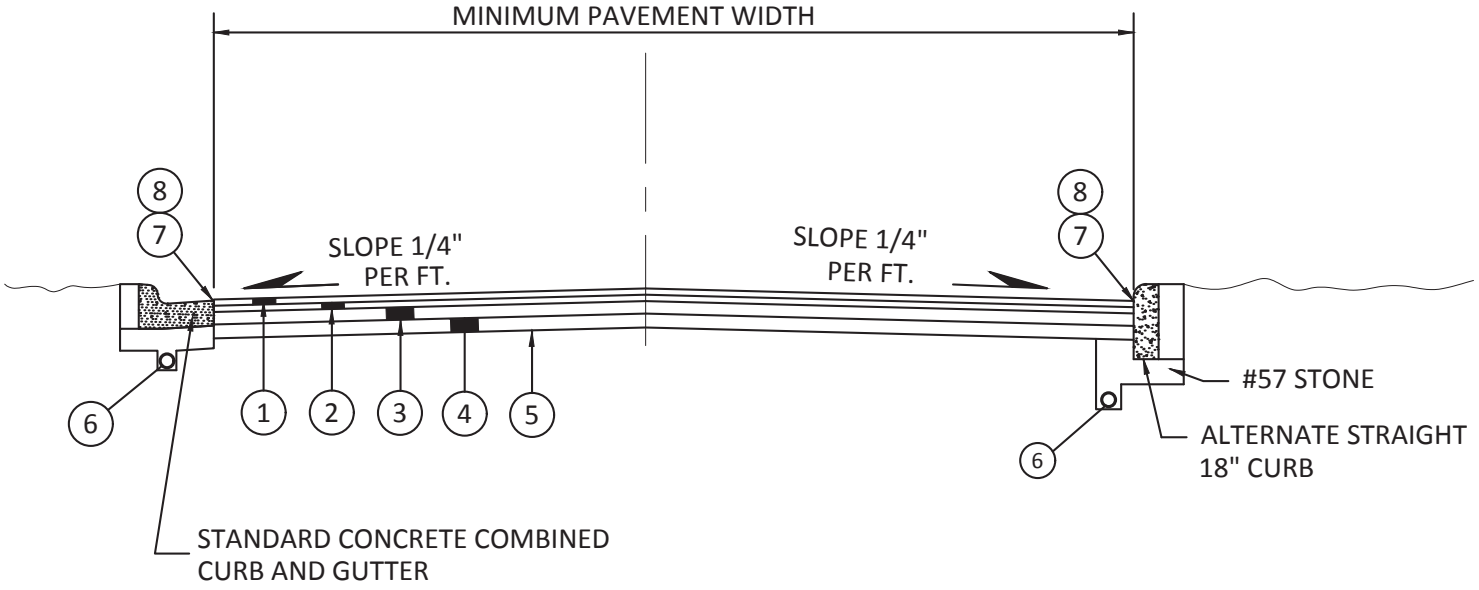
(5) ITEM 204, SUBGRADE COMPACTION

(6) ITEM 1540, ASPHALT REJUVENATING AGENT

NOTE:
MINIMUM PAVEMENT RADIUS AT CORNERS 20'-0"

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL ALLEY PAVEMENT SECTION (PUBLIC & PRIVATE)	ROADWAY RDWD-6.0 Revised 12/31/2018

MINIMUM PAVEMENT WIDTH	
ONE WAY/NO PARKING	12'-0"
TWO WAY/NO PARKING	20'-0"
PARKING ON BOTH SIDES	28'-0"



PRIVATE ROAD PAVEMENT SECTION WITH CURB

(1) 1-1/2" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22

(2) 2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)

(3) 3" ITEM 301, ASPHALT CONCRETE BASE

(4) 6" ITEM 304, AGGREGATE BASE

(5) ITEM 204, SUBGRADE COMPACTION

(6) 4" UNDERDRAIN TO BE CONNECTED TO STORM SEWER SYSTEM

(7) ITEM 407, TACK COAT (FACE OF CURB PRIOR TO PAVING)

(8) ITEM 423, CRACK SEALING, TYPE I (EDGE JOINTS)

NOTE:
MINIMUM PAVEMENT RADIUS AT CORNERS 20'-0"

EST 1808 CITY OF DELAWARE OHIO
Public Works Department

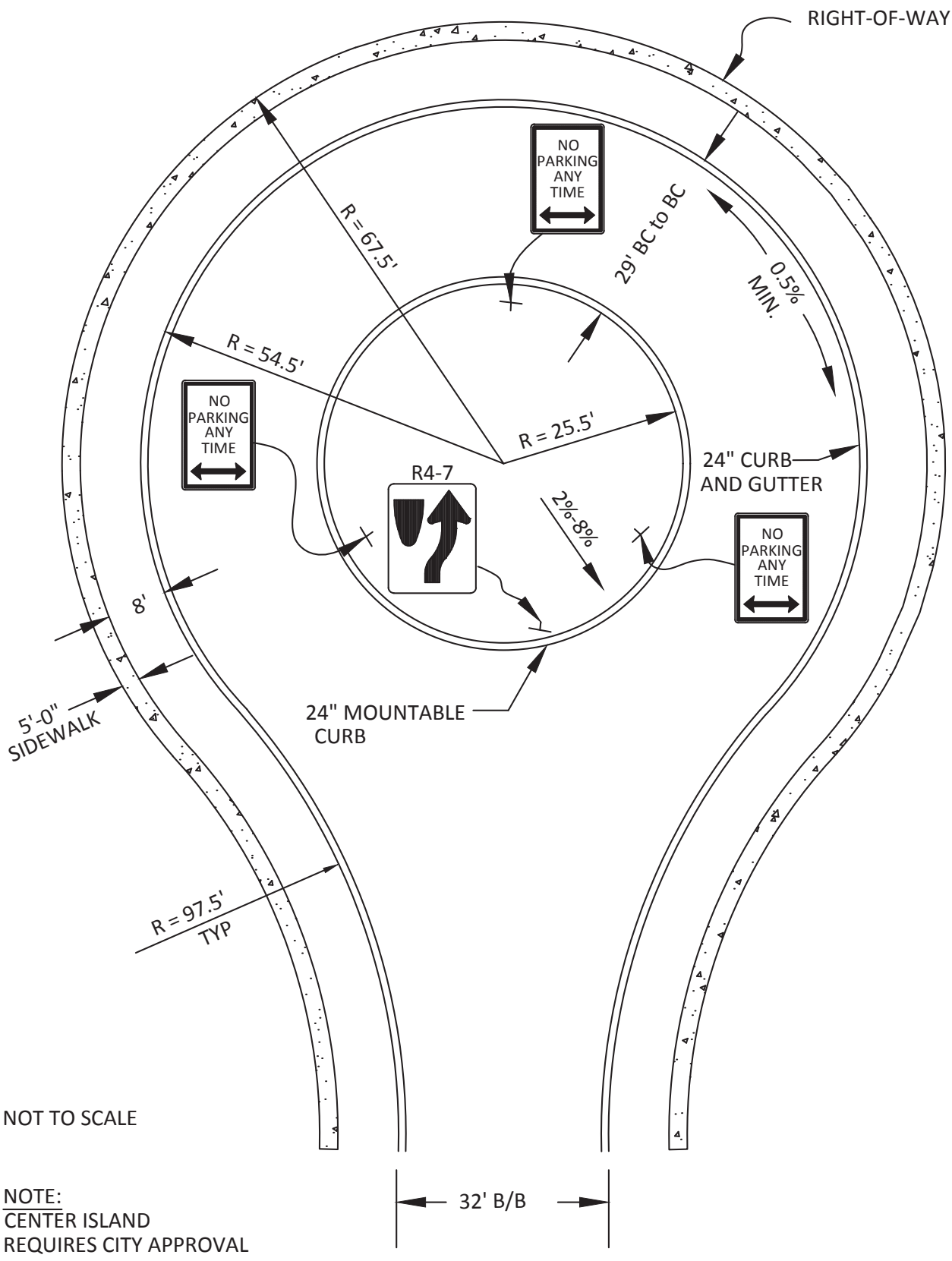
STANDARD DETAIL

PRIVATE ROAD PAVEMENT SECTION WITH CURB

ROADWAY

RDWD-7.0

Revised 12/31/2018



NOT TO SCALE

NOTE:
CENTER ISLAND
REQUIRES CITY APPROVAL

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL CUL-DE-SAC DETAIL	ROADWAY RDWD-8.0 Revised 12/31/2018

Public Works Department

CITY OF DELAWARE OHIO EST 1808

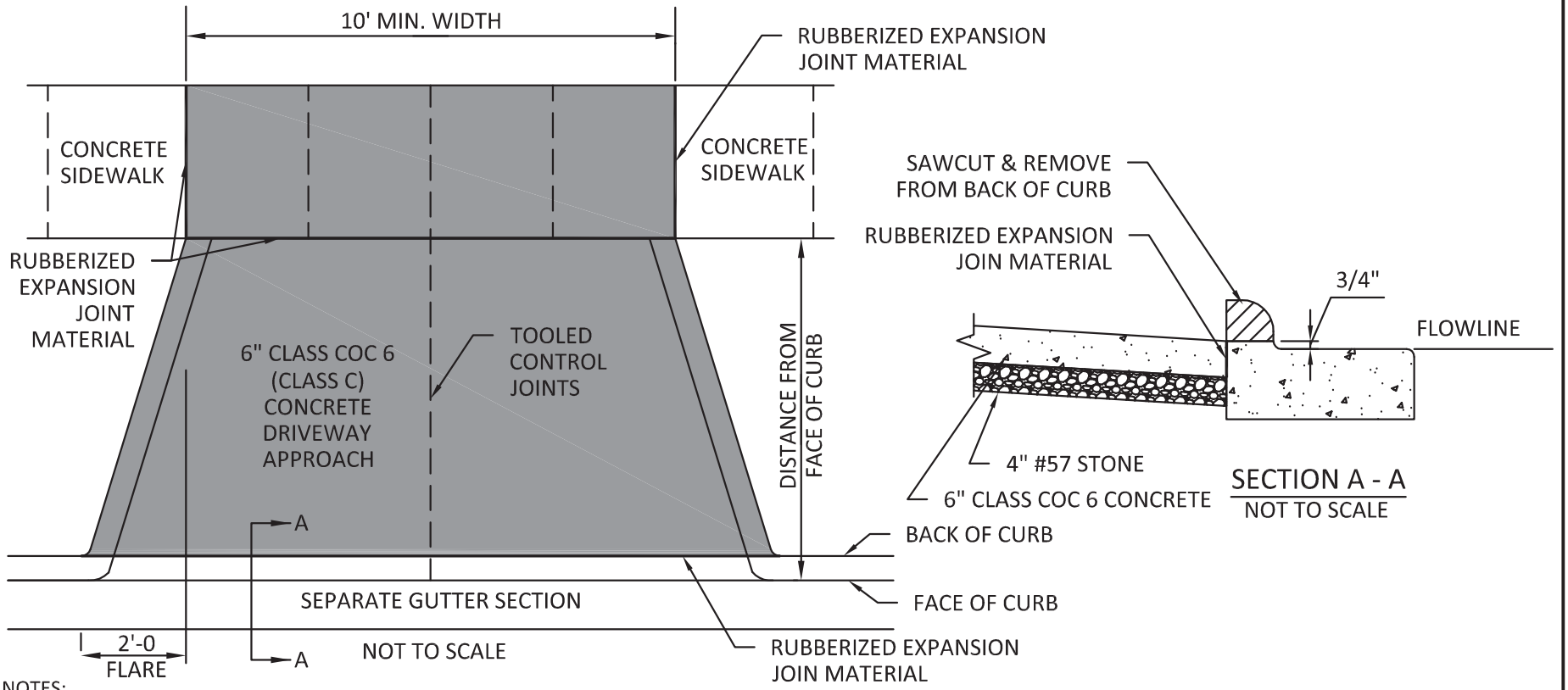
STANDARD DETAIL

RESIDENTIAL DRIVE CONCRETE APPROACH

ROADWAY

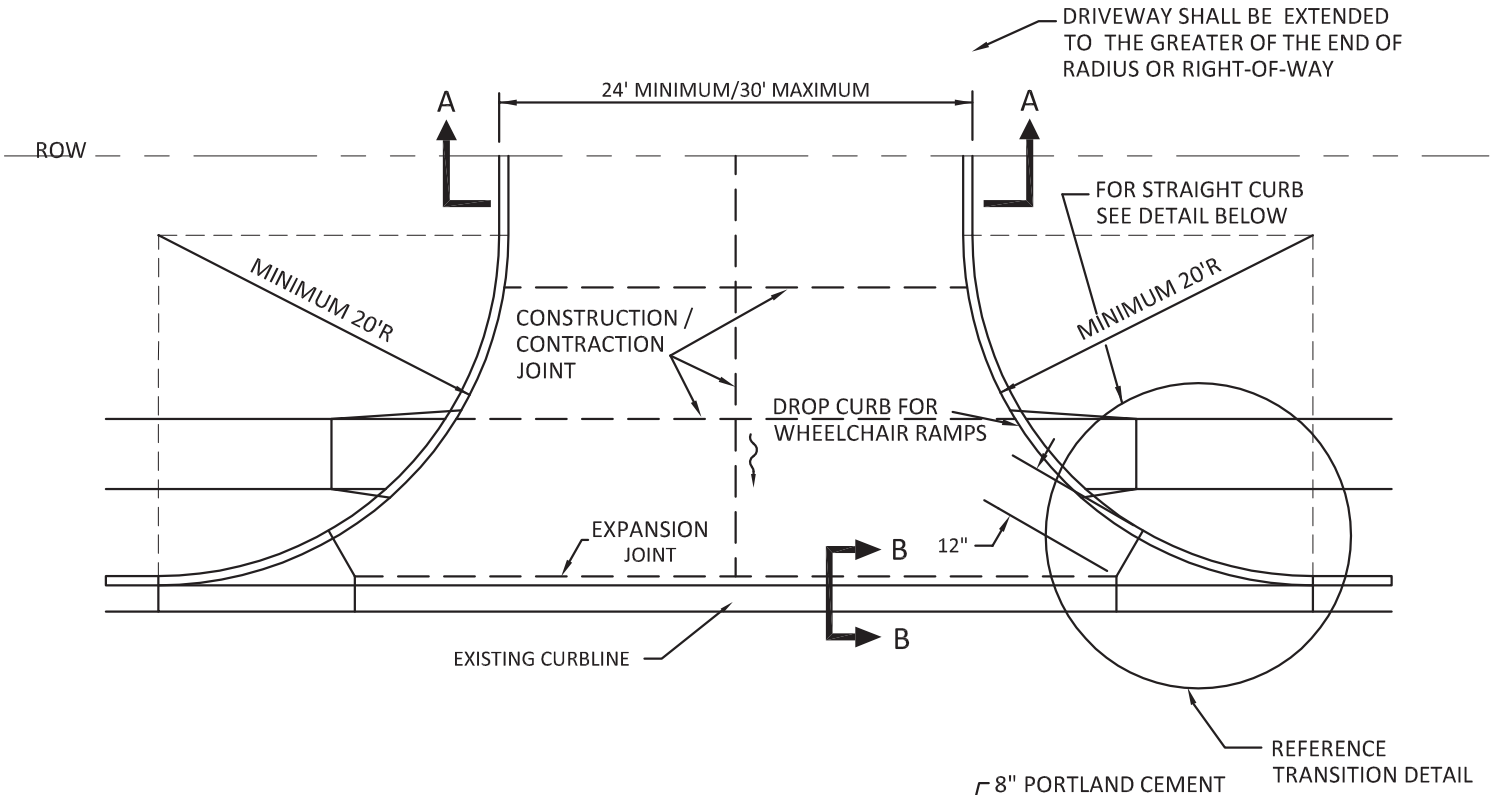
RDWD-9.0

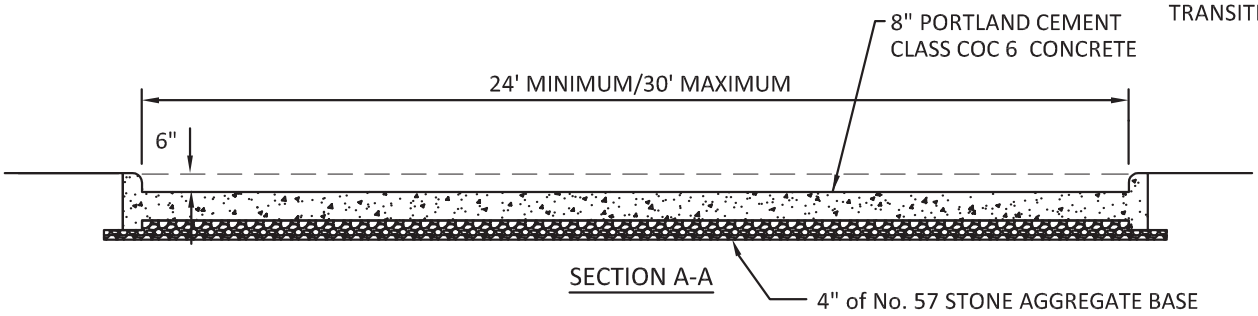
Revised 12/31/2018

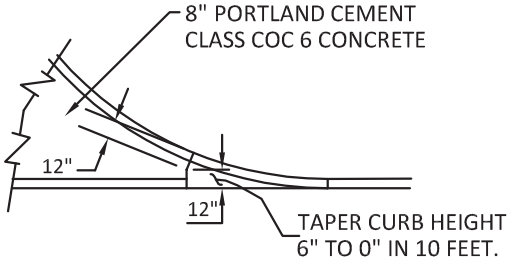


NOTES:

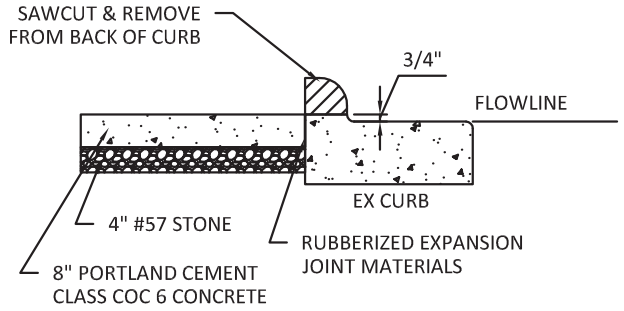
1. CURB OR COMBINED, CURB AND GUTTER SHALL BE TAKEN OUT AND REPLACED WITH CONCRETE, SEPARATED FROM THE APPROACH WITH RUBBERIZED EXPANSION JOINT MATERIAL BY 1/2" REFLEX RUBBER EXPANSION JOINT MATERIAL OR APPROVED EQUIVALENT. WHEN LESS THAN 5' OF A CURB SECTION REMAINS AFTER THE CURB CUT IS LOCATED, IT SHALL ALSO BE REMOVED AND REPLACED.
2. RUBBERIZED EXPANSION JOINT MATERIAL SHALL BE ½-INCH REFLEX RUBBERIZED EXPANSION JOINT MATERIAL OR APPROVED EQUAL AND PLACED WHEREVER NEW CONCRETE WALK ABUTS A DRIVEWAY APPROACH, AROUND STRUCTURES, AGAINST THE BACK OF CURB, AND AT A MAXIMUM TRANSVERSE INTERVALS OF 30-FT. FOARMTECH CONCRETE EXPANSION JOINT FOAM OR AN APPROVED EQUIVALENT SHALL BE USED AROUND RADII.
3. FILLS, IF REQUIRED, SHALL BE OF EARTH, COMPACTED IN 2" LAYERS, OR OF ITEM 304, AGGREGATE BASE, COMPACTED IN LAYERS NOT EXCEEDING 4".
4. DRIVEWAYS AND SIDEWALKS SHALL BE CONSTRUCTED PER CMS ITEM 608 WITH ITEM 499 CONCRETE CLASS COC 6 WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI AND SHALL CONTAIN 6% ±2% ENTRAINED AIR, AND A 3-INCH MAXIMUM SLUMP.
5. EXPANSION JOINTS SHALL BE PLACED TO FORM UTILITY STRIPS WHERE REQUIRED, AND WHEREVER NEW CONCRETE TOUCHES EXISTING CONSTRUCTION.
6. FORMS SHALL CONSIST OF WOOD 2" NOMINAL THICKNESS OR METAL OF EQUAL STRENGTH.
7. A STANDARD CURING COMPOUND, OPAQUE (WHITE TINTED), SHALL BE PROPERLY APPLIED IMMEDIATELY AFTER FINISH.
8. ITEM NUMBERS REFER TO CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), CURRENT EDITION, AND ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE SPECIFICATIONS.
9. NOTIFY THE CITY WHEN FORMS WILL BE READY FOR INSPECTION, AT LEAST 24 HOURS BEFORE CONCRETE IS TO BE PLACED. IN NO CASE SHALL CONCRETE BE PLACED WITHOUT APPROVAL OF FORM WORK BY THE INSPECTOR.
10. NO CONCRETE SHALL BE PLACED UNTIL TEMPERATURE IS 35° F. MIN. CONCRETE SHALL BE PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 451.
11. SIDEWALK POURED IN CONJUNCTION WITH DRIVEWAY SHALL HAVE ¼ -INCH RADIUS EDGE TOOLED JOINTS AND EDGES, WITH A BROOM FINISH PERPENDICULAR TO THE DIRECTION OF TRAVEL. ALL JOINTS AND EDGES SHALL BE RETRACED. RUBBERIZED EXPANSION JOINT MATERIAL IS NOT REQUIRED WITH MONOLITHIC POUR BETWEEN SIDEWALK AND DRIVEWAY.
12. ALL DRIVEWAYS SHALL NOT EXCEED 8% SLOPE.







TRANSITION DETAIL



SECTION B - B

NOTES:

1. RUBBERIZED EXPANSION JOINT MATERIAL SHALL BE ½-INCH REFLEX RUBBERIZED EXPANSION JOINT MATERIAL OR APPROVED EQUAL AND PLACED WHEREVER NEW CONCRETE WALK ABUTS A DRIVEWAY APPROACH, AROUND STRUCTURES, AGAINST THE BACK OF CURB, AND AT A MAXIMUM TRANSVERSE INTERVALS OF 30-FT. FOARMTECH CONCRETE EXPANSION JOINT FOAM OR AN APPROVED EQUIVALENT SHALL BE USED AROUND RADII.
2. COMMERCIAL CONCRETE DRIVEWAY APPROACH AND CURB SHALL BE 8-INCH PORTLAND CEMENT, CLASS COC 6 CONCRETE
3. DRIVEWAY APPROACH AND CURB SHALL BE POURED INTEGRAL
4. 4" UNDERDRAIN AND CONCRETE GUTTER SHALL BE MAINTAINED AT THE EXISTING CURBLINE.

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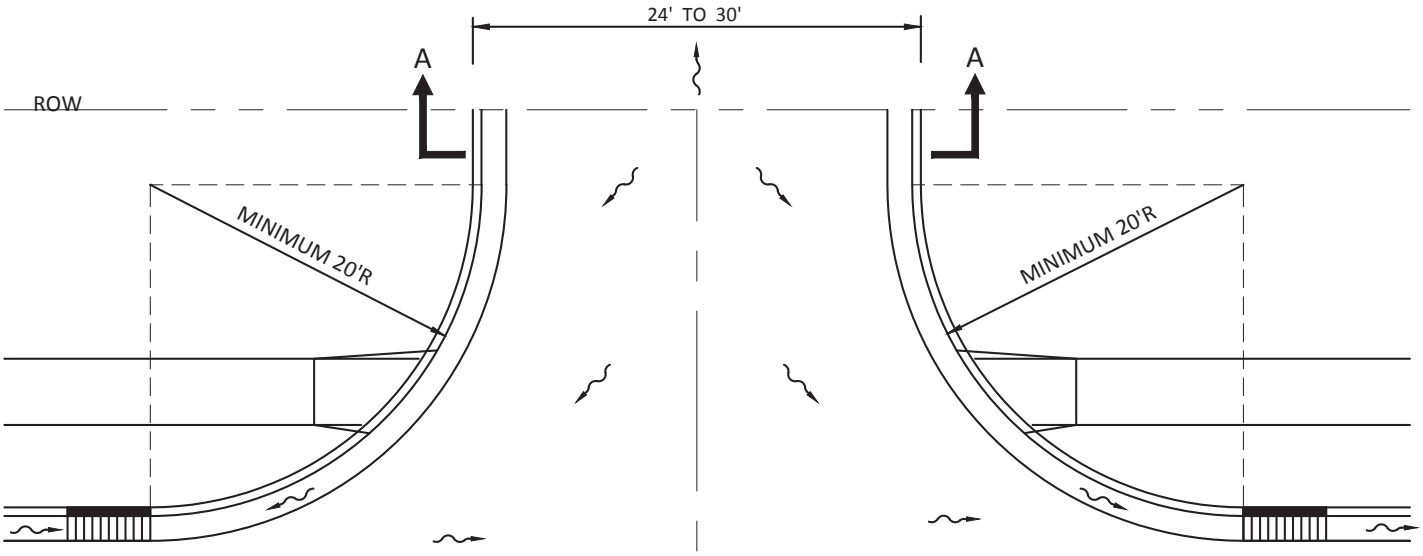
STANDARD DETAIL

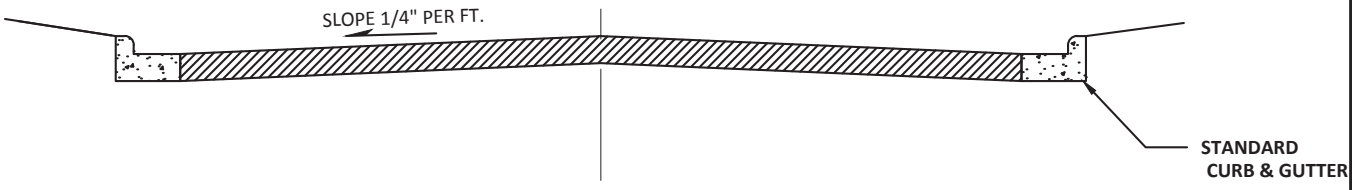
NEW COMMERCIAL CONCRETE DRIVEWAY APPROACH

ROADWAY

RDWD-10.0

Revised 12/31/2018





SECTION A-A

PAVEMENT SECTION:

1.5" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22

2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)

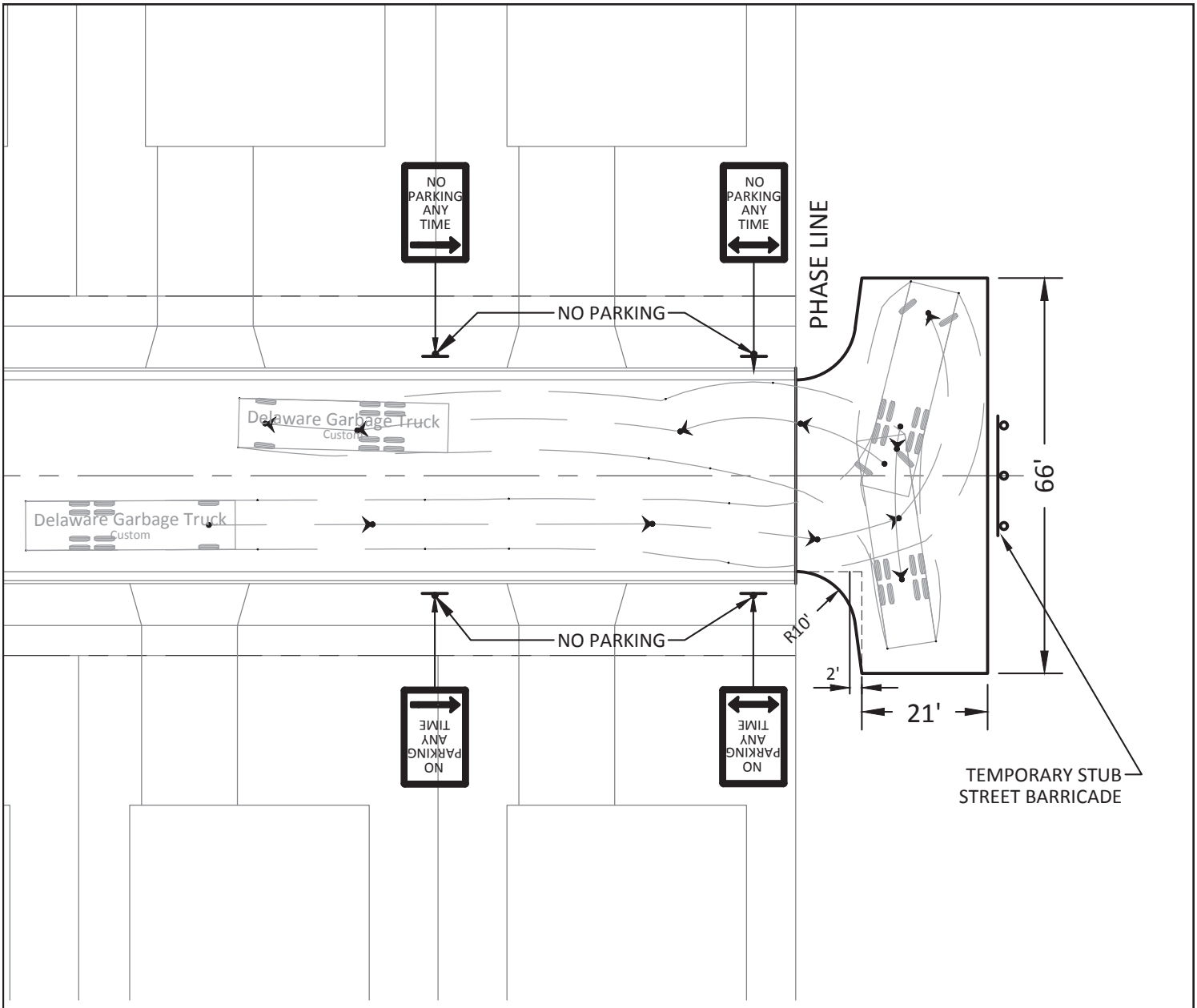
6" ITEM 301, ASPHALT CONCRETE BASE

6" ITEM 304, COMPACTED AGGREGATE BASE

NOTE:

THIS SECTION APPROVED ONLY FOR MAIN COMMERCIAL CENTER ACCESS POINTS AT TRAFFIC SIGNAL OR SERVICING THE INTERNAL PRIVATE ROAD NETWORK

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL NEW COMMERCIAL ASPHALT DRIVE APPROACH (SHOPPING CENTER ACCESS)	ROADWAY RDWD-11.0 Revised 12/31/2018



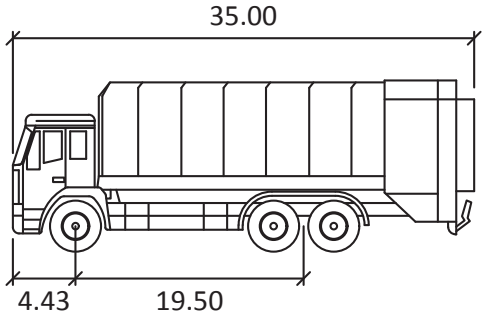
NOTES:

1. "T" TURNAROUNDS ARE TO BE USED ONLY DURING PHASES OF A PROJECT. THE DEVELOPER MUST CONTROL THE ADJACENT PROPERTY WHERE THE TURNAROUND IS TO BE CONSTRUCTED, OR ACQUIRE AN EASEMENT.

2. PROPER GRADING AND DRAINAGE SWALE SHALL BE PROVIDED TO DIRECT STORM WATER TO STORM SEWER COLLECTION SYSTEM.

TEMPORARY PAVEMENT SECTION

6" ITEM 301 - ASPHALT CONCRETE BASE
6" ITEM 304 - COMPACTED AGGREGATE BASE



Delaware Refuse Truck

Width	: 8.20
Track	: 8.20
Lock to Lock Time	: 6.0
Steering Angle	: 40.8

EST 1808
CITY OF DELAWARE OHIO
Public Works Department

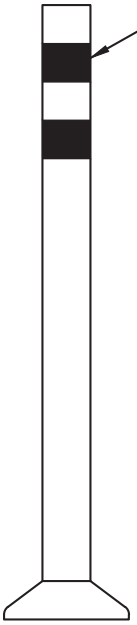
STANDARD DETAIL

TEMPORARY "T" TYPE TURN-AROUND

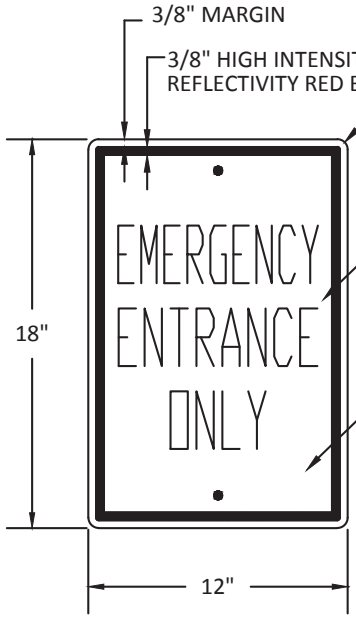
ROADWAY

RDWD-12.0

Revised 12/31/2018



36 INCH - WHITE FLEXIBLE (REBOUNDABLE) DELINEATOR WITH GLUEDOWN BASE AS APPROVED BY THE CITY.



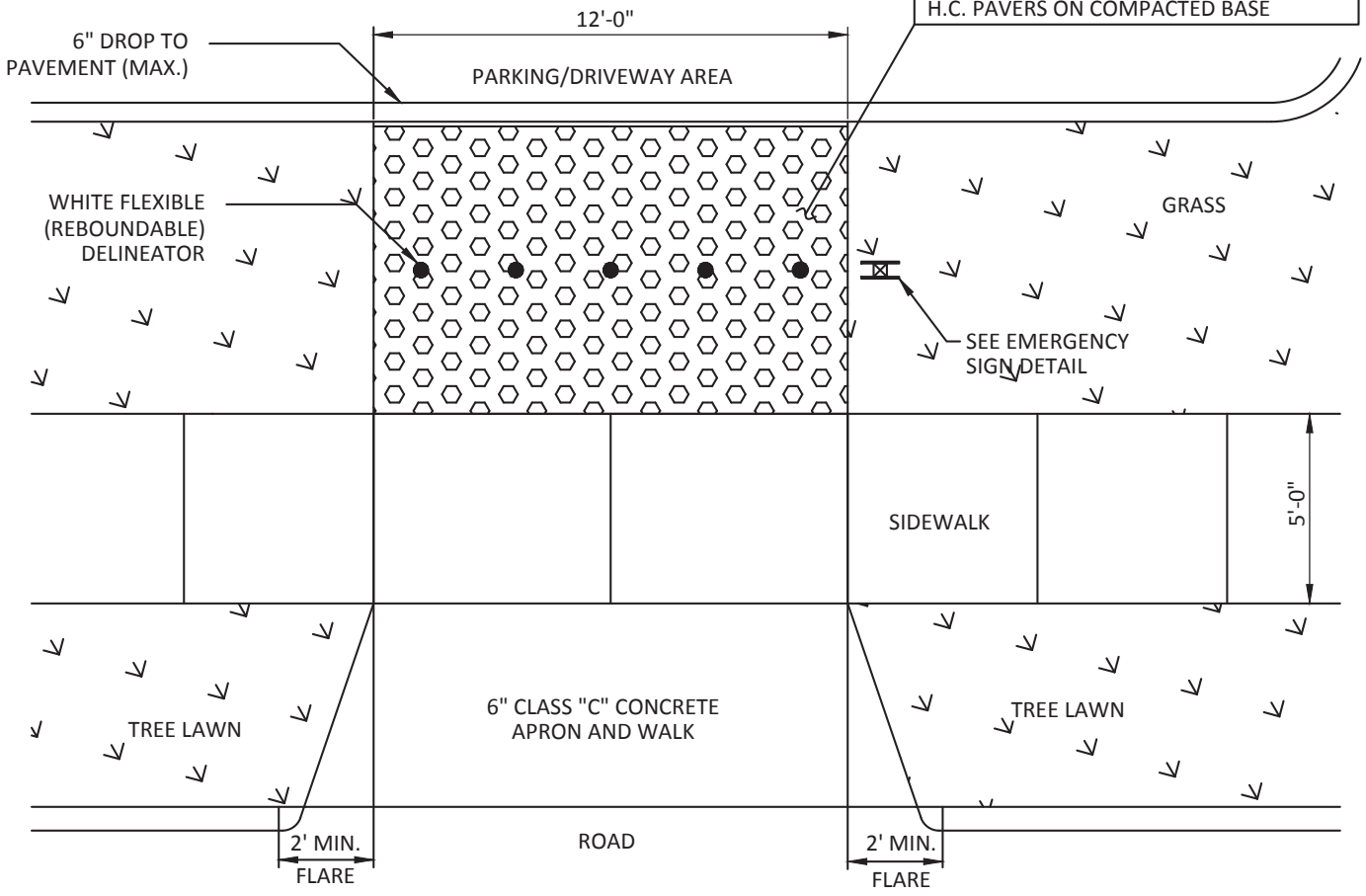
HIGH INTENSITY REFLECTIVITY 3" RED LETTERS

HIGH INTENSITY REFLECTIVITY SHEETING (WHITE)

ATTACH SIGN TO BOTH SIDES OF 4x4 TREATED POST 36" ABOVE FINISH GRADE. SET IN 36" DEEP x 12-INCH CONCRETE FOOTING.

EMERGENCY SIGN DETAIL

SURFACE OPTIONS
6" CONCRETE W/4" GRAVEL BASE
4" ASPHALT W/6" 301 BASE
SOLID PAVERS ON COMPACTED BASE
H.C. PAVERS ON COMPACTED BASE



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OHIO
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STANDARD DETAIL

EMERGENCY INGRESS/EGRESS ACCESS POINT

ROADWAY

RWDW-13.0

Revised 12/31/2018

CITY OF DELAWARE OHIO EST 1808

Public Works Department

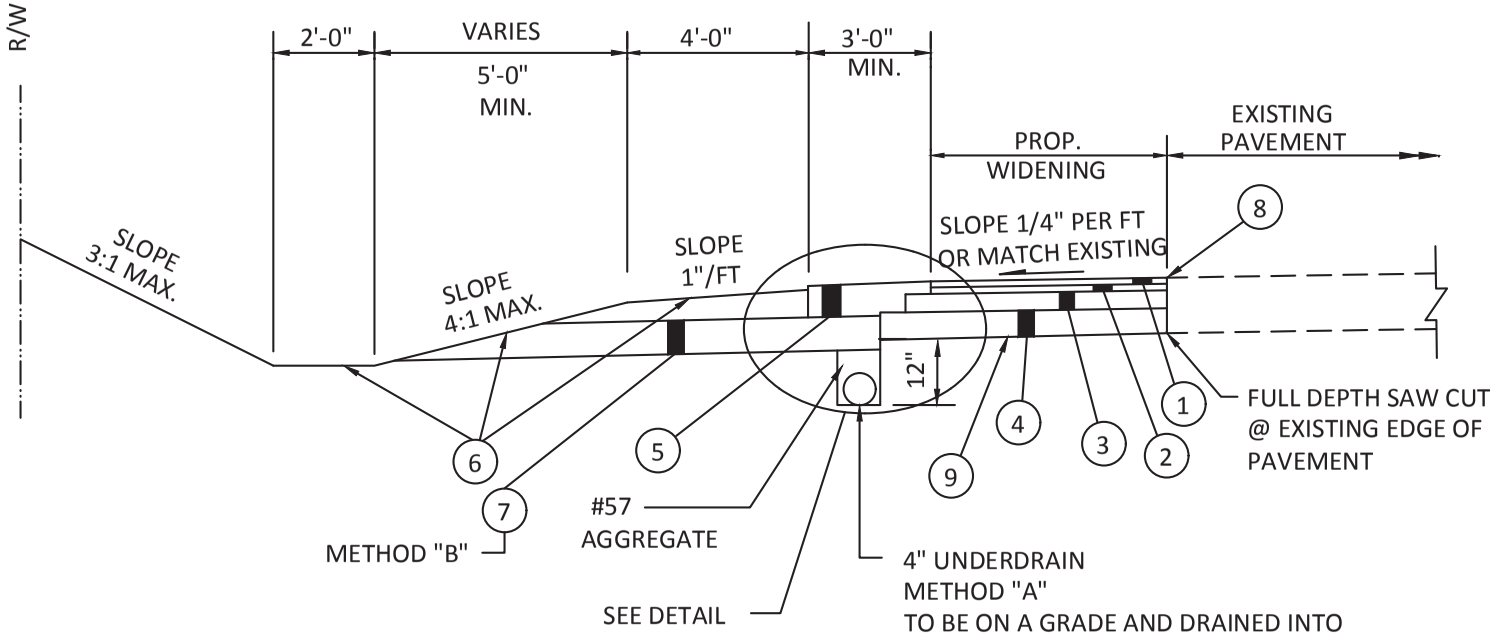
WIDENING OF EXISTING PAVEMENT WITH BERM

STANDARD DETAIL

RDWD-14.0

ROADWAY

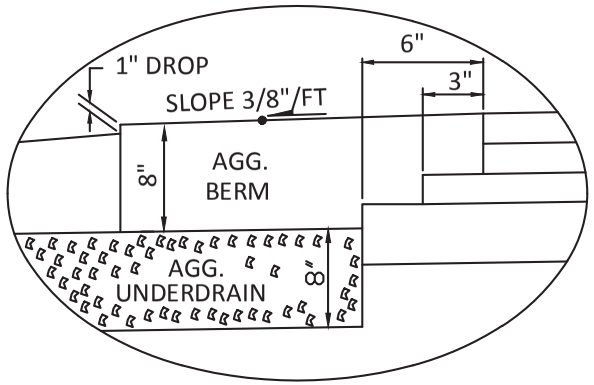
Revised 12/31/2018



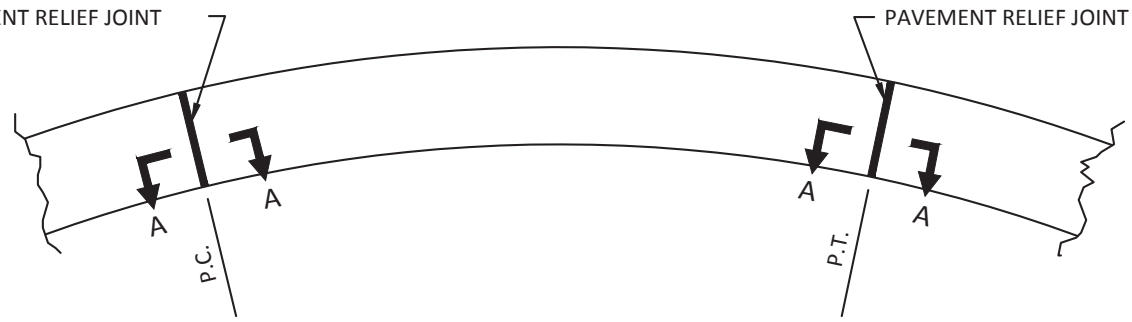
1. 1 1/2" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448) PG64-22
2. 2" ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)
3. 3" TO 6" ITEM 301, ASPHALT CONCRETE BASE (BASED ON ROADWAY CLASSIFICATION)
4. 6" ITEM 304, AGGREGATE BASE
5. 8" ITEM 304, AGGREGATE BERM
6. ITEM 523, SEEDING AND MULCHING
7. ITEM 605, 8" AGGREGATE UNDERDRAIN (SPACED EVERY 50')
8. ITEM 413, JOINT SEAL
9. ITEM 203, SUBGRADE COMPACTION

METHOD "A" TO BE USED WHEN POSSIBLE.

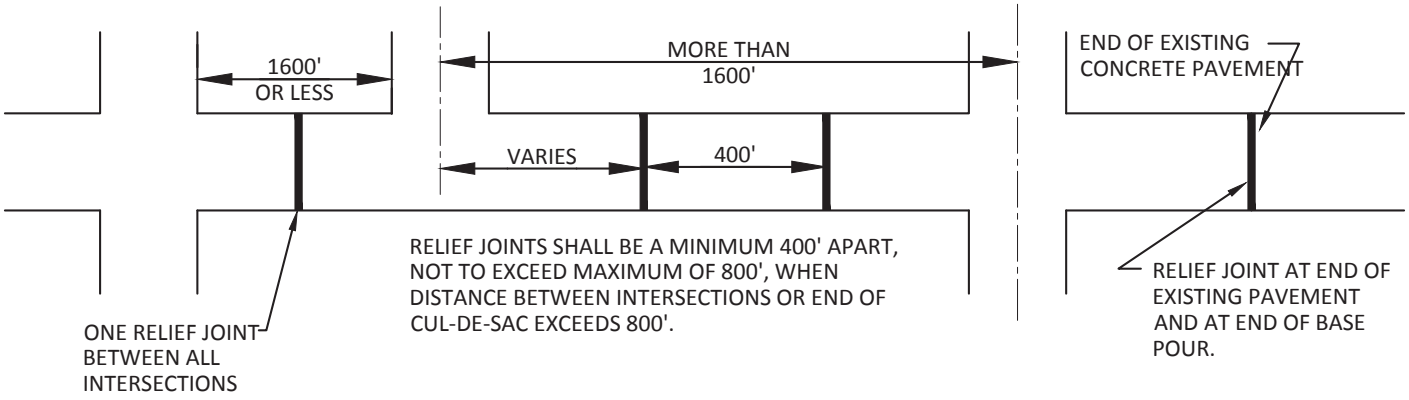
METHOD "B" AS ALTERNATE.



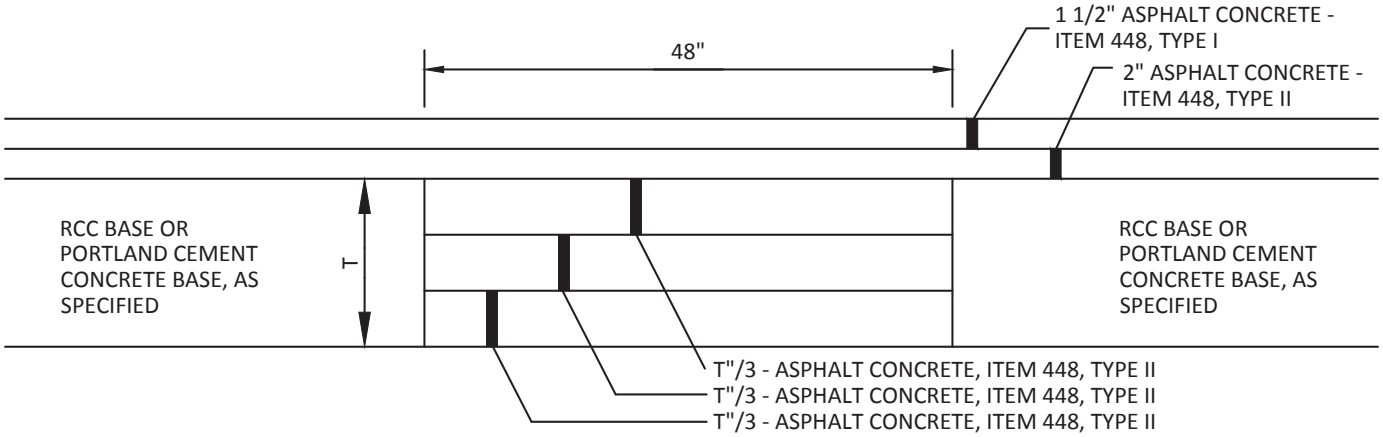
DETAIL



RELIEF JOINT DETAIL FOR PAVEMENT SECTIONS WITH C/L RADII
TO 500' AND DELTAS (△) GREATER THAN 50°



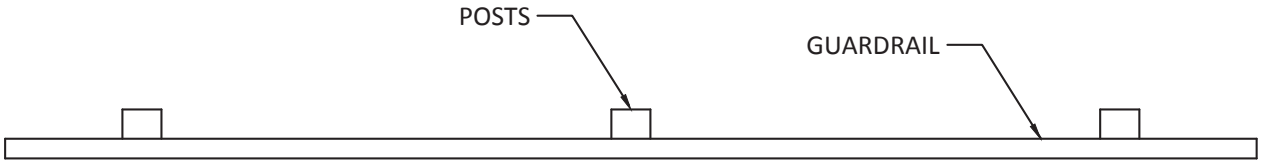
TYPICAL LOCATION PLAN



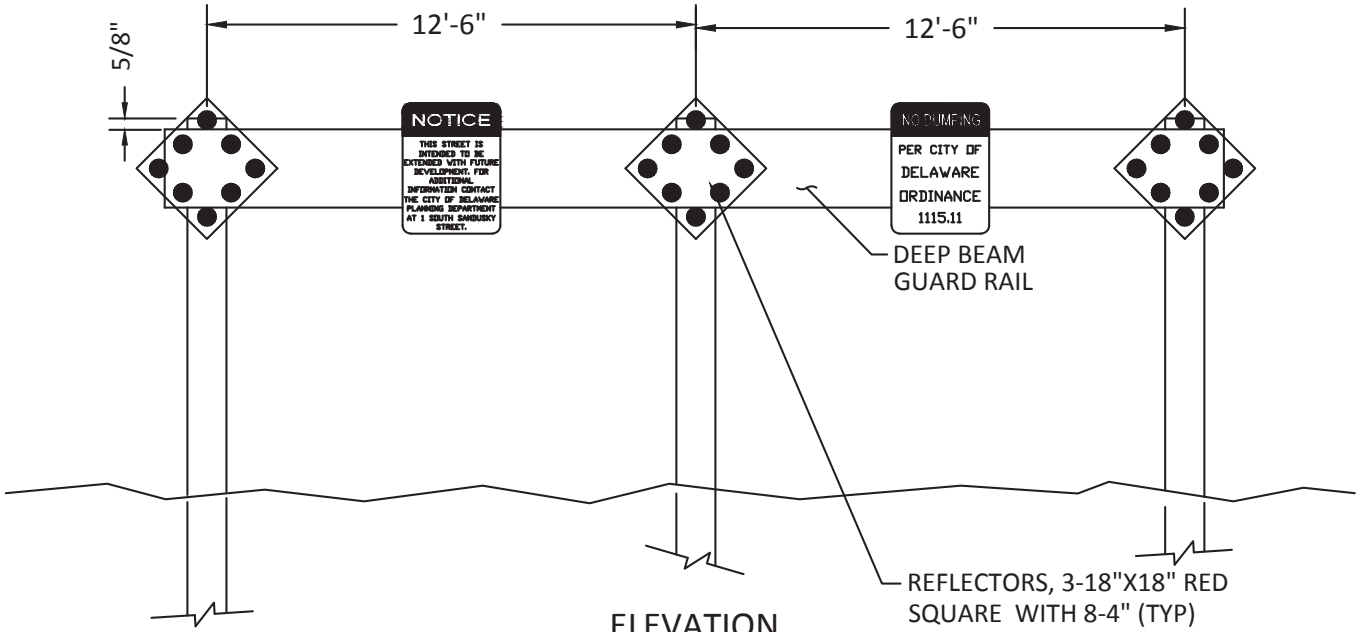
SECTION A-A
FOR CONCRETE BASE PAVEMENT

NOTE:
1. 2" PREFORMED EXPANSION MATERIAL SHALL BE PLACED AT ALL RELIEF JOINTS IN THE CONCRETE CURB.

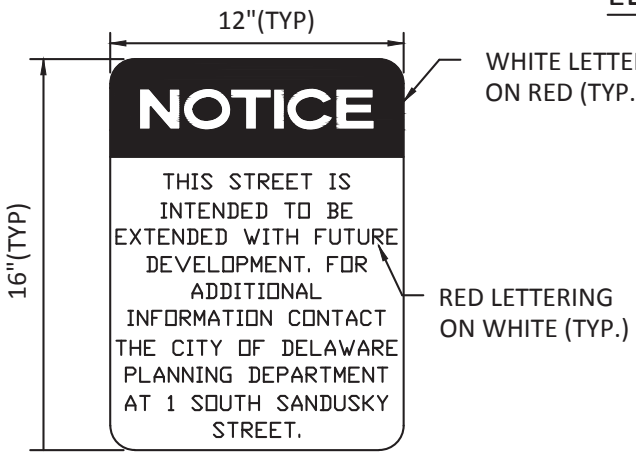
EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL RIGID PAVEMENT RELIEF JOINT	ROADWAY RDWD-15.0 Revised 12/31/2018

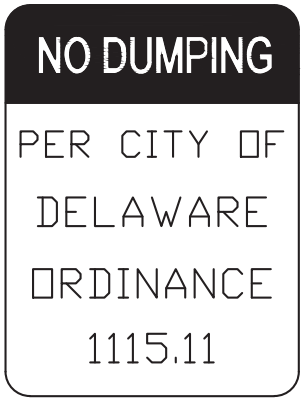


PLAN VIEW

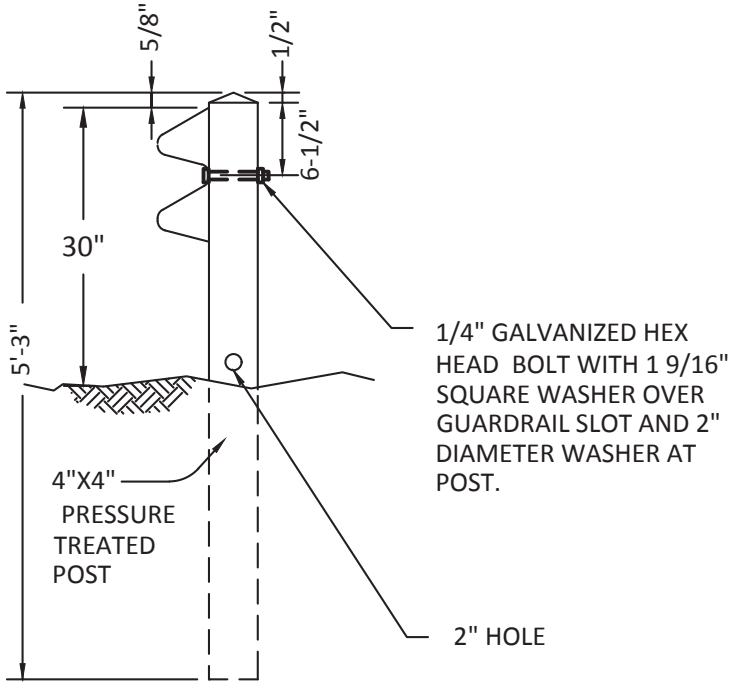


ELEVATION





SIGNS



WOOD POST

EST 1808
CITY OF DELAWARE OHIO
Public Works Department

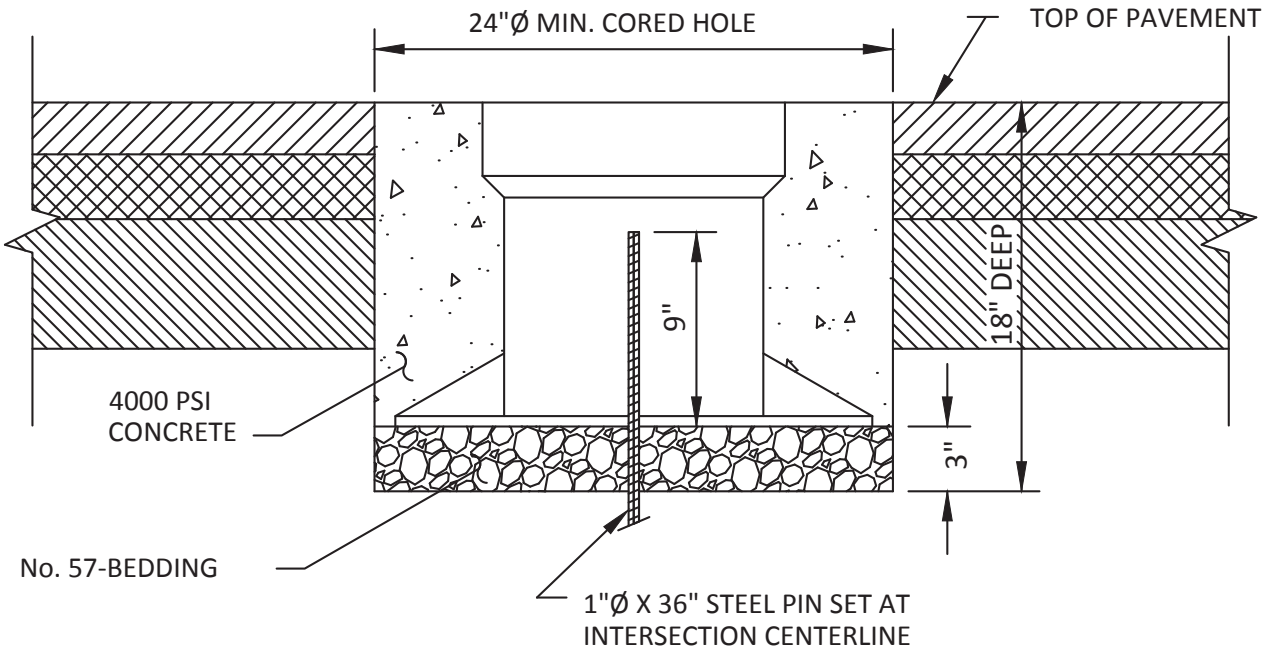
STANDARD DETAIL

TEMPORARY STUB STREET BARRICADE

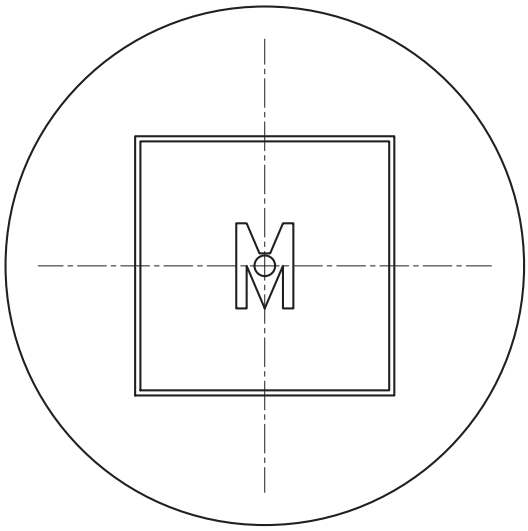
ROADWAY

RDWD-16.0

Revised 12/31/2018



SECTION

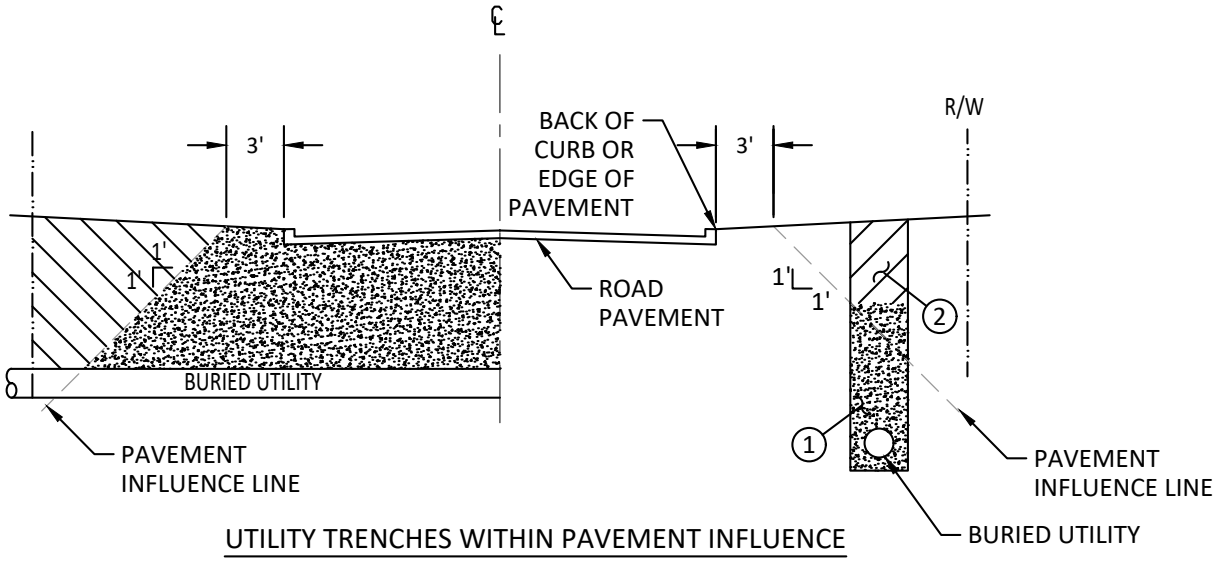


PLAN

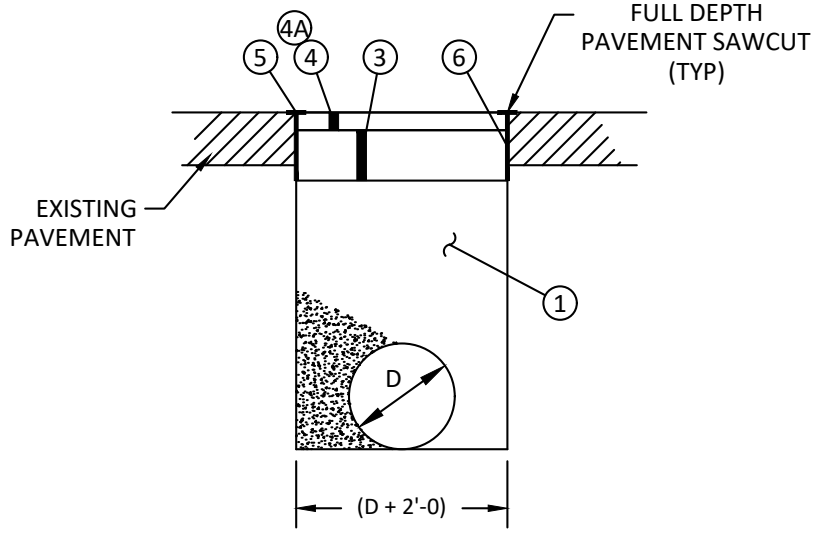
NOTE:

1. MONUMENET BOX SHALL BE NEENAH R-1968 TYPE 36-B OR EAST JORDAN IRON WORKS 8371
2. PIN TO BE SET BY REGISTERED SURVEYOR, AND MEASURED IN X,Y,Z STATE PLANE COORDINATES

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL MONUMENT BOX INSTALLATION	ROADWAY RDWD-17.0 Revised 12/31/2018



UTILITY TRENCHES WITHIN PAVEMENT INFLUENCE



ASPHALT PAVEMENT REPAIR

① ITEM 912, COMPACTED GRANULAR MATERIAL

② ITEM 911, COMPACTED BACKFILL

③ ITEM 301, ASPHALT CONCRETE BASE (7.5" MIN)

④ 1.5" ITEM 441, ASPHALT CONCRETE WEARING COURSE, TYPE 1 (448) PG64-22

④A 1.5" ITEM 441 ASPHALT CONCRETE WEARING COURSE, TYPE 1 (448) PG 70-22

⑤ ITEM 423, CRACK SEAL (HOT APPLIED)

⑥ ITEM 407, TACK COAT

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL PAVEMENT REPAIR AND BACKFILL WITHIN RIGHT-OF-WAY	ROADWAY RDWD-18.1 6/8/2020

1. EXCAVATIONS WITHIN THE PUBLIC STREET PAVEMENT REQUIRE A FULL-DEPTH PAVEMENT SAW CUT THAT EXTENDS THROUGH THE ENTIRE ASPHALT AND/OR CONCRETE PAVEMENT SECTION, AND AROUND THE ENTIRE PERIMETER OF THE EXCAVATED AREA.

2. BACKFILL WITHIN A PAVED AREA OR WITHIN THE INFLUENCE OF THE PAVEMENT SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 912, COMPACTED GRANULAR MATERIAL. COMPACTION EQUIPMENT SHALL BE WALK BEHIND OR SELF-PROPELLED CAPABLE OF GENERATING A MINIMAL 3,500 LB COMPACTION FORCE. THE INFLUENCE OF PAVEMENT SHALL BE AS DEFINED IN STANDARD DRAWING RDWD-18.1.

3. EXCAVATIONS OUTSIDE THE INFLUENCE OF THE PAVEMENT BUT WITHIN THE RIGHT-OF-WAY ARE TO BE BACKFILLED PER ITEM 911 COMPACTED BACKFILL USING COMPACTED NATIVE MATERIAL WITH USE OF MECHANICAL COMPACTION EQUIPMENT.

4. EXCAVATIONS THAT UNDERMINES THE CURB OR PAVEMENT EDGES, REQUIRE THE USE OF ITEM 613, LOW STRENGTH MORTAR BACKFILL (FORMERLY FCDF, FLOWABLE CONTROLLED DENSITY FILL) AS DIRECTED BY THE CITY. CURB AND UNDERDRAINS DISTURBED BY EXCAVATION ARE TO BE REPAIRED AS DIRECTED.

5. EXCAVATIONS WHICH ARE TOO NARROW FOR THE USE OF MECHANICAL COMPACTION EQUIPMENT MAY BE FILLED WITH ITEM 613 UPON CITY APPROVAL. WHEN ITEM 613 IS USED, PAVEMENT SHALL NOT BE PLACED UNTIL ALL BLEED WATER HAS EVAPORATED OR OTHERWISE BEEN REMOVED FROM THE SURFACE.

6. ALL PUBLIC STREETS REQUIRE A 9-INCH MINIMUM DEPTH ASPHALT PAVEMENT REPAIR, OR ACTUAL PAVEMENT THICKNESS, WHICHEVER IS GREATER. THE EDGES OF PAVEMENT REPAIRS SHALL BE TACKED PER ITEM 407 AND SEALED PER ITEM 423 CRACK SEAL.

7. WHERE CONCRETE PAVEMENT IS REQUIRED, PAVEMENT REPAIRS SHALL BE PROTECTED UNTIL CONCRETE REACHES THE MINIMUM REQUIRED DESIGN STRENGTH. TYPE MS OR FS CONCRETE MAY BE UTILIZED WHERE ACCESS TO TRAFFIC MUST BE RESTORED WITHIN 24-HOURS.

8. SIDEWALKS, GRASS AREAS AND TREES ARE TO BE PROTECTED FROM EQUIPMENT AND MATERIALS. DAMAGED AREAS ARE TO BE REPAIRED OR REPLACED BY CONTRACTOR WITHIN 30 DAYS OF COMPLETION OF THE WORK.

9. OPEN EXCAVATIONS IN ANY STREET MUST BE PROTECTED WITH STEEL PLATES HELD IN PLACE WITH PINS OR ASPHALT MATERIAL AND MARKED WITH AN ORANGE CONE OR BARREL AT THE EDGE OF PLATE. THE PUBLIC WORKS DEPARTMENT (740) 203-1810 MUST BE NOTIFIED OF ALL PLATE LOCATION INSTALLATIONS AND REMOVALS.

10. ALL LANE/ROAD CLOSURES REQUIRE CITY APPROVAL OF A MAINTENANCE OF TRAFFIC PLAN COMPLYING WITH THE REQUIREMENTS OF THE MAINTENANCE OF TRAFFIC AND PUBLIC NOTIFICATION REQUIREMENTS POLICY. DETOURS UTILIZING STATE OR COUNTY ROADS OUTSIDE THE CITY LIMITS REQUIRE THE APPROVAL OF THOSE JURISDICTIONS AS WELL.

11. WORK IN THE RIGHT-OF-WAY REQUIRING A TRAVEL LANE(S) TO BE BLOCKED MUST HAVE APPROPRIATE ADVANCE WARNING SIGNAGE, CONES, BARRELS AND FLAGGERS IN PLACE AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING, ERECTING, MAINTAINING AND REMOVING ALL TRAFFIC CONTROL DEVICES TO MEET THE MINIMUM STANDARDS SET FORTH IN THE MUTCD CURRENT EDITION, AND MUST BE IN PLACE PRIOR TO COMMENCING ANY WORK.

12. PUBLIC STREETS SHALL BE KEPT SWEPT CLEAN OF LOOSE DIRT, STONE AND MUD AT ALL TIMES.

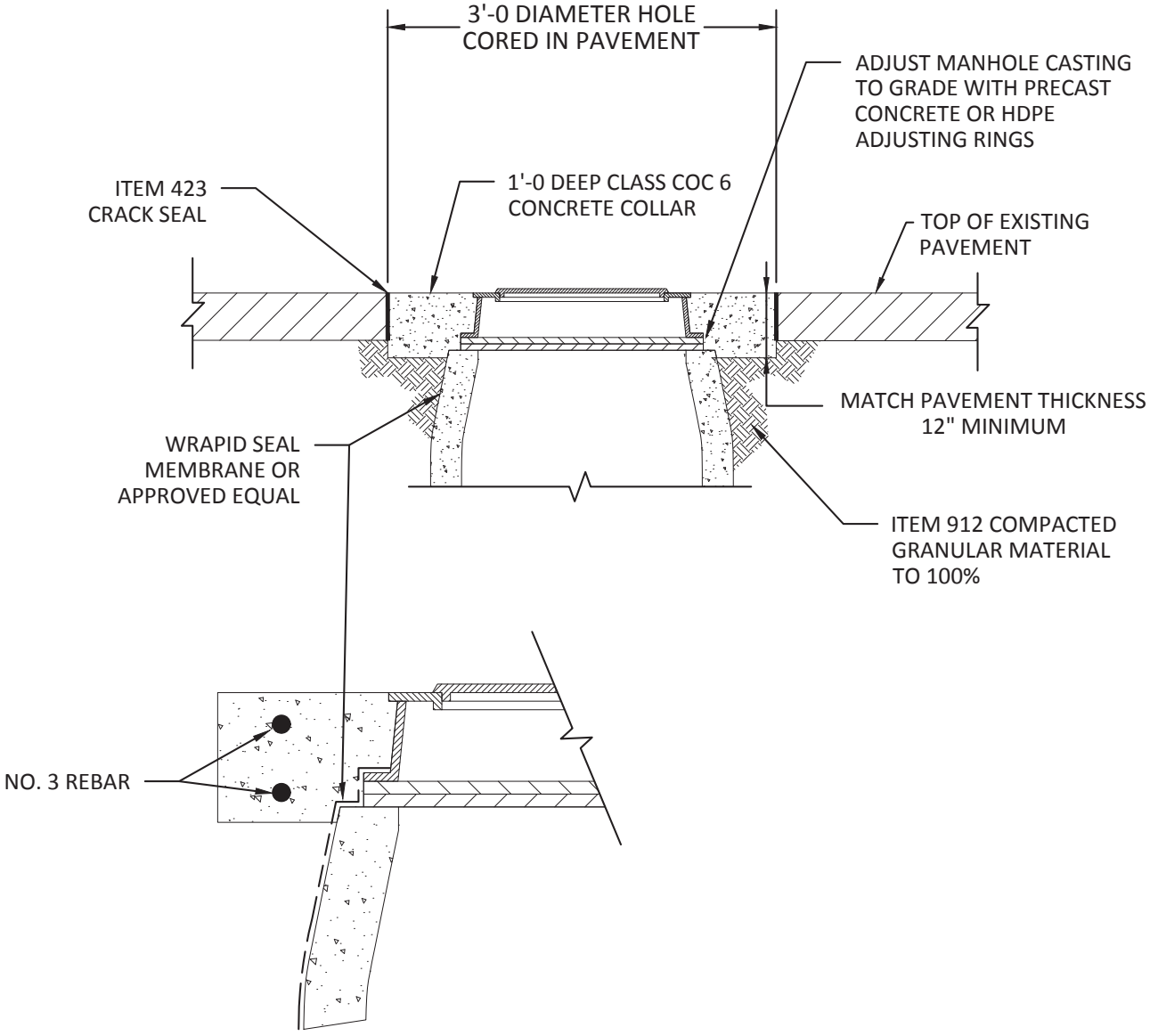
13. ADVANCE NOTIFICATION TO O.U.P.S. AND ALL PRIVATE UTILITY OWNERS IS THE RESPONSIBILITY OF THE CONTRACTOR.

14. ALL WORK MUST BE INSPECTED BY THE CITY INCLUDING SIDEWALK, DRIVEWAY & CURB FORMS, UTILITY TAPS, TRENCH BACKFILL AND ASPHALT ROAD REPAIRS. INSPECTIONS CAN BE ARRANGED BY CONTACTING THE PUBLIC WORKS DEPARTMENT AT (740) 203-1810 NO LESS THAN 24-HOURS IN ADVANCE OF THE WORK.

15. ALL PAVEMENT MARKINGS THAT ARE REMOVED AS PART OF THE EXCAVATION ARE TO BE REPLACED PER ITEM 641.

16. CITY OF COLUMBUS STANDARD DRAWING 1441 REQUIREMENTS FOR MILLING AND OVERLAYING OF PAVEMENT SHALL APPLY WHEN MULTIPLE EXCAVATIONS ARE PERFORMED IN THE SAME VICINITY.

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL STANDARD PAVEMENT REPAIR NOTES	ROADWAY RDWD-18.2 6/8/2020

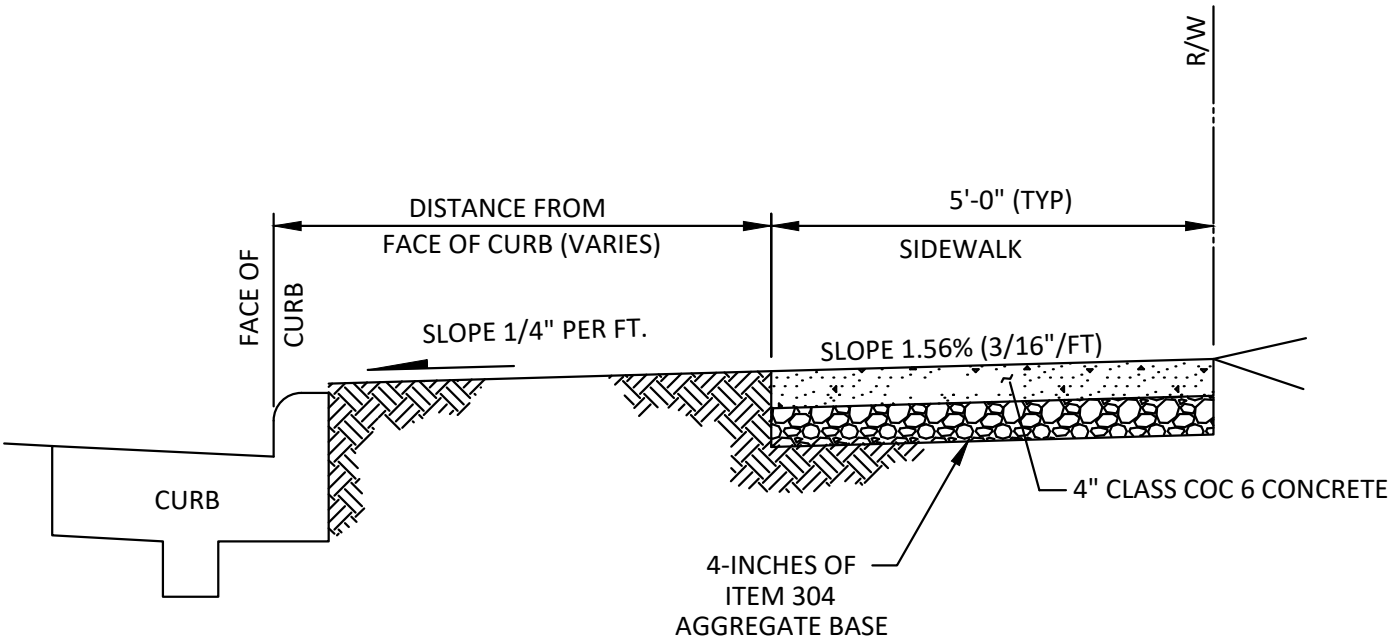


NOTES:

1. WHEN MAKING SIGNIFICANT INCREASE TO HEIGHT OF MANHOLE, SUITABILITY OR EXISTING MANHOLE MATERIALS SHALL BE EVALUATED. WHERE EXISTING MATERIALS ARE NOT DEEMED SUITABLE, OR AS DIRECTED BY THE CITY, A COMPLETE MANHOLE REPLACEMENT OR RECONSTRUCTION FROM THE MANHOLE BASE SHALL BE REQUIRED.

2. ADJUSTMENTS TO GRADE SHALL BE ACCOMPLISHED BY ONE OF THE FOLLOWING METHODS:
   a. WHEN ADJUSTMENT CANNOT BE MADE WITH ADJUSTING RINGS: CAREFULLY REMOVE AND CLEAN THE EXISTING CASTING; ADJUST THE HEIGHT OF SUPPORTING WALLS AS NECESSARY, AND RESET THE EXISTING FRAME IN A BED OF MORTAR OR CONCRETE. WHEN ADJUSTING PRECAST CONCRETE STRUCTURES, REMOVE AND REPLACE PRECAST CONCRETE SECTIONS AS NECESSARY.
   b. WHEN RAISING WITH ADJUSTING RINGS: CAREFULLY REMOVE AND CLEAN THE EXISTING CASTING; FURNISH AND INSTALL PRECAST CONCRETE OF HDPE ADJUSTING RINGS IN ACCORDANCE WITH THE PLAN DETAILS. 9-INCHES IS THE MAXIMUM ALLOWABLE HEIGHT OF STANDING ADJUSTING RINGS (EXISTING AND NEW STRUCTURES)

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL MANHOLE CASTING ADJUSTMENT IN PAVEMENT	ROADWAY RDWD-18.3 Revised 12/31/2018



NOTES:

1. SIDEWALKS SHALL BE CONSTRUCTED PER CMS ITEM 608 WITH CONCRETE CLASS COC 6, ITEM 499.

2. WHERE THE SIDEWALK CROSSES RESIDENTIAL DRIVEWAYS THE CONCRETE SHALL BE 6-INCHES DEEP AND 8-INCHES DEEP AT COMMERCIAL DRIVEWAYS. LENGTH AND SLOPE OF DRIVEWAY RAMPS ARE VARIABLE ACCORDING TO THE DISTANCE OF THE SIDEWALK FROM THE CURB, SEE STANDARD DRAWINGS. CLASS MS (MEDIUM SET) CONCRETE MAY BE SPECIFIED FOR WORK IN DRIVEWAY AREAS WHERE ACCESS IS TO BE RESTORED WITHIN 24 HOURS.

3. ALL CONCRETE SHALL BE PLACED IN ONE COURSE, HAVE A BROOM FINISH PERPENDICULAR TO THE DIRECTION OF TRAVEL, AND 1/4-INCH RADIUS EDGE TOOLED JOINTS AND EDGES. ALL JOINTS AND EDGES SHALL BE RETRACED.

4. RUBBERIZED EXPANSION JOINT MATERIAL SHALL BE 1/2-INCH REFLEX RUBBERIZED EXPANSION JOINT MATERIAL OR APPROVED EQUAL AND PLACED WHEREVER NEW CONCRETE WALK ABUTS A DRIVEWAY APPROACH, AROUND STRUCTURES, AGAINST THE BACK OF CURB, AND AT A MAXIMUM TRANSVERSE INTERVALS OF 30-FT. FOARMTECH CONCRETE EXPANSION JOINT FOAM OR AN APPROVED EQUIVALENT SHALL BE USED AROUND RADII.

5. SIDEWALK SECTIONS TO BE REPAIRED MUST BE SAWCUT FULL-DEPTH AT THE NEAREST JOINTS AND REMOVED.

6. WATER AND GAS VALVES BOXES IN THE SIDEWALK AREA SHALL BE ADJUSTED TO PROPER GRADE BY THE OWNER OF UTILITY.

7. ROOF DRAINS SHALL BE EXTENDED UNDER THE SIDEWALK AND THROUGH THE CURB.

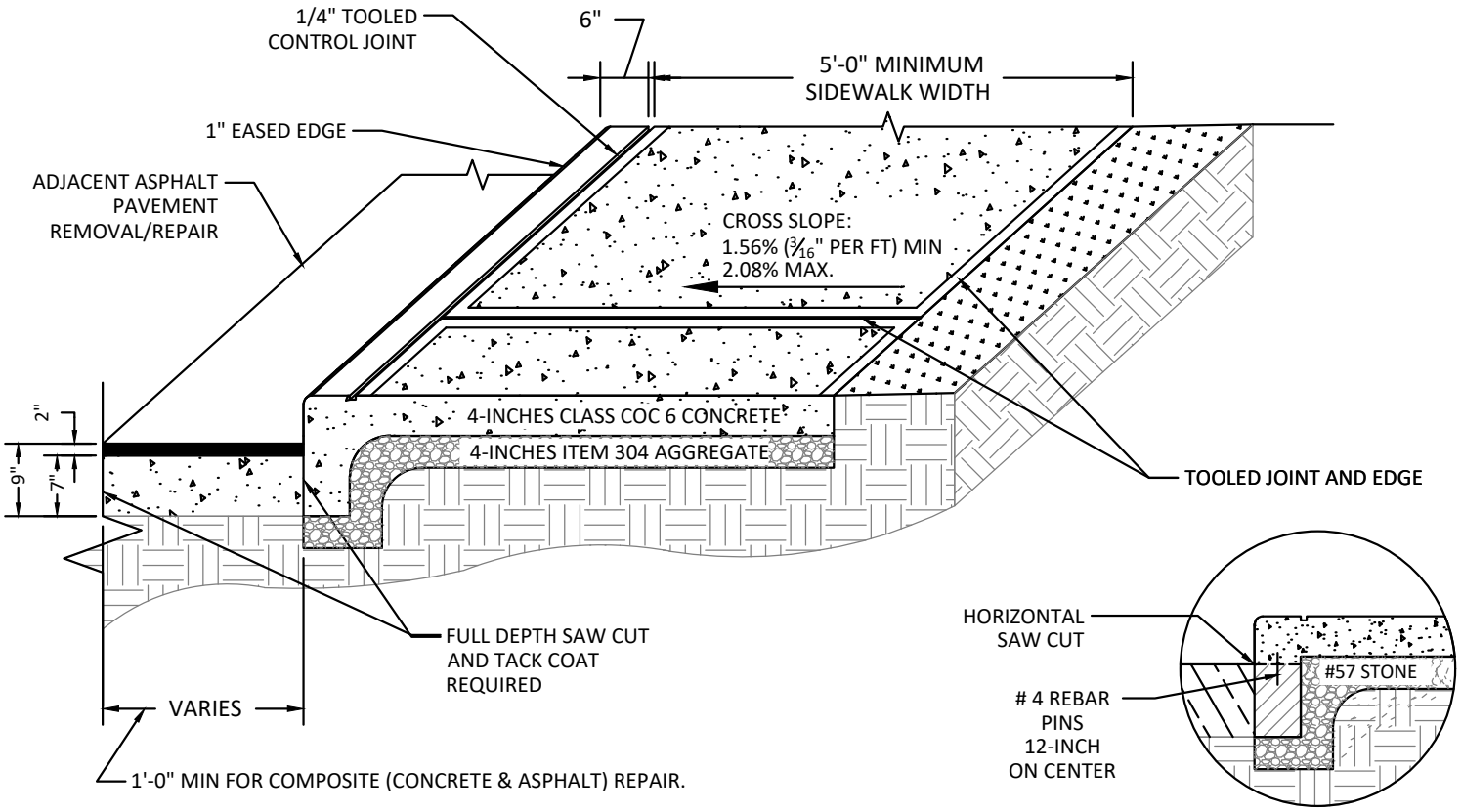
8. FORMS SHALL BE 2-INCH NOMINAL THICKNESS LUMBER OR RIGID METAL.

9. CONCRETE SHALL BE PROTECTED WITH A WHITE-TINTED CURING COMPOUND FOLLOWING FINAL FINISHING.

10. NOTIFY THE ENGINEERING OFFICE WHEN FORMS WILL BE READY FOR INSPECTION, AT LEAST 24 HOURS BEFORE CONCRETE IS TO BE PLACED. IN NO CASE MAY CONCRETE BE PLACED WITHOUT APPROVAL OF FORM WORK BY THE INSPECTOR.

11. NO CONCRETE SHALL BE PLACED UNTIL THE AMBIENT TEMPERATURE IS 35 DEGREES FAHRENHEIT MINIMUM AND RISING. CONCRETE SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 451.061 OF ITEM 451.

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL STANDARD SIDEWALKS SPECIFICATIONS	ROADWAY RDWD-19.1 9/19/2025



ISOLATED REPAIR DETAIL

NOTES:

1. FOR PAVEMENT REMOVAL, THE CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT AND REMOVE CURB, PAVEMENT, AND SIDEWALK. 9-INCH PAVEMENT REPAIR SHALL BE COMPLETED WITH 7-INCH CLASS COC 6 CONCRETE BASE AND A 2-INCH ITEM 441 ASPHALT WEARING COURSE.

2. FOR ISOLATED SIDEWALK/CURB REPAIRS, THE CURB MAY BE SAWCUT FLUSH WITH PAVEMENT BY THE CONTRACTOR WITH NEW CURB/WALK DOWELED TO REMAINING CURB PER DETAIL. (NO PAVEMENT REMOVAL REQUIRED).

3. SIDEWALKS SHALL BE CONSTRUCTED PER CMS ITEM 608 WITH CONCRETE CLASS COC 6, ITEM 499.

4. WHERE DRIVEWAYS CROSS THE SIDEWALK THE CONCRETE SHALL BE 6-INCHES DEEP FOR RESIDENTIAL OR 8-INCHES FOR COMMERCIAL. LENGTH AND SLOPE OF DRIVEWAY RAMPS ARE VARIABLE. SEE STANDARD DRAWING RDWD 12. CLASS MS (MEDIUM SET) CONCRETE MAY BE SPECIFIED FOR WORK IN DRIVEWAY AREAS WHERE ACCESS IS TO BE RESTORED WITHIN 24 HOURS.

5. ALL CONCRETE SHALL BE PLACED IN ONE COURSE, HAVE A BROOM FINISH PERPENDICULAR TO THE DIRECTION OF TRAVEL, AND WITH 1/4-INCH RADIUS EDGE TOOLED JOINTS AND EDGES.

6. RUBBERIZED EXPANSION JOINT MATERIAL SHALL BE 1/2-INCH REFLEX RUBBERIZED EXPANSION JOINT MATERIAL OR APPROVED EQUAL AND PLACED WHEREVER NEW CONCRETE WALK ABUTS A DRIVEWAY APPROACH, AROUND STRUCTURES, AGAINST THE BACK OF CURB, AND AT A MAXIMUM TRANSVERSE INTERVALS OF 30-FT. FOARMTECH CONCRETE EXPANSION JOINT FOAM OR AN APPROVED EQUIVALENT SHALL BE USED AROUND RADII.

7. SIDEWALK SECTIONS TO BE REPAIRED MUST BE SAWCUT FULL-DEPTH AT THE NEAREST JOINTS AND REMOVED.

8. WATER AND GAS VALVES BOXES IN THE SIDEWALK AREA SHALL BE ADJUSTED TO PROPER GRADE BY OWNER OF UTILITY.

9. FORMS SHALL BE MADE OF LUMBER 2-INCH NOMINAL THICKNESS OR RIGID METAL.

10. CONCRETE SHALL BE PROTECTED WITH A WHITE-TINTED CURING COMPOUND FOLLOWING FINAL FINISHING.

11. NOTIFY THE ENGINEERING OFFICE WHEN FORMS WILL BE READY FOR INSPECTION, AT LEAST 24 HOURS BEFORE CONCRETE IS TO BE PLACED. IN NO CASE MAY CONCRETE BE PLACED WITHOUT APPROVAL OF FORM WORK BY THE INSPECTOR.

12. NO CONCRETE SHALL BE PLACED UNTIL THE AMBIENT TEMPERATURE IS 35 DEGREES FAHRENHEIT MINIMUM AND RISING. CONCRETE SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 451.061 OF ITEM 451.

EST 1808
CITY OF DELAWARE OHIO
Public Works Department

STANDARD DETAIL

INTEGRAL CURB & WALK

ROADWAY

RDWD-19.2

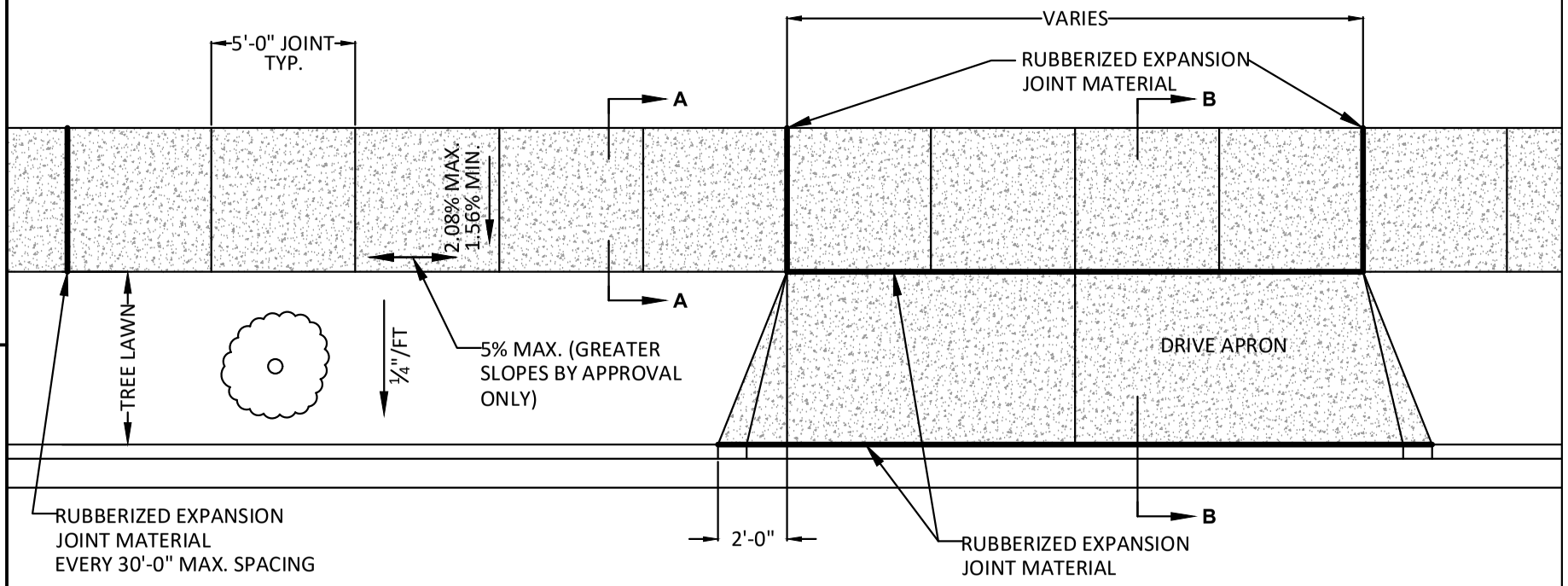
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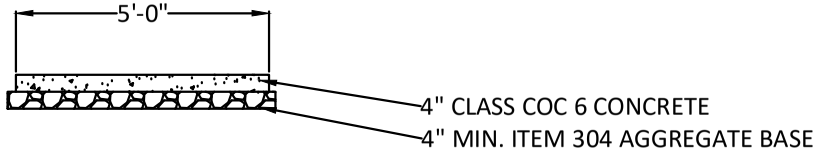
Public Works Department

CITY OF DELAWARE OHIO EST 1808

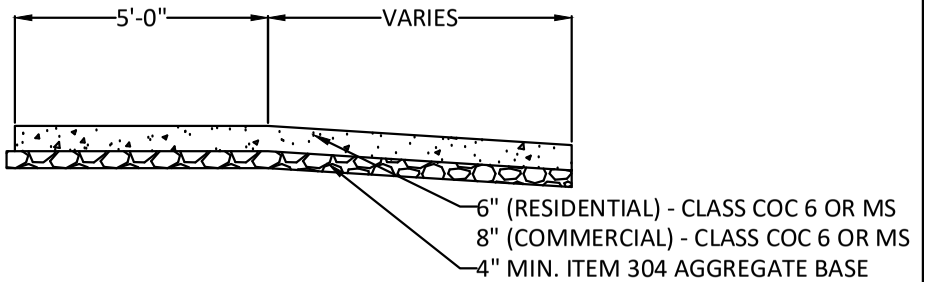
TYPICAL SIDEWALK AND DRIVEWAY APPROACH

STANDARD DETAIL





CROSS SECTION A-A



CROSS SECTION B-B

NOTES:

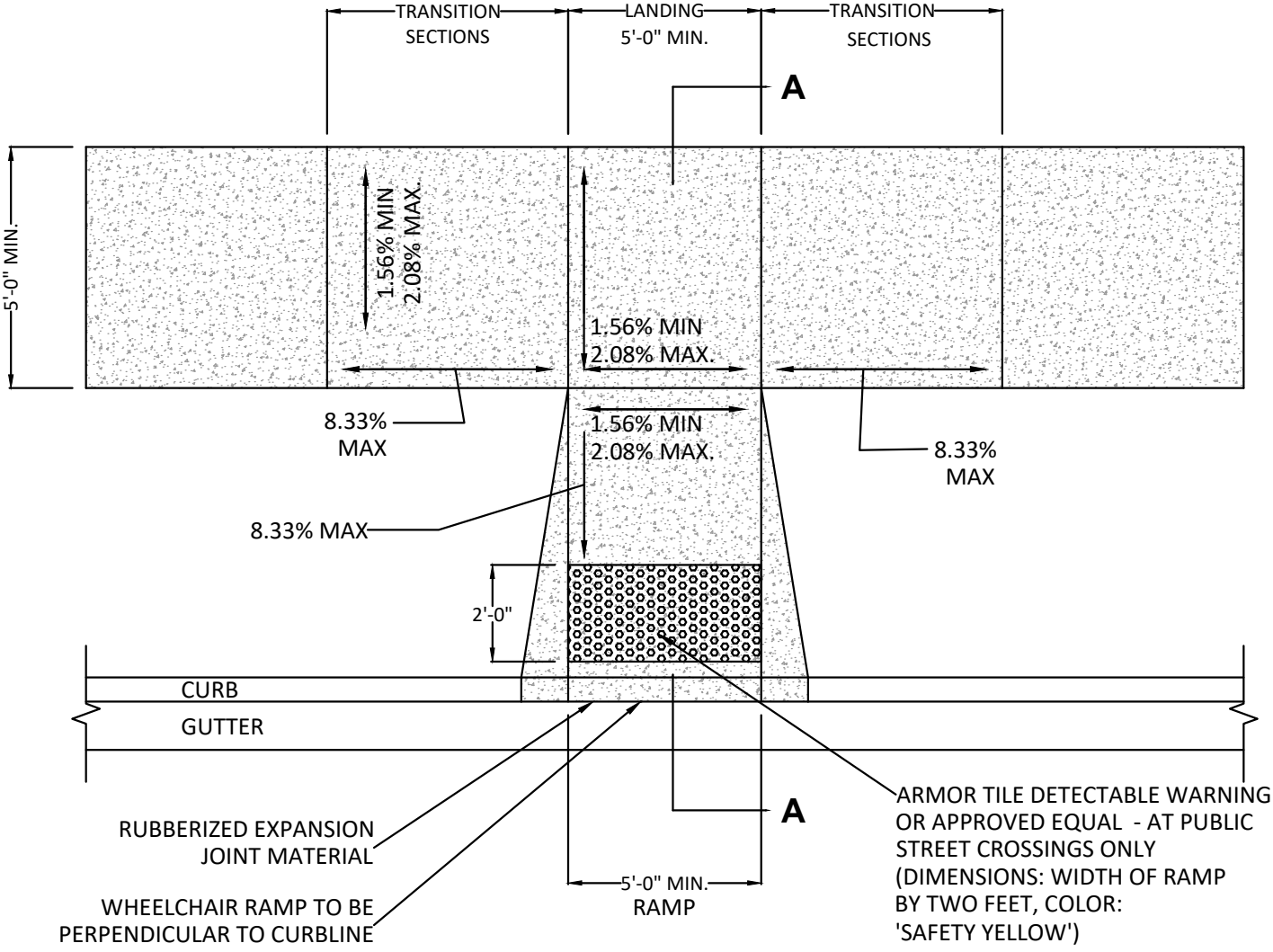
1. RUBBERIZED EXPANSION JOINT MATERIAL SHALL BE 1/2-INCH REFLEX RUBBERIZED EXPANSION JOINT MATERIAL OR APPROVED EQUAL AND PLACED WHEREVER NEW CONCRETE WALK ABUTS A DRIVEWAY APPROACH, AROUND STRUCTURES, AGAINST THE BACK OF CURB, AND AT A MAXIMUM TRANSVERSE INTERVALS OF 30-FT. FOARMTECH CONCRETE EXPANSION JOINT FOAM OR AN A EQUIVALENT SHALL BE USED AROUND RADII.
2. SIDEWALK POURED IN CONJUNCTION WITH DRIVEWAY SHALL HAVE 1/4 -INCH RADIUS EDGE TOOLED JOINTS AND EDGES WITH A BROOM FINISH PERPENDICULAR TO THE DIRECTION OF TRAVEL. RUBBERIZED EXPANSION JOINT MATERIAL IS NOT REQUIRED WITH MONOLITHIC POUR BETWEEN SIDEWALK AND DRIVEWAY.

ROADWAY

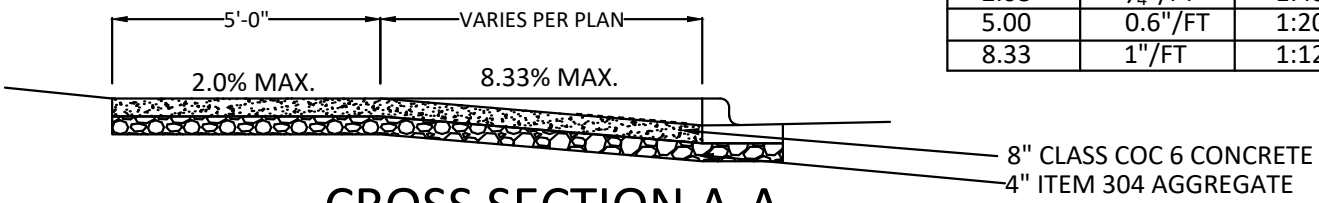
RDWD-19.3

9/19/2025

LOCATION PER APPROVED PLAN



%	IN/FT	SLOPE
1.56	3/16"/FT	1:64
2.08	1/4"/FT	1:48
5.00	0.6"/FT	1:20
8.33	1"/FT	1:12



CROSS SECTION A-A

NOTES:

1. ALL JOINTS AT CURB RAMP LANDING SHALL BE SAW CUT.
2. RUBBERIZED EXPANSION JOINT MATERIAL SHALL BE 1/2-INCH REFLEX RUBBERIZED EXPANSION JOINT MATERIAL OR APPROVED EQUAL AND PLACED WHEREVER NEW CONCRETE WALK ABUTS THE BACK OF CURB, AND AT A MAXIMUM TRANSVERSE INTERVALS OF 30-FT. FOARMTECH CONCRETE EXPANSION JOINT FOAM OR AN APPROVED EQUIVALENT SHALL BE USED AROUND RADII.

EST 1808 CITY OF DELAWARE OHIO

Public Works Department

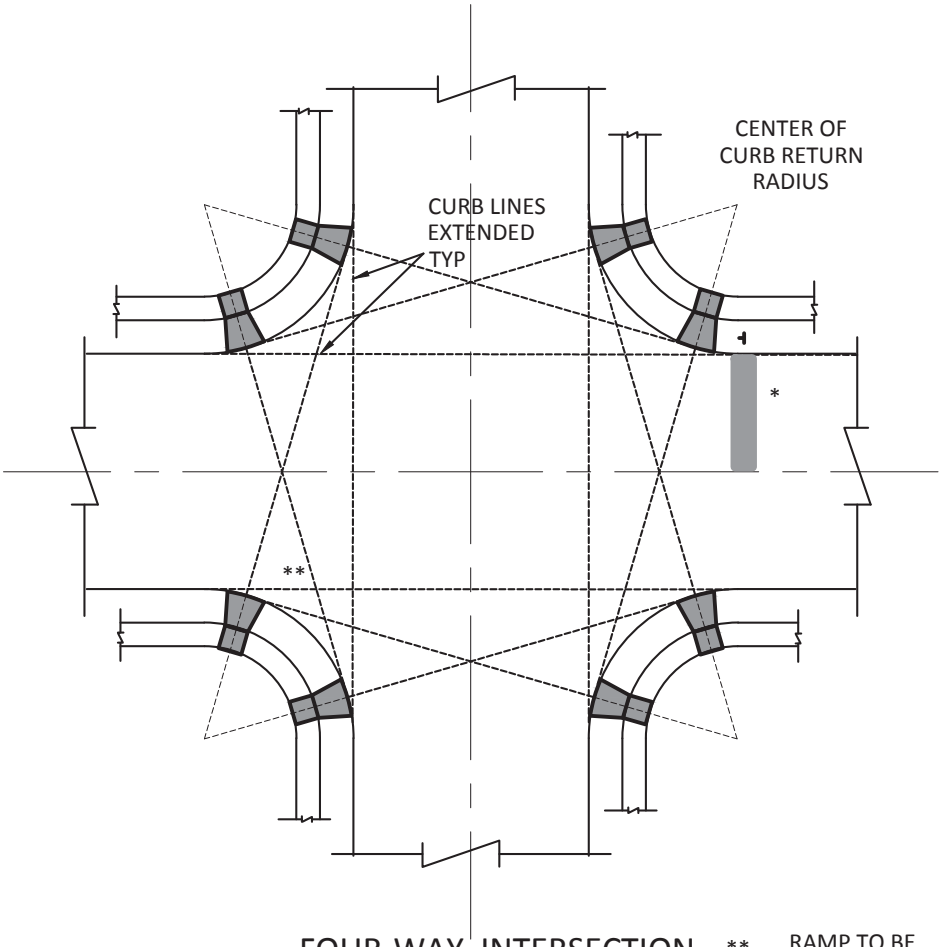
STANDARD DETAIL

ADA COMPLIANT CURB RAMP

ROADWAY

RDWD-19.4

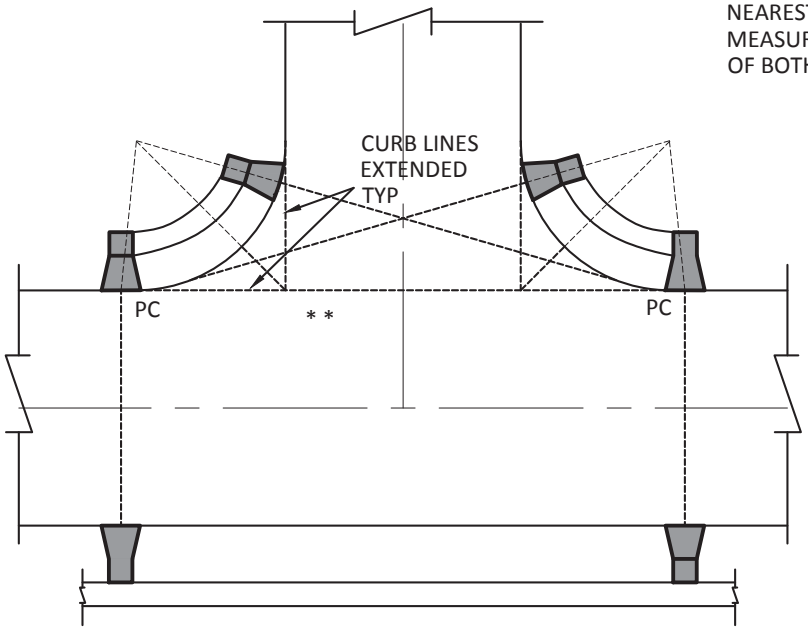
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FOUR-WAY INTERSECTION

** RAMP TO BE PERPENDICULAR TO RADIAL CURB LINE TYP.

* STOP BAR SHALL BE PLACED 4 FEET IN ADVANCE OF THE NEAREST CROSSWALK LINE MEASURED FROM CENTER OF BOTH LINES.



"TEE" INTERSECTION

EST 1808
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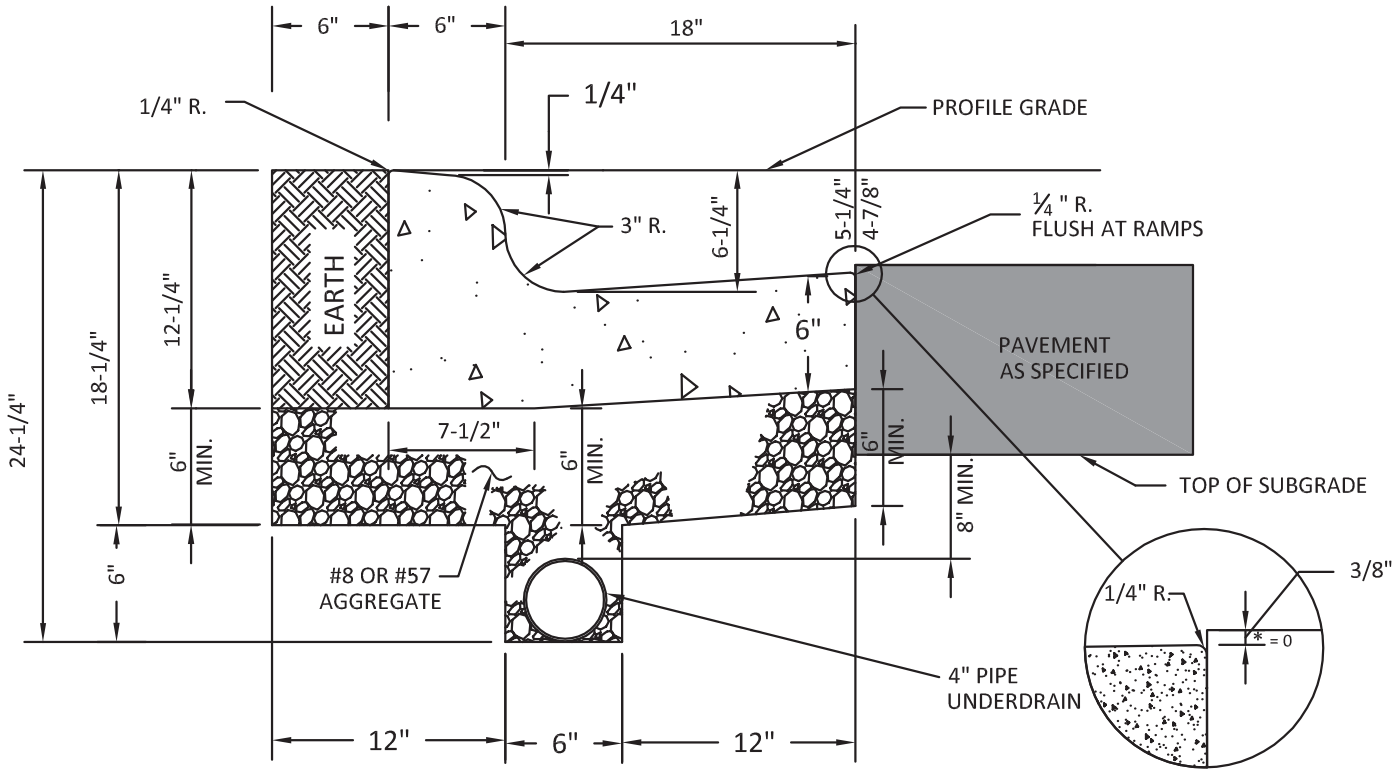
STANDARD DETAIL

CURB RAMP LOCATIONS

ROADWAY

RDWD-19.5

Revised 12/31/2018



NOTES:

1. THE PAVEMENT SHALL BE FLUSH AT THE GUTTER IN FRONT OF CURB RAMPS. CURB RAMPS SHALL BE BUILT AS COC STANDARD DRAWING 2319

2. 1.26 C.F. CONCRETE PER L.F.

3. IF THE SUBGRADE IS MORE THAN 7" BELOW THE BOTTOM OF THE CURB, THE UNDERDRAIN SHALL BE ADJUSTED TO KEEP THE TOP OF THE UNDERDRAIN AT LEAST 2" BELOW THE SUBGRADE.

4. SUBGRADE COMPACTION SHALL BE COMPLETED BEFORE UNDERDRAIN INSTALLATION.

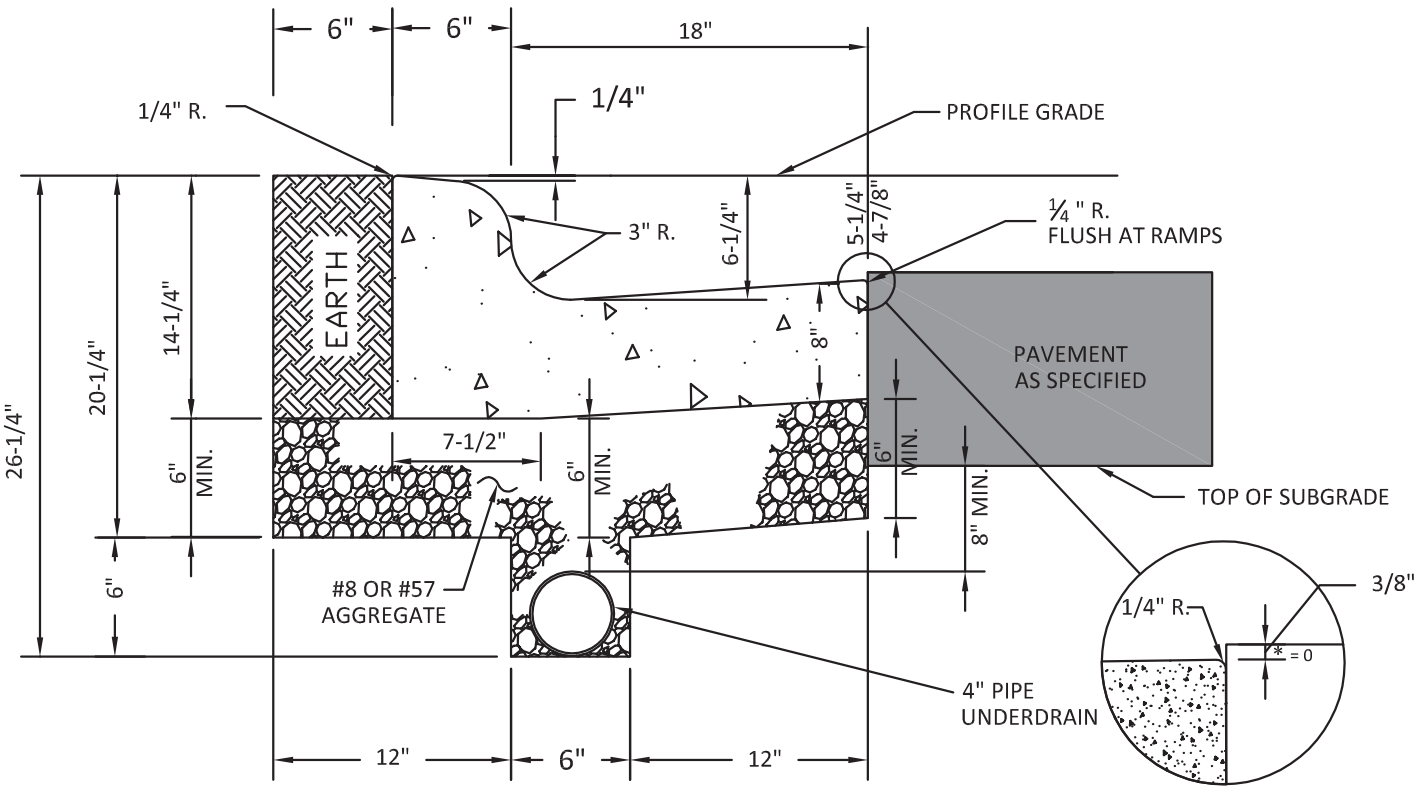
5. NOTE: WHEN CURB AND GUTTER INLET IS INSTALLED, THE TOP OF THE BONNET SHALL BE THE SAME AS THE TOP OF CURB ELEVATION. THE EDGE OF PAVEMENT SHALL BE ⅜ " HIGHER THAN THE GRATE WHEREVER THEY MEET/TOUCH.

6. FOR REPLACEMENT WORK, THE CURB SHALL BE REMOVED AT AN EXISTING JOINT OR NO CLOSER THAN 5 FEET FROM AN EXISTING JOINT.

7. ½" RUBBERIZED EXPANSION MATERIAL SHALL BE INSTALLED BEHIND THE CURB WHEN A CONCRETE WALK, DRIVE, OR OTHER ITEM IS ADJOINING IT.

8. ½" RUBBERIZED EXPANSION MATERIAL SHALL BE INSTALLED AT A JOINT LOCATED A MINIMUM 5-FT AND MAXIMUM 10-FT EACH SIDE OF CURB INLETS.

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL STANDARD CONCRETE COMBINED CURB & GUTTER, ITEM 609	ROADWAY RDWD-20.0 Revised 12/31/2018



NOTES:

1. THE PAVEMENT SHALL BE FLUSH AT THE GUTTER IN FRONT OF CURB RAMPS. CURB RAMPS SHALL BE BUILT AS COC STANDARD DRAWING 2319

2. 1.59 C.F. CONCRETE PER L.F.

3. IF THE SUBGRADE IS MORE THAN 7" BELOW THE BOTTOM OF THE CURB, THE UNDERDRAIN SHALL BE ADJUSTED TO KEEP THE TOP OF THE UNDERDRAIN AT LEAST 2" BELOW THE SUBGRADE.

4. SUBGRADE COMPACTION SHALL BE COMPLETED BEFORE UNDERDRAIN INSTALLATION.

5. NOTE: WHEN CURB AND GUTTER INLET IS INSTALLED, THE TOP OF THE BONNET SHALL BE THE SAME AS THE TOP OF CURB ELEVATION. THE EDGE OF PAVEMENT SHALL BE ⅜ " HIGHER THAN THE GRATE WHEREVER THEY MEET/TOUCH.

6. FOR REPLACEMENT WORK, THE CURB SHALL BE REMOVED AT AN EXISTING JOINT OR NO CLOSER THAN 5 FEET FROM AN EXISTING JOINT.

7. ½" RUBBERIZED EXPANSION MATERIAL SHALL BE INSTALLED BEHIND THE CURB WHEN A CONCRETE WALK, DRIVE, OR OTHER ITEM IS ADJOINING IT.

8. ½" RUBBERIZED EXPANSION MATERIAL SHALL BE INSTALLED AT A JOINT LOCATED A MINIMUM 5-FT AND MAXIMUM 10-FT EACH SIDE OF CURB INLETS.

EST 1808
CITY OF
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OHIO
Public Works Department

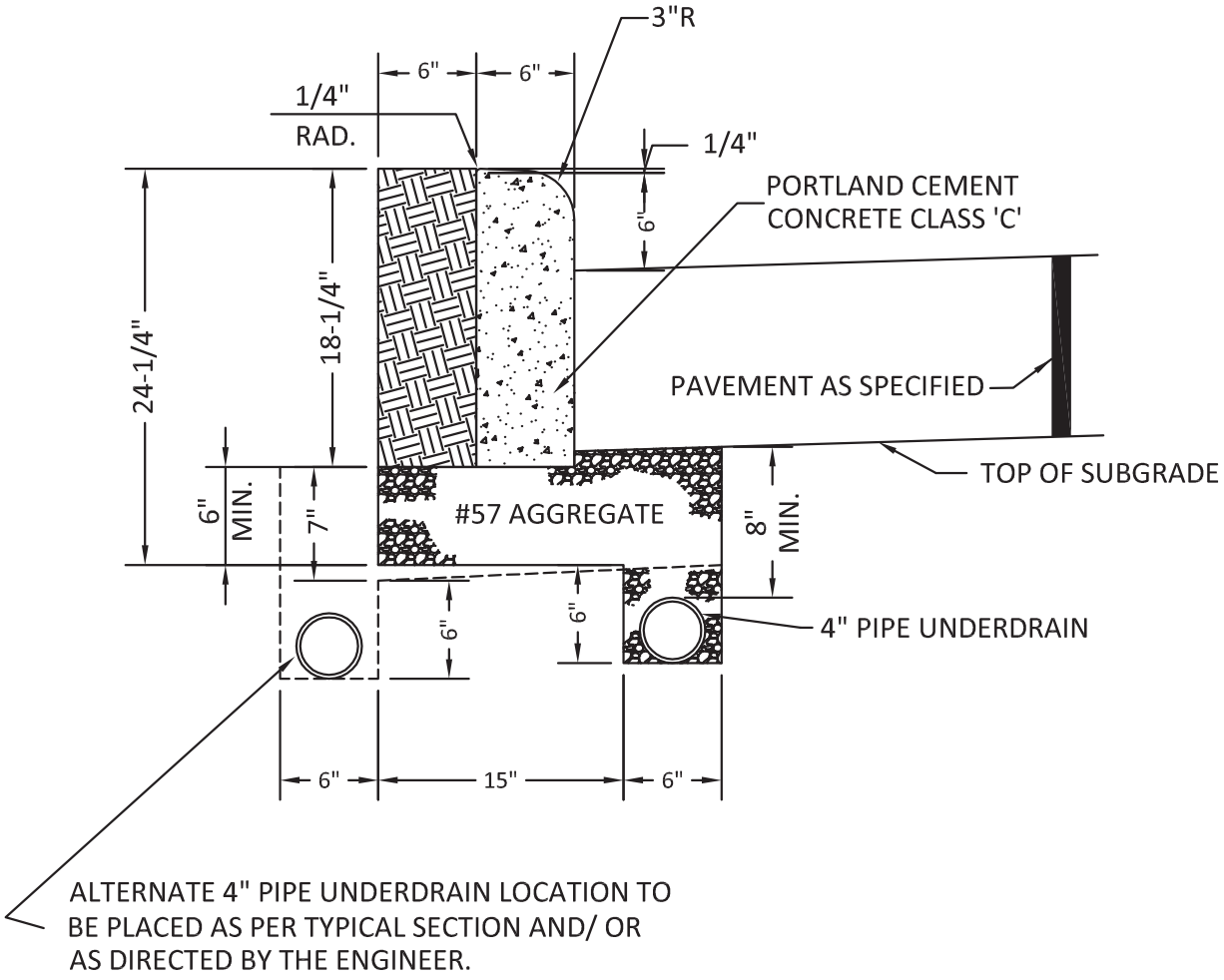
STANDARD DETAIL

SPECIAL 8" CONCRETE COMBINED CURB & GUTTER, ITEM 609

ROADWAY

RDWD-21.0

Revised 12/31/2018



NOTES:

1. THE PAVEMENT SHALL BE FLUSH AT THE GUTTER IN FRONT OF CURB RAMPS. CURB RAMPS SHALL BE BUILT AS COC STANDARD DRAWING 2319

2. 0.74 C.F. CONCRETE PER L.F.

3. IF THE SUBGRADE IS MORE THAN 7" BELOW THE BOTTOM OF THE CURB, THE UNDERDRAIN SHALL BE ADJUSTED TO KEEP THE TOP OF THE UNDERDRAIN AT LEAST 2" BELOW THE SUBGRADE.

4. SUBGRADE COMPACTION SHALL BE COMPLETED BEFORE UNDERDRAIN INSTALLATION.

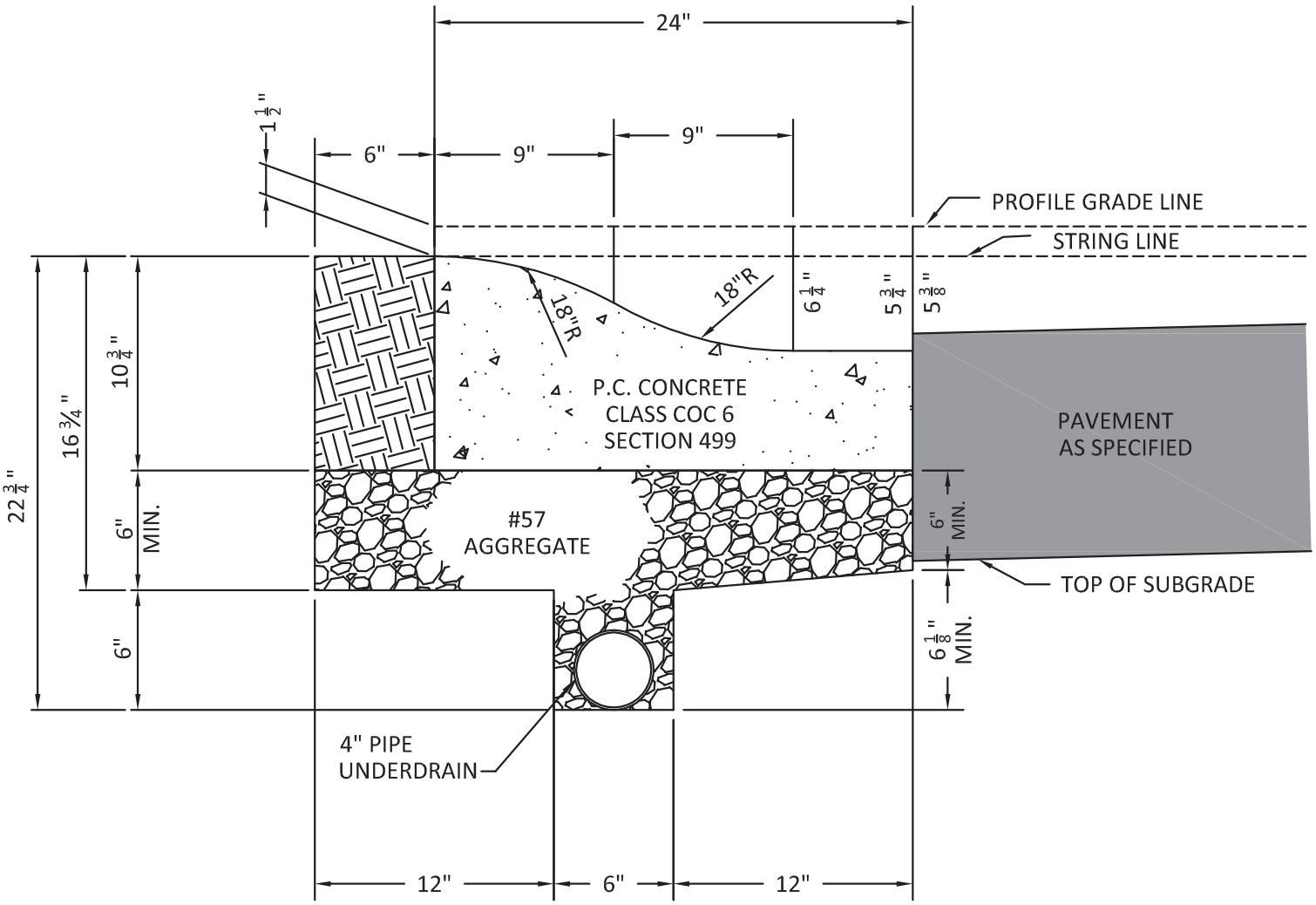
5. NOTE: WHEN CURB AND GUTTER INLET IS INSTALLED, THE TOP OF THE BONNET SHALL BE THE SAME AS THE TOP OF CURB ELEVATION. THE EDGE OF PAVEMENT SHALL BE ⅜ " HIGHER THAN THE GRATE WHEREVER THEY MEET/TOUCH.

6. FOR REPLACEMENT WORK, THE CURB SHALL BE REMOVED AT AN EXISTING JOINT OR NO CLOSER THAN 5 FEET FROM AN EXISTING JOINT.

7. ½" RUBBERIZED EXPANSION MATERIAL SHALL BE INSTALLED BEHIND THE CURB WHEN A CONCRETE WALK, DRIVE, OR OTHER ITEM IS ADJOINING IT.

8. ½" RUBBERIZED EXPANSION MATERIAL SHALL BE INSTALLED AT A JOINT LOCATED A MINIMUM 5-FT AND MAXIMUM 10-FT EACH SIDE OF CURB INLETS.

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL STRAIGHT 18-INCH CONCRETE CURB	ROADWAY RDWD-22.0 Revised 12/31/2018



NOTES:

1. THE PAVEMENT SHALL BE FLUSH AT THE GUTTER IN FRONT OF CURB RAMPS. CURB RAMPS SHALL BE BUILT AS COC STANDARD DRAWING 2319

2. 1.33 C.F. CONCRETE PER L.F.

3. IF THE SUBGRADE IS MORE THAN 7" BELOW THE BOTTOM OF THE CURB, THE UNDERDRAIN SHALL BE ADJUSTED TO KEEP THE TOP OF THE UNDERDRAIN AT LEAST 2" BELOW THE SUBGRADE.

4. SUBGRADE COMPACTION SHALL BE COMPLETED BEFORE UNDERDRAIN INSTALLATION.

5. NOTE: WHEN CURB AND GUTTER INLET IS INSTALLED, THE TOP OF THE BONNET SHALL BE THE SAME AS THE TOP OF CURB ELEVATION. THE EDGE OF PAVEMENT SHALL BE ⅜ " HIGHER THAN THE GRATE WHEREVER THEY MEET/TOUCH.

6. FOR REPLACEMENT WORK, THE CURB SHALL BE REMOVED AT AN EXISTING JOINT OR NO CLOSER THAN 5 FEET FROM AN EXISTING JOINT.

7. ½" RUBBERIZED EXPANSION MATERIAL SHALL BE INSTALLED BEHIND THE CURB WHEN A CONCRETE WALK, DRIVE, OR OTHER ITEM IS ADJOINING IT.

8. ½" RUBBERIZED EXPANSION MATERIAL SHALL BE INSTALLED AT A JOINT LOCATED A MINIMUM 5-FT AND MAXIMUM 10-FT EACH SIDE OF CURB INLETS.

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CITY OF
DELAWARE
OHIO
Public Works Department

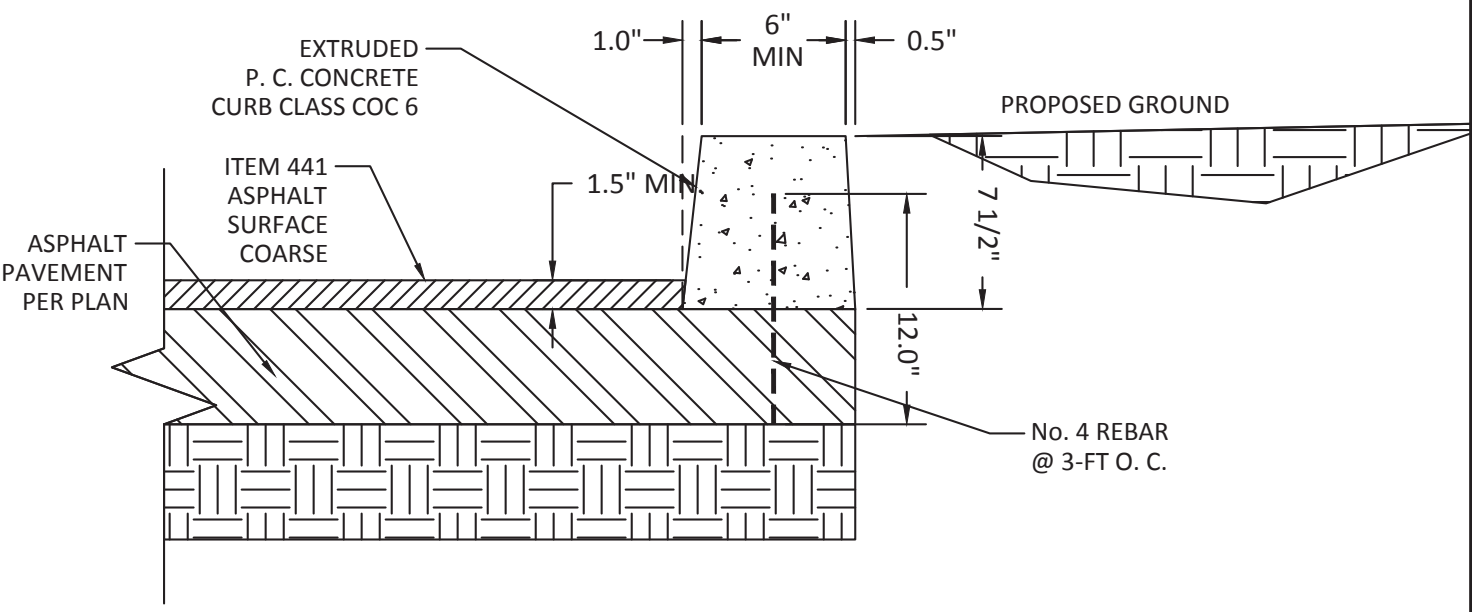
STANDARD DETAIL

CONCRETE MOUNTABLE CURB

ROADWAY

RDWD-23.0

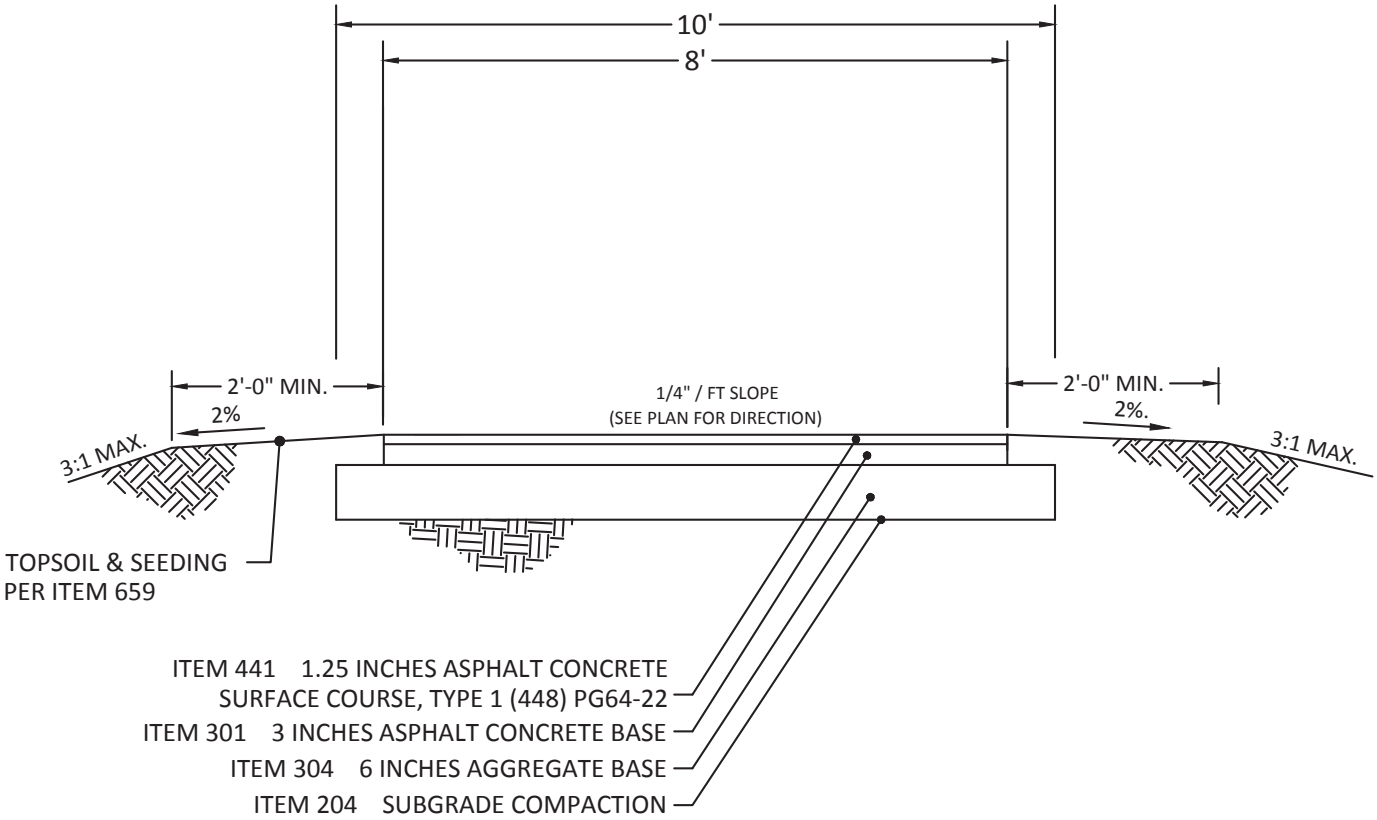
Revised 12/31/2018



NOTES:

1. EXTRUDED CURBING IS PERMITTED IN PRIVATE COMMERCIAL PARKING LOTS AND CONDOMINIUM/ARARTMENT SITES ONLY. IN NO INSTANCE WILL IT BE PERMITTED ON PUBLIC ROADWAYS.
2. EXTRUDED CURBING IS NOT PERMITTED AGAINST ANY MAIN TRAVEL DRIVEWAYS.
3. EXTRUDED CURBING IS PERMITTED ALONG THE PERIMETER OF PARKING LOTS, AT THE END OF PARKING STALLS WHERE PAVEMENT IS ABUTTING LAWN AREAS, AND AROUND LANDSCAPE ISLAND IN PARKING LOTS.
4. THE CURB SHALL BE 7.5-INCHES IN HEIGHT AND SHALL BE PINNED WITH 12-INCH NO. 4 REBAR 3-FT O. C.
5. THE TOP COURSE OF ASPHALT SHALL BE PLACED AFTER PLACEMENT OF THE CURB TO AID IN ANCHORING THE CURB.
6. A 6-INCH REVEAL IS REQUIRED.

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL EXTRUDED CONCRETE CURB	ROADWAY RDWD-24.0 Revised 12/31/2018



NOTES:

1. ITEM NUMBERS REFER TO THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS.
2. ALL DISTURBED AREAS SHALL BE SEEDED, MULCHED AND FERTILIZED PER ITEM 659.
3. 2'-0" GRADED SECTION TO EACH SIDE OF PAVEMENT SHALL BE CLEAR OF OBSTRUCTIONS.
4. MINIMUM VERTICAL CLEARANCE TO OBSTRUCTIONS SHALL BE 8'-6".
5. RAMPS SHALL BE ADA COMPLIANT AND SHALL BE CONSTRUCTED AT ALL ROAD CROSSINGS.
6. GEOTEXTILE FABRIC TO BE ADDED AS NECESSARY AND/OR AT THE DIRECTION OF THE CITY OF DELAWARE.

EST 1808
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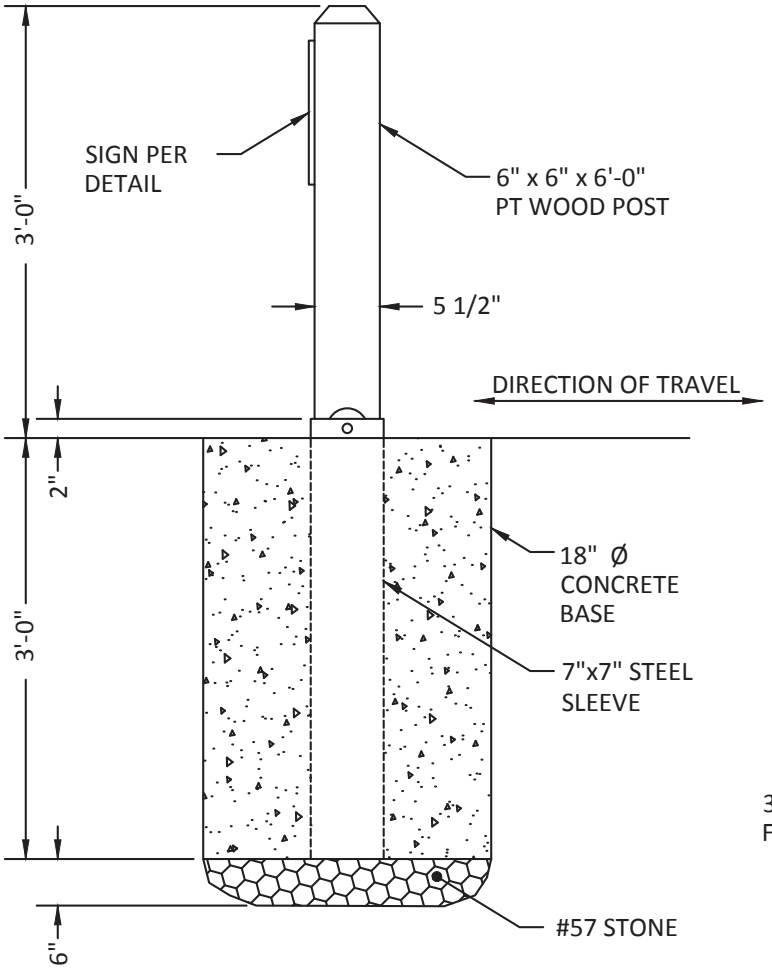
STANDARD DETAIL

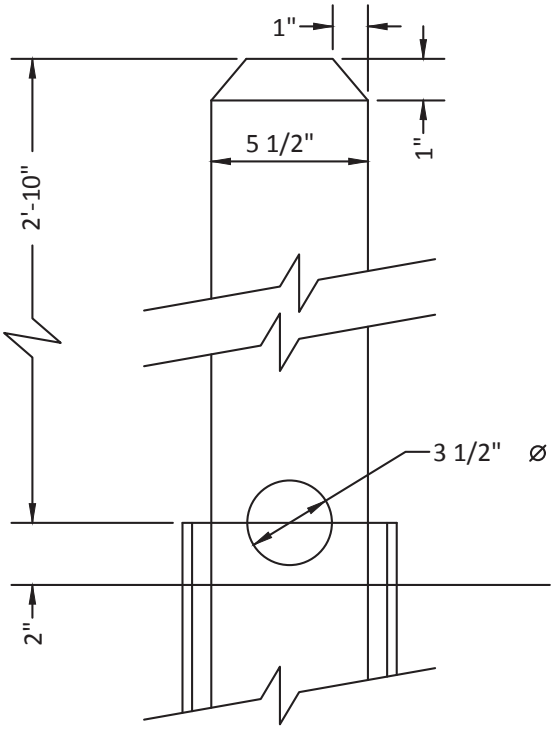
MULTI-USE PATH
ASPHALT PAVEMENT SECTION

ROADWAY

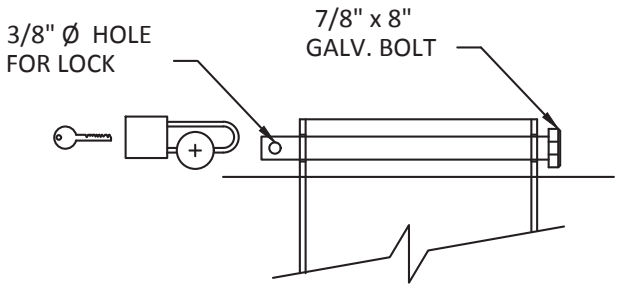
RDWD-25.0

Revised 12/31/2018

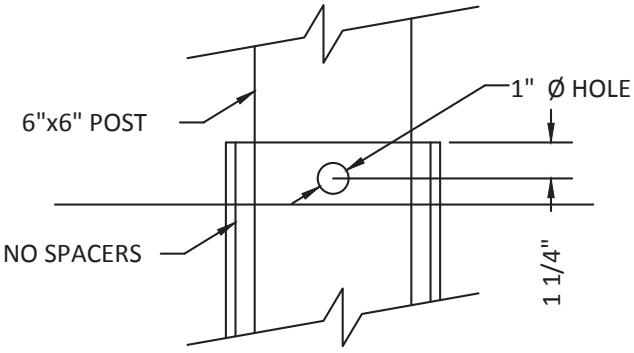




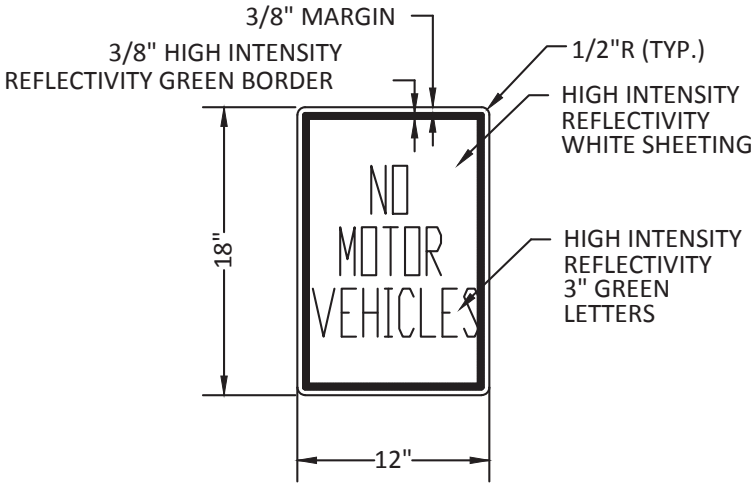
POST DETAIL



OPTIONAL REMOVABLE BOLT/LOCK



STEEL TUBE DETAIL



ATTACH SIGN TO BOLLARD WITH 2 ~ 3" LAG BOLTS

SIGN DETAIL

EST 1808
CITY OF DELAWARE OHIO
Public Works Department

STANDARD DETAIL

REMOVABLE / BREAK-AWAY BOLLARD DETAIL

ROADWAY

RDWD-28.0

Revised 12/31/2018

Public Works Department

CITY OF DELAWARE OHIO EST 1808

STANDARD DETAIL

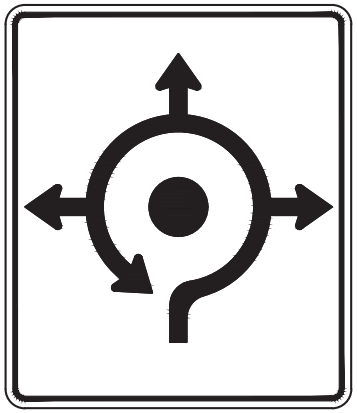
ROUNDABOUT SIGNAGE

ROADWAY

RDWD-30.0

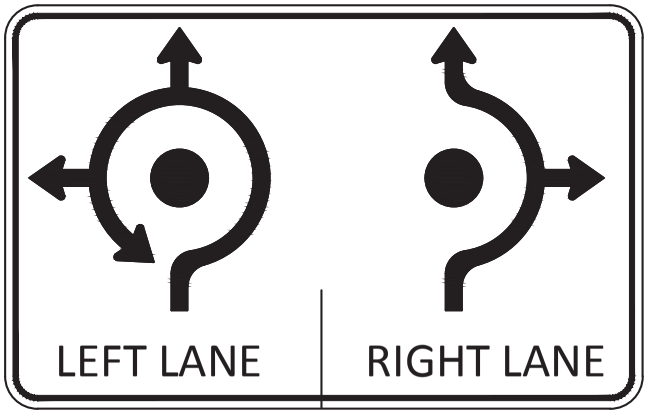
Revised 12/31/2018

SPEC.



SINGLE LANE ROUNDABOUT

SPEC.



DUAL LANE ROUNDABOUT

W2-6





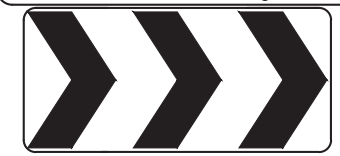
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W3-1

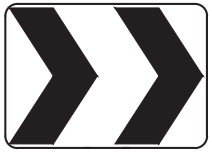
R6-1R





R6-4a

or



R6-4

R1-2

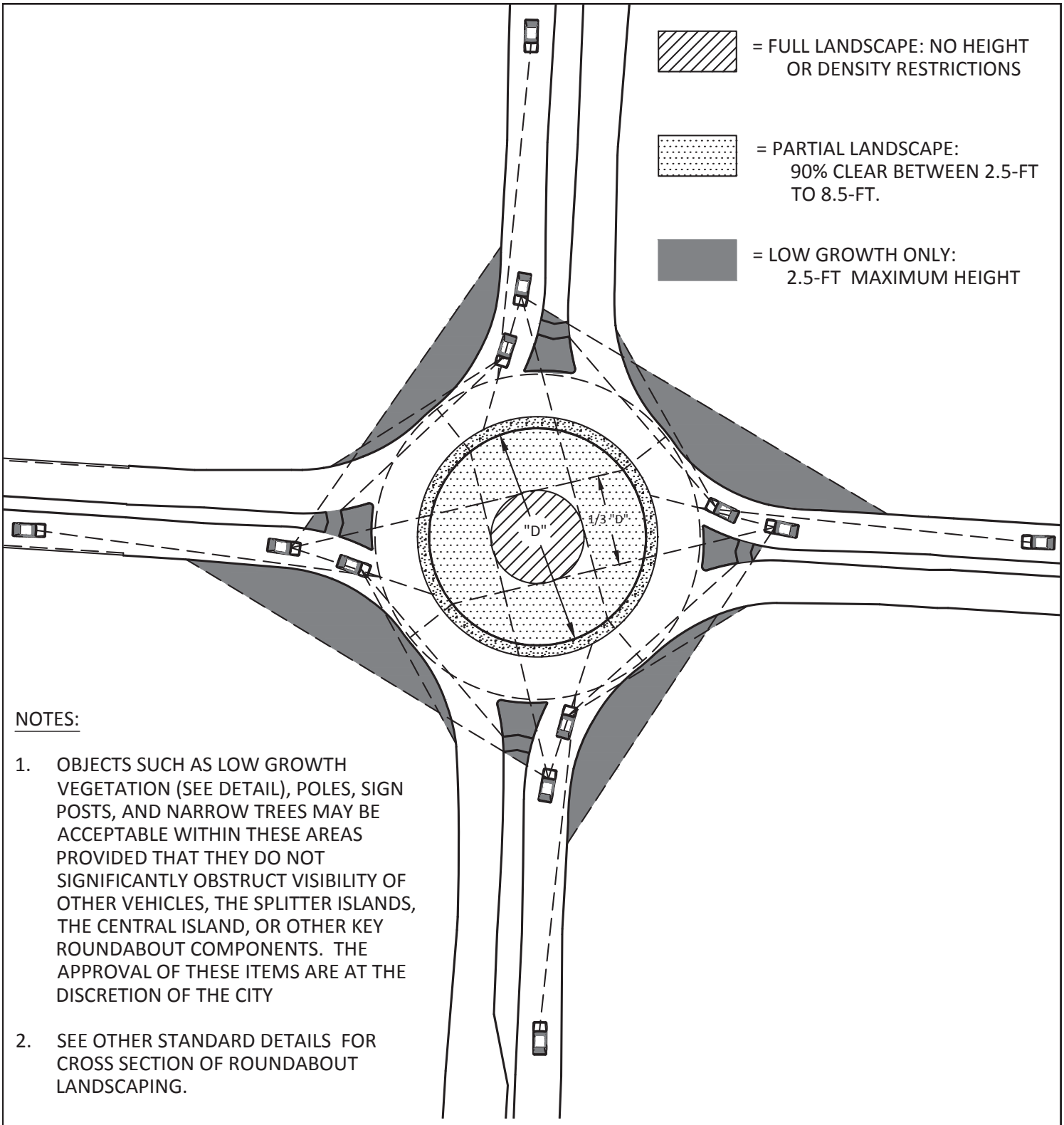




SPEC

*** Replace with street name placard when applicable W16-H8P**

Note: Signage at roundabouts shall be per the most current edition of the OMUTCD with exception as shown on this sheet.



NOTES:

1. OBJECTS SUCH AS LOW GROWTH VEGETATION (SEE DETAIL), POLES, SIGN POSTS, AND NARROW TREES MAY BE ACCEPTABLE WITHIN THESE AREAS PROVIDED THAT THEY DO NOT SIGNIFICANTLY OBSTRUCT VISIBILITY OF OTHER VEHICLES, THE SPLITTER ISLANDS, THE CENTRAL ISLAND, OR OTHER KEY ROUNDABOUT COMPONENTS. THE APPROVAL OF THESE ITEMS ARE AT THE DISCRETION OF THE CITY
2. SEE OTHER STANDARD DETAILS FOR CROSS SECTION OF ROUNDABOUT LANDSCAPING.
3. RECORDED RIGHT-OF-WAY FOR THE ROUNDABOUT AND A MAINTENANCE AGREEMENT WITH THE CITY FOR THE LANDSCAPING IS REQUIRED.
4. ALL DESIGNERS MUST SUBMIT A SIGHT DISTANCE/LANDSCAPING EXHIBIT SIMILAR TO THIS EXAMPLE. THIS EXHIBIT MUST BE DESIGNED PER FHWA'S MOST CURRENT BASIS OF DESIGN, WHICH TO DATE IS FHWA-RD-00-067.

EST 1808
CITY OF DELAWARE OHIO
Public Works Department

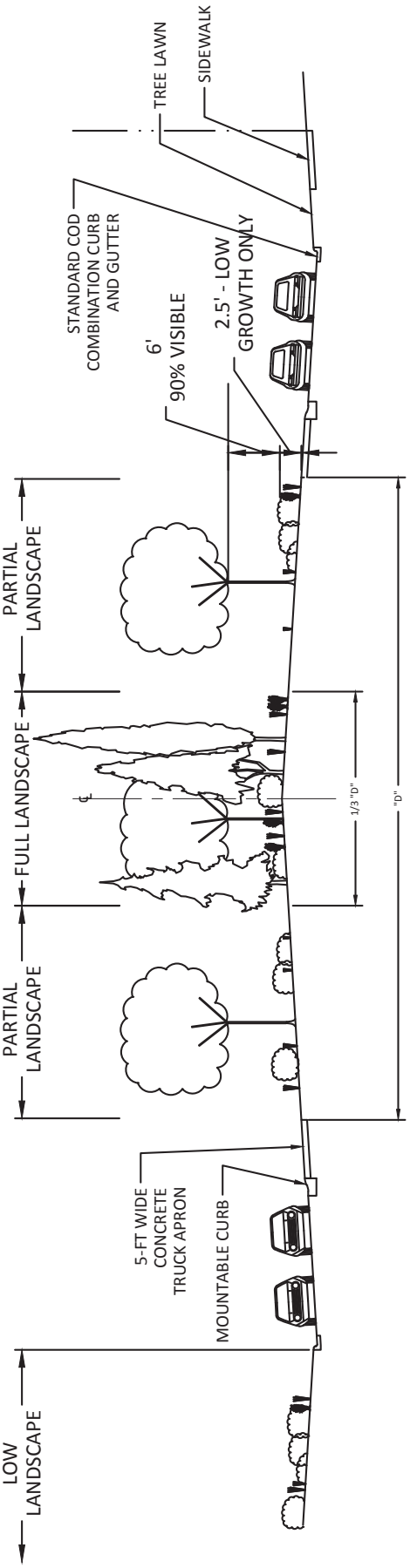
STANDARD DETAIL

ROUNDABOUT SIGHT DISTANCE/ LANDSCAPING EXHIBIT

ROADWAY

RDWD-31.0

Revised 12/31/2018



EST 1808
CITY OF DELAWARE OHIO
Public Works Department

STANDARD DETAIL

ROUNDABOUT SIGHT DISTANCE/ LANDSCAPING CROSS SECTION

ROADWAY

RDWD-32.0

Revised 12/31/2018

Public Works Department

CITY OF DELAWARE OHIO EST 1808

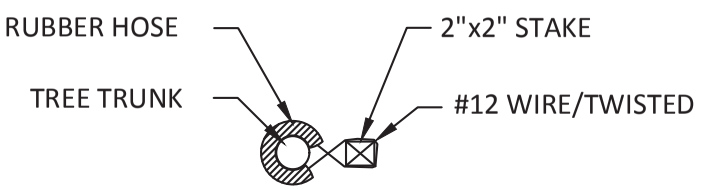
STANDARD DETAIL

STREET TREE DETAILS

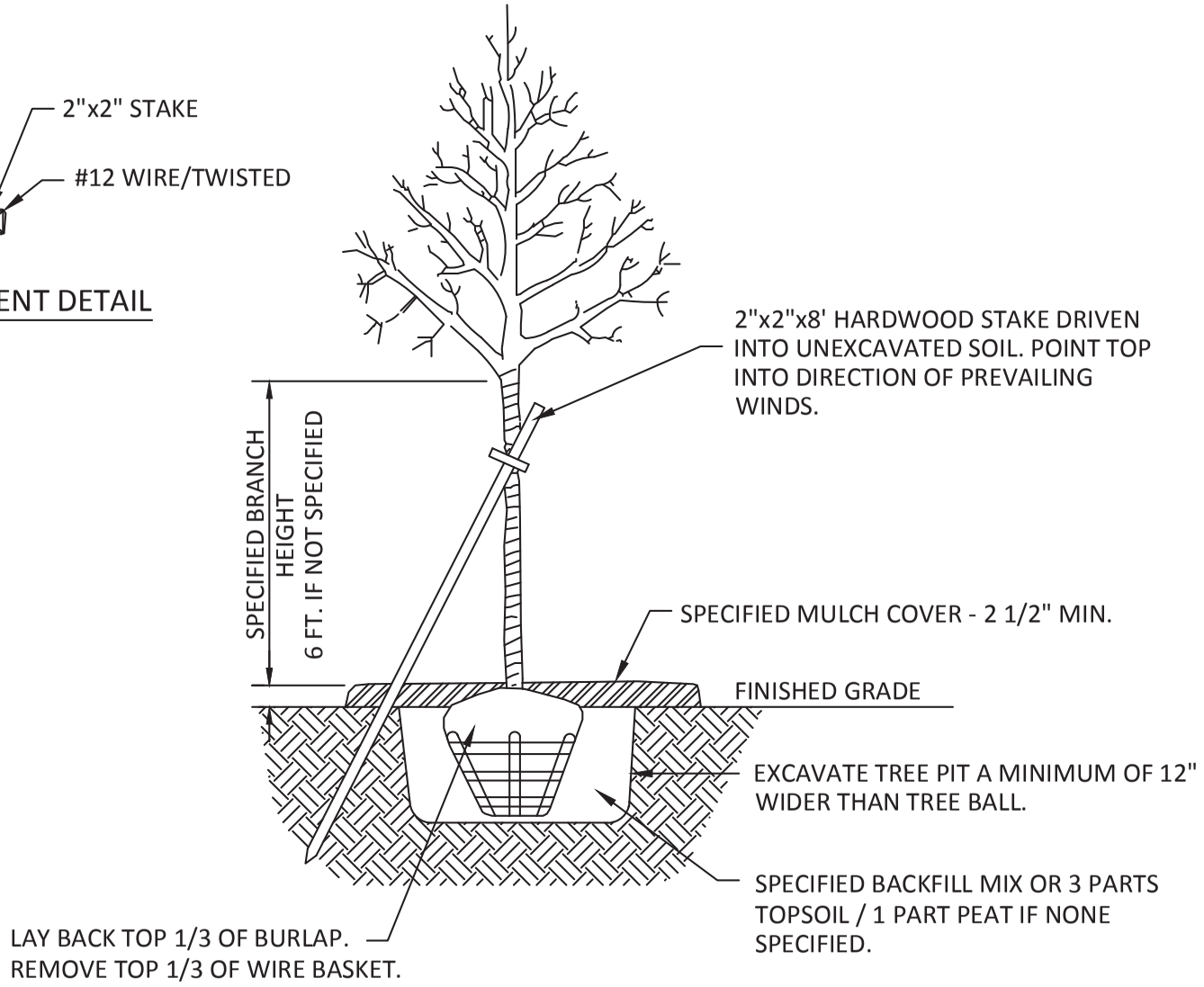
ROADWAY

RDWD-33.1

Revised 12/31/2018



STAKE ATTACHMENT DETAIL



TREE PLANTING DETAIL

TREES UP TO 3" CALIPER

-NO SCALE-

TREE PLANTING INSTRUCTIONS
CITY OF DELAWARE, OHIO

I SITE PREPARATION

A. DIG PLANTING HOLE NO DEEPER THAN DEPTH OF ROOT BALL, LEAVING BOTTOM OF HOLE FIRM.

B. DIG HOLE WIDTH AT LEAST ONE FOOT LARGER THAN THE DIAMETER OF THE ROOT BALL.

II PLANTING

A. REMOVE THE TOP THIRD OF THE WIRE SHIPPING BASKETS, ALL PLASTIC COVERS, SHIPPING COLLARS, AND NYLON ROPES. REMOVE TOP OF BURLAP BY PULLING AWAY BURLAP FROM TOP OF ROOT BALL AND TUCK INTO HOLE. NO PLASTIC BURLAP PERMITTED. UNTANGLE BRANCHES.

B. ROLL OR LIFT TREE INTO HOLE BY MOVING THE ROOT BALL, NOT BY LIFTING THE TRUNK.

C. PLUMB TREE UPRIGHT IN CENTER OF PLANTING HOLE.

D. TREE SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL IS NO MORE THAN THREE INCHES ABOVE EXISTING GRADE. NEVER PLANT DEEPER THAN THE GRADE.

E. IF EXCAVATED SOIL CONTAINS MORE THAN 30% CRUSHED STONE OR OTHER DEBRIS, BACKFILL WITH CLEAN TOPSOIL.

F. WATER THOROUGHLY DURING AND AFTER BACKFILLING, USING THE FOLLOWING METHOD:

(1) BACKFILL THE HOLE 1/3 TO 1/2 FULL;

(2) APPLY WATER UNTIL THE SOIL IS THOROUGHLY SETTLED AROUND ROOT BALL, ALLOWING NO AIR POCKETS TO REMAIN;

(3) COMPLETE BACKFILLING TO FINISHED GRADE;

(4) APPLY MULCH;

(5) THOROUGHLY SOAK WITH WATER.

III MULCHING

A. MULCH THREE INCHES DEEP OVER THE ROOT BALL AND HOLE.

B. LEAVE THREE INCH CIRCLE OF BARE SOIL AROUND TRUNK.

C. SPREAD MULCH TO AN EVEN DEPTH AROUND TREE; DO NOT PYRAMID SOIL OR MULCH AROUND TRUNK.

Light Fixtures:
Light fixtures for Residental Street Lighting shall be as follows:

1. **LED Model:**
   GVD3 P30 30K MVOLT MS CMC GL3 RB ST TGL PR7E FPD75 SH
   Granville LED Classic: Granville LED Classic, LED Performance Package 30, 3000 series CCT, Auto-sensing voltage (120 thru 277), Modern style swing open design, Custom Match Color, Glass asymmetric, type III, Ribs and bands, Standard, Gold trim, 7 pin NEMA photocontrol external, Factory programmed to 75 percent of base, Shorting cap

   Note, this model may also be used in collector street light design provided the photometric and IES requirements are met.

   All street lighting (residential or collector) is required to be a designed street lighting system.

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL LIGHT FIXTURE FOR RESIDENTIAL & COLLECTOR STREET LIGHTING	ROADWAY RDWD-34.1 9/25/2025

Electrical Installation Requirements

Fixtures must be wired and installed per ODOT CMS Items 625 and 725, COC Section 1000, as well as per the current edition of the National Electrical Code (N.E.C.- NFPA 70), manufacturer's specifications, and the following requirements:

1) Conduit

a. Shall be $1\frac{1}{2}$-inch schedule 40 PVC, installed a minimum 24-inch below grade
b. Under driveways shall be located a minimum distance of 1-FT beyond pavement edge
c. All trenches shall be backfilled with suitable native material to within ninety-eight (98) percent of the maximum dry density

2) Circuit Cable (also referred to as "Street Light Wiring")

a. Conductors shall be no less than #4 THWN copper 600 Volt for the hot and neutral and not less than #8 AWG copper 600 Volt for the ground. Max. voltage drop 5%
b. 120 system shall be (HOT) black, (NEUTRAL) white, (GROUND) green
c. 240 system shall be (HOT) black, (HOT) red, (GROUND) green
d. Shall have no splices, except at noted locations. Splices shall be be made in pull boxes only where circuit crosses the street to a light pole, and shall be waterproof and have a compression connection
e. Install auxiliary ground #6 copper to a grounding electrode in pole footer. Grounding rod shall be 5/8 -inch x 8-foot rod.

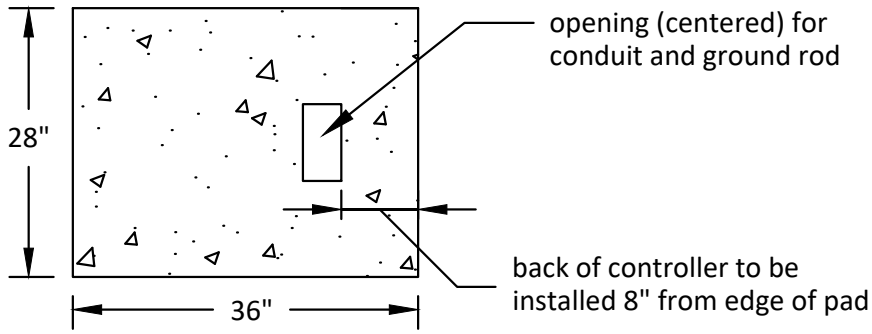
3) Cable in Pole

a. From the fuse kit to the pole shaft the cable shall be #10 THWN copper
b. Each pole shall have in-line connect kit fused with a 5-amp fuse on the hot side and in-line connector kits with a **solid** dummy slug on the neutral side. Little fuse, Homac kit brand, or approved equal
c. The circuit ground, ground from the luminaire and the ground going to the pole, shall be connected by a compression connection.

4) Controller

a. The controller cabinet shall be as follows:
   1. Milbank 12-inch commercial pedestal, slim line 63-inch tall (Model number CP3A5111WKALSP1) ; or approved equal
   2. Brushed aluminum finish with ringless meter socket with horn bypass and stainless steel latch
   3. 100 amp, 120/240 volt, single phase, 2 pole, with either a NEC compliant main breaker or 6 individual breakers with contactor, as determined by the City
   4. Pad mounted. See schematic below for details. The concrete pad base (precast or poured) shall be approximately 36" x 28" x 8" thick with a sufficient opening for the conduit and ground rod.
b. Install a $\frac{5}{8}$-Inch (five eighths) by 8-FT copper clad rod in the opening of the pad, utilizing a minimum #6 solid copper to attach the ground rod to the ground bar of the enclosure
c. Install a Hand-Off Auto (HOA) Selector Switch
d. Provide to City a break away lock to secure cabinet
e. For the photo electric control installed at the first street light, contacts shall be installed in the Milbank below the overcurrent device(s) and HOA switch(es) installed

Controller Concrete Pad Base Schematic



EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL ELECTRICAL INSTALLATION REQUIREMENTS FOR RESIDENTIAL STREET LIGHTING	ROADWAY RDWD-34.2 9/25/2025

Electrical Installation Requirements *(Continued)*

5) Power Service

a. It is the responsibility of the contractor to coordinate with the power utility for the location of the control center and power feed for the control center. All costs associated with making the connection shall be the responsibility of the contractor. The cost of the workmanship shall be included in the various items bid.

b. The meter is to be obtained from the power service provider and installed in the controller cabinet. An address for the service location shall be obtained from the City of Delaware.

c. The contractor shall furnish and install all equipment necessary to complete electrical service to the roadway facilities. The contractor shall also make necessary arrangements with the supplying agency for connections to establish electrical service.

6) Pull Box

a. Shall be approximately 11" (L) x 18" (W) x 18" (D), having a cover labeled 'ELECTRIC' to designate the circuits contained, rated Performance Tier 15, Oldcastle 1118 or approved equal.

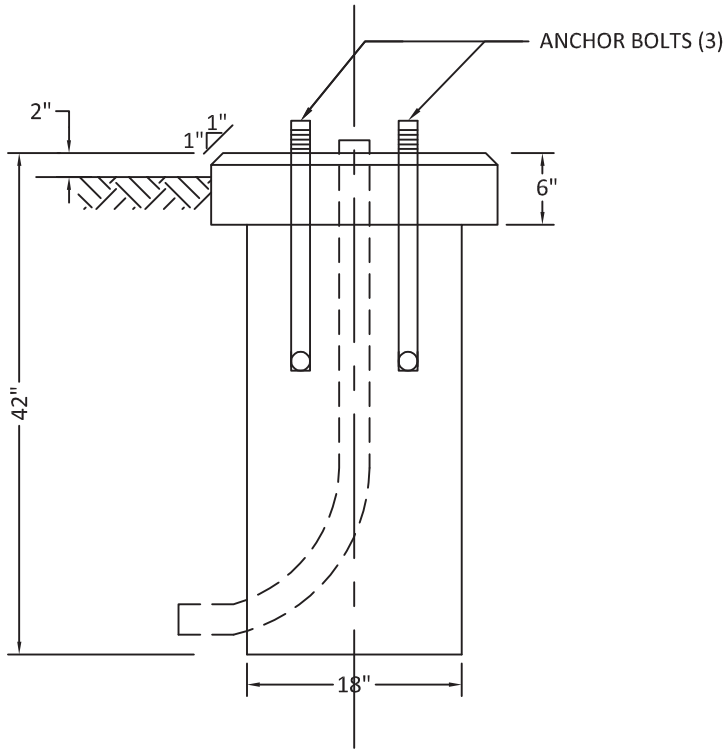
b. A 6" gravel base shall be provided below the pull box

c. Pull boxes shall be provided at each location where a conduit is routed in a new direction to provide access for maintenance operations. Additional pull boxes shall be provided and installed as found required by the City of Delaware.

6) Photo electric control

a. Shall be mounted in the first light pole in the circuit. Three control wires for the photo control shall be a minimum #12 thwn stranded copper black, red, white, and can be installed in the same conduit.

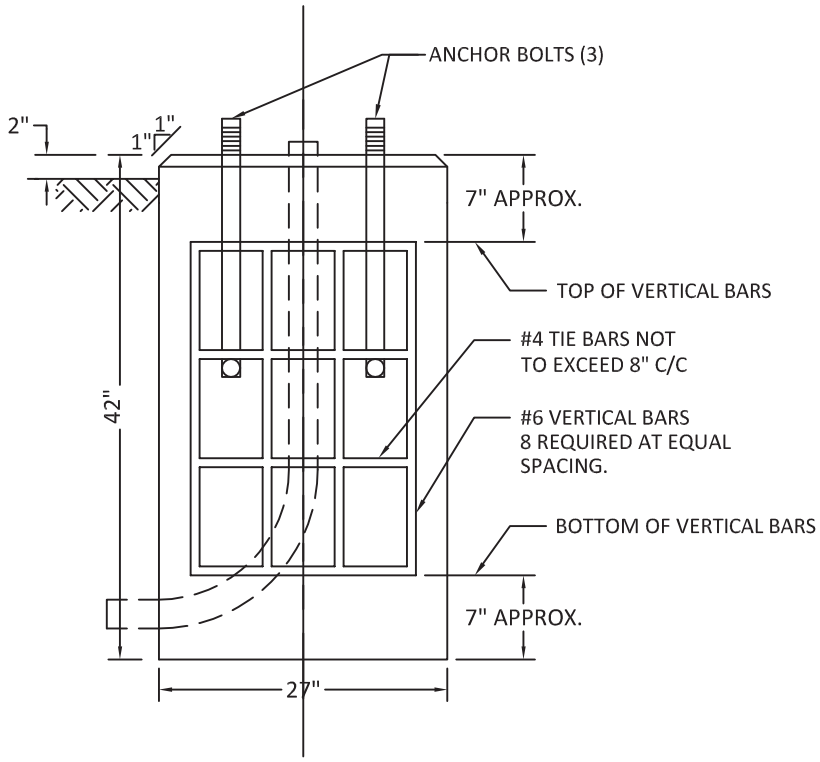
b. Shall be rated for 120 Volt minimum, twist lock. Dark to Light, GE, Tork, or approved equal.



FOUNDATIONS SHALL BE:

- 42" DEEP
- 18" DIAMETER
- TOP OF CONCRETE FOUNDATION SHALL BE FORMED INTO A 24" X 24" X 6" SQUARE WITH A 1" CHAMFER
- FOUNDATION TOP IS 4" ABOVE CURB ELEVATION.
- POLE SHALL BE ANCHORED TO AN 18" BY 42" CONCRETE FOOTING, USING THE THREE GALVANIZED ANCHOR BOLTS PROVIDED WITH THE POLE, PER THE ANCHOR BOLT DIAMETER AND SPACING SPECIFIED BY THE POLE MANUFACTURER.

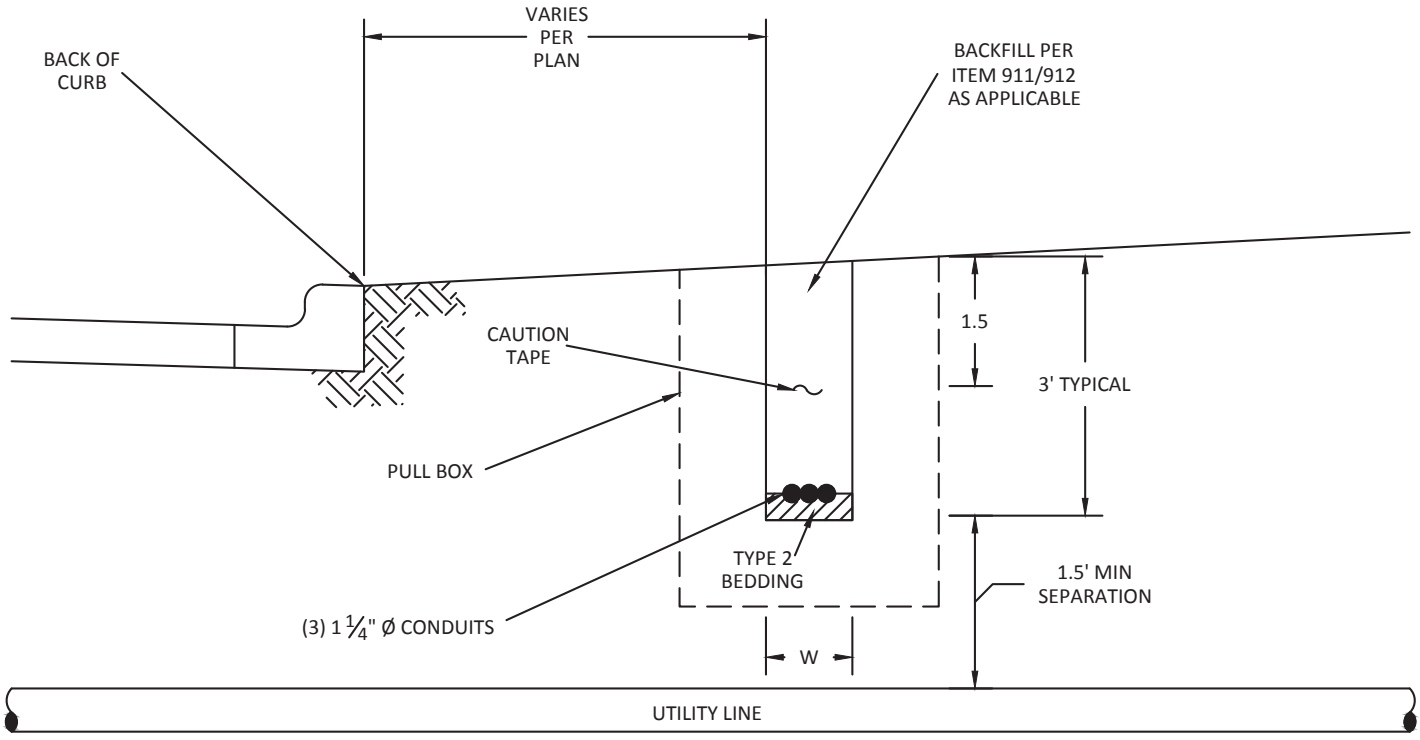
EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL LIGHT POLE FOUNDATION FOR RESIDENTIAL STREET LIGHTING	ROADWAY RDWD-34.4 Revised 12/31/2018



FOUNDATIONS SHALL BE:

- 42" DEEP
- 27" DIAMETER
- REINFORCED WITH #6 REBAR WITH #4 TIE BARS AS PER PLAN DETAIL; DESIGN TO BE APPROVED BY PUBLIC WORKS DEPARTMENT
- TOP OF CONCRETE FOUNDATION SHALL BE FORMED INTO A SQUARE WITH A 1" CHAMFER
- FOUNDATION TOP IS 4" ABOVE CURB ELEVATION.
- POLE SHALL BE ANCHORED TO A 27" BY 42" CONCRETE FOOTING, USING THE THREE GALVANIZED ANCHOR BOLTS PROVIDED WITH THE POLE, PER THE ANCHOR BOLT DIAMETER AND SPACING SPECIFIED BY THE POLE MANUFACTURER.

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL LIGHT POLE FOUNDATION FOR COLLECTOR STREET LIGHTING	ROADWAY RDWD-34.5 Revised 12/31/2018



NOTE: TRENCH WIDTH 'W' MUST BE WIDE ENOUGH TO ACCOMMODATE AVAILABLE BACKFILL COMPACTION EQUIPMENT TO MEET COMPACTION REQUIREMENTS.

EST 1808
CITY OF
DELAWARE
OHIO
Public Works Department

STANDARD DETAIL

FIBER OPTIC CONDUIT INSTALLATION DETAIL

ROADWAY

RDWD-35.1

Revised 12/31/2018

NOTES FOR AERIAL INSTALLATION:

1. FOR AERIAL CONSTRUCTION, INCORPORATE A SLACK LOOP EVERY SEVEN SPANS, AND AT LOGICAL LOCATIONS TO SPLICE OFF THE MAIN FIBER LINE AS DETERMINED BY THE PUBLIC WORKS DEPARTMENT AND THE DEPARTMENT OF INFORMATION TECHNOLOGIES .
2. VENDOR MUST INSTALL RISER U-GUARDS WHEN ASCENDING OR DESCENDING FROM A SUPPORT POLE.
3. SUBSURFACE - FOR SUBSURFACE CONSTRUCTION, THE CONDUIT SHALL BE:
   a. THREE, 1-1/4 INCH (MINIMUM) SDR 11 HDPE CONDUITS.
   b. CONDUITS ARE TO BE BLUE, ORANGE ,AND GREEN, UNLESS OTHERWISE SPECIFIED
   c. PULL-BOX TO BE 48 X 30 X 36 DEEP, POLYMER CONCRETE BOX W/20K METAL OR METAL CLAD LID, BOLT DOWN
   d. SHOP DRAWINGS OF PULL-BOX AND LID TO BE APPROVED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO INSTALLATION
   e. PULL-BOX SPACING OF NO MORE THAN 1000 FEET BETWEEN BOXES, AND WHERE SPECIFIED AT LOGICAL PLACES TO SPLICE INTO THE FIBER.
   f. TRACE WIRE MUST BE USED THROUGHOUT SYSTEM AND IS TO BE PLACED IN THE SOLID ORANGE CONDUIT
   g. IF TRENCHING, PLASTIC CAUTION TAPE IS TO BE PLACED OVER THE CONDUIT AT A DEPTH OF 18 INCHES. NEWLY INSTALLED PULL-BOXES MUST BE MARKED WITH 4 X 4 WYE POLES PAINTED ORANGE AT THE TOP - TO REMAIN UNTIL FIBER IS INSTALLED (WITH TRACER WIRE)
   h. CONCRETE ENCASE CONDUIT AT ALL ROAD CROSSINGS TO THE TOP OF SUBGRADE
   i. MINIMUM VERTICAL SEPARATION SHALL BE 1.5 FEET BETWEEN FIBER CONDUIT AND ALL OTHER UTILITIES

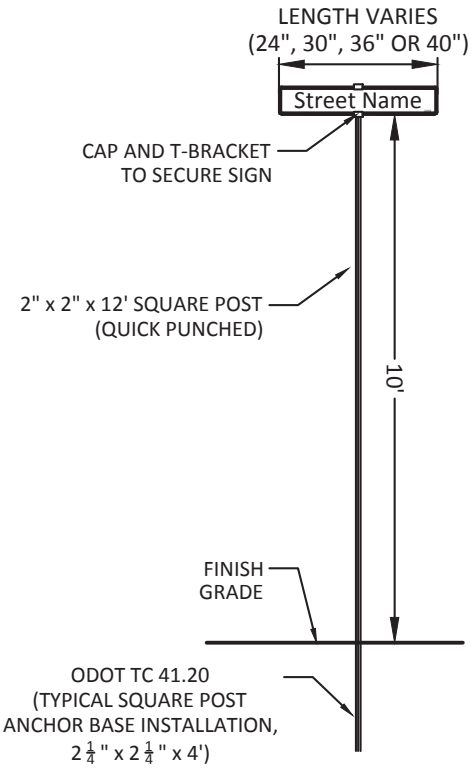
NOTES ALL PROJECTS:

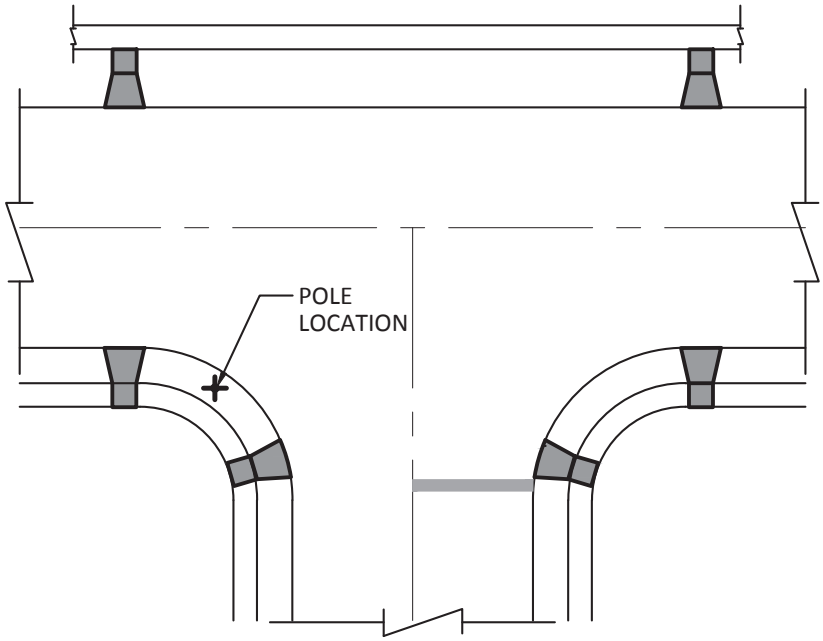
1. CONTRACTOR SHALL PROVIDE RECORD DRAWINGS IN THE FORMAT SPECIFIED BY THE CITY OF DELAWARE GIS DEPARTMENT WHEN CONSTRUCTION IS COMPLETE, AND ACCEPTED.

NOTES REGARDING THE FIBER:

1. FIBER TO BE INSTALLED IS 144 STRAND FIBER OPTIC CABLE.
2. ALL SPLICING MUST BE COLOR CODED BETWEEN DIFFERENT CABLES. I.E., RED TUBE FIBERS MUST BE SPLICED TO RED TUBE FIBERS, ETC.
3. ALL CONTRACTORS THAT ARE TO INSTALL FIBER LINE THAT ARE TO BE APPROVED BY THE CITY.







SIGN PLACEMENT

NOTES:

1. SIGNS SHALL BE TWO SIDED MADE ON 8" ALUMINUM BLADES WITH RADIUS CORNERS AND STANDARD LENGTHS OF 24", 30", 36" OR 40"
2. FOR LOCAL STREETS WITH POSTED SPEED LIMITS AT 25 MPH OR LESS, LETTERING SHALL INCLUDE UPPER CASE LETTERS AT 4" AND LOWER CASE AT 3". FOR STREETS WITH POSTED SPEED LIMITS GREATER THAN 25 MPH, LETTERING SHALL BE 6" FOR UPPER CASE 4.5" FOR LOWER CASE.
3. STREET NAME SIGNS SHALL BE COVERED ON BOTH SIDES WITH BLUE PRISMATIC SHEETING (3M SCOTCHLITE FILM - #3875 BLUE), MEETING THE RETROREFLECTIIVITY REQUIREMENTS OF THE OMUTCD SECTION 2A.07 AND HAVE A 10 YEAR WARRANTY.
4. SIGN LETTERING SHALL BE OF WHITE PRISMATIC SHEETING, MEETING THE RETROREFLECTIIVITY REQUIREMENTS OF THE OMUTCD 2A.07
5. LETTERING SHALL BE MADE IN THE FHWA APPROVED STANDARD FONT AND IN COMPLIANCE WITH THE OMUTCD
6. SIGNS SHALL INCLUDE A WHITE ½-INCH WHITE BORDER AT THE EDGE OF THE SIGN MADE OF WHITE PRISMATIC SHEETING.
7. SIGN POSTS SHALL BE MADE OF 2" SQUARE POST, WITH A MINIMUM CLEARANCE FROM GRADE TO BOTTOM OF SIGN OF 10'-0
8. SIGNS SHALL BE SECURED TO POLE WITH A GALVANIZED CAP AND TEE BRACKETS
9. SIGN POLES SHALL BE INSTALLED ON THE LEFT SIDE OF THE STREET, OPPOSITE FROM THE STOP SIGN WITHIN THE TREE LAWN RADIUS AREA, AND WITH THE EDGE OF THE SIGN 2'-0 FROM THE BACK OF CURB
10. ALL STREET SIGNS SHALL BE INSTALLED AS REQUIRED IN ADVANCE OF OPENING ANY STREET TO PUBLIC ACCESS
11. THE YEAR OF INSTALLATION SHALL BE ½ -INCH WHITE LETTERING LOCATED IN BOTTOM RIGHT CORNER OF ONE SIDE
12. LUBRICATE ALL BOLTS AND SCREWS (ALUMINUM OR STEEL) FOR SIGN INSTALLATION WITH A COMPOUND TO PREVENT SEIZING.

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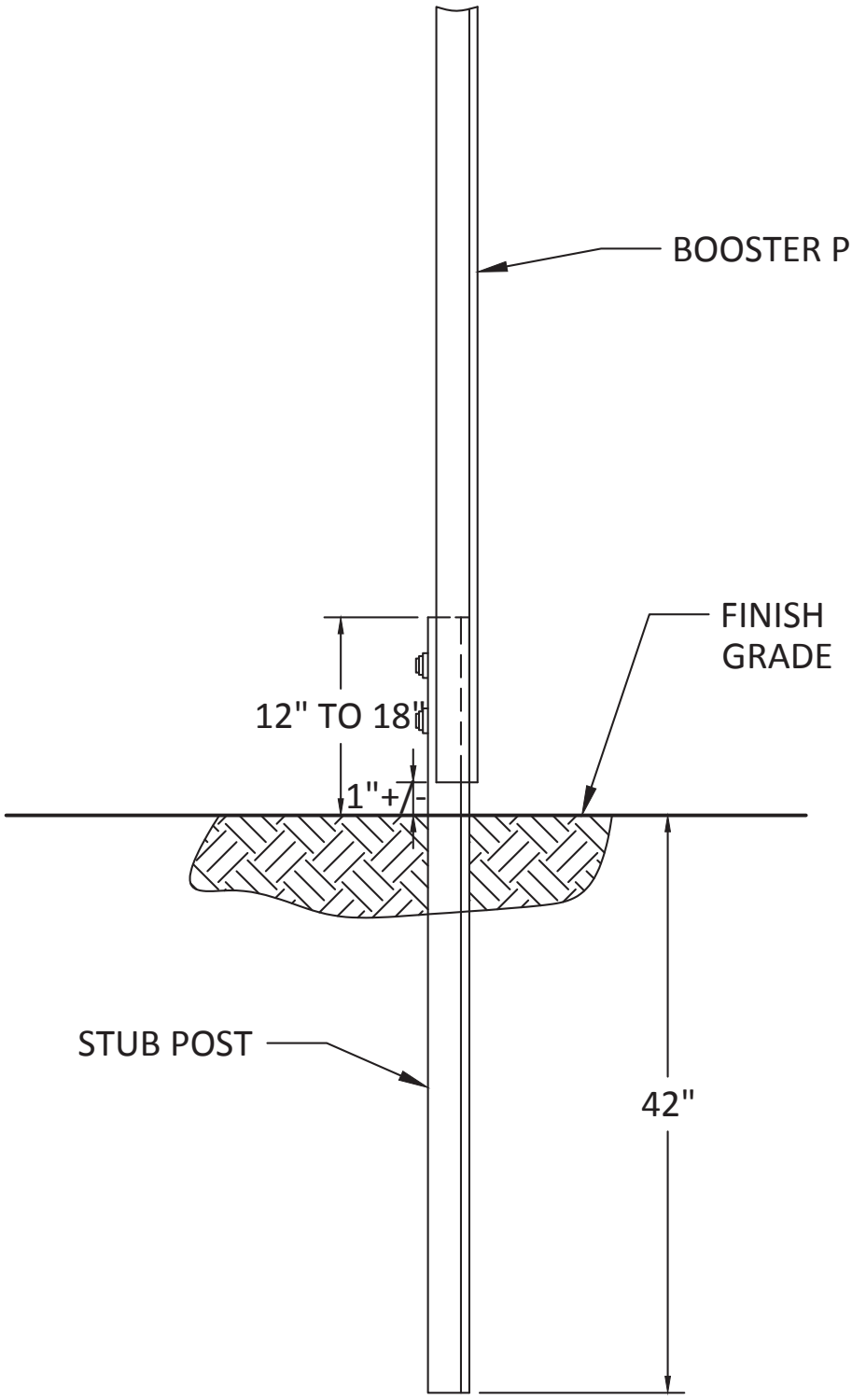
STANDARD DETAIL

STREET NAME SIGN DETAIL

ROADWAY

RDWD-36.0

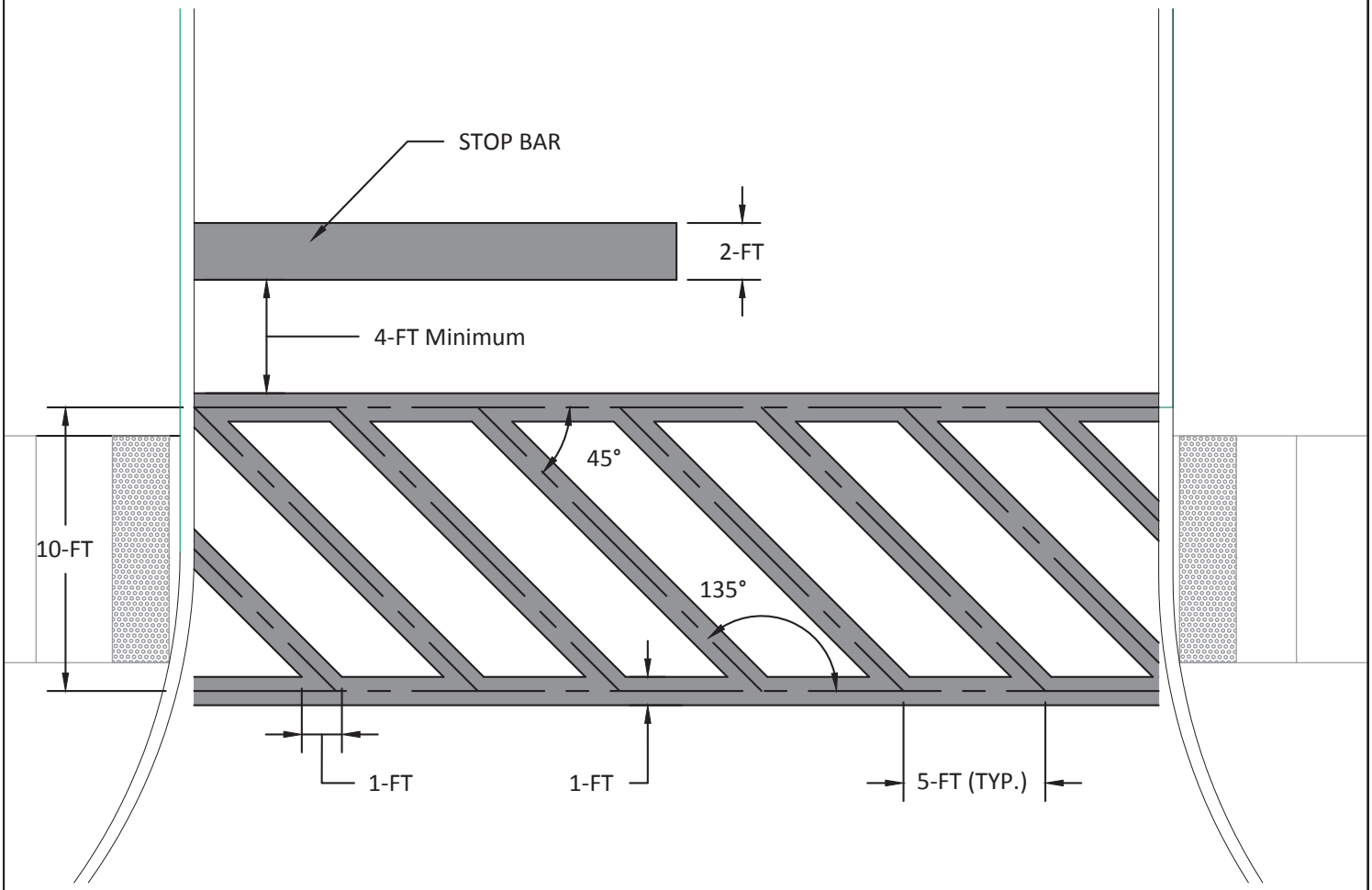
Revised 12/31/2018



NOTES:

1. ALL SIGNS AND SIGN SUPPORTS SHALL BE PER ODOT CMS 630.
2. BOLTS SHALL BE STEEL AND SHALL BE LOCATED IN THE TOP HOLE OF THE STUB POST.
3. A MINIMUM OF TWO FASTENERS SHALL BE USED PER ASSEMBLY.
4. ALL POST SHALL #3 U-CHANNEL POST.
5. BOOSTER POST SHALL BE MOUNTED IN FRONT OF STUB POST.
6. LUBRICATE ALL BOLTS AND SCREWS (ALUMINUM OR STEEL) FOR SIGN INSTALLATION WITH A COMPOUND TO PREVENT SEIZING.

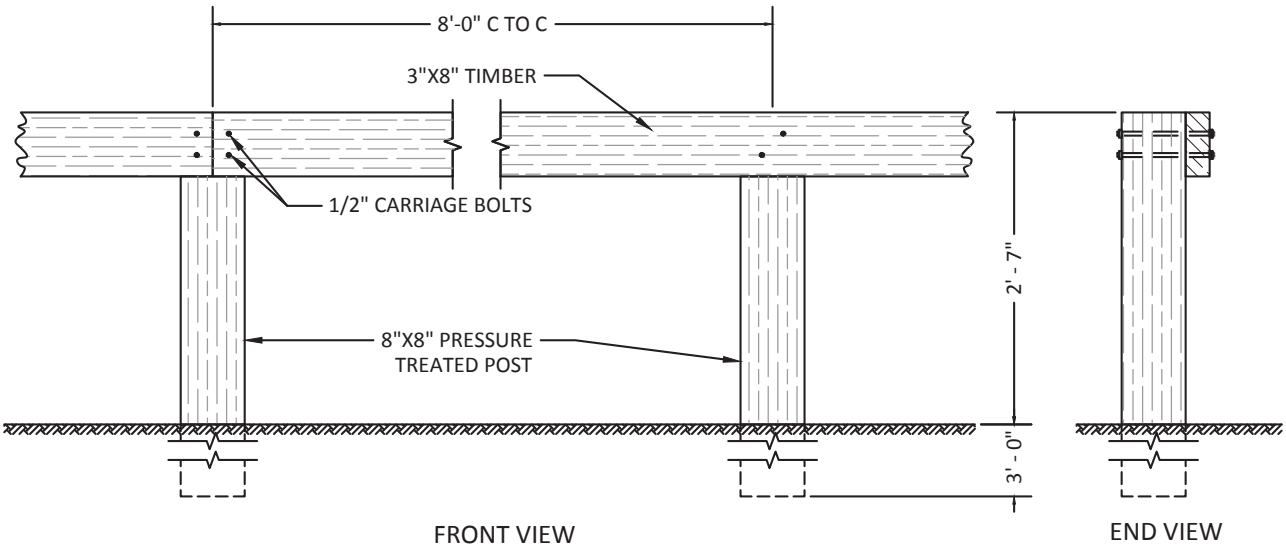
EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL SIGN POST INSTALLATION	ROADWAY RDWD-37.0 Issued 12/31/2018



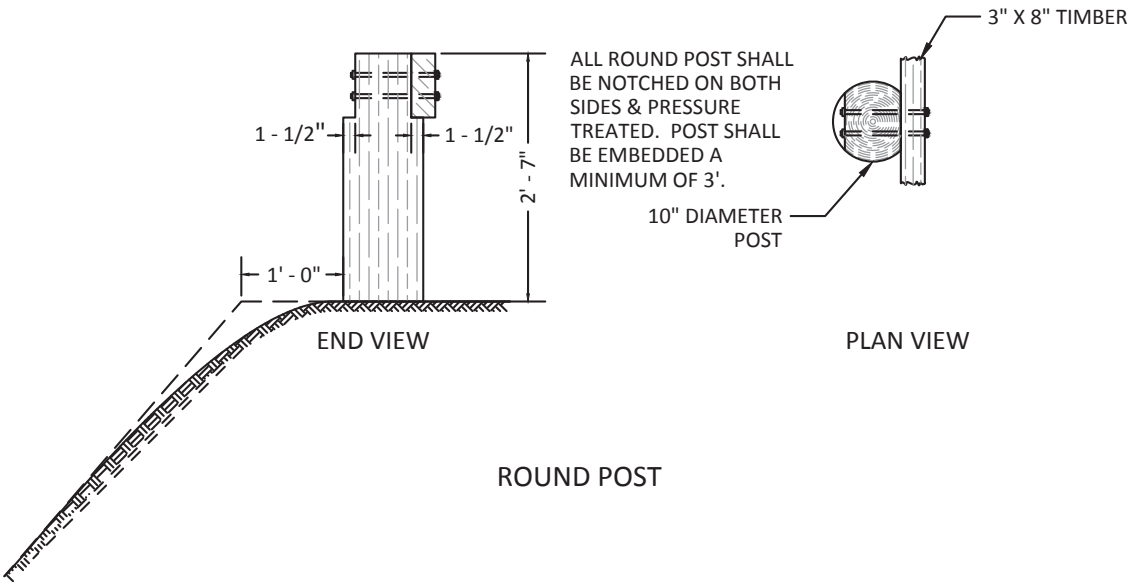
Not To Scale
centerlines and outlines are shown for clarification only

Notes:
1. Stop bar shall be placed 4-FT in advance of the nearest crosswalk line
2. All crosswalk lines shall be 1-FT wide
3. All crosswalks shall be 10-FT wide from centerline to centerline
4. All crosswalks shall be laid out starting at the right hand side, closest to the stop bar, of the crosswalk

EST 1808 CITY OF DELAWARE OHIO Public Works Department	STANDARD DETAIL ENHANCED CROSSWALK	ROADWAY RDWD-38.0 Issued 12/31/2018



SQUARE POSTS



ROUND POST

EST 1808
CITY OF DELAWARE OHIO
Public Works Department

STANDARD DETAIL

WOOD GUARD RAIL

ROADWAY

RDWD-39.0

Issued 12/31/2018