



# CITY OF CLEVELAND HEIGHTS

## OFFICE OF CAPITAL PROJECTS STANDARD CONSTRUCTION DRAWINGS

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### CONTACTS:

OFFICE OF CAPITAL PROJECTS  
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CLEVELAND HEIGHTS, OHIO 44118

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POLICE DEPARTMENT - CAPTAIN IN CHARGE OF SCHEDULING -  
216-291-4766

### PRE-CONSTRUCTION VIDEO DOCUMENTATION

1. IT IS RECOMMENDED THAT FOR ALL WORK IN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR PERFORM A PRE-CONSTRUCTION VIDEO OF THE WORK AREA AND ANY ADJACENT AREAS. A COPY OF THE PRE-CONSTRUCTION VIDEO SHOULD BE PROVIDED TO THE OFFICE OF CAPITAL PROJECTS. THE CITY SHALL HAVE FULL DISCRETION OVER THE CONTRACTOR'S LIABILITY FOR ANY DAMAGES TO BOTH PUBLIC AND PRIVATE PROPERTY THAT CANNOT BE VERIFIED THROUGH VIDEO DOCUMENTATION.
2. IT IS RECOMMENDED THAT FOR ALL SUB-SURFACE UTILITY WORK WITHIN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR PERFORM BOTH PRE AND POST CONSTRUCTION VIDEO DOCUMENTATION OF ALL OF THE STORM AND SANITARY SEWER MAINS AND ALL LATERALS WITHIN THE WORK AREA AND ANY ADJACENT AREAS. COPIES OF BOTH THE PRE AND POST CONSTRUCTION VIDEOS SHOULD BE PROVIDED TO THE OFFICE OF CAPITAL PROJECTS. THE CITY SHALL HAVE FULL DISCRETION OVER THE CONTRACTOR'S LIABILITY FOR ANY DAMAGES TO ANY SEWERS BOTH WITHIN AND OUTSIDE OF THE PUBLIC RIGHT-OF-WAY THAT CANNOT BE VERIFIED THROUGH VIDEO DOCUMENTATION.

### NOTICE OF WORK

1. ALL CONTRACTORS WORKING IN THE PUBLIC RIGHT-OF-WAY WITHIN CLEVELAND HEIGHTS SHALL PROVIDE 48-HOURS ADVANCE NOTICE TO THE OFFICE OF CAPITAL PROJECTS BEFORE COMMENCING WORK.

### WORKING HOURS

1. WORKING HOURS ARE MONDAY THROUGH FRIDAY 7:00 A.M. TO 7:00 P.M.. NO WORK SHALL BE PERMITTED ON WEEKENDS OR LEGAL HOLIDAYS WITHOUT FIRST OBTAINING PERMISSION IN WRITING FROM THE CAPITAL PROJECTS MANAGER.

### MAINTENANCE OF TRAFFIC

1. ALL MAINTENANCE OF TRAFFIC (MOT) SHALL BE IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) (LATEST EDITION). MOT PLANS REQUIRING LANE CLOSURES SHALL BE SUBMITTED TO THE OFFICE OF CAPITAL PROJECTS FOR REVIEW PRIOR TO COMMENCING ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY. ANY WORK OCCURRING WITHIN TWO HUNDRED (200) FEET OF A SIGNALIZED INTERSECTION SHALL REQUIRE THE PRESENCE OF A CLEVELAND HEIGHTS LAW ENFORCEMENT OFFICER WITH CAR.
2. STEEL PLATES SHALL BE USED TO MAINTAIN VEHICLE ACCESS AT ALL TIMES DURING DRIVE APRON REPLACEMENT AND TO PROTECT EXCAVATIONS, OPENINGS, TRENCHES, AND UTILITY CUTS IN THE ROADWAY.

ALL STEEL PLATES USED IN THE ROAD AND ON DRIVEWAY APRONS SHALL BE HOT ROLLED STEEL CONFORMING TO ASTM-A36, THEY SHALL BE A MINIMUM OF ONE (1) INCH THICK, AND SHALL BE ABLE TO PROPERLY BRIDGE THE OPENING AGAINST ALL TYPES OF TRAFFIC AND VEHICLES BOTH LIGHT AND HEAVY WITHOUT BENDING, BOWING, DEFLECTING, BREAKING, OR ANY OTHER TYPE OF PHYSICAL DISTORTION. THE PLATES SHALL BE FLAT AND STRAIGHT, AND FREE FROM ANY BENDS, BOWS, OR WARPING. ALL SHARP EDGES SHALL BE GROUND TO A BEVEL SMOOTH TO THE TOUCH.

STEEL PLATES SHALL BE PINNED IN THE ROAD, AND TEMPORARILY RAMPED WITH COLD PATCH OR BITUMINOUS MATERIAL.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN STEEL PLATES IN THE ROAD, AND TO PROMPTLY ADDRESS AND MITIGATE ANY NOISE COMPLAINTS FORWARDED BY THE CITY.

STEEL PLATES SHALL BE PROPERLY BARRICADE IN ADVANCE WITH APPROVED TRAFFIC CONTROL DEVICES AND ON ALL FOUR CORNERS WITH APPROVED TRAFFIC CONTROL DEVICES DURING WINTER WORK TO PREVENT DAMAGE TO AND FROM SNOW FLOWS.

### PEDESTRIAN ACCESS

1. PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION IN ACCORDANCE WITH THE OMUTCD (LATEST EDITION), AND THE AMERICANS WITH DISABILITIES ACT (LATEST EDITION).

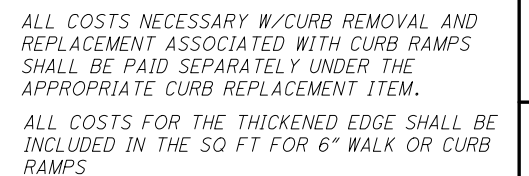
### CURB RAMPS

DETECTABLE WARNING PLATES FOR ALL CURB RAMPS SHALL BE EAST JORDAN "DURALAST" DETECTABLE WARNING PLATES OR APPROVED EQUAL. THE PLATES SHALL BE UNCOATED (NATURAL FINISH) GRAY IRON INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

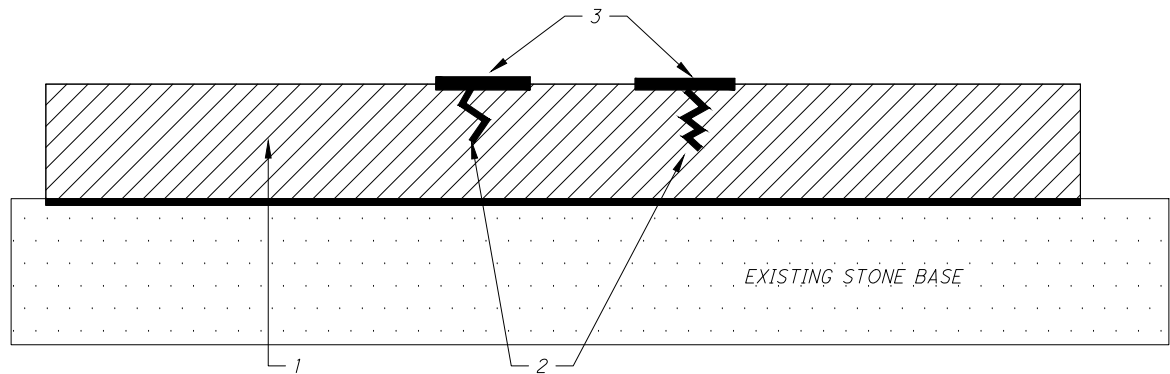
### INSPECTION

1. BEFORE BACKFILLING ANY EXCAVATIONS IN THE PUBLIC RIGHT-OF-WAY, THE CITY'S CONSTRUCTION INSPECTOR SHALL INSPECT AND APPROVE THE WORK. FAILURE TO NOTIFY THE INSPECTOR PRIOR TO BACKFILLING MAY RESULT IN THE CONTRACTOR HAVING TO RE-OPEN HIS WORK AT THE CONTRACTOR'S OWN EXPENSE IN ORDER TO INSPECT.
2. WORK INVOLVING FINAL PAVEMENT RESTORATION (INCLUDING ALL RAMPS, WALKS, DRIVES, AND APRONS) SHALL BE INSPECTED AND APPROVED BY THE CONSTRUCTION INSPECTOR. FAILURE TO NOTIFY THE INSPECTOR AND HAVE HIM PRESENT MAY RESULT IN THE CONTRACTOR HAVING TO REMOVE AND REPLACE HIS WORK AT THE CONTRACTOR'S OWN EXPENSE IN ORDER TO PROPERLY INSPECT.

CALCULATED	
JMB	
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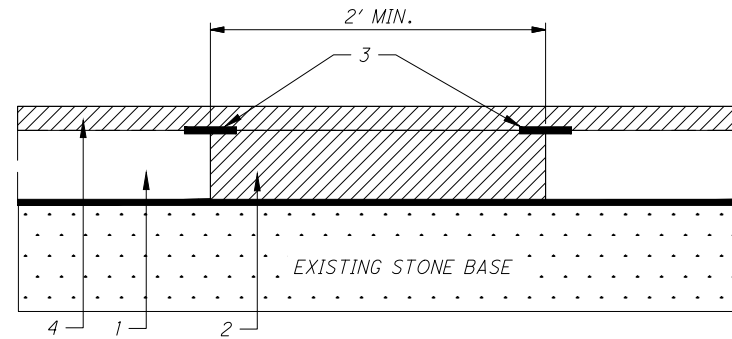


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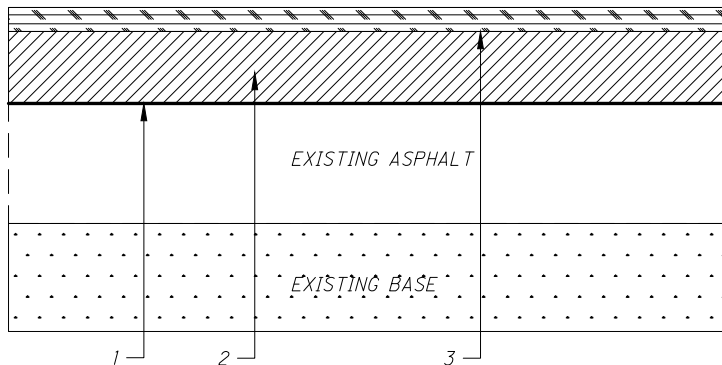
1. EXISTING PAVEMENT
2. CLEAN ALL CRACKS THOROUGHLY BY BLOWING OUT WITH COMPRESSED AIR OR BY SWEEPING WITH POWER DRIVEN WIRE BRUSH SWEEPER
3. HOT APPLIED BLENDED MIXTURE OF PG64-22 ASPHALT CEMENT WITH SHORT LENGTHS OF POLYPROPYLENE FIBER BLEND SHALL CONSIST OF 93% ASPHALT CEMENT/7% FIBER

CRACK SEAL, TYPE III  
(INCLUDING CLEANING OF JOINTS AND CRACKS)



1. EXISTING PAVEMENT
2. ODOT ITEM 253 - PAVEMENT REPAIR AS DIRECTED - MINIMUM 4" GRIND OF EXISTING PAVEMENT AND REPLACE W/COMPACTED FILL OF ODOT ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) PG64-22
3. HOT APPLIED JOINT SEALER - PER ODOT ITEM 705.04 RESURFACING (IF REQUIRED)

SPOT REPAIR DETAIL



1. REFINED COAL TAR EMULSION GRADE RT-9 OR RT-10
2. CRUSHED AIR COOLED BLAST FURNACE SLAG (ACBFS) PER ODOT ITEM 703.05
3. POLYMER FOG SEAL EMULSION - TRACKLESS FOG SEAL (LD-7 MANUFACTURED BY BLACKLIDGE EMULSIONS OR APPROVED EQUAL

SINGLE CHIP SEAL

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SEEDING & MULCHING, 4"  
TOPSOIL AND TYPE 1 SEED PER  
ODOT ITEM 659  
\* SEE NOTE 3

SUITABLE COMPACTED  
EXCAVATED MATERIAL, 12"  
MAX LIFT

BACK OF CURB/EDGE OF  
PAVEMENT

DOWEL (TYP)

ODOT ITEM 304 CRUSHED  
CARBONATE STONE (CCS)  
PER ODOT 703.17

LINE OF PAVEMENT  
INFLUENCE

45°

PAVEMENT NOTES:

1. THICKNESSES SHOWN ARE MINIMUM.  
CONTRACTOR TO MATCH EXISTING  
PAVEMENT.

2. ALL AGGREGATES SHALL BE  
CRUSHED, VIRGIN LIMESTONE.

3. EXCAVATIONS PERFORMED UNDER  
SIDEWALK OR DRIVE APRONS SHALL BE  
BACKFILLED WITH ODOT ITEM 304  
CRUSHED CARBONATE STONE (CCS) PER  
ODOT 703.17

TRENCH DETAIL

N.T.S.

BITUMINOUS SEALER PER  
ODOT 705.04, ALL SIDES.  
CUT 1 1/2" DEEP X 1/4"  
WIDE GROOVE TO ACCEPT  
JOINT SEAL. SEAL FLUSH  
TO SURFACE.

EPOXY COATED 1" DOWEL, 18" LONG  
12" C/C (CENTER IN SLAB) (6" MIN.  
FROM SIDES OF REPAIR)

REPLACE TO EXISTING  
JOINT IF JOINT IS WITHIN  
3' OF REPAIR

DRILL 1 1/2" HOLE, 9" DEEP  
AND SECURE DOWELS WITH  
GROUT PER ODOT 705.20  
BLOW OUT HOLES WITH  
COMPRESSED AIR PRIOR TO  
GROUTING. INSTALL GROUT  
RETENTION DISK PER ODOT  
DETAIL BP 2.5, 1.125"  
DIAMETER OPENING.

NO. 6 WIRE FABRIC PER  
ODOT 709.10

FULL DEPTH  
SAW CUT  
(TYP.)

ODOT ITEM 451, 9" MIN.  
THICKNESS, MATCH  
EXISTING  
WITH CLASS MS CONC.

COMPACTED BEDDING PER UTILITY OR USE  
STRUCTURAL BACKFILL TYPE 3 (NO. 57) -  
CRUSHED CARBONATE STONE (CCS) PER ODOT  
703.11

12"  
MIN

BACKFILL WITH ODOT ITEM  
304 CRUSHED CARBONATE  
STONE (CCS) PER ODOT  
703.17. EXTEND BEHIND  
CURB AT A 45° ANGLE.  
(SEE ABOVE)

1'-0" MIN.  
(TYP.)

d + 2' MIN.

NOTE: IF THE REPAIR IMPACTS AN EXISTING EXPANSION JOINT,  
THE JOINT MUST BE RE-ESTABLISHED PER ODOT STANDARD  
DETAILS.

TYPICAL SECTION FOR REPAIRING CONCRETE ROADS

N.T.S.

SEEDING & MULCHING, 4" TOPSOIL AND  
TYPE 1 SEED PER ODOT ITEM 659  
\* SEE NOTE 3

SUITABLE COMPACTED  
EXCAVATED MATERIAL, 12"  
MAX LIFT

BACK OF CURB/EDGE OF  
PAVEMENT

ODOT ITEM 304 CRUSHED  
CARBONATE STONE (CCS) PER  
ODOT 703.17

LINE OF PAVEMENT  
INFLUENCE

45°

PAVEMENT NOTES:

1. THICKNESSES SHOWN ARE  
MINIMUM. CONTRACTOR TO MATCH  
EXISTING PAVEMENT.

2. ALL AGGREGATES SHALL BE  
CRUSHED, VIRGIN LIMESTONE.

3. EXCAVATIONS PERFORMED  
UNDER SIDEWALK OR DRIVE APRONS  
SHALL BE BACKFILLED WITH ODOT  
ITEM 304 CRUSHED CARBONATE  
STONE (CCS) PER ODOT 703.17 TO  
THE BOTTOM OF THE AGGREGATE  
BASE.

TRENCH DETAIL

N.T.S.

1 1/2" ODOT ITEM 441, TYPE 1, ASPHALT  
CONCRETE SURFACE COURSE

MIN. 6" ODOT ITEM 301 ASPHALT  
CONCRETE BASE

6" ODOT ITEM 304  
AGGREGATE BASE

ODOT ITEM 407 TACK COAT  
@ 0.1 GAL/SQ.YD.

BITUMINOUS SEALER PER  
ODOT 705.04 (ALL SIDES)

FULL DEPTH  
SAW CUT  
(TYP.)

COMPACTED BEDDING PER  
UTILITY OR STRUCTURAL  
BACKFILL TYPE 3 (NO. 57) -  
CRUSHED CARBONATE  
STONE (CCS) PER ODOT  
703.11

12"  
MIN

BACKFILL WITH ODOT ITEM 304  
(CCS). EXTEND BEHIND CURB AT A  
45° ANGLE. (SEE ABOVE)

1'-0" MIN.  
(TYP.)

d + 2' MIN.

TYPICAL SECTION FOR REPAIRING ASPHALT SURFACE AND ASPHALT BASE ROADS

N.T.S.

CALCULATED  
JMB  
CHECKED  
DEN

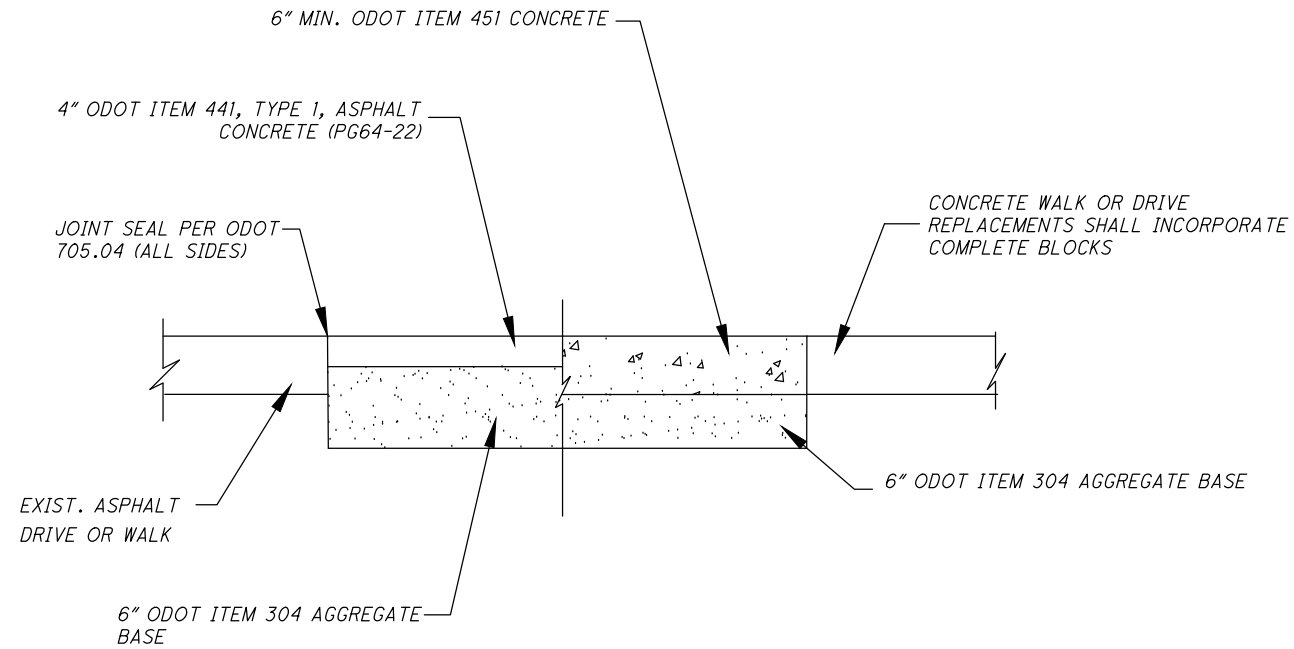
TRENCH REPAIR

CLEVELAND HEIGHTS

4  
21



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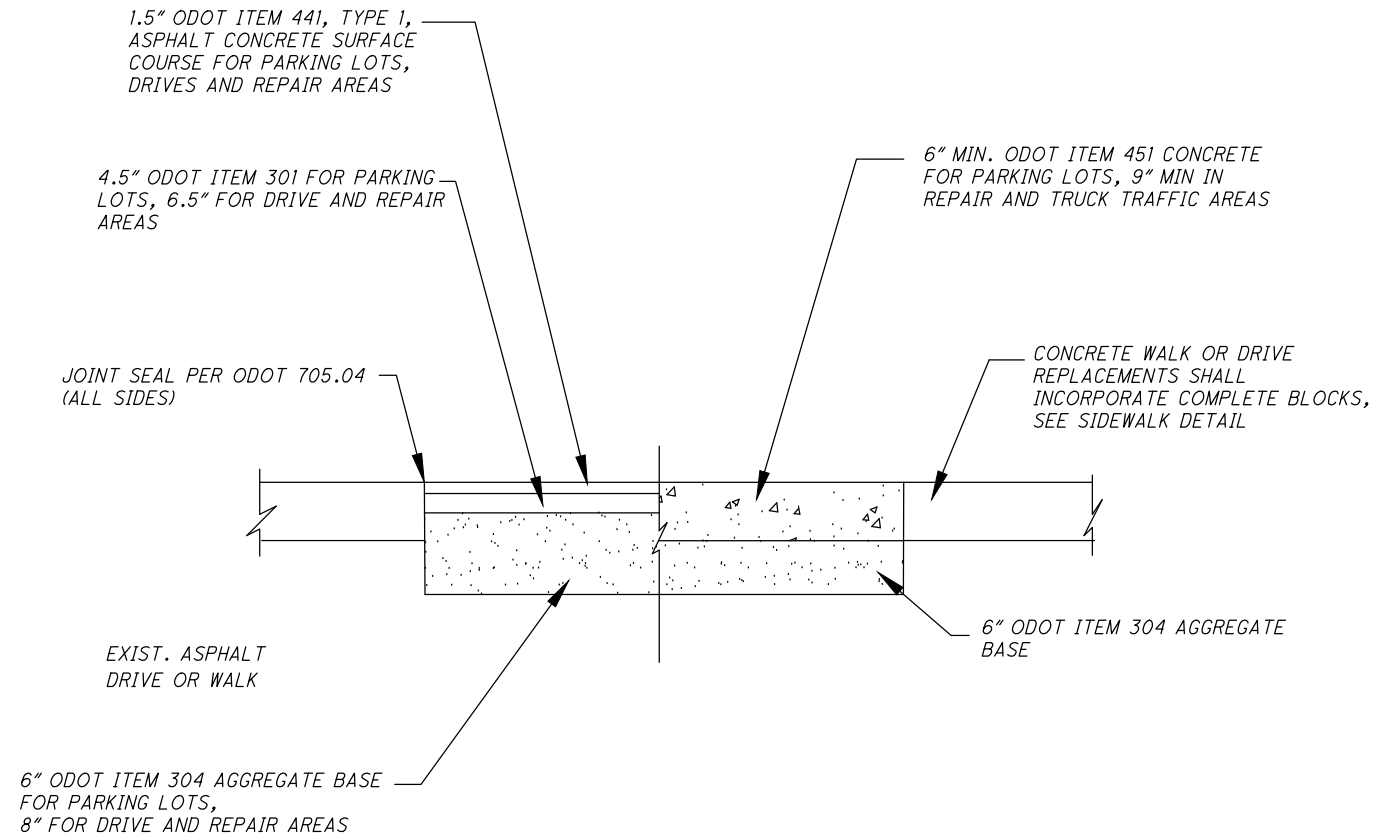


GENERAL PAVEMENT NOTE:

1. WHERE EDGES OF REPLACED SECTION EXTENDS WITHIN 2'-0" OF DRIVEWAY EDGE, PAVEMENT IS TO BE REPLACED TO DRIVEWAY EDGE.
2. THICKNESSES SHOWN ARE MINIMUM. CONTRACTOR TO MATCH EXISTING PAVEMENT.
3. ALL AGGREGATES SHALL BE CRUSHED, CARBONATE STONE (CCS) PER ODOT 703.17.

RESIDENTIAL DRIVEWAY

N.T.S



GENERAL PAVEMENT NOTE:

1. THICKNESSES SHOWN ARE MINIMUM. CONTRACTOR TO MATCH EXISTING PAVEMENT IN REPAIR AREAS.
2. ALL AGGREGATES SHALL BE CRUSHED, CARBONATE STONE (CCS) PER ODOT 703.17.
3. ALL PAVEMENT INSTALLATION/REPAIR SHALL BE WITNESSED BY THE LOCAL INSPECTOR. A PROOFROLL USING A TRI-AXLE TRUCK LOADED WITH 15 TONS OF STONE WILL BE REQUIRED FOR AREAS LARGER THAN 300 S.F.

COMMERCIAL DRIVEWAY

N.T.S

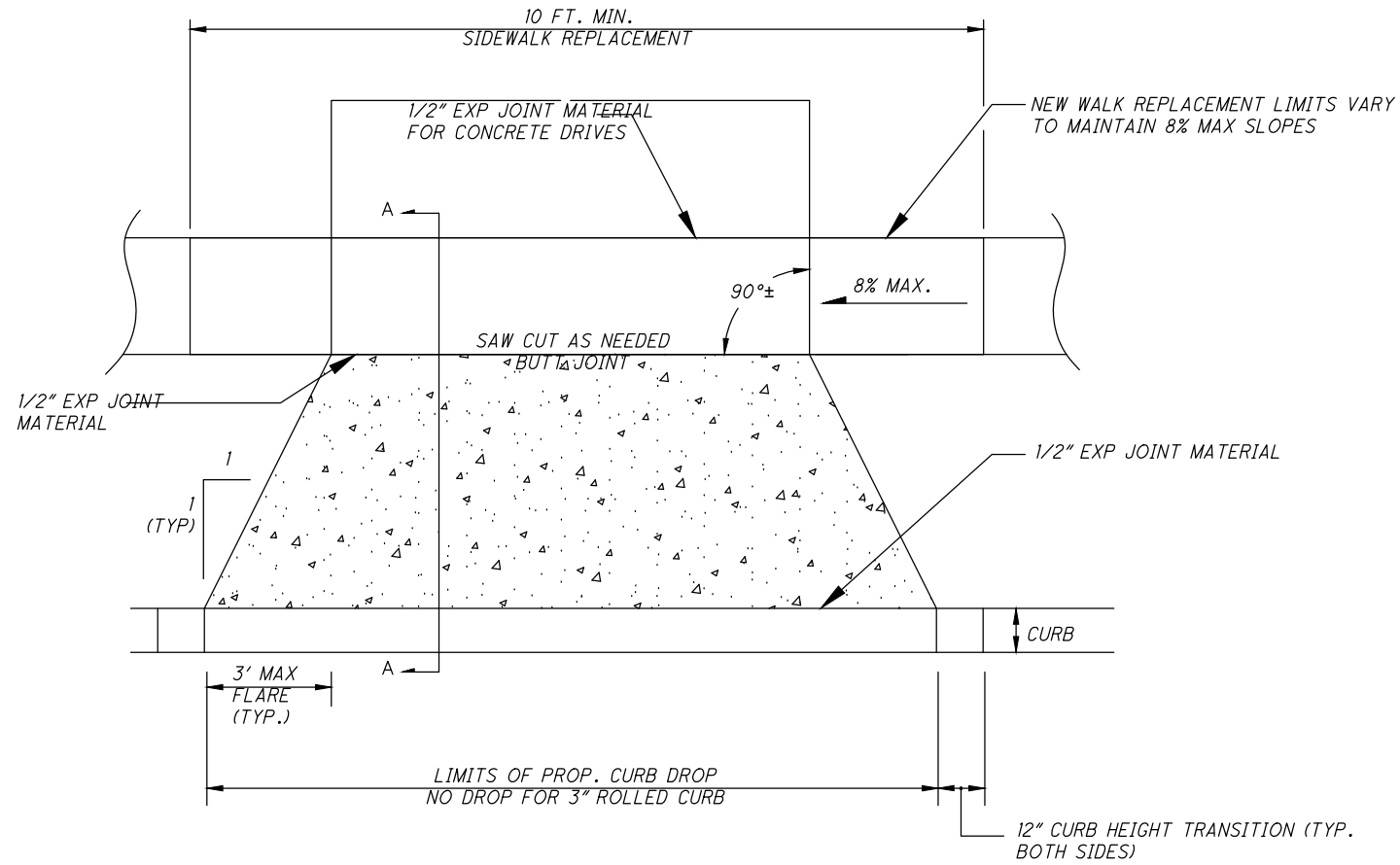
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DRIVEWAY DETAILS

CLEVELAND HEIGHTS

5  
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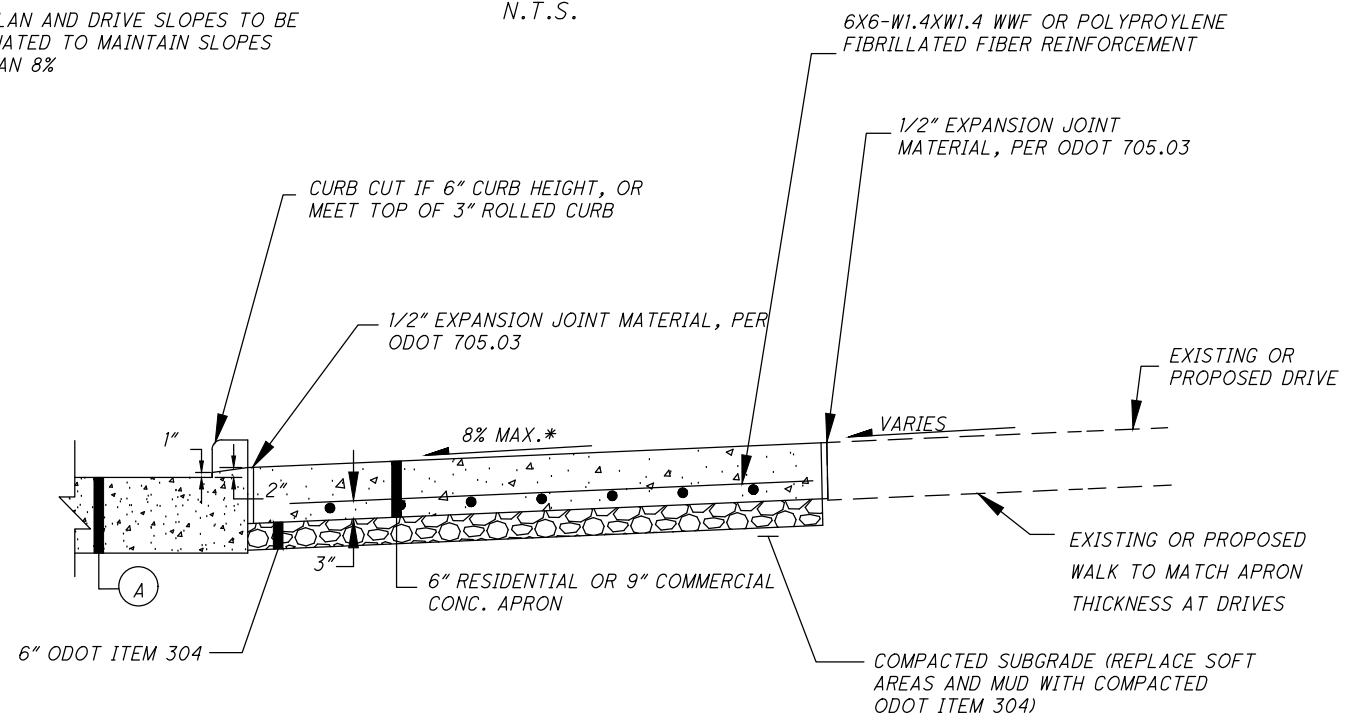
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DRIVEWAY APRON FOR CURBED ROADS

N.T.S.

\*SITE PLAN AND DRIVE SLOPES TO BE  
COORDINATED TO MAINTAIN SLOPES  
LESS THAN 8%



Ⓐ PAVEMENT -SEE PAVEMENT REPAIR DETAILS  
FOR SECTION COMPOSITION

CURB DROP DETAIL, A-A

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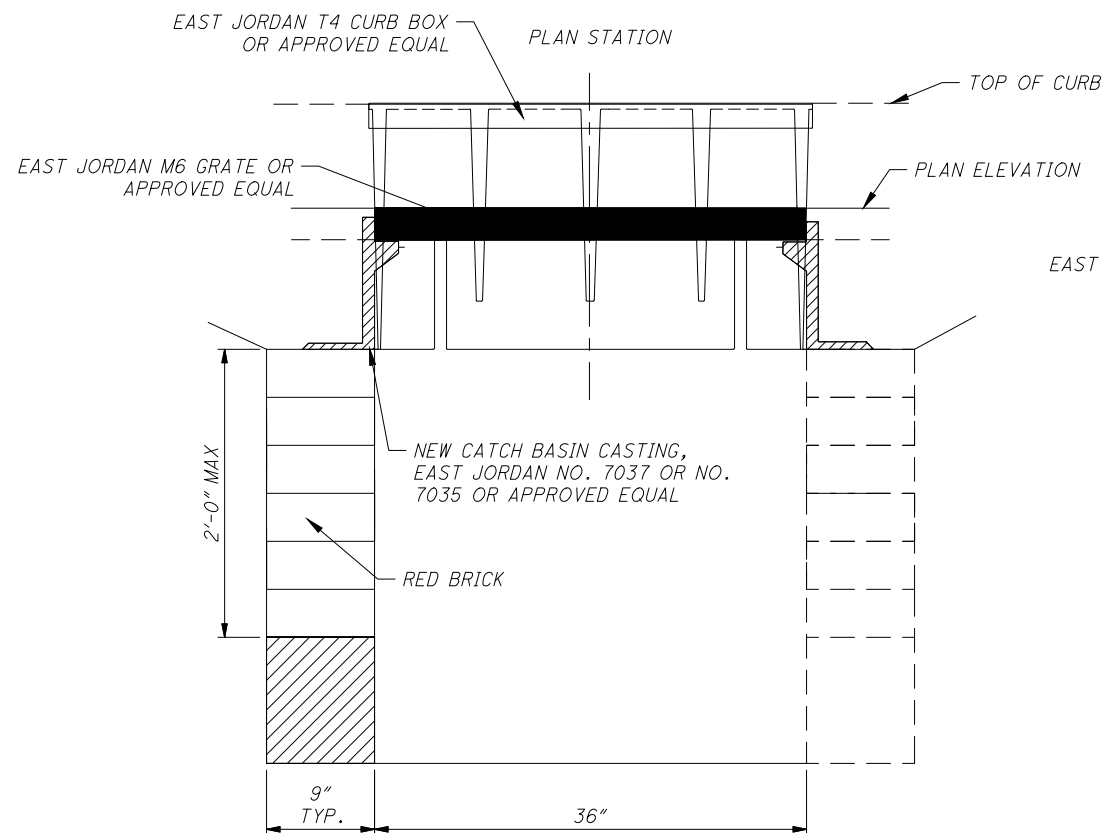
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DRIVEWAY DETAILS

CLEVELAND HEIGHTS

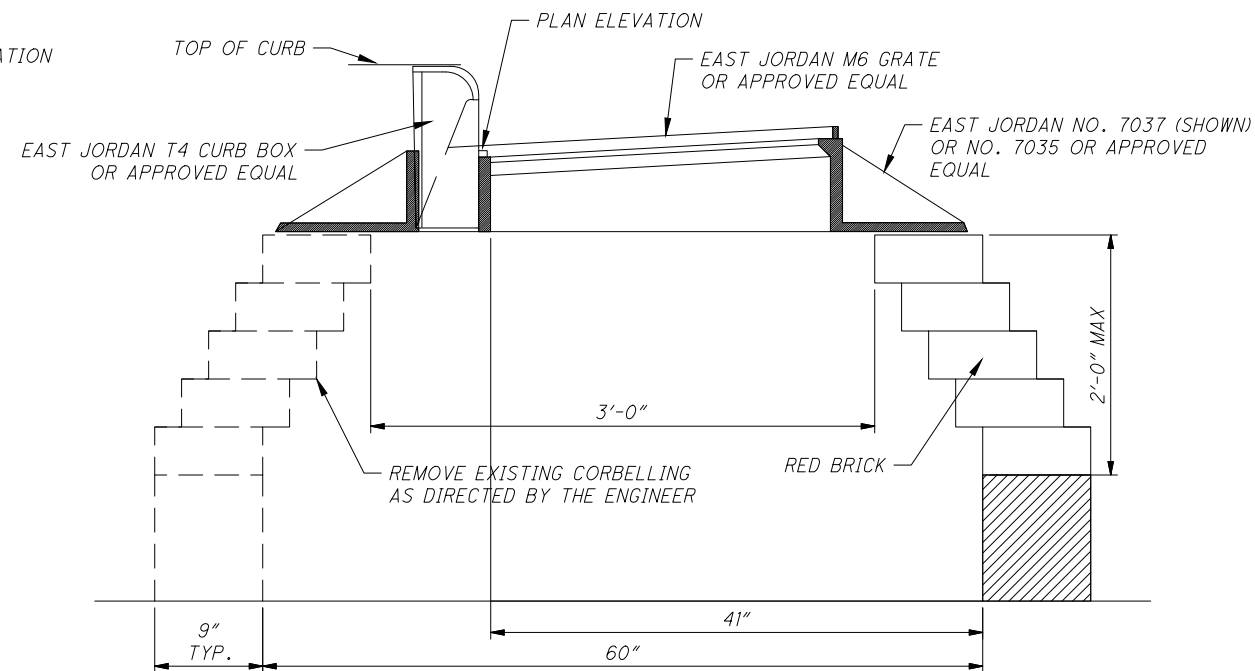
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FRONT SECTION

CATCH BASIN ADJUST TO GRADE



SIDE SECTION

**NOTE:**

BEARING AREAS OF THE FRAME AND GRATE SHALL BE SO FITTED AND FINISHED AS TO PROVIDE A FIRM AND EVEN SEAT FOR ALL PORTIONS OF THE GRATE IN THE FRAME. NO PROJECTIONS SHALL EXIST ON BEARING AREAS OF EITHER CASTING AND THE GRATE SHALL SEAT IN ITS FRAME WITHOUT ROCKING. THE FRAME AND GRATE SHALL BE FITTED, MATCHED, AND MARKED BEFORE DELIVERY TO THE PROJECT.

ALL PAVEMENT, CURB, SUBBASE, SUBGRADE AND BACKFILL MATERIALS FURNISHED AND PLACED WITHIN THE BOX-OUT AREAS, IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SHALL BE INCLUDED IN THE UNIT PRICE BID, PER EACH CATCH BASIN

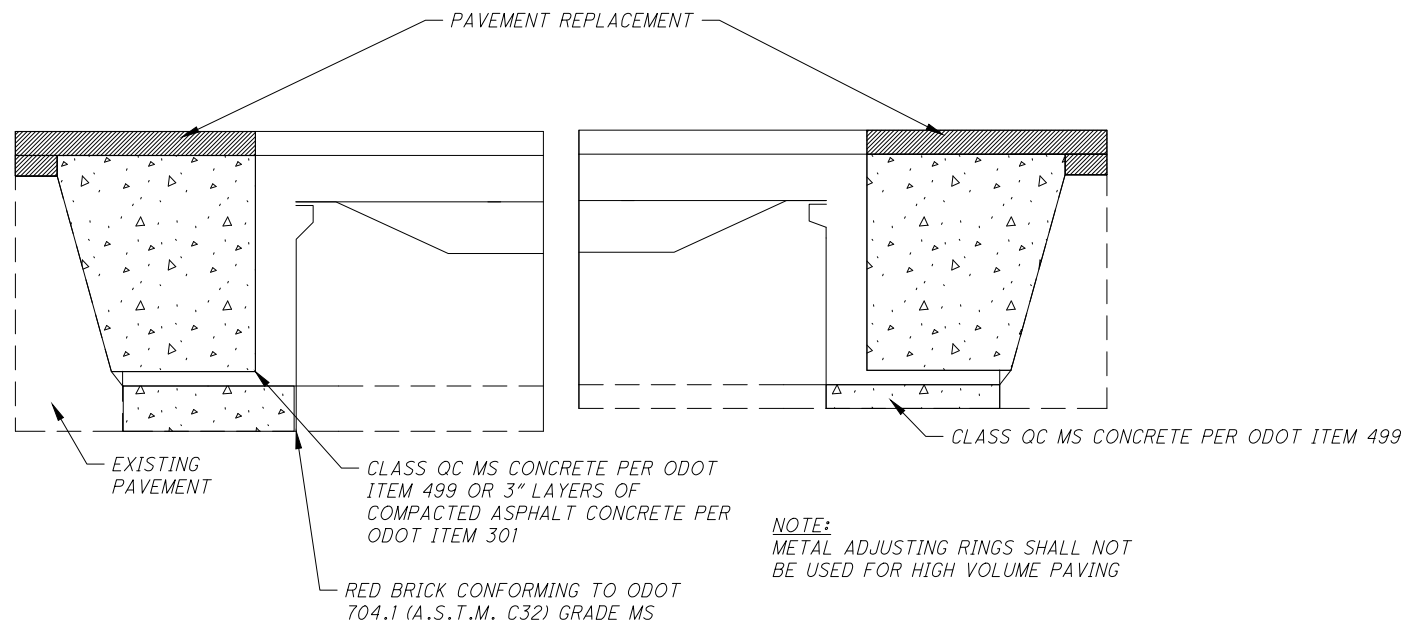
EXPANSION JOINT - EXPANSION JOINTS AND DOWELS SHALL BE OMITTED WHERE THE BOX-OUTS ABUT FULL DEPTH FLEXIBLE PAVEMENT WITHOUT COMBINATION CURB & GUTTER. WHEN BOX-OUTS ARE LOCATED TO ABUT TRANSVERSE PAVEMENT JOINTS (NORMALLY DESIRED), THE ABUTTING PAVEMENT JOINT SHALL BE THICKENED AND BUILT THROUGH THE BOX-OUT IN LIEU OF THE EXPANSION JOINT SHOWN. IN ALL OTHER CASES THEY SHALL BE LOCATED NO CLOSER THAN 5'-0" FROM THE TRANSVERSE PAVEMENT JOINTS. IN ANY CASE, DOWELS SHALL BE PROVIDED AS SHOWN. AVOID PLACING BOX-OUTS ADJACENT TO DRIVE APRONS.

CASTING REPLACEMENT - WHERE ANY CASTING REPLACEMENT IS CALLED FOR, PRIOR TO ACTUAL REPLACEMENT, THE PROJECT INSPECTOR SHALL FIELD VERIFY THE INTEGRITY OF THE EXISTING CASTING AND DIRECT THE CONTRACTOR OF WHETHER OR NOT TO REPLACE THE CASTING.

CONCRETE - ALL CONCRETE SHALL BE CLASS QC MS (4000 PSI)

**BRICK**

ALL BRICK SHALL BE RED CLAY OR SHALE BRICK CONFORMING TO ODOT ITEM 704.1 (A.S.T.M. C 32) GRADE MS



**NOTE:**

METAL ADJUSTING RINGS SHALL NOT BE USED FOR HIGH VOLUME PAVING

**NOTE:**

WHEN MANHOLE CASTING REPLACEMENT IS CALLED FOR: CONTRACTOR TO USE E.J.I.W. 1710 CASTING WITH SOLID COVER OR APPROVED EQUAL

MANHOLE ADJUST TO GRADE

CALCULATED  
JMB  
CHECKED  
DEN

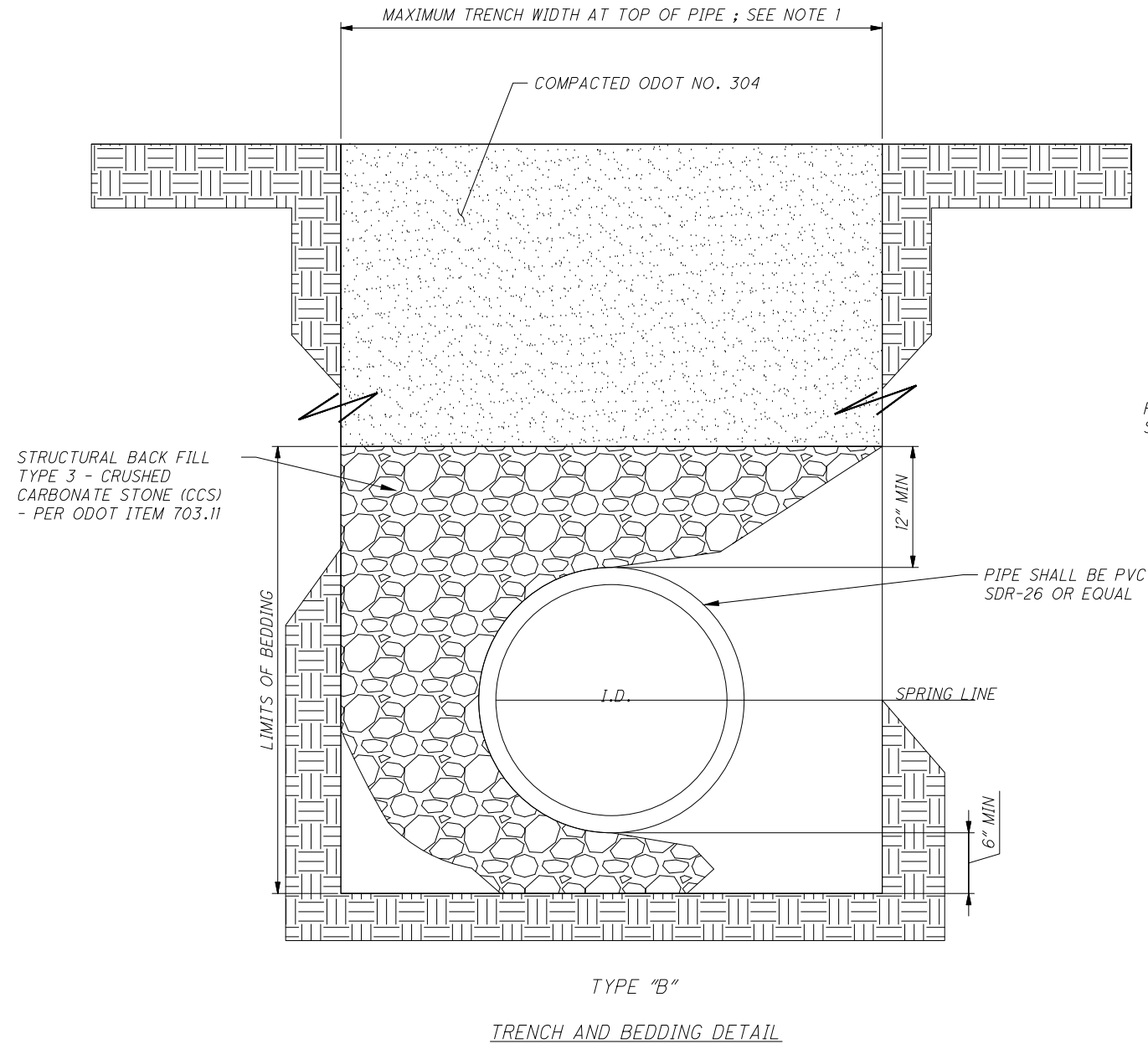
STRUCTURES ADJUSTED TO GRADE

CLEVELAND HEIGHTS

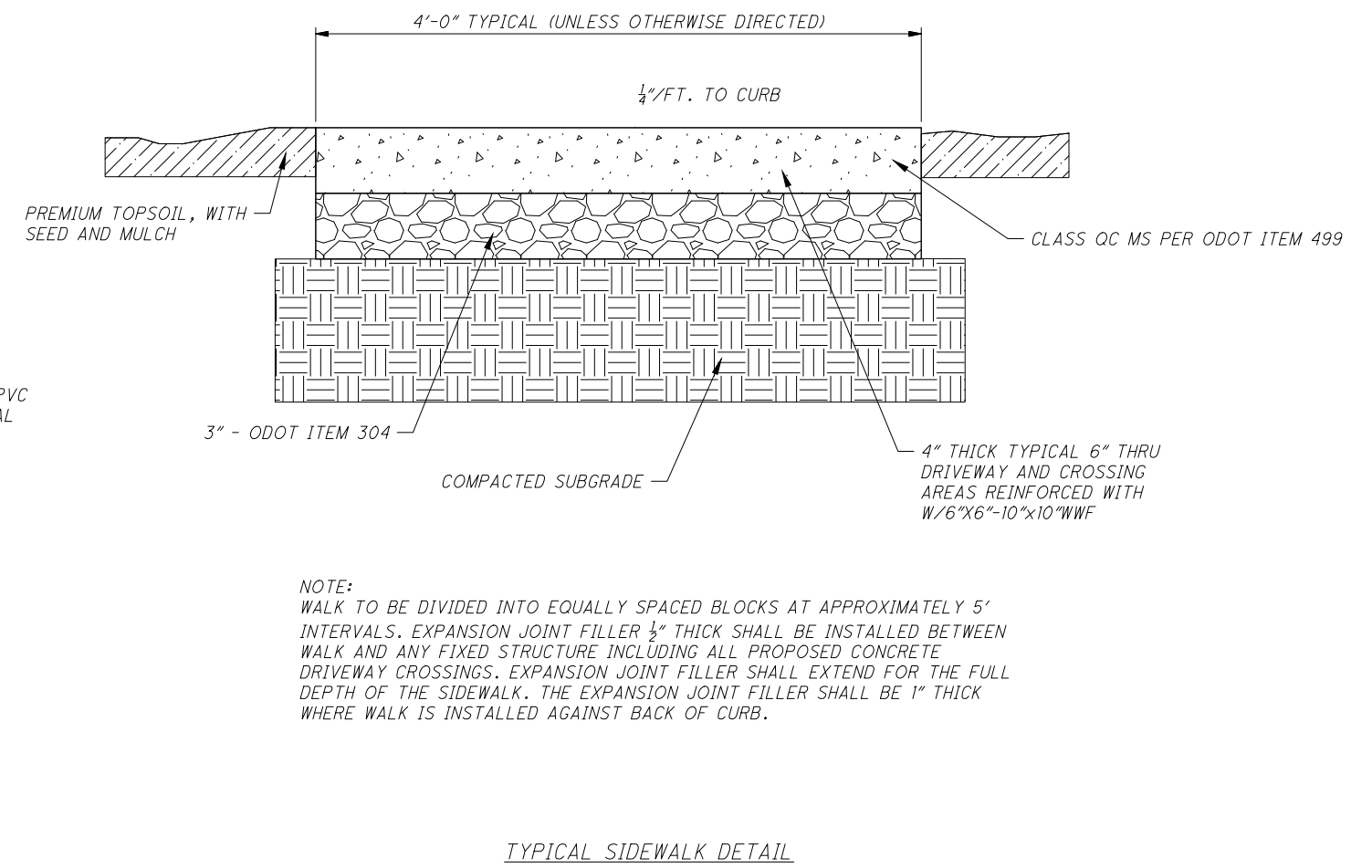
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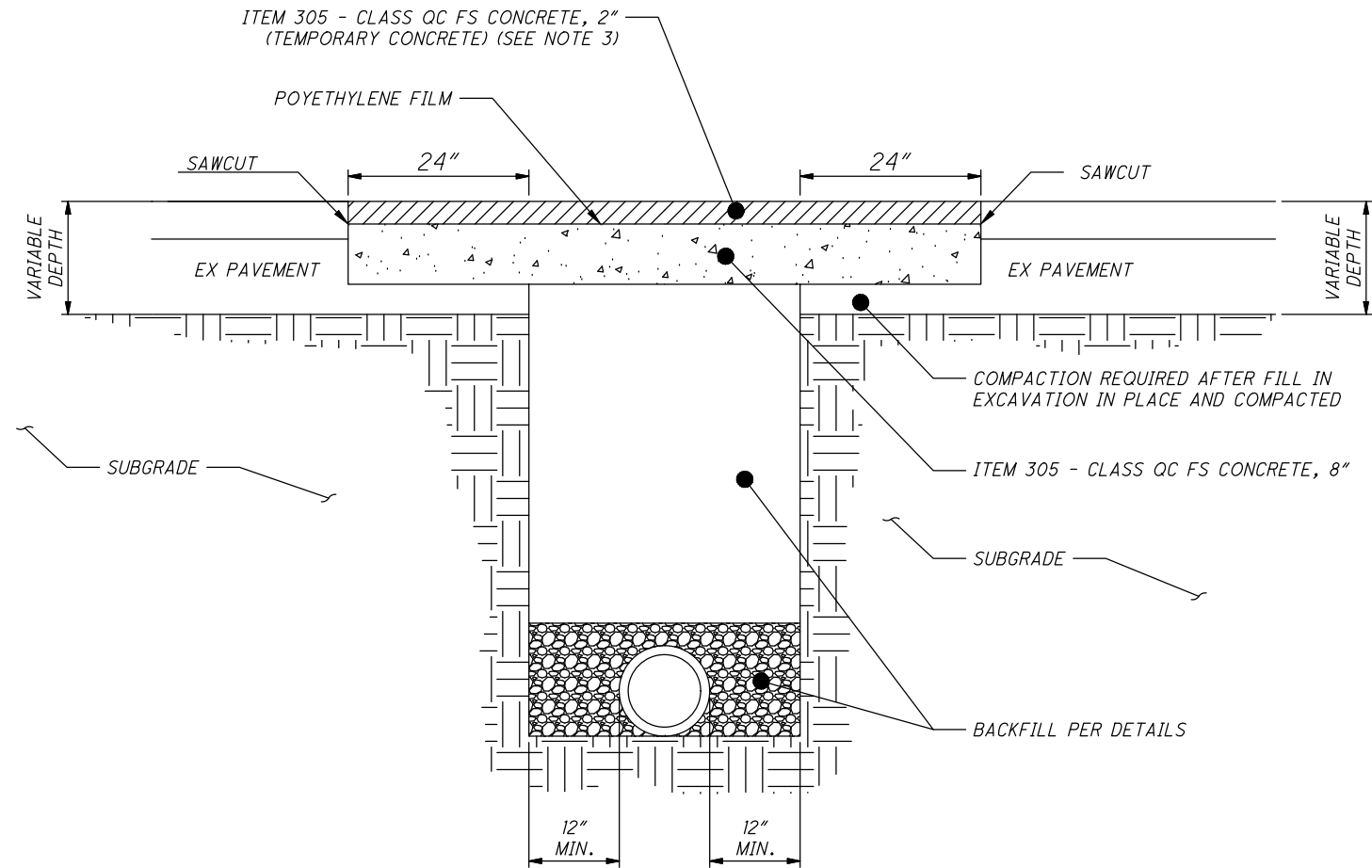


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NOTES:  
1. MAXIMUM TRENCH AT TOP OF PIPE SHALL BE O.D.+24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D.; O.D.+30" FOR PIPE LARGER THAN 24" I.D. TO 54" I.D.; AND O.D.+48" FOR PIPE SIZES 60" AND OVER.  
2. ALL TRENCH EXCAVATION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE OHIO STATE INDUSTRIAL COMMISSION (OSIC) AND THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

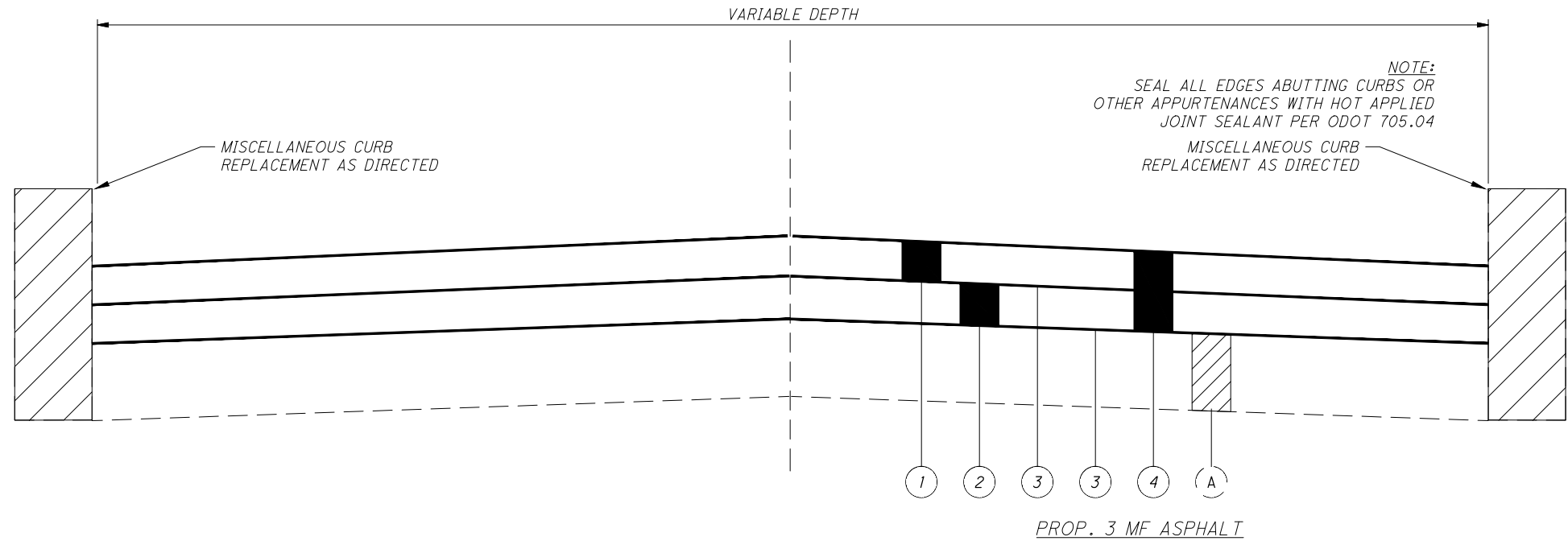




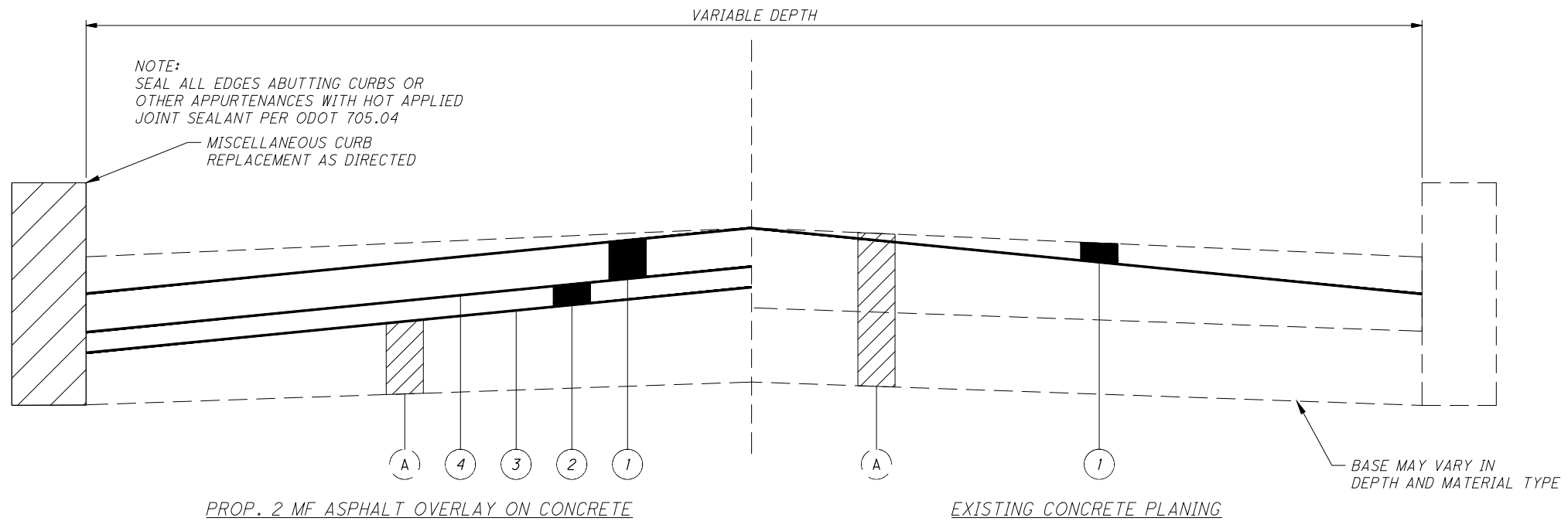
1. WHEN WEATHER PERMITS, REMOVE TEMPORARY CONCRETE AND POLYETHYLENE FILM AND PLACE ITEM 441, TYPE 1, SURFACE COURSE.
2. SEAL ALL FINAL PAVEMENT JOINTS WITH HOT APPLIED JOINT SEALANT PER ODOT 705.04
3. PATCH SMOOTHNESS SHALL CONFORM WITH 401.19 ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION). THE REQUIRED SMOOTHNESS OF ASPHALT SURFACE COURSE CANNOT EXCEED  $\frac{1}{4}$  INCH FROM THE TESTING EDGE OF A 10 FOOT STRAIGHTEDGE. THE CONTRACTOR IS REQUIRED TO PROVIDE A STRAIGHT EDGE THAT IS SATISFACTORY TO THE ENGINEER.

COLD WEATHER SURFACE RESTORATION DETAIL  
N.T.S.

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- LEGEND
- ① ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
  - ② ITEM 441 - 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22
  - ③ ITEM 407 - TACK COAT
  - ④ ITEM 254 - 3" PAVEMENT PLANING, ASPHALT CONCRETE
  - (A) EXISTING ASPHALT ROAD



- LEGEND
- ① ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
  - ② ITEM 441 - 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22, AS DIRECTED
  - ③ ITEM 407 - TACK COAT
  - ④ FULL WIDTH PAVEMENT REINFORCING FABRIC, FIBERGLASS/POLYESTER BLEND, AND A.C. TACK
  - (A) EXISTING CONCRETE ROAD

- LEGEND
- ① ITEM 254 - RIGID PAVEMENT PLANING 0" AT CROWN TO 2" AT THE GUTTER, AS DIRECTED
  - (A) EXISTING CONCRETE ROAD

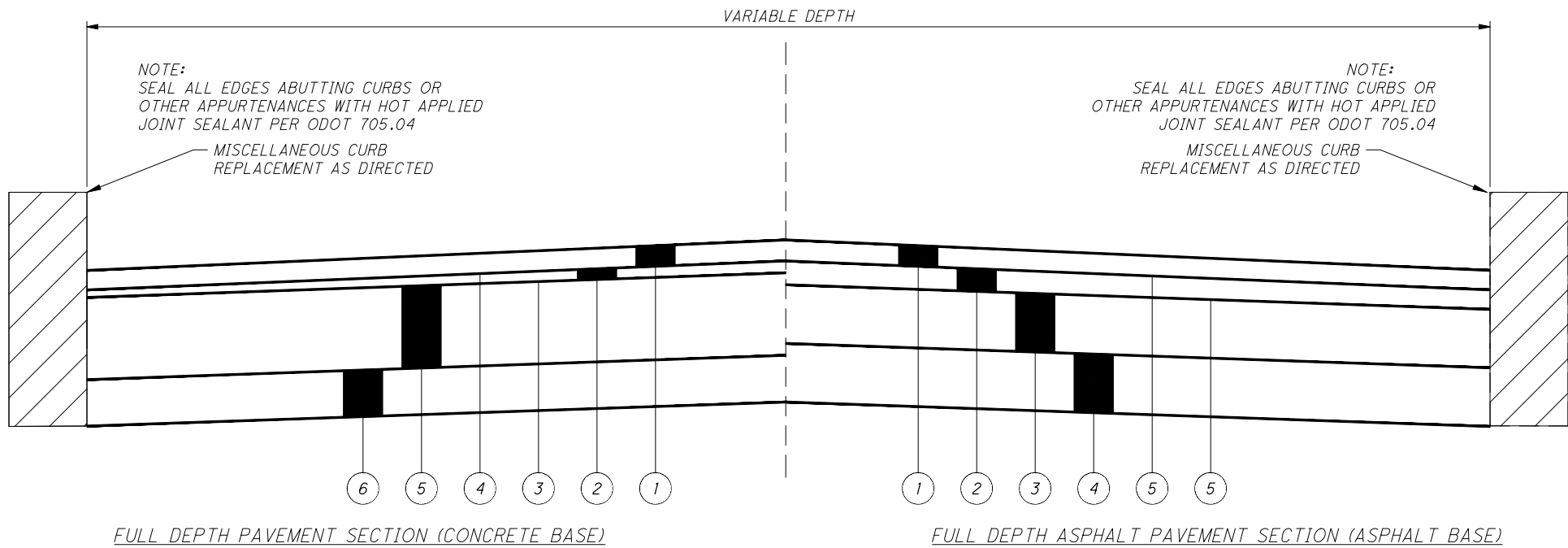
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TYPICAL SECTIONS

CLEVELAND HEIGHTS

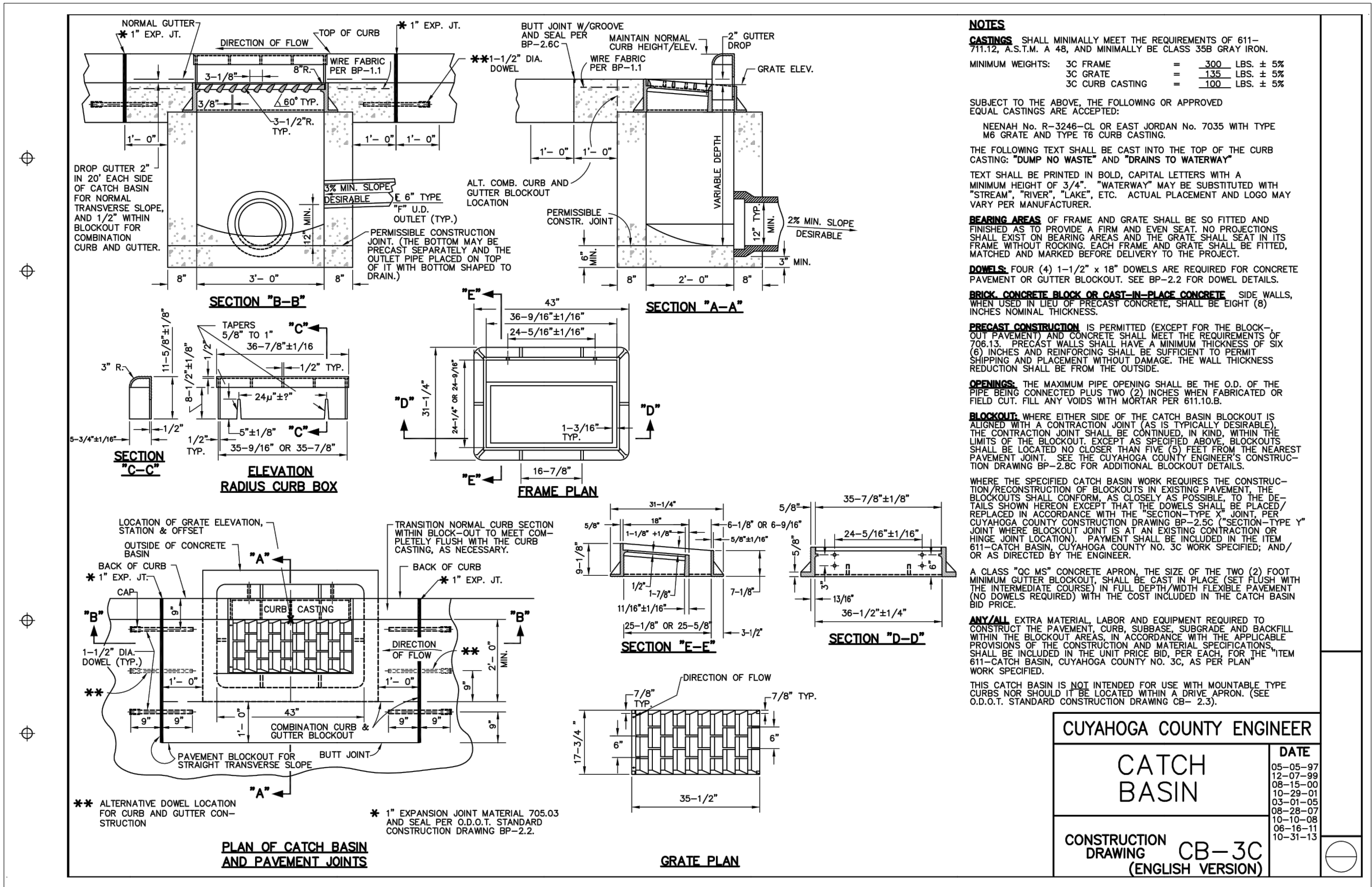
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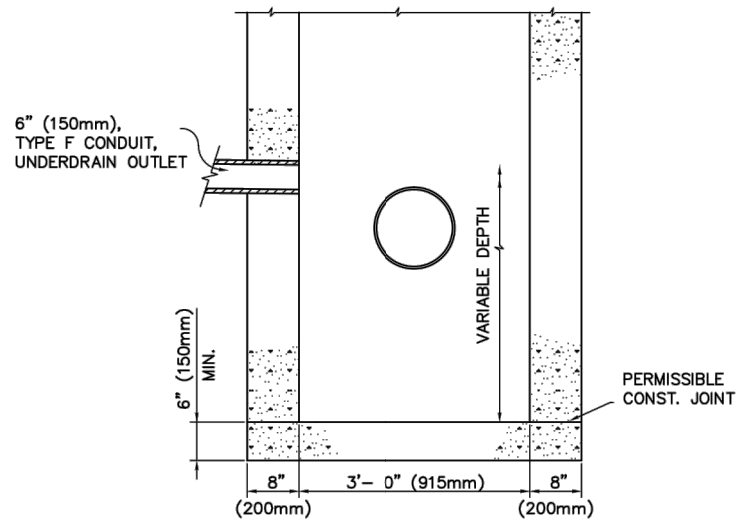


- LEGEND
- ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 ①
- ITEM 441 - 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22, AS DIRECTED ②
- ITEM 407 - TACK COAT ③
- FULL WIDTH PAVEMENT REINFORCING FABRIC, FIBERGLASS/POLYESTER BLEND, AND A.C. TACK ④
- ITEM 305 - 8" CONCRETE BASE ⑤
- ITEM 304 - 3" AGGREGATE BASE ⑥

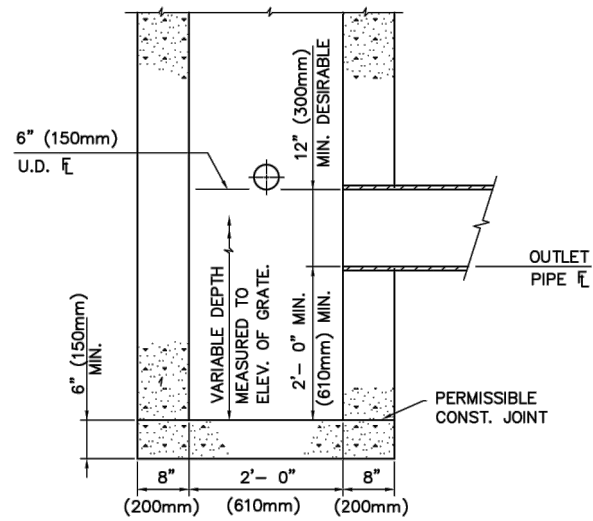
- LEGEND
- ① ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ② ITEM 441 - 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22
- ③ ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22
- ④ ITEM 304 - 6" AGGREGATE BASE
- ⑤ ITEM 407 - TACK COAT



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\*SECTION "B - B"



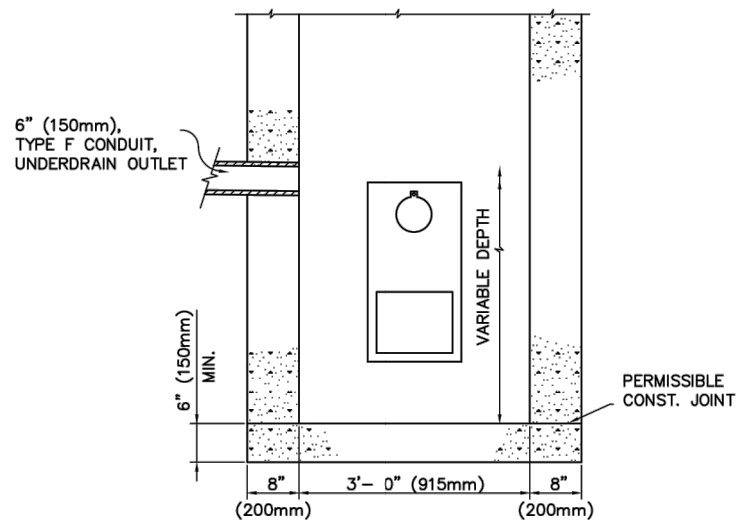
\*SECTION "A - A"

**NOTES**

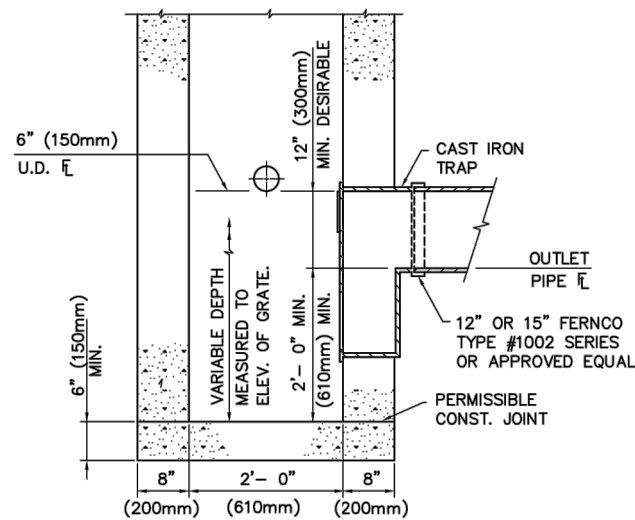
\* TO BE USED IN CONJUNCTION WITH THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING CB-3C (CB-3CM). SUMP AND TRAPS ARE REQUIRED FOR COMBINATION (STORM/SANITARY) SEWER SYSTEMS.

**CASTING:** CAST IRON TRAP SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF 611.02.G (711.12, ASTM A 48, AND MINIMALLY BE CLASS 35B GRAY IRON), AND SHALL HAVE A MINIMUM WEIGHT OF ONE-HUNDRED AND FORTY-FIVE (145) POUNDS (66 kg)  $\pm 5\%$ . PROVIDED THEY COMPLY WITH THE SPECIFICATIONS, DETAILS, DIMENSIONS AND MINIMUM WEIGHTS, NEENAH No. R-3707-12, EAST JORDAN No. 5964-12 OR APPROVED EQUAL CASTINGS ARE ACCEPTABLE. IF FIFTEEN (15) INCH (375mm) OUTLET PIPES ARE REQUIRED, USE NEENAH No. R-3707-15, EAST JORDAN No. 5964-15 OR APPROVED EQUAL CASTINGS HAVING A MINIMUM WEIGHT OF ONE-HUNDRED AND SIXTY (160) POUNDS (73 kg)  $\pm 5\%$ .

**PAYMENT:** ALL MATERIALS (INCLUDING TRAP), LABOR, EXCAVATION AND BACKFILL SHALL BE PAID UNDER "ITEM 611 - CATCH BASIN, CUYAHOGA COUNTY No. 3C WITH SUMP AND TRAP, AS PER PLAN" OR "ITEM 611 - CATCH BASIN, CUYAHOGA COUNTY No. 3C WITH SUMP, AS PER PLAN".



\*SECTION "B - B"



\*SECTION "A - A"

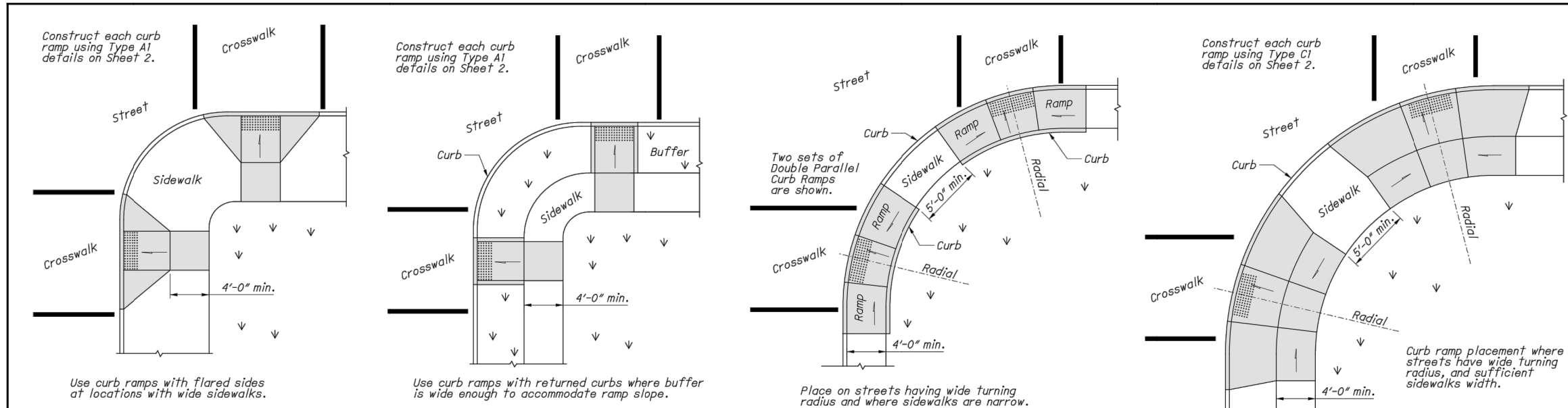
CUYAHOGA COUNTY 3C CATCH BASIN W/SUMP & TRAP

CUYAHOGA COUNTY ENGINEER

CATCH BASIN WITH  
SUMP OR WITH  
SUMP AND TRAP

DATE  
12-07-99  
10-29-01  
07-07-09  
10-31-13

CONSTRUCTION  
DRAWING CB-3C S/T

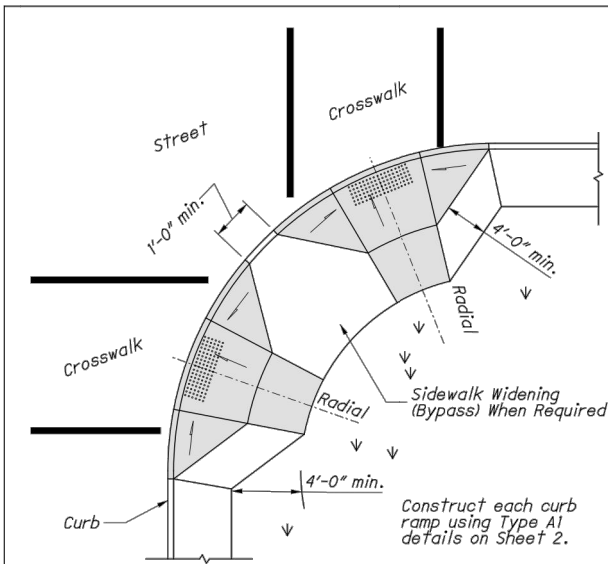
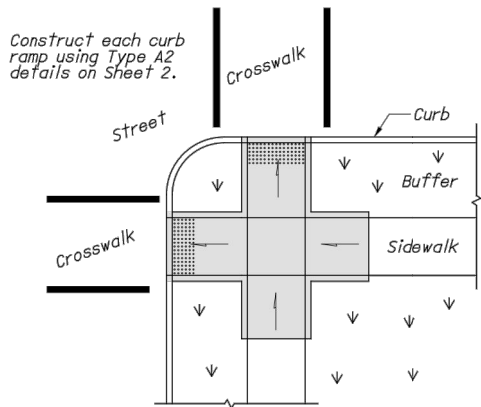


PERPENDICULAR CURB RAMPS

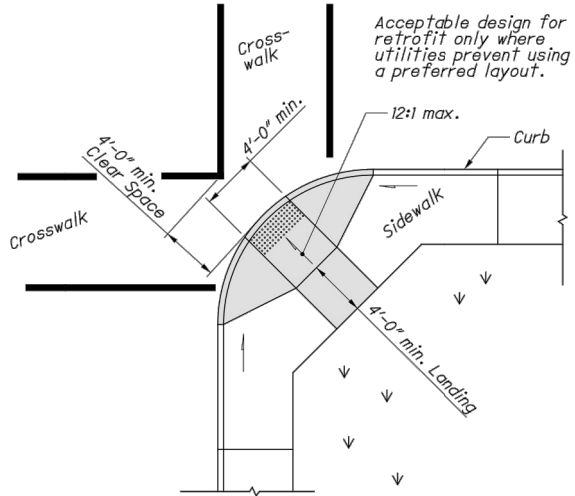
PARALLEL CURB RAMPS

COMBINATION CURB RAMPS

PREFERRED CONSTRUCTION PLACEMENT



PERPENDICULAR RAMPS



DIAGONAL RAMP (Type D)

ACCEPTABLE CONSTRUCTION PLACEMENT

NOTES

**GENERAL:** This drawing shows curb ramp types details and placement examples for curb ramp construction, including the installation of detectable warnings.

Curb ramp types are shown on Sheet 2 and include Perpendicular, Parallel, and Combined types as specified to be constructed in the locations shown on the project plans.

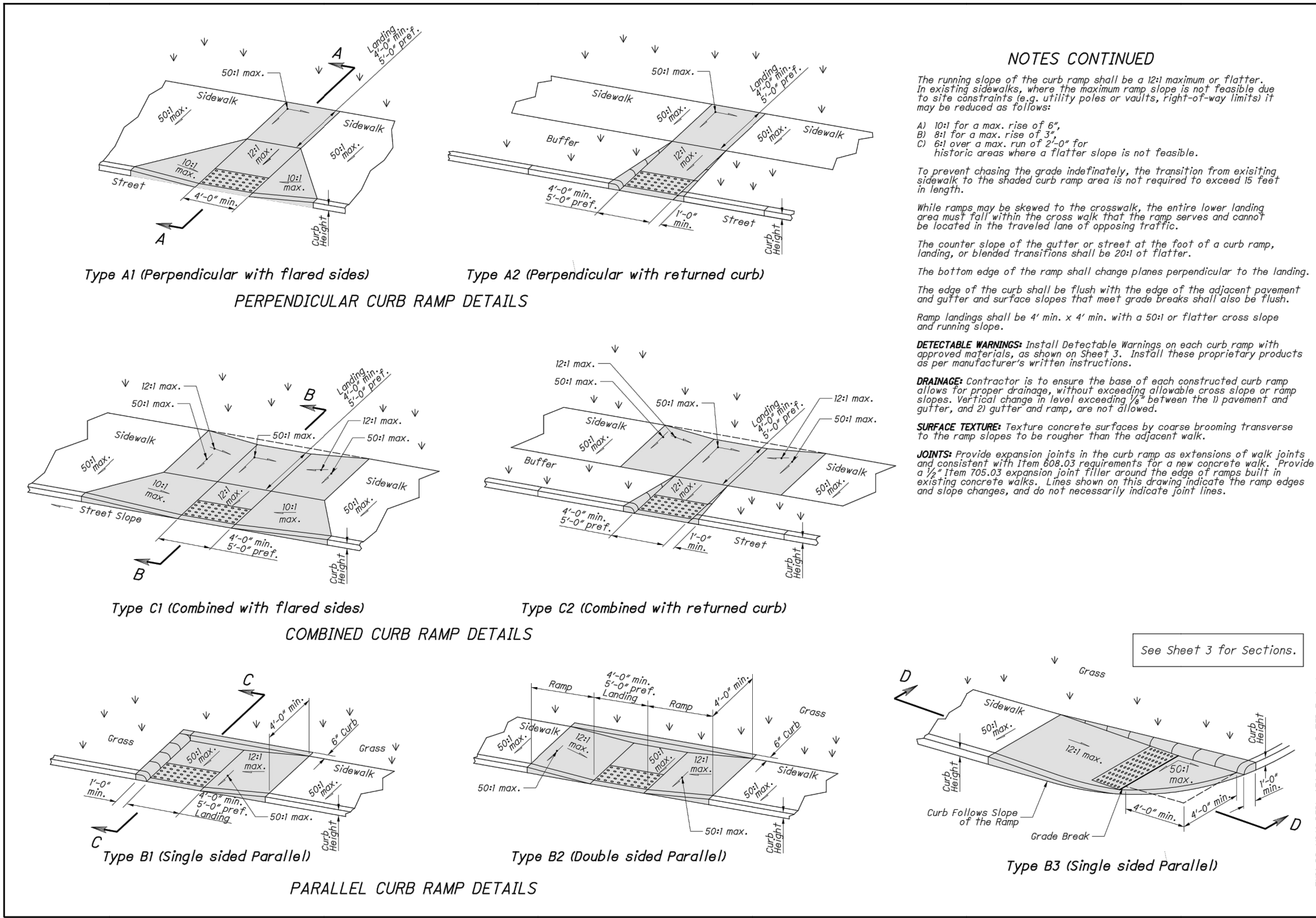
Curb ramps added to an existing intersection or walk should be individually detailed on the project plans to assure that the design is appropriate for site constraints and all items can be constructed to ADA standards. The contractor may adjust the placement of curb ramps if existing field conditions warrant with the approval of the Engineer.

**PAYMENT:** Measure and pay for the ramp area within the shaded limits of this drawing as Item 608 Curb Ramp, Square Foot. This includes the cost of any curb or curb and gutter, detectable warnings, landing areas and any additional materials, installation, grading, forming, and finishing required within the shaded area.

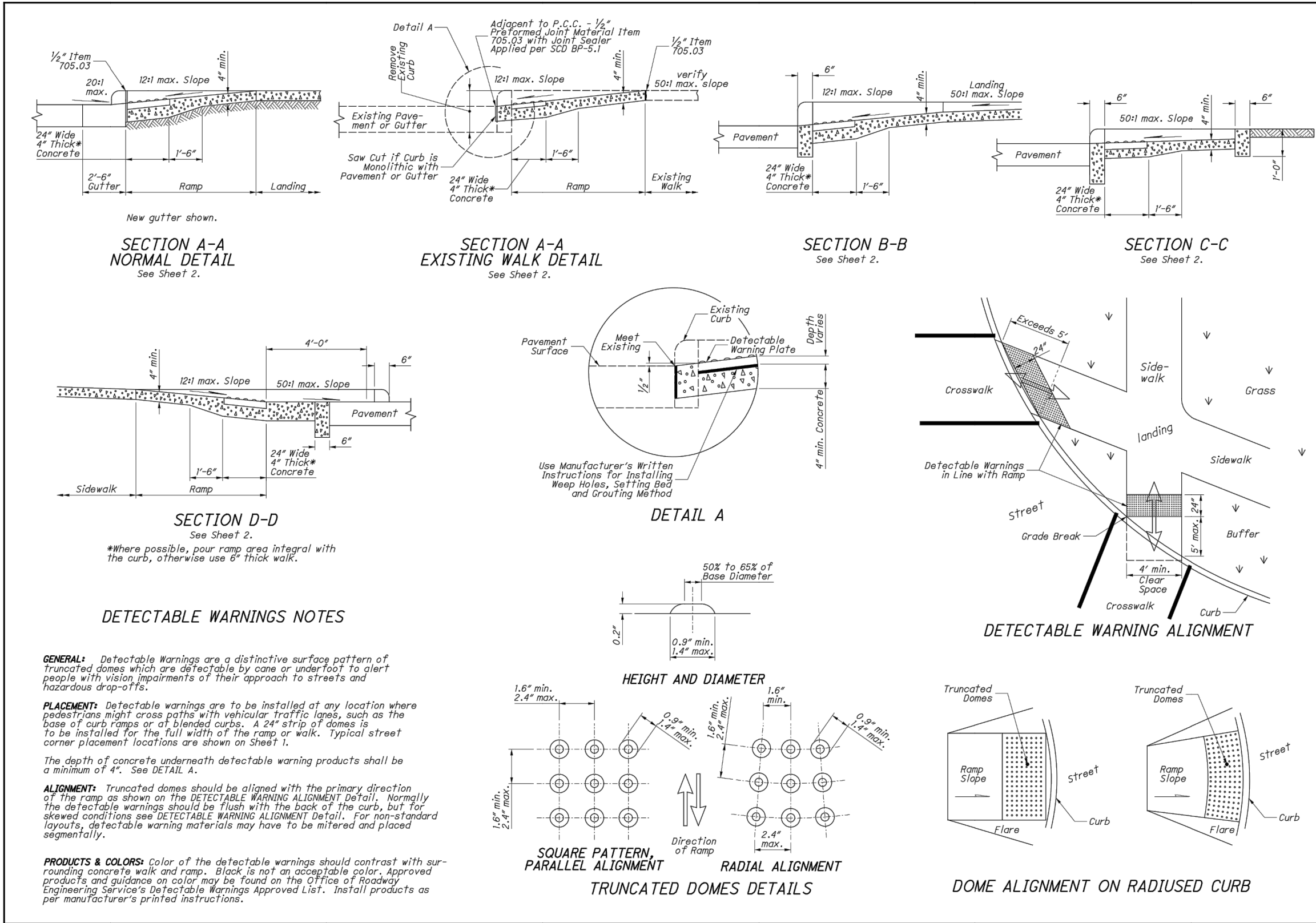
Work beyond the shaded ramp/landing area is paid for as curb (609) and walk (608). Removal of existing curb, walk (or existing curb ramps) are paid under Item 202.

For at-grade crossing locations where only detectable warnings are required in order to achieve ADA compliance, measure and pay for the strip of detectable warnings as Item 608 Detectable Warning, Square Foot. The work to cast the tiles in place will also require removal of existing pavement (Item 202) to the nearest joint, or if no joint exists, a minimum of 4 feet.

SCD NUMBER	BP-7.1	OFFICE OF ROADWAY ENGINEERING	STDS. ENGINEER	STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR	REVISION DATE
	1/3		D. Fisher	David L. Holstein	7-20-2018

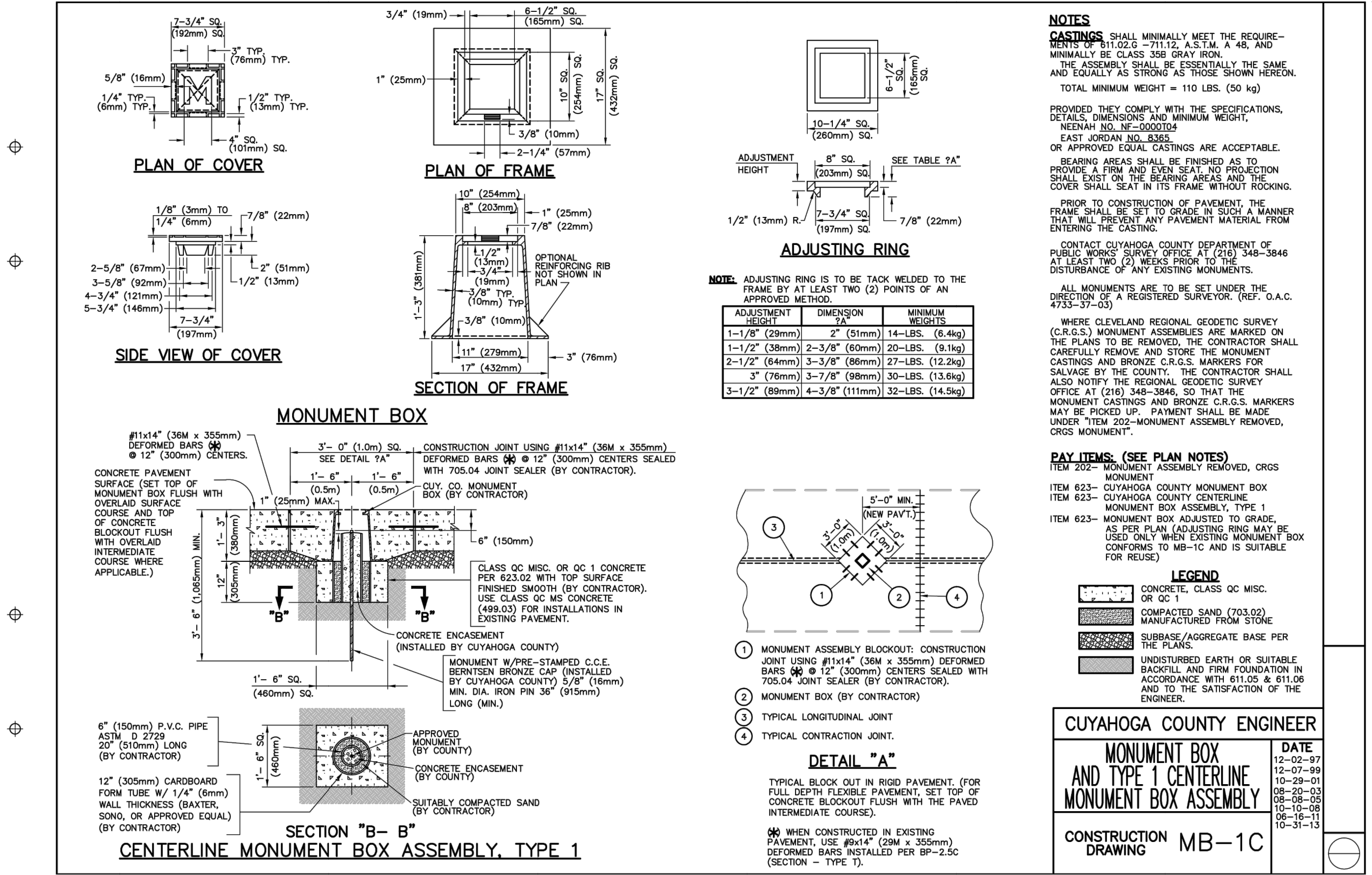


THIS DRAWING REPLACES BP-7.1 DATED 7-18-14.	STANDARD ROADWAY CONSTRUCTION DRAWING	OFFICE OF ROADWAY ENGINEERING	STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR	REVISION DATE
SCD NUMBER <b>BP-7.1</b>	<b>NEW CURB RAMPs</b> (with Detectable Warnings)	D. Fisher	David L. Holstein	7-20-2018
2	3			

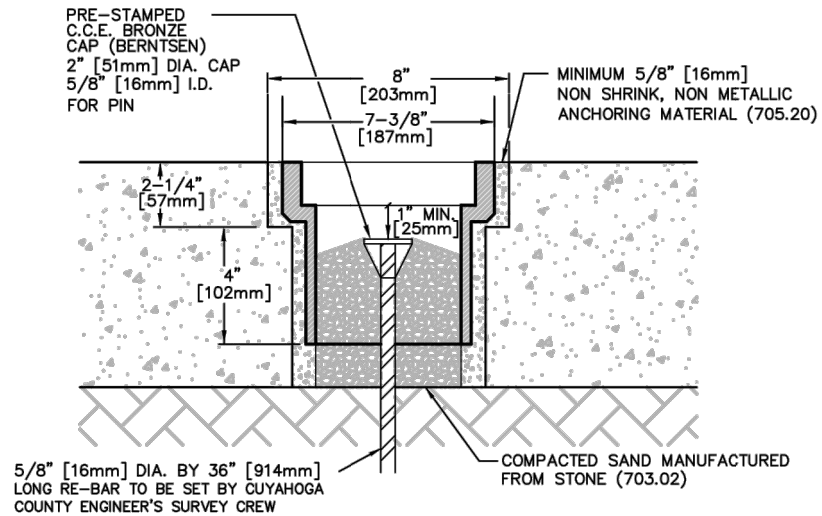
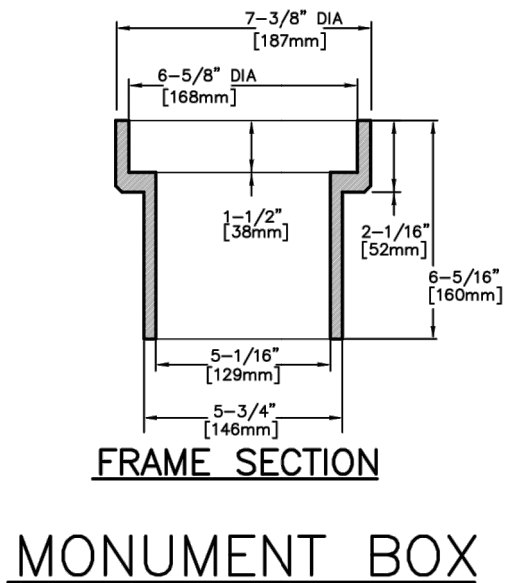
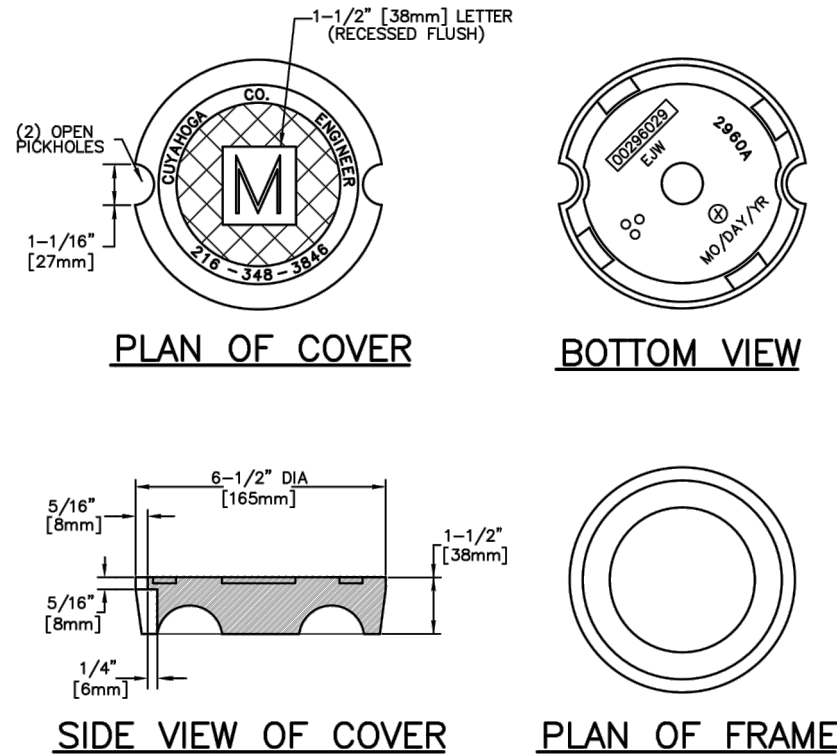


SCD NUMBER	BP-7.1	STANDARD ROADWAY CONSTRUCTION DRAWING	NEW CURB RAMPS (with Detectable Warnings)	OFFICE OF ROADWAY ENGINEERING	STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR	REVISION DATE
				D. Fisher	David L. Holstein	7-20-2018

THIS DRAWING REPLACES BP-7.1 DATED 7-18-14.







- NOTES:**
- MONUMENT BOX CASTING TO BE EJIW #8365Z FRAME WITH SPECIAL ORDER LID #8360A. ANNULAR SPACE BETWEEN CASTING AND PAVEMENT TO BE FILLED WITH NON SHRINK, NON METALLIC ANCHORING MATERIAL PER O.D.O.T. 705.20.
- INSTALLATION:**
1. CORE BOTH OPENINGS IN PAVEMENT
  2. REMOVE DEBRIS AND PREPARE CONCRETE FOR 705.20 ANCHORING MATERIAL PER MANUFACTURER SPECIFICATIONS.
  3. COAT PAVEMENT OPENING AND EXTERIOR OF CASTING WITH 705.20 ANCHORING MATERIAL.
  4. INSTALL CASTING AND FINISH FLUSH WITH PAVEMENT.

**NOTES:**

**CASTINGS**

SHALL MINIMALLY MEET THE REQUIREMENTS OF 611.02.G - 711.12, A.S.T.M. A48, AND MINIMALLY BE CLASS 35 GRAY IRON.

THE ASSEMBLY SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THOSE SHOWN HEREON.

TOTAL MINIMUM WEIGHT = 22 LBS. (10kg)

PROVIDED THEY COMPLY WITH THE SPECIFICATIONS, DETAILS, DIMENSIONS AND MINIMUM WEIGHT,

EAST JORDAN - 8360A MONUMENT BOX COVER  
EAST JORDAN - 8365Z FRAME SECTION

OR APPROVED EQUAL CASTINGS ARE ACCEPTABLE.

**PAY ITEM:**

ITEM 623-CUYAHOGA COUNTY CENTERLINE  
MONUMENT BOX ASSEMBLY, TYPE 2.

**LEGEND:**

- NEW CONCRETE PAVEMENT (451 OR 452)
- COMPACTED SAND MANUFACTURED FROM STONE (703.02)
- UNDISTURBED EARTH OR AGGREGATE BASE. REPLACEMENT OF UNSUITABLE MATERIAL PER 611.05 & 611.06 AND TO THE SATISFACTION OF THE ENGINEER.

CUYAHOGA COUNTY ENGINEER

TYPE 2 CENTERLINE  
MONUMENT BOX  
ASSEMBLY

DATE  
07-14-03  
06-27-05  
08-08-05  
08-28-07  
10-10-08  
10-31-13

CONSTRUCTION  
DRAWING MB-2C

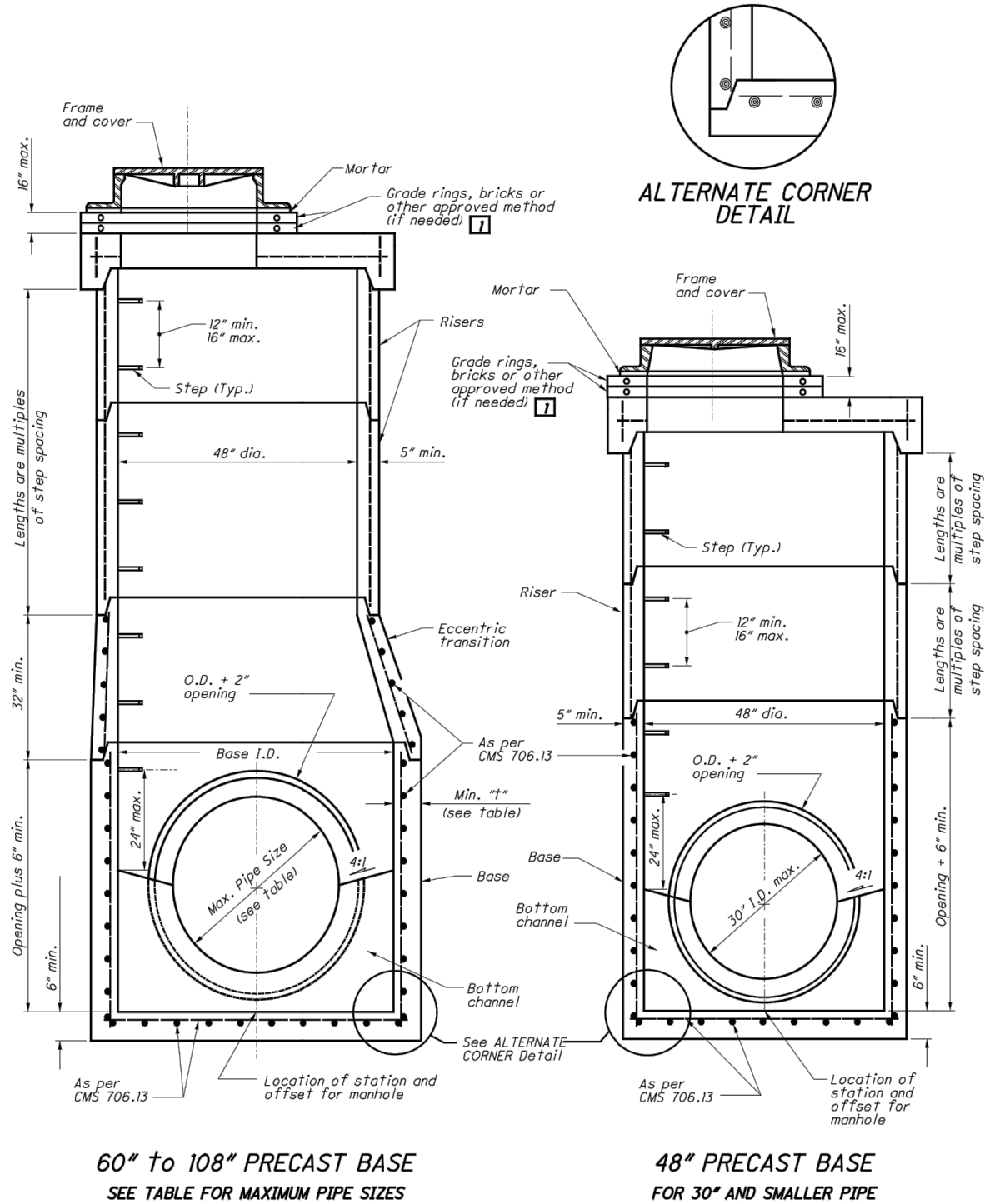
CALCULATED  
JMB  
CHECKED  
DEN

ODOT AND COUNTY STANDARD DETAILS

CLEVELAND HEIGHTS

19  
21

I:\ODOT\cadd\Standards\ODOT\Sheets\SCD\Hydraulics\MH-1.2\_2016-01-15.dgn Sheet 1 1/27/2017 10:30:50 AM jyoung6



60" to 108" PRECAST BASE  
SEE TABLE FOR MAXIMUM PIPE SIZES

48" PRECAST BASE  
FOR 30" AND SMALLER PIPE

SECTION VIEWS OF REINFORCED PRECAST MANHOLES

NOTES

- GENERAL:** With normal soil and site conditions, this standard precast manhole may be used for any required manhole depth. Cast and assemble sections of the precast manhole with either all tongue or all groove ends up. Lift holes may be provided in each section for handling. Leave handling device for the flat slab in place.
- TOP:** Provide a flat slab for this section unless an eccentric cone is specified.
- TRANSITION (OR REDUCER):** This section can be either eccentric cone or flat slab.
- BASE:** Manhole No. 3 is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Provide openings for inlet and outlet pipes, either when the unit is cast or later, to meet project requirements. Bottom channels may be formed of concrete, precast in the base or field constructed as shown on SCD MH-1.1 and MH-3.1.
- RISER SECTIONS:** Openings for 18" and smaller inlet pipes may be either prefabricated or cut in the field provided the sides of the pipe at the springline do not project into the manhole.
- CONNECTIONS:** Connections between precast manhole sections and pipes on sanitary sewers may be sealed with resilient connectors conforming to ASTM C 923.
- JOINT SEAL:** Furnish resilient seal between precast manhole sections on sanitary sewers and flexible gasket joints per CMS 706.11.
- OPENINGS:** Ensure pipe openings are the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per C&MS 611.
- MATERIALS:** Provide materials for bases and other precast sections, including reinforcement not specified here, that meet the requirements of CMS 706.13.
- DROP PIPE:** When specified on the plans, construct drop pipe as shown on SCD MH-3.1.
- STEPS, FRAMES AND COVERS:** Meet the requirements shown on SCD MH-1.1.
- TOP SLAB REBAR:** Use epoxy coated reinforcing steel within the top slab.

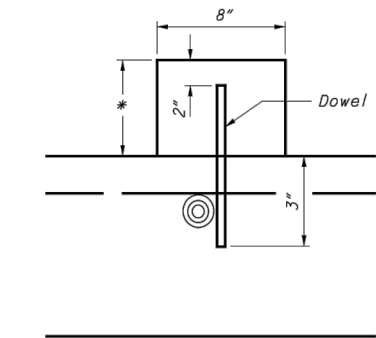
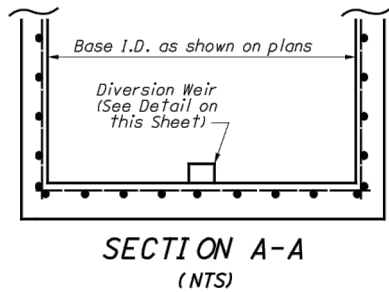
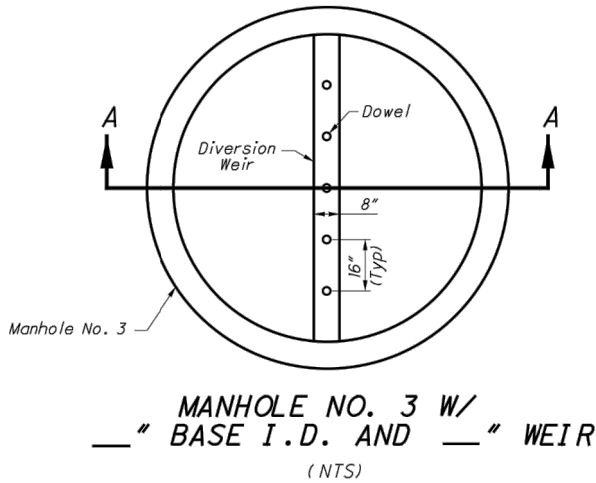
LEGEND

- 1 Reconstruction to grade only. Approved materials are kept on file by the Office of Materials Management.

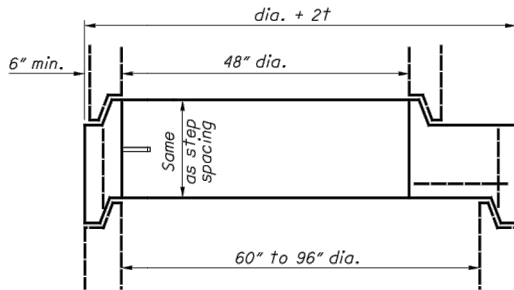
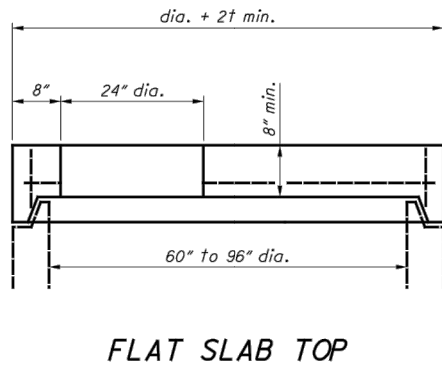
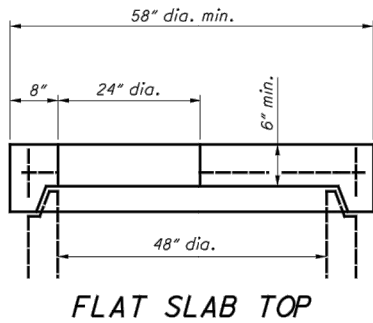
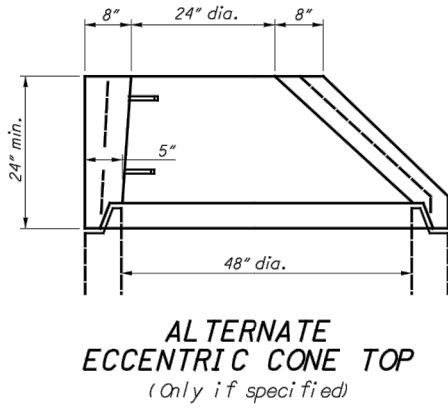
MAXIMUM PIPE SIZES		
BASE I.D.	MIN. #"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7½"	60"
96"	8"	66"
108"	9"	72"

SCD NUMBER	MANHOLE No. 3	OFFICE OF HYDRAULICS ENGINEERING	ROADWAY HYDRAULIC ENGINEER	REVISIONS	STATE OF OHIO DEPARTMENT OF TRANSPORTATION HYDRAULIC ENGINEER
MH-1.2			M. Cozzoli	7-20-01 7-19-02 7-15-05 1-20-06 7-20-12 1-18-13 1-15-16	Jeffery E. Syar
1 / 2					

I:\ODOT\cadd\Standard\ODOT\Sheets\SCD\Hydraulics\MH-1.2\_2016-01-15.dgn Sheet 2 1/27/2017 10:30:50 AM jyoung6



\* Furnish weir height as shown in plans.



**NOTES**

**MANHOLE NO. 3 W/ \_\_\_" BASE I.D. AND \_\_\_" DIVERSION WEIR:**  
Furnish manhole base with precast diversion weir or construct diversion weir from Structural Concrete, 4000 psi compressive strength concrete or Brick and Masonry Units conforming to CMS 611. A bottom channel section for the manhole is not required when a diversion weir is specified on the plans.

Place diversion weir perpendicular to flow of inflowing trunk sewer. Dowel concrete or masonry units into the base of the manhole to a depth of 3" using epoxy coated #4 reinforcing bars. Start dowels at the center of the diversion weir and space 16" on center across the entire weir.

All materials and labor, including excavation and backfill, are paid for at the contract price for **ITEM 611 - MANHOLE NO. 3 WITH \_\_\_" BASE I.D. AND \_\_\_" DIVERSION WEIR.**

SCD NUMBER	MH-1.2	STANDARD HYDRAULIC CONSTRUCTION DRAWING	MANHOLE No. 3	OFFICE OF HYDRAULICS ENGINEERING	ROADWAY HYDRAULIC ENGINEER M. Cozzoli	STATE OF OHIO DEPARTMENT OF TRANSPORTATION HYDRAULIC ENGINEER Jeffery E. Syar
2	2					