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NOTES

GUTTER SEAL MATERIAL SAME TYPE OF ASPHALT CEMENT USED IN THE ASPHALT CONCRETE PREMOLDED EXPANSION JOINT MATERIAL AS PER 705.03 NO. 8 TAMPED POROUS FILTER MATERIAL, LIMESTONE OR GRAVEL UNDERDRAIN AS PER SODS & SPECIAL INTEGRAL CONCRETE CURB AND BASE JOINT DETAIL SHALL BE AS SHOWN ON DRAWING 644 M SHEETS 4 & 5 (LONGITUDINAL) AND 175 M SHEET 6 (TRANSVERSE).
NOTES:

1. REINFORCED CONCRETE PAVEMENT SHALL MEET THE REQUIREMENTS OF ACP AND SPECIAL CONCRETE SHALL MEET THE REQUIREMENTS OF CITY OF CLEVELAND 650 MX.

2. IF THE CURB IS PLACED AFTER THE PAVEMENT, CNT THE ASPHALT EXPANSION JOINT AND PAVE FULL WIDTH. FILL THE VOID BETWEEN THE CURB & EXP. JOINT WITH DRY SAND TO 1/2" FROM THE CURB OR PAVEMENT. THE REMAINING 1/2" SHALL BE FILLED WITH JOINT FILLER AS PER 705.04 (NOT APPLIED JOINT FILLER).

3. TRANSITION FROM STANDARD CURB SECTION TO DROP CURB SECTION TO BE MADE IN 12".

4. CONCRETE FOR CURB WHICH IS TO BE INTEGRAL WITH THE CURB BASE OR PAVEMENT SHALL BE PLACED WHILE THE CURB IS IN Place.

5. TRANSVERSE JOINT IN THE PAVEMENT SHALL EXTEND THROUGH CURB.

6. CONTRACTION JOINT (IMPRINTED OR SAWED) SHALL BE PLACED AT MAXIMUM OF 17' CENTERS.

7. PAVEMENT JOINT ASSEMBLIES SHALL BE AS PER 451.02 (709.13).

8. LONGITUDINAL JOINT SHALL BE 5/8" X 10" REINFORCED EPOXY BAR AS PER 451.02 & 709.00 OR 5/8" X 10" EPOXY HIDE BOLTS PLACED AT 30" CENTERS. TRANSVERSE JOINT SHALL BE AS SHOWN ON DRAWING 175 WE (SHEET 6).


10. 12 INCH (4X) X 8 INCH (4X) EPOXY COATED REINFORCING MESH MEETING DOT 705.14.

11. AGGREGATE BASE AS PER 304 A SPECIAL.

12. HOT APPLIED JOINT SEALER AS PER 705.04.

13. PREFORMED EXPANSION JOINT MATERIAL AS PER 705.03.

14. TAMPER POROUS FILTER MATERIAL AS PER 625.

15. UNCLASSIFIED PIPE UNDERDRAIN AS PER 707.31 OR 707.41.
705.04 SEALER TOP TO BE APPROX. 1/16" BELOW SURFACE OF PAVT

1/4" SAW CUT

* 2" (+/-)

1/2

3/8" X 3/8" LONG TIE BARS 30" O.C. ON 1/2" HOE KNOT BOLTS

CONTRACTION

705.04 SEALER TOP TO BE APPROX. 1/16" BELOW SURFACE OF PAVT

1/4" SAW CUT

* 2" (+/-)

1/2

SEE TABLE ON SHEET B 175ME

CONSTRUCTION (THICKENED)

EXPANSION (THICKENED)

DOWELS - ALL DOWELS, HOOK BOLTS AND TIE BARS SHALL BE EPOXY COATED (705.06), AS PER PLAN OR DIRECTION OF THE ENGINEER

* IF CONCRETE IS THICKER THAN 8" USE 1/4 FOR THE JOINT DEPTH

705.04 SEALER TOP TO BE APPROXIMATELY 3/16" BELOW SURFACE OF PAVEMENT

EXISTING PAVEMENT

1" FORMED PAVEMENT JOINT FILLER 705.03

1" Plain CONCRETE PAVEMENT

1'-0" 2'-0"

BUTT JOINT (THICKENED)

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOHANNE WARD-DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWINGS
TYPICAL CONSTRUCTION DETAILS FOR PLAIN CONCRETE PAVEMENT NOT TO SCALE

DRAWN BY: R. PUDZINSKAS DATE: 4/8/08
SUBMITTED BY: W. MCLAUGHLIN DATE: 4/8/08
APPROVED: DATE: 7/08

COMMISSIONER OF ENGINEERING & CONSTRUCTION
FILE NO.: COMP 1 SHEET 2/6
DETAIL OF CONCRETE INTEGRAL CURB
NOT TO SCALE

4", 6" or 8" Concrete
Walk or Apron
3" max. 2 1/2" min.

No. 8 Limestone or Gravel
Aggregate (tamped)
4" or 6" unclassified underdrain

1" Plain Concrete

6" 304 Subbase
Impervious Earth Fill
(Tamped)

10" Radius

DETAIL OF CONCRETE MOUNTABLE CURB
(NOT TO SCALE)

4", 6" or 8" Concrete
Walk or Apron
30.3' max. 21.5" min.

No. 8 Limestone or Gravel
Material (tamped)
4" or 6" unclassified underdrain

1" Plain Concrete

6" 304 Subbase
Impervious Earth Fill
(Tamped)

TYPICAL BOXOUTS FOR MANHOLES AND CATCH BASINS

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASH--DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
TYPICAL CONSTRUCTION
DETAILS FOR PLAIN
CONCRETE PAVEMENT
NOT TO SCALE

DRAWN BY: R. PLIDZINSKAS DATE: 4/6/08
SUBMITTED BY: W. MCMAHON DATE: 4/6/08
APPROVED DATE: 7/6/08
COMMISSIONER OF ENGINEERING & CONSTRUCTION

FILE NO.: CONC 1 SHEET 3/4
CONTRACTION JOINTS: DOWELS SHALL BE USED IN CONTRACTION JOINTS IN 451 AND SPECIAL REINFORCED CONCRETE PAVEMENT. THEY SHALL BE SMOOTH BARS AND FREE MOVEMENT SHALL BE PROVIDED BY APPLYING A DUMP OR AN OIL SUCH AS S.A.E. 140 OR OTHER "BOND-BREAKING" MATERIAL JUST PRIOR TO PLACING THE CONCRETE.

CONTRACTION JOINTS OF THE TYPE SPECIFIED SHALL BE SPACED IN ACCORDANCE WITH THE FOLLOWING TABLE:

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<tr>
<th>Types of Pavement</th>
<th>Maximum Spacing Between Joints</th>
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<td>451 and Special Reinforced Concrete Pavement</td>
<td>17'-0&quot;</td>
</tr>
<tr>
<td>305 and Special Concrete Base</td>
<td>17'-0&quot;</td>
</tr>
<tr>
<td>452 Plain Concrete Pavement</td>
<td>17'-0&quot;</td>
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CONSTRUCTION JOINTS: EITHER SMOOTH OR DEFORMED DOWELS SHALL BE USED IN CONSTRUCTION JOINTS AT ALL PORTLAND CEMENT CONCRETE PAVEMENT AND BASE. DOWELS SHALL BE THOROUGHLY CLEANED OF ALL OIL OR OTHER SUBSTANCE THAT WOULD BREAK THE BOND BETWEEN THE STEEL AND CONCRETE. THE JOINT SHALL BE FORMED BY USING A 2" MINIMUM THICKNESS WOOD BULKHEAD OR EQUAL, WITH OPENINGS PROVIDED FOR DOWEL BARS SPACED AT INTERVALS NOT TO EXCEED 12" AS DIRECTED. THE BULKHEAD SHALL BE SHAPED TO FIT THE TYPICAL SECTION OF THE PAVEMENT OR BASE, AND DOWELS SHOWN IN THE PAVING PLANS. IF A PLACING OF THE CONCRETE, THE JOINT SHALL BE CAREFULLY FINISHED SO AS TO PROVIDE A NEAT, TIGHT FITTING JOINT THAT WILL NOT REQUIRE SEALING.

CONSTRUCTION JOINTS IN REINFORCED CONCRETE PAVEMENT SHALL NOT BE LOCATED AT A CONSTRUCTION JOINTS. EDGE CASES OF GREATER LENGTH THAN REQUIRED MAY BE USED BY CUTTING THE ASSEMBLY AND SPUDDING TO ATTAIN THE REQUIRED LENGTH.

THE PAVING IS INTENDED FOR USE WITH A UNIFORM DEPTH PAVING. WHEN THE PROJECT INVOLVES THE PAVING OF VARIABLE DEPTH PAVING, THE JOINT COMPONENTS SHALL BE HELD IN PLACE IN ACCORDANCE WITH THE METHOD SHOWN IN THE PLAN OR AS APPROVED BY THE ENGINEER.
The work performed under this item will be paid for per square yard under Item "Concrete Bus Pad" includes:

1 - Full depth sawcutting, removal of existing pavement including subbase.

2 - Excavation and embankment required to achieve proper subgrade.

3 - Item 304 - Aggregate Base

4 - Item 451 - 12" Reinforced Concrete Pavement Joint spacing 17 feet maximum and minimum 5 feet, 12 inch (W4) X 6 inch (W8.5) epoxy coated reinforcing mesh meeting ODOT 709.14

5 - Item 604 - Integral Concrete curb as per plan

6 - All incidental items to install Concrete Bus pad in-place as per detail shown herein.
1. ALL JOINTS SHALL BE CONSTRUCTED NORMAL TO THE CENTERLINE OF THE PAVEMENT LANE.

2. ALL DOWEL HOLES SHALL BE DRILLED BY A MECHANICAL DEVICE THAT WILL ALLOW INDEPENDENT ADJUSTMENT OF ALL DRILL SHAFTS IN THE HORIZONTAL AND VERTICAL DIRECTION. THE DEVICE SHALL BE CAPABLE OF DRILLING A MINIMUM OF THREE HOLES AT ONE TIME.

3. ALL SMOOTH DOWELS SHALL BE COATED WITH A THIN LAYER OF OIL OR OTHER 'BOND-BREAKING' MATERIAL AFTER THEY HAVE BEEN INSTALLED IN THE EXISTING PAVEMENT AND JUST PRIOR TO PLACING THE PATCH. ALL DOWELS SHALL BE PLACED PARALLEL TO THE PAVEMENT SURFACE AND THE CENTERLINE OF THE PAVEMENT LANE.


5. LONGITUDINAL JOINT: FOR PATCHES 10 FEET OR GREATER IN LENGTH THE LONGITUDINAL JOINT SHALL BE CONSTRUCTED AS PER STANDARD DRAWING. SPACING OF THE TIE BARS SHALL BE NO MORE THAN 30" NOR LESS THAN 24".


7. SEALING JOINTS: SAWED OR HAND FORMED JOINTS SHALL BE SEALED WITH ODOT 70054 JOINT SEALER.
TYPICAL PLAN SHOWING INTEGRAL CONCRETE RADIUS CURBING AND WALK

DETAIL PLAN OF INTEGRAL CONCRETE RADIUS CURBING AND WALK

NOTES

1. THE WALK SURFACE SHALL BE CUT INTO SLABS NOT LONGER THAN SIX FEET ON ANY ONE SIDE BY JOINTING IMMEDIATELY BEFORE FINISHING. JOINTS SHALL BE FORMED 6" FROM THE EDGE OF ANY THICKENED SECTION. THESE JOINTS ARE TO BE 1/4" DEEP WITH EDGES ROUNDED TO A 1/4" RADIUS.

2. NUMBER OF RAMPS (1 OR 2) IS DEPENDENT ON FIELD CONDITIONS AND NUMBER OF REQUIRED PEDESTRIAN CROSSINGS.

3. ALL REQUIRED HANDICAP RAMPS, LAYOUT, AND CONCRETE SHALL BE INCLUDED IN THE PER SQ. FT. OR LUMP SUM BIG ITEM FOR: "INTEGRAL RADIUS CURBING AND RAMP WITH STAMPED TRUNCATED DOMES" OR "INTEGRAL RADIUS CURBING AND RAMP WITH ARMOR TILES" AS INDICATED IN THE SCHEDULE OF ITEMS.

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOSEPH WASS--DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
DETAIL PLAN FOR INTEGRAL CONCRETE RADIUS CURBING & WALK
NOT TO SCALE
DRAWN BY: R. SLUDZINSKAS DATE: 4/6/08
SUBMITTED BY: W. MCLAUGHLIN DATE: 4/6/08
APPROVED: [Signature] DATE: 4/11/08
COMMISSIONER OF ENGINEERING & CONSTRUCTION
FILE NO.: 244-ME SHEET 1/1
NOTES:
1) MAY BE REDUCED TO 3'-0" IN EXISTING SIDEWALK IF THE LANDING IS CONSTRAINED ALONG THE BACK EDGE.
2) WHERE THE LANDING IS LESS THAN 4'-0", THE RAMP FLARE SHALL BE INCREASED TO 12'-1.
3) GUTTER SEAL, 705.04, 4" WIDE THE BOTTOM EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
4) SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY CORSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.

NOTES:
* 3'-0" RAMP WIDTH MAY BE ACCEPTED WITH THE APPROVAL OF ENGINEER

1) THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
2) SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY CORSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
3) GUTTER SEAL, 705.04, 4" WIDE THE BOTTOM EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
NOTES:
1. WHERE THE LANDING IS LESS THAN 4'-0" THE RAMP FLARE SHALL BE INCREASED TO 12:1.
2. SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
3. THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT OR GUTTER LINE.
4. GUTTER SEAL, 705.04, 6" WIDE THE BOTTOM EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.

NOTES:
1. THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT OR GUTTER LINE.
2. WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "B" CURB (6" X 18"). ROLLED CURB SHALL BE INSTALLED ONLY AT THE DIRECTION OF THE ENGINEER.
3. SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
NOTES:
1. THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT OR GUTTER LINE.
2. WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "6" CURB (6" X 18"). ROLLED CURB SHALL BE INSTALLED ONLY AT THE DIRECTION OF THE ENGINEER.
3. SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.

SECTION "A-A"
maximum grade 2:1
4" MINIMUM
5" MINIMUM
Landing 48:1
SECTION "B-B"
4" MINIMUM
5" MINIMUM
Integrated Curb and Ramp
2" Compact #10 Screening including Subgrade Compaction
Gutter and Joint Seal as per ODOT 705.04 See Note 1
Pavement
12" Below Grade
4" MAX. MIN.
6" MAX. 4" MIN.
2" Compact #10 Screening including Subgrade Compaction
Integrated Curb and Ramp
See Sheet 8/6 for detail
5" Minimum Concrete
6" Minimum Concrete
SECTION "B-B"
CONSTRUCTION JOINT
8" Minimum Concrete
Gutter and Joint Seal as per ODOT 705.04
3/4" Exp. Joint Material
SEE NOTE 1
5" Minimum
Landing 48:1
SECTION "A-A"
3" Compact #10 Screening including Subgrade Compaction
Integrated Curb and Ramp
WALK
Grass
4" Maximum Typical
4" MIN. (Typ.)
4"-0" MIN.
8" Minimum Concrete
2" Compact #10 Screening including Subgrade Compaction
CR-7
CR-8
CR-11

NOTES:
1. WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "6" CURB (6" X 18"). ROLLED CURB SHALL BE INSTALLED ONLY AT THE DIRECTION OF THE ENGINEER.
2. THE BOTTOM EDGE OF THE CURB SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
3. SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
4. THIS DETAIL SHALL ONLY BE USED TO RETROFIT EXISTING CURB RAMPS AND SHALL NOT BE USED FOR NEW CURB RAMP CONSTRUCTION.

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ROLLED CURB INSTALL ONLY AT THE DIRECTION OF THE ENGINEER

2" COMPACTED #10 SCREENINGS INCLUDING SUBGRADE COMPACTION

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
TYPICAL CONSTRUCTION
CURB RAMPS & ROLLED CURB DETAIL
NOT TO SCALE

REVISED 12/3/09

DATE: 4/9/08
SUBMITTED BY: W. McLAUGHLIN
DATE: 4/9/08
COMMISSIONER OF ENGINEERING AND CONSTRUCTION
INTEGRAL CONCRETE DRIVEWAY

NO SCALE

3/4" PREMOLDED EXPANSION JOINT MATERIAL OR EQUAL (705.03) COST TO BE INCLUDED IN PRICE FOR LINEAL FOOT OF INTEGRAL CONCRETE CURB

4" OR 6" UNCLASSIFIED PIPE UNDERDrain (ITEM 605) SEE NOTE #5

CAST-IN-PLACE CONCRETE CURB

NO SCALE

4" OR 6" UNCLASSIFIED PIPE UNDERDrain (ITEM 605) SEE NOTE #5

NOTES:

1. SAND BACKFILL AS REQUIRED TO ACHIEVE PROPOSED SUB GRADE. COST TO BE INCLUDED IN UNIT PRICE BID PER SQUARE FOOT OF SIDEWALK OR CONCRETE DRIVEWAY.

2. TRANSVERSE CONTRACTION JOINTS (5'CTRS) AND EXPANSION JOINTS TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER. JOINTS SHALL BE TOOLED 5" FROM THE STREET FACE OF THE CURB. 1/4" DEEP WITH EDGES ROUNDED TO A 1/4" RADIUS. COST TO BE INCLUDED IN PRICE PER SQUARE FOOT OF SIDEWALK OR CONCRETE DRIVEWAY.

3. TRANSITION FROM STANDARD CURB SECTION TO DROP CURB SECTION TO BE MADE IN 18" DISTANCE FROM DRIVEWAY.

4. SLOPE SHALL BE PROVIDED AS NEEDED TO DRAIN SIDEWALK AND TREELAWN AREA. 1/8" FT. MIN. (1/4" FT. DESIRABLE AND 3/8" FT. MAX.) IF THE EXISTING CONDITIONS RESULT IN A UNIFORM SLOPE GREATER THAN 1/4" FT. THEN THE SLOPE IN THE TREELAWN AREA MAY EXCEED THE MAX. AS NEEDED TO PROVIDE A SIDEWALK SLOPE OF 1/4" FT. THE SLOPE IN THE WALK AREA OF DRIVE APPROACHES MUST NOT EXCEED ADA REQUIREMENTS OF 1/4" FT. CROSS SLOPE.

5. UNDERDrAINS TO BE INSTALLED IN AREAS WHERE CURB IS TO BE REPLACED. THE UNDERDrAIN SHALL BE CONSTRUCTED SO AS TO MATCH THE LOCATION OF ANY EXISTING UNDERDrAIN TO REMAIN. UNDERDrAIN SHALL OUTLET AT CATCH BASIN. UNDERDrAINS SHALL HAVE FILTER FABRIC WRAP OR TRENCH IS WRAPPED WITH FILTER FABRIC AS SPECIFIED.
PLAN FOR NEW DRIVE WITH INTEGRAL CONCRETE CURB

NOT TO SCALE

SECTION “Y”–“Y”

NOT TO SCALE

NOTES:
1 – ON STREETS WITH NARROW TREELAWSNS AND SIDEWALKS OR WITH APPROVAL OF THE ENGINEER THE FOLLOWING DETAIL MAY BE USED.
2 – APRON FLARES ARE 3” FOR RESIDENTIAL AND 5” COMMERCIAL.
3 – UNDERDRAINS SHALL HAVE FILTER FABRIC WRAP OR TRENCH IS WRAPPED WITH FILTER FABRIC AS SPECIFIED.

PLANT FOR NEW DRIVE WITH CURB CUT

NOT TO SCALE

SECTION “X”–“X”

SHOWING PROPOSED DRIVE GUTTER WITHOUT RESURFACING NOT TO SCALE

NOT TO SCALE

TYPICAL CURB CONSTRUCTION DETAIL

NOT TO SCALE

SECTION “X”–“X”

SHOWING PROPOSED DRIVE GUTTER WITH RESURFACING NOT TO SCALE

NOT TO SCALE

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASIK – DIRECTOR OF PUBLIC SERVICE
STANDARD PLAN OF TYPICAL CURB & DETAILS
AT DRIVEWAYS
NOT TO SCALE

DRAWN BY: R. FUCHS
SUBMITTED BY: W. MCLAUGHLIN
APPROVED: COMMISSIONER OF ENGINEERING AND CONSTRUCTION
FILE NO. CD 1 SHEET 2/3

REVISED 8/3/09
DATE: 4/9/09
DATE: 6/9/08
DATE: 4/9/08
ELEVATION SHOWING CURB JOINT SECTION "A" – "A"

DETAIL OF CURB CUTTING

CURB TO BE USED ON STRAIGHT SECTION

TOP FACE AND ENDS OF CURB ABOVE LINE "A"–"A" ARE TO BE MACHINED.
ALSO BACK OF CURB 1" FROM TOP AS SHOWN.

CURB DETAIL TO BE USED ON ALL CURVED SECTIONS

NOTES

CURB SHALL BE SET IN AND BACKED WITH A
MINIMUM OF CLASS "C" CONCRETE AS SHOWN.
The entire curb trench is to be completely
filled with concrete up to the level shown
on the section. See standard specifications.
CURB TO BE LIGHT GRAY GRANITE TO MATCH
EXISTING CURBING IN WALL. LENGTH TO BE 4"–6"
WITH CLOSURE STONE NOT LESS THAN 3" LONG.

1 – EXPANSION JOINT NOT SHOWN
2 – 8" MINIMAL INCREASE IF
REQUIRED TO MATCH EXISTING
WALK OR APRON THICKNESS
3 – FOR 8" OR 12" WALL CURBING DECREASE
OR INCREASE THE THICKNESS DIMENSIONS
AND TOLERANCES BY 2"
HEADWALL ELEVATION
NOTE: ALL REINFORCEMENT IS TO BE EPOXY COATED

SECTION A-A
RIGID PIPE

SECTION A-A
CORRUGATED PIPE

STANDARD SECTION OF PIPE SEWER INCASED IN 6" CONCRETE
NOTE: 6" IF FORMED, OTHERWISE EXTEND TO UNDISTURBED EARTH

HEADWALL DIMENSIONS

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HEADWALL ELEVATION
NOTE: ALL REINFORCEMENT IS TO BE EPOXY COATED

SECTION A-A
RIGID PIPE

SECTION A-A
CORRUGATED PIPE

STANDARD SECTION OF PIPE SEWER INCASED IN 6" CONCRETE
NOTE: 6" IF FORMED, OTHERWISE EXTEND TO UNDISTURBED EARTH

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### Width of Trench in Feet (See Note)

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### Size of Braces and Cheeks in Inches

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<th>Size of Braces and Cheeks</th>
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#### Notes:
1. The min. trench width is determined as per DRG. ME 146 and is the trench width at the top of the sewer or at the top of the utility being installed as per owning utility requirements.
2. This chart shows minimum sheathing & bracing requirements. Contractor shall submit a sheathing & bracing schedule, complete with calculations, designed and stamped by a professional engineer licensed in the State of Ohio.

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**City of Cleveland**

Department of Public Service
Division of Engineering & Construction

Jomare Wask—Director of Public Service
Standard Construction Drawing
Sheathing & Bracing Chart not to scale.

Drawn by: G. Lugo-Zimnicki — Date: 6/8/08
Submitted by: M. McGaughlin — Date: 6/9/08

Approved by: [Signature] — Date: 7/2/08

Commissioner of Engineering & Construction

File No.: 164ME
NOTES:

1. THE PIPE BEDDING MATERIAL SHALL BE COARSE NATURAL AGGREGATE COMPLIING WITH 703.01 WITH THE FOLLOWING PROVISIONS:

(A) 4" BEDDING DEPTH "5" OF NO. 57 GRANULAR MATERIAL FOR 8" TO 24" PIPE

(B) 6" BEDDING DEPTH "5" OF NO. 5 GRANULAR MATERIAL FOR 27" TO 60" PIPE

(C) 8" BEDDING DEPTH "5" OF NO. 4 GRANULAR MATERIAL FOR PIPE SIZES GREATER THAN 40", THE MINIMUM DEPTH OF THE BEDDING SHALL BE 2" BELOW THE PIPE BELLS. IF ANY, BUT IN NO CASE SHALL THE BEDDING BE LESS THAN 5"

(D) SERVICE CONNECTIONS SHALL HAVE A 3" MINIMUM BEDDING DEPTH OF NO. 57 GRANULAR MATERIAL.

2. TRENCH BACKFILL SHALL BE IN PAVED AREAS SHALL BE CLEVELAND SOIL CLASS OUTSIDE OF PAVED AREAS ORIGINAL TRENCH EXCAVATION MAY BE USED, PROPERLY COMPACTED.

TYPICAL SECTION
PIECE SEWERS IN ORDINARY EARTH BEDDING

TYPICAL SECTION
PIECE SEWER IN ROCK AND OR SHALE WHERE DIRECTED

TYPICAL SECTION
PIECE SEWER IN CONCRETE CRADLE
SEWER 42" AND UNDER

CONNECTION BOX FOR PRECAST MANHOLES ON SEWERS 48" AND OVER
EGG SHAPED SEWERS

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<th>NO.</th>
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TYPES OF EGG SHAPED SEWERS

"A"—1 RING OF BRICK ALL AROUND.
"B"—1 RING OF BRICK ALL AROUND & 1 RING EXTRA ON ARCH.
"C"—2 RINGS OF BRICK ALL AROUND.
"D"—2 RINGS OF BRICK ALL AROUND & 1 RING EXTRA ON ARCH.
"E"—3 RINGS OF BRICK ALL AROUND.

FOR RECORD ONLY

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JONARE WASH-DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
STANDARD PLAN FOR EGG SHAPED SEWERS
DIMENSIONS & AREAS
NOT TO SCALE

DRAWN BY: R. PLITZKNECHT DATE: 6/28/28
SUBMITTED BY: V. MCILHANEY DATE: 6/28/28
APPROVED BY: COMMISSIONER OF ENGINEERING & CONSTRUCTION DATE: 7/2/28

FILE NO. 73M
TYPICAL SECTION OF TRENCH
FOR VITRIFIED BLOCK CONSTRUCTION

ACCEPTABLE EARTH FROM TRENCH EXCAVATION OR CINDELS
CLASS "C" CONCRETE
WET MIX


NOTE:
THIS SECTION APPLIES ALSO FOR CIRCULAR SECTION

SECTION "A-A"

SECTIONS OF MANHOLE FOR VITRIFIED BLOCK OR SEWER OVER 4'-6" DIAMETER

SECTION "B-B"

SECTIONS OF MANHOLE FOR VITRIFIED BLOCK OR SEWER OF 4'-6" DIAMETER OR LESS

PLAN

MORTAR SHALL BE COMPOSED OF ONE PORTLAND CEMENT (SEC. 701.04) TO TWO PARTS SAND (SEC. 703.05) BY VOLUME.

MORTAR SHALL BE COMPOSED OF ONE PORTLAND CEMENT (SEC. 701.04) TO TWO PARTS SAND (SEC. 703.05) BY VOLUME.

RECORD ONLY
CB-1 CATCH BASIN

NOTES
1. ALL REINFORCING SHALL BE 4 SETTLED BARS, AS PER GCD 708, AND SUFFICIENT TO PERMIT SHIFTER AND PLACEMENT WITHOUT DAMAGE TO RECTANGULAR SHAPE.
2. CONCRETE SHALL BE GCD 499 CLASs "C" 4000 PSI IN 28 DAYS.
3. BOX-OFF SHALL BE PAID FOR AS PAYMENT IN PORTLAND CEMENT CONCRETE PAVEMENT AND AS PART OF THE CATCH BASIN IN ASPHALTIC CONCRETE PAVEMENT WITH NO REDUCTION IN PAVEMENT OR CURB QUANTITY BECAUSE OF CASTING.
4. MINIMUM WALL THICKNESS 8" CAST IN PLACE AND 6" FOR PRECAST.

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JONAIER WASH—DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
STANDARD DETAILS FOR
RECTANGULAR CATCH BASIN
NOT TO SCALE

REvised BY: R. PILODWINSKIS
DATE: 4/9/08
SUBMITTED BY: W. MCLAUGHLIN
DATE: 4/9/08
APPROVED
COMMISSIONER OF ENGINEERING & CONSTRUCTION
DATE: 7/8/08

FILE NO. CB-1 SHEET 1/7

ALTERNATE BASIN SHAPE
A ROUND PRECAST CONCRETE UNIT MAY BE USED IN LIEU OF RECTANGULAR UNIT. THE ROUND SECTION SHALL BE 30" I.D. UNIT WITH INTEGRAL BASE AND PRECAST TOP TRANSITION SECTION (ROUND TO RECTANGULAR) TO FIT CASTING BEING USED. THE TRANSITION UNIT USES A # 6 BEAR AT CORNERS OF THE RECTANGULAR SHAPED SECTION AND 3 X 8 # 6 WIRE WELDED WIRE FABRIC IN VERTICAL SECTION. ALSO, # 5 APPROVED BY THE ENGINEER. 6" THICK MASONRY WALL MAY BE USED IN LIEU OF PRECAST UNITS.

NOTE: IF PRECAST CATCH BASIN IS CONSTRUCTED IN TWO PIECES THE JOINT BETWEEN UNITS MUST BE A CONCRETE JOINT PER 708.11.
NOTES

1. ALL REINFORCING SHALL BE # 4 DEFORMED BARS, AS PER ODOT 709, AND SUFFICIENT TO PERMIT SHIPPING AND PLACEMENT WITHOUT DAMAGE TO RECTANGULAR SHAPE.

2. CONCRETE SHALL BE ODOT 499 CLASS "C" 4000 PSI IN 28 DAYS.

3. BOX-OUT SHALL BE PAID FOR AS PAVEMENT IN PORTLAND CEMENT CONCRETE PAVEMENT AND AS PART OF THE CATCH BASIN IN ASPHALTIC CONCRETE PAVEMENT WITH NO REDUCTION IN PAVEMENT OR CURB QUANTITY BECAUSE OF CASTING.

4. FOR FULL WIDTH ASPHALTIC CONCRETE PAVEMENT—CONSTRUCT A PORTLAND CEMENT CONCRETE APRON.

5. MINIMUM WALL THICKNESS 8" FOR CAST IN PLACE AND 6" FOR PRECAST
NOTES
1. THE CATCH BASIN SHALL BE SET AT THE LOW POINT OF A SAG VERTICAL CURVE OR AT THE
   POINT WHERE THE GRADE OF THE STREET CHANGES FROM NEGATIVE TO POSITIVE OR DOWNSTREAM
   FROM THE INLET BASIN.
2. THE CONCRETE BETWEEN THE CASTINGS SHALL BE SLUMPED TO MATCH THE SLOPE OF THE
   CASTINGS.
3. REFER TO CB-1 AND DB-1 FOR FULL DETAILS AND DIMENSIONS.
4. PIPE BETWEEN BASINS SHALL BE EXTRA STRENGTH VCP PIPE AND IS INCLUDED IN THE BED ITEM
   FOR TWIN BASIN CB-3.
5. BOXEL SPACING AND SIZE SHALL BE AS FOLLOWS:
   1' BIDGEL:
   3 # 12" - V.C.  
   4 # 12" - MC  
   450.00 (TYP)
6. MINIMUM WALL THICKNESS 6' FOR CAST IN PLACE AND 6' FOR PRECAST

---

CITY OF CLEVELAND
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASK—DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
DETAILS FOR
TWIN BASIN — CB-3
NOT TO SCALE
DRAWN BY: R. PLOUGHMAN
SUBMITTED BY: R. MCGRANIN
APPROVED
COMMISSIONER OF ENGINEERING & CONSTRUCTION
FILE NO. CB 1 | SHEET 3/7
FOR STANDARD CAST IRON OPEN
GRATE MANHOLE COVER SEE
DRAWING A-503

STANDARD CAST IRON
MANHOLE FRAME SEE
DRAW. A-503

TRAP INCLUDED IN PRICE
B/C FOR C.B. Y TO BE
PAID FOR AS STRAIGHT
PIPE

12" OAK TRAP

WATER LEVEL

SECTION "Z-Z"

SHALE BRICK
MASONRY WITH
1/2" MORTAR
JOINTS

2'-4" FOR 12'-0" OVER
0'-3'-0" FOR 12" & LESS
1/2" 1:1 CEMENT
MORTAR

FOR RECORD ONLY

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASIK–DIRECTOR OF PUBLIC
SERVICE STANDARD PLAN FOR PARK STYLE
CATCH BASIN
NOT TO SCALE

DRAWN BY: R. PLODZINSKAS DATE: 8/28/07
SUBMITTED BY: N. POGONSKI DATE: 8/29/07
APPROVED: COMMISSIONER OF ENGINEERING & CONSTRUCTION DATE: 10/08

FILE NO. C3 1 SHEET 5/7
EXIST. LOCATION OF CURB BOX

5"x20"x4'-0" CITY OF CLEVELAND 250 MIX CONC. SLAB

NEW BRICK MASONRY

EXIST. BRICK TO BE REMOVED

EXIST. LOCATION OF CURB BOX

EXIST. BRICK TO BE REMOVED

PROPOSED LOCATION OF CURB BOX

NEW BRICK MASONRY WITH 1/2" MORTAR JOINTS

ADJUSTING INWARD
1/2"=1'-0"

ADJUSTED OUTWARD
1/2"=1'-0"

MORTAR SHALL BE COMPOSED OF ONE PART PORTLAND CEMENT (SEC.701.04) TO TWO PARTS SAND (SEC. 703.03) BY VOLUME.

NOTE: CATCH BASINS SPECIFIED TO BE ADJUSTED TO LINE AND GRADE SHALL INCLUDE REBUILDING BRICKWORK AND MOVING CASTING NOT TO EXCEED ONE FOOT.

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JONARIE WASIK-DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
DETAILED PLAN FOR CATCH BASINS
ADJUSTED TO LINE & GRADE
NOT TO SCALE

DRAWN BY: B. PLODZINSKAS
DATE: 4/8/08

SUBMITTED BY: W. MCLAUGHLIN
DATE: 4/8/08

APPROVED:
DATE: 7/8/08

COMMISSIONER OF ENGINEERING & CONSTRUCTION

FILE NO. CB 1 SHEET 7/7
MINIMUM WEIGHT OF FRAME — 400 POUNDS

DETAIL PLAN
STANDARD
MANHOLE FRAME
NEENAH # R-1729
EAST JORDON # 1700

"A"

GRIND OR CHIP THESE EDGES TO SMOOTH ROUND AND REGULAR CONDITION
NOTE: THIS SURFACE TO BE MACHINED SMOOTH.

MINOR TO BE MACHINED SMOOTH.
TAPELED SURFACE MATT BE SMASHED AND FREE FROM RUGGLEAINS.
THIS SURFACE TO BE SMOOTH MACHINED.

SECTION "B"— "B"

NOTE: THIS LUG TO BE BETWEEN TOP OF FRAME & TOP OF COVER SEAT ONLY AND SHALL BE CAST WITHOUT DRAFT.
OPTION: LUG MAY BE OMITTED WHEN TAPER IS MACHINE FINISHED

EXCEPT WHERE LIMITS ARE NOTED — A CASTING VARIATION OF 1/8" PER FOOT PERMITTED

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOWAHK WASHO—DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
PLAN FOR STANDARD MANHOLE
FRAME CAST IRON
NOT TO SCALE

REVISED BY: R. FLUZZING Date: 4/9/08
SUBMITTED BY: R. MCLAUGHAN Date: 4/9/08
APPROVED By: R. K. Date: 4/9/08
COMMISSIONER OF ENGINEERING & CONSTRUCTION

FILE NO. A-503
PLAN OF GRATE

PLAN OF INLET BASIN

SECTION 'C'-'C'

SECTION 'D'-'D'

SECTION 'E'-'E'

MINIMUM WEIGHT OF GRATE — 90 POUNDS
MINIMUM WEIGHT OF FRAME — 330 POUNDS

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOHANN WASSER—DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
DETAILED PLAN FOR SPECIAL
CAST IRON INLET BASIN
NOT TO SCALE
REVISED BY: R. PUSZKINAK  DATE: 8/7/98
SUBMITTED BY: W. WEILAND  DATE: 6/7/98
APPROVED  DATE: 7/2/98
COMMISSIONER OF ENGINEERING & CONSTRUCTION
FILE NO. CB 1

EAST JORDAN IRON WORKS
CATCH BASIN Curb Inlet # 7411
GRATE # 7411M
NOTE: ADJUSTING RING IS TO BE TACK WELDED TO THE FRAME BY AT LEAST TWO (2) POINTS OF AN APPROVED METHOD.

ADJUSTMENT RING

RIGHT OF WAY MONUMENT

ROADWAY MONUMENT ASSEMBLY

MONUMENT ASSEMBLY BLOCK OUT CONSTRUCTION JOINT 1/16" (3mm) LONG 1-1/4" (20mm) DIA. DOWELS (BY CONTRACTOR)

MONUMENT BOX (BY CONTRACTOR)

TYPICAL LONGITUDINAL JOINT

451 OR 452 CONC. PAINT A.P.P

TYPICAL BLOCK OUT IN RIGID PAVEMENT (LIMIT FOR FULL DEPTH FLEXIBLE PAVEMENT)
NOTES:
THIS DETAIL IS TO BE USED ONLY AT THE DIRECTION OF THE ENGINEER WITH CONSULTATION WITH THE DIVISION OF URBAN FORESTRY.
NOTE:
1 - 6" THICK SIDEWALK IN BUSINESS DISTRICTS
2 - CONTRACTOR SHALL OBTAIN APPROVAL FROM THE DIVISION OF URBAN FORESTRY FOR SPACING REQUIREMENTS AND TREE SPECIES.
3 -