

**CITY OF
GROVE CITY, OHIO**



**STANDARD
CONSTRUCTION
DRAWINGS**

Last Revised: February 2016

CONTENTS

<u>DESCRIPTION</u>	<u>NO. OF SHEETS</u>	<u>DRAWING NO.</u>	<u>DATE</u>
Type A Manhole	1	C-GC-1	February 2016
VOID Type B Manhole		C-GC-2	
Precast Concrete Manhole	2	C-GC-3	February 2016
Standard Catch Basin	2	C-GC-4	October 2015
Radius Gutter Inlet	1	C-GC-5	October 2015
Curb Inlet	1	C-GC-6	October 2015
VOID 42" Opening Curb Inlet		C-GC-7	
VOID 60" Opening Curb Inlet		C-GC-8	
Curb & Gutter Inlet	1	C-GC-9	October 2015
Inverted Crown Inlet	2	C-GC-10	October 2015
36" Manhole Frame & Cover Castings for Storm Sewers	1	C-GC-11	October 2015
24" Manhole Frame & Cover Castings for Storm Sewers	1	C-GC-12	October 2015
Cast Iron Frame & Grate for Curb & Gutter Inlet	1	C-GC-13	October 2015
Casting for Radius Curb Inlet	1	C-GC-14	October 2015
Frame & Grates for Inverted Crown Inlet	1	C-GC-15	October 2015
Cast Iron Frame for Radius Gutter Inlet	1	C-GC-16	October 2015
36" Casting for Grating Manhole Dd	1	C-GC-17	October 2015
24" Casting for Grating Manhole Dd	1	C-GC-18	October 2015
Frame and Grate for Ditch and Surface Inlet	1	C-GC-19	October 2015

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<u>DESCRIPTION</u>	<u>NO. OF SHEETS</u>	<u>DRAWING NO.</u>	<u>DATE</u>
Manhole Steps	1	C-GC-20	October 2015
VOID Typical Trench for Culvert and Storm Sewer		C-GC-21	
Typical Riser and Cleanout	1	C-GC-22	October 2015
Pipe Endwall	2	C-GC-23	October 2015
Pipe Headwall	2	C-GC-24	February 2016
Inside Drop & Outside Drop for Manholes	1	C-GC-25	October 2015
Typical Trench Sections with Type I Bedding	3	C-GC-26	October 2015
Typical Trench Sections with Type II Bedding	1	C-GC-27	October 2015
VOID Residential Roof and Basement Junction Box		C-GC-28	
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Service Connection for Existing Sanitary Sewer Pipe	1	C-GC-30	October 2015
Standard Fire Hydrant Detail	4	C-GC-31	February 2016
Fire Hydrant Location Detail	2	C-GC-32	October 2015
VOID 12" Pipe Inlet		C-GC-33	
Modified Height 24" Manhole Frame	1	C-GC-34	October 2015
VOID Street Lighting Pole Detail		C-GC-35	
VOID Luminaire Assembly		C-GC-36	
Typical Sanitary Service Connections, and Riser	2	C-GC-37	October 2015
VOID Typical Cleanout Detail		C-GC-38	
VOID Double Service Connection Detail		C-GC-39	
Typical Street Name Sign		C-GC-40	February 2016

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<u>DESCRIPTION</u>	<u>NO. OF SHEETS</u>	<u>DRAWING NO.</u>	<u>DATE</u>
VOID Driveway and Access Road Approaches		C-GC-41	
Residential Driveway Approach	1	C-GC-41A	October 2015
Standard Alley/Access Road Approach	1	C-GC-41B	October 2015
Commercial Driveway Approach	1	C-GC-42	October 2015
VOID Wheel Chair Ramp		C-GC-43	
Typical Wheel Chair Ramp Residential New Construction	2	C-GC-43A	October 2015
Typical Arterial Street Wheel Chair Ramp	2	C-GC-43B	October 2015
Typical Wheel Chair Ramp for Retrofit In Existing Residential Area	2	C-GC-43C	October 2015
ADA Curb Ramp Detectable Warning Surface	2	C-GC-43DW	February 2016
24" Manhole Frame & Cover Castings for Sanitary Sewers	1	C-GC-44	October 2015
VOID Mountable Curb Detail		C-GC-45	
Typical Sidewalk Detail	1	C-GC-46A	October 2015
Standard Drive with Sidewalk Adjacent to Curb on Public R/W	1	C-GC-46B	February 2016
VOID Commercial Drive w/Sidewalk Adjacent to Curb on Public R/W		C-GC-46C	
VOID Driveway & Access Road Approach w/Curb Adjacent to Sidewalk		C-GC-47	
VOID Typical Concrete Traffic Island		C-GC-48	
VOID Street Lighting Trench Detail		C-GC-49	
VOID Standard Pavement and Street Details		C-GC-50	
VOID Street Lighting Specifications		C-GC-51	

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<u>DESCRIPTION</u>	<u>NO. OF SHEETS</u>	<u>DRAWING NO.</u>	<u>DATE</u>
VOID Street Lighting Controller Detail		C-GC-52	
VOID Formerly Street Lighting Pole Base Detail		C-GC-53	
VOID Street Lighting Wiring Diagram		C-GC-54	
VOID Special 8" Widening Section with Integral Curb		C-GC-55	
VOID Concrete Median, Item 612		C-GC-56	
VOID Concrete Combined Curb & Gutter		C-GC-57	
Item 609: Standard Concrete Combined Curb & Gutter (Continuous)	1	C-GC-57A	October 2015
Item 609: Standard Concrete Combined Curb & Gutter (Removal & Replacement)	1	C-GC-57B	October 2015
Item 609: 30" Concrete Combined Curb & Gutter (Boulevard)	1	C-GC-57C	October 2015
Straight 18" Concrete Curb	1	C-GC-58	October 2015
Expansion Joint Detail at Curve Points	1	C-GC-59	October 2015
VOID Joint Excavations for Narrow Widths of Concrete Base		C-GC-60	
Residential/Local Street 32' Section with Concrete Combined Curb & Gutter	1	C-GC-61	October 2015
Collector Street 36' Section with Concrete Combined Curb & Gutter	1	C-GC-62	October 2015
Minor Arterial Street 44' Section with Concrete Combined Curb & Gutter	1	C-GC-63	October 2015
Principal Arterial Street 68' Section with Concrete Combined Curb & Gutter	1	C-GC-64	October 2015

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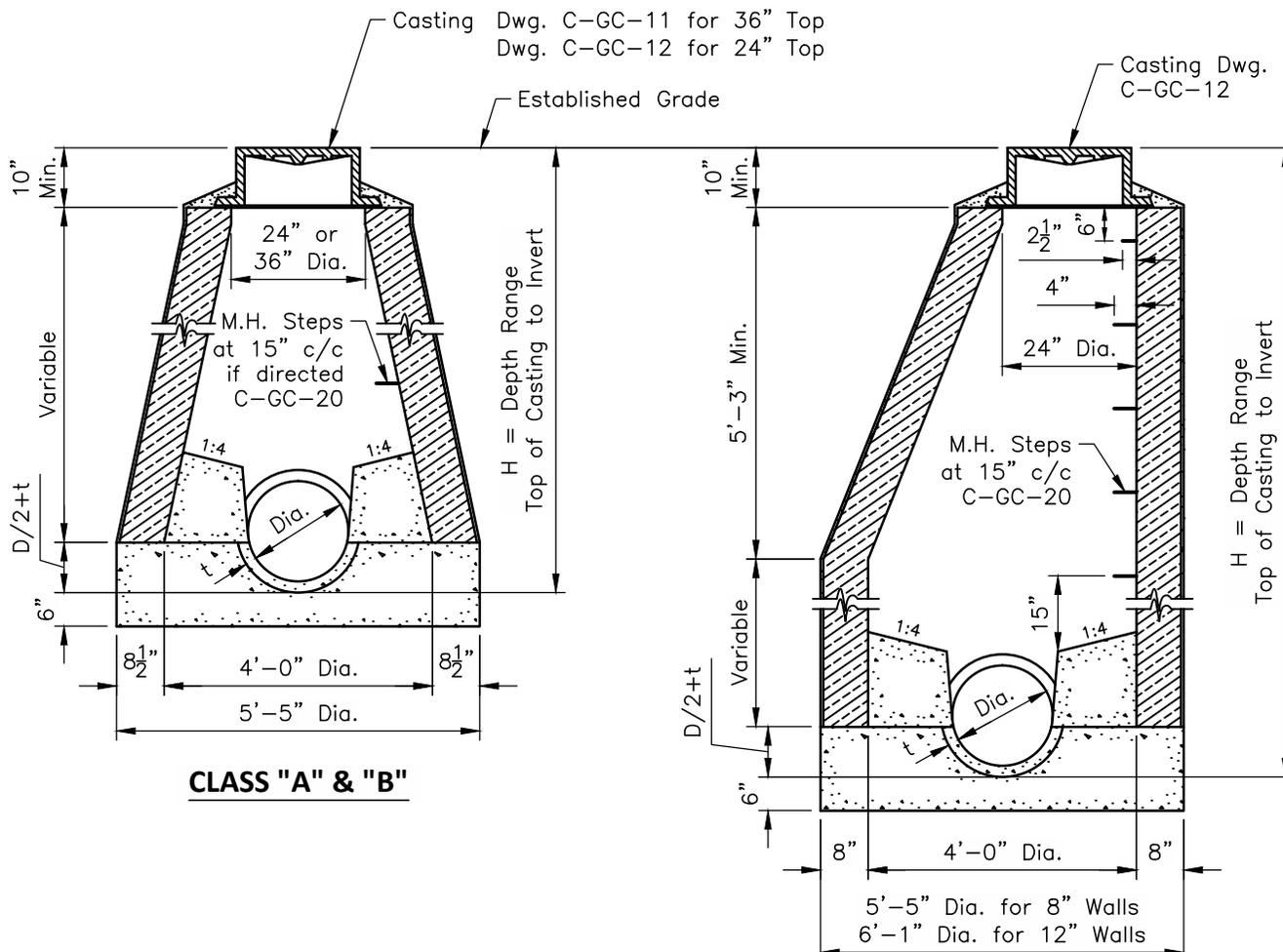
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VOID Primary Arterial Street Modified 58' Section with Concrete Curb/ Combined Curb & Gutter		C-GC-65	
Pavement Replacement for Arterial Streets	2	C-GC-66	October 2015
Pavement Replacement for Residential Streets	2	C-GC-67	October 2015
Pavement Replacement for Driveways	2	C-GC-68	February 2016
Pavement Replacement (Temporary)	1	C-GC-69	February 2016
VOID Block & Gravel Curb Inlet Sediment Filter Detail		C-GC-70	
Filter Fabric Inlet Protection	1	C-GC-70A	February 2016
VOID Block & Gravel Drop Inlet Sediment Filter Detail		C-GC-71	
The Dandy Bag or Equivalent	1	C-GC-71A	October 2015
VOID Gravel Curb Inlet Sediment Filter Detail		C-GC-72	
The Beaver Dam or Equivalent	1	C-GC-72A	October 2015
Straw Bale Barrier Detail	1	C-GC-73	February 2016
Aggregate Check Dam	1	C-GC-73A	October 2015
Linear Sediment Barriers Detail	3	C-GC-74	October 2015
VOID Straw Bale Drop Inlet Sediment Filter Detail		C-GC-75	
Stabilized Construction Entrance	1	C-CG-75A	October 2015
Culvert Stream Crossing	1	C-CG-75B	October 2015
VOID Sediment Dam & Sediment Basin Details		C-GC-76	
Temporary Riser Pipe	1	C-GC-76A	October 2015
Sediment Trap	1	C-GC-76B	February 2016

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<u>DESCRIPTION</u>	<u>NO. OF SHEETS</u>	<u>DRAWING NO.</u>	<u>DATE</u>
Diversión Channel	1	C-GC-76C	October 2015
Sediment & Erosion Control General Notes	2	C-GC-77	October 2015
Residential Underdrain Junction Box	1	C-GC-78A	October 2015
Residential Underdrain Junction Box (walk adjacent to curb)	1	C-GC-78B	February 2016
Residential/Local Cul-De-Sac 28" Section with Concrete Combined Curb & Gutter	1	C-GC-79	October 2015
Bike Path Pavement Detail	1	C-GC-80	October 2015
Bollard Installation	1	C-GC-81	October 2015
Remove Bollard Detail	2	C-GC-82	February 2016
Standard Bike Path Ramp	1	C-GC-83	October 2015
Cul-de-sac Joint Spacing Details	2	C-GC-84	February 2016
VOID Intersection Planning Detail		C-GC-85	
9" Concrete Valley Gutter	2	C-GC-86	February 2016
Retaining Wall Detail	1	C-GC-87	February 2016
Brick Paver Pavement/Crosswalk Detail	3	C-GC-88	February 2016
Speed Bump (Typical)	1	C-GC-89	October 2015
Pavement Design Specifications for Public Streets	2	C-GC-90	October 2015
Pavement Design Specifications for Private Streets	1	C-GC-90A	February 2016
Standard Alley Pavement Section	1	C-GC-91	October 2015
12" Drop-Out Curb (For Island & Median Applications Only)	1	C-GC-92	February 2016
Residential Brick Driveway Approach	1	C-GC-93	October 2015

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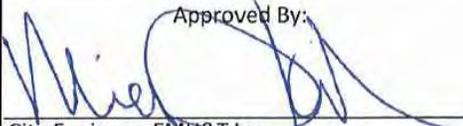
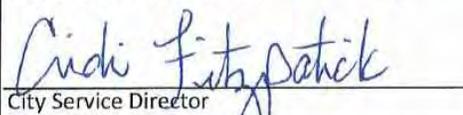
<u>DESCRIPTION</u>	<u>NO. OF SHEETS</u>	<u>DRAWING NO.</u>	<u>DATE</u>
Brick Sidewalk Specifications	3	C-GC-94	October 2015
Street Lighting Downtown Town Center Light Pole and Luminaire	1	C-GC-95A	February 2016
Street Lighting Post Top Light Pole with Lantern Style Luminaire	1	C-GC-95B	February 2016
Street Lighting Post Top Light Pole with Acorn Style Luminaire	1	C-GC-95C	February 2016
Street Lighting Teardrop Street Light Pole	1	C-GC-95D	February 2016
Street Lighting Davit Street Light Pole	1	C-GC-95E	February 2016
VOID Cobra Mast Arm Light Pole and Luminaires		C-GC-95F	
Reinforced Fence	4	C-GC-96	February 2016
Timber Pedestrian Fence	4	C-GC-97	February 2016
Pond Design Detail	3	C-GC-98	February 2016



DETAIL NOTES

1. All concrete shall be Class "C" per CMSC Item 499.
2. Below 15' depth, wall shall be 12" thick.
3. Brick shall be clay laid in 1:2 air entrained cement mortar.
4. Outside of brickwork shall be plastered with a 1/2" coat of lime-cement mortar and shall be neat and even in appearance with mortar completely filling all joints.
5. Class "A" manholes shall have 36" top castings and shall be beehived.
6. Class "B" manholes shall have 24" top castings and shall be beehived.
7. Class "C" manholes shall have 24" top castings and shall have one edge vertical.
8. Clay brick shall meet ASTM C216, Grade S.W. specification.

Diameter Class	DEPTH RANGE (H) – Top of Casting to Invert									
	8"	10"	12"	15"	18"	21"	24"	27"	30"	36"
"A"	2.4'–3.8'	2.5'–3.8'	2.6'–3.9'	2.8'–4.0'	2.8'–4.2'	3.0'–4.3'	3.1'–4.4'	3.3'–4.5'	3.3'–4.7'	3.6'–4.9'
"B"	3.8'–5.7'	3.8'–5.8'	3.9'–6.0'	4.0'–6.3'	4.2'–6.5'	4.3'–6.8'	4.4'–7.0'	4.5'–7.3'	4.7'–7.5'	4.9'–8.0'
"C"	5.7' & up	5.8' & up	6.0' & up	6.3' & up	6.5' & up	6.8' & up	7.0' & up	7.3' & up	7.5' & up	8.0' & up

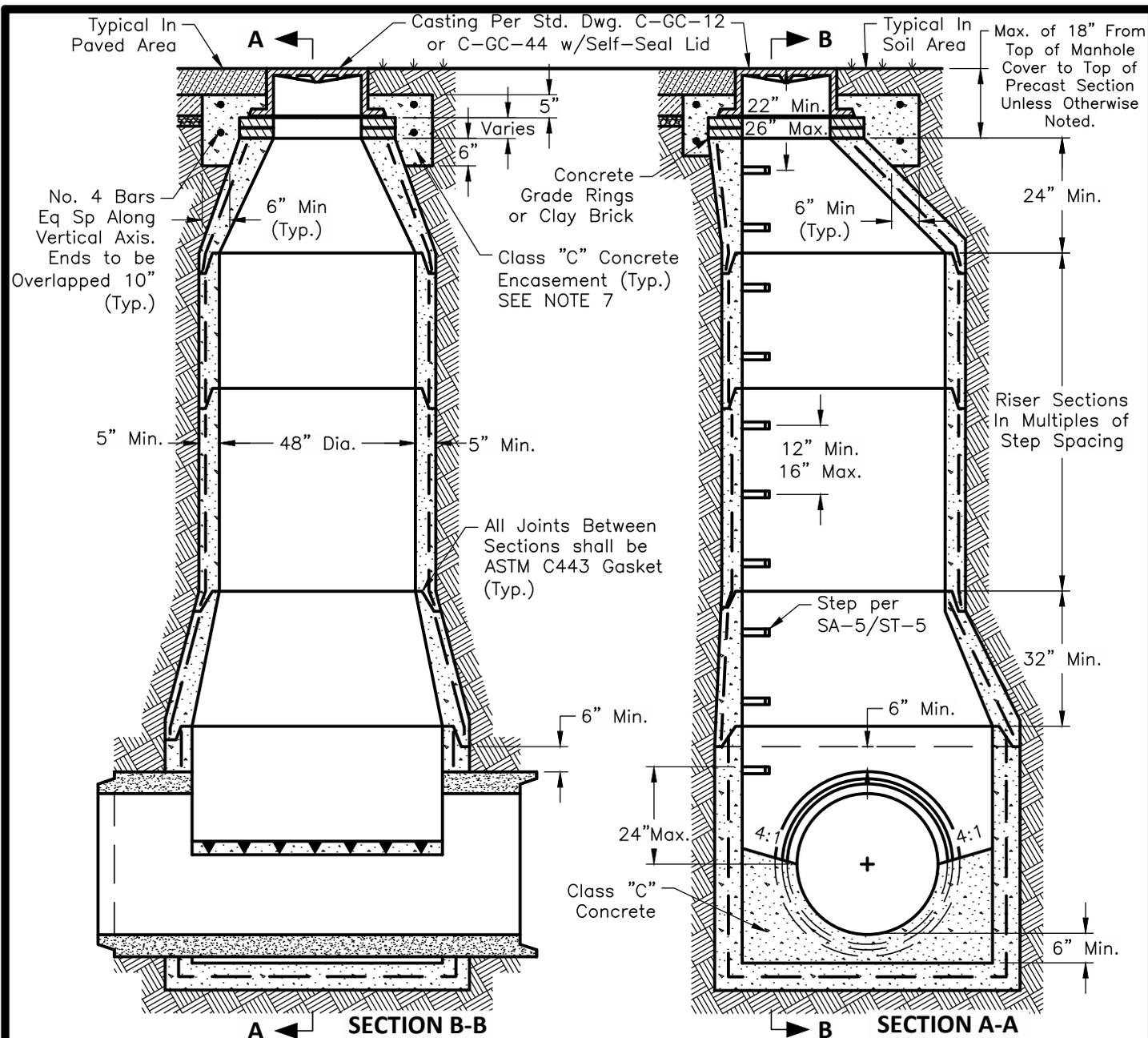
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
FOR
TYPE "A" MANHOLE

CITY OF GROVE CITY, OHIO

STANDARD
CONSTRUCTION DRAWING

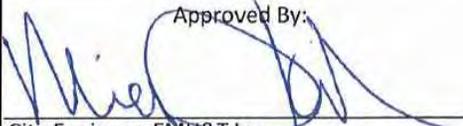
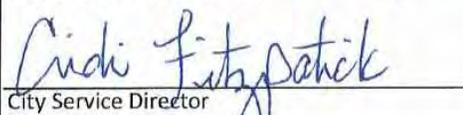
Revised	Drawing No.
Rev. February 2016	C-GC-1



DETAIL NOTES

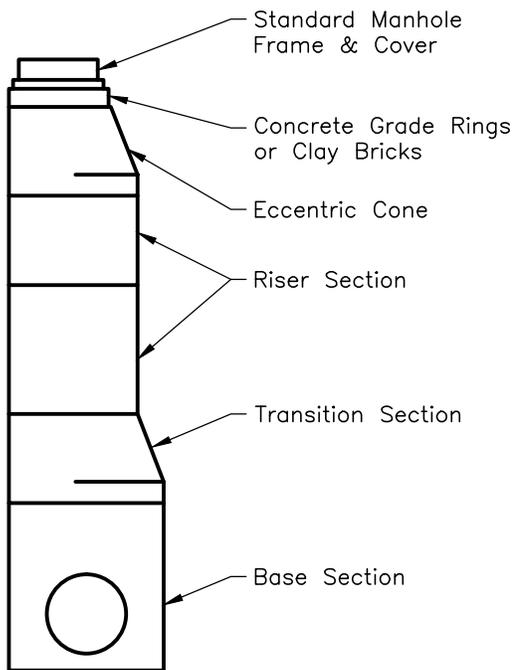
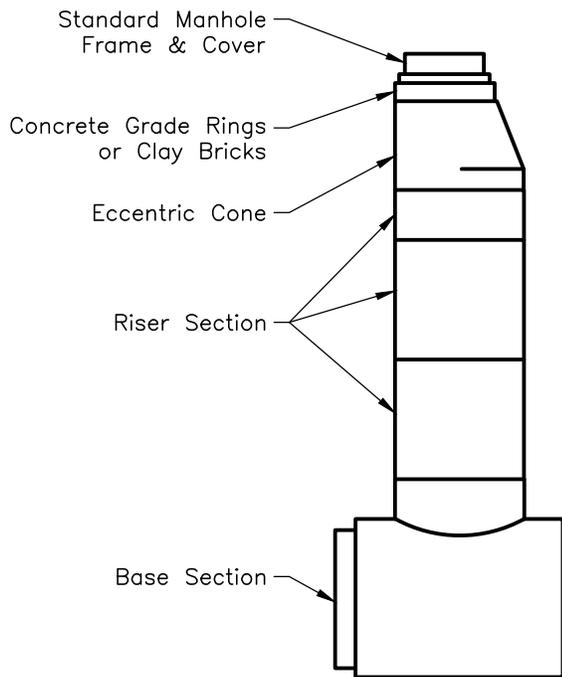
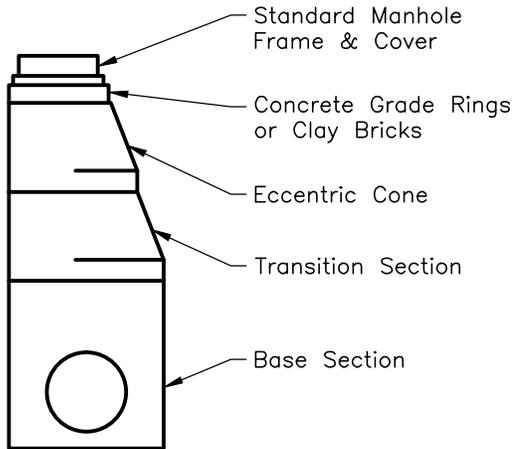
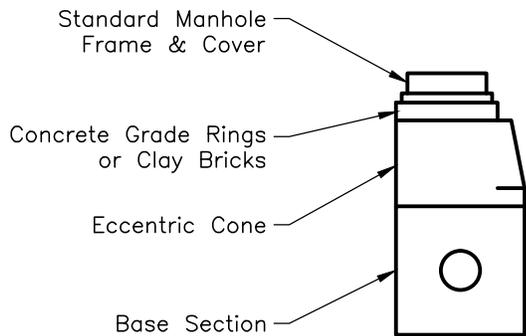
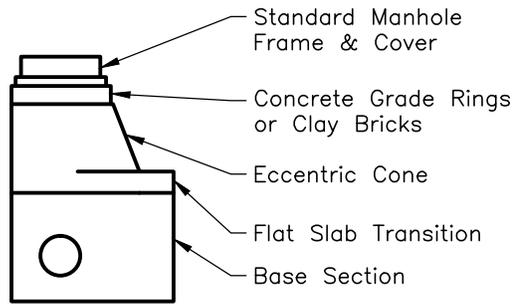
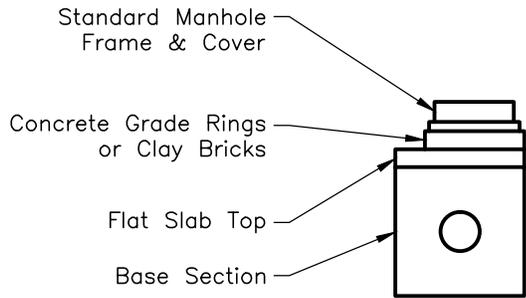
1. Joints and connections shall be per Columbus CMS Item 604.06.
2. Manholes shall be in accordance with ASTM C-478.
3. Precast walls shall have a Min. thickness of 5-in and be sufficiently reinforced to permit shipping and handling without damage.
4. A smooth Class "C" concrete channel shall be installed between pipe entrance and exit.
5. See table for manhole base diameter.
6. Manholes must be set on foundation of crushed No. 57 limestone, 6-in Min. thickness.
7. Only sanitary manholes shall require a concrete collar, unless otherwise specified.

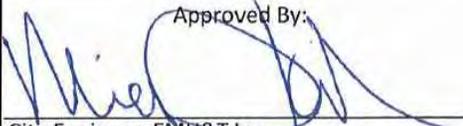
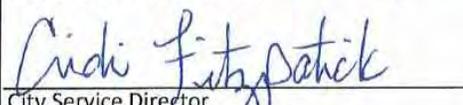
MANHOLE BASE I.D. (INCHES)	MAXIMUM PIPE O.D.	
	STRAIGHT PIPE (INCHES)	RIGHT ANGLE (INCHES)
48	31	25
60	42	32
72	51	38
84	-	44
96	-	50

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS FOR
PRECAST CONCRETE MANHOLE

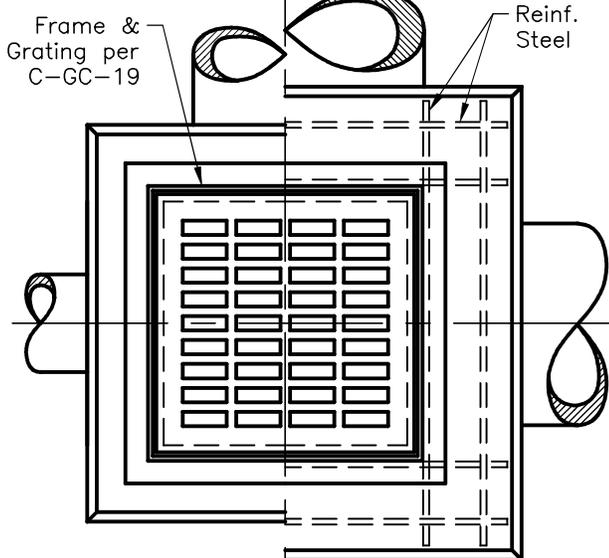
CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised February 2016
 Drawing No. 1/2
 C-GC-3



Approved By:

 City Engineer, EMH&T Inc

 City Service Director

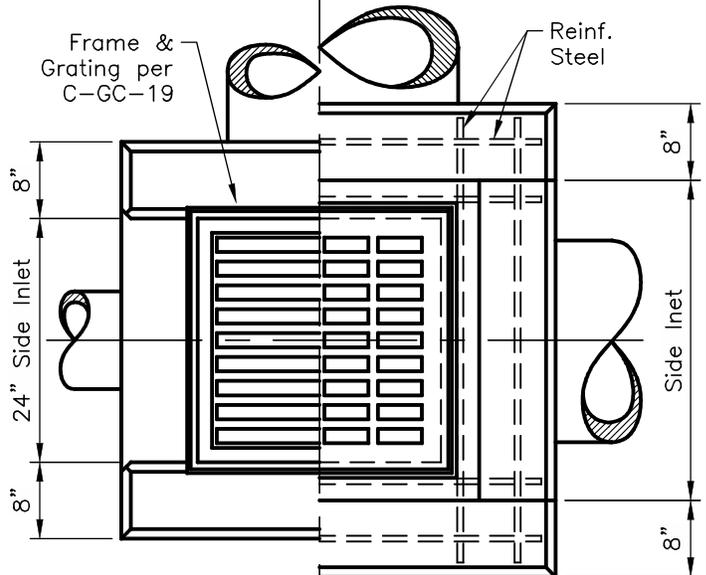
STANDARD DIMENSIONS
 FOR
**PRECAST
 CONCRETE
 MANHOLE**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	2/2	C-GC-3



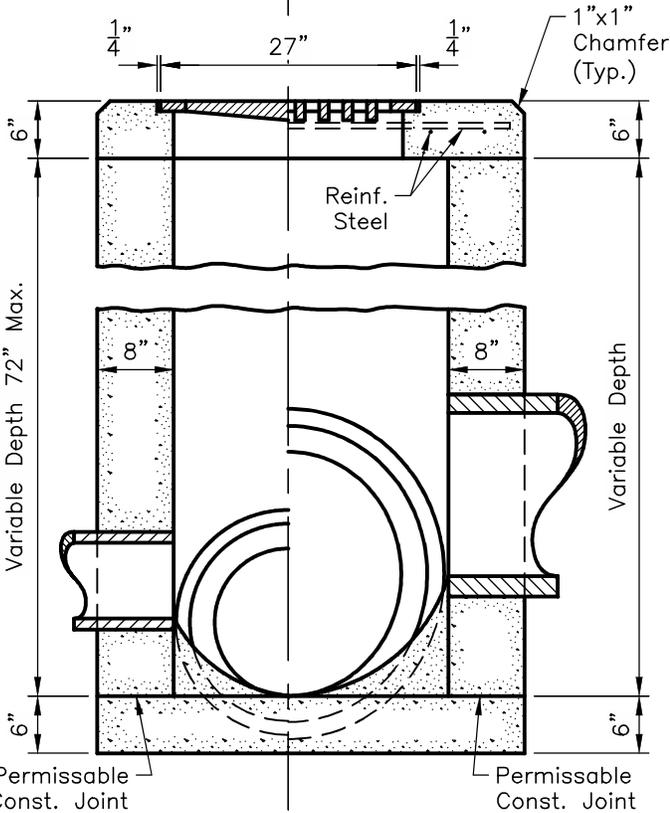
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Half 3x3 & 4x4



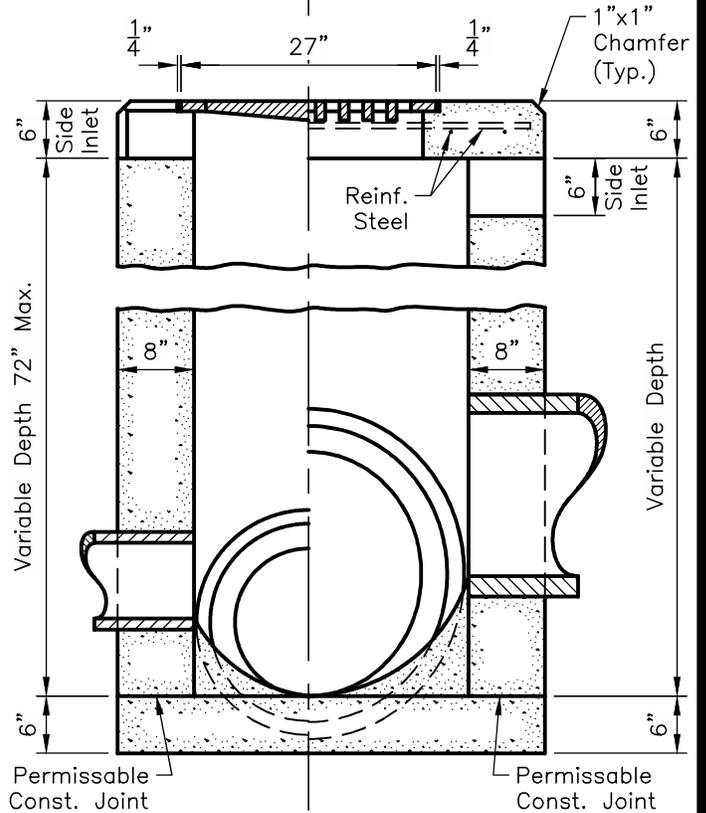
**Half 2x2
with Side Inlets**

**Half 3x3 & 4x4
with Side Inlets**



Half 2x2

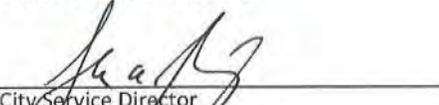
Half 3x3 & 4x4



**Half 2x2
with Side Inlets**

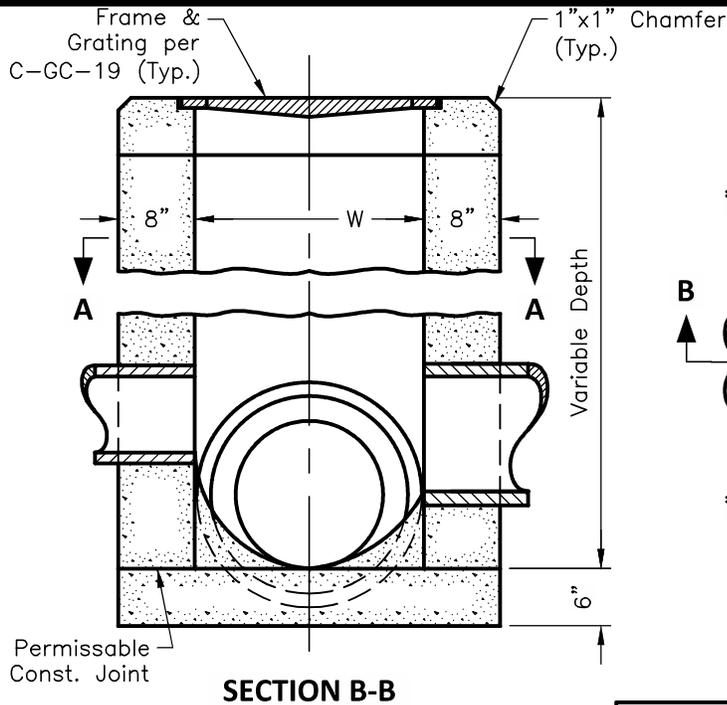
**Half 3x3 & 4x4
with Side Inlets**

Approved By:

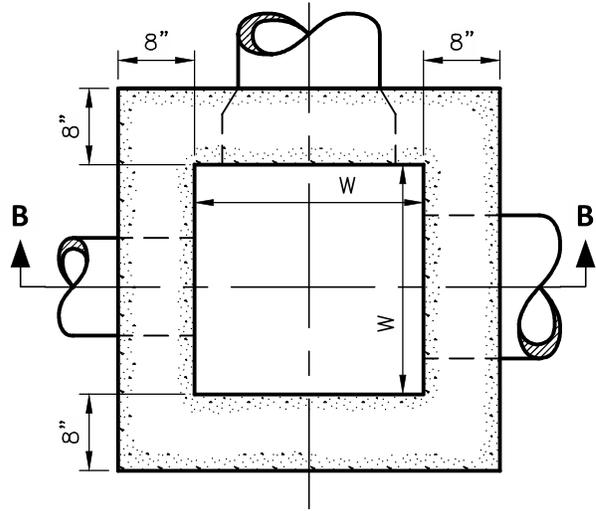
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
STANDARD CATCH BASIN

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	1/2	C-GC-4



SECTION B-B



SECTION A-A

MAX. PIPE SIZE	
W	PIPE SIZE
2x2	12"–18"
3x3	21"–30"
4x4	33"–42"

SLAB REINFORCEMENT	
W	No. 4 Bars 6" Center/Center
3x3	8 Bars 2'–8" Long
4x4	12 Bars 3'–8" Long

DETAIL NOTES

1. WALLS: Cast-in-place units have a nominal thickness of 8-in and minimum thickness of 6-in. Precast walls shall have a minimum thickness of 6-in and be reinforced sufficiently to permit shipping and handling without damage. Precast tops shall have a minimum 6-in thickness.
2. CONCRETE: Cast-in-place concrete is to be Columbus Class "C". Precast concrete shall meet requirements of Columbus CMS Item 706.13 and be marked with catch basin number.
3. PRECAST BASE: If a precast base is used it shall be placed deep enough so that the top 6-in can be adjusted to provide the grate elevation specified in plans or to allow positive drainage.
4. MINIMUM DEPTH: Minimum depth shall be the outside diameter (O.D.) of the outlet pipe plus 4-in.
5. STEPS: Steps shall be provided where depth exceeds 4-ft and shall meet requirements of C-GC-20.
6. INLETS OVER 12-ft DEPTH: Precast or cast-in-place shall be reinforced with No. 4 bars on 12-in centers vertically & 6-in centers horizontally. Bars shall have 2-in clearance from inside wall face.
7. REINFORCEMENT: Top reinforcing bars shall be No. 4 Bars on 6-in centers. (see Slab Reinforcement Chart).
8. Flowline of a pipe discharging water into a catch basin shall be arranged whenever possible to have the top of such pipe to be at least as high as the top of the outlet pipe.

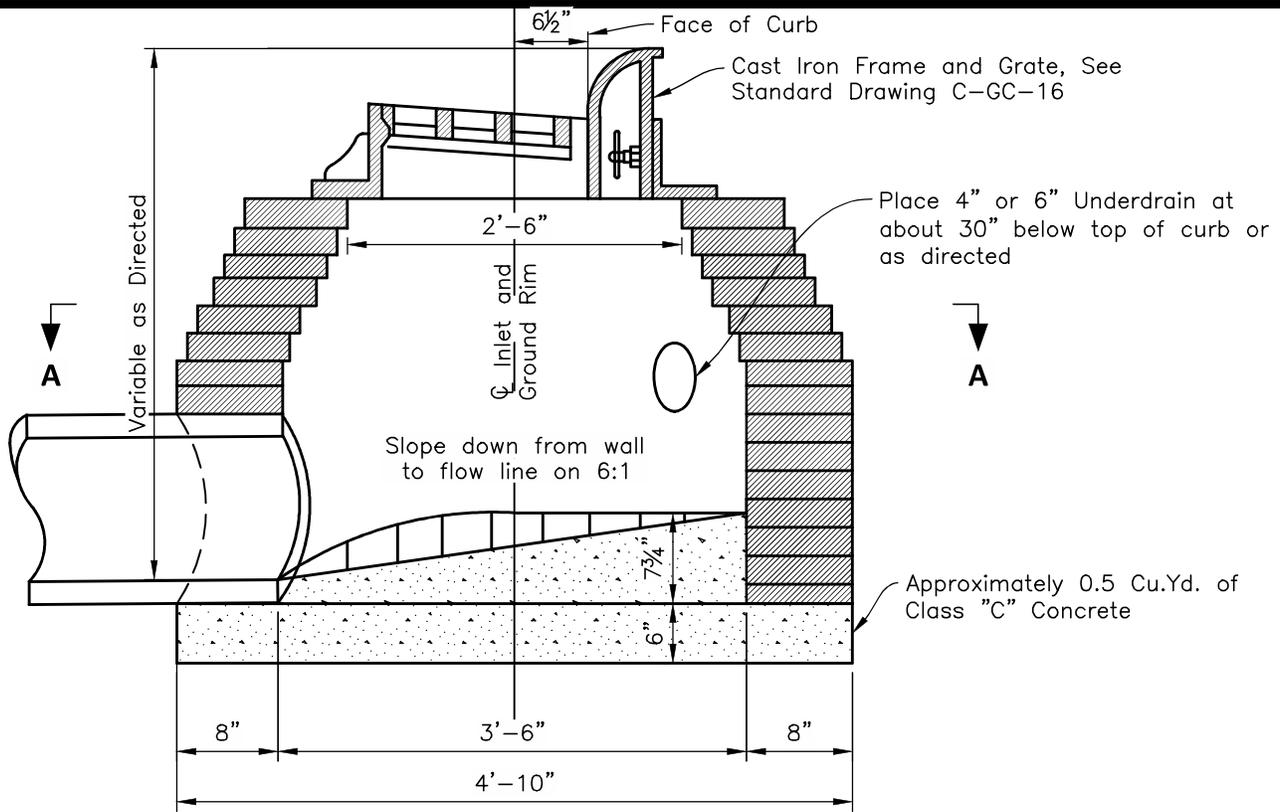
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

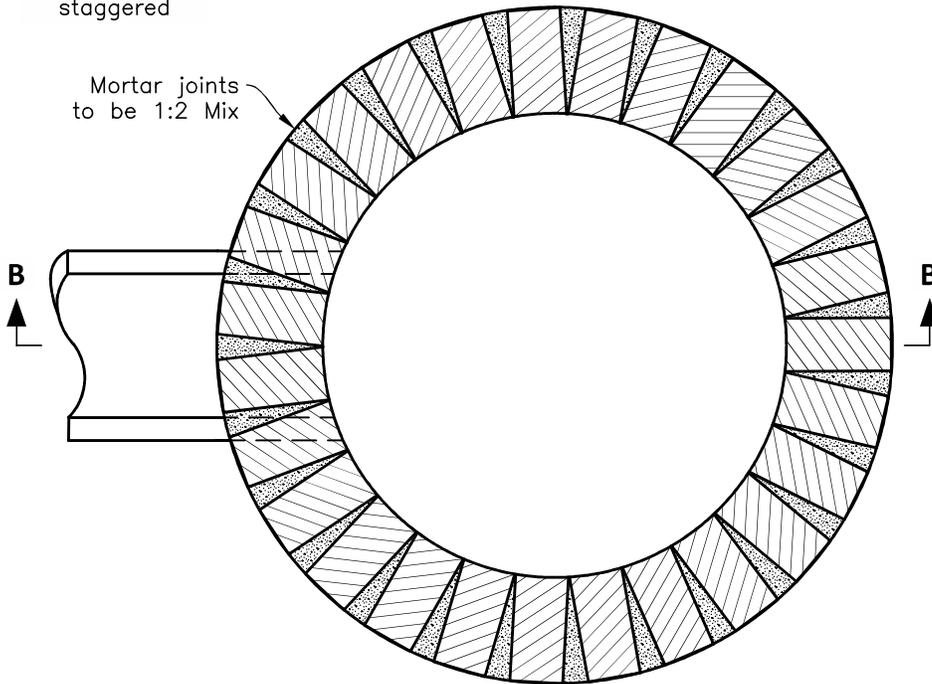
STANDARD DIMENSIONS
 FOR
STANDARD CATCH BASIN

CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised: October 2015
 Sheet: 2/2
 Drawing No.: C-GC-4



SECTION B-B

All joints to be staggered

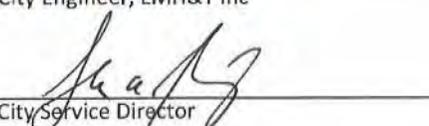


SECTION A-A

DETAIL NOTES

1. Radius Gutter Inlet shall be placed at sump locations only and set so that the grate flowline is 2 inches below the normal gutter elev. Slope gutter to Inlet within 4 feet of grate.
2. Pipes draining into inlet shall be placed 2-in above elevation of outlet pipe.
3. Maximum size of pipe to be used with inlet will be 24-in.
4. Inlets shall be built of brick (per ASTM C216, Grade S.W.), cast in place concrete, or pre-cast concrete.
5. Pre-cast walls shall have a min. thickness of 5-in and be sufficiently reinforced to permit shipping and handling without damage.
6. Precast inlets shall be in accordance with ASTM C913.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

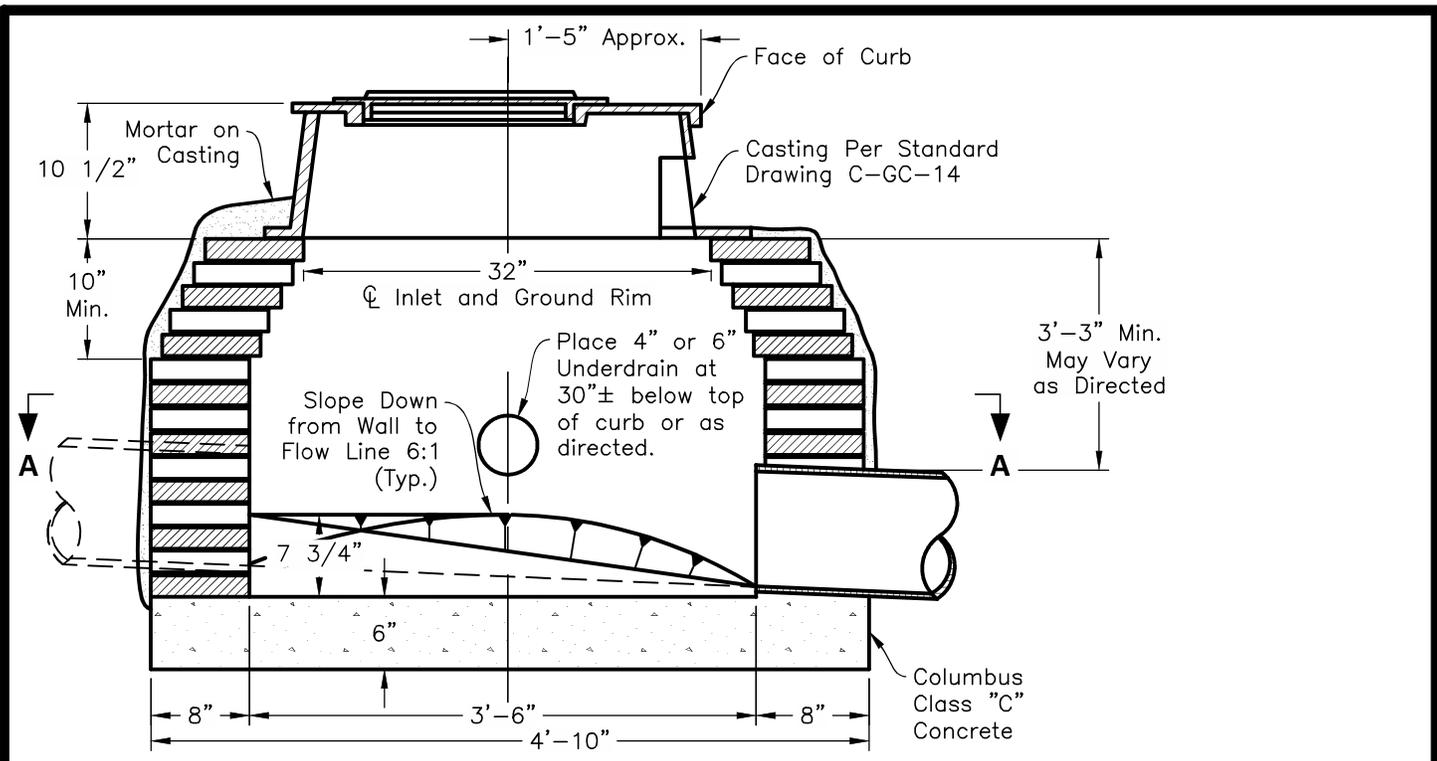
STANDARD DIMENSIONS
 FOR
**RADIUS
 GUTTER INLET**

**CITY OF
 GROVE CITY, OHIO**

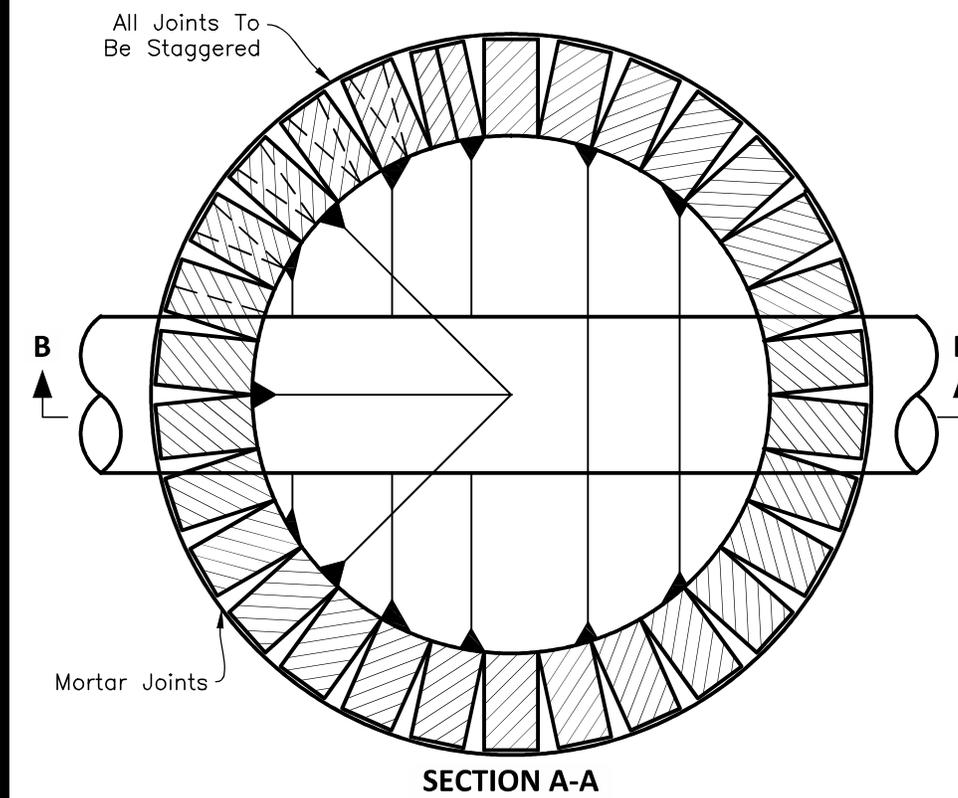
STANDARD
 CONSTRUCTION DRAWING

Revised
 October 2015

Drawing No.
C-GC-5



SECTION B-B



SECTION A-A

DETAIL NOTES

1. Pipes draining into inlet shall be placed 2-in above elevation of outlet pipe.
2. Maximum size of pipe to be used with inlet will be 24-in.
3. Outlet pipe to be placed at front or back of inlet.
4. Inlets shall be built of brick (per ASTM C216, Grade S.W.), cast in place concrete, or pre-cast concrete.
5. Pre-cast walls shall have a min. thickness of 5-in and be sufficiently reinforced to permit shipping and handling without damage.
6. Precast inlets shall be in accordance with ASTM C913.

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

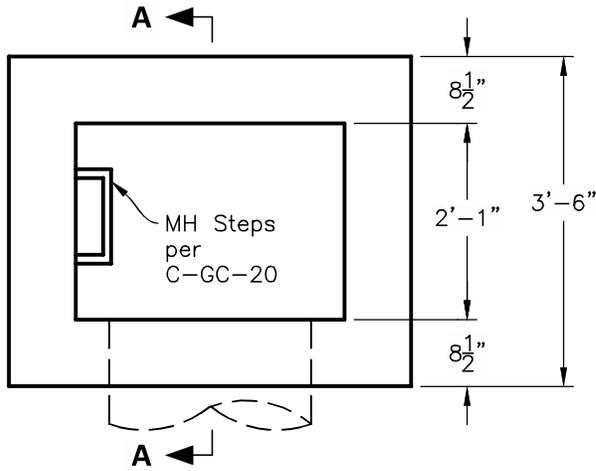
City Service Director

STANDARD DIMENSIONS
FOR
CURB INLET

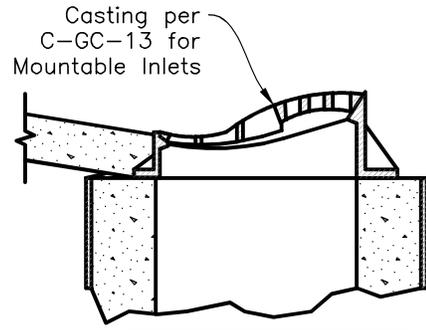
CITY OF GROVE CITY, OHIO

STANDARD CONSTRUCTION DRAWING

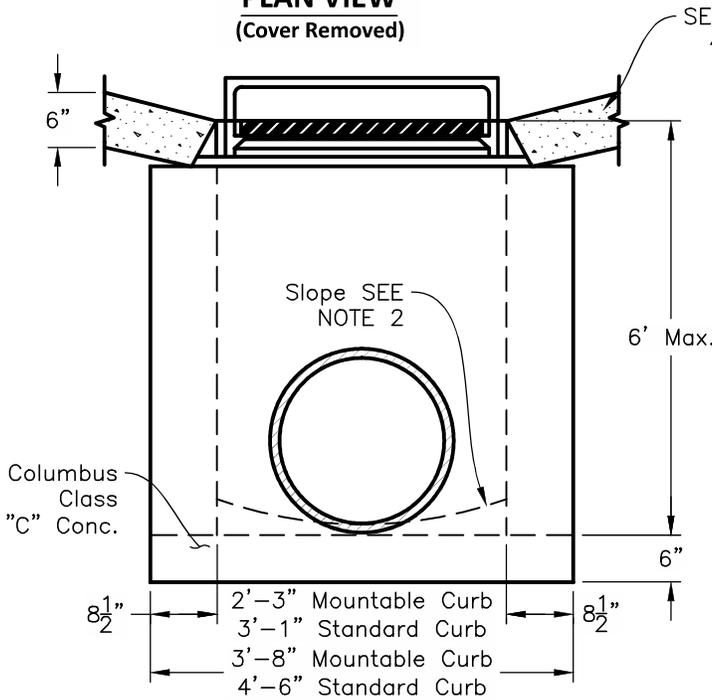
Revised		Drawing No.
October 2015		C-GC-6



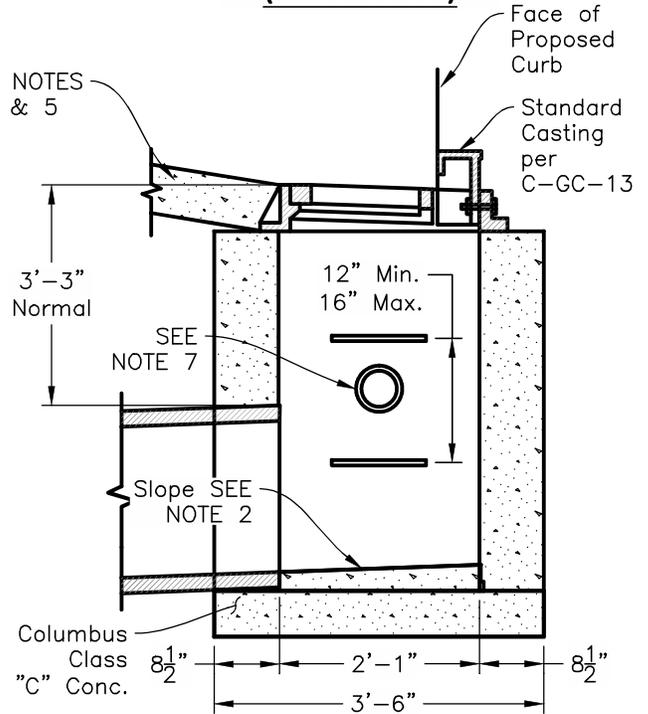
PLAN VIEW
(Cover Removed)



MOUNTABLE INLET
(SEE NOTE #9)



ELEVATION

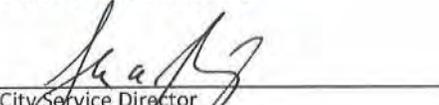


SECTION A-A

DETAIL NOTES

1. Precast walls shall have a Min. 6-in thickness, and be sufficiently reinforced for shipping and handling. All concrete shall be Columbus Class "C" per Columbus CMS Item 499.
2. The inlet bottom shall be shaped to provide a minimum slope of 2-in to outlet pipe. The cross sectional form and longitudinal slope shall be adapted to location of outlet pipe as directed.
3. Outlet pipe may be located in front or back and shall be directed towards center of inlet.
4. The existing gutter within the area around inlet where cut out, shall be replaced with Columbus Class "C" concrete or asphalt concrete paving as ordered.
5. Backfilling within proposed paved areas shall be in accordance with Grove City Type A backfill or as directed by the City.
6. Structures shall be cast in place concrete, Columbus Class "C", or precast concrete.
7. Place 4-in or 6-in curb drain stubs 30-in below top of curb or as directed.
8. Maximum pipe diameters are 18-in into side walls and 24-in into front or backwalls.
9. Unless an exception is granted by the City, mountable curb is not approved for use in Grove City. This detail is provided for repairs or modifications in areas where mountable curb currently exists.

Approved By:

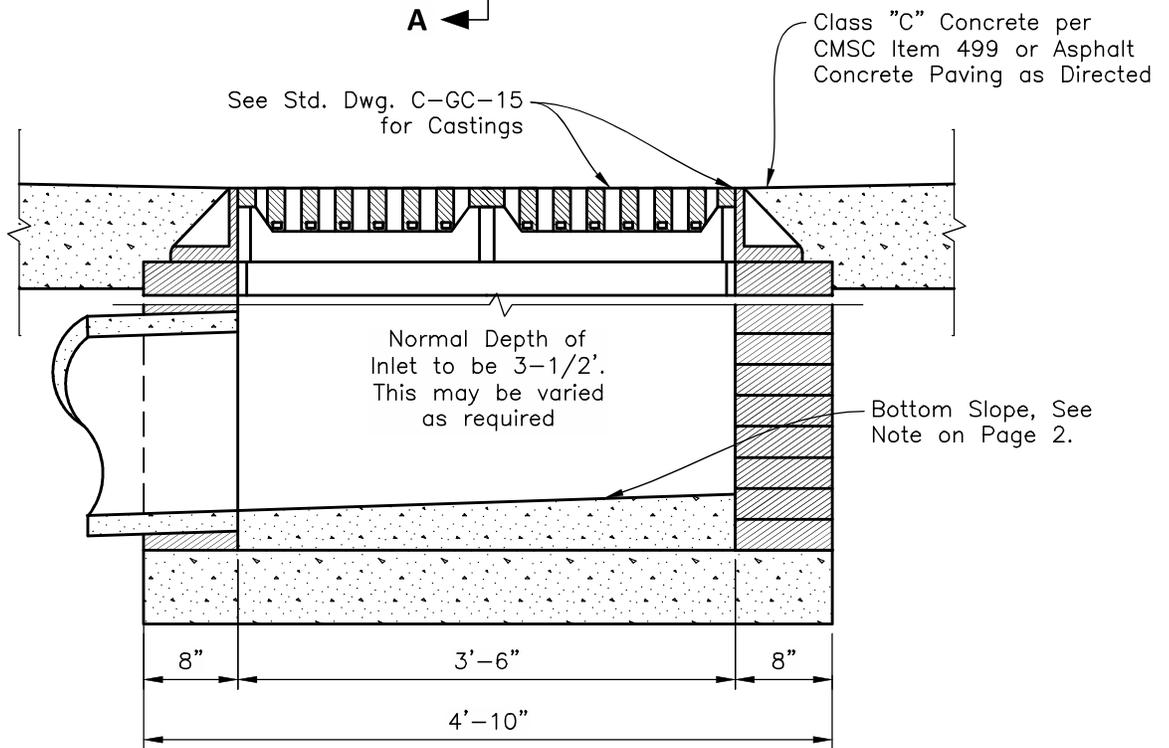
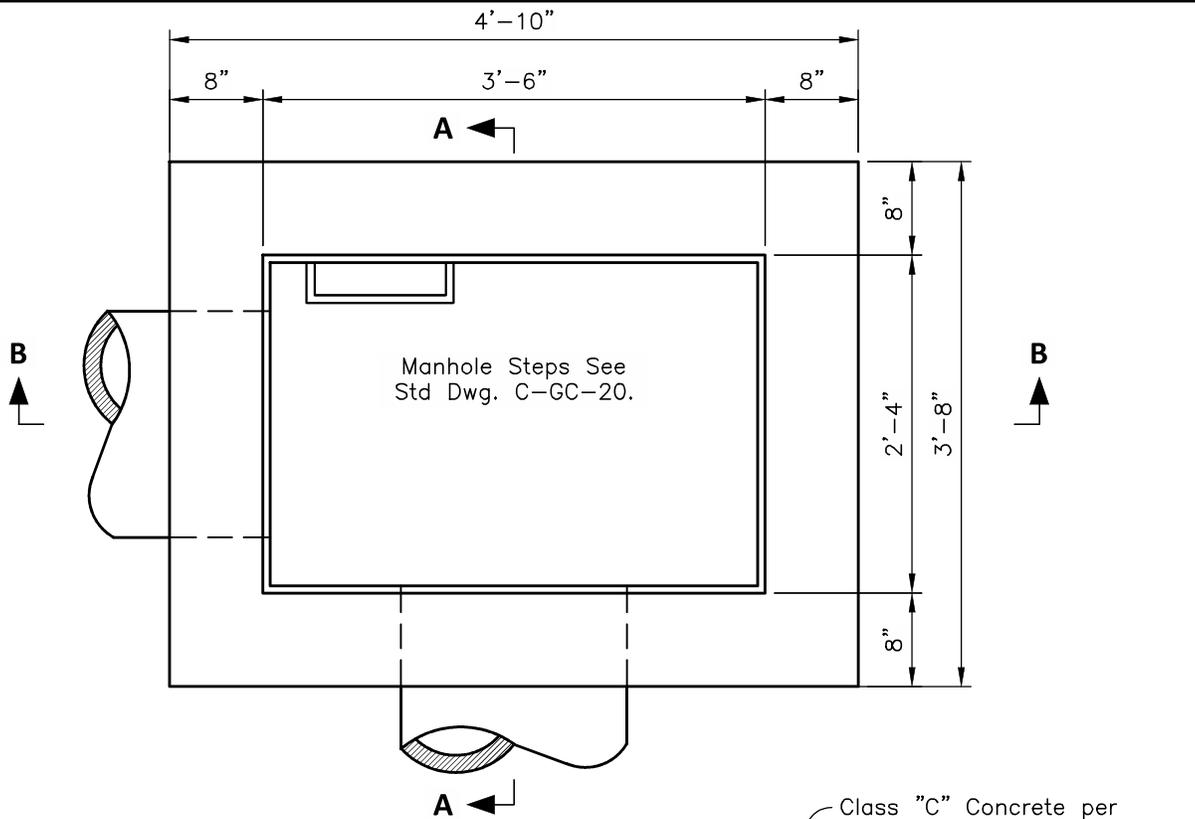
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
CURB & GUTTER INLET

CITY OF GROVE CITY, OHIO

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-9



SECTION B-B

Approved By:

[Signature]

City Engineer, EMH&T Inc

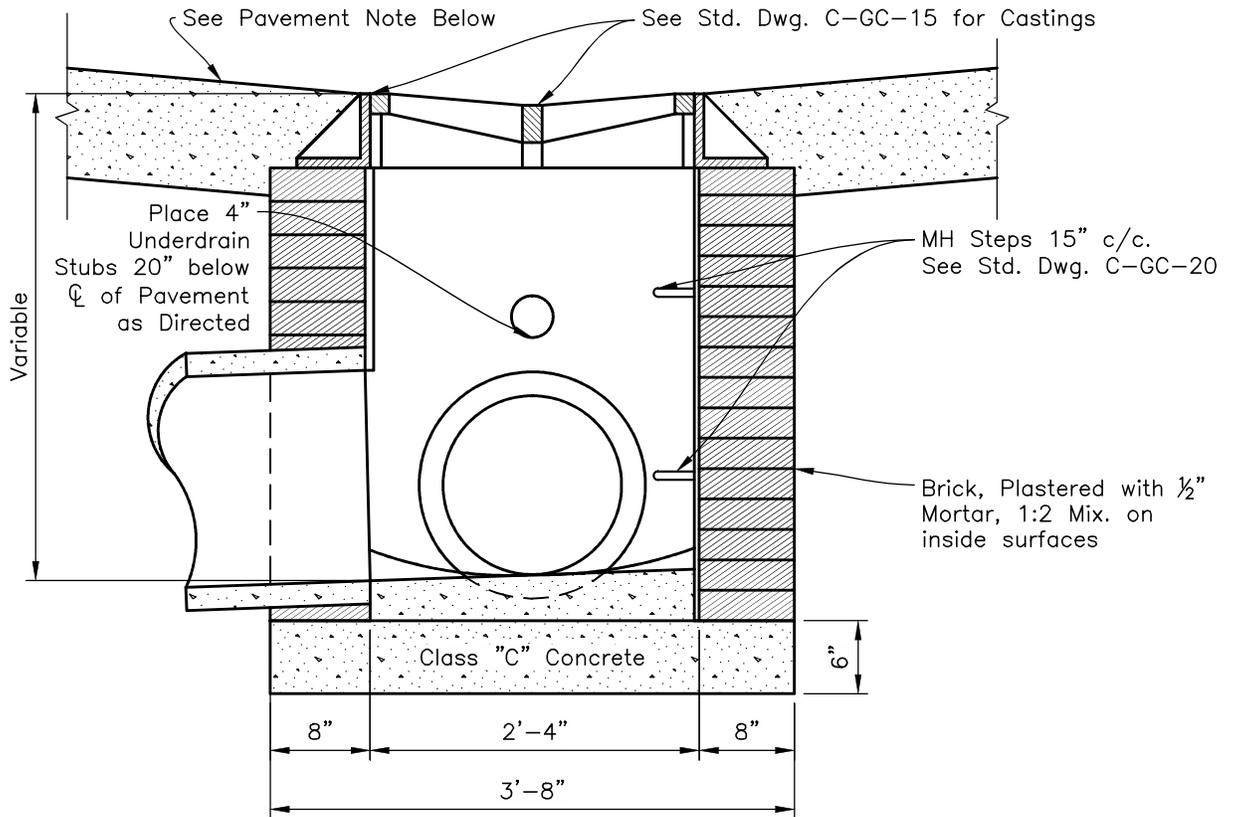
[Signature]

City Service Director

STANDARD DIMENSIONS FOR

INVERTED CROWN INLET

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	1/2	C-GC-10



SECTION A-A

The inlet bottom shall be shaped to provide a slope of 3" to 4" to the outlet pipe. The cross sectional form of the bottom and longitudinal slope is to be adapted to the location of the outlet pipe as directed.

Outlet pipe may be located in end corners or side wall. In either case the outlet pipe shall be directed towards the center of the inlet.

The existing pavement within an area approximately 4 feet outside the inlet opening or as otherwise ordered shall be cut out so that repaving may be shaped to meet the lip of the inlet opening as directed.

The existing pavement, where cut out for reshaping, shall be replaced with class "C" Concrete or asphaltic concrete paving as ordered.

The backfilling within proposed paved areas shall be well tamped in layers not exceeding 4" in thickness, loose measurement, or backfilled with an approved material.

Precast concrete structure is allowable. Precast concrete shall meet the requirements of Columbus CMS Item 706.13 and marked with the inlet structure number.

Clay brick shall meet ASTM C-216, Grade S.W. Specification. Brick shall be clay, laid in 1:2 air entrained cement mortar.

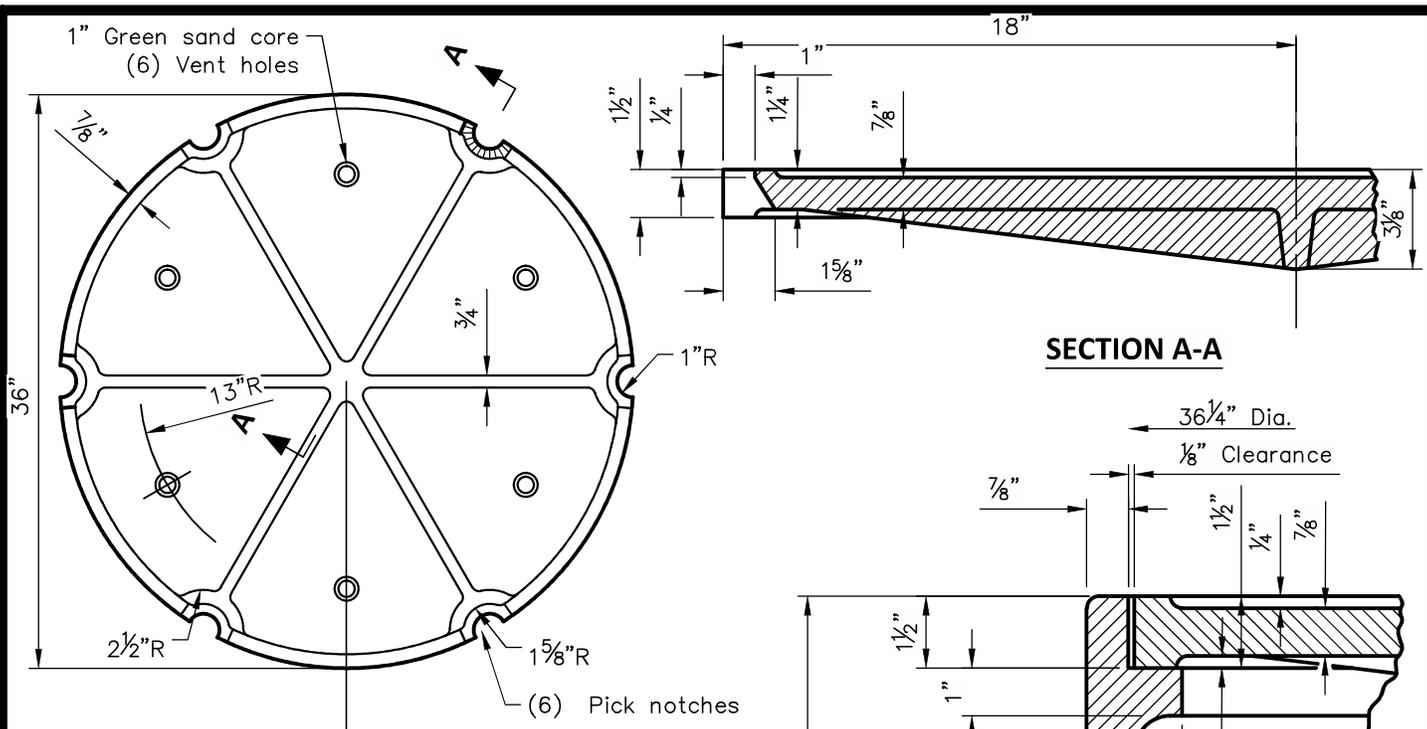
Approved By:

 City Engineer, EMH&T Inc

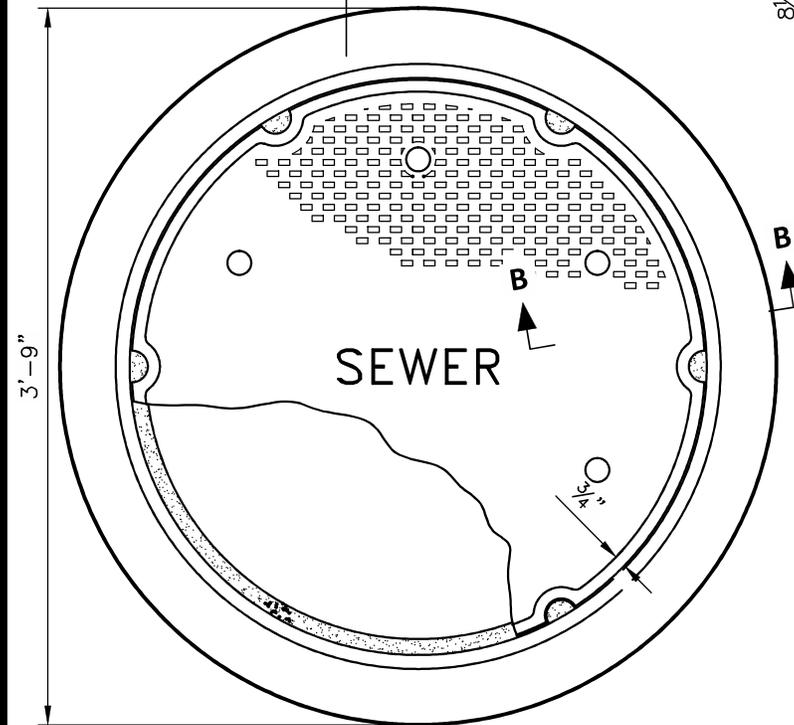
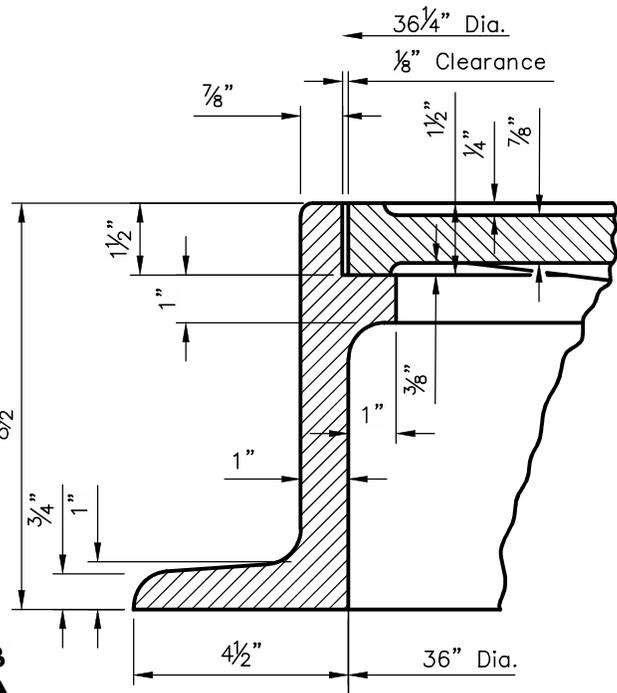
 City Service Director

STANDARD DIMENSIONS
 FOR
**INVERTED
 CROWN INLET**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	2/2	C-GC-10



BOTTOM VIEW OF COVER



TOP VIEW OF ASSEMBLY

DETAIL NOTES:

Material shall be first quality soft gray cast iron. The top surface shall have an approved type of non-skid tread.

Cover weight (Approx.) = 315 lbs.
Frame weight (Approx.) = 485 lbs.

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

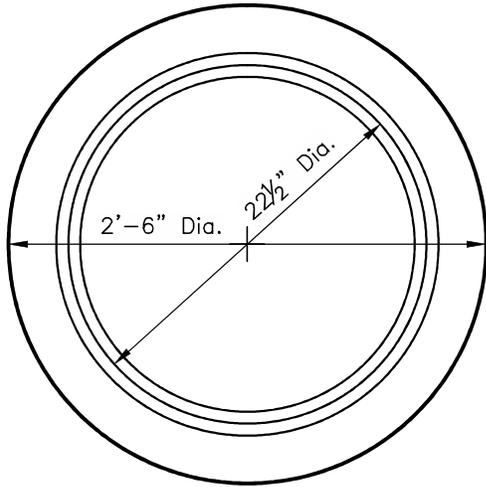
STANDARD DIMENSIONS
FOR

**36" MANHOLE FRAME
& COVER CASTINGS
FOR STORM SEWERS**

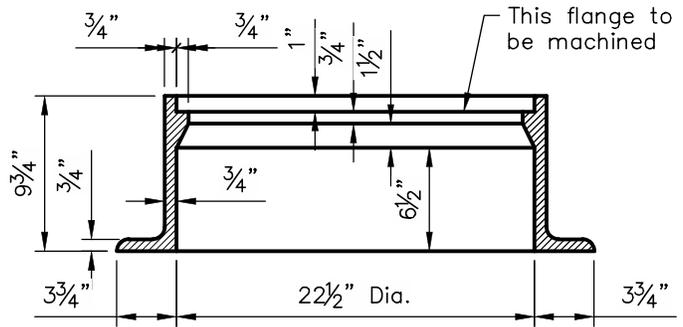
**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-11

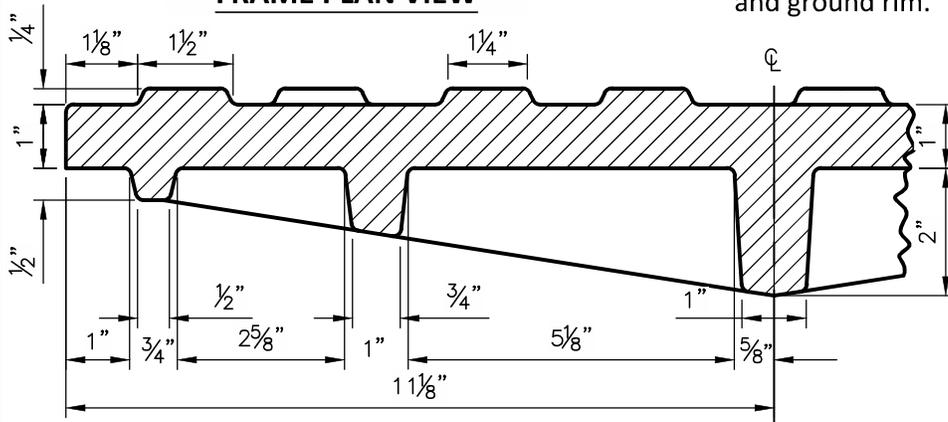


FRAME PLAN VIEW

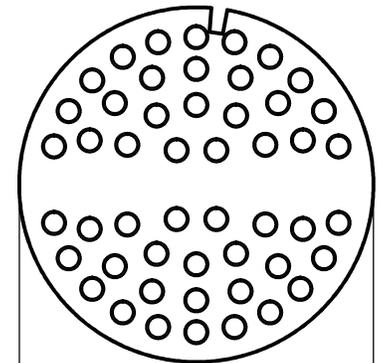


FRAME SECTION

Foundry name shall be cast on the underneath or unexposed surface of both lid and ground rim.

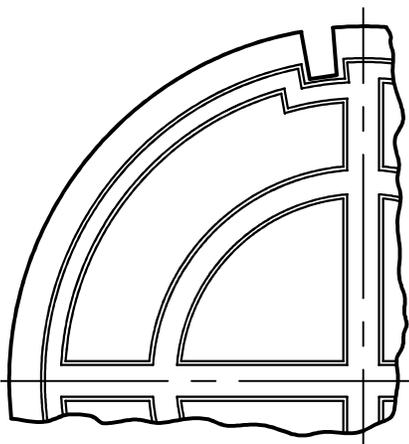


SECTION A-A

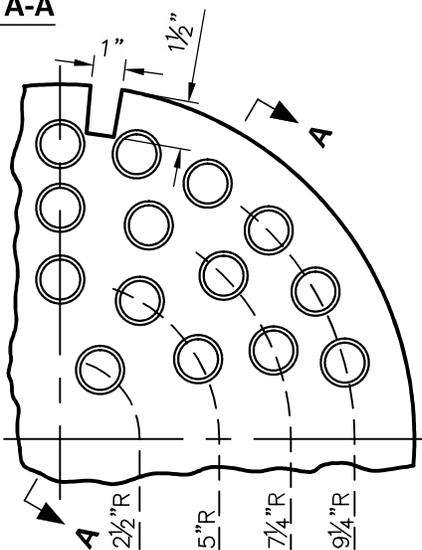


TOP OF LID

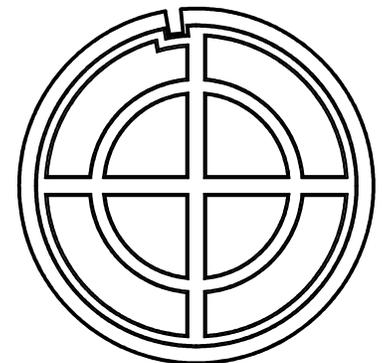
22 1/4" Dia.



BOTTOM



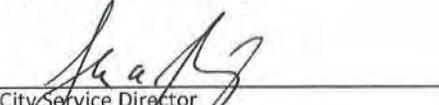
TOP



BOTTOM OF LID

1/4 LID

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

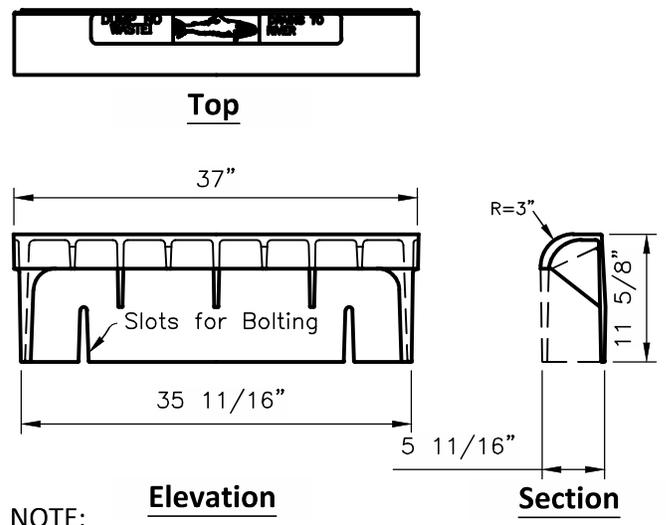
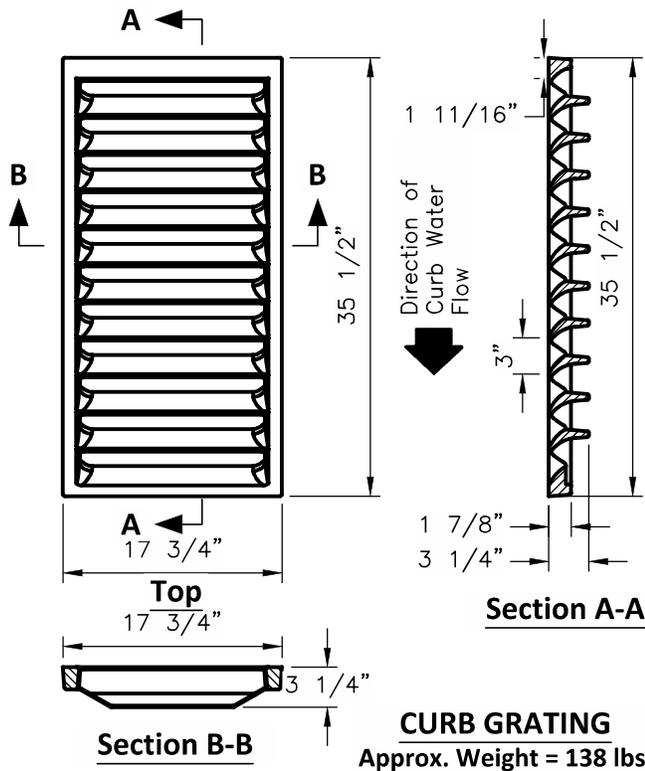
STANDARD DIMENSIONS
 FOR
**24" MANHOLE FRAME
 & COVER CASTINGS
 FOR STORM SEWERS**

**CITY OF
 GROVE CITY, OHIO**

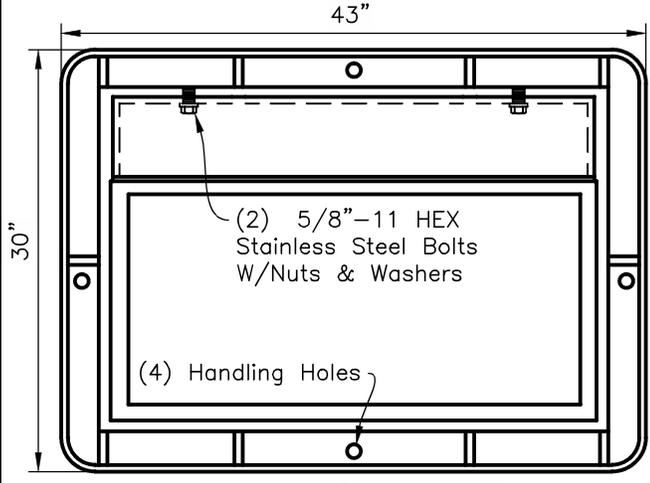
STANDARD
 CONSTRUCTION DRAWING

Revised
 October 2015

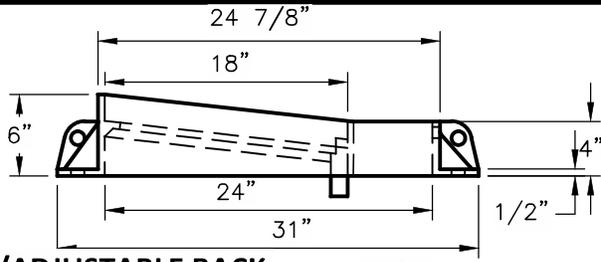
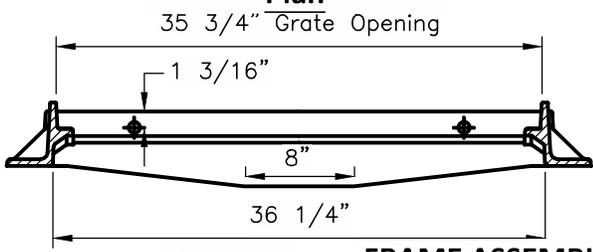
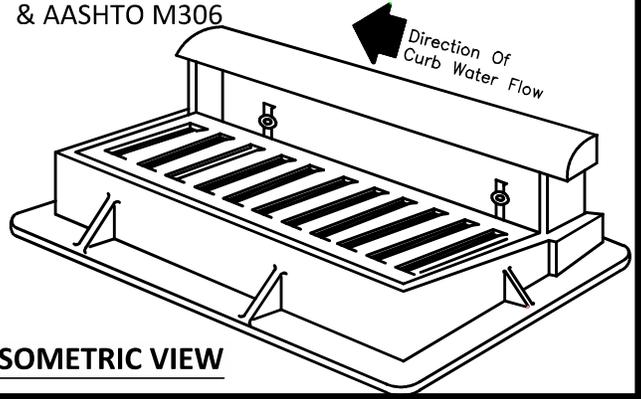
Drawing No.
 C-GC-12



NOTE:
 1. CURB ADJUSTMENT 6" TO 11".
 2. "DUMP NO WASTE, DRAINS TO RIVER"
 SHALL BE CAST INTO ALL CASTINGS.



NOTE:
 1. FRAMES, GRATES AND COVERS, SHALL MEET REQUIREMENTS OF COLUMBUS CMS ITEM 604.02 & AASHTO M306



FRAME ASSEMBLY W/ADJUSTABLE BACK
 Approx. Weight = 198 lbs. (Frame Only)

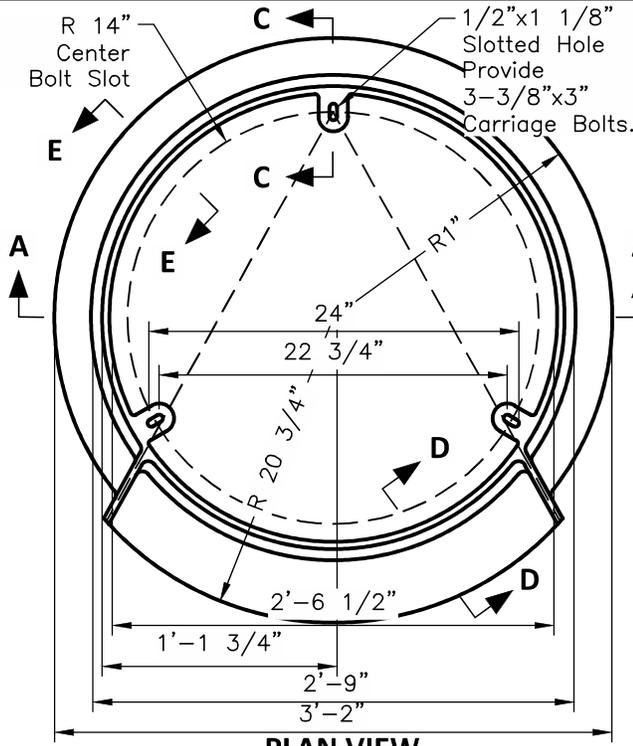
Approved By:

 City Engineer, EMH&T Inc

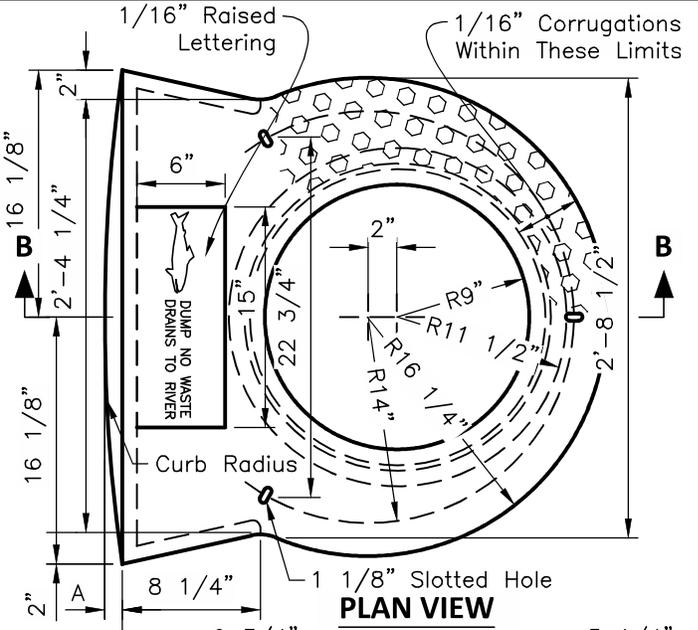
 City Service Director

STANDARD DIMENSIONS FOR
CAST IRON FRAME AND GRATE FOR CURB AND GUTTER INLET

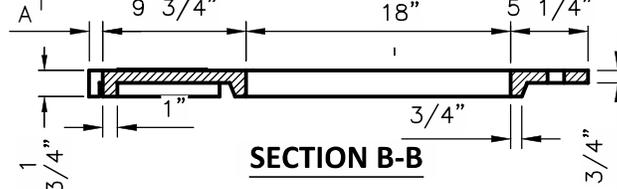
CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised October 2015
 Drawing No. C-GC-13



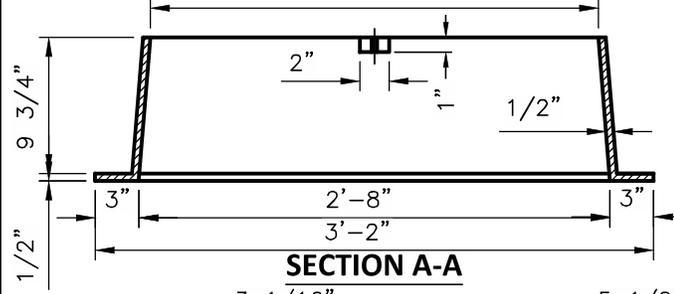
PLAN VIEW
2'-6 1/2"



PLAN VIEW



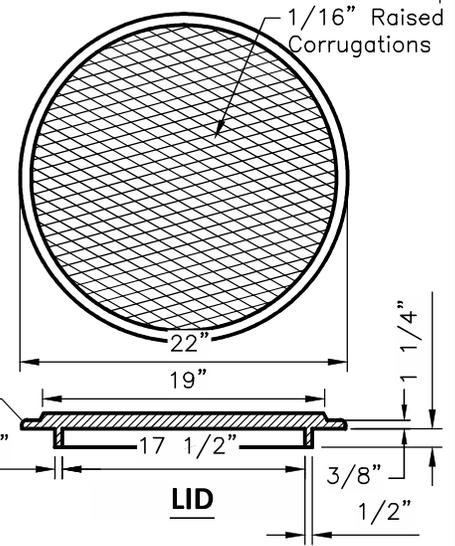
SECTION B-B



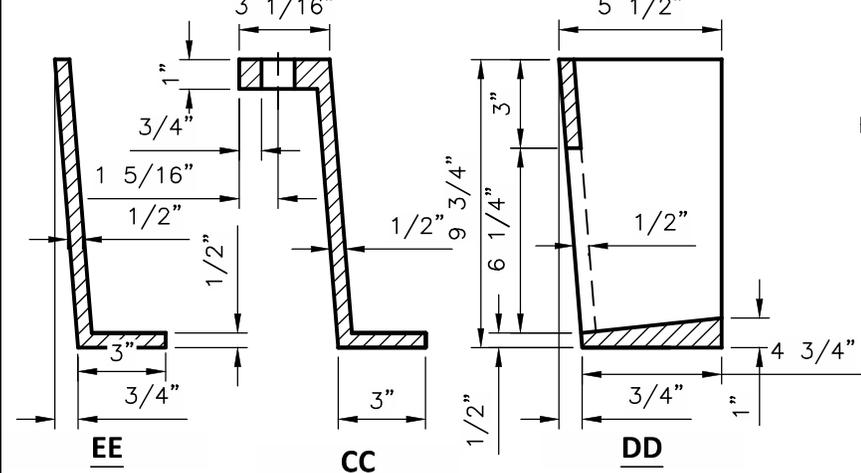
SECTION A-A

DIMENSION "A" TABLE

CURB	"A"
STRAIGHT	0.00"
20' RAD.	0.54"
15' RAD.	0.72"
12' RAD.	0.91"
8' RAD.	1.36"
6' RAD.	1.83"

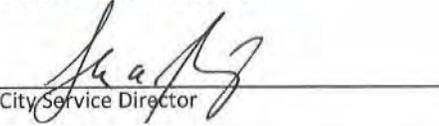


LID



SECTIONS

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

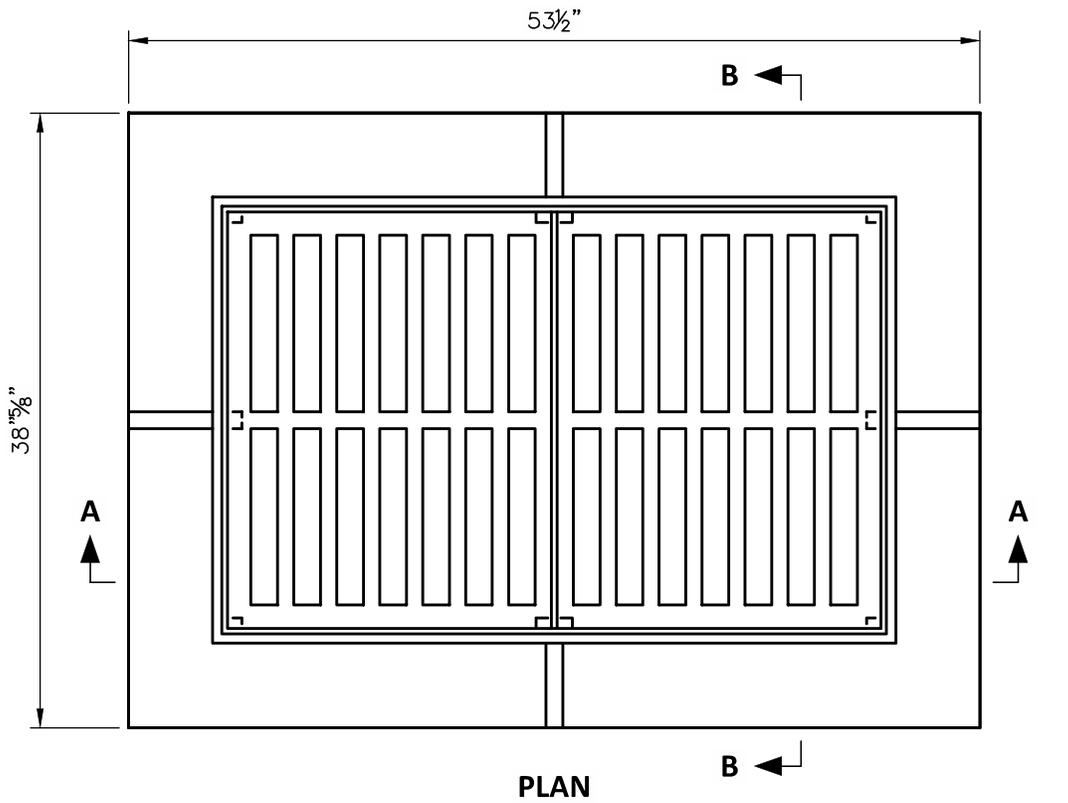
STANDARD DIMENSIONS
 FOR
**CASTINGS FOR
 RADIUS CURB INLET**

**CITY OF
 GROVE CITY, OHIO**

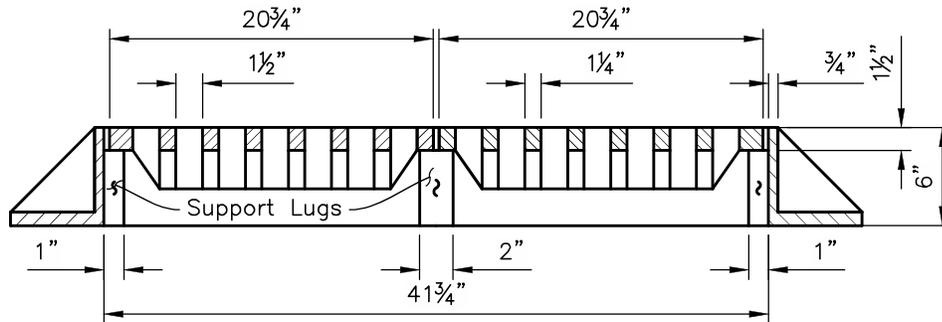
STANDARD
 CONSTRUCTION DRAWING

Revised
 October 2015

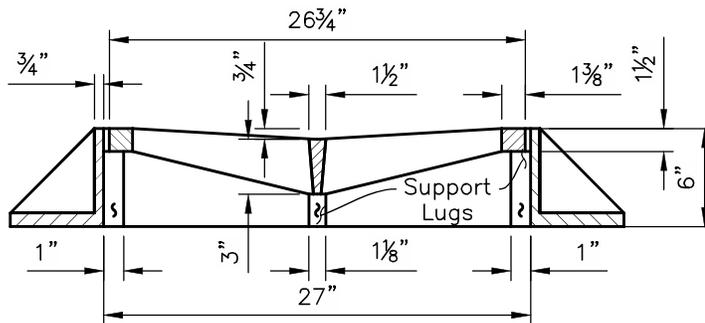
Drawing No.
C-GC-14



PLAN



SECTION A-A

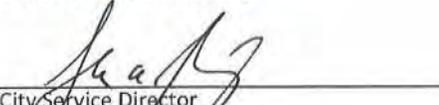


SECTION B-B

NOTE:
Casting to be
Neenah R-3396
or approved equal.

NOTE:
Approximate
total weight is 800 lbs.

Approved By:

City Engineer, EMH&T Inc

City Service Director

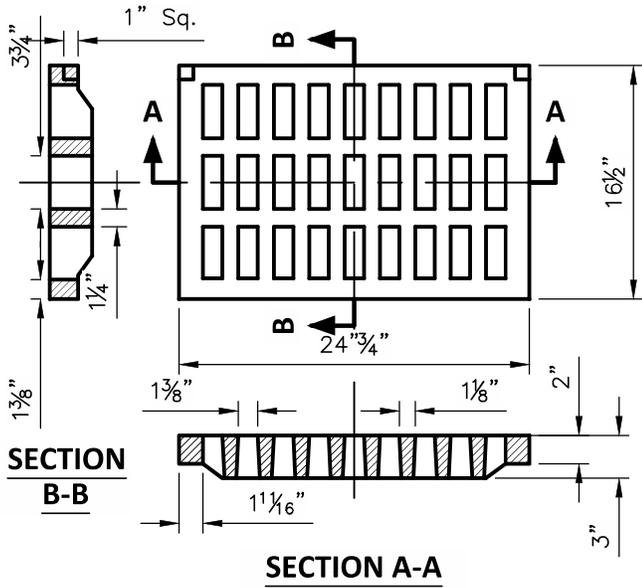
STANDARD DIMENSIONS
FOR
**FRAME AND GRATES
FOR INVERTED
CROWN INLET**

**CITY OF
GROVE CITY, OHIO**

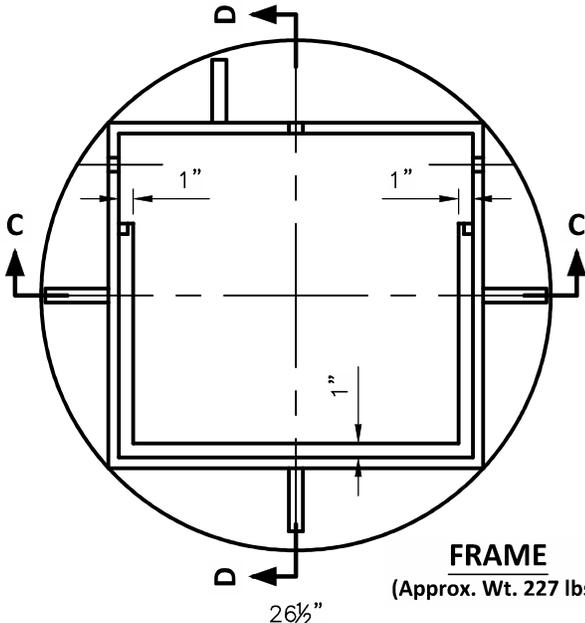
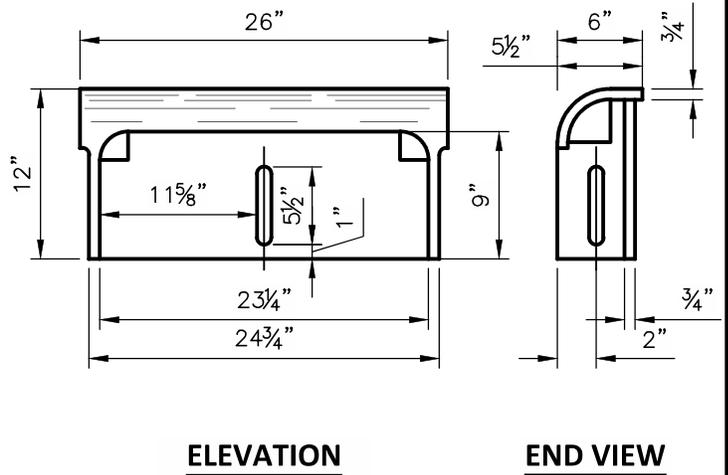
STANDARD
CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-15

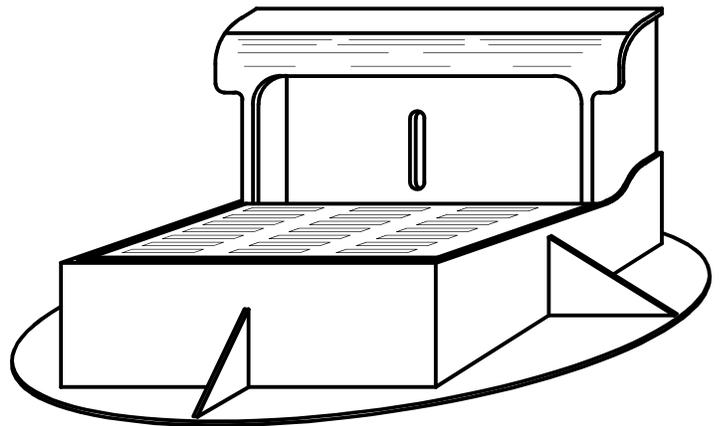
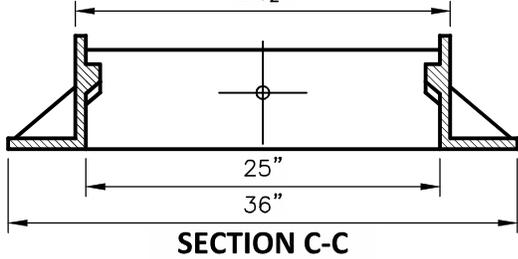
GRATE
(Approx. Wt. 104 lbs.)



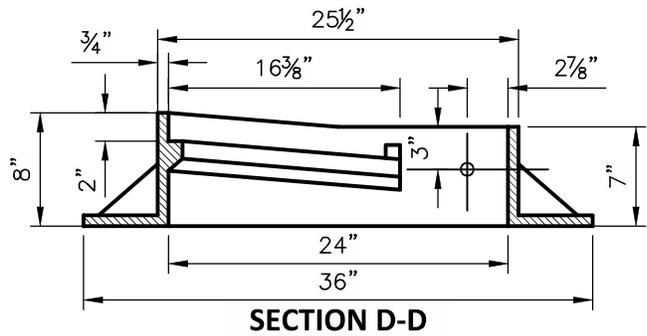
CURB BOX
(Approx. Wt. 54 lbs.)



FRAME
(Approx. Wt. 227 lbs.)



PERSPECTIVE VIEW

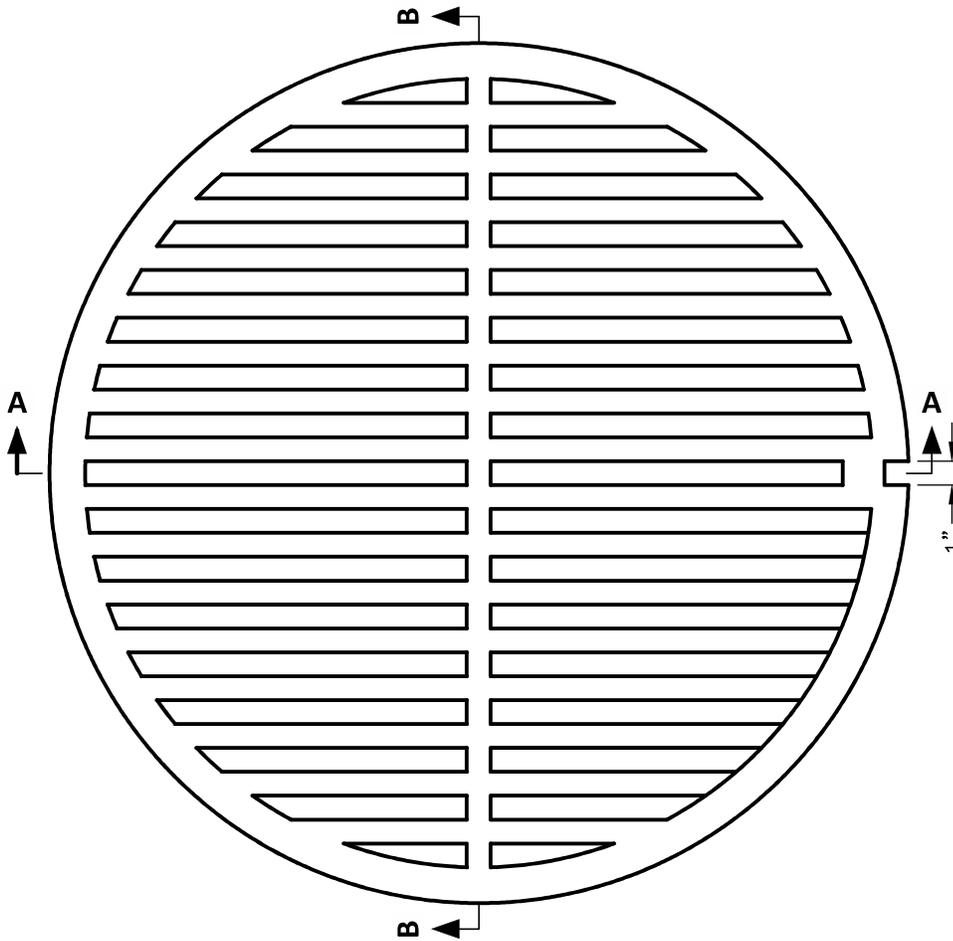


SECTION D-D

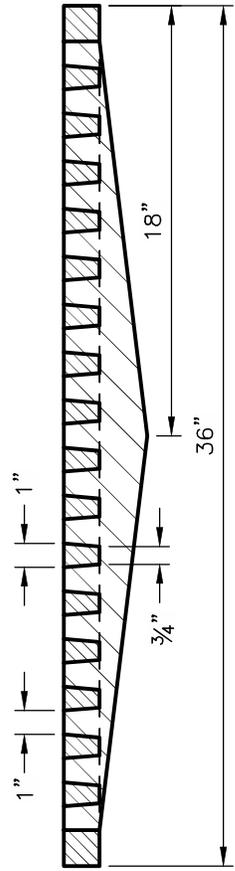
Approved By:
[Signature]
City Engineer, EMH&T Inc
[Signature]
City Service Director

STANDARD DIMENSIONS
FOR
CAST IRON FRAME FOR
RADIUS GUTTER INLET

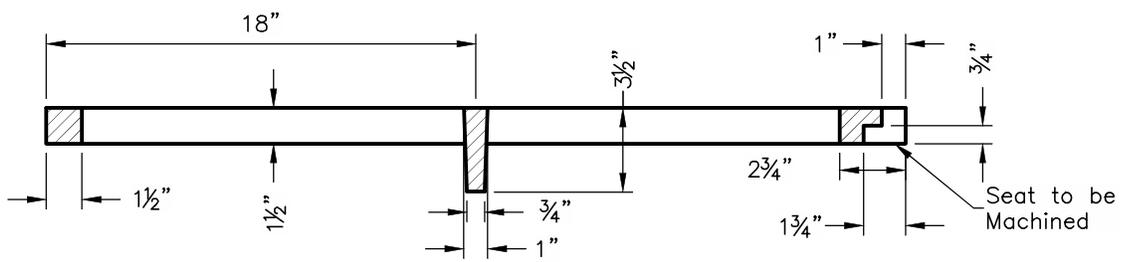
CITY OF GROVE CITY, OHIO
STANDARD CONSTRUCTION DRAWING
Revised October 2015
Drawing No. C-GC-16



PLAN VIEW



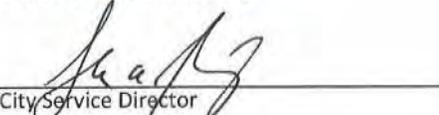
SECTION B-B



SECTION A-A

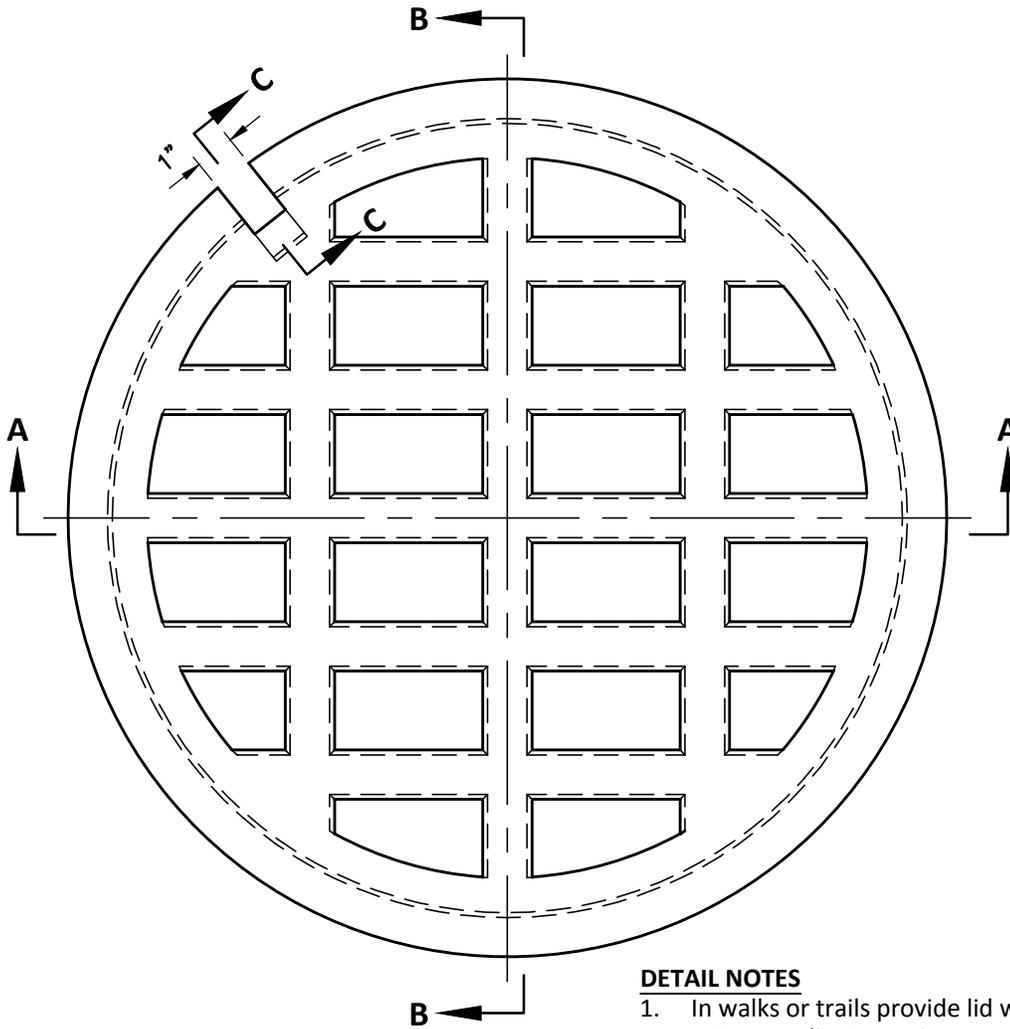
NOTE
Provide alternative grate w/ADA compliant openings in sidewalk/pedestrian areas.

Approved By:

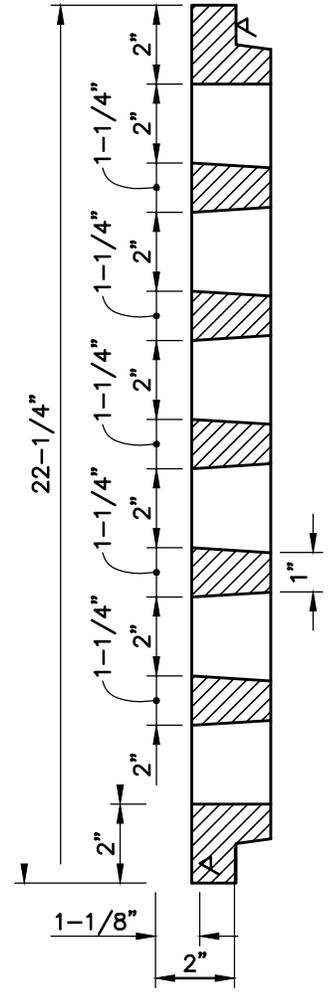
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
FOR
36" CASTING FOR GRATING
MANHOLE LID

CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised October 2015
 Drawing No. C-GC-17



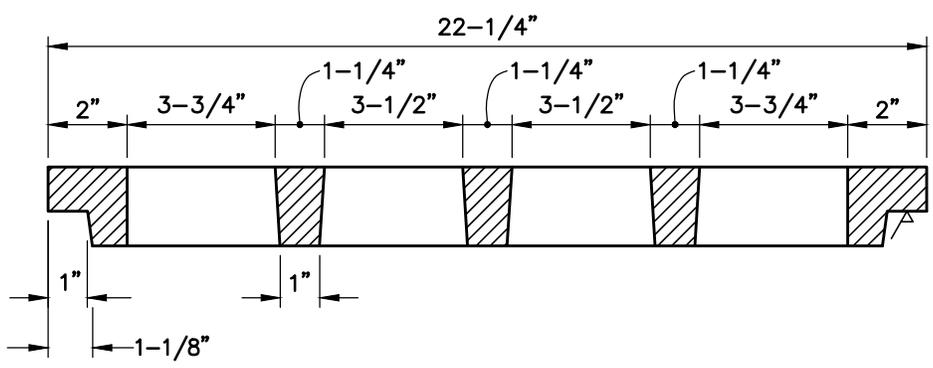
PLAN VIEW



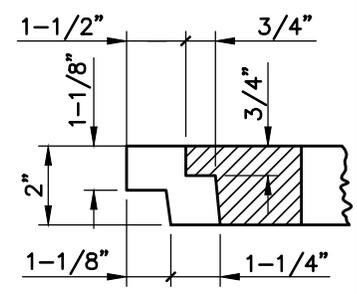
SECTION B-B

DETAIL NOTES

1. In walks or trails provide lid with ADA compliant openings.
2. "Dump No Waste, Drains to River" shall be cast into all castings.

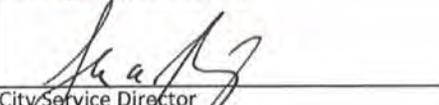


SECTION A-A



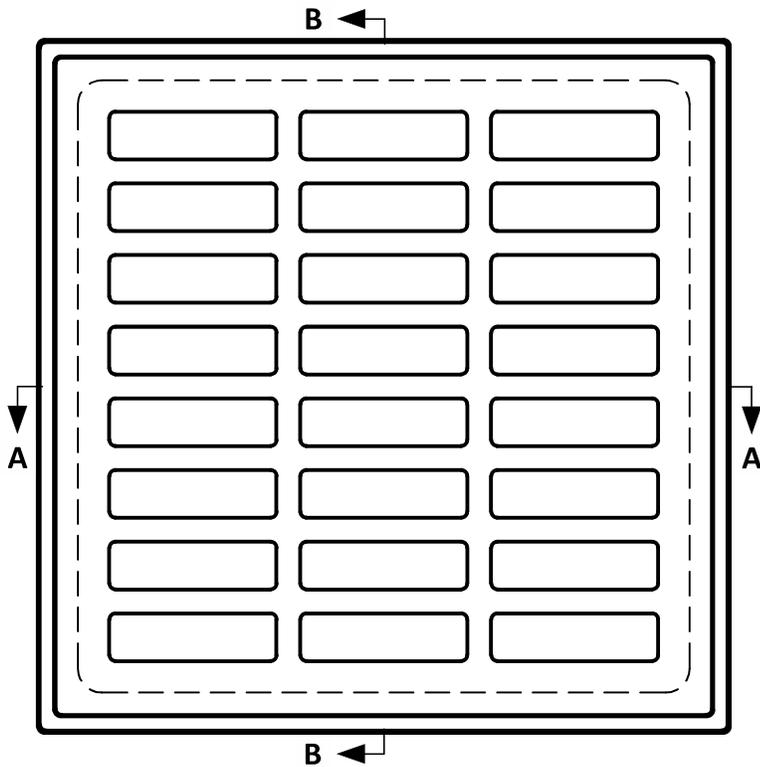
**SECTION C-C
PICK HOLE**

Approved By:

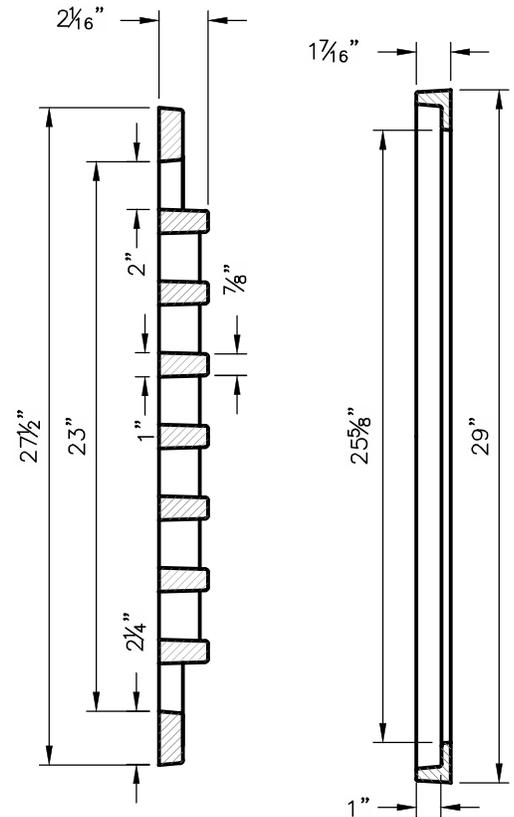
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
 24" CASTING FOR
 GRATING MANHOLE LID

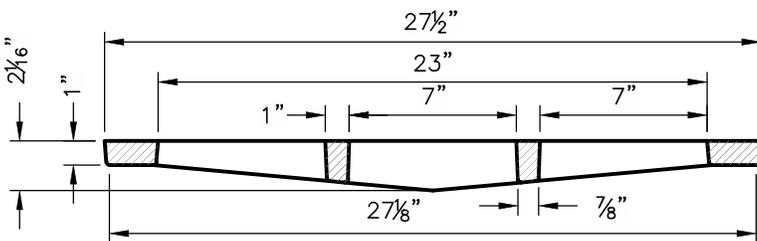
**CITY OF
 GROVE CITY, OHIO**
 STANDARD
 CONSTRUCTION DRAWING
 Revised
 October 2015
 Drawing No.
 C-GC-18



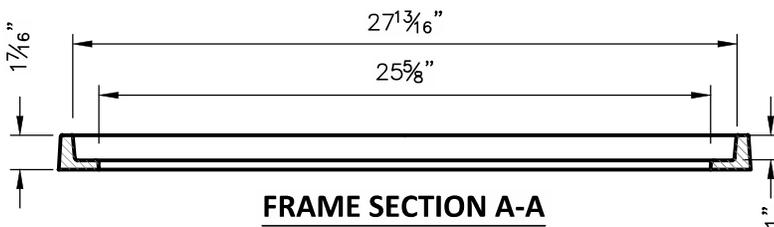
PLAN VIEW



GRATE SECTION B-B FRAME SECTION B-B



GRATE SECTION A-A



FRAME SECTION A-A

NOTES:

1. Grate to be Neenah R-4859-C or approved equal.
2. Frame to be Neenah R-4899 or approved equal.
3. Provide alternative grate w/ADA compliant openings in sidewalk/pedestrian areas.

Approved By:

 City Engineer, EMH&T Inc

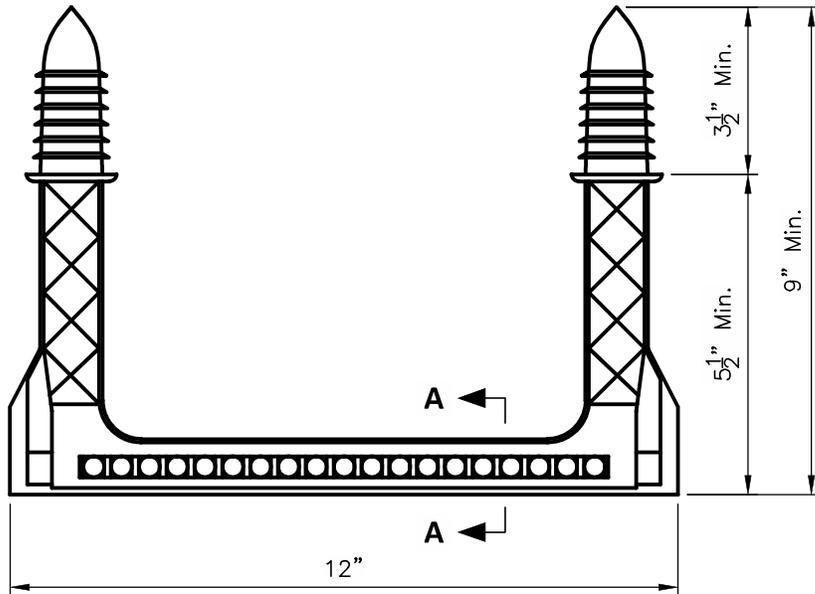
 City Service Director

STANDARD DIMENSIONS
 FOR
 FRAME AND GRATE
 COVER FOR DITCH AND
 SURFACE INLET

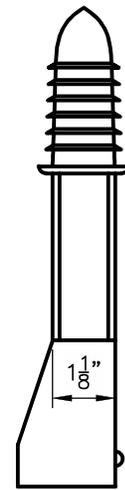
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-19



TOP VIEW



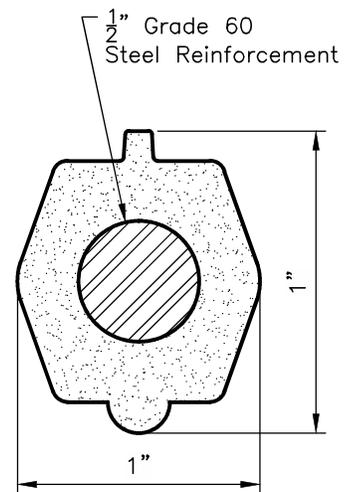
SIDE VIEW



FRONT VIEW

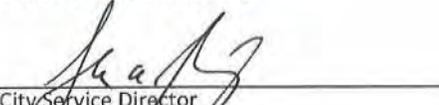
DETAIL NOTES:

1. Steps shall meet the requirements of ASTM C-478, and shall be installed with a uniform vertical spacing of 12-in to 16-in
2. Steps installed in existing structures shall be set in a quick setting non-shrink epoxy.
3. Steps shall conform to material requirements of Columbus CMS 711.31. All steps shall have a depressed tread or 1/2-in minimum cleat height at the ends.
4. The Engineer may require Contractor to test load a maximum of one step per manhole to a proof load of 400 lbs. in direct pull. The equipment and method used shall meet the approval of the engineer. If the selected step fails the pull out test, the remaining steps in that manhole shall also be tested. All steps not passing the pullout test shall be removed and a new step installed and tested to the satisfaction of the Engineer. Cost of testing shall be incidental to the unit price bid for the manhole.



SECTION A-A

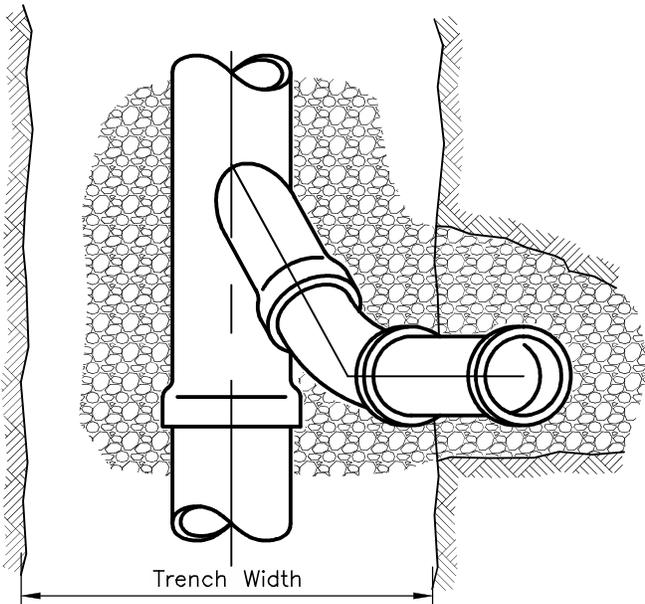
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
MANHOLE STEP

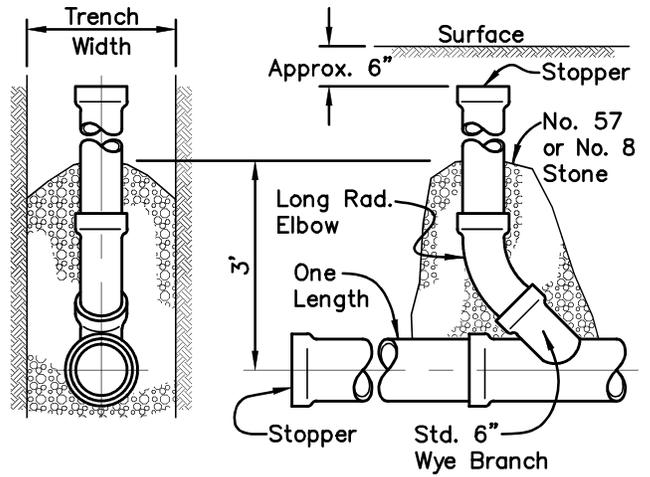
CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised October 2015
 Drawing No. C-GC-20

RISER



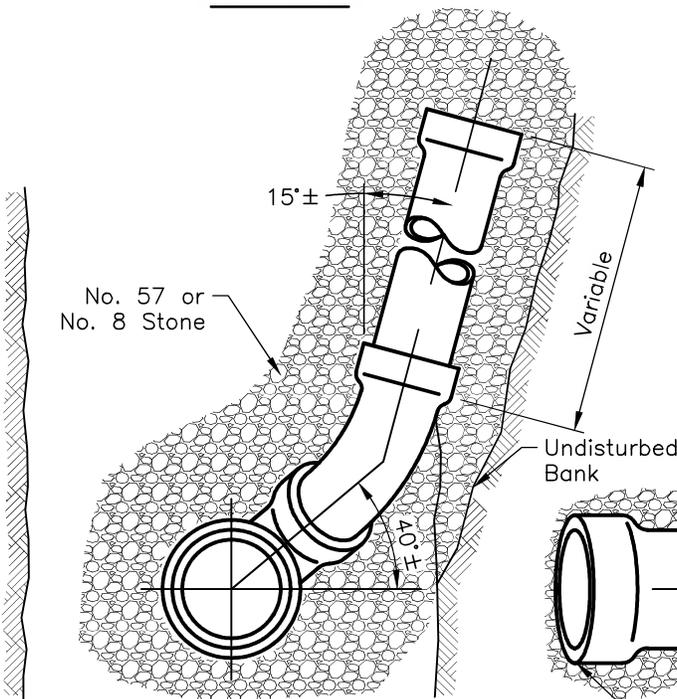
PLAN VIEW

CLEANOUT

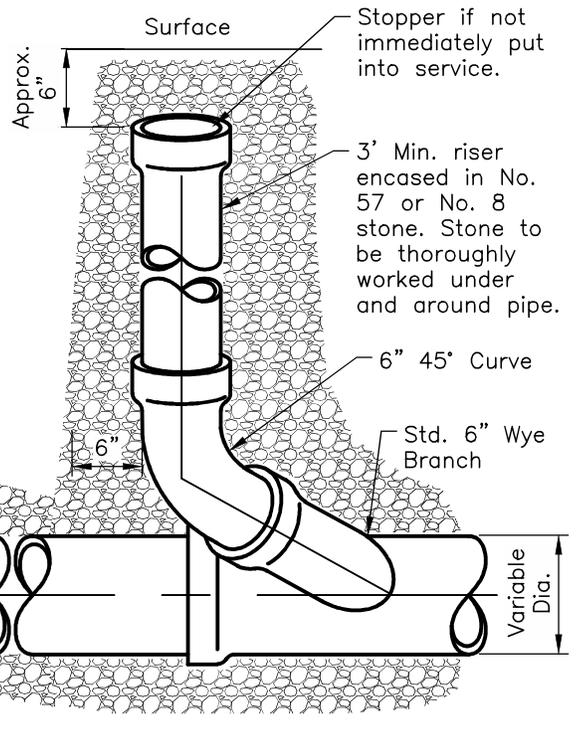


END VIEW

SIDE VIEW



END VIEW

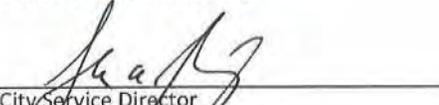


SIDE VIEW

DETAIL NOTES

Risers shall be installed, when the depth exceeds 10 feet, from the lateral sewer fitting to a point 9 feet ±1 foot below existing or proposed surface elevation, whichever is higher, unless otherwise indicated on approved sewer plan. Riser extensions shall be a minimum of 3 feet in length.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

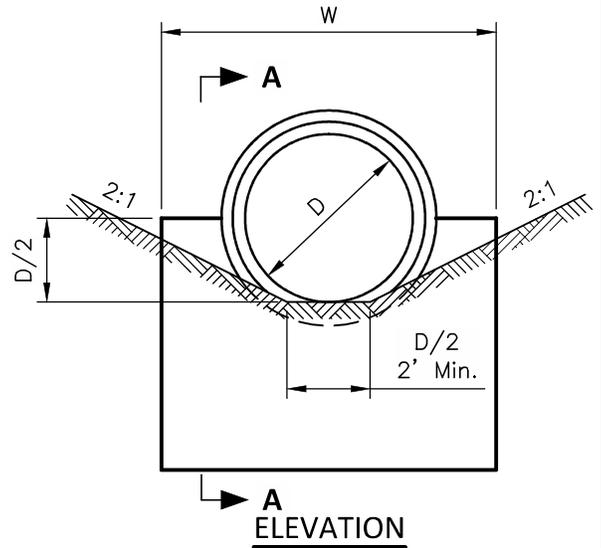
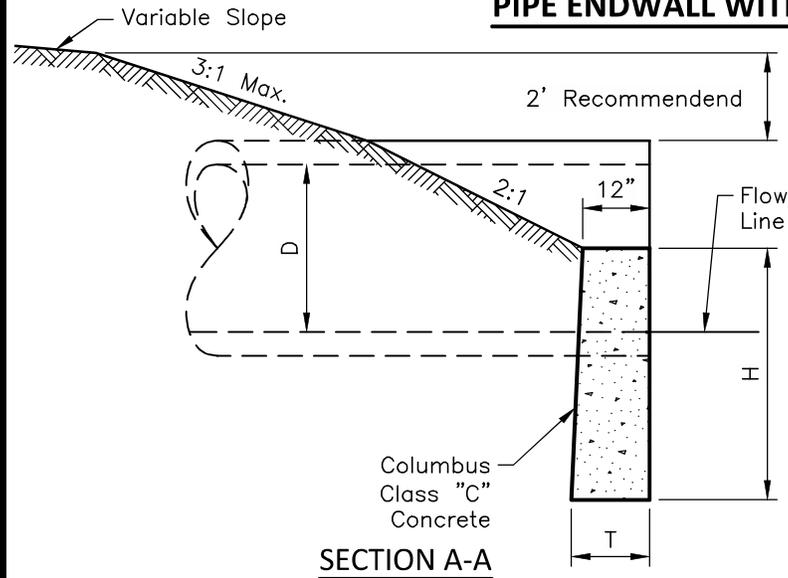
STANDARD DIMENSIONS
 FOR
**TYPICAL RISER AND
 CLEANOUT**

**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-22

PIPE ENDWALL WITHOUT STONE VENEER



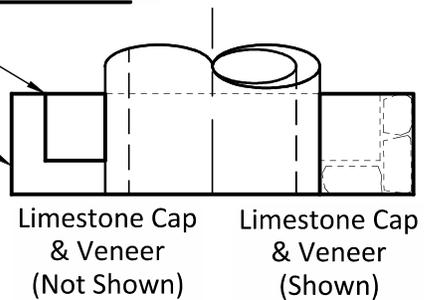
SECTION A-A

ELEVATION

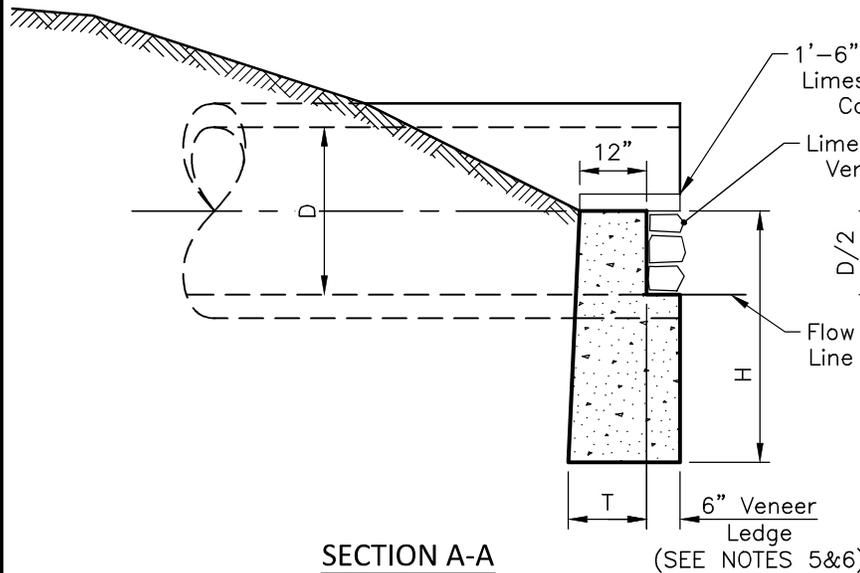
PIPE ENDWALL WITH STONE VENEER

- D = Diameter of Pipe
- W = Width of Endwall
- H = Height of Endwall
- T = Thickness at Bottom of Endwall

Concrete Endwall
 Extend 6" Beyond Edge of Endwall to Provide Ledge for Limestone Veneer

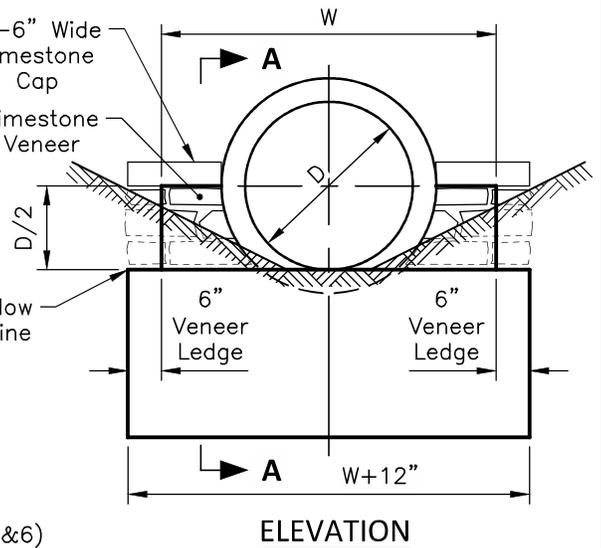


PLAN VIEW
(Symmetrical)



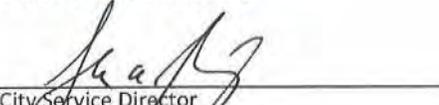
SECTION A-A

(SEE NOTES 5&6)



ELEVATION

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS FOR
PIPE ENDWALL

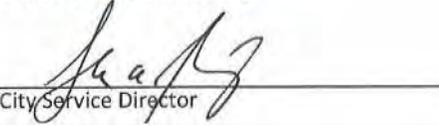
CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
	1/2	C-GC-23

DETAIL NOTES:

1. Stone Facing shall be on all exposed surfaces of the outlet structures, unless an exception is granted by the City.
2. Stone is to be North Shore Bluff Limestone. Alternate selections must be approved by the City Service Director.
3. 1/2" Max dry laid look joints hold mortar back 3" Min.
4. Vary thickness of adjacent horizontal stone courses. Whenever possible lay large chunks and fill in around with thinner stones.
5. Pipe end shall be flush with the 6" veneer ledge.
6. Concrete quantities presented in the table are for the endwall only.
7. All pipes terminating at an endwall must be concrete pipe from the endwall to the next upstream structure.
8. See Sheet 1/2 for additional information.

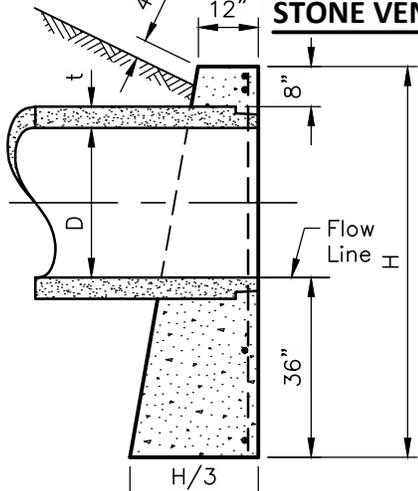
D = Diameter of Pipe
 W = Width of Endwall
 H = Height of Endwall
 T = Thickness at Bottom of Endwall

ENDWALL FOR CONCRETE PIPE					
D	W	H	T	Concrete Cu. Yds. without Stone Veneer	Concrete Cu. Yds. with Stone Veneer
12"	2'-0"	3'-0"	12"	0.20	0.38
15"	2'-6"	3'-2"	12"	0.25	0.46
18"	3'-0"	3'-3"	12"	0.31	0.44
21"	3'-6"	3'-4"	12"	0.37	0.62
24"	4'-0"	3'-6"	12"	0.43	0.70
27"	4'-6"	3'-8"	12"	0.49	0.72
30"	5'-0"	3'-9"	12"	0.56	0.78
33"	5'-6"	3'-10"	12"	0.62	0.96
36"	6'-0"	4'-0"	12"	0.69	1.06
39"	6'-6"	4'-2"	12"	0.77	1.17
42"	7'-0"	4'-3"	12"	0.84	1.26
48"	8'-0"	4'-6"	14"	1.09	1.56
54"	9'-3"	4'-9"	14"	1.32	1.90
60"	10'-6"	5'-6"	16"	1.93	2.53

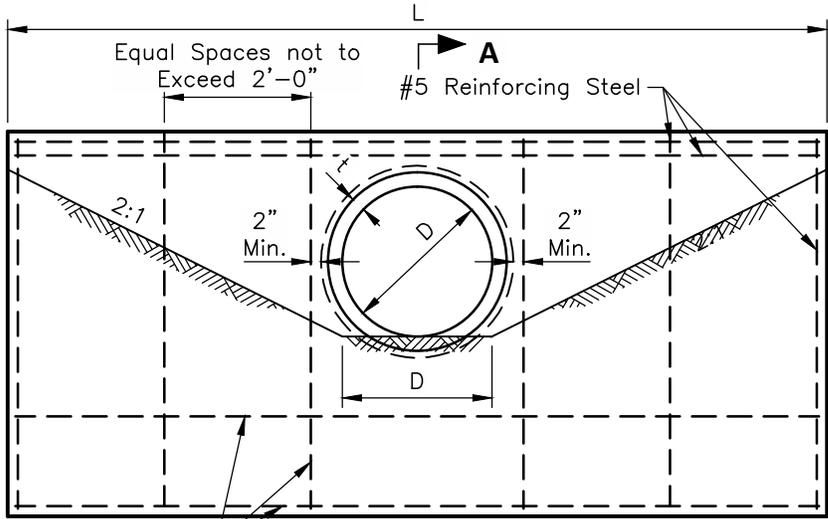
<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR PIPE ENDWALL</p>	<p>CITY OF GROVE CITY, OHIO</p>		
		<p>STANDARD CONSTRUCTION DRAWING</p>		
		Revised	Sheet	Drawing No.
October 2015	2/2	C-GC-23		

PIPE HEADWALL

**WITHOUT
STONE VENEER**



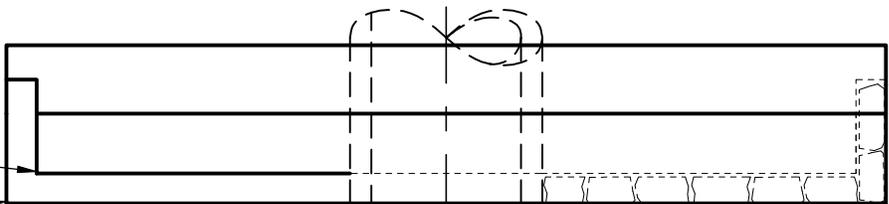
SECTION A-A



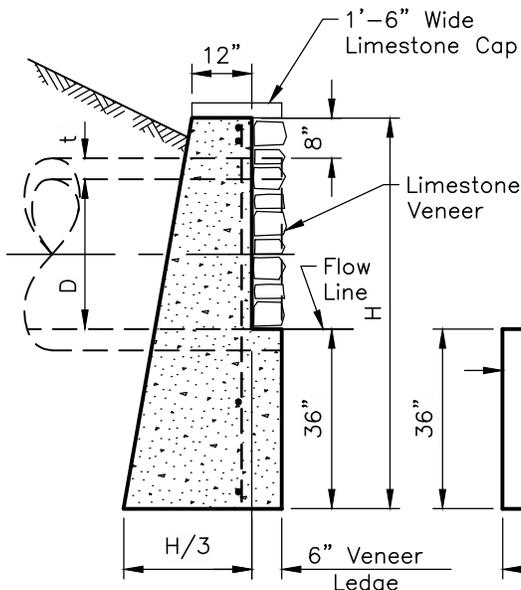
ELEVATION

**PIPE HEADWALL
WITH STONE
VENEER**

Concrete Endwall
Extend 6" Beyond Edge of
Endwall to Provide Ledge
for Limestone Veneer

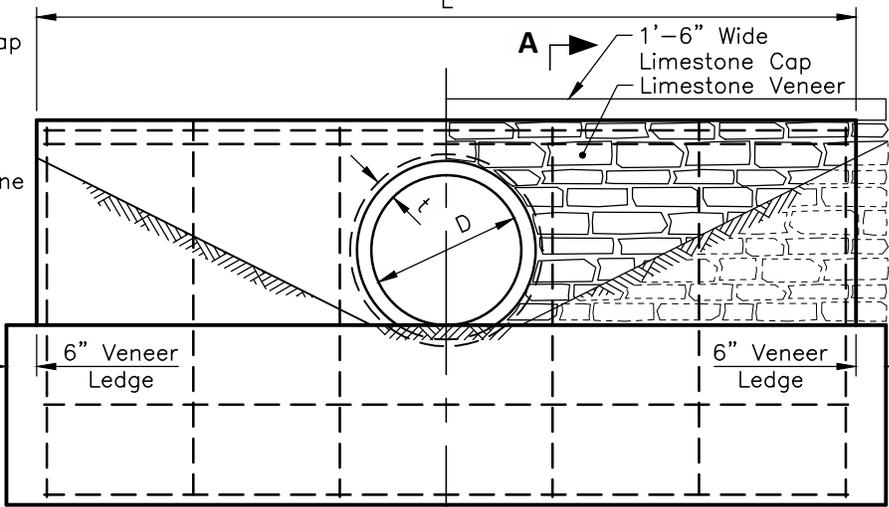


PLAN VIEW
(Symmetrical)



SECTION A-A

(SEE NOTES 9&10)



ELEVATION
(Symmetrical about C/L)

Approved By:
[Signature]
City Engineer, EMH&T Inc
[Signature]
Cindi Fitzpatrick
City Service Director

STANDARD DIMENSIONS
FOR
PIPE HEADWALL

**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

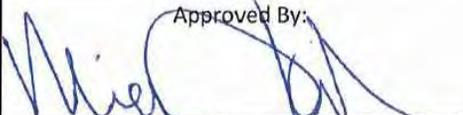
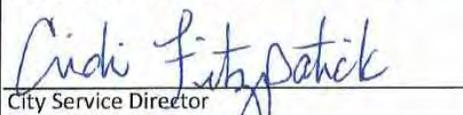
Revised	Sheet	Drawing No.
Rev February 2016	1/2	C-GC-24

DETAIL NOTES

1. Headwall where required will be provided for nonskewed culverts having a diameter or rise of 36" or less.
2. Concrete shall be Columbus Class "C".
3. Reinforcing Steel Bars shall be No. 5 round bars.
4. Dimensions and Quantities are shown for circular pipe sections only. It will be necessary to determine dimensions for the headwall required for reinforced elliptical concrete pipe or corrugated metal pipe arches in accordance with the equations listed on this drawing.
5. Stone Facing shall be on all exposed surfaces of the outlet structures, unless an exception is granted by the City.
6. Stone is to be North Shore Bluff Limestone. Alternate selections must be approved by the City Service Director.
7. 1/2" Max dry laid look joints hold mortar back 3" Min.
8. Vary thickness of adjacent horizontal stone courses. Whenever possible lay large chunks and fill in around with thinner stones.
9. Pipe end shall be flush with 6" Veneer Ledge.
10. Concrete quantities presented in the table are for the headwall only.
11. See Sheet 1/2 for additional information.

L = Circular Sections	= 5D + 4t	D = Diameter of Pipe
L = Elliptical or Pipe-Arch	= 4R + 4t + S	R = Rise of Pipe
H = Circular Sections	= D + t + 44"	S = Span of Pipe
		t = Thickness of Barrel
		L = Length of Headwall
		H = Height of Headwall

DIMENSIONS			QUANTITIES			
D	H	L	WITHOUT STONE VENEER		WITH STONE VENEER	
			Concrete (Cu. Yds.)	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)	Reinforcing Steel (Lbs.)
12"	4'-9"	5'-8"	1.3	32	1.7	32
15"	5'-2"	7'-0"	1.7	41	2.1	41
18"	5'-5"	8'-4"	2.2	57	2.7	57
21"	5'-8"	9'-8"	2.8	62	3.4	62
24"	5'-11"	11'-0"	3.3	69	4.0	69
30"	6'-5"	13'-8"	4.7	92	5.5	92
36"	7'-0"	16'-4"	6.5	105	7.5	105

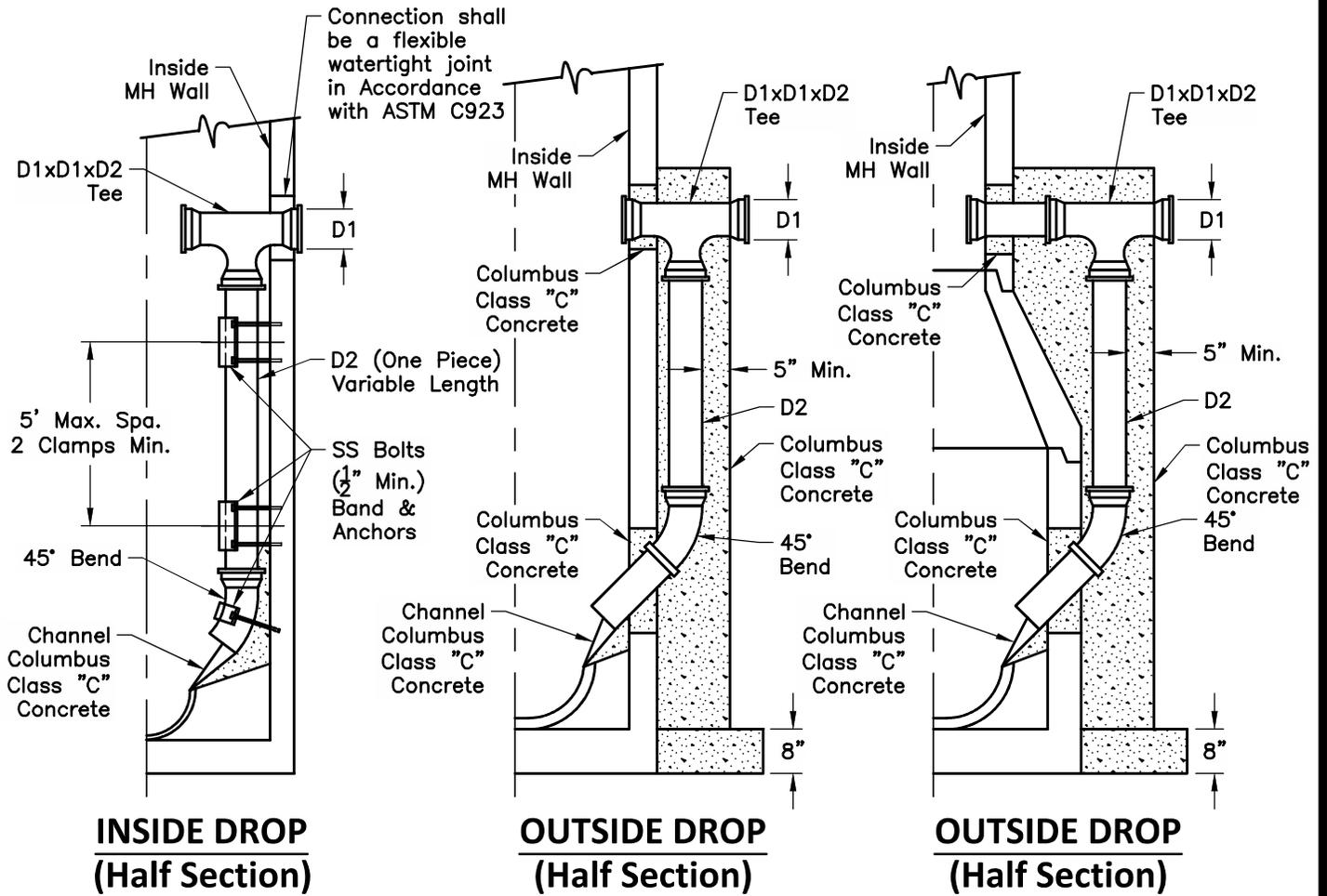
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
FOR
PIPE HEADWALL

CITY OF GROVE CITY, OHIO

STANDARD CONSTRUCTION DRAWING

Revised	Sheet	Drawing No.
February 2016	2/2	C-GC-24

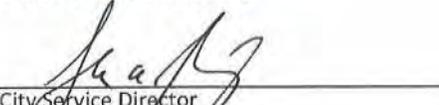


DETAIL NOTES

1. Drop is required when invert differential is 24 inches or greater.
2. Height of drop pipe is to be shown on the plans or will be determined at the time of construction.
3. All work and materials required to construct the inside or outside drop shall be included for payment under Columbus CMS Item 604, or Item 901.
4. Unless otherwise required by the plans, an outside drop will only be constructed on new manholes.
5. Materials for the tee, drop pipe and bend shall be of one type and be one of the following; Inside Drop: Cast-iron or PVC. Outside Drop: Cast Iron, VCP, or PVC.
6. Outside drop pipes require a 5-in thick (minimum) Columbus Class "C" Concrete encasement on three sides of pipe and shall be tied to manhole wall with 5/8-in Stainless Steel-"U" rods x 5-in long @ 12-inches.
7. Inside drop may be used on new construction provided that a 60-in base and riser sections are used.
8. For existing manholes, wall penetrations shall be cored and booted as appropriate.
9. Not for lateral connection. This detail is intended for mainline sewer connections. No sanitary lateral connections are permitted into manholes.

PIPE DIAMETER	
D1	D2
8"	8"
10"	10"
12"	12"
15"	12"
18"	12"
21"	12"
24"	12"

Approved By:

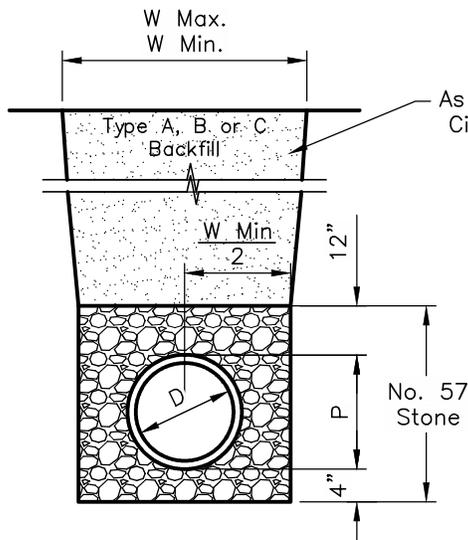
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**INSIDE DROP & OUTSIDE DROP
 FOR MANHOLES**

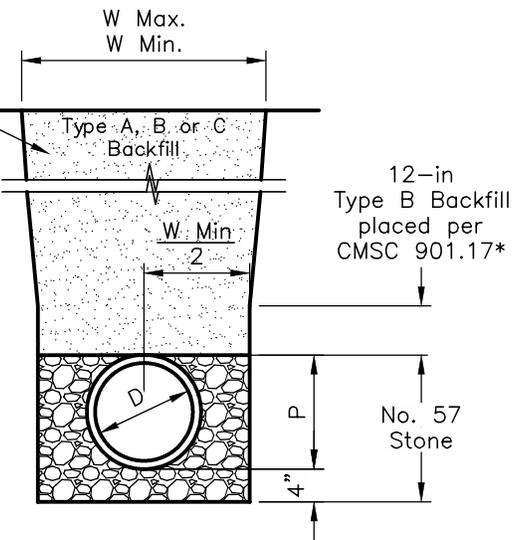
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

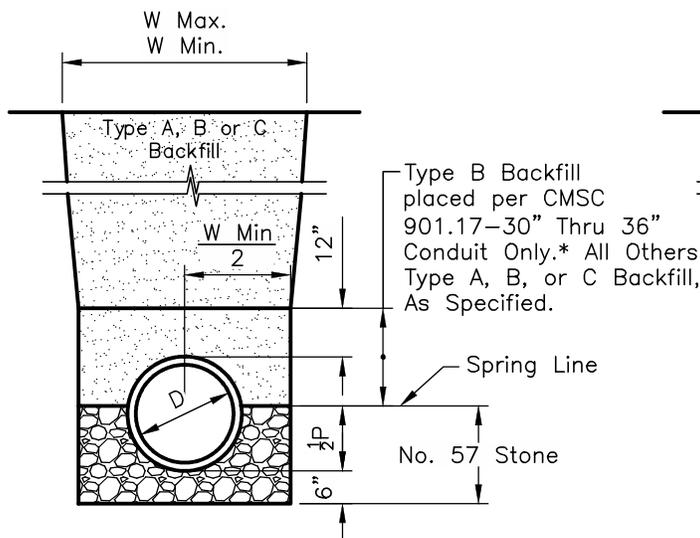
Revised		Drawing No.
October 2015		C-GC-25



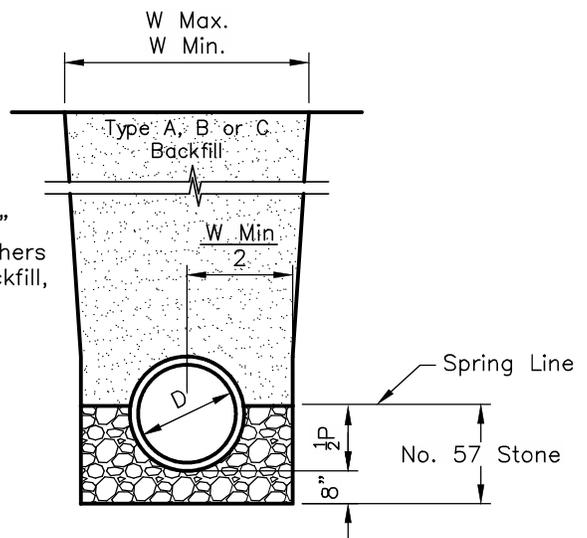
TYPICAL SECTION
6" THRU 16" RIGID CONDUIT
ALL FLEXIBLE CONDUIT



TYPICAL SECTION
18" THRU 27" RIGID CONDUIT



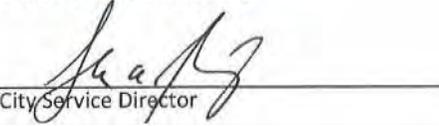
TYPICAL SECTION
30" THRU 36" RIGID CONDUIT



TYPICAL SECTION
42" & LARGER RIGID CONDUIT

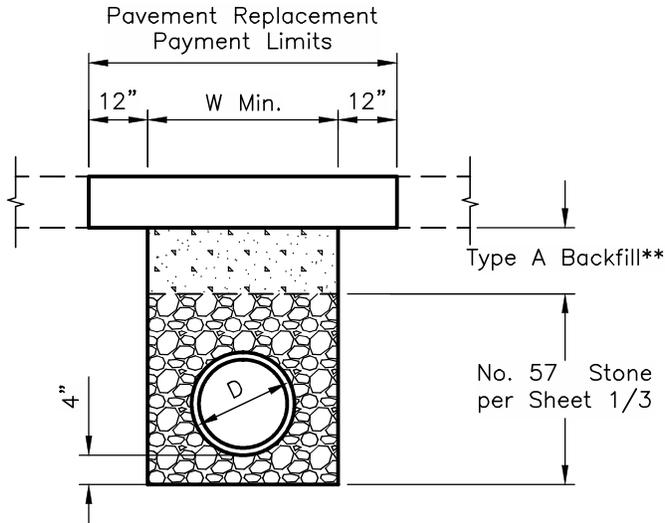
* No. 57 Stone may be substituted without additional compensation

Approved By:

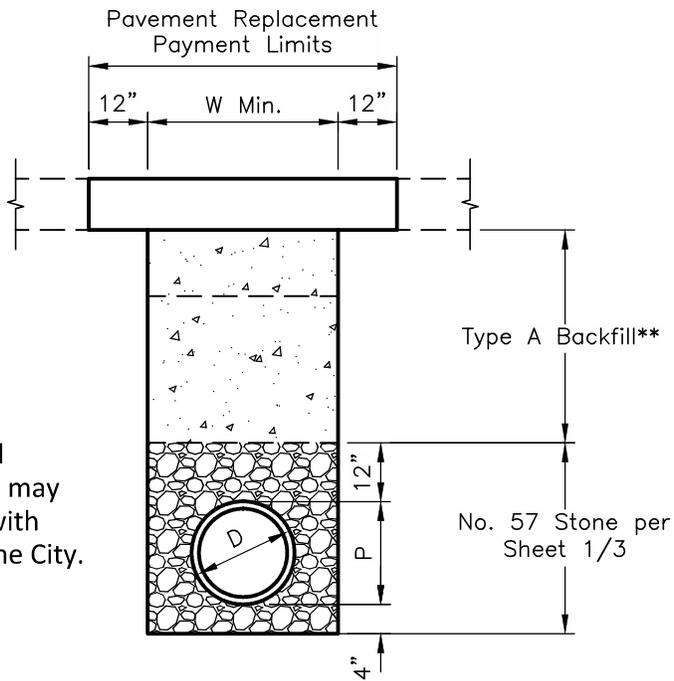
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
FOR
TYPICAL TRENCH
SECTIONS WITH TYPE I
BEDDING

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	1/3	C-GC-26



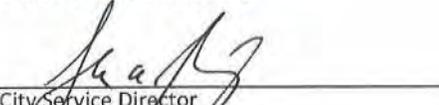
TYPICAL SECTION
RIGID CONDUIT UNDER EXISTING OR PROPOSED PAVEMENT



TYPICAL SECTION
FLEXIBLE CONDUIT UNDER EXISTING OR PROPOSED PAVEMENT

** Flowable Controlled Density Fill (FCDF), Type II per CMSC Item 613 may be substituted for Type A Backfill with approval of or at the direction of the City.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS FOR
 TYPICAL TRENCH SECTIONS WITH TYPE I BEDDING

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	2/3	C-GC-26

TYPICAL TRENCH - NOTES

All item numbers shown refer to City of Columbus Construction and Material Specifications (CMSC) item numbers.

Type A Backfill shall be granular material, conforming to Item 304 as directed by the Engineer compacted as stipulated in Item 912.03. In all cases granular material shall be used around all manholes, structures and cleanouts.

Type B Backfill shall be natural soil free from stones larger than two inches across their greatest dimension, topsoil, vegetation, debris, rubbish or frozen material, compacted to 95% of its maximum laboratory dry weight. Placed per section 901.17

Type C Backfill shall be natural soil free from stones larger than six inches across their greatest dimension, vegetation, debris, rubbish or frozen material, compacted to 90% of its maximum laboratory dry weight. When approved by the Engineer, rocks no larger than one cubic foot may be deposited at least three feet above the top of the sewer.

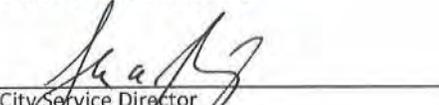
Aggregate for bedding is No. 57, Item 703.

The excavated trench width twelve inches (12") above the conduit may be increased without extra compensation.

Trench dams shall be constructed on all sanitary sewers in accordance with Item 901.11.

DIMENSIONS – INCHES											
CONDUIT		Min. W	Max. W	CONDUIT		Min. W	Max. W	CONDUIT		Min. W	Max. W
D	P			D	P			D	P		
6	7-7/16	30	48	24	30	48	60	66	79	105	127
8	9-3/4	30	48	27	33-1/2	52	64	72	86	116	134
10	12	30	48	30	37	57	67	78	92	123	141
12	14-5/16	32	48	33	40-1/2	61	71	84	101	130	148
15	17-13/16	36	50	36	44	64	74	90	106	136	155
16	19	38	52	42	51	71	81	96	113	143	162
18	23	40	53	48	58	78	88	102	119	151	169
20	25-1/4	42	56	54	65	87	95	108	126	160	176
21	26-1/2	44	57	60	72	96	102				

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

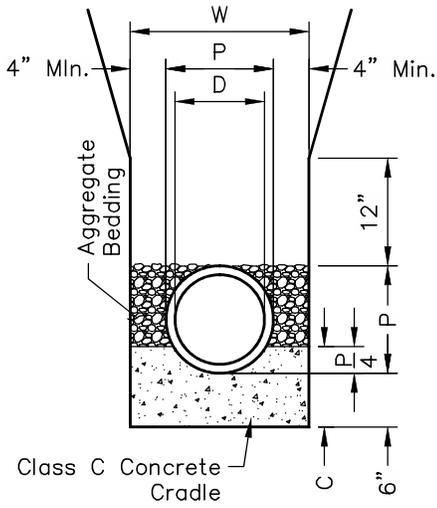
STANDARD DIMENSIONS
 FOR
 TYPICAL TRENCH
 SECTIONS WITH TYPE I
 BEDDING

**CITY OF
 GROVE CITY, OHIO**
 STANDARD
 CONSTRUCTION DRAWING
 Revised October 2015 Sheet 3/3 Drawing No. C-GC-26

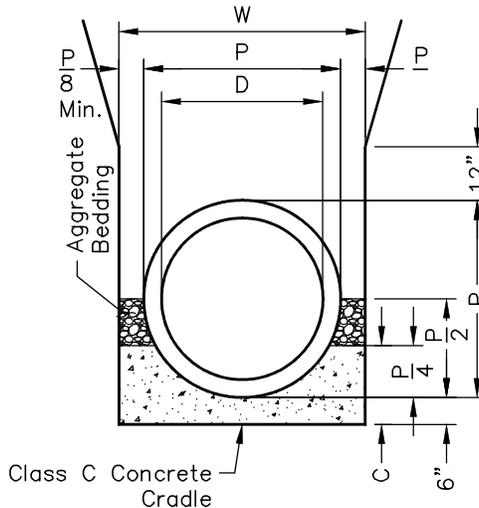
All requirements for trench construction, backfill, bedding and pavement replacement, noted on the standard drawing for Type I Bedding, (C-GC-26), shall apply for Type II Bedding except as modified by the following requirements.

Type II Bedding consists of concrete cradle, plain or reinforced, concrete backing, or concrete encasement, including aggregate bedding as applicable.

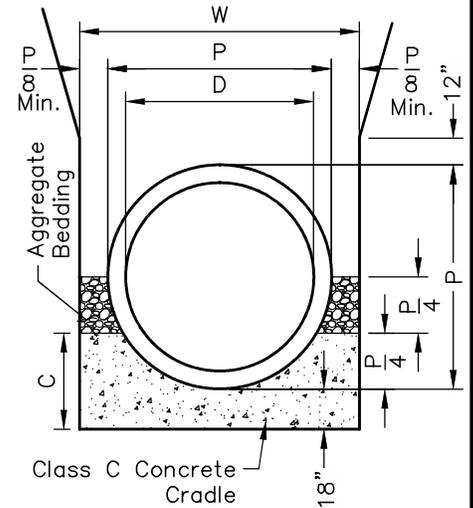
Concrete Backing extends to the conduit spring line, Encasement to the top of the conduit.



TYPICAL TRENCH SECTION FOR 6" THRU 24" CONDUIT AND CONDUIT IN ROCK



TYPICAL TRENCH SECTION FOR 27" THRU 60" CONDUIT



TYPICAL TRENCH SECTION FOR 66" CONDUIT AND LARGER

Conduit	Min.	Min.	Conc. Cradle	Granular Bedding
D"	P"	W"	C"	Cu.Yd.Per Lin. Ft.

6	7 ¹ / ₈	15 ⁷ / ₈	7 ⁵ / ₈	.029	.039
8	9 ³ / ₄	17 ³ / ₄	8 ⁷ / ₈	.035	.052
10	12	20	9	.041	.053
12	14 ⁵ / ₈	22 ⁵ / ₈	9 ³ / ₄	.047	.067
14	16 ¹¹ / ₈	24 ¹¹ / ₈	10 ¹¹ / ₈	.054	.081
15	17 ³ / ₈	25 ¹³ / ₈	10 ²⁹ / ₈	.057	.081
16	19	27	10 ³ / ₄	.060	.098
18	23	31	11 ³ / ₄	.073	.112
20	25 ¹ / ₄	33 ¹ / ₄	12 ⁵ / ₈	.080	.130
21	26 ¹ / ₂	34 ¹ / ₂	12 ⁵ / ₈	.084	.127
24	30	38	13 ¹ / ₂	.096	.142

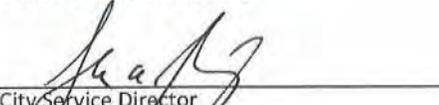
Conduit	Min.	Min.	Conc. Cradle	Granular Bedding
D"	P"	W"	C"	Cu.Yd.Per Lin. Ft.

27	33 ¹ / ₂	41 ⁷ / ₈	15 ¹ / ₈	.119	.020
30	37	46 ¹ / ₄	16 ³ / ₄	.145	.024
33	40 ¹ / ₂	50 ⁵ / ₈	18 ³ / ₈	.174	.029
36	44	55	20	.206	.034
42	51	63 ³ / ₄	23 ¹ / ₄	.279	.046
48	58	72 ¹ / ₂	26 ¹ / ₂	.361	.059
54	65	81 ¹ / ₄	29 ³ / ₄	.455	.074
60	72	90	33	.559	.091

Conduit	Min.	Min.	Conc. Cradle	Granular Bedding
D"	P"	W"	C"	Cu.Yd.Per Lin. Ft.

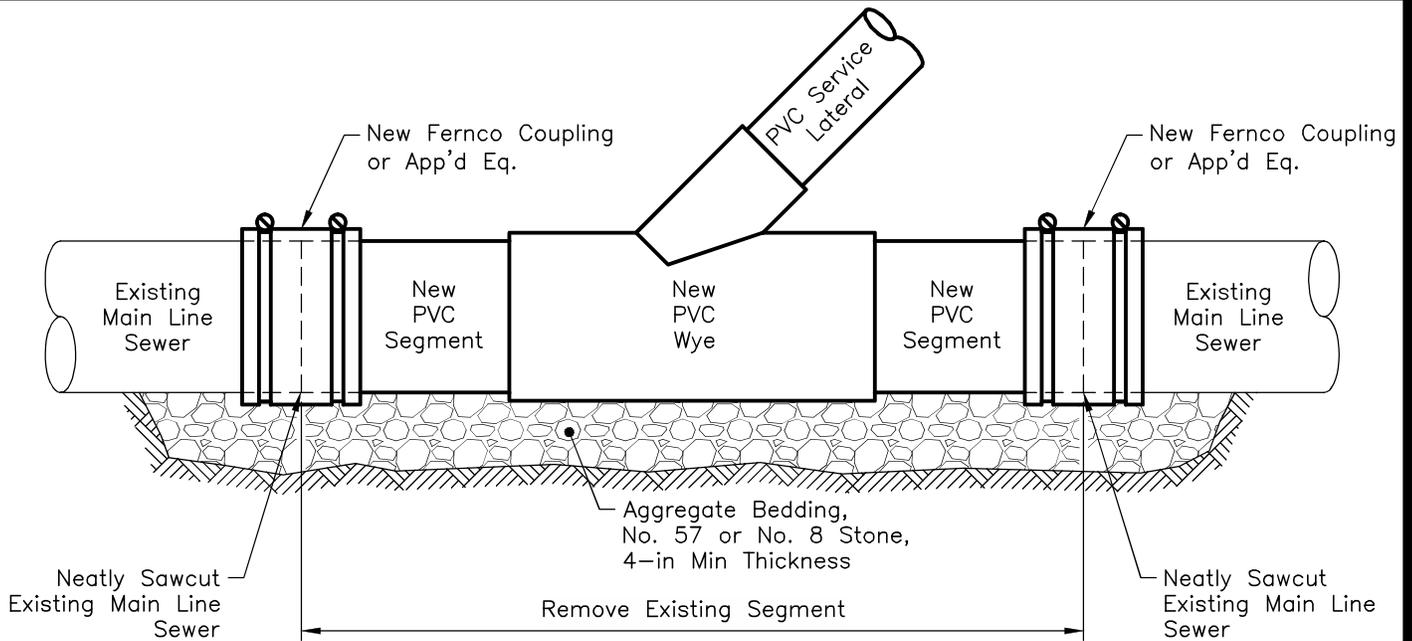
66	73	91 ¹ / ₄	36 ¹ / ₄	.640	.094
72	86	107 ¹ / ₂	39 ¹ / ₂	.800	.130
78	93	116 ¹ / ₄	41 ¹ / ₄	.892	.152
84	100	125	43	.988	.176
90	107	133 ³ / ₄	44 ³ / ₄	1.087	.201

Approved By:

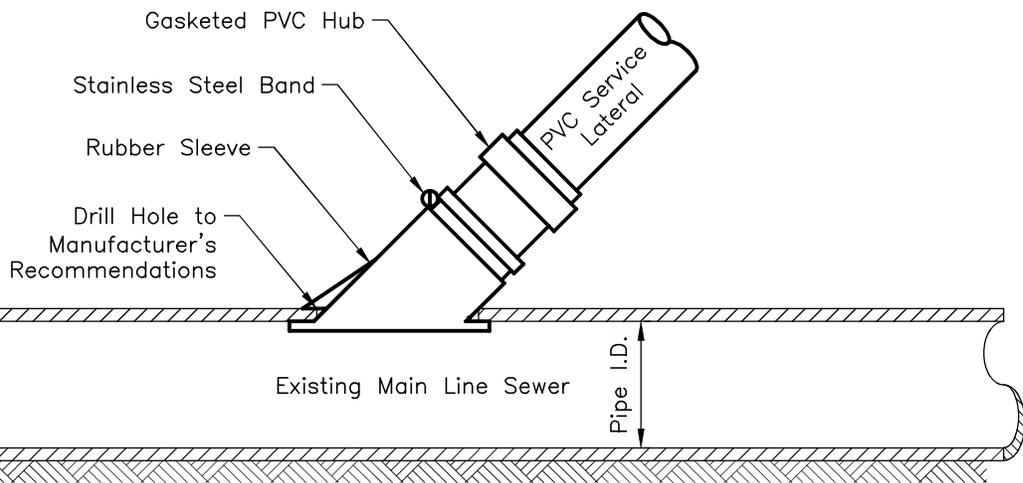
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
 TYPICAL TRENCH
 SECTIONS WITH TYPE II
 BEDDING

CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised October 2015
 Drawing No. C-GC-27



CUT-IN WYE SERVICE CONNECTION



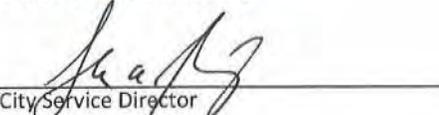
THREE PIECE SERVICE CONNECTION

(Inserta Wye™ or Approved Equal)

DETAIL NOTES

1. New 6-in sanitary laterals on existing sewer pipes shall be installed according to one of the options shown above.
2. Core hole for the 3-piece service connection option shall be made according to the manufacturer's requirements. No pipe chipping or breaking is permitted.
3. The connections shall be water-tight and made using rubber sleeves and stainless steel bands.
4. For the cut-in wye option, a minimum 4-in granular bedding consisting of No. 8 or No. 57 aggregate shall be installed around the new service wye.
5. The flowline and grade of the existing main line sewer shall be maintained and unobstructed at all times.
6. If the house connection is not made immediately after installation of the wye a stopper must be installed.

Approved By:

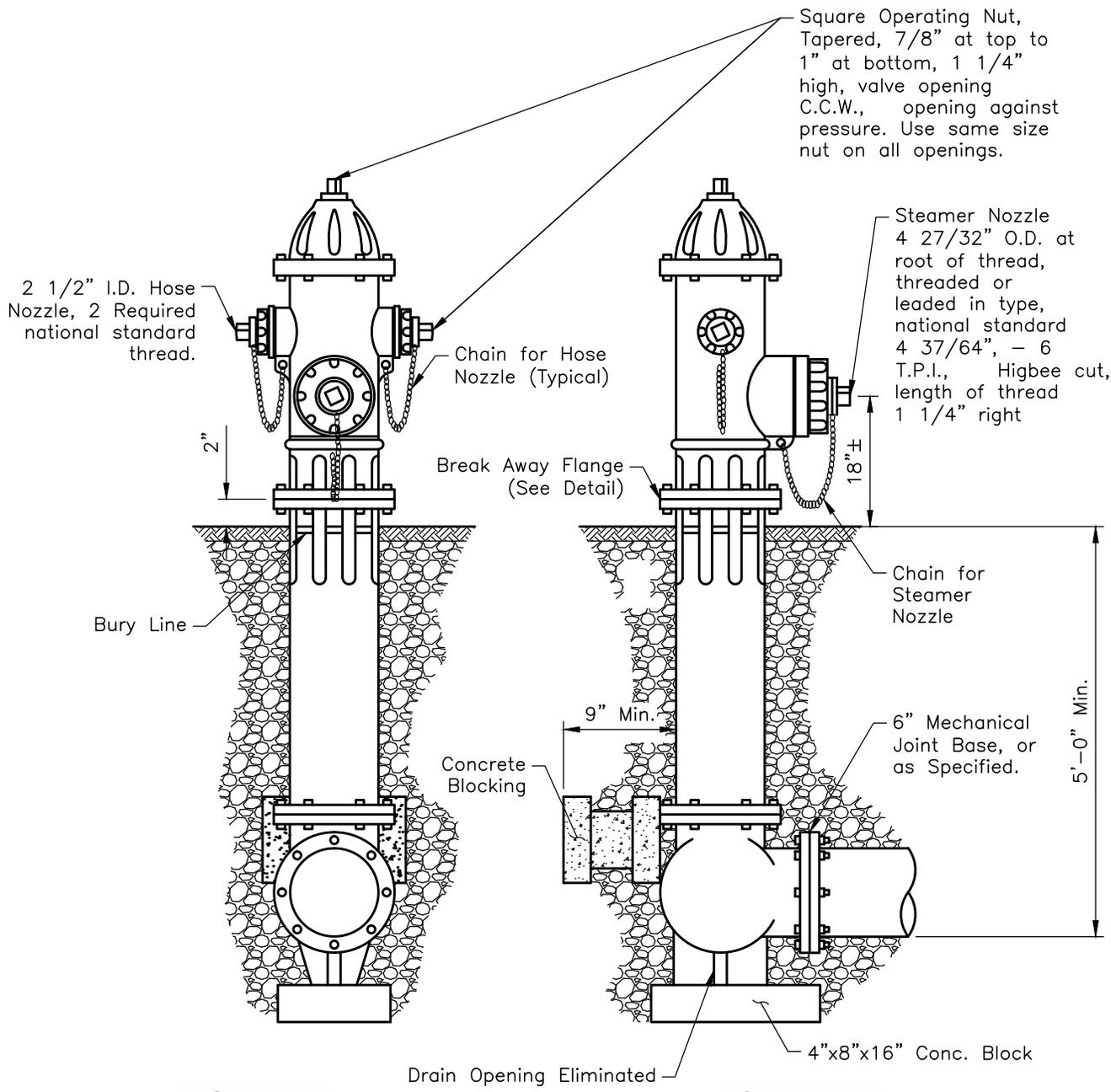
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
 SERVICE CONNECTION
 FOR EXISTING SANITARY
 SEWER PIPE

CITY OF GROVE CITY, OHIO

STANDARD CONSTRUCTION DRAWING

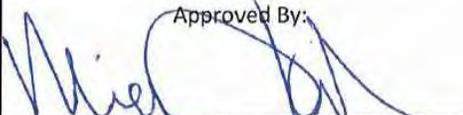
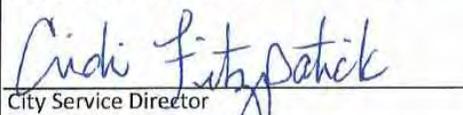
Revised		Drawing No.
October 2015		C-GC-30



FRONT VIEW

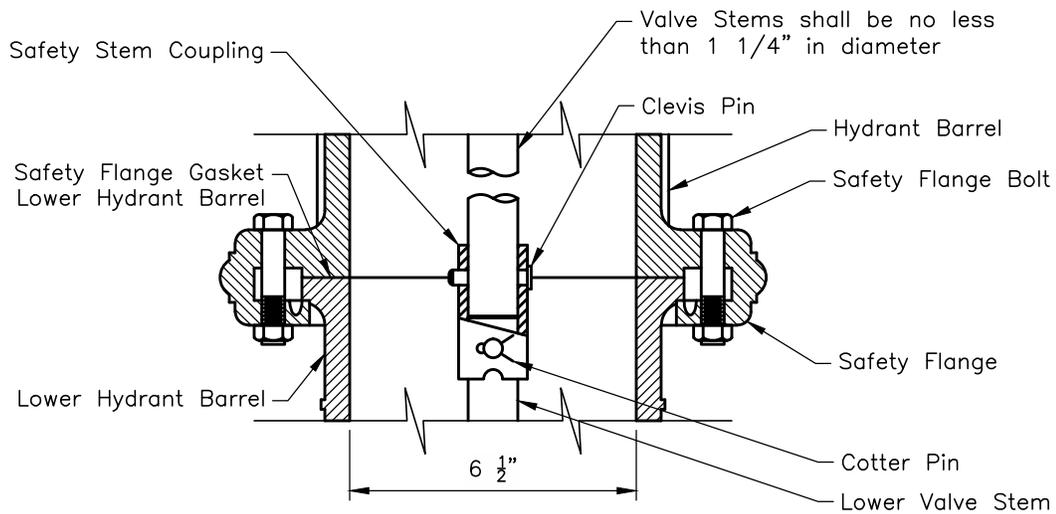
SIDE VIEW

Backfill shall consist of granular material conforming to Item 304 or other approved suitable material, power tamped in layers not exceeding 4 inches in thickness, loose measurement. This granular backfill shall extend from the bottom of the pit or trench to 6-inches below the existing or proposed surface of the surrounding area. The cost of furnishing and placing this backfill shall be included in the price bid for each fire hydrant. All fire hydrants shall be installed with concrete blocking against undisturbed earth.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
 STANDARD FIRE
 HYDRANT DETAIL

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	1/4	C-GC-31



BREAK FLANGE & SAFETY COUPLING SECTION

FIRE HYDRANT NOTES:

Type of hydrant: The hydrant shall be the post type traffic model made of cast iron as shown hereon. It shall have a breaking connection that prevents loss of water when the upper and lower sections are separated by a smashing impact. The hydrant shall be of the compression type with the valve opening in a counter-clockwise direction against the pressure and closing with the pressure. The valve end of the stem or valve rod shall be so constructed as to eliminate contact of dissimilar metals in the presence of moisture.

The stem or valve rod shall be constructed in one continuous length from the valve to the breaking coupling or to the bottom of the extension piece where extensions are required. The stem or valve rod between the valve and operating nut shall be made of stainless steel and have a 1 1/4" minimum diameter after machining. The breaking coupling shall fit over the valve rod and be located at the proper point to conform to the breaking connection in the standpipe. All bolting below grade shall be stainless steel.

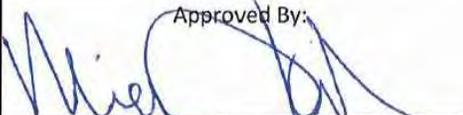
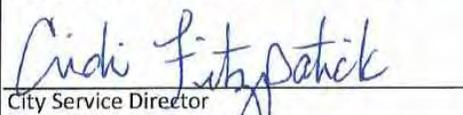
The barrel shall have an area of not less than 120 percent of the valve opening. The type of valve shall be rubber with the diameter of the port in the seal ring being a minimum of 4 1/4".

All interior working parts of the hydrant including valve and valve seat shall be such that they can be removed through the top of the standpipe without excavation. The upper section of the standpipe above the ground line shall be adjustable so that the nozzles can be rotated to any desired position. All drip or drain openings shall be eliminated or plugged with a threaded, properly sized plug of the same material as the hydrant casting. The hydrants shall be equipped with rubber-faced valves. The hydrant shall be rated for a pressure of 250 p.s.i. All lubrication shall be accomplished by using NSF/FDA food grade grease.

Reference Specifications:

All fire hydrants shall conform with the latest American Water Works Association Standards, C-502 and the requirements of the City of Grove City and the Jackson Township Fire Department as enumerated herein. All specifications shall refer to the latest effective editions.

(Fire Hydrant Notes Continued to Sheet 3)

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
 STANDARD FIRE
 HYDRANT DETAIL

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	2/4	C-GC-31

(Fire Hydrant Notes Continued from Sheet 2)

Approvals and Certifications:

The following hydrants have been approved for use:

American Darling - "Mark 73"

AVK - "Nostalgic 2780"

Clow - "Eddy"

Kennedy - "Guardian"

Mueller - "Super Centurion"

The approved hydrants listed above must conform to all the requirements contained herein. "Stock" models will not be accepted.

Alternative "equals" to the hydrants listed above will be considered. The manufacturer shall submit supporting data to the City for review and consideration.

Any fire hydrants, delivered to a project within the City or to the City, which fail to conform to the approved information on file with the City, shall be rejected.

With each delivery shipment of fire hydrants, the hydrant manufacturer shall certify that the hydrants conform to the information approved and on file with the City. The certificate shall include the model or identification numbers of the hydrants being delivered and approval date of the information on file with the City. The documentation does not constitute approval or final acceptance of the specific hydrants delivered.

Inspection:

Prior to installation, all fire hydrants shall be inspected by the City Engineer or a City representative and by the Chief of the Jackson Township Fire Department or a Fire Department representative. The hydrants shall receive either a conditional acceptance or a rejection. Conditional acceptance shall mean that the hydrants may be installed.

Upon installation, each hydrant shall be tested for operation and leaks with a member of the Jackson Township Fire Department present during the test, and shall receive either operational acceptance or a rejection.

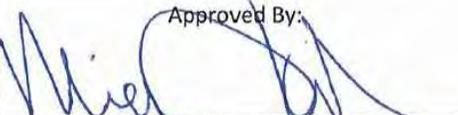
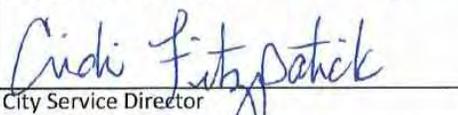
The City reserves the right to reject any and all fire hydrants found to be in non-compliance with any of the requirements stated herein at any time during the acceptance, or above described approval, process. Any fire hydrants which are rejected and which cannot be brought into compliance with the requirements as stated herein shall be removed from the project site, storage site, or the work site at no expense to the City.

The final field acceptance shall govern over any document approval and shall be based on all the work being completed; including installation, testing, operation and painting.

Installation:

The fire hydrant shall be installed as specified herein and in accordance with the City of Grove City Standard Drawing No. C-GC-32, the City of Columbus Standard Water Drawings No. L-6637, Type A Setting, No. L-6409, Type B Setting, or as specified by the City Engineer.

(Fire Hydrant Notes Continued to Sheet 4)

 Approved By: City Engineer, EMH&T Inc	STANDARD DIMENSIONS FOR STANDARD FIRE HYDRANT DETAIL	CITY OF GROVE CITY, OHIO		
		STANDARD CONSTRUCTION DRAWING		
 City Service Director		Revised February 2016	Sheet 3/4	Drawing No. C-GC-31

(Fire Hydrant Notes Continued from Sheet 3)

The base section of all fire hydrants shall be set to an elevation which will be correct for the proposed grade of the street. The elevation of the top barrel section shall be set so that the grade line of the hydrant is at the established or proposed finished grade, as indicated on the construction drawings, through the installation of hydrant extension sections, as needed.

The hydrant nozzles shall be turned as directed by the engineer or his representative.

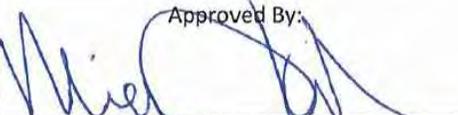
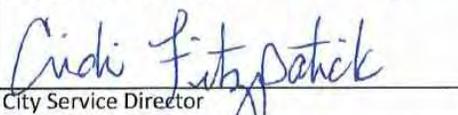
Painting:

Final paint color shall be two coats of Sherwin Williams Industrial Enamel Alkyd Coating Safety Yellow B54Y37 or equivalent. Prior to painting, samples shall be submitted to the Jackson Township Fire Department for approval. After operational acceptance, all hydrant surfaces above the ground line shall be cleaned, washed, and wire brushed, and all surfaces or spots that require touching up shall have one coat of primer paint applied. When all the surfaces have been primed and are dry, then all hydrant surfaces shall receive two (2) coats of the approved enamel.

Materials and Workmanship:

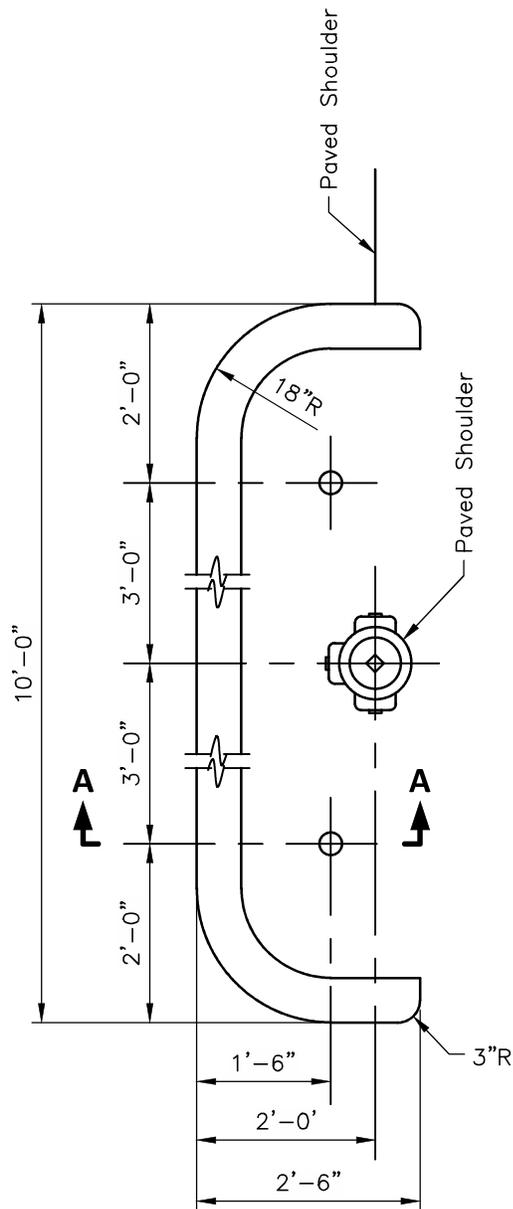
All machined parts shall be true to gauge so that they will be interchangeable between hydrants of the same make and size.

When required, non-adjustable hydrant wrenches, properly sized to the specified operating nut dimensions and fabricated by the hydrant manufacturer, shall be supplied.

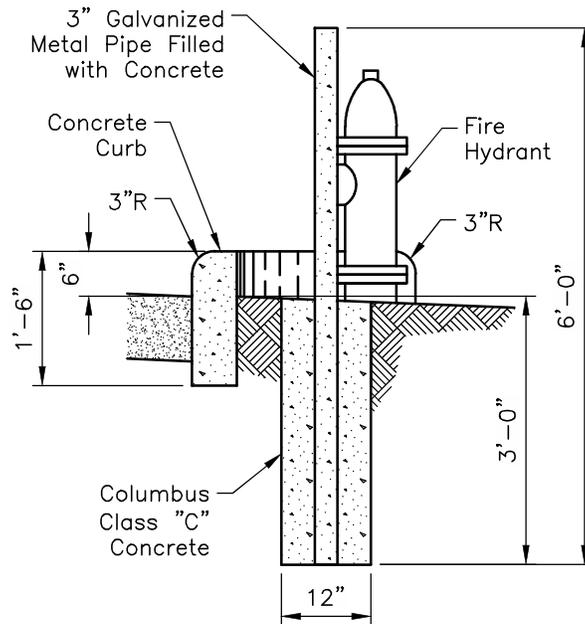
 Approved By: City Engineer, EMH&T Inc	STANDARD DIMENSIONS FOR STANDARD FIRE HYDRANT DETAIL	CITY OF GROVE CITY, OHIO		
		STANDARD CONSTRUCTION DRAWING		
 City Service Director		Revised February 2016	Sheet 4/4	Drawing No. C-GC-31

3-inch Metal Protection Posts shall be wire brushed clean and painted one coat of primer and two coats of Federal Safety Orange enamel after each coat is thoroughly dry.

Fire Hydrant Protection shall be used when hydrants are within 6 feet (6') from the edge of pavement of streets, access roads, and drives without curb or elsewhere as directed.



PLAN VIEW



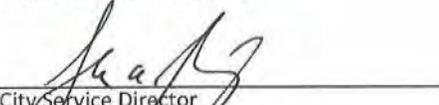
SECTION "A-A"

FIRE HYDRANT PROTECTION DETAIL

DETAIL NOTES

1. No Hydrant shall be located within thirty feet (30') from the edge of pavement or face of curb lines of any two public streets extended to their intersection.
2. No hydrant shall be located within six feet (6') from the edge of any residential drive approach, nor shall any hydrant be located within eight feet (8') of an alley, commercial drive, or access road.
3. Valve box and cover casting shall be level with the finished ground or flush with paved surfaces.
4. Prior approval shall be obtained from the City Engineer before any change is made to the ground elevation at an existing hydrant or valve box.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

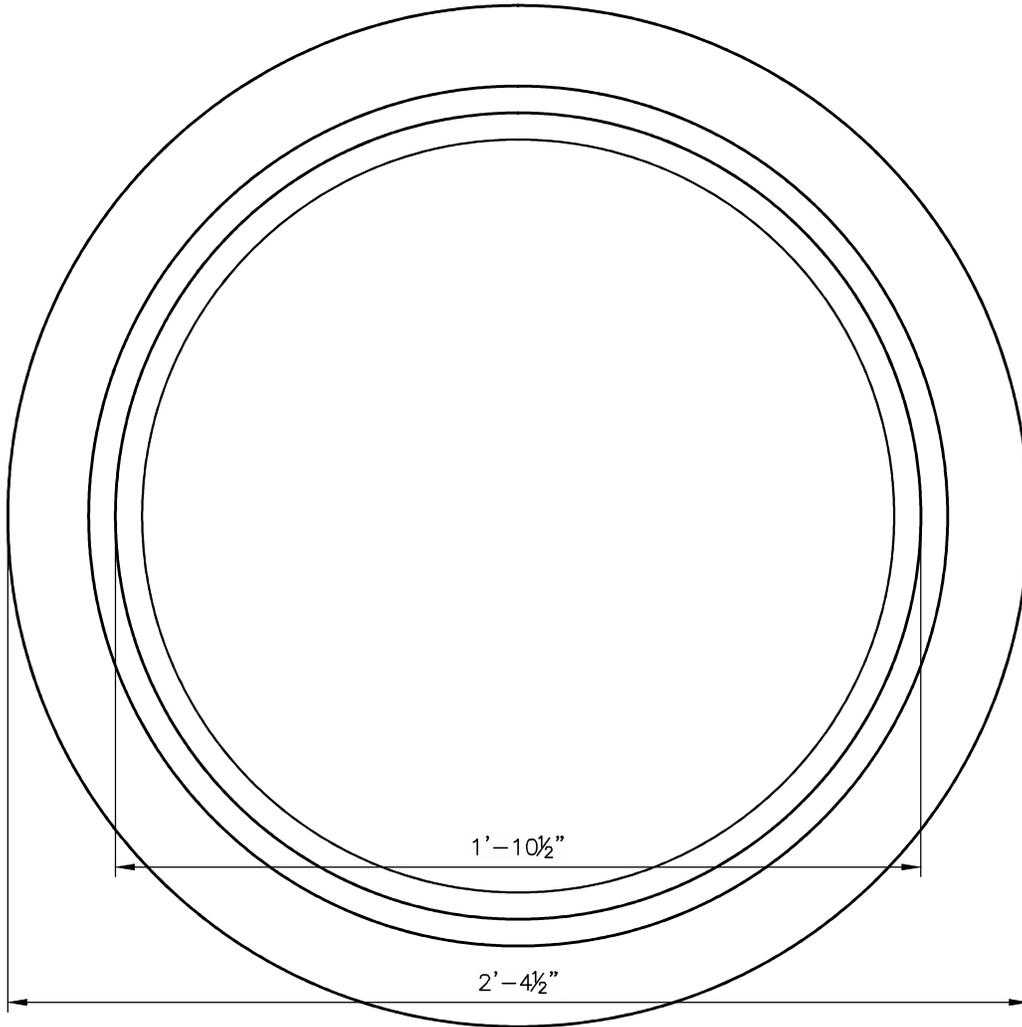
STANDARD DIMENSIONS
FOR

**FIRE HYDRANT
LOCATION DETAIL**

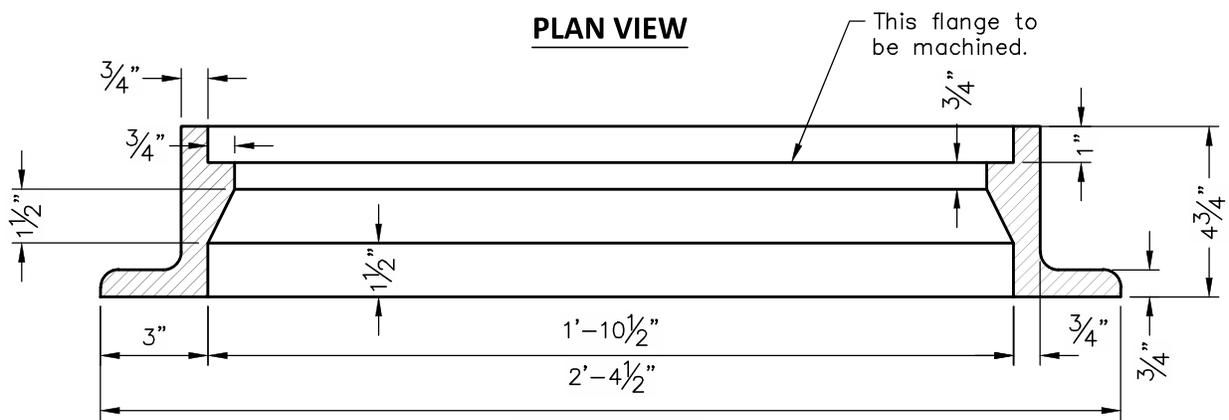
**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

Revised	Sheet	Drawing No.
October 2015	2/2	C-GC-32

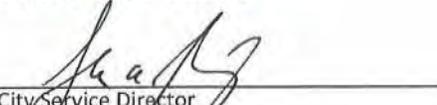


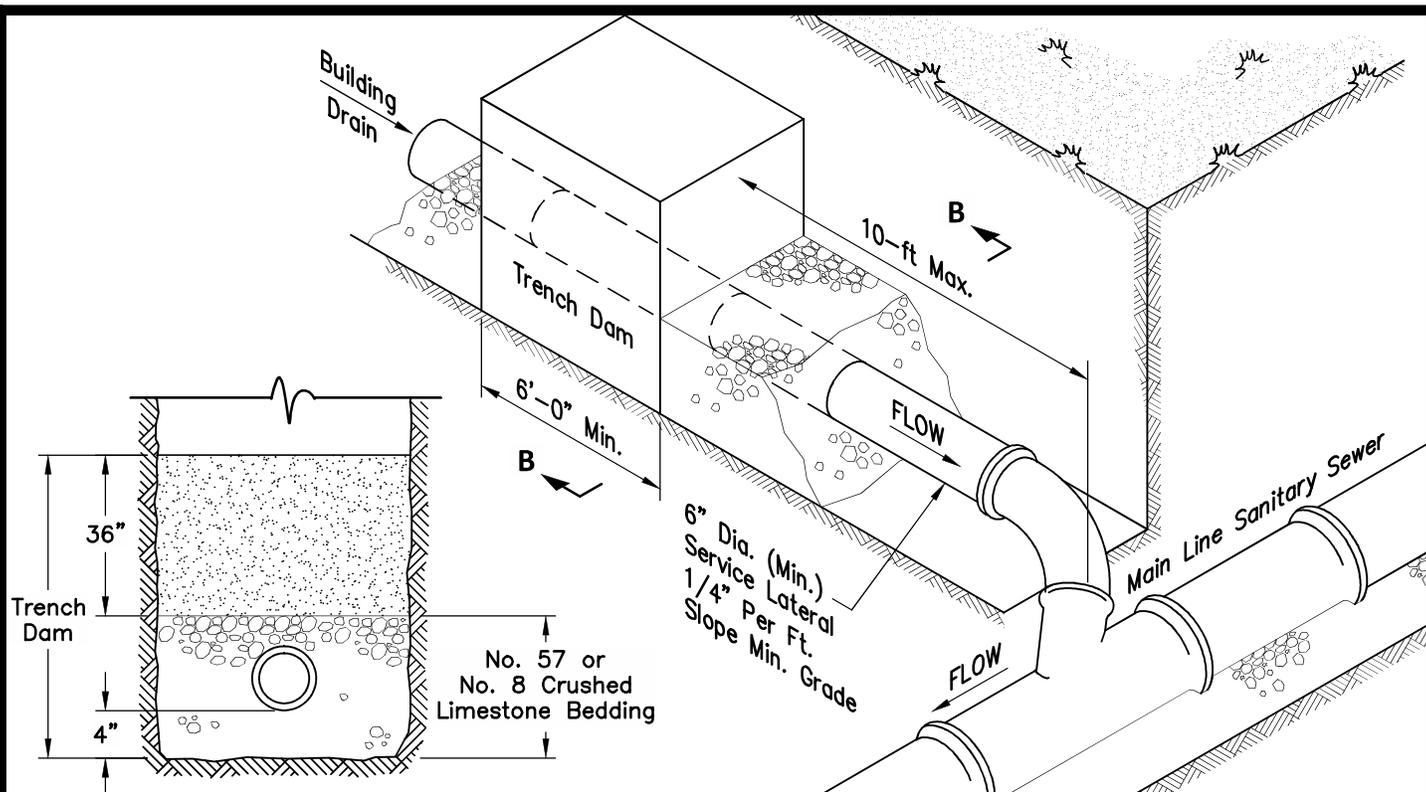
PLAN VIEW



SECTION

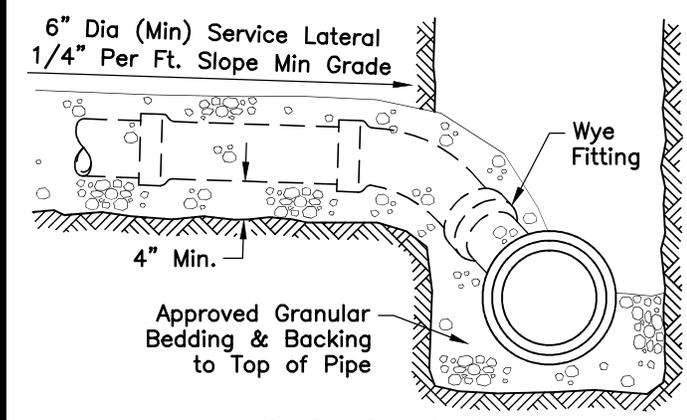
NOTE: This frame to be used only where specified by the City of Grove City. (Approximate weight 125 lbs.)

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR MODIFIED HEIGHT 24" MANHOLE FRAME</p>	<p>CITY OF GROVE CITY, OHIO</p> <p>STANDARD CONSTRUCTION DRAWING</p> <table border="1"> <tr> <td data-bbox="1052 1900 1214 1995">Revised October 2015</td> <td data-bbox="1214 1900 1377 1995"></td> <td data-bbox="1377 1900 1539 1995">Drawing No. C-GC-34</td> </tr> </table>	Revised October 2015		Drawing No. C-GC-34
Revised October 2015		Drawing No. C-GC-34			

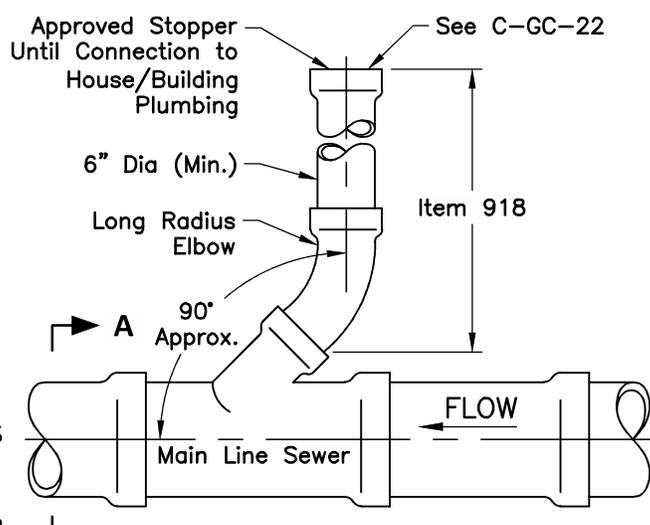


ISOMETRIC VIEW

SECTION B-B



SECTION A-A



PLAN VIEW

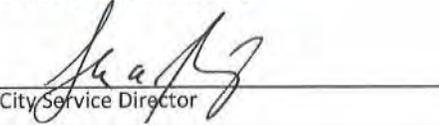
DETAIL NOTES

1. Trench dams are required as specified under Columbus CMS 918.04 and shall be constructed to 36-in over the pipe.
2. Sanitary house connection services shall be connected to the existing sewer with the same material fitting or with a compatible adaptor in accordance with Columbus CMS 915 and 918.02.

Approved By:



City Engineer, EMH&T Inc

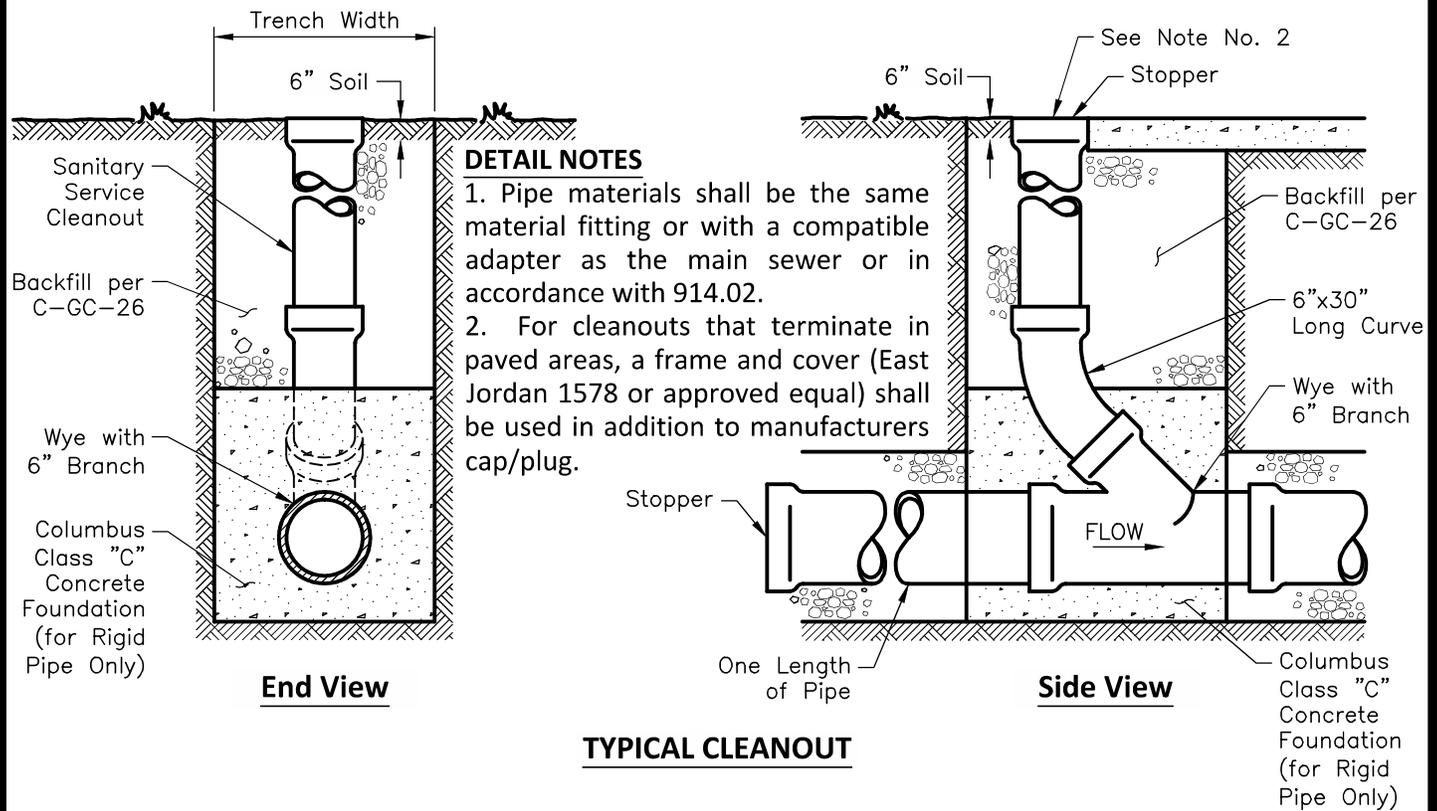


City Service Director

STANDARD DIMENSIONS FOR

TYPICAL SANITARY SERVICE CONNECTION, AND RISER

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	1/2	C-GC-37



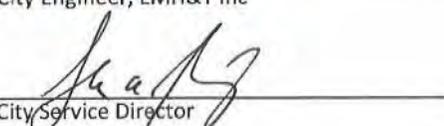
DETAIL NOTES

1. Pipe materials shall be the same material fitting or with a compatible adapter as the main sewer or in accordance with 914.02.
2. For cleanouts that terminate in paved areas, a frame and cover (East Jordan 1578 or approved equal) shall be used in addition to manufacturers cap/plug.

DETAIL NOTES

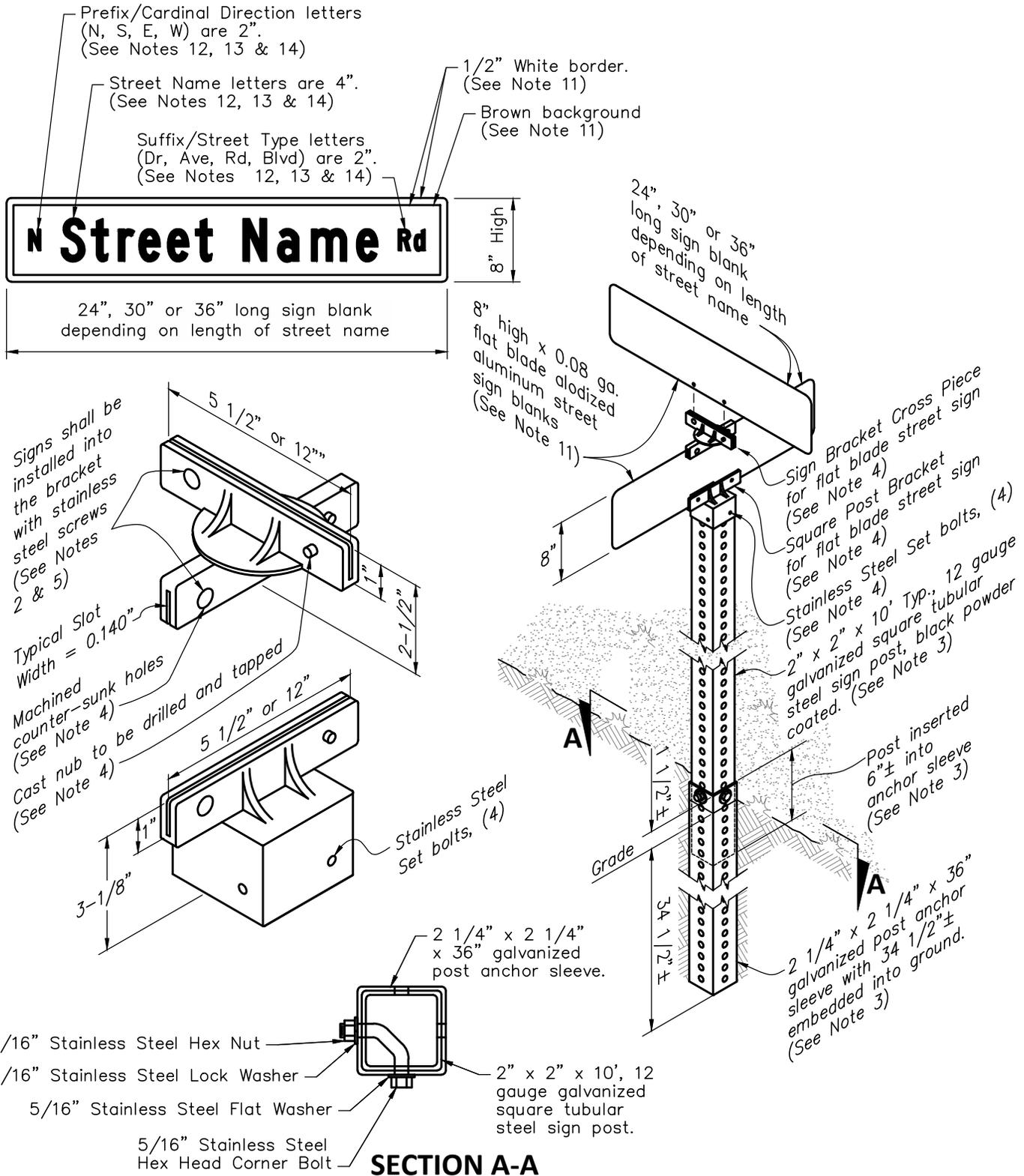
1. When a wye branch is not available in the main line sewer, the main line may be tapped as shown in standard drawing G-GC-30 or as approved by the City Engineer.
2. No tap shall be made into any sanitary sewer until all permits have been obtained, all legal fees paid, and the service department notified three days prior to beginning work.
3. The Contractor shall place a bedding cut off trench dam of native clay or impervious soil across and along the trench at a point 10 feet upstream from the main line sewer wye, tee or saddle to retard and resist the movement of groundwater through the trench granular bedding or backfill material. The trench dams shall be carefully compacted and shall be 6 feet in thickness, as measured along the service centerline and shall be constructed against the undisturbed trench sides from the bottom of the trench to a limit of 36 inches over the top of the pipe.
4. For bedding material see standard drawings C-GC-26 and C-GC-27.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**TYPICAL SANITARY SERVICE
 CONNECTION, AND RISER**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	2/2	C-GC-37



Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

STANDARD DIMENSIONS FOR

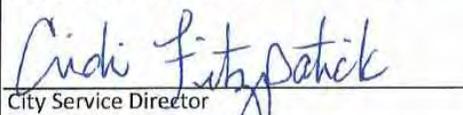
TYPICAL STREET NAME SIGN

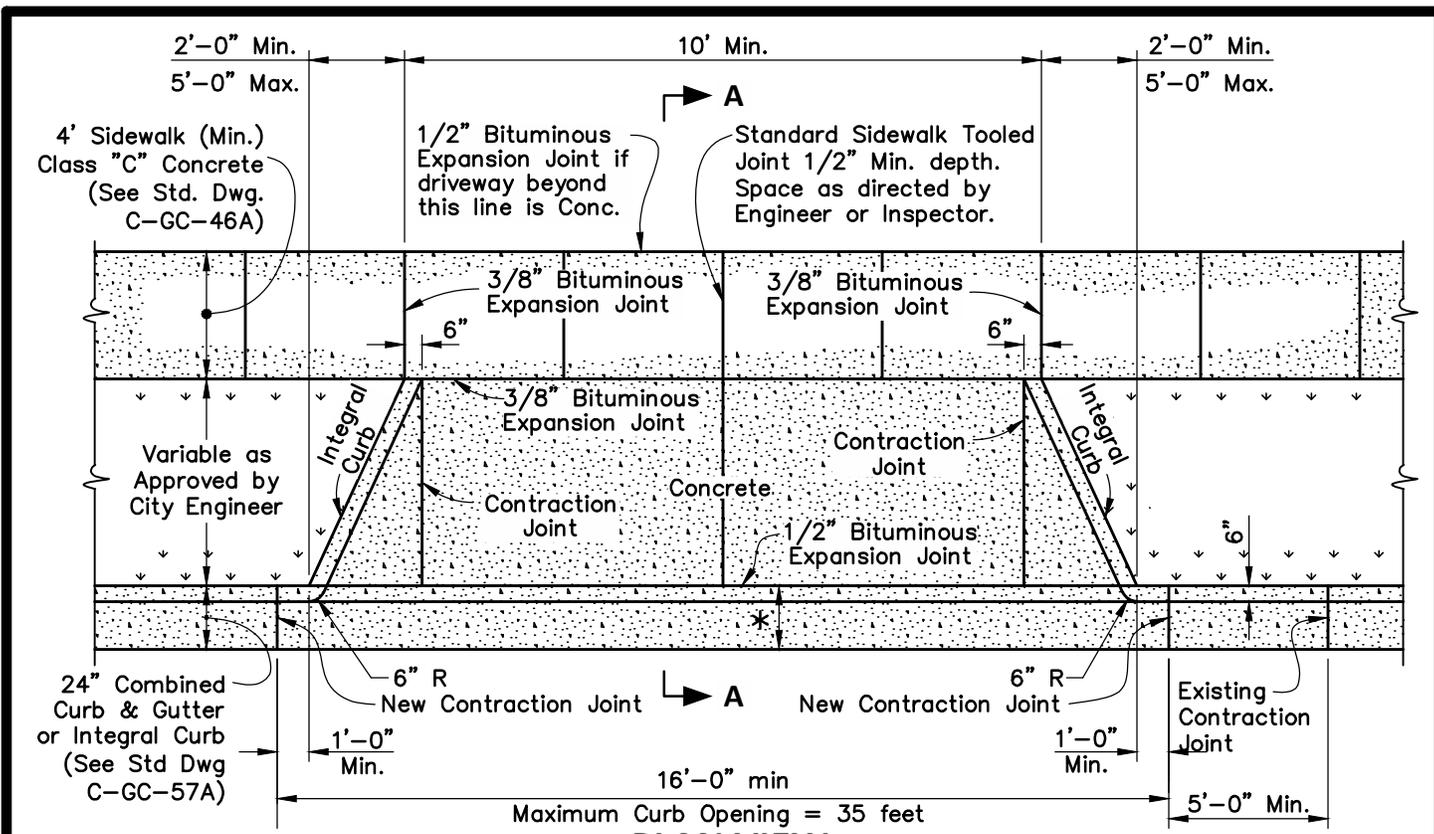
CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised		Drawing No.
February 2016	1/2	C-GC-40

DETAIL NOTES

ITEM 630 STREET SIGN, AS PER PLAN

1. All regulatory and traffic control signs shall comply with the current Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, State requirements and Local requirements. The requirements of this specification including painting, apply to all permanent signs whether they are ground mounted on posts or pole supports, or overhead mounted on mast arms. This specification shall not apply to temporary signs.
2. All visible elements of the anchor assembly and sign post shall be powder coated to match federal standard 595-B Color # 27038, (BLACK). All mounting and assembly hardware: nuts, bolts, drive rivets and pop rivets shall not be painted. Shop drawings and paint samples shall be submitted for review and approval prior to ordering material.
3. All street name signs will be mounted on 2"square, 10' long, 12 gauge galvanized square tubular steel sign posts with 7/16" holes spaced on 1" centers for the entire length of the post. If the street name sign is mounted in combination with STOP or YIELD then the traffic control sign will be considered the primary sign and the minimum height to the bottom of the STOP or YIELD will be 7'. The minimum length of sign post will be 10'. Posts will be installed using a 36" post anchor sleeve embedded 34-1/2"± in the ground with 1 1/2"± exposed above ground. Posts will be inserted 6"± into the anchor sleeve. The corner bolt, nuts, and washers that anchor the sleeve to the post must be above grade.
4. The brackets shall be die-cast of high strength aluminum alloy No. 380 under 400 tons pressure, with a minimum strength of 45,000 P.S.I., degreased, polished and tumbled to a low-sheen finish. The sign slot in the Square Post Bracket and the Sign Bracket Cross Piece shall have dimensions as shown. The 5-1/2" bracket will be used to mount 24" or 30" sign blanks, the 12" bracket will be used to mount the 36" sign blanks. Each leg of the mount shall be cast with two (2) holes counter-sunk on opposite sides and drilled and tapped to accept two hex-head stainless steel bolts on the opposite side of the countersunk hole. The side of each slot opposite the set screws shall be cast or machined accurately horizontal. The skirt of the Square Post Bracket shall be drilled and tapped for four (4) bolts, one on each side and placed so the set screws will bed against a solid piece of the sign pole.
5. All mounting and assembly hardware shall be stainless steel.
6. The post shall be set plumb in all directions and the signs at right angles to the post.
7. All street signs shall be installed in locations as shown on the street plans, in accordance with these specifications and prior to acceptance of the streets by the City.
8. The developer may make arrangements with the Service Department to furnish and install the signs. All costs shall be paid by the developer.
9. Sign posts are not to be poured into concrete curb or sidewalk. Anchor sleeve MUST be used for sign.
10. "U-Channel" Posts are not acceptable.
11. Each side of the 8" aluminum sign blank shall be covered w/hi-intensity brown 3M Scotchlite®, or equal, pressure sensitive paper with a one-half inch (1/2") white border using hi-intensity white 3M Scotchlite®, or equal, pressure sensitive paper along the outside edge.
12. All street sign lettering is to be highway gothic font using hi-intensity white 3M Scotchlite®, or equal, pressure sensitive paper centered vertically on the blank. See the detail drawing for lettering sizes.
13. The single letter of the Cardinal Direction is to be capitalized. The first letter of each word of the Prefix, Street Name Street Type, and/or Suffix is to be capitalized followed by lower case letters.
14. No periods or other punctuation marks are to be used in the prefix, cardinal direction, suffix or street type.
15. Signs shall not be allowed to overlap other signs.
16. Street sign styles that differ from this standard must be approved in writing by the City of Grove City Service Department and/or the Planning Commission prior to installation.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>TYPICAL STREET NAME SIGN</p>	<p>CITY OF GROVE CITY, OHIO</p>	
		<p>Revised February 2016</p>	<p>STANDARD CONSTRUCTION DRAWING</p> <p>2/2</p>

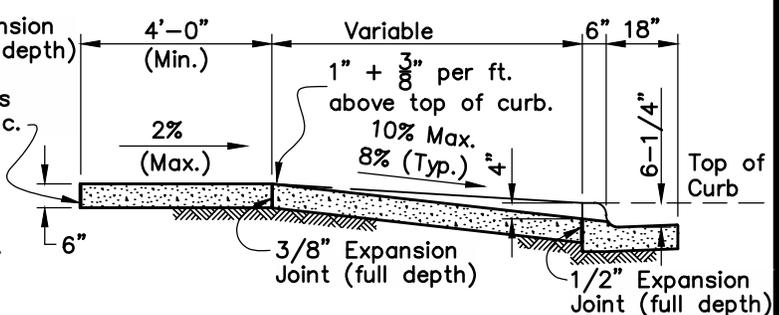


PLAN VIEW

* = Minimum limits of combined curb & gutter or integral curb to be removed if curb has not yet been previously dropped. All joints to be sawed and provision made for proper contraction joints.

DETAIL NOTES

1. All materials and construction to conform to Item 452 Columbus CMS. Use either Class "C" or Class "MS" Concrete. No Fly Ash or GGBFS is permitted. Particular attention shall be given to finish and curing.
2. Subgrade excavated below the prescribed grade shall be filled with an approved crushed aggregate and compacted as directed.
3. When directed by the City, 2-in Duct for street light cable shall be laid under driveway approaches prior to pouring approaches. Duct shall be placed 4-ft back of curb and 24-in below proposed finished grade.
4. Surfaces shall be broom finish and all joints and edges shall be tooled after broom finish. Any existing castings or valve boxes in driveway approach shall be adjusted to grade.
5. Drive apron, sidewalk across approach, integral or straight curb, and curb & gutter adjacent to street shall be included in the price bid for this item.
6. Contractor shall apply a cure & seal compound, as approved by the City, to finished concrete.
7. Contraction Joints shall not be less than 2-in in depth.



SECTION A-A

Approved By:

Michael...

City Engineer, EMH&T Inc

...

City Service Director

STANDARD DIMENSIONS
FOR

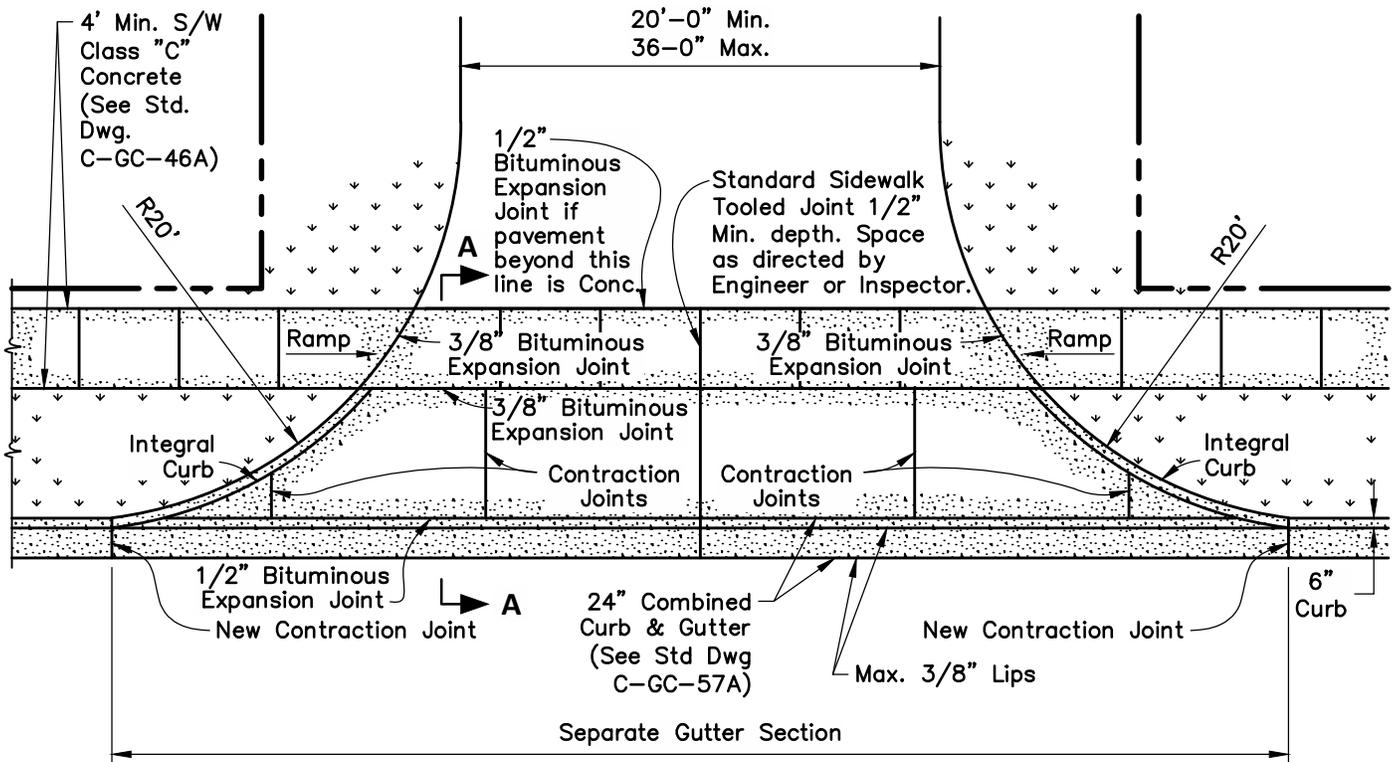
**RESIDENTIAL DRIVEWAY
APPROACH**

**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

Revised
October 2015

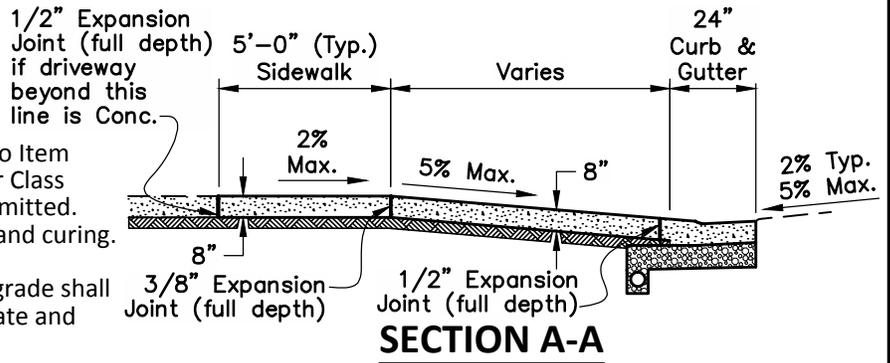
Drawing No.
C-GC-41A



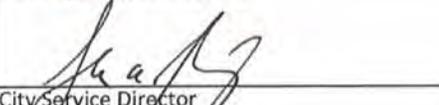
PLAN VIEW

DETAIL NOTES

1. All materials and construction to conform to Item 452 Columbus CMS. Use either Class "C" or Class "MS" Concrete. No Fly Ash or GGBFS is permitted. Particular attention shall be given to finish and curing.
2. Subgrade excavated below the prescribed grade shall be filled with an approved crushed aggregate and compacted as directed.
3. When directed by the City, 2-in Duct for street light cable shall be laid under driveway approaches prior to pouring approaches. Duct shall be placed 4-ft back of curb and 24-in below proposed finished grade.
4. Surfaces shall be broom finish and all joints and edges shall be tooled after broom finish. Any existing castings or valve boxes in driveway approach shall be adjusted to grade.
5. Drive apron, sidewalk across approach, integral or straight curb, and curb & gutter adjacent to street shall be included in the price bid for this item.
6. Contractor shall apply a cure & seal compound, as approved by the City, to finished concrete.
7. Contraction Joints shall not be less than 2-in in depth.

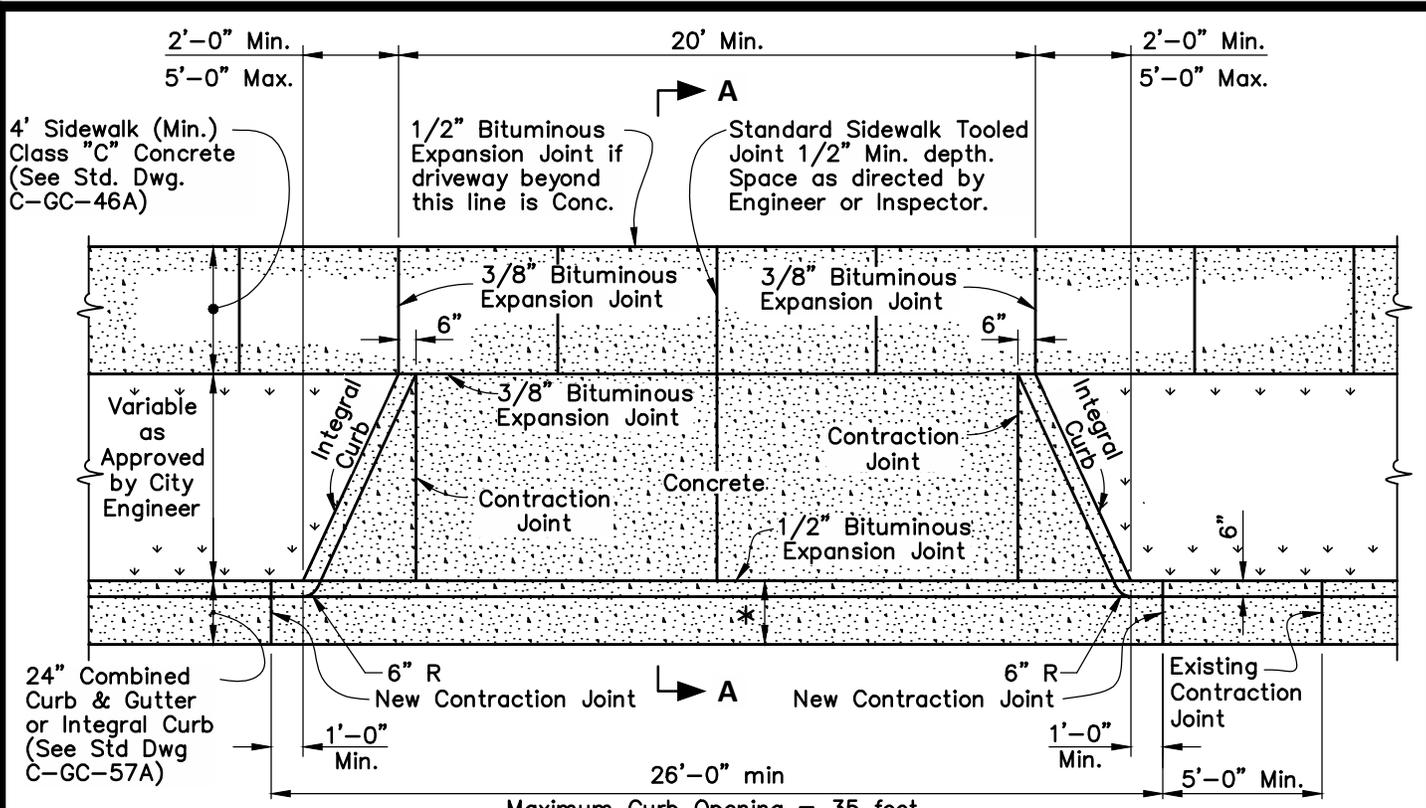


Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**STANDARD ALLEY/ACCESS
 ROAD APPROACH**

**CITY OF
 GROVE CITY, OHIO**
 STANDARD
 CONSTRUCTION DRAWING
 Revised October 2015
 Drawing No. C-GC-41B



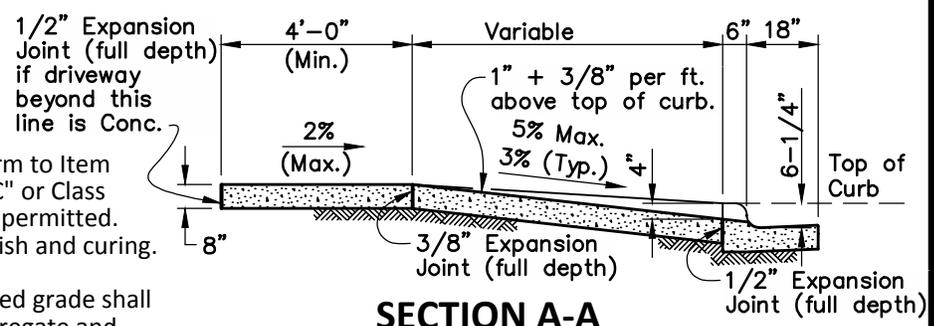
Maximum Curb Opening = 35 feet

PLAN VIEW

* = Minimum limits of combined curb & gutter or integral curb to be removed if curb has not yet been previously dropped. All joints to be sawed and provision made for proper contraction joints.

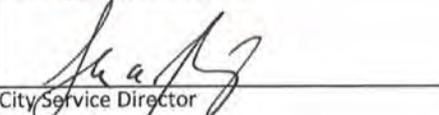
DETAIL NOTES

1. All materials and construction to conform to Item 452 Columbus CMS. Use either Class "C" or Class "MS" Concrete. No Fly Ash or GGBFS is permitted. Particular attention shall be given to finish and curing.
2. Subgrade excavated below the prescribed grade shall be filled with an approved crushed aggregate and compacted as directed.
3. When directed by the City, 2-in Duct for street light cable shall be laid under driveway approaches prior to pouring approaches. Duct shall be placed 4-ft back of curb and 24-in below proposed finished grade.
4. Surfaces shall be broom finish and all joints and edges shall be tooled after broom finish. Any existing castings or valve boxes in driveway approach shall be adjusted to grade.
5. Drive apron, sidewalk across approach, integral or straight curb, and curb & gutter adjacent to street shall be included in the price bid for this item.
6. Contractor shall apply a cure & seal compound, as approved by the City, to finished concrete.
7. Contraction Joints shall not be less than 2-in in depth.



SECTION A-A

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**COMMERCIAL DRIVEWAY
 APPROACH**

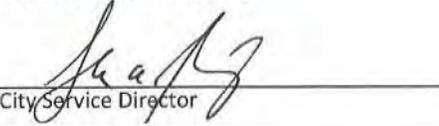
**CITY OF
 GROVE CITY, OHIO**

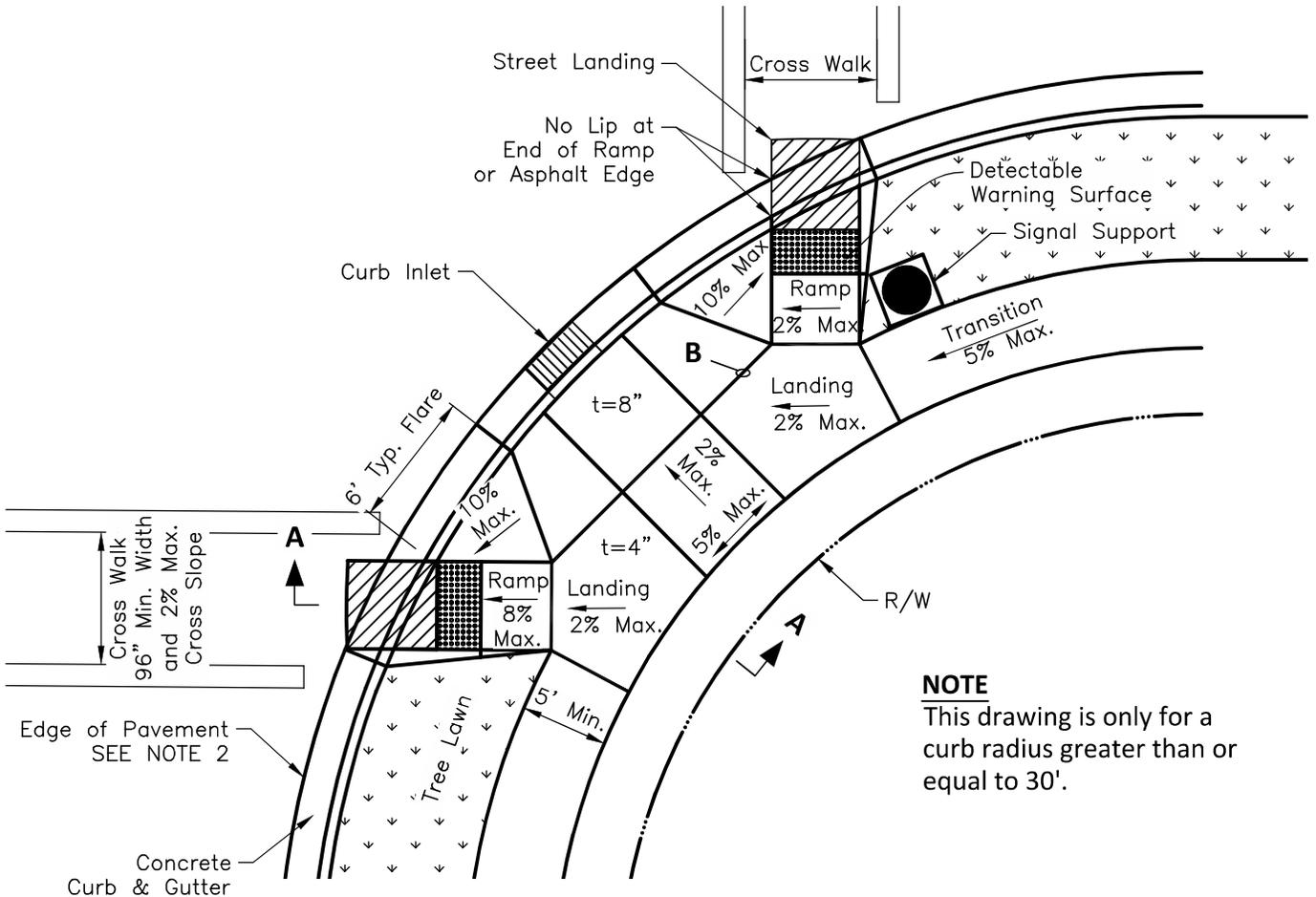
STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-42

DETAIL NOTES

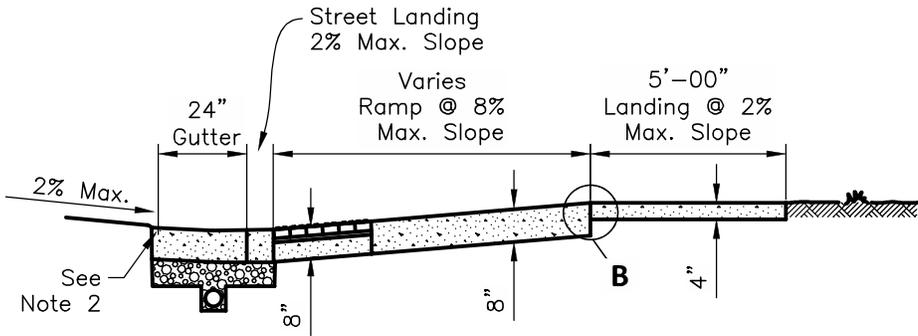
1. The Curb, Ramp, Landing, and Transitions shall be formed and placed separately. The Contractor is responsible to meet all tolerances. Cross slopes for Sidewalks, Ramps, Landings, Gutters, Transitions, and Cross Walks shall not exceed 2%. Ramps shall be as flat as possible and in no event shall the running slope exceed 8%.
2. The Contractor shall mill/repave asphalt roadway at edge of pavement if any lip exists, counter slope exceeds 5%, or cross slope exceeds 2%.
3. Ramps must be perpendicular to face of curb and parallel to direction of travel.
4. Maximum tolerance for grades is as shown. Warping or blending ramps to landings shall not be permitted.
5. Detectable Warning Surfaces shall conform to ADAAG Section 4.29 and City of Columbus Supplemental Specification 1551, Type E, red in color, with replaceable surface (Armor-Tile Herculite Series, ADA Solutions Cast in Place Replaceable, or Approved Equal).
6. For unsignalized intersections, the outermost crosswalk line shall be placed a maximum of 25-ft from the face of curb on the adjacent street.
7. All slopes shall be constructed to allow for proper drainage and to prevent ponding at base of ramp.
8. All concrete between landing and back of curb shall transition from 4-in thickness to be 8-in thickness. All concrete to be Columbus Class "S" with No. 57 Limestone Aggregate and 715 lbs of cement per C.Y. No Fly Ash or GGBFS. Air Entrained Concrete with broom finish.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>TYPICAL CURB RAMP FOR RESIDENTIAL NEW CONSTRUCTION</p>	<p>CITY OF GROVE CITY, OHIO</p>		
		<p>STANDARD CONSTRUCTION DRAWING</p>		
Revised October 2015	Sheet 2/2	Drawing No. C-GC-43A		

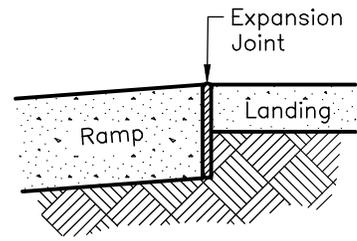


PLAN VIEW

NOTE
 This drawing is only for a curb radius greater than or equal to 30'.

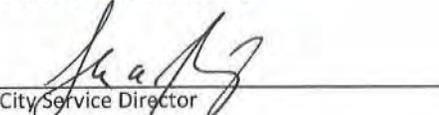


SECTION A-A



DETAIL "B"

Approved By:

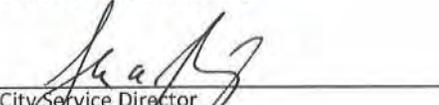
 City Engineer, EMH&T Inc

 City Service Director

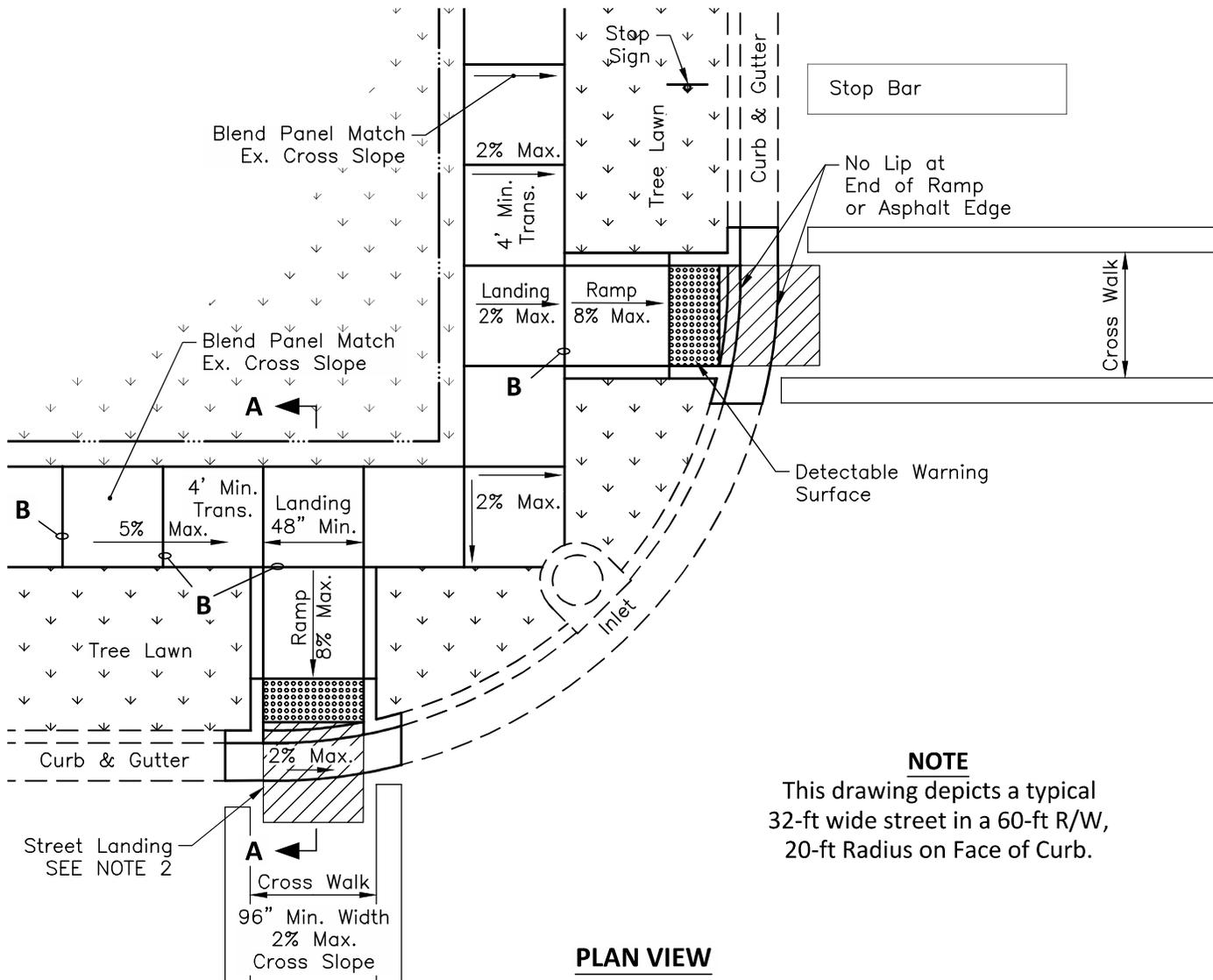
STANDARD DIMENSIONS
 FOR
**TYPICAL ARTERIAL STREET
 CURB RAMP**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	1/2	C-GC-43B

DETAIL NOTES

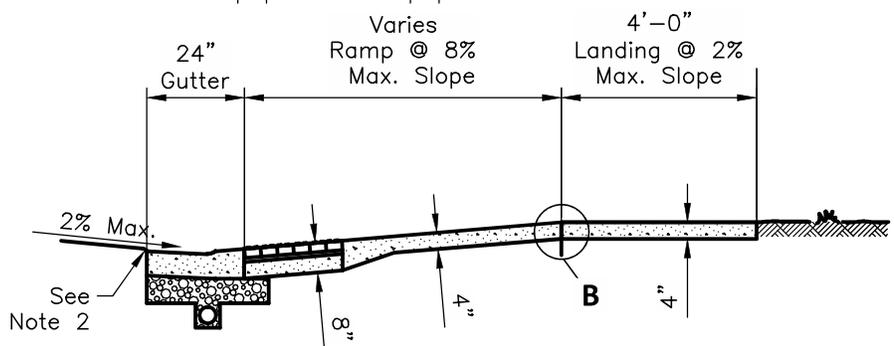
1. The Curb, Ramp, Landing, and Transitions shall be formed and placed separately. The Contractor is responsible to meet all tolerances. Cross slopes for Sidewalks, Ramps, Landings, Gutters, Transitions, and Cross Walks shall not exceed 2%. Ramps shall be as flat as possible and in no event shall the running slope exceed 8%.
2. The Contractor shall mill/repave asphalt roadway at edge of pavement if any lip exists, counter slope exceeds 5%, or cross slope exceeds 2%.
3. Maximum tolerance for grades is as shown. Warping or blending ramps to landings shall not be permitted.
4. Detectable Warning Surfaces shall conform to ADAAG Section 4.29 and City of Columbus Supplemental Specification 1551, Type E, red in color with replaceable surface (Armor-Tile Herculite Series, ADA Solutions Cast in Place Replaceable, or Approved Equal).
5. All slopes shall be constructed to allow for proper drainage and to prevent ponding at base of ramp.
6. All concrete between sidewalk and back of curb shall be 8-in thick. All concrete to be Columbus Class "S" with No. 57 Limestone Aggregate and 715 lbs of cement per C.Y. No Fly Ash or GGBFS. Air Entrained Concrete with broom finish.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>TYPICAL ARTERIAL STREET CURB RAMP</p>	<p>CITY OF GROVE CITY, OHIO</p>		
		<p>STANDARD CONSTRUCTION DRAWING</p>		
<p>Revised</p> <p>October 2015</p>	<p>Sheet</p> <p>2/2</p>	<p>Drawing No.</p> <p>C-GC-43B</p>		

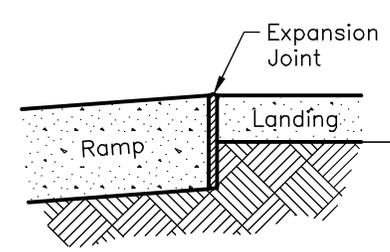


NOTE
 This drawing depicts a typical 32-ft wide street in a 60-ft R/W, 20-ft Radius on Face of Curb.

PLAN VIEW

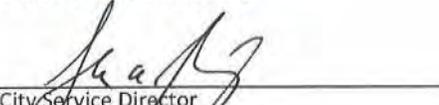


SECTION A-A



DETAIL "B"

Approved By:

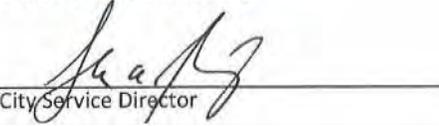
 City Engineer, EMH&T Inc

 City Service Director

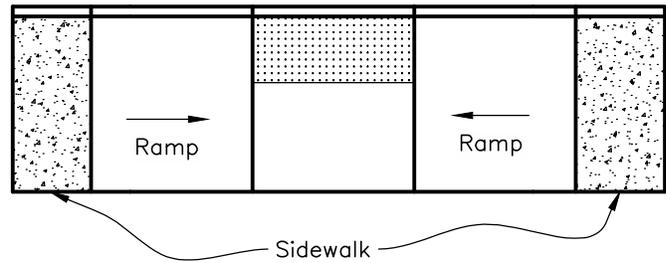
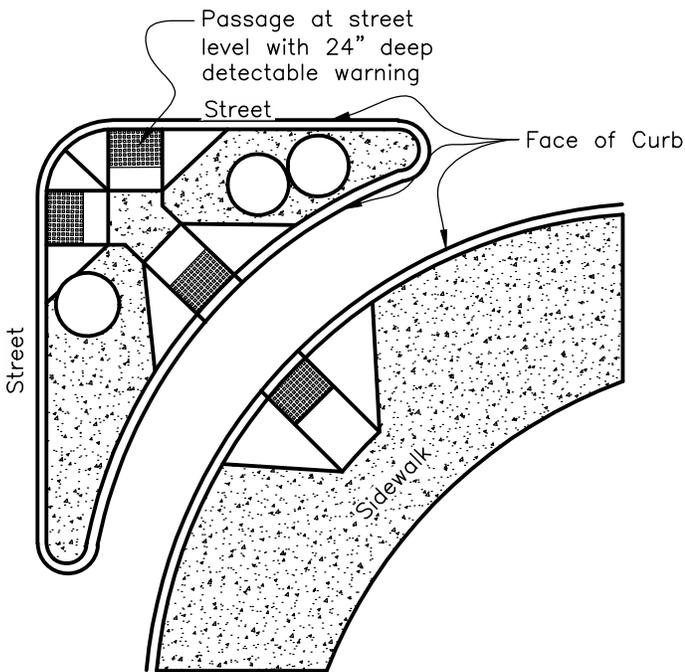
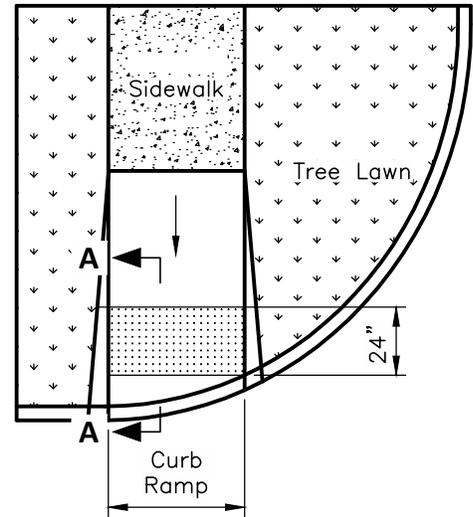
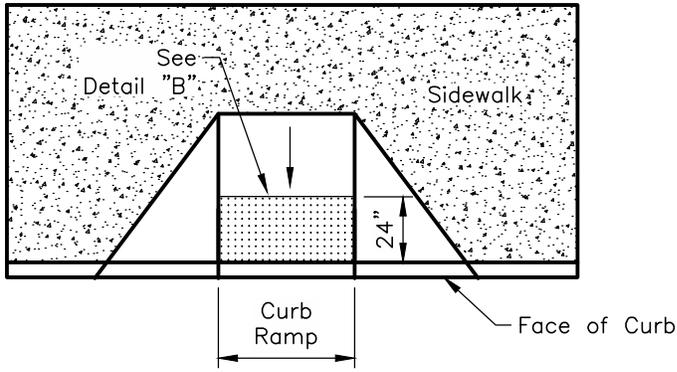
STANDARD DIMENSIONS
 FOR
**TYPICAL CURB RAMP FOR
 RETROFIT IN EXISTING
 RESIDENTIAL AREA**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	1/2	C-GC-43C

DETAIL NOTES

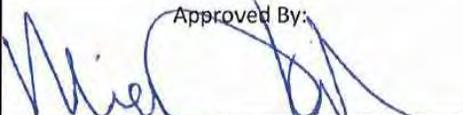
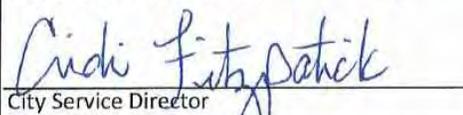
1. The Curb, Ramp, Landing, and Transitions shall be formed and placed separately. The Contractor is responsible to meet all tolerances. Cross slopes for Sidewalks, Ramps, Landings, Gutters, Transitions, and Cross Walks shall not exceed 2%. Ramps shall be as flat as possible and in no event shall the running slope exceed 8%.
2. The Contractor shall mill/repave asphalt roadway at edge of pavement if any lip exists, counter slope exceeds 5%, or cross slope exceeds 2%.
3. Ramps must be perpendicular to face of curb and parallel to direction of travel.
4. Maximum tolerance for grades is as shown. Warping or blending ramps to landings shall not be permitted.
5. Detectable Warning Surfaces shall conform to ADAAG Section 4.29 and City of Columbus Supplemental Specification 1551, Type E, red in color with replaceable surface (Armor-Tile Herculite Series, ADA Solutions Cast in Place Replaceable, or Approved Equal).
6. For unsignalized intersections, the outermost crosswalk line shall be placed a maximum of 25-ft from the face of curb on the adjacent street.
7. All slopes shall be constructed to allow for proper drainage and to prevent ponding at base of ramp.
8. All concrete between landing and back of curb shall transitions from 4-in thickness to 8-in thickness. All concrete to be Columbus Class "S" with No. 57 Limestone Aggregate and 715 lbs of cement per C.Y. No Fly Ash or GGBFS. Air Entrained Concrete with broom finish.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>TYPICAL CURB RAMP FOR RETROFIT IN EXISTING RESIDENTIAL AREA</p>	<p>CITY OF GROVE CITY, OHIO</p> <p>STANDARD CONSTRUCTION DRAWING</p> <table border="1"><tr><td>Revised</td><td>Sheet</td><td>Drawing No.</td></tr><tr><td>October 2015</td><td>2/2</td><td>C-GC-43C</td></tr></table>	Revised	Sheet	Drawing No.	October 2015	2/2	C-GC-43C
Revised	Sheet	Drawing No.						
October 2015	2/2	C-GC-43C						



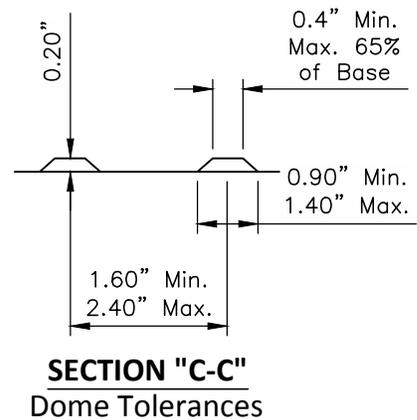
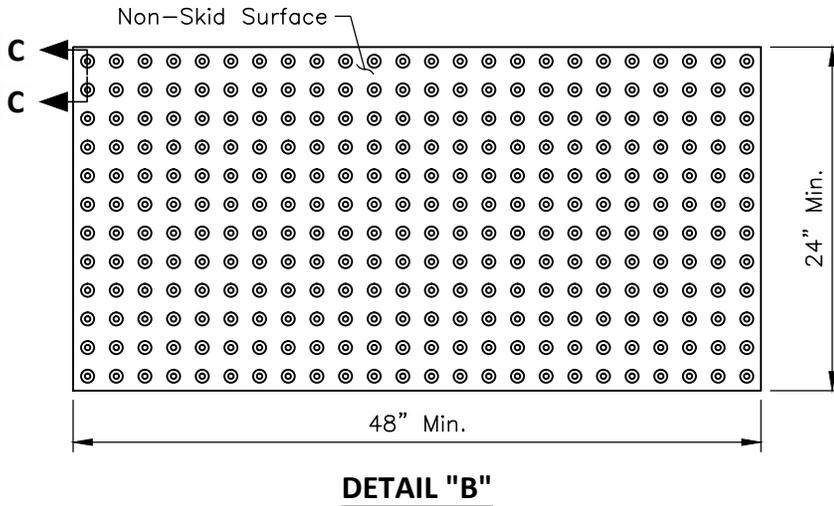
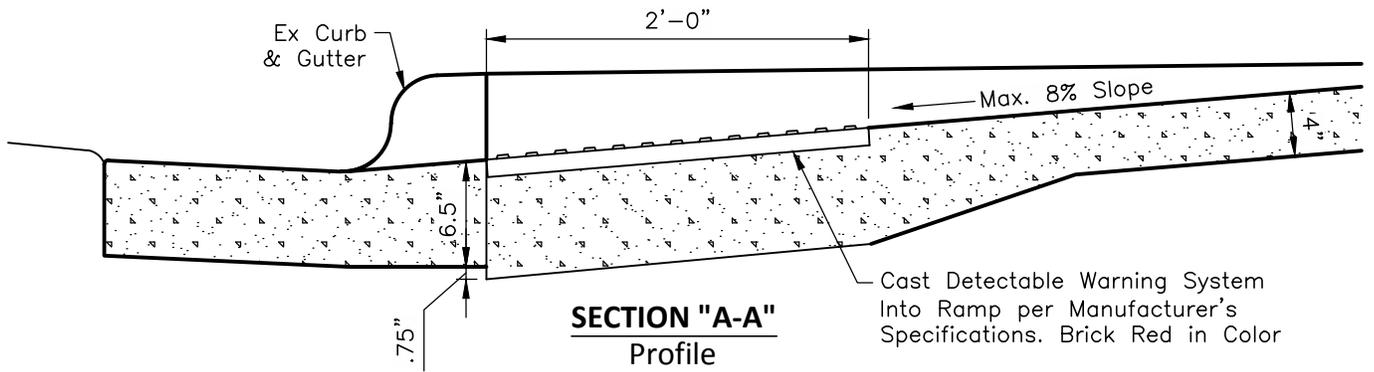
DETAIL NOTES

1. Detectable warnings shall be provided wherever a curb ramp crosses a vehicular way, excluding unsignalized driveway crossings, and shall align exactly with the required direction of travel.
2. Detectable warnings shall be provided 24 inches in the direction of travel and extend the full width of the curb ramp or flush surface. The detectable warning shall be located adjacent to the curb line.
3. Materials shall comply with sheet 2 of this drawing.
4. Detectable warnings shall be placed 6" to 8" behind face of curb and behind the curb joint.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

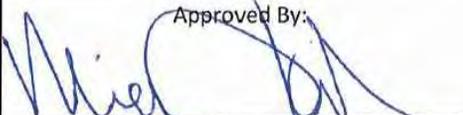
STANDARD DIMENSIONS
 FOR
**ADA CURB RAMP
 DETECTABLE WARNING
 SURFACE**

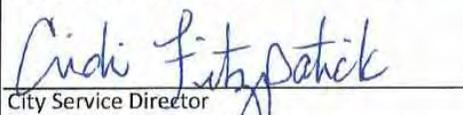
CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	1/2	C-GC-43DW



DETAIL NOTES CONT.

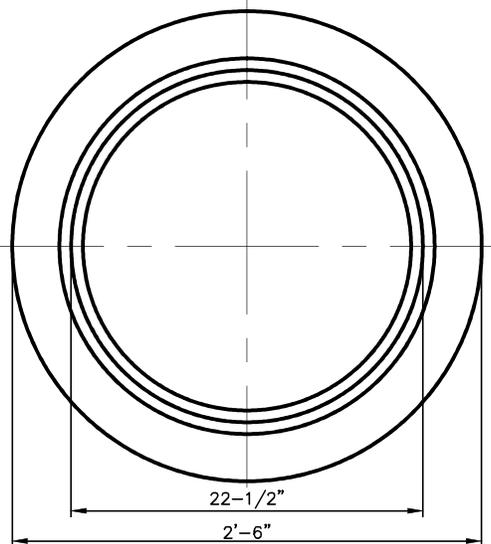
5. Detectable Warning Surfaces shall be provided as required by the ADA Accessibility Guideline (ADAAG) 4.29.2 and as modified by Section 1108 of the Architectural and Transportation Barriers Compliance Board's "Draft Guidelines for Accessible Public Rights-of-Way", dated June 17, 2002 as amended, supplemented and adopted.
6. The material used shall be as specified in the City of Columbus Supplemental Specifications, 1551, Type "E", red in color, with replaceable surface (Armor-Tile Herculite Series, ADA Solutions Cast in Place Replaceable, or Approved Equal).
7. Detectable warnings shall be as shown in Detail "B" and provide a visual contrast with adjoining surfaces. The material used shall provide a slip-resistant surface.
8. This item shall include all layout, pre-marking, surface preparation, and finishing in accordance with the manufacturers specifications.
9. Tolerances shown in Section "C-C" shall be used for inspection criteria.

Approved By:

 City Engineer, EMH&T Inc

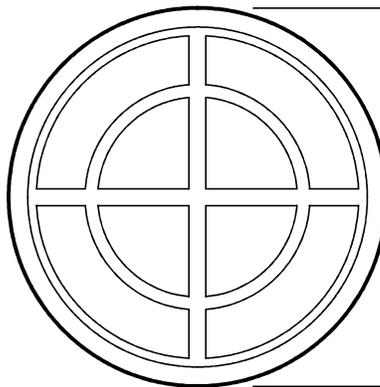

 City Service Director

STANDARD DIMENSIONS
 FOR
**ADA CURB RAMP
 DETECTABLE WARNING
 SURFACE**

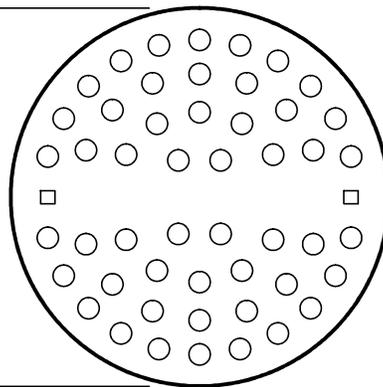
CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	2/2	C-GC-43DW



PLAN

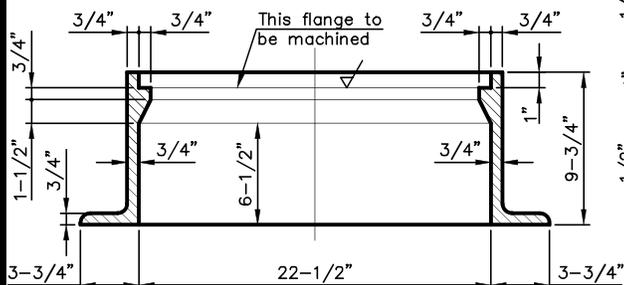


BOTTOM

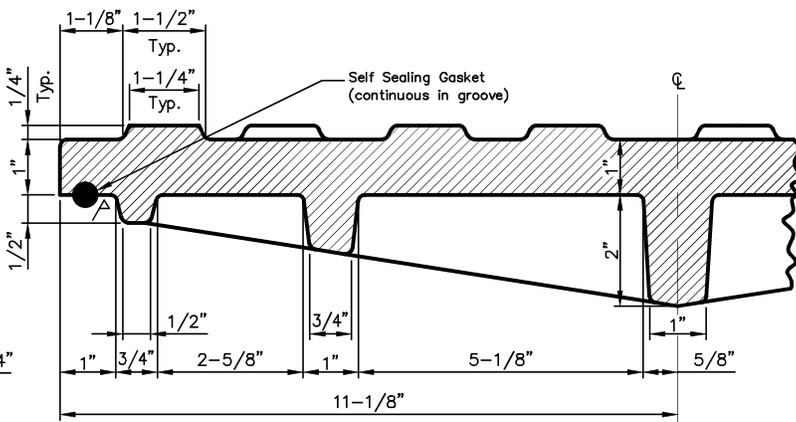


TOP

LID

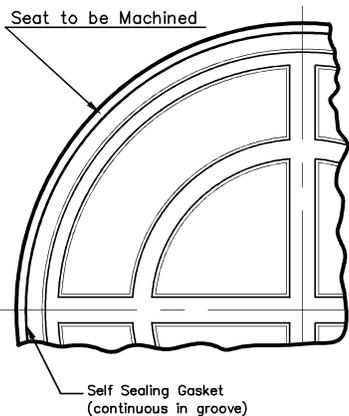


SECTION



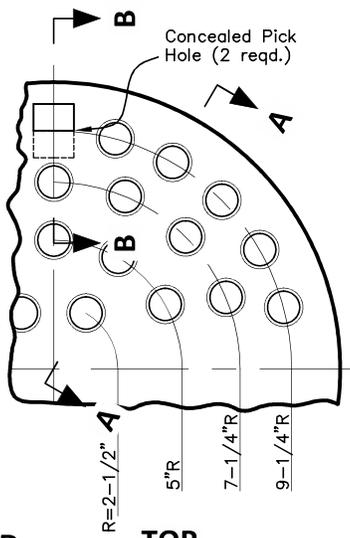
SECTION A-A

GROUND RIM



BOTTOM

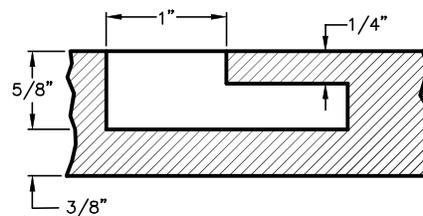
1/4 LID



TOP

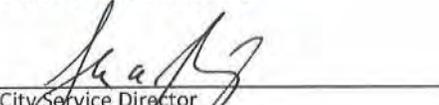
NOTE

Foundry name shall be cast on the underneath or unexposed surface of both lid and ground rim.



**SECTION B-B
CONCEALED PICKHOLE**

Approved By:

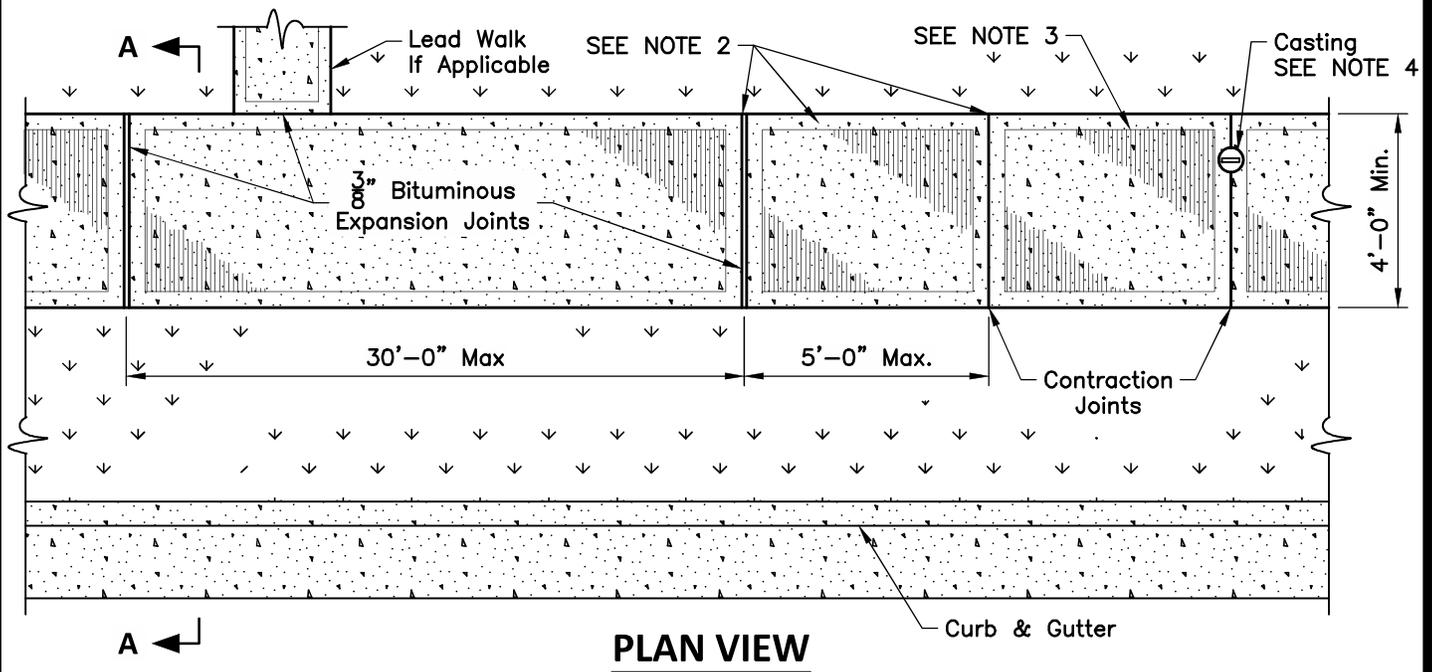
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
 24" MANHOLE FRAME &
 COVER CASTINGS FOR
 SANITARY SEWERS

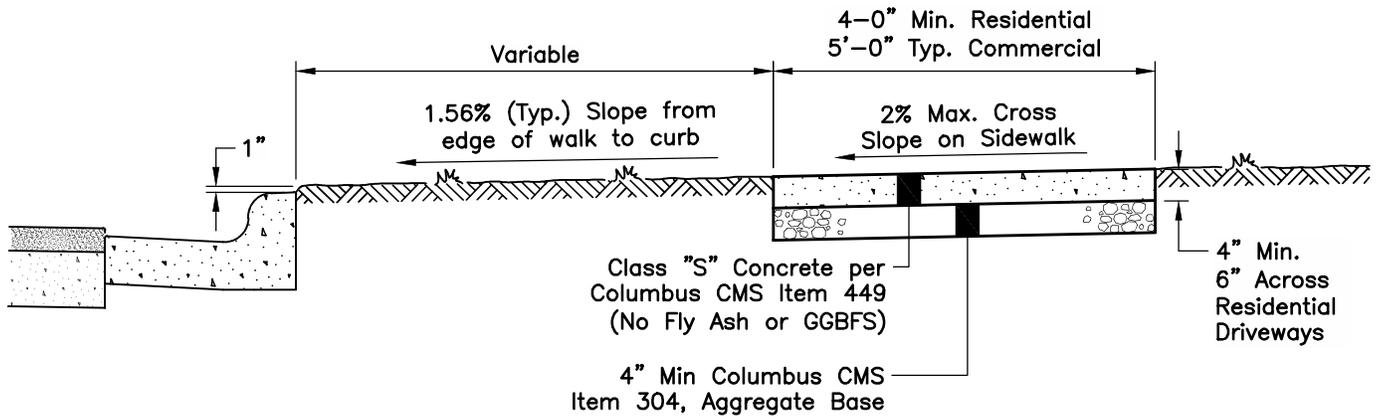
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-44



PLAN VIEW

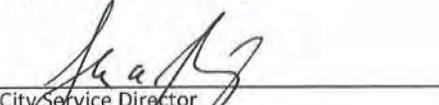


SECTION A-A

DETAIL NOTES

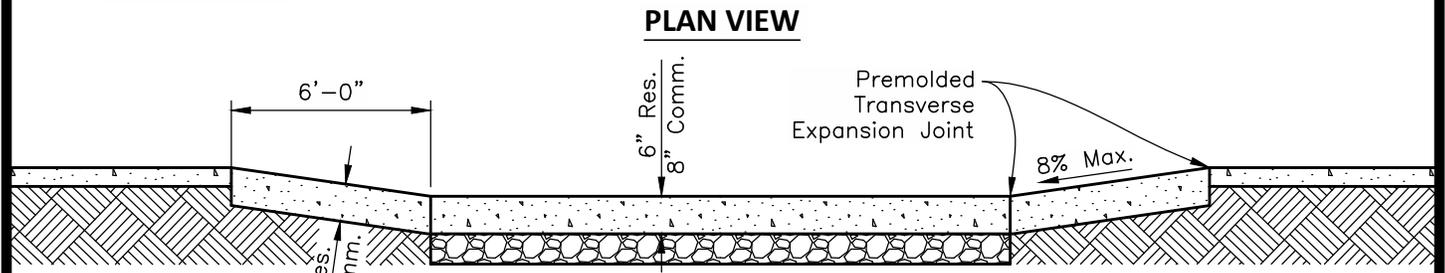
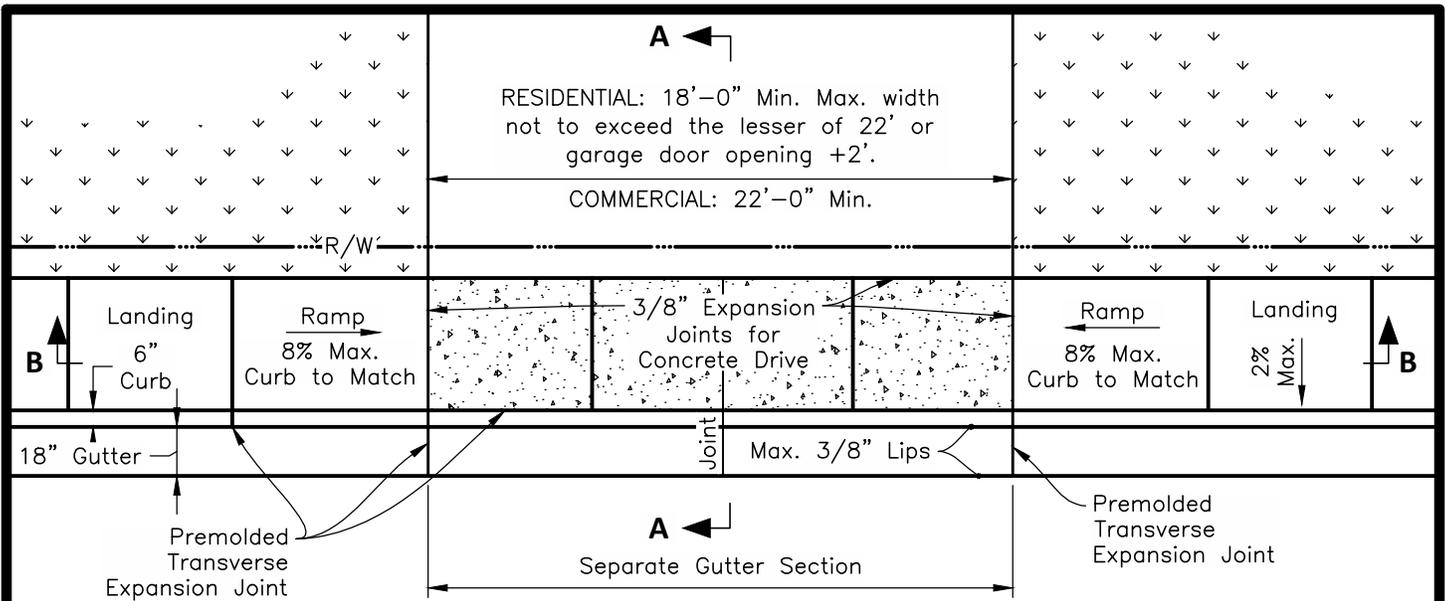
1. Sidewalks shall be constructed according to Columbus CMS Item 608, Current Edition.
2. All joints and edges shall be tooled after broom finish.
3. Sidewalk surface shall have a broom finish.
4. All castings shall be set to proper grade. Where feasible, tool a joint at the casting location to control cracking.
5. All concrete shall contain 6% + 1% air entrainment.
6. Contraction Joints shall be not less than 2-in in depth.
7. Contractor shall apply a cure & seal compound, as approved by the City, to finished concrete.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

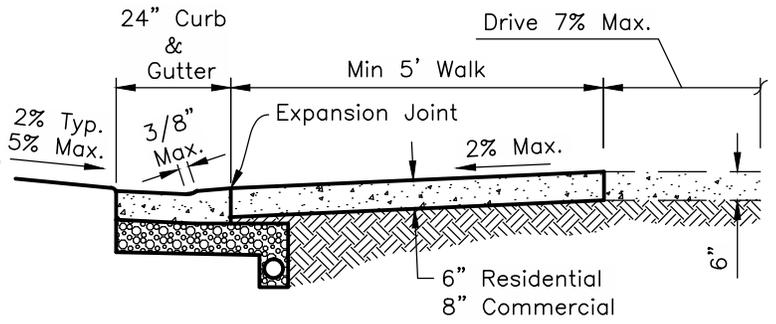
STANDARD DIMENSIONS
 FOR
TYPICAL SIDEWALK DETAIL

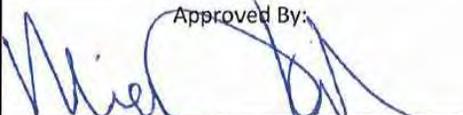
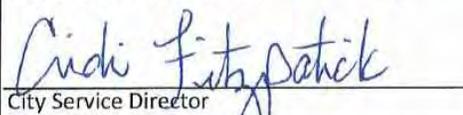
CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised October 2015
 Drawing No. C-GC-46A



DETAIL NOTES

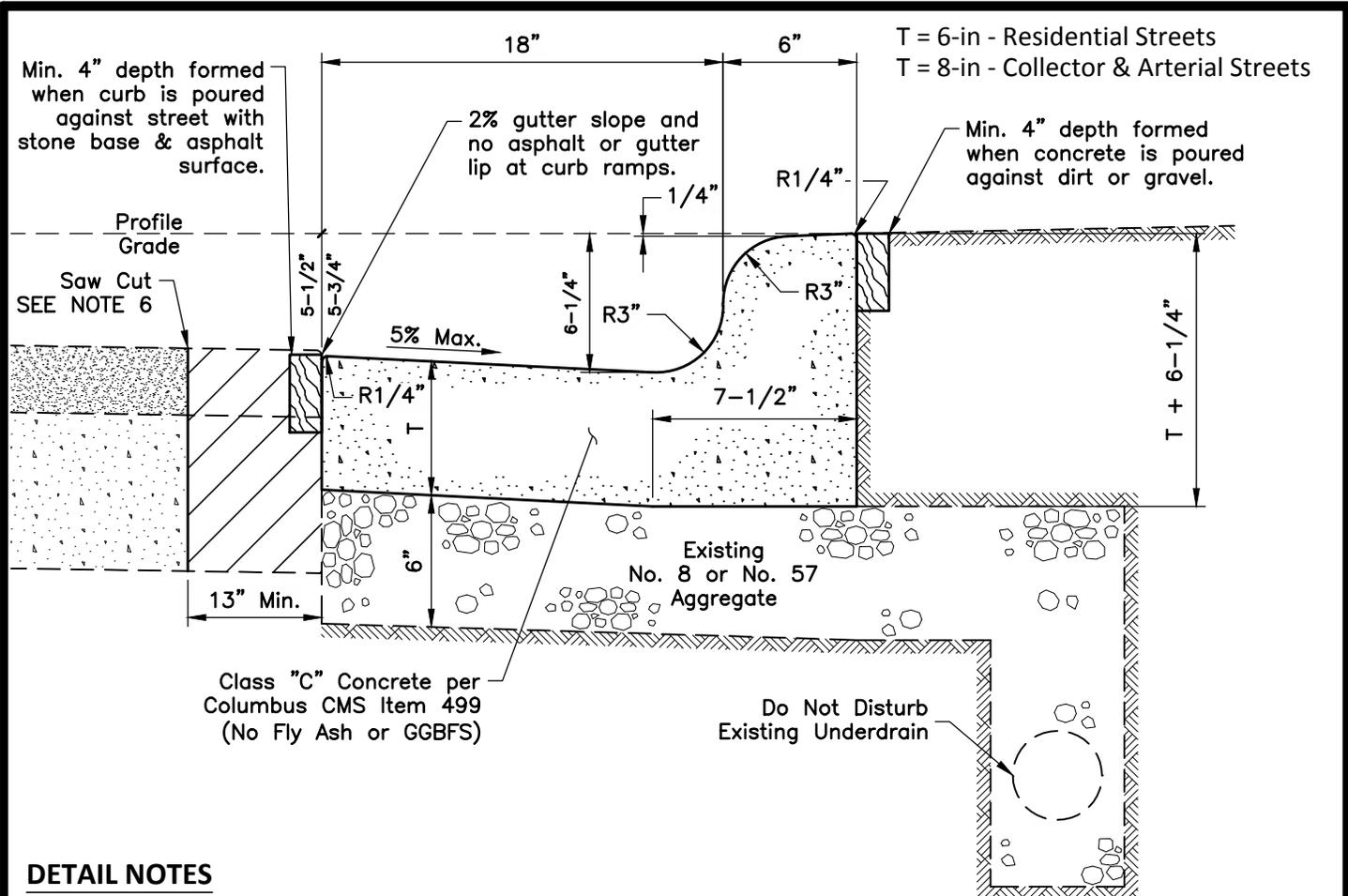
1. Concrete for driveway shall be ODOT Class "S", Air Entrained Concrete w/Limestone Aggregate and 715 lbs. of cement per C.Y., maximum 4" slump, broom finish with edge trowel. No Fly Ash or GGBFS in concrete. Contraction joints shown, sawn not less than 2" deep.
2. Contractor is responsible for protecting adjacent driveway, sidewalk, underdrain, and street lighting cable and replacement of same if damaged due to Contractor's work.
3. Sidewalks shall be constructed according to C-GC-46A.
4. All joints and edges are to be tooled.
5. Any existing castings or valve boxes in driveway approach shall be adjusted to grade.
6. Contractor shall apply a Cure & Seal compound, as approved by the City, to finished concrete.



Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS FOR
STANDARD DRIVE WITH SIDEWALK ADJACENT TO CURB ON PUBLIC R/W

CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised February 2016
 Drawing No. C-GC-46B



DETAIL NOTES

1. Curb & gutter shall consist of 1.26 C.F. (6-in) of concrete per linear foot for residential or local streets and 1.59 C.F. (8-in) of concrete for collector or arterial streets.
2. All exposed surfaces of concrete curb & gutter shall have a brush finish and be completely covered with concrete cure and seal, including the back side of curb.
3. 3/4-in expansion joints shall be installed at right angles to the curb line within 5-ft and 10-ft of all immovable structures and at points of curvature. For replacement work, at an existing joint or no closer than 5-ft from an existing joint.
4. Contraction joints shall be saw cut at 10-ft intervals, not less than 2-in deep, and as soon as possible without causing damage to the concrete.
5. Tolerances shall not exceed 1/4-in for section, grade, surface variation, or alignment. Flow test curb by opening fire hydrant. Replace any curb causing water to not drain completely.
6. Saw cut full depth thru all asphalt and concrete.
7. Excavated area in front of curb shall be backfilled with Columbus Class "S" or "MS" concrete up to the elevation of the milled roadway surface and topped with 448 Asphalt Concrete Surface Course . Area in back of curb shall be backfilled with topsoil and seeded per CMSC Item 659.
8. 3-in diameter openings for existing or proposed roof drains shall be cored and existing pipes shall be reconnected as directed by Engineer.
9. Face of Curb shall be stamped with a "W" for water services or an "M" when water main valves are present behind curb.

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

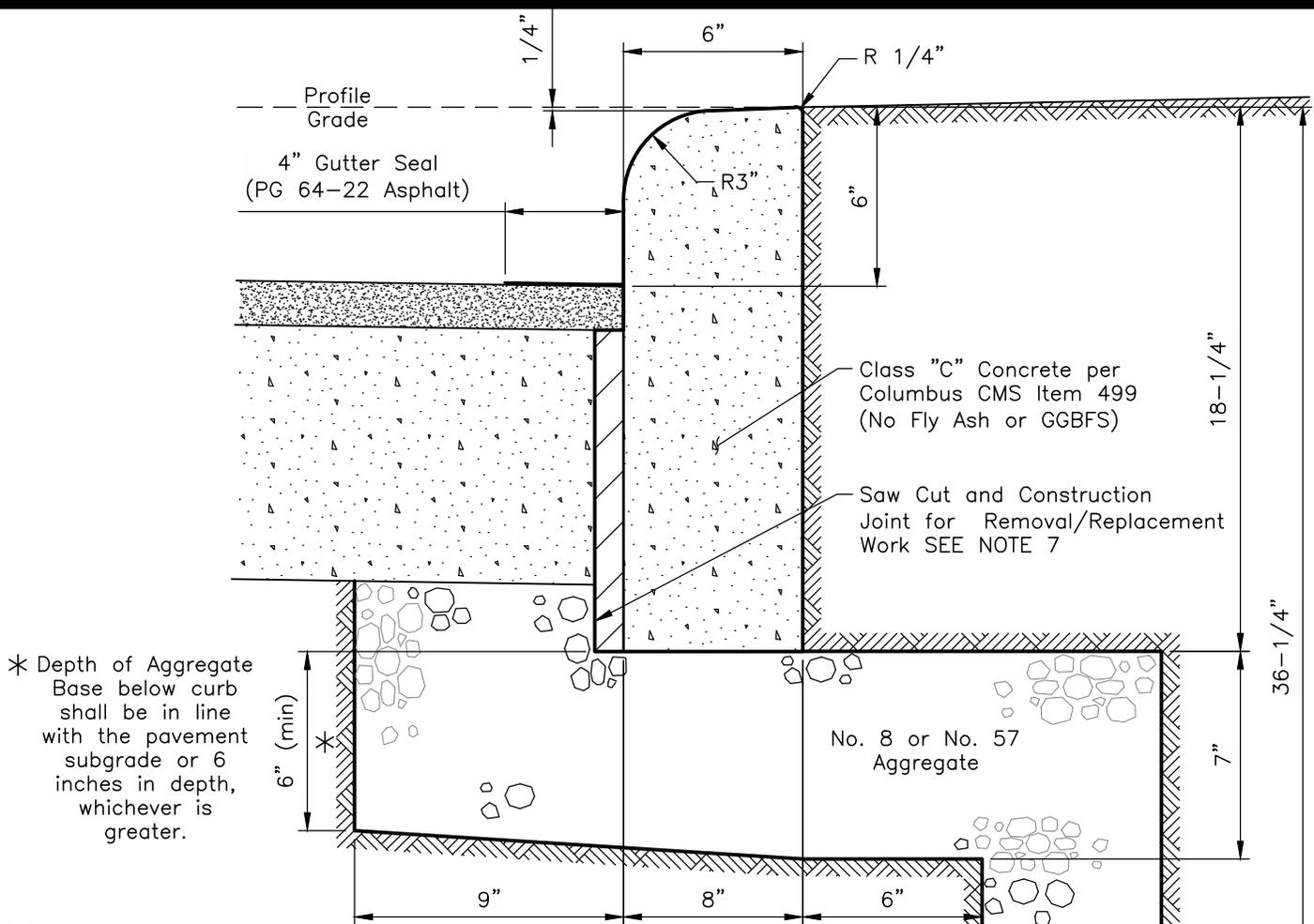
STANDARD DIMENSIONS FOR

ITEM 609: STANDARD CONCRETE COMBINED CURB & GUTTER (REMOVAL & REPLACEMENT)

CITY OF GROVE CITY, OHIO

STANDARD CONSTRUCTION DRAWING

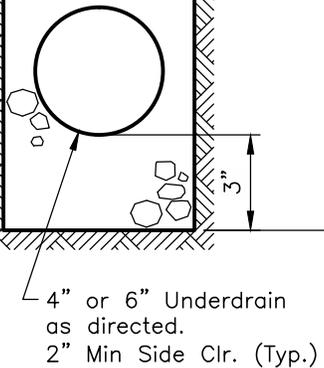
Revised		Drawing No.
October 2015		C-GC-57B



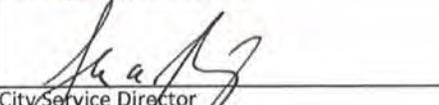
* Depth of Aggregate Base below curb shall be in line with the pavement subgrade or 6 inches in depth, whichever is greater.

DETAIL NOTES

1. Straight 18" Concrete Curb shall consist of 0.70 C.F. of concrete per linear foot.
2. All exposed surfaces of concrete curb shall have a brush finish and be completely covered with concrete cure and seal, including the backside of curb.
3. 3/4-in expansion joints shall be installed at right angles to the curb line within 5-ft and 10-ft of all immovable structures and at points of curvature. For replacement work, at an existing joint or no closer than 5-ft from an existing joint.
4. Contraction joints shall be saw cut at 10-ft intervals, not less than 2-in deep, and as soon as possible without causing damage to the concrete.
5. Tolerances shall not exceed 1/4-in for section, grade, surface variation, or alignment.
6. The letter "W" shall be imprinted into the curb directly opposite all water service boxes and the letter "M" shall be imprinted opposite all water line valves, including hydrant watch valves. Letters shall be 3-in high/wide with 1/4-in thick bars, imprinted 1/2-in into the face of the curb, 2-1/2-in above the gutter.
7. For removal/replacement work, the Contractor shall neatly sawcut & remove existing curb. The void between existing pavement and proposed curb shall be filled up to the elevation of the milled roadway surface with Columbus Class "C", "S", or "MS" Concrete.



Approved By:

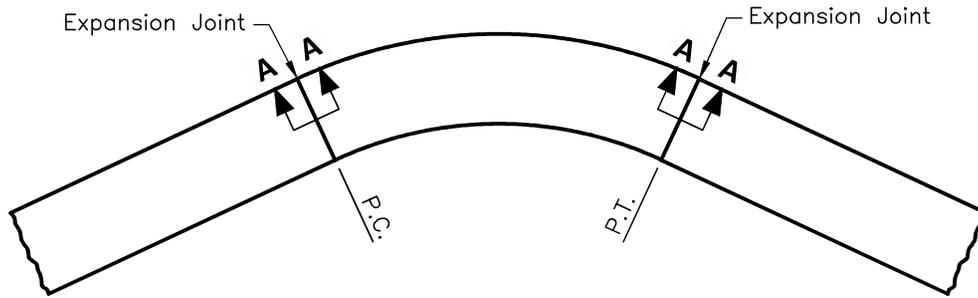
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**STRAIGHT 18"
 CONCRETE CURB**

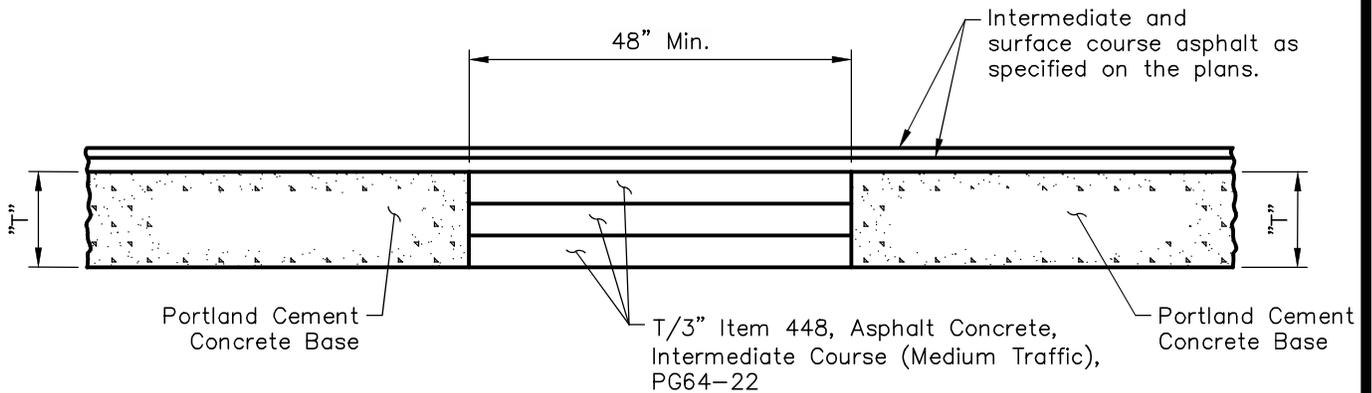
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

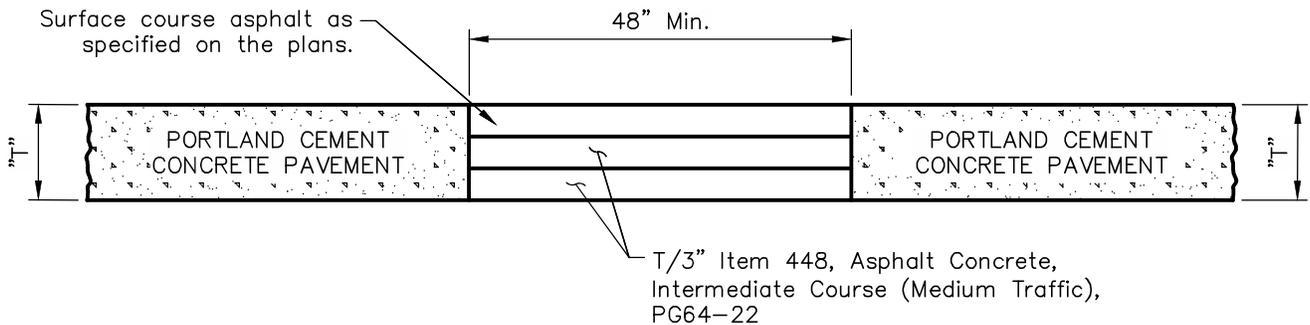
Revised		Drawing No.
October 2015		C-GC-58



**EXPANSION JOINT DETAIL FOR PAVEMENT SECTIONS WITH
Q RADIUS TO 500' & DELTAS (Δ) GREATER THAN 50°**



SECTION A-A FOR CONCRETE BASE PAVEMENT

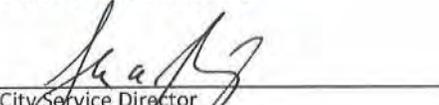


SECTION A-A FOR CONCRETE PAVEMENT

NOTES:

1. 2" expansion material shall be placed at the P.C. and P.T. in the concrete curb.
2. Maximum spacing of 500' between joints on straight sections of pavement without curves.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

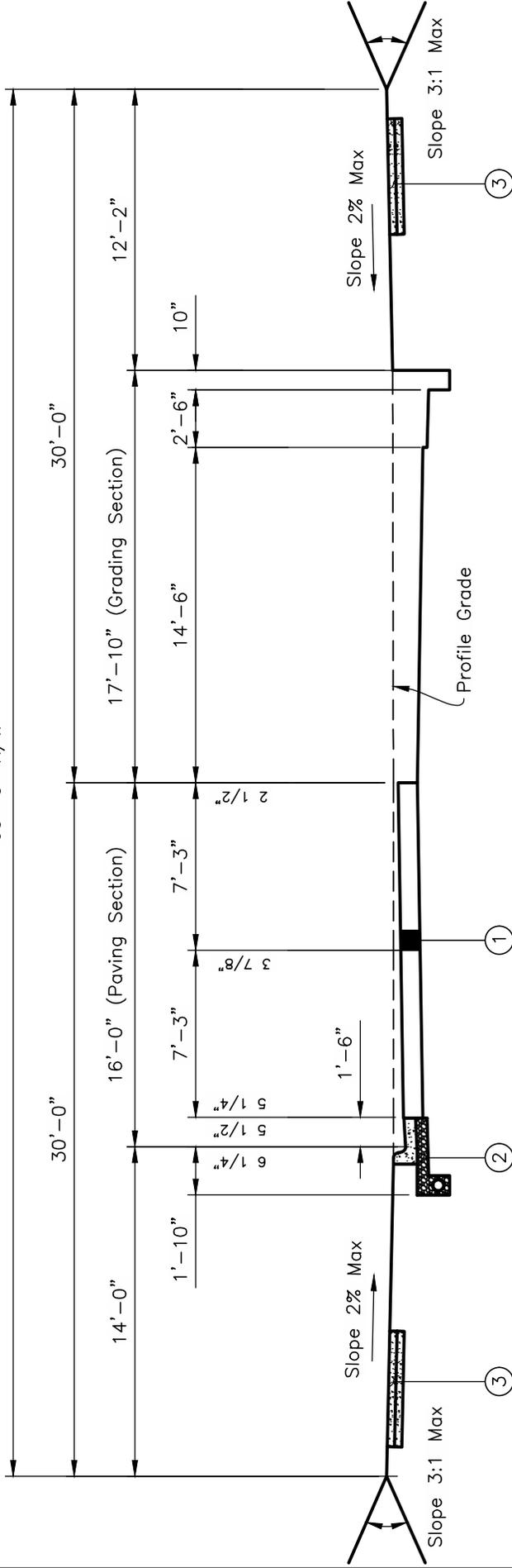
STANDARD DIMENSIONS
 FOR
**EXPANSION JOINT DETAIL AT
 CURVE POINTS**

**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-59

60'-0" R/W



① Refer to Standard Drawing C-GC-90 for Pavement Design Specifications.

② City of Grove City Standard Concrete Combined Curb and Gutter (Standard Drawing C-GC-57A)

③ City of Grove City Typical Sidewalk (Standard Drawing C-GC-46A)

Approved By:

Michael J. ...
City Engineer, EMH&T Inc

John A. ...
City Service Director

STANDARD DIMENSIONS
FOR

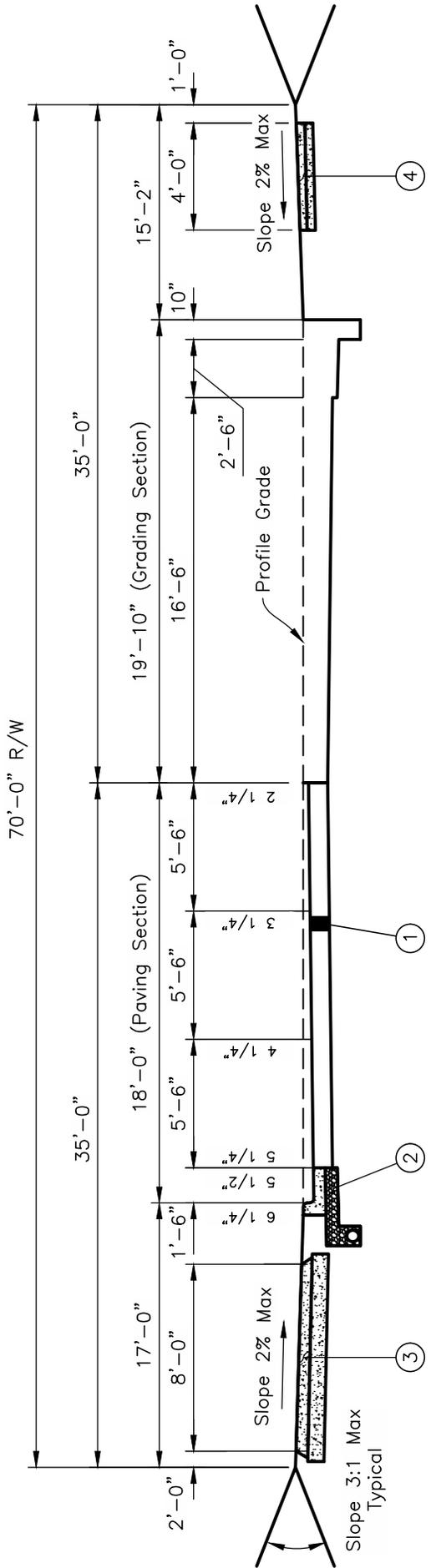
**RESIDENTIAL/LOCAL STREET 32'
SECTION WITH CONCRETE
COMBINED CURB & GUTTER**

**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

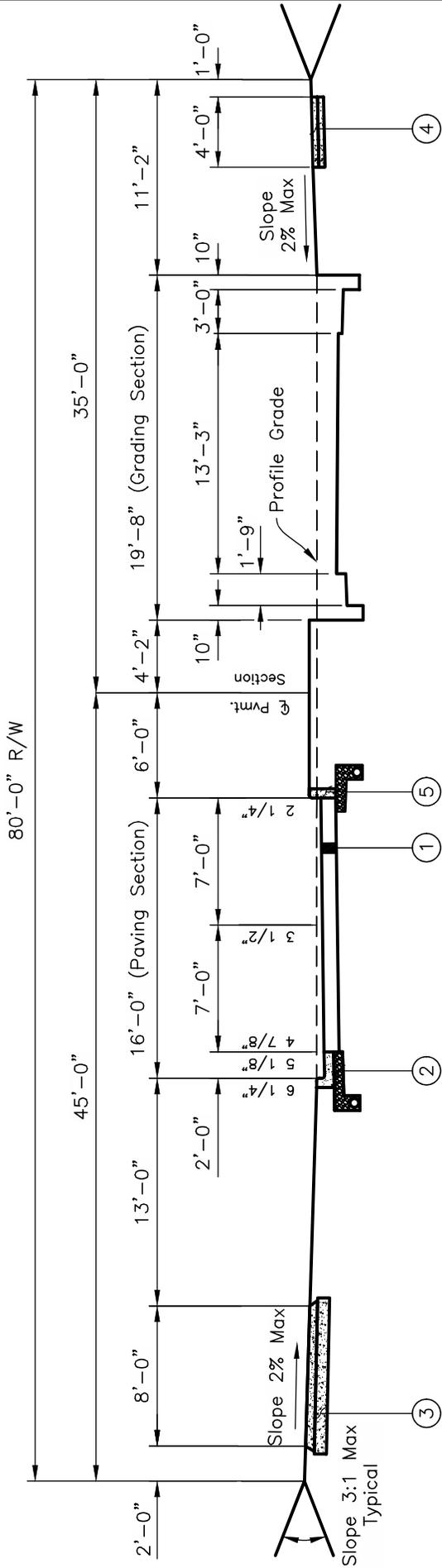
Revised
October 2015

Drawing No.
C-GC-61



- ① Refer to Standard Drawing C-GC-90 for Pavement Design Specifications.
- ② City of Grove City Standard Concrete Combined Curb & Gutter (Standard Drawing C-GC-57A)
- ③ City of Grove City Bike Path Pavement (Standard Drawing C-GC-80)
- ④ City of Grove City Typical Sidewalk (Standard Drawing C-GC-46A)

CITY OF GROVE CITY, OHIO	
STANDARD DIMENSIONS FOR COLLECTOR STREET 36' SECTION WITH CONCRETE COMBINED CURB & GUTTER	STANDARD CONSTRUCTION DRAWING
Revised October 2015	Drawing No. C-GC-62
Approved By:  City Engineer, EMH&T Inc	
 City Service Director	



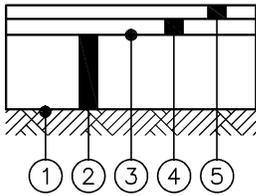
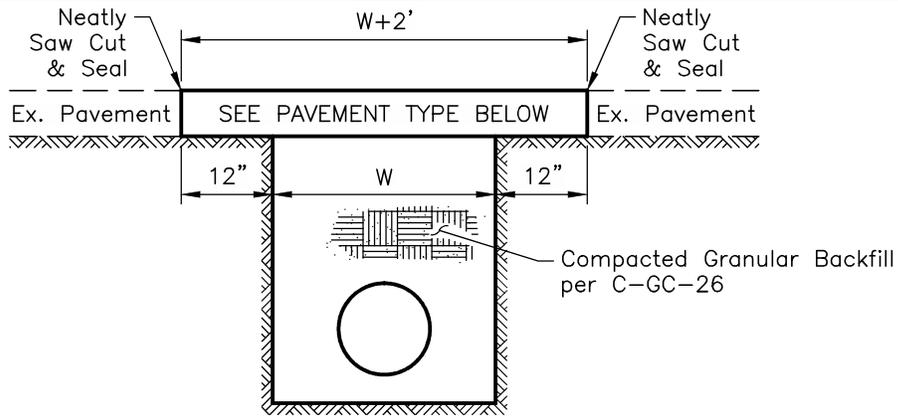
- ① Refer to Standard Drawing C-GC-90 for Pavement Design Specifications.
- ② City of Grove City Standard Concrete Combined Curb & Gutter (Standard Drawing C-GC-57C)
- ③ City of Grove City Bike Path Pavement (Standard Drawing C-GC-80)
- ④ City of Grove City Typical Sidewalk (Standard Drawing C-GC-46A)
- ⑤ City of Grove City Straight 18-Inch Concrete Curb (Standard Drawing C-GC-58)

Approved By:
 City Engineer, EMH&T Inc

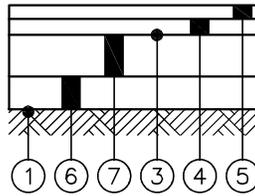
 City Service Director

STANDARD DIMENSIONS
 FOR
**MINOR ARTERIAL 44' SECTION
 WITH CONCRETE CURB/COMBINED
 CURB & GUTTER**

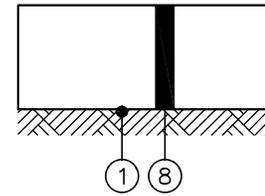
CITY OF GROVE CITY, OHIO	
STANDARD CONSTRUCTION DRAWING	Drawing No. C-GC-63
Revised October 2015	



**TYPE 1A
COMPOSITE PAVEMENT**



**TYPE 1B
ASPHALT PAVEMENT**



**TYPE 1C
CONCRETE PAVEMENT**

PAVEMENT SECTION ITEMS

(Specification numbers refer to Columbus CMS)

- ① Compacted Subgrade or Utility Trench
- ② Item 305 - Portland Cement Concrete Base, T = 9-in, Class "C" or "MS"
- ③ Item 407 - Tack Coat (Rubberized per 702.13 for Concrete Base)
- ④ Item 448 - Asphalt Concrete, Intermediate Course, (Heavy Traffic) PG 70-22M, T = 1.75-in
- ⑤ Item 448 - Asphalt Concrete, Surface Course, (Heavy Traffic) PG 70-22M, T = 1.50-in
- ⑥ Item 304 - Aggregate Base, T = 6-in
- ⑦ Item 302 - Bituminous Aggregate Base, T = 8-in
- ⑧ Item 452 - Portland Cement Concrete Pavement, T = 12-in, Class "C" or "MS"

DETAIL NOTES

1. Trench width, "W", shall be as shown on the applicable pipe trench, bedding, and backfill standard drawing (C-GC-26).
2. Unless otherwise specified, payment limit for pavement replacement shall be W + 2-ft.
3. No recycled Portland Cement Concrete will be permitted for the trench backfill.
4. When Flowable Controlled Density Fill, Type 2 (FCDF, Type 2 per Columbus CMS Item 613) is used, Item 304, Aggregate Base shall be omitted. Type, 1, 3, & 4 FCDF are not permitted.
5. Trench shall be neatly saw cut prior to pavement replacement and butt joints with existing pavement shall be sealed per Columbus CMS Item 423 (asphalt pavements).
6. When trench is less than 2-ft from an adjacent curb, the pavement replacement limit shall be extended to the curb.
7. Replace any removed traffic markings according to Columbus CMS Item 644.

Approved By:

 City Engineer, EMH&T Inc

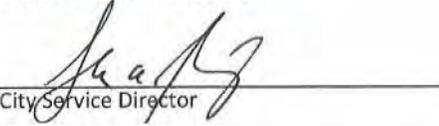
 City Service Director

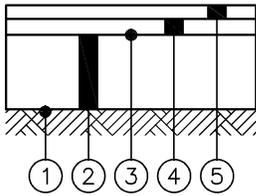
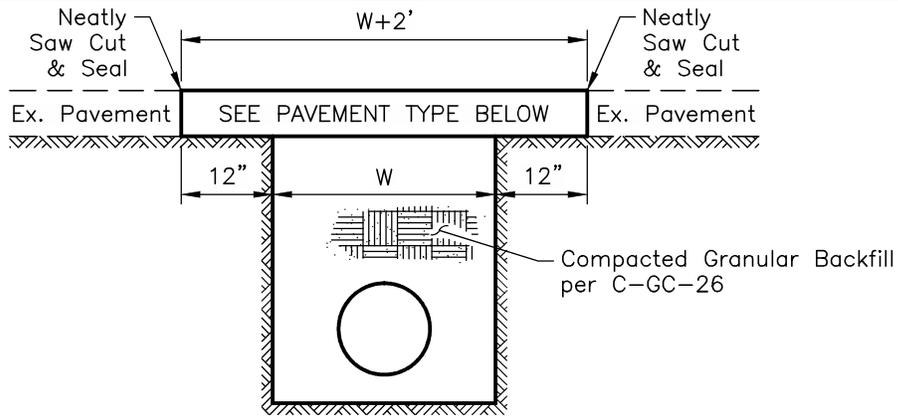
STANDARD DIMENSIONS
 FOR
**PAVEMENT
 REPLACEMENT FOR
 ARTERIAL STREETS**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised		Drawing No.
October 2015	1/2	C-GC-66

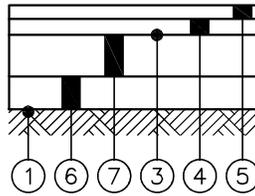
DETAIL NOTES CONT.:

8. Backfill of all trenches shall be compacted granular (No. 304 limestone) backfill as per Item 912. Item 310 or 310 modified or recycled material shall not be used.
9. Permanent repavement shall not be done immediately after completing backfill. The edge shall be cut vertically and trimmed behind all broken pavement to provide a single straight line. Temporary pavement shall be installed when permanent pavement cannot be immediately replaced.
10. Alternate backfill Item 613 - controlled density fill with a minimum density of 125 lbs./cu. ft. consisting of a cementitious material. Use type 1 or 2 spec only, type 3 & 4 not permitted.
11. Item 448, Asphalt concrete, Type 2, placement not to exceed 3", compacted, per course. (301 - 6" Max. lift 448 Type 1 - 2" Max. lift.)
12. Tack coat, Item 407 bituminous material, SS-1, applied at a rate of 0.1 gal. per sq. yd. and cover consisting of crushed gravel or limestone, size no. 9.
13. Existing pavements less than 3 feet in width remaining adjacent to curb after excavation shall be removed and replaced.
14. For all sanitary sewers the bedding extends from 6" below the bottom to 12" above the top of the pipe & shall be a material meeting the following gradation: No. 57 limestone with the balance of the trench being compacted granular (No. 304) backfill. Use No. 4 limestone for all trench depths greater than 6'.
15. Item numbers shown refer to the current State of Ohio Department of Transportation "Construction and Material Specifications" (ODOTCMS) and the current City of Columbus "Construction and Material Specifications" (CMSC) Item numbers. The greater requirement shall take precedence unless waived by the City Engineer (submittal required).
16. This pay Item shall be included in the replacement of traffic pavement markings with 644 Thermoplastic.
17. Warranty: All pavement repairs shall be guaranteed for one year to refill settled areas, seal joints, or remove and repair any defect as directed by the City Engineer.

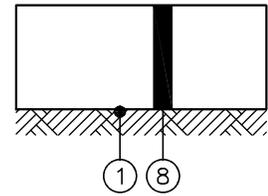
<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>PAVEMENT REPLACEMENT FOR ARTERIAL STREETS</p>	<p>CITY OF GROVE CITY, OHIO</p>						
		<p>STANDARD CONSTRUCTION DRAWING</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="1052 1900 1214 1942">Revised</td> <td data-bbox="1214 1900 1377 1942">Sheet</td> <td data-bbox="1377 1900 1542 1942">Drawing No.</td> </tr> <tr> <td data-bbox="1052 1942 1214 1995">October 2015</td> <td data-bbox="1214 1942 1377 1995" style="text-align: center;">2/2</td> <td data-bbox="1377 1942 1542 1995" style="text-align: center;">C-GC-66</td> </tr> </table>			Revised	Sheet	Drawing No.	October 2015
Revised	Sheet	Drawing No.						
October 2015	2/2	C-GC-66						



**TYPE 2A
COMPOSITE PAVEMENT**



**TYPE 2B
ASPHALT PAVEMENT**



**TYPE 2C
CONCRETE PAVEMENT**

PAVEMENT SECTION ITEMS

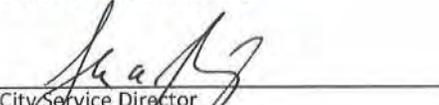
(Specification numbers refer to Columbus CMS)

- ① Compacted Subgrade or Utility Trench
- ② Item 305 - Portland Cement Concrete Base, T = 7-in, Class "C" or "MS"
- ③ Item 407 - Tack Coat (Rubberized per 702.13 for Concrete Base)
- ④ Item 448 - Asphalt Concrete, Intermediate Course, (Medium Traffic) PG 64-22, T = 1.75-in
- ⑤ Item 448 - Asphalt Concrete, Surface Course, (Medium Traffic) PG 64-22, T = 1.25-in
- ⑥ Item 304 - Aggregate Base, T = 6-in
- ⑦ Item 301 - Bituminous Aggregate Base, T = 5-in
- ⑧ Item 452 - Portland Cement Concrete Pavement, T = 7-in, Class "C" or "MS"

DETAIL NOTES

1. Trench width, "W", shall be as shown on the applicable pipe trench, bedding, and backfill standard drawing (C-GC-26).
2. Unless otherwise specified, payment limit for pavement replacement shall be W + 2-ft.
3. No recycled Portland Cement Concrete will be permitted for the trench backfill.
4. When Flowable Controlled Density Fill, Type 2 (FCDF, Type 2 per Columbus CMS Item 613) is used, Item 304, Aggregate Base shall be omitted. Type, 1, 3, & 4 FCDF are not permitted.
5. Trench shall be neatly saw cut prior to pavement replacement and butt joints with existing pavement shall be sealed per Columbus CMS Item 423 (asphalt pavements).
6. When trench is less than 2-ft from an adjacent curb, the pavement replacement limit shall be extended to the curb.
7. Replace any removed traffic markings according to Columbus CMS Item 644.

Approved By:

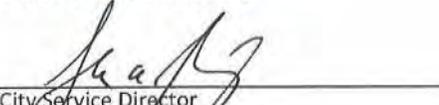
 City Engineer, EMH&T Inc

 City Service Director

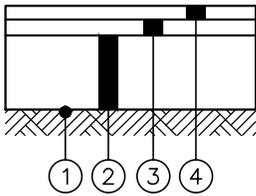
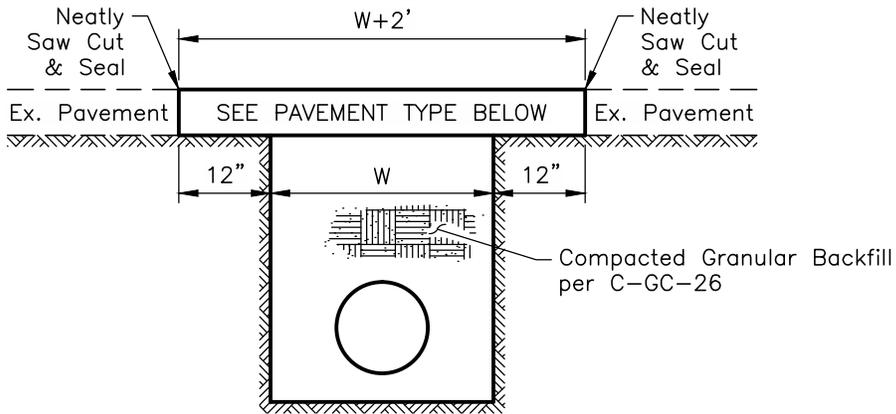
STANDARD DIMENSIONS
 FOR
**PAVEMENT
 REPLACEMENT FOR
 RESIDENTIAL STREETS**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised		Drawing No.
October 2015	1/2	C-GC-67

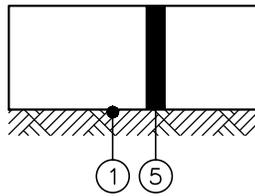
DETAIL NOTES CONT.:

8. Backfill of all trenches shall be compacted granular (No. 304 limestone) backfill as per Item 912. Item 310 or 310 modified or recycled material shall not be used.
9. Permanent repavement shall not be done immediately after completing backfill. The edge shall be cut vertically and trimmed behind all broken pavement to provide a single straight line. Temporary pavement shall be installed when permanent pavement cannot be immediately replaced.
10. Alternate backfill Item 613 - controlled density fill with a minimum density of 125 lbs./cu. ft. consisting of a cementitious material. Use type 1 or 2 spec only, type 3 & 4 not permitted.
11. Item 448, Asphalt concrete, Type 2, placement not to exceed 3", compacted, per course. (301 - 6" Max. lift 448 Type 1 - 2" Max. lift.)
12. Tack coat, Item 407 bituminous material, SS-1, applied at a rate of 0.1 gal. per sq. yd. and cover consisting of crushed gravel or limestone, size no. 9.
13. Existing pavements less than 3 feet in width remaining adjacent to curb after excavation shall be removed and replaced.
14. For all sanitary sewers the bedding extends from 6" below the bottom to 12" above the top of the pipe & shall be a material meeting the following gradation: No. 57 limestone with the balance of the trench being compacted granular (No. 304) backfill. Use No. 4 limestone for all trench depths greater than 6'.
15. Item numbers shown refer to the current State of Ohio Department of Transportation "Construction and Material Specifications" (ODOTCMS) and the current City of Columbus "Construction and Material Specifications" (CMSC) Item numbers. The greater requirement shall take precedence unless waived by the City Engineer (submittal required).
16. This pay Item shall be included in the replacement of traffic pavement markings with 644 Thermoplastic.
17. Warranty: All pavement repairs shall be guaranteed for one year to refill settled areas, seal joints, or remove and repair any defect as directed by the City Engineer.

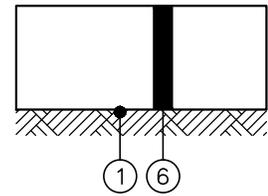
<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>PAVEMENT REPLACEMENT FOR RESIDENTIAL STREETS</p>	<p>CITY OF GROVE CITY, OHIO</p>		
		<p>STANDARD CONSTRUCTION DRAWING</p>		
<p>Revised October 2015</p>	<p>Sheet 2/2</p>	<p>Drawing No. C-GC-67</p>		



**TYPE 3A
ASPHALT DRIVEWAYS**



**TYPE 3B
CONCRETE DRIVEWAYS**



**TYPE 3C
GRAVEL DRIVEWAYS**

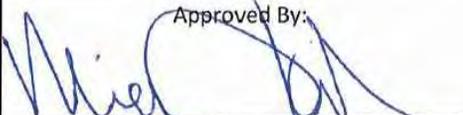
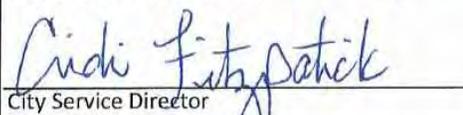
PAVEMENT SECTION ITEMS

(Specification numbers refer to Columbus CMSC unless otherwise noted)

- ① Compacted Subgrade or Utility Trench
- ② Item 304 - Aggregate Base, T = 6-in
- ③ Item 448 - Asphalt Concrete, Type 2, Intermediate Course, PG 64-22, T = 1.75-in
- ④ Item 448 - Asphalt Concrete, Type 1, Surface Course, PG 64-22, T = 1.25-in
- ⑤ Item 452 - Portland Cement Concrete Pavement,
T = 6-in (Residential) or T = 8-in (Commercial) Class "C" or "MS"
- ⑥ No. 57 Aggregate, T = 6-in, Compacted per Item 203

DETAIL NOTES

1. Trench width, "W", shall be as shown on the applicable pipe trench, bedding, and backfill standard drawing (C-GC-26).
2. Unless otherwise specified, payment limit for pavement replacement shall be W + 2-ft.
3. No recycled Portland Cement Concrete will be permitted for the trench backfill.
4. When Flowable Controlled Density Fill, Type 2 (FCDF, Type 2 per Item 613) is used, Item 304, Aggregate Base shall be omitted. Type, 1, 3, & 4 FCDF are not permitted.
5. Trench shall be neatly saw cut prior to pavement replacement and butt joints with existing pavement shall be sealed per Item 423 (asphalt pavements).
6. Replace any removed traffic markings according to Item 644.

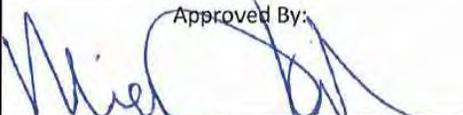
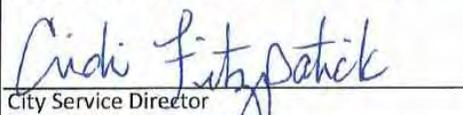
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**PAVEMENT
 REPLACEMENT FOR
 DRIVEWAYS**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised		Drawing No.
Rev February 2016	1/2	C-GC-68

DETAIL NOTES CONT.:

7. Backfill of all trenches shall be compacted granular (No. 304 limestone) backfill as per Item 912. Item 310 or 310 modified or recycled material shall not be used.
8. Permanent repavement shall not be done immediately after completing backfill. The edge shall be cut vertically and trimmed behind all broken pavement to provide a single straight line. Temporary pavement shall be installed when permanent pavement cannot be immediately replaced.
9. Alternate backfill Item 613 - controlled density fill with a minimum density of 125 lbs./cu. ft. consisting of a cementitious material. Use type 1 or 2 spec only, type 3 & 4 not permitted.
10. Item 448, Asphalt concrete, Type 2, placement not to exceed 3", compacted, per course. (301 - 6" Max. lift 448 Type 1 - 2" Max. lift.)
11. Existing pavements less than 3 feet in width remaining adjacent to curb after excavation shall be removed and replaced.
12. For all sanitary sewers the bedding extends from 6" below the bottom to 12" above the top of the pipe & shall be a material meeting the following gradation: No. 57 limestone with the balance of the trench being compacted granular (No. 304) backfill. Use No. 4 limestone for all trench depths greater than 6'.
13. Warranty: All pavement repairs shall be guaranteed for one year to refill settled areas, seal joints, or remove and repair any defect as directed by the City Engineer.

Approved By:

City Engineer, EMH&T Inc

City Service Director

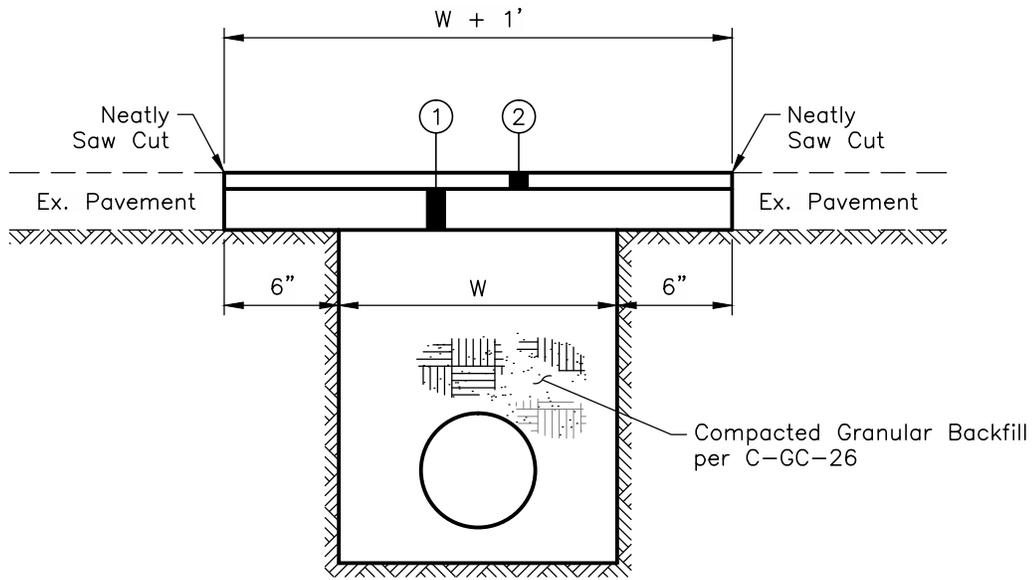
STANDARD DIMENSIONS
FOR

**PAVEMENT
REPLACEMENT FOR
DRIVEWAYS**

**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

Revised	Sheet	Drawing No.
Rev February 2016	2/2	C-GC-68



TYPE IV

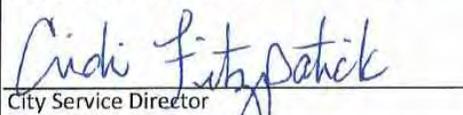
PAVEMENT SECTION ITEMS

- ① Item 304 - Aggregate Base, T = 6-in, (or Equal)
- ② Item 448 - Asphalt Concrete, Type 1, T = 2-in - OR - Item 405 - Bituminous Cold Mix, T = 2-in

DETAIL NOTES

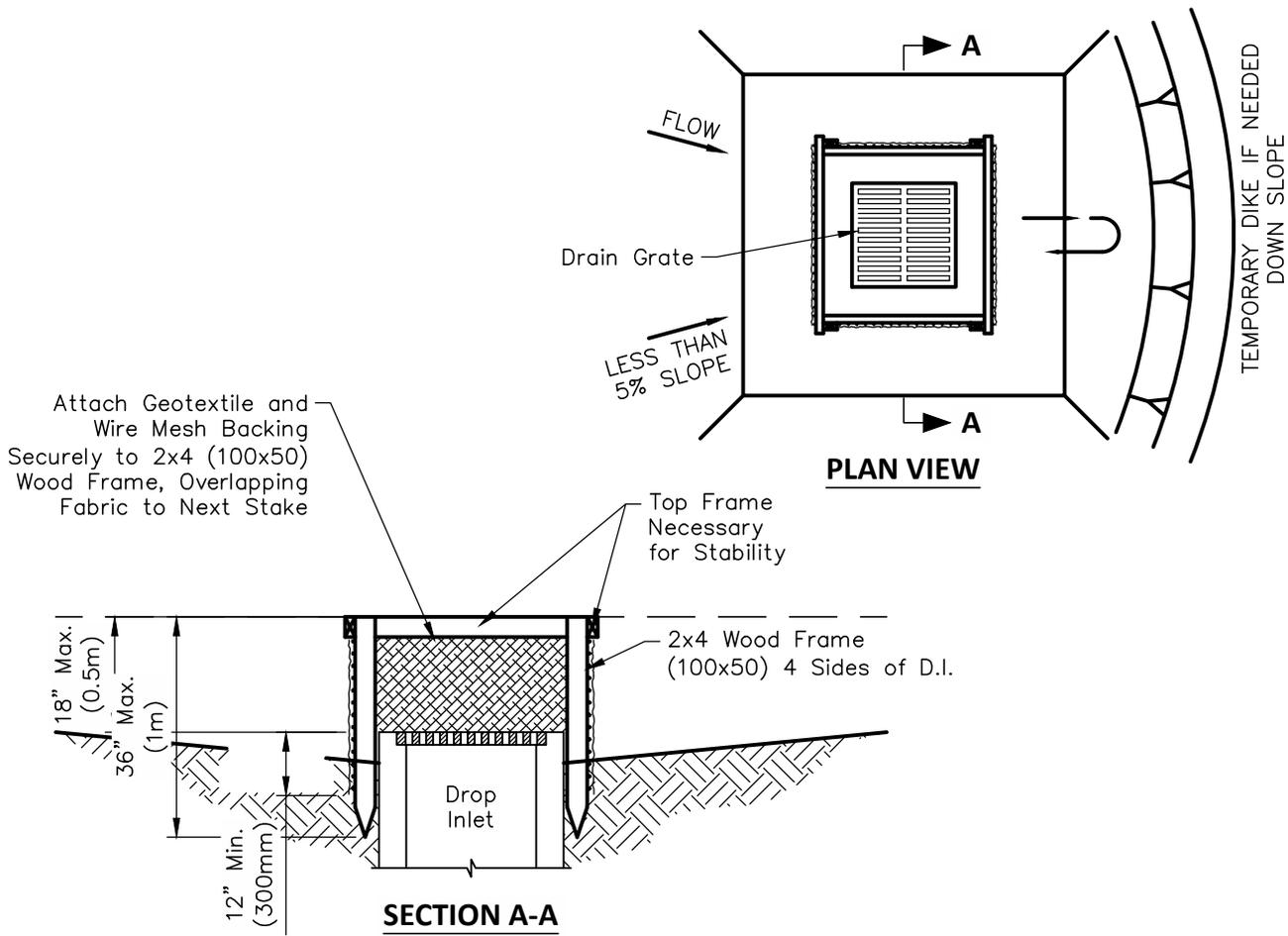
1. Trench width, "W", shall be as shown on the applicable pipe trench, bedding, and backfill standard drawing (C-GC-26).
2. Unless otherwise specified, payment limit for temporary replacement shall be W + 1-ft.
3. No recycled Portland Cement Concrete will be permitted for the trench backfill.
4. When Flowable Controlled Density Backfill (FCDF, per Columbus CMS Item 613) is used, Item 304, Aggregate Base shall be omitted.
5. When trench is less than 2-ft from an adjacent curb, the pavement replacement limit shall be extended to the curb.
6. Temporary pavement shall be placed on the same day that the original pavement is cut.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**PAVEMENT
 REPLACEMENT
 (TEMPORARY)**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised		Drawing No.
Rev February 2016		C-GC-69

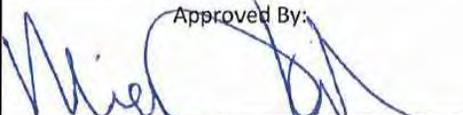
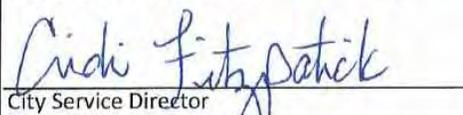


DETAIL NOTES

1. Drop Inlet Sediment Barriers are to be used for Small, Nearly Level Drainage Areas. (Less Than 5%)
2. Use 2"x4" (100x50mm) Wood or Equivalent Metal Stakes, 3' (1m) Minimum Length.
3. Install 2"x4" (100x50mm) Wood Top Frame to Ensure Stability.
4. The Top of the Frame (Ponding Height) must be well Below the Ground Elevation Downslope to Prevent Runoff from bypassing the Inlet. A Temporary Dike may be Necessary on the Downslope Side of the Structure.
5. Wire mesh backing shall be of sufficient strength to support the geotextile fabric with runoff fully impounding against the structure.
6. The geotextile shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight.
7. Backfill shall placed around the inlet and compacted to ensure that runoff will not undercut the fabric.

MAINTENANCE:

The filter fabric shall be cleaned with a stiff broom. Assure that the filter fabric and geotextile is securely fastened to the frame of the structure. Backfill around the structure shall be compacted as needed to assure that runoff is not undercutting the structure.

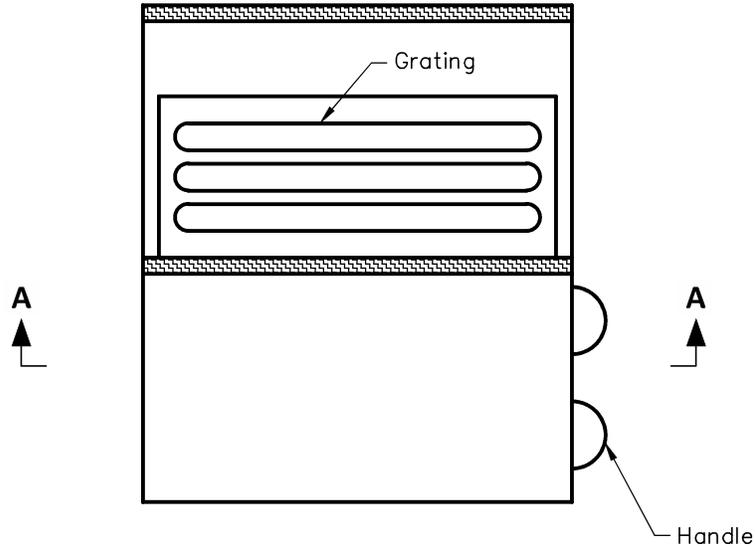
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**FILTER FABRIC
 INLET PROTECTION**

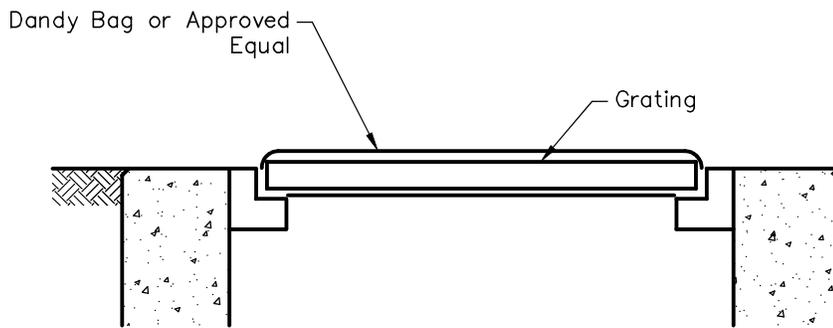
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
Rev February 2016		C-GC-70A



PLAN VIEW



SECTION A-A

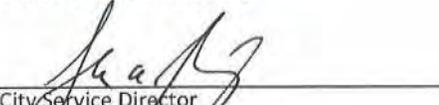
INSTALLATION:

Stand grate on end. Place Dandy Bag over grate. Flip grate over so that open end is up. Pull up slack. Tuck flap in. Be sure end of grate is completely covered by flap or Dandy Bag will not fit properly. Holding handles, carefully place Dandy Bag with grate inserted into Catch Basin frame.

MAINTENANCE:

After silt has dried, remove it from the surface of Dandy Bag with broom.

Approved By:

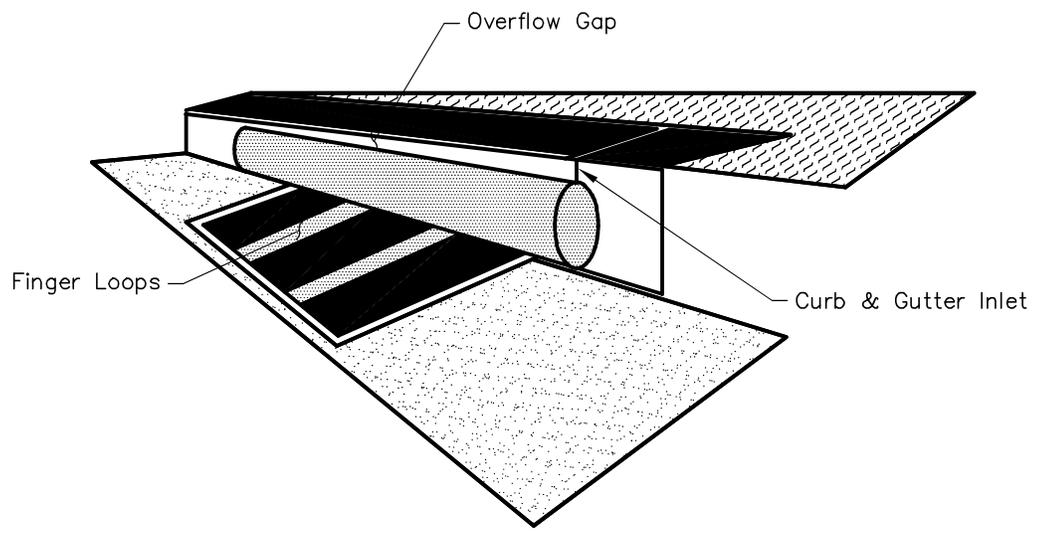
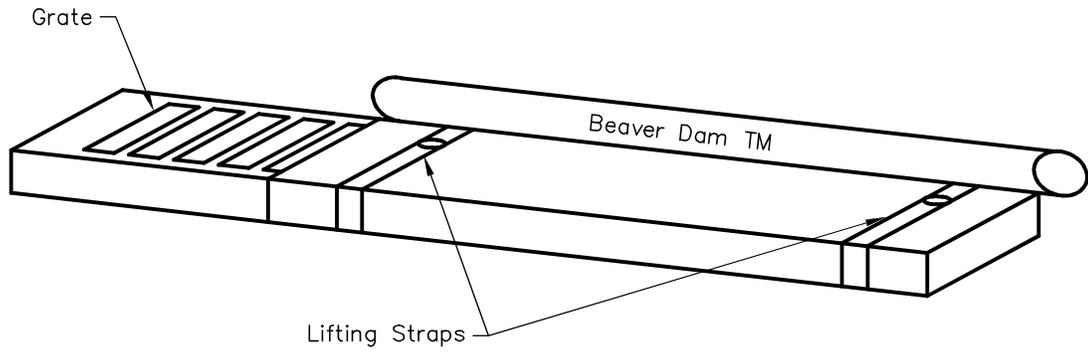
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**THE DANDY BAG
 OR EQUIVALENT**

**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-71A



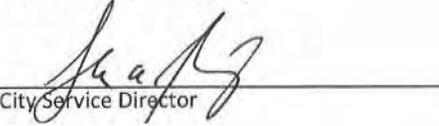
INSTALLATION:

Stand grate on end. Slide the Beaver Dam Bag on with Dam on top of the grate. Pull all excess down. Lay unit on its side. Carefully tuck flap in. Press Velcro strips together. Install the unit making sure front edge of grate is inserted in frame first then lower back into place. Press Velcro dots together which are located under lifting straps. This ensures straps remain flush with gutter.

MAINTENANCE:

With a stiff bristle broom sweep silt and other debris off surface after each event.

Approved By:

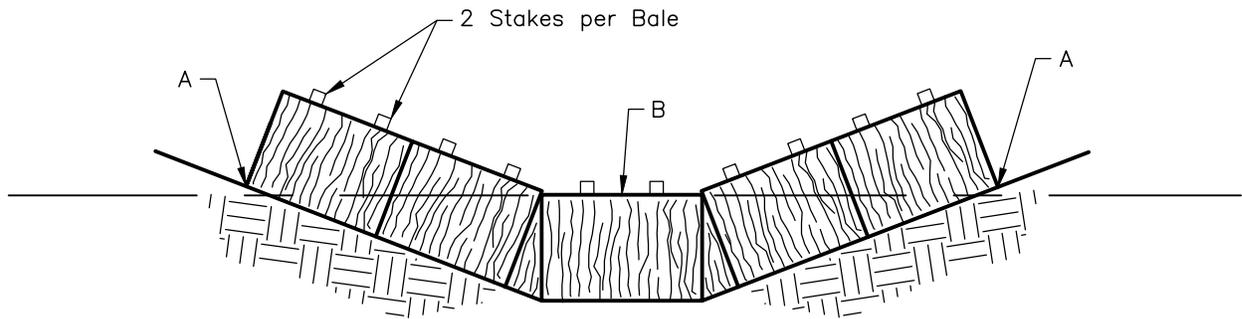
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**THE BEAVER DAM
 OR
 EQUIVALENT**

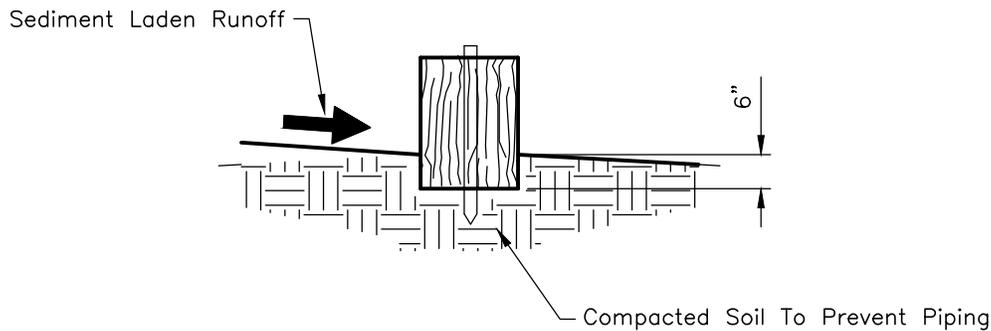
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-72A



Points A Should Be Higher Than Point B



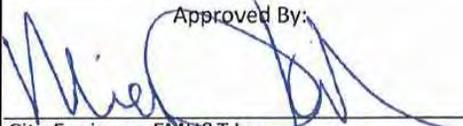
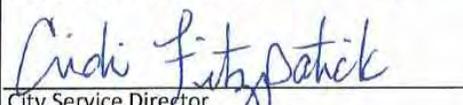
CHANNEL FLOW APPLICATIONS

1. Bales shall be placed in a single row, lengthwise, oriented perpendicular to the contour, with ends of adjacent bales tightly abutting one another.
2. Bales shall be keyed into the channel bottom a minimum of 6 inches.
3. The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

NOTE: Hay bales may be used in place of straw bales.

MAINTENANCE

1. Bales shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
2. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales.
3. Necessary repairs to barriers or replacement of bales shall be accomplished promptly.
4. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
5. Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

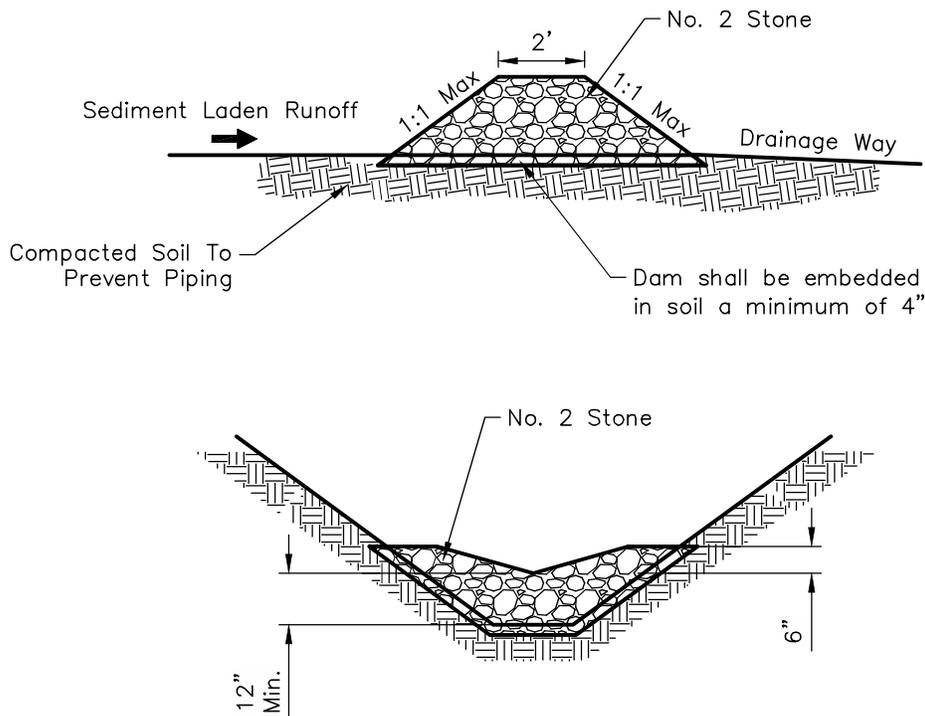
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**STRAW BALE BARRIER
 DETAIL**

**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
Rev February 2016		C-GC-73

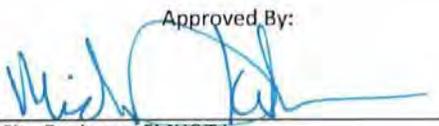
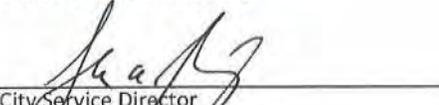


NOTES

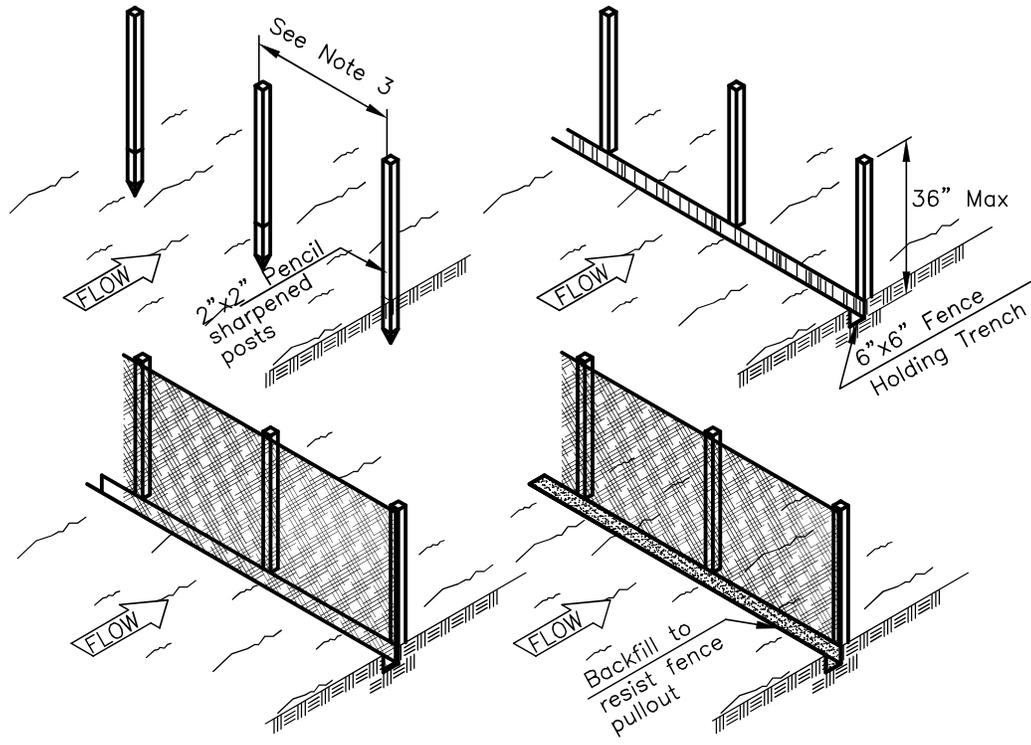
1. The check dam shall be placed so it completely covers the width of the channel.
2. The top center of the check dam shall be approximately 6 inches lower than the outside edges, so runoff will flow across the center of the dam rather than around the edges.
3. The maximum height of the dam shall not exceed 3'.

MAINTENANCE

1. Aggregate check dams shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
2. Close attention shall be paid to the repair of damaged check dams, end runs and undercutting beneath dams.
3. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
4. Any sediment deposits remaining in place after the aggregate is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>AGGREGATE CHECK DAM</p>	<p>CITY OF GROVE CITY, OHIO</p>	
		<p>Revised October 2015</p>	<p style="text-align: center;">STANDARD CONSTRUCTION DRAWING</p> <p>Drawing No. C-GC-73A</p>

OPTION A: SEDIMENT FENCE DETAIL



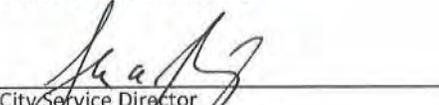
Sediment fence fabric shall be ODOT, Type C Geotextile fabric or the equivalent to the following properties:

MATERIAL PROPERTIES

Maximum Tensile Strength	120 lbs
Maximum Elongation at 60 lbs.	50%
Minimum Puncture Strength	50 lbs
Minimum Tear Strength	40 lbs
Minimum Burst Strength	200 psi
Apparent Opening Size	0.84 mm
Minimum Permeability	1 X 10 sec
Ultraviolet Exposure Strength Retention	70%

SEE SHEET 3 FOR NOTES

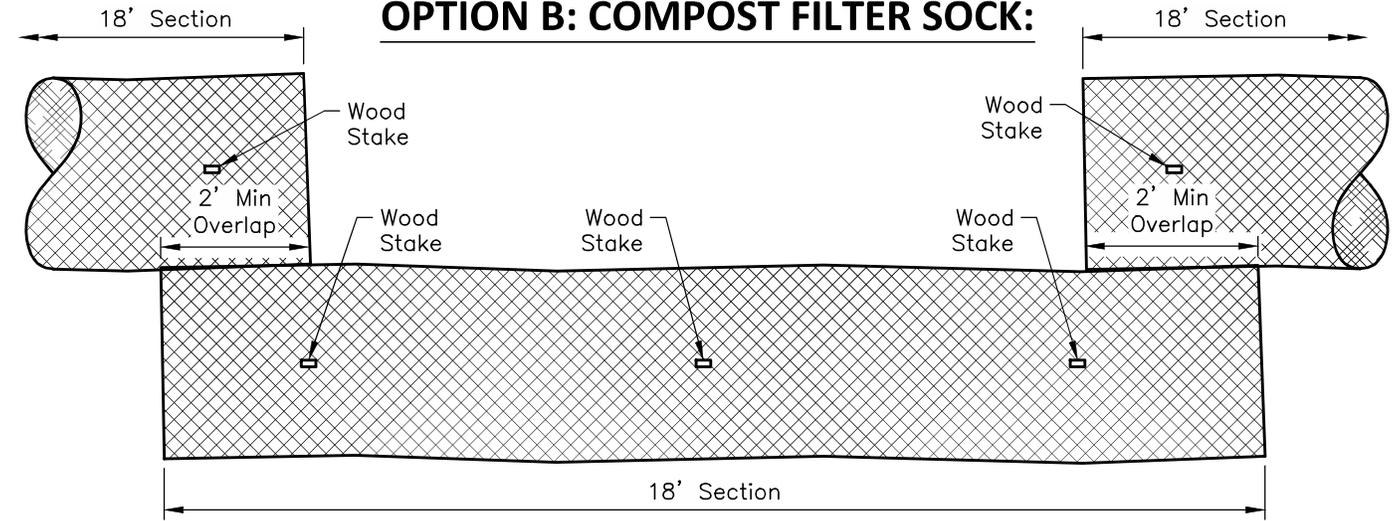
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

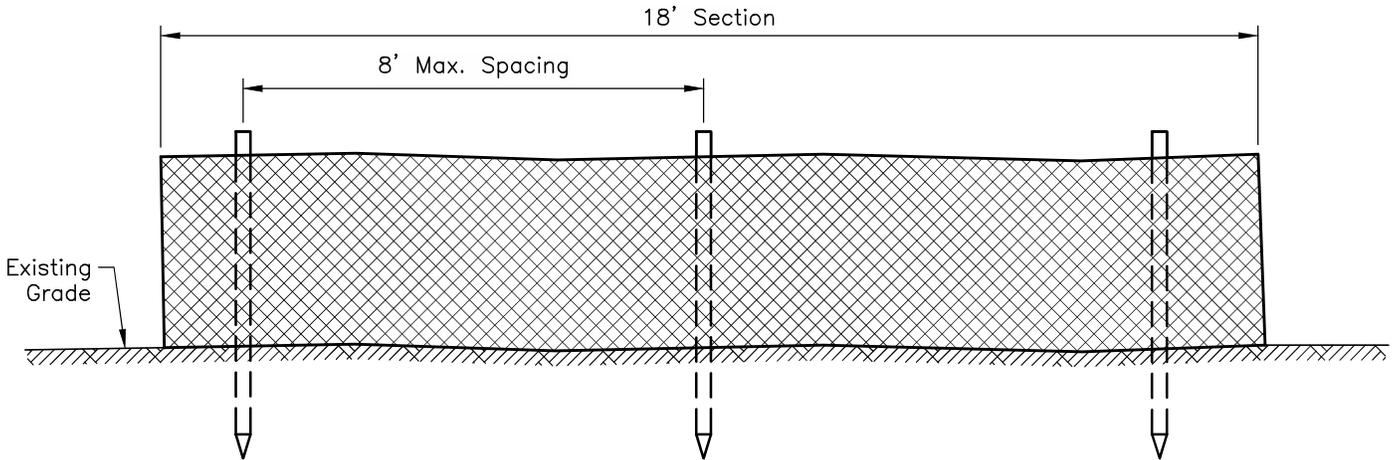
STANDARD DIMENSIONS
FOR
**LINEAR
SEDIMENT
BARRIERS
DETAIL**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	1/3	C-GC-74

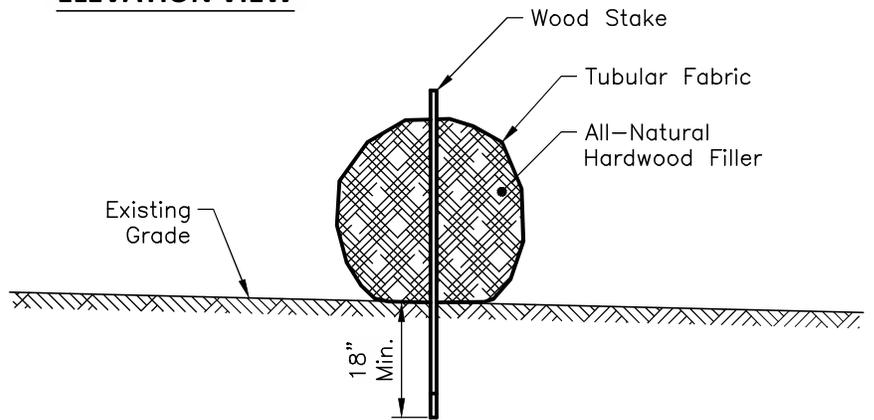
OPTION B: COMPOST FILTER SOCK:



PLAN VIEW - SECTION OVERLAP



ELEVATION VIEW



SECTION VIEW

NOTE

Compost filter sock shall be comprised of a tubular fabric filled with aged all-natural hardwoods.

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

STANDARD DIMENSIONS FOR

LINEAR SEDIMENT BARRIERS

DETAIL

CITY OF GROVE CITY, OHIO

STANDARD CONSTRUCTION DRAWING

Revised	Sheet	Drawing No.
October 2015	2/3	C-GC-74

SEDIMENT FENCE:

This sediment barrier utilizes standard strength or extra strength synthetic filter fabrics. It is designed for situations in which only sheet or overland flows are expected. Material Properties are listed in the provided table.

1. The height of a sediment fence shall not exceed 36-inches (higher fences may impound volumes of water sufficient to cause failure of the structure).
2. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum of a 6 inch overlap, and securely sealed.
3. Posts shall be spaced a maximum of 10 feet apart at the barrier location and driven securely into the ground (minimum of 12-inches). Wood posts will be a minimum of 32" long When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.
4. A trench shall be excavated approximately 6-inches wide and 6-inches deep along the line of posts and upslope from the barrier.
5. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1-inch long, tie wires or hog rings. The wire mesh shall extend into the trench a minimum of 2-inches and shall not extend more than 36-inches above the original ground surface.
6. The standard strength filter fabric shall be stapled or wired to the fence, and 8-inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36-inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
7. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of Note 6 applying.
8. The trench shall be backfilled and soil compacted over the filter fabric.
9. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
10. To prevent water ponded by the silt fence from flowing around the ends, each end shall be constructed upslope so that the ends are at a higher elevation.

MAINTENANCE OF LINEAR SEDIMENT BARRIERS:

Sediment Fence and/or Compost Filter Sock shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.

Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

Approved By:



City Engineer, EMH&T Inc

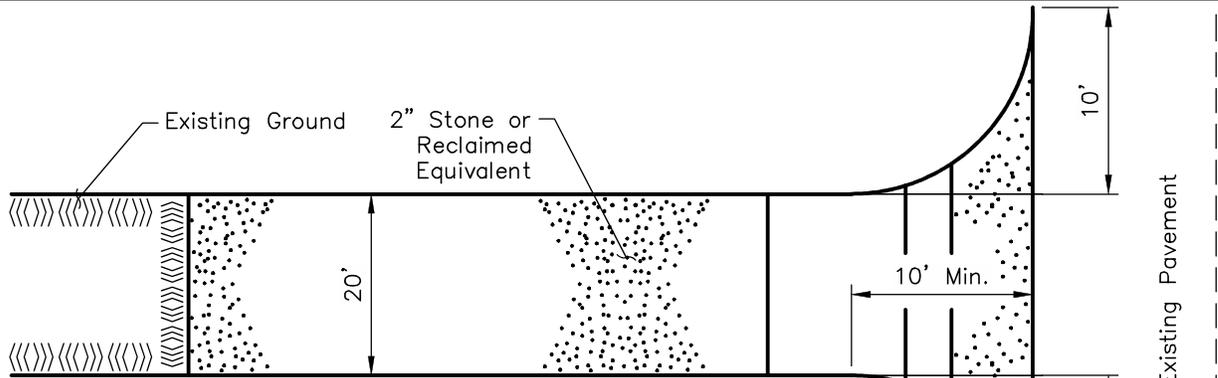


City Service Director

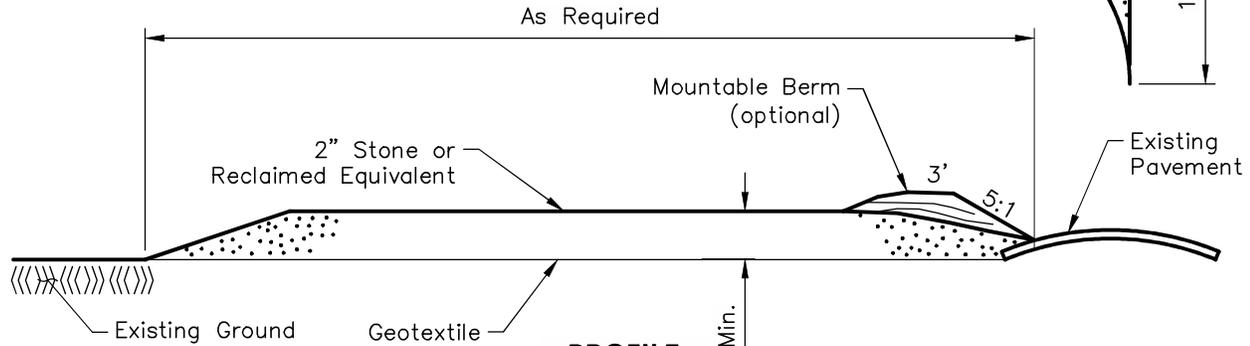
STANDARD DIMENSIONS
FOR

**LINEAR
SEDIMENT
BARRIERS
DETAIL**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	3/3	C-GC-74



PLAN VIEW

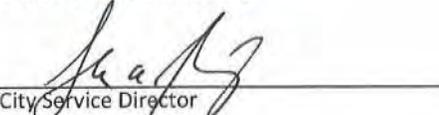


PROFILE

NOTES

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required.
3. Thickness - Not less than six (6) inches.
4. Width - Twenty (20) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Geotextile - will be placed over the entire area prior to placing of stone.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public right-of-ways. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

Approved By:

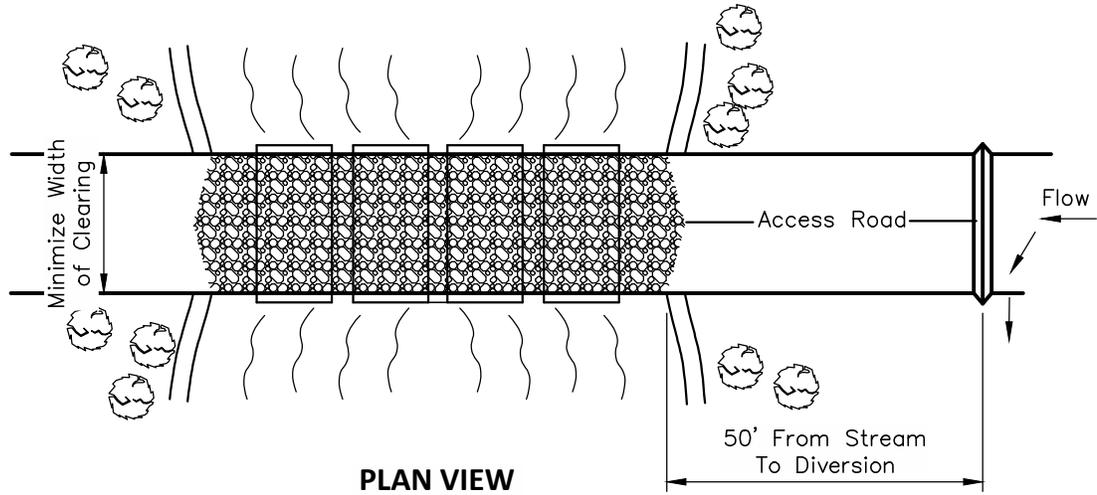
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**STABILIZED
 CONSTRUCTION
 ENTRANCE**

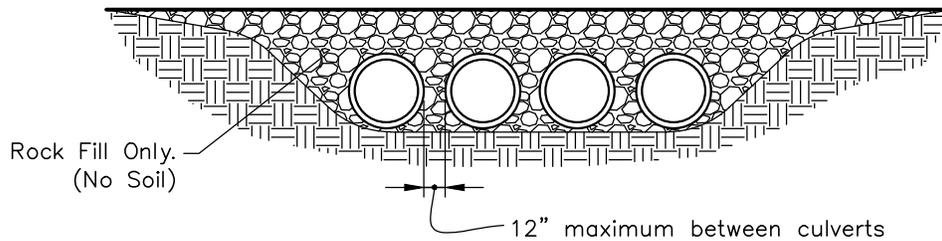
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised	Sheet	Drawing No.
October 2015		C-GC-75A



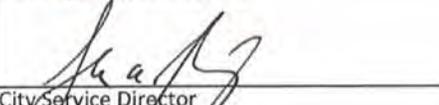
PLAN VIEW

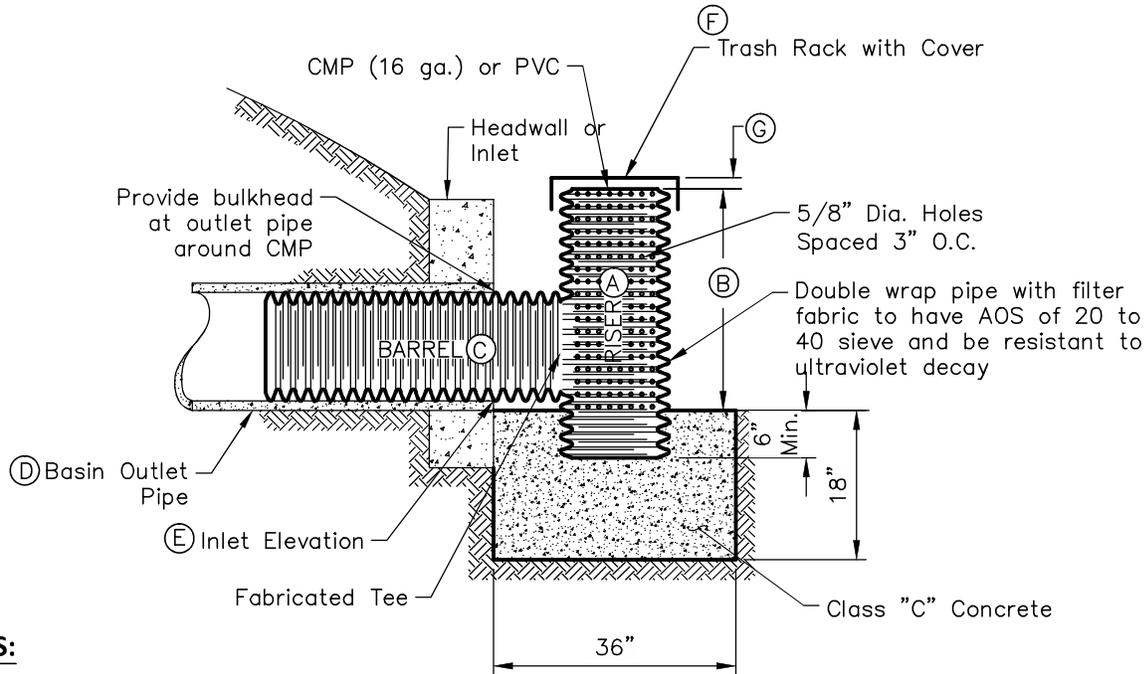


CROSS-SECTION VIEW

NOTES:

1. Culverts should be placed on existing streambed.
2. Culvert size should be at least three times the stream depth, during normal flow, at the crossing. Minimum culvert size is 18 inches.
3. Culverts shall be spaced along the entire width of the stream channel with no more than 12 inches of spacing between each one.
4. Rock, stone, or aggregate is the only material to be placed around culverts. Minimum size accepted is ODOT No. 1.
5. Stormwater runoff from construction road shall be diverted to a sediment control structure prior to reaching crossing.
6. Streambanks shall be stabilized upon removal of culverts to prevent erosion.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>CULVERT STREAM CROSSING</p>	<p style="text-align: center;">CITY OF GROVE CITY, OHIO</p> <hr/> <p style="text-align: center;">STANDARD CONSTRUCTION DRAWING</p> <table border="1" style="width: 100%;"> <tr> <td data-bbox="1050 1900 1213 1990">Revised October 2015</td> <td data-bbox="1213 1900 1375 1990"></td> <td data-bbox="1375 1900 1542 1990">Drawing No. C-GC-75B</td> </tr> </table>	Revised October 2015		Drawing No. C-GC-75B
Revised October 2015		Drawing No. C-GC-75B			

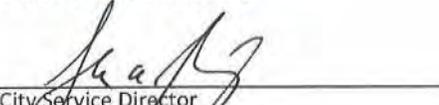


NOTES:

1. Sediment basins shall be constructed and operational before upslope land disturbance begins.
2. RISER PIPE BASE:
The riser pipe shall be set at a minimum of 6" in the concrete base.
3. TRASH RACKS:
The top of the riser shall be fitted with trash racks firmly fastened to the riser pipe.
4. SEDIMENT CLEANOUT:
Sediment shall be removed and the sediment basin restored to its original dimensions when the sediment has filled to one-half the height of the riser. Sediment removed from the basin shall be placed so that it will not erode and shall be stabilized similar to other fill material placed on the site.
5. FINAL REMOVAL:
The sediment control structure shall be removed only after the upstream drainage area is stabilized. Dewatering and removal shall not cause sediment to be discharged.
6. TEMPORARY SEDIMENT BASIN SCHEDULE:
Provide a complete "Temporary Sediment Basin Schedule" on the plan set with the project specific details.

Temporary Sediment Basin Schedule											
Basin No.	Location	Tributary Acreage	Required Basin Volume (67 CY/Ac)	Provided Basin Volume	Control Structure						
					Riser- (A)	Height- (B)	Barrel- (C)	Outlet- (D)	Inlet Elev.- (E)	Trash Rack- (F)	Rack Height- (G)
X	XXXX	X AC.	X C.Y.	X C.Y.	X"	X'	X"	X" X%	XXX.XX	X"	X"

Approved By:

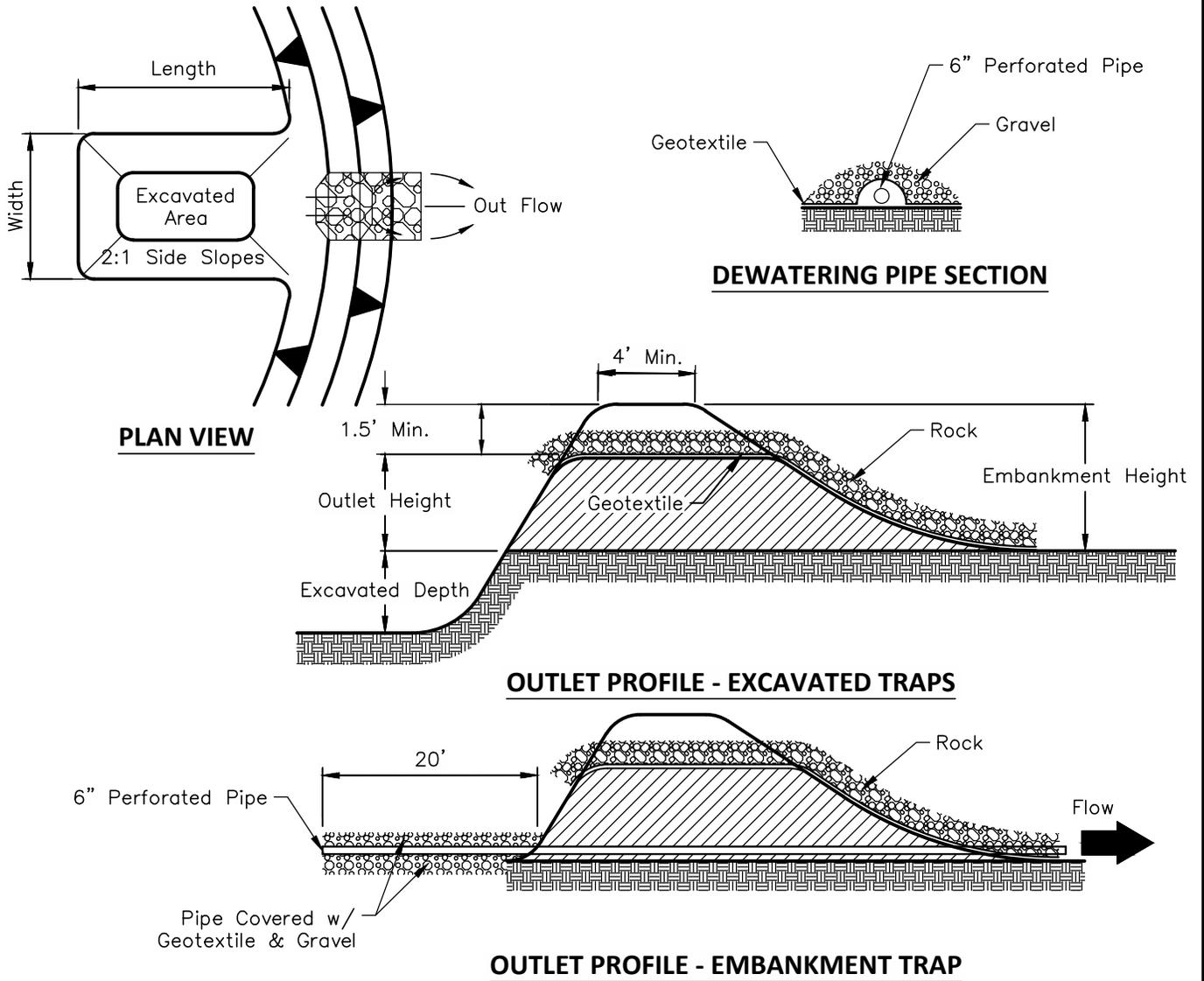
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
FOR
**TEMPORARY
RISER PIPE**

**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-76A



NOTES

1. Traps should be constructed and operational prior to upslope land disturbance with the storage volume of 67 cubic yards per drainage acre.
2. Area under embankment should be cleared of vegetation.
3. Embankment should be constructed with fill material free from vegetation and oversized stone. Embankment should be compacted with a maximum height of 5 feet above the surrounding ground.
4. Temporary seed and mulch any area of the trap that will not be submerged.
5. Temporary diversions should direct runoff to trap.
6. Rock used for outlet should be 1 foot thick and placed over top of geotextile. Rock used for outlet should be between Type C and Type D.
7. Accumulated sediment should be removed when it has filled one half of the traps original depth.
8. The trap shall be removed and permanently seeded upon drainage area stabilization.

Approved By:

 City Engineer, EMH&T Inc

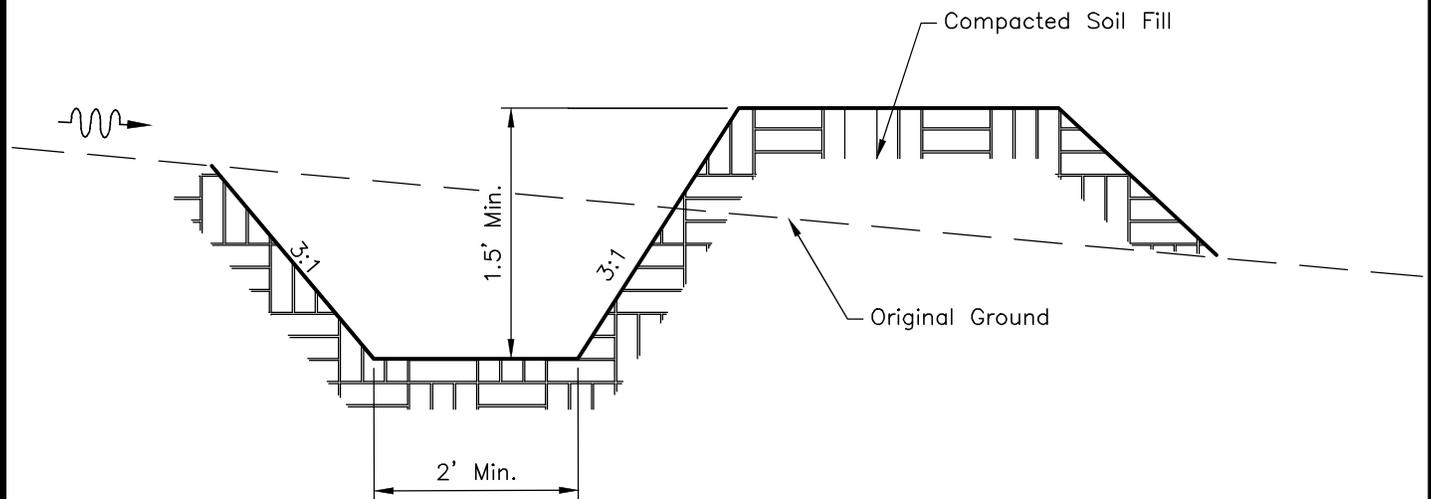
 City Service Director

STANDARD DIMENSIONS
 FOR
**SEDIMENT
 TRAP**

**CITY OF
 GROVE CITY, OHIO**

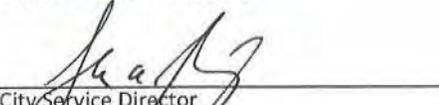
STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
Rev February 2016		C-GC-76B



MAINTENANCE:

All channels shall be seeded and strawed immediately following their construction. The Contractor shall be held responsible for maintenance of the channel prior to completion of the project. The slope of the channel shall be such to provide adequate drainage throughout the entire length of the channel.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>DIVERSION CHANNEL</p>	<p style="text-align: center;">CITY OF GROVE CITY, OHIO</p> <hr/> <p style="text-align: center;">STANDARD CONSTRUCTION DRAWING</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Revised</td> <td style="width: 33%;"></td> <td style="width: 33%;">Drawing No.</td> </tr> <tr> <td>October 2015</td> <td></td> <td>C-GC-76C</td> </tr> </table>	Revised		Drawing No.	October 2015		C-GC-76C
Revised		Drawing No.						
October 2015		C-GC-76C						

CONTRACTOR'S RESPONSIBILITIES:

Prior to Construction Operations in a particular area, all sedimentation and erosion control features shall be in place. Field adjustment with respect to locations may be made by the Engineer as requested.

Details have been provided on the plans in an effort to help the Contractor provide erosion and sedimentation control.

The details shown on the plan shall be considered a minimum. Additional or alternate details may be found in the O.D.N.R. Manual "Rainwater and Land Development." The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for Storm Discharges Associated with Construction Activity.

Field adjustments with respect to locations and dimensions may be made by the Engineer, Grove City and the Ohio EPA.

A temporary sediment basin must be provided for sites that shall have a common disturbed drainage area of ten acres or more. The temporary sediment basin shall remain in place until the site is permanently stabilized.

The Contractor shall place inlet protection for the sedimentation control immediately after the construction of catch basins or inlets which are not tributary to a sediment basin or trap.

It may become necessary to remove portions of sedimentation controls during construction to facilitate the grading operations in certain areas. However, the controls shall be replaced upon completion of grading or during any inclement weather.

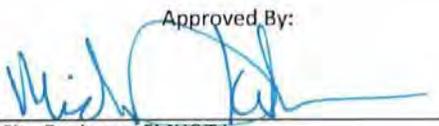
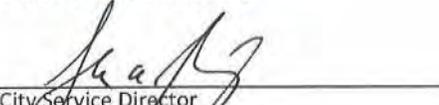
The Contractor shall be responsible to have the current Storm Water Pollution Prevention Plan immediately available or posted on site.

The Contractor shall be responsible to ensure that off-site tracking of sediments by vehicles and equipment is minimized. All such off-site sediment shall be cleaned up as necessary.

The Contractor shall be responsible to ensure that no solid or liquid waste is discharged into storm water runoff. Untreated sediment-laden runoff shall not flow off of site without being directed through a control practice. Concrete trucks will not be allowed to wash out or discharge surplus concrete into or alongside rivers, streams, or creeks or into natural or man-made channels or swales leading thereto. Concrete wash water and surplus concrete shall be confined to approved areas; after solidifying, these waste materials shall be removed from the site.

The Contractor shall remove all temporary erosion and sedimentation controls upon permanent stabilization of the site.

The cost for temporary channels, sediment traps, sediment basins and other appurtenant earth-moving operations shall be included in the price bid for erosion and sedimentation quantities.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>SEDIMENT AND EROSION CONTROL GENERAL NOTES</p>	<p>CITY OF GROVE CITY, OHIO</p> <hr/> <p>STANDARD CONSTRUCTION DRAWING</p> <table border="1"><tr><td data-bbox="1047 1890 1209 1995">Revised October 2015</td><td data-bbox="1209 1890 1372 1995">Sheet 1/2</td><td data-bbox="1372 1890 1526 1995">Drawing No. C-GC-77</td></tr></table>	Revised October 2015	Sheet 1/2	Drawing No. C-GC-77
Revised October 2015	Sheet 1/2	Drawing No. C-GC-77			

ESTIMATED QUANTITIES:

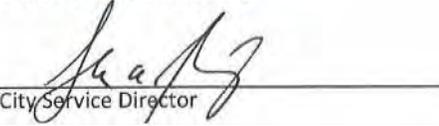
CMSC Item	Description	Quantity	Unit
207	Construction Seeding and Mulching		Square Yard
207	Sediment Basins & Traps		Cubic Yard
207	Riser Pipe for Sediment Basin		Linear Foot
207	Filter Fabric Fence		Linear Foot
207	Stabilized Construction Entrance		Cubic Yard
207	Bale Filter Dike		Linear Foot
207	Inlet Protection		Each

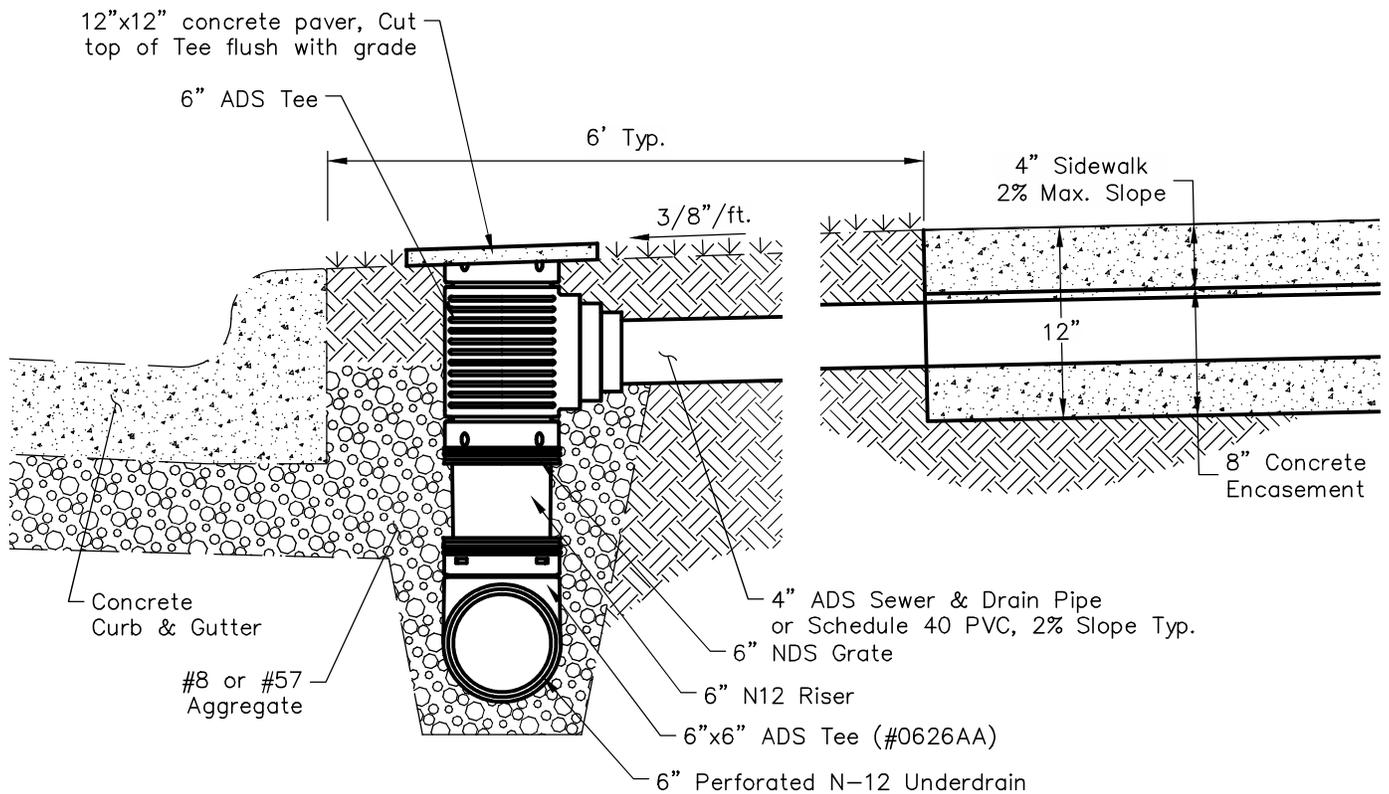
Note: Not all details on the Erosion and Sedimentation Control features indicated on this sheet will be pertinent to all projects. See the Erosion and Sedimentation Control Plan for features used.

TEMPORARY AND PERMANENT SEEDING:

The limits of seeding and mulching are shown on the plan. Seeding has been assumed to be 5' outside the work limits or right-of-way, whichever is greater. All areas not designated to be seeded shall remain under natural ground cover. Those areas disturbed outside the seeding limits shall be seeded and mulched at the Contractor's expense.

Temporary and Permanent Seeding shall be applied per the requirements identified within the City of Grove City General Notes and the ODNR "Rainwater and Land Development" manual.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>SEDIMENT AND EROSION CONTROL GENERAL NOTES</p>	<p>CITY OF GROVE CITY, OHIO</p> <hr/> <p>STANDARD CONSTRUCTION DRAWING</p> <table border="1" style="width: 100%;"> <tr> <td>Revised</td> <td>Sheet</td> <td>Drawing No.</td> </tr> <tr> <td>October 2015</td> <td>2/2</td> <td>C-GC-77</td> </tr> </table>	Revised	Sheet	Drawing No.	October 2015	2/2	C-GC-77
Revised	Sheet	Drawing No.						
October 2015	2/2	C-GC-77						



NOTES:

1. Stub house underdrain into ADS Tee and match existing house underdrain diameter, use reducer if existing drain is less than 4".
2. The roof drain pipe shall be encased where it crosses underneath the sidewalk. The concrete encasing shall be 12" deep below finished sidewalk grade and 12" wide.
3. A contraction joint is to be tooled in sidewalk panel directly above roof drain. The pipe shall be encased in 8" of Columbus Class "C" concrete beneath the sidewalk.
4. The cap shall be left exposed and no more than 1" above finished grade.

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

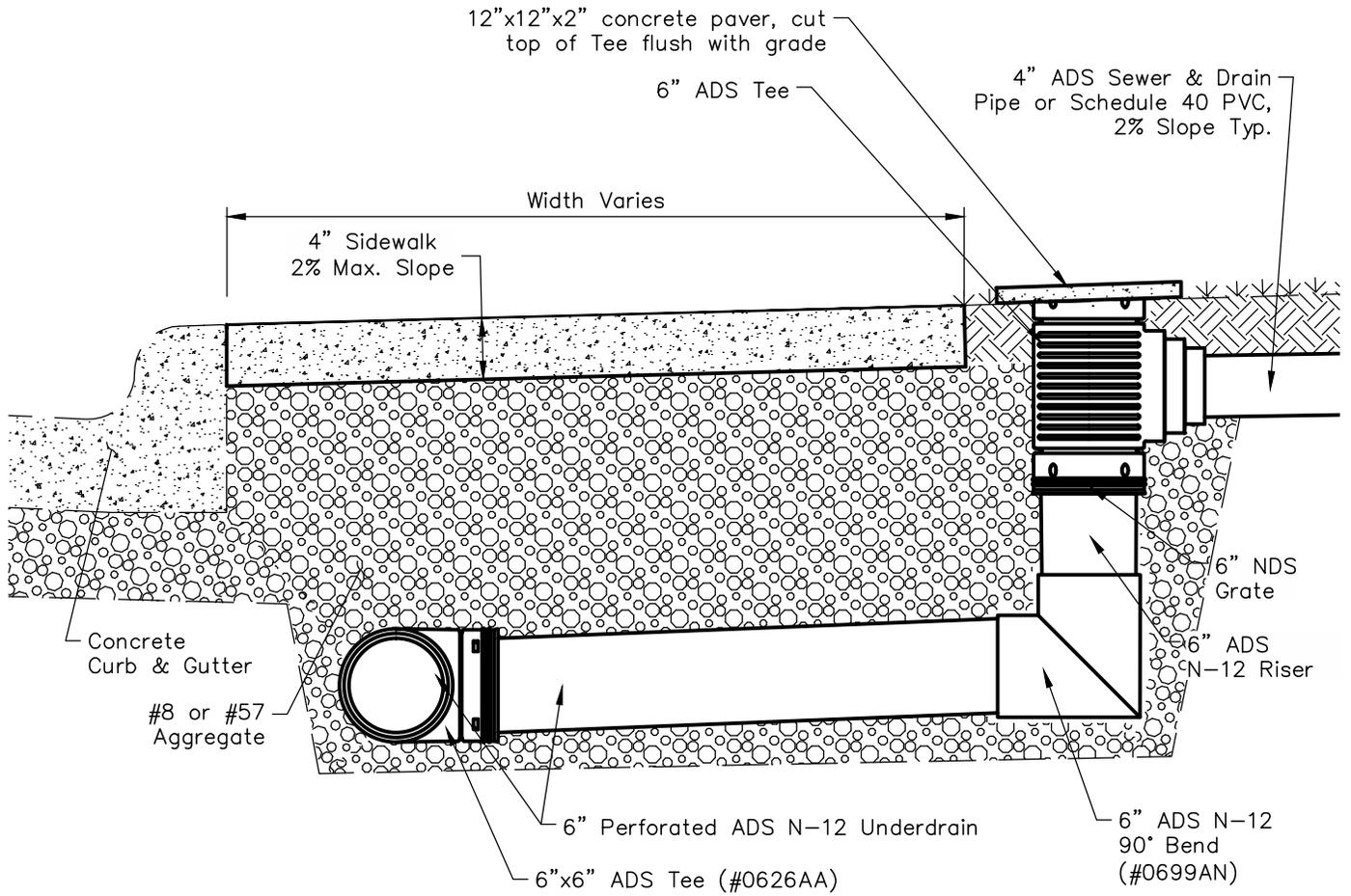
STANDARD DIMENSIONS
FOR

**RESIDENTIAL
UNDERDRAIN
JUNCTION BOX**

**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

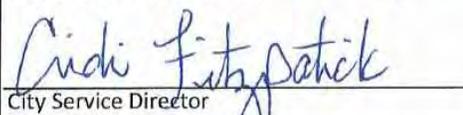
Revised		Drawing No.
October 2015		C-GC-78A



NOTES:

1. Stub house underdrain into ADS Tee and match existing house underdrain diameter.
2. The cap shall be left exposed and no more than 1" above finished grade.

Approved By:

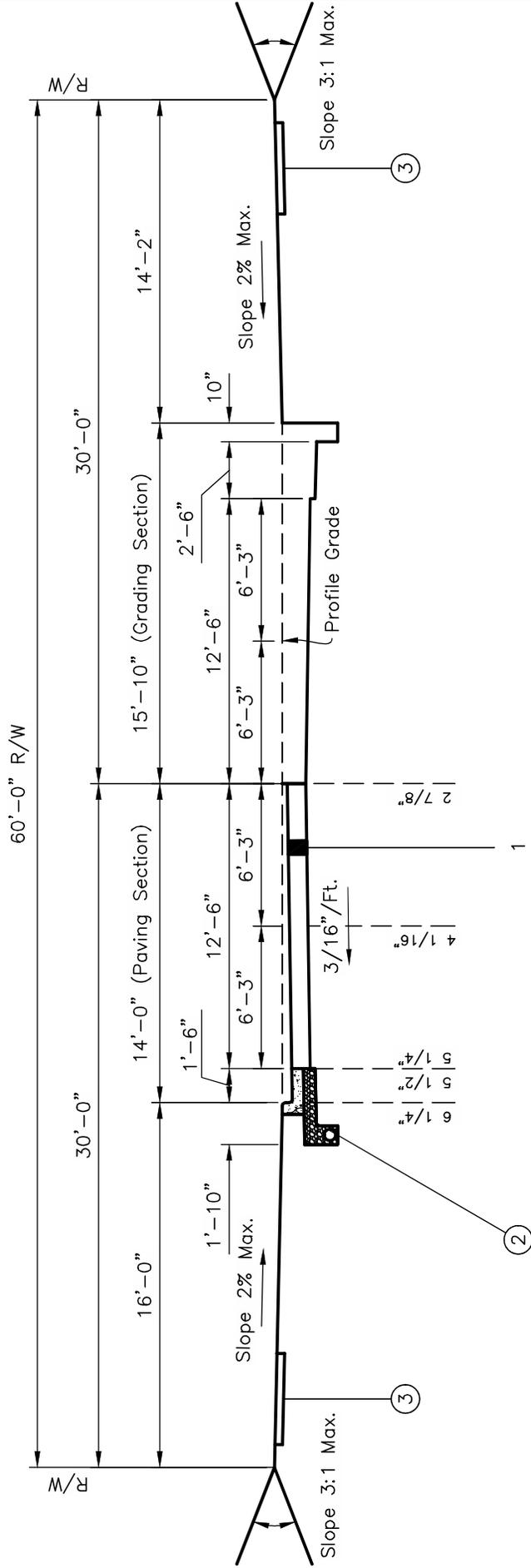
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**RESIDENTIAL UNDERDRAIN
 JUNCTION BOX
 (WALK ADJACENT TO CURB)**

**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
Rev February 2016		C-GC-78B



- ① Refer to Standard Drawing C-GC-90 for Pavement Design Specifications.
- ② City of Grove City Standard Concrete Combined Curb & Gutter (Standard Drawing C-GC-57A)
- ③ City of Grove City Typical Sidewalk (Standard Drawing C-GC-46A)

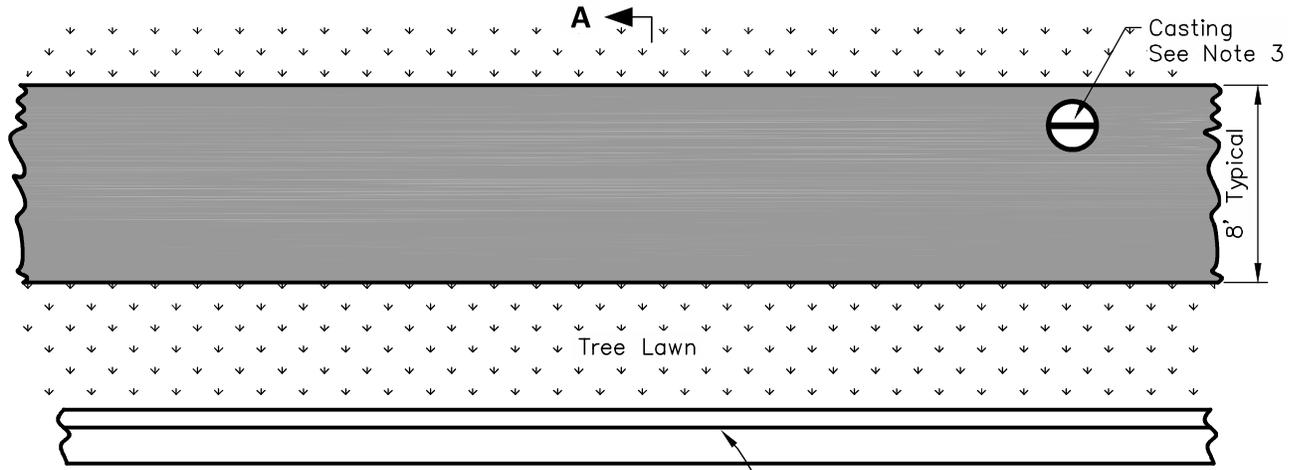
Approved By:

Michael J. ...
 City Engineer, EMH&T Inc

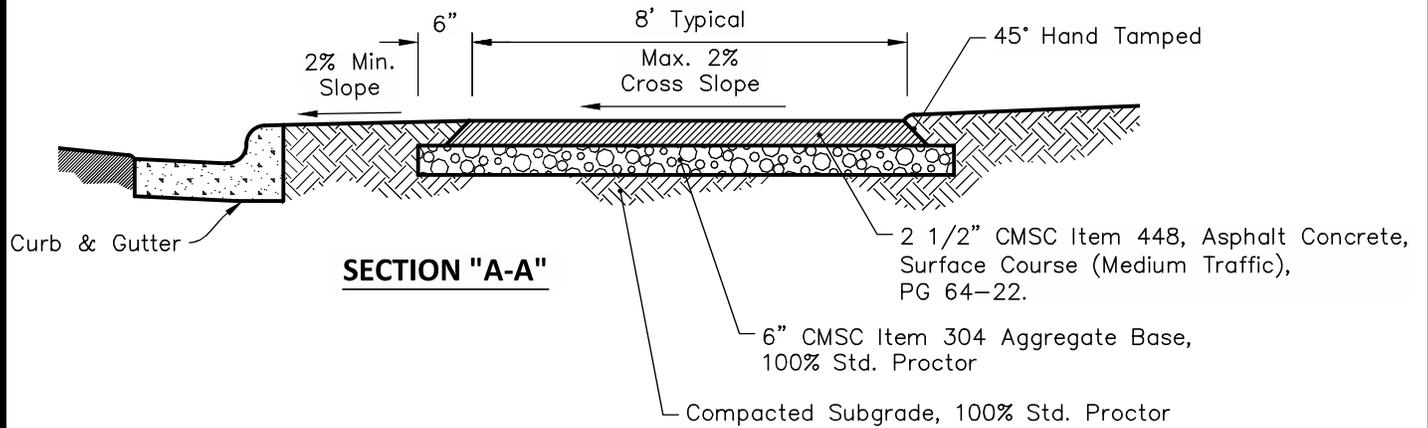
John A. ...
 City Service Director

STANDARD DIMENSIONS
 FOR
 RESIDENTIAL/LOCAL CUL-DE-SAC
 STREET 28' SECTION WITH
 CONCRETE COMBINED CURB &
 GUTTER

CITY OF GROVE CITY, OHIO	
STANDARD CONSTRUCTION DRAWING	Drawing No.
Revised	C-GC-79
October 2015	



BIKE PATH PLAN



SECTION "A-A"

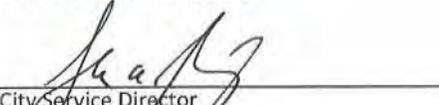
NOTES

1. An approved soil sterilant shall be applied prior to the placement of base material.
2. All topsoil, or otherwise unsuitable material, shall be removed and replaced with compactable granular load-bearing material. All disturbed areas, including fills, shall be seeded according to ODOT Item 659.
3. All castings within bike path, when unavoidable, shall be set flush with concrete and bolted down.
4. 2'0" graded section on each side of bike path shall be clear of obstructions.
5. Vertical clearance to obstructions above path shall be 8'6". Vertical clearance to traffic signs beside path shall be 7'0" to bottom of sign.
6. Bike paths shall meet the most current specifications of the ADA Accessibility Guidelines (ADAAG).
7. Pavement markings and signage shall conform to the Manual of Uniform Traffic Control Devices (MUTCD).
8. Design speeds and radii shall be as follows:

DESIGN SPEED (MPH)	MINIMUM RADIUS (FT.)
20 (Min.)	70
25	90
30*	125*

*Shall be used when grade exceeds 4%; however, grades greater than 5% are undesirable.

Approved By:

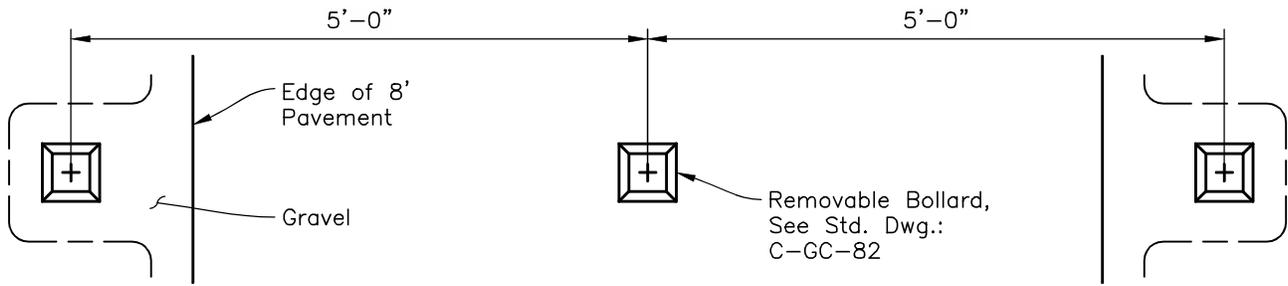
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**BIKE PATH
 PAVEMENT DETAIL**

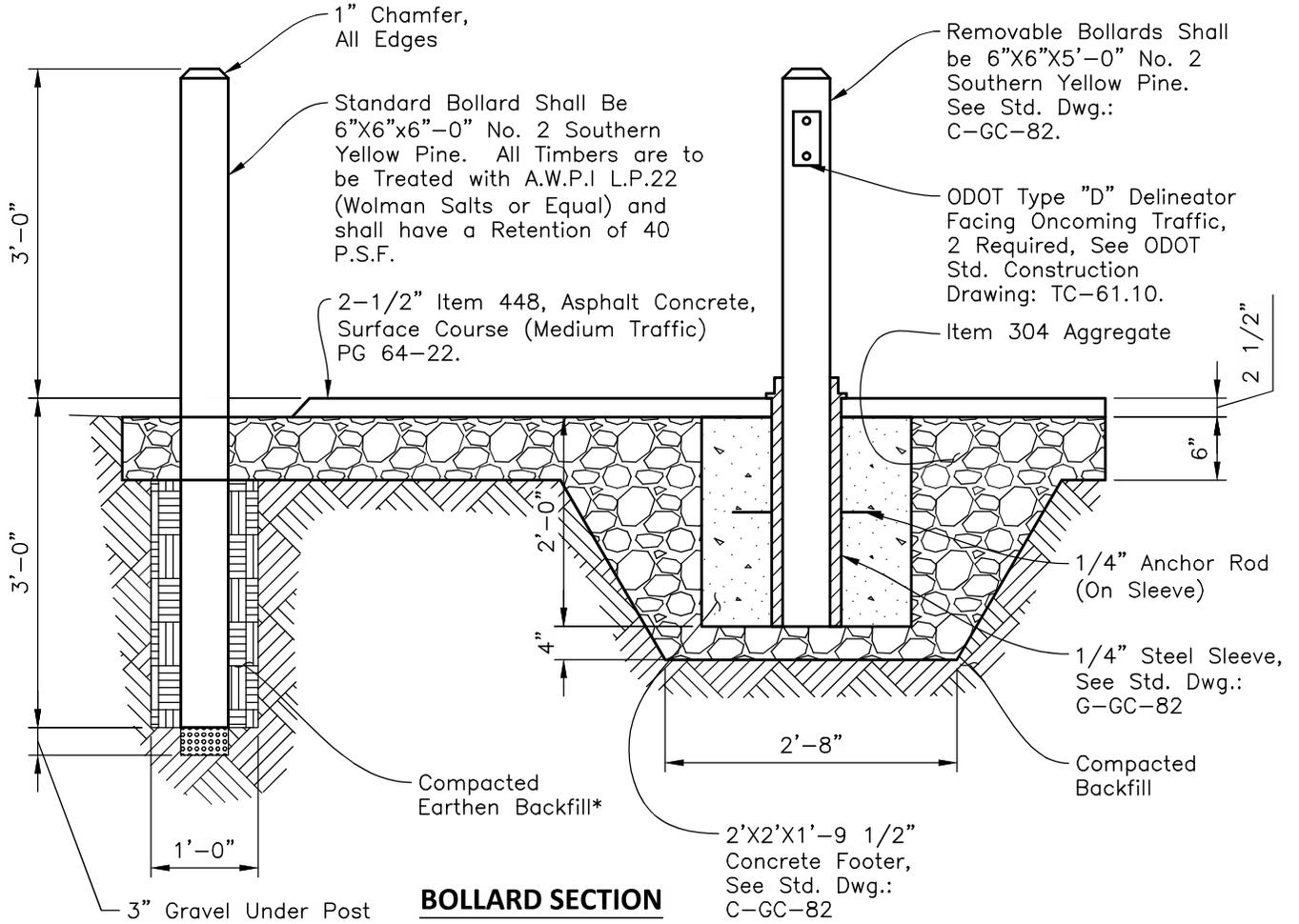
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-80



BOLLARD LAYOUT FOR 8' PAVEMENT



BOLLARD SECTION

* The Contractor shall place the Compacted Earthen Backfill in 6" Lifts and shall correctly plumb each post.

Note: Upon completion of construction and when dry, a minimum of two coats of a water-repellant stain/sealer for wood shall be applied to all exposed wood surfaces. Contractor shall submit color sample to Grove City for approval.

Approved By:

 City Engineer, EMH&T Inc

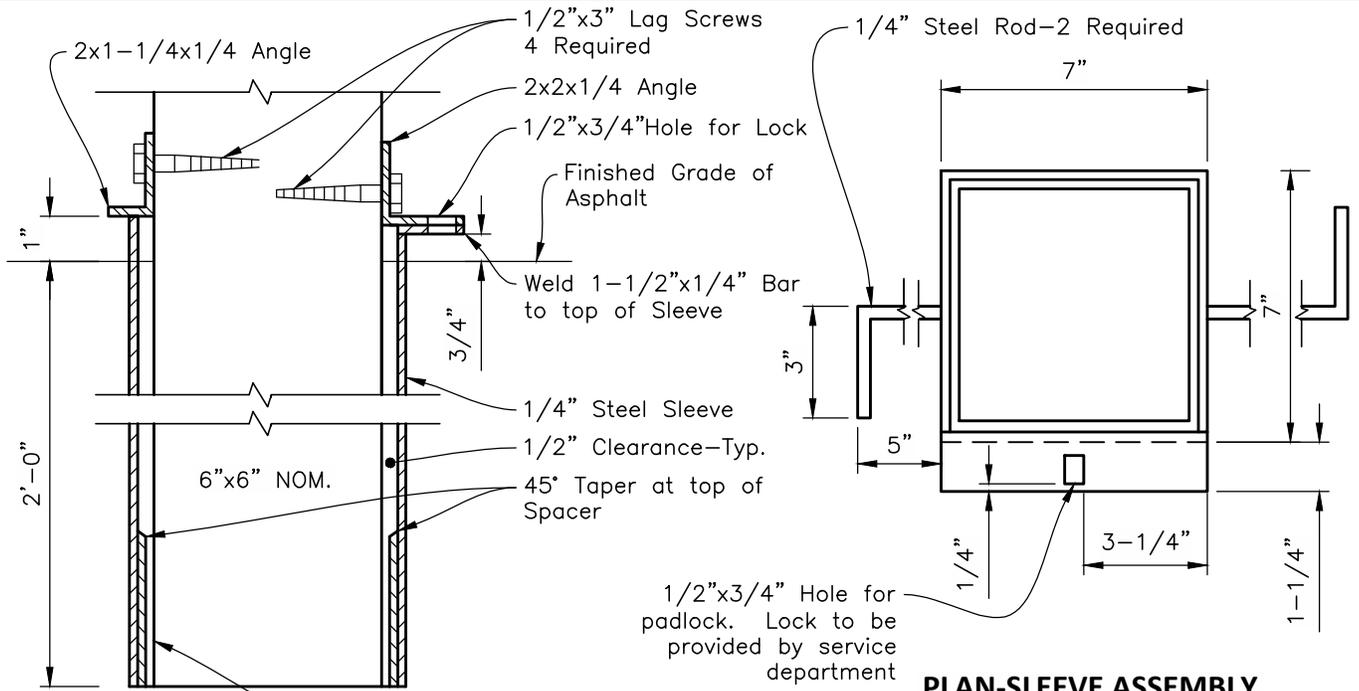
 City Service Director

STANDARD DIMENSIONS
 FOR
**BOLLARD
 INSTALLATION
 DETAILS**

**CITY OF
 GROVE CITY, OHIO**

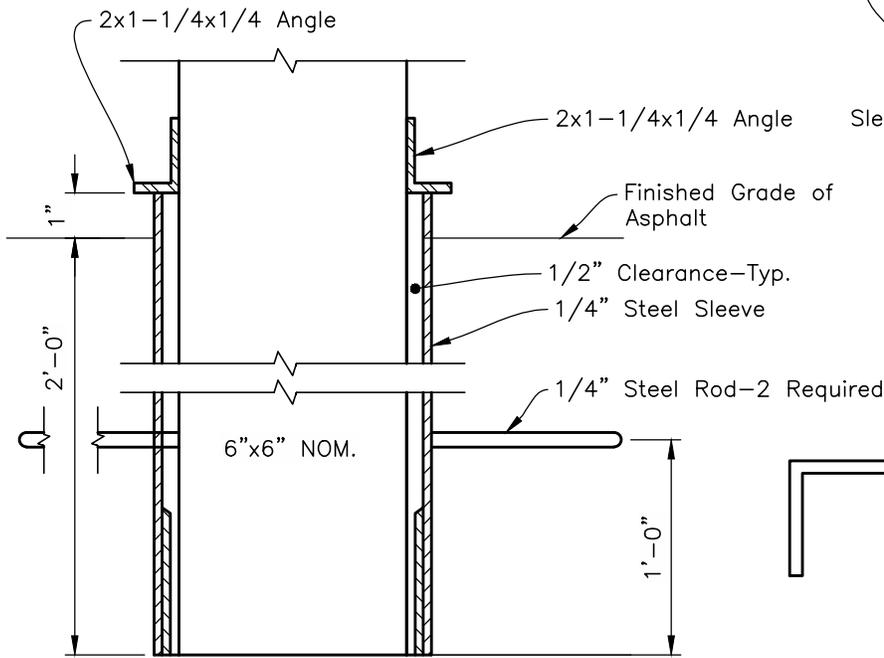
STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-81

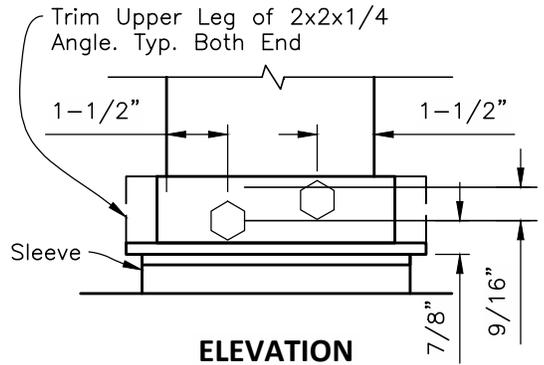


SECTION A-A

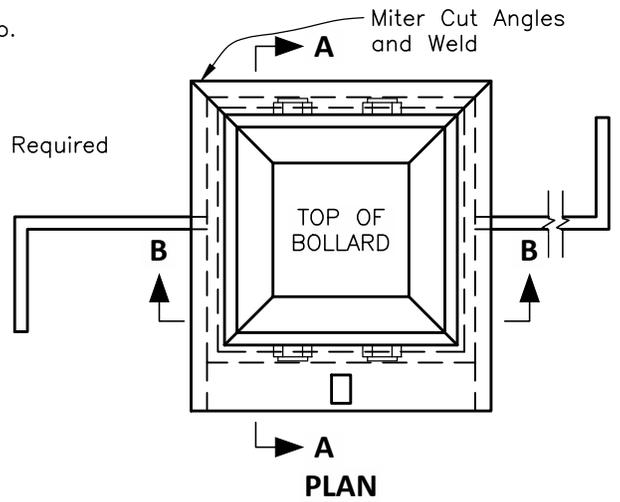
PLAN-SLEEVE ASSEMBLY



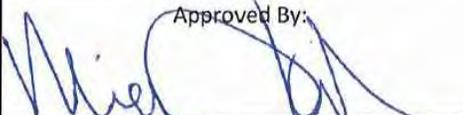
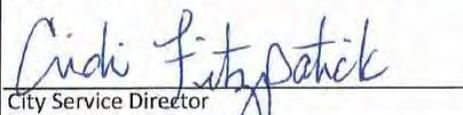
SECTION B-B



ELEVATION

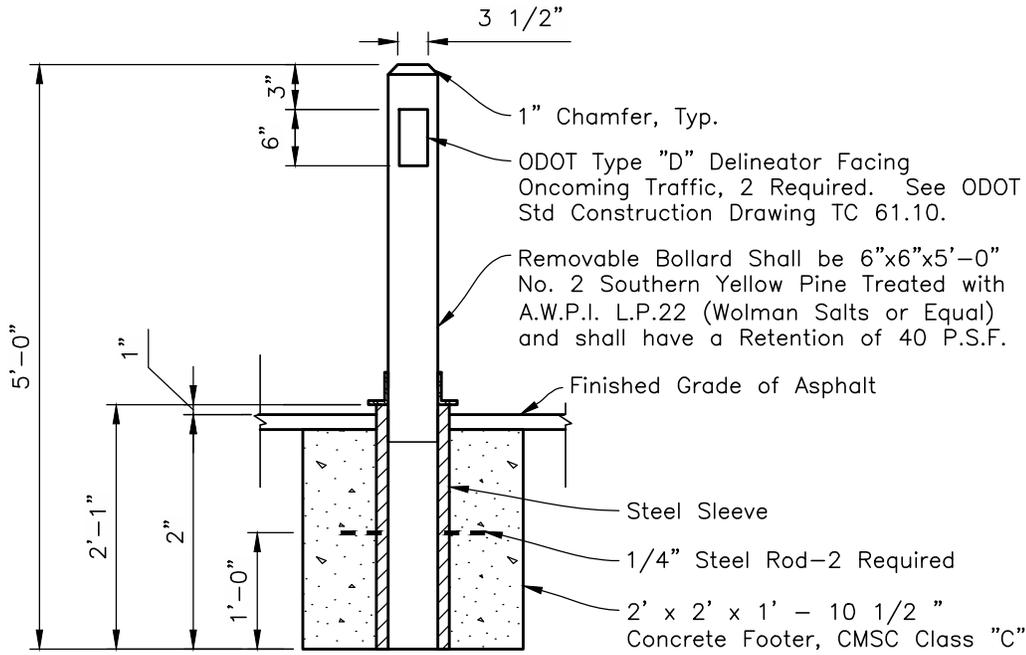


PLAN

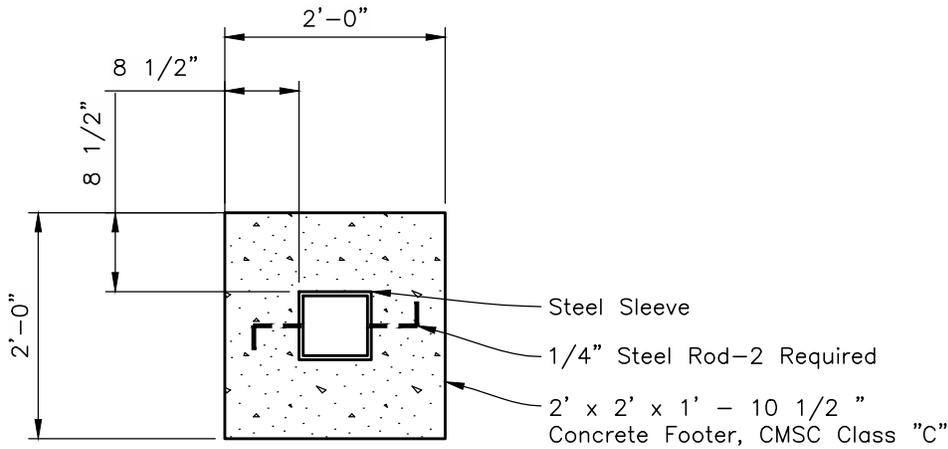
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**REMOVABLE
 BOLLARD DETAIL**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	1/2	C-GC-82



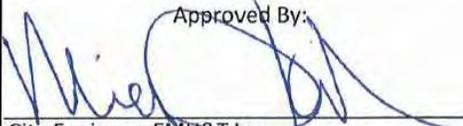
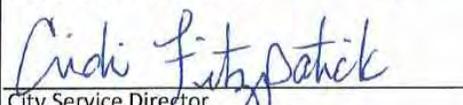
REMOVABLE BOLLARD



FOOTER DETAIL

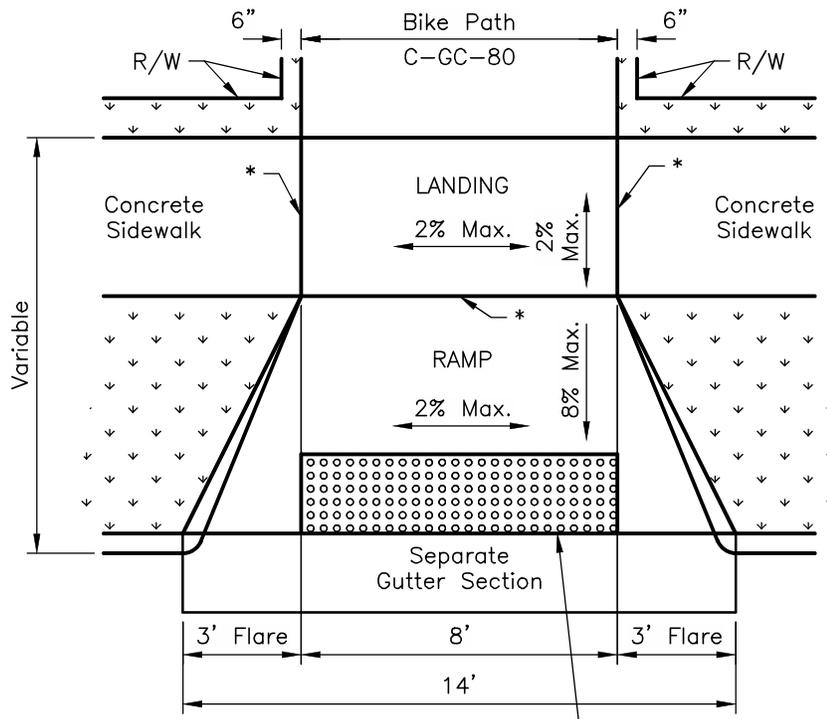
NOTES

The steel sleeve, angle iron and anchor rods shall be painted with two coats of Rust-Oleum No. 769 Damp-Proof Red Primer, or Equal, prior to installation.
 The Contractor may substitute a 24" circular footer in place of the 24" square footer shown.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**REMOVABLE
 BOLLARD DETAIL**

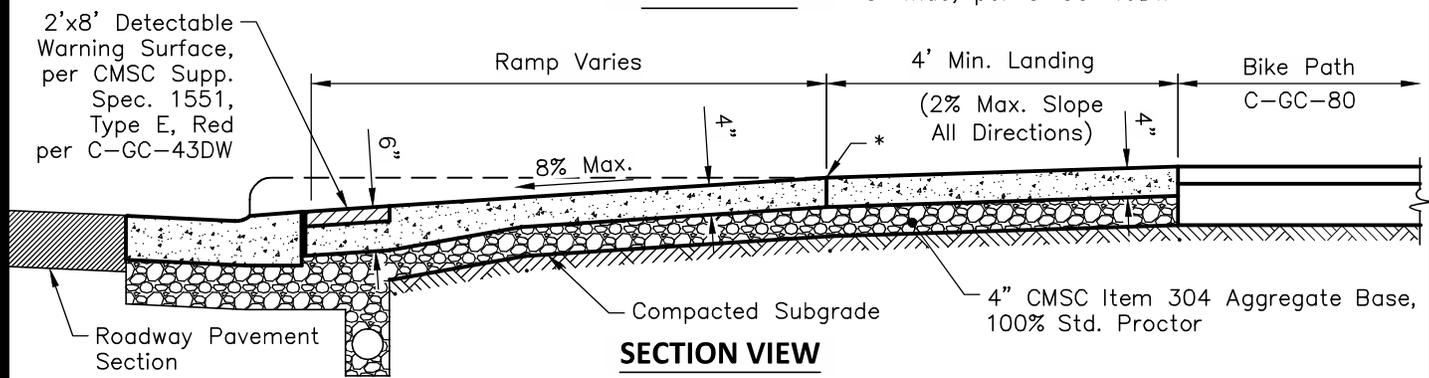
CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
February 2016	2/2	C-GC-82



PLAN VIEW

* = Expansion Joint

Detectable Warning Surface
8' Wide, per C-GC-43DW

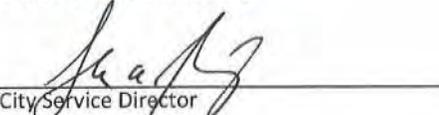


SECTION VIEW

NOTES:

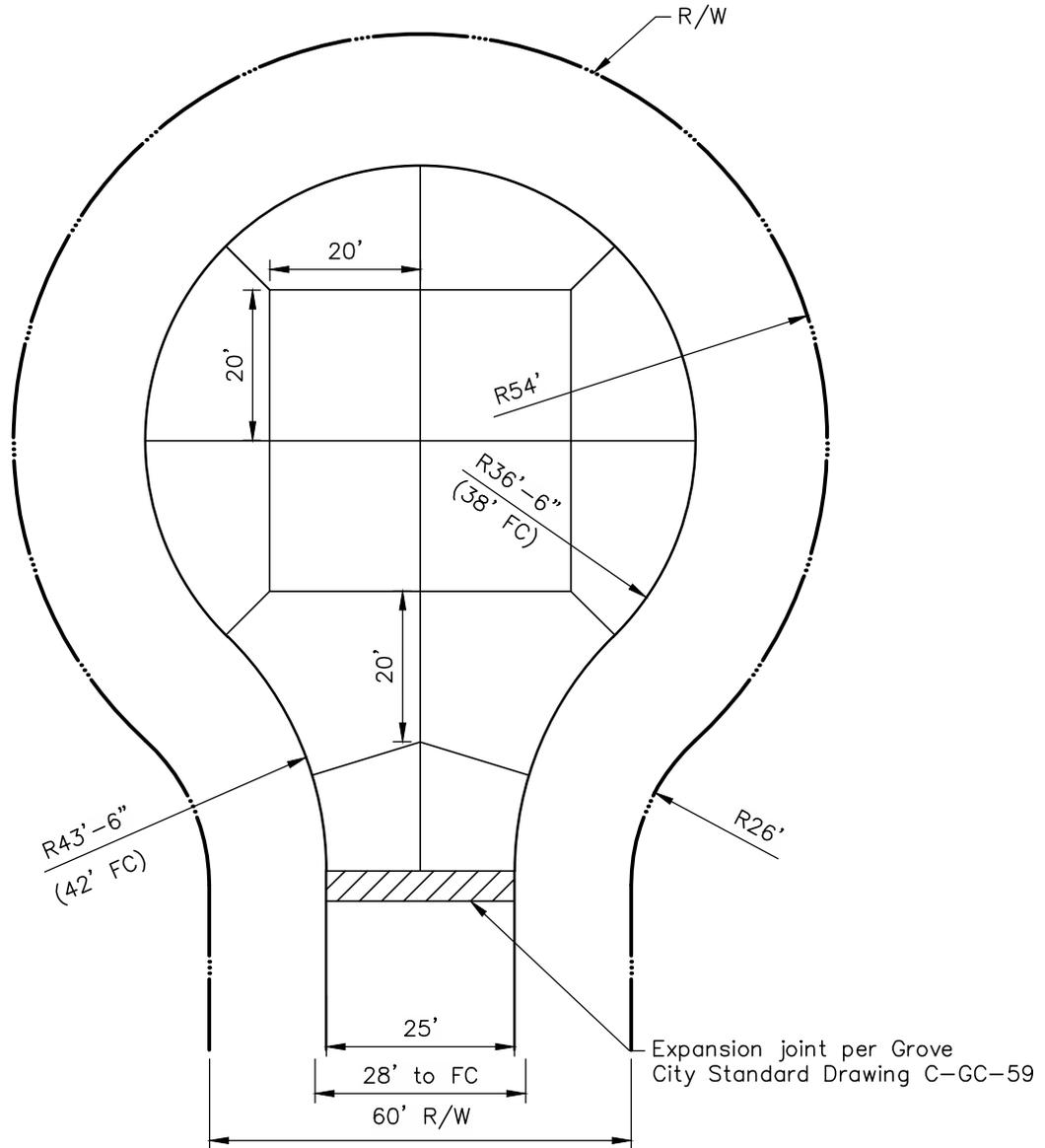
1. Curb or combined curb and gutter shall be taken out and replaced with concrete separated from the ramp by 1/2" pre molded expansion joint. When less than 5'-0" of a curb section remains after the curb cut is located, it shall also be removed and replaced. New curb shall be constructed in min. 5'-0" sections and max. 10'-0" sections.
2. Fills, if required, shall be of earth compacted in 2" layers, or if Item 304, subbase compacted in layers not exceeding 4".
3. Bike path ramp shall be constructed of portland cement concrete, 5% to 8% air entrained, Columbus Class "S" per Item 499.
4. Expansion joints shall be placed to form utility strips where required and wherever new concrete touches existing construction.
5. Forms consist of 2" nominal thickness wood or metal of equal strength.
6. All construction and materials shall conform to the city of Columbus Construction and Material Specifications (CMSC), latest edition, unless noted otherwise.
7. Bike paths shall meet the most current specifications of the ADA Accessibility Guidelines (ADAAG).
8. Contractor shall apply a cure & seal compound, as approved by the City, to finished concrete immediately after finishing.
9. Detectable Warning Surface per C-GC-43DW

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

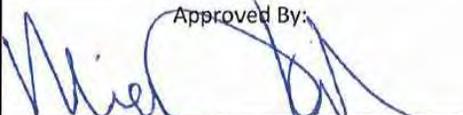
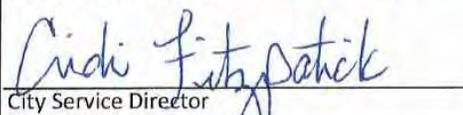
STANDARD DIMENSIONS
 FOR
**STANDARD BIKE
 PATH RAMP**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015		C-GC-83



NOTES:

Concrete combined curb and gutter is not shown. See Grove City Standard Drawing C-GC-57A for details.
Face of curb +/- 1'-6".

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

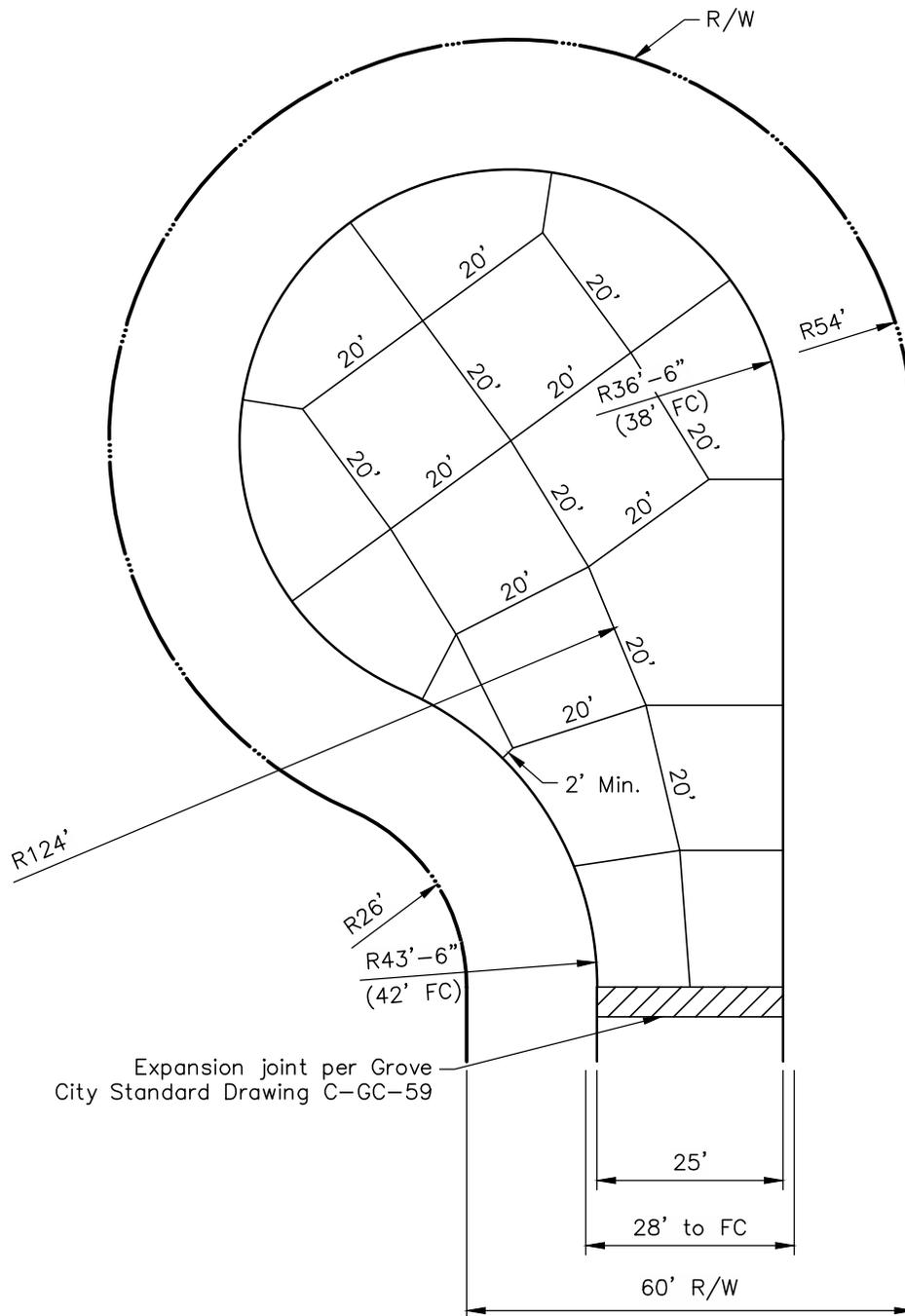
STANDARD DIMENSIONS
FOR

CUL-DE-SAC JOINT
SPACING DETAILS FOR
RESIDENTIAL / LOCAL
STREET 28' SECTIONS

**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

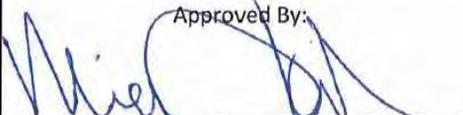
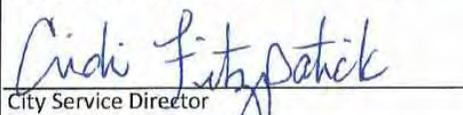
Revised	Sheet	Drawing No.
Rev February 2016	1/2	C-GC-84



Expansion joint per Grove City Standard Drawing C-GC-59

NOTES:

Concrete combined curb and gutter is not shown. See Grove City Standard Drawing C-GC-57A for details.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

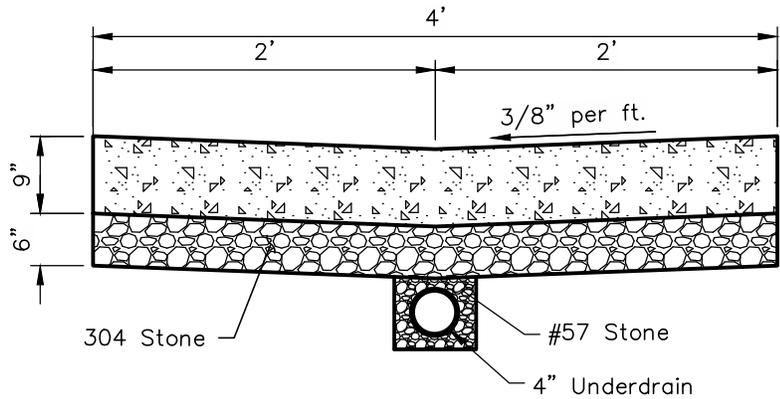
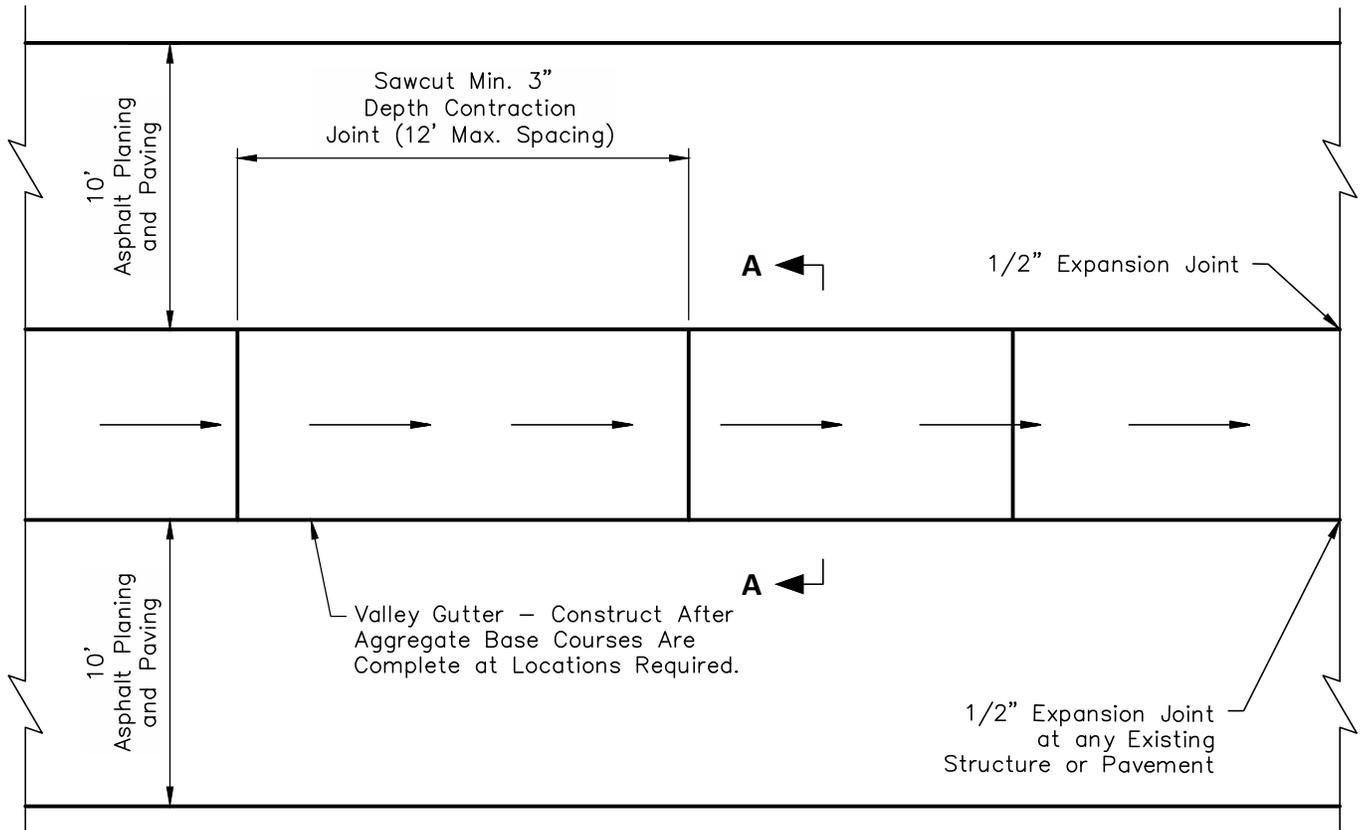
STANDARD DIMENSIONS
 FOR

CUL-DE-SAC JOINT
 SPACING DETAILS FOR
 RESIDENTIAL / LOCAL
 STREET 28' SECTIONS

**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

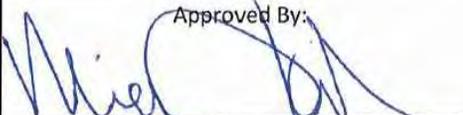
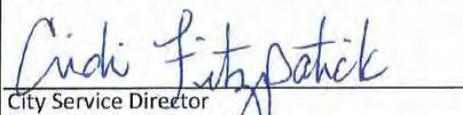
Revised	Sheet	Drawing No.
Rev February 2016	2/2	C-GC-84



SECTION A-A

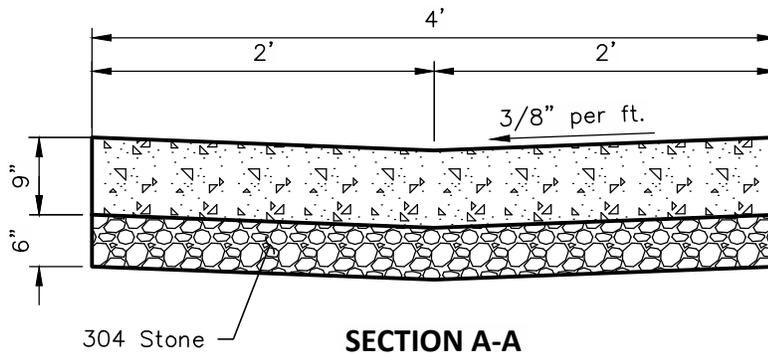
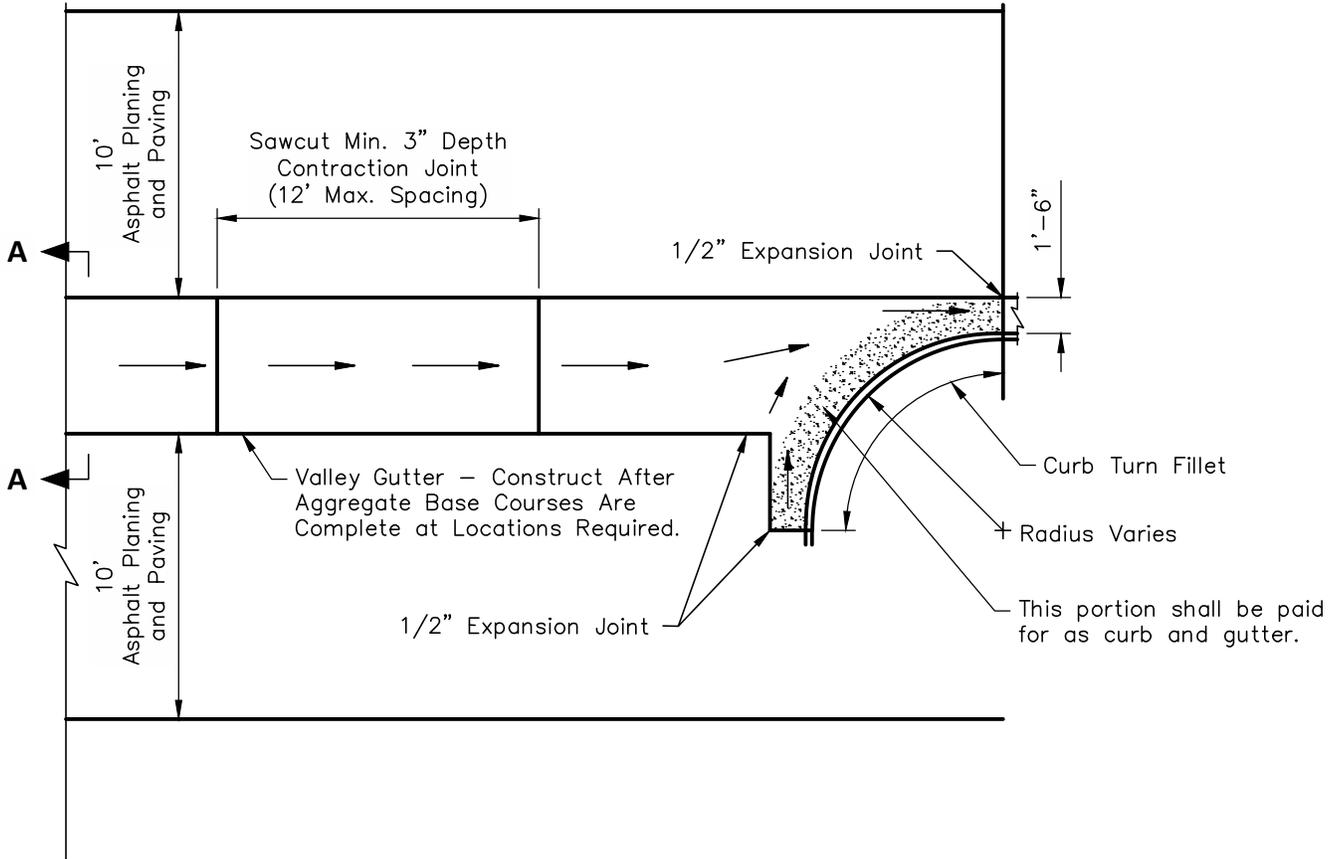
NOTES:

1. All maintenance of traffic shall be done in accordance with the Ohio Manual of Traffic Control for Construction and Maintenance Operations.
2. Columbus class "S" or "MS" concrete with fiber reinforcement and 6%±1% air entrainment shall be used.

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

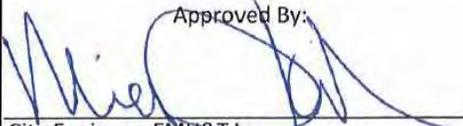
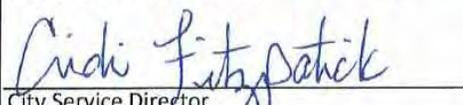
STANDARD DIMENSIONS
 FOR
**9" CONCRETE VALLEY
 GUTTER**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	1/2	C-GC-86



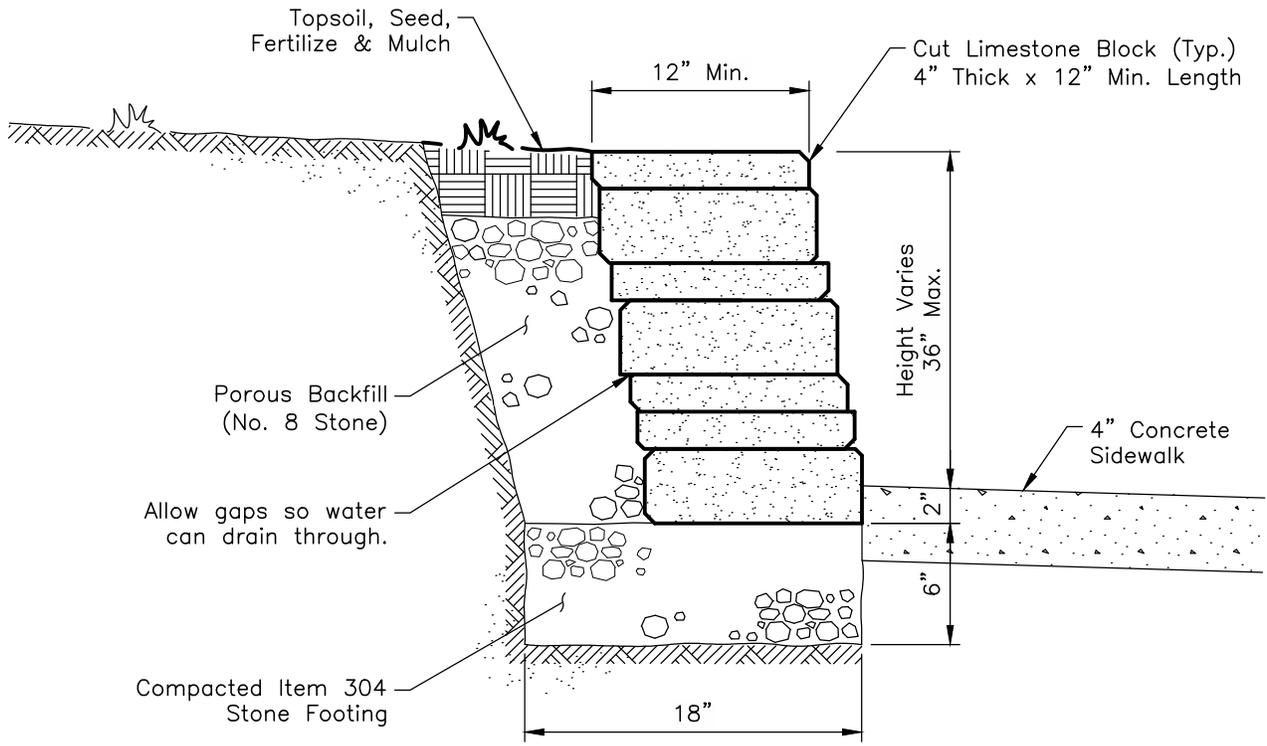
NOTES:

1. All maintenance of traffic shall be done in accordance with the Ohio Manual of Traffic Control for Construction and Maintenance Operations.
2. Columbus class "S" or "MS" concrete with fiber and 6%±1% air entrainment shall be used.
3. The Contractor shall be limited to a 48-hour road closure. All maintenance of traffic shall be done in accordance with the "Ohio Manual of Traffic Control for Construction and Maintenance Operations".

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**9" CONCRETE VALLEY
 GUTTER**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	2/2	C-GC-86



DETAIL NOTES

1. The size, shape, thickness, & color of limestone material shall be approved by the Engineer prior to placement.
2. All Items shown in detail used for the construction of the retaining wall shall have their cost included in the bid price for Item: Special, Retaining Wall.
3. Versa-Lok Block may be used when approved by the City. It shall be installed per the manufacturer's recommendations.

Approved By:

[Signature]

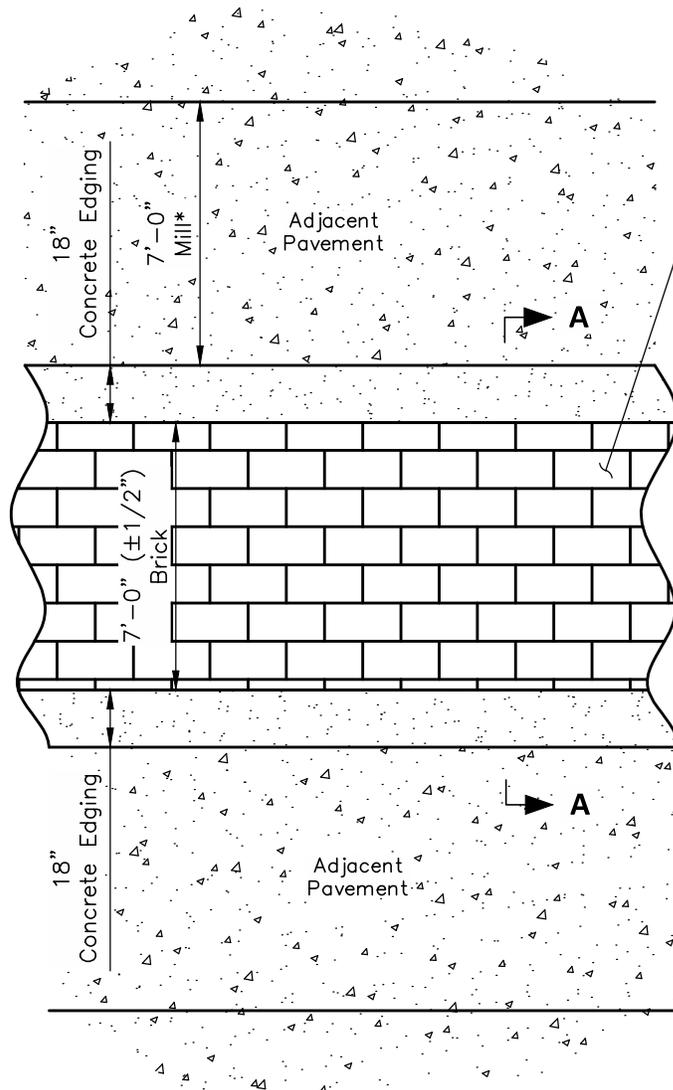
City Engineer, EMH&T Inc

[Signature]

City Service Director

STANDARD DIMENSIONS
FOR
**RETAINING WALL
DETAIL**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised		Drawing No.
Rev February 2016		C-GC-87



Running Bond pattern shown. Alternative patterns may be required on a project by project basis.

PLAN VIEW

Approved By:

[Signature]

City Engineer, EMH&T Inc

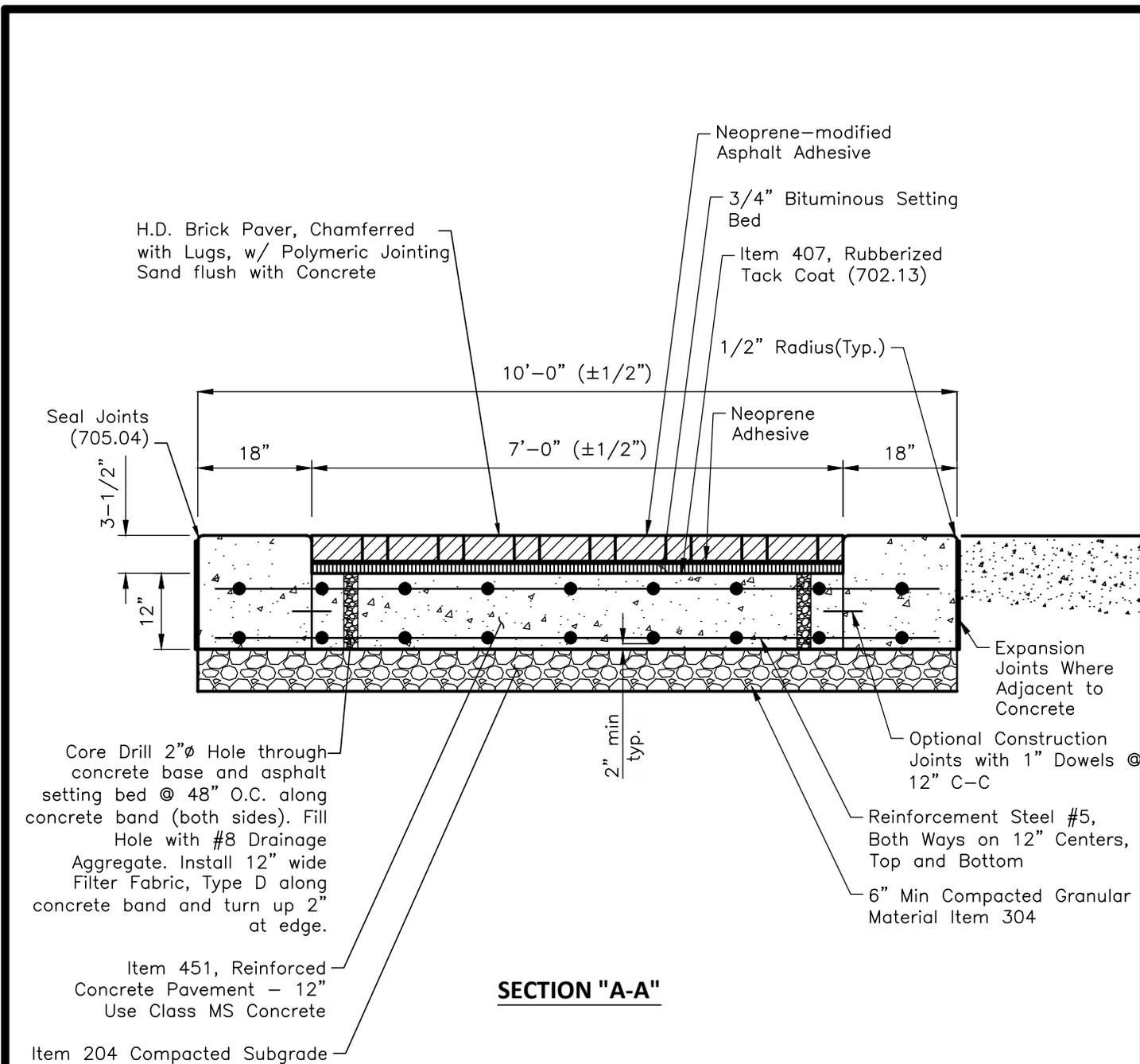
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City Service Director

STANDARD DIMENSIONS
FOR

**BRICK PAVER
PAVEMENT/CROSSWALK
DETAIL**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	1/3	C-GC-88



DETAIL NOTES

1. Use Class MS Concrete for Brick Crosswalks.
2. 18" Concrete Edging To Be Installed Flush With Existing Or Proposed Pavement surface And Gutter Edge.
3. Brick Pavers To Be Installed Flush With Concrete Edging. Pavers Shall Not Extend Above Elevation Of The New Concrete Edging.
4. All Expansion Joints In Street To Be Sealed.

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

STANDARD DIMENSIONS FOR

BRICK PAVER PAVEMENT/CROSSWALK DETAIL

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	2/3	C-GC-88

BRICK WORK GENERAL NOTES:

The current City of Columbus Supplemental Specification 1524 together with the requirements of the City of Grove City, Ohio, shall govern all materials and workmanship related to the installation of brick paver pavement and crosswalks.

All concrete shall be item 499, CMSC Class MS, Air Entrained Concrete. w/57 Limestone Aggregate and 800 lbs. of cement per C.Y., maximum 4" slump. No Fly Ash or GGBFS permitted in concrete.

Expansion joints shall be placed wherever new concrete touches existing construction and at intervals of 30' or less. Expansion joint shall be extended through brick course.

One inch deep contraction joints shall be sawed in the concrete base every 5 ft.

Concrete base shall meet the requirements of 499.05B before placing bricks.

Pavers shall be cut with a wet masonry saw when less than a full paver is necessary.

Bricks shall be vibrated into place with a mechanical plate vibrator/compactor. First pass with vibrator shall be without jointing sand, additional passes with polymeric jointing sand shall be made with vibrator until joints are filled.

Maximum allowable difference in height between pavers is 1/16".

MATERIAL NOTES:

Jointing Sand: All jointing sand shall be polymeric per 1524.04.8.

Neoprene-modified asphalt adhesive – Furnish neoprene-modified asphalt adhesive per 1524.04.6.

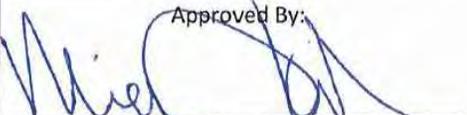
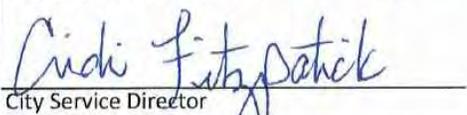
Bituminous Setting Bed – Furnish asphalt setting bed in accordance with 1524.04.5

Pavers – Pavers utilized shall conform to the following (in addition to 1524.04.7, concrete pavers not permitted):

Clay Pavers shall meet the requirements set forth in ASTM C 1272 Specification, Type F for Heavy Vehicular Paving Bricks and shall conform to the PX standard. Subject to compliance with the following requirements, provide Pine Hall, English Edge Full Range or an approved equal.

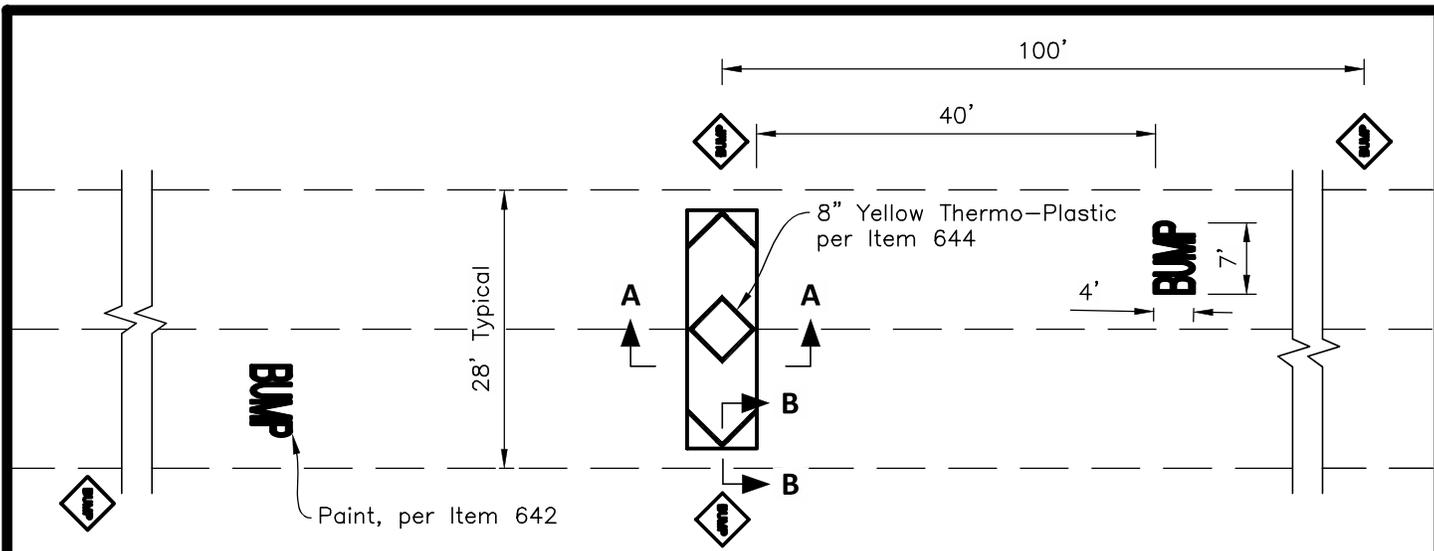
- A. Chamfered edges w/ lugs and smooth finish
- B. Dimension of pavers shall be 4" x 8" x 2-3/4"
- C. Minimum compressive strength of 10,000 psi.

Dimensional tolerances should meet the PX standard. The dimensional tolerances around the mean values for length, width, and depth shall be 1/16".

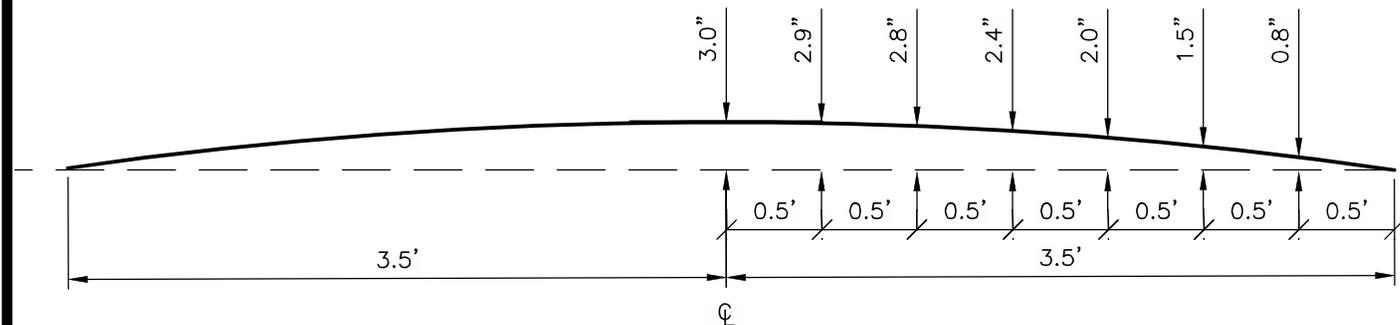
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**BRICK PAVER
 PAVEMENT/CROSSWALK
 DETAIL**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
Rev February 2016	3/3	C-GC-88

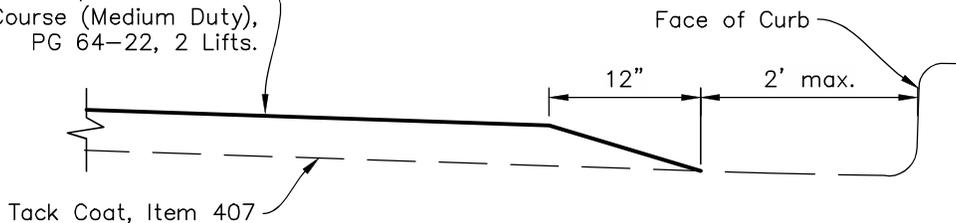


PLAN VIEW
Parabolic Crown



SECTION A-A
Parabolic Crown
(Tolerance $\pm 0.5"$)

Item 448, Asphalt Concrete,
Surface Course (Medium Duty),
PG 64-22, 2 Lifts.



SECTION B-B

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

STANDARD DIMENSIONS
FOR

**SPEED BUMP
(TYPICAL)**

**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-89

RESIDENTIAL ROADWAY (C-GC-61 AND C-GC-79)

Residential roadways are classified as low volume, light duty traffic, with 20 year ADT projections less than 3,500 vehicles per day. Standard typical sections will be per the City's Thoroughfare Map and as further defined in Standard Drawings C-GC-61 and C-GC-79.

Residential/Local Streets (C-GC-61) is a 32' pavement section with curb and gutter and a 60' right-of-way width. This section shall be used where residential streets connect to other residential streets, collector streets, secondary streets, or primary arterials.

Residential/Local Streets (C-GC-79) is a 28' pavement section with curb and gutter and a 60' right-of-way width. This section shall be used for short one to two block streets, loop drives, or dead end streets with a cul-de-sac where no future extensions are expected.

Residential Pavement Options:

The following pavement options are available for roadways meeting the residential street specifications as stated above. The pavement option shall not vary between parts, phases or sections of a subdivision or development area.

Option 1: Flexible Pavement Section composed of the following:

- 204 Subgrade Compaction
- 304 Aggregate Base - 6"
- 301 Asphalt Concrete Base - 5"
- 407 Tack Coat
- 448 Asphalt Concrete Intermediate Course (Medium Traffic), PG 64-22 - 1.75"
- 407 Tack Coat
- 448 Asphalt Concrete Surface Course (Medium Traffic), PG 64-22 - 1.25"

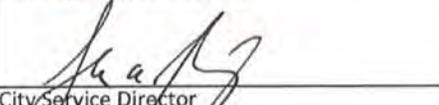
Option 2: Composite Pavement Section composed of the following:

- 304 Aggregate Base - 4"
- 305* Portland Cement Concrete Base-7" (dowels not required at transverse joints)
- 407 Tack Coat
- 448 Asphalt Concrete Intermediate Course (Medium Traffic), PG 64-22 -1.75"
- 407 Tack Coat
- 448 Asphalt Concrete Surface Course (Medium Traffic), PG 64-22 -1.25"
- 409** Sawing & Sealing AC Pavement Joints-along centerline and all transverse joints
- 454 Pavement Relief Joints

*Item 305 may be installed as Roller-Compacted Concrete using the ODOT Class C mix design (option1, 2, or 3). Installation will be in accordance with the Portland Cement Association Guide Specification for Construction of Roller-Compacted Concrete Pavements (June 2004) and American Concrete Institute approved methods and equipment for Roller-Compacted Concrete (ACI 309.5R-00). A submittal will be required and a test strip constructed prior to construction of this alternate.

**Concrete expansion joints shall be placed as approved on plans or directed by the City Engineer.

Note: This does not imply that RCC pavements are accepted as meeting ODOT Specification 305 for any other City of Grove City Street where ODOT Item 305 is specified.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>PAVEMENT DESIGN SPECIFICATIONS FOR PUBLIC STREETS</p>	<p>CITY OF GROVE CITY, OHIO</p>		
		<p>STANDARD CONSTRUCTION DRAWING</p>		
		<p>Revised October 2015</p>	<p>Sheet 1/2</p>	<p>Drawing No. C-GC-90</p>

Sub-grade specifications:

The Developer shall be required to submit to the City Engineer for review a traffic study showing a 20 year projection for Average Daily Traffic (ADT) for each of the proposed streets and a soils report showing a soaked California Bearing Ratio (CBR) result for each of the proposed streets with the plan submission. The sub-grade CBR must be 4 or above as established by a Geotechnical Engineer's report. CBR values less than 4 (or which fail a proof roll) will require undercut with granular replacement or soil stabilization in addition to the pavement sections shown below. Sub grade preparation shall be in accordance with ODOT 201, 203 and 204.

COLLECTOR(C-GC-62)/MINOR ARTERIAL (C-GC-63)/PRINCIPAL ARTERIAL (C-GC-64)

Collector, Minor Arterial and Principal Arterial streets are identified on the City's Thoroughfare Map dated October 28, 2010. Standard typical sections will be based on the respective standard drawings.

Collector Streets (C-GC-62) have a 36' pavement section with curb and gutter and a 70' right-of-way width. This section shall be used on streets identified as Collector Streets on the Thoroughfare Map or as determined by the City.

Minor Arterial Streets (C-GC-63) have a 44' pavement section with curb and gutter and an 80' right-of-way width. This section shall be used on streets identified as Minor Arterial Streets on the Thoroughfare Map or as determined by the City.

Principal Arterial Streets (C-GC-64) have a 68' pavement section with curb and gutter and a 100' right-of-way width. This section shall be used on streets identified as a Principal Arterial Streets on the Thoroughfare Map or as determined by the City.

Collector, Minor Arterial and Principal Arterial Roadway Pavement Options:

The Developer is required to submit a traffic study showing a 20 year projection for ADT's for each proposed street along with a soils report showing a soaked CBR result with the draft plan submission. The City Engineer will then determine the pavement section requirements based on the current ODOT pavement design methods and specifications and provide this to the Developer.

Short extensions to existing roadways will not require this analysis. The existing pavement section will be used for the extension provided the subgrade passes a proof roll as observed by The City Engineer.

GENERAL PAVEMENT REQUIREMENTS FOR ALL ROADWAYS

Testing and Acceptance:

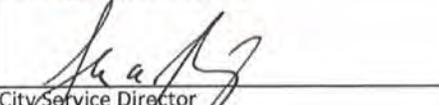
Prior to acceptance of pavement, the City Engineer will perform core samples every 200' to verify thickness and material compliance. Pavement thickness as stated above or provided by the City Engineer shall be considered a minimum requirement. Maximum acceptable tolerance is 1/2" for under performance of the entire pavement section thickness and/or any component thereof.

No credit will be given for cores which exceed the minimum requirements.

The City will not accept pavement sections that fail to meet the minimum requirements of thickness and/or are not in conformance with the applicable City of Columbus or ODOT specifications. Unacceptable pavement sections must be removed and replaced from the lip of curb to lip of curb. All saw cuts must be a neat and straight line cut perpendicular to the direction of travel at each end.

Applicability:

This policy will be applied to all proposed residential developments submitting for plan review.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>PAVEMENT DESIGN SPECIFICATIONS FOR PUBLIC STREETS</p>	<p>CITY OF GROVE CITY, OHIO</p>		
		<p>STANDARD CONSTRUCTION DRAWING</p>		
		<p>Revised October 2015</p>	<p>Sheet 2/2</p>	<p>Drawing No. C-GC-90</p>

C-GC-90A - PAVEMENT DESIGN SPECIFICATIONS FOR PRIVATE STREETS.

The minimum required pavement width for private streets in Grove City is 26-ft from face of curb to face of curb (per City Code Sec. 1105). In the event that on-street parking is permitted on the private street, the City may require the width to be increased above this minimum.

Curbing on private streets shall be either combination curb and gutter (C-GC-57A) or straight curb (C-GC-58). No extruded concrete or asphalt curb will be permitted.

The proposed pavement section for private streets must be designed by the developer's engineer using the current version of the Ohio Department of Transportation Pavement Design Guide. Design calculations along with a geotechnical report must be submitted to the City for review and approval. Under no circumstances shall the pavement composition for private streets fall below these minimum requirements (Item numbers refer to City of Columbus CMS):

Flexible Pavement Section

- Item 204 - Subgrade Compaction with Acceptable Proof Roll
- Item 304 - Aggregate Base, T=6-in
- Item 301 - Asphalt Concrete Base, T=3-in.
- Item 407 - Tack Coat
- Item 448 - Asphalt Concrete, Surface Course (Medium Traffic), PG 64-22, T=1.50-in.

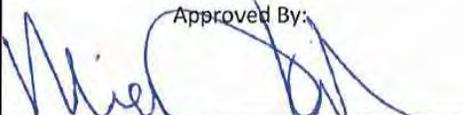
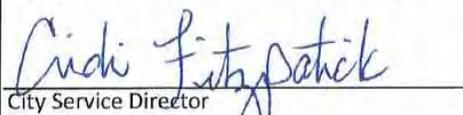
Rigid Pavement Section

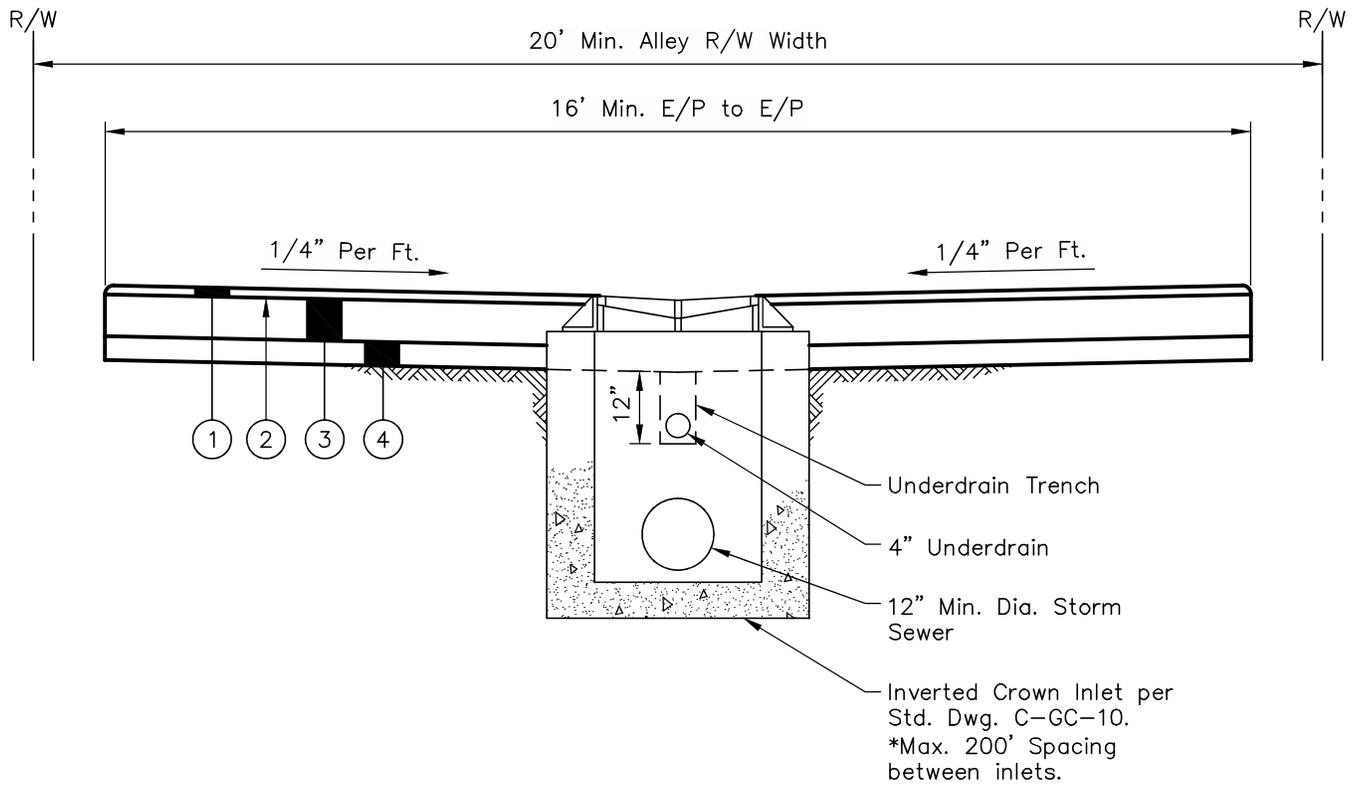
- Item 204 - Subgrade Compaction with Acceptable Proof Roll
- Item 304 - Aggregate Base, T=4-in
- Item 452 - Non-Reinforced Portland Cement Concrete Pavement (Class "C"), T=6-in.

Composite Pavement Section

- Item 204 - Subgrade Compaction with Acceptable Proof Roll
- Item 304 - Aggregate Base, T=4-in
- Item 305 - Portland Cement Concrete Base (Class "C"), T=5-in.
- Item 407 - Tack Coat
- Item 448 - Asphalt Concrete, Surface Course (Medium Traffic), PG 64-22, T=1.50-in.
- Item 409 - Sawing and Sealing Asphalt Concrete Pavement Joints

In the event that the private roadway subgrade does not achieve an acceptable proof roll, as determined by the City, removal of unsuitable soils and replacement with granular material and/or soil stabilization will be required.

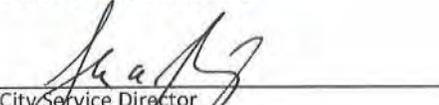
<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>PAVEMENT DESIGN SPECIFICATIONS FOR PRIVATE STREETS</p>	<p>CITY OF GROVE CITY, OHIO</p> <p>STANDARD CONSTRUCTION DRAWING</p> <table border="1"><tr><td data-bbox="1052 1900 1214 1990">Revised Rev February 2016</td><td data-bbox="1214 1900 1377 1990"></td><td data-bbox="1377 1900 1537 1990">Drawing No. C-GC-90A</td></tr></table>	Revised Rev February 2016		Drawing No. C-GC-90A
Revised Rev February 2016		Drawing No. C-GC-90A			

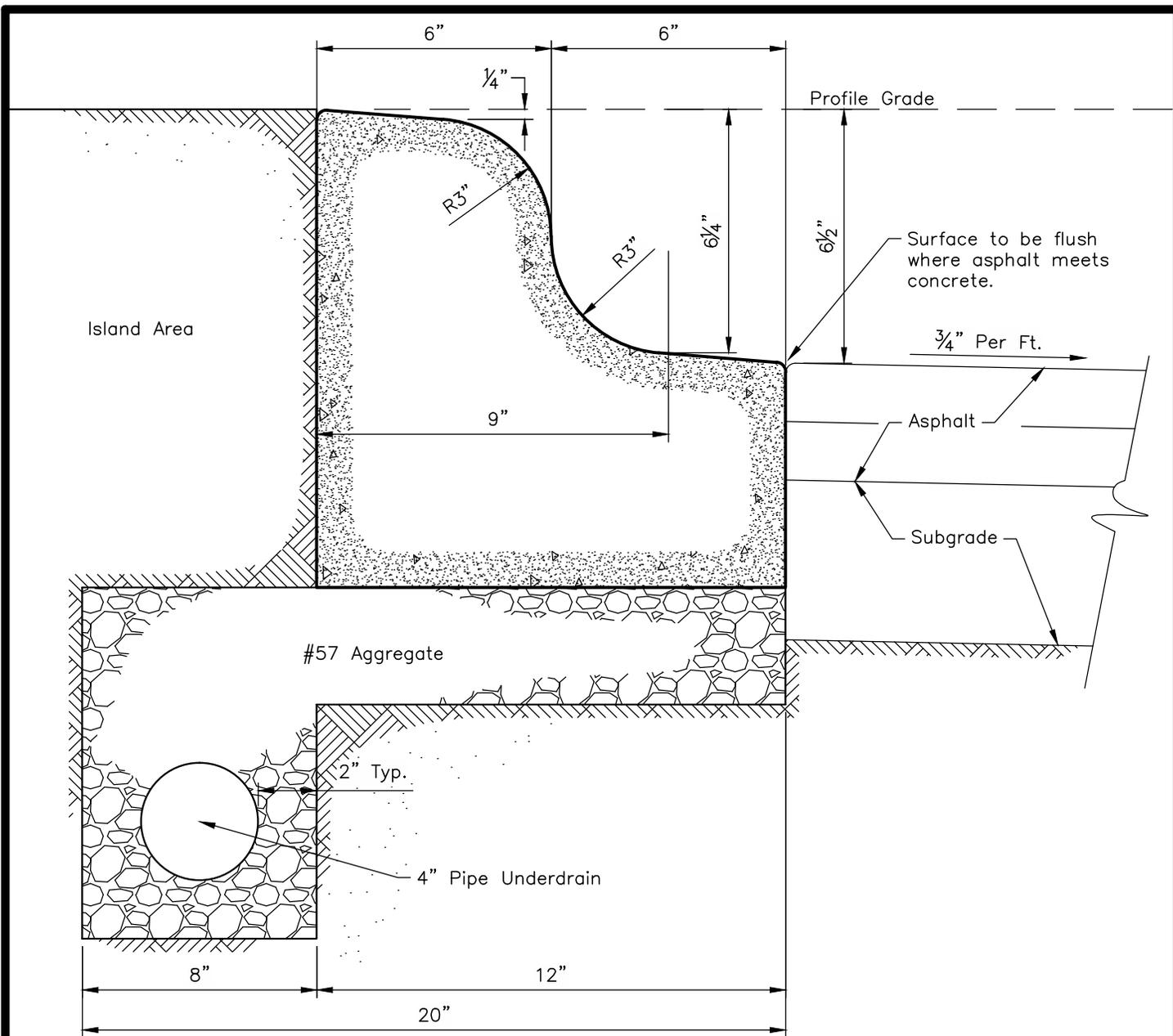


- ① 1 1/2" Item 448 – Asphalt Concrete, Surface Course (Medium Duty), PG. 64–22.
- ② Bituminous Tack Coat, Item 407.
- ③ 7" Item 305 – Portland Cement Concrete Base.
- ④ 4" Item 304 – Aggregate Base

NOTES:

1. 15' Max. spacing between transverse contraction joints, 3" Min. Depth.
2. No centerline contraction or construction joints.
3. 4' Wide Asphalt Pressure Relief Joints on each end of alley.
4. 4' Wide Asphalt Pressure Relief Joints shall also be installed at intervals not to exceed 400' along length of alley per C-GC-59.
5. Specification numbers refer to City of Columbus CMS.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>STANDARD ALLEY PAVEMENT SECTION</p>	<p>CITY OF GROVE CITY, OHIO</p> <hr/> <p>STANDARD CONSTRUCTION DRAWING</p> <table border="1" style="width: 100%;"> <tr> <td data-bbox="1052 1900 1214 1992">Revised October 2015</td> <td data-bbox="1214 1900 1377 1992"></td> <td data-bbox="1377 1900 1541 1992">Drawing No. C-GC-91</td> </tr> </table>	Revised October 2015		Drawing No. C-GC-91
Revised October 2015		Drawing No. C-GC-91			



DETAIL NOTES

1. All exposed surfaces of concrete curb & gutter shall have a brush finish and be completely covered with concrete cure and seal, including the backside of curb.
2. 3/4-in expansion joints shall be installed at right angles to the curb line within 5-ft and 10-ft of all immovable structures and at points of curvature. For replacement work, at an existing joint or no closer than 5-ft from an existing joint.
3. Contraction joints shall be saw cut at 10-ft intervals, not less than 2-in deep, and as soon as possible without causing damage to the concrete.
4. Tolerances shall not exceed 1/4-in for section, grade, surface variation, or alignment.
5. The letter "W" shall be imprinted into the curb directly opposite all water service boxes and the letter "M" shall be imprinted opposite all water line valves, including hydrant watch valves. Letters shall be 3-in high/wide with 1/4-in thick bars, imprinted 1/2-in into the face of the curb, 2-1/2-in above the gutter.

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

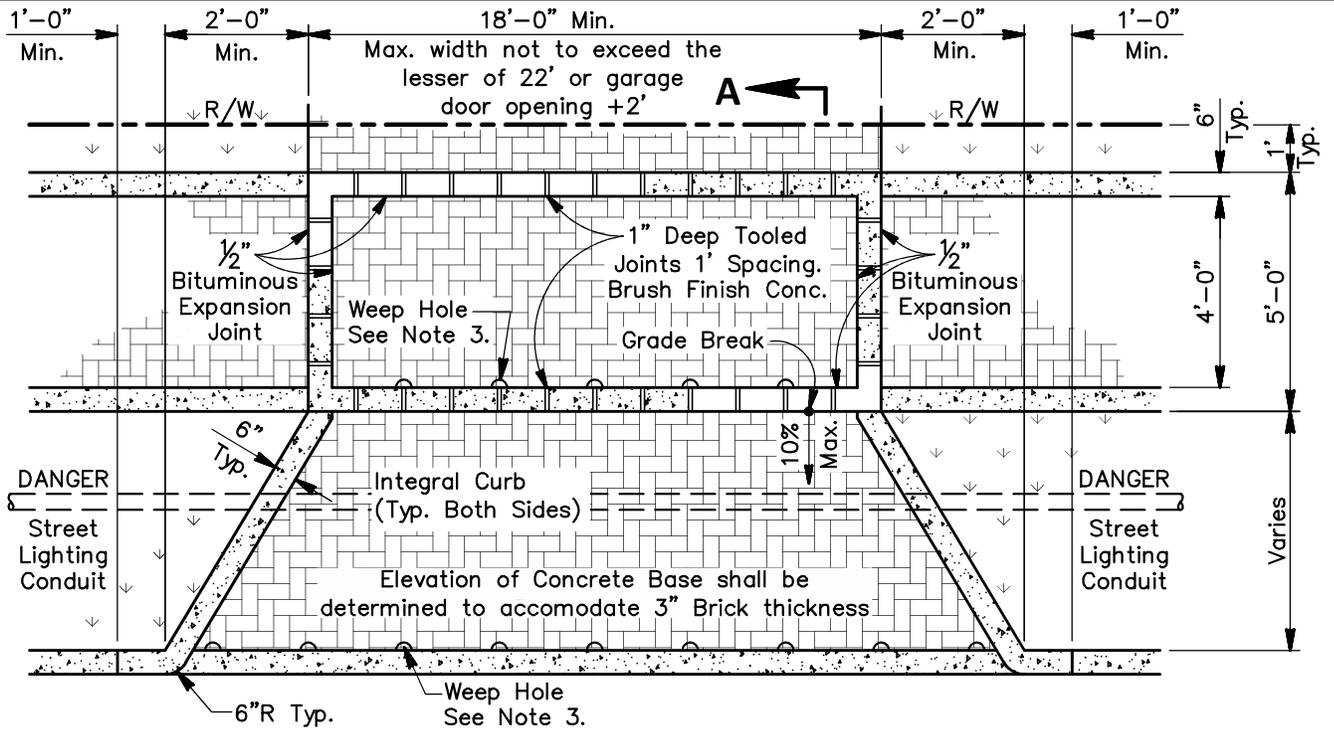
STANDARD DIMENSIONS
FOR

**12" TILT-OUT CURB
(FOR ISLAND & MEDIAN
APPLICATIONS ONLY)**

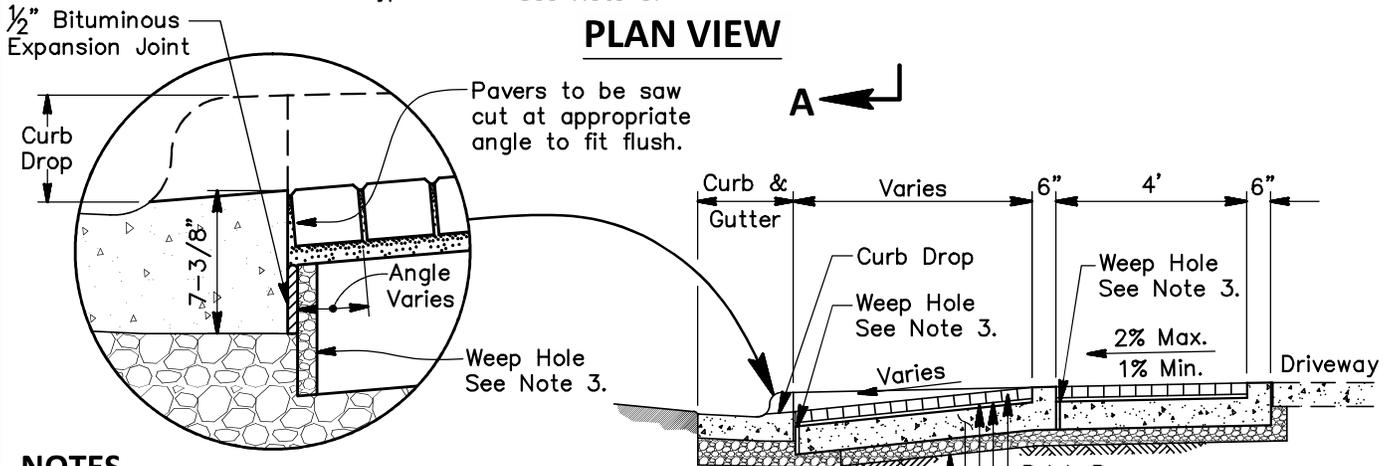
**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

Revised		Drawing No.
Rev February 2016		C-GC-92



PLAN VIEW

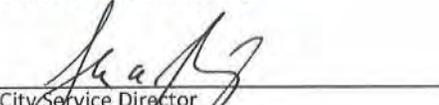


SECTION "A-A"

NOTES

1. Contractor is responsible for protecting adjacent driveway, sidewalk, underdrain, and street lighting cable and replacement of the same if damaged due to Contractor's work.
2. See Std. Dwg. No. C-GC-94 for Brick Sidewalk notes.
3. 1" R Weep Holes Formed in Concrete Base 24" C/C filled with Washed #8 Aggregate and covered with water permeable geotextile.
4. Portland Cement Concrete Edging required for driveway approach.

Approved By:

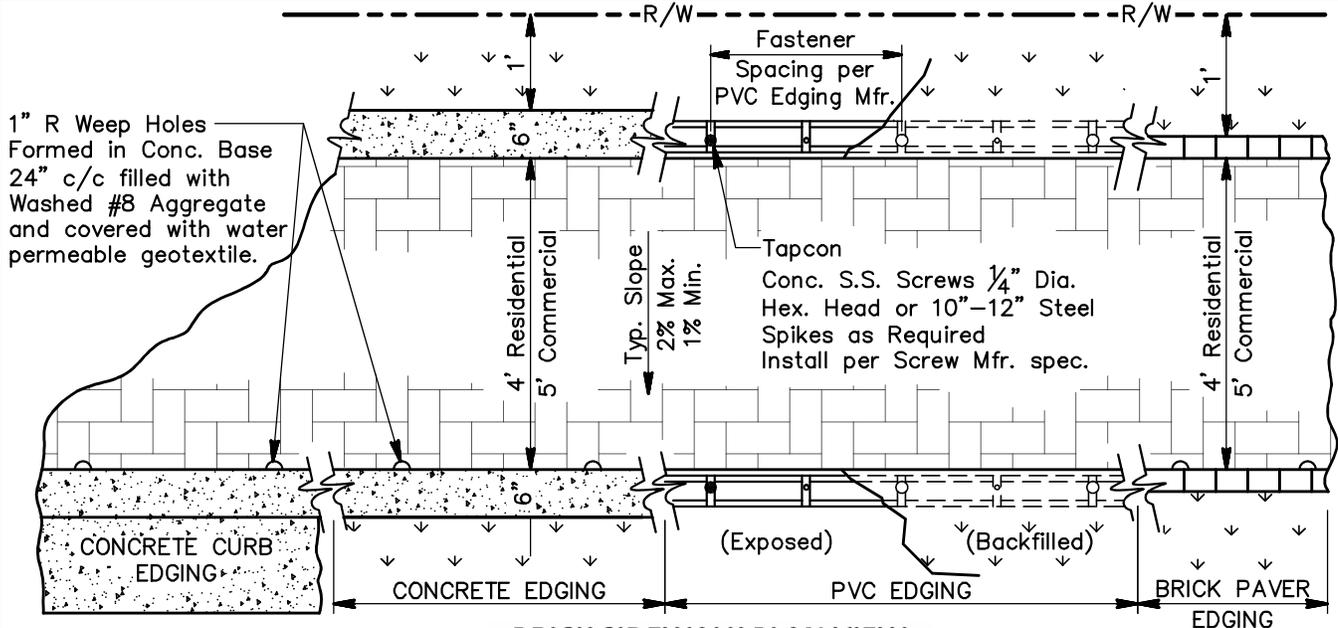
 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**RESIDENTIAL BRICK
 DRIVEWAY APPROACH**

**CITY OF
 GROVE CITY, OHIO**

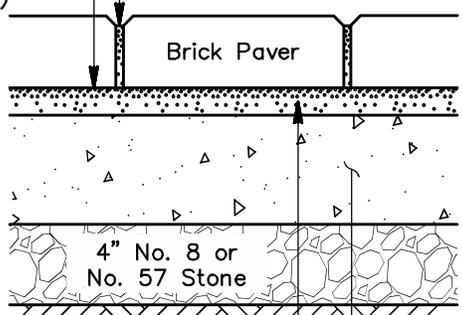
STANDARD
 CONSTRUCTION DRAWING

Revised		Drawing No.
October 2015		C-GC-93



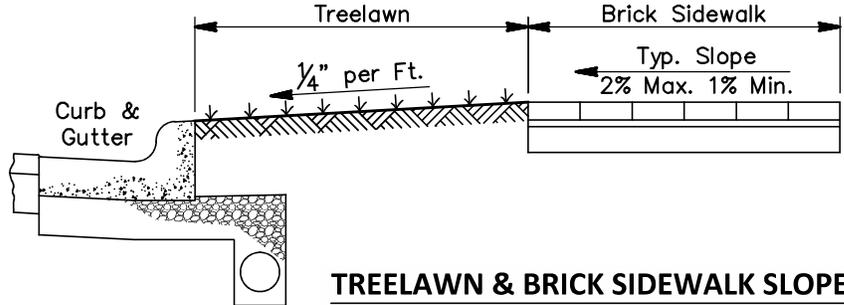
BRICK SIDEWALK PLAN VIEW

1/16" - 3/16" Sand filled joints, ASTM C33.
 Tack Coat of 2% neoprene-modified asphalt adhesive, 1/16" Max. (DRIVEWAYS)

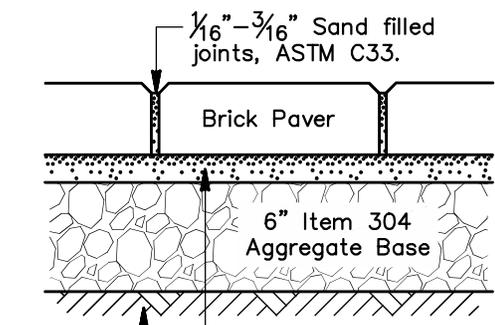


1" Sand/Cement Setting Bed.
 1" Bitum. Setting Bed. (Driveways)
 Item 608 Portland Cement Concrete (3" Min. Sidewalks) (6" Residential Driveway) (7" Commercial Driveway)
 See note on sheet 4 for Item 608 thickness of sidewalks at driveways

ARTERIAL & COMMERCIAL SPECIFICATIONS



TREELAWN & BRICK SIDEWALK SLOPES



1/16" - 3/16" Sand filled joints, ASTM C33.
 Subgrade Compaction as per Item 203
 1" Sand Setting Bed (per ASTM C-33; Nonangular with a Max. of 35 Passing a No. 200 Sieve. Mix 1 Part Portland Cement per 5 Parts Setting Bed Sand.)

RESIDENTIAL SPECIFICATIONS

Approved By:

 City Engineer, EMH&T Inc

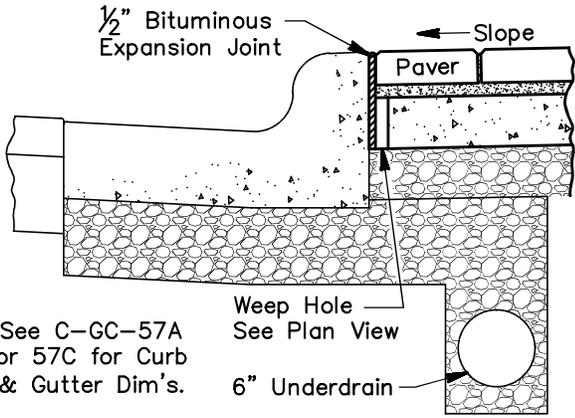
 City Service Director

STANDARD DIMENSIONS FOR
BRICK SIDEWALK SPECIFICATIONS

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	1/4	C-GC-94

ARTERIAL & COMMERCIAL SPECIFICATIONS

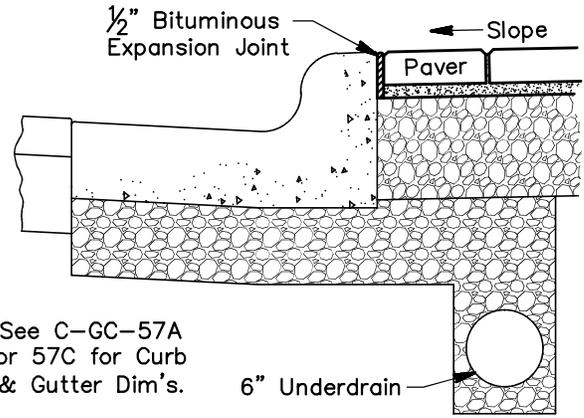
RESIDENTIAL SPECIFICATIONS



See C-GC-57A
or 57C for Curb
& Gutter Dim's.

Weep Hole
See Plan View
6" Underdrain

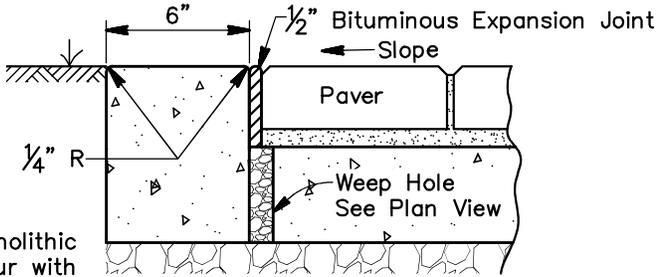
CONCRETE CURB EDGING



See C-GC-57A
or 57C for Curb
& Gutter Dim's.

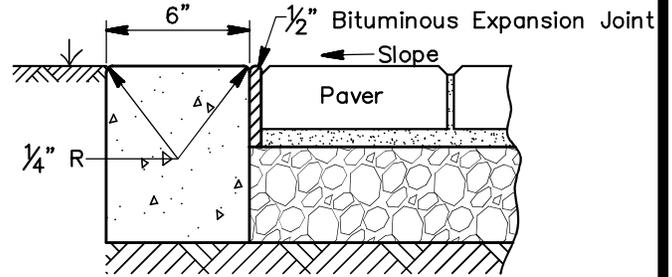
6" Underdrain

CONCRETE CURB EDGING



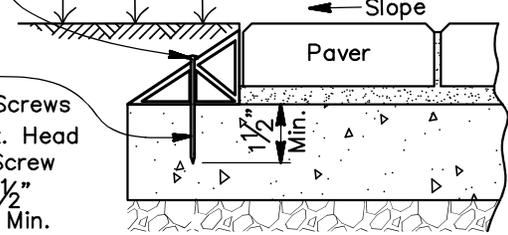
Monolithic
Pour with
Base

CONCRETE EDGING



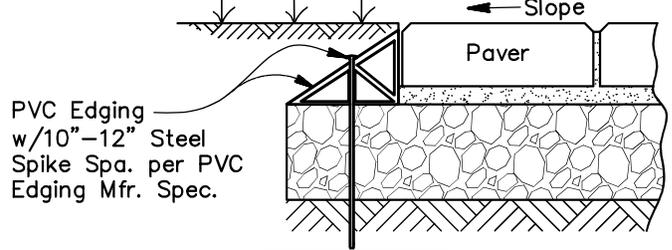
CONCRETE EDGING

PVC Edging w/Tapcon Conc. Screws.
Fastener Spa. per PVC Edging Mfr. Spec.



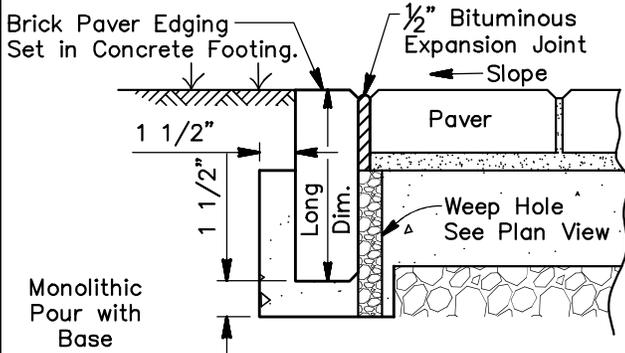
Tapcon
Conc. S.S. Screws
1/4" Dia. Hex. Head
Install per Screw
Mfr. spec. 1 1/2"
Embedment Min.

PVC EDGING



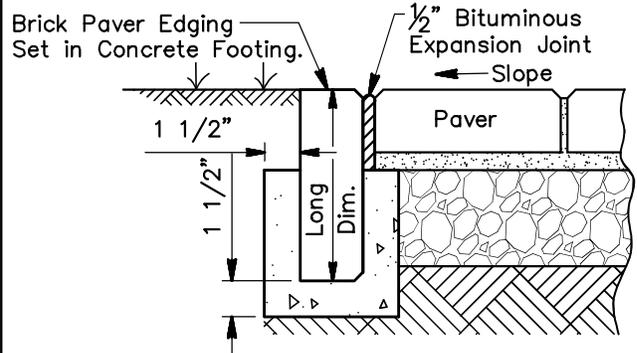
PVC Edging
w/10"-12" Steel
Spike Spa. per PVC
Edging Mfr. Spec.

PVC EDGING



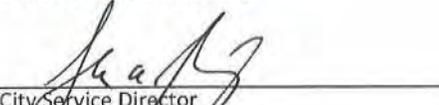
Monolithic
Pour with
Base

BRICK PAVER EDGING W/FOOTER



BRICK PAVER EDGING W/FOOTER

Approved By:

City Engineer, EMH&T Inc

City Service Director

STANDARD DIMENSIONS
FOR
**BRICK SIDEWALK
SPECIFICATIONS**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	2/4	C-GC-94

GENERAL NOTES:

All concrete shall be Item 499, Columbus Class "C", Air Entrained Concrete. w/57 Limestone Aggregate and 600 lbs. of concrete per C.Y., maximum 4" slump. No Fly Ash or GGBFS in concrete.

Length and slope of driveway approaches are variable according to the distance of the sidewalk from the curb, see Standard Drawings C-GC-41A & C-GC-42.

All concrete shall be placed in one course and finished with a wood float.

Expansion joints shall be placed wherever new concrete touches existing construction and at intervals of 30' or less. Expansion joint shall be extended through brick course.

Water and gas valve boxes in the sidewalk area shall be adjusted to proper grade.

Immediately after finishing, concrete shall be cured in an approved manner.

When a sidewalk is constructed for the entire width from the curb to the lot line, the walk shall be constructed part width at a time 48" minimum, allowing for sufficient unobstructed area 48" minimum for safe movement of pedestrian traffic.

Notify the Grove City Building Department (614-277-3035) 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.

No concrete shall be placed until temperature is 35° F. minimum. Concrete shall be protected in accordance with Section 451.10 of Item 451.

One inch deep contraction joints shall be sawed in the concrete base every 5 ft.

All edges of brick bed shall be edged with concrete, brick or plastic edging material. (Asphalt is not an acceptable edge material).

Color selection of brick paver shall be submitted to Grove City for approval prior to construction.

Concrete base shall cure for at least 7 days prior to placement of brick course.

Pavers shall be cut with a masonry saw when less than a full paver is necessary.

Bricks shall be vibrated into place with a mechanical plate vibrator/compactor. First pass with vibrator shall be without jointing sand, additional passes with jointing sand shall be made with vibrator until joints are filled.

Maximum allowable difference in height between pavers is 1/16".

All brick pavers shall be solid concrete paving units conforming to ASTM C936 (4"w x 8"l x 2-3/8"h). Other sizes me be used with prior Grove City approval

Approved By:



City Engineer, EMH&T Inc



City Service Director

STANDARD DIMENSIONS
FOR

**BRICK SIDEWALK
SPECIFICATIONS**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised	Sheet	Drawing No.
October 2015	3/4	C-GC-94

GENERAL NOTES (continued):

Where sidewalks abut driveways or alley approaches, the concrete thickness of the walk shall equal the thickness of the approach (6" minimum) for a distance of one (1) full panel or minimum 5'. See Standard Drawings of the applicable driveway or alley.

Tack coat of 2% neoprene-modified asphalt adhesive shall contain 2% neoprene grade WMI oxidized asphalt with a 150° F softening point (77 penetration) and 10% long fibered inert material as supplied by (or approved equal):

Seidel Company, Inc.
11 Market Square
Newburyport, MA 01950
(617) 649-6740

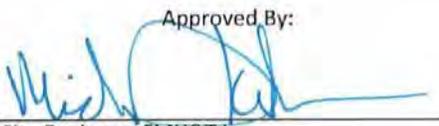
Hastings Pavement Company, Inc.
410 Lakeville Road
Lake Success, NY 11042
(516) 379-3500

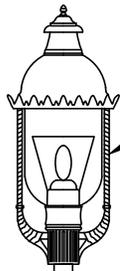
The 1" bituminous setting bed shall consist of asphalt cement conforming at ASTM D3381, viscosity grade AC-10 or AC-20.

Furnish fine aggregate of natural sand and /or stone sand, composed of hard, tough, durable , uncoated particles, free from clay, silt, organic material or other deleterious substances, ensure the sand is uniformly graded with all material passing the No.4 sieve and meeting the requirement of ASTM C136.

Combine the dried fine asphalt with hot asphalt cement and heat mix to approximately 300°F at an asphalt plant.

- A. Provide an approximate proportion of materials of 7% asphalt cement and 93% fine aggregate.
- B. Provide each ton apportioned by weight to 140lbs of asphalt cement and 1,860 pounds of fine aggregate.

<p>Approved By:</p>  City Engineer, EMH&T Inc	<p>STANDARD DIMENSIONS FOR</p> <p>BRICK SIDEWALK SPECIFICATIONS</p>	<p>CITY OF GROVE CITY, OHIO</p>		
		<p>STANDARD CONSTRUCTION DRAWING</p>		
		Revised	Sheet	Drawing No.
October 2015	4/4	C-GC-94		



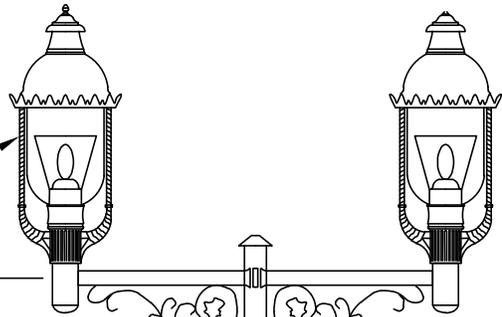
Luminaire— Main Street Lighting, L820, or Approved Equal. Coordinate with City of Grove City for lamp source, wattage, etc. Luminaire shall be coated to match the color of the light pole.

Light Pole— Hapco, Model A 75270-002, or Approved Equal, powder coated Black, similar to Federal Standard 595-B, Color No. 27040.

10' - 0"

NOTE: LIGHT POLE STRUCTURES SHALL BE DESIGNED AND CONSTRUCTED BY THE SUPPLIER TO SUPPORT THE LOADS THAT THE PLAN REQUIRES THE CONTRACTOR TO INSTALL. THESE DRAWINGS ARE INTENDED TO PROMOTE UNIFORMITY OF DESIGN AND ARE NOT WARRANTED TO BE STRUCTURALLY ADEQUATE. THE MANUFACTURER SHALL BE RESPONSIBLE FOR VERIFYING THE POLE DESIGN, AND SHALL PREPARE SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS STAMPED BY AN OHIO PROFESSIONAL ENGINEER. THE SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE CITY OF GROVE CITY FOR APPROVAL PRIOR TO FABRICATION.

SINGLE LUMINAIRE CONFIGURATION
(NO SCALE)

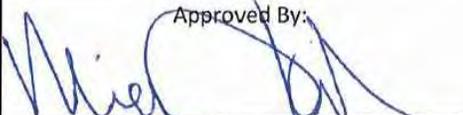
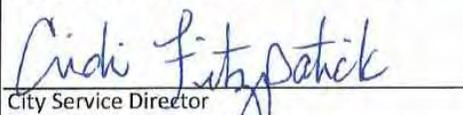


Light Pole— Hapco, Reference Drawing #74167, or Approved Equal, powder coated Black, similar to Federal Standard 595-B, Color No. 27040.

11' - 0"

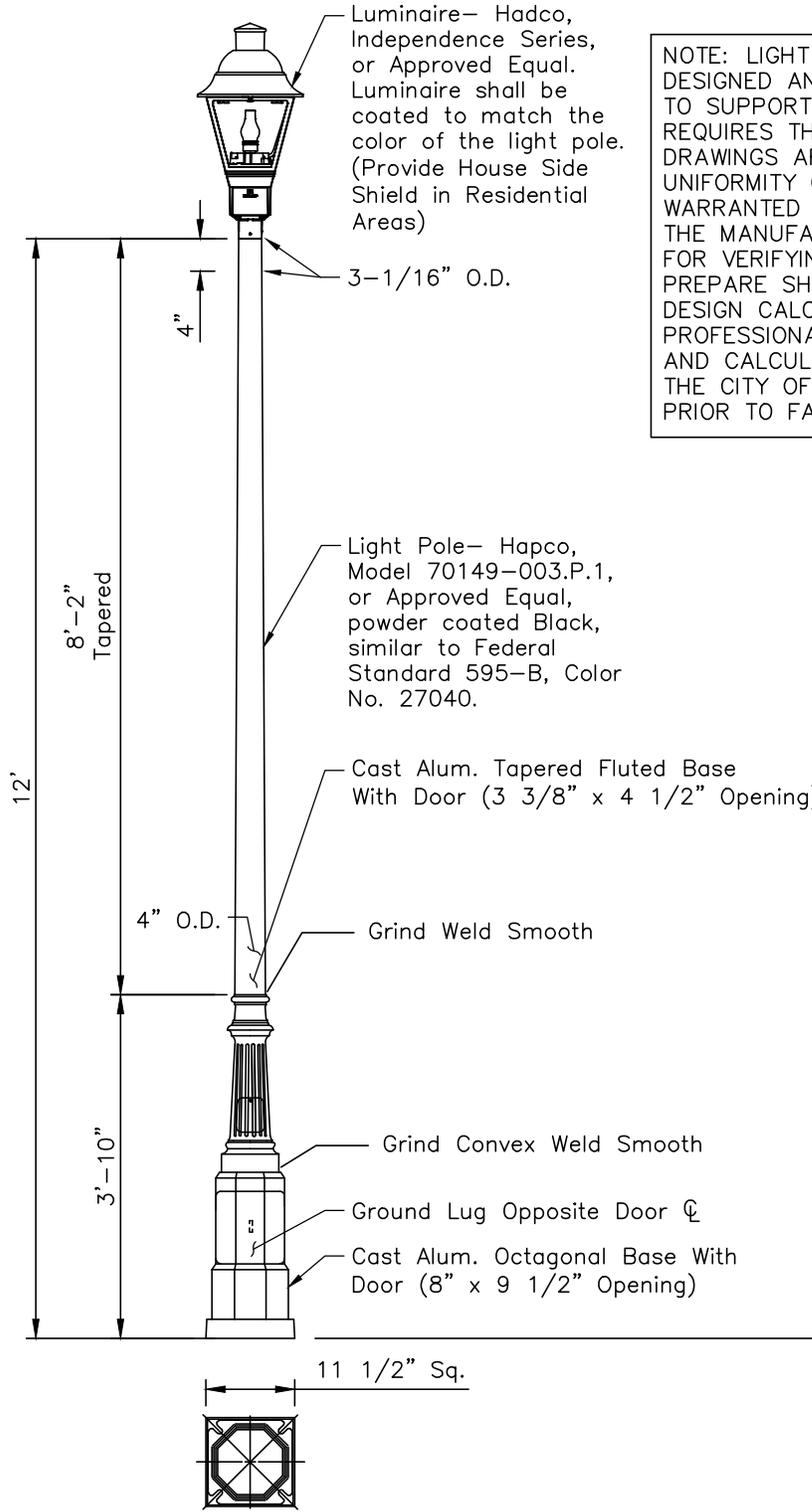
NOTE: UNLESS OTHERWISE DIRECTED BY THE CITY, ALL LUMINAIRES USED IN NEW CONSTRUCTION SHALL BE LED.

TWIN LUMINAIRE CONFIGURATION
(NO SCALE)

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
FOR
STREET LIGHTING
DOWNTOWN/TOWN CENTER
LIGHT POLE AND LUMINAIRE

CITY OF GROVE CITY, OHIO
STANDARD CONSTRUCTION DRAWING
 Revised Drawing No.
 Rev February 2016 C-GC-95A



Luminaire— Hadco, Independence Series, or Approved Equal. Luminaire shall be coated to match the color of the light pole. (Provide House Side Shield in Residential Areas)

NOTE: LIGHT POLE STRUCTURES SHALL BE DESIGNED AND CONSTRUCTED BY THE SUPPLIER TO SUPPORT THE LOADS THAT THE PLAN REQUIRES THE CONTRACTOR TO INSTALL. THESE DRAWINGS ARE INTENDED TO PROMOTE UNIFORMITY OF DESIGN AND ARE NOT WARRANTED TO BE STRUCTURALLY ADEQUATE. THE MANUFACTURER SHALL BE RESPONSIBLE FOR VERIFYING THE POLE DESIGN, AND SHALL PREPARE SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS STAMPED BY AN OHIO PROFESSIONAL ENGINEER. THE SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE CITY OF GROVE CITY FOR APPROVAL PRIOR TO FABRICATION.

NOTE: UNLESS OTHERWISE DIRECTED BY THE CITY, ALL LUMINAIRES USED IN NEW CONSTRUCTION SHALL BE LED.

Light Pole— Hapco, Model 70149-003.P.1, or Approved Equal, powder coated Black, similar to Federal Standard 595-B, Color No. 27040.

Cast Alum. Tapered Fluted Base With Door (3 3/8" x 4 1/2" Opening)

Grind Weld Smooth

Grind Convex Weld Smooth

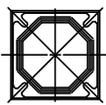
Ground Lug Opposite Door

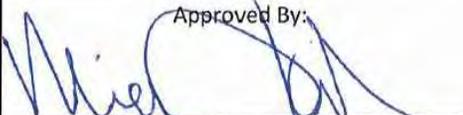
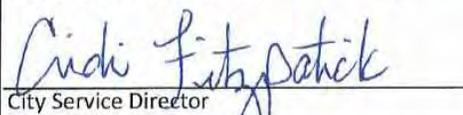
Cast Alum. Octagonal Base With Door (8" x 9 1/2" Opening)

11 3/8" To 12 3/8" Dia. Bolt Circle



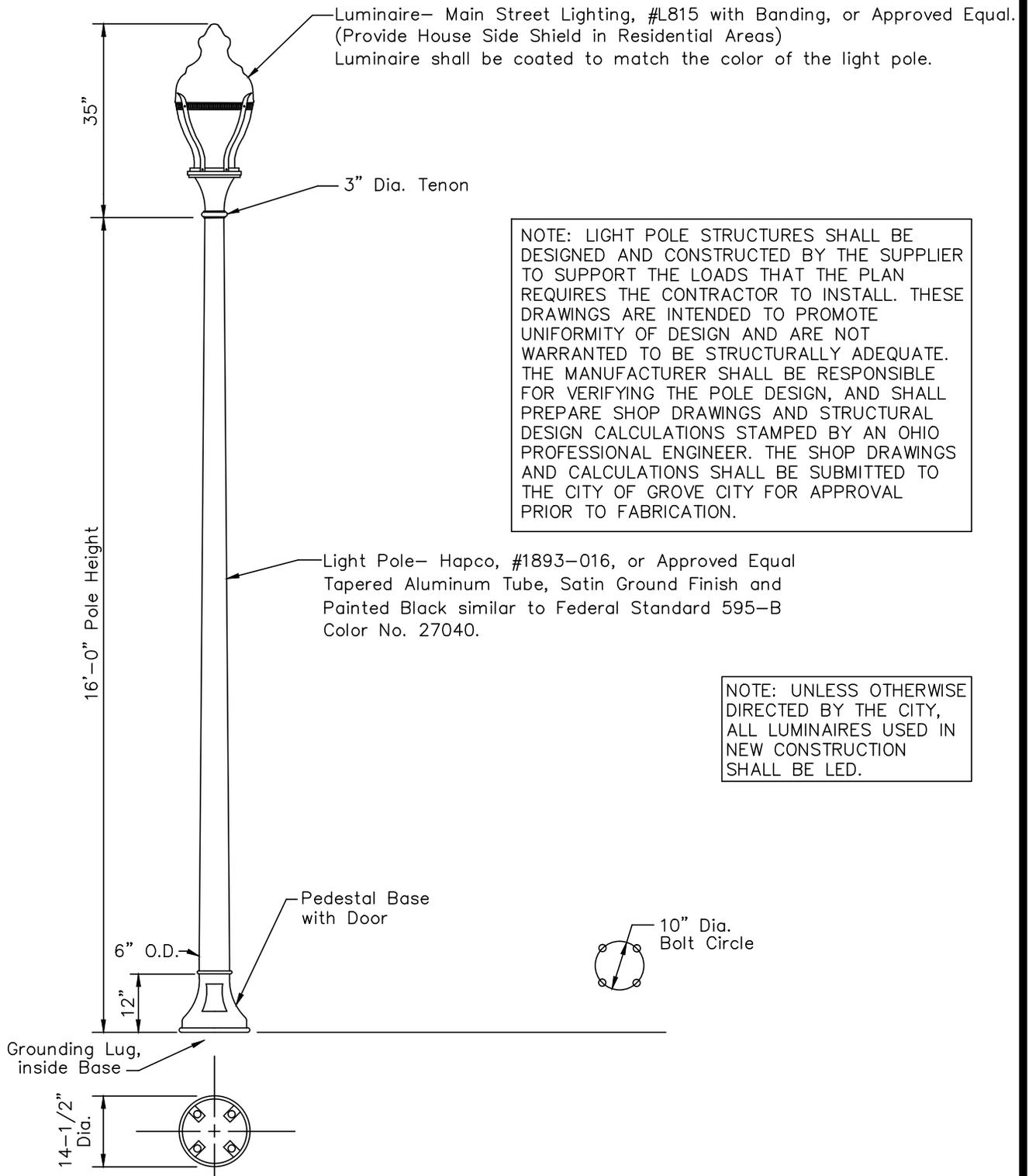
11 1/2" Sq.



Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS FOR
 STREET LIGHTING
 POST TOP LIGHT POLE WITH
 LANTERN STYLE LUMINAIRE
 (NO SCALE)

CITY OF GROVE CITY, OHIO
 STANDARD CONSTRUCTION DRAWING
 Revised February 2016
 Drawing No. C-GC-95B



Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

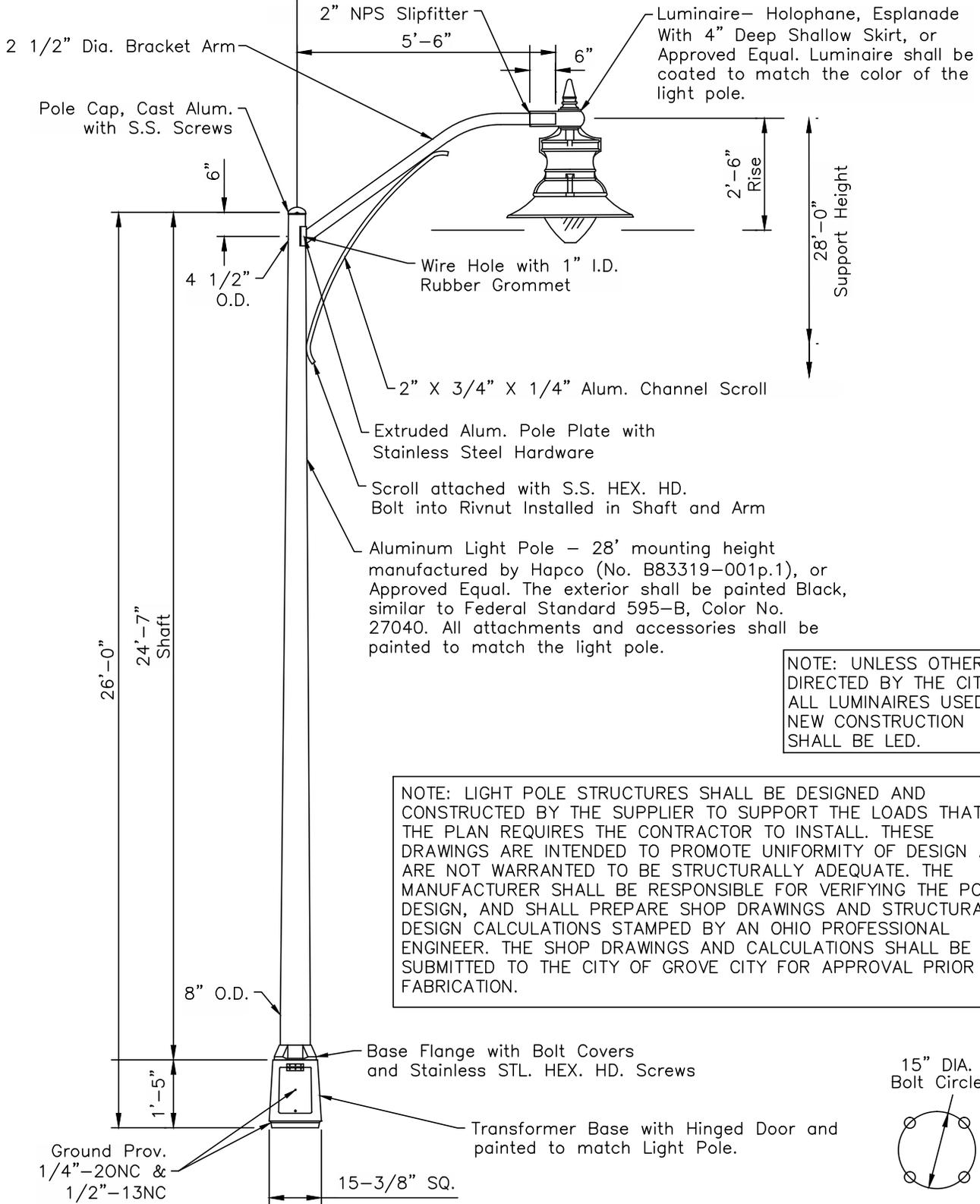
STANDARD DIMENSIONS
FOR

STREET LIGHTING
POST TOP LIGHT POLE WITH
ACORN STYLE LUMINAIRE
(NO SCALE)

**CITY OF
GROVE CITY, OHIO**

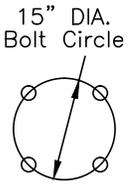
STANDARD
CONSTRUCTION DRAWING

Revised		Drawing No.
Rev February 2016		C-GC-95C



NOTE: UNLESS OTHERWISE DIRECTED BY THE CITY, ALL LUMINAIRES USED IN NEW CONSTRUCTION SHALL BE LED.

NOTE: LIGHT POLE STRUCTURES SHALL BE DESIGNED AND CONSTRUCTED BY THE SUPPLIER TO SUPPORT THE LOADS THAT THE PLAN REQUIRES THE CONTRACTOR TO INSTALL. THESE DRAWINGS ARE INTENDED TO PROMOTE UNIFORMITY OF DESIGN AND ARE NOT WARRANTED TO BE STRUCTURALLY ADEQUATE. THE MANUFACTURER SHALL BE RESPONSIBLE FOR VERIFYING THE POLE DESIGN, AND SHALL PREPARE SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS STAMPED BY AN OHIO PROFESSIONAL ENGINEER. THE SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE CITY OF GROVE CITY FOR APPROVAL PRIOR TO FABRICATION.



Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

STANDARD DIMENSIONS FOR

STREET LIGHTING

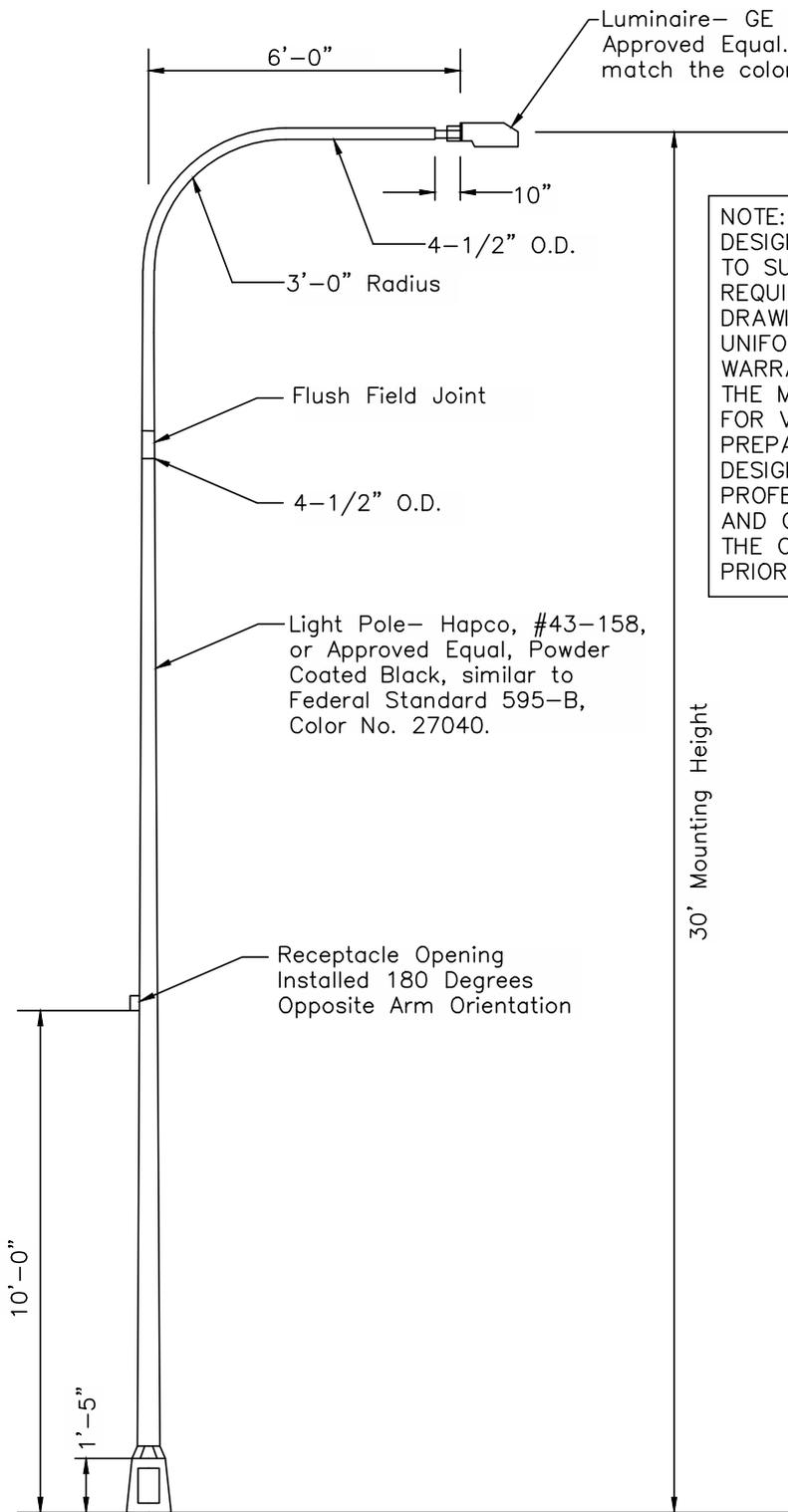
TEAR DROP STREET LIGHT POLE

(NO SCALE)

CITY OF GROVE CITY, OHIO

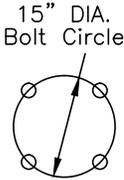
STANDARD CONSTRUCTION DRAWING

Revised		Drawing No.
Rev February 2016		C-GC-95D



NOTE: LIGHT POLE STRUCTURES SHALL BE DESIGNED AND CONSTRUCTED BY THE SUPPLIER TO SUPPORT THE LOADS THAT THE PLAN REQUIRES THE CONTRACTOR TO INSTALL. THESE DRAWINGS ARE INTENDED TO PROMOTE UNIFORMITY OF DESIGN AND ARE NOT WARRANTED TO BE STRUCTURALLY ADEQUATE. THE MANUFACTURER SHALL BE RESPONSIBLE FOR VERIFYING THE POLE DESIGN, AND SHALL PREPARE SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS STAMPED BY AN OHIO PROFESSIONAL ENGINEER. THE SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE CITY OF GROVE CITY FOR APPROVAL PRIOR TO FABRICATION.

NOTE: UNLESS OTHERWISE DIRECTED BY THE CITY, ALL LUMINAIRES USED IN NEW CONSTRUCTION SHALL BE LED.



Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

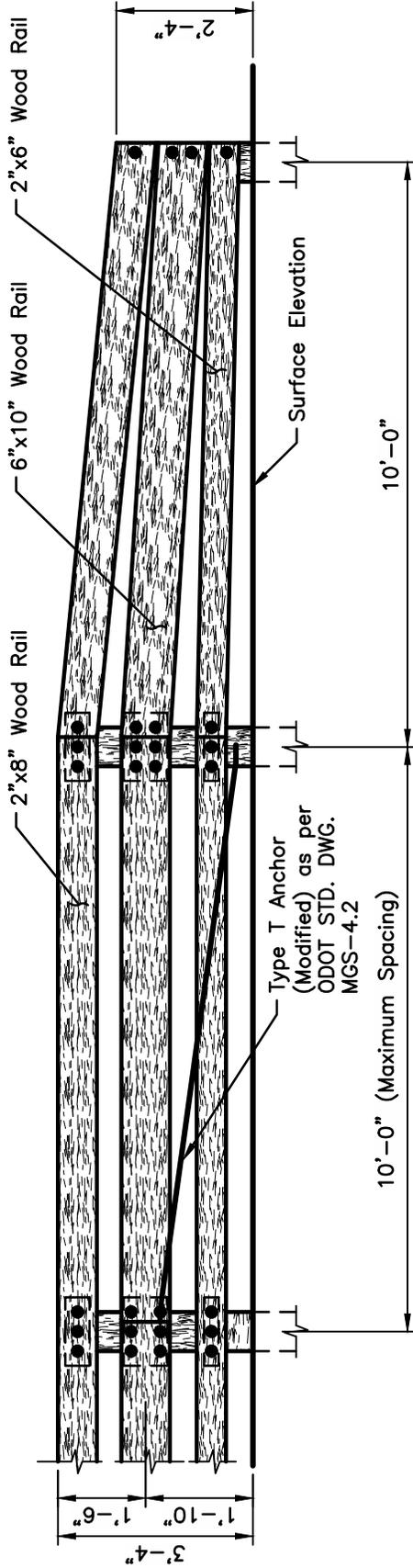
STANDARD DIMENSIONS FOR

STREET LIGHTING

DAVIT STREET LIGHT POLE

(NO SCALE)

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised		Drawing No.
Rev February 2016		C-GC-95E



REINFORCED FENCING

Approved By:

 City Engineer, EMH&T Inc.

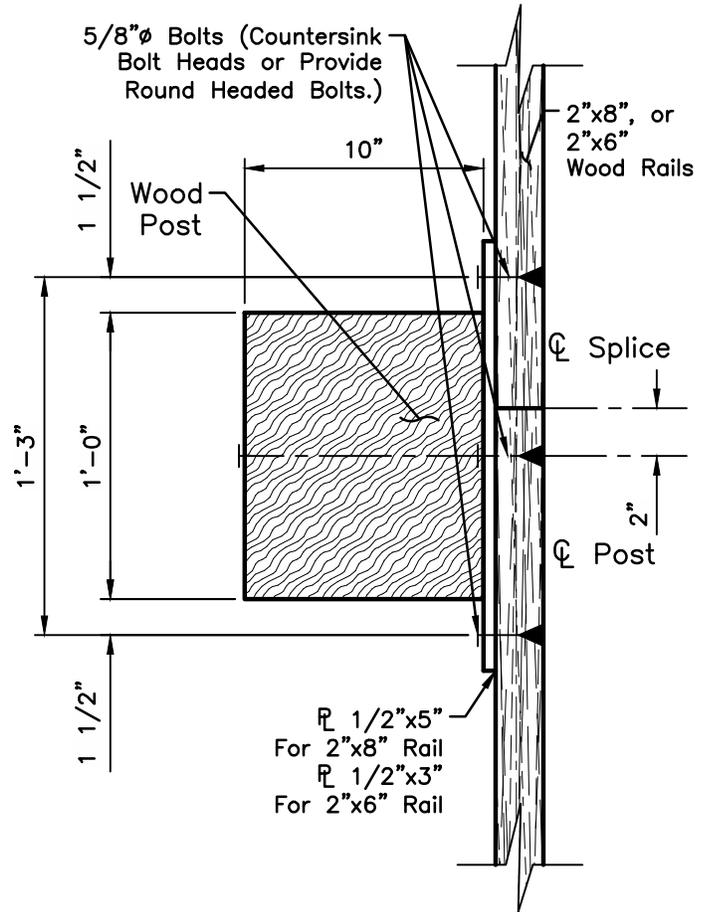
 City Service Director

STANDARD DIMENSIONS
 FOR
REINFORCED FENCE

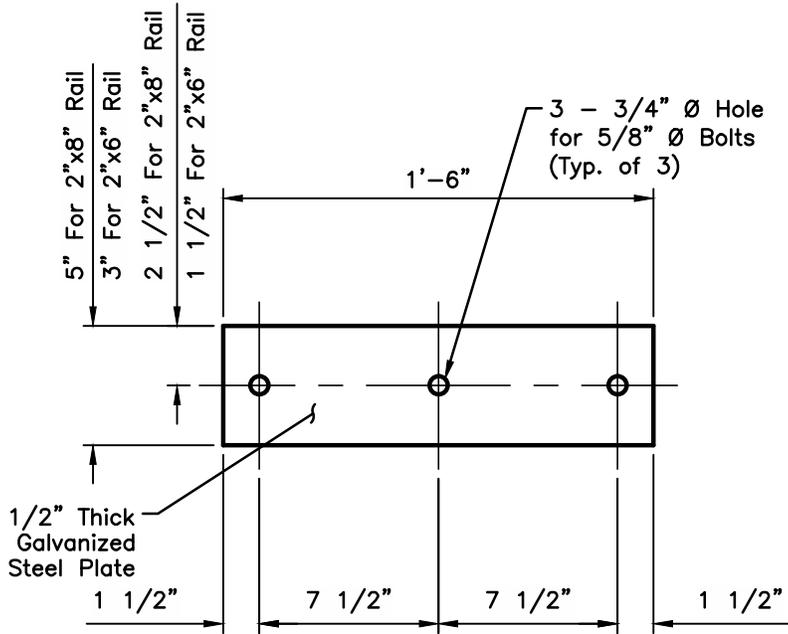
**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

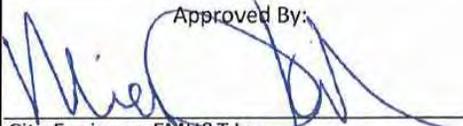
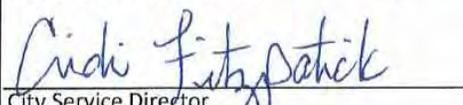
Revised	Sheet	Drawing No.
Rev February 2016	1/4	C-GC-96



**PLAN VIEW OF
REINFORCED FENCE
SECONDARY RAIL POST SPLICE
DETAIL**



**REINFORCED FENCE
SECONDARY RAIL SPLICE PLATE DETAIL**

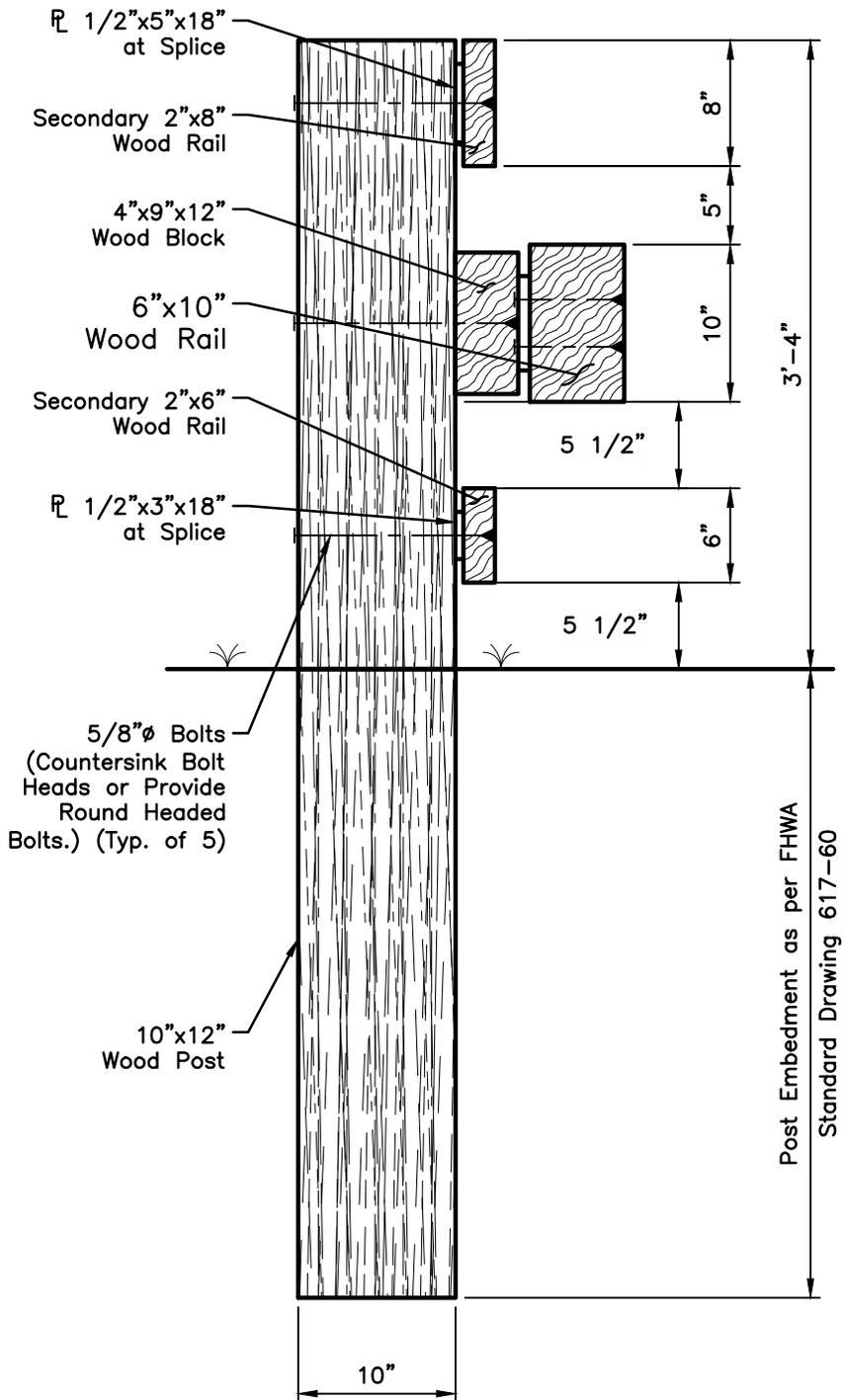
Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
FOR
REINFORCED FENCE

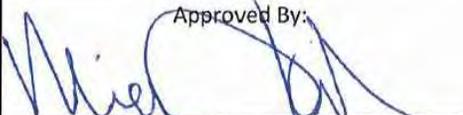
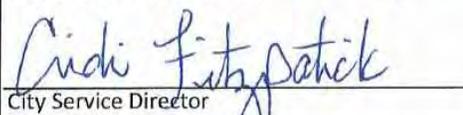
**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

Revised		Drawing No.
Rev February 2016	2/4	C-GC-96



REINFORCED FENCE

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
REINFORCED FENCE

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
Revised		Drawing No.
Rev February 2016	3/4	C-GC-96

NOTE:

1. Details provided on this drawing refer to the wood fence and the secondary wood pedestrian rails on the reinforced fence. For details of the reinforced fence, including but not limited to the timber post, 6 x 10 timber rail, hardware, material and installation refer to FHWA standard drawings 617-60, 617-61 and 617-63.
2. The dimensions/ callouts of wood railing posts and wood traffic rails shall be the true out to out dimensions used for fabrication. The Contractor shall not supply members measuring less than what is shown in the plans, i.e. nominal. Horizontal wood railing may be nominal sizes. All wood for posts and 6" x 12" traffic railing components shall be pressure treated, dense select structural southern pine, Fb = 1750 psi. Wood for secondary railing shall be #1 grade southern pine, fb = 1500 psi. All wood for railing, posts, and cap shall conform to ODOT specification 710.14 and 712.06.
3. Upon completion of construction and when dry, 2 coats of a water repellant stain/sealer for wood shall be applied to all exposed wood surfaces. Contractor to submit color sample to owner for approval.
4. This detail shall not be used as a substitute for guardrail and/or in areas where guardrail is required by Federal Highway Administration and/or Ohio Department of Transportation Specifications and guidelines.
5. **WOOD FENCE AND SECONDARY RAILING ON REINFORCED FENCE**
Horizontal wood railing and 8"x6" wood fence posts shall be nominal sizes. all wood for fence and secondary railing components shall be pressure treated southern yellow pine #1 grade.

When field cutting wood, treat the exposed cut surface with bituminous asphalt based roof cement, copper naphthenate paste, or approved preservation system.

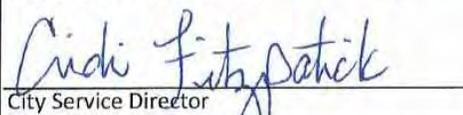
6. MATERIALS

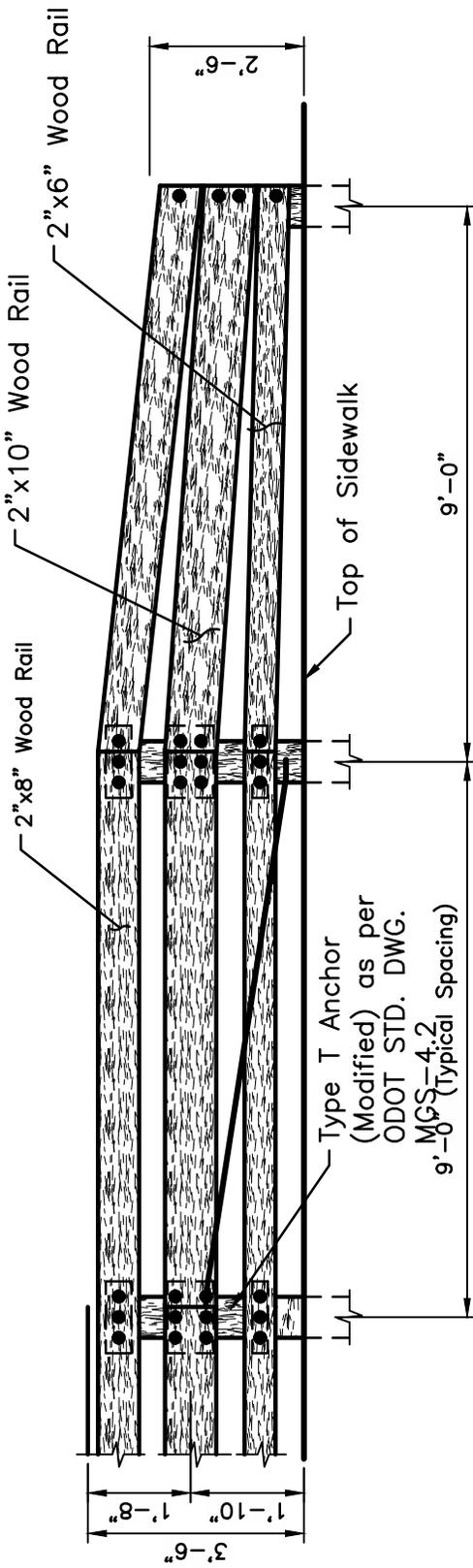
Wood railing shall conform to ODOT specification 710.14 and 712.06. Wood components reclaimed from use in another application shall not be permitted. Wood components that meet material specifications listed but have been in storage for more than one year will also not be allowed. Wood components that meet material specifications listed but are subsequently sawn down to meet plan component cross section dimensions shall be pressure treated again after resizing and prior to placement as shown on the plans.

All steel plate shall conform to ASTM-A572 with minimum yield strength of 50 ksi. All steel components shall be galvanized in accordance with ASTM-A123 or ASTM-153 and rated for corrosion protection for use in ACQ treated lumber. All anchor bolts, nuts, washers and studs for the wood fence shall conform the the physical properties of ASTM-A325 except that elongation shall be 10%. The chemical properties are waived. All anchor bolts, nuts, washers and studs for the Steel-Backed Reinforced Fence, including those in the secondary rail, shall be weathering steel and conform to the specifications noted in the FHWA Standard Drawing 617-60.

7. WOOD COMPONENT PREVENTATIVE MAINTENANCE

For long term durability it is strongly recommended that the owner periodically re-apply a water repellant sealer to all exposed wood surfaces. The frequency of maintenance will be dependent on sound judgement in conjunction with the manufacturer's instructions and recommendations of the selected sealer.

<p>Approved By:</p>  City Engineer, EMH&T Inc	<p>STANDARD DIMENSIONS FOR</p> <p>REINFORCED FENCE</p>	<p>CITY OF GROVE CITY, OHIO</p>		
		<p>STANDARD CONSTRUCTION DRAWING</p>		
 City Service Director		Revised February 2016	Sheet 4/4	Drawing No. C-GC-96



DETAIL AT WOOD FENCE END FLARE

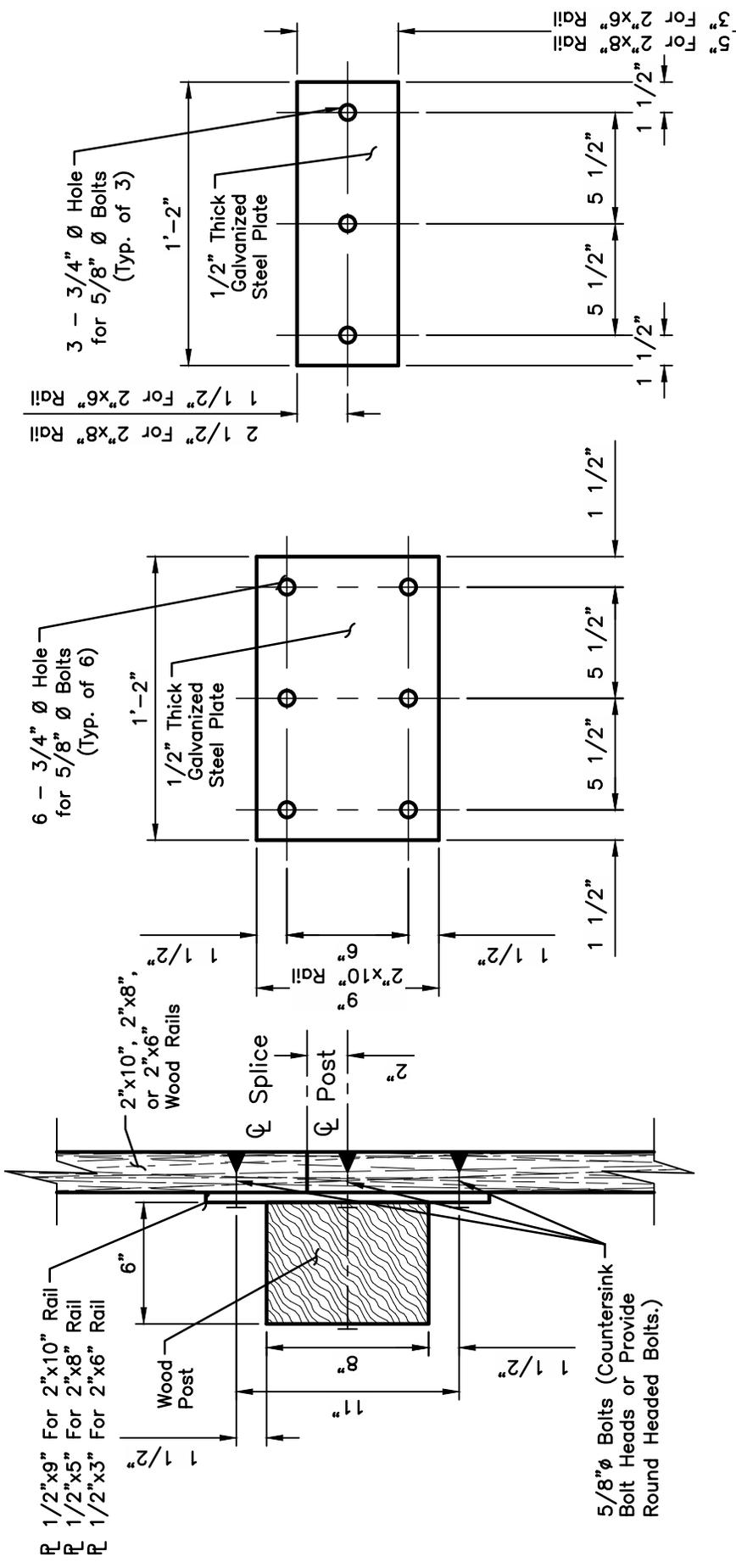
Approved By: *[Signature]*
 City Engineer, EM/RT+Inc
[Signature]
 City Service Director

STANDARD DIMENSIONS
 FOR
TIMBER PEDESTRIAN FENCE

**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

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**PLAN VIEW OF WOOD FENCE
RAIL POST SPICE DETAIL**

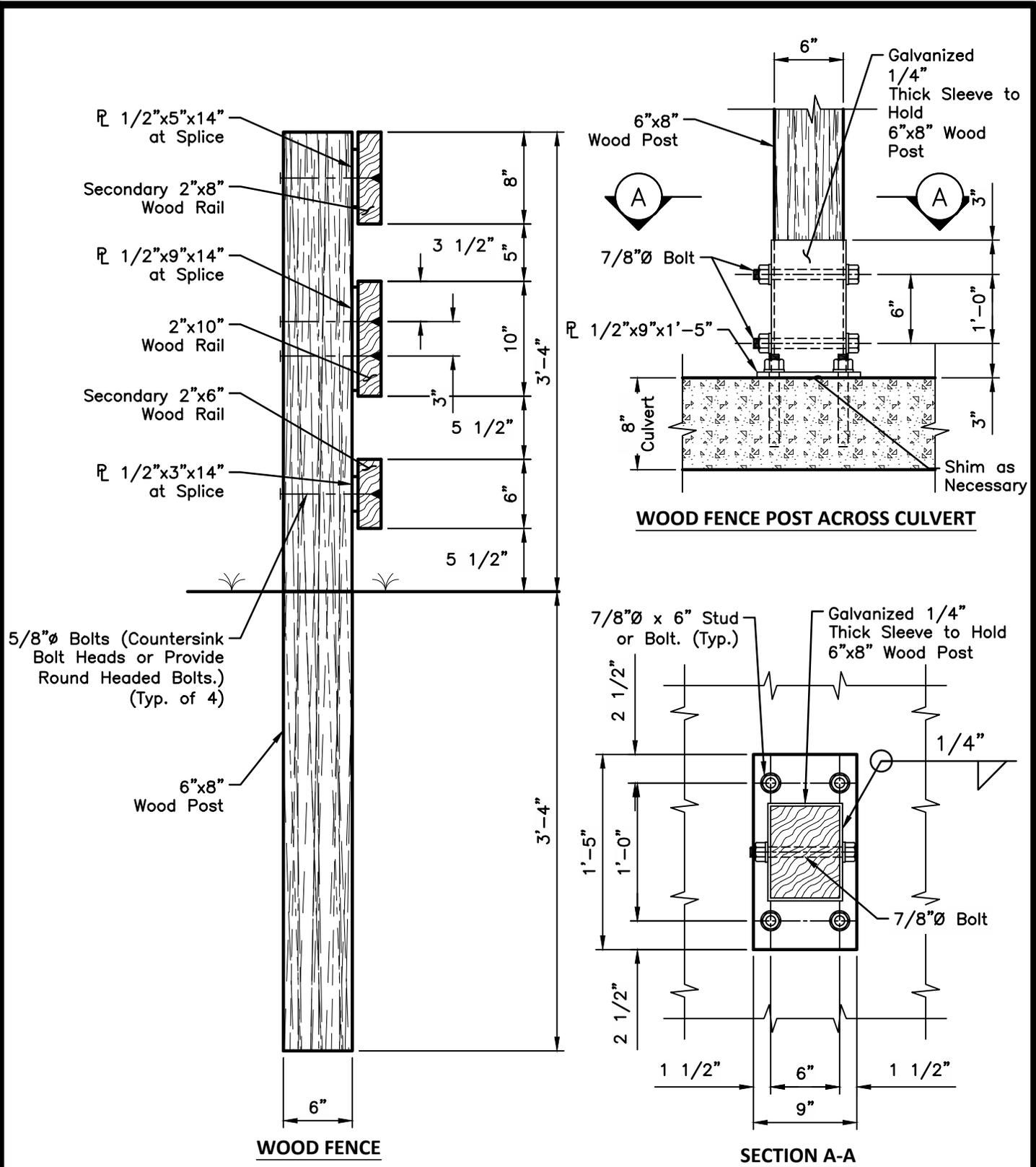
**WOOD FENCE
CENTER RAIL SPICE
PLATE DETAIL**

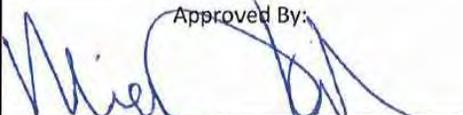
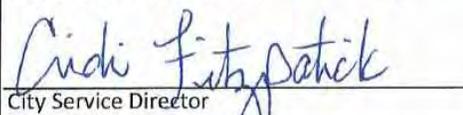
**WOOD FENCE
SECONDARY RAIL SPICE
PLATE DETAIL**

Approved By: *[Signature]*
 City Engineer, EMH&T Inc
[Signature]
 City Service Director

STANDARD DIMENSIONS
 FOR
TIMBER PEDESTRIAN FENCE

CITY OF GROVE CITY, OHIO	
STANDARD CONSTRUCTION DRAWING	
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Approved By:

 City Engineer, EMH&T Inc

 City Service Director

STANDARD DIMENSIONS
 FOR
**TIMBER PEDESTRIAN
 FENCE**

**CITY OF
 GROVE CITY, OHIO**

STANDARD
 CONSTRUCTION DRAWING

Revised	Sheet	Drawing No.
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NOTE:

1. Details provided on this drawing refer to the wood fence and the secondary wood pedestrian rails on the modified Steel-backed Timber Pedestrian Fence. For details of the modified Steel-backed Timber Pedestrian Fence, including but not limited to the timber post, 6 x 10 timber rail, hardware, material and installation refer to FHWA standard drawings 617-60, 617-61 and 617-63.
2. Upon completion of construction and when dry, 2 coats of a water repellent stain/sealer for wood shall be applied to all exposed wood surfaces. Contractor to submit color sample to owner for approval.
3. This detail shall not be used as a substitute for guardrail and/or in areas where guardrail is required by Federal Highway Administration and/or Ohio Department of Transportation Specifications and guidelines.
4. **WOOD FENCE AND SECONDARY RAILING ON TIMBER PEDESTRIAN FENCE**
Horizontal wood railing and 8"x6" wood fence posts shall be nominal sizes. all wood for fence and secondary railing components shall be pressure treated southern yellow pine #1 grade.

When field cutting wood, treat the exposed cut surface with bituminous asphalt based roof cement, copper naphthenate paste, or approved preservation system.

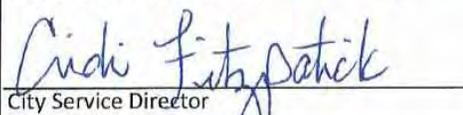
5. MATERIALS

Wood railing shall conform to ODOT specification 710.14 and 712.06. Wood components reclaimed from use in another application shall not be permitted. Wood components that meet material specifications listed but have been in storage for more than one year will also not be allowed. Wood components that meet material specifications listed but are subsequently sawn down to meet plan component cross section dimensions shall be pressure treated again after resizing and prior to placement as shown on the plans.

All steel plate shall conform to ASTM-A572 with minimum yield strength of 50 ksi. All steel components shall be galvanized in accordance with ASTM-A123 or ASTM-153 and rated for corrosion protection for use in ACQ treated lumber. All anchor bolts, nuts, washers and studs for the wood fence shall conform the the physical properties of ASTM-A325 except that elongation shall be 10%. The chemical properties are waived. All anchor bolts, nuts, washers and studs for the Steel-Backed Reinforced Fence, including those in the secondary rail, shall be weathering steel and conform to the specifications noted in the FHWA Standard Drawing 617-60.

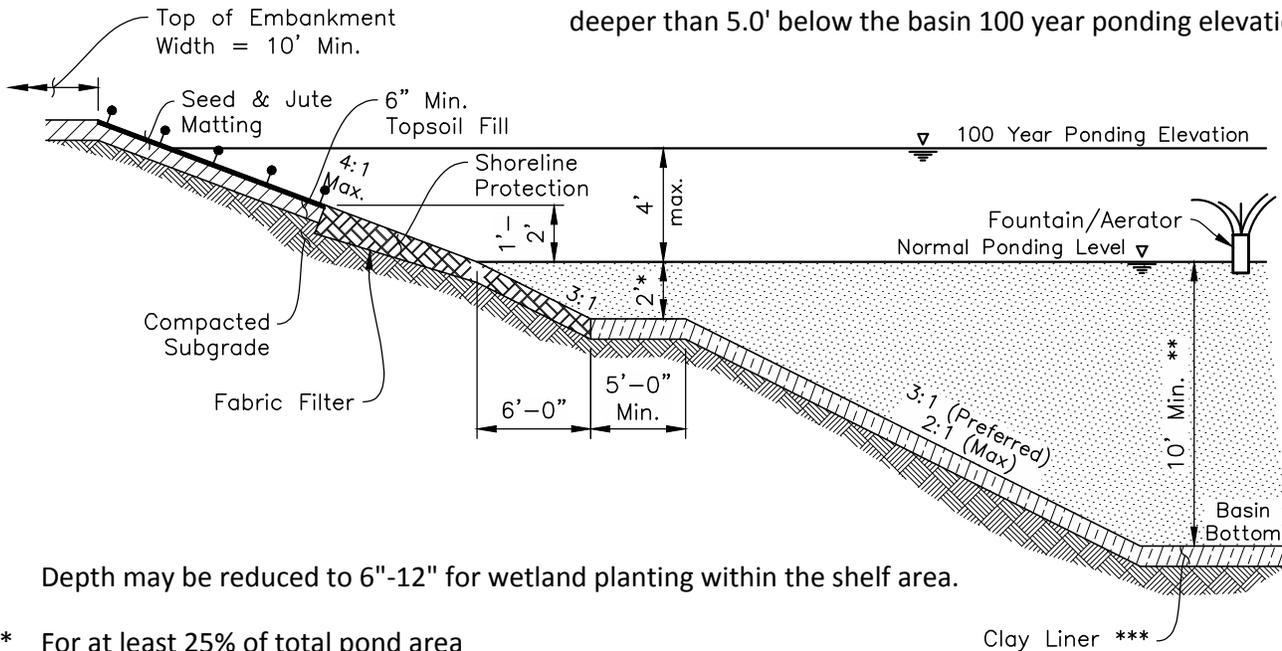
6. WOOD COMPONENT PREVENTATIVE MAINTENANCE

For long term durability it is strongly recommended that the owner periodically re-apply a water repellent sealer to all exposed wood surfaces. The frequency of maintenance will be dependent on sound judgement in conjunction with the manufacturer's instructions and recommendations of the selected sealer.

 Approved By: City Engineer, EMH&T Inc	STANDARD DIMENSIONS FOR TIMBER PEDESTRIAN FENCE	CITY OF GROVE CITY, OHIO		
		STANDARD CONSTRUCTION DRAWING		
 City Service Director		Revised February 2016	Sheet 4/4	Drawing No. C-GC-97

NOTE:

Minimum distance between structures and the max. ponding level shall be 20'. The bottom basement elevation shall be no deeper than 5.0' below the basin 100 year ponding elevation.



* Depth may be reduced to 6"-12" for wetland planting within the shelf area.

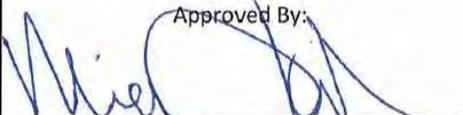
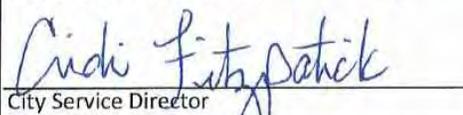
** For at least 25% of total pond area

*** Pond liner - geotechnical recommendations required, confirming adequacy of existing sub-grade material or indentifying criteria for a constructed line.

DETAIL NOTES:

1. Shoreline Protection shall be installed to prevent erosion along the perimeter of the basin and shall be comprised of one of the following options:
 - A. 6" depth of 1" to 3" diameter, clean, washed limestone cobbles, screened and leveled. Compact stones to 95%. No limestone fines.
 - B. Tied Concrete Block Mat per ODOT Item 601.
2. Seed and Jute Matting shall be per Item 671 (Type "B" Erosion Control Material-Item 712.11).
3. Refer to specific requirements for planting within the landscape buffer and other areas within the limits of the basin.
4. Pipe inlets to pond may be submerged; submergence may only extend to first structure.
5. Expose Headwalls and other stormwater system appurtenances must be stone veneered. (Reference C-GC-24)

[All item references are to the State of Ohio CMS]

Approved By:

 City Engineer, EMH&T Inc

 City Service Director

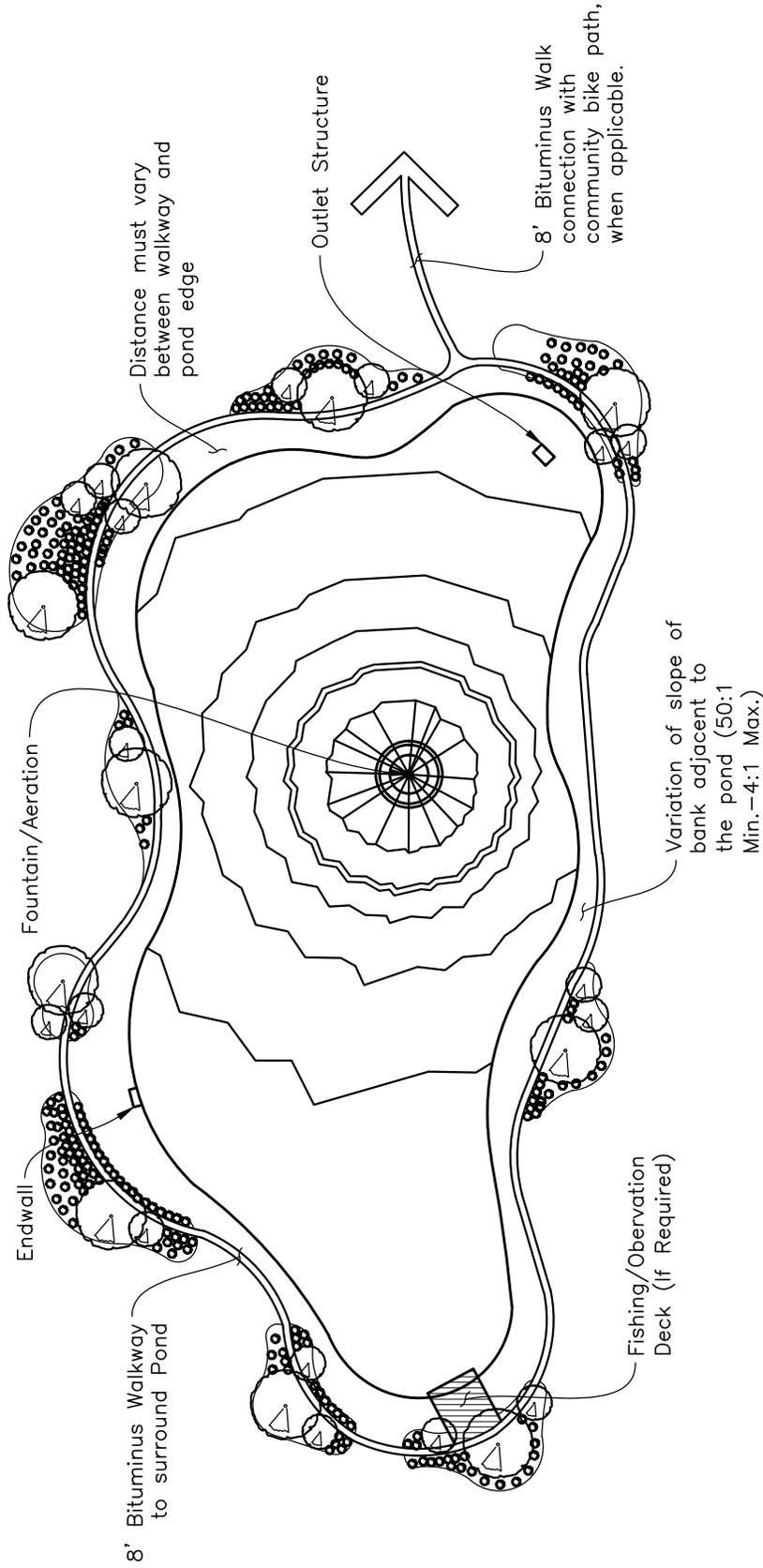
STANDARD DIMENSIONS
 FOR
**STORMWATER
 MANAGEMENT
 BASIN DESIGN
 DETAILS**

CITY OF GROVE CITY, OHIO		
STANDARD CONSTRUCTION DRAWING		
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DETAIL NOTES

Shrubs and Trees must be planted with deciduous shrubs above maximum required storage elevation for storm water detention

1. 20% of linear pond edge must be planted with deciduous shrubs in defined planting bed.
2. 1 shade tree per 100 LF of pond edge.
3. 1 ornamental tree per 75 LF of pond edge.

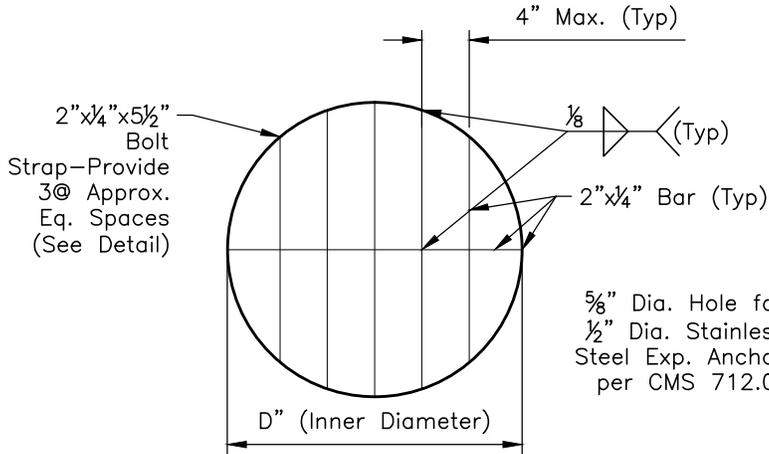


Approved By: *[Signature]*
 City Engineer, EMH&T Inc
[Signature]
 City Service Director

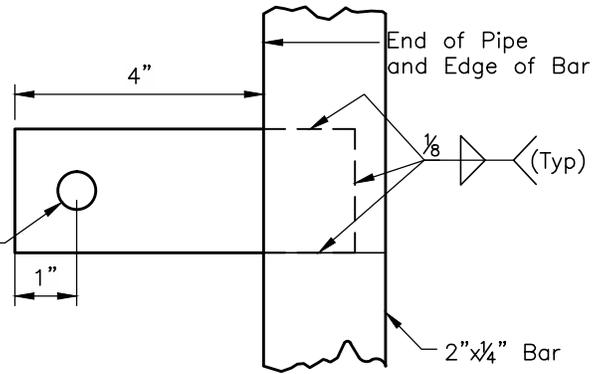
**STANDARD DIMENSIONS
 FOR
 STORMWATER MANAGEMENT
 BASIN DESIGN DETAILS**

CITY OF GROVE CITY, OHIO	
STANDARD CONSTRUCTION DRAWING	
Revised	Drawing No.
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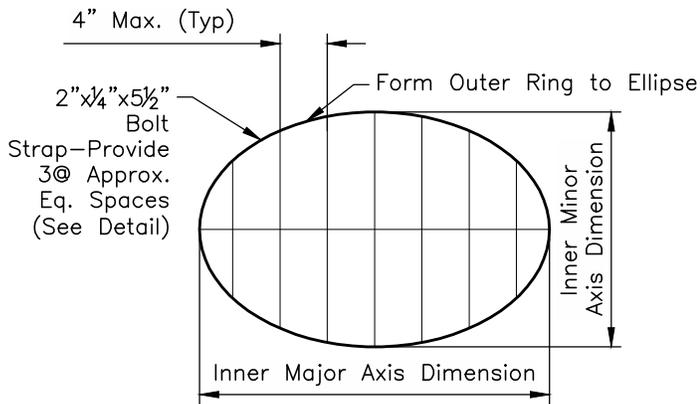
SAFETY GRATE / TRASH RACK DESIGN DETAIL



SAFETY GRATE DETAIL



BOLT STRAP DETAIL



SAFETY GRATE DETAIL

DETAIL NOTES

1. Grates shall be fabricated from ASTM A-36 steel and be galvanized in accordance with CMS 711.02.
2. Geometry, size and shape may be revised to accommodate box culvert outlets.

Approved By:

[Signature]

City Engineer, EMH&T Inc

[Signature]

City Service Director

STANDARD DIMENSIONS
FOR

**STORMWATER
MANAGEMENT
BASIN DESIGN
DETAILS**

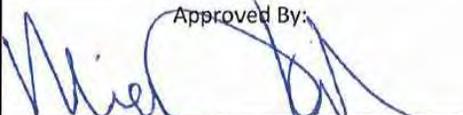
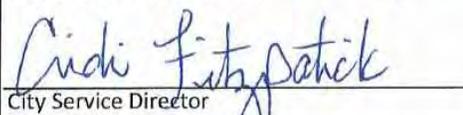
**CITY OF
GROVE CITY, OHIO**

STANDARD
CONSTRUCTION DRAWING

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NOTES:

1. The design of any improvements including and adjacent to all ponds and stormwater management basins shall conform to the standards set forth with the City of Grove City Stormwater Design Manual.
2. Prior to any development that will impact existing pond(s), an agreement outlining responsibility of the current and future operation and maintenance of the pond must be documented by the developer and provided to the City of Grove City Service Director.
3. Final design of all basins intended for use as a stormwater detention basin must adhere to the Peak Flow Rate Control requirements as mandated by the City of Grove City Stormwater Design Manual.

<p>Approved By:</p>  <p>City Engineer, EMH&T Inc</p>  <p>City Service Director</p>	<p>STANDARD DIMENSIONS FOR</p> <p>STORMWATER MANAGEMENT BASIN DESIGN DETAILS</p>	<p>CITY OF GROVE CITY, OHIO</p> <p>STANDARD CONSTRUCTION DRAWING</p> <table border="1"><tr><td data-bbox="1052 1900 1214 1995">Revised Rev February 2016</td><td data-bbox="1214 1900 1377 1995">Sheet 4/4</td><td data-bbox="1377 1900 1542 1995">Drawing No. C-GC-98</td></tr></table>	Revised Rev February 2016	Sheet 4/4	Drawing No. C-GC-98
Revised Rev February 2016	Sheet 4/4	Drawing No. C-GC-98			