Decatur, Georgia

Engineering Standard Details

DRAFT November 5, 2014

City of Decatur

ENGINEERING STANDARD DETAILS

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Introduction

The purpose of this package is to aid developers and designers to understand the minimum design standards for work within the City of Decatur. You will find in this publication a collection of design guidelines that will assist you in designing projects within the City of Decatur.

For additional information contact:

City of Decatur Engineering Department
2635 Talley Street
Decatur, Georgia 30031
tel: 404-371-4104

Development Department
City of Decatur
P.O. Box 220
509 North McDonough Street
Decatur, Georgia 30031
tel: 404-370-4104

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Accessibility

Handicap Ramp and Detectable Warning Surface

ACCEPTABLE ADA RAMPS:

GDOT ENGLISH CONSTRUCTION DETAIL A3 TYPES A, B, AND D. CONCRETE FOR RAMPS SHALL BE A MINIMUM THICKNESS OF 4 INCHES AND A MINUMUM THICKNESS OF 8 INCHES AT INTERSECTIONS.

SEE GDOT ENGLISH CONSTRUCTION DETAIL A3 FOR DETAILS OF RAMPS AND THEIR LOCATIONS AT INTERSECTIONS

DETECTABLE WARNING SURFACES ARE REQUIRED ON ALL INTERSECTIONS WITH PUBLIC STREETS, SIGNALIZED COMMERCIAL DRIVEWAYS, AND COMMERCIAL DRIVEWAYS WITH AN AADT OF 25 VEHICLES/DAY

DETECTABLE WARNING SURFACE:

DETAIL:
SEE GDOT ENGLISH CONSTRUCTION DETAIL A4

SIZE:
DETECTABLE WARNINGS SHALL BE 24 INCHES (610 mm) IN THE DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.

LOCATION:
THE DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE OR OTHER POTENTIAL HAZARD IS 6 TO 8 INCHES (150 mm TO 180 mm) FROM THE CURB LINE OR OTHER POTENTIAL HAZARD, SUCH AS A REFLECTIVE POOL EDGE OR THE DYNAMIC ENVELOPE OF RAIL OPERATIONS.

DOME SIZE AND SPACING:
TRUNCATED DOMES SHALL HAVE A BASE DIAMETER OF 0.9 INCH TO 1.4 INCH (23 mm-36 mm) AT THE BOTTOM, A DIAMETER OF 0.45 INCH TO 0.9 INCH (11mm-23 mm) AT THE TOP, THE TOP DIAMETER SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER, A HEIGHT OF 0.2 INCH (5.11 mm) AND A CENTER-TO-CENTER SPACING OF 2.40 INCHES (61mm) DESIRABLE 1.60 INCHES (41 mm) MINIMUM MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.

VISUAL CONTRAST:
DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKING SURFACE EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE.

MATERIALS:
SOURCE: ADA SOLUTIONS, P.O. BOX 3 N. BILLERICA, MA 01862
NEW CONSTRUCTION:
ADA COMPOSITE REPLACEABLE CAST IN PLACE (WET SET) OR APPROVED EQUAL.
RETROFIT:
ADA DETECTABLE WARNING TILE OR APPROVED EQUAL.

INSTALLATION:
INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AS INDICATED ON GDOT ENGLISH CONSTRUCTION DETAIL A4.

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

HANDICAP RAMP AND DETECTABLE WARNING SURFACE

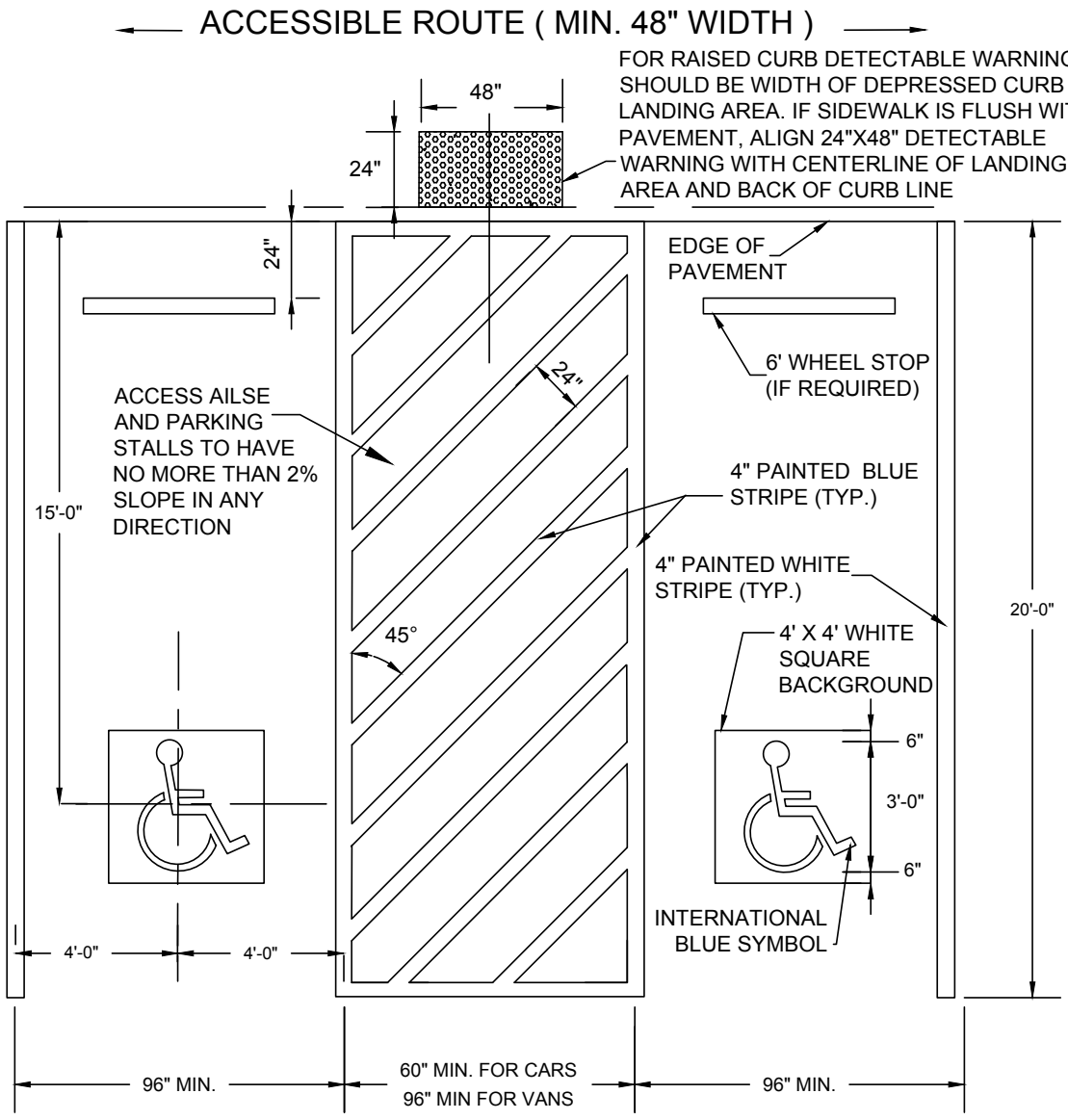
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 200

Accessibility

Handicap Parking Space Striping



NOTE:

1. STRIPING AND CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND CITY OF DECATUR CODES AND SPECIFICATIONS.

2. ALL PAVEMENT MARKINGS AND STRIPING IN THE RIGHT-OF-WAY SHALL BE THERMOPLASTIC.

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

HANDICAP PARKING SPACE STRIPING

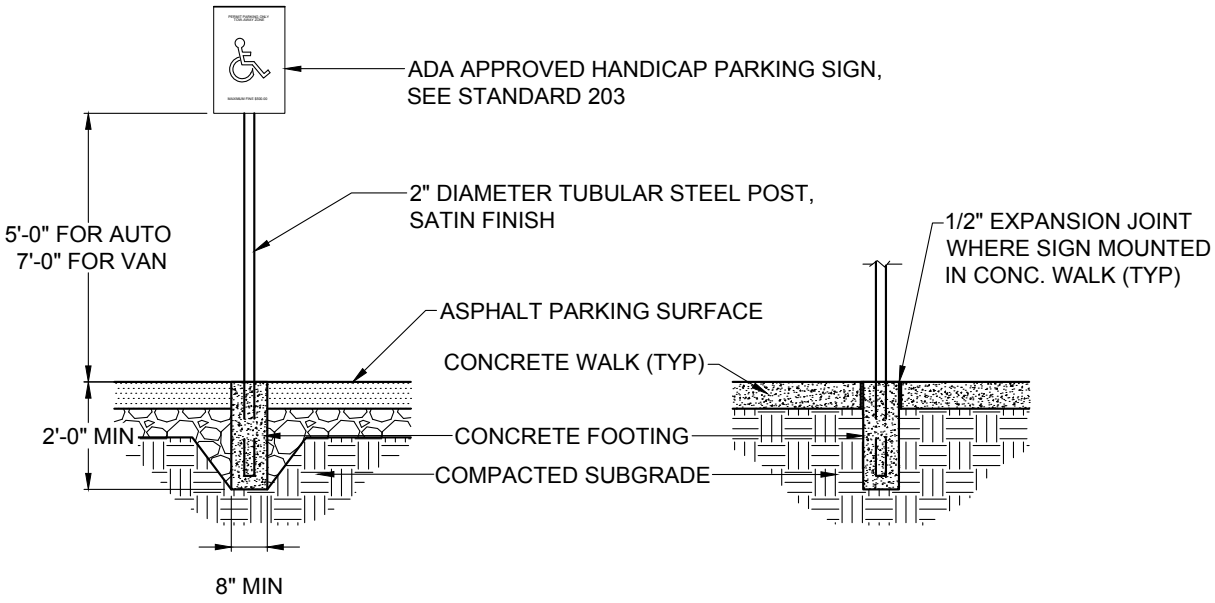
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 201

Accessibility

Handicap Sign Placement



NOTE:

SIGNAGE SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND CITY OF DECATUR CODES AND SPECIFICATIONS

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

HANDICAP SIGN PLACEMENT

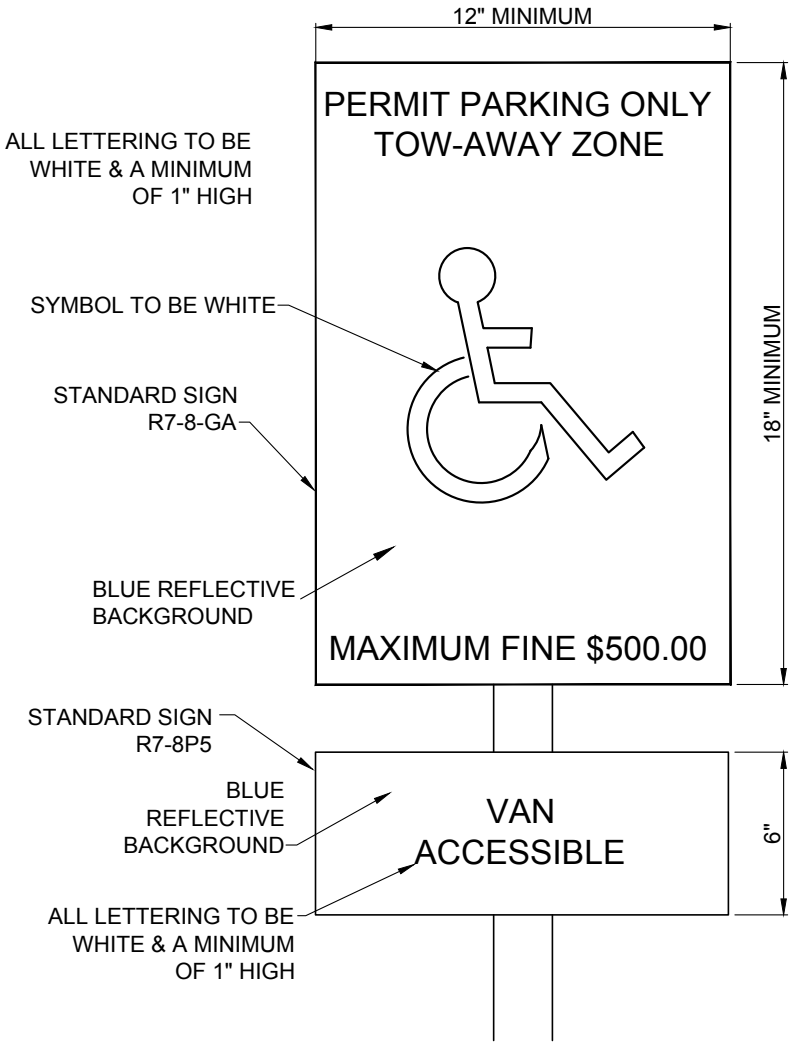
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 202

Accessibility

Handicap Parking Sign



1. ALL SIGNS TO BE 0.080" THICK ALUMINUM.
2. ALL SIGNS SHALL CONFORM WITH ALL CURRENT A.D.A FEDERAL, STATE, AND LOCAL CODES & REGULATIONS.
3. PLACE "VAN ACCESSIBLE" SIGN IN FRONT OF VAN ACCESSIBLE SPACES ONLY.

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

HANDICAP PARKING SIGN

SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 203

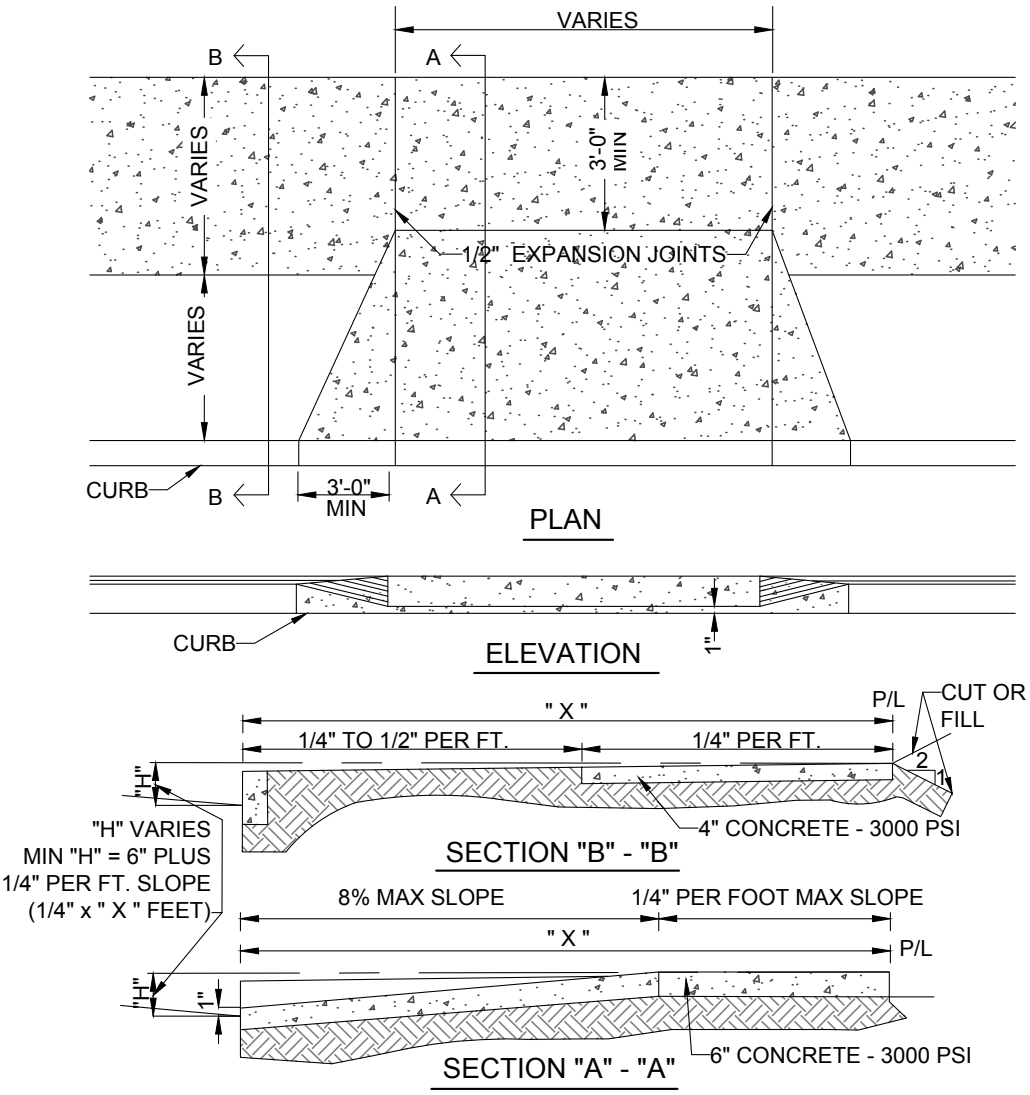
Paving

General Notes

Minimum design standards shall meet Georgia Department of Transportation (GDOT) standard specifications and details for both public and private infrastructure, unless otherwise specified in the following details. Also, refer to City of Decatur Streetscape Guidelines for all public infrastructure requirements within right-of-ways.

Paving

Driveway Apron



NOTES:

1. 1/4" DUMMY JOINTS IN SIDEWALK - SPACING EQUAL TO WIDTH OF SIDEWALK.

2. 1/2" PREMOULDED EXPANSION JOINT IN SIDEWALKS AT MAXIMUM SPACING OF 40'-0".

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

DRIVEWAY APRON

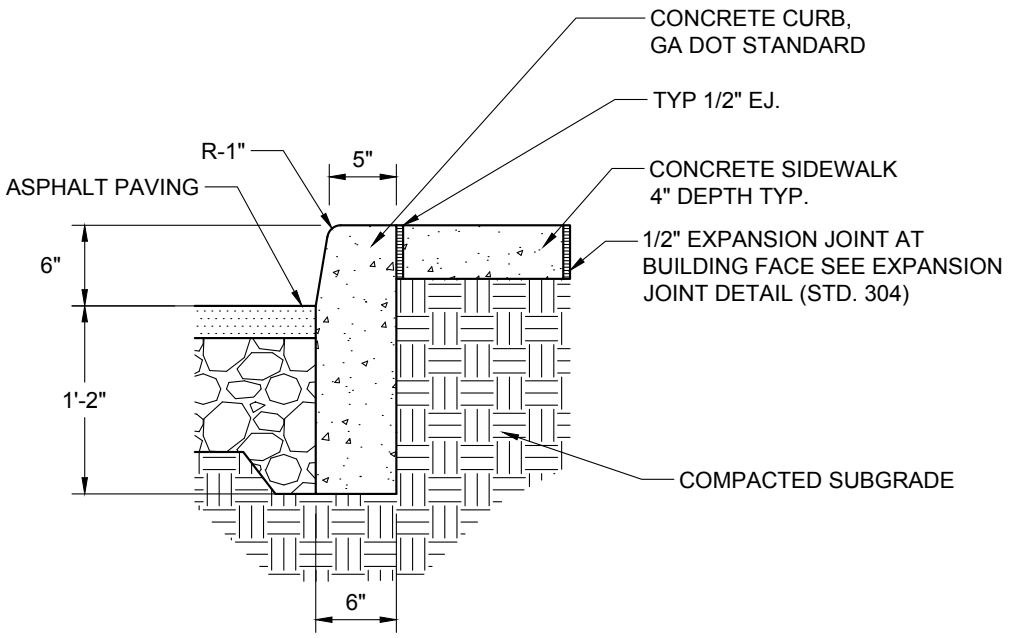
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 300

Paving

Standard Concrete Curb



City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

STANDARD CONCRETE CURB

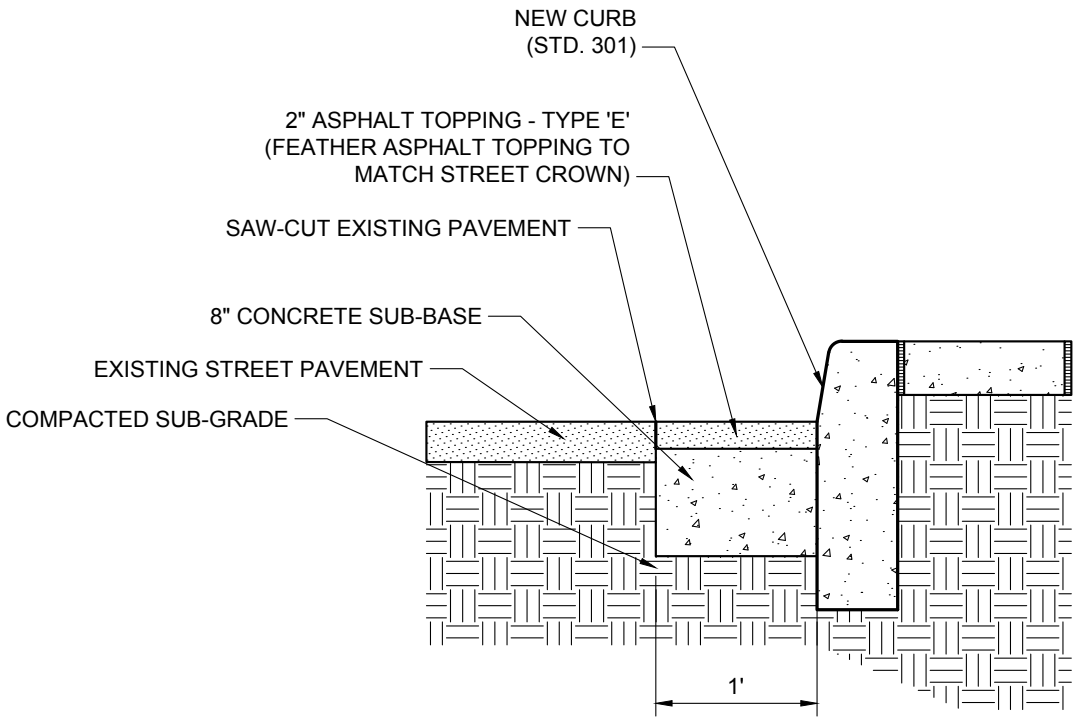
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 301

Paving

Street Patch Detail at Curb



City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

STREET PATCH DETAIL AT CURB

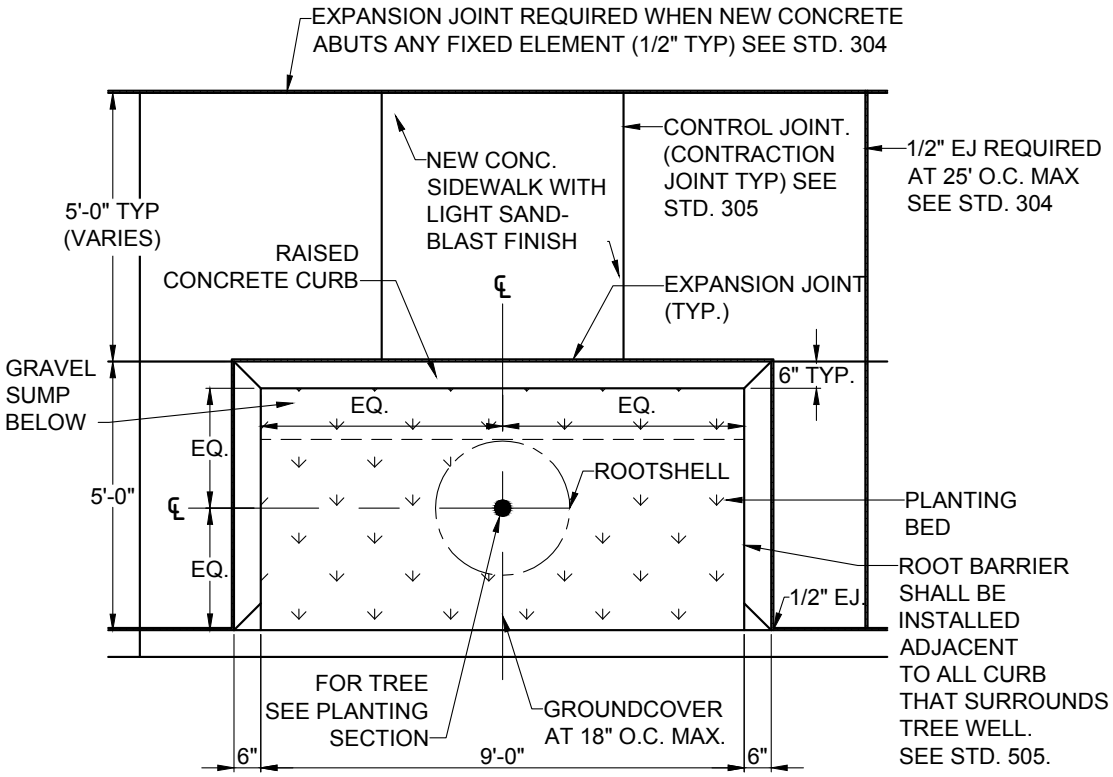
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 302

Paving

Sidewalk and Tree Well Plan



NOTE:
1. FOR SECTION, REFER TO DECATUR STREETSCAPE GUIDELINES STD. 502
2. CONCRETE TO BE 3000 P.S.I. (TYPICAL)

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

SIDEWALK AND TREE WELL PLAN

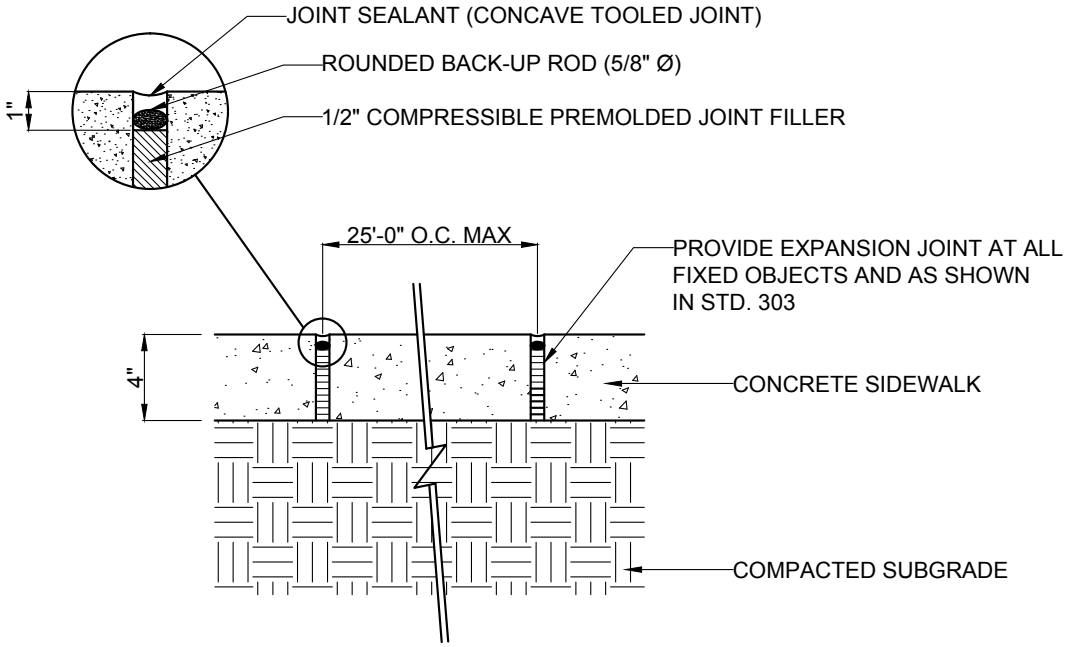
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 303

Paving

Expansion Joint Detail



City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

EXPANSION JOINT DETAIL

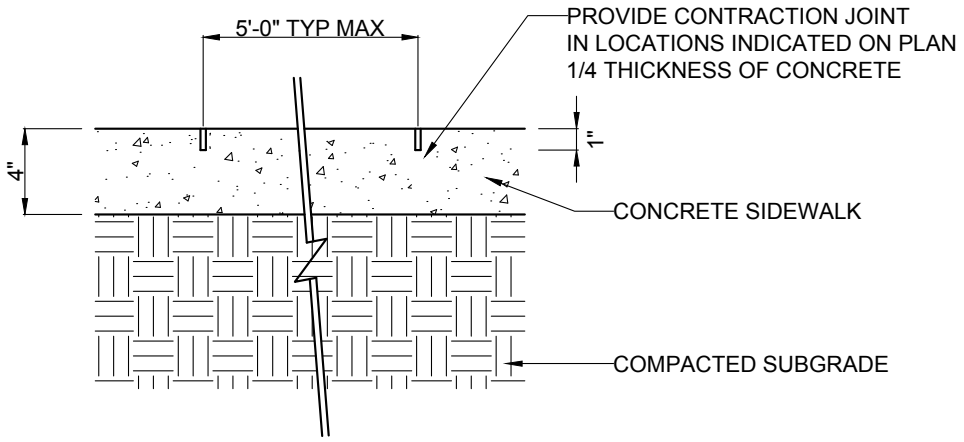
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 304

Paving

Contraction Joint Detail



City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

CONTRACTION JOINT DETAIL

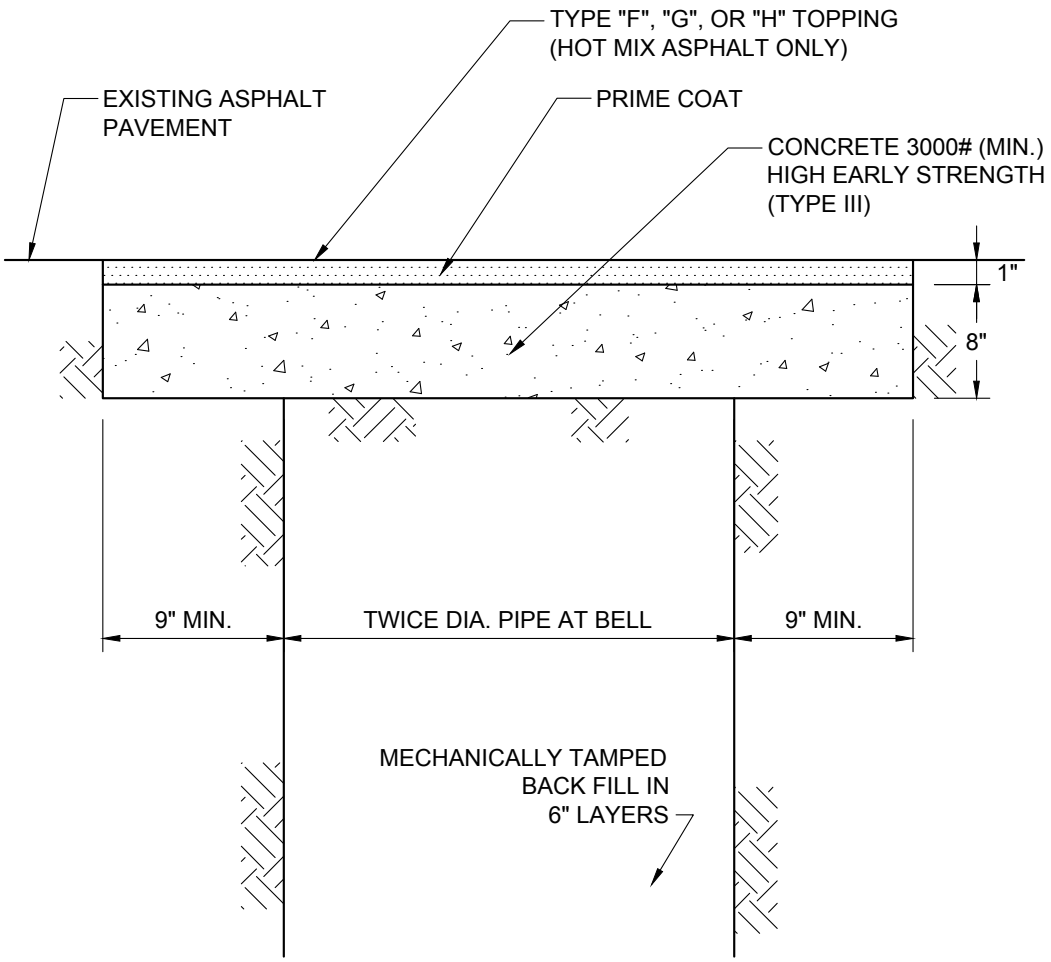
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 305

Paving

Trench Repair



1. EXIST. ASPH. MUST BE SAW CUT TO NEAT STRAIGHT LINES.
2. ALL EDGES OF FINISH ASPHALT MUST BE STRAIGHT. RAGGED EDGES WILL NOT BE ACCEPTABLE
3. ALL CUTS SHALL BE SQUARED UP, WITH PARALLEL SIDES, INCLUDING CUTS AT M.H.

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

TRENCH REPAIR

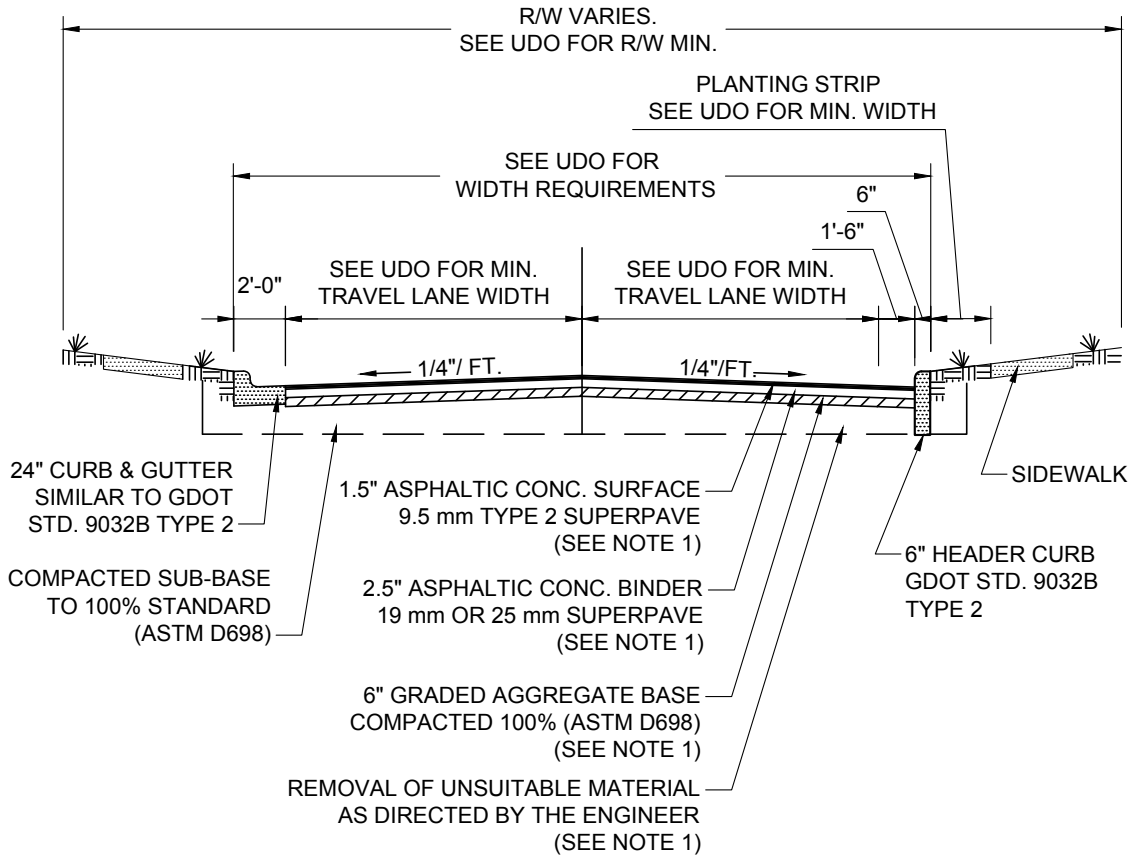
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 306

Paving

Standard Residential Road Section



NOTES:
1. PAVEMENT SECTIONS SHALL BE APPROVED BY CITY OF DECATUR FOR EACH SPECIFIC PROJECT.

UDO = UNIFIED DEVELOPMENT ORDINANCE

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

STANDARD RESIDENTIAL ROAD SECTION

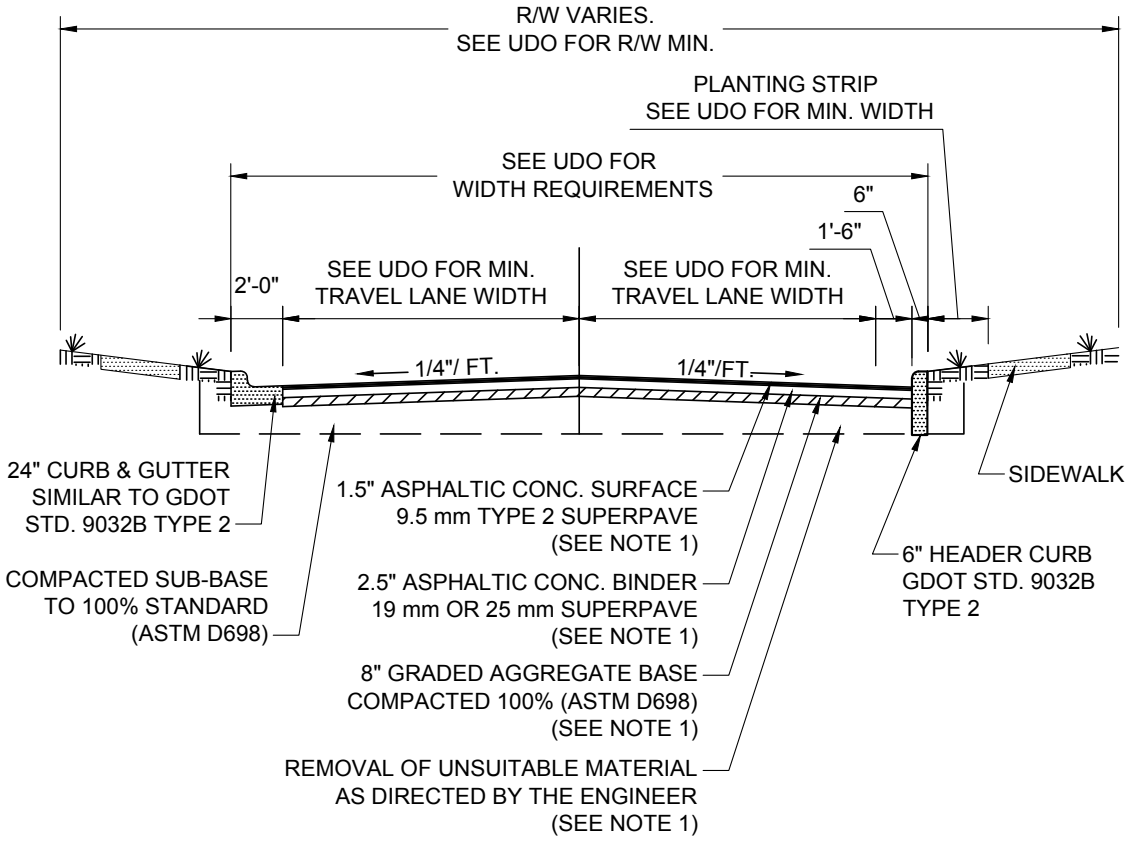
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 307

Paving

Standard Mixed Use/Commercial Road Section



NOTES:
1. PAVEMENT SECTIONS SHALL BE APPROVED BY CITY OF DECATUR FOR EACH SPECIFIC PROJECT.

UDO = UNIFIED DEVELOPMENT ORDINANCE

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

STANDARD MIXED USE/COMMERCIAL ROAD SECTION

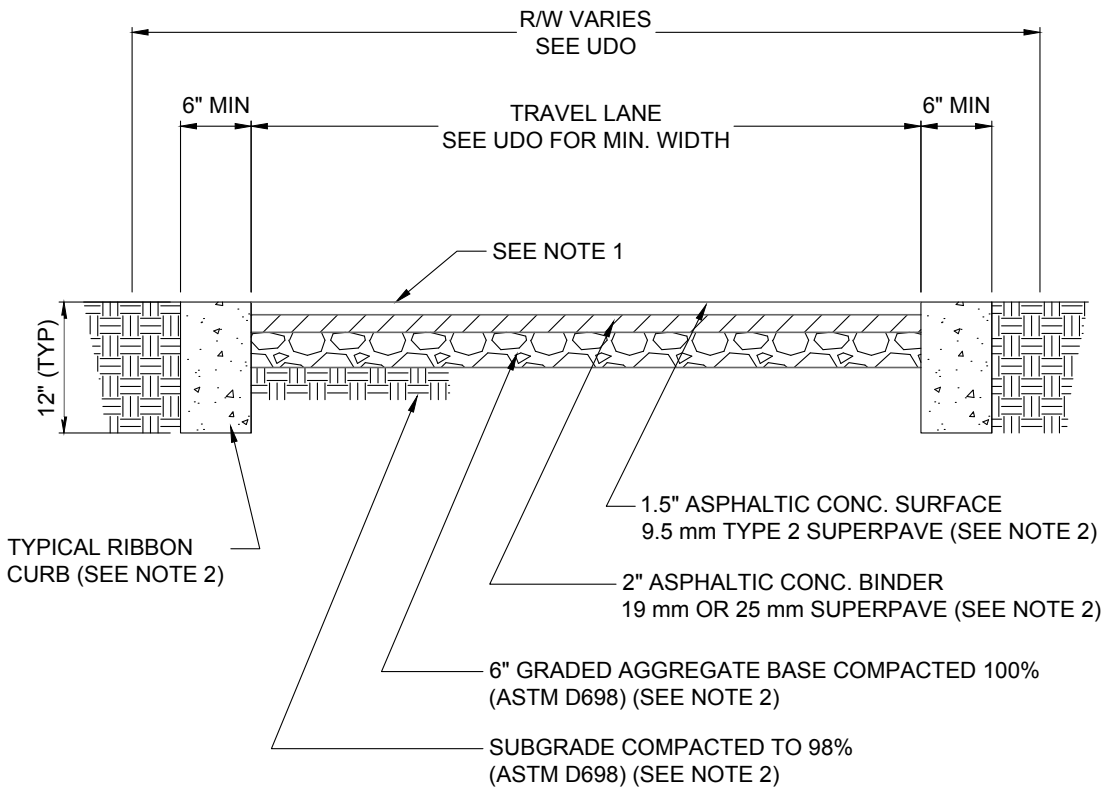
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 308

Paving

Standard Alley Road Section



NOTES:

1. ASPHALT PAVEMENT SECTION SHOWN; HOWEVER, ALTERNATE PAVEMENT MATERIAL MAY BE USED IF APPROVED BY CITY.
2. PAVEMENT SECTIONS SHALL BE APPROVED BY CITY OF DECATUR FOR EACH SPECIFIC PROJECT.
3. RIBBON CURB NOT REQUIRED IF ALLEY IS CONCRETE PAVEMENT.
4. DETAIL SHOWS MINIMUM THICKNESS FOR ASPHALT PAVEMENT SECTION. DESIGNER SHALL VERIFY IF PAVEMENT SECTION IS ADEQUATE FOR ACTUAL VEHICULAR TRAFFIC THAT WILL ACCESS ALLEY.
5. PAVEMENTSECTION DOES NOT CONSIDER EMERGENCY VEHICLE TRAFFIC.
6. RIBBION CURB SHALL BE A MINIMUM OF 3000 PSI CONCRETE AT 28 DAYS.
7. ALONG RIBBON CURB:
   - 1/2-INCH EXPANSION JOINTS OR PREMOLDED BITUMINOUS EXPANSION JOINT MATERIAL SHALL BE PROVIDED AT ALL STRUCTURES, RADIUS POINTS, AND AT INTERVALS NOT TO EXCEED 50 FEET.
   - CONTRACTION JOINT SHALL BE INSTALLED 1/2-INCH AT 10-FT INTERVALS.

UDO = UNIFIED DEVELOPMENT ORDINANCE

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

STANDARD ALLEY ROAD SECTION

SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 309

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Drainage

General Notes

Minimum design standards shall meet Georgia Department of Transportation (GDOT) standard specifications and details for both public and private infrastructure, unless otherwise specified in the following details. Also, refer to City of Decatur Streetscape Guidelines for all public infrastructure requirements within right-of-ways.

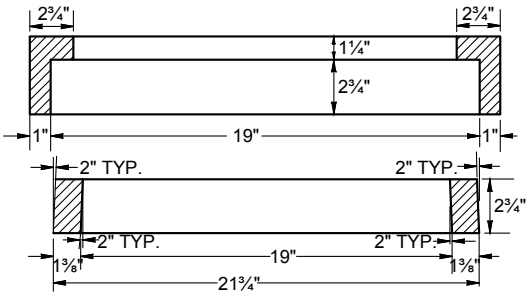
The following stormwater drainage materials are allowed in both public and private infrastructure:

- Reinforced Concrete
- High Density Polyethylene (HDPE)

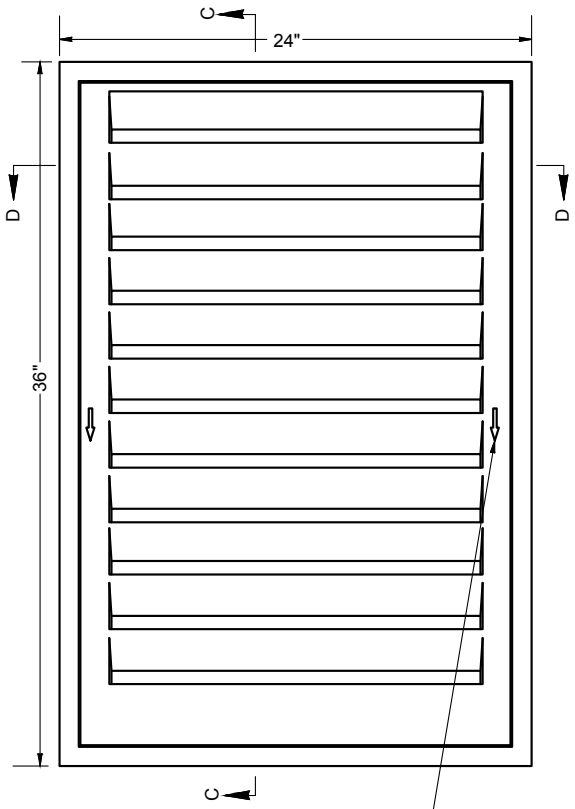
The following stormwater drainage materials are only allowed in private infrastructure:

- Aluminized Type II CMP

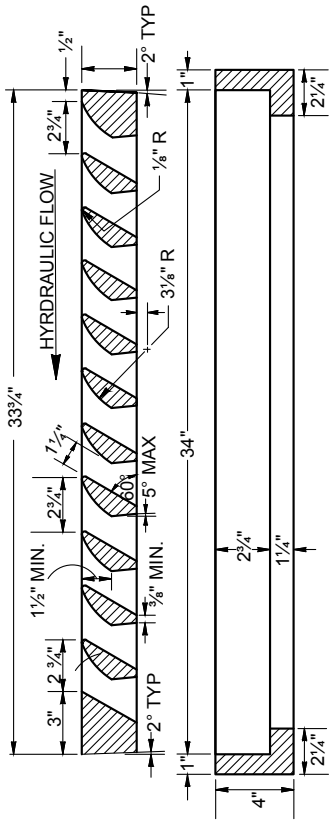
Curved Bicycle Safety Grate



SECTION D-D



PLAN VIEW



SECTION C-C

RAISED OR RECESSED ARROWS INDICATE DIRECTION OF HYDRAULIC FLOW. DESIGN OF ARROWS IN MANUFACTURER'S CHOICE.

NOTE:
ALL TYPE DROP INLETS WILL BE CONSTRUCTED (AS SHOWN), SO THAT THE GRATE BARS ARE PERPENDICULAR TO THE FLOW OF TRAFFIC EXCEPT ON LIMITED ACCESS PROJECTS OR WHERE BICYCLES ARE PROHIBITED.

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

CURVED BICYCLE SAFETY GRATE

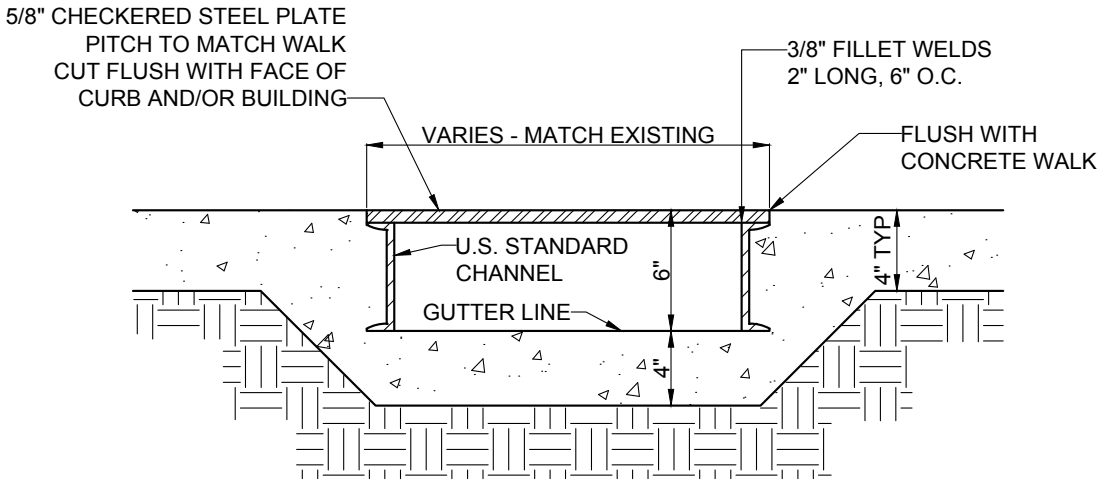
SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 601

Drainage

Sidewalk Flume with Grate and Sidewalk Trench Drain Frame and Grate



SIDEWALK FLUME WITH PLATE

Sidewalk Flume/Drain Grate & Frame:

A. Model: "Wave" by Urban Accessories, P.O. Box 310, 20004 144th Street, N.E., Woodinville, WA 98072

B. Size: 8"W x 18"L

Color and Finish: Flume/Grate and Frame at Natural Raw Metal

Frame: Model P-Paver

TRENCH FRAME AND GRATE

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

SIDEWALK FLUME WITH PLATE AND SIDEWALK TRENCH FRAME AND GRATE

SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 602

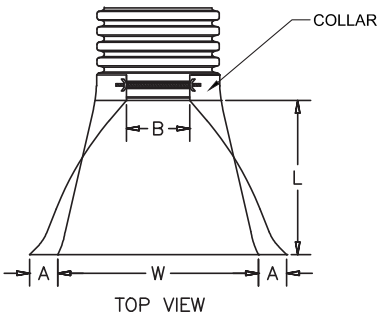
CONCRETE FLARED END SECTIONS SHALL BE IN ACCORDANCE WITH GEORGIA DEPARTMENT OF TRANSPORTATION (GDOT) CONSTRUCTION STANDARD 1120.

CONCRETE FLARED END SECTION

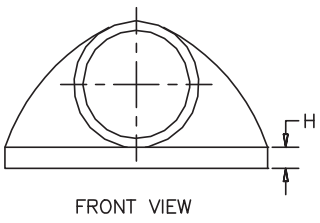
PIPE DIAMETER, in (mm)						
Diameter in (mm)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A in (mm)	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (max) in (mm)	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (475)	22.0 (559)	25.0 (635)
H in (mm)	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	8.6 (218)	8.6 (218)
L in (mm)	25.0 (635)	25.0 (635)	32.0 (813)	36.0 (914)	58.0 (1473)	58.0 (1473)
W in (mm)	29.0 (737)	29.0 (737)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)

GENERAL NOTES:

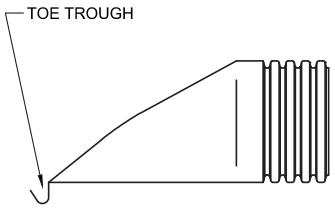
1. 12- THROUGH 36-INCH (300 TO 900MM) FLARED END SECTIONS FOR USE IN CULVERT AND DRAINAGE OUTLET APPLICATIONS FOR CORRUGATED HDPE PIPE. HDPE FLARED END SECTIONS ARE ONLY TO BE USED WITH HDPE PIPE.
2. THE INVERT OF THE PIPE AND THE END SECTION SHALL BE AT THE SAME ELEVATION AS THE FLARED END SECTION AND SHALL BE HIGH DENSITY POLYETHYLENE MEETING ASTM D3350-00 WITH A MINIMUM CELL CLASSIFICATION OF 213320C. EACH END SECTION SHALL HAVE A CARBON BLACK ADDITIVE FOR UV PROTECTION. WHEN PROVIDED, THE METAL THREADED FASTENING ROD SHALL BE STAINLESS STEEL.
3. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER INSTRUCTIONS AND THOSE ISSUED BY THE STATE OR LOCAL AUTHORITIES.
4. CENTERLINE OF FLARED END SECTION WILL ALIGN WITH CENTERLINE OF PIPE. IF PIPE IS SKEWED, THE EMBANKMENT SLOPE WILL BE WARPED TO CONFORM WITH END SECTION.
5. WHERE HDPE FLARED END SECTIONS ARE USED WITH MULTIPLE PIPELINES, THE STANDARD SPACING BETWEEN PIPES MAY HAVE TO BE INCREASED TO PREVENT OVERLAP OF END SECTION WINGTIPS.



TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

HDPE FLARED END SECTION

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

FLARED END SECTION

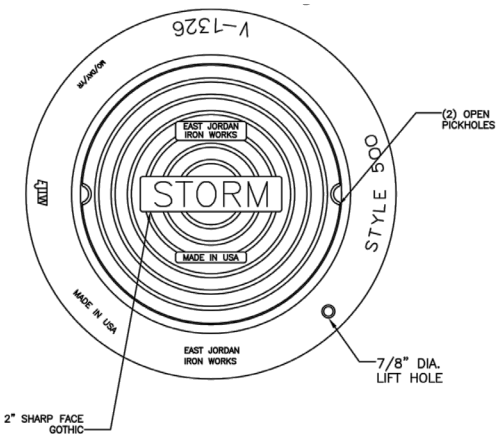
SCALE: NONE

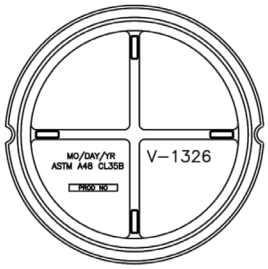
DRAFT DATE: 07/18/2014

STANDARD NO: 603

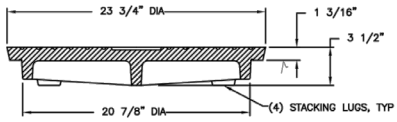
Drainage

Traffic Rated Manhole Frame and Cover Assembly

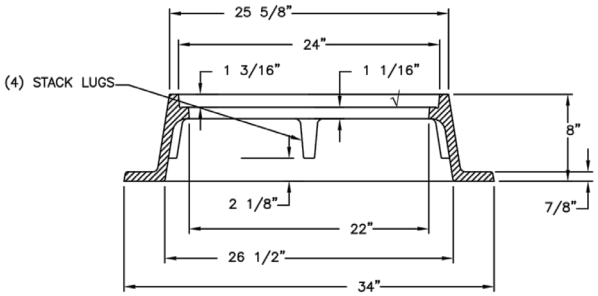




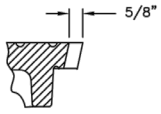
BOTTOM VIEW



COVER SECTION



SECTION



PICKHOLE DETAIL

NOTES:

1. MANHOLE FRAME AND COVER ASSEMBLY SHALL BE MODEL NUMBER V1326, AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL
2. COVER AND FRAME SHALL CONFORM TO A.S.T.M. SPECIFICATIONS A48 LATEST REVISION FOR CLASS 35B GRAY IRON CASTING
3. TRAFFIC-RATED GDOT APPROVED FRAME AND COVER TO BE USED

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

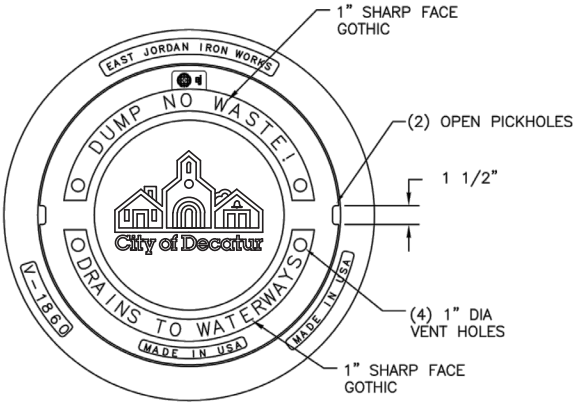
TRAFFIC RATED MANHOLE FRAME AND COVER ASSEMBLY

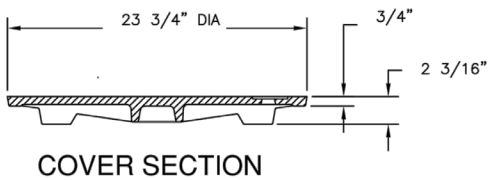
SCALE: NONE

DRAFT DATE: 07/18/2014

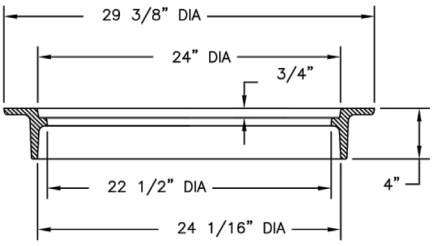
STANDARD NO: 604

Non-Traffic Rated Manhole Frame and Cover Assembly





COVER SECTION



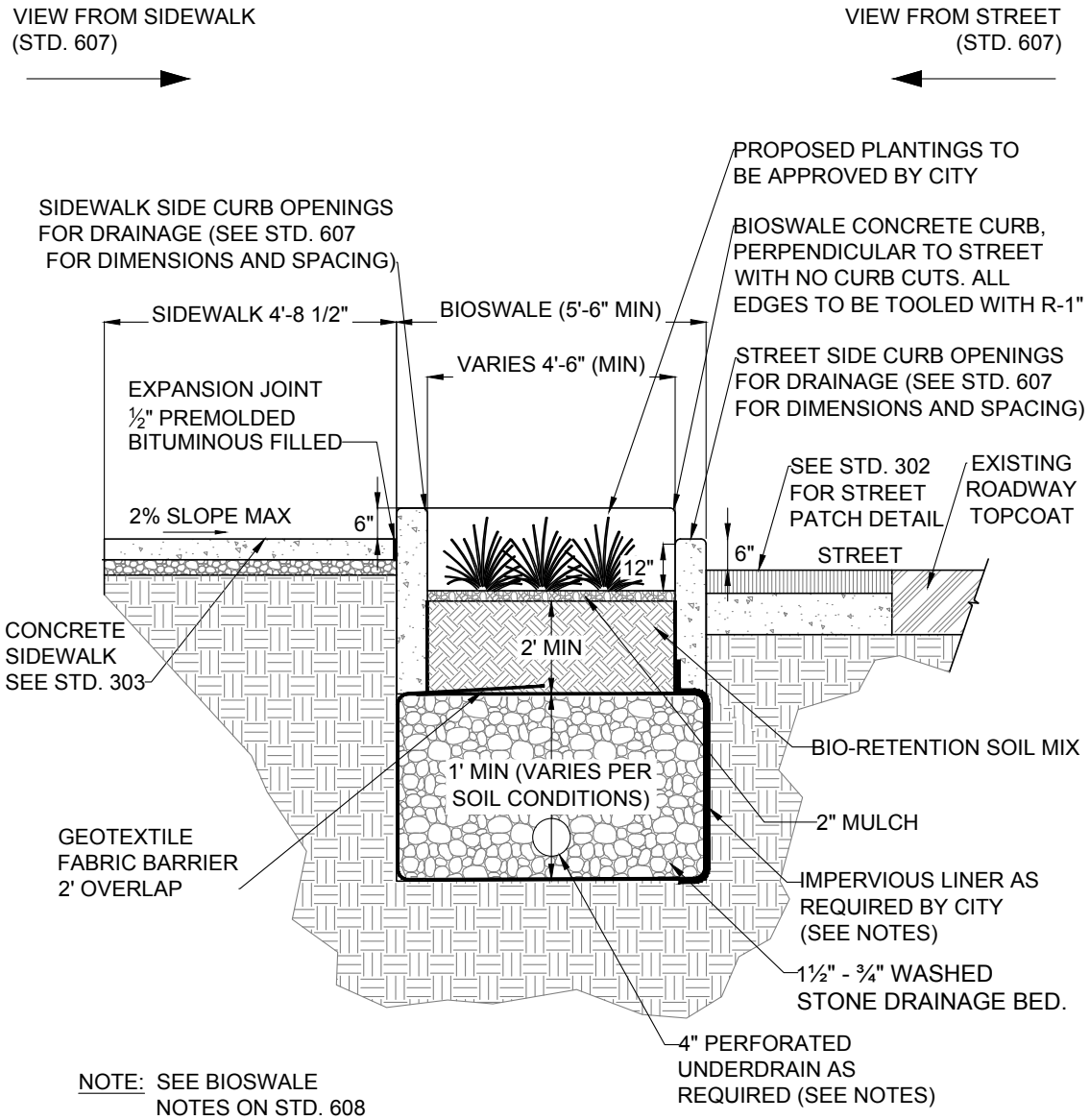
FRAME SECTION

NOTES:

1. MANHOLE FRAME AND COVER ASSEMBLY SHALL BE MODEL NUMBER V1860 WITH CITY OF DECATUR LOGO, AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL
2. COVER AND FRAME SHALL CONFORM TO A.S.T.M. SPECIFICATIONS A48 LATEST REVISION FOR CLASS 35B GRAY IRON CASTING
3. STORM MANHOLE TO ONLY BE USED IN NON-TRAFFIC AREAS

City of Decatur	DECATUR ENGINEERING STANDARD DETAILS	
	NON-TRAFFIC RATED MANHOLE FRAME AND COVER ASSEMBLY SCALE: NONE	DRAFT DATE: 07/18/2014 STANDARD NO: 605

Bioswale Planter Detail



City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

BIOSWALE PLANTER DETAIL

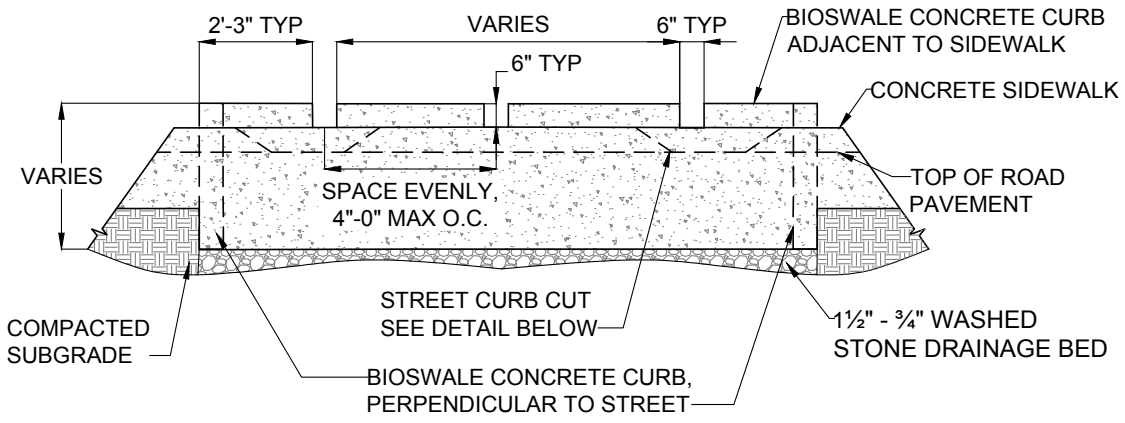
SCALE: NONE

DRAFT DATE: 07/18/2014

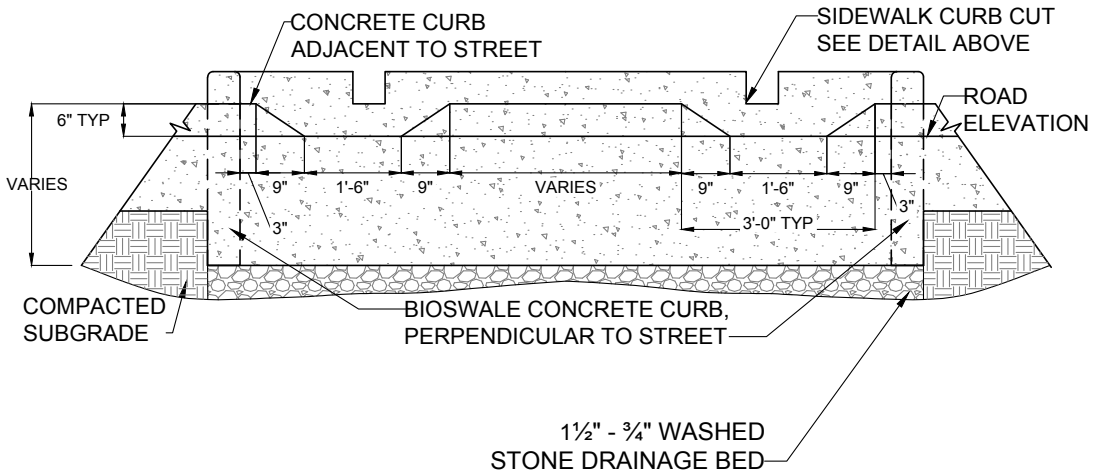
STANDARD NO: 606

Drainage

Bioswale Planter Openings Detail



VIEW FROM SIDEWALK



VIEW FROM STREET

NOTE: CURBS MATCH SLOPES OF ADJACENT ROAD OR SIDEWALK UNLESS OTHERWISE INDICATED ON PLANS.

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

BIOSWALE PLANTER OPENINGS DETAIL

SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 607

Drainage

Bioswale Planter Notes

NOTES FOR BIOSWALE PLANTERS:

1. MAXIMUM PONDING DEPTH IN BIOSWALE SHALL NOT BE GREATER THAN SIX INCHES.
2. WIDTH AND LENGTH OF PLANTER AND DEPTH OF BIORETNETION SOIL MIX AND WASHED STONE DRAINAGE BED MAY VARY DUE TO SITE CONDITIONS AND STORMWATER TREATMENT VOLUME.
3. LOCATE ALL UTILITIES PRIOR TO DESIGN. SITE CONDITIONS WILL VARY AND SIGNIFICANT DESIGN ADAPTATIONS MAY BE NEEDED TO ADDRESS UTILITY CONFLICTS, STEEP SLOPES, AND OTHER CONSTRAINTS.
4. CROSS SLOPES SHOULD ALWAYS BE AS CLOSE TO LEVEL (0% SLOPE) AS POSSIBLE.
5. CURBS, GUTTERS, STREETS, AND SIDEWALKS SHALL CONFORM TO CITY OF DECATUR STANDARDS.
6. PLANS SHALL INDICATE ELEVATIONS AT ALL INLETS AND OUTLETS, AS WELL AS ALL GRADES ON STREET AND BOTTOM OF PLANTER.
7. SIDEWALK ELEVATION MUST BE HIGHER THAN MAXIMUM FLOW OR POOL ELEVATION.
8. PLANTERS MUST BE ABLE TO WITHSTAND STORMWATER FLOWS WITHOUT EROSION OR OTHER DAMAGE . INLETS SHOU;D BE SIZED AND CHECK DAMS USED TO ENSURE APPROPRIATE VELOCITIES.
9. ALL VEGETATED AREAS MUST BE MULCHED WITH EITHER 2-3" OF NON FLOATABLE ORGANIC MULCH (SUCH AS SHREDDED HARDWOOD OR LEAF MOULD) OR STONE. STONE MULCH MAY BE NEEDED IN AREAS OF STRONG FLOWS TO PREVENT EROSION. ALL PONDING ELEVATIONS SHOWN IN DETAILS ARE ASSUMED TO BE MEASURED FROM TOP OF MULCH LAYER.
10. BIORETENTION SOIL MIX SHALL BE SANDY LOAM, LOAMY SAND, OR LOAM TEXTURE WITH CLAY CONTENT RANGING FROM 10 TO 25%. THE SOIL MUST HAVE AN INFILTRATION RATE OF AT LEAST 0.5 INCHES PER HOUR AND A pH BETWEEN 5.5 AND 6.5. IN ADDITION, THE PLANTING SOLID SHOULD HAVE A 1.5 TO 3% ORGANIC CONTENT AND A MAXIMUM 500 ppm CONCENTRATION OF SOLUBLE SALTS.
11. BIORETENTION SOIL MUST BE A MIN. OF 24" DEEP AT SHALLOWEST POINT. 36" DEPTH IS REQUIRED FOR PLANTING TREES.
12. IF INFILTRATION TESTS IN SOILS AT BOTTOM OF PLANTER SHOW SATURATED INFILTRATION RATES OF LESS THAN ½ INCH PER HOUR (1 FOOT /DAY), UNDERDRAINS SHALL BE REQUIRED.UNDERDRAINS SHALL CONNECT TO STORM DRAINAGE SYSTEM AND/OR RELEASE AT GRADE. UNDERDRAINS SHALL BE SLOPED AT A 1% MINIMUM TO MAINTAIN POSITIVE DRAINAGE.

City of Decatur

DECATUR ENGINEERING STANDARD DETAILS

BIOSWALE PLANTER NOTES

SCALE: NONE

DRAFT DATE: 07/18/2014

STANDARD NO: 608

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Water & Sanitary Sewer

All water and sanitary sewer distribution standards, both on public and private infrastructure, are to be the current DeKalb County Watershed Management Department standards.