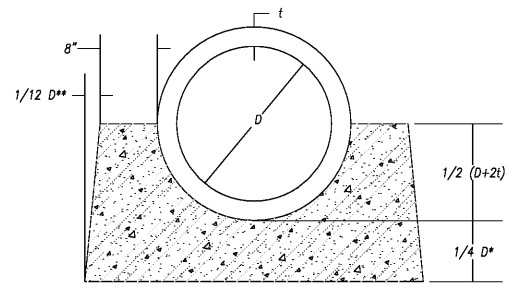
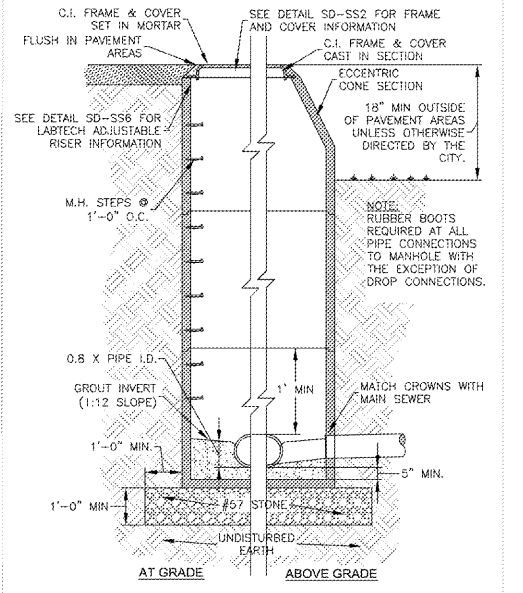


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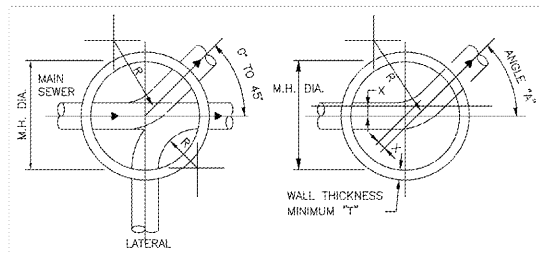
* But not less than 6"
Concrete material for cradle
c = 4000 psi c = 1600 psi
** If the pipe is laid in an excavated trench, then the side walls may conform to the trench shape (i.e. the trench may become the cradle form).

PIPE CRADLE
(FOR USE WITH STORM PIPES)



PRECAST CONCRETE MANHOLE DETAIL
SCALE: NTS

CITY OF GAINESVILLE DEPARTMENT OF WATER RESOURCES
PRECAST CONCRETE MANHOLE DETAIL
DATE: JAN 2013 SD - SS1



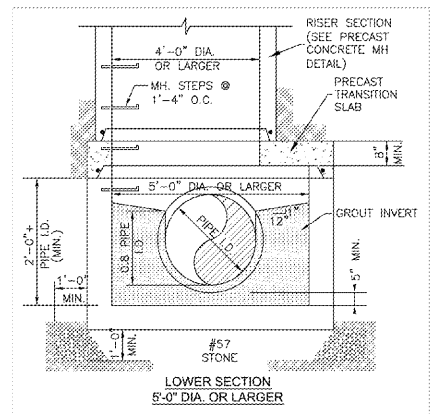
STANDARD MANHOLE SCHEDULE OF GOVERNING DIMENSIONS

PIPE SIZE	ANGLE "A"	M.H. DIA.	"1"	"2"
8" TO 12"	0° TO 80°	4'-0"	5"	0"
15" TO 18"	60° TO 90°	5'-0"	6"	6"
24" TO 36"	0° TO 90°	6'-0"	7"	0"

NOTE:
1. MINIMUM RADIUS (R) OF M.H. INVERT = 1.5 X PIPE DIAMETER
TYPICAL PLANS
SCALE: NTS

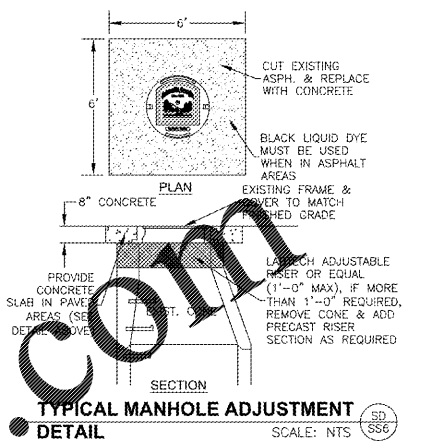
STANDARD MANHOLE INVERT DETAIL
SCALE: NTS

CITY OF GAINESVILLE DEPARTMENT OF WATER RESOURCES
STANDARD MANHOLE INVERT DETAIL
DATE: JAN 2013 SD - SS3



PRECAST MANHOLE BASE DETAIL
SCALE: NTS

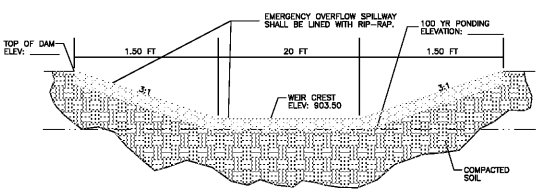
CITY OF GAINESVILLE DEPARTMENT OF WATER RESOURCES
PRECAST MANHOLE BASE DETAIL
DATE: JAN 2013 SD - SS5



TYPICAL MANHOLE ADJUSTMENT DETAIL
SCALE: NTS

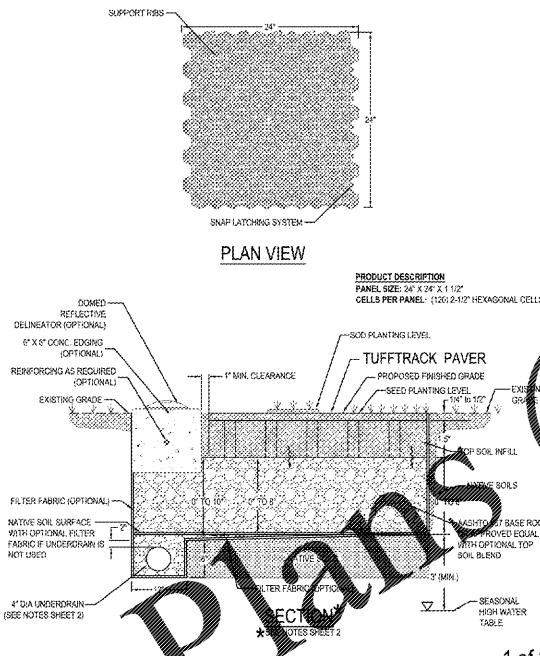
CITY OF GAINESVILLE DEPARTMENT OF WATER RESOURCES
TYPICAL MANHOLE ADJUSTMENT DETAILS
DATE: JAN 2013 SD - SS6

Spillway Calculations
Input Data
Discharge 0.53 M³/s
Crest Elevation 859.50 ft
Tailwater Elevation 859.50 ft
Crest Surface Type: Gravel
Crest Slope: 1:2.0
Gravel 859.50
Crest Length 20.0 ft
Results
Headwater Elevation 859.55 ft
Headwater Height Above Crest 0.05 ft
Tailwater Height Above Crest 0.00 ft
Weir Coefficient 2.52 US
Submergence Factor 1.00
Adjusted Weir Coefficient 2.52 US
Flow Area 0.96 ft²
Velocity 0.55 ft/s
Retard Parameter 20.10 ft
Top Width 20.00 ft



NOTE:
EMERGENCY SPILLWAY SHALL BE LINED WITH GOOT TYPE 3 RIP-RAP.

EMERGENCY SPILLWAY CROSS-SECTION
NOT TO SCALE



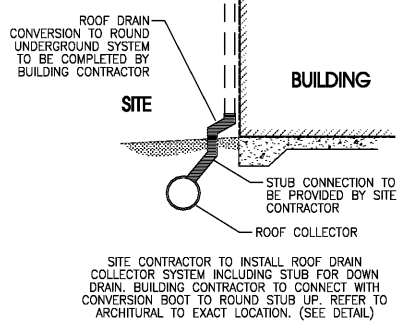
TT24 TUFF TRACK ENGINEERED PERMEABLE PAVEMENT GRASS SURFACE
1 of 2

http://www.ndspro.com Call 1-888-925-4716
NDS We put water in its place

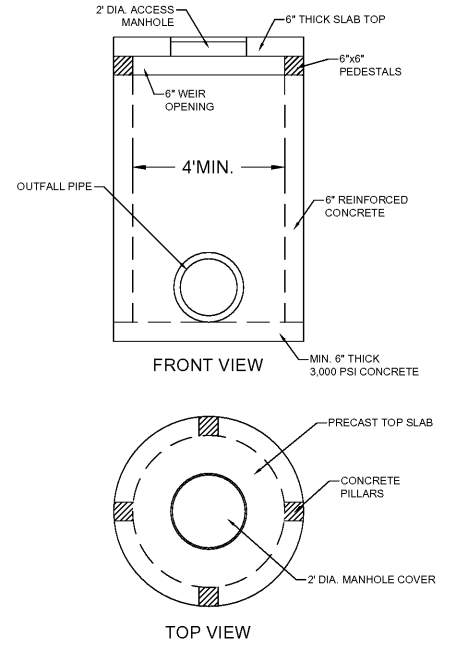
NOTES:
ENGINEERING PROPERTIES:
1. COMPRESSIVE STRENGTH OF 1724 PAVEMENT:
EMPTY PAVEMENT: ULTIMATE LOAD = 40,000 LBS / 601 PSI
PAVED PAVEMENT: ULTIMATE LOAD = 40,000 LBS
2. POROSITY OF AASHTO #57 AGGREGATE = 0.4
TOP SOIL FILL:
3. NDS RECOMMENDS NATIVE TOP SOIL FOR BACKFILL INSIDE THE PAVEMENT.
4. EXTEND TOP SOIL INSIDE PAVEMENT AN ADDITIONAL 1/2 TO 3/4 INCH ABOVE PAVEMENT SURFACE AND MATCH SURROUNDING UNPAVED AREAS.
5. FINISHED CONCRETE SLOPE PER PROJECT DRAINAGE PLAN. PROTECT PAVED AREA UNDER GRASS IS SURFACE ONLY. ESTABLISH TRAFFIC PROVIDE 1" (MIN) CLEARANCE BETWEEN ANY CONCRETE EDGE AND GRASS.
6. GRASS PAVING ARE TO BE USED FOR AREAS OF PEDESTRIAN USE AND OCCASIONAL VEHICULAR TRAFFIC USE (E.G. OVERFLOW PARKING AND EMERGENCY VEHICLE LINES).
AASHTO #57 BASE ROCK:
7. GRADE OF AASHTO #57 COARSE BASE ROCK: 100% PASSING 1 1/2" SIEVE, 100% PASSING 3/4" AND 80% PASSING #10 SCREEN.
8. OPTIONAL: ADD PLASTERED NATIVE TOP SOIL EQUAL TO 15% OF TOTAL VOLUME. OBTAIN HOMOGENEOUS MIXTURE PRIOR TO PLACEMENT.
9. THICKNESS OF AGGREGATE LAYER IS AS SHOWN. NO BASES REQUIRED FOR EROSION CONTROL AND PEDESTRIAN ONLY LOADS (CONTACT OF NATIVE SOIL RECOMMENDED). SPACES 1/2 TO 3/4 INCHES FOR LIGHT LOADS (GOLF CARTS); 6 INCHES FOR MEDIUM LOADS (CARS AND PICKUPS); 8 INCHES FOR HEAVY LOADS (TRUCKS).
10. COMPACT WITH ONE TO THREE PASSES OF 5-TON STEEL WHEEL ROLLER. SINCE IT IS DIFFICULT TO MEASURE DENSITY OF COARSE AGGREGATE, APPROACH OF RELATIVE COMPACTION IS APPLICABLE.
FILTER FABRIC (OPTIONAL):
11. FILTER FABRIC MAY BE USED TO PREVENT MIXTURE OF FINES FROM SURROUNDING NATIVE SOILS INTO COARSE AGGREGATE LAYER.
12. THE FABRIC PREVENTS CLOSURES OF AGGREGATE PORES AND EXTENDS ITS USEFUL LIFE. USE OF FILTER FABRIC IS STRONGLY RECOMMENDED AROUND EDGE DRAIN.
13. NDS RECOMMENDS NON-WOVEN NEEDLE-PUNCHED GEOTEXTILE. WOVEN GEOTEXTILES SHOULD NOT BE USED.
14. FILTER FABRIC SHALL BE 100% MINIMUM FOR NATIVE SOILS WITH 60% OR LESS PARTICLES BY WEIGHT PASSING NO. 200 SIEVE. USE FILTER FABRIC WITH AOS = 0.30MM FOR NATIVE SOILS WITH 50% OR GREATER PARTICLES BY WEIGHT PASSING THE NO. 200 SIEVE.
UNDERDRAIN:
15. NDS RECOMMENDS UNDERDRAIN TO COLLECT PERCOLATED WATER AND CONVEY TO PROJECT STORMWATER FACILITY FOR NATIVE SOIL THAT IS IN A HYDROLOGIC SOIL GROUP C OR D, OR LOW INFILTRATION RATES. UNDERDRAIN IS OPTIONAL FOR SOIL GROUP B (MODERATE INFILTRATION) AND C (HIGH INFILTRATION) FOR SOIL GROUP A (GOOD INFILTRATION).
16. MINIMUM 4-INCH PERFORATED PVC OR POLYETHYLENE PIPE AT 20-FT CENTERS; MINIMUM ONE PIPE. PIPE TO BE INSTALLED AT MINIMUM 0.5% SLOPE RECOMMENDED; 3/4 INCHES OF OPENING / LINEAR FOOT.
17. UNDERDRAIN TOP SHOULD BE ABOVE PROJECT STORMWATER FACILITY (EACH BASIN) OPEN CHANNEL / BASIN.
18. UNDERDRAIN TO BE SURROUNDED BY 4" OF AASHTO #57 COARSE AGGREGATE, 18% MIN. 2" BEDDING.
SUBGRADE NATIVE SOIL:
19. COMPACT SUBGRADE NATIVE SOILS TO 90% STANDARD PROCTOR DENSITY PER ASTM D999 FOR SOILS WITH CALIFORNIA BEARING RATIO < 200% R-VALUE OR AASHTO A-1, A-1.1, A-1.2, A-1.3 SOILS. LOWER COMPACTION LEVELS PROVIDE INFILTRATION THROUGH SOIL.
20. NDS RECOMMENDS THAT ENGINEER-OF-RECORD CONSIDER HIGHER LEVEL OF COMPACTION FOR CBR 5 TO 20%, R-VALUE 10 TO 30, AASHTO A-4 SOILS FOR HEAVY LOADS WHERE INFILTRATION INTO NATIVE SOILS IS NOT A REQUIREMENT.
21. NDS RECOMMENDS THAT ENGINEER-OF-RECORD CONSULT WITH PROJECT GEOTECHNICAL ENGINEER FOR POTENTIAL SOIL MODIFICATION (E.G. LIME TREATMENT) AND COMPACTION LEVEL FOR CBR < 5% AND R-VALUE < 10. AASHTO A-5, A-6, AND A-7 SOILS.

TT24 TUFF TRACK ENGINEERED PERMEABLE PAVEMENT GRASS SURFACE
2 of 2

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PRECAST CONCRETE PEDESTAL WEIR



CONSTRUCTION DETAILS III
FOR:
LANIER ISLANDS CONFERENCE CENTER
LAND LOT 380
7TH DISTRICT
CITY OF BUFORD, HALL COUNTY, GEORGIA

REVISIONS

REV	DATE	DESCRIPTION

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SHEET C60 OF C66
DATE: 12-11-20
SCALE: 0206124/ICC-01
JOB NO.:
REV'D BY: JNC
DRAWN BY: JRS