STORM STRUCTURE TABLE (BMP 1)		
STRUCTURE	RIM EL	NOTES
CB 17	386.74	NCDOT 840.02
CB 18	392.22	NCDOT 840.02
CB 19	392.21	NCDOT 840.02
CB 20	396.45	NCDOT 840.02
CB 21	395.84	NCDOT 840.02
CB 22	394.48	NCDOT 840.02
CB 23	395.28	NCDOT 840.02
CB 26	394.48	NCDOT 840.02
CB 26A	394.49	NCDOT 840.02
CB 34	384.12	NCDOT 840.04
CB 36	384.64	NCDOT 840.02
CB 38	395.28	NCDOT 840.02
CB 39	396.01	NCDOT 840.02
FES 15	369.83	TOC 04000.20
HW 34	376.90	NCDOT 838.05
JB 16	374.10	NCDOT 840.31
JB 16A	381.27	NCDOT 840.31
JB 24	395.72	NCDOT 840.31
YI 24A	396.96	NCDOT 840.14
YI 25	396.29	NCDOT 840.14

STORM SYSTEM DATA (BMP 1)								
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	SIZE	LENGTH	SLOPE	MATERIAL	UPSTREAM INVERT	DOWNSTREAM INVERT	NOTES
CB 17	JB 16A	24	50.15	7.68%	RCP	376.85	373.00	O-RING
CB 18	CB 17	24	87.90	5.80%	RCP	385.60	380.50	RCP
CB 19	CB 18	24	27.00	0.70%	RCP	386.29	386.10	RCP
CB 20	CB 19	24	96.78	0.80%	RCP	386.95	386.18	RCP
CB 21	CB 20	24	46.73	0.75%	RCP	387.38	387.03	RCP
CB 22	CB 21	24	70.83	0.73%	RCP	387.95	387.43	RCP
CB 23	CB 22	18	75.00	1.99%	RCP	389.96	388.47	RCP
CB 26	CB 22	18	27.06	0.70%	RCP	388.90	388.71	RCP
CB 26A	CB 26	18	6.41	0.78%	RCP	389.49	389.44	RCP
CB 34	HW 34	15	22.38	8.94%	RCP	369.75	367.75	O-RING
CB 36	CB 17	18	65.80	0.59%	RCP	379.64	379.25	RCP
CB 38	CB 23	15	27.00	0.70%	RCP	390.50	390.31	RCP
CB 39	CB 21	15	27.61	0.68%	RCP	391.00	390.81	RCP
JB 16	FES 15	36	16.27	1.54%	RCP	366.75	366.50	O-RING
JB 16A	JB 16	24	75.31	6.37%	RCP	372.80	368.00	O-RING
JB 24	CB 23	18	55.95	1.34%	RCP	390.71	389.96	RCP
YI 24A	JB 24	15	90.15	0.79%	RCP	391.67	390.96	RCP
YI 25	YI 24A	15	113.77	0.95%	RCP	392.83	391.75	O-RING

STORM STRUCTURE TABLE (BMP 2)		
STRUCTURE	RIM EL	NOTES
CB 5	376.46	NCDOT 840.02
CB 5A	376.41	NCDOT 840.02
CB 6	378.82	NCDOT 840.02
CB 7	379.91	NCDOT 840.02
CB 8	381.74	NCDOT 840.02
CB 9	383.14	NCDOT 840.02
CB 10	386.23	NCDOT 840.02
CB 11	386.23	NCDOT 840.02
CB 12	398.29	NCDOT 840.02
CB 13	399.37	NCDOT 840.02
CB 14	399.42	NCDOT 840.02
CB 28	383.20	NCDOT 840.02
DI-28A	382.80	NCDOT 840.14
DI 29	386.51	NCDOT 840.14
FES 1	358.42	TOC 04000.20
JB 2	367.10	NCDOT 840.31
JB 4	376.29	NCDOT 840.31
YI 27	384.55	NCDOT 840.14

STORM SYSTEM DATA (BMP 2)								
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	SIZE	LENGTH	SLOPE	MATERIAL	UPSTREAM INVERT	DOWNSTREAM INVERT	NOTES
CB 5	JB 4	24	46.94	0.68%	RCP	365.19	364.87	O-RING
CB 5A	CB 5	24	6.49	2.00%	RCP	365.42	365.29	RCP
CB 6	CB 5A	24	64.36	1.04%	RCP	366.21	365.54	RCP
CB 7	CB 6	24	32.00	4.39%	RCP	373.56	372.15	RCP
CB 8	CB 7	24	55.39	1.99%	RCP	375.40	374.30	RCP
CB 9	CB 8	24	45.03	2.11%	RCP	377.09	376.14	RCP
CB 10	CB 9	24	135.49	2.00%	RCP	379.99	377.28	RCP
CB 11	CB 10	24	27.00	0.78%	RCP	380.20	379.99	RCP
CB 12	CB 11	15	211.56	5.43%	RCP	392.47	380.99	RCP
CB 13	CB 12	15	40.45	1.48%	RCP	394.10	393.50	RCP
CB 14	CB 13	15	27.20	1.38%	RCP	394.48	394.10	RCP
CB 28	CB 9	15	27.11	0.92%	RCP	377.87	377.62	RCP
DI-28A	CB 28	15	28.50	1.63%	RCP	378.40	377.94	RCP
DI 29	CB 11	15	115.77	0.93%	RCP	382.07	380.99	O-RING
JB 2	FES 1	36	23.01	1.01%	RCP	355.23	355.00	O-RING
JB 4	JB 2	24	95.55	4.91%	RCP	364.69	360.00	O-RING
YI 27	DI-28A	15	80.17	1.95%	RCP	379.99	378.43	RCP

STORM STRUCTURE TABLE				
STRUCTURE	RIM EL	STRUCTURE IN	INVERT 1N	INVERT OUT
FES-80		FES-82	365.00	
FES-80A		FES82A	366.30	
FES-82				370.00
FES82A				371.00

STORM SYSTEM DATA							
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	SIZE	LENGTH	SLOPE	MATERIAL	UPSTREAM INVERT	DOWNSTREAM INVERT
FES-82	FES-80	60	93.45	5.35%	RCP	370.00	365.00
FES82A	FES-80A	60	93.21	5.04%	RCP	371.00	366.30
Structure - (89)(0)	Structure - (88)(0)	24	36.51	11.97%	RCP	356.05	351.68

SEE BMP DETAIL SHEETS FOR BMP PIPE DISCHARGE

2) Ground Stabilization

a) Soil stabilization shall be achieved on any area of a site where land-disturbing activities have temporarily or permanently ceased according to the following schedule:
   i) All perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to 1 vertical (3:1) shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 7 calendar days from the last land-disturbing activity.
   ii) All other disturbed areas shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 14 calendar days from the last land-disturbing activity.

b) Conditions - In meeting the stabilization requirements above, the following conditions or exemptions shall apply:
   i) Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable.
   ii) All slopes 50' in length or greater shall apply the ground cover within 7 days except when the slope is flatter than 4:1. Slopes less than 50' shall apply ground cover within 14 days except when slopes are steeper than 3:1, the 7 day-requirement applies.
   iii) Any sloped area flatter than 4:1 shall be exempt from the 7-day ground cover requirement.
   iv) Slopes 10' or less in length shall be exempt from the 7-day ground cover requirement except when the slope is steeper than 2:1.
   v) Although stabilization is usually specified as ground cover, other methods, such as chemical stabilization, may be allowed on a case-by-case basis.
   vi) For portions of projects within the Sediment Control Commission-defined "High Quality Water Zone" (15A NCAC 04A. 0105) , stabilization with ground cover shall be achieved as soon as practicable but in any event on all areas of the site within 7 calendar days from the last land-disturbing act.
   vii) Portions of a site that are lower in elevation than adjacent discharge locations and are not expected to discharge during construction may be exempt from the temporary ground cover requirements if identified on the approved E&SC Plan or added by the permitting authority.

Seedbed Preparation:

1. Chisel compacted areas and spread topsoil three inches deep over adverse soil conditions, if available.
2. Rip the entire area to six inches deep.
3. Remove all loose rock, roots and other obstructions, leaving surface reasonably smooth and uniform.
4. Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
5. Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared four to six inches deep.
6. Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
7. Mulch immediately after seeding and anchor mulch.
8. Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be more than 60% damaged, re-establish following the original lime, fertilizer and seeding rates.
9. Consult S&EC Environmental Engineers on maintenance treatment and fertilization after permanent cover is established.

Mixture

Agricultural Limestone	2 tons/acre (3 tons/acre in clay soils)
Fertilizer	1,000 lbs/acre – 10-10-10
Superphosphate	500 lbs/acre – 20% analysis
Mulch	2 tons/acre – small grain straw
Anchor	Asphalt emulsion at 300 gals/acreSeeding Schedule

For Shoulders, Side Ditches, Slopes (Max 3:1):

Date	Type	Planting Rate
Aug 15 – Nov 1	Tall Fescue	300 lbs/acre
Nov 1 – Mar 1	Tall Fescue & Abruzzi Rye	300 lbs/acre
Mar 1 – Apr 15	Tall Fescue	300 lbs/acre
Apr 15–Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 1– Aug 15	Tall Fescue AND Browntop Millet or Sorghum–Sudan Hybrids***	125 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (Browntop Millet); 30 lbs/acre (Sorghum–Sudan Hybrids)

For Shoulders, Side Ditches, Slopes (3:1 to 2:1):

Date	Type	Planting Rate
Mar 1 – Jun 1	Sericea Lespedeza (scarified) and use the following combinations:	50 lbs/acre (Sericea Lespedeza);
Mar 1 – Apr 15	Add Tall Fescue	120 lbs/acre
Mar 1 – Jun 30	Or add Weeping Love grass	10 lbs/acre
Mar 1 – Jun 30	Or add Hulled Common Bermudagrass	25 lbs/acre
Jun 1 – Sept 1	Tall Fescue AND Browntop Mullet or Sorghum–Sudan Hybrids***	120 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Mullet); 30 lbs/acre (Sorghum–Sudan Hybrids)
Sept 1 – Mar 1	Sericea Lespedeza (unhulled – unscarified) AND Tall Fescue	70 lbs/acre (Sericea Lespedeza); 120 lbs/acre (Tall Fescue)
Nov 1 – Mar 1	AND Abruzzi Rye	25 lbs/acre

Consult S&EC Environmental Engineers for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those that do well under local conditions; other seeding rate combinations are possible.

*** TEMPORARY: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12" in height before mowing; otherwise, fescue may be shaded out.

Falls Lake SB 1020 seeding and ground cover notes:

For an area of land–disturbing activity where grading activities have been completed, temporary or permanent ground cover sufficient to restrain erosion shall be provided as soon as practicable, but in no case later than seven days after completion of grading. For an area of land–disturbing activity where grading activities have not been completed, temporary ground cover shall be provided as follows:

a. For an area with no slope, temporary ground cover shall be provided for the area if it has not been disturbed for a period of 14 days.
b. For an area of moderate slope, temporary ground cover shall be provided for the area if it has not been disturbed for a period of 10 days. For purposes of this subdivision, "moderate slope" means an inclined area, the inclination of which is less than or equal to three units of horizontal distance to one unit of vertical distance.
c. For an area of steep slope, temporary ground cover shall be provided for the area if it has not been disturbed for a period of seven days.

For purposes of this subdivision, "steep slope" means an inclined area, the inclination of which is greater than three units of horizontal distance to one unit of vertical distance.

GROUND STABILIZATION		
SITE AREA	STABILIZATION	STABILIZATION TIME
SITE AREA	STABILIZATION	STABILIZATION TIME
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	14 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1M 14 DAYS ARE ALLOWED
SLOPES FLATTER THAN 3:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FEE IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)
Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable. (Section 11.B(2)(b))		

NORTH

GRAPHIC SCALE

30 0 15 30 60

1 inch = 30 ft.

Cary Project Number 16-SB-009
Cary HTE Number 16-1359

Approved by the Town of Cary
Development Review Committee

Planner DRC Date 1/3/17

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ASHBOURNE ESTATES

CARY, NC

STORMWATER TABLES

Job No. 02150381.0	Drawn By W&R
Date 5/1/16	Designer W&R

NORTH CAROLINA PROFESSIONAL SEAL 027388 ENGINEER S. SHAYNE LEATHERS 12/20/16

Revisions
1 7/28/16 TOC COMMENTS
2 9/8/16 TOC COMMENTS
3 10/27/16 TOC COMMENTS
4 12/8/16 TOC COMMENTS

Sheet No.

4.4