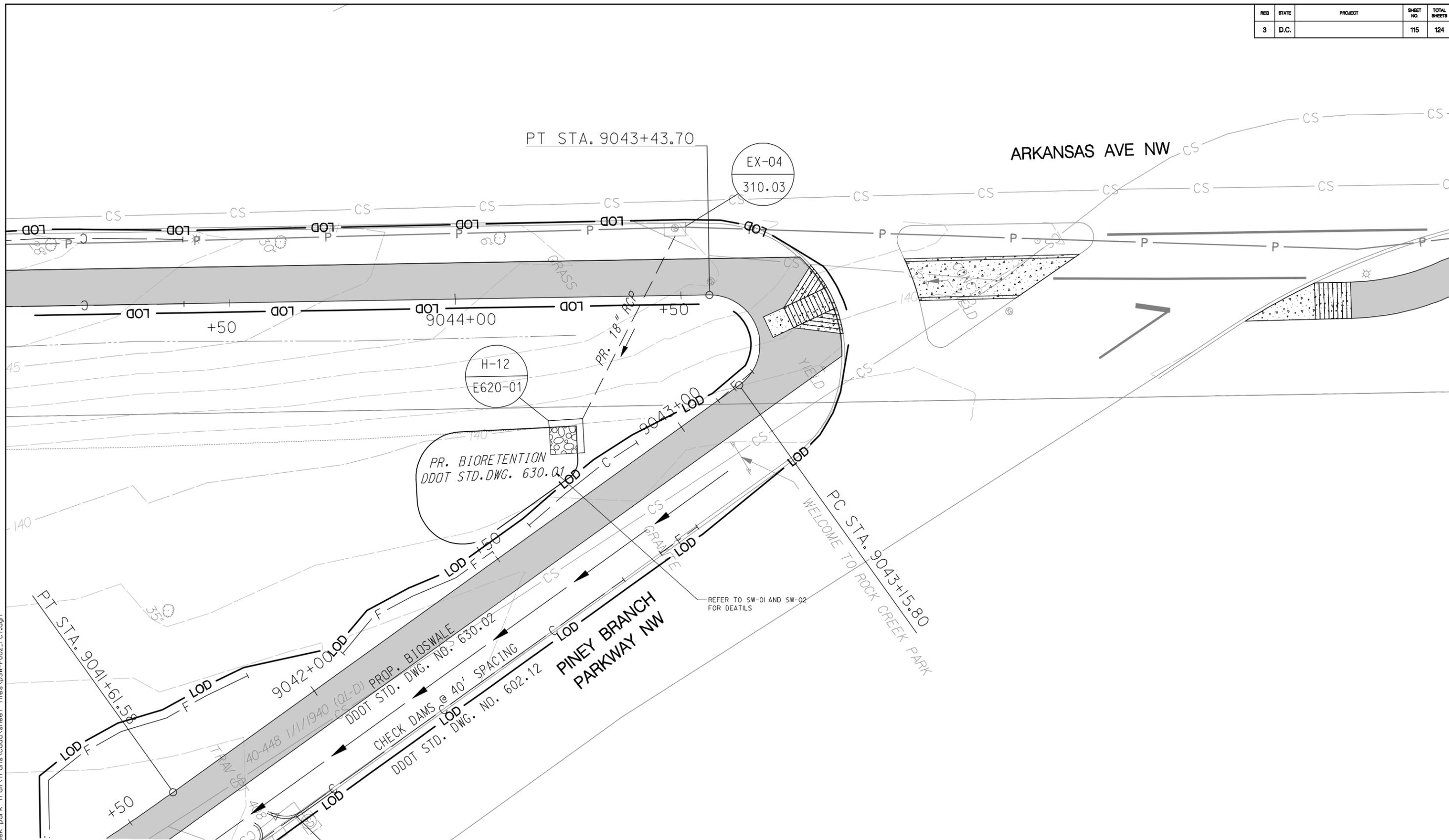


REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
3	D.C.		116	124



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 PROJECT MANAGEMENT DIVISION

**ROCK CREEK PARK
 MULTI-USE TRAIL REHABILITATION
 30% DESIGN SUBMITTAL**

PROJECT ENG. _____
 DESIGNED BY _____
 CHECKED BY _____
 DRAWN BY _____
 PROJECT MGR. _____

DATE: 09-13-2013

SCALE: 1" = 10'

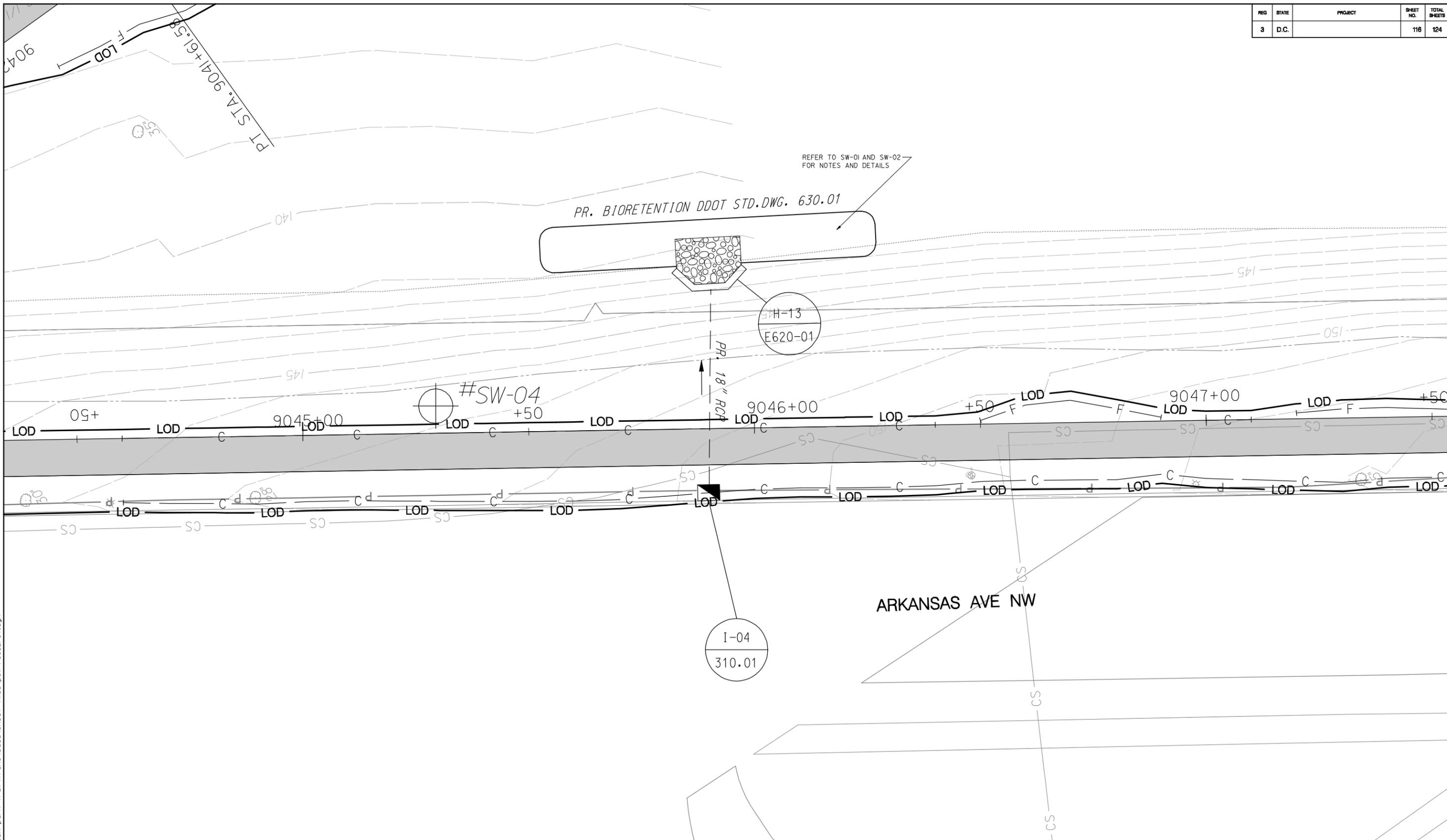
SW-06

STORMWATER MANAGEMENT PLAN

DIVISION CHIEF

DATE _____
 FILE _____
 SHEET 116 OF 124

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
3	D.C.		116	124



REFER TO SW-01 AND SW-02 FOR NOTES AND DETAILS

PR. BIORETENTION DDOT STD.DWG. 630.01

MH-13
E620-01

#SW-04

I-04
310.01

ARKANSAS AVE NW

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 PROJECT MANAGEMENT DIVISION

ROCK CREEK PARK
 MULTI-USE TRAIL REHABILITATION
 30% DESIGN SUBMITTAL

PROJECT ENG. _____
 DESIGNED BY _____
 CHECKED BY _____
 DRAWN BY _____
 PROJECT MGR. _____

DATE: 09-13-2013

SCALE: 1" = 10'

SW-07

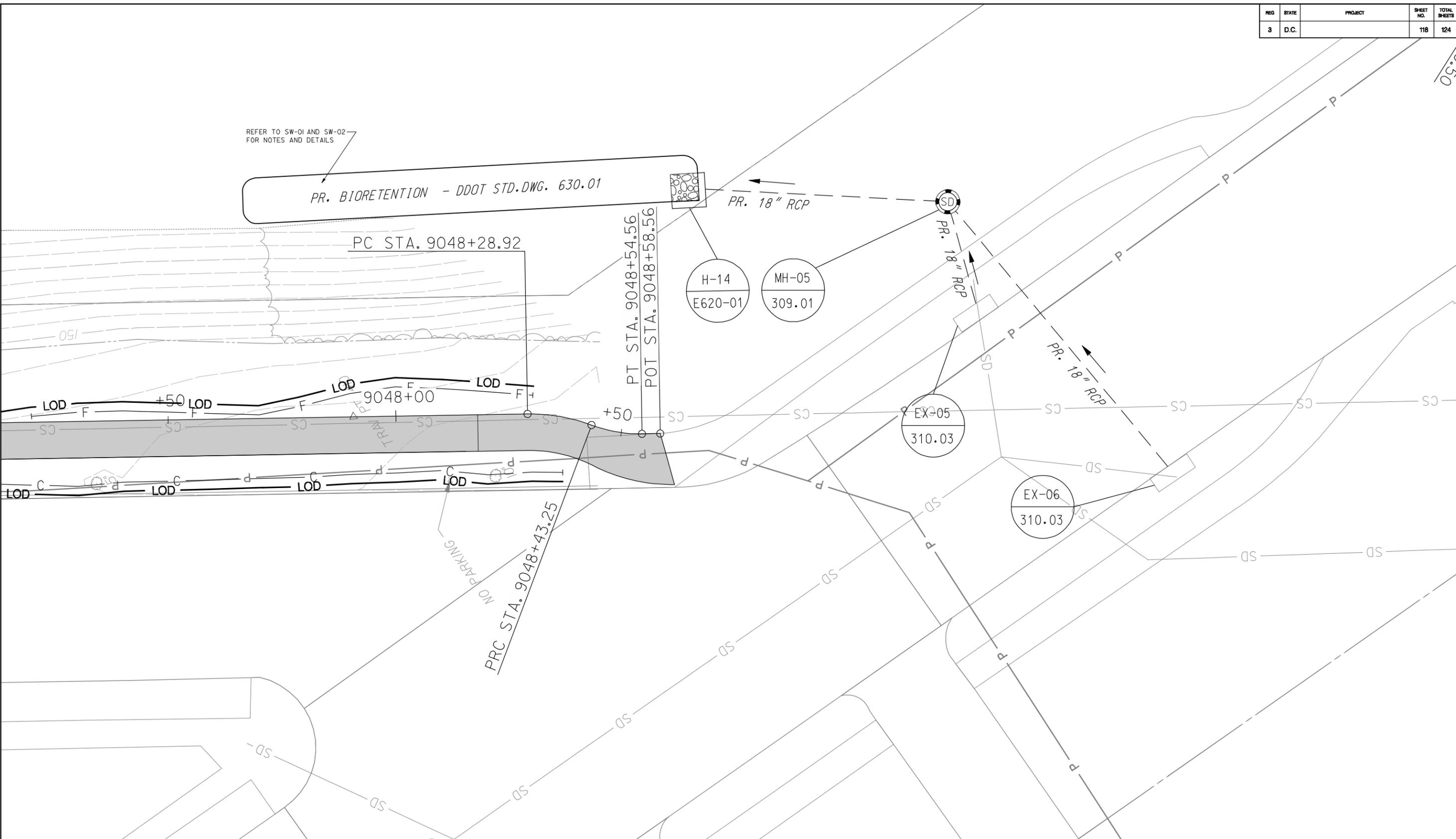
STORMWATER MANAGEMENT PLAN

DIVISION CHIEF
 DATE _____
 FILE _____
 SHEET 116 OF 124

Thursday, September 12, 2013 AT 03:38 PM
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REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
3	D.C.		118	124

REFER TO SW-01 AND SW-02 FOR NOTES AND DETAILS



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PROJECT MANAGEMENT DIVISION

ROCK CREEK PARK
MULTI-USE TRAIL REHABILITATION
30% DESIGN SUBMITTAL

PROJECT ENG. _____
 DESIGNED BY _____
 CHECKED BY _____
 DRAWN BY _____
 PROJECT MGR. _____

DATE: 09-13-2013 SCALE: 1" = 10' SW-08

STORMWATER MANAGEMENT PLAN

DIVISION CHIEF _____
 DATE _____
 FILE _____
 SHEET 117 OF 124

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
3	D.C.		117	124



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RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # BR-02
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman D. Addison
Surf. Elev. 38.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector R. Gordle
Date Started 12/28/12 Spoon Size 2 in Boring Method HSA Date Completed 12/28/12

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE					BORING & SAMPLE NOTES
					Cond	Blows/G*	No.	Type	Rec (in)	
35.5	Dark brown, moist, medium dense, silty SAND, some gravel, trace mica, trace roots, (FILL)	2.5		5	I/D	10-8-9	1	DS	9	1. No water encountered 2. Boring was filled with grout and grade was restored.
34.5	CONCRETE, 12 inches	3.5		5	I/D	16-14-8	2	DS	8	
33.0	Dark brown, moist, medium dense, silty SAND, little gravel, trace mica, (FILL)	5.0		5	I/D	50/4"	3	DS	3	
	Brown, moist, very dense to medium dense, silty SAND, with gravel, trace mica, (FILL) ROCK FRAGMENTS @ 5 FEET				I/D	12-6-5	4	DS	3	
28.0	Brown, moist, loose, silty SAND, with gravel, trace mica, (POSSIBLE FILL)	10.0		10	I/D	3-4-5	5	DS	6	
23.0	Brown/gray, moist, very dense, silty SAND, with rock fragments, trace mica, (POSSIBLE WEATHERED ROCK)	15.0		15	I/D	32-50/2"	6	DS	8	
21.5	Brown/gray, moist, very dense, ROCK FRAGMENTS, possible bed rock	16.5			I/D	50/3"	7	DS	3	
19.5	Bottom of Boring at 18.5 ft	18.5			I/D	50/0"	8	DS	0	

SAMPLER TYPE: DS - DRIVEN SPLIT SPOON, PT - PRESSED SHELBY TUBE, CA - CONTINUOUS FLIGHT AUGER, RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUNDWATER DEPTH: AT COMPLETION _____ ft, AFTER _____ HRS. _____ ft, AFTER 24 HRS. _____ ft, CAVED AT 18.5 ft
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING
STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS



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Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # RW-01
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman K. Manos
Surf. Elev. 38.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector R. Gordle
Date Started 1/3/13 Spoon Size 2 in Boring Method HSA Date Completed 1/3/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE					BORING & SAMPLE NOTES
					Cond	Blows/G*	No.	Type	Rec (in)	
35.7	ASPHALT, 3 inches Brown/gray, moist, soft, sandy Lean CLAY, trace mica, trace gravel, (FILL), (CL)	0.3		5	I/D	2-2-2	1	DS	14	1. No water encountered 2. Bag sample was collected from 2 ft - 7.5 feet 3. Boring was filled with grout and grade was restored.
31.0	Brown/gray, dry to moist, medium dense to very dense, silty SAND, little mica, trace gravel	5.0		5	I/D	10-9-12	2	DS	12	
	GRAVEL @ 10.3 FEET				I/D	17-50/3"	4	DS	9	
24.0	Gray, dry, very dense, clayey SAND, trace gravel	12.0		10	I/D		5	AC		
21.0	POSSIBLE BEDROCK Bottom of Boring at 15.0 ft	15.0		15	I/D	50/0"	6	DS	0	

SAMPLER TYPE: DS - DRIVEN SPLIT SPOON, PT - PRESSED SHELBY TUBE, CA - CONTINUOUS FLIGHT AUGER, RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUNDWATER DEPTH: AT COMPLETION _____ ft, AFTER _____ HRS. _____ ft, AFTER 24 HRS. _____ ft, CAVED AT 12.8 ft
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING
STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS



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RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # RW-02
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 54.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/12/13 Spoon Size 2 in Boring Method HSA Date Completed 2/12/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE					BORING & SAMPLE NOTES
					Cond	Blows/G*	No.	Type	Rec (in)	
53.7	4" of TOPSOIL	0.3		5	I/D	3-2-2	1	DS	14	1. Water encountered at 16.0 ft. 2. Bag sample collected from 0.3' - 6.5' 3. Auger refusal at 18.0', possible large boulder. 4. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
52.0	Orangeish brown, moist, very loose, clayey SAND, trace silt, trace gravel, (FILL)	2.0		5	I/D	33-4-10	2	DS	16	
49.5	Dark brown, moist, stiff, silty CLAY, (FILL) GRAVEL @ 2.5 FEET	4.5		5	I	12-7-8	3	DS	16	
44.5	Brown to dark brown (multicolor), moist, medium dense to loose, silty SAND, with gravel, trace to little clay, (POSSIBLE FILL), (SM)	9.5		10	I	5-5-5	4	DS	12	
40.5	Dark brown, moist, loose, silty SAND, trace clay, rock fragments	13.5		10	D	3-3-3	5	DS	8	
36.5	Brown, very moist to wet, medium dense, silty SAND, with gravel, trace clay	17.5		15	D	6-6-12	6	DS	8	
34.5	Brown, wet, medium dense, gravelly SAND, little silt	19.5		20	D	14-11-10	7	DS	16	
	Bottom of Boring at 19.5 ft									

SAMPLER TYPE: DS - DRIVEN SPLIT SPOON, PT - PRESSED SHELBY TUBE, CA - CONTINUOUS FLIGHT AUGER, RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUNDWATER DEPTH: AT COMPLETION _____ ft, AFTER _____ HRS. _____ ft, AFTER 24 HRS. _____ ft, CAVED AT 11.5 ft
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING
STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

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ROCK CREEK PARK
MULTI-USE TRAIL REHABILITATION
30% DESIGN SUBMITTAL

PROJECT ENG. _____
DESIGNED BY _____
CHECKED BY _____
DRAWN BY _____
PROJECT MGR. _____

DATE: 09-13-2013

BORING LOGS

BL-01

DIVISION CHIEF

DATE _____
FILE _____
SHEET 117 OF 124



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Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # RW-03
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 60.8 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M.Tanner
Date Started 2/12/13 Spoon Size 2 in Boring Method HSA Date Completed 2/12/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
58.8	Brown, moist, very stiff, gravelly sandy SILT, with gravel, trace clay, trace plant roots. (FILL) ASPHALT @ 2.0 FEET	2.0			D	4-7-9	1	DS	12	1. No water encountered 2. Surface - gravel and trace roots, Asphalt below gravel surface 3. Auger refusal at 13.5' 4. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
	Brown, moist, loose, silty SAND, trace gravel, trace to little mica, (POSSIBLE FILL) , (SM) CLAY AND ROOTS @ 5.0 FEET				I/D	4-3-4	2	DS	10	
53.8	Brown, moist, medium dense, silty SAND, trace gravel, trace clay, (POSSIBLE FILL)	7.0			I/D	5-5-5	3	DS	9	
	ROCK FRAGMENTS @ 10.0 FEET				I/D	9-10-10	4	DS	4	
48.3	ROCK FRAGMENTS	12.5			I/D	8-8-12	5	DS	10	
47.1	Bottom of Boring at 13.7 ft	13.7			D	50/2"	6	DS	2	

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
I - INTACT
CA - CONTINUOUS FLIGHT AUGER
RC - ROCK CORE
GROUNDWATER DEPTH AT COMPLETION _____ ft
AFTER _____ HRS. _____ ft
AFTER 24 HRS. _____ ft
CAVED AT 5.5 ft
BORING METHOD HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
DC - DRIVING CASING
MD - MUD DRILLING
STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS



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Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # RW-04
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 69.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M.Tanner
Date Started 2/13/13 Spoon Size 2 in Boring Method HSA Date Completed 2/13/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
68.9	1" of TOPSOIL	0.1			I/D	2-3-3	1	DS	11	1. Boring offset 14.0' East, 6.5' North and 11.5' West of retaining wall 2. Auger refusal at 10.8' 3. Attempted to drill past 10.8'. However, auger only penetrated another 0.5'. 4. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
66.5	Brown, moist, loose, silty SAND, with rock fragments, trace gravel, trace clay, trace brick fragments, trace plant root, (FILL)	2.5			I/D	7-3-4	2	DS	3	
64.0	Light brown, brown, moist, loose, silty SAND, with rock fragments, trace gravel, trace clay, trace plant root, (FILL)	5.0			I/D	7-8-16	3	DS	10	
	Tannish gray, moist, medium dense to very dense, silty SAND, with rock fragments, some cobbles				I/D	29-42-17	4	DS	18	
58.2	Bottom of Boring at 10.8 ft	10.8			I/D	24-50/3"	5	DS	3	

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
I - INTACT
CA - CONTINUOUS FLIGHT AUGER
RC - ROCK CORE
GROUNDWATER DEPTH AT COMPLETION _____ ft
AFTER _____ HRS. _____ ft
AFTER 24 HRS. _____ ft
CAVED AT _____ ft
BORING METHOD HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
DC - DRIVING CASING
MD - MUD DRILLING
STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS



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Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # RW-06
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 82.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M.Tanner
Date Started 2/7/13 Spoon Size 2 in Boring Method HSA Date Completed 2/7/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
81.7	4" of ASPHALT	0.3			I/D	3-7-4	1	DS	7	1. No water encountered 2. Boring offset 2' West of existing curb on hiking trail to avoid combined sewer utility locator marks in Piney Branch Pkwy SBND lanes. 3. Drilling yielded little to no auger cuttings. 4. S-4: Possible void, augered to 7.5' spoon dropped weightless to 9.5'. Augered to 10.5', spoon dropped weightless to 12.0'. 5. S-5: Augered after S-5, encountered auger refusal. 6. Boring later determined to penetrate brick conduit at approximately 7.5'. 7. Crown of the conduit was at approx. 7.5' and the invert was at approx. 12.0' from the existing ground surface, conduit was later repaired by capping and grouting.
77.5	Brown to orangish brown, moist, medium dense, clayey SAND, little silt, trace gravel, trace asphalt, trace roots, (FILL)	4.5			I/D	7-9-8	2	DS	12	
74.5	Grayish brown, moist, medium dense to very dense, gravelly SAND, little clay, trace rock fragments, (FILL)	7.5			I/D	7-9-11	3	DS	10	
	POSSIBLE CROWN OF CONDUIT				D	0-0-0	4	DS	2	
70.0	POSSIBLE INVERT OF CONDUIT	12.0			I/D	50/1"	5	DS	0	
69.9	Bottom of Boring at 12.1 ft	12.1								

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
I - INTACT
CA - CONTINUOUS FLIGHT AUGER
RC - ROCK CORE
GROUNDWATER DEPTH AT COMPLETION _____ ft
AFTER _____ HRS. _____ ft
AFTER 24 HRS. _____ ft
CAVED AT 5.5 ft
BORING METHOD HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
DC - DRIVING CASING
MD - MUD DRILLING
STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

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ROCK CREEK PARK
MULTI-USE TRAIL REHABILITATION
30% DESIGN SUBMITTAL

PROJECT ENG. _____
DESIGNED BY _____
CHECKED BY _____
DRAWN BY _____
PROJECT MGR. _____

DATE: 09-13-2013

BORING LOGS

BL-02

DIVISION CHIEF

DATE _____
FILE _____
SHEET 118 OF 124

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # RW-07
 Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
 Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
 Surf. Elev. 85.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
 Date Started 2/7/13 Spoon Size 2 in Boring Method HSA Date Completed 2/7/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/5'	No.	Type		
84.7	4.25' of ASPHALT Dark brown to brown, moist, loose to dense, micaceous silty SAND, little clay, trace gravel, (FILL) GRAVEL @ 2.5 FEET	0.4			D	6-7-8	1	DS	12	1. Water encountered at 10.0 ft.
					I/D	6-3-4	2	DS	8	2. Boring offset 2-3' East of original staked location.
					D	15-18-15	3	DS	3	3. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
					D	15-13-20	4	DS	12	
75.5	ROCK FRAGMENTS @ 7.5 FEET				D	15-13-20	4	DS	12	
75.5	Orangish brown to light brown, moist, very dense, silty SAND, trace gravel, trace rock fragments	9.5			D	47-51/3"	5	DS	9	
72.5	Grayish brown, moist, very dense, ROCK FRAGMENTS, with silty sand and gravel	12.5			D	47-50/0"	6	DS	0	
67.4	Bottom of Boring at 17.6 ft	17.6			D	51/1"	7	DS	1	

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
GROUNDWATER DEPTH AT COMPLETION 10.0 ft
BORING METHOD HSA - HOLLOW STEM AUGERS
 AFTER _____ HRS. _____ ft
 CA - CONTINUOUS FLIGHT AUGERS
 U - UNDISTURBED
 DC - DRIVING CASING
 L - LOST
 MD - MUD DRILLING
 STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # SW-01
 Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
 Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
 Surf. Elev. 86.5 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
 Date Started 2/14/13 Spoon Size 2 in Boring Method HSA Date Completed 2/14/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/5'	No.	Type		
56.3	3" of TOPSOIL	0.3			I	5-7-9-10	1	DS	12	1. No water encountered
54.5	Dark brown, moist, very stiff, sandy SILT, little clay, trace gravel, trace plant roots, (FILL)	2.0			D	25-25-26-14	2	DS	16	2. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
52.5	Brown, moist, very dense, silty SAND, trace gravel, (FILL)	4.0			I/D	22-25-16-14	3	DS	9	3. Infiltration test well was offset 4.5' from original boring location and set to a depth of 4.0'.
	Brown, moist, dense, silty GRAVEL, with sand, little clay, trace rock fragments, (POSSIBLE FILL), (GM), (USDA: SANDY LOAM)				D	14-20-20-16	4	DS	10	
46.5	Bottom of Boring at 10.0 ft	10.0			D	14-16-16-18	5	DS	16	

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
GROUNDWATER DEPTH AT COMPLETION _____ ft
BORING METHOD HSA - HOLLOW STEM AUGERS
 AFTER _____ HRS. _____ ft
 CA - CONTINUOUS FLIGHT AUGER
 U - UNDISTURBED
 DC - DRIVING CASING
 L - LOST
 MD - MUD DRILLING
 STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # SW-02
 Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
 Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
 Surf. Elev. 81.5 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
 Date Started 2/14/13 Spoon Size 2 in Boring Method HSA Date Completed 2/14/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/5'	No.	Type		
80.8	8" of TOPSOIL	0.7			D	3-7-11-10	1	DS	10	1. No water encountered
79.5	Brown, moist, very stiff, clayey SILT, trace sand, trace gravel, (FILL)	2.0			I/D	6-5-6-6	2	DS	12	2. Infiltration test well offset from original boring location and set to a depth of 4.0'
77.5	Brown, moist, medium dense, clayey SAND, with gravel, little silt, trace organics, (FILL)	4.0			I/D	4-5-3-5	3	DS	8	3. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
	Brown, moist, loose, clayey SAND, little silt, with rock fragments, (USDA: SANDY LOAM)				I	4-3-3-3	4	DS	6	
73.5	Brown/Reddish brown, moist, medium stiff, sandy SILT, little clay, trace gravel	8.0			D	4-3-3-3	5	DS	5	
71.5	Bottom of Boring at 10.0 ft	10.0								

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
GROUNDWATER DEPTH AT COMPLETION _____ ft
BORING METHOD HSA - HOLLOW STEM AUGERS
 AFTER _____ HRS. _____ ft
 CA - CONTINUOUS FLIGHT AUGER
 U - UNDISTURBED
 DC - DRIVING CASING
 L - LOST
 MD - MUD DRILLING
 STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

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NO.	DESCRIPTION	NAME	DATE
REVISIONS			

D.C. DEPARTMENT OF TRANSPORTATION
 INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
 PROJECT MANAGEMENT DIVISION

ROCK CREEK PARK
 MULTI-USE TRAIL REHABILITATION
 30% DESIGN SUBMITTAL

PROJECT ENG. _____
 DESIGNED BY _____
 CHECKED BY _____
 DRAWN BY _____
 PROJECT MGR. _____

DATE: 09-13-2013

BORING LOGS

BL-03

DIVISION CHIEF

DATE _____
 FILE _____
 SHEET 119 OF 124

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
3	D.C.		120	124



THOMAS L. BROWN ASSOCIATES, P.C.
A Division of Soil and Land Use Technology, Inc.

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # SW-03
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 123.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/15/13 Spoon Size 2 in Boring Method HSA Date Completed 2/15/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	COND	SAMPLE				BORING & SAMPLE NOTES
					Blows/6"	No.	Type	Rec (in)	
127.3	8" of TOPSOIL Brown, moist, loose to very loose, micaceous silty SAND, trace gravel, trace plant roots, rock fragments encountered, (FILL)	0.7		I/D	2-3-4-5	1	DS	8	1. No water encountered 2. Upon completion boring was backfilled with auger cuttings and surface restored in-kind. 3. Infiltration test well offset from original boring location and set to a depth of 4.0'
123.5	Brown (multi-color), moist, very loose, silty clayey SAND, trace to little gravel, (SC), (USDA: SANDY LOAM)	4.5		I/D	4-2-1-1	3	DS	10	
120.0	Gray/brown, moist, loose, gravelly SAND, some clay, trace silt	8.0		I/D	2-1-1-1	4	DS	5	
118.0	Bottom of Boring at 10.0 ft	10.0		I/D	3-3-3-3	5	DS	5	

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON FT - PRESSED SHELBY TUBE CA - CONTINUOUS FLIGHT AUGER RC - ROCK CORE	D - DISINTEGRATED I - INTACT U - UNDISTURBED L - LOST	AT COMPLETION _____ ft AFTER _____ HRS. _____ ft AFTER 24 HRS. _____ ft CAVED AT _____ ft	HSA - HOLLOW STEM AUGERS CFA - CONTINUOUS FLIGHT AUGERS DC - DRIVING CASING MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS



THOMAS L. BROWN ASSOCIATES, P.C.
A Division of Soil and Land Use Technology, Inc.

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # SW-04
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 145.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/14/13 Spoon Size 2 in Boring Method HSA Date Completed 2/14/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	COND	SAMPLE				BORING & SAMPLE NOTES
					Blows/6"	No.	Type	Rec (in)	
144.3	8" of TOPSOIL Burgundy/brown/black, moist, medium stiff, sandy CLAY, trace organics, (FILL)	0.7		D	4-3-3-3	1	DS	10	1. No water encountered 2. Upon completion boring was backfilled with auger cuttings and surface restored in-kind. 3. Infiltration test well offset from original boring location and set to a depth of 8.0'
143.0	Brown/burgundy, moist, hard to stiff, sandy SILT, little clay, trace gravel, (POSSIBLE FILL)	2.0		I/D	5-8-36-22	2	DS	12	
139.0	Burgundy/brown, moist, stiff, silty CLAY, trace sand, trace gravel, (POSSIBLE FILL)	6.0		I/D	8-7-6-3	3	DS	8	
137.0	Brownish gray, moist, loose, silty SAND, with gravel, organic odor, (POSSIBLE FILL), (SM), (USDA: LOAM)	8.0		I	6-5-4-4	4	DS	6	
135.0	Bottom of Boring at 10.0 ft	10.0		D	2-3-2-2	5	DS	5	

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON FT - PRESSED SHELBY TUBE CA - CONTINUOUS FLIGHT AUGER RC - ROCK CORE	D - DISINTEGRATED I - INTACT U - UNDISTURBED L - LOST	AT COMPLETION _____ ft AFTER _____ HRS. _____ ft AFTER 24 HRS. _____ ft CAVED AT _____ ft	HSA - HOLLOW STEM AUGERS CFA - CONTINUOUS FLIGHT AUGERS DC - DRIVING CASING MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS



THOMAS L. BROWN ASSOCIATES, P.C.
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RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # T-01
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 47.5 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/8/13 Spoon Size 2 in Boring Method HSA Date Completed 2/8/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	COND	SAMPLE				BORING & SAMPLE NOTES
					Blows/6"	No.	Type	Rec (in)	
47.0	6" of TOPSOIL Dark brown, moist, loose, clayey SAND, trace little silt, trace plant roots, (FILL)	0.5		I/D	2-3-3	1	DS	10.5	1. No water encountered 2. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
45.5	Orangeish brown, moist, medium dense, silty GRAVEL, with sand, (FILL), (GW)	2.0		D	10-10-13	2	DS	15	
43.0	Orangeish brown, moist, very stiff, CLAY, little silt, trace sand	4.5		I/D	7-8-13	3	DS	14	
41.0	Bottom of Boring at 6.5 ft	6.5		I/D					

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON FT - PRESSED SHELBY TUBE CA - CONTINUOUS FLIGHT AUGER RC - ROCK CORE	D - DISINTEGRATED I - INTACT U - UNDISTURBED L - LOST	AT COMPLETION _____ ft AFTER _____ HRS. _____ ft AFTER 24 HRS. _____ ft CAVED AT _____ ft	HSA - HOLLOW STEM AUGERS CFA - CONTINUOUS FLIGHT AUGERS DC - DRIVING CASING MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

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INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
PROJECT MANAGEMENT DIVISION

ROCK CREEK PARK
MULTI-USE TRAIL REHABILITATION
30% DESIGN SUBMITTAL

PROJECT ENG. _____
DESIGNED BY _____
CHECKED BY _____
DRAWN BY _____
PROJECT MGR. _____

DATE: 09-13-2013

BORING LOGS

BL-04

DIVISION CHIEF

DATE _____
FILE _____
SHEET 120 OF 124

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RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # T-02
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 29.3 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/8/13 Spoon Size 2 in Boring Method HSA Date Completed 2/8/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
28.8	5" of TOPSOIL	0.5	X	0.5	I/D	1-3-5	1	DS	8	1. No water encountered
27.3	Dark brown, moist, medium stiff, sandy CLAY, trace gravel, trace plant roots, crushed quartz, (FILL)	2.0	X	2.0	D	50/5"	2	DS	5	2. bag sample collected from 0.5 - 6.0'
22.8	Dark brown, moist, very dense to loose, silty SAND, trace mica, trace clay, trace gravel, trace mica, trace plant roots, trace brick fragments, (FILL) GRAVEL @ 3.0 FEET ROCK FRAGMENTS @ 6.25 FEET Bottom of Boring at 6.5 ft	6.5	X	6.5	D	10-4-4	3	DS	7	3. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.

SAMPLER TYPE DS - DRIVEN SPLIT SPOON D - DISINTEGRATED AT COMPLETION _____ ft HSA - HOLLOW STEM AUGERS
FT - PRESSED SHELBY TUBE I - INTACT AFTER _____ HRS. _____ ft CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER U - UNDISTURBED AFTER 24 HRS. _____ ft DC - DRIVING CASING
RC - ROCK CORE L - LOST CAVED AT 3.5 ft MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

THOMAS L. BROWN ASSOCIATES, P.C.
A Division of Soil and Land Use Technology, Inc. Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # T-03
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 18.7 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/19/13 Spoon Size 2 in Boring Method HSA Date Completed 2/19/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
18.5	2" of TOPSOIL, little gravel 0.0-1.5' Brown, moist, medium dense, silty SAND, trace clay, trace to little gravel, (FILL), (SM)	0.2	X	0.2	D	3-5-7	1	DS	16	1. No water encountered
					D	9-9-10	2	DS	16	2. Boring offset just west of trail to avoid combined sewer marked by utility locator. A portion of the combined sewer was stated to possibly be under the trail.
12.2	Bottom of Boring at 6.5 ft	6.5	X	6.5	L	4-10-6	3	DS		3. Sample 3 - 2 attempts were made to retrieve sample. 4. Upon completion boring was backfilled with auger cuttings and surface was restored in-kind.

SAMPLER TYPE DS - DRIVEN SPLIT SPOON D - DISINTEGRATED AT COMPLETION _____ ft HSA - HOLLOW STEM AUGERS
FT - PRESSED SHELBY TUBE I - INTACT AFTER _____ HRS. _____ ft CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER U - UNDISTURBED AFTER 24 HRS. _____ ft DC - DRIVING CASING
RC - ROCK CORE L - LOST CAVED AT 2.7 ft MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

THOMAS L. BROWN ASSOCIATES, P.C.
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RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # T-04
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 31.2 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/19/13 Spoon Size 2 in Boring Method HSA Date Completed 2/19/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
30.8	5" of TOPSOIL Brown, moist, loose to very dense, silty SAND, little clay, trace gravel, trace mica, trace asphalt, trace wood fragments, (FILL), (SM) ROCK FRAGMENTS @ 2.5 FEET	0.4	X	0.4	I/D	2-3-2	1	DS	5	1. No water encountered
					I	5-7-16	2	DS	6	2. Boring offset just west of trail to avoid combined sewer marked by utility locator. A portion of the combined sewer was stated to possibly be under the trail.
25.8	Bottom of Boring at 5.4 ft	5.4	X	5.4	L	51/5"	3	DS	0	3. Refusal @ 5.42'. Auger not advanced due to close proximity of combined sewer. Sample not recovered to determine if rock was encountered. 4. Upon completion boring was backfilled with auger cuttings and surface was restored in-kind.

SAMPLER TYPE DS - DRIVEN SPLIT SPOON D - DISINTEGRATED AT COMPLETION _____ ft HSA - HOLLOW STEM AUGERS
FT - PRESSED SHELBY TUBE I - INTACT AFTER _____ HRS. _____ ft CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER U - UNDISTURBED AFTER 24 HRS. _____ ft DC - DRIVING CASING
RC - ROCK CORE L - LOST CAVED AT 3.0 ft MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

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REVISIONS			

D.C. DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
PROJECT MANAGEMENT DIVISION

ROCK CREEK PARK
MULTI-USE TRAIL REHABILITATION
30% DESIGN SUBMITTAL

PROJECT ENG. _____
DESIGNED BY _____
CHECKED BY _____
DRAWN BY _____
PROJECT MGR. _____

DATE: 09-13-2013

BORING LOGS

BL-05

DIVISION CHIEF

DATE _____
FILE _____
SHEET 121 OF 124



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Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # T-05
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 48.8 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/19/13 Spoon Size 2 in Boring Method HSA Date Completed 2/19/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	Cond	SAMPLE				BORING & SAMPLE NOTES
						Blows/6"	No.	Type	Rec (in)	
46.3	4" of TOPSOIL Brown, moist, loose to medium dense, silty clayey SAND, with gravel, (FILL), (SC-SM)	0.3			I/D	2-4-6	1	DS	12	1. No water encountered 2. Bag sample collected from 0.5' to 6.5'. 3. Boring was offset once to retrieve cuttings for bag sample. Augering yielded little cuttings for bag sample. Bag sample may be inadequate for CBR testing. 4. Upon completion boring was backfilled with auger cuttings and surface was restored in-kind.
					I/D	3-5-16	2	DS	5	
					I/D	6-12-20	3	DS	12	
40.1	GRAVEL @ 5.0 FEET Bottom of Boring at 6.5 ft	6.5								

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON	D - DISINTEGRATED	AT COMPLETION _____ ft	HSA - HOLLOW STEM AUGERS
FT - PRESSED SHELBY TUBE	I - INTACT	AFTER _____ HRS. _____ ft	CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER 24 HRS. _____ ft	DC - DRIVING CASING
RC - ROCK CORE	L - LOST	CAVED AT _____ ft	MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS



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Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # T-06
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 44.5 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/13/13 Spoon Size 2 in Boring Method HSA Date Completed 2/13/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	Cond	SAMPLE				BORING & SAMPLE NOTES
						Blows/6"	No.	Type	Rec (in)	
44.3	2" of ASPHALT Orangeish Brown, moist, stiff, sandy SILT, trace little clay, trace gravel, trace asphalt, (FILL)	0.2			I/D	4-7-6	1	DS	12	1. No water encountered 2. Bag sample collected from 0.5' - 5.0'. 3. Boring was backfilled with auger cuttings upon completion and surface was restored in-kind.
42.5					I/D	5-6-8	2	DS	18	
40.0					I/D	11-17-20	3	DS		
38.0	Brown, moist, dense, silty SAND, trace rock fragments Bottom of Boring at 6.5 ft	6.5								

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON	D - DISINTEGRATED	AT COMPLETION _____ ft	HSA - HOLLOW STEM AUGERS
FT - PRESSED SHELBY TUBE	I - INTACT	AFTER _____ HRS. _____ ft	CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER 24 HRS. _____ ft	DC - DRIVING CASING
RC - ROCK CORE	L - LOST	CAVED AT _____ ft	MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS



THOMAS L. BROWN ASSOCIATES, P.C.
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Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # T-07
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 48.5 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
Date Started 2/12/13 Spoon Size 2 in Boring Method HSA Date Completed 2/12/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	Cond	SAMPLE				BORING & SAMPLE NOTES
						Blows/6"	No.	Type	Rec (in)	
48.3	3" of ASPHALT Brown, moist, dense to very dense, silty GRAVEL, with sand, trace rock fragments, (FILL), (GM)	0.3			D	12-17-13	1	DS	16	1. No water encountered 2. Auger refusal at 3.5'. 3. Boring offset 3.5' South due to auger refusal, augered to 1.0' and encountered similar conditions (difficulty augering). Boring terminated. 4. Upon completion boring was backfilled with auger cuttings and surface was restored in-kind.
					D	42-50/5"	2	DS	5	
45.0	Bottom of Boring at 3.5 ft									

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON	D - DISINTEGRATED	AT COMPLETION _____ ft	HSA - HOLLOW STEM AUGERS
FT - PRESSED SHELBY TUBE	I - INTACT	AFTER _____ HRS. _____ ft	CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER 24 HRS. _____ ft	DC - DRIVING CASING
RC - ROCK CORE	L - LOST	CAVED AT _____ ft	MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

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NO.	DESCRIPTION	NAME	DATE
REVISIONS			

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INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
PROJECT MANAGEMENT DIVISION

ROCK CREEK PARK
MULTI-USE TRAIL REHABILITATION
30% DESIGN SUBMITTAL

PROJECT ENG. _____
DESIGNED BY _____
CHECKED BY _____
DRAWN BY _____
PROJECT MGR. _____

DATE: 09-13-2013

BORING LOGS

BL-06

DIVISION CHIEF

DATE _____
FILE _____
SHEET 122 OF 124

THOMAS L. BROWN ASSOCIATES, P.C.
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RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # T-08
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 53.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M.Tanner
Date Started 2/13/13 Spoon Size 2 in Boring Method HSA Date Completed 2/13/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		Rec (n)
52.6	5' of TOPSOIL Brown, moist, stiff, silty SAND, little clay, trace gravel, (FILL) ROCK FRAGMENTS @ 2.5 FEET	0.4	[Symbol]	0.4	D	2-5-4	1	DS	5	1. No water encountered 2. Boring offset 4 times due to difficulty augering. Final offset 3.0' West and 9.0' South from original location. Boring was approximately 9.0' from existing SEND curb of Beach Drive NW 3. Upon completion boring was backfilled with auger cuttings and surface restored in-kind. 4. Large boulders were encountered while augering. 5. Bag Sample from 0.4 - 6.5 feet.
	ROCK FRAGMENTS @ 5.0 FEET			5	I/D	20-5-4	2	DS	8	
46.5	Bottom of Boring at 6.5 ft	6.5		6.5	I/D	3-7-5	3	DS	7	

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
GROUNDWATER DEPTH AT COMPLETION _____ ft
BORING METHOD HSA - HOLLOW STEM AUGERS

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

THOMAS L. BROWN ASSOCIATES, P.C.
A Division of Soil and Land Use Technology, Inc. Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # T-09
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 56.2 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M.Tanner
Date Started 2/13/13 Spoon Size 2 in Boring Method HSA Date Completed 2/13/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		Rec (n)
56.0	2" of ASPHALT	0.2	[Symbol]	0.2	D					1. No water encountered 2. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
55.7	6" of AGGREGATE BASE	0.5		0.5	D	2-3-3	1	DS	16	
54.0	Dark brown, moist, loose, clayey SAND, trace gravel, little mica, (POSSIBLE FILL), (SC)	2.3		2.3	D	4-4-5	2	DS	18	
49.7	Brown, moist, stiff, micaceous sandy SILT, trace - little clay, trace gravel ROCK FRAGMENTS @ 2.5 FEET	6.5		6.5	I/D	5-6-5	3	DS	18	Bottom of Boring at 6.5 ft

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
GROUNDWATER DEPTH AT COMPLETION _____ ft
BORING METHOD HSA - HOLLOW STEM AUGERS

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

THOMAS L. BROWN ASSOCIATES, P.C.
A Division of Soil and Land Use Technology, Inc. Page 1 of 1

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Servies, Inc. Boring # T-10
Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
Location Washington, DC

SAMPLER
Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
Surf. Elev. 60.2 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M.Tanner
Date Started 2/15/13 Spoon Size 2 in Boring Method HSA Date Completed 2/15/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		Rec (n)
60.1	1.5" of ASPHALT	0.1	[Symbol]	0.1	D					1. No water encountered 2. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
59.7	5" of AGGREGATE BASE	0.5		0.5	D	7-6-5	1	DS	14	
55.7	Brown, moist, medium dense to loose, micaceous silty SAND, trace gravel	4.5		4.5	I/D	4-5-4	2	DS	18	
53.7	Brown, moist, medium dense, silty SAND, trace-little clay	6.5		6.5	I	5-5-6	3	DS	16	Bottom of Boring at 6.5 ft

SAMPLER TYPE DS - DRIVEN SPLIT SPOON
SAMPLE CONDITIONS D - DISINTEGRATED
GROUNDWATER DEPTH AT COMPLETION _____ ft
BORING METHOD HSA - HOLLOW STEM AUGERS

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

Thursday, September 12, 2013 AT 03:39 PM
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NO.	DESCRIPTION	NAME	DATE
REVISIONS			

D.C. DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
PROJECT MANAGEMENT DIVISION

ROCK CREEK PARK
MULTI-USE TRAIL REHABILITATION
30% DESIGN SUBMITTAL

PROJECT ENG. _____
DESIGNED BY _____
CHECKED BY _____
DRAWN BY _____
PROJECT MGR. _____

DATE: 09-13-2013

BORING LOGS

BL-07
DIVISION CHIEF

DATE _____
FILE _____
SHEET 123 OF 124



THOMAS L. BROWN ASSOCIATES, P.C.
A Division of Soil and Land Use Technology, Inc.

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # T-11
 Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
 Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
 Surf. Elev. 65.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
 Date Started 2/19/13 Spoon Size 2 in Boring Method HSA Date Completed 2/19/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
64.7	4" of TOPSOIL	0.3			I	9-9-9	1	DS	8	1. No water encountered
63.3	Brown, moist, very stiff, sandy SILT, trace clay, trace plant roots, rock fragments, (FILL)	1.8			I	4-7-8	2	DS	8	2. After several attempts Utility Locator failed to locate the 2nd combined sewer which runs adjacent to the proposed boring location. The depth of the sewer was determined to be below 10.0' by investigating the connecting sewer at Blagden Ave NW.
61.5	Orange-brown, moist, medium dense, clayey SAND, little gravel, trace - little silt, with rock fragments, (SC)	3.5			I	7-5-3	3	DS	18	3. Boring T-11 was terminated at a shallow depth of 5.0' to avoid encountering the crown of the un-found combined sewer within the vicinity of the boring.
60.0	Brown, moist, loose, micaceous silty SAND	5.0			I					4. Upon completion boring was backfilled with auger cuttings and surface was restored in-kind.
Bottom of Boring at 5.0 ft										

SAMPLER TYPE
 DS - DRIVEN SPLIT SPOON
 PT - PRESSED SHELBY TUBE
 CA - CONTINUOUS FLIGHT AUGER
 RC - ROCK CORE

SAMPLE CONDITIONS
 D - DISINTEGRATED
 I - INTACT
 U - UNDISTURBED
 L - LOST

GROUNDWATER DEPTH
 AT COMPLETION _____ ft
 AFTER _____ HRS. _____ ft
 AFTER 24 HRS. _____ ft
 CAVED AT _____ ft

BORING METHOD
 HSA - HOLLOW STEM AUGERS
 CFA - CONTINUOUS FLIGHT AUGERS
 DC - DRIVING CASING
 MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS



THOMAS L. BROWN ASSOCIATES, P.C.
A Division of Soil and Land Use Technology, Inc.

RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # T-12
 Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
 Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
 Surf. Elev. 60.5 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
 Date Started 2/13/13 Spoon Size 2 in Boring Method HSA Date Completed 2/13/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
60.3	2" of TOPSOIL	0.2			I	3-2-2	1	DS	16	1. No water encountered
	Brown, moist, soft, sandy SILT, trace clay, trace gravel, trace roots, (POSSIBLE FILL)				D	1-2-1	2	DS	5	2. Sample 3: 2 attempts made to retrieve sample. 1st attempt = 3", 2nd attempt = 9".
	ROCK FRAGMENTS @ 5.0 FEET				D	2-2-2	3	DS	12	3. Upon completion boring was backfilled with auger cuttings and surface restored in-kind.
54.8	ROCK FRAGMENTS @ 5.0 FEET	5.8								
54.0	Brown, moist, very loose, silty SAND, trace gravel	6.5								
Bottom of Boring at 6.5 ft										

SAMPLER TYPE
 DS - DRIVEN SPLIT SPOON
 PT - PRESSED SHELBY TUBE
 CA - CONTINUOUS FLIGHT AUGER
 RC - ROCK CORE

SAMPLE CONDITIONS
 D - DISINTEGRATED
 I - INTACT
 U - UNDISTURBED
 L - LOST

GROUNDWATER DEPTH
 AT COMPLETION _____ ft
 AFTER _____ HRS. _____ ft
 AFTER 24 HRS. _____ ft
 CAVED AT _____ ft

BORING METHOD
 HSA - HOLLOW STEM AUGERS
 CFA - CONTINUOUS FLIGHT AUGERS
 DC - DRIVING CASING
 MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS



THOMAS L. BROWN ASSOCIATES, P.C.
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RECORD OF SOIL / ROCK EXPLORATION

Contracted With Stantec Consulting Services, Inc. Boring # T-13
 Project Name Rock Creek Park Multi-Use Trail Job # 12-034-PC
 Location Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 6 in Foreman A. McCallister
 Surf. Elev. 87.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector M. Tanner
 Date Started 2/13/13 Spoon Size 2 in Boring Method HSA Date Completed 2/13/13

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE				BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type		
86.6	2" of TOPSOIL	0.2			I/D	2-2-5	1	DS	6	1. No water encountered
85.0	Dark brown, moist, loose, silty SAND, little clay, trace little gravel, trace roots, trace wood fragments, trace asphalt, (FILL)	2.0			I/D	3-7-12	2	DS	10	2. Boring offset 10.5' west to clear the combined sewer utility marks.
	Brown, moist, medium dense, silty SAND, trace gravel, little rock fragments				D	4-5-6	3	DS	15	3. Ground surface surrounding the boring location consisted of a gravelly sand.
80.5		6.5								4. Upon completion boring was backfilled with auger cuttings and surface was restored in-kind.
Bottom of Boring at 6.5 ft										

SAMPLER TYPE
 DS - DRIVEN SPLIT SPOON
 PT - PRESSED SHELBY TUBE
 CA - CONTINUOUS FLIGHT AUGER
 RC - ROCK CORE

SAMPLE CONDITIONS
 D - DISINTEGRATED
 I - INTACT
 U - UNDISTURBED
 L - LOST

GROUNDWATER DEPTH
 AT COMPLETION _____ ft
 AFTER _____ HRS. _____ ft
 AFTER 24 HRS. _____ ft
 CAVED AT _____ ft

BORING METHOD
 HSA - HOLLOW STEM AUGERS
 CFA - CONTINUOUS FLIGHT AUGERS
 DC - DRIVING CASING
 MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS

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 Baltimore, MD
 USA
 Tel. 410.583.6700
 Fax. 410.583.6704
 www.stantec.com

NO.	DESCRIPTION	NAME	DATE
REVISIONS			

D.C. DEPARTMENT OF TRANSPORTATION
 INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
 PROJECT MANAGEMENT DIVISION

ROCK CREEK PARK
 MULTI-USE TRAIL REHABILITATION
 30% DESIGN SUBMITTAL

PROJECT ENG. _____
 DESIGNED BY _____
 CHECKED BY _____
 DRAWN BY _____
 PROJECT MGR. _____

DATE: 09-13-2013

BORING LOGS

BL-08

DIVISION CHIEF

DATE _____
 FILE _____
 SHEET 124 OF 124