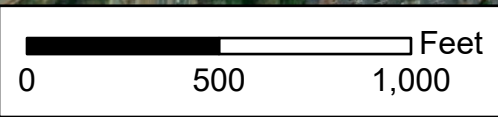
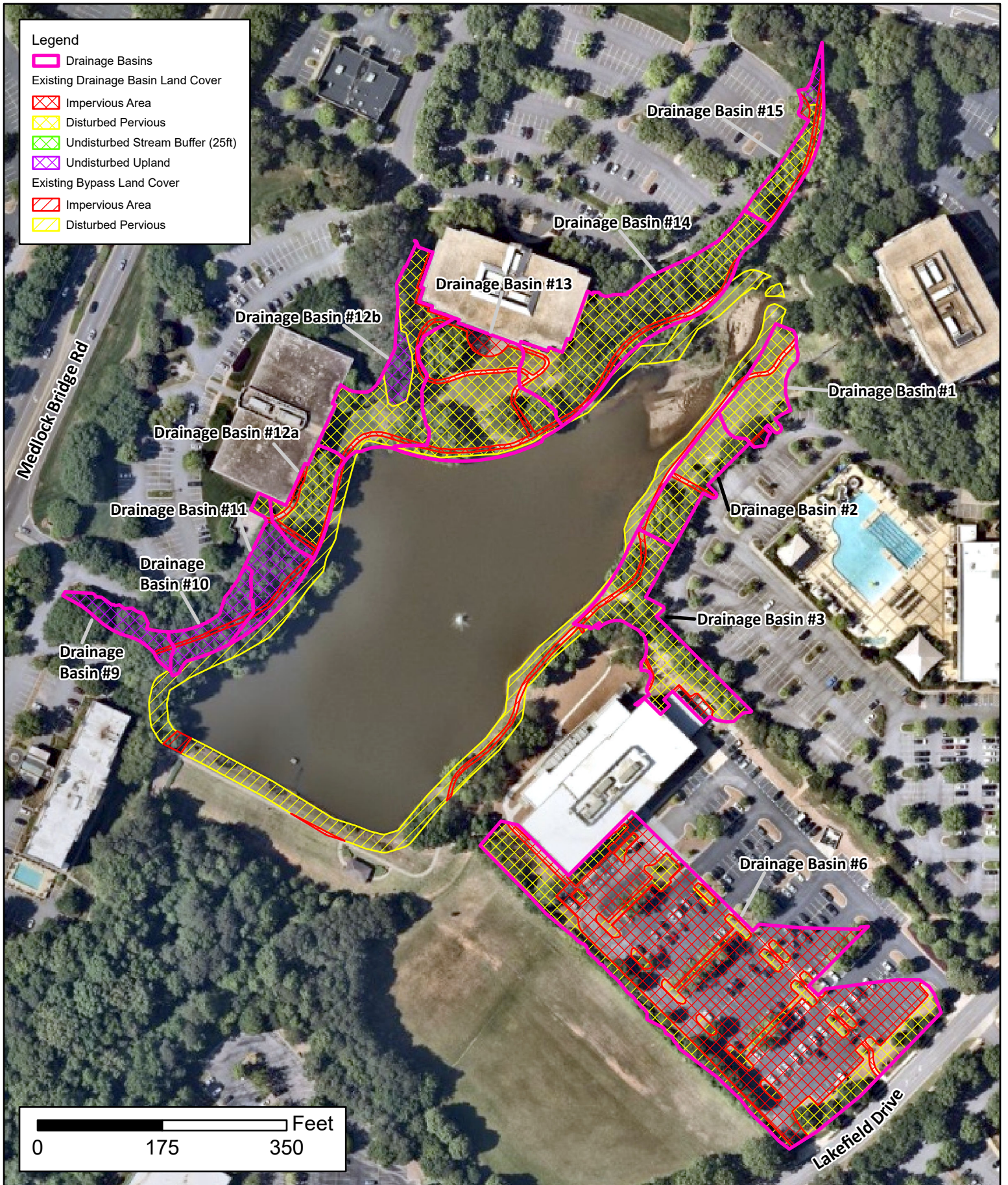


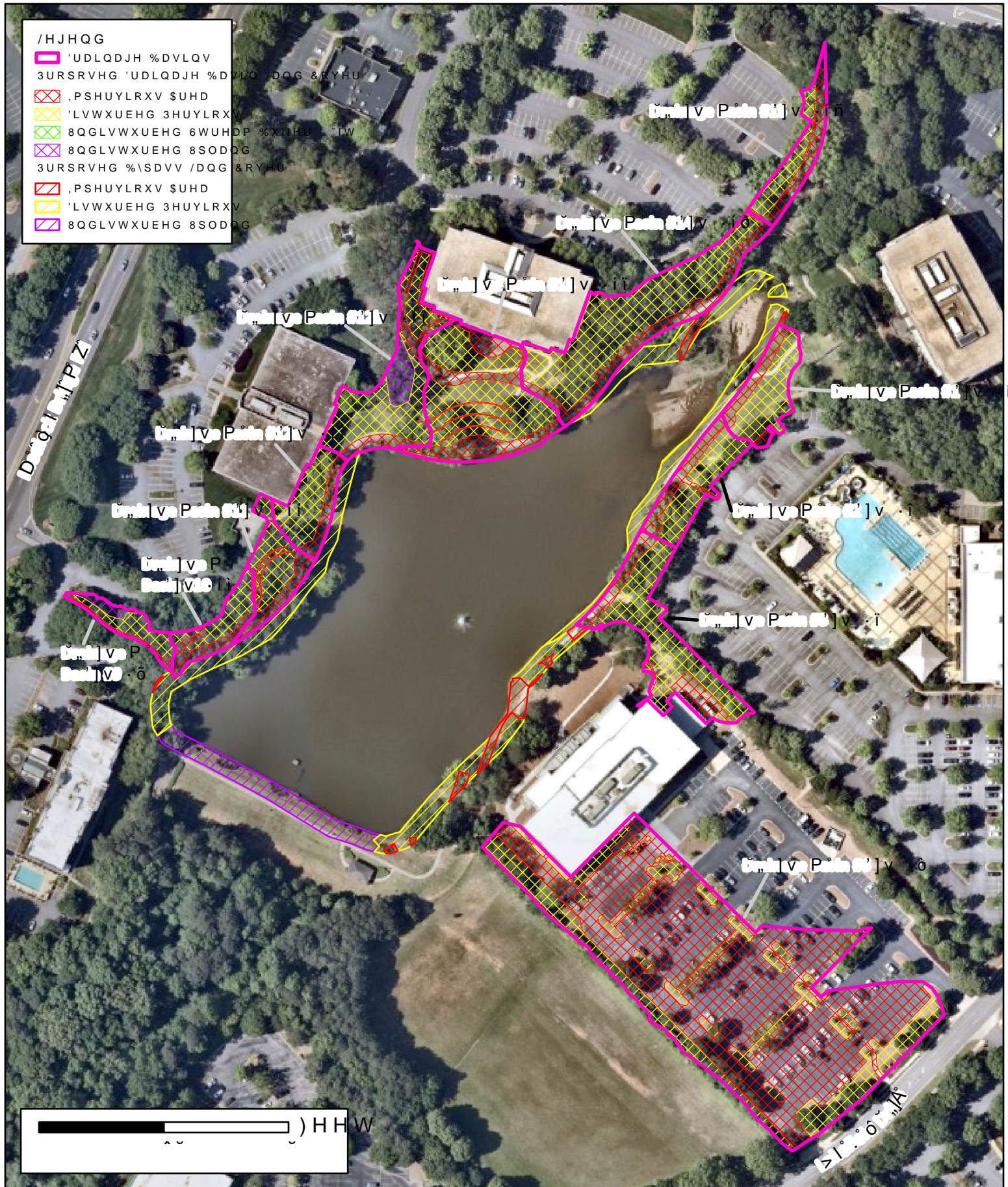
- Legend**
- Project Area
 - Study Area
 - Delineated Streams
 - Delineated Wetlands
 - Delineated Ponds
 - 25ft Stream Buffer
 - 25ft Pond Buffer
 - 50ft Stream Buffer
 - 50ft Pond Buffer
 - 75ft Stream Buffer
 - 75ft Pond Buffer



Maxar, Microsoft

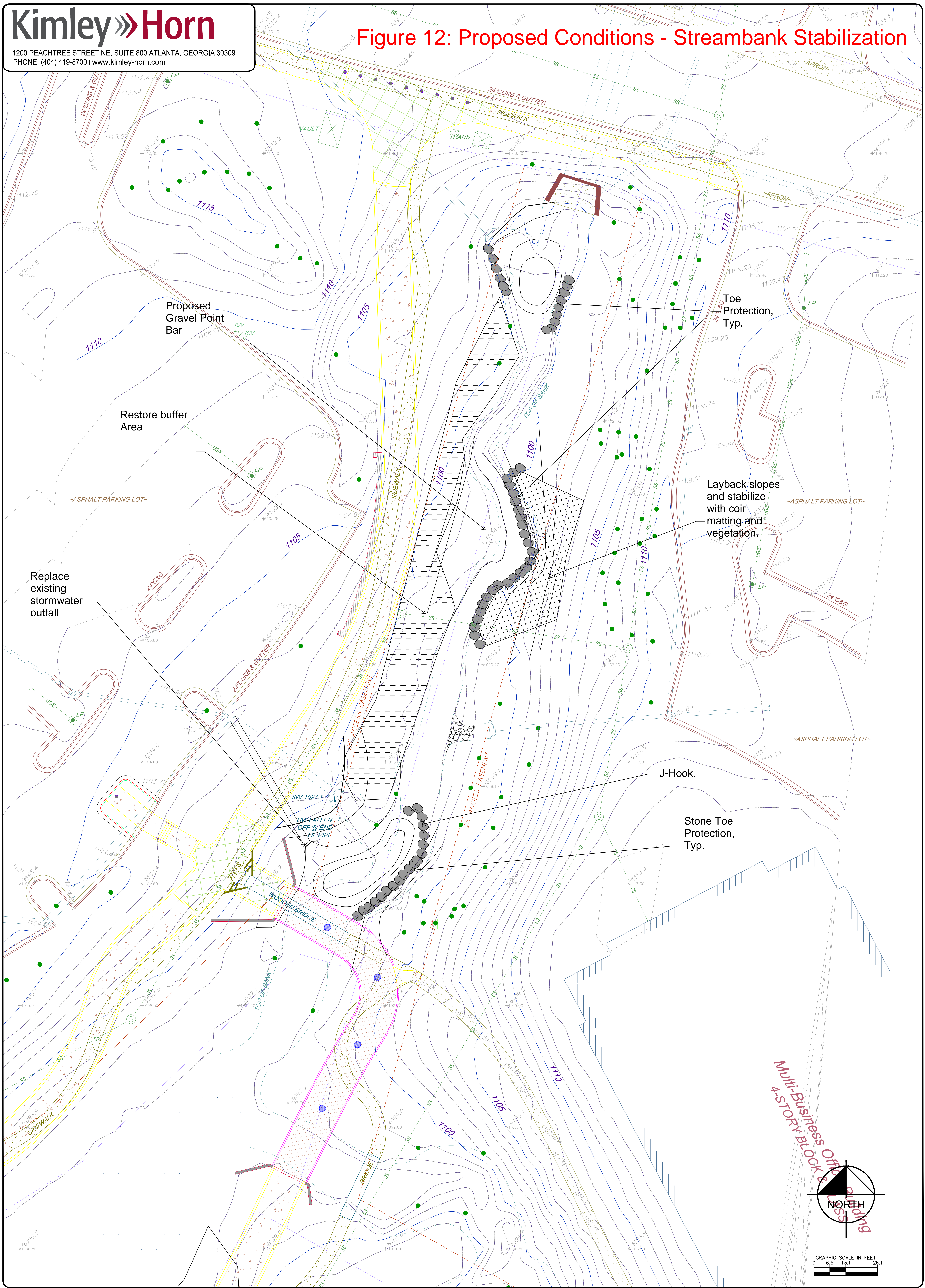


/HJHQG
 'UDLQDJH %DVLQV
 3URSRVHG 'UDLQDJH %DVLQ /DQG &RYHU
 ,PSHUYLRXV \$UHD
 'LVWXUEHG 3HUYLRXV
 8QQLVWXUEHG 6WUHDP %XIHU 'HW
 8QQLVWXUEHG 8SODQG
 3URSRVHG %\SDVV /DQG &RYHU
 ,PSHUYLRXV \$UHD
 'LVWXUEHG 3HUYLRXV
 8QQLVWXUEHG 8SODQG



<p>Kimley»Horn</p>	<p>)LJXUH 'UDLQDJH %DVLQ 3URSRVHG /DQG &RYHU ODS</p>	<p>-RKQV &UHHN &UHHNVLGH &LW\ RI -RKQV &UHHN *HRUJLDFK OD\</p>	<p>~ IHHW</p>
--------------------	---	--	---------------

Figure 12: Proposed Conditions - Streambank Stabilization



Multi-Business Office Building



GRAPHIC SCALE IN FEET
0 6.5 13.1 26.1

Figure 13a: Existing Conditions

BMP Drainage Area Distribution

[Click here to GO to the Stormwater Quality Performance Review Form - Instruction Guide](#)

Drainage Area 1			BMP MATRIX		BMP Identifier	
Area (acres)	Enter Impervious Area (sq. ft):	891.152593	0.02	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA01-1
	Enter Disturbed Pervious Area (acres):	0.21		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA01-2
	Enter Undisturbed Upland Area (acres):			BMP 3	None	NA
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.23		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	330				
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,452				
	TSS Load w/ BMP (lbs)	40				
	TSS Loading Rate w/ BMP (lb/ac/yr)	174				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 2			BMP MATRIX		BMP Identifier	
Area (acres)	Enter Impervious Area (sq. ft):	715.538883	0.02	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA02-1
	Enter Disturbed Pervious Area (acres):	0.22		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA02-2
	Enter Undisturbed Upland Area (acres):			BMP 3	None	NA
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.24		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	331				
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,394				
	TSS Load w/ BMP (lbs)	40				
	TSS Loading Rate w/ BMP (lb/ac/yr)	167				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 3			BMP MATRIX		BMP Identifier	
Area (acres)	Enter Impervious Area (sq. ft):	2327.414459	0.05	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA03-1
	Enter Disturbed Pervious Area (acres):	0.41		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA03-2
	Enter Undisturbed Upland Area (acres):			BMP 3	None	NA
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.46		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	694				
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,497				
	TSS Load w/ BMP (lbs)	83				
	TSS Loading Rate w/ BMP (lb/ac/yr)	180				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 4			BMP MATRIX		BMP Identifier	
Area (acres)	Enter Impervious Area (sq. ft):	84698.36751	1.94	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA04-1
	Enter Disturbed Pervious Area (acres):	0.78		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA04-2
	Enter Undisturbed Upland Area (acres):			BMP 3	None	NA
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	2.72		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	8,715				
	TSS Loading Rate w/out BMP (lb/ac/yr)	3,198				
	TSS Load w/ BMP (lbs)	1,046				
	TSS Loading Rate w/ BMP (lb/ac/yr)	384				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Figure 13a: Existing Conditions

Drainage Area 5			BMP MATRIX		BMP Identifier
Enter Impervious Area (sq. ft):	125,282,073	0.00	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA05-1
Enter Disturbed Pervious Area (acres):					
Enter Undisturbed Upland Area (acres):	0.11		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA05-2
Enter Undisturbed Stream Buffers (acres):					
Total Area (acres)	0.11				
Pollutant Loads			BMP 3	None	NA
TSS Load w/out BMP (lbs)	66				
TSS Loading Rate w/out BMP (lb/ac/yr)	590		BMP 4	None	NA
TSS Load w/ BMP (lbs)	8				
TSS Loading Rate w/ BMP (lb/ac/yr)	71		BMP 5	None	NA
Porous Pavement (Acres):					
District/LandLot/Parcel:					
Watershed Basin:	Pick From List				
Commission District:	Choose One				

Drainage Area 6			BMP MATRIX		BMP Identifier
Enter Impervious Area (sq. ft):	580,665,075	0.01	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA06-1
Enter Disturbed Pervious Area (acres):					
Enter Undisturbed Upland Area (acres):	0.14		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA06-2
Enter Undisturbed Stream Buffers (acres):					
Total Area (acres)	0.15				
Pollutant Loads			BMP 3	None	NA
TSS Load w/out BMP (lbs)	122				
TSS Loading Rate w/out BMP (lb/ac/yr)	810		BMP 4	None	NA
TSS Load w/ BMP (lbs)	15				
TSS Loading Rate w/ BMP (lb/ac/yr)	97		BMP 5	None	NA
Porous Pavement (Acres):					
District/LandLot/Parcel:					
Watershed Basin:	Pick From List				
Commission District:	Choose One				

Drainage Area 7			BMP MATRIX		BMP Identifier
Enter Impervious Area (sq. ft):	731,505,033	0.02	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA07-1
Enter Disturbed Pervious Area (acres):	0.02				
Enter Undisturbed Upland Area (acres):	0.17		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA07-2
Enter Undisturbed Stream Buffers (acres):					
Total Area (acres)	0.20				
Pollutant Loads			BMP 3	None	NA
TSS Load w/out BMP (lbs)	168				
TSS Loading Rate w/out BMP (lb/ac/yr)	850		BMP 4	None	NA
TSS Load w/ BMP (lbs)	20				
TSS Loading Rate w/ BMP (lb/ac/yr)	102		BMP 5	None	NA
Porous Pavement (Acres):					
District/LandLot/Parcel:					
Watershed Basin:	Pick From List				
Commission District:	Choose One				

Drainage Area 8			BMP MATRIX		BMP Identifier
Enter Impervious Area (sq. ft):	1,379,042,766	0.03	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA08-1
Enter Disturbed Pervious Area (acres):	0.15				
Enter Undisturbed Upland Area (acres):	0.01		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA08-2
Enter Undisturbed Stream Buffers (acres):					
Total Area (acres)	0.19				
Pollutant Loads			BMP 3	None	NA
TSS Load w/out BMP (lbs)	313				
TSS Loading Rate w/out BMP (lb/ac/yr)	1,609		BMP 4	None	NA
TSS Load w/ BMP (lbs)	38				
TSS Loading Rate w/ BMP (lb/ac/yr)	193		BMP 5	None	NA
Porous Pavement (Acres):					
District/LandLot/Parcel:					
Watershed Basin:	Pick From List				
Commission District:	Choose One				

Figure 13a: Existing Conditions

Drainage Area 9			BMP MATRIX		BMP Identifier
Enter Impervious Area (sq. ft):	1757.43179	0.04	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA09-1
Enter Disturbed Pervious Area (acres):	0.35				
Enter Undisturbed Upland Area (acres):	0.07				
Enter Undisturbed Stream Buffers (acres):			BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA09-2
Total Area (acres)		0.46			
Pollutant Loads			BMP 3	None	NA
TSS Load w/out BMP (lbs)		606			
TSS Loading Rate w/out BMP (lb/ac/yr)		1,308			
TSS Load w/ BMP (lbs)		73			
TSS Loading Rate w/ BMP (lb/ac/yr)		157	BMP 4	None	NA
Porous Pavement (Acres):					
District/LandLot/Parcel:					
Watershed Basin:		Pick From List			
Commission District:		Choose One	BMP 5	None	NA

Drainage Area 10			BMP MATRIX		BMP Identifier
Enter Impervious Area (sq. ft):	4086.640995	0.09	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA10-1
Enter Disturbed Pervious Area (acres):	0.52				
Enter Undisturbed Upland Area (acres):					
Enter Undisturbed Stream Buffers (acres):			BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA10-2
Total Area (acres)		0.61			
Pollutant Loads			BMP 3	None	NA
TSS Load w/out BMP (lbs)		1,001			
TSS Loading Rate w/out BMP (lb/ac/yr)		1,627			
TSS Load w/ BMP (lbs)		120			
TSS Loading Rate w/ BMP (lb/ac/yr)		195	BMP 4	None	NA
Porous Pavement (Acres):					
District/LandLot/Parcel:					
Watershed Basin:		Pick From List			
Commission District:		Choose One	BMP 5	None	NA

Figure 13a: Existing Conditions

BMP Drainage Area Distribution

[Click here to GO to the Stormwater Quality Performance Review Form - Instruction Guide](#)

Drainage Area 1			BMP MATRIX			BMP Identifier
Area (acres)	Enter Impervious Area (sq. ft):	2,470.69	0.06	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA01-1
	Enter Disturbed Pervious Area (acres):	0.64		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA01-2
	Enter Undisturbed Upland Area (acres):			BMP 3	None	NA
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.70		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	995				
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,428				
	TSS Load w/ BMP (lbs)	119				
	TSS Loading Rate w/ BMP (lb/ac/yr)	171				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 2			BMP MATRIX			BMP Identifier
Area (acres)	Enter Impervious Area (sq. ft):	1537.773464	0.04	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA02-1
	Enter Disturbed Pervious Area (acres):	0.12		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA02-2
	Enter Undisturbed Upland Area (acres):	0.02		BMP 3	None	NA
	Enter Undisturbed Stream Buffers (acres):	0.002		BMP 4	None	NA
	Total Area (acres)	0.18		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	295				
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,667				
	TSS Load w/ BMP (lbs)	35				
	TSS Loading Rate w/ BMP (lb/ac/yr)	200				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 3			BMP MATRIX			BMP Identifier
Area (acres)	Enter Impervious Area (sq. ft):	3791.4	0.09	BMP 1	Extended Wet Detention (WQ & D) (80%)	EWD-DA03-1
	Enter Disturbed Pervious Area (acres):	0.90		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA03-2
	Enter Undisturbed Upland Area (acres):			BMP 3	None	NA
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.99		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	1,428				
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,447				
	TSS Load w/ BMP (lbs)	171				
	TSS Loading Rate w/ BMP (lb/ac/yr)	174				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 4			BMP MATRIX			BMP Identifier
Area (acres)	Enter Impervious Area (sq. ft):		0.00	BMP 1	None	NA
	Enter Disturbed Pervious Area (acres):			BMP 2	None	NA
	Enter Undisturbed Upland Area (acres):			BMP 3	None	NA
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.00		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	0				
	TSS Loading Rate w/out BMP (lb/ac/yr)	--				
	TSS Load w/ BMP (lbs)	0				
	TSS Loading Rate w/ BMP (lb/ac/yr)	--				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Figure 13b: Proposed Conditions

BMP Drainage Area Distribution

[Click here to GO to the Stormwater Quality Performance Review Form - Instruction Guide](#)

Drainage Area 1			BMP MATRIX		BMP Identifier	
Area (acres)	Enter Impervious Area (sq. ft):	2844.138644	0.07	BMP 1	Bioretention (85%)	BIO-DA01-1
	Enter Disturbed Pervious Area (acres):	0.16		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA01-2
	Enter Undisturbed Upland Area (acres):			BMP 3	Constructed Wetland (85%)	CWX-DA01-3
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.23		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	453				
	TSS Loading Rate w/out BMP (lb/ac/yr)	2,012				
	TSS Load w/ BMP (lbs)	23				
	TSS Loading Rate w/ BMP (lb/ac/yr)	104				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 2			BMP MATRIX		BMP Identifier	
Area (acres)	Enter Impervious Area (sq. ft):	3473.302579	0.08	BMP 1	Bioretention (85%)	BIO-DA02-1
	Enter Disturbed Pervious Area (acres):	0.16		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA02-2
	Enter Undisturbed Upland Area (acres):			BMP 3	Constructed Wetland (85%)	CWX-DA02-3
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.24		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	508				
	TSS Loading Rate w/out BMP (lb/ac/yr)	2,141				
	TSS Load w/ BMP (lbs)	26				
	TSS Loading Rate w/ BMP (lb/ac/yr)	111				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 3			BMP MATRIX		BMP Identifier	
Area (acres)	Enter Impervious Area (sq. ft):	5390.313587	0.12	BMP 1	Bioretention (85%)	BIO-DA03-1
	Enter Disturbed Pervious Area (acres):	0.33		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA03-2
	Enter Undisturbed Upland Area (acres):			BMP 3	Constructed Wetland (85%)	CWX-DA03-3
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	0.46		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	896				
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,957				
	TSS Load w/ BMP (lbs)	46				
	TSS Loading Rate w/ BMP (lb/ac/yr)	101				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Drainage Area 4			BMP MATRIX		BMP Identifier	
Area (acres)	Enter Impervious Area (sq. ft):	86972.98361	2.00	BMP 1	Bioretention (85%)	BIO-DA04-1
	Enter Disturbed Pervious Area (acres):	0.72		BMP 2	Extended Wet Detention (WQ & D) (80%)	EWD-DA04-2
	Enter Undisturbed Upland Area (acres):			BMP 3	Constructed Wetland (85%)	CWX-DA04-3
	Enter Undisturbed Stream Buffers (acres):			BMP 4	None	NA
	Total Area (acres)	2.72		BMP 5	None	NA
Pollutant Loads	TSS Load w/out BMP (lbs)	8,857				
	TSS Loading Rate w/out BMP (lb/ac/yr)	3,254				
	TSS Load w/ BMP (lbs)	458				
	TSS Loading Rate w/ BMP (lb/ac/yr)	168				
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin:		Pick From List				
Commission District:		Choose One				

Figure 13b: Proposed Conditions

Drainage Area 5			BMP MATRIX		BMP Identifier	
Enter Impervious Area (sq. ft):	892,371,877	0.02	BMP 1	Bioretention	(85%)	BIO-DA05-1
Enter Disturbed Pervious Area (acres):	0.07					
Enter Undisturbed Upland Area (acres):	0.02					
Enter Undisturbed Stream Buffers (acres):						
Total Area (acres)	0.11					
Pollutant Loads	TSS Load w/out BMP (lbs)	176	BMP 2	Extended Wet Detention (WQ & D)	(80%)	EWD-DA05-2
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,565				
	TSS Load w/ BMP (lbs)	9				
	TSS Loading Rate w/ BMP (lb/ac/yr)	81				
Porous Pavement (Acres):			BMP 3	Constructed Wetland	(85%)	CWX-DA05-3
District/LandLot/Parcel:						
Watershed Basin:	Pick From List					
Commission District:	Choose One					
			BMP 4	None		NA
			BMP 5	None		NA

Drainage Area 6			BMP MATRIX		BMP Identifier	
Enter Impervious Area (sq. ft):	2506,646,555	0.06	BMP 1	Bioretention	(85%)	BIO-DA06-1
Enter Disturbed Pervious Area (acres):	0.09					
Enter Undisturbed Upland Area (acres):						
Enter Undisturbed Stream Buffers (acres):						
Total Area (acres)	0.15					
Pollutant Loads	TSS Load w/out BMP (lbs)	341	BMP 2	Extended Wet Detention (WQ & D)	(80%)	EWD-DA06-2
	TSS Loading Rate w/out BMP (lb/ac/yr)	2,273				
	TSS Load w/ BMP (lbs)	18				
	TSS Loading Rate w/ BMP (lb/ac/yr)	118				
Porous Pavement (Acres):			BMP 3	Constructed Wetland	(85%)	CWX-DA06-3
District/LandLot/Parcel:						
Watershed Basin:	Pick From List					
Commission District:	Choose One					
			BMP 4	None		NA
			BMP 5	None		NA

Drainage Area 7			BMP MATRIX		BMP Identifier	
Enter Impervious Area (sq. ft):	2910,177,255	0.07	BMP 1	Bioretention	(85%)	BIO-DA07-1
Enter Disturbed Pervious Area (acres):	0.13					
Enter Undisturbed Upland Area (acres):						
Enter Undisturbed Stream Buffers (acres):						
Total Area (acres)	0.20					
Pollutant Loads	TSS Load w/out BMP (lbs)	425	BMP 2	Extended Wet Detention (WQ & D)	(80%)	EWD-DA07-2
	TSS Loading Rate w/out BMP (lb/ac/yr)	2,144				
	TSS Load w/ BMP (lbs)	22				
	TSS Loading Rate w/ BMP (lb/ac/yr)	111				
Porous Pavement (Acres):			BMP 3	Constructed Wetland	(85%)	CWX-DA07-3
District/LandLot/Parcel:						
Watershed Basin:	Pick From List					
Commission District:	Choose One					
			BMP 4	None		NA
			BMP 5	None		NA

Drainage Area 8			BMP MATRIX		BMP Identifier	
Enter Impervious Area (sq. ft):	2389,087,723	0.05	BMP 1	Bioretention	(85%)	BIO-DA08-1
Enter Disturbed Pervious Area (acres):	0.14					
Enter Undisturbed Upland Area (acres):						
Enter Undisturbed Stream Buffers (acres):						
Total Area (acres)	0.20					
Pollutant Loads	TSS Load w/out BMP (lbs)	388	BMP 2	Extended Wet Detention (WQ & D)	(80%)	EWD-DA08-2
	TSS Loading Rate w/out BMP (lb/ac/yr)	1,985				
	TSS Load w/ BMP (lbs)	20				
	TSS Loading Rate w/ BMP (lb/ac/yr)	103				
Porous Pavement (Acres):			BMP 3	Constructed Wetland	(85%)	CWX-DA08-3
District/LandLot/Parcel:						
Watershed Basin:	Pick From List					
Commission District:	Choose One					
			BMP 4	None		NA
			BMP 5	None		NA

Figure 13b: Proposed Conditions

Drainage Area 9			BMP MATRIX			BMP Identifier											
Enter Impervious Area (sq. ft):	3725,077538	0.09	BMP 1	Bioretention	(85%)	BIO-DA09-1											
Enter Disturbed Pervious Area (acres):	0.31	BMP 2					Extended Wet Detention (WQ & D)	(80%)	EWD-DA09-2								
Enter Undisturbed Upland Area (acres):	0.06									BMP 3	Constructed Wetland	(85%)	CWX-DA09-3				
Enter Undisturbed Stream Buffers (acres):														BMP 4	None		NA
Total Area (acres)	0.46																
Pollutant Loads																	
TSS Load w/out BMP (lbs)	747																
TSS Loading Rate w/out BMP (lb/ac/yr)	1,632																
TSS Load w/ BMP (lbs)	39																
TSS Loading Rate w/ BMP (lb/ac/yr)	84																
Porous Pavement (Acres):																	
District/LandLot/Parcel:																	
Watershed Basin:	Pick From List																
Commission District:	Choose One																

Drainage Area 10			BMP MATRIX			BMP Identifier											
Enter Impervious Area (sq. ft):	8699,289806	0.20	BMP 1	Bioretention	(85%)	BIO-DA10-1											
Enter Disturbed Pervious Area (acres):	0.41	BMP 2					Extended Wet Detention (WQ & D)	(80%)	EWD-DA10-2								
Enter Undisturbed Upland Area (acres):										BMP 3	Constructed Wetland	(85%)	CWX-DA10-3				
Enter Undisturbed Stream Buffers (acres):														BMP 4	None		NA
Total Area (acres)	0.61																
Pollutant Loads																	
TSS Load w/out BMP (lbs)	1,297																
TSS Loading Rate w/out BMP (lb/ac/yr)	2,110																
TSS Load w/ BMP (lbs)	67																
TSS Loading Rate w/ BMP (lb/ac/yr)	109																
Porous Pavement (Acres):																	
District/LandLot/Parcel:																	
Watershed Basin:	Pick From List																
Commission District:	Choose One																

Figure 13b: Proposed Conditions

BMP Drainage Area Distribution

[Click here to GO to the Stormwater Quality Performance Review Form - Instruction Guide](#)

Drainage Area 1			BMP MATRIX			BMP Identifier
Area (acres)			BMP 1	Bioretention	(85%)	BIO-DA01-1
Enter Impervious Area (sq. ft): 7413.882245						
Enter Disturbed Pervious Area (acres): 0.52						
Enter Undisturbed Upland Area (acres):			BMP 2	Extended Wet Detention (WQ & D)	(80%)	EWD-DA01-2
Enter Undisturbed Stream Buffers (acres):						
Total Area (acres) 0.69						
Pollutant Loads			BMP 3	Constructed Wetland	(85%)	CWX-DA01-3
TSS Load w/out BMP (lbs) 1,309						
TSS Loading Rate w/out BMP (lb/ac/yr) 1,887						
TSS Load w/ BMP (lbs) 68			BMP 4	None		NA
TSS Loading Rate w/ BMP (lb/ac/yr) 98						
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin: Pick From List			BMP 5	None		NA
Commission District: Choose One						

Drainage Area 2			BMP MATRIX			BMP Identifier
Enter Impervious Area (sq. ft): 4017.510965			BMP 1	Bioretention	(85%)	BIO-DA02-1
Enter Disturbed Pervious Area (acres): 0.09						
Enter Undisturbed Upland Area (acres):			BMP 2	Extended Wet Detention (WQ & D)	(80%)	EWD-DA02-2
Enter Undisturbed Stream Buffers (acres):						
Total Area (acres) 0.18						
Pollutant Loads			BMP 3	Constructed Wetland	(85%)	CWX-DA02-3
TSS Load w/out BMP (lbs) 477						
TSS Loading Rate w/out BMP (lb/ac/yr) 2,617						
TSS Load w/ BMP (lbs) 25			BMP 4	None		NA
TSS Loading Rate w/ BMP (lb/ac/yr) 135						
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin: Pick From List			BMP 5	None		NA
Commission District: Choose One						

Drainage Area 3			BMP MATRIX			BMP Identifier
Enter Impervious Area (sq. ft): 4,582.00			BMP 1	Extended Wet Detention (WQ & D)	(80%)	BIO-DA03-1
Enter Disturbed Pervious Area (acres): 0.88						
Enter Undisturbed Upland Area (acres):			BMP 2	Constructed Wetland	(85%)	EWD-DA03-2
Enter Undisturbed Stream Buffers (acres):						
Total Area (acres) 0.99						
Pollutant Loads			BMP 3	None		CWX-DA03-3
TSS Load w/out BMP (lbs) 1,315						
TSS Loading Rate w/out BMP (lb/ac/yr) 1,335						
TSS Load w/ BMP (lbs) 151			BMP 4	None		NA
TSS Loading Rate w/ BMP (lb/ac/yr) 154						
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin: Pick From List			BMP 5	None		NA
Commission District: Choose One						

Drainage Area 4			BMP MATRIX			BMP Identifier
Enter Impervious Area (sq. ft):			BMP 1	None		NA
Enter Disturbed Pervious Area (acres):						
Enter Undisturbed Upland Area (acres):			BMP 2	None		NA
Enter Undisturbed Stream Buffers (acres):						
Total Area (acres) 0.00						
Pollutant Loads			BMP 3	None		NA
TSS Load w/out BMP (lbs) 0						
TSS Loading Rate w/out BMP (lb/ac/yr) --						
TSS Load w/ BMP (lbs) 0			BMP 4	None		NA
TSS Loading Rate w/ BMP (lb/ac/yr) --						
Porous Pavement (Acres):						
District/LandLot/Parcel:						
Watershed Basin: Pick From List			BMP 5	None		NA
Commission District: Choose One						

Figure 13c: TSS Summary

Existing Conditions			
Basin Number	TSS Load w/ BMP (lbs)	Acreage	TSS Loading Rate w/ BMP (lb/ac/yr)
1	40	0.23	174
2	40	0.24	167
3	83	0.46	180
6	1046	2.72	384
9	8	0.11	71
10	15	0.15	97
11	20	0.2	102
12a	38	0.19	193
12b	73	0.46	157
13	120	0.61	195
14	119	0.7	171
15	36	0.18	200
Bypass	171	0.99	174
Totals	1809	7.24	2265

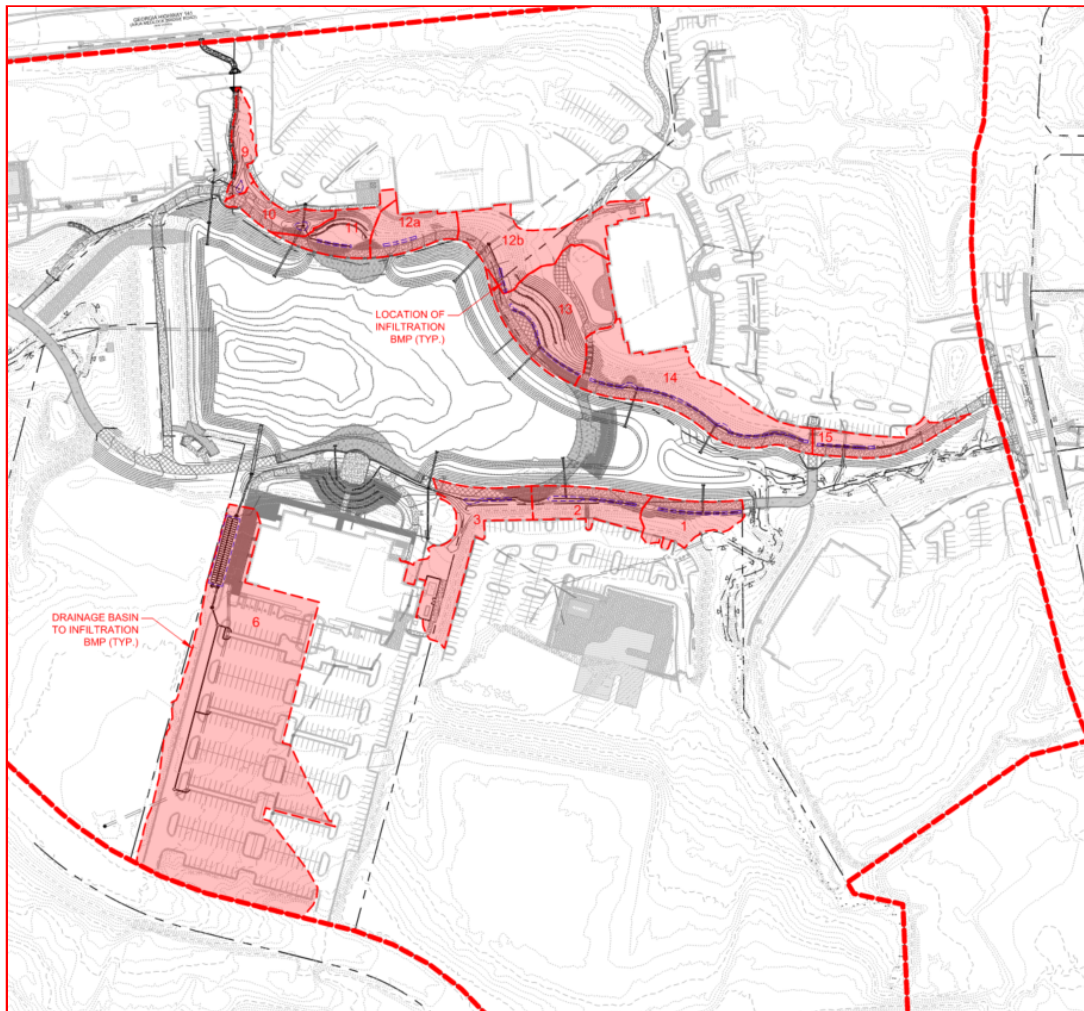
Proposed Conditions			
Basin Number	TSS Load w/ BMP (lbs)	Acreage	TSS Loading Rate w/ BMP (lb/ac/yr)
1	23	0.23	104
2	26	0.24	111
3	46	0.46	101
6	458	2.72	168
9	9	0.11	81
10	18	0.15	118
11	22	0.2	111
12a	20	0.2	103
12b	39	0.46	84
13	67	0.61	109
14	68	0.69	98
15	25	0.18	135
Bypass	151	0.99	154
Totals	972	7.24	1477

TSS Loading Rate w/ BMPs (lb/ac/yr)	
Existing Conditions	2265
Proposed Conditions	1477

% Reduction in TSS Loading Rate w/BMPs (lb/ac/yr) from Existing to Proposed conditions	
34.79%	

% Reduction in TSS Loading Rate w/BMPs (lbs) from Existing to Proposed conditions	
46.27%	

% Change in TSS Loading Rate w/BMPs (lb/ac/yr) from Existing to Proposed conditions	
Basin Number	
1	40.23%
2	33.53%
3	43.89%
6	56.25%
9	-14.08%
10	-21.65%
11	-8.82%
12a	46.63%
12b	46.50%
13	44.10%
14	42.69%
15	32.50%
Bypass	11.49%
(% Reduction: Green) (% Increase: Red)	



Georgia Stormwater Management Manual

Stormwater Quality Site Development Review Tool

Version 2.2

General Information

Name of Developer:	City of Johns Creek	Date Submitted:	
Development Name:	Creekside	Permit Number:	
Site Location / Address:	11360 Lakefield Dr. Johns Creek, GA 30097	Developer Contact:	Cory Rayburn
		Phone Number:	678-512-3285
		Name of Engineer(s):	Charles Beadles
Development Type:	Parks, Recreation & Conservation Areas	Maintenance Responsibility:	City of Johns Creek

Site Summary

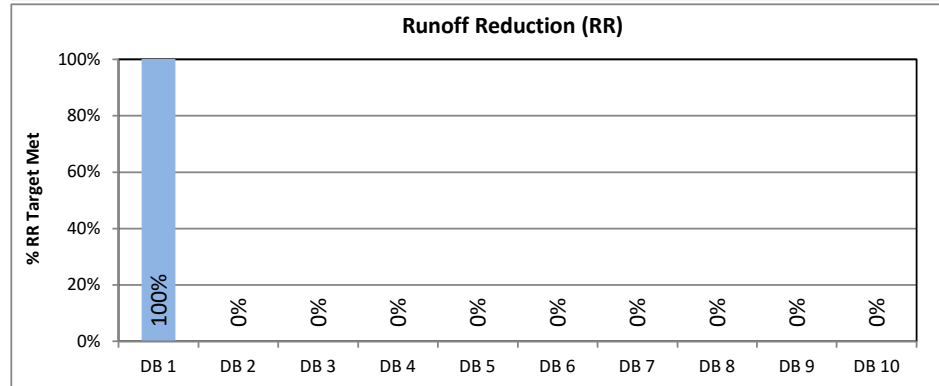
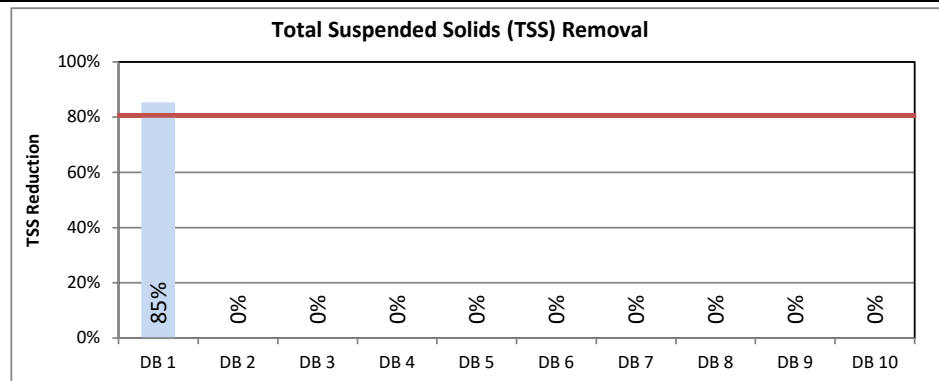
Total Pre-Development Area (ac): 8.95
Total Post-Development Area (ac): 8.95
Total Treated Area (ac): 6.61
Total Untreated Area (ac): 2.34

		I (ac)	P (ac)	CA (ac)
Design Basin 1	DB 1	2.86	6.09	0.00
Drainage Basin 2	DB 2	0.00	0.00	0.00
Drainage Basin 3	DB 3	0.00	0.00	0.00
Drainage Basin 4	DB 4	0.00	0.00	0.00
Drainage Basin 5	DB 5	0.00	0.00	0.00
Drainage Basin 6	DB 6	0.00	0.00	0.00
Drainage Basin 7	DB 7	0.00	0.00	0.00
Drainage Basin 8	DB 8	0.00	0.00	0.00
Drainage Basin 9	DB 9	0.00	0.00	0.00
Drainage Basin 10	DB 10	0.00	0.00	0.00
TOTAL		2.86	6.09	0.00

I = Impervious Area, P = Pervious Area, CA = Conservation Area

Target Runoff Reduction Volume Achieved? Yes
Target TSS Removal Achieved? Yes

 Total Target Runoff Reduction Volume (cf) 10,968
 Runoff Reduction Volume Achieved (cf) 10,978
 Total Target Water Quality Volume (cf) 13,162
 % TSS Removal Achieved 85%



Official Use Only

Tracking #: _____
Reviewed By: _____
Date Approved: _____

Conditions of Approval: _____

Georgia Stormwater Management Manual

Stormwater Quality Site Development Review Tool, v2.2

Development Name: **Creekside**
 Drainage Basin Name: **Design Basin 1**

data input cells
 calculation cells
 constant values

Site Data

Indicate Pre-Development Land Cover and Runoff Curve Numbers in the Site's Disturbed Area

Cover Type	HSG* A (acres)	CN	HSG B (acres)	CN	HSG C (acres)	CN	HSG D (acres)	CN	Total	% Cover
Woods - Good Condition	0.08	30	2.50	55		70		77	2.58	29%
Open space - Good condition (grass cover > 75%)	0.69	39	5.12	61		74		80	5.81	65%
Impervious	0.10	98	0.46	98		98		98	0.56	6%
Select a land cover type...		0		0		0		0	0.00	0%
Select a land cover type...		0		0		0		0	0.00	0%
Local Jurisdiction Input									0.00	0%
Other									0.00	0%
Total	0.87		8.08		0.00		0.00		8.95	100%

*HSG = hydrologic soil group

Impervious (ac) 0.56
 Weighted CN 60
 Potential Max Soil Retention, S_{pre} (in) 6.76

Indicate Post-Development Land Cover and Runoff Curve Numbers in the Site's Disturbed Area

Cover Type	HSG A (acres)	CN	HSG B (acres)	CN	HSG C (acres)	CN	HSG D (acres)	CN	Total	% Cover
Open space - Good condition (grass cover > 75%)	0.49	39	5.60	61		74		80	6.09	68%
Impervious	0.38	98	2.48	98		98		98	2.86	32%
Select a land cover type...		0		0		0		0	0.00	0%
Select a land cover type...		0		0		0		0	0.00	0%
Select a land cover type...		0		0		0		0	0.00	0%
Local Jurisdiction Input									0.00	0%
Other									0.00	0%
Total	0.87		8.08		0.00		0.00		8.95	100%

Impervious (ac) 2.86
 Rv 0.34
 Weighted CN 72
 Potential Max Soil Retention, S_{post} (in) 3.96

Conservation Area Credits

Scenario 1: Natural Conservation Area **See the GSMM Volume 2, Section 2.3.3.3 for more information.*

Check the box if a portion of the post-developed area is protected by a conservation easement or equivalent form of protection.

 Area (ac) of development protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 1 box above is checked

Scenario 3: Soil Restoration **See the GSMM Volume 2, Section 4.23 for more information.*

Check the box if a portion of the post-developed area employs soil restoration and is protected by a conservation easement or equivalent form of protection.

 Area (ac) of development with restored soils and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 3 box above is checked

Scenario 2: Site Reforestation/Revegetation **See the GSMM Volume 2, Section 4.22 for more information.*

Check the box if a portion of the post-developed area employs site reforestation/revegetation and is protected by a conservation easement or equivalent form of protection.

 Area (ac) of development reforested/revegetated and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 2 box above is checked

Scenario 4: Site Reforestation/Revegetation & Soil Restoration **See the GSMM Volume 2, Section 4.22 and 4.23 for more information.*

Check the box if the same portion of the post-developed area employs site reforestation/revegetation and soil restoration, and is protected by a conservation easement or equivalent form of protection.

 Area (ac) with restored soils in a reforested & revegetated area and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 4 box above is checked

Total Conservation Area Credit (acres) 0.00

Georgia Stormwater Management Manual

Stormwater Quality Site Development Review Tool, v2.2

Development Name: **Creekside**
 Drainage Basin Name: **Design Basin 1**

data input cells
 calculation cells
 constant values

Water Quality Goals

Target Runoff Reduction Storm (in) **1.00**

Total Site Area for Water Quality Volume (acres)	8.95
Target Runoff Reduction Volume (cf)	10,968
Target Water Quality Volume (cf)	13,162

Select BMPs for Runoff Reduction and Water Quality

		Area Draining to Each BMP			Storage Volume Provided by BMP (cf)	RR Conveyance Volume Provided by BMP (cf)	Down-stream BMP	Runoff Reduction Calculations						WQ Calculations	
		On-site Pervious Area (acres)	On-site Impervious Area (acres)	Offsite Area (acres)				RR Volume from Direct Drainage (cf)	RR Volume from Upstream Practices (cf)	Total RR Volume Received by BMP (cf)	Runoff Reduction %	RR Achieved (cf)	Remaining RR Volume (cf)	WQ _v from Direct Drainage (cf)	Effective TSS Removal %
BMP 1	Bioretention Basin (w/ upturned underdrain)	0.74	0.19		3,167			790	0	790	75%	790	0	947	85%
BMP 2	Bioslope (A & B hydrologic soils)	0.14	0.05		350			198	0	198	50%	175	23	237	85%
BMP 3	Bioslope (A & B hydrologic soils)	0.11	0.03		250			123	0	123	50%	123	0	148	85%
BMP 4	Bioretention Basin (w/ upturned underdrain)	0.66	2.06		9,632			7,224	0	7,224	75%	7,224	0	8,668	85%
BMP 5	Bioretention Basin (w/ upturned underdrain)	1.96	0.67		7,754			2,666	0	2,666	75%	2,666	0	3,199	85%
BMP 6	Select a BMP...							0	0	0	N/A	0	0	0	N/A
BMP 7	Select a BMP...							0	0	0	N/A	0	0	0	N/A
BMP 8	Select a BMP...							0	0	0	N/A	0	0	0	N/A
BMP 9	Select a BMP...							0	0	0	N/A	0	0	0	N/A
BMP 10	Select a BMP...							0	0	0	N/A	0	0	0	N/A
TOTAL		3.61	3.00	0.00				11,001				10,978		13,201	
UNTREATED AREA (acres)		2.48	0.00												

Target Runoff Reduction Volume (cf)	10,968
Target Achieved?	Yes!
Remaining Runoff Reduction Volume (cf)	0

Target Water Quality Volume (cf)	13,162
% TSS Removal Achieved	85%
Target Achieved?	Yes!
Remaining TSS Removal %	0%

Georgia Stormwater Management Manual

Stormwater Quality Site Development Review Tool, v2.2

Development Name:

Drainage Basin Name:

data input cells
 calculation cells
 constant values

Channel and Flood Protection Calculations

	1-yr, 24-hr storm	2-yr, 24-hr storm	25-yr, 24-hr storm	100-yr, 24-hr storm
Target Rainfall Event (in)				

	1-yr, 24-hr storm	2-yr, 24-hr storm	25-yr, 24-hr storm	100-yr, 24-hr storm
Pre-Development Runoff Volume (in)	0.00	0.00	0.00	0.00
Post Development Runoff Volume (in) with no BMPs	0.00	0.00	0.00	0.00
Post-Development Runoff Volume (in) with BMPs	0.00	0.00	0.00	0.00
Adjusted CN	0	0	0	0

*See Stormwater Management Standards to Determine Detention Requirements.

Comments



ENGINEER:
FORESITE
 group
 Foresite Group, LLC. w | www.fg-inc.net
 3740 Davinci Ct. o | 770.368.1399
 Suite 100 f | 770.368.1944
 Peachtree Corners, GA 30092

DEVELOPER:
Johns Creek
 GEORGIA
be the exception
 CITY OF JOHNS CREEK
 11360 LAKEFIELD DRIVE
 JOHNS CREEK, GA 30097
 (678) 512-3200
 CONTACT: ERICA MADSEN, P.E.

PROJECT:
CREEKSIDE PARK
 CONSTRUCTION DOCUMENTS
 11360 LAKEFIELD DRIVE
 JOHNS CREEK, GA 30097
 11-0381, 0382, 0375, 0374
 PARCEL #: ---, PERMIT #-#####>

SEAL:

REVISIONS	DATE

PROJECT MANAGER: _____ PT
 DRAWING BY: _____ PT
 JURISDICTION: _____ JOHNS CREEK, GA
 DATE: _____ 07-13-2023
 SCALE: _____ 1" = 20'
 TITLE: _____

BMP EXHIBIT
 SHEET NUMBER:
EX-1
 COMMENTS: NOT RELEASED FOR CONSTRUCTION
 JOB/FILE NUMBER: 939.011