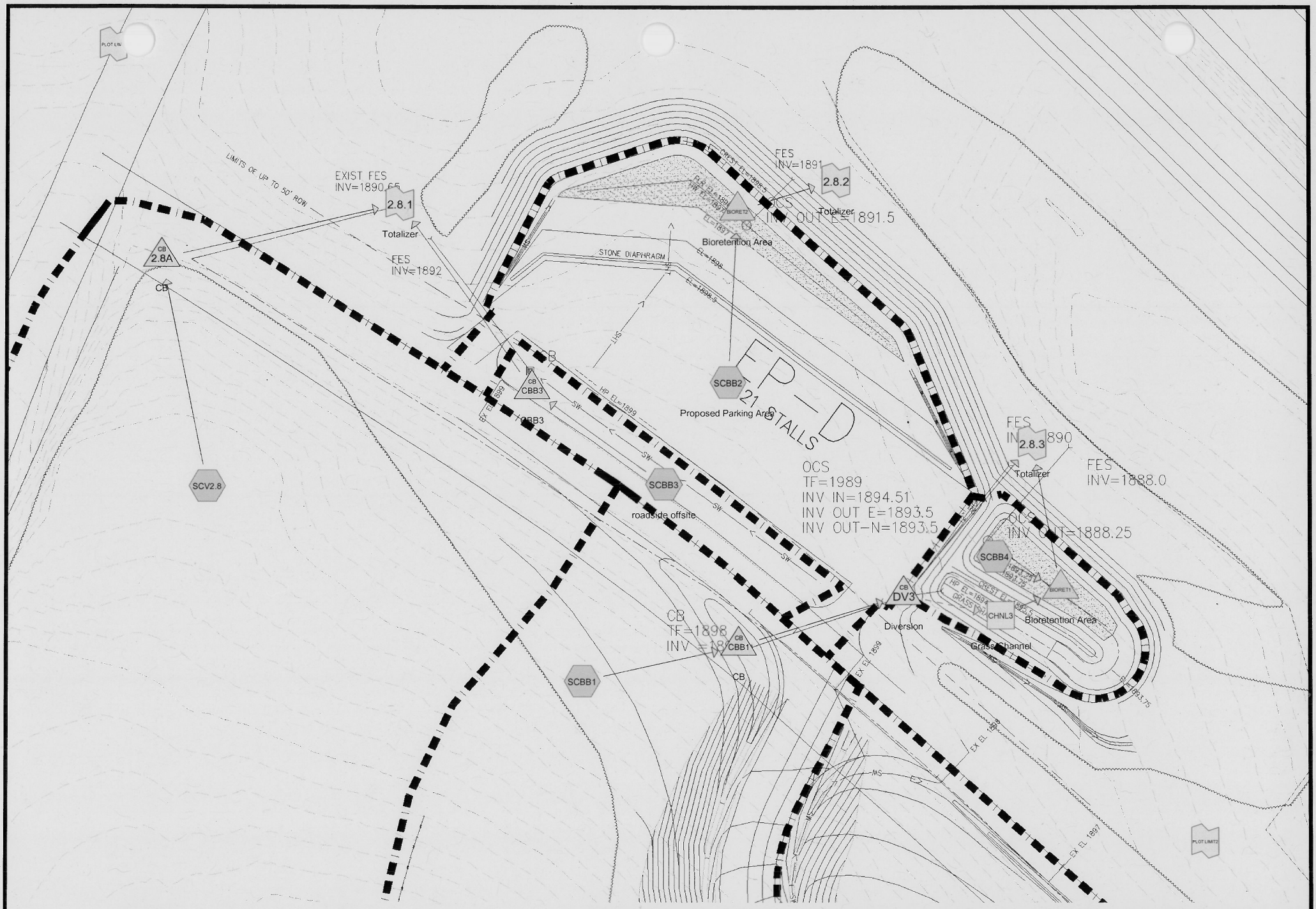

Subcat Reach Pond Link

Drainage Diagram for PR East Parking 110509 Biofilter Area 3of3

Prepared by NYSDEC DOP BD&C, Printed 11/10/2009

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.546	70	Woods, Good, HSG C (SCBB1,SCV2.8)
1.766	74	grassland, good (SCBB1,SCBB2,SCBB3,SCBB4,SCV2.8)
0.245	98	Parking area (SCBB2)
0.479	98	Paved or Impervious (SCV2.8)
0.168	98	Paved parking 60x360 (SCBB1,SCBB3)
5.203		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
2.546	HSG C	SCBB1, SCV2.8
0.000	HSG D	
2.657	Other	SCBB1, SCBB2, SCBB3, SCBB4, SCV2.8
5.203		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment SCBB1: Runoff Area=39,299 sf 15.81% Impervious Runoff Depth>3.36"
Flow Length=287' Tc=26.0 min CN=76 Runoff=2.90 cfs 0.252 af

Subcatchment SCBB2: Proposed Parking Area Runoff Area=18,500 sf 57.61% Impervious Runoff Depth>4.62"
Tc=6.0 min CN=88 Runoff=3.28 cfs 0.164 af

Subcatchment SCBB3: roadside offsite Runoff Area=3,510 sf 31.00% Impervious Runoff Depth>3.88"
Tc=6.0 min CN=81 Runoff=0.54 cfs 0.026 af

Subcatchment SCBB4: Runoff Area=4,064 sf 0.00% Impervious Runoff Depth>3.18"
Tc=6.0 min CN=74 Runoff=0.53 cfs 0.025 af

Subcatchment SCV2.8: Runoff Area=161,258 sf 12.94% Impervious Runoff Depth>3.26"
Flow Length=1,083' Tc=24.8 min CN=75 Runoff=11.88 cfs 1.006 af

Reach CHNL3: Grass Channel Avg. Depth=0.10' Max Vel=0.20 fps Inflow=0.17 cfs 0.040 af
n=0.150 L=77.0' S=0.0097 '/' Capacity=1.42 cfs Outflow=0.16 cfs 0.040 af

Pond 2.8A: CB Peak Elev=1,894.45' Inflow=11.88 cfs 1.006 af
Outflow=11.88 cfs 1.006 af

Pond BIORET1: Bioretention Area Peak Elev=1,893.81' Storage=623 cf Inflow=0.62 cfs 0.065 af
Discarded=0.00 cfs 0.003 af Primary=0.44 cfs 0.049 af Outflow=0.45 cfs 0.052 af

Pond BIORET2: Bioretention Area Peak Elev=1,897.62' Storage=2,803 cf Inflow=3.28 cfs 0.163 af
Discarded=0.08 cfs 0.113 af Primary=1.25 cfs 0.036 af Outflow=1.33 cfs 0.149 af

Pond CBB1: CB Peak Elev=1,896.23' Inflow=2.90 cfs 0.252 af
12.0" x 65.0' Culvert Outflow=2.90 cfs 0.252 af

Pond CBB3: CBB3 Peak Elev=1,894.37' Inflow=0.54 cfs 0.026 af
12.0" x 65.0' Culvert Outflow=0.54 cfs 0.026 af

Pond DV3: Diversion Peak Elev=1,895.52' Inflow=2.90 cfs 0.252 af
Primary=2.73 cfs 0.212 af Secondary=0.17 cfs 0.040 af Outflow=2.90 cfs 0.252 af

Link 2.8.1: Totalizer Inflow=11.97 cfs 1.032 af
Primary=11.97 cfs 1.032 af

Link 2.8.2: Totalizer Inflow=1.25 cfs 0.036 af
Primary=1.25 cfs 0.036 af

Link 2.8.3: Totalizer Inflow=2.97 cfs 0.261 af
Primary=2.97 cfs 0.261 af

Link PLOT LIMIT:
Primary=0.00 cfs 0.000 af

Link PLOT LIMIT2:
Primary=0.00 cfs 0.000 af

Total Runoff Area = 5.203 ac Runoff Volume = 1.473 af Average Runoff Depth = 3.40"
82.87% Pervious = 4.311 ac 17.13% Impervious = 0.891 ac

Summary for Subcatchment SCBB1:

Ru = 2.90 cfs @ 12.19 hrs, Volume= 0.252 af, Depth> 3.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr Q10 Rainfall=6.00"

	Area (sf)	CN	Description
*	6,215	98	Paved parking 60x360
*	17,193	74	grassland, good
	15,891	70	Woods, Good, HSG C
	39,299	76	Weighted Average
	33,084		Pervious Area
	6,215		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	100	0.0450	0.07		**Sheet Flow, SHT** Woods: Dense underbrush n= 0.800 P2= 4.00"
1.3	70	0.1200	0.87		**Shallow Concentrated Flow, SCF** Forest w/Heavy Litter Kv= 2.5 fps
0.4	60	0.1200	2.42		**Shallow Concentrated Flow, SCF** Short Grass Pasture Kv= 7.0 fps
0.1	57	0.2100	17.72	106.31	**Channel Flow, OCF** Area= 6.0 sf Perim= 8.7' r= 0.69' n= 0.030 Earth, grassed & winding
26.0	287	Total			

Summary for Subcatchment SCBB2: Proposed Parking Area

Runoff = 3.28 cfs @ 11.97 hrs, Volume= 0.164 af, Depth> 4.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr Q10 Rainfall=6.00"

	Area (sf)	CN	Description
*	10,658	98	Parking area
*	7,842	74	grassland, good
	18,500	88	Weighted Average
	7,842		Pervious Area
	10,658		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry of 6.0 minutes min Tc**

Summary for Subcatchment SCBB3: roadside offsite

Runoff = 0.54 cfs @ 11.97 hrs, Volume= 0.026 af, Depth> 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr Q10 Rainfall=6.00"

	Area (sf)	CN	Description
*	1,088	98	Paved parking 60x360
*	2,422	74	grassland, good
	3,510	81	Weighted Average
	2,422		Pervious Area
	1,088		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
[illegible]					**Direct Entry, Direct Entry min Tc = 0.1 hours**

Summary for Subcatchment SCBB4:

Runoff = 0.53 cfs @ 11.97 hrs, Volume= 0.025 af, Depth> 3.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr Q10 Rainfall=6.00"

	Area (sf)	CN	Description
*	4,064	74	grassland, good
	4,064		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry of 6.0 minutes min Tc**

Summary for Subcatchment SCV2.8:

Check for non-erosive peak velocity 3.5 to 5.0 fps during 2-yr 24-hr event with 4.00 inch rain.

Imperv Parking Lot
use 2% cross slope

Dry swale

#% [illegible]ax longitudinal slope
#' [illegible] floor?

see acad layout

Runoff = 11.88 cfs @ 12.18 hrs, Volume= 1.006 af, Depth> 3.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr Q10 Rainfall=6.00"

	Area (sf)	CN	Description
*	20,865	98	Paved or Impervious
*	45,399	74	grassland, good
	94,994	70	Woods, Good, HSG C
	161,258	75	Weighted Average
	140,393		Pervious Area
	20,865		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.3	100	0.0700	0.08		**Sheet Flow, Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 4.00"
3.3	144	0.0830	0.72		**Shallow Concentrated Flow, SSC to DS** Forest w/Heavy Litter Kv= 2.5 fps
0.8	458	0.0415	9.88	44.44	**Channel Flow, Diversion SW then Roadside SW** Area= 4.5 sf Perim= 7.4' r= 0.61' n= 0.022 Earth, clean & straight
[illegible]1	71	0.0560	14.15	56.62	**Channel Flow, Channel** Area= 4.0 sf Perim= 4.8' r= 0.83' n= 0.022 Earth, clean & straight
0.3	310	0.0806	15.83	94.98	**Channel Flow, CH Roadside Ditch** Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.022 Earth, clean & straight
24.8	1,083	Total			