

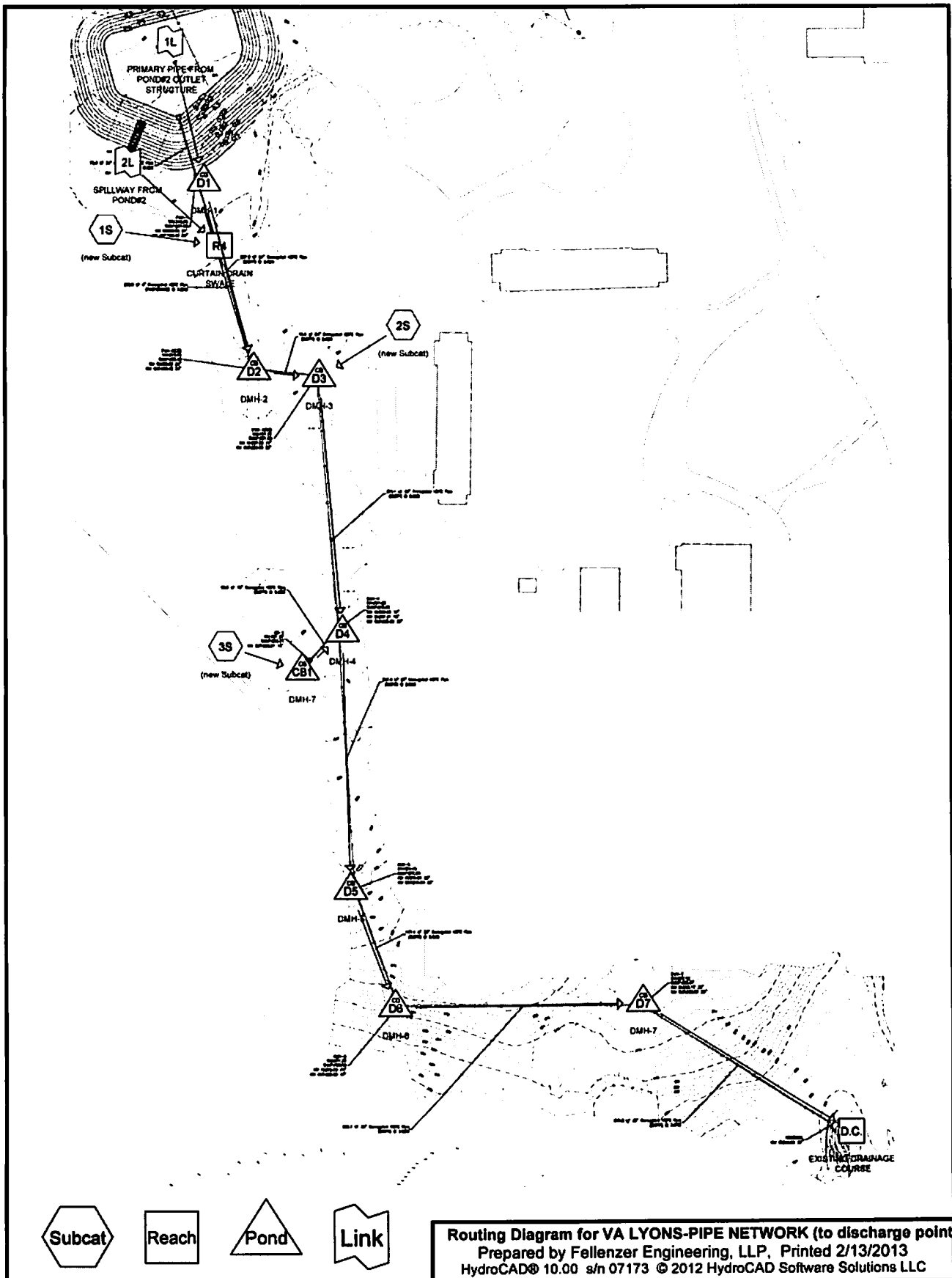
Subcat

Reach

Pond

Link

Routing Diagram for VA LYONS (complete storm sys) - SIDE-B
Prepared by Fellenzer Engineering, LLP. Printed 2/13/2013
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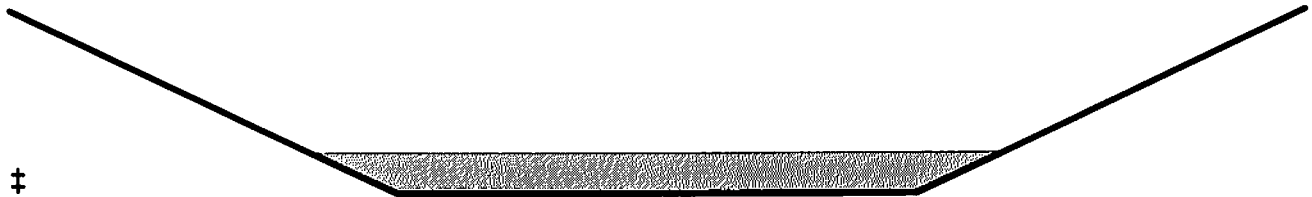
Summary for Reach R1: GRASS SWALE TO POND 1

Inflow Area = 77,217 sf, 0.00% Impervious, Inflow Depth = 2.38" for SOMERSET-10YR event
Inflow = 3.65 cfs @ 12.22 hrs, Volume= 15,316 cf
Outflow = 3.63 cfs @ 12.23 hrs, Volume= 15,316 cf, Atten= 1%, Lag= 0.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 8
Max. Velocity= 3.37 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.08 fps, Avg. Travel Time= 2.8 min

Peak Storage= 191 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 53.82 cfs

4.00' x 1.00' deep channel, n= 0.025 Earth, clean & straight
Side Slope Z-value= 3.0 ' Top Width= 10.00'
Length= 178.0' Slope= 0.0281 '
Inlet Invert= 315.00', Outlet Invert= 310.00'



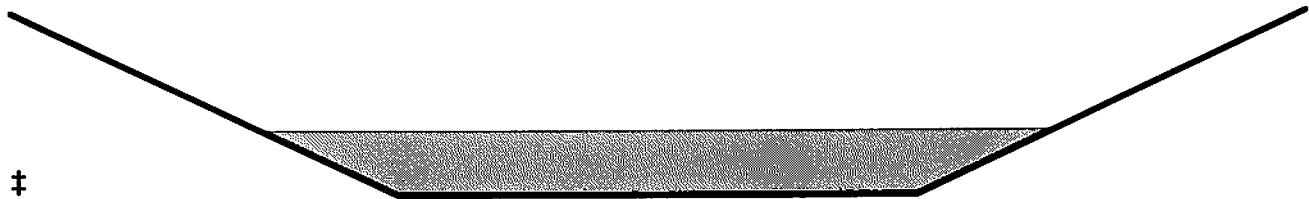
Summary for Reach R1: GRASS SWALE TO POND 1

Inflow Area = 77,217 sf, 0.00% Impervious, Inflow Depth = 5.14" for SOMERSET-100YR event
Inflow = 7.92 cfs @ 12.21 hrs, Volume= 33,080 cf
Outflow = 7.92 cfs @ 12.22 hrs, Volume= 33,080 cf, Atten= 0%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 8
Max. Velocity= 4.35 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.33 fps, Avg. Travel Time= 2.2 min

Peak Storage= 323 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 53.82 cfs

4.00' x 1.00' deep channel, n= 0.025 Earth, clean & straight
Side Slope Z-value= 3.0 ' Top Width= 10.00'
Length= 178.0' Slope= 0.0281 '
Inlet Invert= 315.00', Outlet Invert= 310.00'



Summary for Reach R2: GRAVEL SWALE

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 8
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 9.0 sf, Capacity= 92.87 cfs

6.00' x 1.00' deep channel, n= 0.025 Earth, clean & straight
Side Slope Z-value= 3.0 ' Top Width= 12.00'
Length= 120.0' Slope= 0.0458 '/
Inlet Invert= 309.50', Outlet Invert= 304.00'



Summary for Reach R3: SPILLWAY FROM POND 2

[80] Warning: Exceeded Pond P2 by 4.50' @ 0.00 hrs (0.31 cfs 106,228 cf)

Inflow	=	0.00 cfs @	0.00 hrs,	Volume=	0 cf
Outflow	=	0.00 cfs @	0.00 hrs,	Volume=	0 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 8
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 8.0 sf, Capacity= 221.08 cfs

6.00' x 1.00' deep channel, n= 0.025 Earth, clean & straight
Side Slope Z-value= 2.0 ' / ' Top Width= 10.00'
Length= 21.0' Slope= 0.3095 ' / '
Inlet Invert= 304.50', Outlet Invert= 298.00'



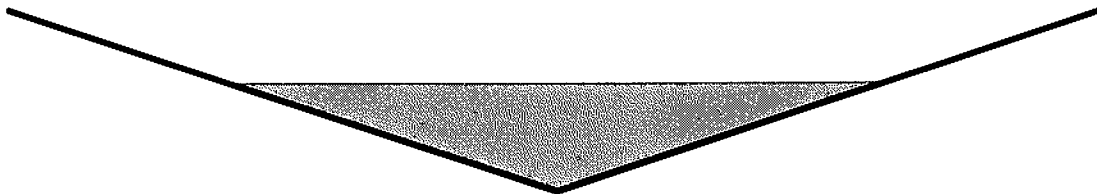
Summary for Reach R4: CURTAIN DRAIN SWALE

Inflow Area = 25,000 sf, 0.00% Impervious, Inflow Depth = 2.38" for SOMERSET-10YR event
Inflow = 1.04 cfs @ 12.31 hrs, Volume= 4,959 cf
Outflow = 1.03 cfs @ 12.33 hrs, Volume= 4,959 cf, Atten= 1%, Lag= 1.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 8
Max. Velocity= 2.11 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.93 fps, Avg. Travel Time= 4.2 min

Peak Storage= 116 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 0.67' Flow Area= 1.3 sf, Capacity= 3.98 cfs

0.00' x 0.67' deep channel, n= 0.025 Earth, clean & straight
Side Slope Z-value= 3.0 ' / ' Top Width= 4.02'
Length= 237.0' Slope= 0.0114 ' / '
Inlet Invert= 295.70', Outlet Invert= 293.00'



Summary for Reach R4: CURTAIN DRAIN SWALE

Inflow Area = 25,000 sf, 0.00% Impervious, Inflow Depth = 5.14" for SOMERSET-100YR event
Inflow = 2.26 cfs @ 12.29 hrs, Volume= 10,710 cf
Outflow = 2.25 cfs @ 12.31 hrs, Volume= 10,710 cf, Atten= 0%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 8
Max. Velocity= 2.56 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.08 fps, Avg. Travel Time= 3.7 min

Peak Storage= 208 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 0.67' Flow Area= 1.3 sf, Capacity= 3.98 cfs

0.00' x 0.67' deep channel, n= 0.025 Earth, clean & straight
Side Slope Z-value= 3.0 ' / ' Top Width= 4.02'
Length= 237.0' Slope= 0.0114 ' / '
Inlet Invert= 295.70', Outlet Invert= 293.00'

