Project Description

File Name	As-built outlet STM &offsite (10yr).SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	User-Defined
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jul 17, 2017	00:00:00
End Analysis On	Jul 18, 2017	00:00:00
Start Reporting On	Jul 17, 2017	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	0
Nodes	10
Junctions	8
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	9
Channels	0
Pipes	9
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Rainfall Intensity	0 in/hr

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	EX-1.0	Junction	858.94	862.00	858.92	862.00	100.00	13.85	860.32	0.00	1.68	0 00:00	0.00	0.00
2	EX-CB2	Junction	860.38	864.47	860.38	864.47	100.00	7.15	861.31	0.00	3.16	0 00:00	0.00	0.00
3	PROP-1.15	Junction	859.84	864.58	859.84	864.58	100.00	20.74	861.69	0.00	2.89	0 00:00	0.00	0.00
4	PROP-1.16	Junction	859.42	868.81	859.42	868.81	100.00	6.76	861.48	0.00	7.33	0 00:00	0.00	0.00
5	PROP-1.17	Junction	859.27	869.02	859.27	869.02	100.00	6.70	861.15	0.00	7.87	0 00:00	0.00	0.00
6	PROP-1.18	Junction	859.02	865.70	859.02	865.70	100.00	6.70	860.93	0.00	4.77	0 00:00	0.00	0.00
7	PROP-1.19	Junction	858.90	866.91	858.90	866.91	100.00	6.70	860.63	0.00	6.28	0 00:00	0.00	0.00
8	PROP-1.20	Junction	858.85	867.28	858.85	867.28	100.00	6.70	860.49	0.00	6.79	0 00:00	0.00	0.00
9	EX-CB3	Outfall	858.24					13.85	859.30					
10	PROP-1.14	Storage Node	859.97	866.08	864.70		4602.00	6.70	864.73				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	PROP-1.18	PROP-1.19	271.00	859.02	858.91	0.0400	24.000	0.0130	6.70	4.56	1.47	2.24	1.81	0.91	0.00	> CAPACITY
2	Link-02	Pipe	PROP-1.14	PROP-1.15	36.00	859.97	859.84	0.3600	24.000	0.0130	20.74	13.59	1.53	10.09	1.84	0.92	0.00	> CAPACITY
3	Link-03	Pipe	EX-CB2	EX-1.0	64.00	860.38	858.97	2.2000	18.000	0.0130	7.53	15.59	0.48	7.61	1.11	0.74	0.00	Calculated
4	Link-04	Pipe	EX-1.0	EX-CB3	56.39	858.92	858.24	1.2100	24.000	0.0130	13.85	25.20	0.55	6.91	1.22	0.61	0.00	Calculated
5	Pipe - (60)	Pipe	PROP-1.15	PROP-1.16	183.00	859.84	859.51	0.1800	24.000	0.0130	6.76	9.61	0.70	3.46	1.91	0.95	0.00	Calculated
6	Pipe - (61)	Pipe	PROP-1.16	PROP-1.17	335.00	859.42	859.27	0.0400	24.000	0.0130	6.70	4.79	1.40	3.62	1.94	0.97	0.00	> CAPACITY
7	Pipe - (62)	Pipe	PROP-1.17	PROP-1.18	162.00	859.13	859.08	0.0300	18.000	0.0130	6.70	7.19	0.93	2.15	1.50	1.00	1433.00	SURCHARGED
8	Pipe - (66)	Pipe	PROP-1.19	PROP-1.20	41.00	858.90	858.88	0.0500	24.000	0.0130	6.70	5.00	1.34	3.05	1.67	0.83	0.00	> CAPACITY
9	Pipe - (67)	Pipe	PROP-1.20	EX-1.0	25.00	858.85	858.94	-0.3600	24.000	0.0130	6.70	13.57	0.49	4.18	1.51	0.76	0.00	Calculated

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	EX-1.0	858.94	862.00	3.06	858.92	-0.02	862.00	0.00	100.00	12.72
2	EX-CB2	860.38	864.47	4.09	860.38	0.00	864.47	0.00	100.00	31.08
3	PROP-1.15	859.84	864.58	4.74	859.84	0.00	864.58	0.00	100.00	32.88
4	PROP-1.16	859.42	868.81	9.39	859.42	0.00	868.81	0.00	100.00	87.60
5	PROP-1.17	859.27	869.02	9.75	859.27	0.00	869.02	0.00	100.00	93.00
6	PROP-1.18	859.02	865.70	6.68	859.02	0.00	865.70	0.00	100.00	56.16
7	PROP-1.19	858.90	866.91	8.01	858.90	0.00	866.91	0.00	100.00	72.00
8	PROP-1.20	858.85	867.28	8.43	858.85	0.00	867.28	0.00	100.00	76.80

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	EX-1.0	13.85	0.00	860.32	1.38	0.00	1.68	860.32	1.38	0 12:56	0 00:00	0.00	0.00
2	EX-CB2	7.15	7.15	861.31	0.93	0.00	3.16	861.25	0.87	0 00:00	0 00:00	0.00	0.00
3	PROP-1.15	20.74	0.00	861.69	1.85	0.00	2.89	861.69	1.85	0 16:46	0 00:00	0.00	0.00
4	PROP-1.16	6.76	0.00	861.48	2.06	0.00	7.33	861.48	2.06	0 05:47	0 00:00	0.00	0.00
5	PROP-1.17	6.70	0.00	861.15	1.88	0.00	7.87	861.14	1.87	0 08:14	0 00:00	0.00	0.00
6	PROP-1.18	6.70	0.00	860.93	1.91	0.00	4.77	860.92	1.90	0 03:36	0 00:00	0.00	0.00
7	PROP-1.19	6.70	0.00	860.63	1.73	0.00	6.28	860.62	1.72	0 04:10	0 00:00	0.00	0.00
8	PROP-1.20	6.70	0.00	860.49	1.64	0.00	6.79	860.49	1.64	0 13:29	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	No. of Barrels
1	Link-01	271.00	859.02	0.00	858.91	0.01	0.11	0.0400	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
2	Link-02	36.00	859.97	0.00	859.84	0.00	0.13	0.3600	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
3	Link-03	64.00	860.38	0.00	858.97	0.03	1.41	2.2000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	1
4	Link-04	56.39	858.92	-0.02	858.24	0.00	0.68	1.2100	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
5	Pipe - (60)	183.00	859.84	0.00	859.51	0.09	0.33	0.1800	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
6	Pipe - (61)	335.00	859.42	0.00	859.27	0.00	0.15	0.0400	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
7	Pipe - (62)	162.00	859.13	-0.14	859.08	0.06	0.05	0.0300	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	2
8	Pipe - (66)	41.00	858.90	0.00	858.88	0.03	0.02	0.0500	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
9	Pipe - (67)	25.00	858.85	0.00	858.94	0.00	-0.09	-0.3600	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	6.70	0 03:36	4.56	1.47	2.24	2.02	1.81	0.91	0.00		> CAPACITY
2	Link-02	20.74	0 00:00	13.59	1.53	10.09	0.06	1.84	0.92	0.00		> CAPACITY
3	Link-03	7.53	0 00:00	15.59	0.48	7.61	0.14	1.11	0.74	0.00		Calculated
4	Link-04	13.85	0 05:04	25.20	0.55	6.91	0.14	1.22	0.61	0.00		Calculated
5	Pipe - (60)	6.76	0 00:04	9.61	0.70	3.46	0.88	1.91	0.95	0.00		Calculated
6	Pipe - (61)	6.70	0 16:48	4.79	1.40	3.62	1.54	1.94	0.97	0.00		> CAPACITY
7	Pipe - (62)	6.70	0 03:37	7.19	0.93	2.15	1.26	1.50	1.00	1433.00		SURCHARGED
8	Pipe - (66)	6.70	0 13:19	5.00	1.34	3.05	0.22	1.67	0.83	0.00		> CAPACITY
9	Pipe - (67)	6.70	0 13:29	13.57	0.49	4.18	0.10	1.51	0.76	0.00		Calculated

Storage Nodes

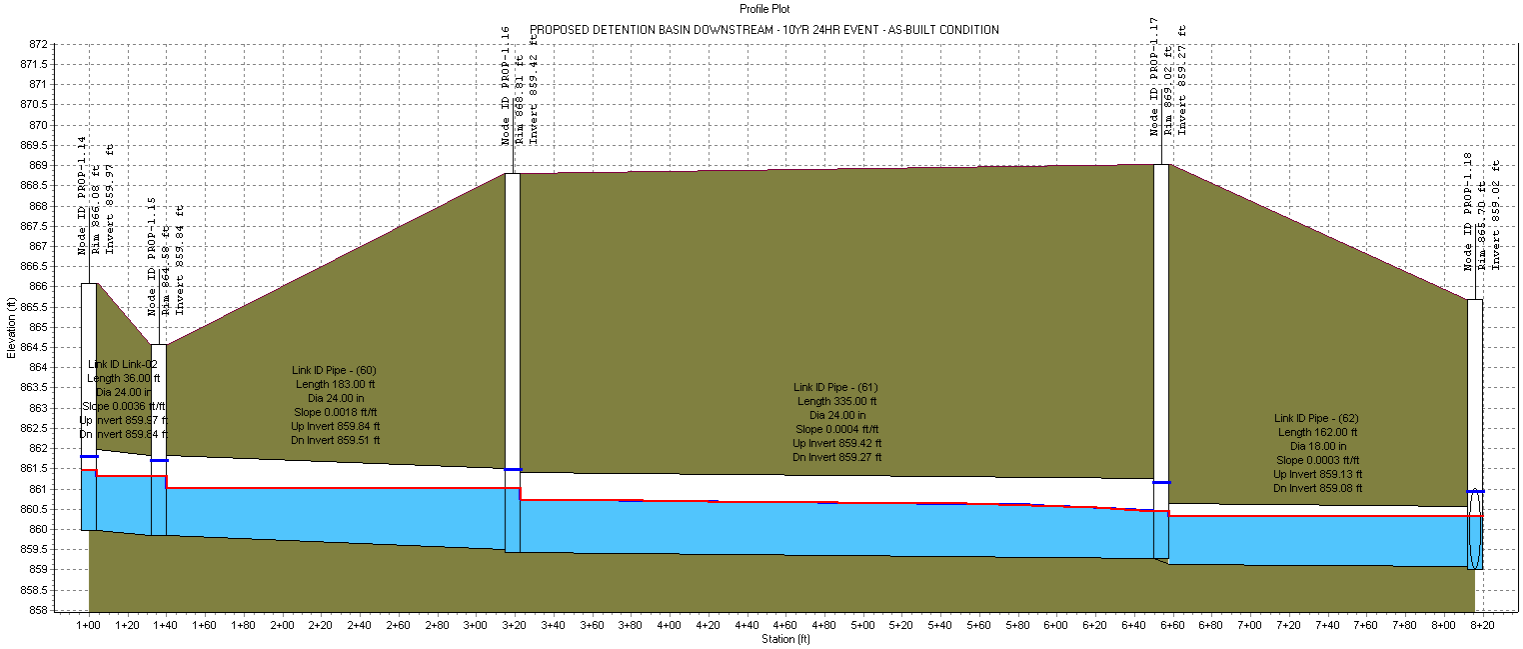
Storage Node : PROP-1.14

Input Data

Invert Elevation (ft)	859.97
Max (Rim) Elevation (ft)	866.08
Max (Rim) Offset (ft)	6.11
Initial Water Elevation (ft)	864.70
Initial Water Depth (ft)	4.73
Ponded Area (ft²)	4602.00
Evaporation Loss	0.00

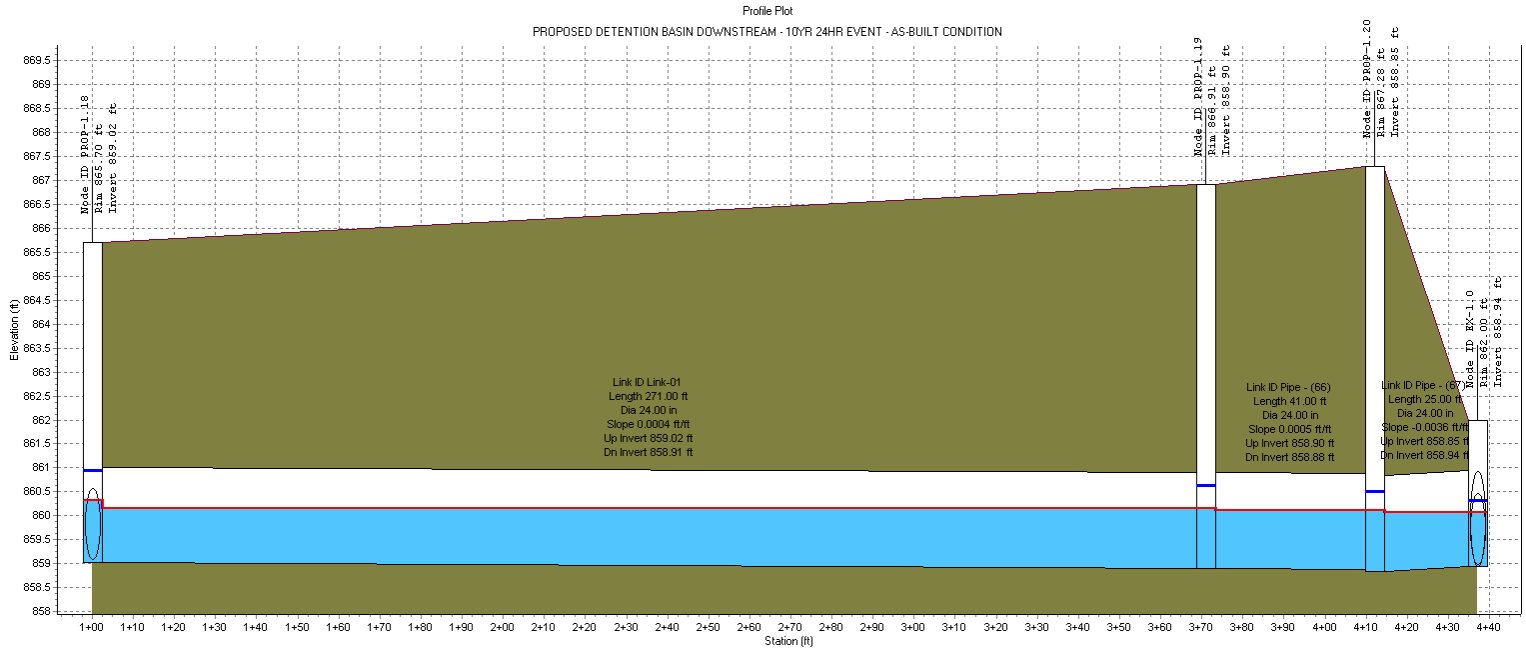
Output Summary Results

Peak Inflow (cfs)	6.70
Peak Lateral Inflow (cfs)	6.70
Peak Outflow (cfs)	20.74
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	864.73
Max HGL Depth Attained (ft)	4.76
Average HGL Elevation Attained (ft)	861.79
Average HGL Depth Attained (ft)	1.82
Time of Max HGL Occurrence (days hh:mm)	0 00:00
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00



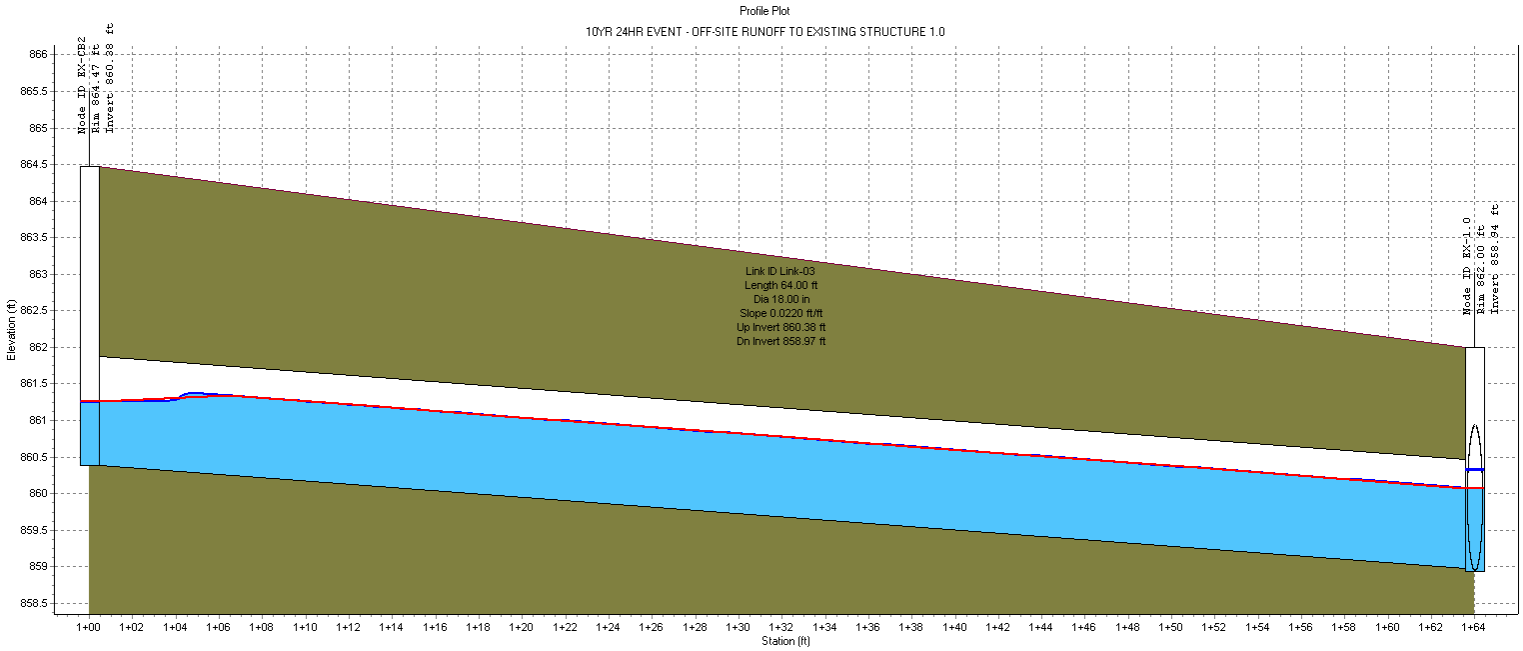
Node ID:	PROP-1.14	PROP-1.15	PROP-1.16	PROP-1.17	PROP-1.18
Rim (ft):	866.08	864.58	868.81	869.02	865.70
Invert (ft):	859.97	859.84	859.42	859.27	859.02
Min Pipe Cover (ft):		2.74	7.30	7.75	4.68
Max HGL (ft):	864.73	861.69	861.48	861.15	860.93

Link ID:	Link-02	Pipe - (60)	Pipe - (61)	Pipe - (62)
Length (ft):	36.00	183.00	335.00	162.00
Dia (in):	24.00	24.00	24.00	18.00
Slope (ft/ft):	0.0036	0.0018	0.0004	0.0003
Up Invert (ft):	859.97	859.84	859.42	859.13
Dn Invert (ft):	859.84	859.51	859.27	859.08
Max Q (cfs):	20.74	6.76	6.70	6.70
Max Vel (ft/s):	10.09	3.46	3.62	2.15
Max Depth (ft):	1.84	1.91	1.94	1.50



Node ID:	PROP-1.18	PROP-1.19	PROP-1.20	EX-1.0
Rim (ft):	865.70	866.91	867.28	862.00
Invert (ft):	859.02	858.90	858.85	858.94
Min Pipe Cover (ft):	4.68	6.00	6.40	1.06
Max HGL (ft):	860.93	860.63	860.49	860.32

Link ID:	Link-01	Pipe - (66)	Pipe - (67)
Length (ft):	271.00	41.00	25.00
Dia (in):	24.00	24.00	24.00
Slope (ft/ft):	0.0004	0.0005	-0.0036
Up Invert (ft):	859.02	858.90	858.85
Dn Invert (ft):	858.91	858.88	858.94
Max Q (cfs):	6.70	6.70	6.70
Max Vel (ft/s):	2.24	3.05	4.18
Max Depth (ft):	1.81	1.67	1.51



Node ID:	EX-CB2	EX-1.0
Rim (ft):	864.47	862.00
Invert (ft):	860.38	858.94
Min Pipe Cover (ft):	2.59	1.06
Max HGL (ft):	861.31	860.32

Link ID:	Link-03
Length (ft):	64.00
Dia (in):	18.00
Slope (ft/ft):	0.0220
Up Invert (ft):	860.38
Dn Invert (ft):	858.97
Max Q (cfs):	7.53
Max Vel (ft/s):	7.61
Max Depth (ft):	1.11