Professional Engineering Consultants, P.A.

September 1, 2000

Ms. Vicky Huang, P.E.
City of Wichita
455 N. Main
Wichita, KS 67202

Reference: Evergreen Streets – Phase 3
PEC Project No. 32-00251-042

Dear Ms. Huang:

Enclosed is the analysis for the storm sewer systems within Aberdeen 2nd Addition affected by the proposed grading plan revisions to Evergreen Addition. The proposed grading modifications affect the west tier of lots abutting Aberdeen north of Shefford. The original drainage plans for both Evergreen and Aberdeen were based upon a crest at the common property line. The revised Evergreen grading plan depicts the west 1/3 of these lots draining to the west into the Aberdeen drainage system. Calculations showing the anticipated hydraulic grade line for the 2-year event for each affected basin is enclosed. A comparative computation is also enclosed, showing the hydraulic grade line as originally designed. As shown in the comparative analysis, the impact to the hydraulic grade line of the various Aberdeen systems is quite small. Since each of the systems is designed with an overland outfall for storms in excess of the design year storm, the impact of the proposal will have no noticeable effect.

The plans of the proposed street and storm sewer improvements within Evergreen Phase Three submitted to you for review included lot grading requirements to the reflect this revised drainage plan. An additional lot grading plan is enclosed for your use in evaluating this proposal. Copies of the Aberdeen Drainage Plan depicting the node numbering system used in the analysis are also enclosed.

You will note that the area of the drainage basin for storm sewer system 100 was unchanged. The proposed revision to this system includes the extension of the storm sewer pipe to the east. This addition will permit easement grading along the south line of Evergreen to be in compliance with City policy, that is, a minimum of 1%. Since this system is currently under construction and no utilities exist within the easement crossed by the proposed pipe extension, we would like to make arrangements for this extension as soon as possible. Please advise on how best to initiate this construction.

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Brent E. Remsberg, P.E.
Project Manager

BER:ama

303 S. TOPEKA
WICHITA, KANSAS
67202
316-262-2691
FAX
316-262-3003
www.pecl.com
designers@pecl.com

OFFICES IN:
WICHITA
TOPEKA
LAWRENCE

```
100 j,  161.0000 5100    2   26   25
110 t, ABERDEEN
120 t, Storm Sewer System 100
140 i, 5101      0.00      0.00      0.00      0.00      2.00     15.00    165.90
150 i, 5102      0.00      0.00      0.00      0.00      1.50     15.00    165.90
160 i, 5103      0.00      0.00      0.00      0.00      0.50     15.00    166.50
180 i, 5104      0.00      0.00      0.00      0.00     10.10     15.00    163.00
190 i, 5105      0.00      0.00      0.00      0.00      8.00     15.00    164.00
130 m, 5100    164.40
270 p, 5101 5100   150.00    30 0.012   0.00    0.00
280 p, 5102 5101    40.00    30 0.012   0.00    0.00
290 p, 5103 5102   110.00    30 0.012  90.00    0.00
300 p, 5104 5103   125.00    30 0.012   0.00    0.00
320 p, 5105 5104   100.00    24 0.012   0.00    0.00
400 e
```

Date: 08-30-2000
Time: 11:12:00

Input File: sys100.stm

ABERDEEN
Storm Sewer System 100

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Node to Node	C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
		Tributary Area						Hydrology Summation				Conduit Data				
5101 5100	.00	.00	.00	.0	15.00	3.83	2.00	16.88	3.62	1.89	21.71	30"	4.42	150.00	.57	17.45
5102 5101	.00	.00	.00	.0	15.00	3.83	1.50	16.72	3.64	1.43	19.81	30"	4.04	40.00	.17	16.88
5103 5102	.00	.00	.00	.0	15.00	3.83	.50	16.23	3.69	.48	18.39	30"	3.75	110.00	.49	16.72
5104 5103	.00	.00	.00	.0	15.00	3.83	10.10	15.65	3.75	9.90	17.90	30"	3.65	125.00	.57	16.23
5105 5104	.00	.00	.00	.0	15.00	3.83	8.00	15.00	3.83	8.00	8.00	24"	2.55	100.00	.65	15.65

Date: 08-30-2000
Time: 11:12:00

Input File: sys100.stm

ABERDEEN
Storm Sewer System 100

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5101	.00239	.3580	.0000	.0051	.0000	.0000	.1125	.4755	161.4755	165.9000	4.42
5102	.00199	.0795	.0000	.0035	.0000	.1089	.0796	.2716	161.7471	165.9000	4.15
5103	.00171	.1884	.0000	.0011	.0000	.0000	.0310	.2204	161.9675	166.5000	4.53
5104	.00162	.2030	.0000	.0106	.0000	.0000	.3541	.5676	162.5352	163.0000	.46
5105	.00107	.1066	.0000	.0000	.0000	.0000	.0000	.1066	162.6417	164.0000	1.36
5100	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40

```
100 j,  161.0000 5200    2   26   25
110 t, ABERDEEN
120 t, Storm Sewer System 200
140 i, 5201      0.00      0.00      0.00      0.00      4.40     15.00    165.90
150 i, 5202      0.00      0.00      0.00      0.00      4.40     15.00    165.90
160 i, 5203      0.00      0.00      0.00      0.00      5.30 *   15.00    163.00
130 m, 5200   164.40
270 p, 5203 5202   160.00    15 0.012    0.00    0.00
280 p, 5202 5201    40.00    18 0.012   20.00    0.00
290 p, 5201 5200   260.00    24 0.012    0.00    0.00
400 e
```

$* 3.8 = Q_{2c}'$

Date: 08-30-2000
Time: 11:12:38

Input File: sys200.stm

ABERDEEN
Storm Sewer System 200

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Tributary Area								Hydrology Summation				Conduit Data				
Node to Node		C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
5203	5202	.00	.00	.00	.0	15.00	3.83	5.30	15.00	3.83	5.30	5.30	15"	4.32	160.00	.62	15.62
5202	5201	.00	.00	.00	.0	15.00	3.83	4.40	15.62	3.76	4.32	9.62	18"	5.44	40.00	.12	15.74
5201	5200	.00	.00	.00	.0	15.00	3.83	4.40	15.74	3.75	4.30	13.92	24"	4.43	260.00	.98	16.72

Date: 08-30-2000
Time: 11:12:38

Input File: sys200.stm

ABERDEEN
Storm Sewer System 200

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5201	.00323	.8393	.0000	.0310	.0000	.0378	.1445	1.0526	162.0526	165.9000	3.85
5202	.00715	.2858	.0000	.0171	.0000	.0000	.6448	.9477	163.0003	165.9000	2.90
5203	.00574	.9177	.0000	.0000	.0000	.0000	.0000	.9177	163.9180	163.0000	-.92
5200	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40

Date: 08-30-2000
Time: 11:54:07

Input File: sys200a.stm

ABERDEEN
Storm Sewer System 200

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Tributary Area								Hydrology Summation				Conduit Data				
Node	to Node	C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
5203	5202	.00	.00	.00	.0	15.00	3.83	3.80	15.00	3.83	3.80	3.80	15"	3.10	160.00	.86	15.86
5202	5201	.00	.00	.00	.0	15.00	3.83	4.40	15.86	3.73	4.29	8.09	18"	4.58	40.00	.15	16.01
5201	5200	.00	.00	.00	.0	15.00	3.83	4.40	16.01	3.72	4.27	12.36	24"	3.93	260.00	1.10	17.11

Date: 08-30-2000
Time: 11:54:07

Input File: sys200a.stm

ABERDEEN
Storm Sewer System 200

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5201	.00254	.6613	.0000	.0170	.0000	.0268	.1661	.8711	161.8711	165.9000	4.03
5202	.00505	.2021	.0000	.0176	.0000	.0000	.5449	.7647	162.6358	165.9000	3.26
5203	.00295	.4718	.0000	.0000	.0000	.0000	.0000	.4718	163.1076	163.0000	-.11
5200	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40

```
100 j,  161.0000 5300    2   26   25
110 t, ABERDEEN
120 t, Storm Sewer System 300
140 i, 5301      0.00      0.00      0.00      0.00      2.60     15.00    165.90
150 i, 5302.     0.00      0.00      0.00      0.00      2.60     15.00    165.90
160 i, 5303      0.00      0.00      0.00      0.00      2.30     15.00    163.00
180 i, 5304      0.00      0.00      0.00      0.00      3.10*    15.00    163.00
130 m, 5300   164.40
270 p, 5301 5300   220.00    24 0.012   0.00    0.00
280 p, 5302 5301    40.00    24 0.012   0.00    0.00
290 p, 5303 5302   130.00    18 0.012  45.00    0.00
300 p, 5304 5303   260.00    15 0.012   0.00    0.00
400 e
```

$Q_{2c}' = 2.3$

Date: 08-30-2000
Time: 11:13:09

Input File: sys300.stm

ABERDEEN
Storm Sewer System 300

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Tributary Area									Hydrology Summation				Conduit Data				
Node	to Node	C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
5301	5300	.00	.00	.00	.0	15.00	3.83	2.60	17.71	3.54	2.41	10.12	24"	3.22	220.00	1.14	18.85
5302	5301	.00	.00	.00	.0	15.00	3.83	2.60	17.44	3.57	2.42	7.71	24"	2.45	40.00	.27	17.71
5303	5302	.00	.00	.00	.0	15.00	3.83	2.30	16.72	3.64	2.19	5.29	18"	2.99	130.00	.72	17.44
5304	5303	.00	.00	.00	.0	15.00	3.83	3.10	15.00	3.83	3.10	3.10	15"	2.53	260.00	1.72	16.72

Date: 08-30-2000
Time: 11:13:09

Input File: sys300.stm

ABERDEEN
Storm Sewer System 300

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5301	.00170	.3748	.0000	.0067	.0000	.0000	.1419	.5235	161.5235	165.9000	4.38
5302	.00099	.0396	.0000	.0091	.0000	.0303	.0472	.1262	161.6496	165.9000	4.25
5303	.00216	.2807	.0000	.0040	.0000	.0000	.1764	.4610	162.1107	163.0000	.89
5304	.00196	.5102	.0000	.0000	.0000	.0000	.0000	.5102	162.6208	163.0000	.38
5300	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40

Date: 08-30-2000
Time: 11:56:40

Input File: sys300a.stm

ABERDEEN
Storm Sewer System 300

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Tributary Area								Hydrology Summation				Conduit Data				
Node to Node		C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
5301	5300	.00	.00	.00	.0	15.00	3.83	2.60	18.48	3.47	2.36	9.18	24"	2.92	220.00	1.25	19.73
5302	5301	.00	.00	.00	.0	15.00	3.83	2.60	18.17	3.50	2.38	6.83	24"	2.17	40.00	.31	18.48
5303	5302	.00	.00	.00	.0	15.00	3.83	2.30	17.31	3.58	2.15	4.45	18"	2.52	130.00	.86	18.17
5304	5303	.00	.00	.00	.0	15.00	3.83	2.30	15.00	3.83	2.30	2.30	15"	1.87	260.00	2.31	17.31

Date: 08-30-2000
Time: 11:56:40

Input File: sys300a.stm

ABERDEEN
Storm Sewer System 300

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5301	.00140	.3088	.0000	.0059	.0000	.0000	.1243	.4391	161.4391	165.9000	4.46
5302	.00078	.0310	.0000	.0050	.0000	.0214	.0517	.1092	161.5483	165.9000	4.35
5303	.00153	.1989	.0000	.0044	.0000	.0000	.1499	.3532	161.9015	163.0000	1.10
5304	.00108	.2808	.0000	.0000	.0000	.0000	.0000	.2808	162.1823	163.0000	.82
5300	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40

```
100 j,  161.0000 5400    2   26   25
110 t, ABERDEEN
120 t, Storm Sewer System 400
140 m, 5401   165.00
150 i, 5402     0.00     0.00     0.00     0.00     5.50    15.00   166.10
190 i, 5405     0.00     0.00     0.00     0.00     5.50    15.00   166.10
190 i, 5407     0.00     0.00     0.00     0.00     2.10    15.00   164.00
190 i, 5408     0.00     0.00     0.00     0.00     2.50    15.00   168.40
190 i, 5409     0.00     0.00     0.00     0.00     2.10    15.00   164.50
190 i, 5410     0.00     0.00     0.00     0.00     2.10 *  15.00   163.80
130 m, 5400   164.40
270 p, 5401 5400   150.00   36 0.012  45.00    0.00
280 p, 5402 5401    40.00   36 0.012   0.00    0.00
290 p, 5405 5402   110.00   30 0.012   0.00    0.00
320 p, 5407 5405   100.00   24 0.012  90.00    0.00
320 p, 5408 5407   100.00   15 0.012  90.00    0.00
320 p, 5409 5408   100.00   18 0.012  90.00    0.00
320 p, 5410 5409   100.00   15 0.012   0.00    0.00
400 e
```

* $Q_{2i} = 1.2$

Date: 08-30-2000
Time: 11:13:37

Input File: sys400.stm

ABERDEEN
Storm Sewer System 400

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Tributary Area								Hydrology Summation				Conduit Data				
Node to Node		C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
5401	5400	.00	.00	.00	.0	.00	.00	.00	18.53	3.46	.00	18.61	36"	2.63	150.00	.95	19.48
5402	5401	.00	.00	.00	.0	15.00	3.83	5.50	18.28	3.49	5.01	18.61	36"	2.63	40.00	.25	18.53
5405	5402	.00	.00	.00	.0	15.00	3.83	5.50	17.61	3.55	5.10	13.60	30"	2.77	110.00	.66	18.28
5407	5405	.00	.00	.00	.0	15.00	3.83	2.10	17.00	3.61	1.98	8.50	24"	2.71	100.00	.62	17.61
5408	5407	.00	.00	.00	.0	15.00	3.83	2.50	16.69	3.64	2.38	6.52	15"	5.31	100.00	.31	17.00
5409	5408	.00	.00	.00	.0	15.00	3.83	2.10	15.97	3.72	2.04	4.14	18"	2.34	100.00	.71	16.69
5410	5409	.00	.00	.00	.0	15.00	3.83	2.10	15.00	3.83	2.10	2.10	15"	1.71	100.00	.97	15.97

Date: 08-30-2000
Time: 11:13:37

Input File: sys400.stm

ABERDEEN
Storm Sewer System 400

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5401	.00066	.0995	.0000	.0000	.0054	.0000	.0033	.1082	161.1082	165.0000	3.89
5402	.00066	.0265	.0000	.0023	.0000	.0000	.0628	.0917	161.1999	166.1000	4.90
5405	.00094	.1031	.0000	.0006	.0000	.0569	.1189	.2794	161.4793	166.1000	4.62
5407	.00120	.1203	.0000	.0649	.0000	.2192	-.1410	.2634	161.7427	164.0000	2.26
5408	.00868	.8680	.0000	.0353	.0000	.0426	.5433	1.4893	163.2320	168.4000	5.17
5409	.00132	.1324	.0000	.0040	.0000	.0000	.1325	.2688	163.5008	164.5000	1.00
5410	.00090	.0900	.0000	.0000	.0000	.0000	.0000	.0900	163.5909	163.8000	.21
5400	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40

Date: 08-30-2000
Time: 11:58:45

Input File: sys400a.stm

ABERDEEN
Storm Sewer System 400

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Tributary Area								Hydrology Summation				Conduit Data				
Node to Node		C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
5401	5400	.00	.00	.00	.0	.00	.00	.00	19.70	3.36	.00	17.26	36"	2.44	150.00	1.02	20.72
5402	5401	.00	.00	.00	.0	15.00	3.83	5.50	19.43	3.38	4.86	17.26	36"	2.44	40.00	.27	19.70
5405	5402	.00	.00	.00	.0	15.00	3.83	5.50	18.70	3.45	4.95	12.40	30"	2.53	110.00	.73	19.43
5407	5405	.00	.00	.00	.0	15.00	3.83	2.10	18.00	3.51	1.93	7.44	24"	2.37	100.00	.70	18.70
5408	5407	.00	.00	.00	.0	15.00	3.83	2.50	17.63	3.55	2.32	5.52	15"	4.49	100.00	.37	18.00
5409	5408	.00	.00	.00	.0	15.00	3.83	2.10	16.70	3.64	2.00	3.20	18"	1.81	100.00	.92	17.63
5410	5409	.00	.00	.00	.0	15.00	3.83	1.20	15.00	3.83	1.20	1.20	15"	.98	100.00	1.70	16.70

Date: 08-30-2000
Time: 11:58:45

Input File: sys400a.stm

ABERDEEN
Storm Sewer System 400

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5401	.00057	.0856	.0000	.0000	.0046	.0000	.0029	.0931	161.0930	165.0000	3.91
5402	.00057	.0228	.0000	.0013	.0000	.0000	.0596	.0837	161.1768	166.1000	4.92
5405	.00078	.0856	.0000	.0012	.0000	.0436	.1100	.2403	161.4171	166.1000	4.68
5407	.00092	.0922	.0000	.0453	.0000	.1569	-.0841	.2104	161.6275	164.0000	2.37
5408	.00621	.6213	.0000	.0263	.0000	.0254	.4125	1.0855	162.7130	168.4000	5.69
5409	.00079	.0790	.0000	.0036	.0000	.0000	.0986	.1812	162.8941	164.5000	1.61
5410	.00029	.0294	.0000	.0000	.0000	.0000	.0000	.0294	162.9235	163.8000	.88
5400	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40

```
100 j,  161.0000 5500    2   26   25
110 t, ABERDEEN
120 t, Storm Sewer System 500
140 i, 5501   166.30
150 i, 5502     0.00     0.00     0.00     0.00     4.10    15.00   165.90
160 i, 5504     0.00     0.00     0.00     0.00     4.10    15.00   166.50
180 i, 5505     0.00     0.00     0.00     0.00     1.40    15.00   163.00
190 i, 5506     0.00     0.00     0.00     0.00     1.40    15.00   164.00
190 i, 5507     0.00     0.00     0.00     0.00     1.80    15.00   164.00
190 i, 5508     0.00     0.00     0.00     0.00     8.00    15.00   164.00
130 m, 5500   164.40
270 p, 5501 5500    40.00   36 0.012  30.00   0.00
280 p, 5502 5501   140.00   36 0.012  30.00   0.00
290 p, 5504 5502    40.00   30 0.012   0.00   0.00
300 p, 5505 5504   140.00   24 0.012  80.00   0.00
320 p, 5506 5505    40.00   24 0.012  40.00   0.00
320 p, 5507 5506   250.00   24 0.012  90.00   0.00
320 p, 5508 5507   320.00   18 0.012   0.00   0.00
400 e
```

Date: 08-30-2000
Time: 11:14:30

Input File: sys500.stm

ABERDEEN
Storm Sewer System 500

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Tributary Area								Hydrology Summation				Conduit Data				
Node	to Node	C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
5501	5500	.00	.00	.00	.0	.00	.00	.00	19.34	3.39	.00	19.78	36"	2.80	40.00	.24	19.58
5502	5501	.00	.00	.00	.0	15.00	3.83	4.10	18.51	3.47	3.71	19.78	36"	2.80	140.00	.83	19.34
5504	5502	.00	.00	.00	.0	15.00	3.83	4.10	18.31	3.48	3.73	16.07	30"	3.27	40.00	.20	18.51
5505	5504	.00	.00	.00	.0	15.00	3.83	1.40	17.71	3.54	1.30	12.34	24"	3.93	140.00	.59	18.31
5506	5505	.00	.00	.00	.0	15.00	3.83	1.40	17.52	3.56	1.30	11.04	24"	3.51	40.00	.19	17.71
5507	5506	.00	.00	.00	.0	15.00	3.83	1.80	16.18	3.70	1.74	9.74	24"	3.10	250.00	1.34	17.52
5508	5507	.00	.00	.00	.0	15.00	3.83	8.00	15.00	3.83	8.00	8.00	18"	4.53	320.00	1.18	16.18

Date: 08-30-2000
Time: 11:14:30

Input File: sys500.stm

ABERDEEN
Storm Sewer System 500

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5501	.00075	.0300	.0000	.0000	.0061	.0163	.0038	.0561	161.0561	166.3000	5.24
5502	.00075	.1049	.0000	.0090	.0000	.0000	.0195	.1333	161.1894	165.9000	4.71
5504	.00131	.0523	.0000	.0146	.0000	.1039	.0417	.2126	161.4020	166.5000	5.10
5505	.00253	.3547	.0000	.0048	.0000	.0362	.1069	.5025	161.9045	163.0000	1.10
5506	.00203	.0812	.0000	.0043	.0000	.0746	.0943	.2543	162.1588	164.0000	1.84
5507	.00158	.3947	.0000	.0338	.0000	.0000	-.0601	.3685	162.5273	164.0000	1.47
5508	.00494	1.5815	.0000	.0000	.0000	.0000	.0000	1.5815	164.1088	164.0000	-.11
5500	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40

Date: 08-30-2000
Time: 12:01:11

Input File: sys500a.stm

ABERDEEN
Storm Sewer System 500

Storm Frequency = 2-Year

* * * H Y D R O L O G Y * * *

Tributary Area								Hydrology Summation				Conduit Data				
Node to Node		C	Area (Ac)	Slope (%)	Length (Ft)	TC(0) (Min)	I(0) (In/Hr)	Q(0) (CFS)	TC (Min)	I (In/Hr)	Q (CFS)	Sum Q (CFS)	Size	Velocity (Ft/Sec)	Length (Ft)	TT (Min)	TT+TC (Min)
5501	5500	.00	.00	.00	.0	.00	.00	.00	20.10	3.33	.00	17.92	36"	2.53	40.00	.26	20.36
5502	5501	.00	.00	.00	.0	15.00	3.83	4.10	19.18	3.41	3.65	17.92	36"	2.53	140.00	.92	20.10
5504	5502	.00	.00	.00	.0	15.00	3.83	4.10	18.95	3.43	3.67	14.27	30"	2.91	40.00	.23	19.18
5505	5504	.00	.00	.00	.0	15.00	3.83	1.40	18.26	3.49	1.28	10.60	24"	3.38	140.00	.69	18.95
5506	5505	.00	.00	.00	.0	15.00	3.83	1.40	18.03	3.51	1.28	9.33	24"	2.97	40.00	.22	18.26
5507	5506	.00	.00	.00	.0	15.00	3.83	1.40	16.41	3.67	1.34	8.04	24"	2.56	250.00	1.63	18.03
5508	5507	.00	.00	.00	.0	15.00	3.83	6.70	15.00	3.83	6.70	6.70	18"	3.79	320.00	1.41	16.41

Date: 08-30-2000
Time: 12:01:11

Input File: sys500a.stm

ABERDEEN
Storm Sewer System 500

Storm Frequency = 2-Year

* * * H Y D R A U L I C S * * *

Node	Hyd-Slope (Ft/Ft)	Friction (Ft)	Bend (Ft)	Transition (Ft)	Manhole (Ft)	Deflection (Ft)	Junction (Ft)	Total (Ft)	Hyd-Gl Elevation	Desired Elevation	Diff. (Ft)
5501	.00061	.0246	.0000	.0000	.0050	.0133	.0031	.0460	161.0460	166.3000	5.25
5502	.00061	.0861	.0000	.0063	.0000	.0000	.0245	.1169	161.1629	165.9000	4.74
5504	.00103	.0413	.0000	.0091	.0000	.0768	.0514	.1786	161.3415	166.5000	5.16
5505	.00187	.2620	.0000	.0040	.0000	.0259	.0885	.3804	161.7219	163.0000	1.28
5506	.00145	.0579	.0000	.0035	.0000	.0509	.0766	.1890	161.9108	164.0000	2.09
5507	.00108	.2693	.0000	.0243	.0000	.0000	-.0496	.2440	162.1548	164.0000	1.85
5508	.00347	1.1093	.0000	.0000	.0000	.0000	.0000	1.1093	163.2641	164.0000	.74
5500	.00000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	161.0000	164.4000	3.40