

LAWRENCE WELK  
DRIVE

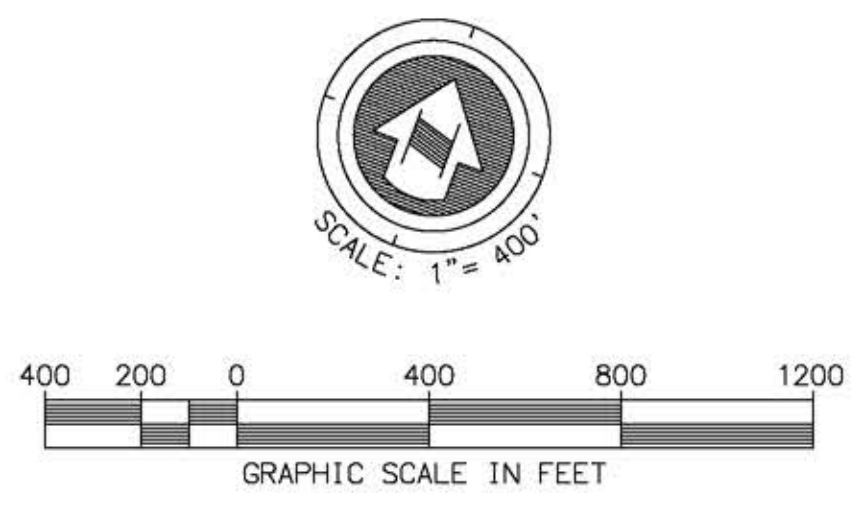
TWIN OAKS VALLEY ROAD

INTERSTATE 15

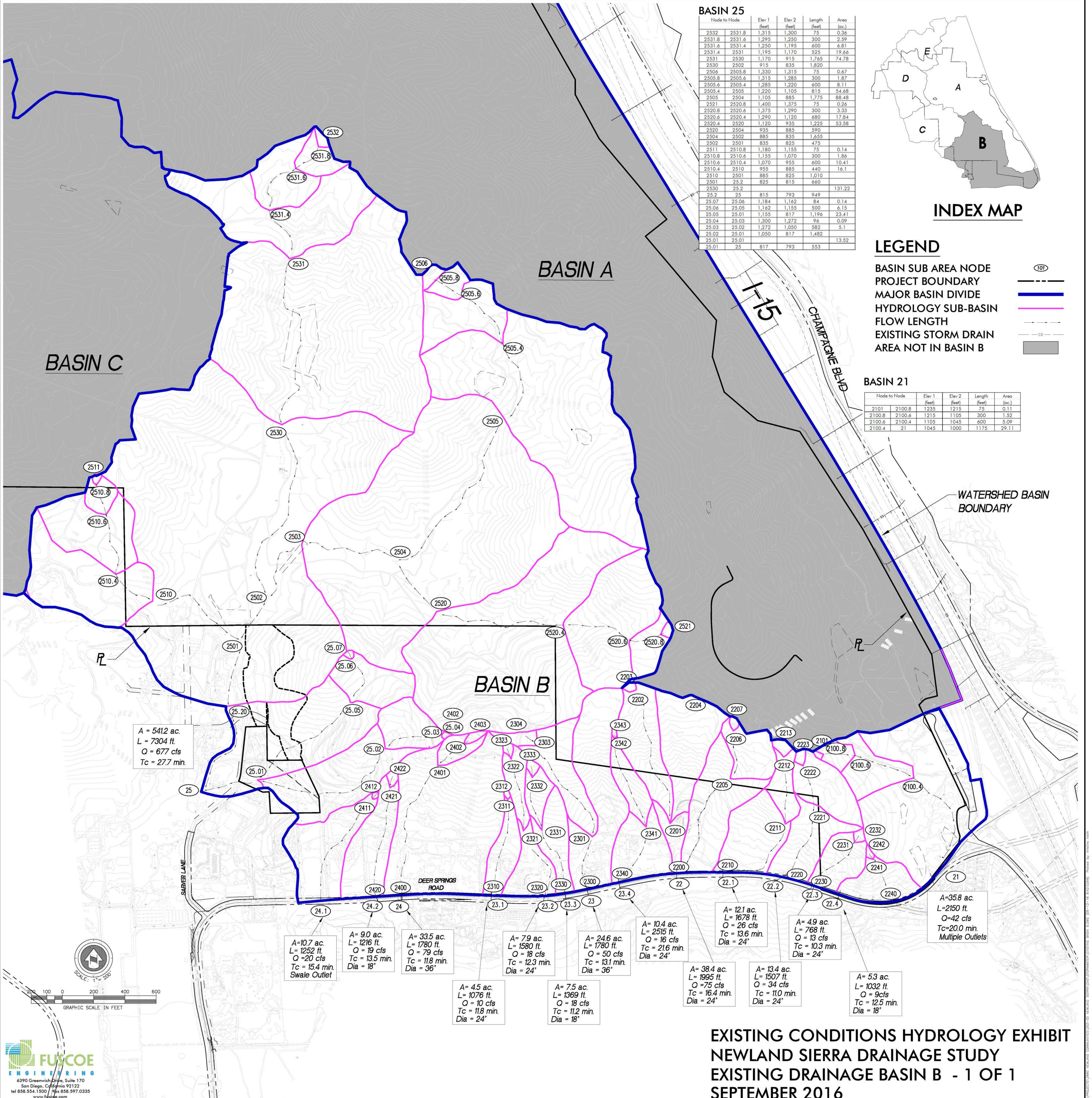
DEER SPRINGS ROAD

**LEGEND**

- HYDROLOGIC SOIL GROUP B
- HYDROLOGIC SOIL GROUP C
- HYDROLOGIC SOIL GROUP D

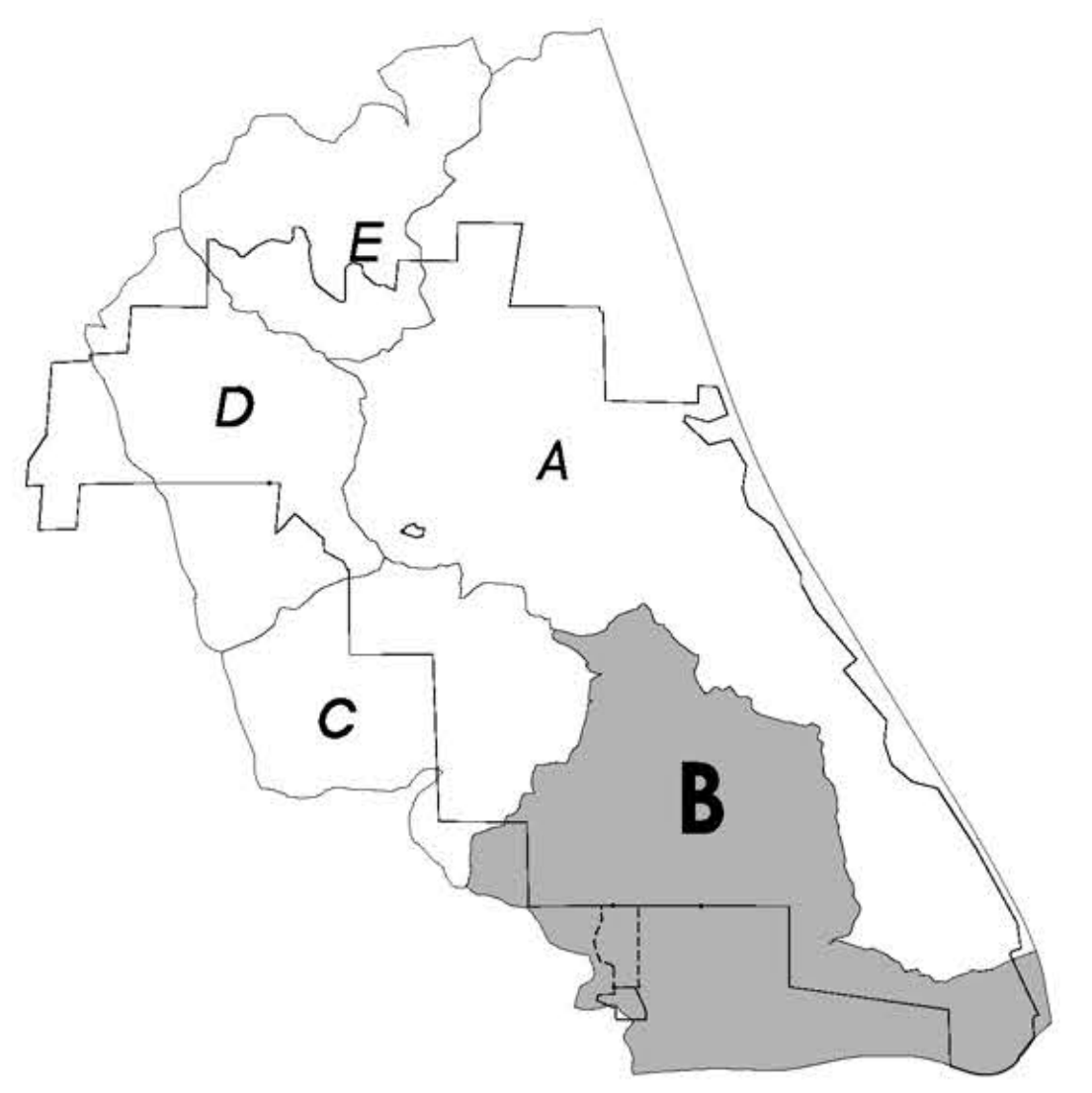






**BASIN 25**

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)	
2532	2531.8	1,315	1,300	75	0.36
2531.8	2531.6	1,295	1,250	300	2.59
2531.6	2531.4	1,250	1,195	600	6.81
2531.4	2531	1,195	1,170	525	19.66
2531	2530	1,170	915	1,765	74.78
2530	2502	915	835	1,820	
2506	2505.8	1,330	1,315	75	0.67
2505.8	2505.6	1,315	1,285	300	1.87
2505.6	2505.4	1,285	1,220	600	8.11
2505.4	2505	1,220	1,105	815	54.68
2505	2504	1,105	885	1,775	88.48
2521	2520.8	1,400	1,375	75	0.26
2520.8	2520.6	1,375	1,290	300	3.33
2520.6	2520.4	1,290	1,120	480	17.84
2520.4	2520	1,120	935	1,225	53.58
2520	2504	935	885	590	
2504	2502	885	835	1,655	
2502	2501	835	825	475	
2511	2510.8	1,180	1,155	75	0.14
2510.8	2510.6	1,155	1,070	300	1.86
2510.6	2510.4	1,070	955	600	10.41
2510.4	2510	955	885	440	16.1
2510	2501	885	825	1,010	
2501	25.2	825	815	660	
2530	25.2	815	793	949	131.22
25.2	25	815	793	949	
25.07	25.06	1,184	1,162	84	0.14
25.06	25.05	1,162	1,155	500	6.15
25.05	25.01	1,155	817	1,196	23.41
25.04	25.03	1,300	1,272	96	0.09
25.03	25.02	1,272	1,050	582	5.1
25.02	25.01	1,050	817	1,482	
25.01	25.01				13.52
25.01	25	817	793	553	



**INDEX MAP**

**LEGEND**

- BASIN SUB AREA NODE (101)
- PROJECT BOUNDARY (---)
- MAJOR BASIN DIVIDE (—)
- HYDROLOGY SUB-BASIN (—)
- FLOW LENGTH (---)
- EXISTING STORM DRAIN (---)
- AREA NOT IN BASIN B (■)

**BASIN 21**

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)	
2101	2100.8	1,235	1,215	75	0.11
2100.8	2100.6	1,215	1,105	300	1.52
2100.6	2100.4	1,105	1,045	600	5.09
2100.4	21	1,045	1,000	1,175	29.11

A = 5412 ac.  
L = 7304 ft.  
Q = 677 cfs  
Tc = 27.7 min.

A=10.7 ac.  
L=1252 ft.  
Q=20 cfs  
Tc=15.4 min.  
Swale Outlet

A= 9.0 ac.  
L= 1216 ft.  
Q = 19 cfs  
Tc = 13.5 min.  
Dia = 18"

A= 33.5 ac.  
L= 1780 ft.  
Q = 79 cfs  
Tc = 11.8 min.  
Dia = 36"

A= 7.9 ac.  
L= 1580 ft.  
Q = 18 cfs  
Tc = 12.3 min.  
Dia = 24"

A= 24.6 ac.  
L= 1780 ft.  
Q = 50 cfs  
Tc = 13.1 min.  
Dia = 36"

A= 4.5 ac.  
L= 1076 ft.  
Q = 10 cfs  
Tc = 11.8 min.  
Dia = 24"

A= 7.5 ac.  
L= 1369 ft.  
Q = 18 cfs  
Tc = 11.2 min.  
Dia = 18"

A= 10.4 ac.  
L= 2515 ft.  
Q = 16 cfs  
Tc = 21.6 min.  
Dia = 24"

A= 38.4 ac.  
L= 1995 ft.  
Q = 75 cfs  
Tc = 16.4 min.  
Dia = 24"

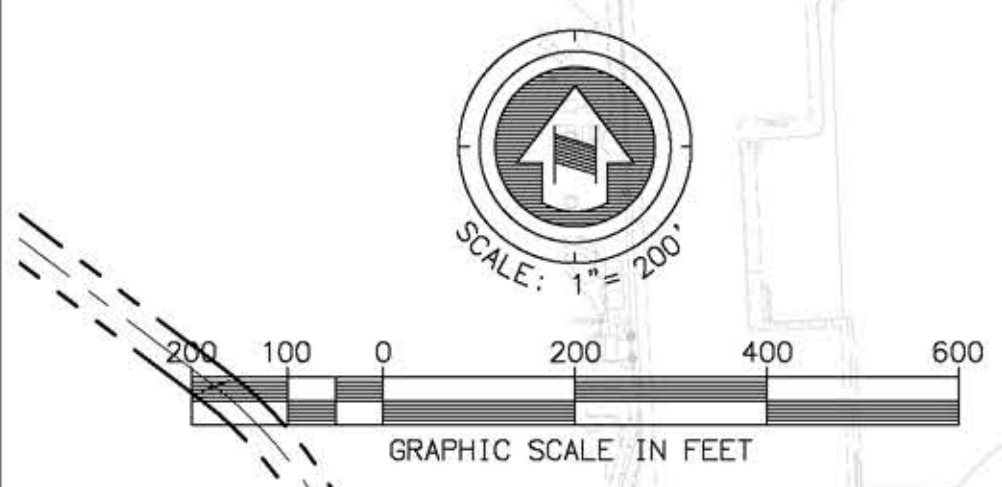
A= 13.4 ac.  
L= 1507 ft.  
Q = 34 cfs  
Tc = 11.0 min.  
Dia = 24"

A= 5.3 ac.  
L= 1032 ft.  
Q = 9 cfs  
Tc = 12.5 min.  
Dia = 18"

A= 12.1 ac.  
L= 1678 ft.  
Q = 26 cfs  
Tc = 13.6 min.  
Dia = 24"

A= 4.9 ac.  
L= 768 ft.  
Q = 13 cfs  
Tc = 10.3 min.  
Dia = 24"

A=35.8 ac.  
L=2150 ft.  
Q=42 cfs  
Tc=20.0 min.  
Multiple Outlets



BASIN A

BASIN D

WATERSHED BASIN BOUNDARY

BASIN C

WATERSHED BASIN BOUNDARY

BASIN B

BASIN 26

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
2604 2603.8	1,410	1,395	75	1.18
2603.8 2603.6	1,395	1,365	300	3.09
2603.6 2603.4	1,365	1,325	600	14.67
2603.4 2603	1,325	1,230	794	44.85
2603 2602	1,230	1,175	1,365	41.75
2602 2601	1,175	1,135	1,135	36.58
2601 26	1,135	970	1,405	32.13

A=174.3 ac.  
L=5674 ft.  
Q=193 cfs  
Tc=21.4 min.

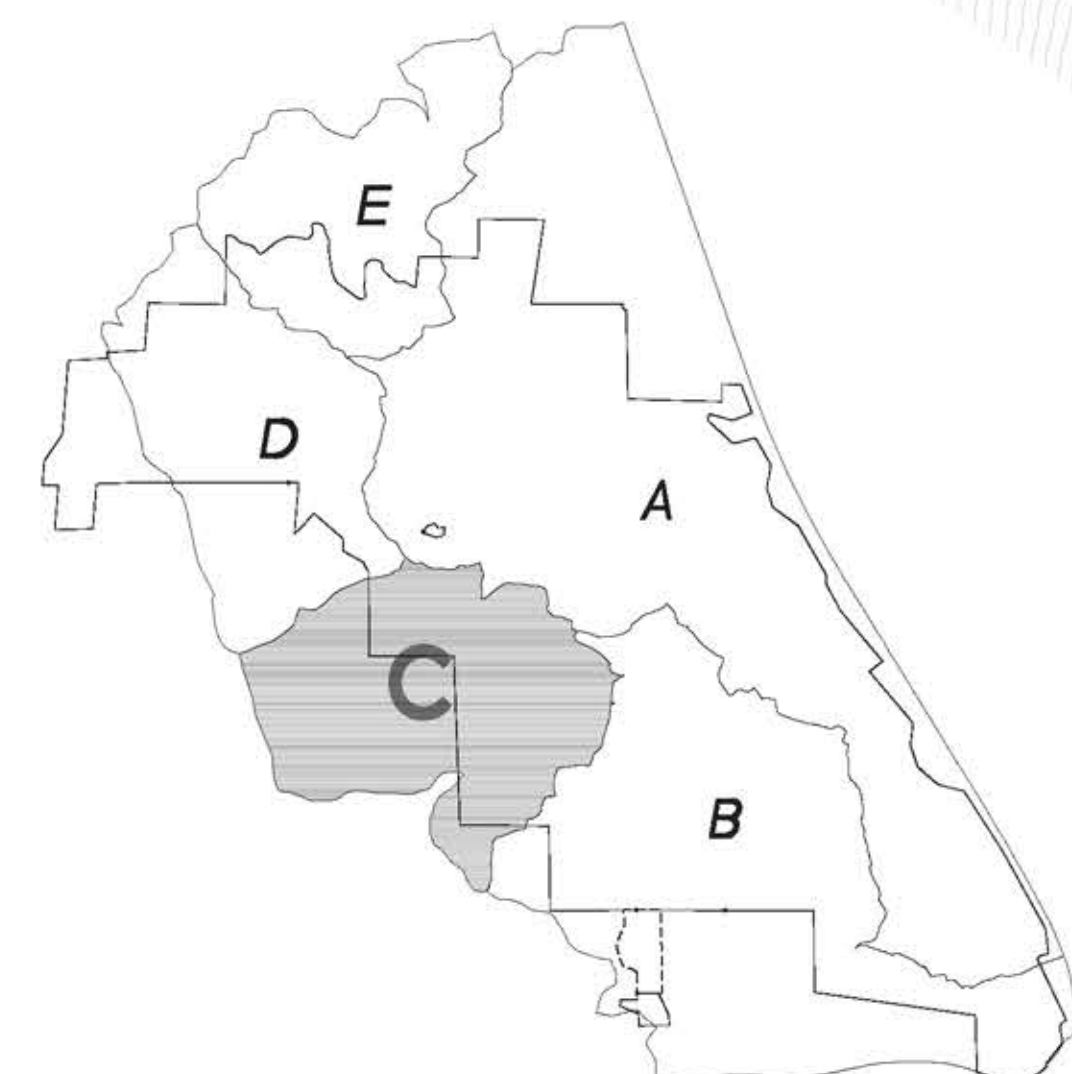
BASIN 27

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
2775 2774	1,540	1,520	75	0.55
2774 2773	1,520	1,480	300	2.97
2773 2772	1,480	1,415	600	10.84
2772 2771	1,415	1,300	587	11.52
2782 2781	1,595	1,565	75	0.22
2781 2780	1,565	1,375	784	4.37
2780 2771	1,375	1,300	516	2.61
2792 2791	1,405	1,400	75	0.52
2791 2790	1,400	1,350	300	2.06
2790 2771	1,350	1,300	425	3.49
2771 2770	1,300	1,135	1,408	28.14
2770 2761	1,135	1,040	670	8.96
2765 2764	1,445	1,435	75	0.14
2764 2763	1,435	1,395	300	1.76
2763 2762	1,395	1,305	585	5.55
2762 2761	1,305	1,040	1,335	16.86
2761 2760	1,040	970	1,200	21.22
2760 2740	970	930	930	16.81
2752 2751	1,155	1,140	75	0.16
2751 2750	1,140	1,035	440	14.39
2750 2740	1,035	930	990	14.22
2740 27	930	920	385	3.57
2732 2721	1,300	1,295	75	0.31
2721 2720	1,295	1,230	430	6.42
2720 2710	1,230	1,170	650	18.32
2732 2731	1,450	1,445	90	0.35
2731 2730	1,445	1,390	305	1.97
2730 2710	1,390	1,170	820	8.79
2710 2710.5	1,170	1,105	600	10.99
2710.5 27	1,105	920	1,420	18.2

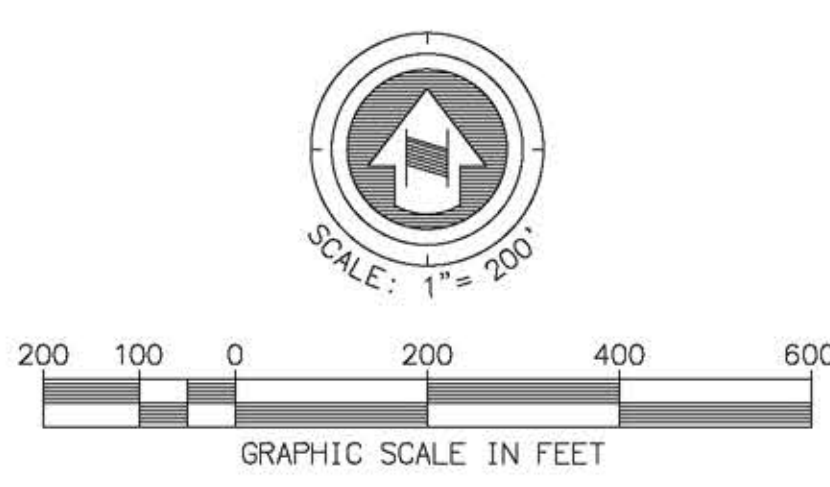
A=236.3 ac.  
L=6155 ft.  
Q=230 cfs  
Tc=22.7 min.

**LEGEND**

- BASIN SUB AREA NODE
- PROJECT BOUNDARY
- MAJOR BASIN DIVIDE
- HYDROLOGY SUB-BASIN
- FLOW LENGTH
- EXISTING STORM DRAIN
- AREA NOT IN BASIN A



INDEX MAP



EXISTING CONDITIONS HYDROLOGY EXHIBIT  
NEWLAND SIERRA DRAINAGE STUDY  
EXISTING DRAINAGE BASIN C - 1 OF 1  
SEPTEMBER 2016

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
3103 3102	1,335.0	1,300.0	82.0	0.47
3102 3101	1,300.0	1,035.0	594.0	5.56
3101 31	1,035.0	650.0	1,825.0	31.91

A=37.9 ac.  
L=2501 ft.  
Q=82 cfs  
Tc=14.2 min.

A=107.8 ac.  
L=4289 ft.  
Q=181 cfs  
Tc=16.9 min.

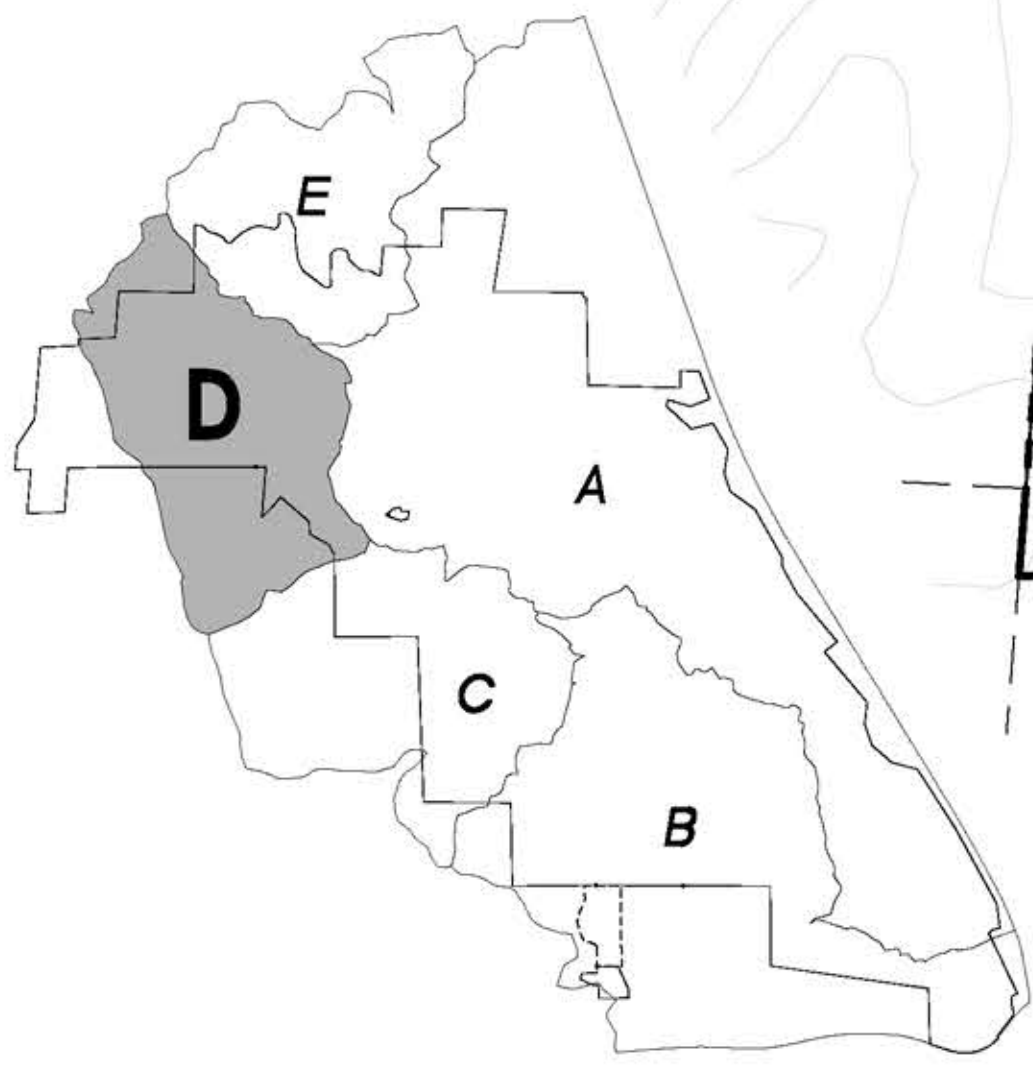
Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
3006 3005	1,615	1,580	76.0	0.17
3005 3004	1,580	1,360	466.0	2.06
3004 3003	1,360	1,210	559.0	9.02
3003 3002	1,210	1,080	597.0	21.04
3002 3001	1,080	870	871.0	21.39
3001 30	870	665	1,721.0	54.15

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
2927 2926	1,603	1,570	100	0.19
2926 2925	1,570	1,470	307	1.15
2925 2924	1,470	1,390	520	6.88
2924 2922	1,390	1,370	361	9.3
2922 2921	1,370	1,300	1,235	29.57
2921 2920	1,300	893	1,300	15.07
2920 29	893	800	335	27.04
2915 2914	1,550	1,460	90	1.38
2914 2913	1,460	1,400	400	5.2
2913 2912	1,400	1,290	600	5.12
2912 2911	1,290	1,025	1,175	19.17
2911 2910	1,025	835	830	23.79
2910 29	835	800	455	

A=143.9 ac.  
L=4158 ft.  
Q=226 cfs  
Tc=20.5 min.

A=107.4 ac.  
L=3481 ft.  
Q=134 cfs  
Tc=17.4 min.

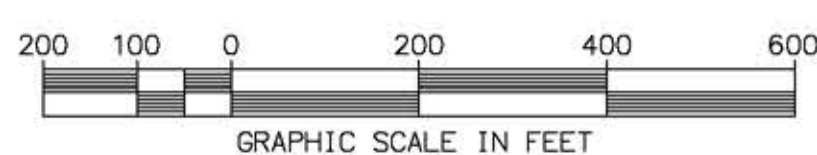
Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
2823 2822	1,702	1,695	100	0.33
2822 2821	1,695	1,430	517	3.06
2821 2820	1,430	1,265	669	11.46
2820 2811	1,265	1,145	650	8.25
2812 2811				9.5
2811 2810	1,145	1,045	611	9.27
2810 28	1,045	975	671	11.8
2807 2806	1,738	1,705	106	0.28
2806 2805	1,705	1,500	455	3.49
2805 2804	1,500	1,200	1,117	16.91
2804 2803	1,200	1,073	885	11.28
2803 2801	1,073	985	558	5.72
2802 2801				16.01
2801 28	985	975	360	



**INDEX MAP**

**LEGEND**

- BASIN SUB AREA NODE
- PROJECT BOUNDARY
- MAJOR BASIN DIVIDE
- HYDROLOGY SUB-BASIN
- FLOW LENGTH
- EXISTING STORM DRAIN
- AREA NOT IN BASIN D

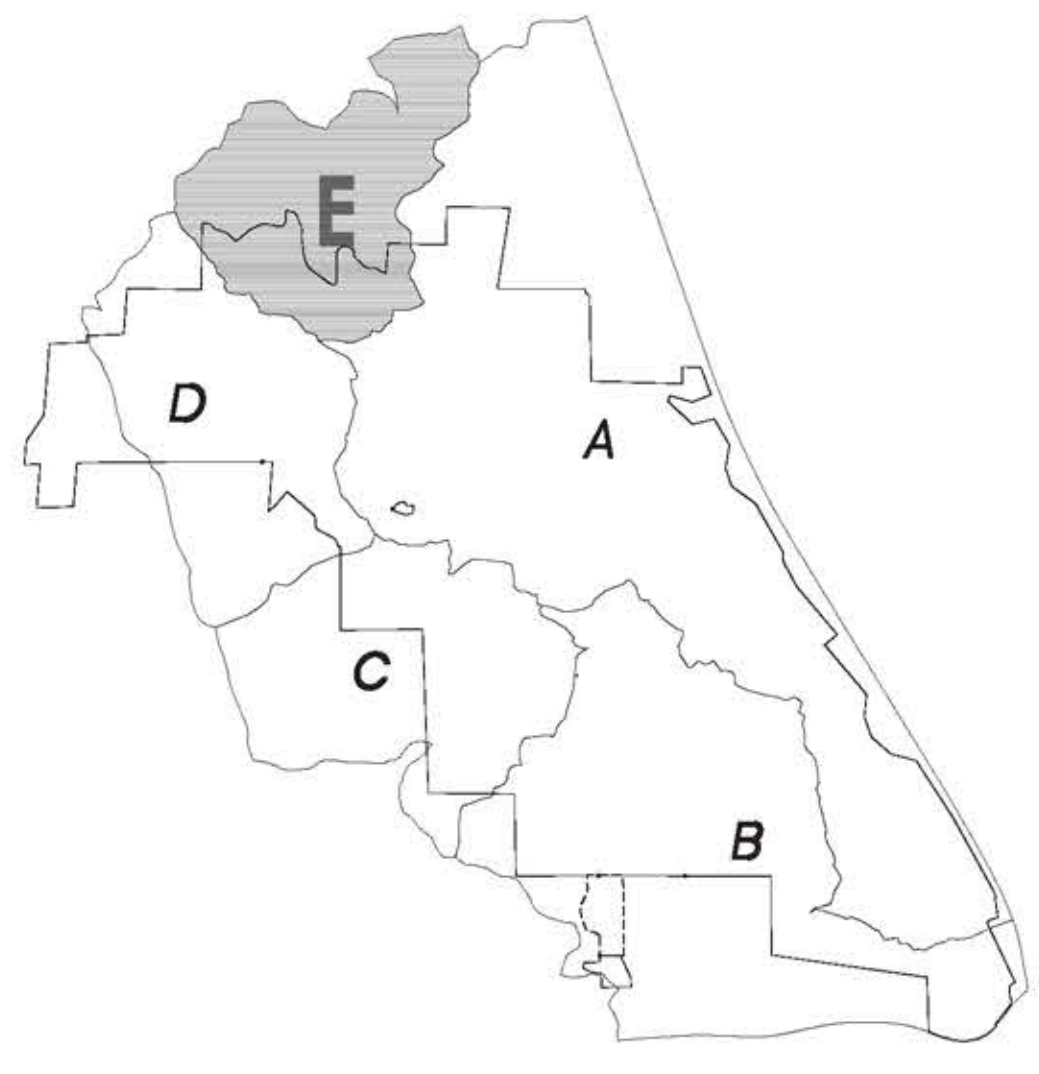


BASIN E

BASIN D

BASIN C

EXISTING CONDITIONS HYDROLOGY EXHIBIT  
NEWLAND SIERRA DRAINAGE STUDY  
EXISTING DRAINAGE BASIN D - 1 OF 1  
SEPTEMBER 2016



**INDEX MAP**

**BASIN 32**

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
3215 3214	1,450	1,445	75	0.25
3214 3213	1,445	1,415	300	15.25
3213 3212	1,415	1,360	600	12.04
3212 3209	1,343	1,237	607	11.05
3211 3210	1,612	1,580	137	0.2
3210 3209	1,580	1,237	1,282	9.72
3209 3208	1,237	1,020	808	12.33
3208 3204	1,020	931	1,049	13.59
3207 3206	1,347	1,335	93	0.29
3206 3205	1,335	1,063	1,107	15.11
3205 3204	1,063	831	831	12.79
3204 3203	831	759	427	5.34
3203 32	759	724	430	14.09
3202 3201	993	968	113	0.27
3201 32	968	724	1,302	13.92

**BASIN 33**

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
3302 3301.8	1,155	1,065	75	0.54
3301.8 3301.6	945	810	415	5.97
3301.6 33	810	725	925	26.36

**BASIN 34**

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
3403 3402.8	1,575	1,520	75	0.29
3402.8 3402.6	1,520	1,440	250	1.3
3402.6 3402	1,440	1,330	655	14.27
3402 3401	1,330	890	1,965	71.31
3401 34	890	805	525	10.38

**BASIN 35**

Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)
3502 3501.8	1,150	1,085	75	0.43
3501.8 3501.6	1,085	1,035	300	2.65
3501.6 3501	1,035	905	540	6.62
3501 35	905	810	1,300	37.33

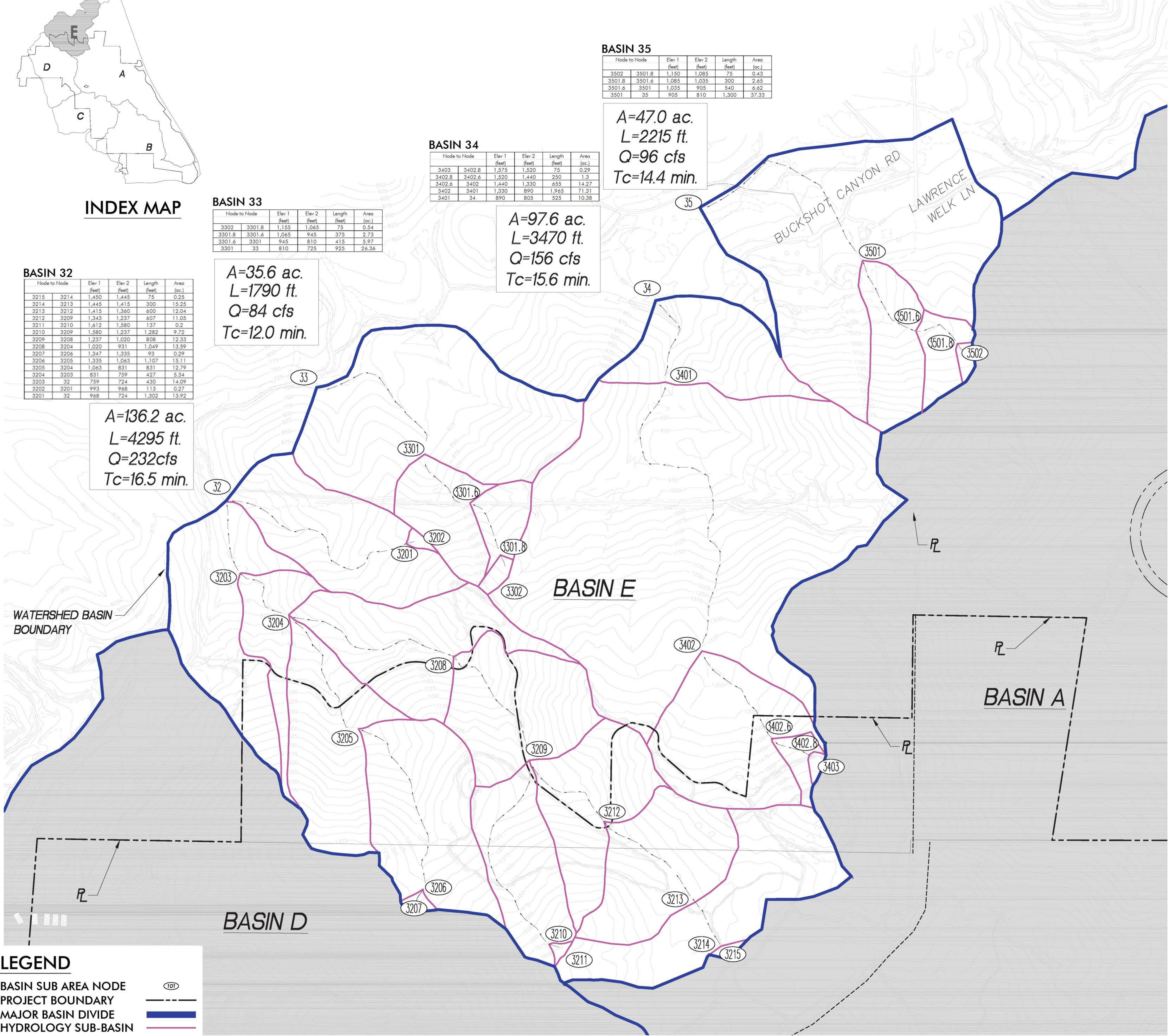
A=35.6 ac.  
L=1790 ft.  
Q=84 cfs  
Tc=12.0 min.

A=97.6 ac.  
L=3470 ft.  
Q=156 cfs  
Tc=15.6 min.

A=47.0 ac.  
L=2215 ft.  
Q=96 cfs  
Tc=14.4 min.

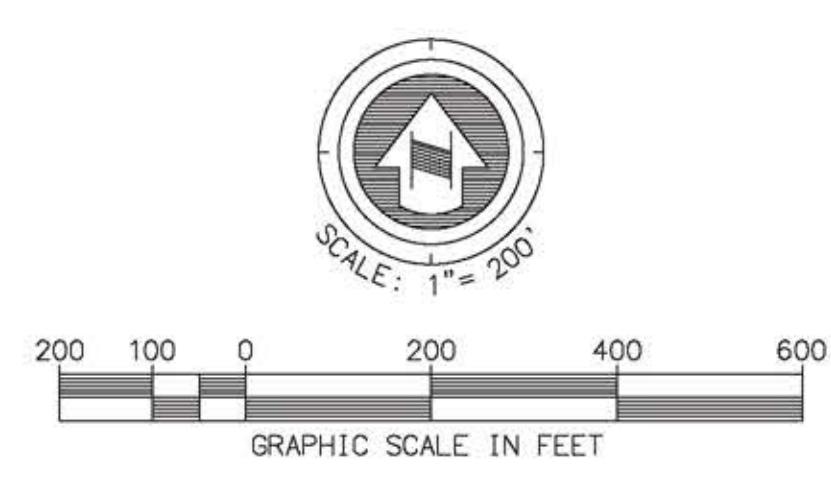
A=136.2 ac.  
L=4295 ft.  
Q=232 cfs  
Tc=16.5 min.

WATERSHED BASIN BOUNDARY



**LEGEND**

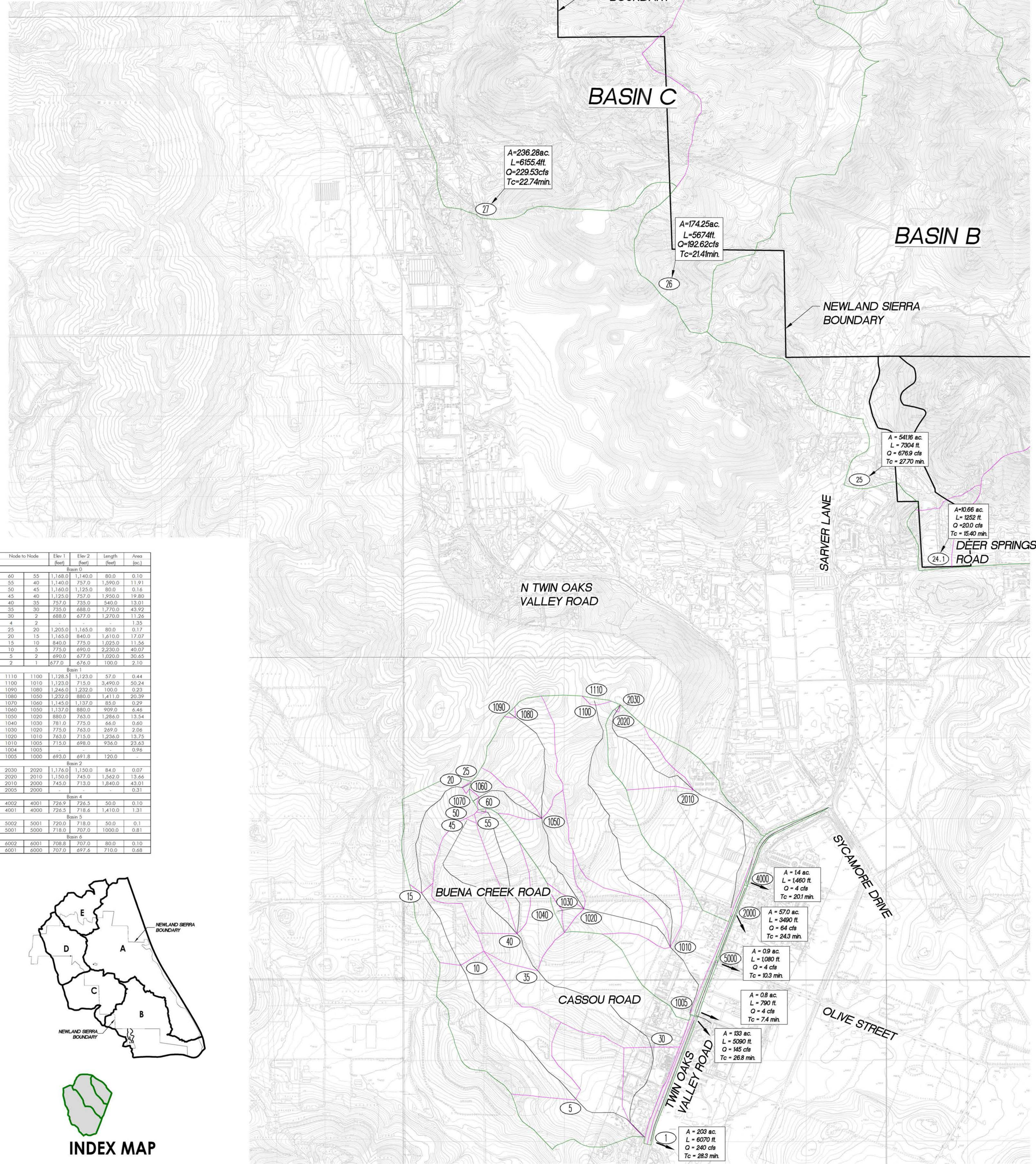
BASIN SUB AREA NODE	(101)
PROJECT BOUNDARY	---
MAJOR BASIN DIVIDE	---
HYDROLOGY SUB-BASIN	---
FLOW LENGTH	---
AREA NOT IN BASIN E	---



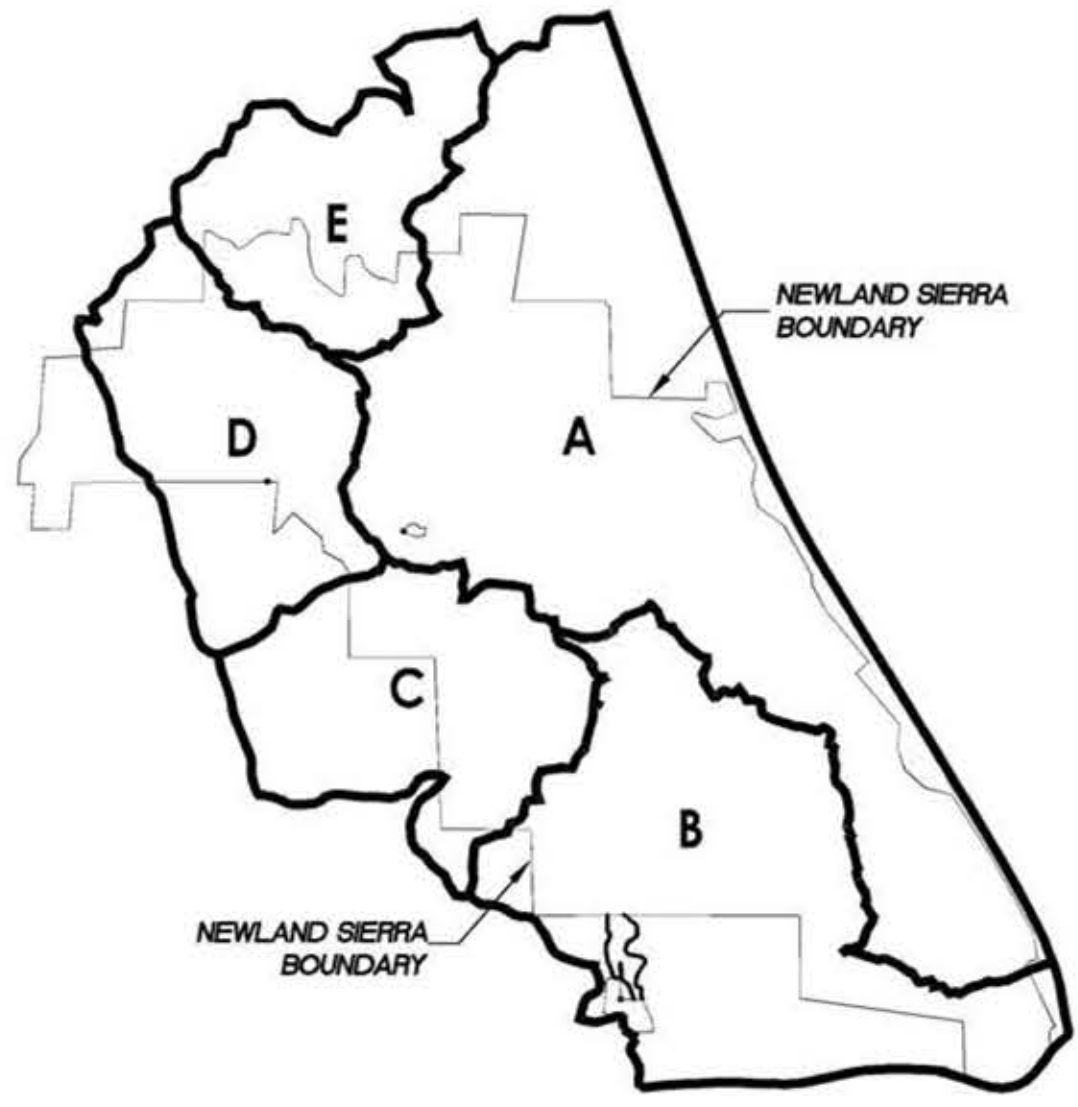
# EXISTING DRAINAGE OFF SITE IMPROVEMENTS

## SYMBOLS

- BASIN SUB AREA NODE
- PROJECT BOUNDARY
- MAJOR BASIN DIVIDE
- HYDROLOGY BASIN
- FLOW LENGTH
- EXISTING STORM DRAIN



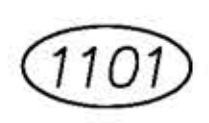





Node to Node	Elev 1 (feet)	Elev 2 (feet)	Length (feet)	Area (ac.)	
Basin 0					
40	55	1,168.0	1,140.0	80.0	0.10
55	40	1,140.0	757.0	1,590.0	11.91
50	45	1,160.0	1,125.0	80.0	0.16
45	40	1,125.0	757.0	1,950.0	19.80
40	35	757.0	735.0	540.0	13.01
35	30	735.0	688.0	1,770.0	43.92
30	2	688.0	677.0	1,270.0	11.26
4	2	-	-	-	1.35
25	20	1,205.0	1,165.0	80.0	0.17
20	15	1,165.0	840.0	1,610.0	17.07
15	10	840.0	775.0	1,625.0	11.56
10	5	775.0	690.0	2,230.0	40.07
5	2	690.0	677.0	1,020.0	30.65
2	1	677.0	676.0	100.0	2.10
Basin 1					
1110	1100	1,128.5	1,123.0	57.0	0.44
1100	1010	1,123.0	715.0	3,490.0	50.24
1090	1080	1,246.0	1,232.0	100.0	0.23
1080	1050	1,232.0	880.0	1,411.0	20.39
1070	1060	1,145.0	1,137.0	85.0	0.29
1060	1050	1,137.0	880.0	909.0	6.46
1050	1020	880.0	763.0	1,286.0	13.54
1040	1030	781.0	775.0	66.0	0.60
1030	1020	775.0	763.0	249.0	2.06
1020	1010	763.0	715.0	1,236.0	13.75
1010	1005	715.0	698.0	936.0	23.63
1004	1005	-	-	-	0.96
1005	1000	693.0	691.8	120.0	-
Basin 2					
2030	2020	1,176.0	1,150.0	84.0	0.07
2020	2010	1,150.0	745.0	1,562.0	13.66
2010	2000	745.0	713.0	1,840.0	43.01
2005	2000	-	-	-	0.31
Basin 4					
4002	4001	726.9	726.5	50.0	0.10
4001	4000	726.5	718.6	1,410.0	1.31
Basin 5					
5002	5001	720.0	718.0	50.0	0.1
5001	5000	718.0	707.0	1000.0	0.81
Basin 6					
6002	6001	708.8	707.0	80.0	0.10
6001	6000	707.0	697.6	710.0	0.68



**INDEX MAP**

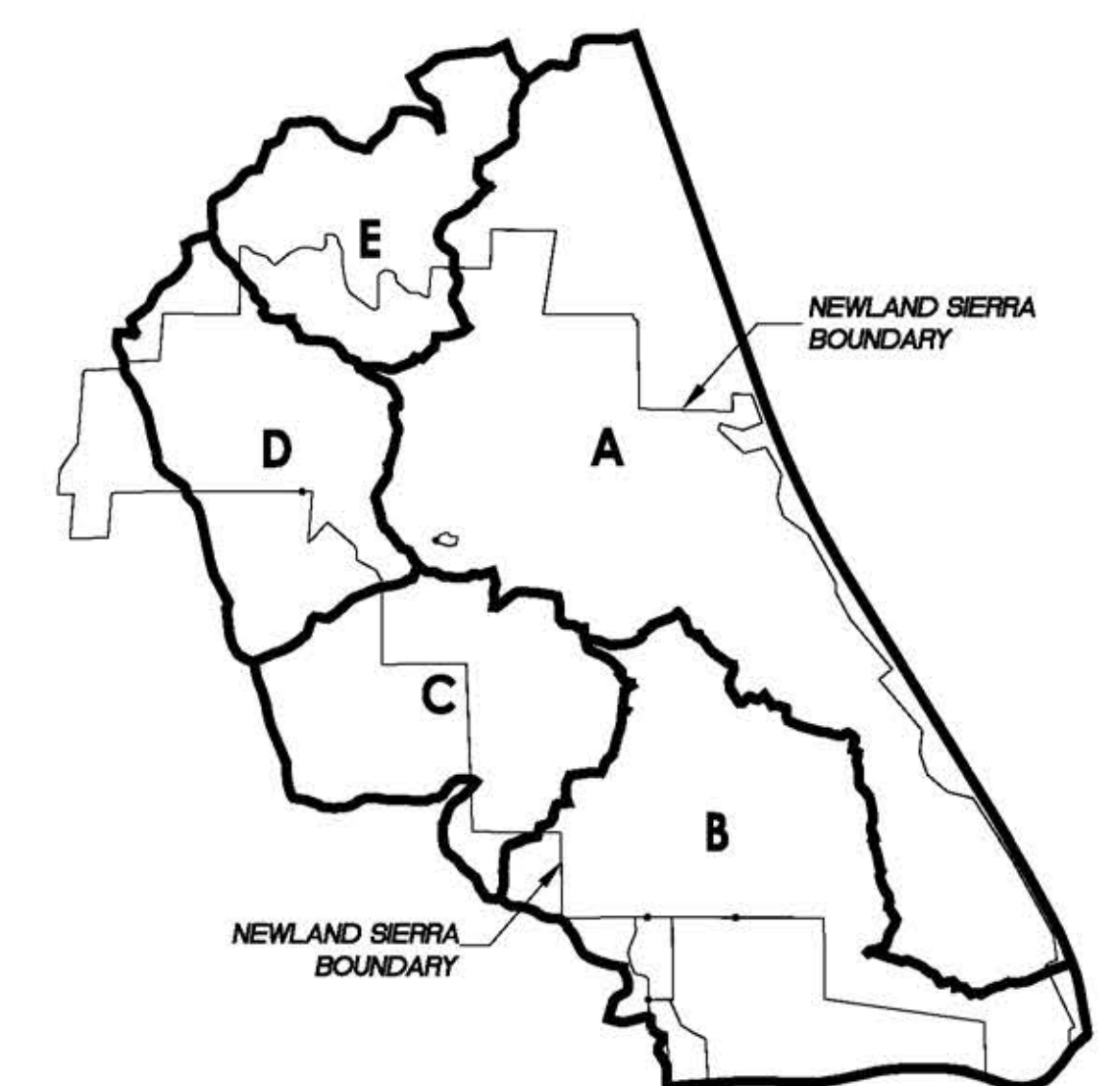
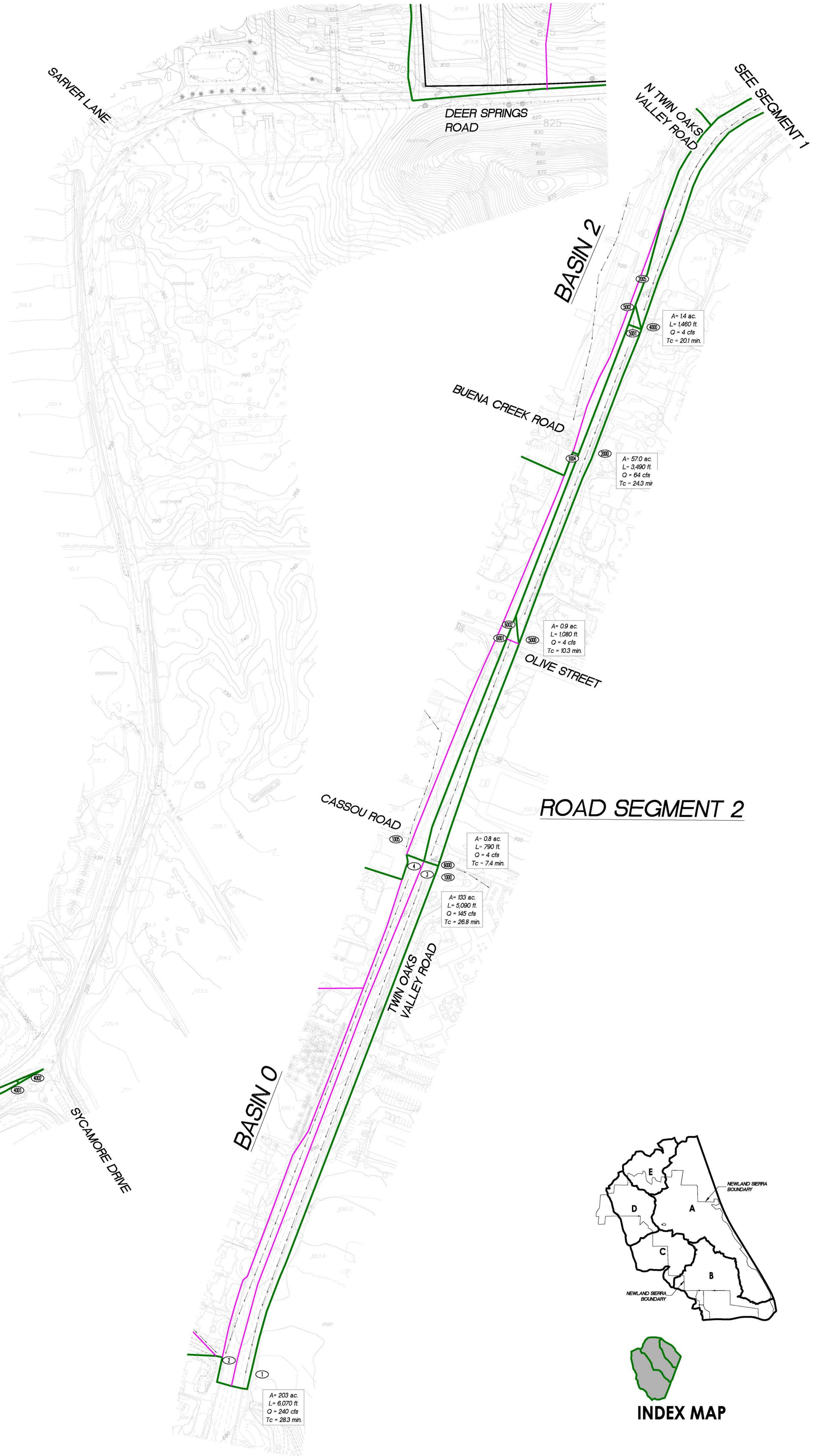
# EXISTING DRAINAGE OFFSITE IMPROVEMENTS ROADWAY BASINS

## SYMBOLS

-  BASIN SUB AREA NODE
-  PROJECT BOUNDARY
-  MAJOR BASIN DIVIDE
-  HYDROLOGY BASIN
-  FLOW LENGTH
-  EXISTING STORM DRAIN

## ROAD SEGMENT 1

Node to Node	Elev. 1 (feet)	Elev. 2 (feet)	Length (feet)	Area (ac.)
Basin 0				
60 55	1,168.0	1,140.0	80.0	0.10
55 40	1,140.0	757.0	1,590.0	11.91
30 45	1,160.0	1,125.0	80.0	0.16
45 40	1,125.0	757.0	1,950.0	19.80
40 35	757.0	735.0	540.0	13.01
35 30	735.0	688.0	1,770.0	43.92
30 2	688.0	677.0	1,270.0	11.26
4 2	-	-	-	1.35
25 20	1,205.0	1,145.0	80.0	0.17
20 15	1,165.0	840.0	1,610.0	17.07
15 10	840.0	775.0	1,025.0	11.56
10 5	775.0	690.0	2,230.0	40.07
5 2	690.0	677.0	1,020.0	30.65
2 1	677.0	676.0	100.0	2.10
Basin 1				
1110 1100	1,128.5	1,123.0	57.0	0.44
1100 1010	1,123.0	715.0	3,490.0	50.24
1090 1080	1,244.0	1,232.0	100.0	0.23
1080 1050	1,232.0	880.0	1,411.0	20.39
1070 1060	1,145.0	1,137.0	85.0	0.29
1060 1050	1,137.0	880.0	909.0	6.46
1050 1020	880.0	763.0	1,286.0	13.54
1040 1030	781.0	775.0	66.0	0.60
1030 1020	775.0	763.0	269.0	2.06
1020 1010	763.0	715.0	1,236.0	13.75
1010 1005	715.0	698.0	936.0	23.63
1004 1005	-	-	-	0.96
1005 1000	693.0	691.8	120.0	-
Basin 2				
2030 2020	1,176.0	1,150.0	84.0	0.07
2020 2010	1,150.0	745.0	1,562.0	13.66
2010 2000	745.0	713.0	1,840.0	43.01
2005 2000	-	-	-	0.31
Basin 4				
4002 4001	726.9	726.5	50.0	0.10
4001 4000	726.5	718.6	1,410.0	1.31
Basin 5				
5002 5001	720.0	718.0	50.0	0.1
5001 5000	718.0	707.0	1000.0	0.81
Basin 6				
6002 6001	708.8	707.0	80.0	0.10
6001 6000	707.0	697.6	710.0	0.68



INDEX MAP

