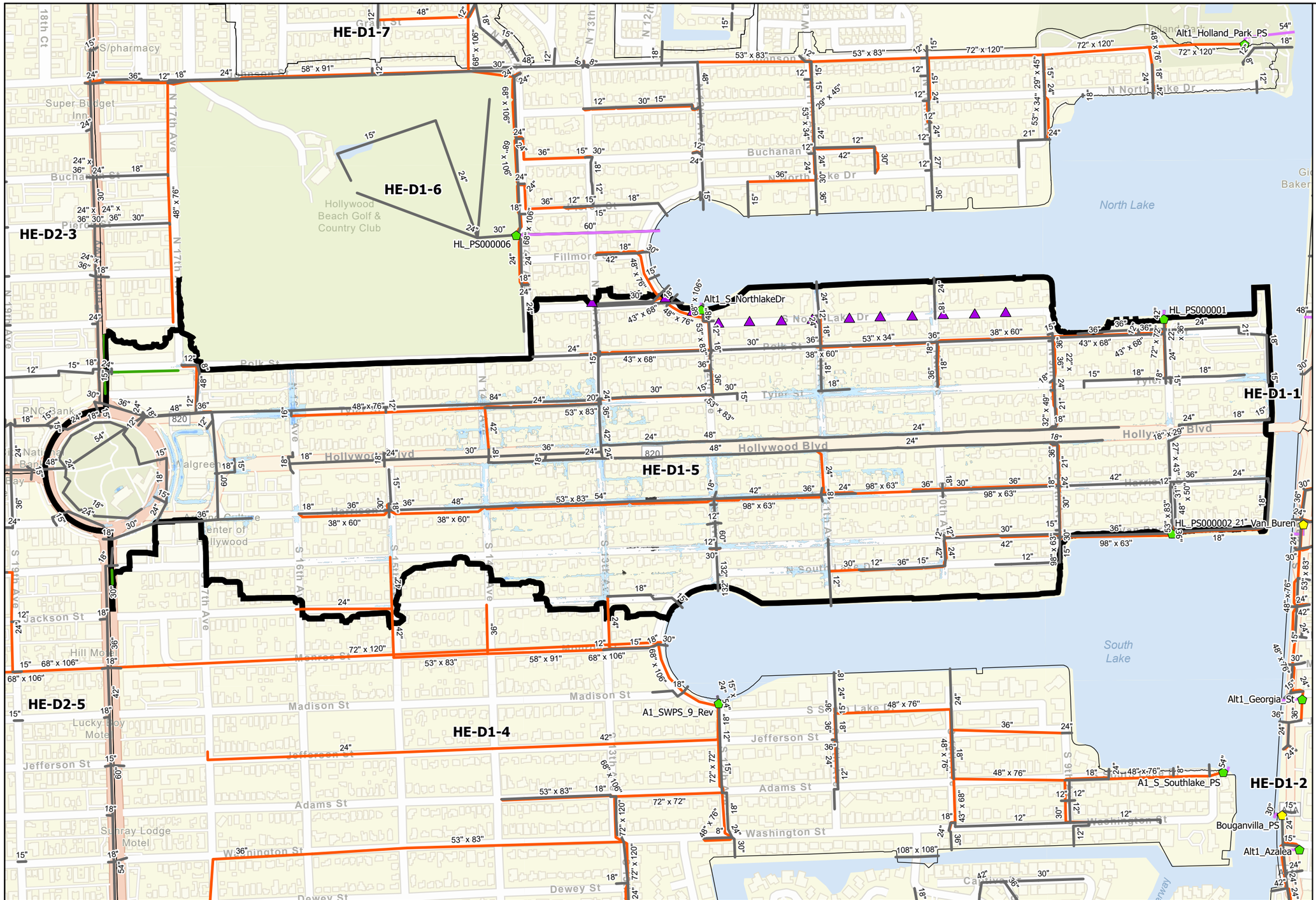

CDM Smith

CITY OF Hollywood FLORIDA

Predicted Flooding Reduction and Proposed ALT 1 CIP for 5-year Design Storm in CIP Area Hollywood Lakes - Central

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-5_ALT1-5

2/28/2023

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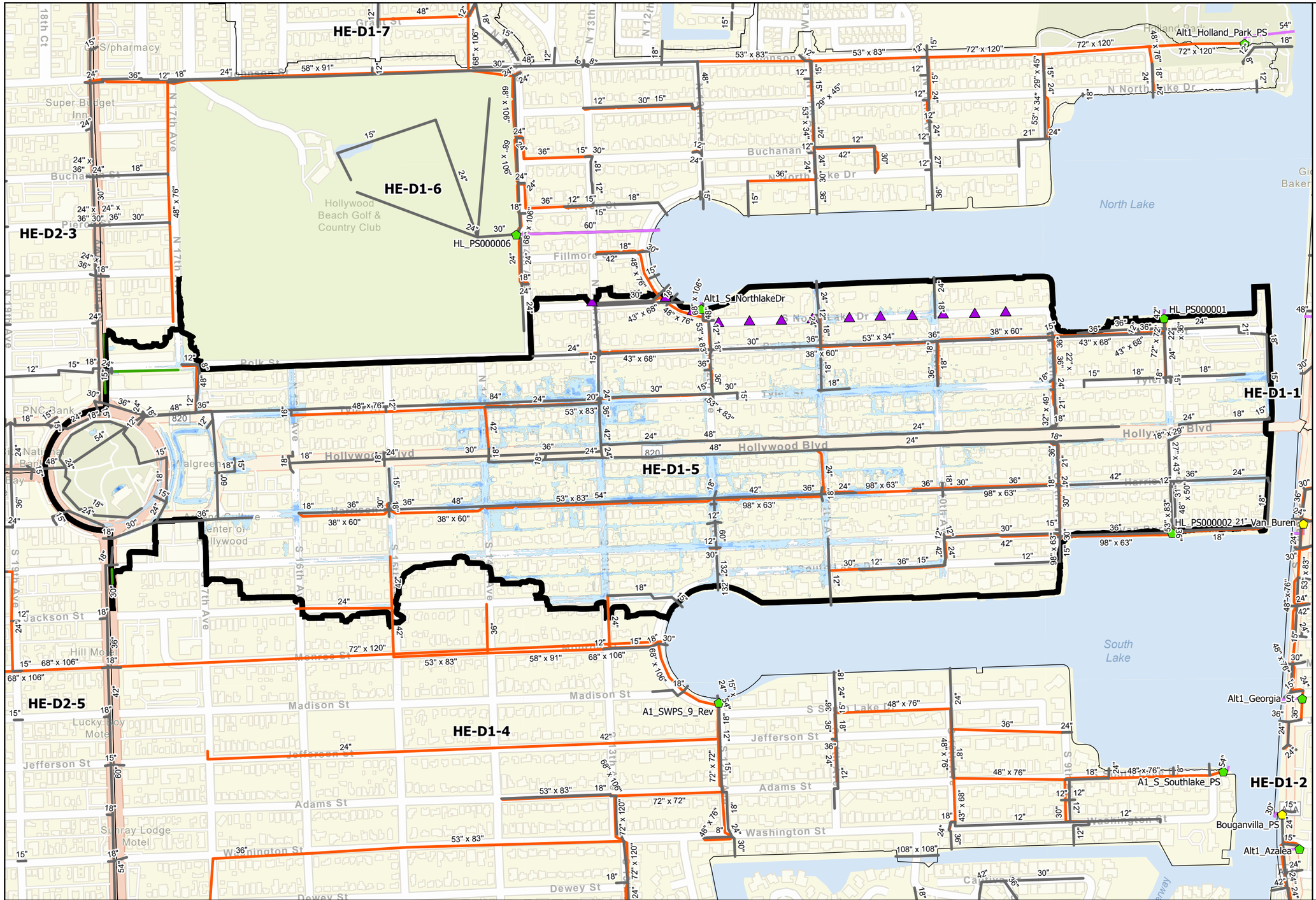

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 1 SWPS
- Alt 1 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 1 Exfiltration Pipes
- Alt 1 Gravity Pipes
- Alt 1 Forcemains
- Alt 1 Detention Pond

10-Year ALT 1 Storm Flood Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Predicted Flooding Reduction and Proposed ALT 1 CIP for 10-year Design Storm in CIP Area
Hollywood Lakes - Central

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan
HE-D1-5_ALT1-10
2/28/2023

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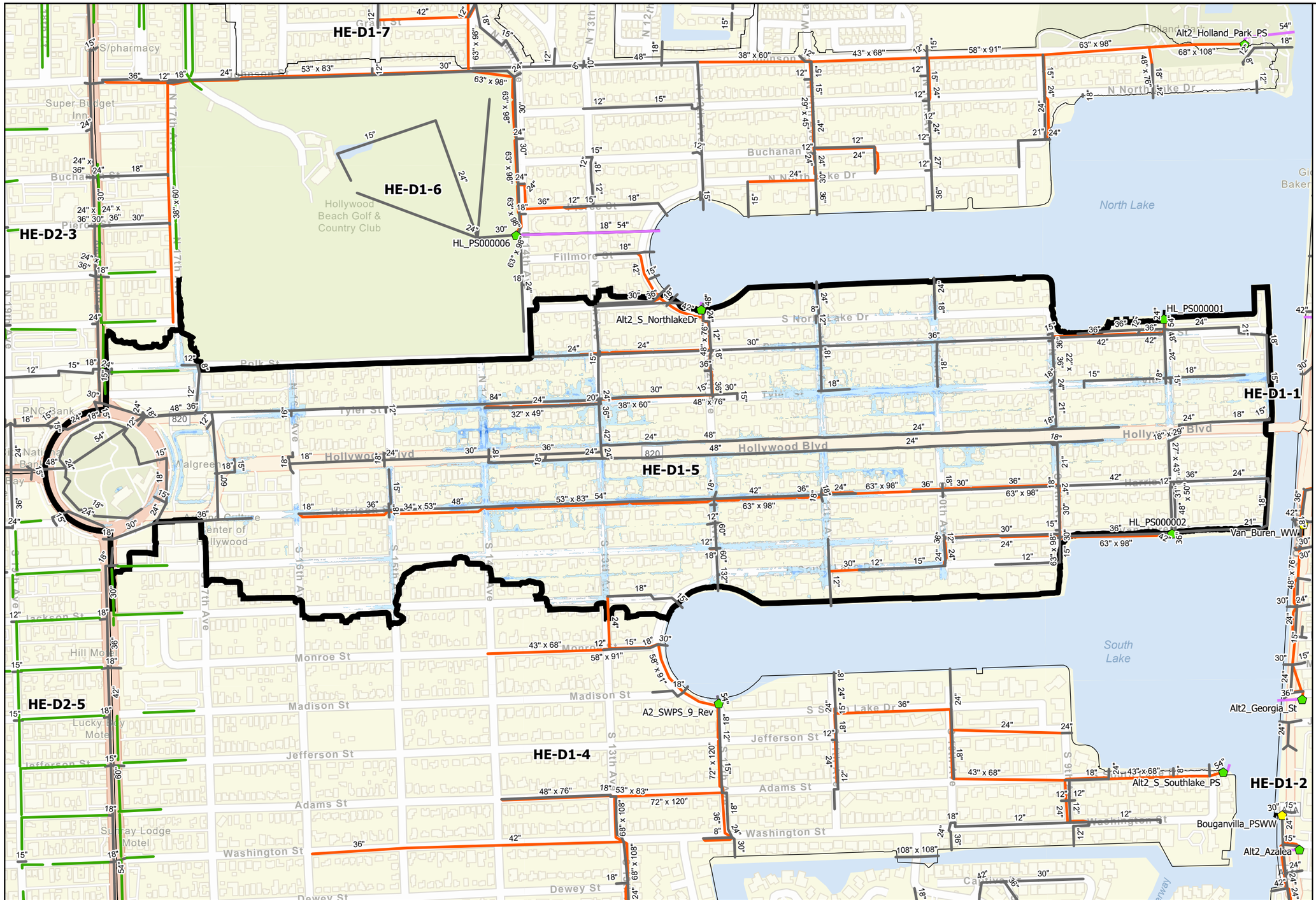

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 2 SWPS
- Alt 2 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 2 Exfiltration Pipe
- Alt 2 Gravity Pipes
- Alt 2 Forcemains
- Alt 2 Detention Pond

5-Year ALT 2 Storm Flood Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Predicted Flooding Reduction and Proposed ALT 2 CIP for 5-year Design Storm in CIP Area
Hollywood Lakes - Central

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan
HE-D1-5_ALT2-5
2/28/2023

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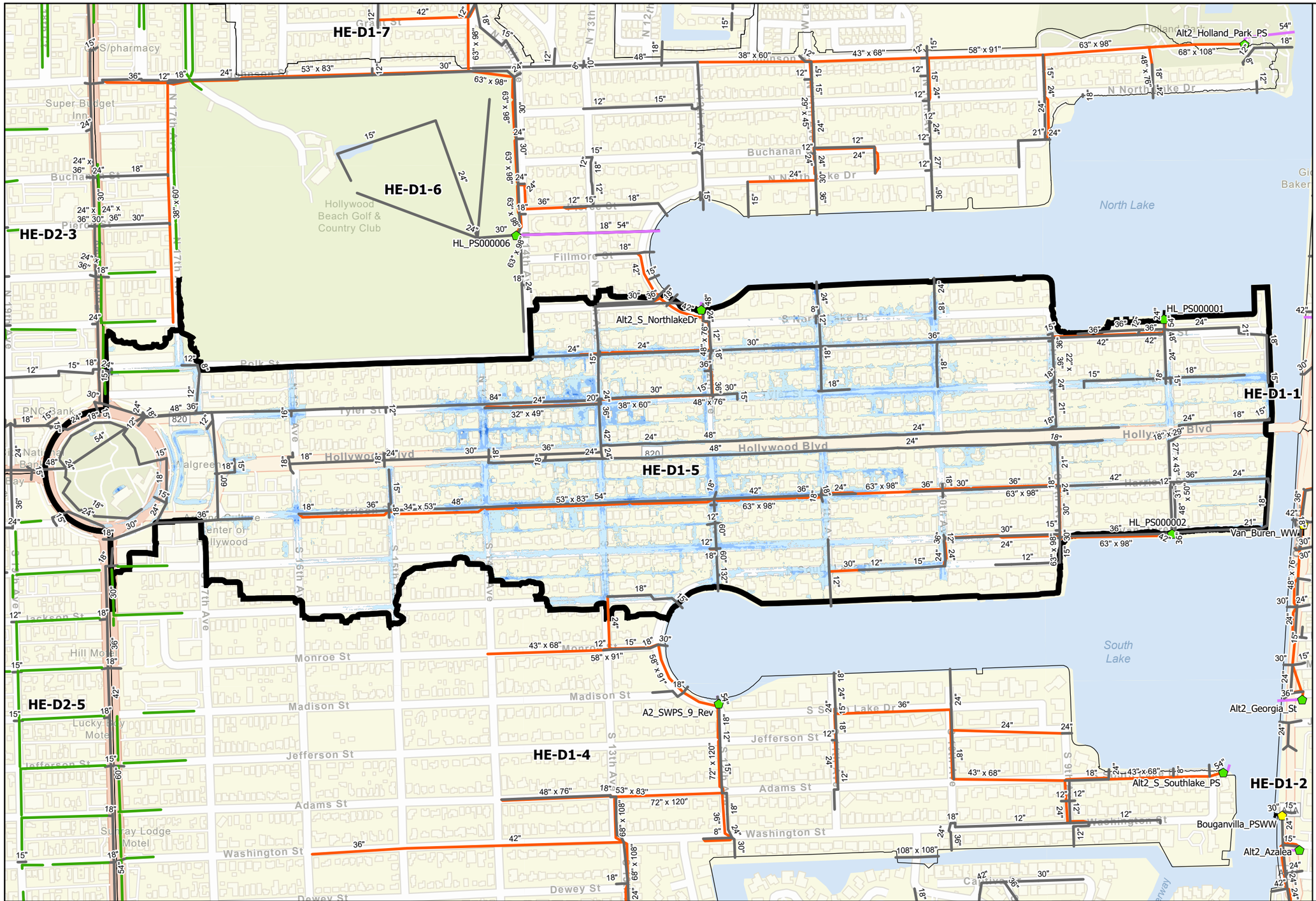

Predicted Flooding Reduction and Proposed ALT 2 CIP for 10-year Design Storm in CIP Area
Hollywood Lakes - Central

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan
HE-D1-5_ALT2-10
2/28/2023

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		CONCEPTUAL CAPITAL COST ESTIMATE					Hollywood Lakes Central	
							Alternative 1	
PUMP STATIONS WITH FORCE MAINS								
ITEM #	Master Sheet Index	DIAMETER (INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0001	13	24	FM- Force Main Collector	Circular	LF	$ 167.00	0	$ -
0002	14	36	FM- Force Main Collector	Circular	LF	$ 242.00	0	$ -
0003	15	42	FM- Force Main Collector	Circular	LF	$ 336.00	0	$ -
0004	16	48	FM- Force Main Collector	Circular	LF	$ 612.00	0	$ -
0005	17	54	FM- Force Main Collector	Circular	LF	$ 982.00	0	$ -
0006	18	60	FM- Force Main Collector	Circular	LF	$ 1,149.00	0	$ -
0007	19	66	FM- Force Main Collector	Circular	LF	$ 1,329.00	0	$ -
0008	20	72	FM- Force Main Collector	Circular	LF	$ 1,473.00	0	$ -
0009	225	24	FMO- Force Main Offline	Circular	LF	$ 353.00	4,500	$ 1,588,500
0010	11		IWI-Injection Wells-Inline		EA	$ 65,000.00	0	$ -
0011	12		IWO-Injection Wells -Offline		EA	$ 75,000.00	20	$ 1,500,000
0012	6	PS-Storm Drainage Pump Stations < 166 cfs		I	EA	$ 2,400,000.00	0	$ -
0013	7	PS-Storm Drainage Pump Stations < 166-246 cfs		II	EA	$ 3,500,000.00	0	$ -
0014	8	PS-Storm Drainage Pump Stations < 246-328 cfs		III	EA	$ 4,900,000.00	2	$ 9,800,000
0015	9	PS-Storm Drainage Pump Stations< 328-410 cfs		IV	EA	$ 6,750,000.00	1	$ 6,750,000
0016	54	PS-CS22 Storm Drainage Pump Stations 600CFS			EA	$ 8,000,000.00	0	$ -
AIN SUBTOTAL								$ 19,638,500
EXFILTRATION WITH GRAVITY MAINS							Hollywood Lakes Central	
ITEM #	Master Sheet Index	DIAMETER (INCHES)	Width(INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0020	21	15		GM-Gravity Main Collector	Circular	LF	$ 40.00	0	$ -
0021	22	18		GM-Gravity Main Collector	Circular	LF	$ 45.00	616	$ 27,707
0023	23	24		GM-Gravity Main Collector	Circular	LF	$ 48.00	555	$ 26,654
0024	24	30		GM-Gravity Main Collector	Circular	LF	$ 52.00	374	$ 19,464
0026	25	36		GM-Gravity Main Collector	Circular	LF	$ 80.00	1,371	$ 109,680
0028	26	42		GM-Gravity Main Collector	Circular	LF	$ 115.00	1,524	$ 175,237
0029	27	48		GM-Gravity Main Collector	Circular	LF	$ 125.00	450	$ 56,250
0030	28	54		GM-Gravity Main Collector	Circular	LF	$ 150.00	0	$ -
0031	29	60		GM-Gravity Main Collector	Circular	LF	$ 220.00	0	$ -
0032	30	66		GM-Gravity Main Collector	Circular	LF	$ 428.00	0	$ -
0033	31	72		GM-Gravity Main Collector	Circular	LF	$ 485.00	0	$ -
0035	32	29	45	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 205.00	0	$ -
0036	33	32	49	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 215.00	381	$ 81,894
0037	34	34	53	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 225.00	808	$ 181,755
0038	35	38	60	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 235.00	2,660	$ 625,077
0039	36	43	68	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 370.00	1,742	$ 644,355
0040	37	48	76	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 400.00	1,562	$ 624,720
0041	38	53	83	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 432.00	3,047	$ 1,316,261
0042	39	58	91	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 320.00	0	$ -
0043	40	63	98	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 410.00	4,134	$ 1,694,776
0044	41	68	106	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 460.00	66	$ 30,452
0045	42	72	113	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 570.00	0	$ -
0046	43	82	128	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 650.00	0	$ -
0048	44	72	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	26	$ 14,763
0072	45	72	72	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	139	$ 79,458
0049	46	84	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 750.00	0	$ -
0050	47	96	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 850.00	0	$ -
0051	48			GBP-Gravity Backflow Pipe <36"		Ea	$ 35,000.00	0	$ -
0052	49			GBP-Gravity Backflow Pipe >36"		Ea	$ 70,000.00	0	$ -
0053	5			GW-Gravity Wells		EA	$ 105,000.00	0	$ -
0054	4	48		ET-Exfiltration Trench		LF	$ 250.00	509	$ 127,250
0056	50			Weir Box CS		EA	$ 7,500.00	0	$ -
0057	53			CS-22 Remod		EA	$ 200,000.00	0	$ -
0058	55			SW-04 Remod		EA	$ 150,000.00	0	$ -
0055				Gravity Structures-Inlets		EA	$ 30,000.00	175	$ 5,260,750
0059	56			Ditch Improvement		LF	$ 50.00	0	$ -
0091	57			Swale/Ditch Headwall		Ea	$ 10,000.00	0	$ -
0090	10			Exfil_End Weir		Ea	$ 5,000.00	0	$ -
0092	51			Ret/Det Pond		CUY	$ 355.00	0	$ -
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
GRAVITY MAIN SUBTOTAL							#N/A		$ 11,096,501
0060		Pavement Restoration including Pavement Marking (Full Road)				LF	$ 270.00	24,463	$ 6,605,010
								CONSTRUCTION COST SUBTOTAL	**$ 37,340,011**
GENERAL CONDITIONS								Hollywood Lakes Central	
0061		Mobilization				LS	**4%**	$ 37,340,011	$ 1,493,600
0062		Insurance and General Conditions				LS	**2%**	$ 37,340,011	$ 746,800
0063		Permits/Fees				LS	**2%**	$ 37,340,011	$ 746,800
0064		Maintenance of Traffic				LS	**3%**	$ 37,340,011	$ 1,120,200
0065		Engineering Design & CA Oversight Costs				LS	**15%**	$ 37,340,011	$ 5,601,002
0066		Construction Engineering Inspection Costs				LS	**4%**	$ 37,340,011	$ 1,493,600
0067		OCI Management Cost				LS	**15%**	$ 37,340,011	$ 5,601,002
0068		Project Contingency Costs				LS	**30%**	$ 37,340,011	$ 11,202,003
		Land acquisition							
NS SUBTOTAL									$ 28,005,008
TOTAL									**$ 65,345,020**

		CONCEPTUAL CAPITAL COST ESTIMATE						Hollywood Lakes Central	
								Alternative 2	
PUMP STATIONS WITH FORCE MAINS									
ITEM #	Master Sheet Index	DIAMETER (INCHES)		DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0001	13	24		FM- Force Main Collector	Circular	LF	$ 167.00	0	$ -
0002	14	36		FM- Force Main Collector	Circular	LF	$ 242.00	0	$ -
0003	15	42		FM- Force Main Collector	Circular	LF	$ 336.00	0	$ -
0004	16	48		FM- Force Main Collector	Circular	LF	$ 612.00	0	$ -
0005	17	54		FM- Force Main Collector	Circular	LF	$ 982.00	0	$ -
0006	18	60		FM- Force Main Collector	Circular	LF	$ 1,149.00	0	$ -
0007	19	66		FM- Force Main Collector	Circular	LF	$ 1,329.00	0	$ -
0008	20	72		FM- Force Main Collector	Circular	LF	$ 1,473.00	0	$ -
0009	225	24		FMO- Force Main Offline	Circular	LF	$ 353.00	0	$ -
0010	11			IWI-Injection Wells-Inline		EA	$ 65,000.00	0	$ -
0011	12			IWO-Injection Wells -Offline		EA	$ 75,000.00	0	$ -
0012	6	PS-Storm Drainage Pump Stations < 166 cfs			I	EA	$ 2,400,000.00	1	$ 2,400,000
0013	7	PS-Storm Drainage Pump Stations < 166-246 cfs			II	EA	$ 3,500,000.00	2	$ 7,000,000
0014	8	PS-Storm Drainage Pump Stations < 246-328 cfs			III	EA	$ 4,900,000.00	0	$ -
0015	9	PS-Storm Drainage Pump Stations< 328-410 cfs			IV	EA	$ 6,750,000.00	0	$ -
0016	54	PS-CS22 Storm Drainage Pump Stations 600CFS				EA	$ 8,000,000.00	0	$ -
IN SUBTOTAL									$ 9,400,000
EXFILTRATION WITH GRAVITY MAINS								Hollywood Lakes Central	
ITEM #	Master Sheet Index	DIAMETER (INCHES)	Width(INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0022	22	21		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0021	21	18		GM-Gravity Main Collector	Circular	LF	$ 45.00	47	$ 2,115
0023	23	24		GM-Gravity Main Collector	Circular	LF	$ 48.00	1,881	$ 90,288
0024	24	30		GM-Gravity Main Collector	Circular	LF	$ 52.00	206	$ 10,712
0026	25	36		GM-Gravity Main Collector	Circular	LF	$ 80.00	78	$ 6,240
0028	26	42		GM-Gravity Main Collector	Circular	LF	$ 115.00	1,538	$ 176,870
0029	27	48		GM-Gravity Main Collector	Circular	LF	$ 125.00	30	$ 3,750
0030	28	54		GM-Gravity Main Collector	Circular	LF	$ 150.00	0	$ -
0031	29	60		GM-Gravity Main Collector	Circular	LF	$ 220.00	0	$ -
0032	30	66		GM-Gravity Main Collector	Circular	LF	$ 428.00	0	$ -
0033	31	72		GM-Gravity Main Collector	Circular	LF	$ 485.00	0	$ -
0035	32	29	45	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 205.00	71	$ 14,555
0036	33	32	49	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 215.00	576	$ 123,840
0037	34	34	53	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 225.00	1,547	$ 348,075
0038	35	38	60	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 235.00	987	$ 231,945
0039	36	43	68	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 370.00	0	$ -
0040	37	48	76	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 400.00	369	$ 147,600
0041	38	53	83	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 432.00	1,061	$ 458,352
0042	39	58	91	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 320.00	0	$ -
0043	40	63	98	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 410.00	4,134	$ 1,694,940
0044	41	68	106	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 460.00	62	$ 28,520
0045	42	72	113	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 570.00	0	$ -
0046	43	82	128	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 650.00	0	$ -
0048	44	72	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0072	45	72	72	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0049	46	72	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 750.00	0	$ -
0050	47	96	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 850.00	0	$ -
0051	48			GBP-Gravity Backflow Pipe <36"		Ea	$ 35,000.00	0	$ -
0052	49			GBP-Gravity Backflow Pipe >36"		Ea	$ 70,000.00	0	$ -
0053	5			GW-Gravity Wells		EA	$ 105,000.00	0	$ -
0054	4	48		ET-Exfiltration Trench		LF	$ 250.00	803	$ 200,750
0055	50			Weir Box CS		EA	$ 30,000.00	0	$ -
0057	53			CS-22 Remod		EA	$ 525,000.00	0	$ -
0058	55			SW-04 Remod		EA	$ 150,000.00	0	$ -
0056				Gravity Structures-Inlets		EA	$ 7,500.00	112	$ 836,875
0059	56			Ditch Improvement		LF	$ 50.00	0	$ -
0091	57			Swale/Ditch Headwall		Ea	$ 10,000.00	0	$ -
0090	10			Exfil_End Weir		Ea	$ 5,000.00	0	$ -
0092	51			Ret/Det Pond		CUY	$ 355.00	0	$ -
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
	GRAVITY MAIN SUBTOTAL								$ 4,375,427
0060		Pavement Restoration including Pavement Marking (Full Road)				LF	$ 270.00	13,390	$ 3,615,300
							CONSTRUCTION COST SUBTOTAL		**$ 17,390,727**
GENERAL CONDITIONS								Hollywood Lakes Central	
0061		Mobilization				LS	**4%**	$ 17,390,727	$ 695,629
0062		Insurance and General Conditions				LS	**2%**	$ 17,390,727	$ 347,815
0063		Permits/Fees				LS	**2%**	$ 17,390,727	$ 347,815
0064		Maintenance of Traffic				LS	**3%**	$ 17,390,727	$ 521,722
0065		Engineering Design & CA Oversight Costs				LS	**15%**	$ 17,390,727	$ 2,608,609
0066		Construction Engineering Inspection Costs				LS	**4%**	$ 17,390,727	$ 695,629
0067		OCI Management Cost				LS	**15%**	$ 17,390,727	$ 2,608,609
0068		Project Contingency Costs				LS	**30%**	$ 17,390,727	$ 5,217,218
NS SUBTOTAL									$ 13,043,045
TOTAL									**$ 30,433,772**

3.2.4.6 CIP Area HE-D1-6 (Hollywood Lakes – North Lake)

Root Causes of Flooding

This CIP area is characterized residential land use and golf course. There is higher ground to the west and low area elsewhere in the basin. The existing gravity system and SW 06 SWPS is not sufficient and undersized for the desired LOS and deep flooding occurs. Due to the low elevation, the gravity multiple outfalls do not work at high tide. The Hollywood Beach GC currently acts as detention storage for the neighborhoods during larger storms.

Alternative 1

Proposed CIP:

- Two new (or upgraded existing) SWPSs for the service area:
    1. Existing SW06, located at the east side of the Hollywood Beach Gold Course, existing pump station capacity is approximately 16.5 cfs and is to be upgraded with an additional 175 cfs to a Type II 192 cfs total SWPS discharging via 950 l.f. of 60-inch equivalent FM into North Lake.
    2. New HollandPk SWPS, Type IV 355 cfs pumping directly into the ICW via 500 l.f. of twin 54-inch FMs located in the City R/O/W in Holland Park.
- New gravity collection systems and inlets in neighborhoods to the new SWPS.
- New 11,525 l.f. of exfiltration systems in neighborhoods.
- Two gravity stormwater wells (assumed 1 cfs per foot head for 24-inch well, 250 ft spacing).
- Low roadway raising improvements in service area to remove dips resulting in flooding.

Summary of Locations Not Meeting ALT 1 LOS:

1. Structures Flooded pre-14, seawall-276, post-3
2. Roadway raising is required at Grant St and N 14th Ave and N 14 Ct for approximately 400 l.f. and on the cross streets.

Summary of Offsite Issues Affecting CIP Area:

1. None.

Alternative 2

Proposed CIP:

- Two new (or upgraded) SWPSs for the service area:
    1. Existing SW06 pump station, located at the east side of the Hollywood Beach Golf Course, existing capacity is approximately 16.5 cfs and is to be upgraded with an additional 125 cfs to a Type I 142 cfs total SWPS discharging via 950 l.f. of 54-inch equivalent FM into North Lake.

2. New HollandPk SWPS, Type I 125 cfs pumping directly into the ICW via 500 l.f. of 54-inch FMs located in the City R/O/W in Holland Park.

- New gravity collection systems and inlets in neighborhoods to the new SWPS.
- New 11,525 l.f. of exfiltration systems in neighborhoods.
- Two gravity stormwater wells (assumed 1 cfs per foot head for 24-inch well, 250 ft spacing).
- Low roadway raising improvements in service area to remove dips resulting in flooding.

Summary of Locations Not Meeting ALT 2 LOS:

1. Structures Flooded pre-14, seawall-276, post-20
2. Roadway raising is required at Grant St and N 14th Ave and N 14 Ct for approximately 400 l.f. and on the cross streets.

Summary of Offsite Issues Affecting CIP Area:

1. None.

HE-D1-6 Pre-Post CIP Flood Inundation Maps

The following figures provide the predicted existing conditions flooding for the 5- and 10-year storm in the CIP Area and the predicted flood reduction for these storms under the Alternatives 1 and 2 CIP:

- **Figure HE-D1-6-EC_5 - Current Conditions Flooding in CIP Area 5-year Design Storm**
- **Figure HE-D1-6-EC_10 - Current Conditions Flooding in CIP Area 10-year Design Storm**
- **Figure HE-D1-6-CIP_ALT1_5 - Predicted Flooding Reduction and Proposed ALT1 CIP for 5-year Design Storm**
- **Figure HE-D1-6-CIP_ALT1_10 - Predicted Flooding Reduction and Proposed ALT1 CIP for 10-year Design Storm**
- **Figure HE-D1-6-CIP_ALT2_5 - Predicted Flooding Reduction and Proposed ALT2 CIP for 5-year Design Storm**
- **Figure HE-D1-6-CIP_ALT2_10 - Predicted Flooding Reduction and Proposed ALT2 CIP for 10-year Design Storm**
- **Table HE-D1-6_ALT1 – Planning Budget for Alternative 1 Proposed CIP**
- **Table HE-D1-6_ALT2 – Planning Budget for Alternative 2 Proposed CIP**

HE-D1-7
HL_PS000010
HE-D2-3
HE-D1-6
HL_PS000006
HL_PS000001
HE-D1-5
HE-D1-1
HE-D1-2
West Lake
North Lake
Eco Golf Club
Hollywood Beach Golf & Country Club
Taft St
Arthur St
Garfield St
Hayes St
Grant St
Tyler St
Papaya St
Polk St
Hollywood Blvd
S North Lake Dr
N 16th Ct
N 14th Way
N 12th Ct
Sweetbay Way
Seagrape Way
Yellowheart Way
Weeping Willow Way
W Lake Dr

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Existing Gravity Pipes
- Existing Forcemains

5-Year 24-Hour Storm Flood

Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Current Conditions Flooding in CIP Area
Hollywood Lakes - North Lake
5-year Design Storm

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan
HE-D1-6_EC-5
2/28/2023

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HE-D1-7

HL_PS000010

HE-D1-6

HL_PS000006

HL_PS000001

HE-D2-3

HE-D1-5

HE-D1-1

HE-D1-2

West Lake

North Lake

Eco Golf Club

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Existing Gravity Pipes
- Existing Forcemains

10-Year 72-Hour Storm Flood Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Current Conditions Flooding in CIP Area
Hollywood Lakes - North Lake
10-year Design Storm

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-6_EC-10

2/28/2023

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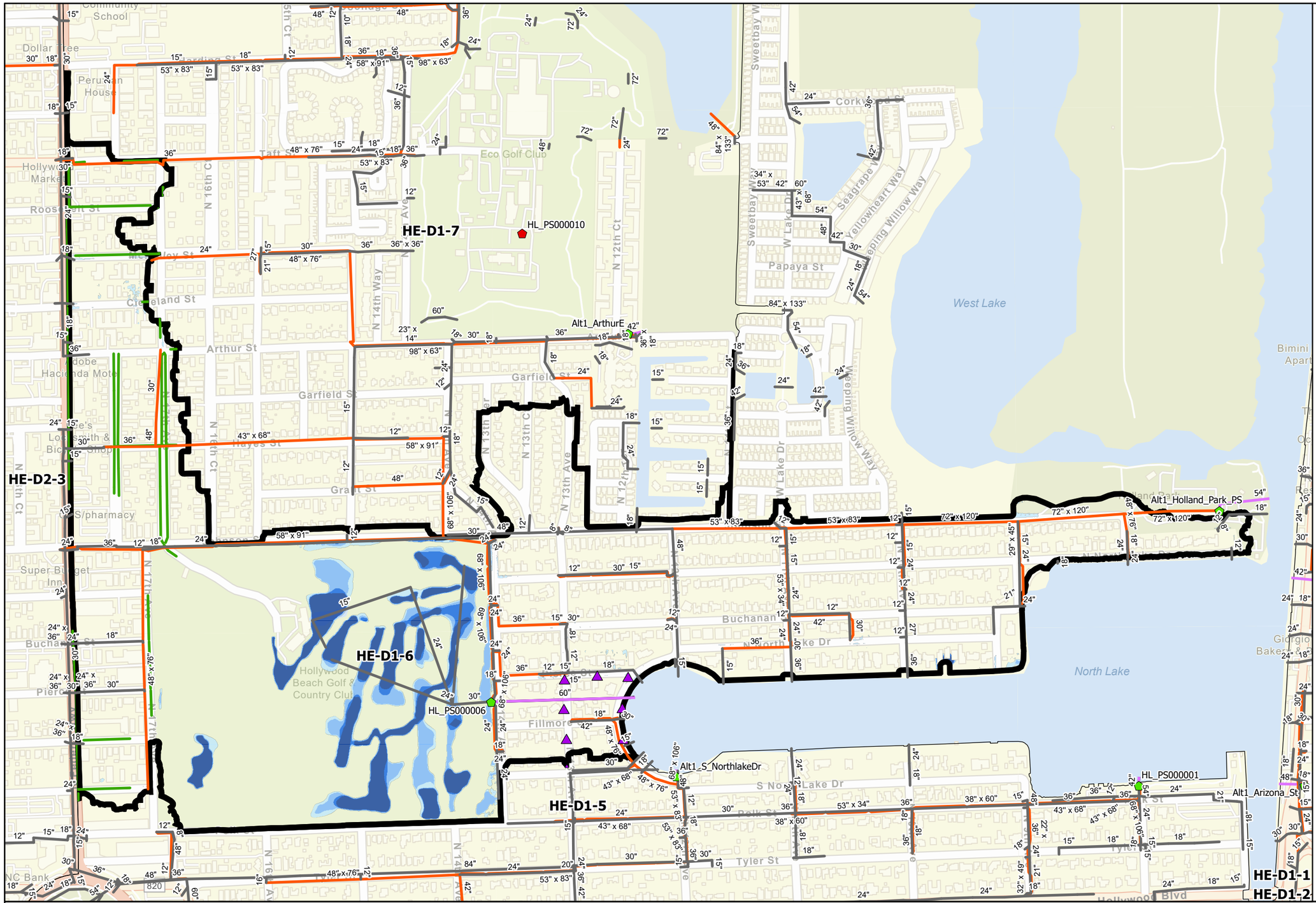

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 1 SWPS
- Alt 1 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 1 Exfiltration Pipes
- Alt 1 Gravity Pipes
- Alt 1 Forcemains
- Alt 1 Detention Pond

5-Year ALT 1 Storm Flood Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Predicted Flooding Reduction and Proposed ALT 1 CIP for 5-year Design Storm in CIP Area
Hollywood Lakes - North Lake

CDM Smith

City of Hollywood FLORIDA

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-6_ALT1-5

2/28/2023

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HE-D1-7
HE-D1-6
HE-D1-5
HE-D2-3
HE-D1-1
HE-D1-2
HL_PS000010
HL_PS000006
HL_PS000001
Alt1_ArthurE
Alt1_S_NorthlakeDr
Alt1_Holland_Park_PS
Alt1_Arizona_St
West Lake
North Lake
Eco Golf Club
Hollywood Beach Golf & Country Club
Taft St
Arthur St
Garfield St
Hayes St
Grant St
Buchanan St
Fillmore St
Tyler St
Papaya St
Cork Oak Dr
Seagrape Way
Yellowheart Way
Weeping Willow Way
Sweetbay W
W Lake Dr
S N Lake Dr
N 12th Ct
N 13th Ct
N 14th Way
N 16th Ct
N 17th Ave
N 18th Ave
N 19th Ave
Dollar Tree
Peruvian House
Hollywood Market
Adobe Hacienda Motel
Super Budget Inn
NC Bank
S/pharmacy
Bimini Apart
Giorgio Bake
Community School
Legend
Hollywood City Limits
Focused CIP Area
Existing SWPS
Near Term SWPS
Alt 1 SWPS
Alt 1 Injection Wells
Existing Gravity Pipes
Existing Forcemains
Alt 1 Exfiltration Pipes
Alt 1 Gravity Pipes
Alt 1 Forcemains
Alt 1 Detention Pond
10-Year ALT 1 Storm Flood Feet
<= 0 ft.
0 - 0.5
0.5 - 1
1 - 1.5
> 1.5 ft.
N
CDM Smith
CITY OF Hollywood FLORIDA
Predicted Flooding Reduction and Proposed ALT 1 CIP for 10-year Design Storm in CIP Area
Hollywood Lakes - North Lake
0 337.5 675 1,350 Feet
1:8,000
City of Hollywood Stormwater Master Plan
HE-D1-6_ALT1-10
2/28/2023
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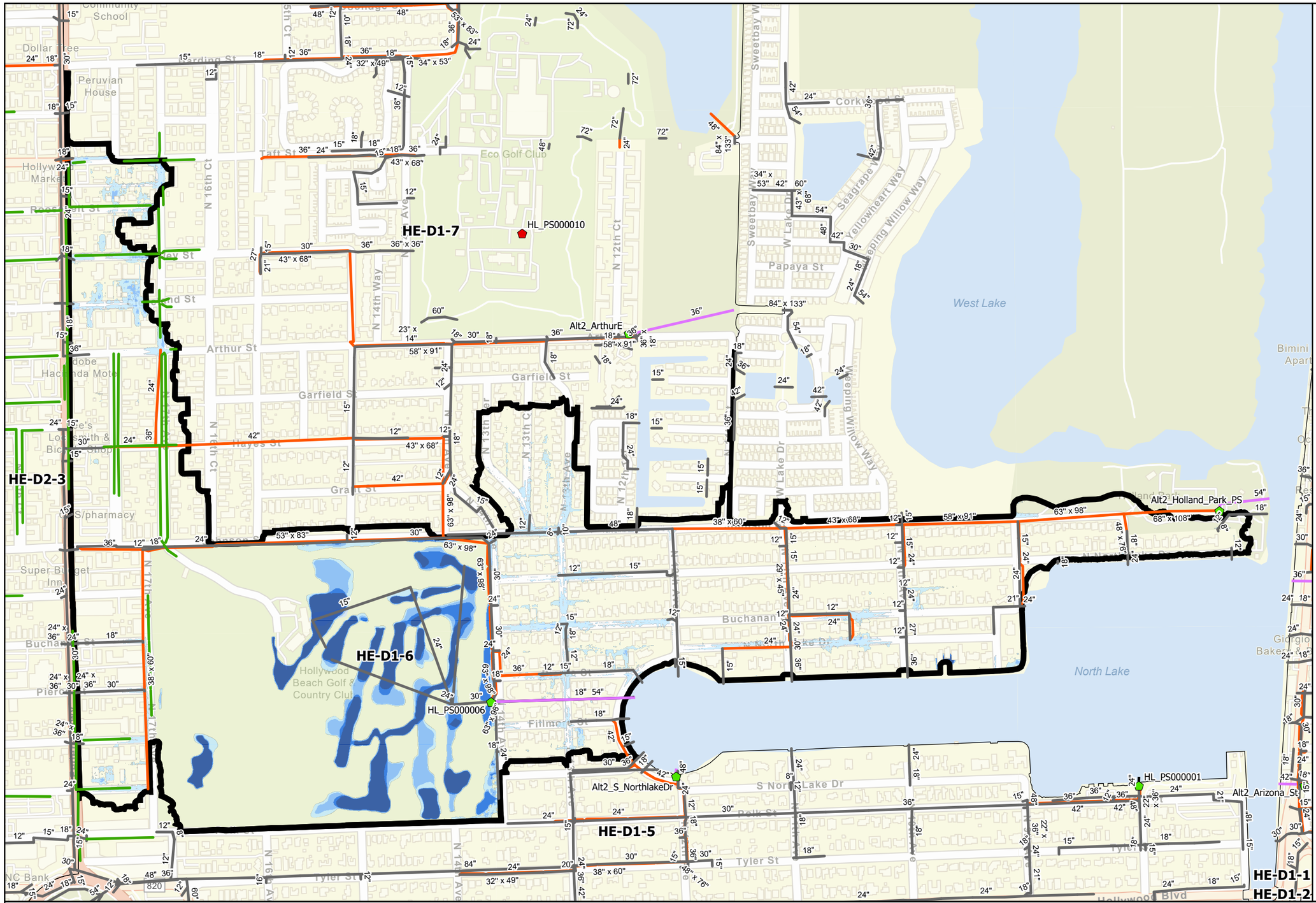

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 2 SWPS
- Alt 2 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 2 Exfiltration Pipe
- Alt 2 Gravity Pipes
- Alt 2 Forcemains
- Alt 2 Detention Pond

5-Year ALT 2 Storm Flood Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

CDM Smith

CITY OF Hollywood FLORIDA

Predicted Flooding Reduction and Proposed ALT 2 CIP for 5-year Design Storm in CIP Area
Hollywood Lakes - North Lake

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-6_ALT2-5

2/28/2023

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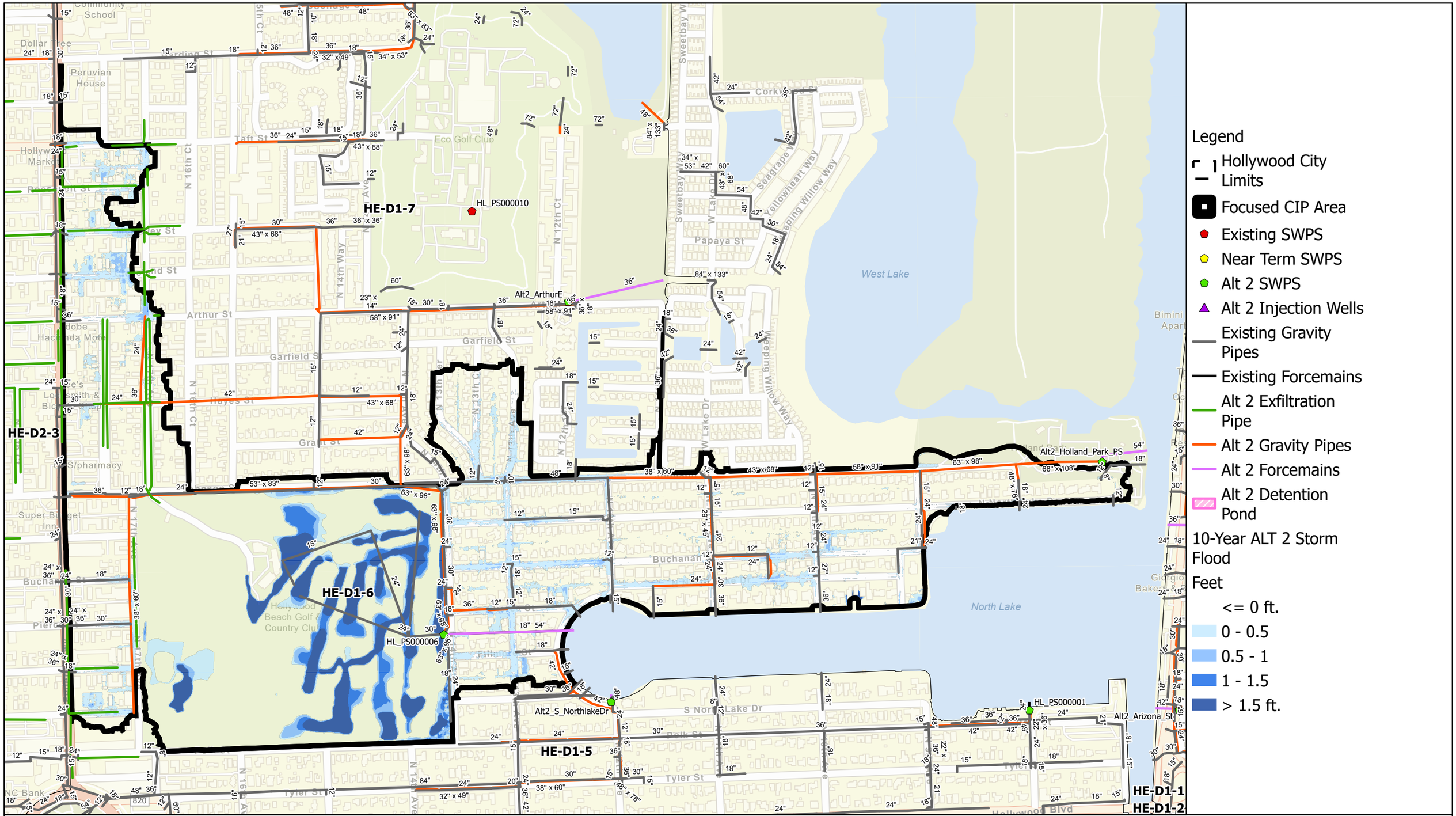

Predicted Flooding Reduction and Proposed ALT 2 CIP for 10-year Design Storm in CIP Area
Hollywood Lakes - North Lake

CDM Smith
CITY OF Hollywood FLORIDA

0 337.5 675 1,350 Feet
1:8,000

City of Hollywood Stormwater Master Plan
HE-D1-6_ALT2-10
2/28/2023

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		CONCEPTUAL CAPITAL COST ESTIMATE					Hollywood Lakes Northlake	
							Alternative 1	
PUMP STATIONS WITH FORCE MAINS								
ITEM #	Master Sheet Index	DIAMETER (INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0001	13	24	FM- Force Main Collector	Circular	LF	$ 167.00	0	$ -
0002	14	36	FM- Force Main Collector	Circular	LF	$ 242.00	0	$ -
0003	15	42	FM- Force Main Collector	Circular	LF	$ 336.00	0	$ -
0004	16	48	FM- Force Main Collector	Circular	LF	$ 612.00	0	$ -
0005	17	54	FM- Force Main Collector	Circular	LF	$ 982.00	900	$ 883,800
0006	18	60	FM- Force Main Collector	Circular	LF	$ 1,149.00	950	$ 1,091,550
0007	19	66	FM- Force Main Collector	Circular	LF	$ 1,329.00	0	$ -
0008	20	72	FM- Force Main Collector	Circular	LF	$ 1,473.00	0	$ -
0009	225	24	FMO- Force Main Offline	Circular	LF	$ 353.00	0	$ -
0010	11		IWI-Injection Wells-Inline		EA	$ 65,000.00	0	$ -
0011	12		IWO-Injection Wells -Offline		EA	$ 75,000.00	0	$ -
0012	6	PS-Storm Drainage Pump Stations < 166 cfs		I	EA	$ 2,400,000.00	0	$ -
0013	7	PS-Storm Drainage Pump Stations < 166-246 cfs		II	EA	$ 3,500,000.00	1	$ 3,500,000
0014	8	PS-Storm Drainage Pump Stations < 246-328 cfs		III	EA	$ 4,900,000.00	0	$ -
0015	9	PS-Storm Drainage Pump Stations< 328-410 cfs		IV	EA	$ 6,750,000.00	1	$ 6,750,000
0016	54	PS-CS22 Storm Drainage Pump Stations 600CFS			EA	$ 8,000,000.00	0	$ -
AIN SUBTOTAL								$ 12,225,350
EXFILTRATION WITH GRAVITY MAINS							Hollywood Lakes Northlake	
ITEM #	Master Sheet Index	DIAMETER (INCHES)	Width(INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0020	21	15		GM-Gravity Main Collector	Circular	LF	$ 40.00	7	$ 288
0021	22	18		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0023	23	24		GM-Gravity Main Collector	Circular	LF	$ 48.00	1,245	$ 59,750
0024	24	30		GM-Gravity Main Collector	Circular	LF	$ 52.00	1,574	$ 81,869
0026	25	36		GM-Gravity Main Collector	Circular	LF	$ 80.00	2,533	$ 202,672
0028	26	42		GM-Gravity Main Collector	Circular	LF	$ 115.00	414	$ 47,610
0029	27	48		GM-Gravity Main Collector	Circular	LF	$ 125.00	2,173	$ 271,638
0030	28	54		GM-Gravity Main Collector	Circular	LF	$ 150.00	0	$ -
0031	29	60		GM-Gravity Main Collector	Circular	LF	$ 220.00	0	$ -
0032	30	66		GM-Gravity Main Collector	Circular	LF	$ 428.00	0	$ -
0033	31	72		GM-Gravity Main Collector	Circular	LF	$ 485.00	0	$ -
0035	32	29	45	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 205.00	584	$ 119,782
0036	33	32	49	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 215.00	0	$ -
0037	34	34	53	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 225.00	596	$ 134,168
0038	35	38	60	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 235.00	0	$ -
0039	36	43	68	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 370.00	1,839	$ 680,541
0040	37	48	76	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 400.00	1,786	$ 714,400
0041	38	53	83	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 432.00	1,547	$ 668,218
0042	39	58	91	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 320.00	3,090	$ 988,928
0043	40	63	98	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 410.00	40	$ 16,236
0044	41	68	106	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 460.00	1,836	$ 844,560
0045	42	72	113	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 570.00	0	$ -
0046	43	82	128	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 650.00	0	$ -
0048	44	72	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	2,195	$ 1,251,207
0072	45	72	72	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0049	46	84	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 750.00	0	$ -
0050	47	96	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 850.00	0	$ -
0051	48			GBP-Gravity Backflow Pipe <36"		Ea	$ 35,000.00	0	$ -
0052	49			GBP-Gravity Backflow Pipe >36"		Ea	$ 70,000.00	0	$ -
0053	5			GW-Gravity Wells		EA	$ 105,000.00	2	$ 210,000
0054	4	48		ET-Exfiltration Trench		LF	$ 250.00	11,526	$ 2,881,500
0056	50			Weir Box CS		EA	$ 7,500.00	0	$ -
0057	53			CS-22 Remod		EA	$ 200,000.00	0	$ -
0058	55			SW-04 Remod		EA	$ 150,000.00	0	$ -
0055				Gravity Structures-Inlets		EA	$ 30,000.00	279	$ 8,357,675
0059	56			Ditch Improvement		LF	$ 50.00	0	$ -
0091	57			Swale/Ditch Headwall		Ea	$ 10,000.00	0	$ -
0090	10			Exfil_End Weir		Ea	$ 5,000.00	0	$ -
0092	51			Ret/Det Pond		CUY	$ 355.00	0	$ -
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
	GRAVITY MAIN SUBTOTAL						#N/A		$ 17,531,040
0060		Pavement Restoration including Pavement Marking (Full Road)				LF	$ 270.00	34,837	$ 9,405,990
							CONSTRUCTION COST SUBTOTAL		**$ 39,162,380**
GENERAL CONDITIONS								Hollywood Lakes Northlake	
0061		Mobilization				LS	**4%**	$ 39,162,380	$ 1,566,495
0062		Insurance and General Conditions				LS	**2%**	$ 39,162,380	$ 783,248
0063		Permits/Fees				LS	**2%**	$ 39,162,380	$ 783,248
0064		Maintenance of Traffic				LS	**3%**	$ 39,162,380	$ 1,174,871
0065		Engineering Design & CA Oversight Costs				LS	**15%**	$ 39,162,380	$ 5,874,357
0066		Construction Engineering Inspection Costs				LS	**4%**	$ 39,162,380	$ 1,566,495
0067		OCI Management Cost				LS	**15%**	$ 39,162,380	$ 5,874,357
0068		Project Contingency Costs				LS	**30%**	$ 39,162,380	$ 11,748,714
		Land acquisition							
NS SUBTOTAL									$ 29,371,785
TOTAL									**$ 68,534,166**

		CONCEPTUAL CAPITAL COST ESTIMATE						Hollywood Lakes Central	
								Alternative 2	
PUMP STATIONS WITH FORCE MAINS									
ITEM #	Master Sheet Index	DIAMETER (INCHES)		DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0001	13	24		FM- Force Main Collector	Circular	LF	$ 167.00	0	$ -
0002	14	36		FM- Force Main Collector	Circular	LF	$ 242.00	0	$ -
0003	15	42		FM- Force Main Collector	Circular	LF	$ 336.00	0	$ -
0004	16	48		FM- Force Main Collector	Circular	LF	$ 612.00	0	$ -
0005	17	54		FM- Force Main Collector	Circular	LF	$ 982.00	1,400	$ 1,374,800
0006	18	60		FM- Force Main Collector	Circular	LF	$ 1,149.00	0	$ -
0007	19	66		FM- Force Main Collector	Circular	LF	$ 1,329.00	0	$ -
0008	20	72		FM- Force Main Collector	Circular	LF	$ 1,473.00	0	$ -
0009	225	24		FMO- Force Main Offline	Circular	LF	$ 353.00	0	$ -
0010	11			IWI-Injection Wells-Inline		EA	$ 65,000.00	0	$ -
0011	12			IWO-Injection Wells -Offline		EA	$ 75,000.00	0	$ -
0012	6	PS-Storm Drainage Pump Stations < 166 cfs			I	EA	$ 2,400,000.00	1	$ 2,400,000
0013	7	PS-Storm Drainage Pump Stations < 166-246 cfs			II	EA	$ 3,500,000.00	0	$ -
0014	8	PS-Storm Drainage Pump Stations < 246-328 cfs			III	EA	$ 4,900,000.00	0	$ -
0015	9	PS-Storm Drainage Pump Stations< 328-410 cfs			IV	EA	$ 6,750,000.00	0	$ -
0016	54	PS-CS22 Storm Drainage Pump Stations 600CFS				EA	$ 8,000,000.00	0	$ -
IN SUBTOTAL									$ 3,774,800
EXFILTRATION WITH GRAVITY MAINS								Hollywood Lakes Central	
ITEM #	Master Sheet Index	DIAMETER (INCHES)	Width(INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0022	22	21		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0021	21	18		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0023	23	24		GM-Gravity Main Collector	Circular	LF	$ 48.00	3,192	$ 153,216
0024	24	30		GM-Gravity Main Collector	Circular	LF	$ 52.00	0	$ -
0026	25	36		GM-Gravity Main Collector	Circular	LF	$ 80.00	2,585	$ 206,800
0028	26	42		GM-Gravity Main Collector	Circular	LF	$ 115.00	2,017	$ 231,955
0029	27	48		GM-Gravity Main Collector	Circular	LF	$ 125.00	0	$ -
0030	28	54		GM-Gravity Main Collector	Circular	LF	$ 150.00	0	$ -
0031	29	60		GM-Gravity Main Collector	Circular	LF	$ 220.00	0	$ -
0032	30	66		GM-Gravity Main Collector	Circular	LF	$ 428.00	0	$ -
0033	31	72		GM-Gravity Main Collector	Circular	LF	$ 485.00	0	$ -
0035	32	29	45	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 205.00	597	$ 122,385
0036	33	32	49	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 215.00	0	$ -
0037	34	34	53	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 225.00	0	$ -
0038	35	38	60	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 235.00	2,451	$ 575,985
0039	36	43	68	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 370.00	1,765	$ 653,050
0040	37	48	76	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 400.00	121	$ 48,400
0041	38	53	83	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 432.00	2,125	$ 918,000
0042	39	58	91	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 320.00	801	$ 256,320
0043	40	63	98	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 410.00	2,571	$ 1,054,110
0044	41	68	106	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 460.00	660	$ 303,600
0045	42	72	113	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 570.00	0	$ -
0046	43	82	128	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 650.00	0	$ -
0048	44	72	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0072	45	72	72	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0049	46	72	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 750.00	0	$ -
0050	47	96	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 850.00	0	$ -
0051	48			GBP-Gravity Backflow Pipe <36"		Ea	$ 35,000.00	0	$ -
0052	49			GBP-Gravity Backflow Pipe >36"		Ea	$ 70,000.00	0	$ -
0053	5			GW-Gravity Wells		EA	$ 105,000.00	2	$ 210,000
0054	4	48		ET-Exfiltration Trench		LF	$ 250.00	11,526	$ 2,881,500
0055	50			Weir Box CS		EA	$ 30,000.00	0	$ -
0057	53			CS-22 Remod		EA	$ 525,000.00	0	$ -
0058	55			SW-04 Remod		EA	$ 150,000.00	0	$ -
0056				Gravity Structures-Inlets		EA	$ 7,500.00	256	$ 1,921,688
0059	56			Ditch Improvement		LF	$ 50.00	0	$ -
0091	57			Swale/Ditch Headwall		Ea	$ 10,000.00	0	$ -
0090	10			Exfil_End Weir		Ea	$ 5,000.00	0	$ -
0092	51			Ret/Det Pond		CUY	$ 355.00	0	$ -
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
	GRAVITY MAIN SUBTOTAL								$ 9,537,009
0060		Pavement Restoration including Pavement Marking (Full Road)				LF	$ 270.00	31,811	$ 8,588,970
								CONSTRUCTION COST SUBTOTAL	$ 21,900,779
GENERAL CONDITIONS								Hollywood Lakes Central	
0061		Mobilization				LS	4%	$ 21,900,779	$ 876,031
0062		Insurance and General Conditions				LS	2%	$ 21,900,779	$ 438,016
0063		Permits/Fees				LS	2%	$ 21,900,779	$ 438,016
0064		Maintenance of Traffic				LS	3%	$ 21,900,779	$ 657,023
0065		Engineering Design & CA Oversight Costs				LS	15%	$ 21,900,779	$ 3,285,117
0066		Construction Engineering Inspection Costs				LS	4%	$ 21,900,779	$ 876,031
0067		OCI Management Cost				LS	15%	$ 21,900,779	$ 3,285,117
0068		Project Contingency Costs				LS	30%	$ 21,900,779	$ 6,570,234
NS SUBTOTAL									$ 16,425,584
TOTAL									$ 38,326,362

3.2.4.7 CIP Area HE-D1-7 (Hollywood Lakes – North)

Root Causes of Flooding

This CIP area is characterized residential land, park, commercial, industrial, and golf course use. There is higher ground to the west and low area elsewhere in the basin. The area is served by a gravity system which are undersized for the desired LOS and deep flooding occurs. A temporary pump is sometimes used at Arthur Street and at Sheridan and 14th Ave with little impact. Due to the low elevation, the gravity multiple outfalls do not work at high tide and there is tidal inflow into the area.

Alternative 1

Proposed CIP:

- Two new SWPSs for the service area:

1. New Arthur Street SWPS Type I at 90 cfs total capacity which can be installed underground at the location of the City's current temporary pump configuration in the roadway swale on the north side of the road at the City's existing discharge FM header connection with two options for discharge:

    i. Continue discharge into the mitigated wetland area (the City has confirmed that it is permissible to discharge here) with an equivalent 100 l.f. of 42- or 48-inch FM with energy dissipation, sheet flowing into the ditch on the eastern perimeter of the wetland, and directing flow north in the ditch with a weir at 5 ft NAVD (preventing tidal backflow), and a new 100 l.f. 42-inch culvert connection to the Westlake Park lake at the north end of the ditch.

    ii. Discharge a portion of the flow in to the wetland and a portion of the flow directly into the drainage ditch on the east side of the mitigation wetland via an equivalent 48-inch FM along Arthur St discharging east into the ICW, with a berm at 5 ft NAVD to prevent tidal backflow at the FM headwall.

2. New EcoGC SWPS, Type III at 290 cfs total capacity located in the unused NW corner of the Hole 2 Fairway in the Eco Golf Course property near Scott Street and N 14th Ave. and pumping into 6 IWs at approximately 4 cfs each off of 2,850 l.f. of twin 48-inch FMs to a new detention area. Alternatively, the new EcoGS SWPS can pump directly into the County-owned Westlake Park lake or Kayak lake where there is currently additional storage volume available using additional FM and a new culvert and BFP installed between the lake and the existing ditch under Westlake Drive south of the Kayak launch connecting the lake to the ICW.

3. New stormwater detention area with a 24-inch pipe, low-flow orifice bleeder and BFP, or structure box at the bottom elevation area with low-flow orifice bleeder, at an existing, unused 3.4 acre Broward County-owned low land area within Westlake Park, with a bottom EL 2 NAVD and bermed up to EL 8 NAVD, with a 25-ft wide spillway channel bottom EL 5.5 NAVD into the existing wetland.

- The natural ridge along W Lake Park Drive will need to be bermed up approximately 2 ft to maintain EL 5 ft NAVD to prevent tidal flooding from entering the service area and meet the County's seawall ordinance armoring.
- A new weir structure and orifice with a BFP at the City owned wetland at Arthur and N 11th Ct to prevent tidal flooding from entering the service area and meet the City's seawall ordinance armoring.
- A new BFP installed in the 72-inch pipe under West Lake Park Drive to prevent tidal flooding from entering the service area and meet the seawall ordinance armoring.
- New gravity collection systems and inlets in neighborhoods to the new SWPS.
- New 1,551 l.f. of exfiltration systems in neighborhoods.
- Low roadway raising improvements in service area to remove dips resulting in flooding.

Summary of Locations Not Meeting ALT 1 LOS:

1. Structures Flooded pre-75, post seawall improvements-159, post-0

Summary of Offsite Issues Affecting CIP Area:

1. Sheridan Rd FDOT system is flowing into the neighborhoods to the south in the larger storms from the road and off of approximately 60 acres of Dania Beach at approximately 35-40 cfs.

Alternative 2

Proposed CIP:

- Two new SWPS for the service area:

    1. New Arthur Street SWPS Type I at a capacity of 55 cfs total SWPS which can be installed underground at the location of the City's temporary pump configuration in the swale on the north side of the road at the existing FM header installed by the City, discharging into the mitigated wetland area, with a parallel additional 100 l.f. of 36-inch FM with two options for discharge:

        i. Continue discharge into the mitigated wetland area (the City has confirmed that it is permissible to discharge here) with an equivalent 100 l.f. of 36-inch FM with energy dissipation, sheet flowing into the ditch on the eastern perimeter of the wetland, and directing flow north in the ditch with a weir at 5 ft NAVD (preventing tidal backflow), and a new 100 l.f. 36-inch culvert connection to the Westlake Park lake at the north end of the ditch.

        ii. Discharge a portion of the flow into the wetland and a portion of the flow directly into the drainage ditch on the east side of the mitigation wetland via an equivalent 48-inch FM along Arthur St discharging east into the ICW, with a berm at 5 ft NAVD to prevent tidal backflow at the FM headwall.

    2. New EcoGC SWPS, Type I at a capacity of 50 cfs located in the unused NW corner of the Hole 2 fairway in the Eco Golf Course property near Scott Street and N 14th Ave. and

pumping into 4-6 IWs at approximately 4 cfs each off of 1,900 l.f. of 42-inch FM to the Kayak Launch Pond in Broward County Westlake Park.

- The natural ridge along W Lake Park Drive will need to be bermed up approximately 2 ft to maintain EL 5 ft NAVD to prevent tidal flooding from entering the service area and meet the County's seawall ordinance armoring.
- A new weir structure and orifice with a BFP at the City owned wetland at Arthur and N 11th Ct to prevent tidal flooding from entering the service area and meet the City's seawall ordinance armoring.
- A new BFP installed in the 72-inch pipe under West Lake Park Drive to prevent tidal flooding from entering the service area and meet the seawall ordinance armoring.
- New gravity collection systems and inlets in neighborhoods to the new SWPSs.
- New 1,551 l.f. of exfiltration systems in neighborhoods.
- Low roadway raising improvements in service area to remove dips resulting in flooding.

Summary of Locations Not Meeting ALT 2 LOS:

1. Structures Flooded pre-75, post seawall improvements-159, post-31

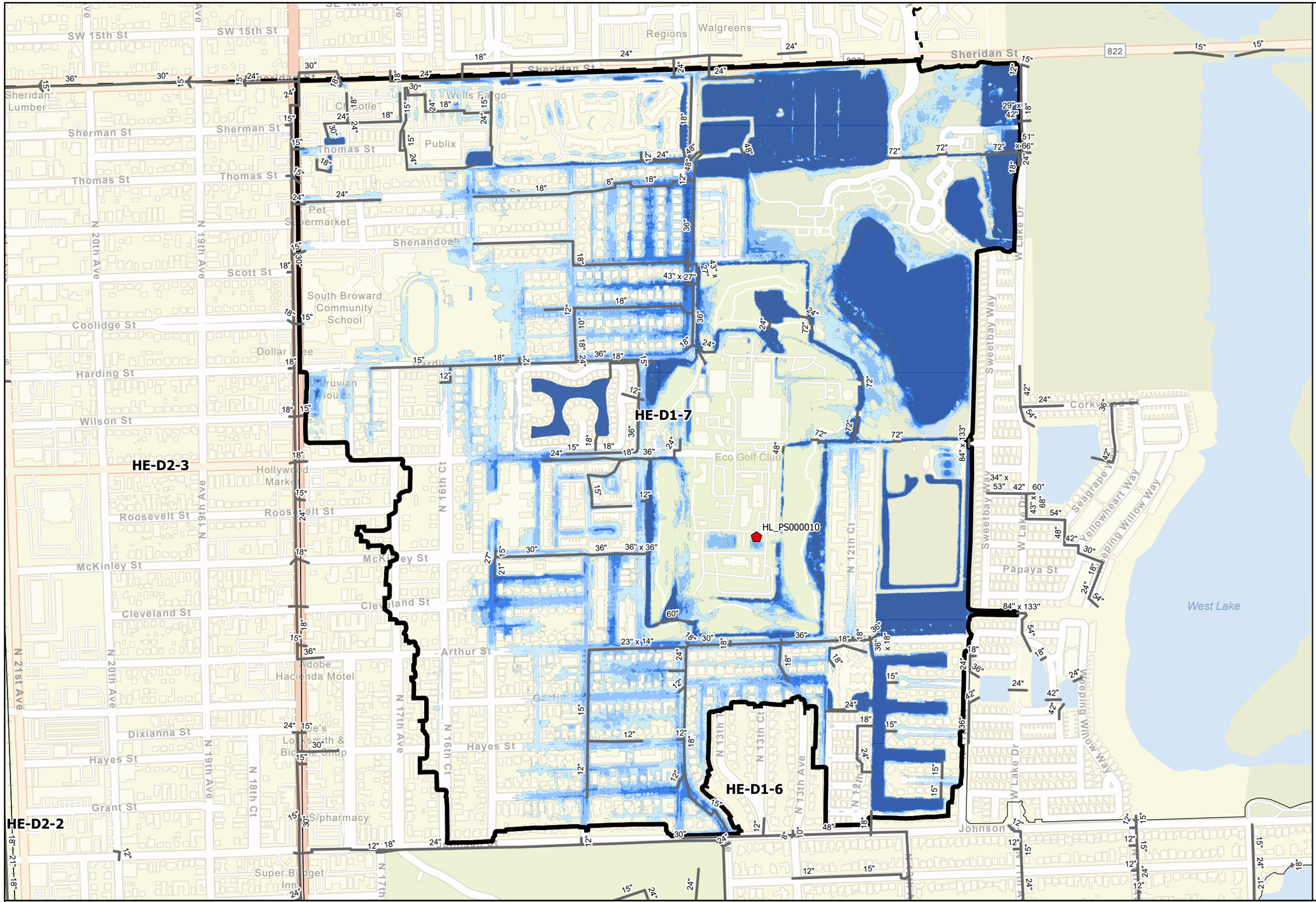
Summary of Offsite Issues Affecting CIP Area:

1. Sheridan Rd FDOT system is flowing into the neighborhoods to the south in the larger storms from the road and off of approximately 60 acres of Dania Beach at approximately 35-40 cfs.

HE-D1-7 Pre-Post CIP Flood Inundation Maps

The following figures provide the predicted existing conditions flooding for the 5- and 10-year storm in the CIP Area and the predicted flood reduction for these storms under the Alternatives 1 and 2 CIP:

- **Figure HE-D1-7-EC_5 - Current Conditions Flooding in CIP Area 5-year Design Storm**
- **Figure HE-D1-7-EC_10 - Current Conditions Flooding in CIP Area 10-year Design Storm**
- **Figure HE-D1-7-CIP_ALT1_5 - Predicted Flooding Reduction and Proposed ALT1 CIP for 5-year Design Storm**
- **Figure HE-D1-7-CIP_ALT1_10 - Predicted Flooding Reduction and Proposed ALT1 CIP for 10-year Design Storm**
- **Figure HE-D1-7-CIP_ALT2_5 - Predicted Flooding Reduction and Proposed ALT2 CIP for 5-year Design Storm**
- **Figure HE-D1-7-CIP_ALT2_10 - Predicted Flooding Reduction and Proposed ALT2 CIP for 10-year Design Storm**



Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Existing Gravity Pipes
- Existing Forcemains

5-Year 24-Hour Storm Flood

Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Current Conditions Flooding in CIP Area
Hollywood Lakes North
5-year Design Storm

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-7_EC-5

2/28/2023

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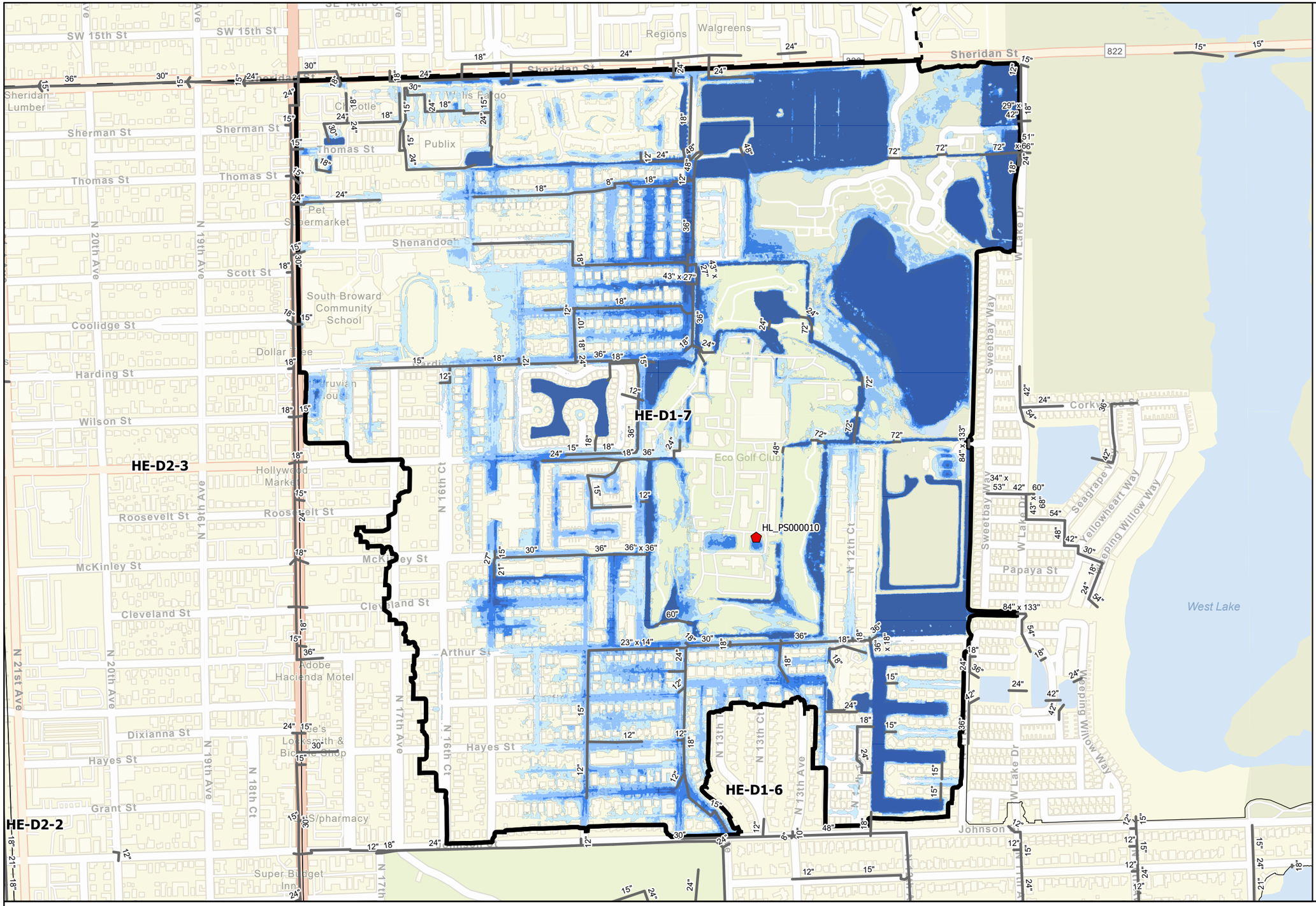

Current Conditions Flooding in CIP Area
Hollywood Lakes North
10-year Design Storm

City of Hollywood Stormwater Master Plan
HE-D1-7_EC-10
2/28/2023

0 337.5 675 1,350 Feet
1:8,000

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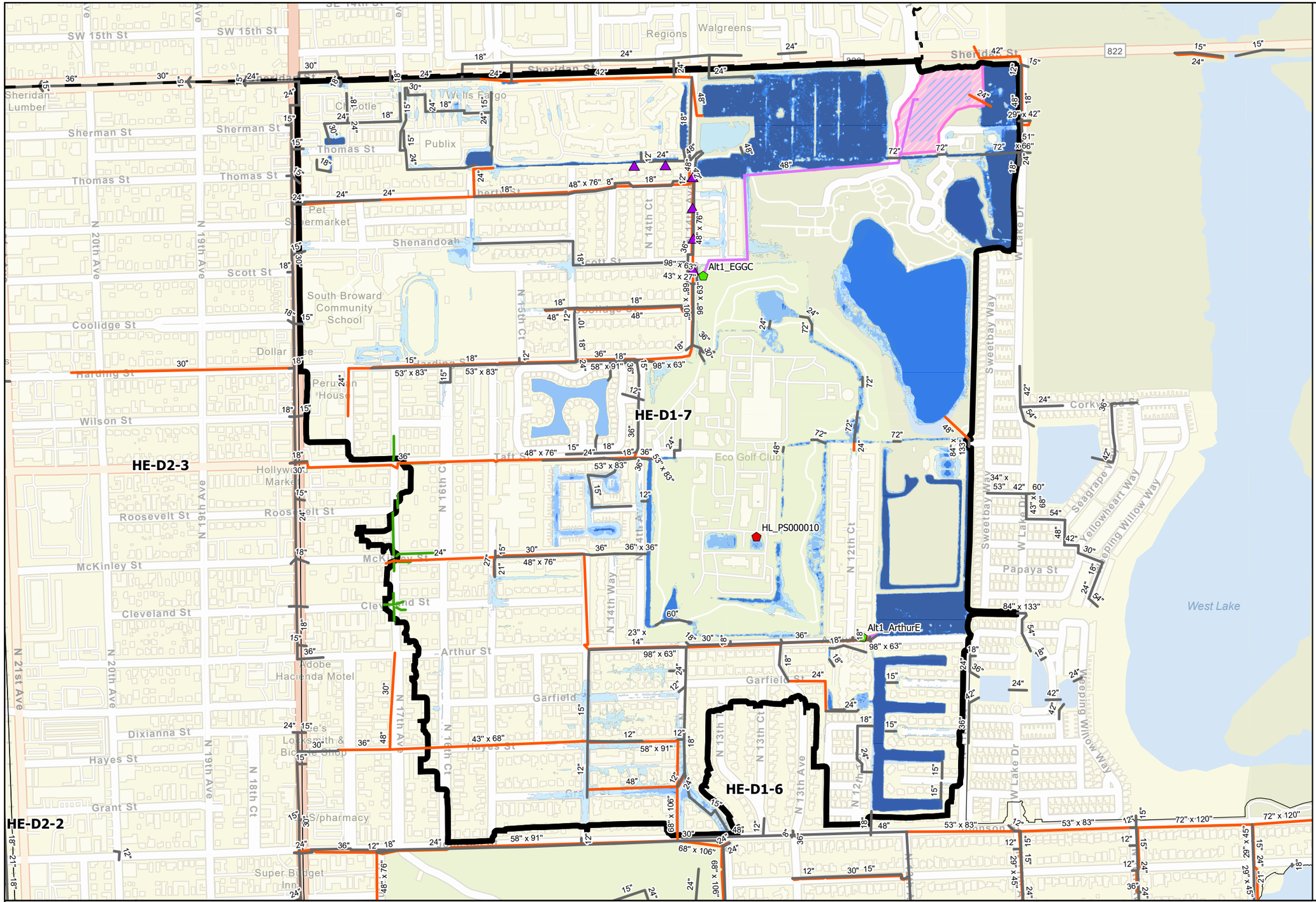

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 1 SWPS
- Alt 1 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 1 Exfiltration Pipes
- Alt 1 Gravity Pipes
- Alt 1 Forcemains
- Alt 1 Detention Pond

5-Year ALT 1 Storm Flood

Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

CDM Smith

CITY OF Hollywood FLORIDA

Predicted Flooding Reduction and Proposed ALT 1 CIP for 5-year Design Storm in CIP Area Hollywood Lakes North

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-7_ALT1-5

2/28/2023

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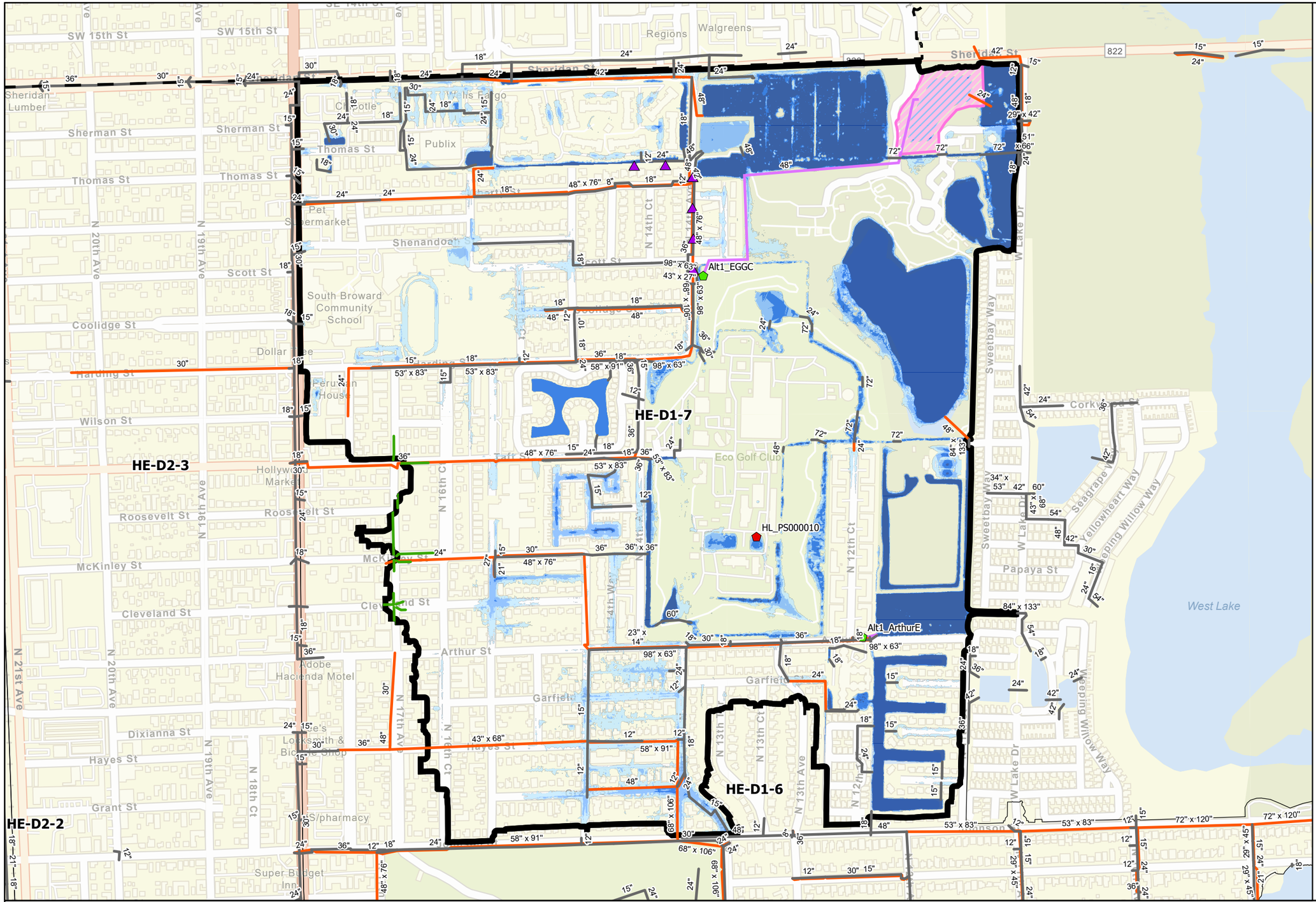

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 1 SWPS
- Alt 1 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 1 Exfiltration Pipes
- Alt 1 Gravity Pipes
- Alt 1 Forcemains
- Alt 1 Detention Pond

10-Year ALT 1 Storm Flood

Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

CDM Smith

CITY OF Hollywood FLORIDA

Predicted Flooding Reduction and Proposed ALT 1 CIP for 10-year Design Storm in CIP Area
Hollywood Lakes North

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-7_ALT1-10

2/28/2023

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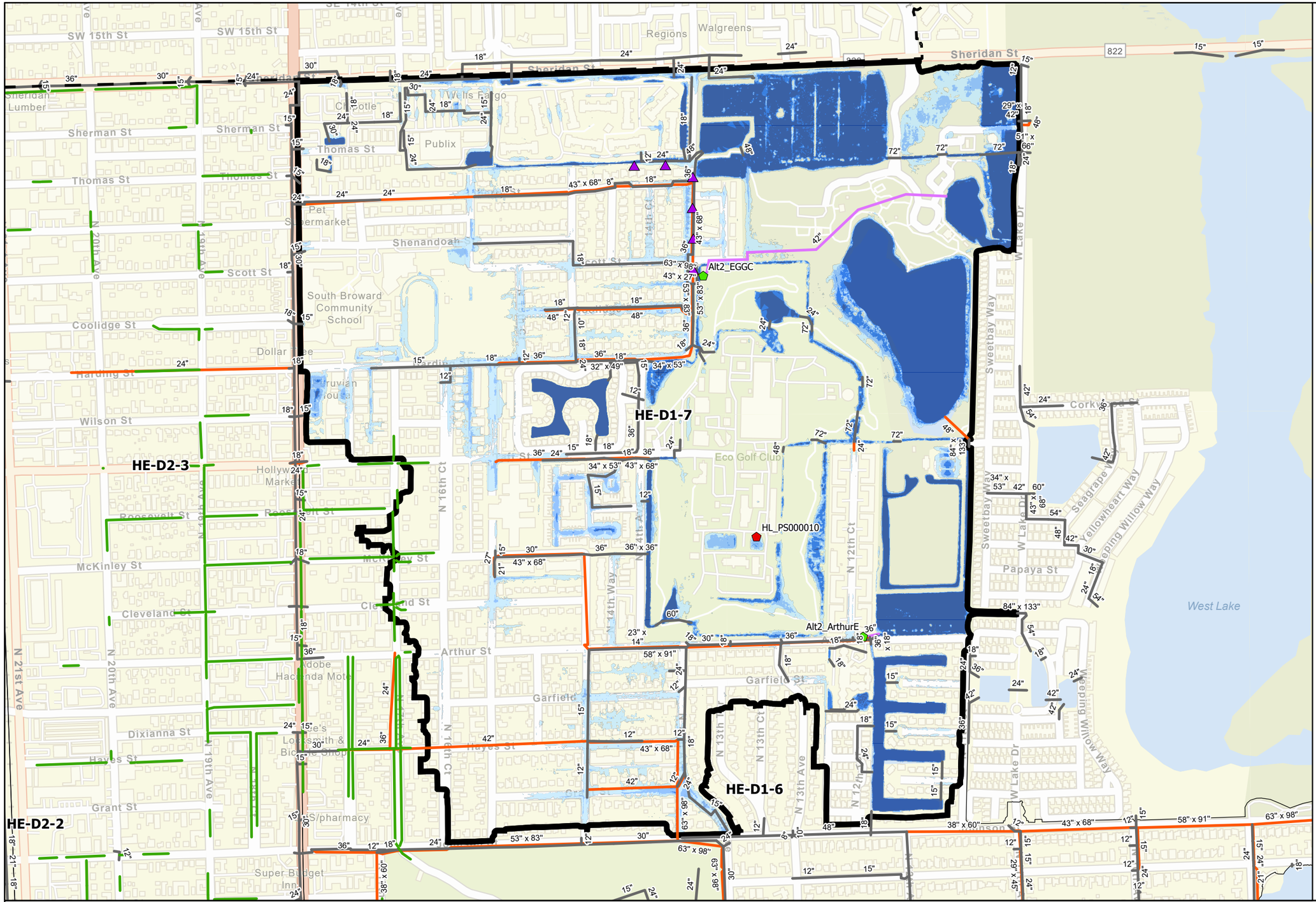

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 2 SWPS
- Alt 2 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 2 Exfiltration Pipe
- Alt 2 Gravity Pipes
- Alt 2 Forcemains
- Alt 2 Detention Pond

5-Year ALT 2 Storm Flood Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

CDM Smith

CITY OF Hollywood FLORIDA

Predicted Flooding Reduction and Proposed ALT 2 CIP for 5-year Design Storm in CIP Area
Hollywood Lakes North

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-7_ALT2-5

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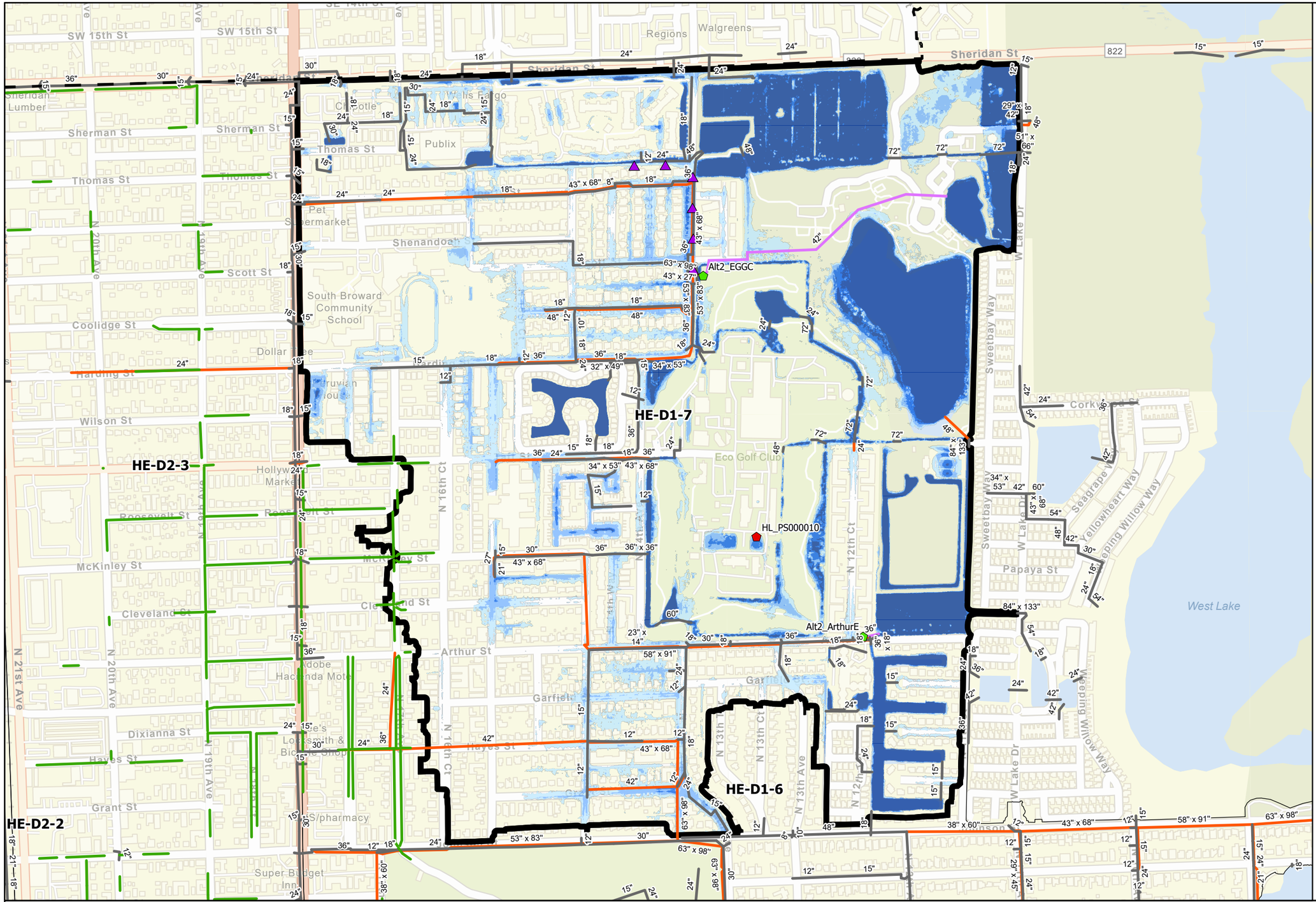

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 2 SWPS
- Alt 2 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 2 Exfiltration Pipe
- Alt 2 Gravity Pipes
- Alt 2 Forcemains
- Alt 2 Detention Pond

10-Year ALT 2 Storm Flood

Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

CDM Smith

CITY OF Hollywood FLORIDA

Predicted Flooding Reduction and Proposed ALT 2 CIP for 10-year Design Storm in CIP Area Hollywood Lakes North

0 337.5 675 1,350 Feet

1:8,000

City of Hollywood Stormwater Master Plan

HE-D1-7_ALT2-10

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		CONCEPTUAL CAPITAL COST ESTIMATE						Hollywood Lakes North	
								Alternative 1	
PUMP STATIONS WITH FORCE MAINS									
ITEM #	Master Sheet Index	DIAMETER (INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST		QUANTITIES	SUBTOTAL
0001	13	24	FM- Force Main Collector	Circular	LF	$	167.00	0	$ -
0002	14	36	FM- Force Main Collector	Circular	LF	$	242.00	0	$ -
0003	15	42	FM- Force Main Collector	Circular	LF	$	336.00	100	$ 33,600
0004	16	48	FM- Force Main Collector	Circular	LF	$	612.00	5,700	$ 3,488,400
0005	17	54	FM- Force Main Collector	Circular	LF	$	982.00	0	$ -
0006	18	60	FM- Force Main Collector	Circular	LF	$	1,149.00	0	$ -
0007	19	66	FM- Force Main Collector	Circular	LF	$	1,329.00	0	$ -
0008	20	72	FM- Force Main Collector	Circular	LF	$	1,473.00	0	$ -
0009	225	24	FMO- Force Main Offline	Circular	LF	$	353.00	0	$ -
0010	11		IWI-Injection Wells-Inline		EA	$	65,000.00	0	$ -
0011	12		IWO-Injection Wells -Offline		EA	$	75,000.00	0	$ -
0012	6	PS-Storm Drainage Pump Stations < 166 cfs		I	EA	$	2,400,000.00	1	$ 2,400,000
0013	7	PS-Storm Drainage Pump Stations < 166-246 cfs		II	EA	$	3,500,000.00	0	$ -
0014	8	PS-Storm Drainage Pump Stations < 246-328 cfs		III	EA	$	4,900,000.00	1	$ 4,900,000
0015	9	PS-Storm Drainage Pump Stations< 328-410 cfs		IV	EA	$	6,750,000.00	0	$ -
0016	54	PS-CS22 Storm Drainage Pump Stations 600CFS			EA	$	8,000,000.00	0	$ -
AIN SUBTOTAL									$ 10,822,000
EXFILTRATION WITH GRAVITY MAINS								Hollywood Lakes North	
ITEM #	Master Sheet Index	DIAMETER (INCHES)	Width(INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0020	21	15		GM-Gravity Main Collector	Circular	LF	$ 40.00	0	$ -
0021	22	18		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0023	23	24		GM-Gravity Main Collector	Circular	LF	$ 48.00	3,966	$ 190,354
0024	24	30		GM-Gravity Main Collector	Circular	LF	$ 52.00	123	$ 6,375
0026	25	36		GM-Gravity Main Collector	Circular	LF	$ 80.00	1,442	$ 115,384
0028	26	42		GM-Gravity Main Collector	Circular	LF	$ 115.00	2,226	$ 256,013
0029	27	48		GM-Gravity Main Collector	Circular	LF	$ 125.00	1,957	$ 244,650
0030	28	54		GM-Gravity Main Collector	Circular	LF	$ 150.00	0	$ -
0031	29	60		GM-Gravity Main Collector	Circular	LF	$ 220.00	0	$ -
0032	30	66		GM-Gravity Main Collector	Circular	LF	$ 428.00	0	$ -
0033	31	72		GM-Gravity Main Collector	Circular	LF	$ 485.00	0	$ -
0035	32	29	45	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 205.00	0	$ -
0036	33	32	49	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 215.00	0	$ -
0037	34	34	53	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 225.00	0	$ -
0038	35	38	60	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 235.00	0	$ -
0039	36	43	68	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 370.00	0	$ -
0040	37	48	76	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 400.00	3,438	$ 1,375,040
0041	38	53	83	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 432.00	1,844	$ 796,781
0042	39	58	91	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 320.00	650	$ 208,000
0043	40	63	98	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 410.00	3,416	$ 1,400,396
0044	41	68	106	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 460.00	71	$ 32,522
0045	42	72	113	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 570.00	0	$ -
0046	43	82	128	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 650.00	0	$ -
0048	44	72	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0072	45	72	72	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0049	46	84	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 750.00	0	$ -
0050	47	96	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 850.00	0	$ -
0051	48			GBP-Gravity Backflow Pipe <36"		Ea	$ 35,000.00	0	$ -
0052	49			GBP-Gravity Backflow Pipe >36"		Ea	$ 70,000.00	2	$ 140,000
0053	5			GW-Gravity Wells		EA	$ 105,000.00	0	$ -
0054	4	48		ET-Exfiltration Trench		LF	$ 250.00	1,551	$ 387,750
0056	50			Weir Box CS		EA	$ 7,500.00	0	$ -
0057	53			CS-22 Remod		EA	$ 200,000.00	0	$ -
0058	55			SW-04 Remod		EA	$ 150,000.00	0	$ -
0055				Gravity Structures-Inlets		EA	$ 30,000.00	184	$ 5,518,825
0059	56			Ditch Improvement		LF	$ 50.00	0	$ -
0091	57			Swale/Ditch Headwall		Ea	$ 10,000.00	0	$ -
0090	10			Exfil_End Weir		Ea	$ 5,000.00	0	$ -
0092	51			Ret/Det Pond		CUY	$ 355.00	4	$ 1,243
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
GRAVITY MAIN SUBTOTAL							#N/A		$ 10,672,090
0060		Pavement Restoration including Pavement Marking (Full Road)			LF	$	270.00	26,484	$ 7,150,680
								CONSTRUCTION COST SUBTOTAL	**$ 28,644,770**
GENERAL CONDITIONS								Hollywood Lakes North	
0061		Mobilization			LS	**4%**		$ 28,644,770	$ 1,145,791
0062		Insurance and General Conditions			LS	**2%**		$ 28,644,770	$ 572,895
0063		Permits/Fees			LS	**2%**		$ 28,644,770	$ 572,895
0064		Maintenance of Traffic			LS	**3%**		$ 28,644,770	$ 859,343
0065		Engineering Design & CA Oversight Costs			LS	**15%**		$ 28,644,770	$ 4,296,715
0066		Construction Engineering Inspection Costs			LS	**4%**		$ 28,644,770	$ 1,145,791
0067		OCI Management Cost			LS	**15%**		$ 28,644,770	$ 4,296,715
0068		Project Contingency Costs			LS	**30%**		$ 28,644,770	$ 8,593,431
		Land acquisition							
NS SUBTOTAL									$ 21,483,577
TOTAL									**$ 50,128,347**

		CONCEPTUAL CAPITAL COST ESTIMATE						Hollywood Lakes North	
								Alternative 2	
PUMP STATIONS WITH FORCE MAINS									
ITEM #	Master Sheet Index	DIAMETER (INCHES)		DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0001	13	24		FM- Force Main Collector	Circular	LF	$ 167.00	0	$ -
0002	14	36		FM- Force Main Collector	Circular	LF	$ 242.00	100	$ 24,200
0003	15	42		FM- Force Main Collector	Circular	LF	$ 336.00	1,900	$ 638,400
0004	16	48		FM- Force Main Collector	Circular	LF	$ 612.00	0	$ -
0005	17	54		FM- Force Main Collector	Circular	LF	$ 982.00	0	$ -
0006	18	60		FM- Force Main Collector	Circular	LF	$ 1,149.00	0	$ -
0007	19	66		FM- Force Main Collector	Circular	LF	$ 1,329.00	0	$ -
0008	20	72		FM- Force Main Collector	Circular	LF	$ 1,473.00	0	$ -
0009	225	24		FMO- Force Main Offline	Circular	LF	$ 353.00	0	$ -
0010	11			IWI-Injection Wells-Inline		EA	$ 65,000.00	0	$ -
0011	12			IWO-Injection Wells -Offline		EA	$ 75,000.00	0	$ -
0012	6	PS-Storm Drainage Pump Stations < 166 cfs			I	EA	$ 2,400,000.00	2	$ 4,800,000
0013	7	PS-Storm Drainage Pump Stations < 166-246 cfs			II	EA	$ 3,500,000.00	0	$ -
0014	8	PS-Storm Drainage Pump Stations < 246-328 cfs			III	EA	$ 4,900,000.00	0	$ -
0015	9	PS-Storm Drainage Pump Stations< 328-410 cfs			IV	EA	$ 6,750,000.00	0	$ -
0016	54	PS-CS22 Storm Drainage Pump Stations 600CFS				EA	$ 8,000,000.00	0	$ -
IN SUBTOTAL									$ 5,462,600
EXFILTRATION WITH GRAVITY MAINS								Hollywood Lakes North	
ITEM #	Master Sheet Index	DIAMETER (INCHES)	Width(INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0022	22	21		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0021	21	18		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0023	23	24		GM-Gravity Main Collector	Circular	LF	$ 48.00	1,369	$ 65,712
0024	24	30		GM-Gravity Main Collector	Circular	LF	$ 52.00	0	$ -
0026	25	36		GM-Gravity Main Collector	Circular	LF	$ 80.00	1,185	$ 94,800
0028	26	42		GM-Gravity Main Collector	Circular	LF	$ 115.00	0	$ -
0029	27	48		GM-Gravity Main Collector	Circular	LF	$ 125.00	1,400	$ 175,000
0030	28	54		GM-Gravity Main Collector	Circular	LF	$ 150.00	0	$ -
0031	29	60		GM-Gravity Main Collector	Circular	LF	$ 220.00	0	$ -
0032	30	66		GM-Gravity Main Collector	Circular	LF	$ 428.00	0	$ -
0033	31	72		GM-Gravity Main Collector	Circular	LF	$ 485.00	0	$ -
0035	32	29	45	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 205.00	0	$ -
0036	33	32	49	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 215.00	425	$ 91,375
0037	34	34	53	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 225.00	3,782	$ 850,950
0038	35	38	60	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 235.00	225	$ 52,875
0039	36	43	68	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 370.00	3,027	$ 1,119,990
0040	37	48	76	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 400.00	0	$ -
0041	38	53	83	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 432.00	271	$ 117,072
0042	39	58	91	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 320.00	2,691	$ 861,120
0043	40	63	98	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 410.00	74	$ 30,340
0044	41	68	106	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 460.00	0	$ -
0045	42	72	113	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 570.00	0	$ -
0046	43	82	128	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 650.00	0	$ -
0048	44	72	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0072	45	72	72	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0049	46	72	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 750.00	0	$ -
0050	47	96	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 850.00	0	$ -
0051	48			GBP-Gravity Backflow Pipe <36"		Ea	$ 35,000.00	0	$ -
0052	49			GBP-Gravity Backflow Pipe >36"		Ea	$ 70,000.00	2	$ 140,000
0053	5			GW-Gravity Wells		EA	$ 105,000.00	0	$ -
0054	4	48		ET-Exfiltration Trench		LF	$ 250.00	1,551	$ 387,750
0055	50			Weir Box CS		EA	$ 30,000.00	0	$ -
0057	53			CS-22 Remod		EA	$ 525,000.00	0	$ -
0058	55			SW-04 Remod		EA	$ 150,000.00	0	$ -
0056				Gravity Structures-Inlets		EA	$ 7,500.00	137	$ 1,030,000
0059	56			Ditch Improvement		LF	$ 50.00	0	$ -
0091	57			Swale/Ditch Headwall		Ea	$ 10,000.00	0	$ -
0090	10			Exfil_End Weir		Ea	$ 5,000.00	0	$ -
0092	51			Ret/Det Pond		CUY	$ 355.00	0	$ -
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
	GRAVITY MAIN SUBTOTAL								$ 5,016,984
0060		Pavement Restoration including Pavement Marking (Full Road)				LF	$ 270.00	18,000	$ 4,860,000
								CONSTRUCTION COST SUBTOTAL	$ 15,339,584
GENERAL CONDITIONS								Hollywood Lakes North	
0061		Mobilization				LS	4%	$ 15,339,584	$ 613,583
0062		Insurance and General Conditions				LS	2%	$ 15,339,584	$ 306,792
0063		Permits/Fees				LS	2%	$ 15,339,584	$ 306,792
0064		Maintenance of Traffic				LS	3%	$ 15,339,584	$ 460,188
0065		Engineering Design & CA Oversight Costs				LS	15%	$ 15,339,584	$ 2,300,938
0066		Construction Engineering Inspection Costs				LS	4%	$ 15,339,584	$ 613,583
0067		OCI Management Cost				LS	15%	$ 15,339,584	$ 2,300,938
0068		Project Contingency Costs				LS	30%	$ 15,339,584	$ 4,601,875
NS SUBTOTAL									$ 11,504,688
TOTAL									$ 26,844,272

- **Table HE-D1-7_ALT1 – Planning Budget for Alternative 1 Proposed CIP**
- **Table HE-D1-7_ALT2 – Planning Budget for Alternative 2 Proposed CIP**

3.2.4.8 CIP Area HE-D2-2 (North Central - East)

Root Causes of Flooding

This CIP area is characterized commercial and residential land use. The basin is on a higher ridge and area is served by exfiltration systems. There is minor flooding in the area.

Alternative 1

Proposed CIP:

- New gravity collection systems and inlets in neighborhoods connecting to existing piping on Dixie Hwy.
- New 7,641 l.f. of exfiltration systems in neighborhoods.

Summary of Locations Not Meeting ALT 1 LOS:

1. Structures Flooded pre-5, post-0

Summary of Offsite Issues Affecting CIP Area:

1. None.

Alternative 2

Proposed CIP:

- New gravity collection systems and inlets in neighborhoods connecting to existing piping on Dixie Hwy.
- New 3,709 l.f. of exfiltration systems in neighborhoods.

Summary of Locations Not Meeting ALT 2 LOS:

1. Structures Flooded pre-5, post-3

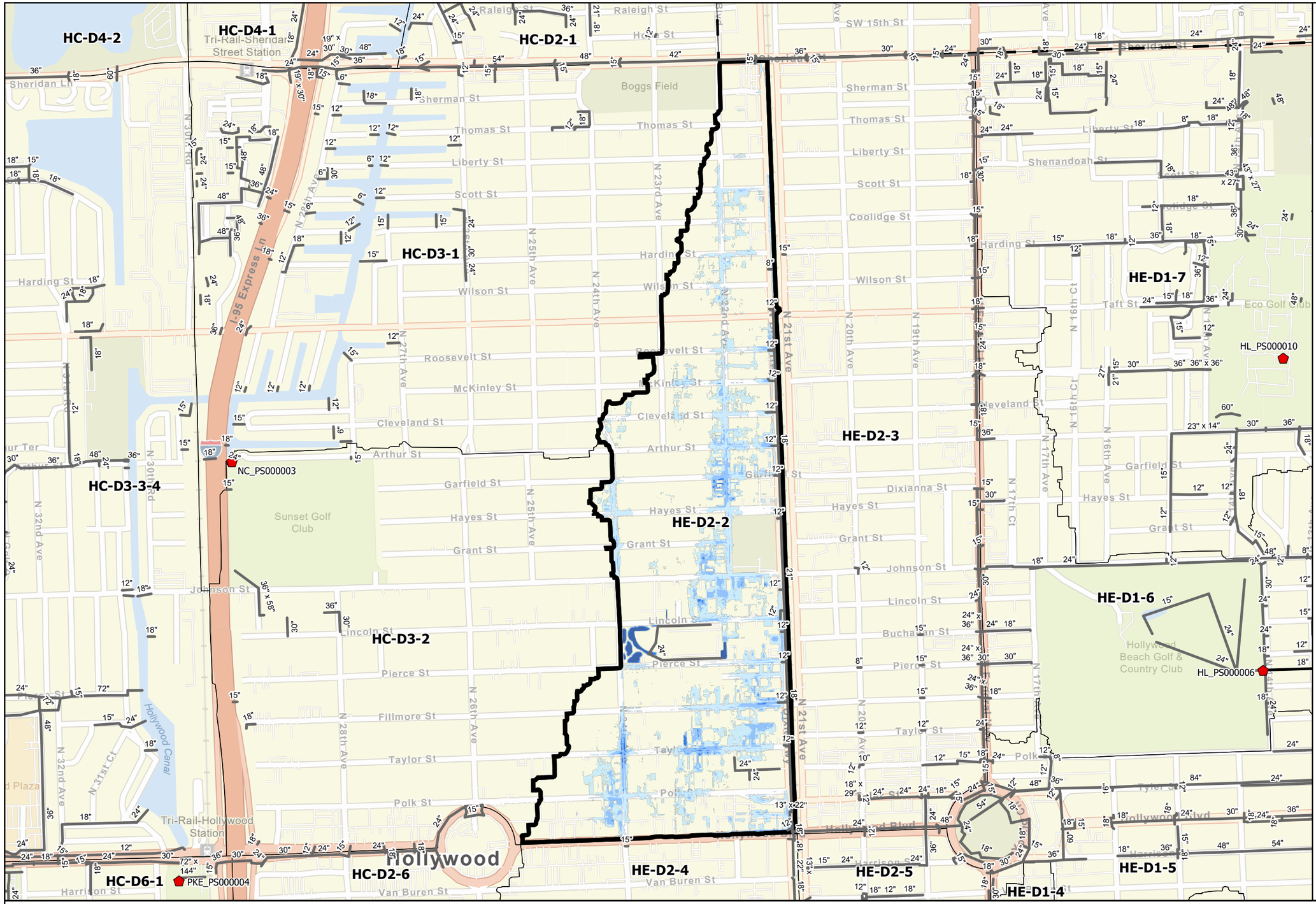
Summary of Offsite Issues Affecting CIP Area:

1. None.

HE-D2-2 Pre-Post CIP Flood Inundation Maps

The following figures provide the predicted existing conditions flooding for the 5- and 10-year storm in the CIP Area and the predicted flood reduction for these storms under the Alternatives 1 and 2 CIP:

- **Figure HE-D2-2-EC_5 - Current Conditions Flooding in CIP Area 5-year Design Storm**
- **Figure HE-D2-2-EC_10 - Current Conditions Flooding in CIP Area 10-year Design Storm**
- **Figure HE-D2-2-CIP_ALT1_5 - Predicted Flooding Reduction and Proposed ALT1 CIP for 5-year Design Storm**



Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Existing Gravity Pipes
- Existing Forcemains

5-Year 24-Hour Storm Flood

Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Current Conditions Flooding in CIP Area
North Central - East
5-year Design Storm

0 500 1,000 2,000 Feet

1:12,000

City of Hollywood Stormwater Master Plan

HE-D2-2_EC-5

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HC-D4-2
HC-D4-1
Tri-Rail-Sheridan Street Station
HC-D2-1
HC-D3-1
HC-D3-3-4
HC-D3-2
HC-D6-1
HC-D2-6
HE-D2-1
HE-D2-2
HE-D2-3
HE-D2-4
HE-D2-5
HE-D1-7
HE-D1-6
HE-D1-5
HE-D1-4
NC_PS000003
PKE_PS000004
HL_PS000010
HL_PS000006
Boggs Field
Sunset Golf Club
Hollywood Beach Golf & Country Club
Eco Golf Club
Tri-Rail-Hollywood Station
Hollywood
I-95 Express Ln
Hollywood Canal
Sheridan St
Sheridan Ln
Raleigh St
Sherman St
Thomas St
Liberty St
Scott St
Coolidge St
Harding St
Wilson St
Taft St
Roosevelt St
McKinley St
Cleveland St
Arthur St
Garfield St
Hayes St
Grant St
Dixianna St
Johnson St
Lincoln St
Buchanan St
Pierce St
Fillmore St
Taylor St
Polk St
Van Buren St
Harrison St
Hollywood Blvd
Tyler St
Shenandoah St
Cottage St
SW 15th St
N 30th Rd
N 28th Ave
N 27th Ave
N 26th Ave
N 25th Ave
N 24th Ave
N 23rd Ave
N 21st Ave
N 20th Ave
N 19th Ave
N 17th Ave
N 16th Ave
N 32nd Ave
N 31st Ct
N 19th Ct
N 17th Ct
N 16th Ct

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Existing Gravity Pipes
- Existing Forcemains

10-Year 72-Hour Storm Flood

Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Current Conditions Flooding in CIP Area
North Central - East
10-year Design Storm

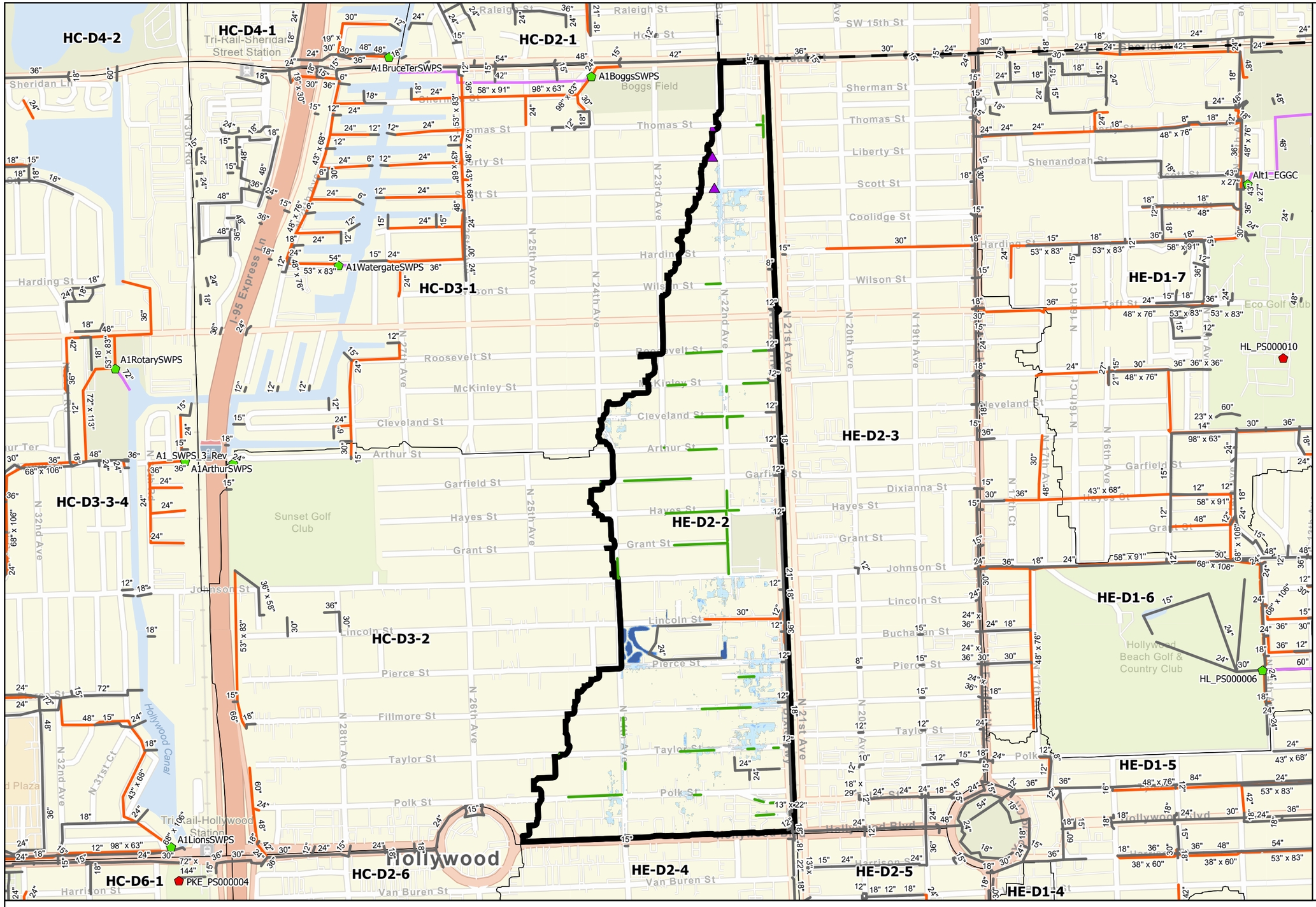
0 500 1,000 2,000 Feet

1:12,000

City of Hollywood Stormwater Master Plan

HE-D2-2_EC-10

2/28/2023



Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 1 SWPS
- Alt 1 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 1 Exfiltration Pipes
- Alt 1 Gravity Pipes
- Alt 1 Forcemains
- Alt 1 Detention Pond

5-Year ALT 1 Storm Flood Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

CDM Smith

CITY OF Hollywood FLORIDA

Predicted Flooding Reduction and Proposed ALT 1 CIP for 5-year Design Storm in CIP Area North Central - East

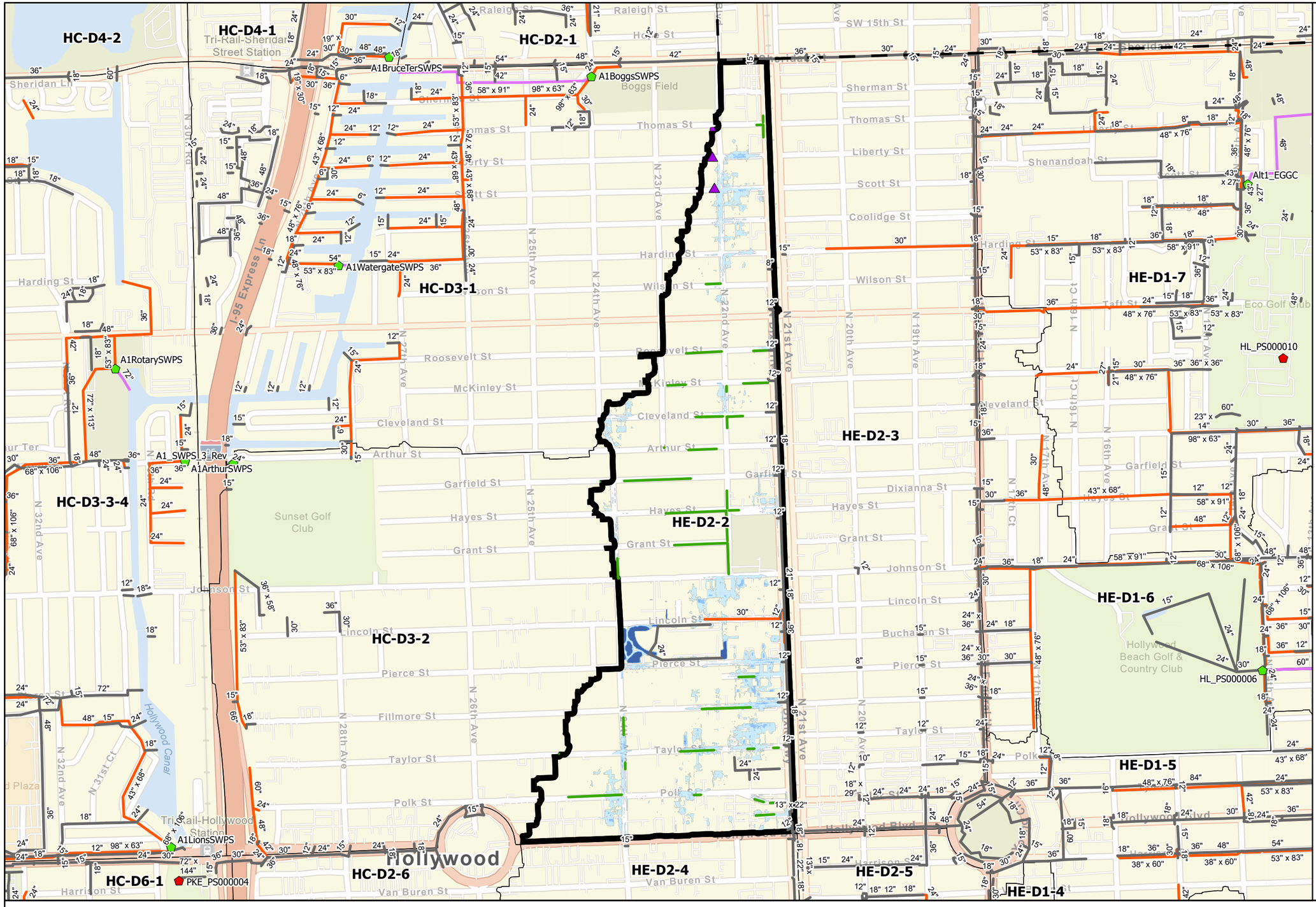
0 500 1,000 2,000 Feet

1:12,000

City of Hollywood Stormwater Master Plan

HE-D2-2_ALT1-5

2/28/2023



Predicted Flooding Reduction and Proposed ALT 1 CIP for 10-year Design Storm in CIP Area North Central - East

City of Hollywood Stormwater Master Plan

HE-D2-2_ALT1-10

2/28/2023

0 500 1,000 2,000 Feet

1:12,000

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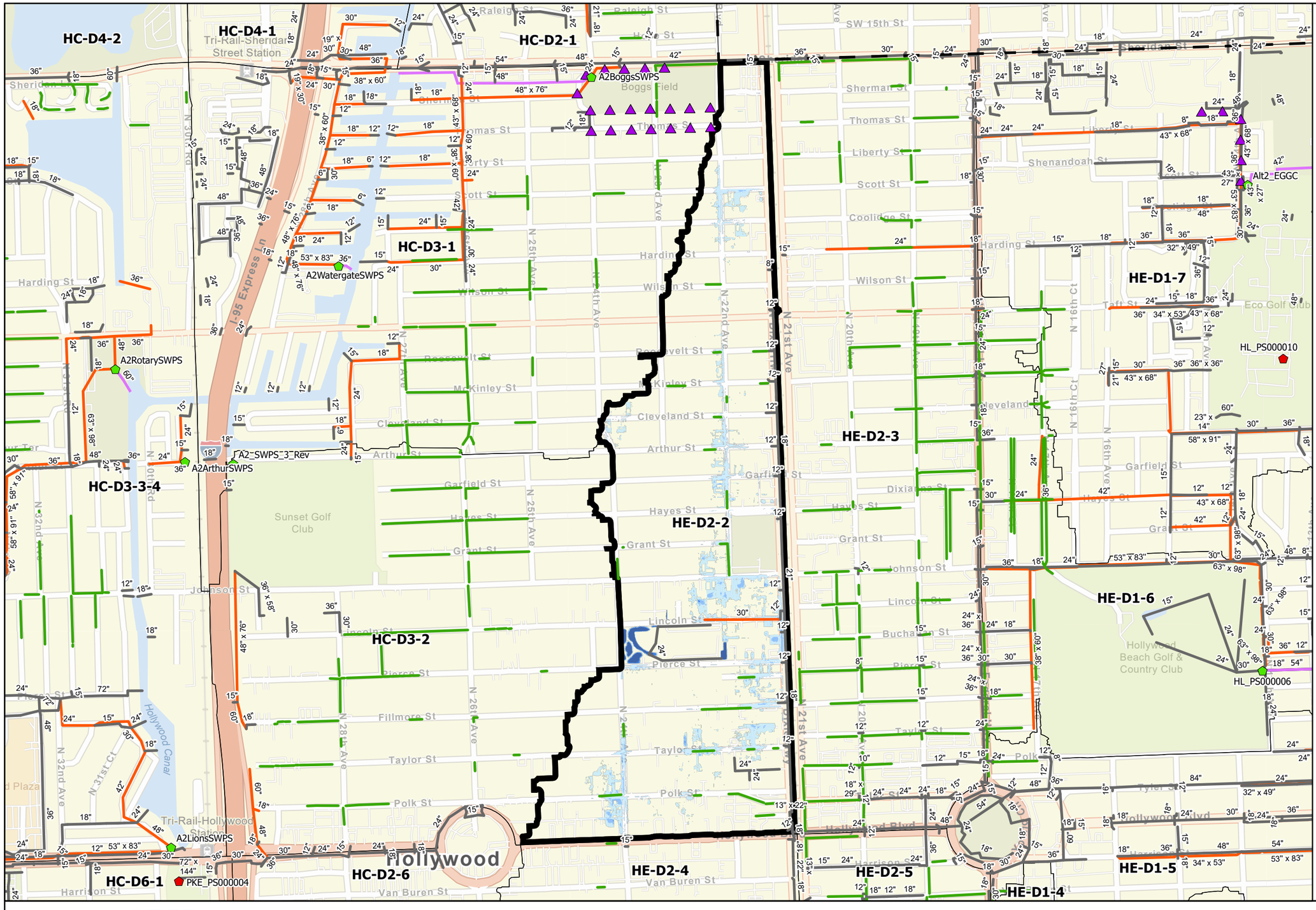

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Alt 2 SWPS
- Alt 2 Injection Wells
- Existing Gravity Pipes
- Existing Forcemains
- Alt 2 Exfiltration Pipe
- Alt 2 Gravity Pipes
- Alt 2 Forcemains
- Alt 2 Detention Pond

5-Year ALT 2 Storm Flood Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

CDM Smith

CITY OF Hollywood FLORIDA

Predicted Flooding Reduction and Proposed ALT 2 CIP for 5-year Design Storm in CIP Area North Central - East

0 500 1,000 2,000 Feet

1:12,000

City of Hollywood Stormwater Master Plan

HE-D2-2_ALT2-5

2/28/2023

HC-D4-2
HC-D4-1
Tri-Rail-Sheridan Street Station
HC-D2-1
HC-D3-1
HC-D3-3-4
HC-D3-2
HC-D6-1
HC-D2-6
HE-D2-2
HE-D2-3
HE-D2-4
HE-D2-5
HE-D1-7
HE-D1-6
HE-D1-5
HE-D1-4
A2BoggsSWPS
A2WatergateSWPS
A2RotarySWPS
A2_SWPS_3_Rev
A2ArthurSWPS
A2LionsSWPS
PKE_PS000004
Alt2_EGGC
HL_PS000010
HL_PS000006
Boggs Field
Sunset Golf Club
Eco Golf Club
Hollywood Beach Golf & Country Club
Tri-Rail-Hollywood Station
Hollywood
I-95 Express Ln
Hollywood Canal
N 30th Rd
N 32nd Ave
N 31st Ct
N 28th Ave
N 27th Ave
N 26th Ave
N 25th Ave
N 24th Ave
N 22nd Ave
N 21st Ave
N 20th Ave
N 16th Ct
N 17th Ct
Sheridan St
Raleigh St
SW 15th St
Sherman St
Thomas St
Liberty St
Shenandoah St
Scott St
Coolidge St
Harding St
Wilson St
Roosevelt St
McKinley St
Cleveland St
Arthur St
Garfield St
Hayes St
Grant St
Johnson St
Lincoln St
Buchanan St
Pierce St
Fillmore St
Taylor St
Polk St
Van Buren St
Harrison St
Tyler St
Hollywood Blvd
Dixie Hwy
Ave
Legend
Hollywood City Limits
Focused CIP Area
Existing SWPS
Near Term SWPS
Alt 2 SWPS
Alt 2 Injection Wells
Existing Gravity Pipes
Existing Forcemains
Alt 2 Exfiltration Pipe
Alt 2 Gravity Pipes
Alt 2 Forcemains
Alt 2 Detention Pond
10-Year ALT 2 Storm Flood
Feet
<= 0 ft.
0 - 0.5
0.5 - 1
1 - 1.5
> 1.5 ft.
N
CDM Smith
CITY OF Hollywood FLORIDA
Predicted Flooding Reduction and Proposed ALT 2
CIP for 10-year Design Storm in CIP Area
North Central - East
0 500 1,000 2,000 Feet
1:12,000
City of Hollywood Stormwater Master Plan
HE-D2-2_ALT2-10
2/28/2023
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		CONCEPTUAL CAPITAL COST ESTIMATE					North Central East	
							Alternative 1	
PUMP STATIONS WITH FORCE MAINS								
ITEM #	Master Sheet Index	DIAMETER (INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0001	13	24	FM- Force Main Collector	Circular	LF	$ 167.00	0	$ -
0002	14	36	FM- Force Main Collector	Circular	LF	$ 242.00	0	$ -
0003	15	42	FM- Force Main Collector	Circular	LF	$ 336.00	0	$ -
0004	16	48	FM- Force Main Collector	Circular	LF	$ 612.00	0	$ -
0005	17	54	FM- Force Main Collector	Circular	LF	$ 982.00	0	$ -
0006	18	60	FM- Force Main Collector	Circular	LF	$ 1,149.00	0	$ -
0007	19	66	FM- Force Main Collector	Circular	LF	$ 1,329.00	0	$ -
0008	20	72	FM- Force Main Collector	Circular	LF	$ 1,473.00	0	$ -
0009	225	24	FMO- Force Main Offline	Circular	LF	$ 353.00	0	$ -
0010	11		IWI-Injection Wells-Inline		EA	$ 65,000.00	0	$ -
0011	12		IWO-Injection Wells -Offline		EA	$ 75,000.00	0	$ -
0012	6	PS-Storm Drainage Pump Stations < 166 cfs		I	EA	$ 2,400,000.00	0	$ -
0013	7	PS-Storm Drainage Pump Stations < 166-246 cfs		II	EA	$ 3,500,000.00	0	$ -
0014	8	PS-Storm Drainage Pump Stations < 246-328 cfs		III	EA	$ 4,900,000.00	0	$ -
0015	9	PS-Storm Drainage Pump Stations< 328-410 cfs		IV	EA	$ 6,750,000.00	0	$ -
0016	54	PS-CS22 Storm Drainage Pump Stations 600CFS			EA	$ 8,000,000.00	0	$ -
AIN SUBTOTAL								$ -
EXFILTRATION WITH GRAVITY MAINS							**North Central East**	
ITEM #	Master Sheet Index	DIAMETER (INCHES)	Width(INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0020	21	15		GM-Gravity Main Collector	Circular	LF	$ 40.00	0	$ -
0021	22	18		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0023	23	24		GM-Gravity Main Collector	Circular	LF	$ 48.00	0	$ -
0024	24	30		GM-Gravity Main Collector	Circular	LF	$ 52.00	790	$ 41,080
0026	25	36		GM-Gravity Main Collector	Circular	LF	$ 80.00	497	$ 39,728
0028	26	42		GM-Gravity Main Collector	Circular	LF	$ 115.00	0	$ -
0029	27	48		GM-Gravity Main Collector	Circular	LF	$ 125.00	0	$ -
0030	28	54		GM-Gravity Main Collector	Circular	LF	$ 150.00	0	$ -
0031	29	60		GM-Gravity Main Collector	Circular	LF	$ 220.00	0	$ -
0032	30	66		GM-Gravity Main Collector	Circular	LF	$ 428.00	0	$ -
0033	31	72		GM-Gravity Main Collector	Circular	LF	$ 485.00	0	$ -
0035	32	29	45	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 205.00	0	$ -
0036	33	32	49	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 215.00	0	$ -
0037	34	34	53	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 225.00	0	$ -
0038	35	38	60	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 235.00	0	$ -
0039	36	43	68	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 370.00	0	$ -
0040	37	48	76	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 400.00	0	$ -
0041	38	53	83	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 432.00	0	$ -
0042	39	58	91	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 320.00	0	$ -
0043	40	63	98	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 410.00	0	$ -
0044	41	68	106	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 460.00	0	$ -
0045	42	72	113	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 570.00	0	$ -
0046	43	82	128	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 650.00	0	$ -
0048	44	72	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0072	45	72	72	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0049	46	84	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 750.00	0	$ -
0050	47	96	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 850.00	0	$ -
0051	48			GBP-Gravity Backflow Pipe <36"		Ea	$ 35,000.00	0	$ -
0052	49			GBP-Gravity Backflow Pipe >36"		Ea	$ 70,000.00	0	$ -
0053	5			GW-Gravity Wells		EA	$ 105,000.00	0	$ -
0054	4	48		ET-Exfiltration Trench		LF	$ 250.00	7,641	$ 1,910,250
0056	50			Weir Box CS		EA	$ 7,500.00	0	$ -
0057	53			CS-22 Remod		EA	$ 200,000.00	0	$ -
0058	55			SW-04 Remod		EA	$ 150,000.00	0	$ -
0055				Gravity Structures-Inlets		EA	$ 30,000.00	74	$ 2,231,900
0059	56			Ditch Improvement		LF	$ 50.00	0	$ -
0091	57			Swale/Ditch Headwall		Ea	$ 10,000.00	0	$ -
0090	10			Exfil_End Weir		Ea	$ 5,000.00	0	$ -
0092	51			Ret/Det Pond		CUY	$ 355.00	0	$ -
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
GRAVITY MAIN SUBTOTAL							#N/A		$ 4,222,958
0060		Pavement Restoration including Pavement Marking (Full Road)				LF	$ 270.00	8,928	$ 2,410,560
							CONSTRUCTION COST SUBTOTAL		**$ 6,633,518**
GENERAL CONDITIONS								**North Central East**	
0061		Mobilization				LS	**4%**	$ 6,633,518	$ 265,341
0062		Insurance and General Conditions				LS	**2%**	$ 6,633,518	$ 132,670
0063		Permits/Fees				LS	**2%**	$ 6,633,518	$ 132,670
0064		Maintenance of Traffic				LS	**3%**	$ 6,633,518	$ 199,006
0065		Engineering Design & CA Oversight Costs				LS	**15%**	$ 6,633,518	$ 995,028
0066		Construction Engineering Inspection Costs				LS	**4%**	$ 6,633,518	$ 265,341
0067		OCI Management Cost				LS	**15%**	$ 6,633,518	$ 995,028
0068		Project Contingency Costs				LS	**30%**	$ 6,633,518	$ 1,990,055
		Land acquisition							
NS SUBTOTAL									$ 4,975,139
TOTAL									**$ 11,608,657**

		CONCEPTUAL CAPITAL COST ESTIMATE						North Central East	
								Alternative 2	
PUMP STATIONS WITH FORCE MAINS									
ITEM #	Master Sheet Index	DIAMETER (INCHES)		DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0001	13	24		FM- Force Main Collector	Circular	LF	$ 167.00	0	$ -
0002	14	36		FM- Force Main Collector	Circular	LF	$ 242.00	0	$ -
0003	15	42		FM- Force Main Collector	Circular	LF	$ 336.00	0	$ -
0004	16	48		FM- Force Main Collector	Circular	LF	$ 612.00	0	$ -
0005	17	54		FM- Force Main Collector	Circular	LF	$ 982.00	0	$ -
0006	18	60		FM- Force Main Collector	Circular	LF	$ 1,149.00	0	$ -
0007	19	66		FM- Force Main Collector	Circular	LF	$ 1,329.00	0	$ -
0008	20	72		FM- Force Main Collector	Circular	LF	$ 1,473.00	0	$ -
0009	225	24		FMO- Force Main Offline	Circular	LF	$ 353.00	0	$ -
0010	11			IWI-Injection Wells-Inline		EA	$ 65,000.00	0	$ -
0011	12			IWO-Injection Wells -Offline		EA	$ 75,000.00	0	$ -
0012	6	PS-Storm Drainage Pump Stations < 166 cfs			I	EA	$ 2,400,000.00	0	$ -
0013	7	PS-Storm Drainage Pump Stations < 166-246 cfs			II	EA	$ 3,500,000.00	0	$ -
0014	8	PS-Storm Drainage Pump Stations < 246-328 cfs			III	EA	$ 4,900,000.00	0	$ -
0015	9	PS-Storm Drainage Pump Stations< 328-410 cfs			IV	EA	$ 6,750,000.00	0	$ -
0016	54	PS-CS22 Storm Drainage Pump Stations 600CFS				EA	$ 8,000,000.00	0	$ -
IN SUBTOTAL									$ -
EXFILTRATION WITH GRAVITY MAINS								North Central East	
ITEM #	Master Sheet Index	DIAMETER (INCHES)	Width(INCHES)	DESCRIPTION	TYPE	UNIT	UNIT COST	QUANTITIES	SUBTOTAL
0022	22	21		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0021	21	18		GM-Gravity Main Collector	Circular	LF	$ 45.00	0	$ -
0023	23	24		GM-Gravity Main Collector	Circular	LF	$ 48.00	0	$ -
0024	24	30		GM-Gravity Main Collector	Circular	LF	$ 52.00	790	$ 41,080
0026	25	36		GM-Gravity Main Collector	Circular	LF	$ 80.00	0	$ -
0028	26	42		GM-Gravity Main Collector	Circular	LF	$ 115.00	0	$ -
0029	27	48		GM-Gravity Main Collector	Circular	LF	$ 125.00	0	$ -
0030	28	54		GM-Gravity Main Collector	Circular	LF	$ 150.00	0	$ -
0031	29	60		GM-Gravity Main Collector	Circular	LF	$ 220.00	0	$ -
0032	30	66		GM-Gravity Main Collector	Circular	LF	$ 428.00	0	$ -
0033	31	72		GM-Gravity Main Collector	Circular	LF	$ 485.00	0	$ -
0035	32	29	45	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 205.00	0	$ -
0036	33	32	49	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 215.00	0	$ -
0037	34	34	53	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 225.00	0	$ -
0038	35	38	60	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 235.00	0	$ -
0039	36	43	68	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 370.00	0	$ -
0040	37	48	76	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 400.00	0	$ -
0041	38	53	83	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 432.00	0	$ -
0042	39	58	91	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 320.00	0	$ -
0043	40	63	98	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 410.00	0	$ -
0044	41	68	106	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 460.00	0	$ -
0045	42	72	113	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 570.00	0	$ -
0046	43	82	128	GM-Gravity Main Collector	Horizontal Ellipse	LF	$ 650.00	0	$ -
0048	44	72	120	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0072	45	72	72	GM-Gravity Main Collector	Rectangle Closed	LF	$ 570.00	0	$ -
0049	46	72	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 750.00	0	$ -
0050	47	96	96	GM-Gravity Main Collector	Rectangle Closed	LF	$ 850.00	0	$ -
0051	48			GBP-Gravity Backflow Pipe <36"		Ea	$ 35,000.00	0	$ -
0052	49			GBP-Gravity Backflow Pipe >36"		Ea	$ 70,000.00	0	$ -
0053	5			GW-Gravity Wells		EA	$ 105,000.00	0	$ -
0054	4	48		ET-Exfiltration Trench		LF	$ 250.00	3,709	$ 927,250
0055	50			Weir Box CS		EA	$ 30,000.00	0	$ -
0057	53			CS-22 Remod		EA	$ 525,000.00	0	$ -
0058	55			SW-04 Remod		EA	$ 150,000.00	0	$ -
0056				Gravity Structures-Inlets		EA	$ 7,500.00	37	$ 281,188
0059	56			Ditch Improvement		LF	$ 50.00	0	$ -
0091	57			Swale/Ditch Headwall		Ea	$ 10,000.00	0	$ -
0090	10			Exfil_End Weir		Ea	$ 5,000.00	0	$ -
0092	51			Ret/Det Pond		CUY	$ 355.00	0	$ -
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
							#N/A	#VALUE!	#VALUE!
	GRAVITY MAIN SUBTOTAL								$ 1,249,518
0060		Pavement Restoration including Pavement Marking (Full Road)				LF	$ 270.00	4,499	$ 1,214,730
							CONSTRUCTION COST SUBTOTAL		$ 2,464,248
GENERAL CONDITIONS								North Central East	
0061		Mobilization				LS	4%	$ 2,464,248	$ 98,570
0062		Insurance and General Conditions				LS	2%	$ 2,464,248	$ 49,285
0063		Permits/Fees				LS	2%	$ 2,464,248	$ 49,285
0064		Maintenance of Traffic				LS	3%	$ 2,464,248	$ 73,927
0065		Engineering Design & CA Oversight Costs				LS	15%	$ 2,464,248	$ 369,637
0066		Construction Engineering Inspection Costs				LS	4%	$ 2,464,248	$ 98,570
0067		OCI Management Cost				LS	15%	$ 2,464,248	$ 369,637
0068		Project Contingency Costs				LS	30%	$ 2,464,248	$ 739,274
NS SUBTOTAL									$ 1,848,186
TOTAL									$ 4,312,433

- **Figure HE-D2-2-CIP_ALT1_10 - Predicted Flooding Reduction and Proposed ALT1 CIP for 10-year Design Storm**
- **Figure HE-D2-2-CIP_ALT2_5 - Predicted Flooding Reduction and Proposed ALT2 CIP for 5-year Design Storm**
- **Figure HE-D2-2-CIP_ALT2_10 - Predicted Flooding Reduction and Proposed ALT2 CIP for 10-year Design Storm**
- **Table HE-D2-2_ALT1 – Planning Budget for Alternative 1 Proposed CIP**
- **Table HE-D2-2_ALT2 – Planning Budget for Alternative 2 Proposed CIP**

3.2.4.9 CIP Area HE-D2-3 (Royal Poinciana)

Root Causes of Flooding

This CIP area is characterized commercial and residential land use. The basin is on a higher ridge and area is served by exfiltration systems. There is minor flooding in the area, however, the extensive CIP proposed is to prevent the runoff from this area sheet flowing east into other areas and exacerbating the flooding in those areas.

Alternative 1

Proposed CIP:

- New gravity collection systems and inlets in neighborhoods connecting to the system along US-1 and under US-1 to both the EcoGC system and the SW06 SWPS.
- New 43,845 l.f. of exfiltration systems in neighborhoods.
- 102 new gravity stormwater wells (assumed 1 cfs per foot head for 24-inch well, 250 ft spacing).

Summary of Locations Not Meeting ALT 1 LOS:

1. Structures Flooded pre-3, post-0

Summary of Offsite Issues Affecting CIP Area:

1. None.

Alternative 2

Proposed CIP:

- New gravity collection systems and inlets in neighborhoods connecting to the system along US-1, and under US-1 to both the EcoGC system and the SW06 SWPS.
- New 24,490 l.f. of exfiltration systems in neighborhoods.
- 49 new gravity stormwater wells (assumed 1 cfs per foot head for 24-inch well, 250 ft spacing).

HC-D4-1
HC-D2-1
HC-D3-1
HC-D3-2
HC-D2-6
HE-D2-2
HE-D2-3
HE-D2-4
HE-D2-5
HE-D1-7
HE-D1-6
HE-D1-5
HL_PS000010
HL_PS000006
Boggs Field
Eco Golf Club
Hollywood Beach Golf & Country Club
Sunset Golf Club
Sherman St
Thomas St
Liberty St
Scott St
Coolidge St
Harding St
Wilson St
Roosevelt St
McKinley St
Cleveland St
Arthur St
Garfield St
Hayes St
Grant St
Lincoln St
Pierce St
Fillmore St
Taylor St
Polk St
Hollywood Blvd
Sheridan St
Shenandoah St
Taft St
Dixie Hwy
N 21st Ave
N 20th Ave
N 19th Ave
N 16th Ct
N 17th Ave
N 16th Ave
N 14th Ave
N 13th Ave
N 12th Ct
N 23rd Ave
N 24th Ave
N 22nd Ave
N 25th Ave
N 26th Ave
N 27th Ave
N 28th Ave
N 29th Ave
N Lake Dr
Sweetbay Way
Buchanan St
Lincoln St
Tyler St
Harrison St
Johnson St
Diplomat Pkwy
95

Legend

- Hollywood City Limits
- Focused CIP Area
- Existing SWPS
- Near Term SWPS
- Existing Gravity Pipes
- Existing Forcemains

5-Year 24-Hour Storm Flood

Feet

- <= 0 ft.
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- > 1.5 ft.

Current Conditions Flooding in CIP Area
Royal Poinciana
5-year Design Storm

CDM Smith
CITY OF Hollywood FLORIDA

0 465 930 1,860 Feet
1:11,000

City of Hollywood Stormwater Master Plan
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