STORMWATER MANAGEMENT REPORT

for

Diplomat Landing – North Tower

3451-3690 S. Ocean Drive
Hollywood, FL 33019

Prepared for:

The Related Group

Prepared by

6300 N.W. 31st Avenue
Fort Lauderdale, FL 33309
954-202-7000

_____

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July 31, 2023

MICHAEL A. TROXELL, STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 50572. THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY MICHAEL A. TROXELL, PE ON 7/31/23. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED.

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APPENDIX

Introduction

The project, known as "Diplomat Landing – North Tower", is located at 3451-3690 South Ocean Drive in Hollywood, Florida. This project is the second phase for redevelopment of a portion of the existing Diplomat site that is located west of South Ocean Drive and east of the Intracoastal. The initial phase for the proposed redevelopment is known as "Diplomat Landing – South Tower", which proposes the construction of a 350-unit residential tower with an integrated 110 space parking garage on approximately 1.986-acres of land. Please note that for the purpose of drainage design and analysis, the contents, calculations, and findings of this report considers the development of both proposed phases.

The North Tower project site entails three (3) parcels, with Broward County Folio Number(s) 5142-23-17-0030, 5142-23-06-0030 and 5142-23-06-0020. The total project area for the South and North Tower developments is approximately 4.563-acres, however the affected area for the North Tower project site area is approximately 2.577-acres. The existing site for this affected area consists of a multi-story parking garage, with ground floor commercial spaces, and a paved open-air venue space. The North Tower project proposes the construction of a multi-story hotel tower, with an associated pool deck and amenity areas. In addition, to the construction of the tower, the project will be accompanied with associated site, drainage, and utility improvements.

As part of a larger 19.49-acre development, the 4.563-acre total development area has been previously permitted and approved under Broward County Surface Water Management License No. SWM1998-118-2, with project name "Diplomat Resort & Country Club". Under this permit, the overall 19.49-acre development area was split into two drainage basin areas, the East Parcel (12.51-acre) and the West Parcel (6.98-acre), which each have their own independent drainage systems. Since this project proposes to connect to the existing drainage system servicing the West Parcel basin area, the stormwater analysis for this project will consider the entirety of the 6.98-acre basin as detailed in the approved permit and its associated drainage calculations. In addition, it should be noted that within the approved permit, the proposed project area for the initial South Tower development, was considered as a "future condominium parcel" that comprised of a building area of 0.99-acres, impervious area of 0.498-acres and a pervious area of 0.498-acres.

The project site is located within the drainage jurisdiction of South Florida Water Management District's (SFWMD) Intracoastal Drainage Basin , Broward County and the City of Hollywood. Pursuant to the FEMA

FIRM Panel 12011C0751J, dated December 31, 2019, the project site is located within a FEMA Flood Zone AE (Elevation 7.00 NAVD). Based on the Broward County Future Groundwater Elevation GIS Map, the water table elevation for the project site is 1.00 NAVD.

The irrigation source for the project has yet to be determined. Water and wastewater service for the proposed development will be provided by the City of Hollywood Public Utilities Department. It is anticipated that the project will require dewatering for the proposed development. After construction, the property owner will be the entity responsible for the operation and maintenance of the stormwater management system.

Design

The proposed drainage system will consist of a network of drainage inlets and piping that will be connected to the existing stormwater management system servicing the West Parcel. Excess on-site stormwater runoff will routed to the existing drainage system for overflow outfall from an existing 30" outfall pipe to the Intracoastal located north of the project site.

Below is a site area calculation comparison for the existing and proposed project site affected area for the 1.986-acre South Tower Project:

Table 1 – South Tower Affected Area Site Land Use Area Comparison

	Existing			Proposed			Change	
	S.F.	Acres	%	S.F.	Acres	%	S.F.	Acres
Impervious Areas								
Building	0	0.000	0.0%	7,262	0.167	8.4%	7.262	0.167
Parking Garage	0	0.000	0.0%	48,263	1.108	55.8%	48,263	1.108
VUA	37,871	0.869	43.8%	4,138	0.095	4.8%	(-) 33,732	(-) 0.774
Sidewalk/Curb/Ramps	3,102	0.071	3.6%	12,408	0.285	14.3%	9,306	0.214
Total Impervious Areas	40,973	0.941	47.4%	72,071	1.655	83.3%	31,098	0.714
Pervious Areas								
Landscape	45,537	1.045	52.6%	14,439	0.331	16.7%	(-) 31,098	(-) 0.714
Total Pervious Areas	45,537	1.045	52.6%	14,439	0.331	16.7%	(-) 31,098	(-) 0.714
Total Areas	86,510	1.986	100.0%	86,510	1.986	100.0%	0	0.000

Below is a site area calculation comparison for the existing and proposed project site affected area for the 2.577-acre North Tower Project:

Table 2 – North Tower Affected Area Site Land Use Area Comparison

	Existing			Proposed			Change	
	S.F.	Acres	%	S.F.	Acres	%	S.F.	Acres
Impervious Areas								
Building	42,181	0.968	37.6%	41,586	0.955	37.1%	(-) 595	(-) 0.013
Parking Garage	16,474	0.378	14.7%	16,474	0.378	14.7%	0	0.000
VUA	5,361	0.123	4.7%	5,298	0.122	4.7%	(-) 63	(-) 0.001
Sidewalk/Curb/Ramps	39,403	0.905	35.1%	28,441	0.653	25.3%	(-) 10,962	(-) 0.252
Total Impervious Areas	103,419	2.374	92.1%	91,799	2.108	81.8%	(-) 11,620	(-) 0.266
Pervious Areas								
Landscape	8,818	0.203	7.9%	20,438	0.469	18.2%	11,620	0.266
Total Pervious Areas	8,818	0.203	7.9%	20,438	0.469	18.2%	11,620	0.266
Total Areas	112,237	2.577	100.0%	112,237	2.577	100.0%	0	0.000

Below is a site area calculation comparison for the SWM1998-118-2 permit approved and proposed West Parcel areas of 6.980-acre:

Table 3 – West Basin Land Use Area Comparison

	Existing			Proposed			Change	
	S.F.	Acres	%	S.F.	Acres	%	S.F.	Acres
Impervious Areas								
Building	118,126	2.712	38.9%	81,669	1.875	26.9%	(-) 36,457	(-) 0.837
Parking Garage	16,474	0.378	5.4%	64,737	1.486	21.3%	48,263	1.108
VUA	30,056	0.690	9.9%	23,318	0.535	7.7%	(-) 6,738	(-) 0.155
Sidewalk/Curb/Ramps	57,935	1.330	19.0%	48,436	1.112	15.9%	(-) 9,499	(-) 0.218
Dock Facilities*	7,405	0.170	2.4%	7,405	0.170	2.4%	0	0.000
Total Impervious Areas	229,996	5.280	75.6%	225,565	5.178	74.2%	(-) 4,431	(-) 0.102
Pervious Areas								
Landscape	74,052	1.700	24.4%	78,483	1.802	25.8%	4,431	0.102
Total Pervious Areas	74,052	1.700	24.4%	78,483	1.802	25.8%	4,431	0.102
Total Areas	304,048	6.980	100.0%	304,048	6.980	100.0%	0	0.000

Notes:

* - Please note that pursuant to the approved permit and its associated drainage calculations, the dock facilities areas are not to be accounted for in the water quality and stormwater quantity calculations. As such, only 6.81-acres is to be considered.

Water Quality

Please note, that pursuant to the approved permit drainage calculations, 0.93-acre of East Parcel driveway area is connected to the West Parcel drainage system. As such, for water quality calculations, 7.740-acres of total area has been considered (6.81-acre plus 0.93-acre). With these considerations, the required water quality treatment volume for the project has been calculated to be either 1-inch over the entire site area or 2.5-inches over the percent impervious area, whichever is greater. Based upon the proposed land use areas, water quality treatment volume will be provided for 2.5-inches over the percent impervious area. As such, the required water quality treatment volume has been calculated to be 0.95 acre-feet, which will be provided by the existing exfiltration trench that serves the West Parcel. Pursuant to the approved drainage calculations, the exfiltration trench for the West Parcel has been designed to provide 1.03 acre-feet of water quality retention volume, which is larger than the 0.95 acre-feet required.

Water Quantity

Flood Routings:

Pursuant, to the drainage calculations from the approved permit, the weir for the proposed control structure has been set at Elevation 4.50 NAVD to allow for water quality treatment prior to discharge. Additionally, the control structure has been designed to not exceed the maximum allowable combined discharge of 59.49 cfs from the East Parcel and West Parcel basin areas for the 25-year 3-day storm event. Please note that the East Parcel has been permitted with 32.60 cfs of discharge, which allows for 26.89 cfs of discharge from the West Parcel. Lastly, a drainage well capacity of 250 gpm/foot has been assumed for the flood routings.

Flood routings for the post-condition were performed for the 10-year 1-day, 25-year 3-day and 100-year 3-day storm events to determine peak stage and discharge valves. The Interconnected Channel and Pond Routing Model (ICPR) program by Streamline Technologies, Inc. was utilized for stormwater analysis and pipe sizing. The model was prepared considering the entire West Parcel area, excluding the proposed South and North tower areas as one basin. The tower areas are excluded as their respective roof areas will directly outfall to the Intracoastal and will not be connected to the existing West Basin drainage system. Additionally, it should be noted that the 100-year 3-day routing did not include any off-site

discharge. The ICPR flood routing model and results are provided within the Appendix. A table has been provided below to summarize the ICPR results.

Table 4- ICPR Flood Routing Results Summary

Design Storm Event	Storm Event Rainfall Depth (Inches)	Proposed Peak Stage (NAVD)	Proposed Discharge (cfs)
10-year 1-day	9.50	4.57	3.74
25-year 3-day	14.61	4.81	21.98
100-year 3-day	19.37	6.71	0.00

The proposed development minimum design elevations have been set to be in accordance with the flood routing results. A table has been provided below to summaries the minimum design elevations.

Table 5 – Proposed Development Minimum Design Elevations

Design Storm Event	Proposed Peak Stage (NAVD)	Prop. Minimum Elevations (NAVD)	Description
10-year 1-day	4.57	5.00	Min. Parking Lot Grade
100-year 3-day	6.71	8.00	Min. Finished Floor Elevation

Pursuant to the summary tables provided above, the lowest proposed pavement grade is at Elevation 5.00 NAVD, which is above the calculated peak stage elevation for the 10-year 1-day storm event at Elevation 4.60 NAVD. The finished floor elevation for the proposed building will be set at Elevation 8.00 NAVD, which is at or above the peak stage elevation for the 100-year 3-day, zero discharge, storm event which staged at Elevation 6.71 NAVD. Additionally, the peak discharge from the proposed West Parcel basin is 21.98 cfs. When combined with the permitted discharge from the East Parcel basin (32.60 cfs), there is a combined discharge rate of 54.58 cfs, which does not exceed the maximum allowable discharge rate of 59.49 cfs.

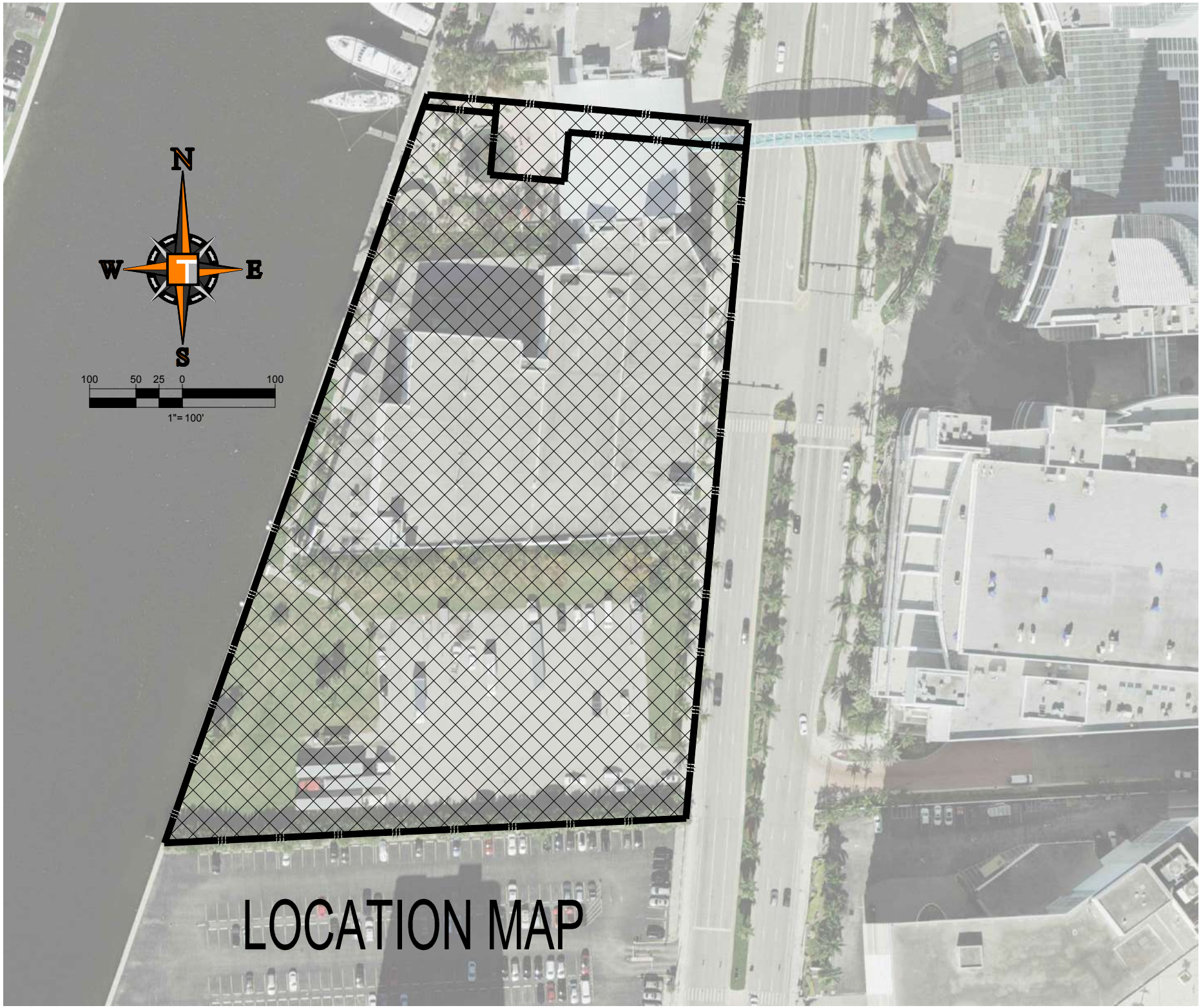
Conclusion

Based on the provided analysis and calculation, the proposed stormwater management system meets or exceeds the applicable design criteria. As such, we respectively request the project design be approved.

Appendix

Appendix A

Location Map



LOCATION MAP

Appendix B

Stormwater Management Calculations

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6300 N.W. 31st Avenue, Fort Lauderdale, FL 33309
Tel: 954-202-7000
Fax: 954-202-7070

Date: 7/31/2023
Project: Diplomat - South & North Tower
Project No: F220134

Calculated By: CAS
Checked By: MAT

EXISTING SITE DRAINAGE CALCULATIONS

Design Criteria:

Control Elevation:	1.00	NAVD
FEMA Elevation:	7.00	(Zone AE)

Existing Land Use Summary:

Lake Areas (A_L):	0	sf	or	0.000	ac
Roof Areas (A_R):	134,600	sf	or	3.090	ac
Paved Areas (A_P):	128,502	sf	or	2.950	*ac
Green Areas (A_G):	74,052	sf	or	1.700	ac
Total (A_T):	337,154	sf	or	7.740	*ac

Notes:

* - Persuant to the Drainage Calculations in the approved Broward County Stormwater Mangement License for this development area (SWM1998-118-2), the existing exfiltration trench located within the West Parcel (6.81-acres) provides retention for the East Parcel driveway areas, which totals 0.93-acres. As such, for water quality computations this additional 0.93-acres of driveway area in the East Parcel has been considered in the West Parcel.

Compute Water Quality Volume:

1) Provide at least 1 inch over the developed project:

V_{PRE} = 1 inch x A_T x 1 ft / 12 inches
= 1 x 7.74 / 12
= 0.65 ac-ft or 7.74 ac-in

2) Provide 2.5" over % impervious area:

a) Site Area for water quality pervious/impervious calculation:

A_S = A_T - (A_L + A_R)
= 7.74 - (0 + 3.09)
= 4.650 ac of site area for water quality pervious/impervious

b) Impervious area for water quality pervious/impervious calculation:

A_{IMP} = A_S - A_G
= 4.65 - 1.7
= 2.950 ac of impervious area for water quality pervious/impervious

c) Percent of impervious for water quality calculation:

= A_{IMP} / A_S x 100%
= 2.95 / 4.65 x 100%
= 63.4% impervious

d) For 2.5" times the percent impervious:

= 2.5" x % impervious area
= 2.5 x 0.634
= 1.59 inches to be treated

e) Compute volume required volume for quality detention

V_{PRE} = inches to be treated x (A_T - A_L)
= 1.59 x (7.74 - 0) x 1 foot / 12 inches)
= 1.02 ac-ft or 12.28 ac-in

3) Since the 12.28 ac-in is greater than the 7.74 ac-in computed for the first inch of runoff the volume of 12.28 ac-in controls.

THOMAS ENGINEERING GROUP

Date: 7/31/2023
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Existing Exfiltration Trench Calculations (NAVD)

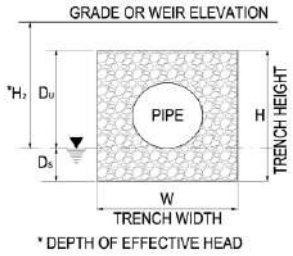
K-Value:

Test Hole #	(cfs/ft^2/ft hd)
BHP-1	1.80E-03
K_{AVG}	1.80E-03

*Based on the Drainage Calculations in the approved Broward County Stormwater Mangement License for this development area (SWM1998-118-2)

Existing Exfiltration Trench:

Water Table
Elev. 1.00



Elev. 4.50 (Grade or Weir Elev.)

Elev. 4.50 (Top of Trench)

Elev. -4.00 (Bottom of Trench)

K =		1.80E-03	cfs/ft^2 - ft head
H_2 =		3.50	ft
W =		10.00	ft
D_u =		3.50	ft
D_s =		5.00	ft
H =	Du + Ds =	8.50	ft
FS =		2.00	Factor of Safety
V_{wq} =		12.28	ac-in
%WQ =		50%	Percent Reduction for Water Quality

1) Trench Length Required for Water Quality (L_{wq}):

V_{wq} = 12.28 ac-in or 1.02 ac-ft

$$L_{wq} = \frac{FS\ [\%WQ(Vwq)]}{K(2H2Du - Du^2 + 2H2Ds) + (1.39 \times 10^{-4})WDu}$$

L_{wq} = 136.5 feet

2) Maximum Allowable Trench Length For Storage (L_{max}):

V_{max} = 3.28-inches x 6.81-acres = 22.34 ac-in or 1.86 ac-ft

V_{add} = 10.06 ac-in

$$L_{max} = \frac{FS\ [(\%WQ)(V_{wq}) + V_{add}]}{K(2H2Du - Du^2 + 2H2Ds) + (1.39 \times 10^{-4})WDu}$$

L_{max} = 360.3 feet

3) Total Provided Existing Trench Volume (V_{prop}):

Proposed Trench Length = 160 feet

V_{prop} = L x (K(2H2Du - Du^2 + 2H2Ds) + (1.39 x 10^-4)WDu)

V_{prop} = 14.39 ac-in or 1.20 ac-ft

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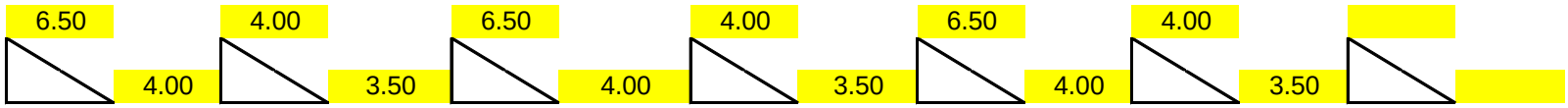
Existing Stage / Storage Area Calculation (NAVD)

Existing Grades



Stage (NAVD)	Vehicle Pavement High Area Area 0.069 (ac.-ft.)	Vehicle Pavement Low Area Area 0.621 (ac.-ft.)	Sidewalk, Concrete & Curb High Area Area 0.133 (ac.-ft.)	Sidewalk, Concrete & Curb Low Area Area 1.197 (ac.-ft.)	Landscape High Area Area 0.170 (ac.-ft.)	Landscape Low Area Area 1.530 (ac.-ft.)	Building Area F.F.E. = 16.13 Area 3.090 (ac.-ft.)	Total Storage 6.810 Area (ac.-ft.)
1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00	0.00	0.16	0.00	0.30	0.00	0.38	0.00	0.84
4.50	0.00	0.47	0.01	0.90	0.01	1.15	0.00	2.53
5.00	0.01	0.78	0.03	1.50	0.03	1.91	0.00	4.26
5.50	0.03	1.09	0.06	2.09	0.08	2.68	0.00	6.03
6.00	0.06	1.40	0.11	2.69	0.14	3.44	0.00	7.83
6.50	0.09	1.71	0.17	3.29	0.21	4.21	0.00	9.67

THOMAS ENGINEERING GROUP

Date: 7/31/2023
Project: Diplomat - South & North Tower
Project No: F220134

Design Criteria

Control Elevation: ..... 1.00 NAVD
FEMA Elevation: ..... 7.00 (Zone AE)

Existing Land Use Summary

Areas:	Square Ft.	Acres	Percent
Lake	0	0.000	0.0%
Building	134,600	3.090	45.4%
Paved and Sidewalk	87,991	2.020	29.7%
Pervious	57,935	1.700	25.0%
Total Area:	296,644	6.810	100.0%

Existing Stage / Storage Area Calculations (NAVD)

Stage (NAVD)	Site Stage-Storage (Previous Page) (ac.-ft.)	Exfiltration Trench Storage (ac.-ft.)	Total Storage Area (ac.-ft.)
1.00	0.00	0.00	0.00
1.50	0.00	0.15	0.15
2.00	0.00	0.29	0.29
2.50	0.00	0.44	0.44
3.00	0.00	0.59	0.59
3.50	0.00	0.74	0.74
4.00	0.84	0.88	1.72
4.50	2.53	1.03	3.56
5.00	4.26	1.03	5.29
5.50	6.03	1.03	7.06
6.00	7.83	1.03	8.86
6.50	9.67	1.03	10.70

Existing Site Soil Storage

Existing Land Use Summary:

	Acres	Percent
Lake Areas (A_L):	0.000	0.0%
Roof Areas (A_R):	3.090	45.4%
Paved Areas (A_P):	2.020	29.7%
Green Areas (A_G):	1.700	25.0%
Total (A_T):	6.810	100.0%

Compacted Soil Storage per SFWMD Vol. IV Page C-III-1 Coastal Classification

Depth to Water Table (feet)	Compacted Water Storage (inches)
1	0.45
2	1.88
3	4.95
4	8.18

Average Pervious Grade (Elev.): 3.90 ft
Depth to Water Table: 2.90 ft
Soil Storage at Average Depth (S_S): 4.64 inches

Weighted S value:
= S_S x % Pervious
= 4.64 x 0.25
= **1.16 inches**

CN = 1000/(S+10)
= 90

Storm Events Rainfall Return Period Values

From Figure C-9, 100-Year 3-Day Storm Event = 19.37 inches

From Figure C-8, 25-Year 3-Day Storm Event = 14.61 inches

From Figure C-4, 10-Year 1-Day Storm Event = 9.50 inches

Existing Site Flood Routing Results

Runnoff (Q) = $(P - 0.2S)^2 / (P + 0.8S)$
= (19.37 - (0.2 x 1.16))^2 / (19.37 + (0.8 x 1.16))
= 18.05 inches of total runnoff
Runoff Volume = Q * Project Area
= 18.05 x 6.81 = 122.89 acre-inches = 10.24 acre-ft.

Maximum Stage for 100-Year 3-Day Storm (zero discharge) **6.37** NAVD

Runnoff (Q) = $(P - 0.2S)^2 / (P + 0.8S)$
= (14.61 - (0.2 x 1.16))^2 / (14.61 + (0.8 x 1.16))
= 13.31 inches of total runnoff
Runoff Volume = Q * Project Area
= 13.31 x 6.81 = 90.62 acre-inches = 7.55 acre-ft.

Maximum Stage for 25-Year 3-Day Storm (zero discharge) **5.64** NAVD

Runnoff (Q) = $(P - 0.2S)^2 / (P + 0.8S)$
= (9.5 - (0.2 x 1.16))^2 / (9.5 + (0.8 x 1.16))
= 8.24 inches of total runnoff
Runoff Volume = Q * Project Area
= 8.24 x 6.81 = 56.11 acre-inches = 4.68 acre-ft.

Maximum Stage for 10-Year 1-Day Storm (zero discharge) **4.82** NAVD

THOMAS ENGINEERING GROUP
6300 N.W. 31st Avenue, Fort Lauderdale, FL 33309
Tel: 954-202-7000
Fax: 954-202-7070

Date: 7/31/2023
Project: Diplomat - South & North Tower
Project No: F220134

Calculated By: *CAS*
Checked By: *MAT*

PROPOSED SITE DRAINAGE CALCULATIONS

Design Criteria:

Control Elevation:	1.00	NAVD	
FEMA Elevation:	7.00	(Zone AE)	

Proposed Land Use Summary:

Lake Areas (A_L):	0	sf	or	0.000	ac
Roof Areas (A_R):	146,406	sf	or	3.361	ac
Paved Areas (A_P):	112,266	sf	or	2.577	ac
Green Areas (A_G):	78,483	sf	or	1.802	ac
Total (A_T):	337,154	sf	or	7.740	ac

Compute Required Water Quality Volume:

1) Provide at least 1 inch over the developed project:

V_{PRE} = 1 inch x A_T x 1 ft / 12 inches
= 1 x 7.74 / 12
= 0.65 ac-ft or 7.74 ac-in

2) Provide 2.5" over % impervious area:

a) Site Area for water quality pervious/impervious calculation:

A_S = A_T - (A_L + A_R)
= 7.74 - (0 + 3.362)
= 4.379 ac of site area for water quality pervious/impervious

b) Impervious area for water quality pervious/impervious calculation:

A_{IMP} = A_S - A_G
= 4.379 - 1.802
= 2.577 ac of impervious area for water quality pervious/impervious

c) Percent of impervious for water quality calculation:

= A_{IMP} / A_S x 100%
= 2.577 / 4.379 x 100%
= 58.9% impervious

d) For 2.5" times the percent impervious:

= 2.5" x % impervious area
= 2.5 x 0.589
= 1.47 inches to be treated

e) Compute volume required volume for quality detention

V_{PRE} = inches to be treated x (A_T - A_L)
= 1.47 x (7.74 - 0) x 1 foot / 12 inches)
= 0.95 ac-ft or 11.39 ac-in

3) **Since the 11.39 ac-in is greater than the 7.74 ac-in computed for the first inch of runoff the volume of 11.39 ac-in controls.**

THOMAS ENGINEERING GROUP

Date: 7/31/2023
Project: Diplomat - South & North Tower
Project No: F220134

Proposed Exfiltration Trench Calculations (NAVD)

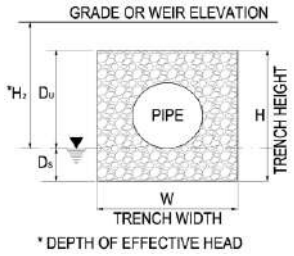
K-Value:

Test Hole #	(cfs/ft^2/ft hd)
BHP-1	1.80E-03
K_{AVG}	1.80E-03

*Based on the Drainage Calculations in the approved Broward County Stormwater Mangement License for this development area (SWM1998-118-2)

Proposed Exfiltration Trench:

Water Table Elev. 1.00



Elev. 4.50 (Grade or Weir Elev.)

Elev. 4.50 (Top of Trench)

Elev. -4.00 (Bottom of Trench)

K =		1.80E-03	cfs/ft^2 - ft head
H_2 =		3.50	ft
W =		10.00	ft
D_u =		3.50	ft
D_s =		5.00	ft
H =	Du + Ds =	8.50	ft
FS =		2.00	Factor of Safety
V_{wq} =		11.39	ac-in
%WQ =		50%	Percent Reduction for Water Quality

1) Trench Length Required for Water Quality (L_{wq}):

V_{wq} = 11.39 ac-in or 0.95 ac-ft

$$L_{wq} = \frac{FS\ [\%WQ(Vwq)]}{K(2H2Du - Du^2 + 2H2Ds) + (1.39 \times 10^{-4})WDu}$$

L_{wq} = 126.7 feet

2) Maximum Allowable Trench Length For Storage (L_{max}):

V_{max} = 3.28-inches x 6.81-acres = 22.34 ac-in or 1.86 ac-ft

V_{add} = 10.95 ac-in

$$L_{max} = \frac{FS\ [(\%WQ)(V_{wq}) + V_{add}]}{K(2H2Du - Du^2 + 2H2Ds) + (1.39 \times 10^{-4})WDu}$$

L_{max} = 370.2 feet

4) Total Provided Trench Volume (V_{prop}):

Proposed Trench Length = 160 feet

V_{prop} = L x (K(2H2Du - Du^2 + 2H2Ds) + (1.39 x 10^-4)WDu)

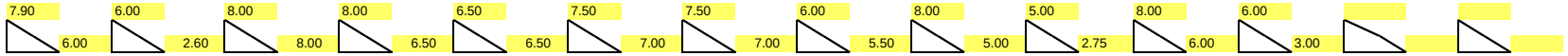
V_{prop} = 14.39 ac-in or 1.20 ac-ft

THOMAS ENGINEERING GROUP

Date: 7/31/2023
Project: Diplomat - South & North Tower
Project No: F220134

Proposed Stage / Storage Area Calculations (NAVD)

Proposed Grades



Stage (NAVD)	Vehicle Pavemnt High Area Area 0.107 (ac.-ft.)	Vehicle Pavemnt Low Area Area 0.428 (ac.-ft.)	South Tower Parking Garage High Area Area 0.431 (ac.-ft.)	South Tower Parking Garage Low Area Area 0.677 (ac.-ft.)	Existing Parking Garage High Area Area 0.378 (ac.-ft.)	Existing Parking Garage Low Area Area 0.000 (ac.-ft.)	South Tower Private Terrace Area Area 0.092 (ac.-ft.)	North Tower Pool Deck Area Area 0.184 (ac.-ft.)	Sidewalk, Concrete & Curb High Area Area 0.167 (ac.-ft.)	Sidewalk, Concrete & Curb Low Area Area 0.668 (ac.-ft.)	Landscape High Area Area 0.721 (ac.-ft.)	Landscape Low Area Area 1.081 (ac.-ft.)	Area (ac.-ft.)	Building Area FFE Varies Area 1.875 (ac.-ft.)	Total Storage 6.810 Area (ac.-ft.)
1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02
3.50	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.05	0.00	0.00	0.18
4.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.18	0.00	0.00	0.54
4.50	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.41	0.00	0.00	1.09
5.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.72	0.00	0.00	1.84
5.50	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.01	1.09	0.00	1.13	0.00	0.00	2.75
6.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.05	0.03	1.42	0.00	1.62	0.00	0.00	3.84
6.50	0.01	0.94	0.00	0.00	0.00	0.00	0.00	0.14	0.06	1.75	0.05	2.16	0.00	0.00	5.11
7.00	0.03	1.16	0.00	0.06	0.19	0.00	0.00	0.23	0.11	2.09	0.18	2.70	0.00	0.00	6.74
7.50	0.06	1.37	0.00	0.23	0.38	0.00	0.02	0.32	0.17	2.42	0.41	3.24	0.00	0.00	8.63
8.00	0.11	1.58	0.00	0.51	0.57	0.00	0.07	0.41	0.25	2.76	0.72	3.78	0.00	0.00	10.77

THOMAS ENGINEERING GROUP

Date: 7/31/2023
Project: Diplomat - South & North Tower
Project No: F220134

Design Criteria

Control Elevation:	1.00	NAVD
FEMA Elevation:	7.00	(Zone AE)

Proposed Land Use Summary

Areas:	Square Ft.	Acres	Percent
Lake	-	0.00	0.0%
Building	81,669	1.875	27.5%
Paved and Sidewalk	71,755	1.647	24.2%
Pervious	78,483	1.802	26.5%
Total Area:	296,644	6.810	100.0%

Proposed Stage / Storage Area Calculations (NAVD)

Stage (NAVD)	Site Stage-Storage (Previous Page) (ac.-ft.)	Exfiltration Trench Storage (ac.-ft.)	Total Storage Area (ac.-ft.)
1.00	0.00	0.00	0.00
1.50	0.00	0.15	0.15
2.00	0.00	0.29	0.29
2.50	0.00	0.44	0.44
3.00	0.02	0.59	0.61
3.50	0.18	0.74	0.92
4.00	0.54	0.88	1.42
4.50	1.09	1.03	2.12
5.00	1.84	1.03	2.87
5.50	2.75	1.03	3.78
6.00	3.84	1.03	4.87
6.50	5.11	1.03	6.14
7.00	6.74	1.03	7.77
7.50	8.63	1.03	9.66
8.00	10.77	1.03	11.80

Water Quality Volume 0.95 ac.-ft.
Water Quality Elevation **3.53** NAVD

Proposed Site Soil Storage

Proposed Land Use Summary:

	Acres	Percent
Lake Areas (A_L):	0.000	0.0%
Roof Areas (A_R):	1.875	27.5%
Paved Areas (A_P):	1.647	24.2%
Green Areas (A_G):	1.802	26.5%
Total (A_T):	6.810	100.0%

Compacted Soil Storage per SFWMD Vol. IV Page C-III-1 Coastal Classification

Depth to Water Table (feet)	Compacted Water Storage (inches)
1	0.45
2	1.88
3	4.95
4	8.18

Average Pervious Grade (Elev.): 5.50 ft
Depth to Water Table: 4.50 ft
Soil Storage at Average Depth (S_S): 8.18 inches

Weighted S value:
= S_S x % Pervious
= 8.18 x 0.265
= **2.16 inches**

CN = 1000/(S+10)
= 82

Storm Events Rainfall Return Period Values

From Figure C-9, 100-Year 3-Day Storm Event = 19.37 inches

From Figure C-8, 25-Year 3-Day Storm Event = 14.61 inches

From Figure C-4, 10-Year 1-Day Storm Event = 9.50 inches

Proposed Site Flood Routing Results

Maximum Stage for 100-Year 3-Day Storm (no discharge)	**6.71**	NAVD	at	**0.00**	cfs
Maximum Stage for 25-Year 3-Day Storm (no discharge)	**4.81**	NAVD	at	**21.98**	cfs
Maximum Stage for 10-Year 1-Day Storm (no discharge)	**4.57**	NAVD	at	**3.74**	cfs

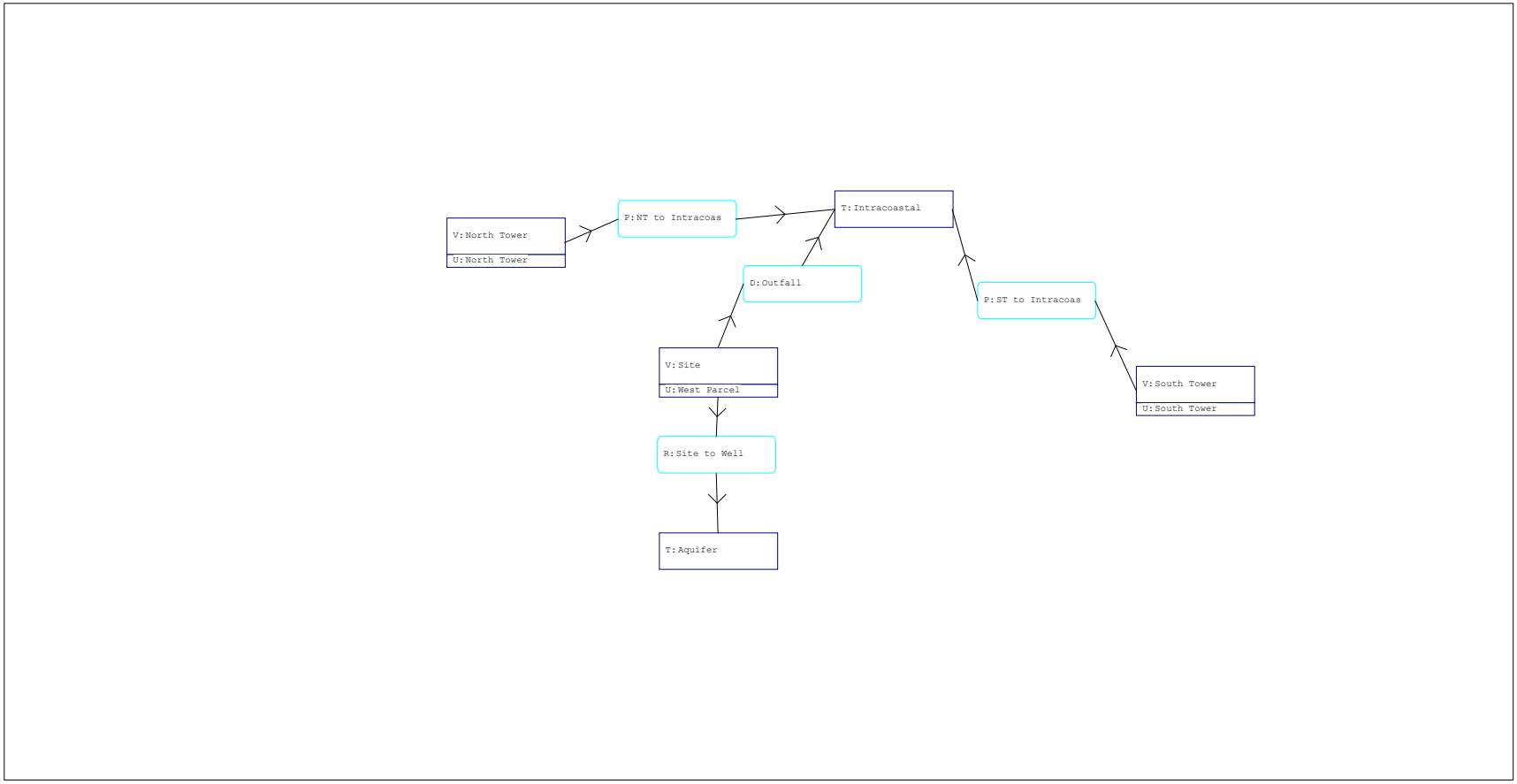
Appendix C

ICPR Flood Routings Model, Results & Basin Map

Nodes
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins
O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench



```
================================================================================
==== Basins ====================================================================
================================================================================

         Name: North Tower              Node: North Tower            Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                    Peaking Factor: 256.0
          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 0.224                   Time Shift(hrs): 0.00
          Curve Number: 98.00               Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: South Tower              Node: South Tower            Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                    Peaking Factor: 256.0
          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 0.167                   Time Shift(hrs): 0.00
          Curve Number: 98.00               Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: West Parcel              Node: Site                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                    Peaking Factor: 256.0
          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 30.00
              Area(ac): 6.419                   Time Shift(hrs): 0.00
          Curve Number: 82.00               Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


================================================================================
==== Nodes =====================================================================
================================================================================

      Name: Aquifer             Base Flow(cfs): 0.000          Init Stage(ft): 1.000
     Group: BASE                                               Warn Stage(ft): 8.000
      Type: Time/Stage


      Time(hrs)       Stage(ft)
--------------- ---------------
           0.00           1.000
         999.00           1.000

--------------------------------------------------------------------------------------------------
      Name: Intracoastal        Base Flow(cfs): 0.000          Init Stage(ft): 0.000
     Group: BASE                                               Warn Stage(ft): 8.000
      Type: Time/Stage
```

Time(hrs)	Stage(ft)
0.00	0.000
999.00	0.000

Name: North Tower Base Flow(cfs): 0.000 Init Stage(ft): 1.000
Group: BASE Warn Stage(ft): 8.000
Type: Stage/Volume

Stage(ft)	Volume(af)
1.000	0.0000
8.000	0.0000

Name: Site Base Flow(cfs): 0.000 Init Stage(ft): 1.000
Group: BASE Warn Stage(ft): 8.000
Type: Stage/Volume

Stage(ft)	Volume(af)
1.000	0.0001
1.500	0.1471
2.000	0.2943
2.500	0.4414
3.000	0.6079
3.500	0.9153
4.000	1.4185
4.500	2.1174
5.000	2.8651
5.500	3.7784
6.000	4.8733
6.500	6.1411
7.000	7.7724
7.500	9.6578
8.000	11.7969

Name: South Tower Base Flow(cfs): 0.000 Init Stage(ft): 1.000
Group: BASE Warn Stage(ft): 8.000
Type: Stage/Volume

Stage(ft)	Volume(af)
1.000	0.0000
8.000	0.0000

==========
==== Operating Tables ==========
==========

Name: DWELL Group: BASE
Type: Rating Curve
Function: US Stage vs. Discharge

US Stage(ft)	Discharge(cfs)

3.000	0.00
3.500	0.28
4.000	0.56
4.500	0.84
5.000	1.12
5.500	1.40
6.000	1.68
6.500	1.96
7.000	2.24
7.500	2.52
8.000	2.80

Pipes

Name: NT to Intracoas From Node: North Tower Length(ft): 50.00
Group: BASE To Node: Intracoastal Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Solution Algorithm:	Automatic
Span(in):	12.00	12.00	Flow:	Both
Rise(in):	12.00	12.00	Entrance Loss Coef:	0.50
Invert(ft):	1.000	1.000	Exit Loss Coef:	1.00
Manning's N:	0.012000	0.012000	Bend Loss Coef:	0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: ST to Intracoas From Node: South Tower Length(ft): 50.00
Group: BASE To Node: Intracoastal Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Solution Algorithm:	Automatic
Span(in):	12.00	12.00	Flow:	Both
Rise(in):	12.00	12.00	Entrance Loss Coef:	0.50
Invert(ft):	-1.500	-1.500	Exit Loss Coef:	1.00
Manning's N:	0.012000	0.012000	Bend Loss Coef:	0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Drop Structures

```
         Name: Outfall             From Node: Site               Length(ft): 100.00
        Group: BASE                  To Node: Intracoastal           Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Circular       Circular                 Solution Algorithm: Automatic
     Span(in): 30.00          30.00                                 Flow: Both
     Rise(in): 30.00          30.00                    Entrance Loss Coef: 0.500
   Invert(ft): -1.500         -1.500                       Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall



*** Weir 1 of 1 for Drop Structure Outfall ***
                                                                                TABLE
                  Count: 3                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 60.00                       Invert(ft): 4.500
               Rise(in): 16.00                  Control Elev(ft): 4.500


================================================================================
==== Rating Curves =============================================================
================================================================================

         Name: Site to Well        From Node: Site                   Count: 1
        Group: BASE                  To Node: Aquifer                 Flow: Both

               TABLE           ELEV ON(ft)     ELEV OFF(ft)
          #1: DWELL            4.501           4.500
          #2:                  0.000           0.000
          #3:                  0.000           0.000
          #4:                  0.000           0.000



================================================================================
==== Hydrology Simulations =====================================================
================================================================================

         Name: 100YR-72HR
     Filename: G:\The Related Group\F220134 - Diplomat - 3450 S Ocean Drive, Hollywood\Documents\Drainage\ICPR\Routing\100YR-72HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Sfwmd72
    Rainfall Amount(in): 19.37

Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          5.00

--------------------------------------------------------------------------------------------------
         Name: 10YR-24HR
```

Filename: G:\The Related Group\F220134 - Diplomat - 3450 S Ocean Drive, Hollywood\Documents\Drainage\ICPR\Routing\10YR-24HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 9.50

Time(hrs)	Print Inc(min)
24.000	5.00

Name: 25YR-72HR
Filename: G:\The Related Group\F220134 - Diplomat - 3450 S Ocean Drive, Hollywood\Documents\Drainage\ICPR\Routing\25YR-72HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 14.61

Time(hrs)	Print Inc(min)
72.000	5.00

==========
==== Routing Simulations ==========
==========

Name: 100YR-72HR Hydrology Sim: 100YR-72HR
Filename: G:\The Related Group\F220134 - Diplomat - 3450 S Ocean Drive, Hollywood\Documents\Drainage\ICPR\Routing\100YR-72HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 100.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
100.000	5.000

Group	Run
BASE	Yes

Name: 10YR-24HR Hydrology Sim: 10YR-24HR
Filename: G:\The Related Group\F220134 - Diplomat - 3450 S Ocean Drive, Hollywood\Documents\Drainage\ICPR\Routing\10YR-24HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 36.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
36.000	5.000

Group	Run
BASE	Yes

Name: 25YR-72HR Hydrology Sim: 25YR-72HR
Filename: G:\The Related Group\F220134 - Diplomat - 3450 S Ocean Drive, Hollywood\Documents\Drainage\ICPR\Routing\25YR-72HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 100.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
100.000	5.000

Group	Run
BASE	Yes

Diplomat South & North Tower - 100-Year 72-Hr Node Min/Max Report w/o Discharge

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Aquifer	BASE	100YR-72HR	0.00	1.00	8.00	0.0000	0	64.77	2.08	0.00	0.00
Intracoastal	BASE	100YR-72HR	0.00	0.00	8.00	0.0000	0	0.00	0.00	0.00	0.00
North Tower	BASE	100YR-72HR	72.00	138.27	8.00	0.0085	113	60.00	1.92	0.00	0.00
Site	BASE	100YR-72HR	64.77	6.71	8.00	-0.0010	137488	60.17	33.40	64.77	2.08
South Tower	BASE	100YR-72HR	72.00	103.34	8.00	0.0063	113	60.00	1.43	0.00	0.00

Diplomat South & North Tower - 25-Year 72-Hr Node Min/Max Report w/ Discharge

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Aquifer	BASE	25YR-72HR	0.00	1.00	8.00	0.0000	0	60.36	1.01	0.00	0.00
Intracoastal	BASE	25YR-72HR	0.00	0.00	8.00	0.0000	3	60.34	21.98	0.00	0.00
North Tower	BASE	25YR-72HR	60.01	2.00	8.00	0.0050	120	60.00	1.45	60.01	1.43
Site	BASE	25YR-72HR	60.36	4.81	8.00	0.0022	68768	60.17	24.76	60.36	21.80
South Tower	BASE	25YR-72HR	0.00	1.00	8.00	-0.0163	114	60.00	1.08	0.00	3.74

Diplomat South & North Tower - 10-Year 24-Hr Node Min/Max Report w/ Discharge

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Aquifer	BASE	10YR-24HR	0.00	1.00	8.00	0.0000	0	15.42	0.88	0.00	0.00
Intracoastal	BASE	10YR-24HR	0.00	0.00	8.00	0.0000	3	0.00	3.74	0.00	0.00
North Tower	BASE	10YR-24HR	12.00	1.36	8.00	-0.0010	136	12.00	0.21	12.00	0.21
Site	BASE	10YR-24HR	15.42	4.57	8.00	0.0015	64369	12.08	5.04	15.42	3.25
South Tower	BASE	10YR-24HR	0.00	1.00	8.00	-0.0163	114	12.00	0.16	0.00	3.74

Appendix D

Broward County Property Appraiser Information

MARTY KIAR
BROWARD COUNTY
PROPERTY APPRAISER

Site Address	3451-3690 S OCEAN DRIVE, HOLLYWOOD FL 33019	ID #	5142 23 17 0030
Property Owner	HFL LANDINGS OWNER LLC	Millage	0513
Mailing Address	55 MERCHANT ST STE 1500 HONOLULU HI 96813	Use	12-02
Abbr Legal Description	DIPLOMAT RESORT AND COUNTRY CLUB PLAT 158-16 B PARCEL C		

The just values displayed below were set in compliance with Sec. 193.011, Fla. Stat., and include a reduction for costs of sale and other adjustments required by Sec. 193.011(8).

* 2023 values are considered "working values" and are subject to change.

Property Assessment Values

Year	Land	Building / Improvement	Just / Market Value	Assessed / SOH Value	Tax
2023*	$18,174,830	$18,031,910	$36,206,740	$25,904,120	
2022	$9,579,090	$13,970,110	$23,549,200	$23,549,200	$581,085.34
2021	$9,579,090	$13,970,110	$23,549,200	$23,549,200	$578,430.55

2023* Exemptions and Taxable Values by Taxing Authority

	County	School Board	Municipal	Independent
Just Value	$36,206,740	$36,206,740	$36,206,740	$36,206,740
Portability	0	0	0	0
Assessed/SOH	$25,904,120	$36,206,740	$25,904,120	$25,904,120
Homestead	0	0	0	0
Add. Homestead	0	0	0	0
Wid/Vet/Dis	0	0	0	0
Senior	0	0	0	0
Exempt Type	0	0	0	0
Taxable	$25,904,120	$36,206,740	$25,904,120	$25,904,120

Sales History

Date	Type	Price	Book/Page or CIN
6/29/2023	DR*-T	$100	118966855
2/2/2023	SW*-D	$69,000,000	118658608
8/24/2014	SW*-E	$55,500,000	112495613
9/30/1997	SW*	$11,428,571	27081 / 360

* Denotes Multi-Parcel Sale (See Deed)

Land Calculations

Price	Factor	Type
$95.00	191,314	SF
Adj. Bldg. S.F. (Card, Sketch)		651615
Eff./Act. Year Built: 2002/2001		

Special Assessments

Fire	Garb	Light	Drain	Impr	Safe	Storm	Clean	Misc
05								
C								
651615								

Property Id: 514223170030 **Please see map disclaimer

July 28, 2023

1:2,400

0 112.5 225 450 ft

0 30 60 120 m

Flight Date : Jan. 6 to Jan. 11, 2023 Broward County Property Appraiser

MARTY KIAR
BROWARD COUNTY
PROPERTY APPRAISER

Site Address	S OCEAN DRIVE, HOLLYWOOD FL 33019	ID #	5142 23 06 0030
Property Owner	HFL LANDINGS OWNER LLC	Millage	0513
Mailing Address	55 MERCHANT ST STE 1500 HONOLULU HI 96813	Use	28-01
Abbr Legal Description	BEVERLY BEACH NO 2 40-24 B BEG AT NE COR OF SAID PLAT,SLY ALG W R/W/L OF S OCEAN DR FOR 20.00,WLY 147.00,SLY 40.00,WLY 60.00,NLY 60.00 TO PT ON N/L,ELY ALG SAME FOR 207.00 TO POB		

The just values displayed below were set in compliance with Sec. 193.011, Fla. Stat., and include a reduction for costs of sale and other adjustments required by Sec. 193.011(8).

* 2023 values are considered "working values" and are subject to change.

Property Assessment Values

Year	Land	Building / Improvement	Just / Market Value	Assessed / SOH Value	Tax
2023*	$327,460	$15,000	$342,460	$342,460	
2022	$327,460	$15,000	$342,460	$342,460	$7,114.70
2021	$327,460	$15,000	$342,460	$342,460	$7,157.84

2023* Exemptions and Taxable Values by Taxing Authority

	County	School Board	Municipal	Independent
Just Value	$342,460	$342,460	$342,460	$342,460
Portability	0	0	0	0
Assessed/SOH	$342,460	$342,460	$342,460	$342,460
Homestead	0	0	0	0
Add. Homestead	0	0	0	0
Wid/Vet/Dis	0	0	0	0
Senior	0	0	0	0
Exempt Type	0	0	0	0
Taxable	$342,460	$342,460	$342,460	$342,460

Sales History

Date	Type	Price	Book/Page or CIN
6/29/2023	DR*-T	$100	118966855
2/2/2023	SW*-D	$69,000,000	118658608
8/24/2014	SW*-E	$55,500,000	112495613
5/8/2002	WD	$164,000	33836 / 127

* Denotes Multi-Parcel Sale (See Deed)

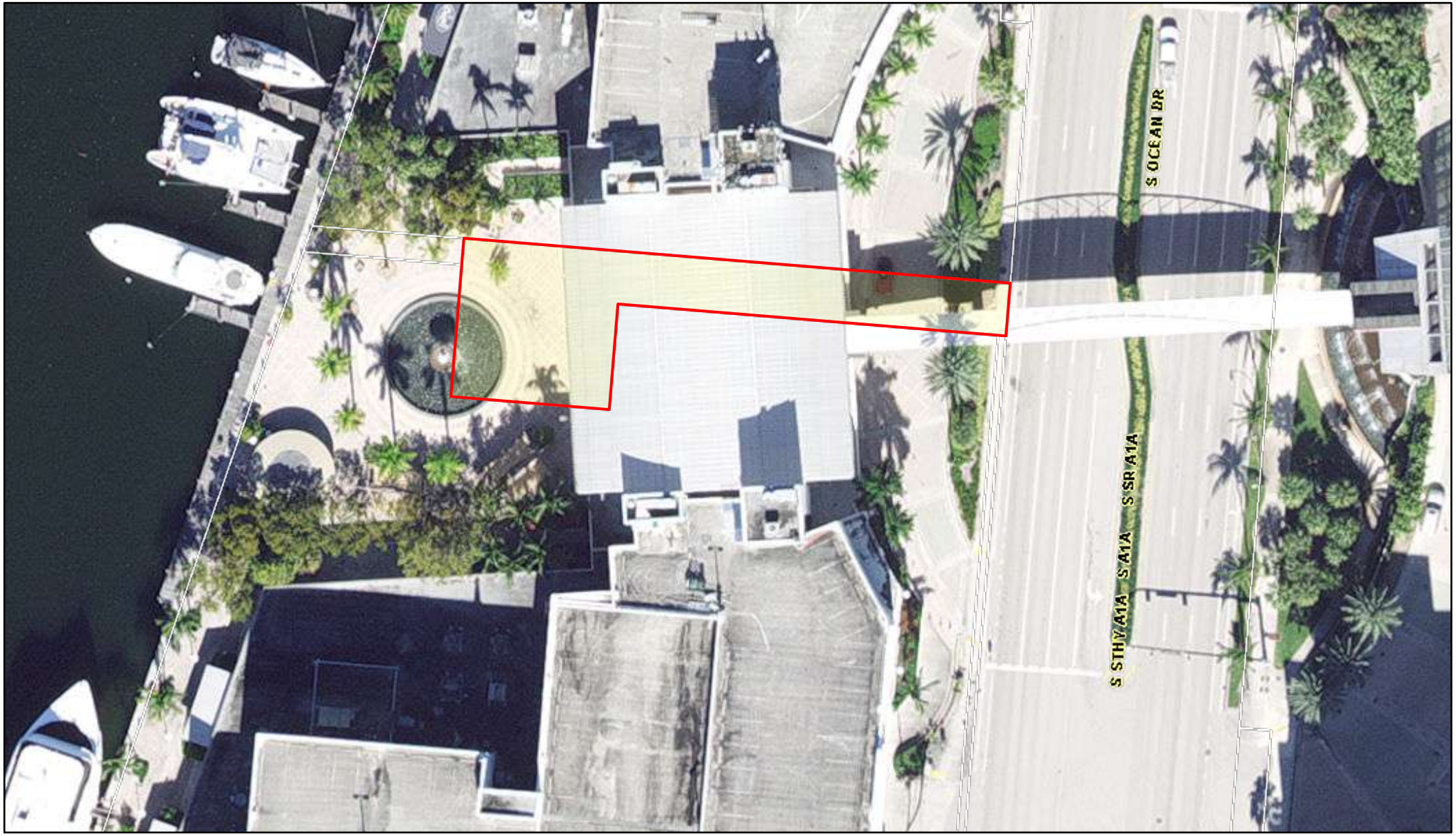
Land Calculations

Price	Factor	Type
$80.00	6,540	SF
Adj. Bldg. S.F. (Card, Sketch)		

Special Assessments

Fire	Garb	Light	Drain	Impr	Safe	Storm	Clean	Misc
05								
L								
1								

Property Id: 514223060030 **Please see map disclaimer



July 28, 2023

1:600

0 25 50 100 ft

0 5 10 20 m

Flight Date : Jan. 6 to Jan. 11, 2023 Broward County Property Appraiser

MARTY KIAR
BROWARD COUNTY
PROPERTY APPRAISER

Site Address	S OCEAN DRIVE, HOLLYWOOD FL 33019	ID #	5142 23 06 0020
Property Owner	HFL LANDINGS OWNER LLC	Millage	0513
Mailing Address	55 MERCHANT ST STE 1500 HONOLULU HI 96813	Use	10
Abbr Legal Description	BEVERLY BEACH NO 2 40-24 B N 10 M/L OF W 56 M/L AKA PARCEL B		

The just values displayed below were set in compliance with Sec. 193.011, Fla. Stat., and include a reduction for costs of sale and other adjustments required by Sec. 193.011(8).

* 2023 values are considered "working values" and are subject to change.

Property Assessment Values

Year	Land	Building / Improvement	Just / Market Value	Assessed / SOH Value	Tax
2023*	$29,390		$29,390	$29,390	
2022	$29,390		$29,390	$29,390	$610.59
2021	$29,390		$29,390	$29,390	$614.28

2023* Exemptions and Taxable Values by Taxing Authority

	County	School Board	Municipal	Independent
Just Value	$29,390	$29,390	$29,390	$29,390
Portability	0	0	0	0
Assessed/SOH	$29,390	$29,390	$29,390	$29,390
Homestead	0	0	0	0
Add. Homestead	0	0	0	0
Wid/Vet/Dis	0	0	0	0
Senior	0	0	0	0
Exempt Type	0	0	0	0
Taxable	$29,390	$29,390	$29,390	$29,390

Sales History

Date	Type	Price	Book/Page or CIN
6/29/2023	DR*-T	$100	118966855
2/2/2023	SW*-D	$69,000,000	118658608
8/24/2014	SW*-E	$55,500,000	112495613
11/10/1999	QCD	$100	30030 / 700
12/23/1987	QCD	$100	15062 / 881

* Denotes Multi-Parcel Sale (See Deed)

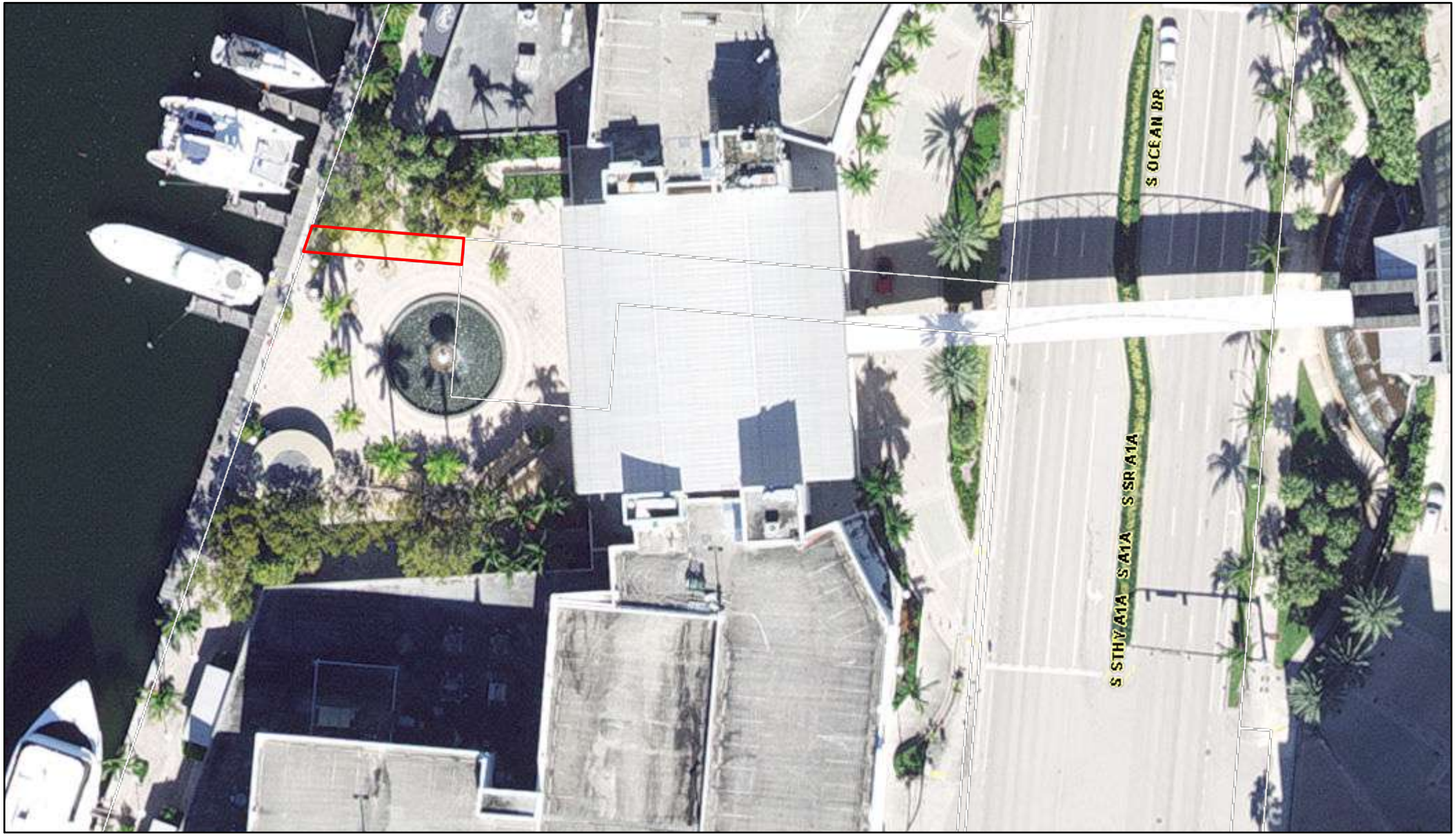
Land Calculations

Price	Factor	Type
$50.07	587	SF
Adj. Bldg. S.F.		

Special Assessments

Fire	Garb	Light	Drain	Impr	Safe	Storm	Clean	Misc
05								
L								
1								

Property Id: 514223060020 **Please see map disclaimer



July 28, 2023

1:600

0 25 50 100 ft

0 5 10 20 m

Flight Date : Jan. 6 to Jan. 11, 2023 Broward County Property Appraiser

Appendix E

Warranty Deed

Instr# 118966855 , Page 1 of 8, Recorded 07/10/2023 at 11:20 AM
Broward County Commission
Deed Doc Stamps: $0.70

THIS INSTRUMENT IS PREPARED BY:

Carol Weld King, Esq.
Morris, Manning & Martin, LLP
1401 Eye Street NW, Suite 600
Washington, DC 20005

AFTER RECORDING, RETURN TO:

Gibson Dunn & Crutcher LLP
200 Park Avenue
New York, New York 10166-0193
Attention: Eric M. Feuerstein, Esq.
E-mail: efeuerstein@gibsondunn.com

Tax Parcel I.D. (Folio) No: 5142-23-06-0020; 5142-23-06-0030; 5142-23-17-0030; 5142-23-17-0040

CORRECTIVE QUITCLAIM DEED

This conveyance is made to correct the legal description and a tax parcel I.D. in that certain Special Warranty Deed recorded on February 3, 2023 in the Public Records of Broward County, Florida as Instrument No. 118658608, which remains in full force and effect (including, without limitation, the covenants and warranties set forth therein).

Diplomat Landings Owner LLC, a Delaware limited liability company ("Grantor"), whose post office address is 250 Vesey Street, 15th Floor, New York, NY 10281, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) paid to Grantor and other good and valuable consideration, by these present does hereby grant, sell, convey, release and quitclaim unto HFL Landings Owner LLC, a Delaware limited liability company ("Grantee"), whose post office address is 55 Merchant Street, Suite 1500, Honolulu, Hawaii 96813, all that certain land located in Broward County, Florida, and being more particularly described in Exhibit A attached hereto and incorporated herein by reference, together with all improvements located on such land (such land and improvements being collectively referred to as the "Property").

TO HAVE AND TO HOLD the Property, together with all and singular the rights and appurtenances pertaining thereto, and all estate, right, title, interest, demand and claim whatsoever of Grantor therein or thereto, either in law or equity, to Grantee and Grantee's successors and assigns in fee simple forever, so that neither Grantor, nor any person or persons claiming under Grantor, shall at any time, by any means or ways, have, claim or demand any right, title or interest in or to the Property, or any rights thereof.

[Signature(s) on the Following Page]

EXECUTED on the date set forth in the acknowledgment attached hereto, to be effective upon delivery.

WITNESSES:

Printed Name: Tess Rowley

Printed Name: Yasmin Raneem

DIPLOMAT LANDINGS OWNER LLC,
a Delaware limited liability company

By: _____
Name: Lisa Strauss
Title: Vice President

CITY OF WASHINGTON
DISTRICT OF COLUMBIA

This instrument was sworn, subscribed, and acknowledged before me on the 29th day of June, 2023, by Lisa Strauss, the Vice President of Grantor. She is personally known to me or produced a personally Known driver's license as identification.

Venita Hill-Waddell
District of Columbia
Notary Public, State and County Aforesaid
Print Name: Venita Hill-Waddell
My commission expires: 6/30/2023
~~My commission number:~~ _____

(NOTARIAL SEAL)

Exhibit A

The land referred to herein below is situated in the County of Broward, State of Florida, and described as follows:

Parcel 1 (Fee Simple):

All of Parcel C and a Portion of Parcel D, Diplomat Resort and Country Club Plat, according to the plat thereof as recorded in Plat Book 158, Page 16, of the Public Records of Broward County, Florida, together with a portion of Beverly Beach No. 2, according to the plat thereof as recorded in Plat Book 40, Page 24 of said Public Records of Broward County, Florida, all being more particularly described as follows:

Beginning at the Southeast corner of said Parcel C, said point being located on the Westerly right-of-way line of South Ocean Drive (State Road A-1-A) as shown on said Diplomat Resort and Country Club Plat;

Thence South 87°18'02" West on the South line of said Parcel C, a distance of 421.96 feet to the Southwest corner of said Parcel C, said point being located on the Easterly right-of-way line of the Intracoastal Waterway as shown on Plat Book 17, Page 24 of the Public Records of Broward County, Florida;

Thence North 19°22'37" East on the Westerly line of said Parcels C and D and on the Westerly line of said portion of Beverly Beach No. 2 and on said Easterly right-of-way line of the Intracoastal Waterway, a distance of 888.83 feet;

Thence North 04°32'14" East continuing on said Westerly line of Parcel D and on said Easterly right-of-way line of the Intracoastal Waterway, a distance of 239.97 feet to the Northwest corner of said Parcel D;

Thence South 84°52'00" East on the North line of said Parcel D, a distance of 60.83 feet to the Northwest corner of a parcel of land described in that certain Warranty Deed recorded in Official Records Book 33836, Page 130 of the Public Records of Broward County, Florida;

Thence South 05°08'00" West on the Westerly line of said parcel of land, a distance of 22.50 feet to the Southwest corner of said parcel of land;

Thence South 84°52'00" East on the South line of said parcel of land, a distance of 141.00 feet to the intersection with the Easterly line of said Parcel D and with said Westerly right-of-way line of South Ocean Drive (State Road A-1-A);

Thence South 05°08'00" West on said East line of Parcel D and on said Westerly right-of-way line of South Ocean Drive (State Road A-1-A), a distance of 20.96 feet to the Northerly most corner of a right-hand turn lane as described in that certain Warranty Deed recorded in Official Records Book 31014, Page 124 of the Public Records of Broward County, Florida;

Thence Southwesterly on the Westerly line of said right-hand turn lane the following three (3) courses and distances:

South 18°37'45" West, a distance of 51.42 feet;

South 05°08'00" West, a distance of 288.00 feet;

South 84°52'00" East, a distance of 12.00 feet to the intersection with said East line of Parcel D and with said Westerly right-of-way line of South Ocean Drive (State Road A-1-A);

Thence South 05°08'00" West on said East line of Parcel D, on the East line of said Parcel C, and on said Westerly right-of-way line of South Ocean Drive (State Road A-1-A) as shown on Diplomat Resort and Country Club Plat and as described in Official Records Book 30631, Page 978 of the Public Records of Broward County, Florida, a distance of 662.50 feet to the Point of Beginning.

Said lands lying in the City of Hollywood, Broward County, Florida.

Formerly described as:

Parcel 2:

Parcel C, Diplomat Resort and Country Club Plat, according to the plat thereof, as recorded in Plat Book 158, at Page 16, of the Public Records of Broward County, Florida.

Formerly known as:

All of Beverly Beach No. 2, according to the plat thereof, as recorded in Plat Book 40, at Page 24, of the Public Records of Broward County, Florida, with the exception of the following described Parcels A and B, to wit:

Parcel A:

That part of said Beverly Beach No. 2, described as follows:

Beginning at the Northeast corner of said subdivision; thence run South along the West right-of-way line of S. Ocean drive (State Road A1A) 20 feet; thence, run West parallel to the North line of said Subdivision 147 feet; thence run South parallel to S. Ocean Drive (State Road A1A) 40 feet; thence run West parallel to the North line of said subdivision 60 feet; thence run North parallel to S. Ocean Drive (State Road A1A) 60 feet to the North line of said subdivision; thence run East along the Northline of said subdivision 207 feet to the Point of Beginning.

Parcel B:

That part of said Beverly Beach No. 2, described as follows:

Beginning at a point on the North line of said subdivision, said point being located 207 feet West of the Northeast corner of said subdivision; thence run South parallel to S. Ocean Drive (State Road A1A) a distance of 10 feet; thence run West parallel to the Northline of said subdivision 56 feet, more or less, to the Westerly line of said subdivision; thence run Northeasterly along said Westerly line of said subdivision 10 feet, more or less, to the Northwest corner of said subdivision; thence run East along said North line of said subdivision 56.27 feet, more or less, to the Point of Beginning.

Also, less the easterly 3 feet thereof.

And

Parcel 5:

Parcel D, Diplomat Resort and Country Club Plat, according to the plat thereof, as recorded in Plat Book 158, Page 16, of the Public Records of Broward County, Florida.

Formerly known as:

Lots 30, 31, 32 and 33, in Block 15, of Beverly Beach, according to the plat thereof, as recorded in Plat Book 22, Page 13, of the Public Records of Broward County, Florida. Less the easterly 3 feet thereof.

Less and except from the above described parcel, portion for right turn lanes according to that deed as recorded in Official Records Book 31014, Page 124, of the Public Records of Broward County, Florida.

And less and except that land described in Official Records Book 33836, Page 130, of the Public Records of Broward County, Florida.

Together with easement rights for the benefit of Parcel 5, created by that certain Warranty Deed recorded in Official Records Book 33836, Page 130, of the Public Records of Broward County, Florida.

And

Parcel 7:

That part of Beverly Beach No. 2, described as follows:

Beginning at the Northeast corner of said subdivision; thence run South along the West right-of-way line of S. Ocean Drive (State Road A1A) for a distance of twenty (20) feet; thence, run West parallel to the North line of said subdivision a distance of one hundred

forty-seven (147) feet; thence run South parallel to S. Ocean Drive (State Road A1A) for forty (40) feet; thence run West parallel to the North line of said subdivision for a distance of sixty (60) feet; thence run North parallel to S. Ocean Drive (State Road A1A) for a distance of sixty (60) feet to the North line of said subdivision; thence run East along the North line of said subdivision for a distance of two hundred and seven (207) feet to the Point of Beginning. Less the Easterly 3 feet thereof.

And

Parcel 8:

The legal description is listed as Parcel B in Quit Claim Deed recorded in Official Records Book 15062, at Page 881, of the Public Records of Broward County, Florida, and is more particularly described as follows:

Parcel B:

That part of Beverly Beach No. 2, described as follows:

Beginning at a point on the North line of said subdivision, said point being located 207 feet West of the Northeast corner of said subdivision; thence run South parallel to S. Ocean Drive (State Road A1A) a distance of 10 feet; thence run West parallel to the Northline of said subdivision 56 feet, more or less, to the Westerly line of said subdivision; thence run Northeasterly along said Westerly line of said subdivision 10 feet, more or less, to the Northwest corner of said subdivision; thence run East along said North line of said subdivision 56.27 feet, to the Point of Beginning.

Also known as:

A portion of "Beverly Beach No. 2", according to the plat thereof, as recorded in Plat Book 40, Page 24, of the Public Records of Broward County, Florida, more particularly described as follows:

Commence at the Northeast corner of "Beverly Beach No. 2"; thence North 84°52'00" West on the North line of said plat, also being the South line of Parcel "D", "Diplomat Resort and Country Club Plat", according to the plat thereof, as recorded in Plat Book 158, at Page 16, of the Public Records of Broward County, Florida, a distance of 207.00 feet to the Point of Beginning; thence South 05°08'00" West, 10.00 feet to the Northerly boundary of Parcel "C", of said "Diplomat Resort and Country Club Plat"; thence North 84°52'00" West on said Northerly boundary, 58.81 feet to the Northwest corner of Parcel "C", said point being on the Easterly right-of-way line of Intracoastal Waterway as shown on Plat Book 17, at Page 24, of the Public Records of Broward County, Florida; thence North 19°22'37"East on said Easterly right-of-way line, 10.32 feet to the Northwest corner of "Beverly Beach No. 2"; thence South 84°52'00" East on said North line of "Beverly Beach No. 2", a distance 56.27 feet to the Point of Beginning.

Parcel 2 (Easement):

Together with the Maintenance and Repairs Easement, Pedestrian Beach Access Easement, Shared Facilities Easement and Parking Easement created in the Grant of Cross Easements, Covenants and Restrictions Agreement recorded August 28, 2014 in Official Records Book 51050, Page 155, of the Public Records of Broward County, Florida.

[End of Exhibit]

Appendix F

Reference Materials

PHASE II POST CONDITION: THE DIPLOMAT HOTEL

I. Site Information

These calculations are based on the following assumptions:

1. The hydraulic conductivity for the East Parcel is 7.07×10^{-4} cfs/sq ft - ft of head and 1.80×10^{-3} cfs/sq ft - ft of head for the West Parcel, as determined by Langan Engineering and Environmental Services Inc. Please refer to the attached percolation tests.

2. The high water table elevation is 2.00' NGVD.

3. The site is located on the east and west sides of State Road A1A north of Hallandale Beach Boulevard.

4. Proposed Acreages:

Total site:	**19.49**	**acres**
Roof	10.40	acres
East	7.31	acres
West (West Retail Village)	2.10	acres
West (Future Intracoastal Condos)	0.99	acres
Landscape/Pervious	2.61	acres
East	0.91	acres
West	1.70	acres
Beach area (East)	0.96	acres
Dock Facilities (West)	0.17	acres
Impervious area	5.35	acres
Driveways (East)	0.93	acres
Driveways (West)	0.20	acres
Sidewalks (East)	0.23	acres
Sidewalks (West)	1.33	acres
Pool Decks (East)	2.17	acres
Future Impervious (West)	0.49	acres

The total proposed site area is 19.49 acres. However, the beach area to the east of the existing bulkhead on the East Parcel and the water areas within the dock facilities on the

Intracoastal should not be accounted for in the water quality and stormwater retention calculations. Therefore, a total site area of 18.36 acres will be used in the calculations.

Fifty percent of the Future Condominium parcel, south of the West Retail Village, has been included as roof area with the remainder divided equally into impervious and pervious areas. Upon development of this parcel by the Owner, the West Parcel Exfiltration Trench will provide the required pretreatment and retention.

Land Use Breakdown by Parcel:

East Parcel:

Roof	7.31	acres
Beach	0.96	acres
Landscape/Pervious	0.91	acres
Impervious areas		
Driveways	0.93	acres
Sidewalks	0.23	acres
Pool Decks	2.17	acres
Total	12.51	acres

The total proposed site area is 12.51 acres. However, the beach area to the east of the existing bulkhead should not be accounted for in the water quality and stormwater retention calculations.

Therefore, a total site area of 11.55 acres will be used in the calculations for the East Parcel.

West Parcel:

Roof (West Retail Village)	2.10	acres
Roof (Future Intracoastal Condos)	0.99	acres
Dock Facilities	0.17	acres
Landscape/Pervious	1.70	acres
Impervious areas		
Driveways	0.69	acres
Sidewalks	1.33	acres
Total	6.98	acres

The total proposed site area is 6.98 acres. However, the water areas within the dock facilities should not be accounted for in the water quality and stormwater retention calculations.

Therefore, a total site area of 6.81 acres will be used in the calculations for the West Parcel.

5. Proposed Finished Floor Elevations:

East Parcel:	
Diplomat Hotel	22.00' NGVD
Banquet Hall	54.00' NGVD
Oceanside Condo	35.00' NGVD
West Parcel:	
Central Mechanical Plant	8.00' NGVD
West Retail Village	8.00' NGVD
Future Intracoastal Condominium	8.00' NGVD

According to the FEMA maps, the Hotel, Banquet Hall, and Oceanside Condo must have Finished Floor Elevations not less than 13.00' NGVD. The West Retail Village and future Intracoastal Condos must have Finished Floor Elevations no lower than 8.00' NGVD per FEMA.

However, the State has mandated stricter standards for the Finished Floor Elevations of the buildings on the East Parcel. **Therefore, the minimum Finished Floor Elevation for the buildings on the East Parcel is 18.00 feet NGVD.**

6. Zoning: Commercial

7. Allowable Discharge: Allowable discharge rate is limited to the amount of stormwater currently being discharged into the Intracoastal and Atlantic Ocean. The current discharge rate is approximately 59.49 cfs. However, the original site was not designed to retain the design storm (25 Year, 3 Day) per the current standards. During these storm events, runoff would overflow into the adjacent FDOT right of way. Additionally, the existing site discharged to the Atlantic Ocean. This is not permitted under the current standards.

8. Design Storm Rainfall Events:

10 Year, 1 Day	9.50"
25 Year, 1 Day	10.75"
100 Year, 1 Day	14.25"

Per Broward County Department of Natural Resources Protection Rainfall maps.

II. Design Criteria

A. Quality

1. If a wet detention system, then whichever is the greater of

a. The first inch of runoff from the entire site or

b. The amount of 2.5 inches times the percentage imperviousness.

B. Quantity

1. The proposed project design will incorporate two outfalls for discharge into the Intracoastal Waterway.

III. Computations

A. Quality

For the quality computations, the beach area to the east of the bulkhead on the East Parcel and the water areas within the Intracoastal dock facilities on the West Parcel have not been included in the total site area.

East Parcel:

Since the exfiltration trench on the West Parcel, south of the West Retail Village, will provide retention for the East Parcel driveways, this area (0.93 acres) has been deducted from the East Parcel retention calculations and added to the West Parcel retention calculations.

Compute the first 1" from the East parcel:
= (1")(10.62 acres)(1/12)
= **0.89 acre-feet** for the first inch of runoff

Compute 2 ½" times the percentage of imperviousness:

The East Parcel driveways will be drained to a wet well located in the Hotel egress driveway. The well will pump the runoff accumulated from the driveways to the exfiltration trench located south of West Retail Village. Therefore, the length of the West Parcel exfiltration trench must be increased to accommodate the required retention for the East Parcel driveways. The sizing of the wet well and the pump specs are included in Section XV of these calculations.

Site area for water quality pervious/impervious calculations only:
= Total East Parcel area – East Parcel roof area – East Parcel driveway area
= 11.55 acres - 7.31 acres - 0.93 acres
= 3.31 acres

Impervious area for water quality pervious/impervious calculations only:
= (Site area for water quality pervious/impervious) - pervious
= 3.31 acres - 0.91 acres
= 2.40 acres

Percentage of impervious area for water quality
= (Impervious area/Site area for water quality)(100%)
= (2.40/3.31)(100%)
= 73%

For 2 ½" times the percentage impervious:
= (2 ½")(percentage impervious)
= (2 ½")(73%)
= 1.83" to be treated

Compute volume required for quality retention:
= inches to be treated x (East Parcel area - East Parcel driveway areas)
= (1.83")(10.62 acres)(1/12)
= **1.62 acre-feet** required retention.

Since the 1.62 acre-feet computed for 2 ½" times the percentage impervious is greater than the 0.89 acre-feet computed for the first inch, **1.62 acre-feet is the required amount of retention on the East Parcel.**

The entire required retention volume for the East Parcel will be stored within the exfiltration trench to be placed along the North property line of the East Parcel. This volume of retention does not include the East Parcel driveways. The required retention volume for the East Parcel driveways will be stored in the exfiltration trench in the West Parcel.

West Parcel:

Since the exfiltration trench on the West Parcel, south of the West Retail Village, will provide retention for the East Parcel driveways, this area (0.93 acres) has been added to the West Parcel retention calculations.

Compute the first 1" from the West parcel:
= (1")(6.81 + 0.93 acres)(1/12)
= **0.65 acre-feet** for the first inch of runoff

Compute 2 ½" times the percentage of imperviousness:

The driveways for the East Parcel will be drained to a wet well located in the Hotel egress driveway. All runoff accumulated from the driveways will be pumped to the exfiltration trench located south of the West Retail Village. Therefore the length of the exfiltration trench must be increased to accommodate the East Parcel driveways.

Site area for water quality pervious/impervious calculations only:
= Total West Parcel + East Parcel driveway area - West Parcel roof area
= 6.81 acres + 0.93 acres - 3.09 acres
= 4.65 acres

Impervious area for water quality pervious/impervious calculations only:
= (Site area for water quality pervious/impervious) - pervious
= 4.65 acres – 1.70 acres
= 2.95 acres

Percentage of impervious area for water quality
= (Impervious area/Site area for water quality)(100%)
= (2.95/4.65)(100%)
= 63%

For 2 ½" times the percentage impervious:
= (2 ½")(percentage impervious)
= (2 ½")(63%)
= 1.59" to be treated

Compute volume required for quality detention:
= inches to be treated x (West Parcel area + East Parcel driveway area)
= (1.59")(7.74 acres)(1/12)
= **1.03 acre-feet** required retention

Since the 1.03 acre-feet computed for 2 ½" times the percentage impervious is greater than the 0.65 acre-feet computed for the first inch, **the volume of 1.03 acre-feet is the required amount of retention for the West Parcel and the East Parcel driveways.**

The entire required retention volume for the West Parcel and East Parcel driveways will be stored within the proposed exfiltration trench located south of the West Retail Village.

IV. Pretreatment

Since the proposed development is commercial, ½" of pretreatment must be provided.

East Parcel:

For the East Parcel, the roof areas, sidewalks and landscaped areas may be deducted because they do not require pretreatment. Additionally, the East Parcel driveway areas will be pretreated within the exfiltration trench in the West Parcel.

Therefore, there will be **no pretreatment** within the East Parcel.

West Parcel:

Since there will be parking on the West Retail Village roof area, this area must be pretreated. Additionally, the East Parcel driveways will be pretreated within the exfiltration trench on the West Parcel. The landscaped and sidewalk areas will not be pretreated.

For the West Parcel, the required amount of pretreatment is as follows:
= (½")[East Parcel driveways + West Retail Village roof + West Parcel driveways]
= (½")(0.93 acres + 2.10 acres + 0.69 acres)(1/12)
= **0.16 acre-feet** pretreatment required.

Pretreatment for the West Retail Village and the East and West Parcel driveways will be provided by the proposed exfiltration trench on the West Parcel.

V. Design of Exfiltration Trench for East Parcel for Required Detention Volume

A. Design Criteria

1. The proposed exfiltration trench will be located under the proposed walkway to the beach, along the north property line.

2. The minimum elevation for this area is 11.00 feet NGVD.

3. The trench will be 15.00 feet wide.

4. The assumed high water table is 2.00 feet NGVD.

5. For this system, the bottom of the trench will be at elevation 0.00 feet NGVD. The pipe invert will be set at elevation 4.67 feet NGVD. The top of weir will be set at elevation 9.00 feet NGVD.

B. Compute length of exfiltration trench

$$L = V/(K (H_2W + 2H_2D_u - D_U^2 + 2H_2D_s) + (1.39 \times 10^{-4}) WD_u)$$

L	=	Length of trench (feet)	=	To be determined.
V	=	Volume to be exfiltrated	=	19.44 ac-in
W	=	Trench width	=	15 feet
K	=	Hydraulic Conductivity	=	7.07×10^{-4} cfs/sq ft - ft head
H_2	=	Depth to water table from top of Weir	=	7.00 feet
D_u	=	Non-saturated trench depth	=	7.00 feet
D_s	=	Saturated trench depth	=	2.00 feet

Solving for L,

$$L = \frac{19.44}{(7.07X\ 10^{-4})[(7)(15)+(2)(7)(7)-(7)^2+(2)(7)(2)] + (1.39\ X\ 10^{-4})[(15)(7)]}$$

L = 135.68 feet, say **140 feet** of trench 11.00 feet deep, 15.00 feet wide with one 36" perforated HDPE pipe at an invert elevation of 4.67 feet NGVD.

A weir structure will be installed at elevation 9.00 feet NGVD. Upon complete saturation of the trench, stormwater will overflow into a 36" HDPE outfall pipe to the Intracoastal Waterway.

VI. Design of Exfiltration Trench for West Parcel for Required Detention Volume

A. Design Criteria

1. The proposed trench will be located south of the West Retail Village.

2. The minimum elevation in this area is +8.00 feet NGVD.

3. The trench will be 10.00 feet wide.

4. The assumed high water table is +2.00 feet NGVD.

5. For this system, the bottom of the trench will be at elevation -20.00 feet NGVD. The pipe invert will be set at elevation +2.00 feet NGVD. The top of weir will be set at elevation 6.00 feet NGVD.

The traditional formula for determining the length of the exfiltration trench was modified to provide exfiltration only out of the bottom of the proposed trench and out of the bottom five feet of the trench sides. The favorable permeability results were obtained at a depth of –20.00 feet NGVD. Therefore the revised formula assumes that there will be no percolation out the sides of the trench until a depth of –15.00 feet NGVD. In reality, there will be percolation out the sides of the trench, however, it will not occur at the rates determined at –20.00 feet NGVD.

B. Compute trench length using a revised formula for determining the length of trench

$$L = V/(K\ (H_2W + 2H_2D_s) + (1.39\ X\ 10^{-4})\ WD_u)$$

L	=	Length of trench (feet)	=	To be determined.
V	=	Volume to be exfiltrated	=	12.36 ac-in
W	=	Trench width	=	10 feet

K	=	Hydraulic Conductivity	=	1.80×10^{-3} cfs/sq ft - ft head
H_2	=	Depth to water table from top of Weir	=	4.00 feet
D_u	=	Non-saturated trench depth	=	4.00 feet
D_s	=	Saturated trench depth	=	5.00 feet

The actual D_s = 22.00 feet, however it is being assumed that the favorable percolation rates are achieved for the bottom five feet of the exfiltration trench. Therefore, this would occur between the depths of –15.00 feet NGVD and –20.00 feet NGVD.

Solving for L,

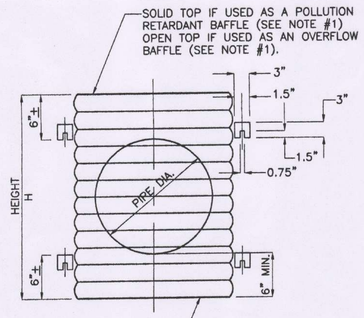
$$L = \frac{12.36}{(1.80X\ 10^{-3})[(4)(10) + (2)(4)(5)] + (1.39\ X\ 10^{-4})[(10)(4)]}$$

L = 82.60 feet

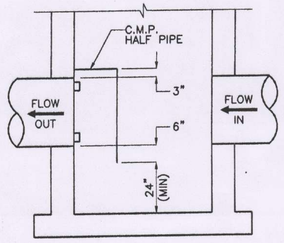
If it is assumed that runoff is only exfiltrated out the exfiltration trench bottom, the $[2H_2D_s]$ term would be eliminated from the formula resulting in 159.40 linear feet of exfiltration trench being required.

Therefore, as an added factor of safety, **160 feet** of trench 28.00 feet deep, 10.00 feet wide with two 24" perforated HDPE pipes at an invert elevation of +2.00 feet NGVD will be constructed on the West Parcel. Upon complete saturation of the trench, stormwater will overflow into a 30" HDPE outfall pipe to the Intracoastal Waterway. A weir structure will be installed at elevation 6.00 feet NGVD.

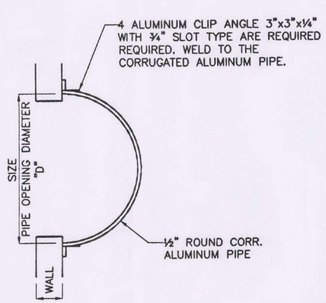
Note: The Conservative Formula for the determination of the length of exfiltration trench yielded 35 LF of exfiltration trench.



FRONT VIEW



SIDE VIEW



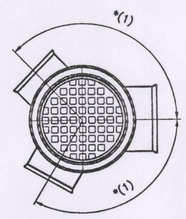
TOP VIEW

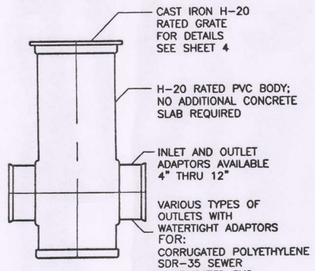
STANDARD DIMENSIONS			
PIPE DIA.	D (INCHES)	T (GAUGE)	H (INCHES)
18"	30"	16	27"
24"	36"	16	33"
30"	42"	14	39"
36"	48"	14	45"
42"	54"	14	51"
48"	60"	14	57"

NOTES:

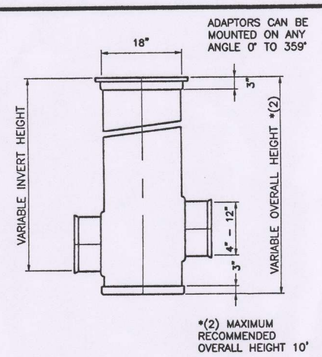
1. ALUMINUM SHEET OF SAME THICKNESS (GAGE) AS PIPE SHALL BE WELDED TO CLOSE OPENING.
2. BAFFLE SHALL BE AS MANUFACTURED BY SOUTHERN CULVERT OR ENGINEER'S APPROVED EQUAL.
3. NEOPRENE GASKET (⅜" X 2") SHALL BE INSTALLED AT ALL BAFFLES.

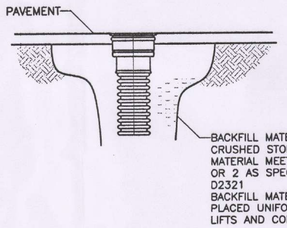
POLLUTION RETARDANT BAFFLE



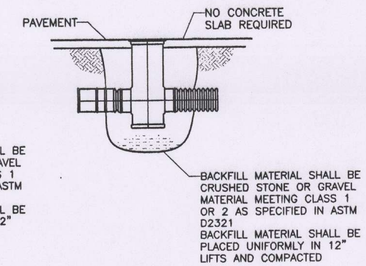


18" DRAIN BASIN



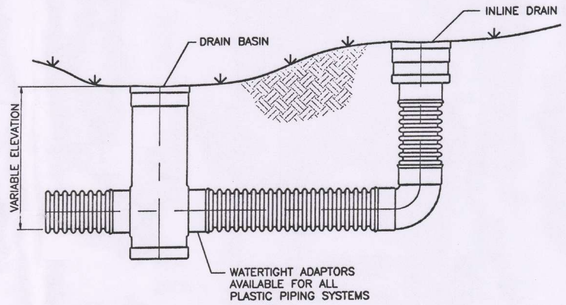


18" INLINE DRAIN

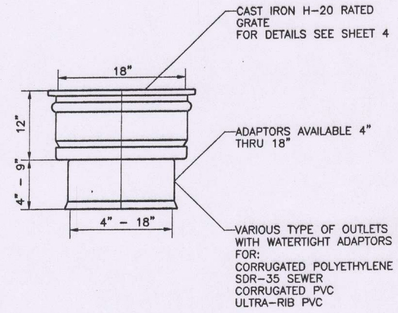


18" DRAIN BASIN

TYPICAL INSTALLATION OF NYLOPLAST DRAIN BASIN AND INLINE DRAIN

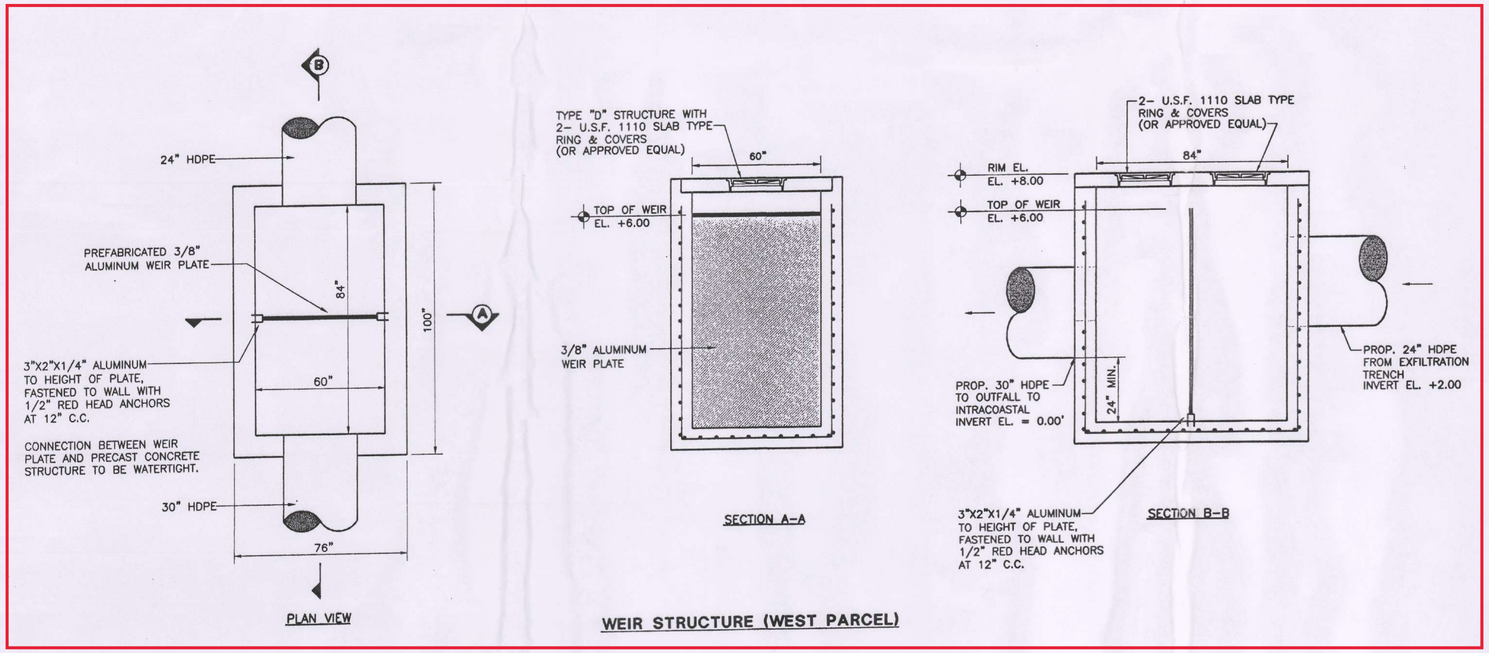


TYPICAL INSTALLATION



18" INLINE DRAIN

NYOPLAST DRAINAGE STRUCTURES

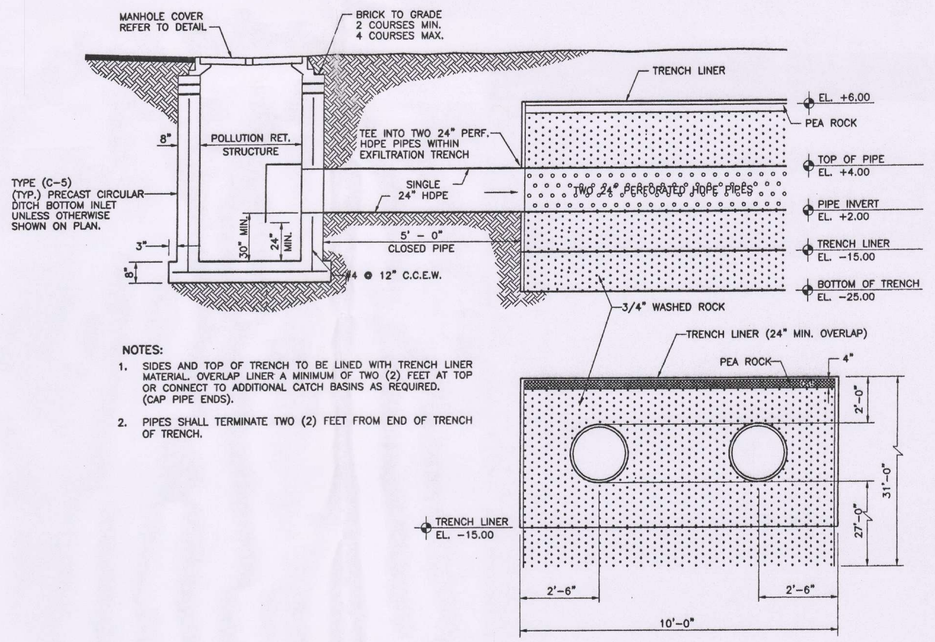


PLAN VIEW

SECTION A-A

SECTION B-B

WEIR STRUCTURE (WEST PARCEL)



NOTES:

1. SIDES AND TOP OF TRENCH TO BE LINED WITH TRENCH LINER MATERIAL. OVERLAP LINER A MINIMUM OF TWO (2) FEET AT TOP OR CONNECT TO ADDITIONAL CATCH BASINS AS REQUIRED. (CAP PIPE ENDS).
2. PIPES SHALL TERMINATE TWO (2) FEET FROM END OF TRENCH OF TRENCH.

WEST PARCEL EXFILTRATION TRENCH

NO	DATE	REVISION	BY
NO	DATE	REVISION	BY

DESIGNED C.R.A. 03/17/99
DRAWN C.R.A. 6/9/99
CHECKED M.B. 03/17/99

Calvin, Giordano & Associates, Inc.
Engineers Surveyors Planners
2 Oakwood Boulevard Suite 120
Hollywood, Florida 33020
954.921.7781 954.921.6807 fax

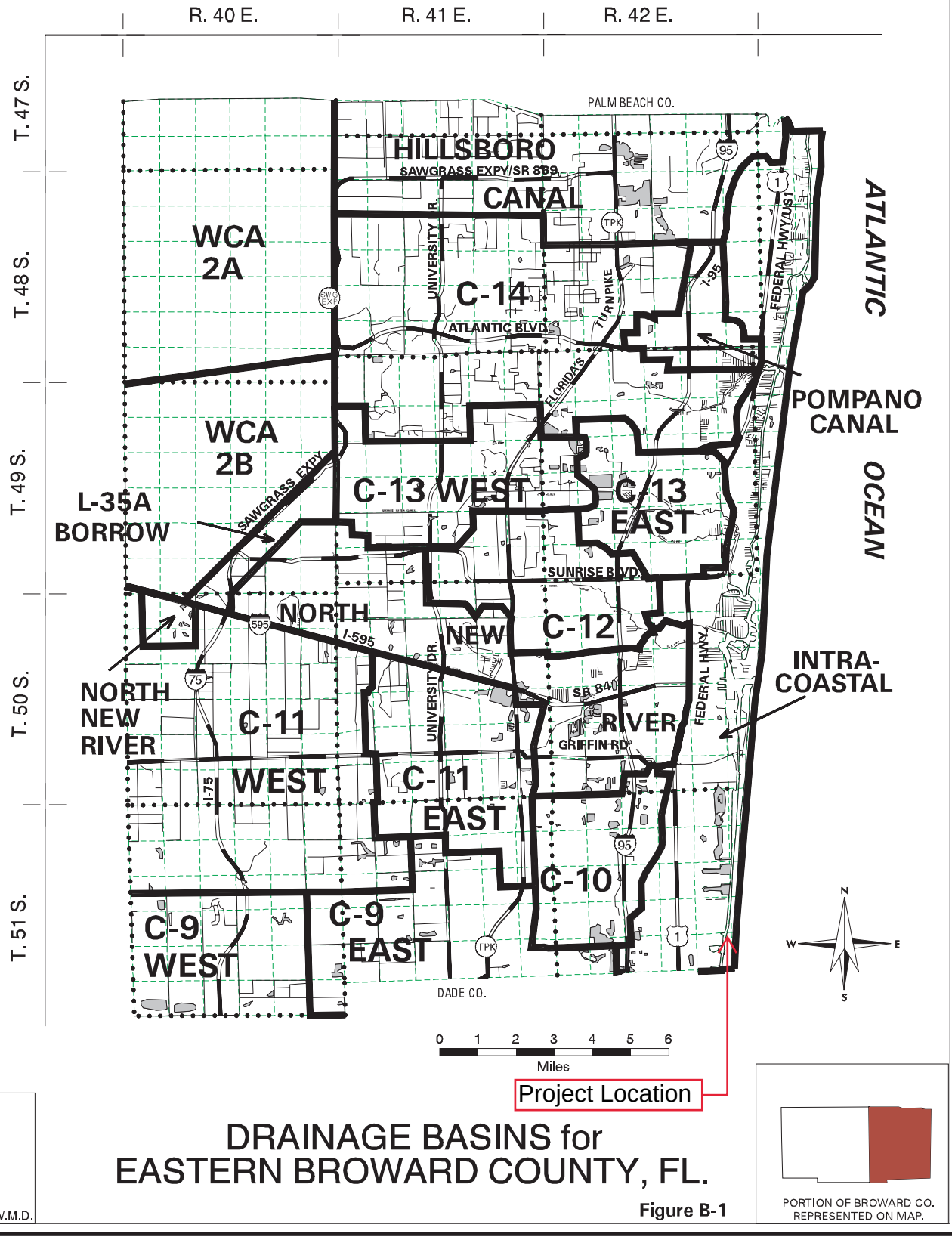
THE DIPLOMAT RESORT
PHASE II
DRAINAGE IMPROVEMENTS

PAVING AND DRAINAGE DETAILS

APPROVED MARSHALL BERGACKER, P.E.
DATE 04/14/99
JUL 09 1999

SCALE N.T.S.
PROJECT No 98-1890
CAD FILE 1890PD09

SHEET 9 OF 11



DRAINAGE BASINS for EASTERN BROWARD COUNTY, FL.

Figure B-1

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided by Broward County, dated 2003, 2004, 2009, and 2013; the U.S. Census Bureau, dated 2019; and the U.S. Department of Agriculture, dated 2018.

SCALE

N

Map Projection:
State Plane Transverse Mercator, Florida East Zone 0901H; North American Datum 1983 HARN; Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 250 500 750 1,000 2,000 feet

0 125 250 500 meters

PANEL LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

BROWARD COUNTY, FLORIDA
and Incorporated Areas

PANEL 751 OF 751

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
BROWARD COUNTY	125093	0751	J
HALLANDALE BEACH, CITY OF	125110	0751	J
HOLLYWOOD, CITY OF	125113	0751	J

PRELIMINARY
12/31/2019

VERSION NUMBER
2.6.3.5

MAP NUMBER
12011C0751J

MAP REVISED

Future Conditions Groundwater Elevation

Average Wet Season