STORMWATER MANAGEMENT REPORT

for

Diplomat Landing – North Tower

3451-3690 S. Ocean Drive Hollywood, FL 33019

Prepared for:

The Related Group

Prepared by



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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.

<u>Design</u>

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:

| | Existing | | | Proposed | | | Change | |
|------------------------|------------------|-------|--------|----------|-------|--------|------------|-----------|
| | S.F. | Acres | % | S.F. | Acres | % | S.F. | Acres |
| Impervious Areas | 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:

| | Existing | | | Р | roposed | l | Change | |
|------------------------|------------------|-------|--------|---------|---------|--------|------------|-----------|
| | S.F. | Acres | % | S.F. | Acres | % | S.F. | Acres |
| Impervious Areas | 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 |

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

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, 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.

| 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.

| 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 |

Table 5 – Proposed Development Minimum Design Elevations

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



Appendix B

Stormwater Management Calculations



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

EXISTING SITE DRAINAGE CALCULATIONS

| Design Criteria: | | | | | |
|---------------------------------------|-----------------------|------------------------|------|--------------|-------------------|
| Control Elevation: FEMA Elevation: | | | | 1.00 7.00 | NAVD (Zone AE) |
| Existing Land Use | Summary: | | | | |
| Lake Area | s (A _L): | <mark>0</mark> s | f or | 0.000 | ac |
| Roof Area | s (A _R): | <mark>134,600</mark> s | f or | 3.090 | ac |
| Paved Are | as (A _P): | <mark>128,502</mark> s | f or | 2.950 | *ac |
| Green Are | as (A _G): | 74,052 s | f or | 1.700 | ac |
| Total (A _T): | | 337,154 s | f 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:

 $V_{PRE} = 1 \text{ inch x } A_T \text{ x } 1 \text{ ft} / 12 \text{ inches}$ = 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:

- $A_{\rm S} = A_{\rm T} (A_{\rm L} + A_{\rm R})$
 - = 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.



| Existing E | Exfiltration T | rench Calculations (NAVD) | | | | |
|-------------------------|--------------------|---|----------------------------|------------|-------------------|---------------------------|
| K-Value: | Test Hole # | (cfs/ft ² /ft hd) | | | | |
| | BHP-1 | 1.80E-03 | *Based on th | e Drainag | ge Calcula | ations in the approved |
| | | | Broward Cou | unty Storn | nwater Ma | angement License for this |
| | | | aevelopment | area (SV | WIN1998-1 | 118-2) |
| | K _{AVG} | 1.80E-03 | | | | |
| | | | | | | |
| Existing E | Exfiltration T | GRADE OR WEIR ELEVAT | | Elev. | <mark>4.50</mark> | (Grade or Weir Elev.) |
| Water Tab Elev. | le 1.00 | "H ₂ D ₀ PIPE | ENCH HEIGHT | Elev. | <mark>4.50</mark> | (Top of Trench) |
| | | W TRENCH WIDTH | | Elev. | -4.00 | (Bottom of Trench) |
| | | * DEPTH OF EFFECTIVE HEAD |) | | | |
| K = H ₂ = | | 1.80E-03 cfs/ft ² - ft head 3.50 ft | | | | |
| W = | | 10.00 ft | | | | |
| D _u = | | 3.50 ft 5.00 ft | | | | |
| D _s = 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 Req | uired for Water Quality (Lwa): | | | | |
| V _{wq} = | 12.28 | ac-in or 1. | .02 ac-ft | | | |
| L _{wq} = | | FS [%WQ(\ K(2H2Du - Du^2 + 2H2Ds) | /wq)] + (1.39 x 10^-4)' | WDu | | _ |
| L _{wq} = | 136.5 | feet | | | | |
| 2) Maxim | um Allowab | le 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 | | | | |
| , | | FS [(%WQ)(V, | ₀) + V _{add}] | | | |
| L _{max} = | | K(2H2Du - Du^2 + 2H2Ds) | + (1.39 x 10^-4) | WDu | | |
| L _{max} = | 360.3 | feet | | | | |
| 3) Total P | rovided Exi | sting Trench Volume (V _{prop}): | | | | |
| Propo | osed Trench | Length = 160 | feet | | | |
| V _{prop} = | L x (K(2H2[| Du - 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 | 6.50 4.00 | 4.00 3.50 | 6.50 4.00 | 4.00 3.50 | 6.50 4.00 | 4.00 3.50 | | |
|--------------------|--|---|---|--|--------------------------------------|-------------------------------------|--|-----------------------------------|
| Stage (NAVD) | Vehicle Pavement High Area Area 0.069 | Vehicle Pavement Low Area Area 0.621 | Sidewalk, Concrete & Curb High Area Area 0.133 | Sidewalk, Concrete & Curb Low Area Area 1.197 | Landscape High Area Area 0.170 | Landscape Low Area Area 1.530 | Building Area F.F.E. = 16.13 Area 3.090 | Total Storage 6.810 Area |
| 4.00 | (acii.) | (acit.) | (ac11.) | (acn.) | (acii.) | (acit.) | (ac11.) | (acft.) |
| 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 |



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) | Exfiltration Trench Storage | Total Storage Area |
|-----------------|---|--------------------------------|--------------------------|
| | (acft.) | (acft.) | (acft.) |
| 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 S | Summary: | | | | | | |
|-------------------------|-------------------------------|-------------------------|--|---------------------------------|-----------|----------------------------|---|
| | Acres | Percent | | | | | |
| Lake Areas (A_L) : | 0.000 | 0.0% | | | Compacted | Soil Storage per | |
| Roof Areas (A_R) : | 3.090 | 45.4% | | | SFWMD Vo | <u>OI. IV Page C-III-1</u> | |
| Green Areas (A_p) . | 2.020 | 29.7% | | | | | า |
| Total $(A_{-})^{\circ}$ | 6.810 | 20.0% | - | | Depth to | Compacted | |
| | 0.010 | 100.070 | | | (feet) | (inches) | |
| | | | | | 1 | 0.45 | - |
| | | | | | 2 | 1.88 | |
| Average Pervious G | rade (Elev.): | 3.90 | ft | | 3 | 4.95 | |
| Depth to Water Tab | le: | 2.90 | ft | | 4 | 8.18 | |
| Soil Storage at Aver | age Depth (Sg | s): 4.64 | inches | | | | |
| Weighted S value: | | | | | | | |
| = S _c x % Pe | rvious | | | | CN = 100 | 0/(S+10) | |
| $= 4.64 \times 0.25$ | 5 | | | | = 90 | 0,(0,10) | |
| = 1.16 ir | ches | | | | _ 00 | | |
| | | | | | | | |
| Storm Events Rain | fall Return Pe | eriod Value | S | | | | |
| From Figure C-9. 10 | 0-Year 3-Dav | Storm Ever | nt = 19 | .37 inches | 1 | | |
| | | | | | 1 | | |
| From Figure C-8, 25 | 5-Year 3-Day S | Storm Event | i = <u>14</u> | .61 inches | | | |
| From Figure C-4, 10 |)-Year 1-Day S | Storm Event | = 9. | 50 inches | 1 | | |
| | , roar i bay c | | . – 🛄 😶 | | 1 | | |
| Existing Site Floor | Routing Res | ults | | | | | |
| D " " | | 2 | - | | | | |
| Runnoff (0 | ג) = (P - 0.2S) – (10 37 - | -/(P+0.83 /02v116 | 5) (1)\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | $37 \pm (0.8 \times 1)^{\circ}$ | 16)) | | |
| | =(19.37 - 18.05) | inches o | of total run | noff | 10)) | | |
| Runoff Vol | ume = Q * Pro | ject Area | | | | | |
| | = 18.05 x 6 | 5.81 = | 122.89 | acre-inches | = 10.24 | acre-ft. | |
| Movimum Store for | 100 Voor 2 D | ov Storm (7 | ara diaaba | | 6 27 NAV | | |
| Waximum Stage Ior | 100-1eal 3-Da | | | aige) | 0.37 NAV | | |
| Runnoff (0 | Q) = (P - 0.2S) | ² / (P + 0.8 | S) | | | | |
| | = (14.61 - | (0.2 x 1.16 | 5))^2 / (14. | 61 + (0.8 x 1. ² | 16)) | | |
| | = 13.31 | inches c | of total run | noff | | | |
| Runoff Vol | ume = $Q * Prc$ | ject Area | 00.62 | (| 7 6 6 | () | |
| | $= 13.31 \times 6$ | 0.81 = | 90.62 | acre-inches | = 7.55 | acre-it. | |
| Maximum Stage for | 25-Year 3-Day | y Storm (ze | ro dischar | ge) | 5.64 NA\ | /D | |
| | | | | | | | |
| Runnoff (0 | Q) = (P - 0.2S) | ² / (P + 0.8 | S) | | | | |
| | = (9.5 - (0 | 0.2 x 1.16))^ | 2 / (9.5 + | (U.8 X 1.16)) | | | |
| Runoff \/o | = 0.24 | inches C | n iotai run | non | | | |
| | = 8.24 x 6. | 81 = | 56.11 | acre-inches | = 4.68 | acre-ft. | |
| | | | | | | | |
| Maximum Stage for | 10-Year 1-Day | y Storm (ze | ro dischar | ge) | 4.82 NA\ | /D | |

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

PROPOSED SITE DRAINAGE CALCULATIONS

Design Criteria:

| Control Elevation: FEMA Elevation: | | | | | 1.00 7.00 | NAVD (Zone AE) |
|---------------------------------------|-----------------------|---|------------|----|--------------|-------------------|
| Proposed Land Use | Summary: | | | | | |
| Lake Areas | s (A _L): | | 0 sf | or | 0.000 | ac |
| Roof Areas | s (A _R): | | 146,406 sf | or | 3.361 | ac |
| Paved Area | as (A _P): | | 112,266 sf | or | 2.577 | ac |
| Green Area | as (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:

 $V_{PRE} = 1 \text{ inch x } A_T \text{ x 1 ft / 12 inches}$ = 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:

- $A_{\rm S} = A_{\rm T} (A_{\rm L} + A_{\rm R})$
 - = 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:

- $= A_{IMP} / A_{S} \times 100\%$
- = 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.



| Proposed | Exfiltration | Trench Calc | ulations (NAVD) | | | | |
|---------------------|--------------------|----------------|--|--|------------|-------------------|--------------------------|
| K-Value: | Test Hole # | | ofs/ft ² /ft bd) | | | | |
| | BHP-1 | ((| 1.80E-03 | *Based on th | e Drainac | e Calculat | ions in the approved |
| | | | | Broward Cou | unty Storm | , water Mar | ngement License for this |
| | | | | development | area (SV | VM1998-1 | 18-2) |
| | Kuus | | 1 80E-03 | | | | |
| | AVG | | 1.002 00 | | | | |
| Proposed | Exfiltration | Trench: GRA | DE OR WEIR ELEVATION | 4 | Elev. | <mark>4.50</mark> | (Grade or Weir Elev.) |
| Water Tab Elev. | le 1.00 | *H2 D0 Ds | PIPE | TRENCH HEIGHT | Elev. | 4.50 | (Top of Trench) |
| | | | W | 1 | Elev. | -4.00 | (Bottom of Trench) |
| | | * DEPTH | OF EFFECTIVE HEAD | | | | |
| к – | | 1 80E-03 | e^{fe/tt^2} ft bood | | | | |
| H ₂ = | | 3.50 | ft | | | | |
| W = | | 10.00 | ft | | | | |
| D _u = | | 3.50 | ft | | | | |
| D _s = | D D. | 5.00 | ft | | | | |
| H = | Du + Ds = | 8.50 | It Eactor of Safety | | | | |
| 13 = V | | 11.39 | ac-in | | | | |
| %WQ = | | 50% | Percent Reduction for | Nater Quality | | | |
| | | | | | | | |
| 1) Trench | Length Req | uired for Wa | ter Quality (L _{wq}): | | | | |
| V _{wq} = | 11.39 | ac-in or | 0.95 | ac-ft | | | |
| L _{wq} = | | K(2H2D | FS [%WQ(Vw u - Du^2 + 2H2Ds) + (| q)] 1.39 x 10^-4)' | WDu | | - |
| L _{wq} = | 126.7 | feet |] | | | | |
| 2) Maxim | um Allowab | le Trench Le | ength For Storage (L | _{nax}): | | | |
| V _{max} = | 3.28-inches | x 6.81-acres = | : | 22.34 | ac-in or | 1.8 | 6 ac-ft |
| | V _{add} = | 10.95 | ac-in | | | | |
| L _{max} = | | K(2H2D | +S [(%WQ)(V _{wq}) + u - Du^2 + 2H2Ds) + (| - v _{add}] 1.39 x 10^-4)' | WDu | | _ |
| L _{max} = | 370.2 | feet |] | | | | |
| 4) Total P | rovided Tre | nch Volume | (V): | | | | |
| Propo | sed Trench I | Length = | 160 | feet | | | |
| V _{prop} = | L x (K(2H2D | Du - Du^2 + 2 | H2Ds) + (1.39 x 10^-4 |)WDu) | | | |
| V _{prop} = | 14.39 | ac-in or | 1.20 | ac-ft | | | |



Proposed Stage / Storage Area Calculations (NAVD)

| Proposed Grades | 7.90 6.00 | 6.00 2.60 | 8.00 | 8.00 6.50 | 6.50 6.50 | 7.50 | 7.50 | 6.00 5.50 | 8.00 | 5.00 2.75 | 8.00 6.00 | 6.00 3.00 | | | I |
|--------------------|--------------------|--------------------|-------------------------------|-------------------------------|----------------------------|----------------------------|--------------------------------|--------------------------|------------------------------|------------------------------|------------------------|-----------------------|---------|------------------|---------|
| | Vehicle Pavemnt | Vehicle Pavemnt | South Tower Parking Garage | South Tower Parking Garage | Existing Parking Garage | Existing Parking Garage | South Tower Private Terrace | North Tower Pool Deck | Sidewalk, Concrete & Curb | Sidewalk, Concrete & Curb | Landscape High Area | Landscape Low Area | | Building Area | Total |
| Stage | High Area | Low Area | High Area | Low Area | High Area | Low Area | Area | Area | High Area | Low Area | | | | FFE Varies | Storage |
| (NAVD) | Area 0.107 | Area 0.428 | Area 0.431 | Area 0.677 | Area 0.378 | Area 0.000 | Area 0.092 | Area 0.184 | Area 0.167 | Area 0.668 | Area 0.721 | Area 1.081 | Area | Area 1.875 | 6.810 |
| | | | | | | | | | | | | | | | Area |
| | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) | (acft.) |
| 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 |



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) (acft.) | Exfiltration Trench Storage (acft.) | Total Storage Area (acft.) |
|-----------------|--|---|-------------------------------|
| 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 | acft. |
|-------------------------|------|-------|
| Water Quality Elevation | 3.53 | NAVD |

Proposed Site Soil Storage

| Proposed Land Use | Summary: | | | | | | | | | |
|--------------------------------|---------------|----------------------|-----------|-------|-------------|--------------|------------------|-------|-----|--|
| | Acres | Percent | | | | | | | | |
| Lake Areas (A _L): | 0.000 | 0.0% | | | <u>Comp</u> | acted Soil S | Storage per | | | |
| Roof Areas (A _R): | 1.875 | 27.5% | | | <u>SFWN</u> | MD Vol. IV F | Page C-III-1 | | | |
| Paved Areas (A _P): | 1.647 | 24.2% | | | <u> </u> | oastal Class | <u>ification</u> | | | |
| Green Areas (A _G): | 1.802 | 26.5% | _ | | Depth | to Comr | acted Wat | ər | | |
| Total (A _T): | 6.810 | 100.0% | | | Water T | able Store | ade (inches |) | | |
| | | | | | (feet | i) | ugo (monoo | , | | |
| | | | | | 1 | | 0.45 | | | |
| | | | | | 2 | | 1.88 | | | |
| Average Pervious G | rade (Elev.): | 5.50 | ft | | 3 | | 4.95 | | | |
| Depth to Water Table | e: | 4.50 | ft | | 4 | | 8.18 | | | |
| Soil Storage at Avera | age Depth (S | _s): 8.18 | inches | | | | | | | |
| Weighted S value: | | | | | | | | | | |
| = S _S x % Per | vious | | | | CN = | 1000/(S+1 | 0) | | | |
| $= 8.18 \times 0.26$ | 5 | | | | = | 82 | -) | | | |
| = 2.16 in | ches | | | | | | | | | |
| | | | | | | | | | | |
| Storm Events Rainf | all Return P | eriod Value | S | | | | | | | |
| From Figure C-9 10 |)-Year 3-Dav | Storm Ever | t = | 19.37 | inches | | | | | |
| | | | | | | | | | | |
| From Figure C-8, 25 | Year 3-Day | Storm Event | = | 14.61 | inches | | | | | |
| From Figure C-4 10 | Voar 1-Day | Storm Event | _ | 9.50 | inches | | | | | |
| | Tour T Day (| | - | 0.00 | moneo | | | | | |
| Proposed Site Floo | d Routing R | esults | | | | | | | | |
| | | | | | | | | | | |
| Maximum Stage for | 100-Year 3-D | ay Storm (no | o dischar | ge) | 6.71 | NAVD | at | 0.00 | cfs | |
| Maximum Stage for 2 | 25-Year 3-Da | v Storm (no | discharge | e) | 4.81 | NAVD | at | 21.98 | cfs | |
| | | | | / | | | | | | |
| Maximum Stage for | 10-Year 1-Da | y Storm (no | discharge | e) | 4.57 | NAVD | at | 3.74 | cfs | |

Appendix C

ICPR Flood Routings Model, Results & Basin Map



| Name: North Tower | Node: North Tower | Status: Onsite |
|--|------------------------------------|--|
| Group: BASE | Type: SCS Unit Hydro | ograph CN |
| Unit Hydrograph: Uh256 | Peaking Fa | ctor: 256.0 |
| Rainfall File: | Storm Duration (| hrs): 0.00 |
| Rainfall Amount(in): 0.000 | Time of Conc(| min): 10.00 |
| Curve Number: 98 00 | Max Allowable O(| (cfs) • 999999 000 |
| DCIA(%): 0.00 | | |
| Name: South Tower | Node: South Tower | Status: Onsite |
| Group: BASE | Type: SCS Unit Hydro | graph CN |
| Unit Hydrograph: Uh256 | Peaking Fa | ctor: 256.0 |
| Rainfall File: | Storm Duration (| hrs): 0.00 |
| Rainfall Amount(in): 0.000 | Time of Conc(| min): 10.00 |
| Curve Number: 98.00 | Max Allowable O(| cfs): 999999.000 |
| DCIA(%): 0.00 | | |
| Name: West Parcel Group: BASE | Node: Site Type: SCS Unit Hydro | Status: Onsite |
| | | |
| Unit Hydrograph: Un256 Rainfall File: | Peaking Fa Storm Duration (| (ctor: 256.0) |
| Rainfall Amount (in): 0.000 | Time of Conc (| min): 30.00 |
| Area(ac): 6.419 | Time Shift(| hrs): 0.00 |
| Curve Number: 82.00 DCIA(%): 0.00 | Max Allowable Q(| cfs): 999999.000 |
| Nodes | | |
| | | |
| Name: Aquifer | Base Flow(cis): 0.000 | Init Stage(it): 1.000 |
| Type: Time/Stage | | wain Stage(it): 0.000 |
| Time(hrs) Stage(ft |) | |
| 0.00 1.00 | 0 | |
| Name: Intracoastal Group: BASE | Base Flow(cfs): 0.000 | Init Stage(ft): 0.000 Warn Stage(ft): 8.000 |

Interconnected Channel and Pond Routing Model (ICPR) ©2002 Streamline Technologies, Inc.

| Time(hrs) | Stage(ft) | | | | |
|---|---|-----------------|-------|------------------------------------|----------------|
| 0.00 999.00 | 0.000 0.000 | | | | |
| Name: North / Group: BASE Type: Stage/1 | Tower Volume | Base Flow(cfs): | 0.000 | Init Stage(ft): Warn Stage(ft): | 1.000 8.000 |
| Stage(ft) | Volume(af) | | | | |
| 1.000 8.000 | 0.0000 0.0000 | | | | |
| Name: Site Group: BASE Type: Stage/1 | Volume | Base Flow(cfs): | 0.000 | Init Stage(ft): Warn Stage(ft): | 1.000 8.000 |
| Stage(ft) | Volume(af) | | | | |
| 1.000 1.500 2.000 2.500 3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500 7.000 7.500 8.000 | 0.0001 0.1471 0.2943 0.4414 0.6079 0.9153 1.4185 2.1174 2.8651 3.7784 4.8733 6.1411 7.7724 9.6578 11.7969 | | 0.000 | | 1 000 |
| Name: South ' Group: BASE Type: Stage/' | Iower Volume | Base Flow(cfs): | 0.000 | Init Stage(ft): Warn Stage(ft): | 1.000 8.000 |
| Stage(ft) | Volume(af) | | | | |
| 1.000 8.000 | 0.0000 0.0000 | | | | |
| ===== Operating Tab | les ======== | | | | |
| Name: DWELL Type: Rating Function: US Stac | Curve ge vs. Dischai | Group: BASE | | | |
| US Stage(ft) D: | ischarge(cfs) | | | | |

| 2 00 | ~ | 0.00 | | |
|--|--|--|---|---|
| 3 00 | () | 0.00 | | |
| 3 50 | 0 | 0.28 | | |
| 3.00 | 0 | 0.20 | | |
| 4.00 | 0 | 0.56 | | |
| 4.50 | 0 | 0.84 | | |
| 5.00 | 0 | 1.12 | | |
| 5.50 | 0 | 1.40 | | |
| 6.00 | 0 | 1.68 | | |
| 6.50 | 0 | 1.96 | | |
| 7.00 | 0 | 2.24 | | |
| 7 50 | 0 | 2 52 | | |
| 8 00 | 0 | 2 80 | | |
| 0.00 | 0 | 2.00 | | |
| ==== Pipes === | | | | |
| | | | | |
| Name: Group: | NT to Intra BASE | acoas From Node To Node | : North Tower Length(ft) : Intracoastal Count | : 50.00 : 1 |
| | | | Friction Equation | : Average Conveyance |
| | UPSTREAM | DOWNSTREAM | Solution Algorithm | : Automatic |
| Geometry: | Circular | Circular | Flow | : Both |
| Span(in): | 12.00 | 12.00 | Entrance Loss Coef | : 0.50 |
| Rise(in): | 12.00 | 12.00 | Exit Loss Coef | : 1.00 |
| Invert(ft) | 1.000 | 1.000 | Bend Loss Coef | : 0.00 |
| Manning's N. | 0 012000 | 0.012000 | Outlet Ctrl Spec | · Use dc or tw |
| Top Clip(ip): | 0 000 | 0.012000 | Inlet Ctrl Spec | · Use do |
| TOP CITP(IU): | 0.000 | 0.000 | thiet Ctri Spec | . USE UC |
| Bot Clip(in): | 0.000 | 0.000 | Stabilizer Option | : None |
| pstream FHWA ircular Concr ownstream FHW. ircular Concr | Inlet Edge I ete: Square A Inlet Edge ete: Square | Description: edge w/ headwall e Description: edge w/ headwall | | |
| pstream FHWA ircular Concr ownstream FHW ircular Concr Name: | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra | Description: edge w/ headwall e Description: edge w/ headwall accas From Node | : South Tower Length(ft) | : 50.00 |
| ostream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node | : South Tower Length(ft) : Intracoastal Count | : 50.00 : 1 |
| pstream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node | : South Tower Length(ft) : Intracoastal Count Friction Equation | : 50.00 : 1 : Average Conveyance |
| ostream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm | : 50.00 : 1 : Average Conveyance : Automatic |
| ostream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Geometry: | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow | : 50.00 : 1 : Average Conveyance : Automatic : Both |
| ostream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Geometry: Span(in): | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular 12.00 | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 |
| ostream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Geometry: Span(in): Rise(in): | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 12.00 | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular 12.00 12.00 | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef Exit Loss Coef | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 : 1.00 |
| pstream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Geometry: Span(in): Rise(in): Invert(ft): | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 12.00 -1.500 | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular 12.00 12.00 -1.500 | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef Exit Loss Coef Bend Loss Coef | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 |
| pstream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Geometry: Span(in): Rise(in): Invert(ft): Manning's N: | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 12.00 -1.500 0.012000 | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular 12.00 12.00 -1.500 0.012000 | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef Exit Loss Coef Bend Loss Coef Outlet Ctrl Spec | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 : Use dc or tw |
| pstream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Span(in): Rise(in): Invert(ft): Manning's N: Top Clip(in): N: | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 -1.500 0.012000 0.000 | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular 12.00 12.00 -1.500 0.012000 0.000 | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Entrance Loss Coef Exit Loss Coef Bend Loss Coef Outlet Ctrl Spec Inlet Ctrl Spec | : 50.00 : 1 Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 : Use dc or tw : Use dc |
| pstream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Span(in): Rise(in): Invert(ft): Manning's N: Top Clip(in): Bot Clip(in): | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 12.00 -1.500 0.012000 0.000 0.000 | Description: edge w/ headwall e Description: edge w/ headwall accas From Node To Node DOWNSTREAM Circular 12.00 -1.500 0.012000 0.000 0.000 | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef Exit Loss Coef Bend Loss Coef Outlet Ctrl Spec Inlet Ctrl Spec Stabilizer Ontion | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 : Use dc or tw : Use dc : None |
| pstream FHWA ircular Concr www.stream FHW ircular Concr Name: Group: Geometry: Span(in): Rise(in): Invert(ft): Manning's N: Top Clip(in): Bot Clip(in): | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 12.00 -1.500 0.012000 0.000 0.000 | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular 12.00 12.00 -1.500 0.012000 0.000 0.000 | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef Exit Loss Coef Bend Loss Coef Outlet Ctrl Spec Inlet Ctrl Spec Stabilizer Option | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 : Use dc or tw : Use dc : None |
| pstream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Span(in): Rise(in): Invert(ft): Manning's N: Top Clip(in): Bot Clip(in): pstream FHWA ircular Concr | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 12.00 -1.500 0.012000 0.000 0.000 Unlet Edge I ete: Square | Description: edge w/ headwall e Description: edge w/ headwall accas From Node To Node DOWNSTREAM Circular 12.00 12.00 -1.500 0.012000 0.000 0.000 Description: edge w/ headwall | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef Exit Loss Coef Bend Loss Coef Outlet Ctrl Spec Inlet Ctrl Spec Stabilizer Option | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 : Use dc or tw : Use dc : None |
| pstream FHWA ircular Concr www.stream FHW. ircular Concr Name: Group: Geometry: Span(in): Rise(in): Invert(ft): Manning's N: Top Clip(in): Bot Clip(in): Bot Clip(in): pstream FHWA ircular Concr | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 -1.500 0.012000 0.000 0.000 Unlet Edge I ete: Square A Inlet Edge | Description: edge w/ headwall e Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular 12.00 12.00 -1.500 0.012000 0.000 0.000 Description: edge w/ headwall e Description: edge w/ headwall | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Entrance Loss Coef Exit Loss Coef Bend Loss Coef Outlet Ctrl Spec Inlet Ctrl Spec Stabilizer Option | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 : Use dc or tw : Use dc : None |
| pstream FHWA ircular Concr ownstream FHW ircular Concr Name: Group: Geometry: Span(in): Rise(in): Invert(ft): Manning's N: Top Clip(in): Bot Clip(in): pstream FHWA ircular Concr ownstream FHW | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 -1.500 0.012000 0.000 0.000 Inlet Edge I ete: Square A Inlet Edge | Description: edge w/ headwall a Description: edge w/ headwall acoas From Node To Node DOWNSTREAM Circular 12.00 -1.500 0.012000 0.000 0.000 Description: edge w/ headwall a Description: edge w/ headwall | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef Exit Loss Coef Bend Loss Coef Outlet Ctrl Spec Inlet Ctrl Spec Stabilizer Option | : 50.00 : 1 Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 : Use dc or tw : Use dc : None |
| pstream FHWA ircular Concr ownstream FHW. ircular Concr Name: Group: Span(in): Rise(in): Invert(ft): Manning's N: Top Clip(in): Bot Clip(in): pstream FHWA ircular Concr ownstream FHW. | Inlet Edge I ete: Square A Inlet Edge ete: Square ST to Intra BASE UPSTREAM Circular 12.00 12.00 -1.500 0.012000 0.000 0.000 Inlet Edge I ete: Square A Inlet Edge | Description: edge w/ headwall e Description: edge w/ headwall accas From Node To Node DOWNSTREAM Circular 12.00 -1.500 0.012000 0.000 0.000 Description: edge w/ headwall e Description: edge w/ headwall | : South Tower Length(ft) : Intracoastal Count Friction Equation Solution Algorithm Flow Entrance Loss Coef Exit Loss Coef Outlet Ctrl Spec Inlet Ctrl Spec Stabilizer Option | : 50.00 : 1 : Average Conveyance : Automatic : Both : 0.50 : 1.00 : 0.00 : Use dc or tw : Use dc : None |

| Name Group | Outfall BASE | From Node: To Node: | Site Intracoastal | I | Length(ft): Count: | 100.00 1 | | | |
|---|---|--|--|---|---|---|--------------|--------------|---------------------|
| Geometry Span(in) Rise(in) Invert(ft) Manning's N Top Clip(in) Bot Clip(in) | UPSTREAM Circular 30.00 -1.500 0.012000 0.000 0.000 | DOWNSTREAM Circular 30.00 -1.500 0.012000 0.000 0.000 | S | Friction Solution Entrance Exit Outlet Inlet Solu | Algorithm: Flow: Loss Coef: Ctrl Spec: Ctrl Spec: tion Incs: | Average Conver Automatic Both 0.500 1.000 Use dc or tw Use dc 10 | yance | | |
| Upstream FHWA Circular Conc | Inlet Edge Desc cete: Square edg | ription: e w/ headwall | | | | | | | |
| Downstream FHW Circular Conc | NA Inlet Edge De cete: Square edg | scription: ge w/ headwall | | | | | | | |
| *** Weir 1 of | 1 for Drop Stru | cture Outfall ** | * | | | TABLE | | | |
| | Count: 3 Type: Hori Flow: Both Geometry: Rect | zontal angular | Bottom Cl Top Cl Weir Dis Orifice Dis | Lip(in): Lip(in): sc Coef: sc Coef: | 0.000 0.000 3.200 0.600 | | | | |
| | ~ | 0 | Inve | ert(ft): | 4.500 | | | | |
| | Span(in): 60.0 Rise(in): 16.0 | 0 | Control El | Lev(ft): | 4.500 | | | | |
| ===== Rating Cu ===== Name Group | Span(in): 60.0 Rise(in): 16.0 mrves ==================================== | 0 From Node: To Node: | Control El | Lev(ft): | 4.500 | 1 Both | | | |
| ==== Rating Cu ====== Name Group #1 #2 #3 #4 | Span(in): 60.0 Rise(in): 16.0 mrves ==================================== | From Node: To Node: ELEV ON(ft) 4.501 0.000 0.000 0.000 | Control El | Lev(ft): | 4.500 | 1 Both | | | |
| ==== Rating Cu Name Group #1 #2 #3 #4 | Span(in): 60.0 Rise(in): 16.0 Prves ==================================== | 0 From Node: To Node: ELEV ON(ft) 4.501 0.000 0.000 0.000 | Control El Site Aquifer ELEV OFF(ft 4.500 0.000 0.000 0.000 | Lev(ft): | 4.500 | 1 Both | | | |
| <pre>Rating Ct Provide Comp Rame Group #1 #2 #3 #4 Provide Comp Rame Filename</pre> | Span(in): 60.0 Rise(in): 16.0 Irves ==================================== | 0 From Node: To Node: ELEV ON(ft) 4.501 0.000 0.000 0.000 | Control El Site Aquifer ELEV OFF(ft 4.500 0.000 0.000 0.000 | Lev(ft): | 4.500 Count: Flow: | 1 Both Hollywood\Doc | uments\Drain | nage\ICPR\Ro | uting\100YR-72HR.R |
| <pre>Rating Ct Rating Ct Name Group #1 #2 #3 #4 #4 #4 #4 #4 #4 #4 #4 #4 #4 #4 #4 #4</pre> | Span(in): 60.0 Rise(in): 16.0 Prves ==================================== | <pre> From Node: To Node: To Node: ELEV ON (ft) 4.501 0.000 0.000 0.000</pre> | Control El | Lev(ft): | 4.500 Count: Flow: | 1 Both Hollywood\Doc | uments\Drain | nage\ICPR\Ro | uting\100YR-72HR.R3 |
| <pre>==== Rating Cu ==== Rating Cu Index Rate Group #1 #2 #3 #4 ===== Hydrology ===== Hydrology Index Rate Rate Rate Rate Rate Rate Rate Rate</pre> | Span(in): 60.0 Rise(in): 16.0 Prives ==================================== | 0 From Node: To Node: ELEV ON (ft) 4.501 0.0000 0.00000 0.00000 0.0 | Control El | Lev(ft): | 4.500 Count: Flow: | 1 Both Hollywood\Doc: | uments\Drain | nage\ICPR\Ro | uting\100YR-72HR.R: |

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 Print Inc(min) Time(hrs) _____ 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 Max Calc Time(sec): 60.0000 Min Calc Time(sec): 0.5000 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: Filename: | 25YR-72HR Hydrolog G:\The Related Group\F22013 | gy Sim: 25YR-72HR 4 - Diplomat - 3450 S Ocean Drive, Hollywood\Documents\Drainage\ICPR\Routing\25YR-72HR.I32 |
| Execute: Alternative: | No Restart: No No | Patch: No |
| Max De. Time Step | lta Z(ft): 1.00 Optimizer: 10.000 | Delta Z Factor: 0.00500 |
| Start ' Min Calc ' Bounda | Time(hrs): 0.000 Time(sec): 0.5000 ry Stages: | End Time(hrs): 100.00 Max Calc Time(sec): 60.0000 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 N 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 M 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 M 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



| 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- <mark>02</mark> |
| Abbr Legal Description | DIPLOMAT RESORT AND COUNTRY CLUB PLAT 158-16 B PA | RCEL 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 val | lues are consi | dered | working val | <mark>PP65</mark> pe | ny acceleration | øan | nge. | | | | |
|------------|-------------------------------------|-------|-------------------|----------------------|---------------------|-------------------------------------|---------------------------------|-----------------|--------------|-----------|--|
| Year | Land | | Buildi Improve | ing / ement | Just / Mar Value | ket | Asses SOH | ssed / Value | т | ax | |
| 2023* | \$18,174,83 | 30 | \$18,031 | ,910 | \$36,206,74 | 40 | \$25,90 | 4,120 | | | |
| 2022 | \$9,579,09 | 0 | \$13,970 |),110 | \$23,549,20 | 00 | \$23,54 | 9,200 | \$581,0 |)85.34 | |
| 2021 | 2021 \$9,579,090 \$13,9 | | \$13,970 |),110 | \$23,549,20 | 00 | \$23,54 | 9,200 | \$578,4 | 130.55 | |
| | | 202 | 3* Exemptic | ons ar | nd Taxable Values | s by | / Taxing Auth | ority | | | |
| County Sci | | | | | | oard | d M | unicipal | Ind | ependent | |
| Just Valu | Ie | | \$36,206 | 3,740 | \$36,206 | i,74(| 0 \$36, | 206,740 | \$3 | 6,206,740 | |
| Portabilit | y | | | 0 | | (| 0 | 0 | | 0 | |
| Assesse | d/SOH | | \$25,904 | 1,120 | \$36,206 | i,74(| 0 \$25, | 904,120 | \$25,904,120 | | |
| Homeste | ad | | | 0 | | 0 | | 0 | | 0 | |
| Add. Hon | nestead | | | 0 | 0 | | 0 | 0 | | 0 | |
| Wid/Vet/C | Dis | | | 0 | | | 0 | 0 | | 0 | |
| Senior | | | | 0 | 0 | | 0 | 0 | | 0 | |
| Exempt T | Туре | | | 0 | | (| 0 | 0 | | 0 | |
| Taxable | | | \$25,904 | 1,120 | \$36,206 | i,74(| 0 \$25, | 904,120 | \$2 | 5,904,120 | |
| | | Sale | s History | | | | La | Ind Calcu | lations | | |
| Date | Туре | | Price | Boc | ok/Page or CIN | | Price | Fa | ctor | Туре | |
| 6/29/202 | 3 DR*-T | | \$100 | | 118966855 | | \$95.00 | 191 | ,314 | SF | |
| 2/2/2023 | 3 SW*-D | \$69 | 9,000,000 | | 118658608 | | | | | | |
| 8/24/201 | 4 SW*-E | \$55 | 5,500,000 | | 112495613 | | | | | | |
| 9/30/199 | 7 SW* | \$11 | ,428,571 | 1 | 27081 / 360 | | | | | | |
| | | 1 | | | | Adj. Bldg. S.F. (Card, Sketch) 6516 | | | | 651615 | |
| * Damad | Denotes Multi Denod Sala (See Dead) | | | | | | Eff./Act. Year Built: 2002/2001 | | | | |

* Denotes Multi-Parcel Sale (See Deed)

EII./ACL Year Built: 2002

| Special Assessments | | | | | | | | | | | | |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Fire | Fire Garb Light Drain Impr Safe Storm Clean Misc | | | | | | | | | | | |
| 05 | 05 | | | | | | | | | | | |
| С | C C | | | | | | | | | | | |
| 651615 | 651615 | | | | | | | | | | | |

Property Id: 514223170030

**Please see map disclaimer









| 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- <mark>01</mark> |
| Abbr Legal Description | BEVERLY BEACH NO 2 40-24 B BEG AT NE COR OF SAID PL OCEAN DR FOR 20.00,WLY 147.00,SLY 40.00,WLY 60.00,NLY ALG SAME FOR 207.00 TO POB | AT,SLY AL 60.00 TO I | G W R/W/L OF S PT ON N/L,ELY |

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 value | es are consid | lered | l "working va | <mark>¤rop</mark> i | and Aresev | shienaide | vaan |) e. | | | | |
|--------------|---------------|-------|--------------------|---------------------|----------------------|-------------------|-------------------|-------------|--------------------|------------|---------|--------|
| Year | Land | | Buildii Improve | ng / men | t , | Just / Ma Valu | arket e | | Assesse SOH Val | ed / ue | Тах | |
| 2023* | \$327,460 | | \$15,00 | 00 | | \$342,460 | | \$342,46 | 0 | 1 | | |
| 2022 | \$327,460 | | \$15,00 | | \$342,4 | 60 | | \$342,46 | 0 | \$7,114. | 70 | |
| 2021 | \$327,460 | Î | \$15,00 | | \$342,4 | 60 | | \$342,46 | 0 | \$7,157. | 84 | |
| | | 202 | 23* Exemptio | ons a | nd Taxabl | e Values | s by ⁻ | Taxir | ng Authority | | | |
| | | | Cou | nty | S | chool B | oard | | Municipa | al | Indepe | endent |
| Just Value | | | \$342,4 | 160 | | \$342 | 2,460 | | \$342,46 | 0 | \$34 | 42,460 |
| Portability | | | | 0 | | | 0 | | | 0 | | 0 |
| Assessed/ | бон | | \$342,4 | 460 | | \$342 | 2,460 | | \$342,46 | 0 | \$34 | 42,460 |
| Homestead | | | | 0 | | | 0 | | 0 |) | | |
| Add. Home | stead | | | 0 | | | 0 | | | 0 | | 0 |
| Wid/Vet/Dis | • | | | 0 | 0 | | 0 | | | 0 | | 0 |
| Senior | | | | 0 | | | 0 | | | 0 | | 0 |
| Exempt Ty |)e | | | 0 | 0 | | | 0 | | 0 | | 0 |
| Taxable | | | \$342,4 | 160 |) \$342, | | | | \$342,46 | 0 | \$34 | 42,460 |
| | | Sal | es History | | | ĺ | | Land Cal | | alcula | tions | |
| Date | Туре | | Price | Во | ok/Page o | or CIN | Price | | | actor | Туре | |
| 6/29/2023 | DR*-T | | \$100 | | 1189668 | 55 | \$80.00 | | 6 | 6,540 | SF | |
| 2/2/2023 | SW*-D | \$6 | 9,000,000 | ,000,000 | | 08 | | | | | | |
| 8/24/2014 | SW*-E | \$5 | 5,500,000 | | 1124956 [,] | 13 | | | | | | |
| 5/8/2002 | WD | \$ | 5164,000 | | 33836 / 1 | 27 | | | | | | |
| | Î | | | 04,000 55 | | | | ٥di | Bldg SE ((| Card S | Sketch) | |

* Denotes Multi-Parcel Sale (See Deed)

| | Special Assessments | | | | | | | | | | | |
|------|---------------------|-------|-------|------|------|-------|-------|------|--|--|--|--|
| Fire | Garb | Light | Drain | Impr | Safe | Storm | Clean | Misc | | | | |
| 05 | 05 | | | | | | | | | | | |
| L | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | |

Property Id: 514223060030

**Please see map disclaimer









| 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 PA | ARCEL 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 valu | es are conside | ered | working va | 2 <mark>PS</mark> | b <mark>ang Arssaub</mark> ia | ohtra | 7 aan | ge. | | | | | |
|----------------------|----------------|---|-------------|---------------------|-------------------------------|--------------------|--------------|---------|----------|--------|----------|----|-----------|
| Year | Land | Land Building / Just / M Improvement Value | | arket Asse e SOH | | essed / H Value | | | Тах | | | | |
| 2023* | \$29,390 | | | | | \$29,3 | ,390 | | \$29,390 | | | | |
| 2022 | \$29,390 | | | | | \$29,3 | 90 | | \$29 | 9,390 | | \$ | 610.59 |
| 2021 | \$29,390 | | | | | \$29,3 | 90 | | \$29,390 | | | \$ | 614.28 |
| | | 202 | 3* Exemptio | ns | and Taxable \ | Values | s by ˈ | Taxin | g Author | ity | | | |
| | | | Count | ty | Scho | ool Bo | bard | | Munic | ipal | | In | dependent |
| Just Value | | | \$29,39 | 90 | | \$29 | 390 | | \$29, | 390 | | | \$29,390 |
| Portability | | | | 0 | | | 0 | | | 0 | | | 0 |
| Assessed/ | SOH | | \$29,39 | 90 | \$29, | | 390 | | \$29,390 | | \$29,390 | | |
| Homestead | | | | 0 | 0 | | 0 | 0 0 | | 0 | | | |
| Add. Homestead | | | | 0 |) | | 0 | | 0 | | 0 | | |
| Wid/Vet/Dis | | | 0 | | | 0 | | | 0 | | | 0 | |
| Senior | | | | 0 | | | 0 | | | 0 | | | 0 |
| Exempt Ty | ре | | | 0 | | 0 | 0 0 | | 0 | 0 | | | |
| Taxable | | | \$29,39 | 90 | 0 \$29, | | 390 | | \$29,390 | | \$29,390 | | |
| | | Sale | es History | | | | | | Land | d Calc | ulatior | ns | |
| Date | Туре | | Price | В | look/Page or | CIN | | Pri | се | | Factor | | Туре |
| 6/29/2023 | B DR*-T | | \$100 | | 118966855 | | \$50. | | 07 | | 587 | | SF |
| 2/2/2023 | SW*-D | \$6 | 9,000,000 | | 118658608 | 8658608 | | | | | | | |
| 8/24/2014 | SW*-E | \$5 | 5,500,000 | | 112495613 | | | | | | | | |
| 11/10/199 | 9 QCD | | \$100 | | 30030 / 700 | | | | | | | | |
| 12/23/1987 QCD \$100 | | | 15062 / 881 | | | | Adj. Bld | g. S.F. | | | | | |

* Denotes Multi-Parcel Sale (See Deed)

| | Special Assessments | | | | | | | |
|------|---------------------|-------|-------|------|------|-------|-------|------|
| Fire | Garb | Light | Drain | Impr | Safe | Storm | Clean | Misc |
| 05 | | | | | | | | |
| L | | | | | | | | |
| 1 | | | | | | | | |

Property Id: 514223060020

**Please see map disclaimer



July 28, 2023



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 ("<u>Grantor</u>"), 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 ("<u>Grantee</u>"), 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 <u>Exhibit A</u> 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 "<u>Property</u>").

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: FESS Rowley Printed Name: Printed alme: Nasmin Rancom

DIPLOMAT LANDINGS OWNER LLC, a Delaware limited liability company

By: Q

Name: Lisa Strauss Title: Vice President

CITY OF WASHINGTON DISTRICT OF COLUMBIA

This instrument was sworn, subscribed, and acknowledged before me on the 29^{μ} day of \underline{Junt} , 2023, by Lisa Strauss, the Vice President of Grantor. She is personally known to me or produced a <u>personally known</u> driver's license as identification.

te Hill-Waddell of Columbia rict Notary Public, State and County Aforesaid Print Name: Venita Hill Waddell My commission expires: 630 2023 My commission number.

(NOTARIAL SEAL)



Instr# 118966855 , Page 4 of 8

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 The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 1 April 15, 1999

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 x 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.

| 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 |

4. Proposed Acreages:

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

The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 2 April 15, 1999

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:

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| Roof (West Retail Village) Roof (Future Intracoastal Condos) | 2.10 0.99 | acres 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.

The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 3 April 15, 1999

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

5. Proposed Finished Floor Elevations:

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| 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. <u>Therefore, the minimum Finished Floor Elevation for the buildings on the East Parcel is 18.00 feet NGVD.</u>

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

The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 4 April 15, 1999

- a. The first inch of runoff from the entire site or
- b. The amount of 2.5 inches times the percentage imperviousness.
- B. Quantity

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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)
- = <u>0.89 acre-feet</u> for the first inch of runoff

Compute 2 1/2" 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

The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 5 April 15, 1999

Percentage of impervious area for water quality

- = (Impervious area/Site area for water quality)(100%)
- = (2.40/3.31)(100%)
- = 73%

For 2 1/2" times the percentage impervious:

- = (2 ¹/₂")(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)
- = <u>1.62 acre-feet</u> 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, <u>1.62 acre-feet is the required amount of retention</u> 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 1/2" 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

The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 6 April 15, 1999

- 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

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Percentage of impervious area for water quality

- = (Impervious area/Site area for water quality)(100%)
- = (2.95/4.65)(100%)
- = 63%

For 2 1/2" 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)
- = <u>1.03 acre-feet</u> 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, <u>the volume of 1.03 acre-feet is the required</u> <u>amount of retention for the West Parcel and the East Parcel driveways.</u>

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, 1/2" 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. The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 7 April 15, 1999

For the West Parcel, the required amount of pretreatment is as follows:

- = (1/2")[East Parcel driveways + West Retail Village roof + West Parcel driveways]
- = (½*)(0.93 acres + 2.10 acres + 0.69 acres)(1/12)
- = <u>0.16 acre-feet</u> 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

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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 (H₂W + 2H₂D₀ - D₀² + 2H₂D₅) +(1.39 X 10⁻⁴) WD₀) | |
|-----|--|--|
|-----|--|--|

| L | = | Length of trench (feet) | = | to be determined. |
|---|---|--------------------------|---|-------------------|
| v | = | Volume to be exfiltrated | = | 19.44 ac-in |
| W | = | Trench width | = | 15 feet |

- $K = Hydraulic Conductivity = 7.07 \times 10^{-4} cfs/sq ft ft head$
- 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

The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 8 April 15, 1999

Solving for L,

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

L = 135.68 feet, say <u>140 feet</u> 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 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
- $L = V/(K (H_2W + 2H_2D_s) + (1.39 \times 10^{-4}) WD_u)$
- L = Length of trench (feet) = To be determined.
- V = Volume to be exfiltrated = 12.36 ac-in
- W = Trench width = 10 feet

The Diplomat Hotel Post Condition for the East and West Parcels CGA Project No.: 98-1890 Page 9 April 15, 1999

| К | E | Hydraulic Conductivity | = | 1.80 x 10 ⁻³ cfs/sq ft - ft head |
|----|---|---------------------------------------|---|---|
| H₂ | = | Depth to water table from top of Weir | = | 4.00 feet |
| Du | = | Non-saturated trench depth | = | 4.00 feet |
| D, | = | 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, <u>160 feet</u> 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.



POLLUTION RETARDANT BAFFLE

TOP VIEW PIPE D (INCHES) DIA. 30" 18" 16 C.M.P. HALF PIPE 36" 16 24" 30" 42" 14 FLOW 48" 36" 14 IN 42" 54" 14 60" 14 48"

- 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 (36" X 2") SHALL BE INSTALLED AT ALL BAFFLES.

E

SIDE VIEW

-SOLID TOP IF USED AS A POLLUTION

RETARDANT BAFFLE (SEE NOTE #1) OPEN TOP IF USED AS AN OVERFLOW

-1.5"

-0.75"

-1.5"

BAFFLE (SEE NOTE #1).

STANDARD DIMENSIONS н (INCHES) (GAUGE) 27" 33" 39" 45" 51" 57"

FEATURES

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

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

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

PANEL LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM National Flood Insurance Program **FEMA** FLOOD INSURANCE RATE MAP **BROWARD COUNTY**, FLORIDA and Incorporated Areas PANEL 751 OF 751 Panel Contains: COMMUNITY BROWARD COUNTY HALLANDALE BEACH, CITY OF HOLLYWOOD, CITY OF

PRELIMINARY 12/31/2019

> **VERSION NUMBER** 2.6.3.5 MAP NUMBER 12011C0751J MAP REVISED

Future Conditions Groundwater Elevation

Q

Find address or place

Average Wet Season

Groundwater Elevation

The higher of 1.00 feet NAVD 88 or local control elevation (as defined by governing drainage district).

17

<u>Zoom to</u>