



# Madeira Beach Town Center

Madeira Beach Development Company  
Mesh Architecture

Madeira Beach, Florida  
April 13, 2016





# Madeira Beach Town Center

Madeira Beach Development Company  
Mesh Architecture

Madeira Beach, Florida  
April 13, 2016



AERIAL VIEW FROM EAST



# Index

Project Information	2
Special Area Objectives	3
Project Data	4
Perspective View	5
Aerial View of Madeira Beach	6
Aerial View of Madeira Beach Town Center	7
Overall Site Plan	8
Perspective Views	9
Public Access Site Plan	18
Overall Parcel Map	19
Condo A Site Plan	20
Parcel 1 Design Guidelines	21
Condo A Elevations	22
Marina Site Plan	24
Parcel 3 Design Guidelines	25
Dock Master Elevations	26
Aerial View of Madeira Beach	27
Condo B Site Plan	28
Parcel 4 Design Guidelines	29
Condo B Elevations	30
Hotel A Site Plan	32
Parcel 5 Design Guidelines	33
Hotel A Elevations	34
Hotel B Site Plan	36
Parcel 6 Design Guidelines	37
Hotel B Elevations	38
<b>Appendix</b>	<b>41</b>
Survey of East Property	42
Survey of West Property	43
Civil Site Plan and Data	44
Traffic Analysis	48



## PROJECT DESCRIPTION

The Madeira Beach Town Center project is envisioned to be just that, a new gathering place for the local community. The master plan is organized around two new civic places. Madeira Way has been reconceived and redesigned to be a two block long pedestrian-oriented street lined with shops and cafes. At the intersection of Gulf Boulevard and 150th Avenue is Madeira Plaza, a new half-acre town square designed to host events and activities, large and small throughout the day, week and year. In addition to these two spaces a substantial green space has been provided adjacent to 150th Avenue and a pedestrian/bike trail has been extended from Madeira Way to Causeway Park. Also an elevated crosswalk is proposed to provide safe passage across Gulf Boulevard.

The 6.7-acre mixed-use project consists of two properties, both with frontage onto Madeira Way. All of the existing buildings will be demolished as new construction proceeds. Distributed across the two properties are five new buildings. Two new 8-story condominium buildings, totaling 90 units, front onto 150th Avenue. Parking is located on the first two floors with six floors of residential units above. These buildings are the same height as Boca Vista across the street and have been separated by over 430 feet in order to provide unobstructed views north and south across the peninsula. Between the condominium buildings the existing 43-slip marina will be completely redeveloped. The existing buildings will be demolished in order to create a park-like setting south of the marina. A new one or two-story dockmaster building with up to 5,000 square feet will be built to service the marina.

North of Madeira Way a new suites hotel with up to 180 rooms will be developed. This building will have 11 floors. On the first floor will be the hotel lobby, up to 5,000 square feet of retail and restaurant space and the entry to the parking garage. The second and third floors will contain parking and above will be eight floors of hotel rooms. The building has been designed to reinforce the pedestrian character of Madeira Way.

Across the street, on the triangular block, will be a new full-service hotel with up to 250 rooms. This building will also have 11 floors, the same as the Ocean Sands Condominiums located across Gulf Boulevard. On the first floor will be the hotel lobby, up to 40,000 square feet of retail and restaurant space and the parking garage entry with covered drop-off for the hotel. In addition, a pedestrian arcade through the building will connect Madeira Way to the public plaza. The parking garage will be on the second through fourth floors and will be shielded with a decorative living green wall. The hotel amenities are located on the fifth floor with direct access to a large roof terrace. The hotel rooms comprise the 6th through 11th floors.

In total there will be up to 575,000 square feet within the new buildings (875,000 square feet including the proposed parking structures). This is more than 290,000 square feet less than the maximum allowed by current zoning, representing a 25% reduction.

Automobile traffic has been carefully considered. The traffic signal at the intersection of 150th Avenue and Madeira Way is proposed to be removed. This will reduce congestion on 150th Avenue by allowing for a smoother flow of traffic. Currently between Causeway Park and Madeira Way there are eight curb cuts on the north side of 150th Avenue. These will all be eliminated except for one new entry to the marina and proposed condominiums. This too will reduce traffic conflicts.

As previously mentioned Madeira Way will be completely re-built as a two-lane, two-way pedestrian oriented street with parallel parking and generous sidewalks. It will no longer function as a shortcut by through traffic due to its slow speed and because vehicles will no longer be allowed to make a left turn at the east end of the street onto 150th Avenue. On the triangular block, the existing curb cuts onto 150th Avenue and Gulf Boulevard will be eliminated. All vehicular access for the two hotels and their accessory retail space will be via Madeira Way, thereby minimizing conflicts with the two major streets.

The parking needs for the proposed new development have also been thoughtfully designed. Consistent with the Madeira Beach Town Center Special Area Plan parking has been designed to improve pedestrian flow throughout the project and minimize conflicts with vehicular traffic. Enough parking has been provided to slightly exceed the city's required standards; and except for a small surface parking lot servicing the marina all other parking has been consolidated into four parking garages. This minimizes the land area occupied by automobile parking and allows more area to be devoted to landscaped green spaces and lively public spaces.

## SPECIAL AREA PLAN OBJECTIVES

As described below, special consideration has been given to meeting the Objectives of the Madeira Beach Town Center Special Area Plan as this proposal was developed.

**Create a unique sense of place for the Town Center, and create a sense of arrival for those entering the area.**

The design emphasis has been on creating distinctive pedestrian oriented places including a redeveloped pedestrian-oriented Madeira Way, a one-half acre public plaza at the intersection of Gulf Boulevard and 150th Avenue and a landscaped green space fronting the marina. Special care has been taken to create scenic gateways and views when entering the district from the east, south and north.

**Promote a wide variety of uses to create an activity center for both local residents and tourists.**

This is a true mixed-use project with a balance of residences, tourist accommodations, retail, restaurant, entertainment and recreational uses. And all of these uses are connected via sidewalks allowing for safe, convenient access across the district.

**Set a standard for urban design so that new development and redevelopment in the Town Center contributes to the public realm.**

As a result of this project two major public spaces will either be greatly improved (Madeira Way) or newly created (Madeira Plaza). This project proposes a carefully calibrated balance between new private development and public enhancement. These improvements will be codified through the Development Agreement as well as the Design Guidelines contained within this document.

**Promote redevelopment of older properties in a manner that contributes to the quality of urban design in the Town Center.**

Although the majority of the property is currently developed, it is at a density and pattern that does not create a sense of place for the community. The goal of the proposed project is to redevelop the area into a memorable destination for both locals and visitors.

**Increase the number of temporary lodging units and maintain existing residential units in the Town Center that have the quality characteristics included in the Special Area Plan.**

The proposal will add 430 hotel rooms and 90 dwelling units to the core of the Town Center. Although the residents and guests will bring new life to the community, the proposed density is substantially less than the maximum allowed. All will have thoughtful architectural design that reflect the relaxed, subtropical character of Madeira Beach while simultaneously working together to create a coherent character for the Town Center.

**Improve pedestrian and bicycling access to all major destinations with the Town Center, including the parks, the beach, retail properties and civic destinations.**

Numerous improvements are proposed to enhance pedestrian and bicycle access. A 12-foot-wide combined pedestrian/bicycle trail will connect Madeira Way to Causeway Park. Madeira Way will be redeveloped as a pedestrian oriented shopping street. A new public plaza will be located at the intersection of Gulf Boulevard and 150th Avenue with a direct pedestrian access to Madeira Way. An elevated crosswalk is proposed to provide safe, pedestrian access across Gulf Boulevard.

**Increase connections and access to parks, ensuring that views of the Gulf and Boca Ciega Bay are preserved.**

A new pedestrian/bicycle trail will connect Causeway Park back to the Town Center. A new public space will be created at the intersection of Gulf Boulevard and 150th Avenue. Along the marina the new buildings have been spaced out to preserve view corridors. The new condominium buildings have been separated by 430 feet. And there is a 60 foot opening between Condominium B and Hotel A. Although sometimes controversial, allowing for taller buildings in waterfront districts reduces the size of the structure's footprint and results in better views overall to and from neighboring properties. It also allows a greater percentage of the site to be dedicated to green space.

**Develop parking and access strategies that help to make the most efficient use of scarce land and contribute to the quality of the public realm in the Town Center.**

The site plan proposes to eliminate all curb cuts along 150th Avenue and Gulf Boulevard except for one access point providing consolidated service to the marina and two new condominiums. All vehicular access for the two hotels will be via Madeira Way. Except for a small, 39 space, surface parking lot serving the marina, all other parking for the development will be located within four parking structures at the base of the new buildings. This allows for a significant increase in the amount of landscaped green space and lively public areas.

**PROJECT DATA**

	Parcel 1	Parcel 2	Parcel 3	Parcel 4	Parcel 5	Parcel 6	Totals
Land Use	Condo A	Common Area	Marina	Condo B	Hotel A	Hotel B	
Land Area	43,416 s.f.	21,929 s.f.	38,298 s.f.	45,017 s.f.	50,514 s.f.	92,511 s.f.	291,685 s.f.
Acreage	0.997 ac.	0.503 ac.	0.879 ac.	1.033 ac.	1.160 ac.	2.124 ac.	6.696 ac.
Hotel - Density Allowed							125 rooms/ac.
Hotel - Rooms Allowed							837 rooms
Hotel - Density Proposed							64.2 rooms/ac.
Hotel - Rooms Proposed					180 rooms	250 rooms	430 rooms
Condos - Density Allowed							15 units/ac.
Condos - Units Allowed							100 units
Condos - Density Proposed							13.4 units/ac.
Condos - Units Proposed	45 units			45 units			90 units
Retail Space			4,000 s.f.		3,000 s.f.	28,000 s.f.	35,000 s.f.
Restaurant Space			1,000 s.f.		2,000 s.f.	12,000 s.f.	15,000 s.f.
Gross Building Area - Allowed							1,166,740 s.f.
Gross Building Area - Proposed	150,000 s.f.		5,000 s.f.	150,000 s.f.	200,000 s.f.	370,000 s.f.	875,000 s.f.
F.A.R. - Allowed							4.00
F.A.R. - Proposed							3.00
Boat Slips - Allowed							43 slips
Boat Slips - Proposed			43 slips				43 slips
Parking - Minimum Required	90 spaces		36 spaces	90 spaces	201 spaces	392 spaces	809 spaces
Parking - Proposed	95 spaces		39 spaces	95 spaces	210 spaces	400 spaces	839 spaces

Parking Ratios - Residential: 2 spaces per unit / Hotel: 1 space per room / Retail: 2 spaces per 3,000 s.f. / Restaurant: 1 space per 4 seats (120 s.f.) / Marina: 1 space per 2 slips



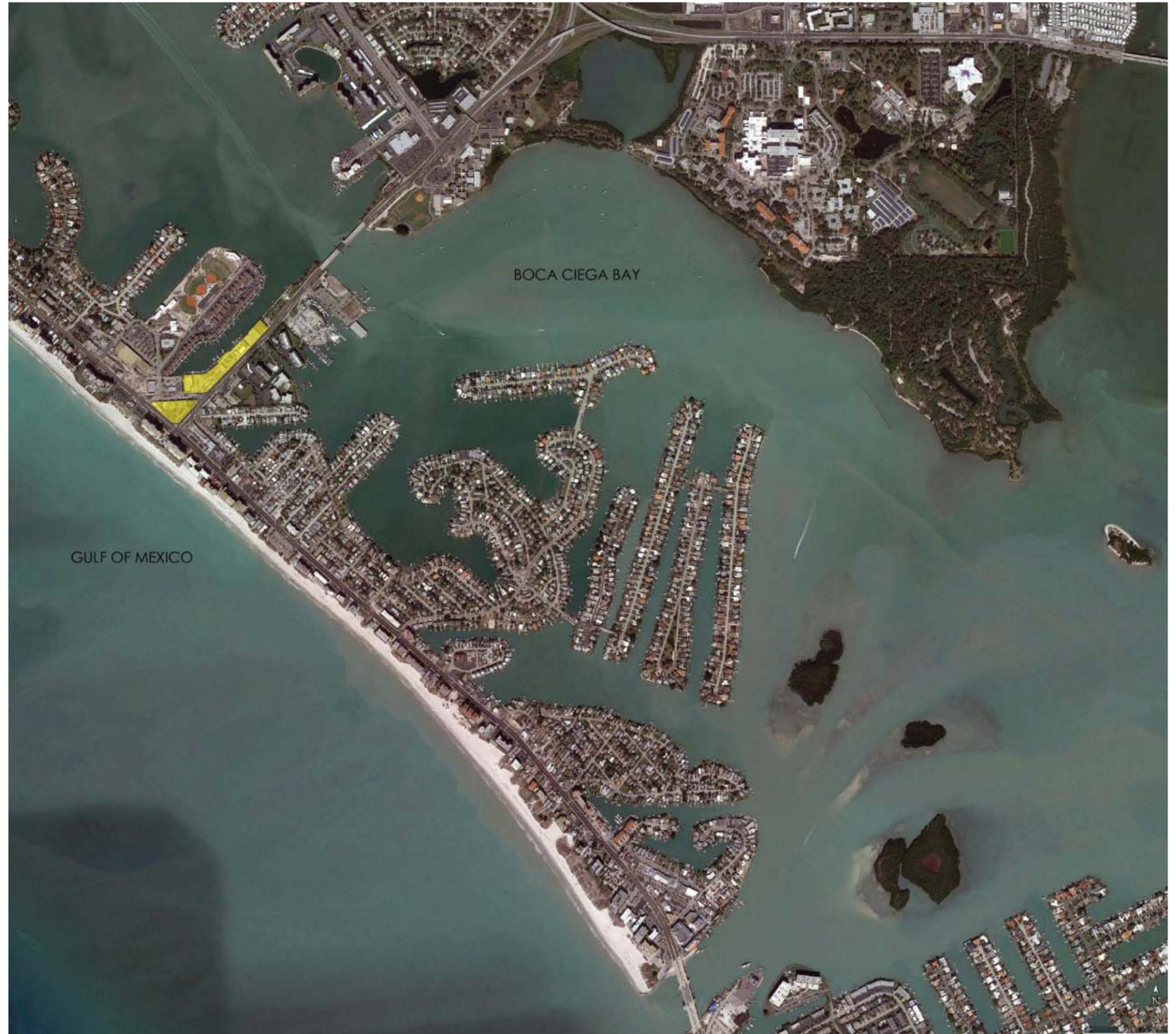
VIEW FROM 150TH AVENUE LOOKING SOUTHWEST

# Madeira Beach Town Center

MADEIRA BEACH, FLORIDA

## CITY OF MADEIRA BEACH

The city of Madeira Beach is strategically located midway along the 30 plus miles of Pinellas beaches. It's a small town with a big waterfront – over two miles of gulf beaches and many more miles of frontage onto Boca Ciega Bay. With 4,300 residents in its one square mile, Madeira Beach is almost completely built out with relatively little new development in the last 15 years. A new Courtyard Marriott hotel opened last year on the mainland, but no new hotels have been built on the island since the 1970's. Although the residential housing stock is reasonably stable, much of the commercial property consists of older one-story buildings with large, surface parking lots.



GOOGLE EARTH IMAGE

## MADEIRA BEACH TOWN CENTER

As described within the city's Special Area Plan, the overall Town Center district is approximately 80 acres in size. The subject property's 6.7 acres is located right in the heart of the district. This property is significantly under-developed containing only 63,000 square feet of commercial space across multiple parcels. With very little green space the majority of the land consists of surface parking lots. However, as noted within the plan the location is superb. Serviced by two major arterial roadways, Gulf Boulevard and 150th Avenue, the property enjoys over 1,200 feet of frontage on the intercoastal waterway and is within walking distance of the Gulf beaches, the town civic center, public parks and a drug store and grocery store.



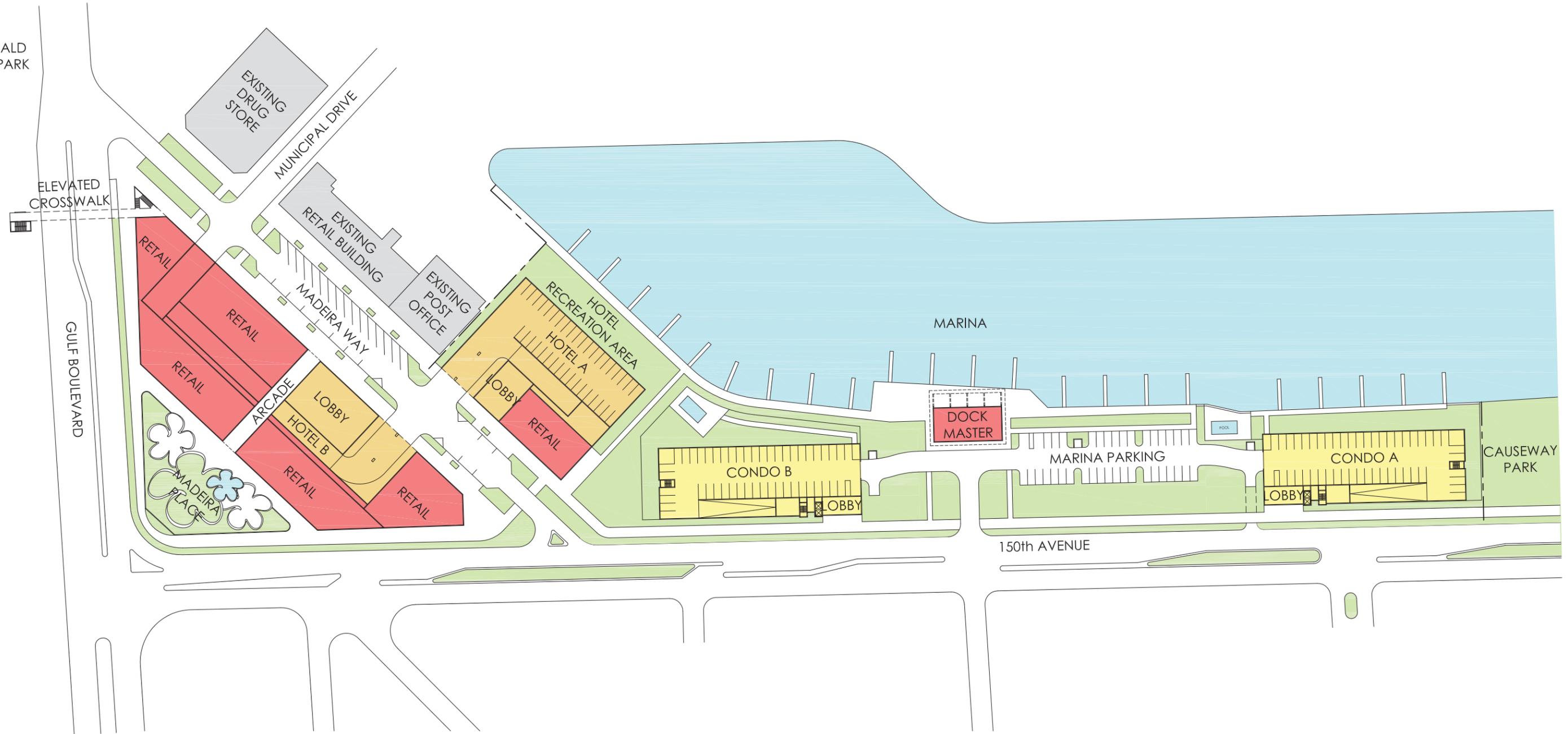
GOOGLE EARTH IMAGE

AERIAL VIEW OF MADEIRA BEACH TOWN CENTER

# Madeira Beach Town Center

MADEIRA BEACH, FLORIDA

ARCHIBALD BEACH PARK



Overall Site Plan

SCALE: 1" = 120'-0"





VIEW FROM ARCHIBALD PARK LOOKING EAST

# Madeira Beach Town Center

MADEIRA BEACH, FLORIDA



VIEW ACROSS GULF BOULEVARD LOOKING SOUTHEAST



VIEW OF MADEIRA WAY LOOKING EAST



VIEW FROM ACROSS 150TH AVENUE LOOKING WEST



VIEW OF MADEIRA WAY LOOKING WEST

# Madeira Beach Town Center

MADEIRA BEACH, FLORIDA 13



AERIAL VIEW OF MADEIRA PLAZA



VIEW OF MADEIRA PLAZA



AERIAL VIEW LOOKING WEST TOWARDS ARCHIBALD PARK



GULF BOULEVARD VIEW LOOKING NORTHWEST

# Madeira Beach Town Center

MADEIRA BEACH, FLORIDA 17

ARCHIBALD BEACH PARK

GULF BOULEVARD

MUNICIPAL DRIVE

MADERA WAY

HOTEL B

HOTEL A

MARINA

DOCK MASTER

CONDO B

CONDO A

CAUSEWAY PARK

150th AVENUE

NOTE: HATCHED AREAS INDICATE PUBLIC ACCESS AREAS



### Public Access Site Plan

SCALE: 1" = 120'-0"



ARCHIBALD BEACH PARK

GULF BOULEVARD

MUNICIPAL DRIVE

MADERA WAY

PARCEL 6

PARCEL 5

PARCEL 4

MARINA

PARCEL 3

PARCEL 2

PARCEL 1

CASUEWAY PARK

150th AVENUE

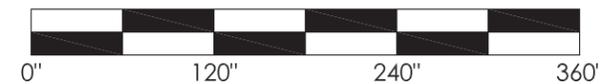


LEGEND



Overall Parcel Plan

SCALE: 1" = 120'-0"



OVERALL PARCEL PLAN

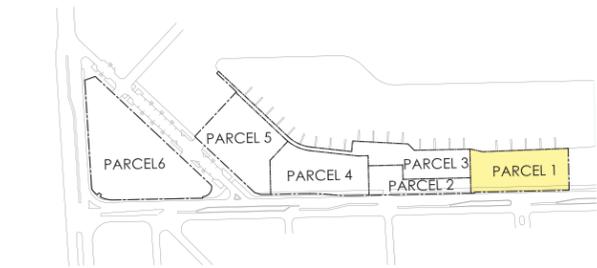
Madeira Beach Town Center

MADEIRA BEACH, FLORIDA

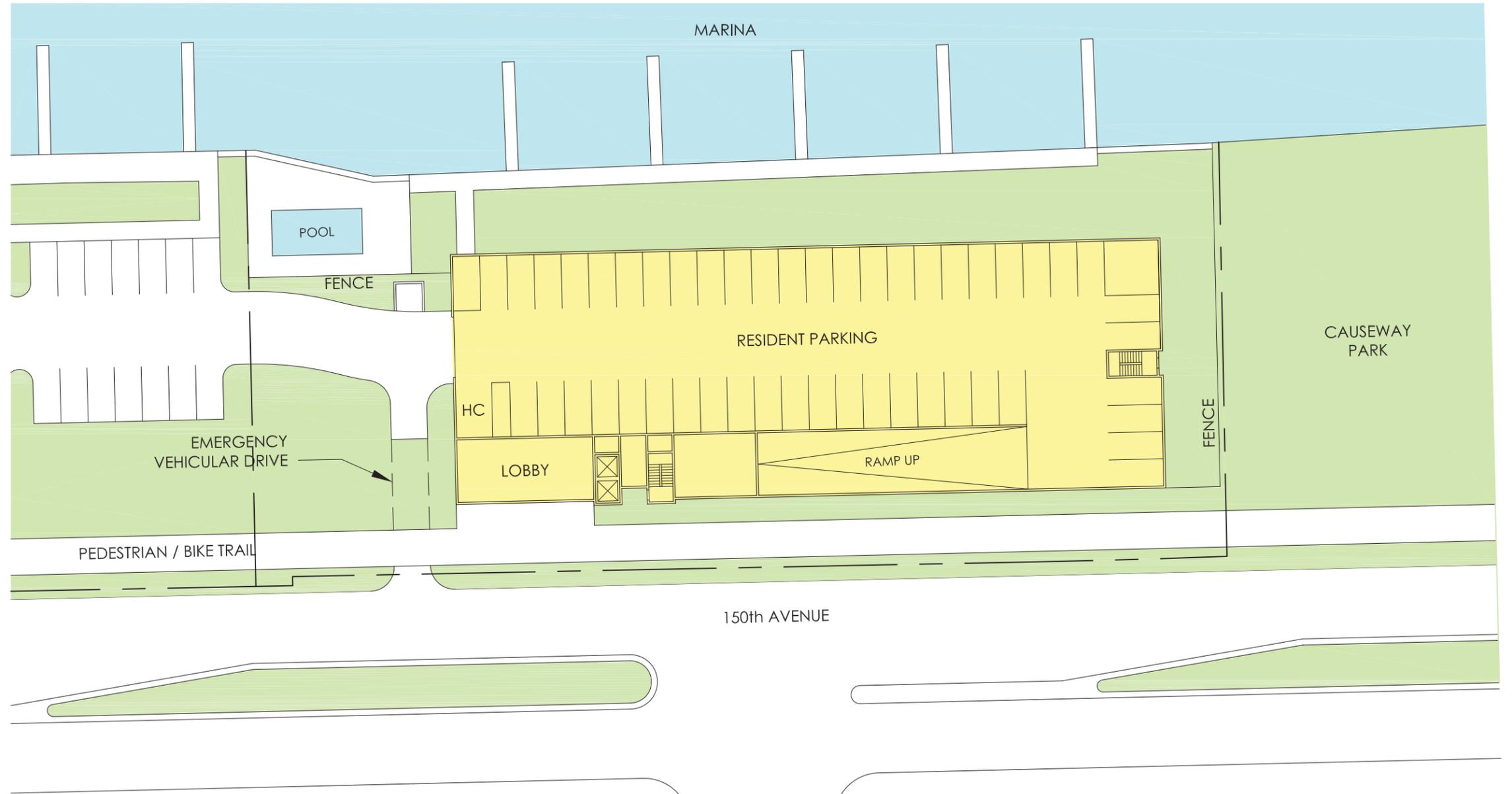
# CONDO A

45 UNITS  
8 FLOORS  
95 PARKING SPACES

This building will have up to 45 dwelling units averaging approximately 1,900 square feet each. The building's first floor lobby faces 150th Avenue to provide a visible front door. Parking is located on the lower two floors with two spaces per unit plus a few extra for visitors. Above are six floors of units. The building is designed to take full advantage of the water views in all directions. A rear amenity area includes a swimming pool and five slips for 10 boats.



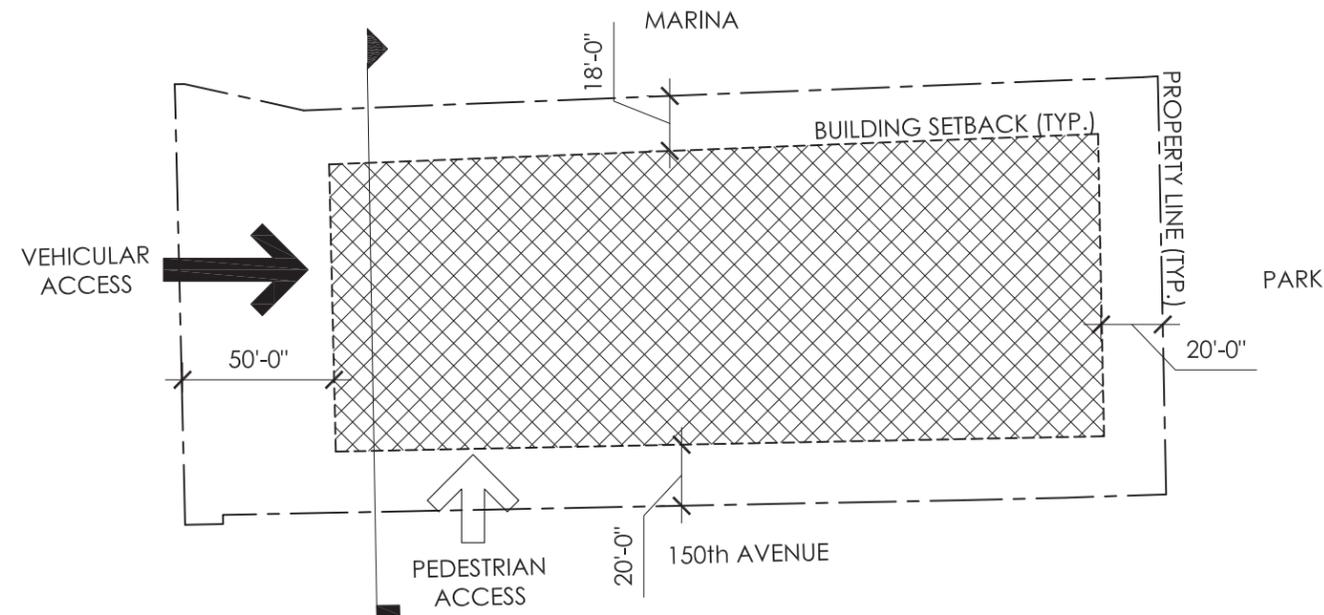
LEGEND



 **Condo A Site Plan**  
SCALE: 1" = 40'-0"

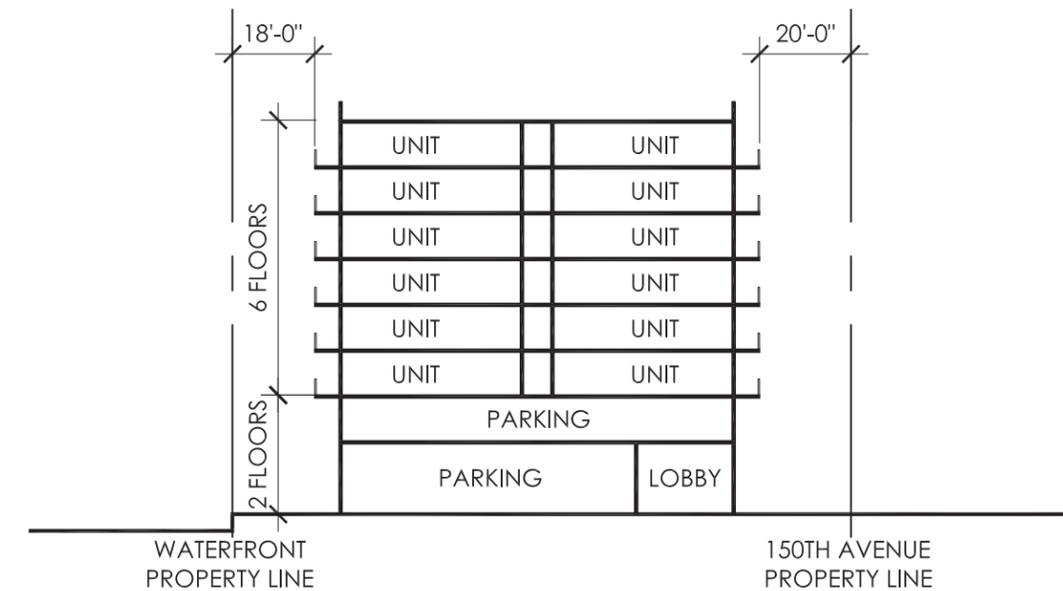
Site Area	43,416 s.f. (0.997 ac.)
Maximum Dwelling Units	45 units
Maximum Building Height	80 feet
Maximum Impervious Surface Ratio	70% of site area
Maximum Building Footprint	50% of site area
Maximum Building Gross Area*	150,000 s.f.
Minimum Required Parking	Residential: 2 spaces per unit

\* Includes structured parking



 **Building Setbacks and Access Diagram**  
SCALE: 1" = 60'-0"

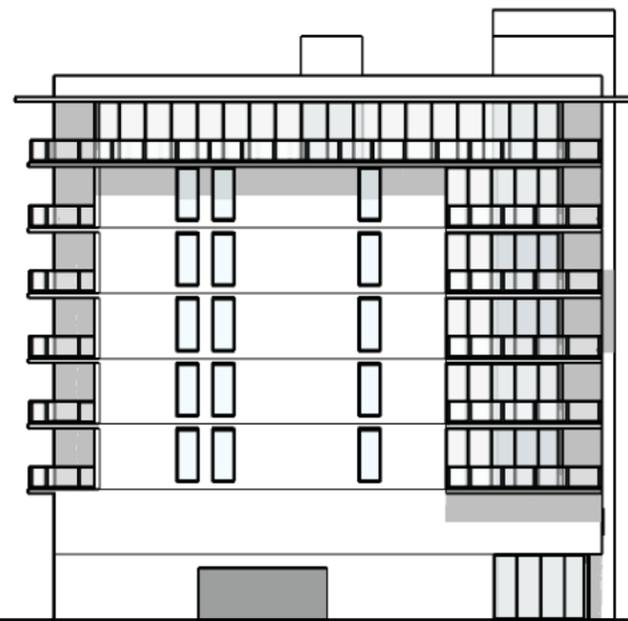
 MAXIMUM EXTENT OF BUILDING FOOTPRINT



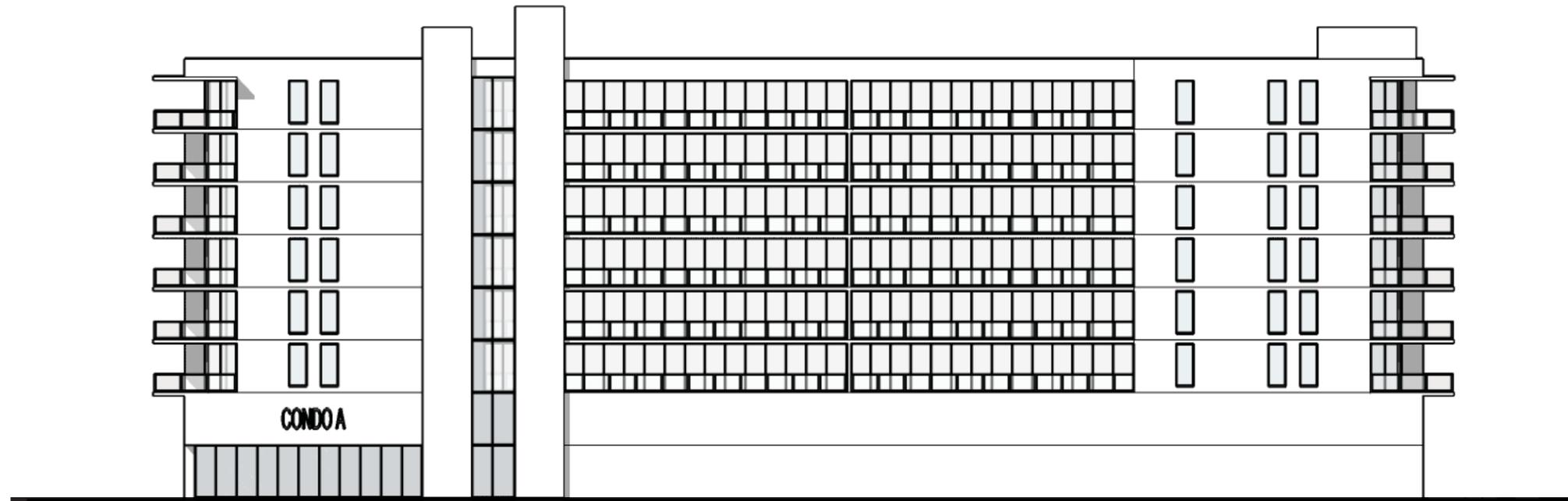
**Building Section**  
SCALE: NTS



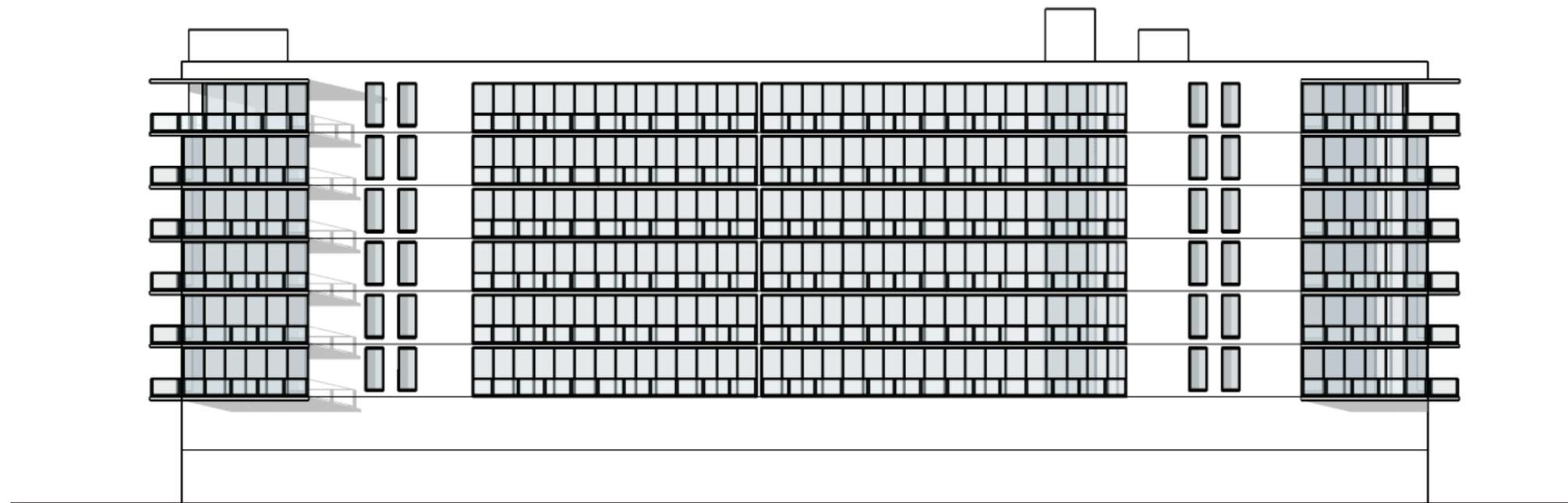
North Elevation



South Elevation



East Elevation

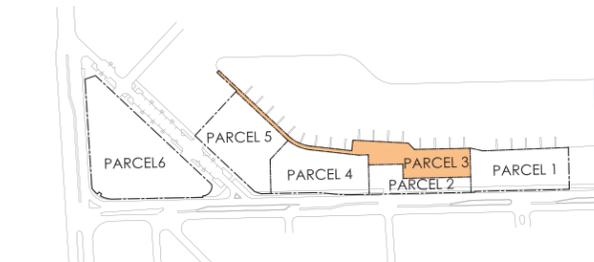
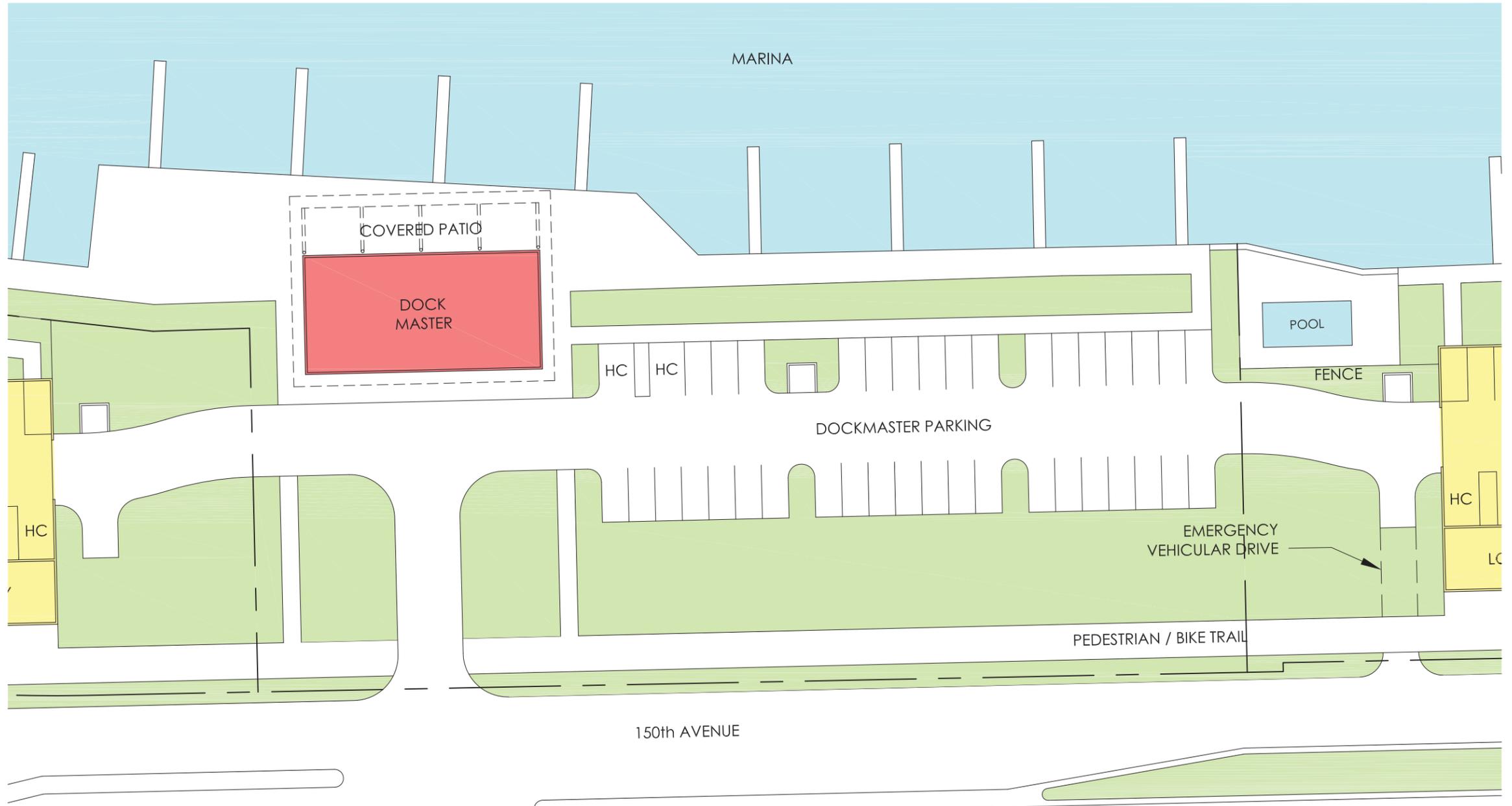


West Elevation

# MARINA

5,000 S.F.  
2 FLOORS  
39 PARKING SPACES

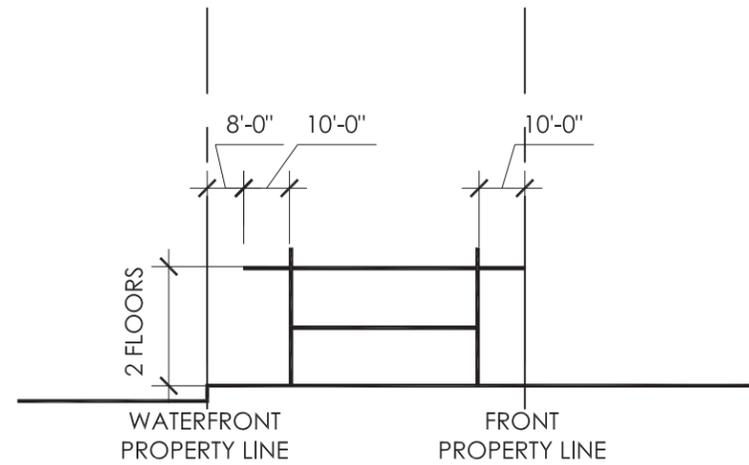
The existing 43 slip marina will be rebuilt with new seawall and docks. Serving the marina will be a one or two story Dockmaster building located on axis with the new entry drive off of 150th Avenue. The Dockmaster structure may include a small café or snack stand. Adjacent to the building is a 39-space landscaped parking lot. Except for the fenced off areas around the condominium buildings the waterfront along the marina will be publicly accessible for pedestrians.



## LEGEND

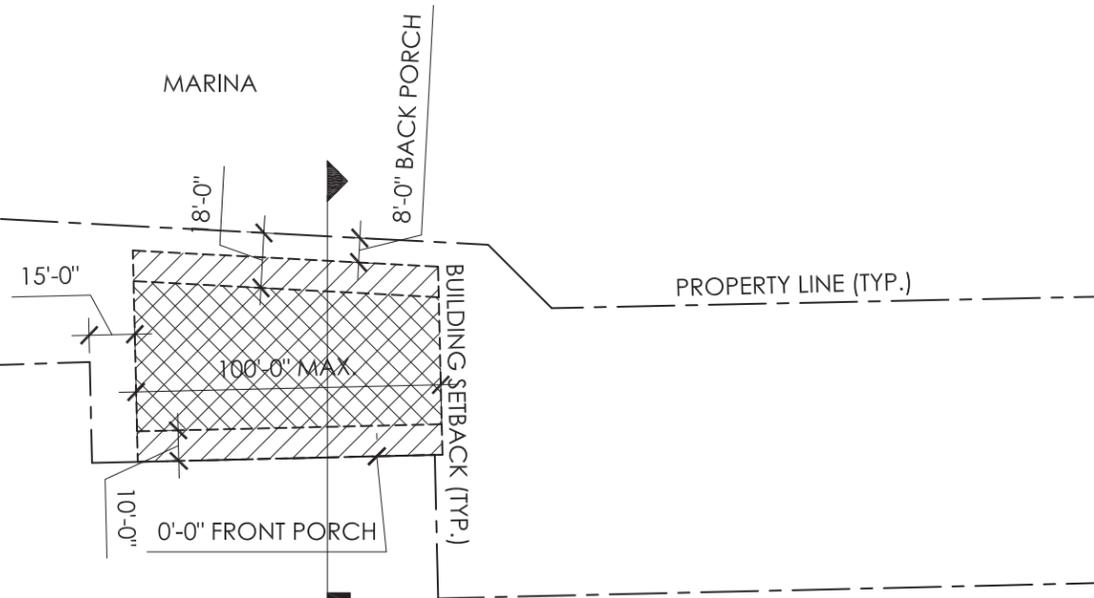
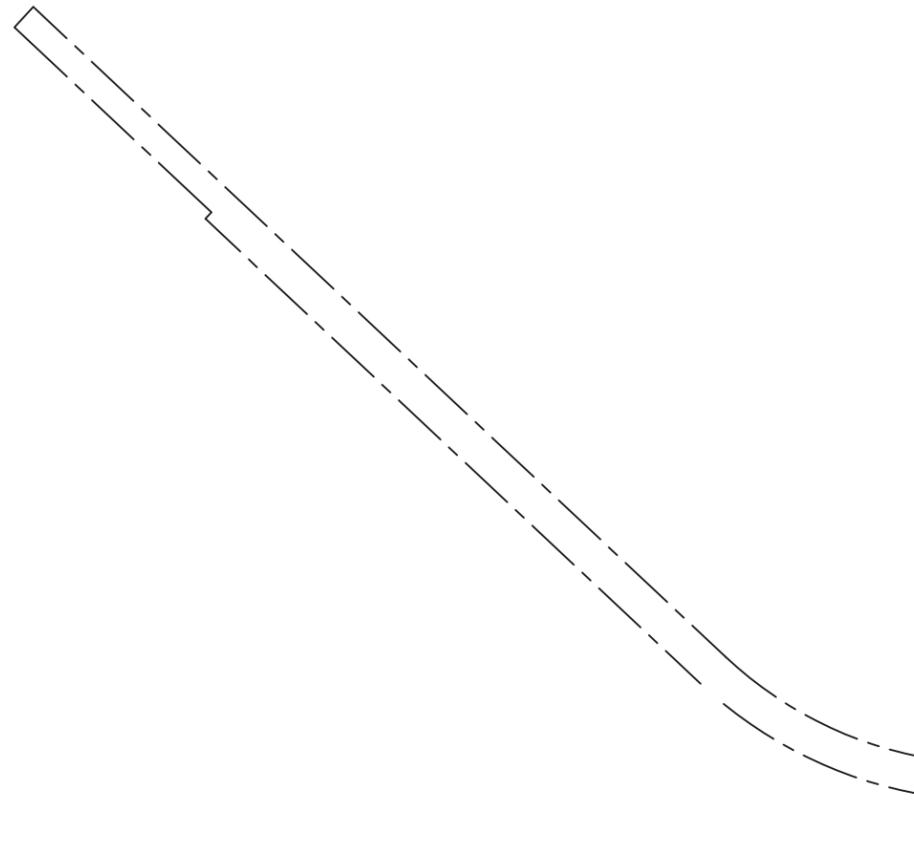
 Marina Site Plan  
SCALE: 1" = 40'-0"

Site Area	38,298 s.f. (0.879 ac.)
Maximum Commercial Space	5,000 s.f.
Maximum Boat Slips	43
Maximum Building Height	30 feet
Maximum Impervious Surface Ratio	70% of site area
Maximum Building Footprint	50% of site area
Maximum Building Gross Area	5,000 s.f.
Minimum Required Parking	Marina: 1 space per 2 boat slips Retail: 2 spaces per 3,000 s.f. Restaurant: 1 space per 4 seats



### Building Section

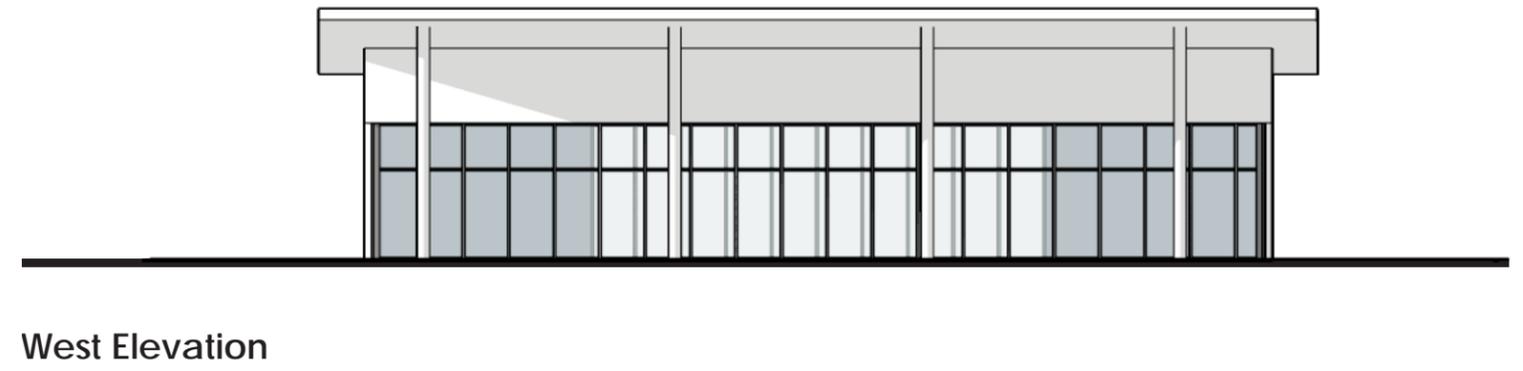
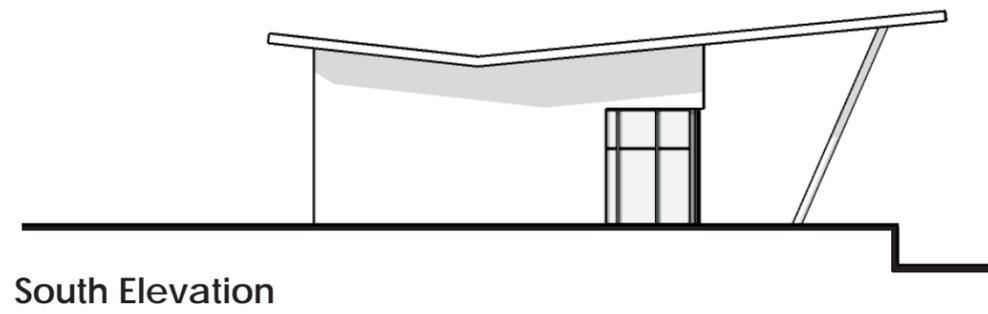
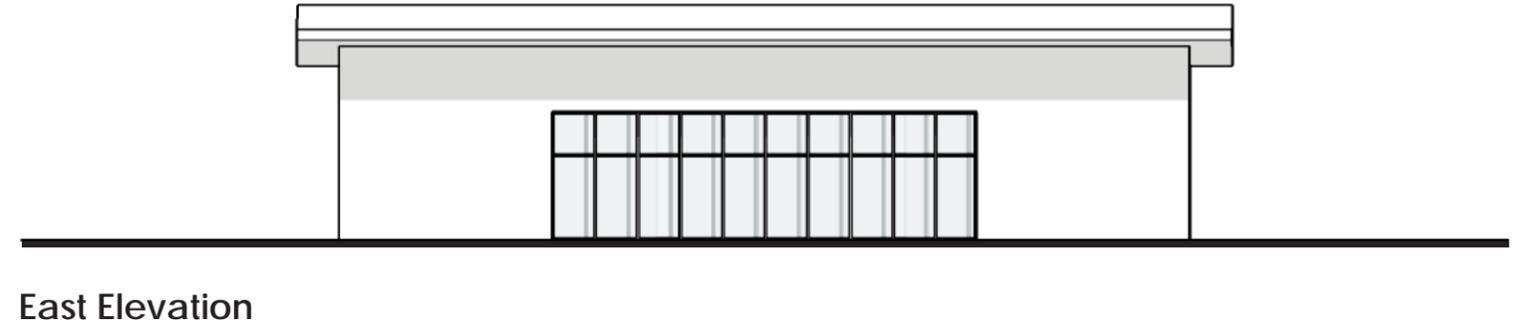
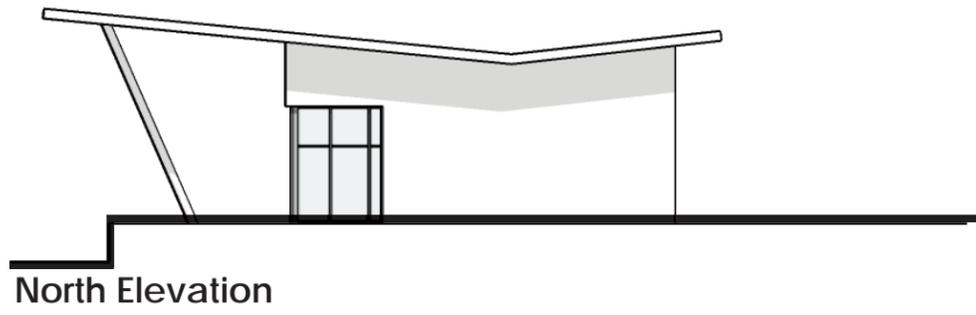
SCALE: NTS



### Building Setbacks and Access Diagram

SCALE: 1" = 60'-0"

-  MAXIMUM EXTENT OF BUILDING FOOTPRINT
-  MAXIMUM EXTENT OF PORCH





AERIAL VIEW

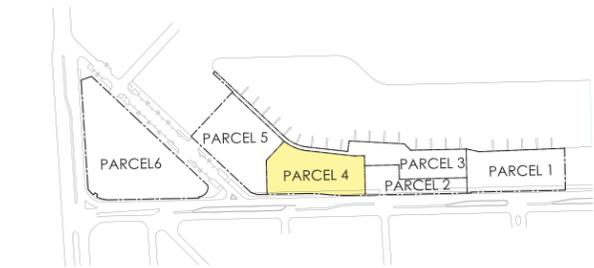
# Madeira Beach Town Center

MADEIRA BEACH, FLORIDA

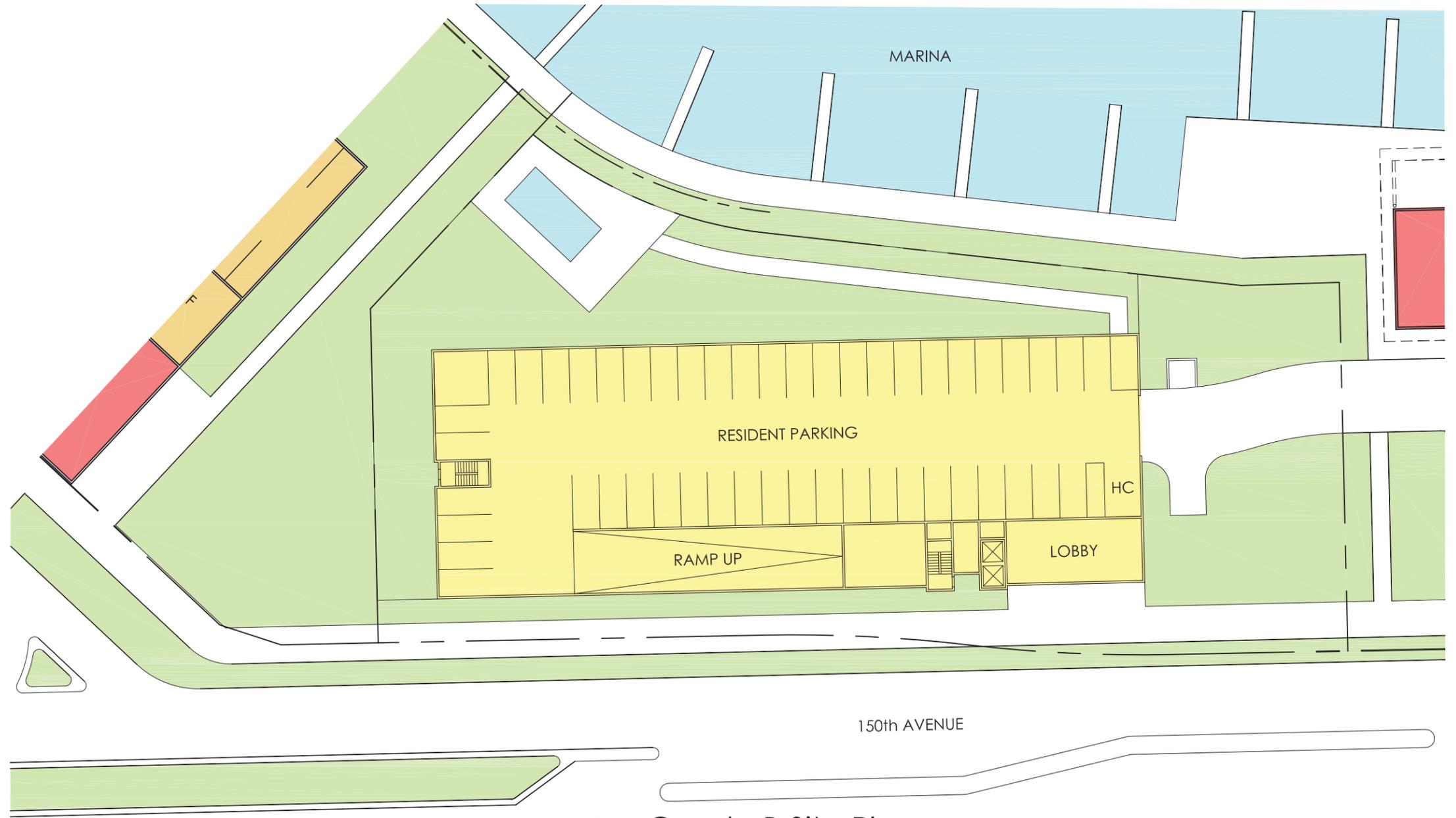
# CONDO B

45 UNITS  
8 FLOORS  
95 PARKING SPACES

This building will have up to 45 dwelling units averaging approximately 1,900 square feet each. The building's first floor lobby faces 150th Avenue to provide a visible front door. Parking is located on the lower two floors with two spaces per unit plus a few extra for visitors. Above are six floors of units. The building is designed to take full advantage of the water views in all directions. A rear amenity area includes a swimming pool.



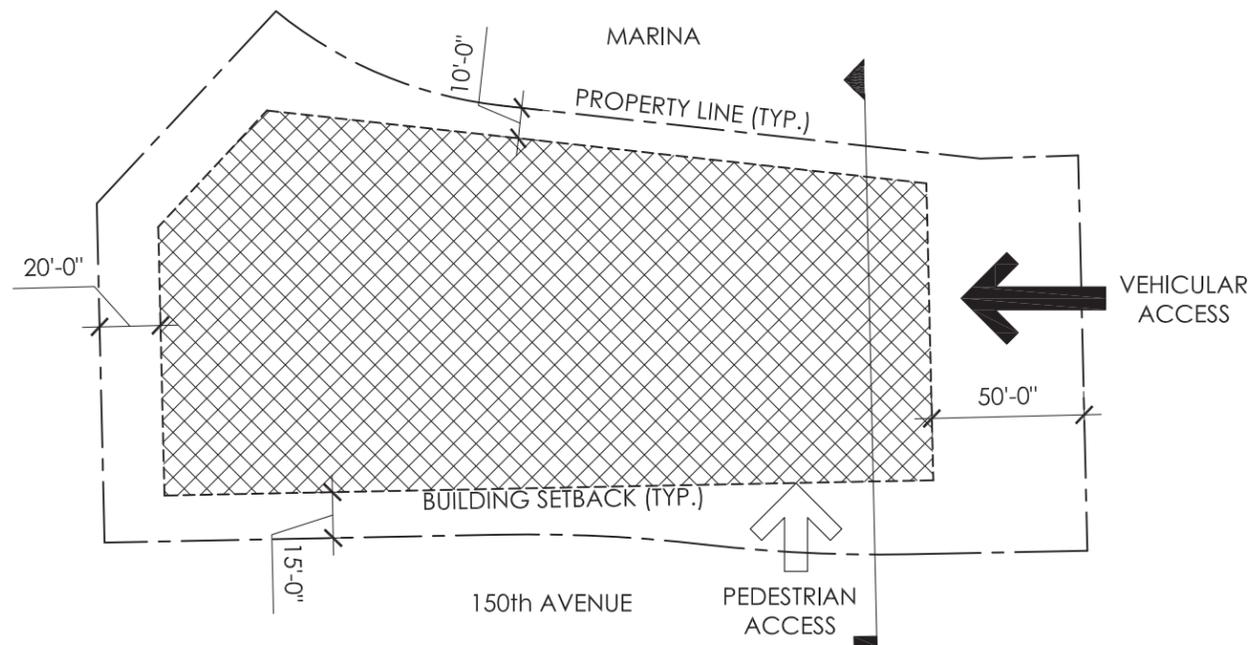
LEGEND



 **Condo B Site Plan**  
SCALE: 1" = 40'-0"

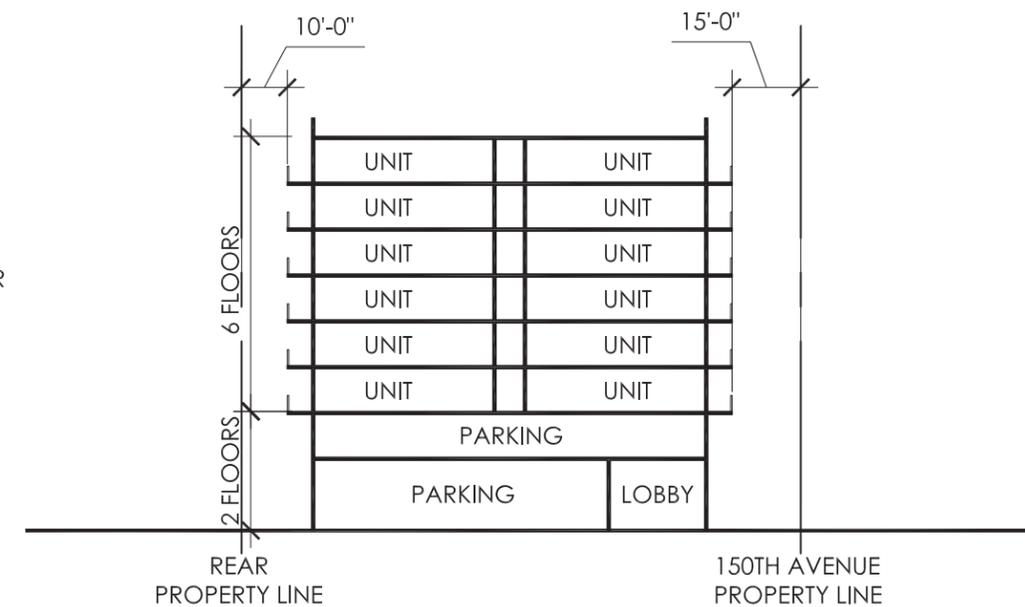
Site Area	45,017 s.f. (1.033 ac.)
Maximum Dwelling Units	45 units
Maximum Building Height	80 feet
Maximum Impervious Surface Ratio	70% of site area
Maximum Building Footprint	50% of site area
Maximum Building Gross Area*	150,000 s.f.
Minimum Required Parking	Residential: 2 spaces per unit

\* Includes structured parking

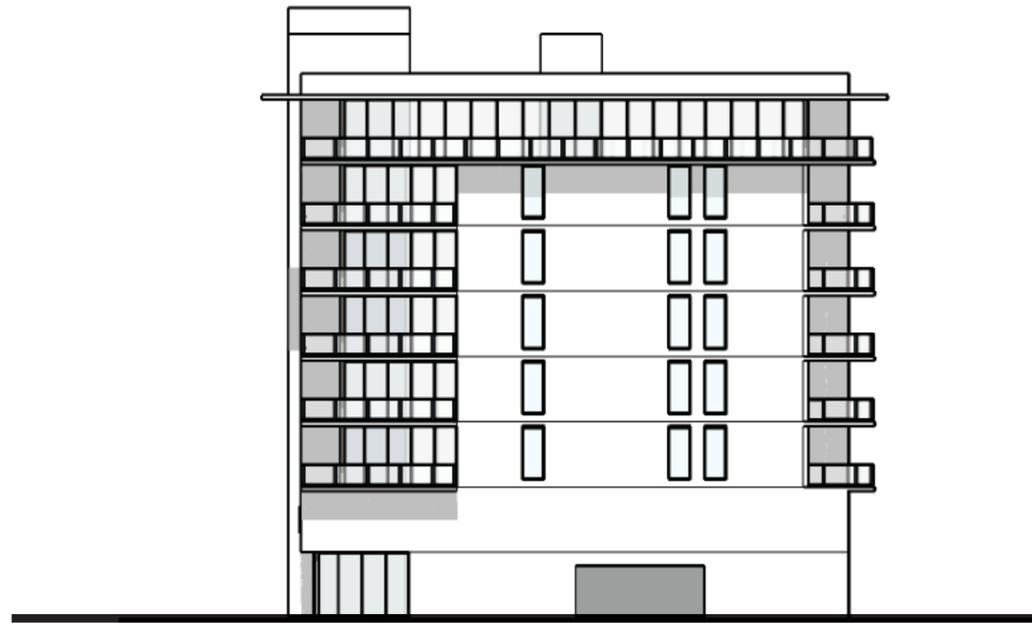


 Building Setbacks and Access Diagram  
SCALE: 1" = 60'-0"

 MAXIMUM EXTENT OF BUILDING FOOTPRINT



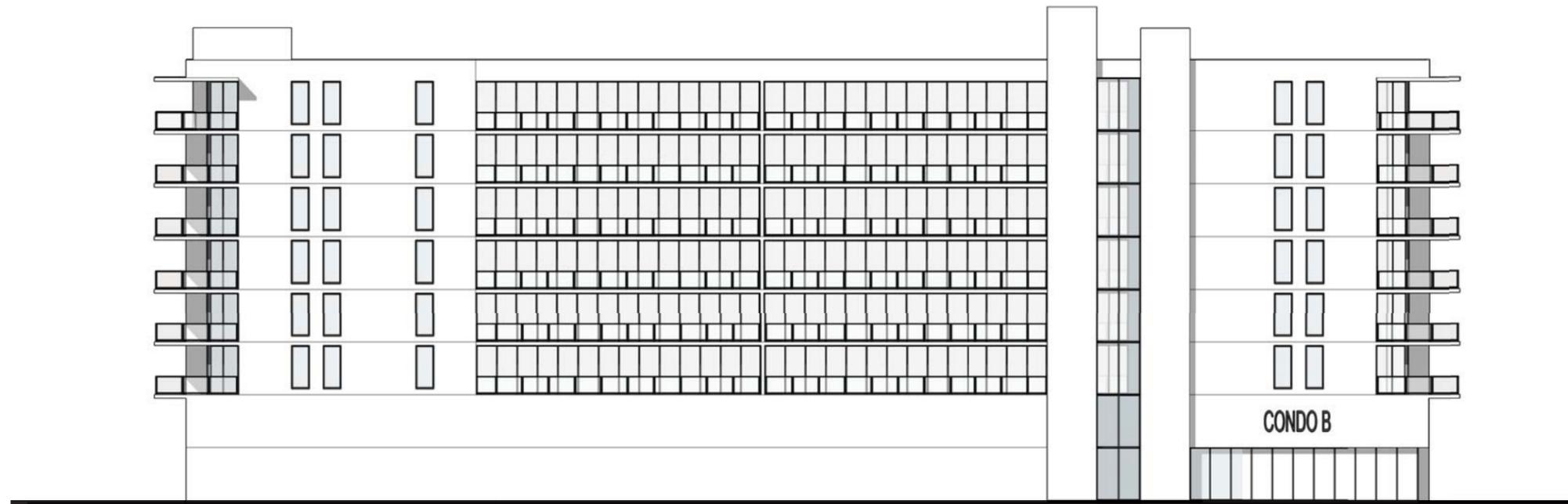
Building Section  
SCALE: NTS



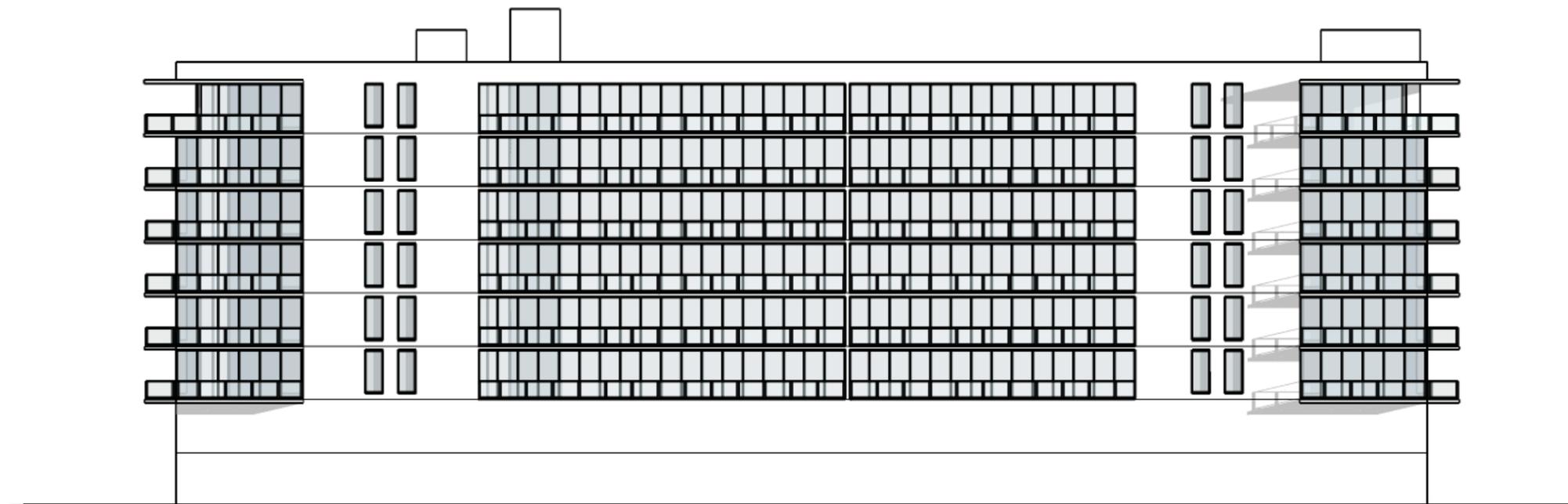
North Elevation



South Elevation



East Elevation

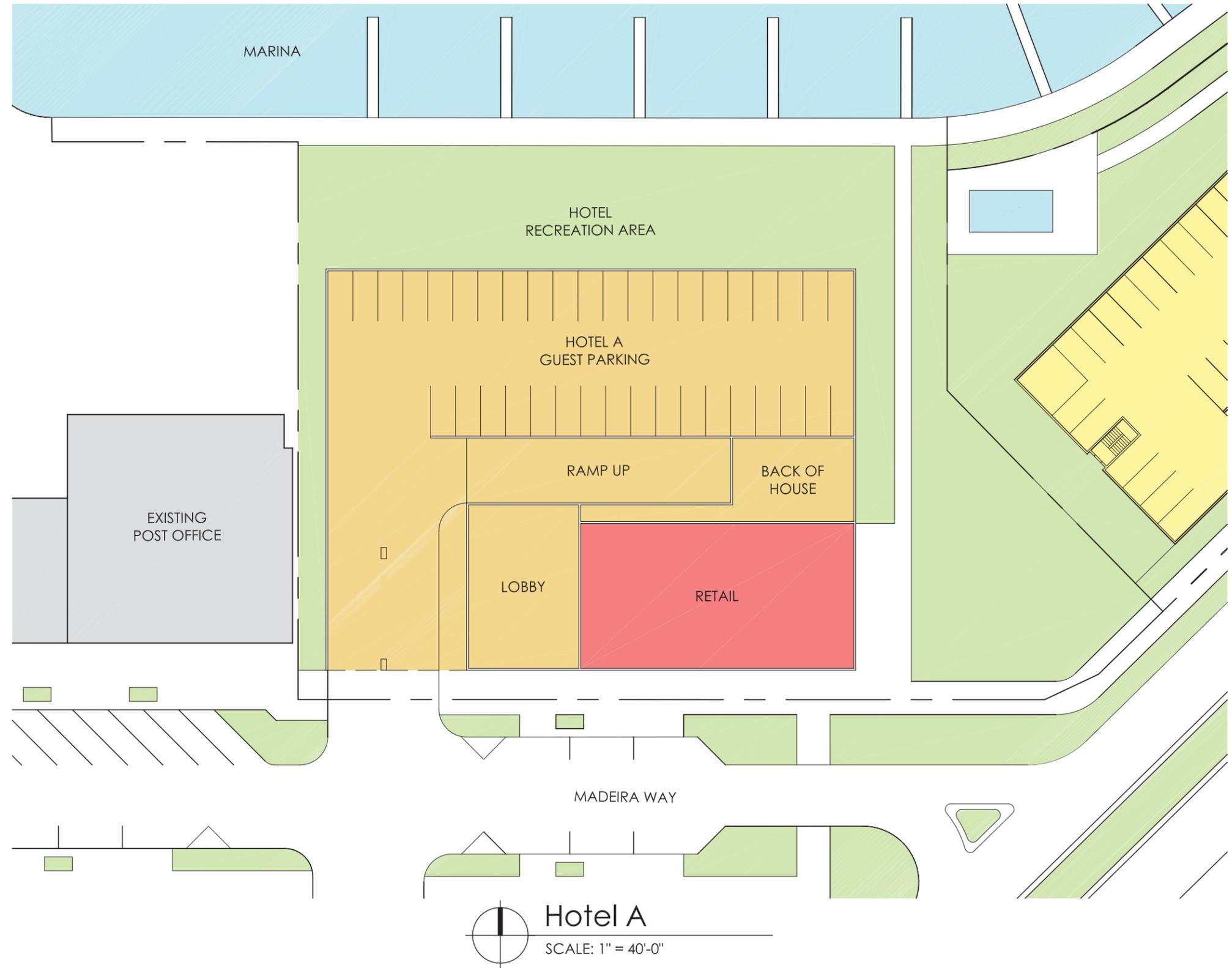
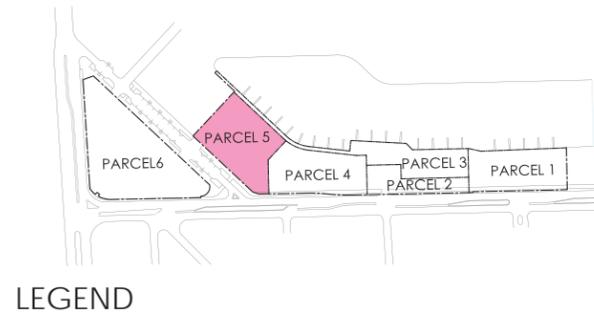


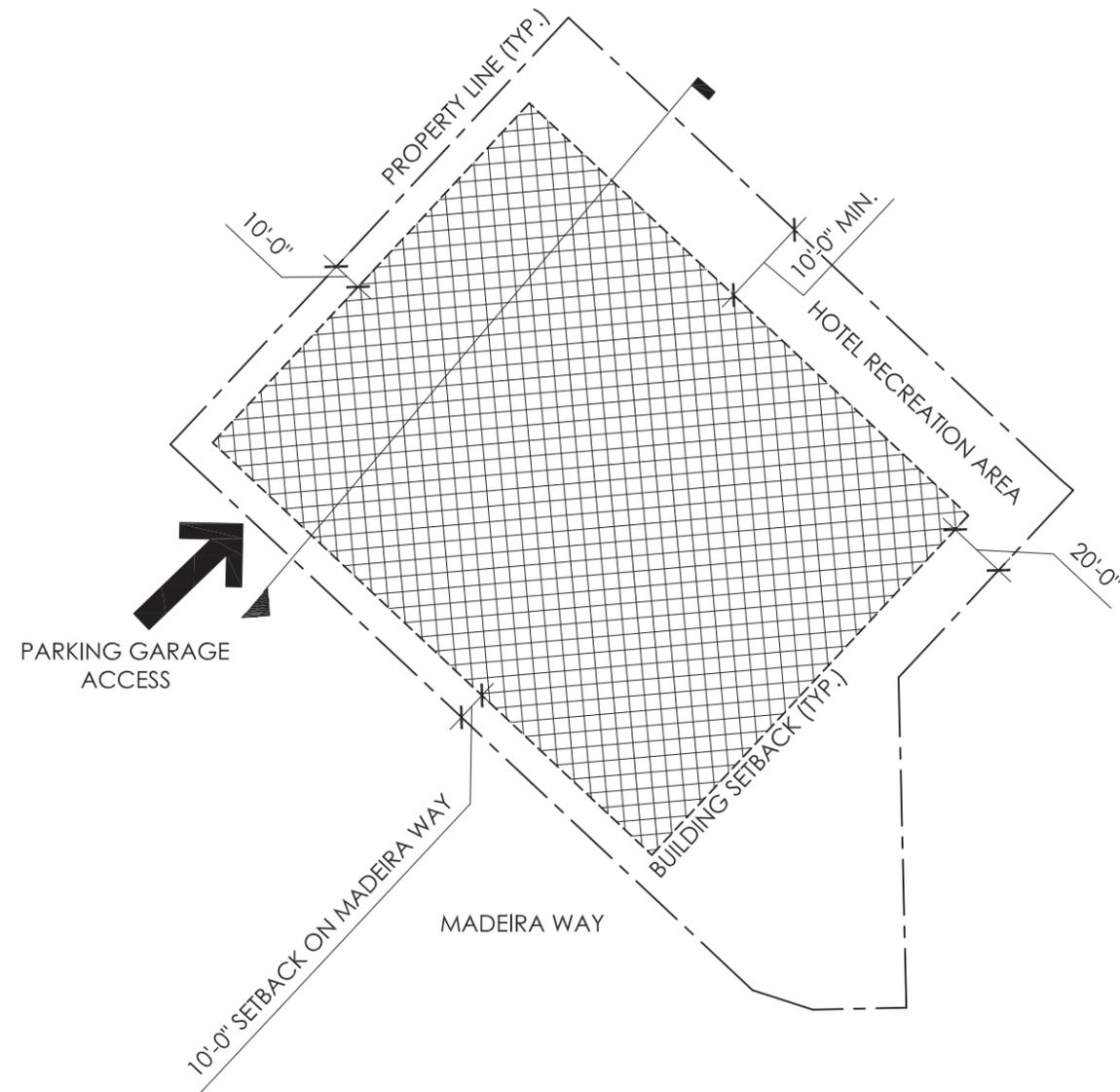
West Elevation

# HOTEL A

180 ROOMS  
 5,000 S.F. RETAIL  
 11 FLOORS  
 210 PARKING SPACES

This is programmed to be a suites hotel with up to 180 rooms. The first floor of the building contains the lobby, up to 5,000 square feet of retail and restaurant space, parking and support and service spaces. Above are two additional floors of parking. The 4th floor will have hotel amenities opening onto a roof terrace as well as some hotel rooms. The remainder of the hotel rooms will be on floors 5 through 11. The design of the building reinforces the pedestrian nature of Madeira Way by its close relationship to the sidewalk and ground level active uses.



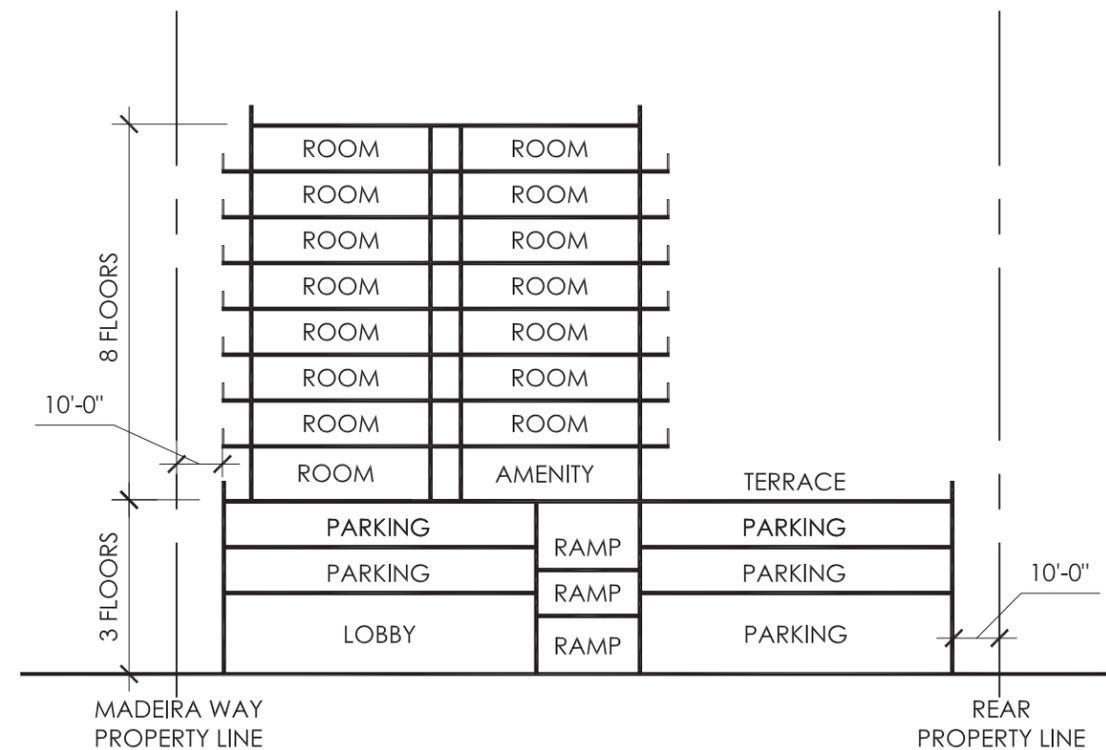


 **Building Setbacks and Access Diagram**  
SCALE: 1" = 60'-0"

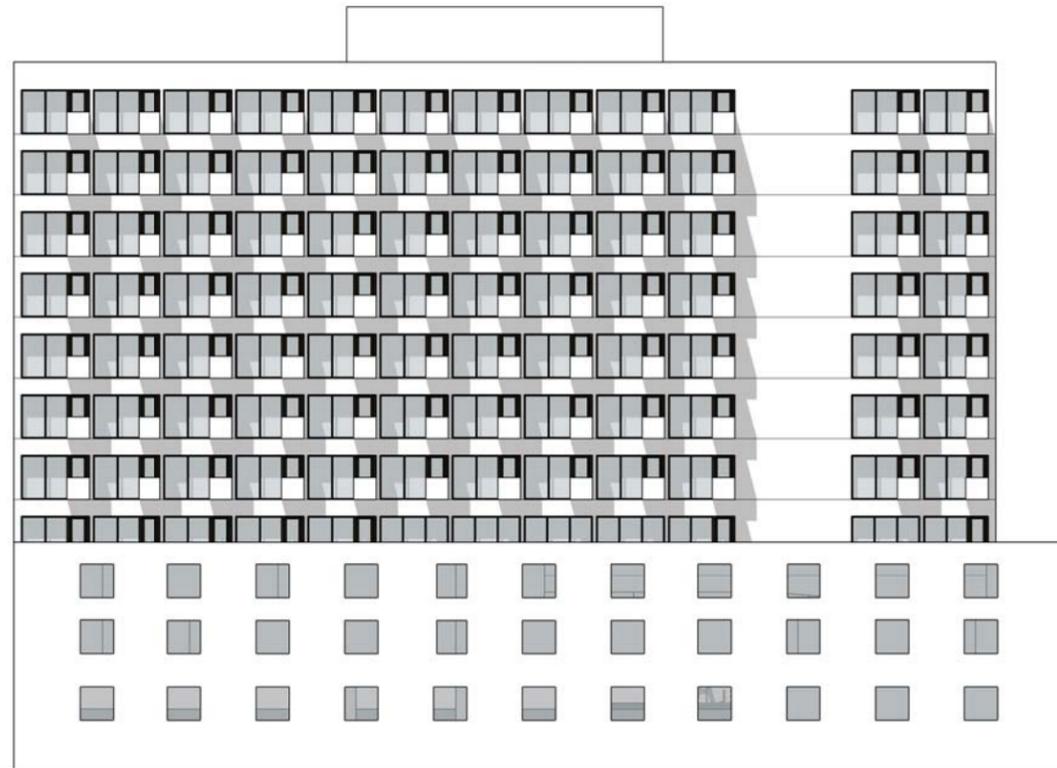
 MAXIMUM EXTENT OF BUILDING FOOTPRINT

Site Area	50,514 s.f. (1.160 ac.)
Maximum Hotel Rooms	180
Maximum Commercial Space	5,000 s.f.
Maximum Building Height	115 feet
Maximum Impervious Surface Ratio	85% of site area
Maximum Building Footprint	70% of site area
Maximum Building Gross Area*	200,000 s.f.
Minimum Required Parking	Hotel: 1 space per room Retail: 2 spaces per 3,000 s.f. Restaurant: 1 space per 4 seats

\* Includes structured parking



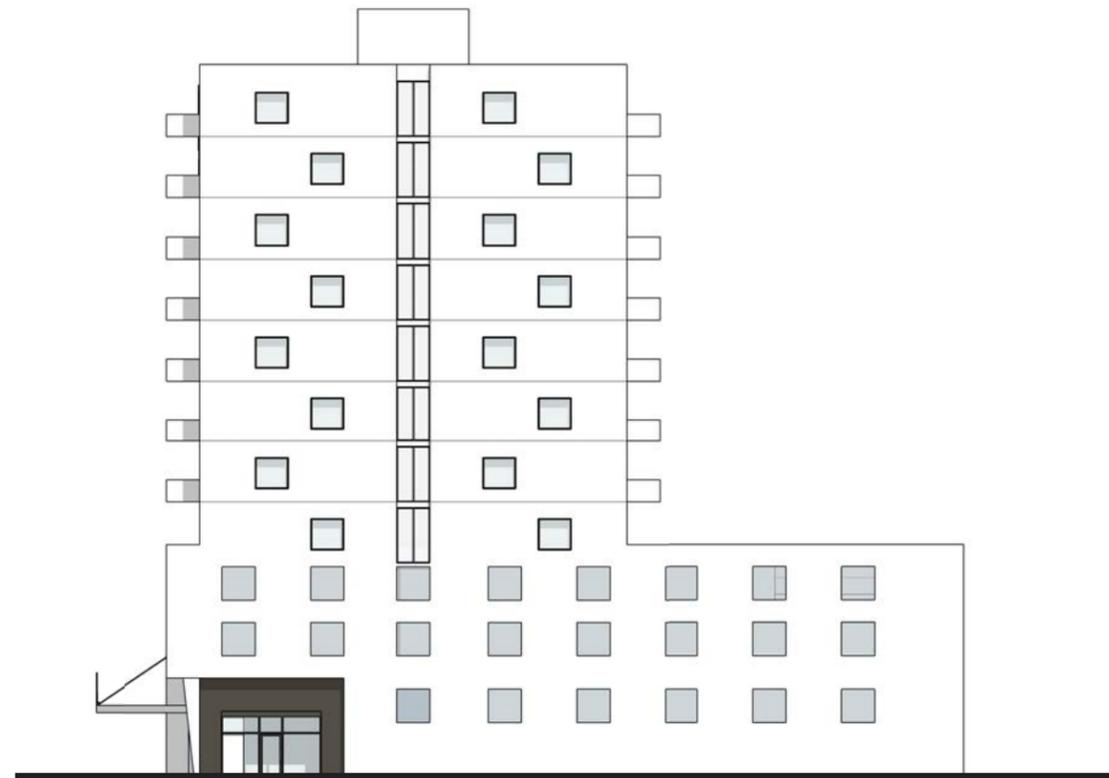
**Building Section**  
SCALE: NTS



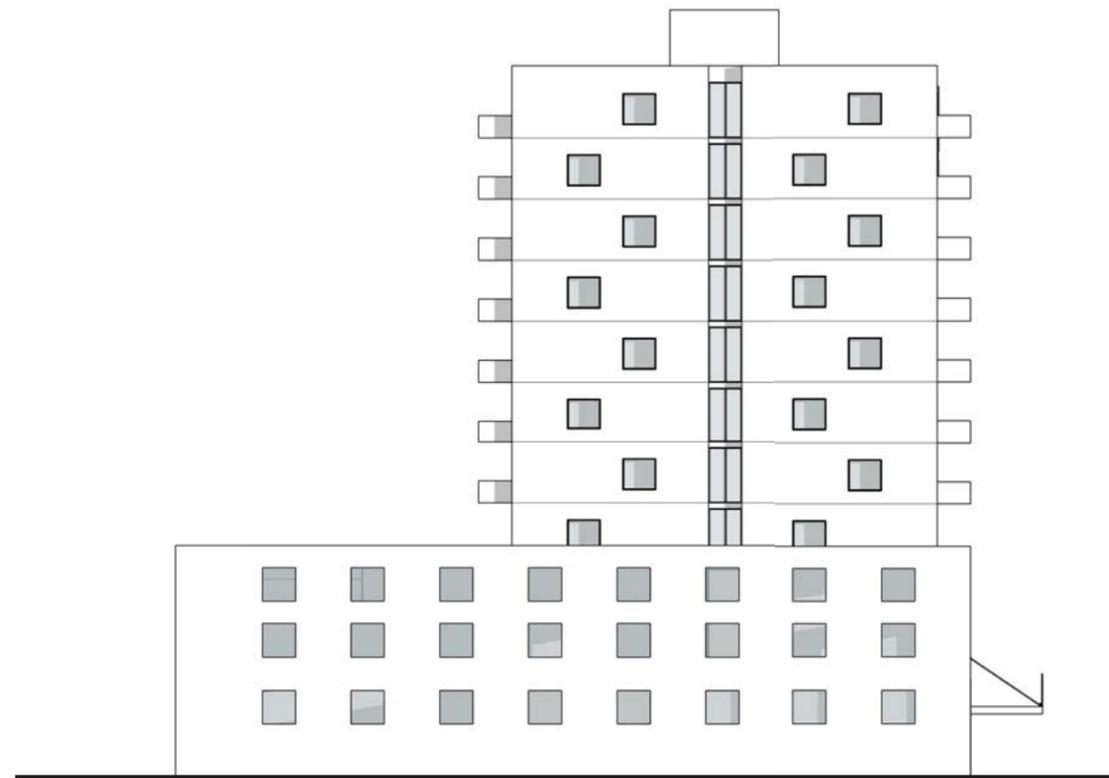
North Elevation



South Elevation



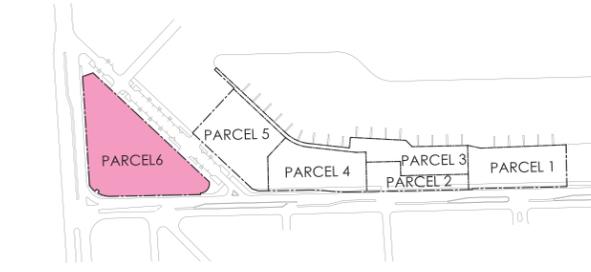
East Elevation



West Elevation

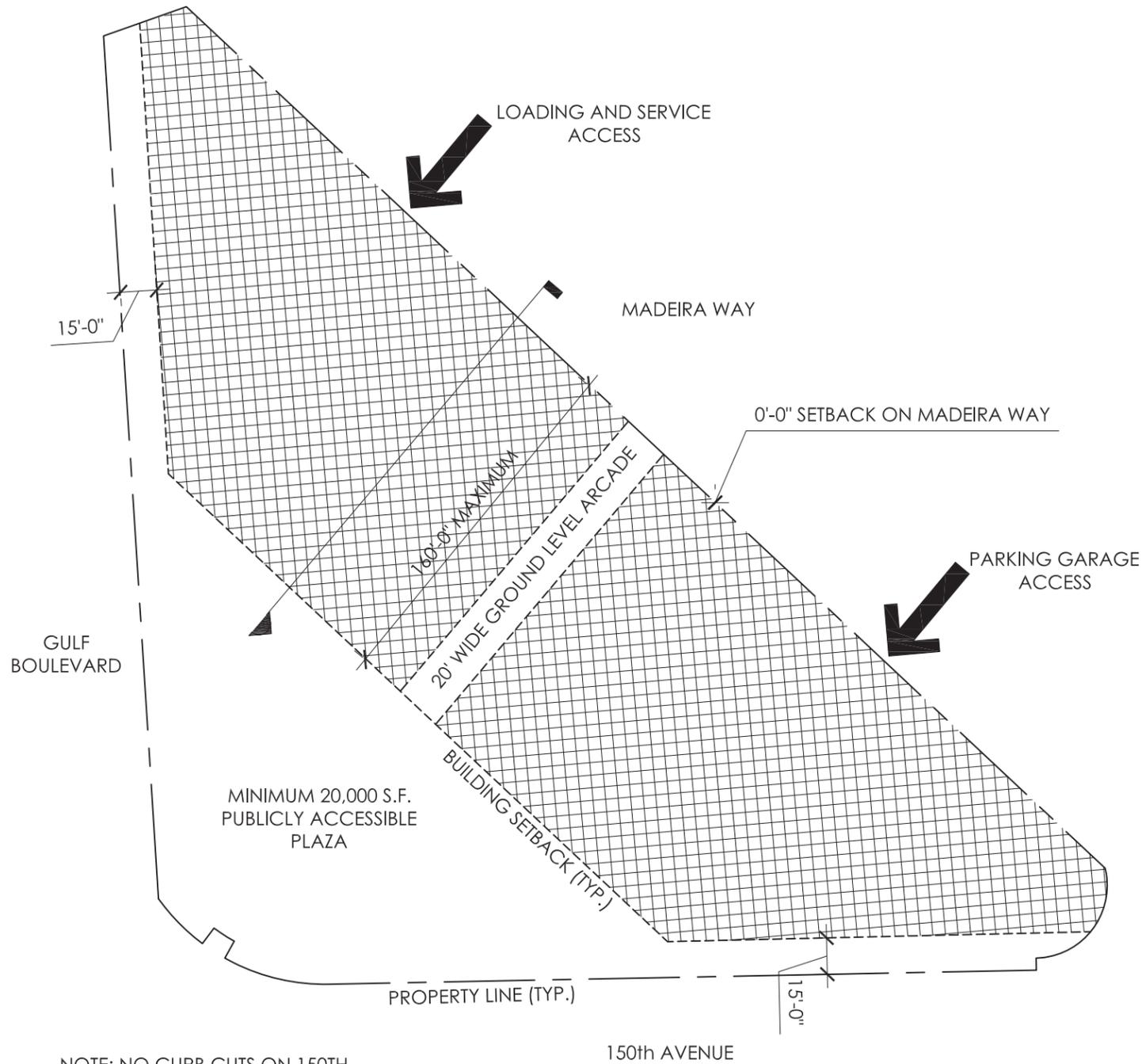
# HOTEL B

This is a true mixed-use block designed to be a recognizable landmark at the heart of Madeira Beach. It combines 40,000 square feet of retail and restaurant space on the ground floor with a full-service hotel with up to 250 rooms above. All sides of the first floor are lined with active uses fronting onto Madeira Way to the north and a new public plaza to the south. These two spaces are connected by a mid-block pedestrian arcade through the building. The parking garage is located on the 2nd through 4th floors. The 5th floor is dedicated to the hotel's amenity spaces (fitness center, spa, meeting rooms, business center, etc.). These open onto a generous roof terrace with swimming pool, spa and bar. The hotel rooms are located on the 6th through 11th floors and are oriented to maximize water views.



LEGEND

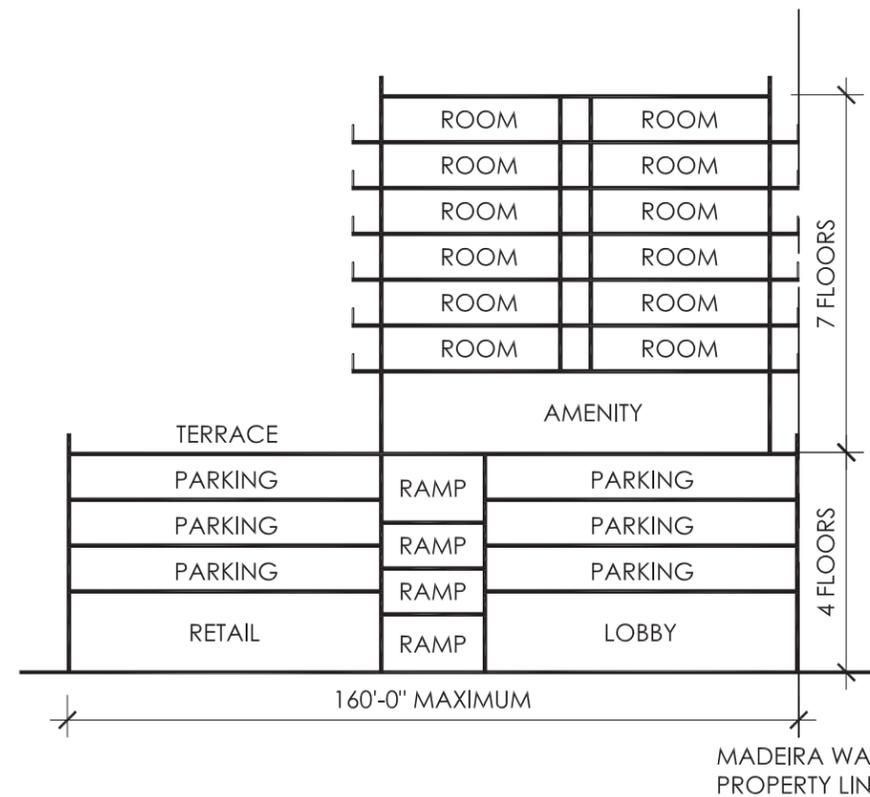

**Hotel B Site Plan**  
 SCALE: 1" = 60'-0"



Site Area	92,511 s.f. (2.124 ac.)
Maximum Hotel Rooms	250
Maximum Commercial Space	40,000 s.f.
Maximum Building Height	120 feet
Maximum Impervious Surface Ratio	85% of site area
Maximum Building Footprint	70% of site area
*Maximum Building Gross Area	370,000 s.f.
Minimum Required Parking	Hotel: 1 space per room Retail: 2 spaces per 3,000 s.f. Restaurant: 1 space per 4 seats

\* Includes structured parking

NOTE: NO CURB CUTS ON 150TH AVENUE OR GULF BOULEVARD



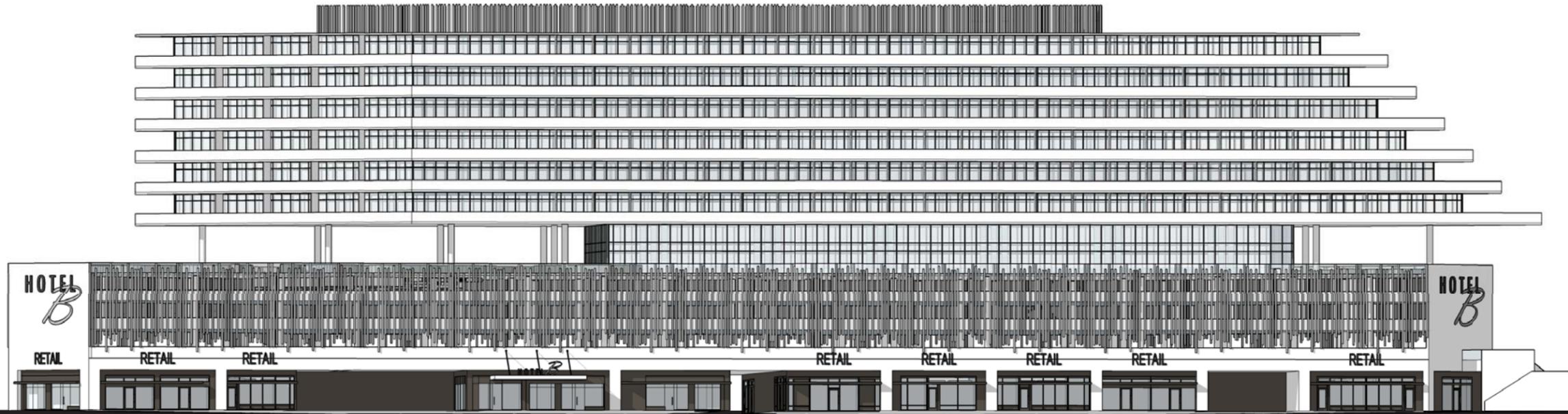
Building Section

SCALE: NTS

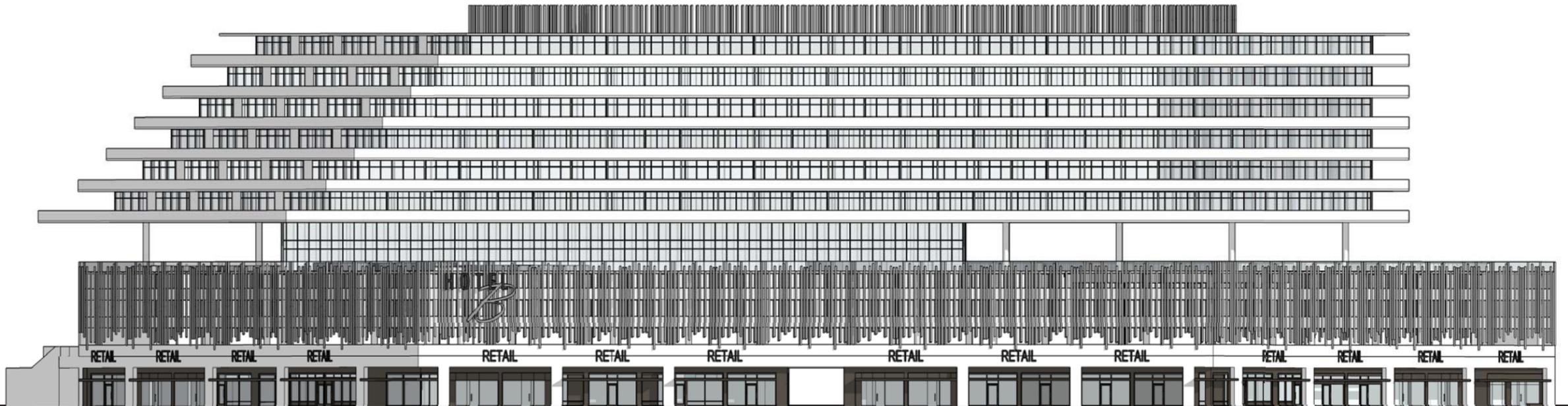
Building Setbacks and Access Diagram

SCALE: 1" = 60'-0"

MAXIMUM EXTENT OF BUILDING FOOTPRINT



North Elevation



South Elevation



East Elevation



West Elevation



## APPENDIX SECTION

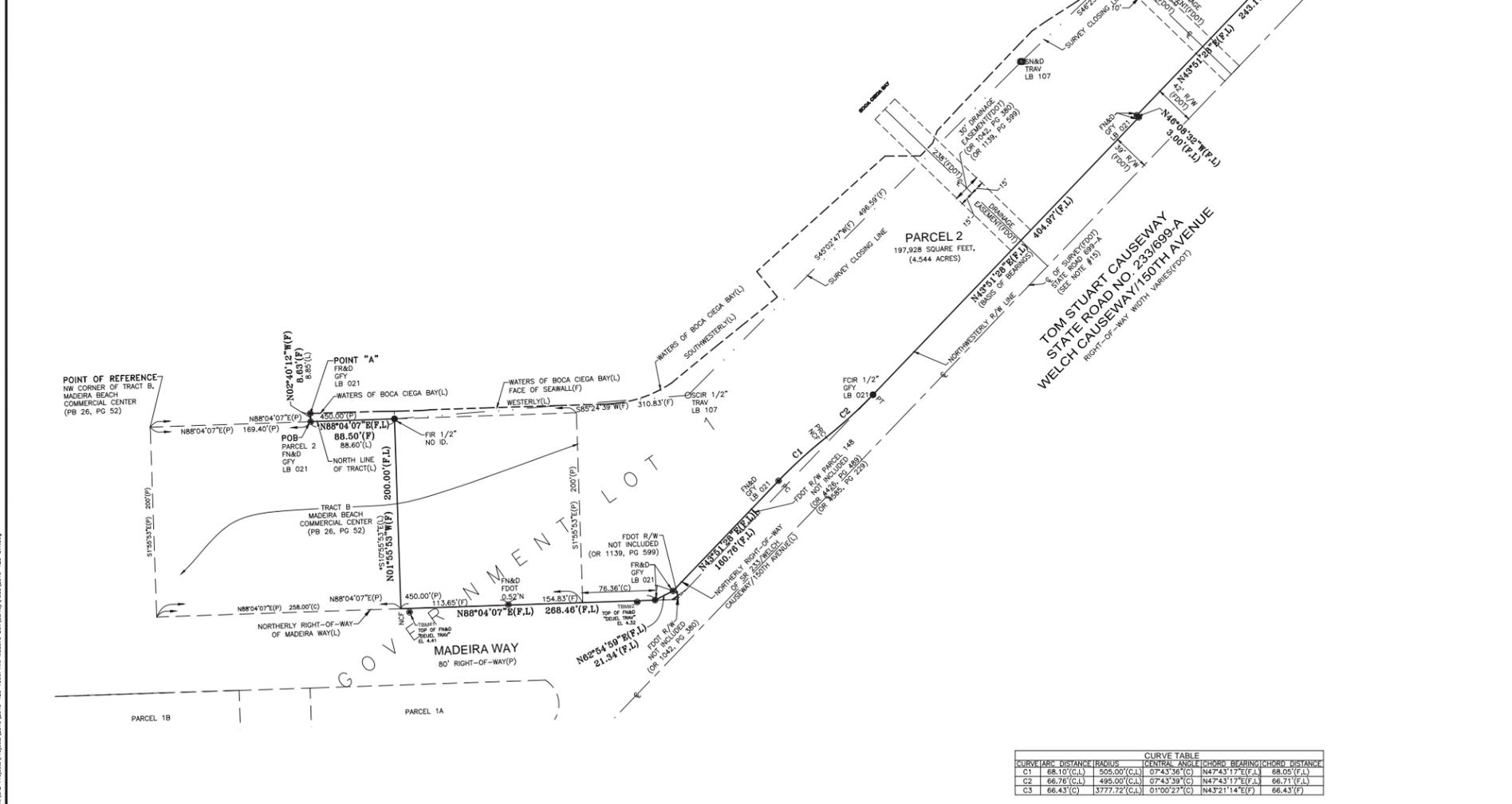
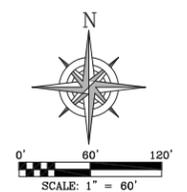
Surveys  
Civil Site Plan and Data  
Traffic Analysis

**LEGEND**

A/C	AIR CONDITIONER	NAV88	NORTH AMERICAN VERTICAL DATUM 1988
ACDE	ARMY CORPS & ENGINEERS	NCF	NO CORNER FOUND OR SET
ADA	AMERICANS WITH DISABILITIES ACT	NGS	NATIONAL GEODETIC SURVEY
AS	ASBESTOS SURFACE	N&D	NAIL AND DISK
B/PD	BACK FLOW PREVENTION DEVICE	NFL	NOT FIELD LOCATED
B/T	BUILDING TIE	NO	NUMBER
C	CURVE - SEE CURVE TABLE	OH	OVERHEAD WIRES
(C)	CALCULATED	OR	OFFICIAL RECORD BOOK
CB	CATCH BASIN	ORD	ORDINANCE
CBW	CONCRETE BLOCK WALL	(P)	PLAT BOOK 26, PAGE 52
CCR	CERTIFIED CORNER RECORD	PL	PLAT BOOK
CHB	CHORD BEARING	PC	POINT OF CURVE
CL	CENTERLINE	PG	PAGE/PAGES
CLF	CHAIN LINK FENCE	PID#	POINT IDENTIFICATION NUMBER
CONC.	CONCRETE	PLP	POWER & LIGHT POLE
C/T	CURB TIE	POB	POINT OF BEGINNING
CTV	CABLE TELEVISION	POL	POINT ON LINE
(D)	DEED	PRC	POINT OF REVERSE CURVE
DB	DEED BOOK	PRM	PERMANENT REFERENCE MONUMENT
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE	PSM	PROFESSIONAL SURVEYOR & MAPPER
EL	ELEVATION	PVC	POLY VINYL CHLORIDE
ELEC.	ELECTRIC	PVCF	POLY VINYL CHLORIDE FENCE
F	FIELD	PT	POINT OF TANGENCY
F/T	PAVEMENT TIE	R/C	REINFORCED CONCRETE PIPE
FCR	FOUND CAPPED IRON ROD	RCW	RECLAIMED WATER
FCM	FOUND CONCRETE MONUMENT	RNG.	RANGE
(FDOT)	FLORIDA DEPARTMENT OF TRANSPORTATION	R/W	RIGHT-OF-WAY
FF	FINISHED FLOOR ELEVATION	S.	SECTION
FIR	FOUND IRON ROD	SAN.	SANITARY
FR&D	FOUND NAIL AND DISK	SCR	SET CAPPED IRON ROD
FR&D	FOUND NAIL AND DISK	SCM	SET CONCRETE MONUMENT
FR&D	FOUND NAIL AND DISK	SND	SET NAIL AND DISK
FR&D	FOUND NAIL AND DISK	SR	STATE ROAD
F/T	FENCE TIE	SWFMD	SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
GI	GRATE INLET	SW/T	SIDEWALK TIE
GTE	GENERAL TELEPHONE COMPANY (NOW KNOWN AS VERIZON)	TBM	TEMPORARY BENCHMARK
ID.	IDENTIFICATION	TOS	TIE OF SLOPE
IN.	INVERT	TYP.	TYPICAL
(L)	LEGAL DESCRIPTION	TWP.	TOWNSHIP
LI	LICENSED BUSINESS	VCP	VITRIFIED CLAY PIPE
(M)	MEASURED	WF	WOOD FENCE
MH	MANHOLE	WV	WATER VALVE

**SYMBOL LEGEND**

---	BACK FLOW PREVENTION DEVICE	○	LIGHT POLE (METAL)
⊗	BOLLARD	○	LIGHT POLE
⊞	CABLE TV BOX	⊗	MISCELLANEOUS TREE
⊞	CLEANOUT	⊗	MONITORING WELL
⊞	CONCRETE LIGHT POLE	⊗	NAIL AND DISK (SET)
⊞	CONCRETE MONUMENT (FOUND)	⊗	PAW TREE
⊞	CONCRETE MONUMENT (SET)	⊗	PINE TREE
⊞	CROSS WALK POLE	⊗	PK NAIL & DISK (SET)
⊞	CYPRESS	⊗	PK NAIL & DISK (FOUND)
⊞	ELECTRIC HAND HOLE	⊗	POWER & LIGHT POLE
⊞	ELECTRIC METER	⊗	POWER/UTILITY WOOD POLE
⊞	ELECTRIC TRANSFORMER	⊗	RAILROAD SAFETY ARM
⊞	ELEVATION	⊞	RECLAIMED WATER METER
⊞	ELEVATION BACK OF CURB	⊞	RECLAIMED WATER VALVE
⊞	ELEVATION EDGE OF PAVEMENT	⊞	RED MAPLE
⊞	FIRE HYDRANT	⊞	SANITARY MANHOLE
⊞	FPC MANHOLE	⊞	SANITARY SEWER CLEANOUT
⊞	GAS MARKING (YELLOW PAINT)	⊞	SIGN
⊞	GAS VALVE	⊞	STORM SEWER MANHOLE
⊞	GRATE INLET	⊞	TELEPHONE PEDESTAL
⊞	GRATE ANCHOR	⊞	TEMPORARY BENCHMARK
⊞	HANDICAP PARKING SPACE	⊞	TRAFFIC SIGNAL JUNCTION BOX
⊞	IRON PIPE (FOUND)	⊞	WATER METER
⊞	IRON ROD (FOUND)	⊞	WATER VALVE
⊞	IRON ROD (SET)	⊞	X-CUT (FOUND)
⊞	IRRIGATION CONTROL VALVE	⊞	TRAD DRAIN
⊞	IRRIGATION WATER VALVE		



**DESCRIPTION: (PROVIDED BY CLIENT)**

Parcel 2: That following described portion of Government Lot 1, in Section 9, Township 31 South, Range 15 East, Pinellas County, Florida, described as follows:

From the Northwest corner of Tract B, MADERA BEACH COMMERCIAL CENTER, recorded in Plat Book 26, page 52, of the public records of Pinellas County, Florida, as a point of reference; thence North 88°04'07" East, along the Northern line of said tract, 169.40 feet to the POINT OF BEGINNING; thence North 01°55'53" East, 8.85 feet to a point of intersection with the waters of Boca Ciega Bay, said point hereinafter being referred to as Point "A" for convenience; return thence to the POINT OF BEGINNING, thence North 88°04'07" East, along the North line of said tract, 88.60 feet, thence leaving said line "South 10°55'53" East 200.00 feet to an intersection with the Northern right-of-way line of Madeira Way (on 80 foot right-of-way); thence North 88°04'07" East, along said line 268.46 feet to an intersection with the northern right-of-way line of State Road No. 233, also known locally as Welch Causeway or 150th Avenue, thence along right-of-way line by the following 11 courses: 1) North 62°54'59" East, 21.34 feet; 2) North 43°51'28" East, 160.76 feet to a point of curve; 3) Along the arc of a curve to the right, radius 505.00 feet, arc 68.10 feet, chord North 47°43'17" East, 68.05 feet to a point of reverse curve; 4) Along the arc of a curve to the left, radius 495.00 feet, arc 66.76 feet, chord North 47°43'17" East, 66.71 feet to a point of tangency; 5) North 43°51'28" East, 404.87 feet; 6) North 46°08'32" West, 3.00 feet; 7) North 43°51'28" East, 243.17 feet, to a point of curve; 8) Along the arc of a curve to the left, radius 377.72 feet, arc 492.10 feet, chord North 40°07'53" East, 491.76 feet to the point of reverse curve; 9) Along the arc of a curve to the right, radius 3861.72 feet, arc 81.14 feet, chord North 36°59'46" East, 81.14 feet; 10) North 52°24'07" West, 58.00 feet to a point on a curve; 11) Along the arc of a curve to the right, concave to the Southwest, radius 3919.72 feet, arc 85.95 feet, chord North 38°17'28" East, 85.95 feet; thence leaving said line North 46°08'32" West, 38.84 feet to the aforementioned waters of Boca Ciega Bay; thence Southwesterly and Westerly along said waters and binding thereunto to the aforementioned Point "A", LESS AND EXCEPT any pool thereof lying within the Order of Taking recorded in Official Records Book 1042, page 380, as amended by Order recorded in Official Records Book 1139, page 599, and Order recorded in Official Records Book 1691, page 514, all of the public records of Pinellas County, Florida; ALSO LESS AND EXCEPT those lands deeded to the City of Madeira Beach, Florida, a political subdivision of the State of Florida by Warranty Deed recorded in Official Records Book 13043, page 496 of the public records of Pinellas County, Florida; ALSO LESS AND EXCEPT any part thereof lying within the lands described in Order of Taking recorded in Official Records Book 4426, page 489, as amended by Supplemental Order of Taking as to Parcel 148, recorded in Official Records Book 4585, page 229, both of the public records of Pinellas County, Florida.

\* = APPARENT SCRIVENER'S ERROR, South 10°55'53" East should read South 01°55'53" East  
 \*\* = "ALSO LESS AND EXCEPT" PARCEL REFERENCED INCLUDES THE SUBJECT PARCEL

- SURVEYOR'S REPORT:**
- BEARINGS ARE BASED ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 233/WELCH CAUSEWAY/150TH AVENUE, BEING N43°51'28"W PER DESCRIPTION PROVIDED.
  - THE ACCURACY STANDARD USED FOR THIS SURVEY, AS CLASSIFIED IN THE MINIMUM TECHNICAL STANDARDS (51-17 FAC), IS "COMMERCIAL/HIGH RISK". THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THIS TYPE OF SURVEY IS 1 FOOT IN 10,000 FEET. THIS SURVEY EXCEEDS THIS STANDARD.
  - SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED.
  - NO EXCAVATION WAS PERFORMED TO VERIFY THE LOCATION OR EXISTENCE OF ANY UNDERGROUND UTILITIES, ENCROACHMENTS, IMPROVEMENTS, STRUCTURES OR FOUNDATIONS. UNDERGROUND UTILITY LINE LOCATIONS (IF SHOWN HEREON) ARE BASED UPON UTILITY PROVIDER ATLAS AND VISIBLE SURFACE EVIDENCE.
  - RE-USE OF THIS SURVEY FOR PURPOSES OTHER THAN WHICH IT WAS INTENDED, WITHOUT WRITTEN VERIFICATION, WILL BE AT THE RE-USERS SOLE RISK AND WITHOUT LIABILITY TO THE SURVEYOR. NOTHING HEREIN SHALL BE CONSTRUED TO GIVE ANY RIGHTS OR BENEFITS TO ANYONE OTHER THAN THOSE TO WHOM CERTIFIED.
  - ALL FOUND POINTS ARE UNMARKED UNLESS OTHERWISE NOTED. ALL PERIMETER BEARINGS AND DISTANCES ARE ALSO FIELD MEASURED UNLESS NOTED.
  - THIS SURVEY IS NOT INTENDED TO SHOW THE LOCATION OR EXISTENCE OF ANY JURISDICTIONAL, HAZARDOUS OR ENVIRONMENTALLY SENSITIVE AREAS.
  - THE SITE APPEARS TO BE IN FLOOD ZONE AE (EL. 10 & EL. 11), ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP 12103C0191G, COMMUNITY NUMBER 125127, EFFECTIVE DATE SEPTEMBER 3, 2003. DEUEL & ASSOCIATES AND THE SIGNING SURVEYOR, HEREON ASSUMES NO LIABILITY FOR THE ACCURACY OF THIS DETERMINATION. THE AUTHOR OF THE MAP, THE FEDERAL EMERGENCY MANAGEMENT AGENCY, OR THE LOCAL GOVERNMENTAL AGENCY HAVING JURISDICTION OVER SUCH MATTERS SHOULD BE CONTACTED PRIOR TO ANY JUDGMENTS BEING MADE FROM THIS INFORMATION. THE ABOVE REFERENCED MAP STATES IN THE NOTES TO THE USER THAT "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM AND THAT BASE FLOOD ELEVATION (BFEs) SHOWN REPRESENT ROUNDED WHOLE-FOOT ELEVATIONS AND THEREFORE MAY NOT EXACTLY REFLECT THE FLOOD ELEVATION DATA PRESENTED IN THE FLOOD INSURANCE STUDY (FIS) REPORT". THE FIS REPORT WAS NOT CONSULTED FOR THIS SURVEY.
  - ANY ZONING INFORMATION SHOWN OR NOTED HEREON IS BASED ON INFORMATION AVAILABLE DURING THE PREPARATION OF THE SURVEY. THIS INFORMATION SHOULD BE VERIFIED WITH THE GOVERNING AUTHORITY PRIOR TO ANY DETERMINATIONS OR DESIGN.
  - SHOWN ANYWHERE ON THIS SURVEY, THE WORD "CERTIFY" IS UNDERSTOOD TO BE AN EXPRESSION OF A PROFESSIONAL OPINION BASED UPON THE SURVEYOR'S BEST KNOWLEDGE, INFORMATION AND BELIEF, AND THAT IT THIS CONSTITUTES NEITHER A GUARANTEE NOR A WARRANTY.
  - UNLESS OTHERWISE INDICATED, THE PROPERTY DESCRIPTION AND EASEMENTS SHOWN WERE FURNISHED TO DEUEL & ASSOCIATES AND ARE PRESUMED TO BE CORRECT. NO SEARCH OF ANY PUBLIC RECORDS FOR EASEMENTS, DEEDS, ETC., WAS PERFORMED BY THIS FIRM FOR THE COMPLETION OF THIS SURVEY AND THERE MAY BE ADDITIONAL RESTRICTIONS THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
  - THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE AND MAY BE SUBJECT TO EASEMENTS, RESTRICTIONS, RIGHTS-OF-WAY AND OTHER MATTERS OF RECORD.
  - ELEVATIONS ARE BASED ON NGS BENCHMARK "210 FLHD" (PID# AC0118) HAVING AN ELEVATION OF 20.84 FEET NORTH AMERICAN VERTICAL DATUM 1988 (NAV88).
  - TREES 4" IN DIAMETER AND LARGER HAVE BEEN LOCATED WITH COMMON NAME AND APPROXIMATE DIAMETER BREST HIGH. SMALLER TREES, NON-PROTECTED SPECIES (INCLUDING ORNAMENTALS) AND TREES WITHIN JURISDICTIONAL AREAS (IF ANY) HAVE NOT BEEN LOCATED. TREES BY NATURE ARE IRREGULAR IN SIZE AND SHAPE. EVERY EFFORT IS MADE TO ACCURATELY LOCATE TREES. THE TREE LOCATION IS THE CENTER OF THE TREE. THIS LOCATION MAY BE DIFFERENT IF LOCATED FROM A DIFFERENT DIRECTION. ALL TREE LOCATIONS SHOULD BE FIELD CHECKED IF CRITICAL TO DESIGN.
  - STATE ROAD RIGHT-OF-WAY INFORMATION SHOWN HEREON WAS TAKEN FROM THE STATE OF FLORIDA STATE ROAD DEPARTMENT (NOW KNOWN AS FLORIDA DEPARTMENT OF TRANSPORTATION) RIGHT OF WAY MAP FOR ROAD NO. S.R. 699-A, SECTION 15100-2150 DATED 3-10-58, LAST REVISED ON 7-16-61.
  - THIS SURVEY IS BASED ON U.S. FEET.
  - THE SUBJECT PARCEL CONTAINS 197,928 SQUARE FEET, (4.544 ACRES) MORE OR LESS.

REV.#	DESCRIPTION	DATE	BY

**DEUEL & ASSOCIATES**  
 CONSULTING ENGINEERS LAND SURVEYORS LAND PLANNERS

565 SOUTH HERCULES AVENUE  
 CLEARWATER, FL 33764  
 PH 727.922.4151 FAX 727.851.7295  
 WWW.DEUELENGINEERING.COM

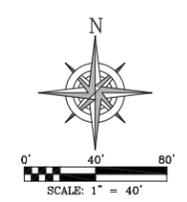
CERTIFICATE OF AUTHORIZATION NUMBER 26320  
 LICENSED BUSINESS NUMBER 107

**BOUNDARY AND TOPOGRAPHIC SURVEY**  
 200-420 150TH AVE AND  
 15015 MADEIRA WAY, MADEIRA BEACH, FLORIDA  
 CITY OF MADEIRA BEACH

PREPARED FOR:  
 WILLIAM KARNS ENTERPRISES  
 288 107TH AVENUE, SUITE #300  
 TREASURE ISLAND, FL 33706

WORK ORDER NO. 2015-128  
 DRAWN BY: DES/LKC  
 FIELD DATE: 10/12/2015  
 SCALE: 1" = 60'  
 SHEET NO. 1 OF 4

DANA A. WYLLIE  
 PROFESSIONAL SURVEYOR AND MAPPER  
 STATE OF FLORIDA, LS 5874



**LEGEND**

A/C	AIR CONDITIONER	No.	NUMBER
ADA	AMERICANS WITH DISABILITIES ACT	OH	OVERHEAD WIRES
BFPD	DETECTABLE SURFACE	OR	OFFICIAL RECORD BOOK
CB	BACK FLOW PREVENTION DEVICE	ORD	ORDINANCE
(C)	CALCULATED	(P)	PLAT BOOK 26, PAGE 52
CBW	CATCH BASIN	PB	PLAT BOOK
	CONCRETE BLOCK WALL	PC	POINT OF CURVE
CLF	CENTERLINE	PG	PAGE/PAGES
CI	CHAIN LINK FENCE	PI#	POINT IDENTIFICATION NUMBER
CIP	CURB INLET	PL	PLANTS/PLANTER
CONC.	CONCRETE	POB	POINT OF BEGINNING
C/T	CURB TIE	POL	POINT ON LINE
CTV	CABLE TELEVISION	PRC	POINT OF REVERSE CURVE
(D)	DEED	PRM	PERMANENT REFERENCE MONUMENT
DB	DEED BOOK	PVC	POLY VINYL CHLORIDE
DRCP	ELLIPTICAL REINFORCED CONCRETE PIPE	PVCF	POLY VINYL CHLORIDE FENCE
EP	EDGE OF PAVEMENT	PT	POINT OF TANGENCY
EL	ELEVATION	P/T	PAVEMENT TIE
(F)	FIELD	RCP	REINFORCED CONCRETE PIPE
F.	FOUND	RCW	RECLAIMED WATER
FCR	FOUND CAPPED IRON ROD	RLS	REGISTERED LAND SURVEYOR
FOM	FOUND CONCRETE MONUMENT	RNG.	RANGE
(FDOT)	FLORIDA DEPARTMENT OF TRANSPORTATION	R/W	RIGHT-OF-WAY
FTE	FINISHED FLOOR ELEVATION	SEC.	SECTION
FIP	FOUND IRON PIPE	SAN.	SANITARY
FR	FOUND IRON ROD	SCR	SET CAPPED IRON ROD
FN&D	FOUND NAIL AND DISK	SCO	SANITARY CLEAN-OUT
FPC	FLORIDA POWER CORPORATION (NOW KNOWN AS DUKE ENERGY)	SCM	SET CONCRETE MONUMENT
FR&D	FOUND RIVET AND DISK	SN&D	SET PK NAIL AND DISK
F/T	FENCE TIE	SW/T	SIDEWALK TIE
FPP	FOUND PINCHED IRON PIPE	TBM	TEMPORARY BENCHMARK
GI	GRATE INLET	TOB	TOP OF BANK
GI	GRATE INLET	TOS	TOP OF SLOPE
ID.	IDENTIFICATION	TYP	TYPICAL
INV.	INVERT	TWP.	TOWNSHIP
(L)	LEGAL DESCRIPTION PROVIDED	VP	VITRIFIED CLAY PIPE
(L1)	LEGAL DESCRIPTION OF 15590, PG 1967	WCP	WOOD FENCE
(L2)	LEGAL DESCRIPTION OR 12187, PG 824		
(L3)	LEGAL DESCRIPTION OR 10358, PG 25		
LB	LICENSED BUSINESS		
(M)	MEASURED		
MANHOLE	MANHOLE		
NAVDB8	NORTH AMERICAN VERTICAL DATUM 1988		
NGS	NATIONAL GEODETIC SURVEY		

	ASPHALT
	BRICK PAVERS
	CONCRETE

**SYMBOL LEGEND**

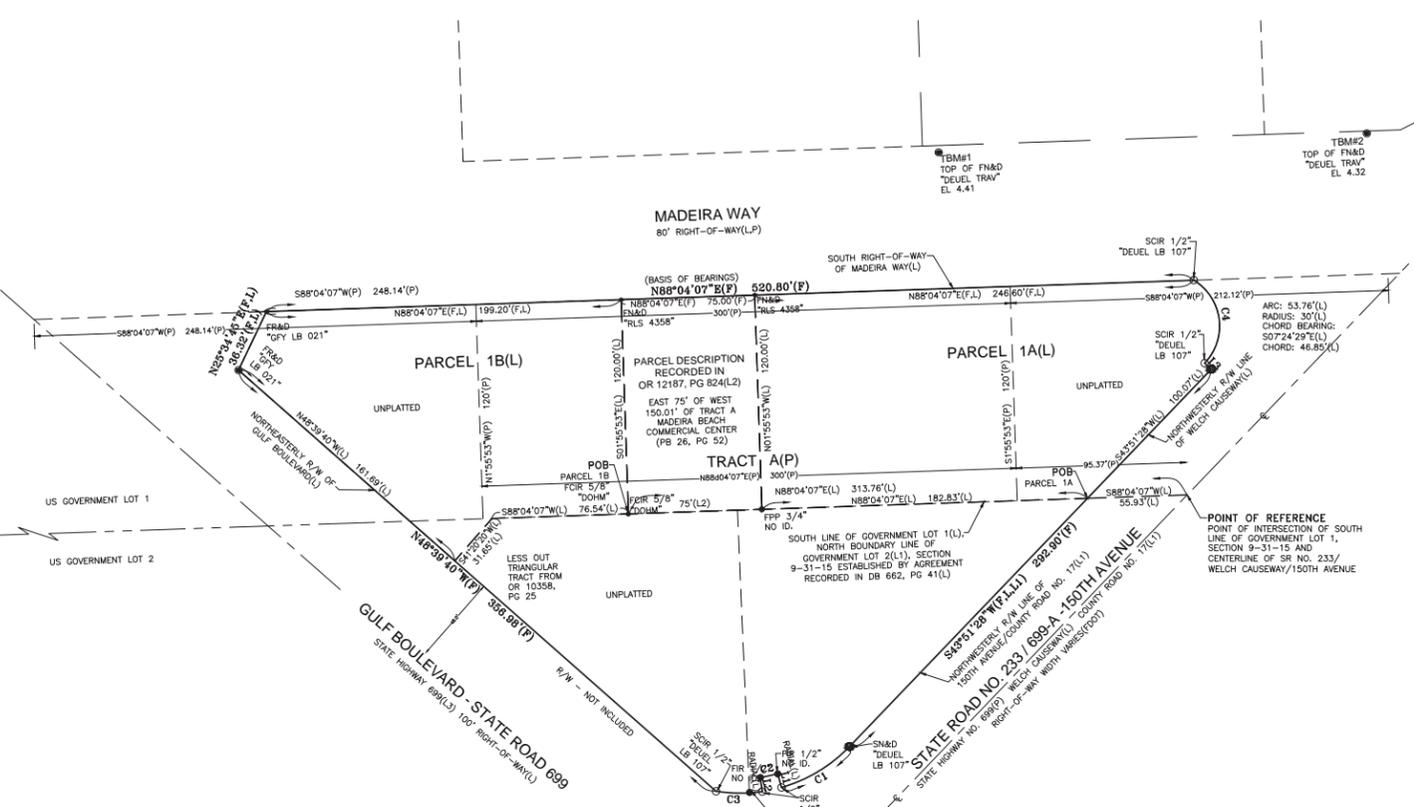
	BACK FLOW PREVENTION DEVICE		LIGHT POLE (METAL)
	BOLLARD		LIGHT POLE
	CABLE TV BOX		MISCELLANEOUS TREE
	CLEANOUT		MONITORING WELL
	CONCRETE LIGHT POLE		OAK TREE
	CONCRETE MONUMENT (FOUND)		PALM TREE
	CROSS WALK POLE		PARKING SPACES
	ELECTRIC HAND HOLE		PINE TREE
	ELECTRIC METER		PK NAIL & DISK (SET)
	ELECTRIC OUTLET		PK NAIL & DISK (FOUND)
	ELECTRIC TRANSFORMER		POWER & LIGHT POLE
	ELEVATION		POWER/UTILITY WOOD POLE
	ELEVATION BACK OF CURB		RAILROAD SAFETY ARM
	ELEVATION EDGE OF PAVEMENT		RECLAIMED WATER METER
	FIRE HYDRANT		RECLAIMED WATER VALVE
	GAS MARKER POST		SANITARY MANHOLE
	GAS MARKING (YELLOW PAINT)		SANITARY SEWER CLEANOUT
	GAS VALVE		SIGN
	GRATE INLET		STORM SEWER MANHOLE
	OUT WIRE ANCHOR		TELEPHONE SIGN (UNDERGROUND)
	HANDICAP PARKING SPACE		TELEPHONE PEDIESTAL
	IRON PIPE (FOUND)		TEMPORARY BENCHMARK
	IRON ROD (FOUND)		TRAFFIC SIGNAL JUNCTION BOX
	IRON ROD (SET)		WATER METER
	IRRIGATION CONTROL VALVE		WATER VALVE
	IRRIGATION WATER VALVE		X-CUT (FOUND)
			CROSS WALK POLE

**LINE TABLE**

LINE	BEARING	DISTANCE
L1	N15°48'31"W(L)	8.00(L)
L2	S89°22'03"E	8.00(L)
L3	S46°08'32"E(L)	5.00(L)

**CURVE TABLE**

CURVE	ARC DISTANCE	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD DISTANCE
C1	48.00'	85.00'	307°19'58"	S59°01'29"W	44.48'
C2	10.00'	177.00'	07°48'28"	S72°44'43"W	9.99'
C3	26.34'	85.00'	17°33'12"	N88°32'27"W	25.94'
C4	53.69'	100.00'	102°33'08"	S07°24'41"E	46.81'



DESCRIPTION: PROVIDED BY CLIENT(L)

PARCEL 1A:

From the point of intersection of the South line of Government Lot 1, Section 9, Township 31 South, Range 15 East, Pinellas County, Florida (as established by Agreement recorded in Deed Book 662, Page 41, of the public records of said County), with the centerline of State Road No. 233, said road also being locally known as Welch Causeway or 150th Avenue, as a point of reference, thence South 88°04'07" West, along the South line of said Government Lot 1, a distance of 55.93 feet to an intersection with a Northwesterly right-of-way line of said Welch Causeway and the POINT OF BEGINNING; thence continue South 88°04'07" West, along the South line of said Government Lot 1, a distance of 182.83 feet; thence leaving said South line, North 01°25'53" West, 120.00 feet to an intersection with the South right-of-way of Madeira Way (an 80 foot right-of-way); thence North 88°04'07" East, along said South right-of-way of Madeira Way, 246.60 feet to a point on a curve; thence along the arc of a curve to the right, concave to the West, radius 30 feet, arc 53.76 feet, chord South 07°24'29" East, 46.85 feet to the end of said curve; thence South 46°08'32" East, 5.00 feet to an intersection with the aforementioned Northwesterly right-of-way line of said Welch Causeway; thence South 43°51'28" West, along the Northwesterly right-of-way line of said Welch Causeway, 100.07 feet to the aforementioned POINT OF BEGINNING.

PARCEL 1B:

From the point of intersection of the South line of Government Lot 1, Section 9, Township 31 South, Range 15 East, Pinellas County, Florida (as established by Agreement recorded in Deed Book 662, Page 41, of the public records of said County), with the centerline of State Road No. 233, said road also being locally known as Welch Causeway or 150th Avenue, as a point of reference, thence South 88°04'07" West, along the South line of said Government Lot 1, a distance of 313.76 feet to the POINT OF BEGINNING; thence continue South 88°04'07" West, along the South line of said Government Lot 1, a distance of 76.54 feet; thence leaving said South line, South 41°20'20" West, 31.85 feet to an intersection with the Northwesterly right-of-way of Gulf Boulevard (State Road No. 699, a 100 foot right-of-way); thence North 48°39'40" West, along said Northwesterly right-of-way of Gulf Boulevard, 181.89 feet; thence leaving said Northwesterly right-of-way of Gulf Boulevard, North 29°34'45" East, 36.32 feet to an intersection with the South right-of-way of Madeira Way (an 80 foot right-of-way); thence North 88°04'07" East, along said South right-of-way of Madeira Way, 199.20 feet; thence leaving said South right-of-way, South 01°55'53" East, 120.00 feet to the aforementioned POINT OF BEGINNING.

- SURVEYOR'S REPORT:**
- BEARINGS ARE BASED ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 233/WELCH CAUSEWAY/150TH AVENUE, BEING S43°51'28"W PER LEGAL DESCRIPTION RECORDED IN OR 15590, PG 1967, PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA.
  - THE ACCURACY STANDARD USED FOR THIS SURVEY, AS CLASSIFIED IN THE MINIMUM TECHNICAL STANDARDS (S-17 FAC), IS "COMMERCIAL/HIGH RISK", THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THIS TYPE OF SURVEY IS 1 FOOT IN 10,000 FEET, THIS SURVEY EXCEEDS THIS STANDARD.
  - SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL WRAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED.
  - NO EXCAVATION WAS PERFORMED TO VERIFY THE LOCATION OR EXISTENCE OF ANY UNDERGROUND UTILITIES, ENCROACHMENTS, IMPROVEMENTS, STRUCTURES OR FOUNDATIONS. UNDERGROUND UTILITY LINE LOCATIONS (IF SHOWN HEREON) ARE BASED UPON UTILITY PROVIDER ATLAS AND VISIBLE SURFACE EVIDENCE.
  - RE-USE OF THIS SURVEY FOR PURPOSES OTHER THAN WHICH IT WAS INTENDED, WITHOUT WRITTEN VERIFICATION, WILL BE AT THE RE-USERS SOLE RISK AND WITHOUT LIABILITY TO THE SURVEYOR. NOTHING HEREIN SHALL BE CONSTRUED TO GIVE ANY RIGHTS OR BENEFITS TO ANYONE OTHER THAN THOSE TO WHOM CERTIFIED.
  - ALL FOUND POINTS ARE UNMARKED UNLESS OTHERWISE NOTED. ALL PERIMETER BEARINGS AND DISTANCES ARE ALSO FIELD MEASURED UNLESS NOTED.
  - THIS SURVEY IS NOT INTENDED TO SHOW THE LOCATION OR EXISTENCE OF ANY JURISDICTIONAL, HAZARDOUS OR ENVIRONMENTALLY SENSITIVE AREAS.
  - THE SITE APPEARS TO BE IN FLOOD ZONE AE (EL. 11), ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP 1210300191G, COMMUNITY NUMBER 125127, EFFECTIVE DATE SEPTEMBER 3, 2003. DEUEL & ASSOCIATES AND THE SIGNING SURVEYOR HEREOF ASSUMES NO LIABILITY FOR THE ACCURACY OF THIS DETERMINATION. THE AUTHOR OF THE MAP, THE FEDERAL EMERGENCY MANAGEMENT AGENCY, OR THE LOCAL GOVERNMENTAL AGENCY HAVING JURISDICTION OVER SUCH MATTERS SHOULD BE CONTACTED PRIOR TO ANY JUDGMENTS BEING MADE FROM THIS INFORMATION. THE ABOVE REFERENCED MAP STATES IN THE NOTES TO THE USER THAT "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM" AND THAT BASE FLOOD ELEVATIONS (BFE) SHOWN REPRESENT ROUNDED WHOLE-FOOT ELEVATIONS AND THEREFORE MAY NOT EXACTLY REFLECT THE FLOOD ELEVATION DATA PRESENTED IN THE FLOOD INSURANCE STUDY (FIS) REPORT. THE FIS REPORT WAS NOT CONSULTED FOR THIS SURVEY.
  - ANY ZONING INFORMATION SHOWN OR NOTED HEREON IS BASED ON INFORMATION AVAILABLE DURING THE PREPARATION OF THE SURVEY. THIS INFORMATION SHOULD BE VERIFIED WITH THE GOVERNING AUTHORITY PRIOR TO ANY DETERMINATIONS OR DESIGN.
  - SHOWN ANYWHERE ON THIS SURVEY, THE WORD "CERTIFY" IS UNDERSTOOD TO BE AN EXPRESSION OF A PROFESSIONAL OPINION BASED UPON THE SURVEYOR'S BEST KNOWLEDGE, INFORMATION AND BELIEF, AND THAT IT CONSTITUTES NEITHER A GUARANTEE NOR A WARRANTY.
  - UNLESS OTHERWISE INDICATED, THE PROPERTY DESCRIPTION AND EASEMENTS SHOWN WERE FURNISHED TO DEUEL & ASSOCIATES AND ARE PRESUMED TO BE CORRECT. NO SEARCH OF ANY PUBLIC RECORDS, FOR EASEMENTS, DEEDS, ETC., WAS PERFORMED BY THIS FIRM FOR THE COMPLETION OF THIS SURVEY AND THERE MAY BE ADDITIONAL RESTRICTIONS THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
  - THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE AND MAY BE SUBJECT TO EASEMENTS, RESTRICTIONS, RIGHTS-OF-WAY AND OTHER MATTERS OF RECORD.
  - ELEVATIONS ARE BASED ON NGS BENCHMARK "210 FLHD" (PID# A08118) HAVING AN ELEVATION OF 20.84 FEET NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
  - TREES 4" IN DIAMETER AND LARGER HAVE BEEN LOCATED WITH COMMON NAME AND APPROXIMATE DIAMETER BREAST HIGH. SMALLER TREES, NON-PROTECTED SPECIES (INCLUDING ORNAMENTALS) AND TREES WITHIN JURISDICTIONAL AREAS (IF ANY) HAVE NOT BEEN LOCATED. TREES BY NATURE ARE BRISTOLY IN SIZE AND SHAPE. EVERY EFFORT IS MADE TO ACCURATELY LOCATE TREES. THE TREE LOCATION IS THE CENTER OF THE TREE. THIS LOCATION MAY BE DIFFERENT IF LOCATED FROM A DIFFERENT DIRECTION. ALL TREE LOCATIONS SHOULD BE FIELD CHECKED IF CRITICAL TO DESIGN.
  - STATE ROAD RIGHT-OF-WAY INFORMATION SHOWN HEREON WAS TAKEN FROM THE STATE OF FLORIDA STATE ROAD DEPARTMENT (NOW KNOWN AS FLORIDA DEPARTMENT OF TRANSPORTATION) RIGHT OF WAY MAP FOR ROAD NO. S.R. 699-A, SECTION 15100-2150 DATED 3-10-86, LAST REVISED ON 7-16-81.
  - THIS SURVEY IS BASED ON U.S. FEET.
  - THE SUBJECT PARCEL CONTAINS 92,504 SQUARE FEET, (2.124 ACRES) MORE OR LESS.

REV.#	DESCRIPTION	DATE	BY

**DEUEL & ASSOCIATES**  
CONSULTING ENGINEERS LAND SURVEYORS LAND PLANNERS

565 SOUTH HERCULES AVENUE  
CLEARWATER, FL 33764  
PH 727.822.4151 FAX 727.821.7295  
WWW.DEUELENGINEERING.COM

CERTIFICATE OF AUTHORIZATION NUMBER 26320  
LICENSED BUSINESS NUMBER 107

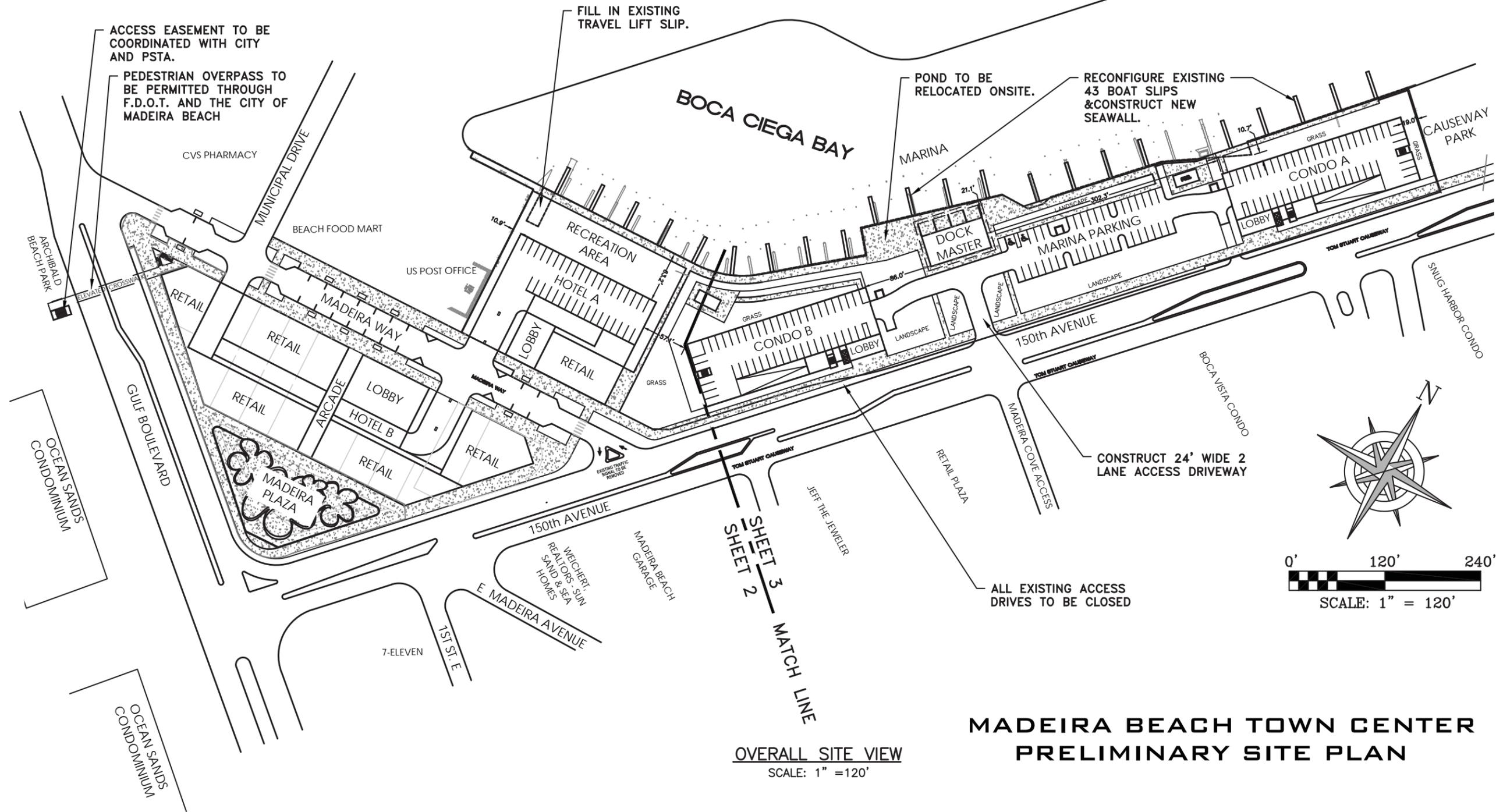
**BOUNDARY AND TOPOGRAPHIC SURVEY**  
15000 - 15042 MADEIRA WAY  
MADEIRA BEACH, FLORIDA

CITY OF MADEIRA BEACH FLORIDA

PREPARED FOR:  
WILLIAM KARNS ENTERPRISES  
286 107TH AVENUE, SUITE #300  
TREASURE ISLAND, FL 33708

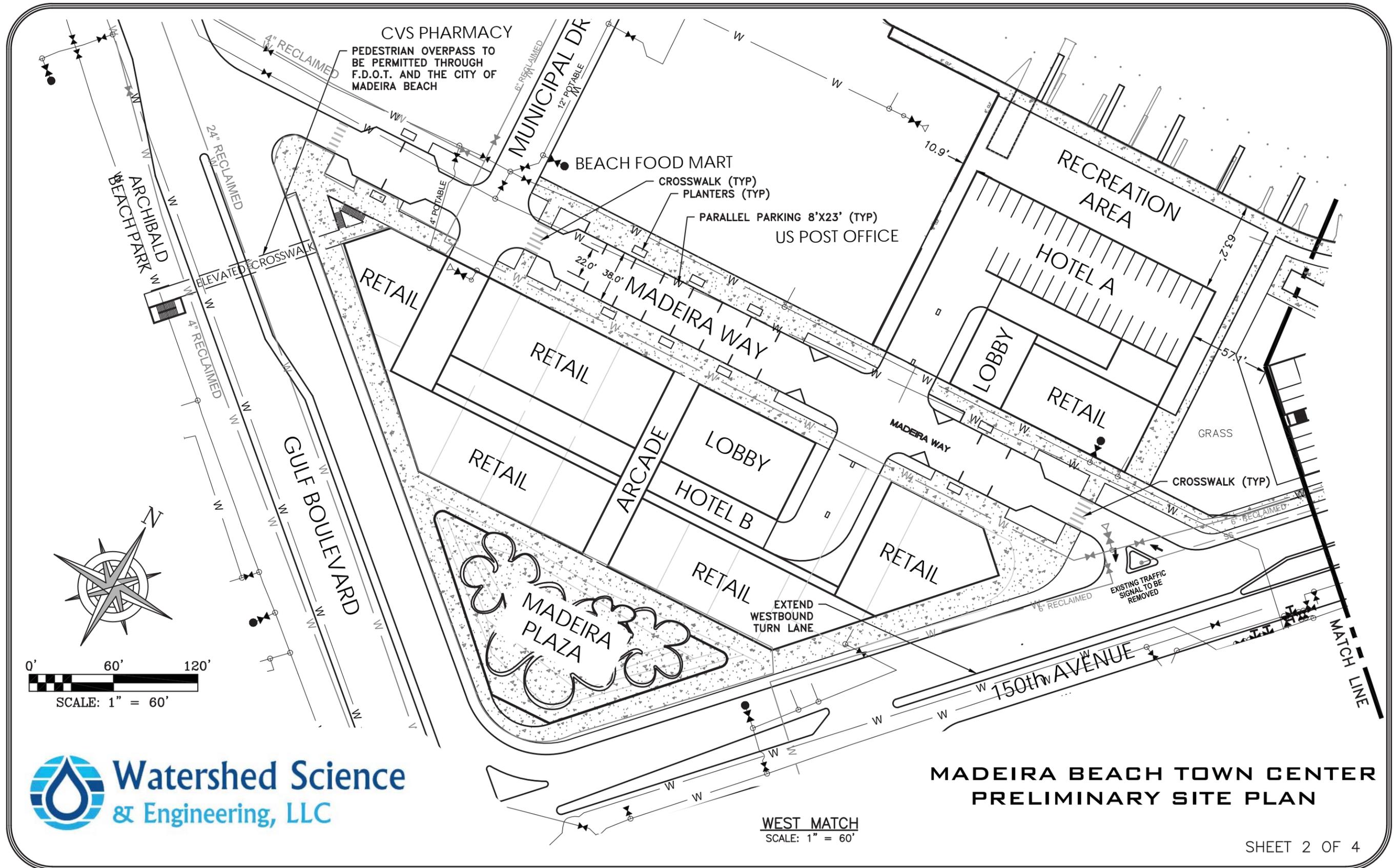
WORK ORDER NO. 2015-128  
DRAWN BY: LKC  
FIELD DATE: 2/09/2016  
SCALE: 1" = 40'  
SHEET NO. 1 OF 2

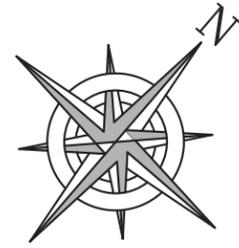
DANA A. WYLLIE  
PROFESSIONAL SURVEYOR AND MAPPER  
STATE OF FLORIDA, LS 5874



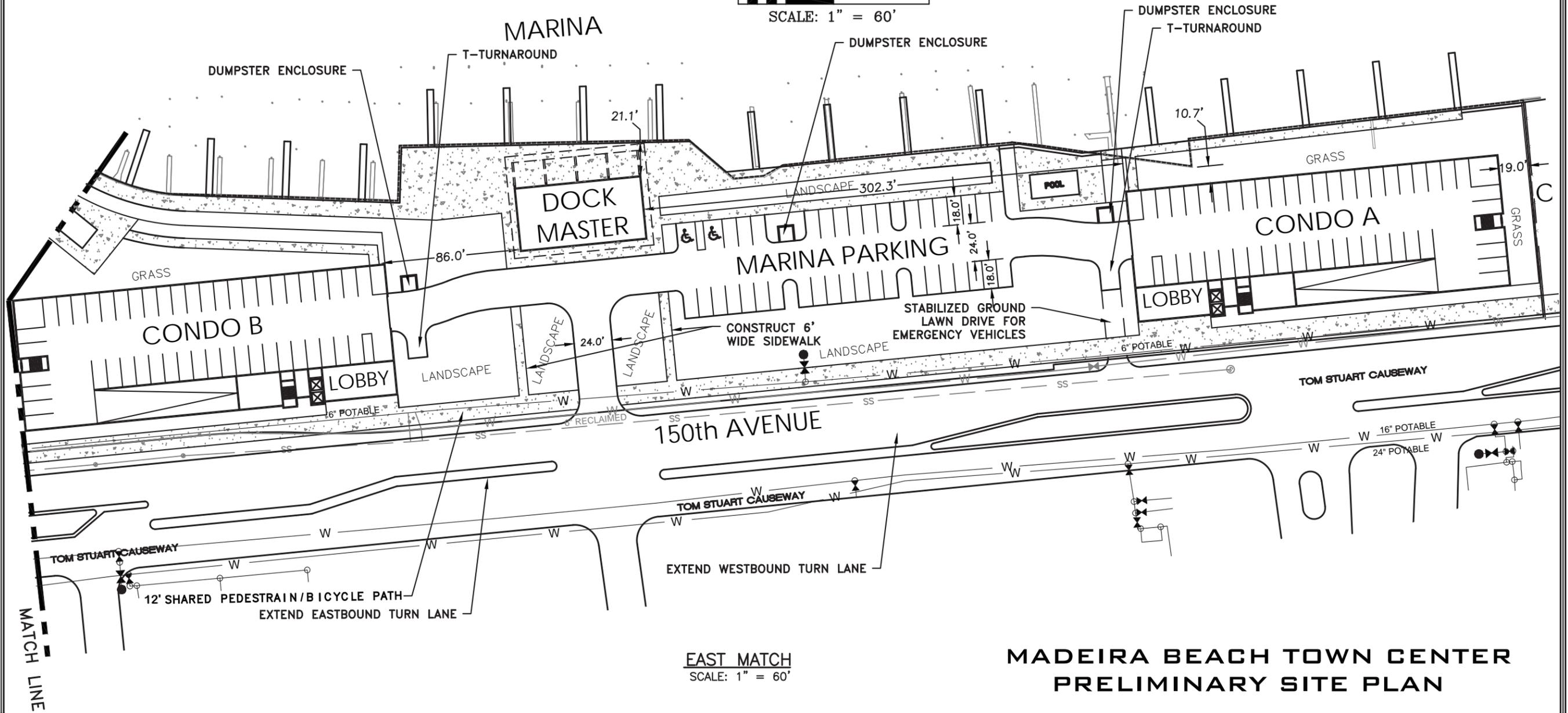
**OVERALL SITE VIEW**  
SCALE: 1" = 120'

**MADEIRA BEACH TOWN CENTER  
PRELIMINARY SITE PLAN**





0' 60' 120'  
SCALE: 1" = 60'



EAST MATCH  
SCALE: 1" = 60'

**MADEIRA BEACH TOWN CENTER  
PRELIMINARY SITE PLAN**

# SITE DATA

## HOTEL A

ROOMS: 180	<u>PARKING REQUIRED:</u> 1 SP/ROOM = 180
RETAIL SPACE: 3,000 SF	3 SP/2,000 SF = 4
RESTAURANT SPACE: ___ SEATS	1 SP/4 SEATS =
PARKING PROVIDED: 210 SPACES	TOTAL REQUIRED =

## HOTEL B

ROOMS: 250	<u>PARKING REQUIRED:</u> 1 SP/ROOM = 250
RETAIL SPACE: 28,000 SF	3 SP/2,000 SF = 42
RESTAURANT SPACE: ___ SEATS	1 SP/4 SEATS =
PARKING PROVIDED: 400 SPACES	TOTAL REQUIRED =

## CONDO A

UNITS: 45	<u>PARKING REQUIRED:</u> 2 SP/UNIT = 90
PARKING PROVIDED: 95 SPACES	TOTAL REQUIRED = 90

## CONDO B

UNITS: 45	<u>PARKING REQUIRED:</u> 2 SP/UNIT = 90
PARKING PROVIDED: 95 SPACES	TOTAL REQUIRED = 90

## MARINA

RETAIL SPACE: 4,000 SF	<u>PARKING REQUIRED:</u> 3 SP/2,000 SF = 6
RESTAURANT SPACE: ___ SEATS	1 SP/4 SEATS =
PARKING PROVIDED: 39 SPACES	
DOCK SLIPS: 43	
	TOTAL REQUIRED =

<u>OVERALL PROJECT SUMMARY &amp; SITE DATA:</u>	<u>EXISTING</u>	<u>PROPOSED</u>
TOTAL BUILDING AREA	= 62,904 SF(21.7%)	130,729 SF(45.0%)
TOTAL ASPHALT/CONC.	= 173,003 SF(59.5%)	81,171 SF(27.9%)
TOTAL IMPERVIOUS AREA	= 235,907 SF(81.2%)	211,900 SF(72.9%)
TOTAL GREEN AREA	= 54,525 SF(18.8%)	78,532 SF(27.4%)
TOTAL PROJECT AREA	=	290,432 SF (6.67 AC)

OVERALL SITE IMPERVIOUS SURFACE RATIO: 0.73



**MADEIRA BEACH TOWN CENTER  
PRELIMINARY SITE PLAN**

SHEET 4 OF 4

**FDOT PERMIT TRAFFIC ANALYSIS  
FOR  
MADEIRA BEACH TOWN CENTER  
TOM STUART CAUSEWAY/MADEIRA WAY  
MADEIRA BEACH, FL**

**PREPARED FOR:  
MADEIRA BEACH DEVELOPMENT COMPANY, LLC**

**PREPARED BY:  
GULF COAST CONSULTING, INC.  
FEBRUARY 2016  
PROJECT # 16-006**

**TABLE OF CONTENTS**

- I. INTRODUCTION**
- II. EXISTING CONDITIONS**
- III. FUTURE CONDITIONS WITH DEVELOPMENT**
- IV. CONCLUSIONS AND RECOMMENDATIONS**

  
Robert Pergolizzi, AICP/PTP  
AICP # 9023 / PTP #133

  
Octavio Cabrera, P.E.  
FL. Reg. #14663

**Octavio Cabrera**

**FEB 18 2016**

**FL P.E. No. 14663**

**I. INTRODUCTION**

The applicant proposes to improve its property located on the north side of Tom Stuart Causeway (SR 666 / 150<sup>th</sup> Avenue) at Madeira Way and the west side of Madeira Way in the City of Madeira Beach (See Figure 1) The property is currently developed with various retail uses, a marina, and surface parking lots with multiple driveways to Tom Stuart Causeway as well as Madeira Way. The applicant intends to redevelop the property with a 180 room hotel, a 250 room hotel, each containing ancillary ground floor retail space, and 90 condominium units in multiple buildings, with associated parking. The potential improvements include consolidation of access points, removal of the traffic signal at Madeira Way, access connection with a turn lane at the median opening serving the site and Madeira Cove Condominiums, and modifying turn lanes within 150<sup>th</sup> Avenue. This traffic analysis was prepared to evaluate the traffic impacts at the driveways and to aid in driveway/ turn lane design. A pre-application meeting was held with FDOT in February 2016.

**II. EXISTING CONDITIONS**

The Tom Stuart Causeway (SR 666) is a four-lane divided arterial roadway with a posted speed of 40 MPH (45 MPH design speed) and is controlled by traffic signals at Madeira Way and Gulf Boulevard to the west. SR 666 is an Access Class 7 roadway per FDOT Rule 14-97, with a minimum driveway spacing requirement of 125 feet, and a full median opening spacing of 660 feet. Existing conditions were established by obtaining PM peak period (4-6 PM) intersection turning movement counts at multiple locations shown below on February 2, 2016. Weather conditions were excellent with a high temperature of 79 degrees and sunshine.

- Gulf Boulevard / Madeira Way (signal)
- Tom Stuart Causeway (SR 666/150<sup>th</sup> Ave.) / Gulf Boulevard (signal)
- Tom Stuart Causeway (SR 666/150<sup>th</sup> Ave)/ Madeira Way (signal)
- Tom Stuart Causeway (SR 666/150<sup>th</sup> Ave.)/ Directional Median opening serving retail plaza
- Tom Stuart Causeway (SR 666/ 150<sup>th</sup> Ave.) / Full Median opening serving Madeira Cove
- Tom Stuart Causeway (SR 666/150<sup>th</sup> Ave.) / Full Median opening serving Boca Vista

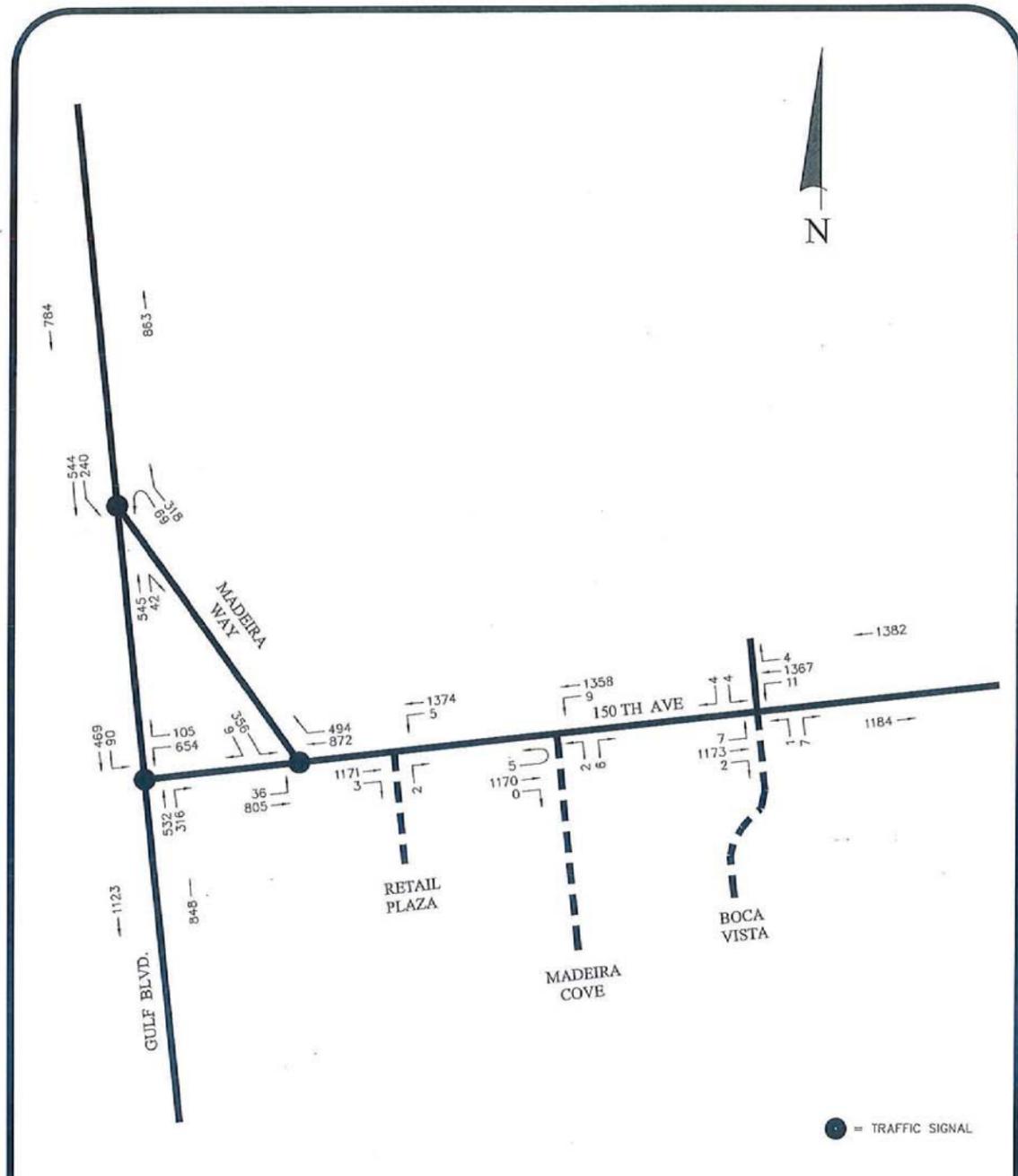
These counts were seasonally adjusted to peak season equivalents using FDOT seasonal adjustment factors. Intersection analysis was performed using the HCS software. The existing (2016) peak hour traffic volumes are shown in Figure 2, the intersection operations are shown below in Table 1 and the HCS printouts are included in Appendix A.

**Table 1 – Existing Intersection Conditions (2016)**

Intersection Location	Type	PM Peak Hour LOS	Ave. Delay (sec/veh)
Gulf Blvd / Madeira Way	Signal	A	9.2
150 <sup>th</sup> Ave / Gulf Blvd.	Signal	C	22.9
150 Ave / Madeira Way	Signal	B	11.8
150 <sup>th</sup> Ave / Directional Opening Retail	Unsignalized	B/B	12.5 / 13.3
150 <sup>th</sup> Avenue / Madeira Cove	Unsignalized	B/C	12.2 / 16.4
150 <sup>th</sup> Avenue / Boca Vista	Unsignalized	B/C	12.7 / 16.0

B/C = LOS of SR 666 left turn / LOS of side street approach





EXISTING PM PEAK HOUR/PEAK SEASON TRAFFIC (2016) PROJECT NO: 16-006

**Gulf Coast Consulting, Inc.**  
 Land Development Consulting  
 ENGINEERING TRANSPORTATION PLANNING PERMITTING  
 13825 ICOT BLVD, SUITE 605  
 Clearwater, Florida 33760  
 Phone: (727) 524-1818 Fax: (727) 524-6090  
 www.gulfcoastconsultinginc.com

DATE: 2/2016  
 DRAWN BY: GJS  
 FIGURE: 2

Tom Stuart Causeway (SR 666/150<sup>th</sup> Avenue) is a 4-lane divided arterial roadway and is controlled by traffic signals at Madeira Way and Gulf Boulevard. These traffic signals are closely spaced and do not meet FDOT signal spacing criteria. Based on the adjusted traffic counts, roadway segment volumes were calculated and analyzed using FDOT Generalized Capacity Tables. The adjacent segment of SR 666 carries 2,566 vehicles during the PM peak hour which represents LOS C on a 4-lane divided roadway.

Gulf Boulevard (SR 699) is a 4-lane divided arterial roadway with a posted speed of 35 MPH and is controlled by traffic signals at Madeira Way and 150<sup>th</sup> Avenue. Gulf Boulevard is considered a Class II arterial due to the lower posted speed. Gulf Boulevard north of Madeira Way carries 1,647 vehicles during the PM peak hour which represents LOS D conditions. Gulf Boulevard south of 150<sup>th</sup> Avenue carries 1,971 vehicles during the PM peak hour which represents LOS D conditions.

**III. FUTURE CONDITIONS WITH DEVELOPMENT**

Traffic impacts from the recently proposed Holiday Isle Marina (Holton) project on the south side of Tom Stuart Causeway east of this property was included as background traffic to evaluate the cumulative effects of both redevelopments. The Holiday Isle project is expected to generate 3,548 daily trips with 289 trips occurring during the PM peak hour. Of these 202 are expected to travel to/from the mainland over the drawbridge, and 87 are expected to impact the study area for Madeira Beach Town Center. This traffic volume was added to the existing counts to consider the impact of Holiday Isle.

Trip generation estimates of the additional traffic caused by the proposed Madeira Beach Town Center development were made using ITE Trip Generation, 9<sup>th</sup> Edition rates.

**Table 2 – Trip Generation Estimates**

Land Use	Amount	ITE LUC	Daily Trips	PM Peak (in/out)
High-Rise Condo "A"	45 units	232	188	17 (10/7)
High-Rise Condo "B"	45 units	232	188	17 (10/7)
Hotel	180 rooms	310	1471	108 (55/53)
Hotel	250 rooms	310	2042	150 (77/73)
<b>Total</b>			<b>3,889</b>	<b>292 (152/142)</b>

The additional traffic caused by the development is expected to be 3,889 daily trips of which 292 would occur during the PM peak hour (152 entering/142 exiting) This would classify as a Category "D" permit application with FDOT. Based on pre-application meetings with FDOT, substantial access management improvements are proposed. These include removing the traffic signal at Madeira Way, and constructing a turn lane at the Madeira Cove median opening which will also serve the project condominiums. In addition, converting Madeira Way into right-in/right out access at the Tom Stuart Causeway intersection, lengthening left turn lanes, and providing an eastbound left turn lane at the project access aligning with Madeira Cove is proposed. These changes will create U-turns and a redistribution of existing traffic. This will provide median opening separation to better conform to FDOT access management criteria.

Project traffic was distributed to the surrounding roadway system based on the following percentages.

- 10% north on Gulf Boulevard (SR 699)
- 20% south on Gulf Boulevard (SR 699)
- 70% east on SR 666 (Tom Stuart Causeway)

Project generated traffic is shown in Figure 3.

The intersections were reanalyzed considering the project traffic, median opening modifications, the removal of a traffic signal and revised access points. The expected future traffic volumes are shown in Figure 4, intersection conditions are shown in Table 3, and the HCS printouts are included in Appendix B.

**Table 3 – Future Intersection Conditions**

Intersection Location	Type	PM Peak Hour LOS	Ave. Delay (sec/veh)
Gulf Blvd / Madeira Way	Signal	B	11.1
150 <sup>th</sup> Ave / Gulf Blvd.	Signal	C	25.8
150 Ave / Madeira Way (RIRO)	Unsignalized	C* (SBRT)	16.1
150 <sup>th</sup> Ave / Directional Opening Retail	Unsignalized	B/B*	13.9/14.4
150 <sup>th</sup> Avenue / Madeira Cove	Unsignalized	C/E*	16.5/47.0
150 <sup>th</sup> Avenue / Boca Vista	Unsignalized	B/C*	14.1/16.7
Madeira Way / Hotel Driveways	Unsignalized	A/D*	8.6/30.6

B/C = LOS of SR 666 left turn / LOS of side street approach

The adjacent segment of SR 666 would continue to operate at LOS C with volume increasing to 2,863 vehicles during the PM peak hour. This represents an acceptable level of service.

The segment of Gulf Boulevard north of Madeira Way would carry 1,706 vehicles during the PM peak hour which represents LOS D conditions. Gulf Boulevard south of 150<sup>th</sup> Avenue would carry 2,084 vehicles during the PM peak hour which represents LOS D conditions.

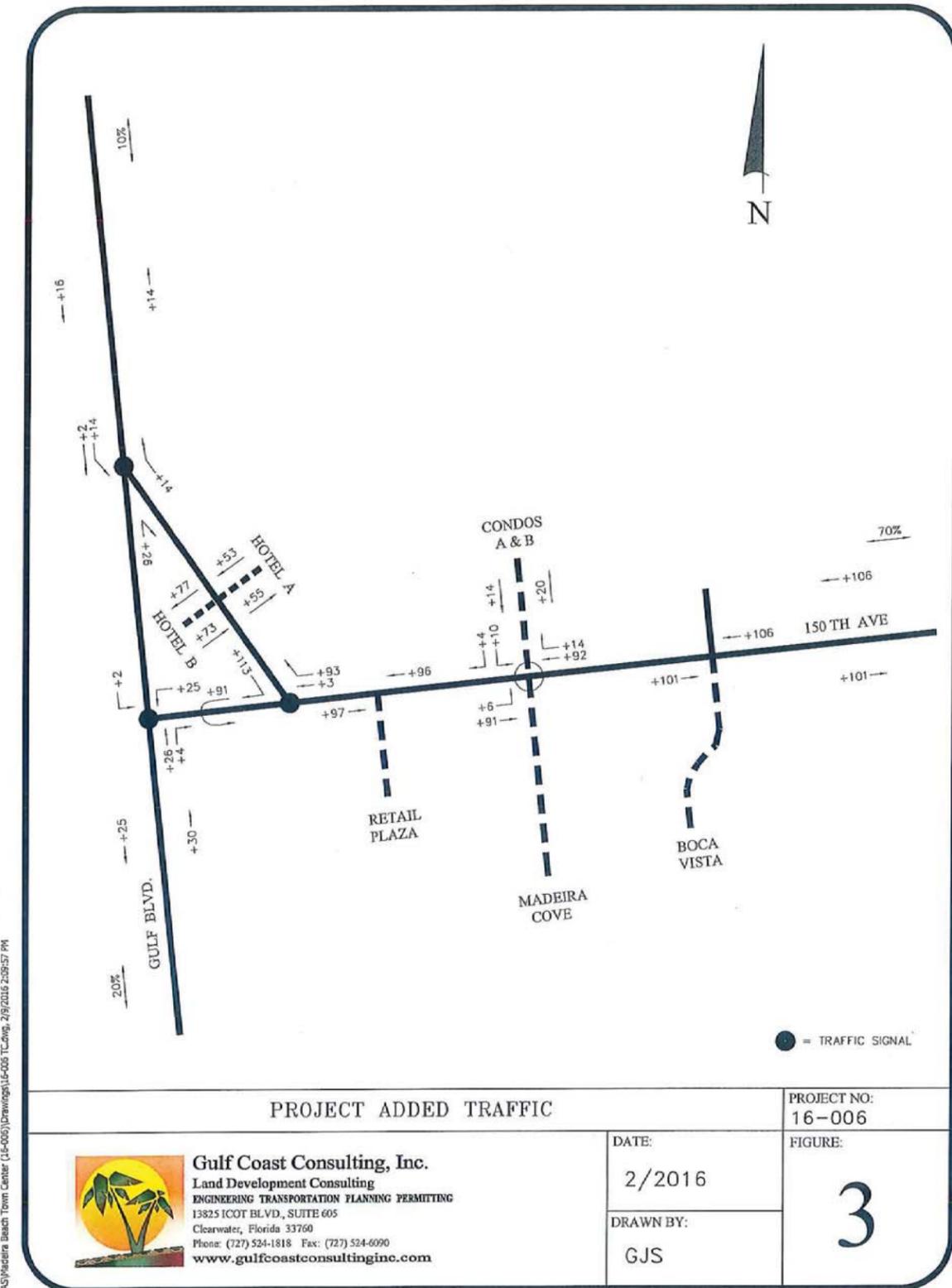
#### IV. CONCLUSIONS AND RECOMMENDATIONS

The proposed development of this property to contain condominiums, and hotels with ancillary ground floor retail space is expected to generate 3,889 daily trips and an additional 292 PM peak hour trips. With the impacts of the proposed development all affected intersections and roadway segments would continue to operate at acceptable levels of service.

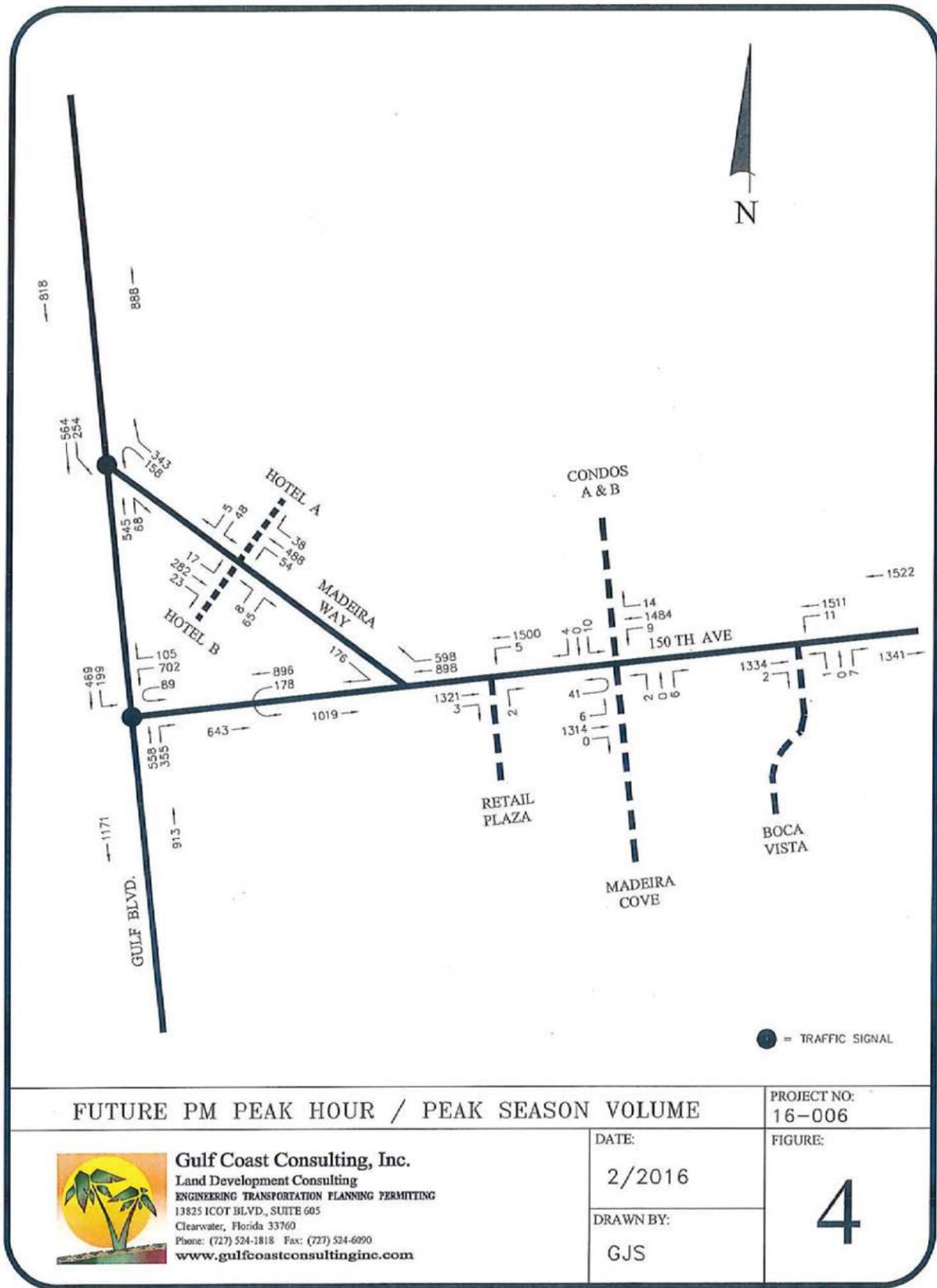
The following access management improvements are recommended:

Tom Stuart Causeway (150<sup>th</sup> Avenue) / Madeira Way – Remove traffic signal, install raised median in 150<sup>th</sup> Avenue, permit right turn only into/from Madeira Way.

Tom Stuart Causeway (150<sup>th</sup> Avenue) / Median Opening at 1<sup>st</sup> Street E. – Extend the westbound left turn lane past Madeira Way to contain 150 feet of queue storage plus 185 feet of deceleration distance per FDOT Index # 301 for a 45 MPH design speed.



Y:\P\NELLY\Madeira Beach Town Center (16-006)\Drawings\16-006 TC.dwg, 2/9/2016 2:05:57 PM



Tom Stuart Causeway (150<sup>th</sup> Avenue) / Madeira Cove Median Opening – Construct an eastbound left turn lane into Madeira Beach Town Center access. Construct driveway with 2 exiting lanes to separate left and right turns. The eastbound left turn lane should include 50 feet of queue storage plus 185 feet of deceleration distance per FDOT Index # 301. Due to distance constraints a design exception for deceleration distance may be needed from FDOT. The westbound left turn lane should contain 50 feet queue storage plus 185 feet deceleration distance per FDOT Index #301. This requires lengthening the existing left turn lane and removal of landscaping area.

Tom Stuart Causeway / Boca Vista Median Opening – Extend the westbound left turn lane to include 50 feet of queue storage plus 185 feet of deceleration distance per FDOT Index #301. This requires lengthening the existing left turn lane and removal of landscaping area.

Y:\P\NELLY\Madeira Beach Town Center (16-006)\Drawings\16-006 TC.dwg, 2/16/2016 3:52:30 PM

FUTURE PM PEAK HOUR / PEAK SEASON VOLUME

PROJECT NO:  
16-006



**Gulf Coast Consulting, Inc.**  
Land Development Consulting  
ENGINEERING TRANSPORTATION PLANNING PERMITTING  
13825 ICOT BLVD., SUITE 605  
Clearwater, Florida 33760  
Phone: (727) 524-1818 Fax: (727) 524-6090  
www.gulfcoastconsultinginc.com

DATE:  
2/2016

DRAWN BY:  
GJS

FIGURE:

4

APPENDIX A

2014 Peak Season Factor Category Report - Report Type: ALL  
 Category: 1500 PINELLAS COUNTYWIDE

Week	Dates	SF	MOCE PSCF	MOCE: 0.95
1	01/01/2014 - 01/04/2014	1.03	1.08	
2	01/05/2014 - 01/11/2014	1.05	1.11	
3	01/12/2014 - 01/18/2014	1.07	1.13	
4	01/19/2014 - 01/25/2014	1.05	1.11	
5	01/26/2014 - 02/01/2014	1.03	1.08	
6	02/02/2014 - 02/08/2014	1.00	1.05	Time Covid
7	02/09/2014 - 02/15/2014	0.98	1.03	
* 8	02/16/2014 - 02/22/2014	0.96	1.01	
* 9	02/23/2014 - 03/01/2014	0.95	1.00	
*10	03/02/2014 - 03/08/2014	0.95	1.00	
*11	03/09/2014 - 03/15/2014	0.94	0.99	
*12	03/16/2014 - 03/22/2014	0.93	0.98	
*13	03/23/2014 - 03/29/2014	0.93	0.98	
*14	03/30/2014 - 04/05/2014	0.94	0.99	
*15	04/06/2014 - 04/12/2014	0.94	0.99	
*16	04/13/2014 - 04/19/2014	0.94	0.99	
*17	04/20/2014 - 04/26/2014	0.95	1.00	
*18	04/27/2014 - 05/03/2014	0.96	1.01	
*19	05/04/2014 - 05/10/2014	0.97	1.02	
*20	05/11/2014 - 05/17/2014	0.98	1.03	
21	05/18/2014 - 05/24/2014	0.99	1.04	
22	05/25/2014 - 05/31/2014	0.99	1.04	
23	06/01/2014 - 06/07/2014	0.99	1.04	
24	06/08/2014 - 06/14/2014	0.99	1.04	
25	06/15/2014 - 06/21/2014	0.99	1.04	
26	06/22/2014 - 06/28/2014	1.00	1.05	
27	06/29/2014 - 07/05/2014	1.00	1.05	
28	07/06/2014 - 07/12/2014	1.00	1.05	
29	07/13/2014 - 07/19/2014	1.01	1.06	
30	07/20/2014 - 07/26/2014	1.01	1.06	
31	07/27/2014 - 08/02/2014	1.01	1.06	
32	08/03/2014 - 08/09/2014	1.02	1.07	
33	08/10/2014 - 08/16/2014	1.02	1.07	
34	08/17/2014 - 08/23/2014	1.02	1.07	
35	08/24/2014 - 08/30/2014	1.04	1.09	
36	08/31/2014 - 09/06/2014	1.05	1.11	
37	09/07/2014 - 09/13/2014	1.06	1.12	
38	09/14/2014 - 09/20/2014	1.07	1.13	
39	09/21/2014 - 09/27/2014	1.06	1.12	
40	09/28/2014 - 10/04/2014	1.06	1.12	
41	10/05/2014 - 10/11/2014	1.05	1.11	
42	10/12/2014 - 10/18/2014	1.05	1.11	
43	10/19/2014 - 10/25/2014	1.05	1.11	
44	10/26/2014 - 11/01/2014	1.05	1.11	
45	11/02/2014 - 11/08/2014	1.06	1.12	
46	11/09/2014 - 11/15/2014	1.06	1.12	
47	11/16/2014 - 11/22/2014	1.06	1.12	
48	11/23/2014 - 11/29/2014	1.06	1.12	
49	11/30/2014 - 12/06/2014	1.05	1.11	
50	12/07/2014 - 12/13/2014	1.04	1.09	
51	12/14/2014 - 12/20/2014	1.03	1.08	
52	12/21/2014 - 12/27/2014	1.05	1.11	
53	12/28/2014 - 12/31/2014	1.07	1.13	

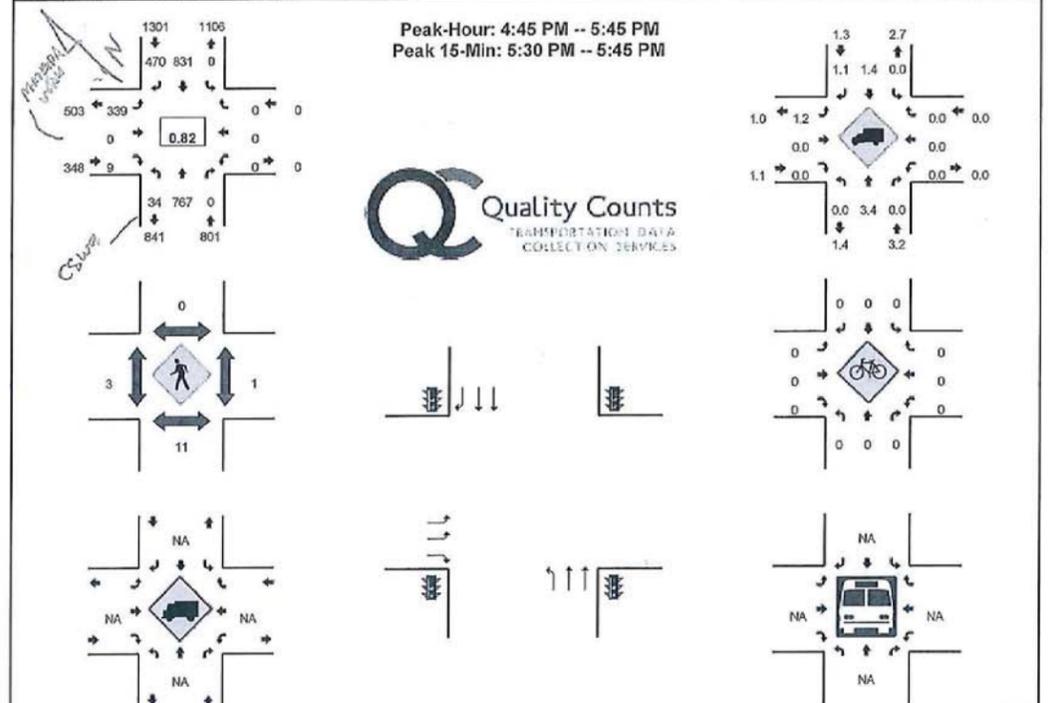
\* Peak Season

Page 10 of 11

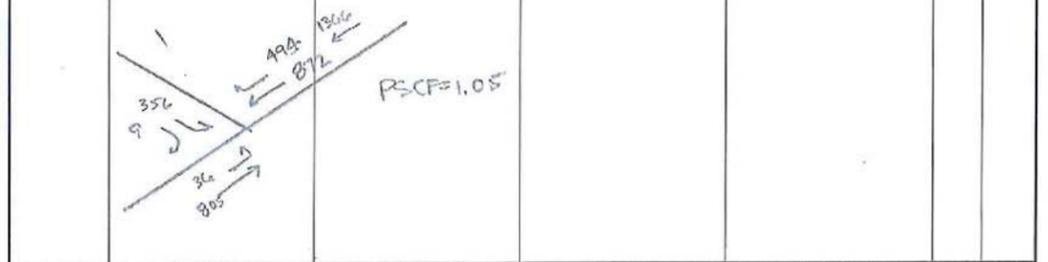


Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume

LOCATION: Tom Stuart Causeway -- Madeira Way QC JOB #: 13698603  
 CITY/STATE: Madeira Beach, FL DATE: Tue, Feb 02 2016



15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)				Tom Stuart Causeway (Southbound)				Madeira Way (Eastbound)				Madeira Way (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	16	195	0	0	0	149	80	0	0	107	0	5	0	0	0	0	0	552	
4:15 PM	7	233	0	0	0	180	92	0	0	76	0	6	0	0	0	0	0	594	
4:30 PM	11	191	0	0	0	235	136	0	0	93	0	2	0	0	0	0	0	669	
4:45 PM	14	187	0	0	0	200	122	0	0	80	0	1	0	0	0	0	0	604	2419
5:00 PM	7	196	0	0	0	147	102	0	0	92	0	3	0	0	0	0	0	547	2414
5:15 PM	4	183	0	0	0	176	96	0	0	89	0	3	0	0	0	0	0	551	2371
5:30 PM	8	201	0	1	0	308	150	0	0	78	0	2	0	0	0	0	0	748	2450
5:45 PM	19	174	0	0	0	202	115	0	0	81	0	7	0	0	0	0	0	598	2444

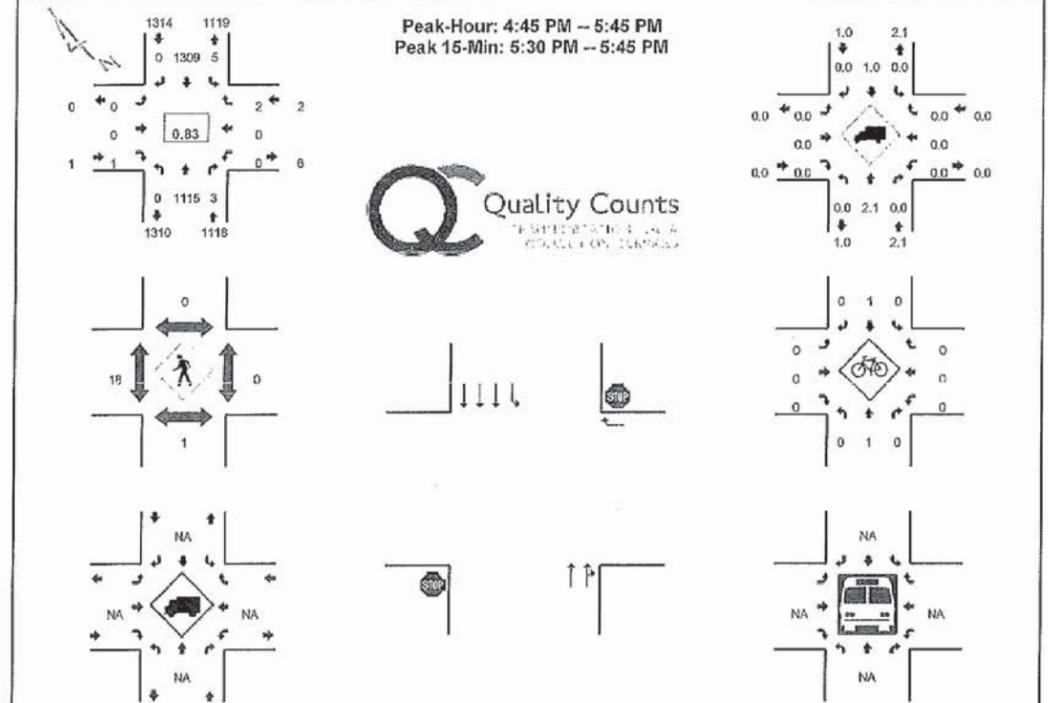


Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	32	804	0	4	0	1232	600	0	0	312	0	8	0	0	0	0	0	2992
Heavy Trucks	0	24	0	0	0	16	4	0	0	8	0	0	0	0	0	0	0	52
Pedestrians	0	20	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	28
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

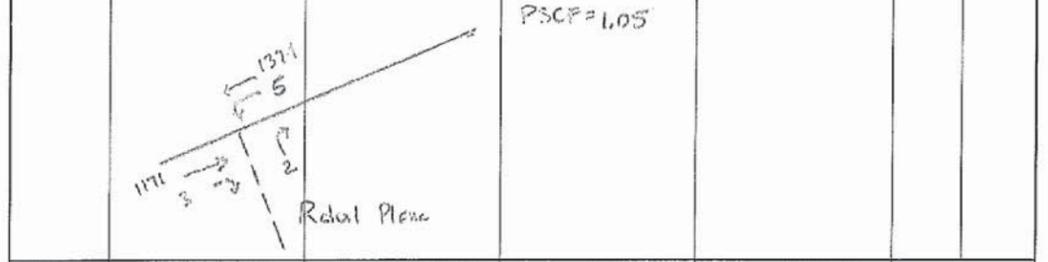
Comments: Report generated on 2/5/2016 8:37 AM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume

LOCATION: Tom Stuart Causeway -- Median Opening to Retail Plaza QC JOB #: 13698604  
 CITY/STATE: Madeira Beach, FL DATE: Tue, Feb 02 2016



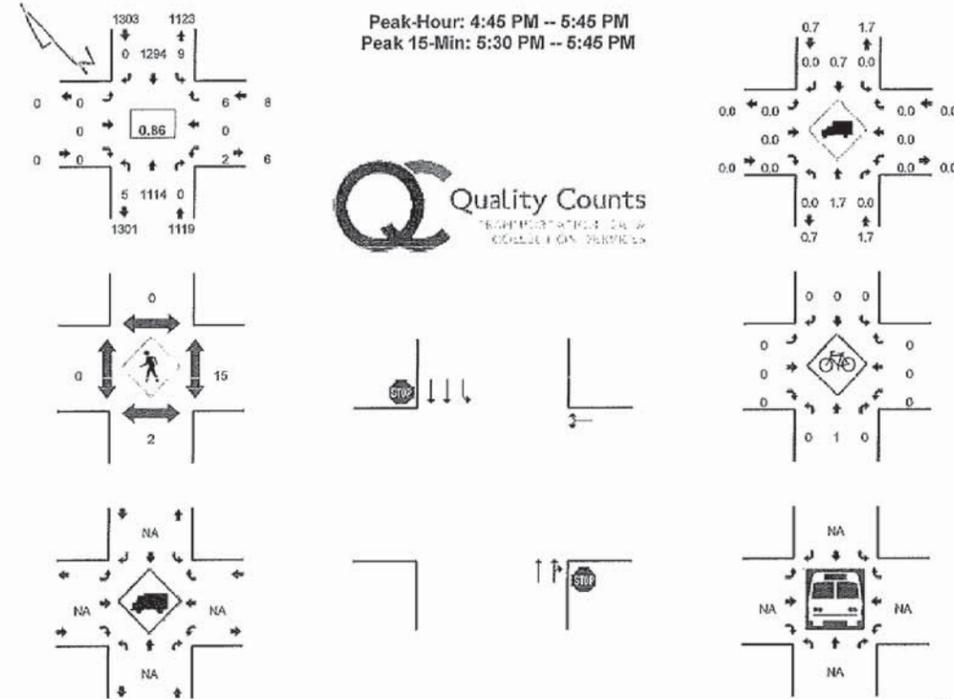
15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)				Tom Stuart Causeway (Southbound)				Median Opening to Retail Plaza (Eastbound)				Median Opening to Retail Plaza (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	291	1	1	1	244	0	2	0	0	0	0	0	0	0	1	0	541	
4:15 PM	0	321	3	0	1	270	0	0	0	0	1	0	0	0	0	0	0	596	
4:30 PM	0	284	0	0	3	367	0	0	0	0	0	0	0	0	0	1	0	655	
4:45 PM	0	263	2	0	1	326	0	1	0	0	0	0	0	0	0	0	0	593	2385
5:00 PM	0	296	0	0	0	252	0	0	0	0	0	0	0	0	0	0	0	548	2392
5:15 PM	0	274	0	0	2	279	0	0	0	0	0	1	0	0	0	1	0	557	2353
5:30 PM	0	282	1	0	0	452	0	1	0	0	0	0	0	0	0	1	0	737	2435
5:45 PM	0	258	0	0	2	329	0	0	0	0	0	0	0	0	0	0	0	589	2431



Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1128	4	0	0	1808	0	4	0	0	0	0	0	0	0	4	0	2948
Heavy Trucks	0	24	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	32
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Comments: Report generated on 2/5/2016 6:30 PM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume  
 LOCATION: Tom Stuart Causeway -- Full Median Opening/Medeira Cove QC JOB #: 13698605  
 CITY/STATE: Madeira Beach, FL DATE: Tue, Feb 02 2016



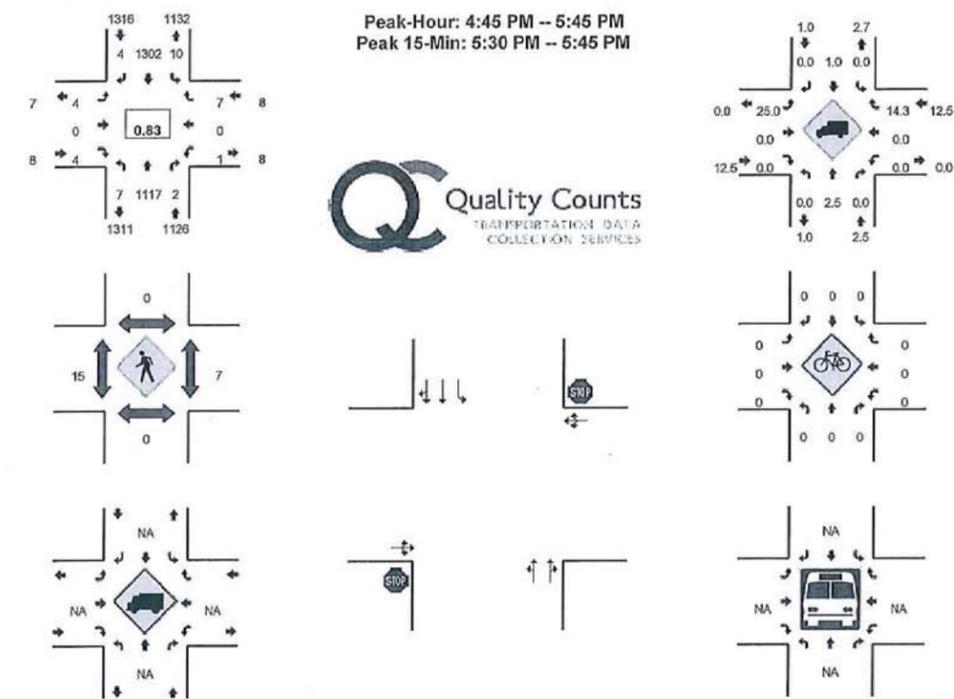
15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)				Tom Stuart Causeway (Southbound)				Full Median Opening/Medeira Cove (Eastbound)				Full Median Opening/Medeira Cove (Westbound)				Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	324	1	3	0	267	0	0	0	0	0	0	0	0	1	0	0	596
4:15 PM	0	288	0	2	0	265	0	0	0	0	0	0	0	0	1	0	0	559
4:30 PM	0	290	0	3	0	343	0	1	0	0	0	0	0	1	0	1	0	641
4:45 PM	0	276	0	1	0	332	0	1	0	0	0	0	0	0	0	0	0	611
5:00 PM	0	294	0	2	0	268	0	0	0	0	0	0	0	1	0	2	0	569
5:15 PM	0	266	0	1	0	271	0	1	0	0	0	0	0	0	0	1	0	542
5:30 PM	0	278	0	1	0	423	0	1	0	0	0	0	0	1	0	3	0	708
5:45 PM	0	254	0	0	0	439	0	0	0	0	0	0	0	0	0	0	0	597
Hourly Totals																	2407	
Total																	2380	
Total																	2363	
Total																	2430	
Total																	2416	

*Handwritten notes:*  
 1350  
 1170  
 1173  
 2-4  
 1173  
 2-4  
 BOCA VISTA  
 MEDAIRA COVE

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	1112	0	4	0	4	1692	0	4	0	0	0	0	0	4	0	12	0	2332
Heavy Trucks	0	12	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	20
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Comments:  
 Report generated on 2/5/2016 8:37 AM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume  
 LOCATION: Tom Stuart Causeway -- Boca Vista Condo Access QC JOB #: 13698606  
 CITY/STATE: Pinellas, FL DATE: Tue, Feb 02 2016



15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)				Tom Stuart Causeway (Southbound)				Boca Vista Condo Access (Eastbound)				Boca Vista Condo Access (Westbound)				Total Hourly Totals		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	285	2	2	0	0	262	0	3	0	1	0	0	0	0	0	0	555	
4:15 PM	1	312	2	2	0	0	247	0	3	0	2	0	0	0	0	0	1	0	570
4:30 PM	1	297	0	0	0	1	360	0	0	0	3	0	0	0	0	1	0	2	0
4:45 PM	0	258	1	0	0	3	328	0	1	0	0	0	0	0	0	1	0	2	0
5:00 PM	1	295	0	1	0	0	264	0	1	0	1	0	2	0	0	0	0	1	0
5:15 PM	2	269	1	1	0	0	277	0	0	0	1	0	2	0	0	0	0	4	0
5:30 PM	0	295	0	2	0	3	433	4	2	0	2	0	0	0	0	0	0	0	0
5:45 PM	1	252	1	1	0	1	333	0	0	0	0	0	0	0	0	0	0	2	0
Hourly Totals																	2384		
Total																	2395		
Total																	2382		
Total																	2458		
Total																	2455		

*Handwritten notes:*  
 Retail  
 2-4  
 1173  
 2-4  
 BOCA VISTA

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	1180	0	8	0	12	1732	16	8	0	8	0	0	0	0	0	0	0	2864
Heavy Trucks	0	28	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	40
Pedestrians	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	4	0	0	20
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Comments:  
 Report generated on 2/5/2016 8:37 AM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

HCS+™ DETAILED REPORT														
General Information						Site Information								
Analyst <i>RP</i>						Intersection <i>GULF BLVD/MADEIRA WAY</i>								
Agency or Co. <i>GCC</i>						Area Type <i>All other areas</i>								
Date Performed <i>2/8/2016</i>						Jurisdiction <i>FDOT</i>								
Time Period <i>PM PEAK HOUR</i>						Analysis Year <i>2016 EXISTING</i>								
						Project ID <i>MADEIRA BEACH TOWN CTR</i>								
Volume and Timing Input														
			MADEIRA WAY			GULF BLVD			GULF BLVD					
			EB			WB			NB			SB		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N <sub>l</sub>					1			1			2	1		2
Lane Group					L			R			T	R		T
Volume, V (vph)					69			318			545	42		240
% Heavy Vehicles, %HV					2			2			1	1		1
Peak-Hour Factor, PHF					0.96			0.96			0.96	0.96		0.96
Pretimed (P) or Actuated (A)					A			A			A	A		A
Start-up Lost Time, I <sub>l</sub>					2.0			2.0			2.0	2.0		2.0
Extension of Effective Green, e					2.0			2.0			2.0	2.0		2.0
Arrival Type, AT					3			3			4	4		3
Unit Extension, UE					3.0			3.0			3.0	3.0		3.0
Filtering/Metering, I					1.000			1.000			1.000	1.000		1.000
Initial Unmet Demand, Q <sub>b</sub>					0.0			0.0			0.0	0.0		0.0
Ped / Bike / RTOR Volumes			0	0	76	0	0	204	76	0	0	0	0	0
Lane Width					12.0			12.0			12.0	12.0		12.0
Parking / Grade / Parking			N	0	N	N	0	N	N	0	N	N	0	N
Parking Maneuvers, N <sub>m</sub>														
Buses Stopping, N <sub>b</sub>					0			0			0	0		0
Min. Time for Pedestrians, G <sub>p</sub>				3.2			3.8			3.8			3.2	
Phasing		WB Only	02	03	04	SB Only	NS Perm	07	08					
Timing		G = 25.0	G =	G =	G =	G = 13.0	G = 60.0	G =	G =					
		Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =					
Duration of Analysis, T = 0.25							Cycle Length, C = 110.0							
Lane Group Capacity, Control Delay, and LOS Determination														
			EB			WB			NB			SB		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v					72			119			568	44		250
Lane Group Capacity, c					402			360			1954	872		644
v/c Ratio, X					0.18			0.33			0.29	0.05		0.39
Total Green Ratio, g/C					0.23			0.23			0.55	0.55		0.70
Uniform Delay, d <sub>1</sub>					34.2			35.5			13.5	11.7		6.0
Progression Factor, PF					1.000			1.000			0.690	0.690		1.000
Delay Calibration, k					0.11			0.11			0.11	0.11		0.11
Incremental Delay, d <sub>2</sub>					0.2			0.5			0.1	0.0		0.4

Initial Queue Delay, d <sub>3</sub>				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay				34.4		36.1		9.4	8.1	6.4	1.5	
Lane Group LOS				C		D		A	A	A	A	
Approach Delay				35.4			9.3			3.0		
Approach LOS				D			A			A		
Intersection Delay	9.2			X <sub>c</sub> = 0.39			Intersection LOS			A		

HCS+™ DETAILED REPORT																	
General Information						Site Information											
Analyst RP						Intersection SR 666 / GULF BLVD											
Agency or Co. GCC						Area Type All other areas											
Date Performed 2/8/2016						Jurisdiction FDOT											
Time Period PM PEAK HOUR						Analysis Year 2016 EXISTING											
						Project ID MADEIRA BEACH TOWN CTR											
Volume and Timing Input																	
SR 666 GULF BLVD GULF BLVD																	
			EB			WB			NB			SB					
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT			
Number of Lanes, N1			2			0			2			2					
Lane Group			L LR			T R			L T								
Volume, V (vph)			654			105			532			316 90 469					
% Heavy Vehicles, %HV			1			1			3			3 1 1					
Peak-Hour Factor, PHF			0.89			0.89			0.89			0.89 0.89					
Pretimed (P) or Actuated (A)			A			A			A			A					
Start-up Lost Time, I1			2.0			2.0			2.0			2.0					
Extension of Effective Green, e			2.0			2.0			2.0			2.0					
Arrival Type, AT			3			3			3			3					
Unit Extension, UE			3.0			3.0			3.0			3.0					
Filtering/Metering, I			1.000			1.000			1.000			1.000					
Initial Unmet Demand, Qb			0.0			0.0			0.0			0.0					
Ped / Bike / RTOR Volumes			0 0			25 0 0			25 0 0			0 0					
Lane Width			12.0			12.0			12.0			12.0					
Parking / Grade / Parking			N 0 N			N 0 N			N 0 N			N 0 N					
Parking Maneuvers, Nm																	
Buses Stopping, Nb			0			0			0			0					
Min. Time for Pedestrians, Gp			3.2			3.4			3.4			3.2					
Phasing		WB Only		02		03		04		SB Only		Thru & RT		07		08	
Timing		G = 33.0		G =		G =		G =		G = 12.0		G = 53.0		G =		G =	
		Y = 4		Y =		Y =		Y =		Y = 4		Y =		Y =		Y =	
Duration of Analysis, T = 0.25										Cycle Length, C = 110.0							
Lane Group Capacity, Control Delay, and LOS Determination																	
			EB			WB			NB			SB					
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT			
Adjusted Flow Rate, v			515			338			598			355 101 527					
Lane Group Capacity, c			1041			518			1692			755 379 2247					
v/c Ratio, X			0.49			0.65			0.35			0.47 0.27 0.23					
Total Green Ratio, g/C			0.30			0.30			0.48			0.48 0.11 0.63					
Uniform Delay, d1			31.6			33.5			17.8			19.1 45.0 9.0					
Progression Factor, PF			1.000			1.000			1.000			1.000 1.000					
Delay Calibration, k			0.11			0.23			0.11			0.11 0.11 0.11					
Incremental Delay, d2			0.4			2.9			0.1			0.5 0.4 0.1					
			0.0			0.0			0.0			0.0 0.0					

SR 666 WB GULF BLVD WB GULF BLVD SB														
Initial Queue Delay, d3														
Control Delay			32.0			36.4			17.9			19.6 45.3 9.0		
Lane Group LOS			C			D			B			B D A		
Approach Delay			33.8			18.5			14.9					
Approach LOS			C			B			B					
Intersection Delay			22.9			Xc = 0.51			Intersection LOS			C		

HCS+™ DETAILED REPORT												
General Information						Site Information						
Analyst	RP					Intersection	SR 666 / MADEIRA WAY					
Agency or Co.	GCC					Area Type	All other areas					
Date Performed	2/8/2016					Jurisdiction	FDOT					
Time Period	[PM PEAK HOUR]					Analysis Year	2016 EXISTING					
						Project ID	MADEIRA BEACH TOWN CTR					
Volume and Timing Input												
	SR 666			SR 666			MADEIRA WAY					
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N <sub>i</sub>	1	2		2	1					2		0
Lane Group	L	T		T	R					L	LR	
Volume, V (vph)	36	805		872	494					356		9
% Heavy Vehicles, %HV	3	3		1	1					1		1
Peak-Hour Factor, PHF	0.82	0.82		0.82	0.82					0.82		0.82
Pretimed (P) or Actuated (A)	A	A		A	A					A		A
Start-up Lost Time, I <sub>t</sub>	2.0	2.0		2.0	2.0					2.0	2.0	
Extension of Effective Green, e	2.0	2.0		2.0	2.0					2.0	2.0	
Arrival Type, AT	3	4		4	4					3	3	
Unit Extension, UE	3.0	3.0		3.0	3.0					3.0	3.0	
Filtering/Metering, I	1.000	1.000		1.000	1.000					1.000	1.000	
Initial Unmet Demand, Q <sub>b</sub>	0.0	0.0		0.0	0.0					0.0	0.0	
Ped / Bike / RTOR Volumes	0	0		14	0	0	0	0		14	0	0
Lane Width	12.0	12.0		12.0	12.0					12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking Maneuvers, N <sub>m</sub>												
Buses Stopping, N <sub>b</sub>	0	0		0	0					0	0	
Min. Time for Pedestrians, G <sub>p</sub>	3.2			3.3			3.2			3.3		
Phasing	EB Only	Thru & RT	03	04	SB Only	06	07	08				
Timing	G = 12.0	G = 56.0	G =	G =	G = 30.0	G =	G =	G =				
	Y = 4	Y = 4	Y =	Y =	Y = 4	Y =	Y =	Y =				
Duration of Analysis, T = 0.25						Cycle Length, C = 110.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	44	982		1063	602					434	11	
Lane Group Capacity, c	191	2299		1824	1308					947	436	
v/c Ratio, X	0.23	0.43		0.58	0.46					0.46	0.03	
Total Green Ratio, g/C	0.11	0.65		0.51	0.82					0.27	0.27	
Uniform Delay, d <sub>1</sub>	44.8	9.1		18.8	2.9					33.2	29.3	
Progression Factor, PF	1.000	0.424		0.752	0.316					1.000	1.000	
Delay Calibration, k	0.11	0.11		0.17	0.11					0.11	0.11	
Incremental Delay, d <sub>2</sub>	0.6	0.1		0.5	0.3					0.4	0.0	
	0.0	0.0		0.0	0.0					0.0	0.0	

SR 666

MADEIRA WAY

Initial Queue Delay, d <sub>3</sub>												
Control Delay	45.4	4.0			14.7	1.2				33.6	29.3	
Lane Group LOS	D	A			B	A				C	C	
Approach Delay	5.8			9.8						33.5		
Approach LOS	A			A						C		
Intersection Delay	11.8			X <sub>c</sub> = 0.50			Intersection LOS			B		

TWO-WAY STOP CONTROL SUMMARY						
General Information			Site Information			
Analyst	RP		Intersection	SR 666 / RETAIL PLAZA ACCESS		
Agency/Co.	GCC		Jurisdiction	FDOT		
Date Performed	2/8/2016		Analysis Year	2016 EXISTING		
Analysis Time Period	PM PEAK					
Project Description: MADEIRA BEACH TOWN CTR						
East/West Street: SR 666			North/South Street: RETAIL PLAZA ACCESS			
Intersection Orientation: East-West			Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1171	3	5	1374	
Peak-Hour Factor, PHF	1.00	0.83	0.83	0.83	0.83	1.00
Hourly Flow Rate, HFR (veh/h)	0	1410	3	6	1655	0
Percent Heavy Vehicles	0	--	--	1	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0		0		
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			2			
Peak-Hour Factor, PHF	1.00	1.00	0.83	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	2	0	0	0
Percent Heavy Vehicles	0	0	1	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N		N		
Storage		0		0		
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			
Delay, Queue Length, and Level of Service						
Approach	Eastbound	Westbound	Northbound		Southbound	
Movement	1	4	7	8	9	10
Lane Configuration		L			R	
v (veh/h)		6			2	
C (m) (veh/h)		484			437	
v/c		0.01			0.00	
95% queue length		0.04			0.01	
Control Delay (s/veh)		12.5			13.3	
LOS		B			B	
Approach Delay (s/veh)	--	--	13.3		--	--
Approach LOS	--	--	B		--	--

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 2/8/2016 10:13 AM

TWO-WAY STOP CONTROL SUMMARY						
General Information			Site Information			
Analyst	RP		Intersection	SR 666 / MADEIRA COVE ACCESS		
Agency/Co.	GCC		Jurisdiction	FDOT		
Date Performed	2/5/2016		Analysis Year	2016 EXISTING		
Analysis Time Period	PM PEAK					
Project Description: MADEIRA BEACH TOWN CTR						
East/West Street: SR 666			North/South Street: MADEIRA COVE ACCESS			
Intersection Orientation: East-West			Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1170	0	9	1358	
Peak-Hour Factor, PHF	1.00	0.86	0.86	0.86	0.86	1.00
Hourly Flow Rate, HFR (veh/h)	0	1360	0	10	1579	0
Percent Heavy Vehicles	0	--	--	1	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0		0		
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2		6			
Peak-Hour Factor, PHF	0.86	1.00	0.86	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	2	0	6	0	0	0
Percent Heavy Vehicles	1	0	1	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N		N		
Storage		0		0		
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration			LR			
Delay, Queue Length, and Level of Service						
Approach	Eastbound	Westbound	Northbound		Southbound	
Movement	1	4	7	8	9	10
Lane Configuration		L			LR	
v (veh/h)		10			8	
C (m) (veh/h)		507			323	
v/c		0.02			0.02	
95% queue length		0.06			0.08	
Control Delay (s/veh)		12.2			16.4	
LOS		B			C	
Approach Delay (s/veh)	--	--	16.4		--	--
Approach LOS	--	--	C		--	--

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 2/5/2016 2:46 PM

MADEIRA COVE

TWO-WAY STOP CONTROL SUMMARY						
General Information			Site Information			
Analyst	RP		Intersection	SR 666 / BOCA VISTA ACCESS		
Agency/Co.	GCC		Jurisdiction	FDOT		
Date Performed	2/5/2016		Analysis Year	2016 EXISTING		
Analysis Time Period	PM PEAK					
Project Description: MADEIRA BEACH TOWN CTR						
East/West Street: SR 666			North/South Street: BOCA VISTA ACCESS			
Intersection Orientation: East-West			Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	7	1173	2	11	1367	4
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Hourly Flow Rate, HFR (veh/h)	8	1413	2	13	1646	4
Percent Heavy Vehicles	1	--	--	1	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration	LT		TR	L	T	TR
Upstream Signal		0		0		
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	1	0	7	4	0	4
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Hourly Flow Rate, HFR (veh/h)	1	0	8	4	0	4
Percent Heavy Vehicles	1	1	1	1	1	1
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Delay, Queue Length, and Level of Service						
	BOCA VISTA			REVERA		
Approach	Eastbound	Westbound	Northbound	Southbound		
Movement	1	4	7	8	9	10
						11
						12
Lane Configuration	LT	L	LTR			LTR
v (veh/h)	8	13	9	8		
C (m) (veh/h)	392	483	337	144		
v/c	0.02	0.03	0.03	0.06		
95% queue length	0.06	0.08	0.08	0.17		
Control Delay (s/veh)	14.4	12.7	16.0	31.5		
LOS	B	B	C	D		
Approach Delay (s/veh)	--	--	16.0	31.5		
Approach LOS	--	--	C	D		

Copyright © 2007 University of Florida, All Rights Reserved

HCS™ Version 5.3

Generated: 2/5/2016 2:36 PM

BOCA VISTA

TABLE 4

Generalized Peak Hour Two-Way Volumes for Florida's Urbanized Areas<sup>1</sup>

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
<b>STATE SIGNALIZED ARTERIALS</b>						<b>FREEWAYS</b>					
Class I (40 mph or higher posted speed limit)						Lanes	B	C	D	E	
Lanes	Median	B	C	D	E	4	4,120	5,540	6,700	7,190	
2	Undivided	*	1,510	1,600	**	6	6,130	8,370	10,060	11,100	
4	Divided	*	3,420	3,580	**	8	8,230	11,100	13,390	15,010	
6	Divided	*	5,250	5,390	**	10	10,330	14,040	16,840	18,930	
8	Divided	*	7,090	7,210	**	12	14,450	18,880	22,030	22,860	
Class II (35 mph or slower posted speed limit)						<b>Freeway Adjustments</b>					
Lanes	Median	B	C	D	E	Auxiliary Lanes		Ramp			
2	Undivided	*	660	1,330	1,410	Present in Both Directions		Metering			
4	Divided	*	1,310	2,920	3,040	+ 1,800		+ 5%			
6	Divided	*	2,090	4,500	4,590						
8	Divided	*	2,880	6,060	6,130						
<b>Non-State Signalized Roadway Adjustments</b>						<b>UNINTERRUPTED FLOW HIGHWAYS</b>					
(Alter corresponding state volumes by the indicated percent.)						Lanes	Median	B	C	D	E
Non-State Signalized Roadways -10%						2	Undivided	770	1,530	2,170	2,990
<b>Median &amp; Turn Lane Adjustments</b>						4	Divided	3,300	4,660	5,900	6,530
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		6	Divided	4,950	6,990	8,840	9,790
2	Divided	Yes	No	+5%		<b>Uninterrupted Flow Highway Adjustments</b>					
2	Undivided	No	No	-20%		Lanes	Median	Exclusive left lanes	Adjustment factors		
Multi	Undivided	Yes	No	-5%		2	Divided	Yes	+5%		
Multi	Undivided	No	No	-25%		Multi	Undivided	Yes	-5%		
			Yes	+5%		Multi	Undivided	No	-25%		
<b>One-Way Facility Adjustment</b>											
Multiply the corresponding two-directional volumes in this table by 0.6											
<b>BICYCLE MODE<sup>2</sup></b>											
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
<b>Paved Shoulder/Bicycle</b>											
Lane Coverage	B	C	D	E							
0-49%	*	260	680	1,770							
50-84%	190	600	1,770	>1,770							
85-100%	830	1,770	>1,770	**							
<b>PEDESTRIAN MODE<sup>2</sup></b>											
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
<b>Sidewalk Coverage</b>											
0-49%	*	*	250	850							
50-84%	*	150	780	1,420							
85-100%	340	960	1,560	>1,770							
<b>BUS MODE (Scheduled Fixed Route)<sup>3</sup></b>											
(Buses in peak hour in peak direction)											
<b>Sidewalk Coverage</b>											
0-84%	>5	≥4	≥3	≥2							
85-100%	>4	≥3	≥2	≥1							

<sup>1</sup>Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

<sup>2</sup>Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

<sup>3</sup>Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

\* Cannot be achieved using table input value defaults.

\*\* Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:  
Florida Department of Transportation  
Systems Planning Office  
www.dot.state.fl.us/planning/systems/tn/lor/default.htm

## High-Rise Residential Condominium/Townhouse (232)

**Average Vehicle Trip Ends vs: Dwelling Units**  
On a: Weekday

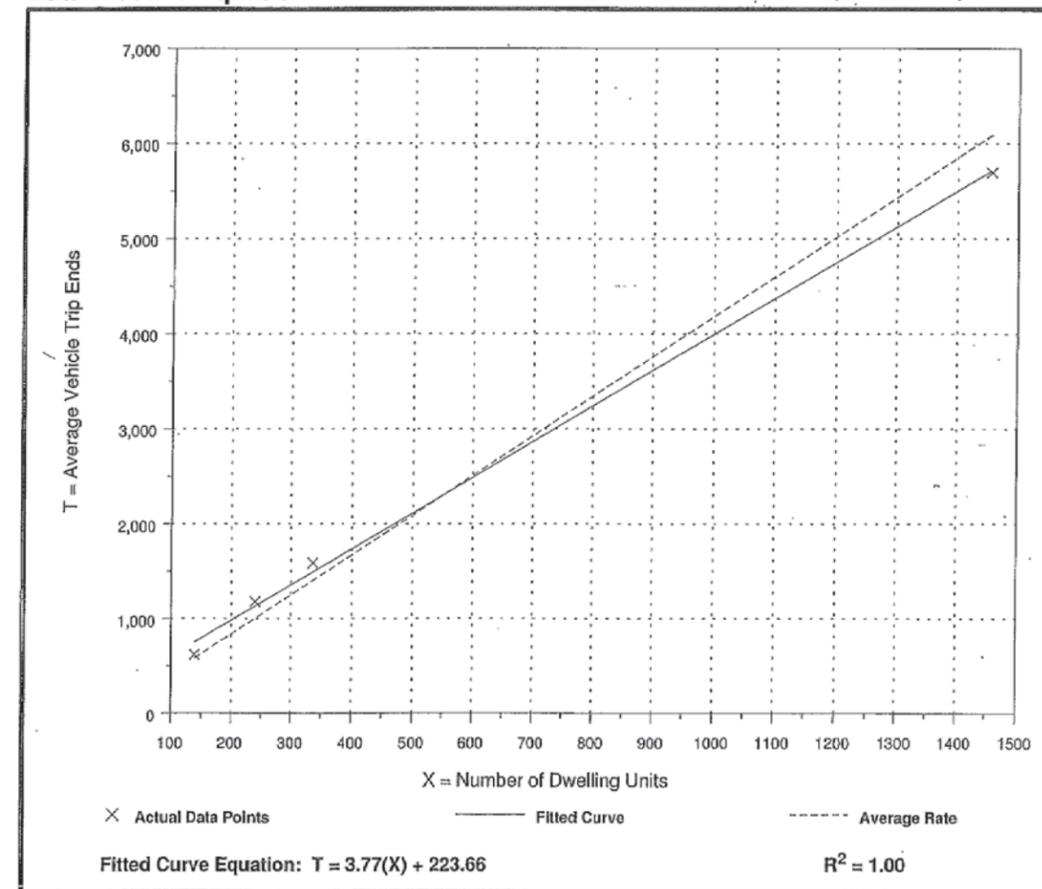
Number of Studies: 4  
Avg. Number of Dwelling Units: 543  
Directional Distribution: 50% entering, 50% exiting

### Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.18	3.91 - 4.93	2.08

### Data Plot and Equation

*Caution - Use Carefully - Small Sample Size*



## High-Rise Residential Condominium/Townhouse (232)

Average Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday,  
Peak Hour of Adjacent Street Traffic,  
One Hour Between 4 and 6 p.m.

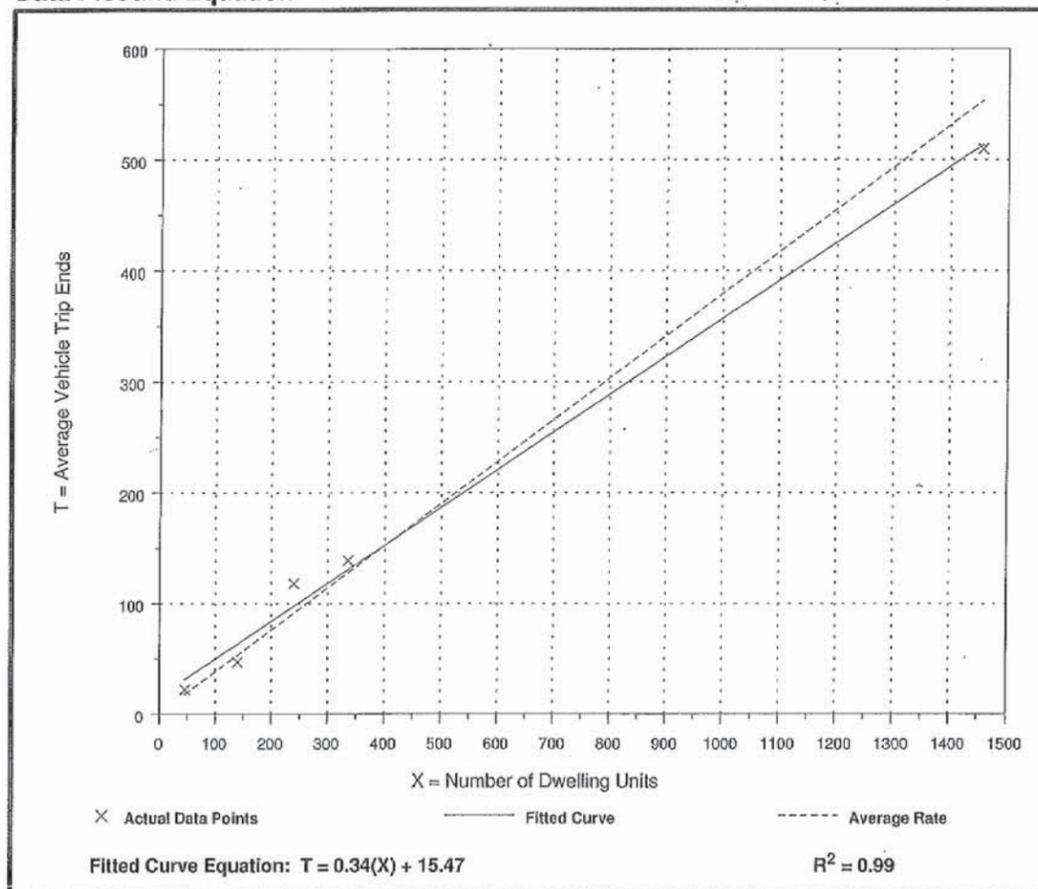
Number of Studies: 5  
Avg. Number of Dwelling Units: 444  
Directional Distribution: 62% entering, 38% exiting

### Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.38	0.34 - 0.49	0.62

### Data Plot and Equation

Caution - Use Carefully - Small Sample Size



## Hotel (310)

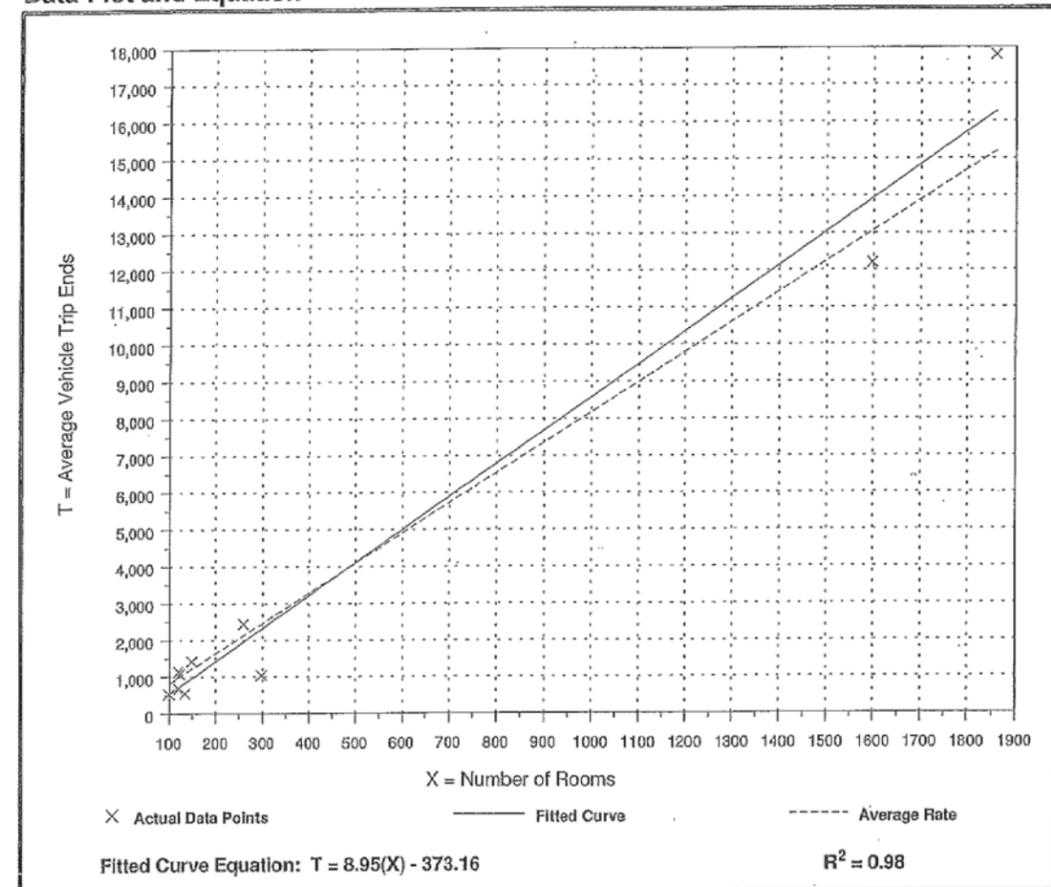
Average Vehicle Trip Ends vs: Rooms  
On a: Weekday

Number of Studies: 10  
Average Number of Rooms: 476  
Directional Distribution: 50% entering, 50% exiting

### Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
8.17	3.47 - 9.58	3.38

### Data Plot and Equation



# Hotel (310)

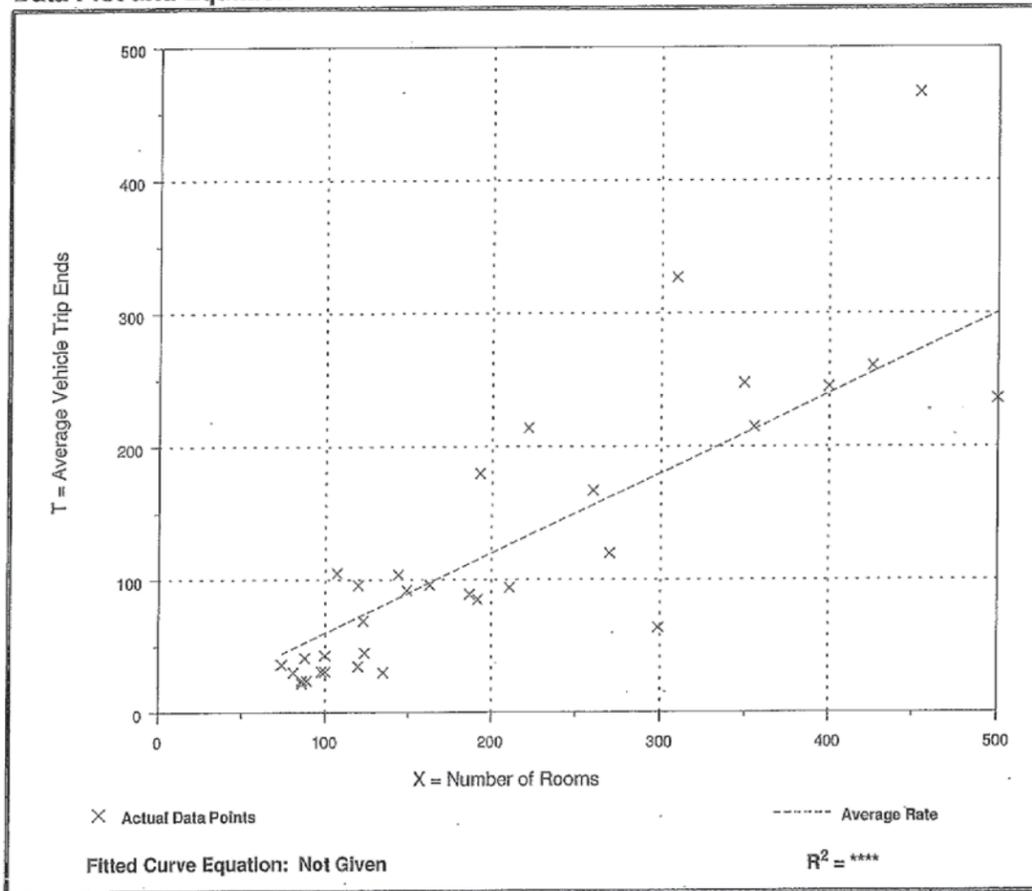
**Average Vehicle Trip Ends vs: Rooms**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

Number of Studies: 33  
 Average Number of Rooms: 200  
 Directional Distribution: 51% entering, 49% exiting

### Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.60	0.21 - 1.06	0.81

### Data Plot and Equation



## HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	RP	Intersection	GULF BLVD/MADEIRA WAY
Agency or Co.	GCC	Area Type	All other areas
Date Performed	2/9/2016	Jurisdiction	FDOT
Time Period	PM PEAK HOUR	Analysis Year	FUTURE WITH PROJECTS
		Project ID	MADEIRA BEACH TOWN CTR

	MADEIRA WAY			GULF BLVD.			GULF BLVD.			
	EB	WB	NB	SB	LT	TH	RT	LT	TH	RT
Number of Lanes, N <sub>l</sub>		1	1	2	1	1	2			
Lane Group		L	R	T	R	L	T			
Volume, V (vph)		158	343	545	68	254	564			
% Heavy Vehicles, %HV		2	2	1	1	1	1			
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	0.96	0.96			
Pretimed (P) or Actuated (A)		A	A	A	A	A	A			
Start-up Lost Time, I <sub>l</sub>		2.0	2.0	2.0	2.0	2.0	2.0			
Extension of Effective Green, e		2.0	2.0	2.0	2.0	2.0	2.0			
Arrival Type, AT		3	3	4	4	3	4			
Unit Extension, UE		3.0	3.0	3.0	3.0	3.0	3.0			
Filtering/Metering, I		1.000	1.000	1.000	1.000	1.000	1.000			
Initial Unmet Demand, Q <sub>b</sub>		0.0	0.0	0.0	0.0	0.0	0.0			
Ped / Bike / RTOR Volumes	0	0	76	0	204	76	0	0	0	0
Lane Width		12.0	12.0	12.0	12.0	12.0	12.0			
Parking / Grade / Parking	N	0	N	0	N	0	N	0	N	0
Parking Maneuvers, N <sub>m</sub>										
Buses Stopping, N <sub>b</sub>			0	0	0	0	0	0	0	0
Min. Time for Pedestrians, G <sub>p</sub>		3.2	3.8	3.8	3.8	3.2	3.2			
Phasing	WB Only	02	03	04	SB Only	NS Perm	07	08		
Timing	G = 25.0	G =	G =	G =	G = 13.0	G = 60.0	G =	G =		
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =		
Duration of Analysis, T = 0.25								Cycle Length, C = 110.0		

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v				165		145		568	71	265		588
Lane Group Capacity, c				402		360		1954	872	644		2507
v/c Ratio, X				0.41		0.40		0.29	0.08	0.41		0.23
Total Green Ratio, g/C				0.23		0.23		0.55	0.55	0.70		0.70
Uniform Delay, d <sub>1</sub>				36.2		36.2		13.5	11.9	6.1		5.9
Progression Factor, PF				1.000		1.000		0.690	0.690	1.000		0.256
Delay Calibration, k				0.11		0.11		0.11	0.11	0.11		0.11
Incremental Delay, d <sub>2</sub>				0.7		0.7		0.1	0.0	0.4		0.0

Initial Queue Delay, $d_3$			0.0		0.0		0.0	0.0	0.0	0.0
Control Delay			36.9		36.9		9.4	8.2	6.5	1.6
Lane Group LOS			D		D		A	A	A	A
Approach Delay			36.9		9.3		3.1			
Approach LOS			D		A		A			
Intersection Delay	11.1		$X_c = 0.42$		Intersection LOS		B			

Copyright © 2007 University of Florida. All Rights Reserved HCS+™ Version 5.3 Generated: 2/9/2016 3:50 PM

HCS+™ DETAILED REPORT												
General Information						Site Information						
Analyst	RP					Intersection	SR 666 / GULF BLVD					
Agency or Co.	GCC					Area Type	All other areas					
Date Performed	2/9/2016					Jurisdiction	FDOT					
Time Period	PM PEAK HOUR					Analysis Year	FUTURE WITH PROJECTS					
						Project ID	MADEIRA BEACH TOWN CTR					
Volume and Timing Input												
	SR 666			GULF BLVD			GULF BLVD					
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, $N_1$				2		0		2	1	2	2	
Lane Group				L	LR			T	R	L	T	
Volume, $V$ (vph)				791		105		558	355	199	469	
% Heavy Vehicles, %HV				1		1		3	3	1	1	
Peak-Hour Factor, PHF				0.89		0.89		0.89	0.89	0.89	0.89	
Pretimed (P) or Actuated (A)				A		A		A	A	A	A	
Start-up Lost Time, $l_1$				2.0	2.0			2.0	2.0	2.0	2.0	
Extension of Effective Green, $e$				2.0	2.0			2.0	2.0	2.0	2.0	
Arrival Type, AT				3	3			3	3	3	3	
Unit Extension, UE				3.0	3.0			3.0	3.0	3.0	3.0	
Filtering/Metering, I				1.000	1.000			1.000	1.000	1.000	1.000	
Initial Unmet Demand, $Q_b$				0.0	0.0			0.0	0.0	0.0	0.0	
Ped / Bike / RTOR Volumes	0	0		25	0	0	25	0	0	0	0	
Lane Width				12.0	12.0			12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking Maneuvers, $N_m$												
Buses Stopping, $N_b$				0	0			0	0	0	0	
Min. Time for Pedestrians, $G_p$		3.2			3.4			3.4			3.2	
Phasing	WB Only	02	03	04	SB Only	Thru & RT	07	08				
Timing	G = 33.0	G =	G =	G =	G = 12.0	G = 53.0	G =	G =				
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =				
Duration of Analysis, $T = 0.25$							Cycle Length, $C = 110.0$					
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, $v$				622	385			627	399	224	527	
Lane Group Capacity, $c$				1041	521			1692	755	379	2247	
$v/c$ Ratio, $X$				0.60	0.74			0.37	0.53	0.59	0.23	
Total Green Ratio, $g/C$				0.30	0.30			0.48	0.48	0.11	0.63	
Uniform Delay, $d_1$				32.8	34.6			18.0	19.8	46.7	9.0	
Progression Factor, PF				1.000	1.000			1.000	1.000	1.000	1.000	
Delay Calibration, $k$				0.19	0.30			0.11	0.13	0.18	0.11	
Incremental Delay, $d_2$				1.0	5.5			0.1	0.7	2.5	0.1	

file:///C:/Users/rpergolizzi/AppData/Local/Temp/s2kD723.tmp

2/9/2016

Initial Queue Delay, $d_3$			0.0	0.0			0.0	0.0	0.0	0.0
Control Delay			33.8	40.2			18.1	20.5	49.1	9.0
Lane Group LOS			C	D			B	C	D	A
Approach Delay			36.2				19.0		21.0	
Approach LOS			D				B		C	
Intersection Delay	25.8		$X_c = 0.61$				Intersection LOS		C	

Copyright © 2007 University of Florida, All Rights Reserved HCS+™ Version 5.3 Generated: 2/9/2016 1:21 PM

TWO-WAY STOP CONTROL SUMMARY							
<b>General Information</b>				<b>Site Information</b>			
Analyst	RP			Intersection	SR 666 / MADEIRA WAY		
Agency/Co.	GCC			Jurisdiction	FDOT		
Date Performed	2/9/2016			Analysis Year	FUTURE WITH PROJECTS		
Analysis Time Period	PM PEAK			Project Description: MADEIRA BEACH TOWN CTR			
East/West Street: SR 666				North/South Street: MADEIRA WAY (RIRO)			
Intersection Orientation: East-West				Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>							
<b>Major Street</b>	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)	1019			898			598
Peak-Hour Factor, PHF	1.00	0.82	1.00	1.00	0.82	0.82	
Hourly Flow Rate, HFR (veh/h)	0	1242	0	0	1095	729	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Raised curb						
RT Channelized			0			0	
Lanes	0	2	0	0	2	1	
Configuration		T			T	R	
Upstream Signal		0			0		
<b>Minor Street</b>	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)							176
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	0.82	
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	214	
Percent Heavy Vehicles	0	0	0	0	0	1	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	1	
Configuration						R	
<b>Delay, Queue Length, and Level of Service</b>							
Approach	Eastbound	Westbound	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Configuration							R
v (veh/h)							214
C (m) (veh/h)							537
v/c							0.40
95% queue length							1.90
Control Delay (s/veh)							16.1
LOS							C
Approach Delay (s/veh)	--	--					16.1
Approach LOS	--	--					C

Copyright © 2007 University of Florida, All Rights Reserved HCS+™ Version 5.3 Generated: 2/9/2016 1:44 PM

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	RP			Intersection	SR 666 / RETAIL PLAZA ACCESS			
Agency/Co.	GCC			Jurisdiction	FDOT			
Date Performed	2/9/2016			Analysis Year	FUTURE WITH PROJECTS			
Analysis Time Period	PM PEAK							
Project Description MADEIRA BEACH TOWN CTR								
East/West Street: SR 666				North/South Street: RETAIL PLAZA ACCESS				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)		1321	3	5	1500			
Peak-Hour Factor, PHF	1.00	0.83	0.83	0.83	0.83	1.00		
Hourly Flow Rate, HFR (veh/h)	0	1591	3	6	1807	0		
Percent Heavy Vehicles	0	--	--	1	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	0	2	0	1	2	0		
Configuration		T	TR	L	T			
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)			2					
Peak-Hour Factor, PHF	1.00	1.00	0.83	1.00	1.00	1.00		
Hourly Flow Rate, HFR (veh/h)	0	0	2	0	0	0		
Percent Heavy Vehicles	0	0	1	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	1	0	0	0		
Configuration			R					
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L			R			
v (veh/h)		6			2			
C (m) (veh/h)		412			387			
v/c		0.01			0.01			
95% queue length		0.04			0.02			
Control Delay (s/veh)		13.9			14.4			
LOS		B			B			
Approach Delay (s/veh)	--		14.4					
Approach LOS	--		B					

Copyright © 2007 University of Florida, All Rights Reserved

HCS™ Version 5.3

Generated: 2/9/2016 1:33 PM

file:///C:/Users/rpergolizzi/AppData/Local/Temp/u2kE3C2.tmp

2/9/2016

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	RP			Intersection	SR 666 / MADEIRA COVE ACCESS			
Agency/Co.	GCC			Jurisdiction	FDOT			
Date Performed	2/17/2016			Analysis Year	FUTURE WITH PROJECTS			
Analysis Time Period	PM PEAK							
Project Description MADEIRA BEACH TOWN CTR								
East/West Street: SR 666				North/South Street: MADEIRA COVE ACCESS				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	47	1358	0	9	1484	14		
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86		
Hourly Flow Rate, HFR (veh/h)	54	1579	0	10	1725	16		
Percent Heavy Vehicles	0	--	--	1	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	1	2	0	1	2	0		
Configuration	L	T	TR	L	T	TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	2	0	6	10	0	4		
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86		
Hourly Flow Rate, HFR (veh/h)	2	0	6	11	0	4		
Percent Heavy Vehicles	1	0	1	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	0	0	1	1		
Configuration		LTR			LT			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L			LTR		LT	R
v (veh/h)	54	10			8		11	4
C (m) (veh/h)	366	418			190		78	354
v/c	0.15	0.02			0.04		0.14	0.01
95% queue length	0.51	0.07			0.13		0.47	0.03
Control Delay (s/veh)	16.5	13.8			24.8		58.6	15.3
LOS	C	B			C		F	C
Approach Delay (s/veh)	--		24.8				47.0	
Approach LOS	--		C				E	

Copyright © 2007 University of Florida, All Rights Reserved

HCS™ Version 5.3

Generated: 2/17/2016 10:14 AM

file:///C:/Users/rpergolizzi/AppData/Local/Temp/u2k71D9.tmp

2/17/2016

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	RP			Intersection	SR 666 / BOCA VISTA ACCESS			
Agency/Co.	GCC			Jurisdiction	FDOT			
Date Performed	2/9/2016			Analysis Year	FUTURE WITH PROJECTS			
Analysis Time Period	PM PEAK							
Project Description MADEIRA BEACH TOWN CTR								
East/West Street: SR 666				North/South Street: BOCA VISTA ACCESS				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)		1334	2	11	1511			
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.83	0.83	0.87		
Hourly Flow Rate, HFR (veh/h)	0	1607	2	13	1820	0		
Percent Heavy Vehicles	1	--	--	1	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	0	2	0	1	2	0		
Configuration		T	TR	L	T			
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	1		7					
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83		
Hourly Flow Rate, HFR (veh/h)	1	0	8	0	0	0		
Percent Heavy Vehicles	1	1	1	1	1	1		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		1			0			
RT Channelized			0			0		
Lanes	0	0	0	0	0	0		
Configuration		LR						
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	LR					
v (veh/h)		13	9					
C (m) (veh/h)		407	316					
v/c		0.03	0.03					
95% queue length		0.10	0.09					
Control Delay (s/veh)		14.1	16.7					
LOS		B	C					
Approach Delay (s/veh)	--	--	16.7					
Approach LOS	--	--	C					

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 2/9/2016 2:21 PM

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	RP			Intersection	MADEIRA WAY/HOTEL DRIVEWAYS			
Agency/Co.	GCC			Jurisdiction	MADEIRA BCH			
Date Performed	2/9/2016			Analysis Year	FUTURE WITH PROJECTS			
Analysis Time Period	PM PEAK HOUR							
Project Description MADEIRA BEACH TOWN CTR								
East/West Street: MADEIRA WAY				North/South Street: HOTEL DRIVEWAYS				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	17	282	23	54	488	38		
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95		
Hourly Flow Rate, HFR (veh/h)	17	296	24	56	513	40		
Percent Heavy Vehicles	1	--	--	1	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration	LTR			LTR				
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	8	0	65	48	0	5		
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95		
Hourly Flow Rate, HFR (veh/h)	8	0	68	50	0	5		
Percent Heavy Vehicles	1	1	1	1	1	1		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration		LTR			LTR			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR	LTR				LTR	
v (veh/h)	17	56	76				55	
C (m) (veh/h)	1022	1246	581				195	
v/c	0.02	0.04	0.13				0.28	
95% queue length	0.05	0.14	0.45				1.11	
Control Delay (s/veh)	8.6	8.0	12.1				30.6	
LOS	A	A	B				D	
Approach Delay (s/veh)	--	--	12.1				30.6	
Approach LOS	--	--	B				D	

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 2/9/2016 3:35 PM

END OF DOCUMENT