THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

DESIGN REVIEW

Property Information

Property address or Location 1521 S Ocean Dr. Fort Pierce, FL 34949

Parcel ID #(s) 2412-501-0002-000-3

Project description 11 Residential townhouses - attached additional description in a separate document.

Bliss Fort Pierce LLC	Stephen Cooper, P.E. & Associates, Ir
Property Owner(s)	**Applicant/Representative, Title, Company**
13780 International Dr S	7450 S Federal Hwy
Street Address	Street Address
Orlando FL 32821	Port St Lucie FL 34951
City State Zip	City State Zip
407-996-1290	772-336-2933
Phone Number	Phone Number
ahmed.hamada@unitedshares.com	ahmed.hamada@unitedshares.com
Email Address	Email Address

Property Owner(s) Acknowledgements: *- This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein. The undersigned consents to inspection and photographing of the subject property by the Planning staff for purposes of consideration of this Application and/or presentation to the Planning Board and City Commission.*

Property Owner(s) Signature(s)

APPOINTMENTS ARE REQUIRED FOR APPLICATION SUBMITTALS

CALL 772.467.3737 OR E-MAIL PLANNING_DL@CITYOFFORTPIERCE.COM

For more information, please refer to the website:

https://www.cityoffortpierce.com/971/Application-Submittal-for-Technical-Revi

DEVELOPMENT EAST OF THE SITE FACING A1A

VIEW FROM A1A FACING NORTH

DEVELOPMENT SOUTH OF THE SITE FACING A1A

VIEW FROM A1A FACING SOUTH

DEVELOPMENT ON THE SOUTH FACINF POLVAR AVE.

DEVELOPMENT WEST OF THE SITE FACING PELICAN DRIVE

Developer:

UNITED SHARES
REAL ESTATE

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7 ,ALL INTERIORFINISHING DETAILS AND MATERIALS WILL BE UPDATEC FUTURE INTERIOR DESIGN PACKAGE.

Project Title:

Bliss Residential Development
Hutchinson Island ,Florida

Project Location:

1521S Ocean Dr,
Fort Pierce ,FL 34949

Owner:

Bliss Fort Pierce LLC
United Shares Real Estate
1378OInternational Dr S
Orlando ,FL 32821

Contractor:

Millenia Holding Group ,Corp.

Civil Engineer:

Stephen Cooper ,P.E & ,Associates ,Inc.
745CSouth Federal Highway
Port St ,Lucie ,Florida 34952

Structural Engineer:

TBD

Mechanical Engineer:

Jaime Rodriguez

Landscape Architect:

Paul Goulas

Lighting Engineer:

Jerry Schmitz

Description	Rev	Date	A

Drawing Title:

CONTEXT & SITE PHOTOS

Scale:	Drawn By:	Design &Checked by:	Authorized by:	Sh
NTS	Glenford Ebro	Nasser Abdulola	Ahmed Hamada	
	Date: JULY 2023	Date: JULY 2023	Date: JULY 2023	

Project No.: 0001 Sheet No.: Re

Developer:

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7450 South Federal Highway
Port St. Lucie, Florida 34952

Structural Engineer:

TBD

Mechanical Engineer:

Jaime Rodriguez

Landscape Architect:

Paul Goulas

Lighting Engineer:

Jerry Schmitz

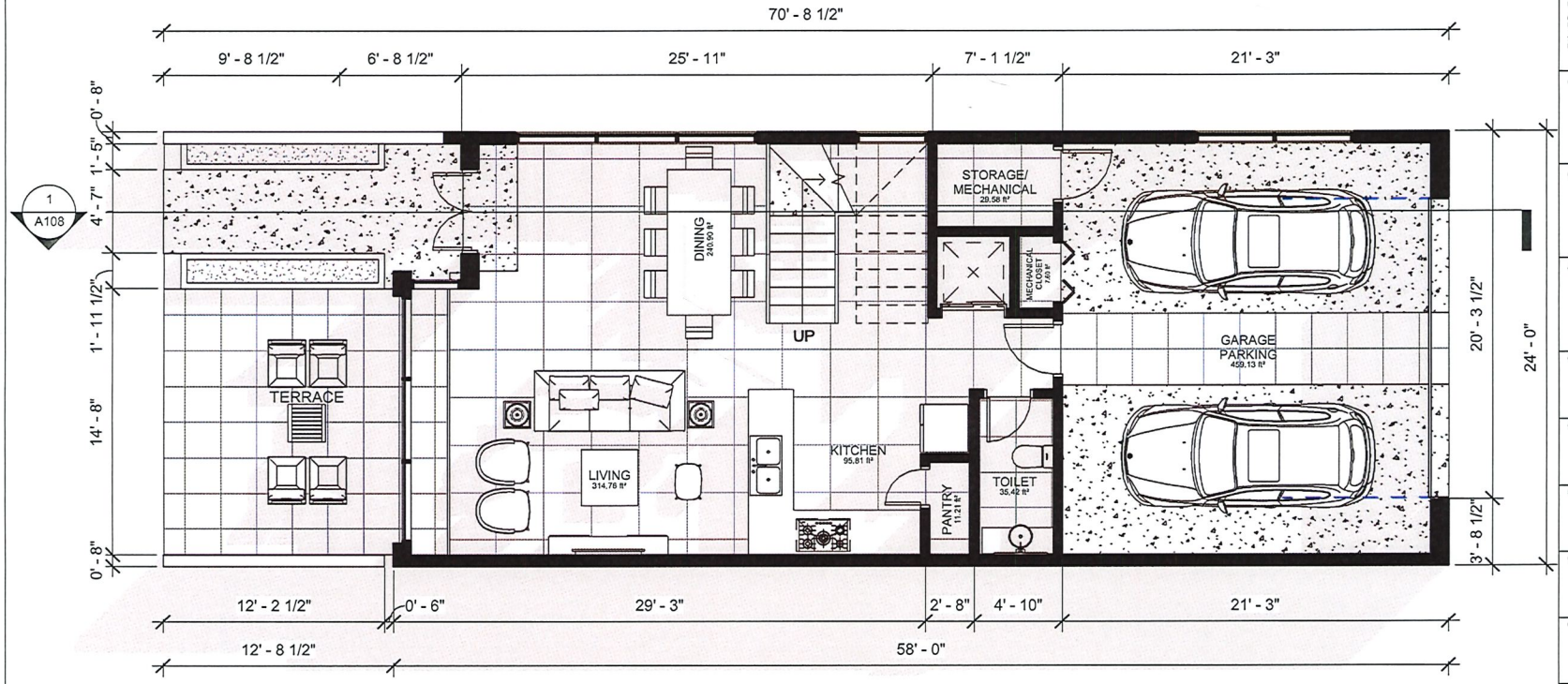
Description	Rev	Date	Authorized

Drawing Title:

EXTERIOR PERSPECTIVE

Scale	Drawn by	Designed & Checked by	Authorized by	Sheet Size
	Glenford Ebro	Nasser Abouiela	Ahmed Hamada	A3
	Date: JULY 2023	Date: JULY 2023	Date: JULY 2023	

Project No.	Sheet No.	Revision No.
0001	A001	



1ST FLOOR PLAN

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Structural Engineer:
TBD

Mechanical Engineer:
Jaime Rodriguez

Landscape Architect:
Paul Goulas

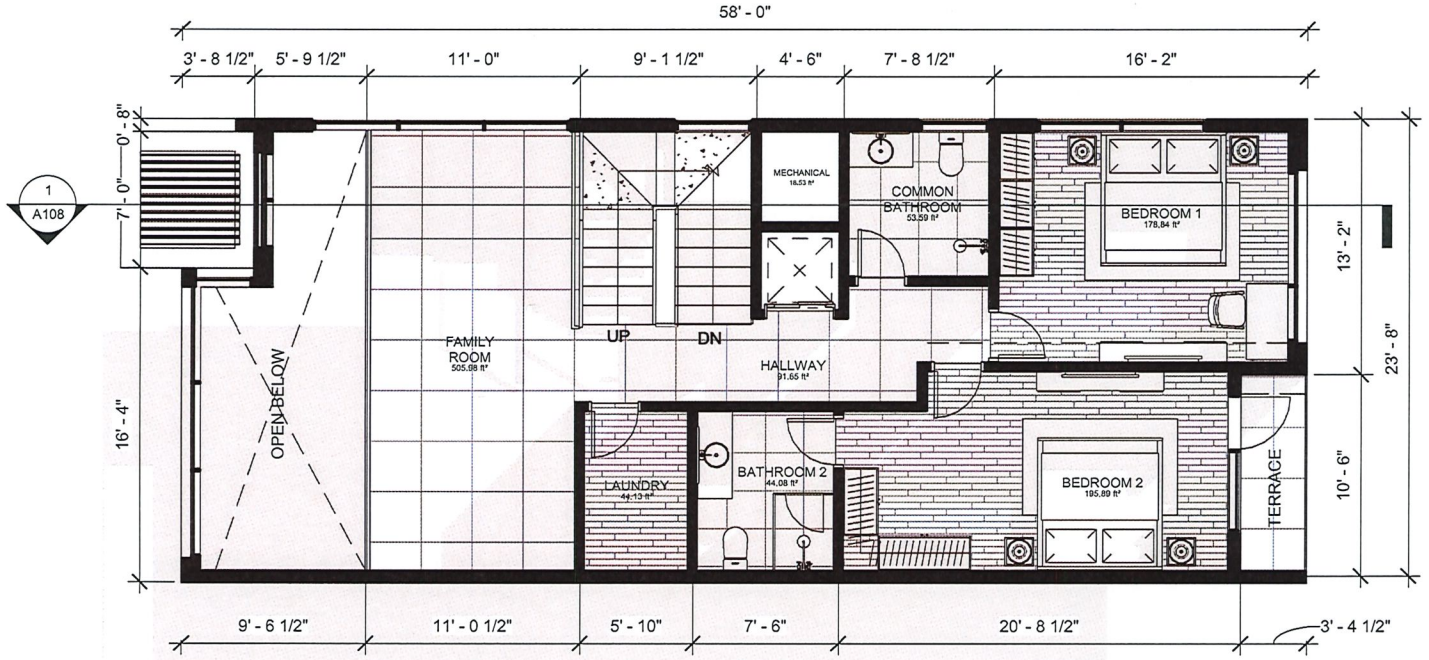
Lighting Engineer:
Jerry Schmitz

Description	Rev	Date	Authorized

Drawing Title:
TOWNHOUSE MODULE -2
FIRST FLOOR PLAN

Scale	Drawn by	Designed & Checked by	Authorized by	Sheet Size
1 : 75	Gianford Ebro	Nasser Abokeila	Ahmed Hamada	A3
	Date JULY 2023	Date JULY 2023	Date JULY 2023	

Project No.	Sheet No.	Revision No.
0001	A101	



2ND FLOOR PLAN

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7450 South Federal Highway
Port St. Lucie, Florida 34952

Structural Engineer:
TBD

Mechanical Engineer:
Jaime Rodriguez

Landscape Architect:
Paul Goulas

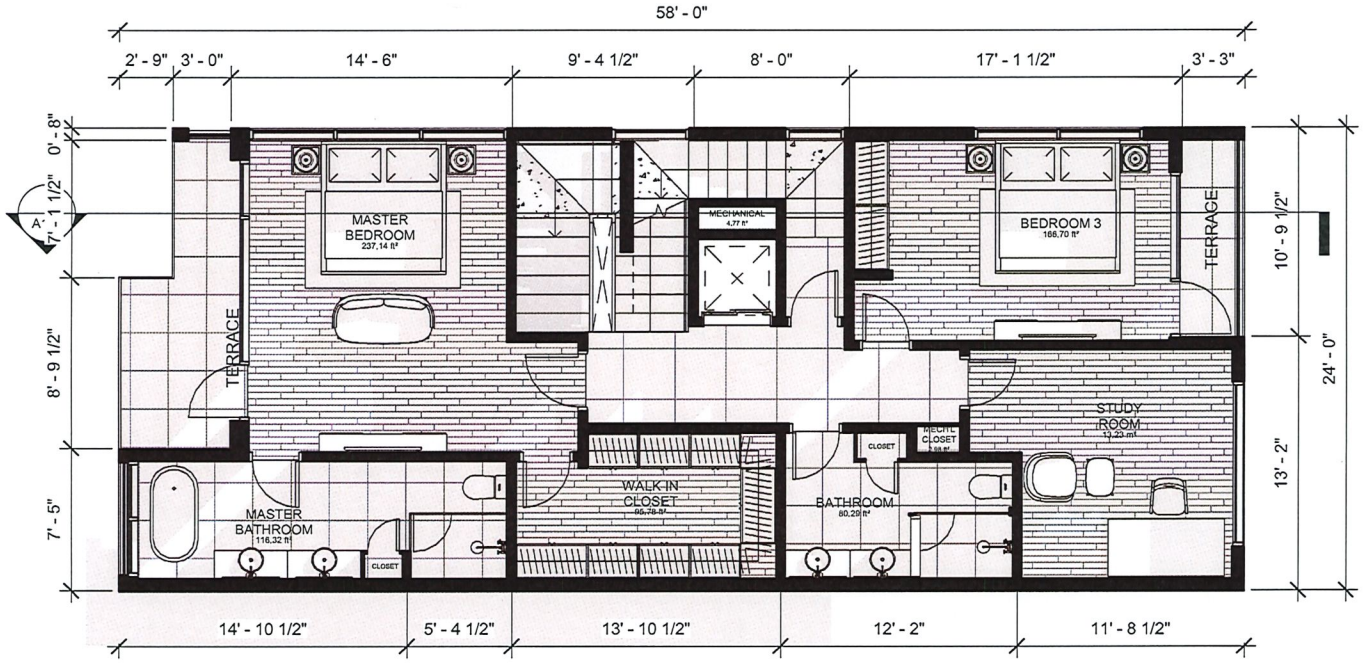
Lighting Engineer:
Jerry Schmitz

Description	Rev	Date	Authorized

Drawing Title:
TOWNHOUSE MODULE-2
SECOND FLOOR PLAN

Scale	Drawn by	Design & Checked by	Authorized by	Sheet Size
1 : 75	Gamford Ebro	Nasser Abudeia	Ahmed Hamada	A3
	Date JULY 2023	Date JULY 2023	Date JULY 2023	

Project No.	Sheet No.	Revision No.
0001	A102	



3RD FLOOR PLAN

Developer:

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Contractor:
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Civil Engineer:
Stephen Cooper, P.E. & Associates, Inc.
7450 South Federal Highway
Port St. Lucie, Florida 34952

Structural Engineer:
TBD

Mechanical Engineer:
Jaime Rodriguez

Landscape Architect:
Paul Goulas

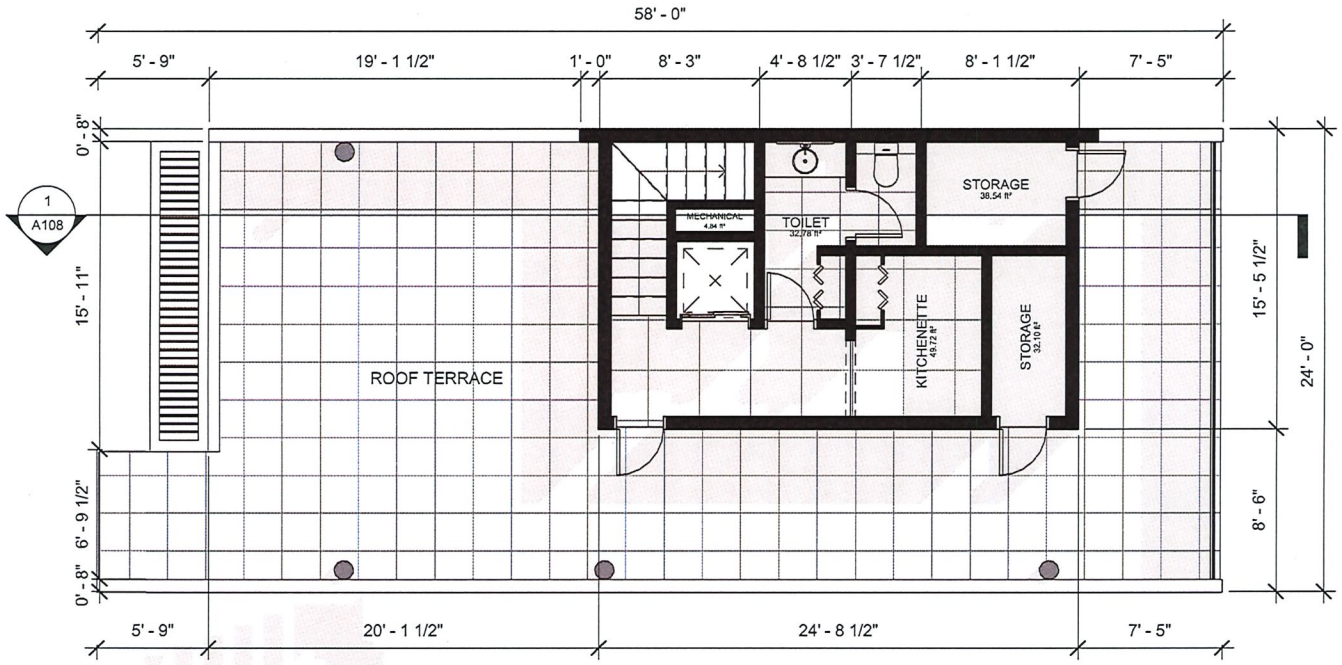
Lighting Engineer:
Jerry Schmitz

Description	Rev	Date	Authorized

Drawing Title:
TOWNHOUSE MODULE -2
THIRD FLOOR PLAN

Scale	Drawn by	Designs & Checked by	Authorized by	Sheet Size
1 : 75	Glenford Ebo	Nasser Abadeta	Ahmed Hamada	A3
	Date: JULY 2023	Date: JULY 2023	Date: JULY 2023	

Project No.: 0001
Sheet No.: A103
Revision No.:



ROOF FLOOR PLAN

Developer

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Fort Pierce, FL 34949

Owner:
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Contractor:
Millenia Holding Group, Corp.

Civil Engineer:
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7450 South Federal Highway
Port St. Lucie, Florida 34952

Structural Engineer:
TBD

Mechanical Engineer:
Jaime Rodriguez

Landscape Architect:
Paul Goulas

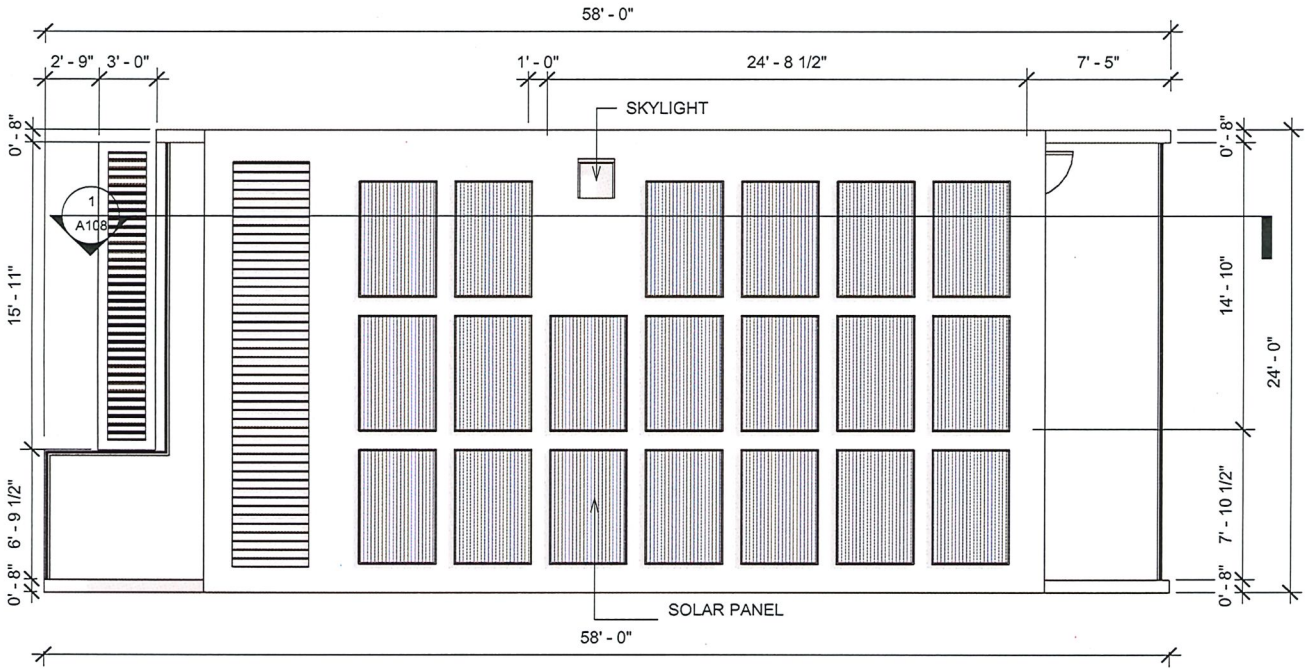
Lighting Engineer:
Jerry Schmitz

Description	Rev	Date	Authorized

Drawing Title:
TOWNHOUSE MODULE -2
FOURTH FLOOR PLAN

Scale	Drawn by	Designed & Checked by	Authorized by	Sheet Size
1 : 75	Gianford Ebro	Nasser Abouleta	Ahmed Hamada	A3
	Date JULY 2023	Date JULY 2023	Date JULY 2023	

Project No.	Sheet No.	Revision No.
0001	A104	



UPPER ROOF PLAN

Developer

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Bliss Residential Development
Hutchinson Island, Florida

Project Location:
1521 S Ocean Dr,
Fort Pierce, FL 34949

Owner:
Bliss Fort Pierce LLC
United Shares Real Estate
13780 International Dr S
Orlando, FL 32821

Contractor:
Millenia Holding Group, Corp.

Civil Engineer:
Stephen Cooper, P.E. & Associates, Inc.
7450 South Federal Highway
Port St. Lucie, Florida 34952

Structural Engineer:
TBD

Mechanical Engineer:
Jaime Rodriguez

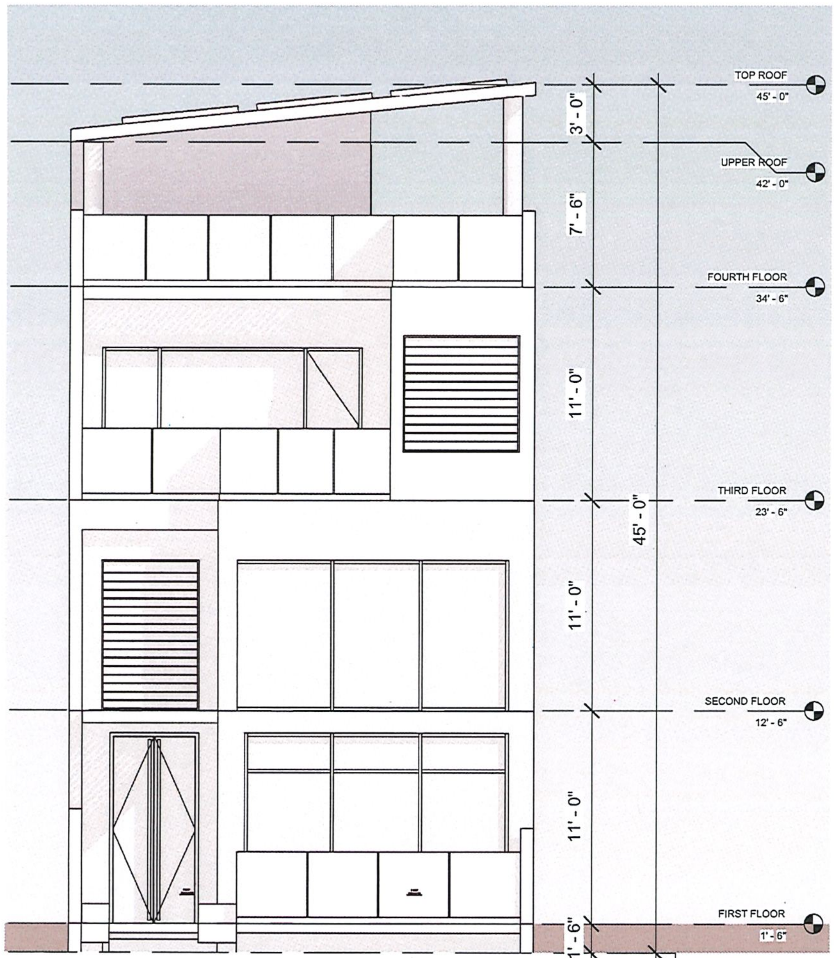
Landscape Architect:
Paul Goulas

Lighting Engineer:
Jerry Schmitz

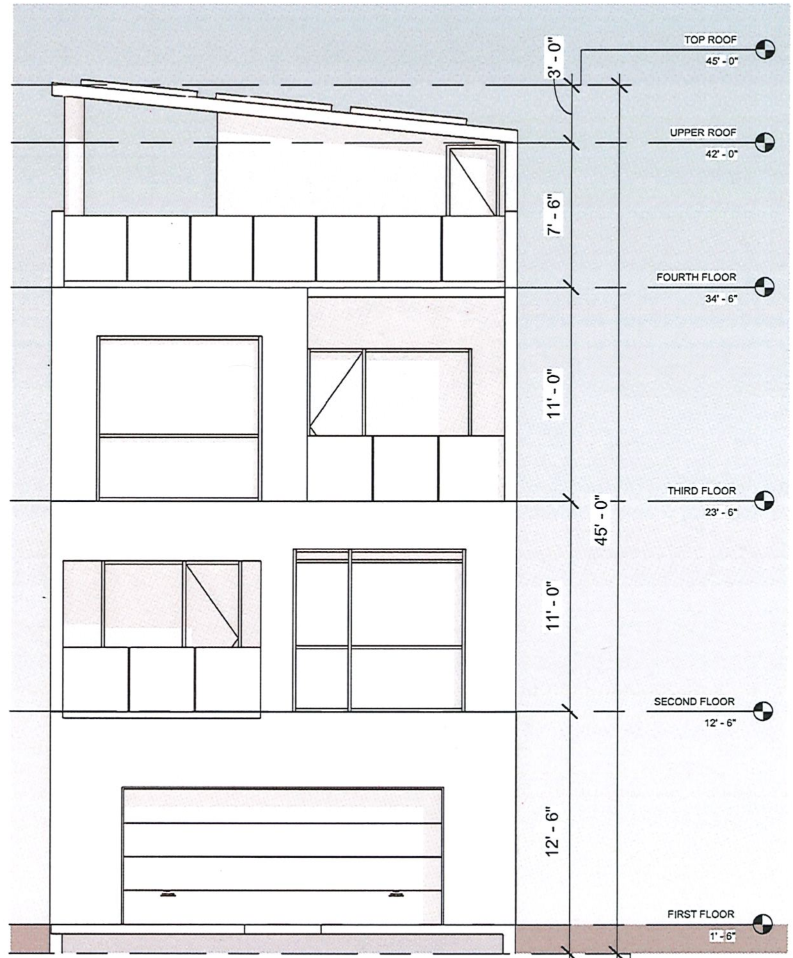
Description	Rev	Date	Authorized

Drawing Title:
TOWNHOUSE MODULE -2
FIFTH FLOOR PLAN

Scale	Drawn by	Designed & Checked by	Authorized by	Drawing Scale
1 : 75	Gianford Ebro	Nasser Abuseida	Ahmed Hamada	A3
	Date: JULY 2023	Date: JULY 2023	Date: JULY 2023	
Project No.: 0001	Drawing No.: A105			Revision No.



FRONT ELEVATION



REAR ELEVATION

Developer:

UNITED SHARES
REAL ESTATE

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Structural Engineer:
TBD

Mechanical Engineer:
Jaime Rodriguez

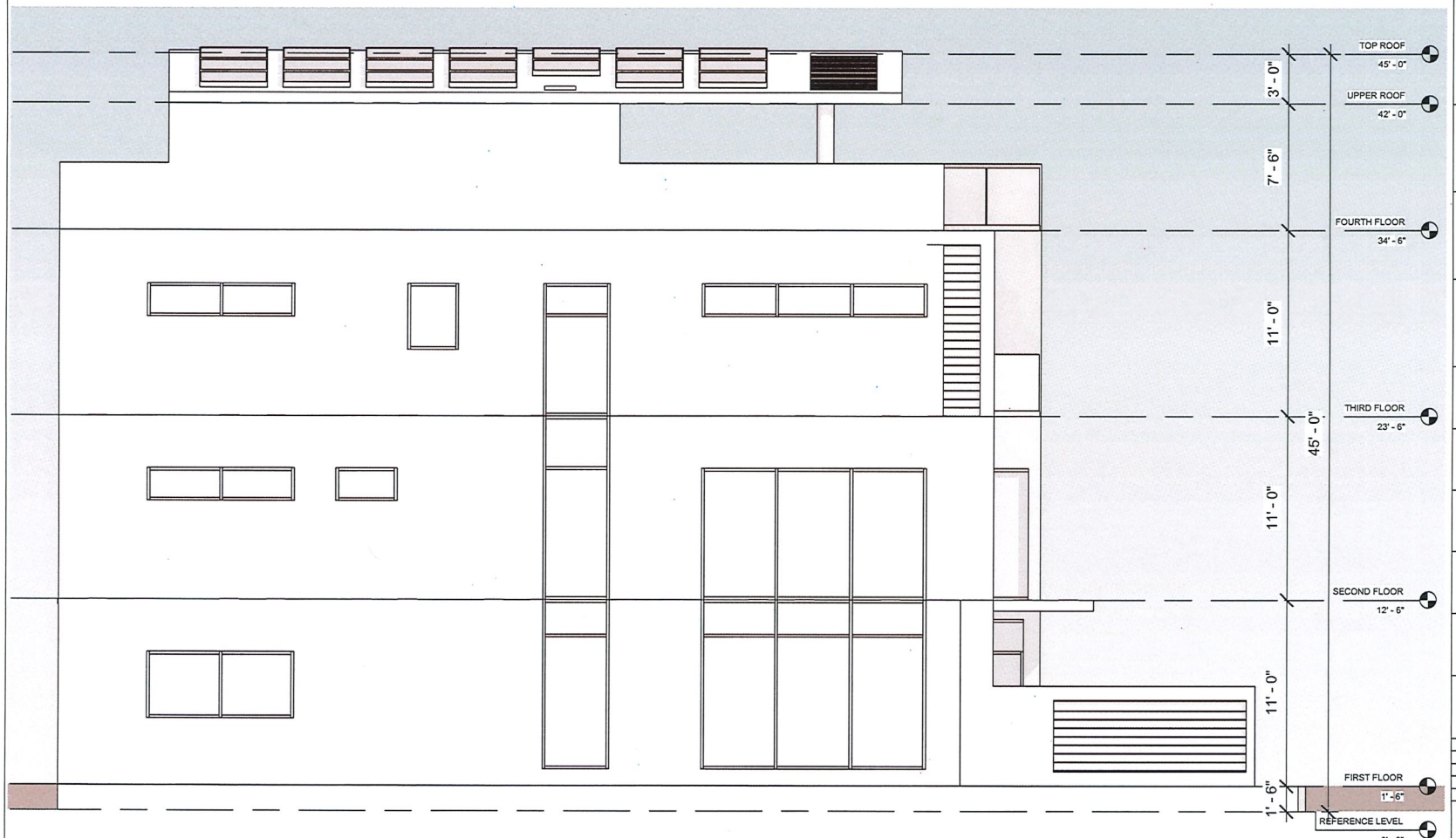
Landscape Architect:
Paul Goulas

Lighting Engineer:
Jerry Schmitz

Desciption	Rev	Date	Authorized

Drawing Title:
TOWNHOUSE MODULE -2
FRONT & REAR ELEVATION

Scale:	Drawn by:	Design & Checked by:	Authorized by:	Sheet Size:
1 : 75	Glenford Ebro	Nasser Aboulela	Ahmed Hamada	A3
	Date: JULY 2023	Date: JULY 2023	Date: JULY 2023	
Project No.: 0001		Sheet No.: A106		Revision No.:



LEFT SIDE ELEVATION

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Structural Engineer:
TBD

Mechanical Engineer:
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Landscape Architect:
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Lighting Engineer:
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Description	Rev	Date	Authorized

Drawing Title:
TOWNHOUSE MODULE -2
LEFT SIDE ELEVATION

Scale	Drawn by	Designed & Checked by	Authorized by	Sheet Size
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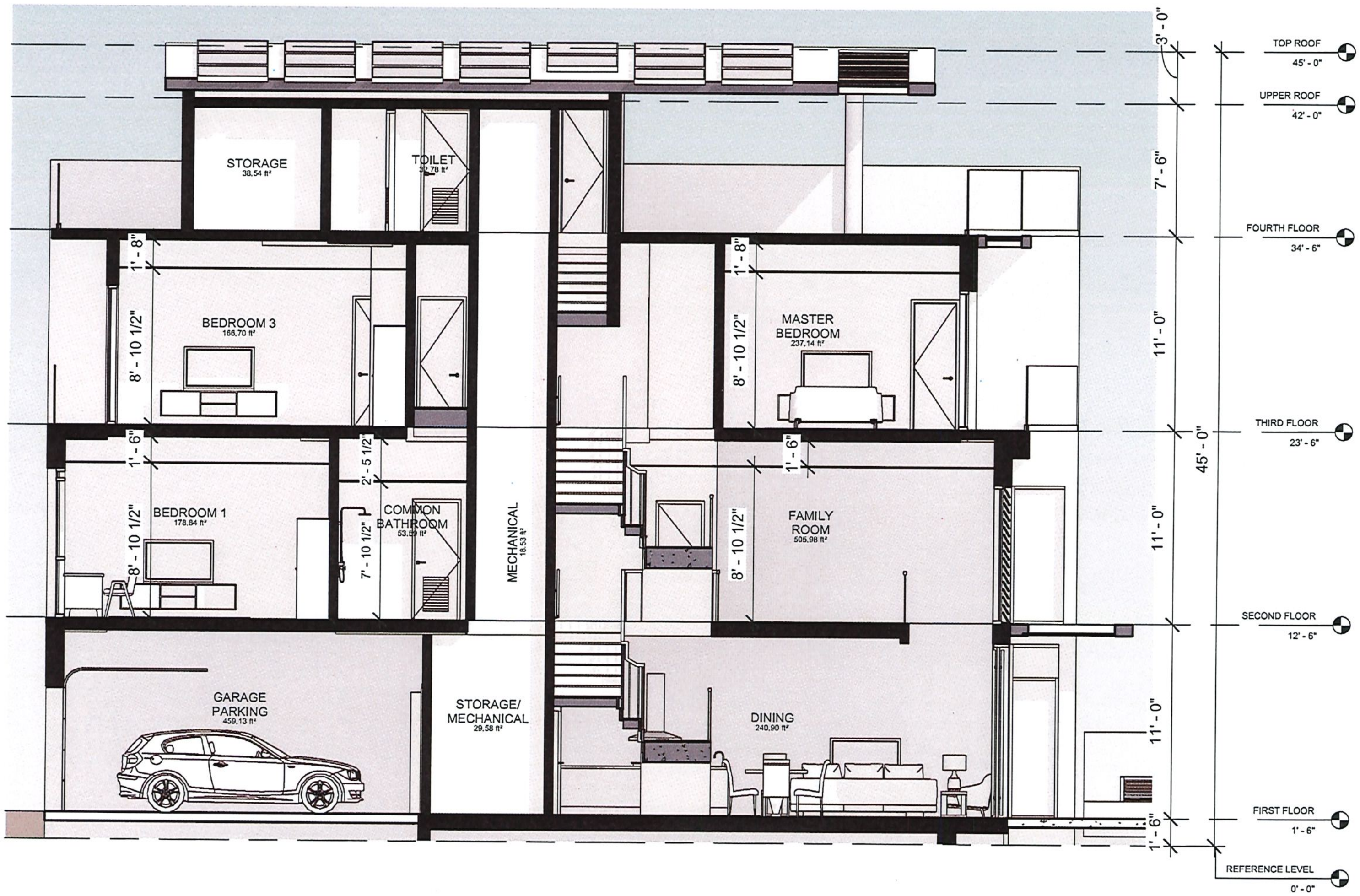
	Date: JULY 2023	Date: JULY 2023	Date: JULY 2023	

Project No.	Sheet No.	Revision No.
0001	A107	



LONGITUDINAL SECTION

Developer

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Description	Rev	Date	Authorized

Drawing Title:
TOWNHOUSE MODULE -2
LONGITUDINAL SECTION

Scale	Drawn by	Design & Checked by	Authorized by	Sheet Size
1 : 75	Glenford Ebro	Nasser Abouzeia	Ahmed Hamada	A3
	Date: JULY 2023	Date: JULY 2023	Date: JULY 2023	
Project No.: 0001		Sheet No.: A108		Revision No.:

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

DEVELOPMENT REVIEW

Property Information

Property address or Location: 1521 S Ocean Dr, Fort Pierce, FL 34949

Parcel ID #(s): 2412-501-0002-000-3

Project description: Proposed 11 Multi-Family Townhomes

Application Type

☒ Site Plan ☐ Conditional Use w/New Construction ☐ Conceptual Development Plan

☐ Minor Amendment ☐ Major Amendment

Site Information

Non-Residential: Proposed Sq. Ft.:_____ Site Acreage:_____

Residential: Proposed Units: 11 Proposed Sq. Ft.: 37,400 Site Acreage: 1.252

Bliss Fort Pierce LLC	Stephen Cooper, P.E. & Associates, Inc.
Property Owner(s)	**Applicant/Representative, Title, Company**
13780 International Drive South	7450 S Federal Highway
Street Address	Street Address
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_____

Property Owner(s) Signature(s)

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CALL 772.467.3737 OR E-MAIL PLANNING_DL@CITYOFFORTPIERCE.COM

For more information, please refer to the website:

https://www.cityoffortpierce.com/971/Application-Submittal-for-Technical-Revi

1.25 Acre Proposed Multifamily

Project Description; The proposed plan includes construction of 11 residential townhome products on the 1.25-acre parcel. Access to be via a proposed two-way alley off the adjacent public roads.

The 11 townhomes are laid out 7 units facing A1A on the east and 4 units together with a swimming pool and a community facility facing Pelican Drive on the west.

The units will have 3 floors and a roof terrace with 2 car garages and driveways sufficient for 2 additional guest parking. 4 additional overflow parkings are provided at the community pool. The design intent is to promote energy efficiency through the use of shading devices and energy efficient materials. Also, the front pedestrian access will promote walkability. The architectural style is contemporary with large windows to allow plenty of daylight into the interior space.

The landscape design exceeds the minimum statutory requirements and specifies drought and salt tolerant materials for water conservation and climate responsiveness.

Water/Sewer would be via connection to available FPUA owned public water and sewer mains adjacent to the site. Details of these connections would be determined at time of construction plans review.

Drainage would be provided via onsite dry retention area(s) designed to address both State and City of Ft. Pierce storm water management criteria for such a development. Project would qualify for a FDEP 10/2 Stormwater GP (verses a SFWMD ERP). Conceptual stormwater calculations are provided at this time.

Traffic – Based on ITE 11th Edition (Code 220 MF Low Rise) , the proposed 11 townhomes is predicted to generate 74 Average Daily Trips (ADT), with 6 PM Peak Hour Trips (4 inbound/2 outbound) and 5 AM Peak Hour Trips (1 inbound/4 outbound). See attached traffic statement.

Solid Waste – The proposed residential project would get trash pickup via curbside.

Tax: $8750.00

Prepared by and return to:
Robert A. Burson
Attorney at Law
Robert A. Burson, P.A.
Post Office Box 1620
Stuart, FL 34995
772-286-1616
File Number: **23-016**
Will Call No.:

Parcel Identification No. **2412-501-0002-000/3**
#1,250,000.00

[Space Above This Line For Recording Data]

Warranty Deed

(STATUTORY FORM - SECTION 689.02, F.S.)

This Indenture made this **27th** day of **June, 2023** between **Cambridge Square Investments LLC, a New Jersey limited liability company** whose post office address is **235 Lakeview Ave., Clifton, NJ 07011** of the County of **Passaic**, State of **New Jersey**, grantor*, and **BLISS FORT PIERCE LLC, a Florida limited liability company** whose post office address is **13780 International Drive South, Orlando, FL 32821** of the County of **Orange**, State of **Florida**, grantee*,

Witnesseth that said grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained, and sold to the said grantee, and grantee's heirs and assigns forever, the following described land, situate, lying and being in **Saint Lucie County, Florida**, to-wit:

> **All of Block 1, SURFSIDE UNIT ONE, according to the map or plat thereof as recorded in Plat Book 10, Page 17, Public Records of Saint Lucie County, Florida.**
>
> **Subject to taxes for 2023 and subsequent years; covenants, conditions, restrictions, easements, reservations and limitations of record, if any.**

and said grantor does hereby fully warrant the title to said land, and will defend the same against lawful claims of all persons whomsoever.

* "Grantor" and "Grantee" are used for singular or plural, as context requires.

In Witness Whereof, grantor has hereunto set grantor's hand and seal the day and year first above written.

Signed, sealed and delivered in our presence:

Witness Name: Dakoota Shopley
As to Aboushi only

Witness Name:
As to Aboushi only

Witness Name: DAVID E. ARBEIT
As to Strauss only

Witness Name: Nancy Jenkins
As to Strauss only

Cambridge Square Investments LLC, a New Jersey limited liability company

By:
Oday Aboushi, Member

By:
Michael Strauss, Member

State of Florida
County of Miami-Dade

The foregoing instrument was acknowledged before me by means of ✓ physical presence or online notarization, this 14th day of June, 2023 by Michael Strauss, Member of Cambridge Square Investments LLC, a New Jersey limited liability company, on behalf of the company, who [_] is personally known to me or [X] has produced a driver's license as identification.

[Notary Seal]

VANESSA LOPEZ
Notary Public, State Of Florida
Commission No. HH 172890
My Commission Expires: 9/6/2025

Notary Public

Printed Name: Vanessa Lopez

My Commission Expires: 9-6-2025

State of Texas
County of COLLIN

The foregoing instrument was acknowledged before me by means of ✓ physical presence or online notarization, this 21st day of June, 2023 by Oday Aboushi, Member of Cambridge Square Investments LLC, a New Jersey limited liability company, on behalf of the company, who [_] is personally known to me or [X] has produced a driver's license as identification.

[Notary Seal]

LUCY Z NWOKO
Notary ID #133130324
My Commission Expires
May 28, 2025

Notary Public

Printed Name: LUCY NWOKO

My Commission Expires: MAY 28, 2025

Property Identification

Site Address: 1521 S OCEAN DR
Sec/Town/Range: 12/35S/40E
Parcel ID: 2412-501-0002-000-3
Jurisdiction: Fort Pierce

Use Type: 0000
Account #: 23923
Map ID: 24/12N
Zoning: HI Medium

Ownership

BLISS FORT PIERCE LLC
13780 S International DR
Orlando, FL 32821

Legal Description

SURFSIDE-UNIT ONE- UNDIVIDED BLK 1

Current Values

Just/Market Value:	$629,600
Assessed Value:	$264,880
Exemptions:	$0
Taxable Value:	$264,880

Property taxes are subject to change upon change of ownership.

- **Past taxes are not a reliable projection of future taxes.**
- **The sale of a property will prompt the removal of all exemptions, assessment caps, and special classifications.**

Taxes for this parcel: SLC Tax Collector's Office
Download TRIM for this parcel: Download PDF

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	1.25
Land Size (SF):	54,540

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	160	170

Sources/links:

Property Identification

Site Address: 1521 S OCEAN DR
Sec/Town/Range: 12/35S/40E
Parcel ID: 2412-501-0002-000-3
Jurisdiction: Fort Pierce

Use Type: 0000
Account #: 23923
Map ID: 24/12N
Zoning: HI Medium

Ownership

CAMBRIDGE SQUARE
INVESTMENTS LLC
235 Lakeview AVE
Clifton, NJ 07011

Legal Description

SURFSIDE-UNIT ONE- UNDIVIDED BLK 1

Current Values

Just/Market Value:	$629,600
Assessed Value:	$264,880
Exemptions:	$0
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Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	160	170

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
May 12, 2022	4830 / 1896	0001	SPWD	2542-3716 Quebec Inc	$900,000
May 12, 2022	4830 / 1896	0001	SPWD	11765663 Canada Inc	$900,000
Nov 27, 2020	4518 / 2080	0111	QC	2425-0722 Qbc Inc	$100
Nov 27, 2020	4518 / 2080	0111	QC	2425-1258 Qbc Inc	$100
Nov 27, 2020	4518 / 2080	0111	QC	136681 Canada Inc	$100
Nov 27, 2020	4518 / 2080	0111	QC	2425-1266 Qbc Inc	$100
Nov 27, 2020	4518 / 2080	0111	QC	2425-141 Qbc Inc	$100
Nov 27, 2020	4518 / 2080	0111	QC	135641 Canada Inc	$100
Feb 1, 1987	0534 / 1614	XX01	CV		$0

Building Information (1 of 1)

Finished Area: 0 SF

Gross Sketched Area: 0 SF

Exterior Data

View: Roof Cover: Roof Structure:

Building Type:	Year Built: N/A	Frame:
Grade:	Effective Year: N/A	Primary Wall:
Story Height:	No. Units: 0	Secondary Wall:

Interior Data

Bedrooms: 0	Electric:	Primary Int Wall:
Full Baths: 0	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Heat Fuel:	Primary Floors:
A/C %: 0%	Heated %: N/A%	Sprinkled %: 0%

Image or Sketch unavailable for display

Sketch Area Legend

Sub Area Description Area Fin. Area Perimeter

Special Features and Yard Items

Type Qty Units Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$629,600
Just/Market:	$629,600
Ag Credit:	$0
Save Our Homes or 10% Cap:	$364,720
Assessed:	$264,880
Exemption(s):	$0
Taxable:	$264,880

Current Year Exemption Value Breakdown

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
1999	0041	1.2	Fort Pierce Stormwater Charge	$82.80

This does not necessarily represent the total Special Assessements that could be charged against this property. The total amount charged for special assessments is reflected on the most current tax statement and information is available with the SLC Tax Collector's Office.

Historical Values

Year	Just/Market	Assessed	Exemptions	Taxable
2022	$629,600	$264,880	$0	$264,880
2021	$240,800	$240,800	$0	$240,800
2020	$594,300	$576,855	$0	$576,855
2019	$594,300	$524,414	$0	$524,414

Permits

Number	Issue Date	Description	Amount	Fee
F96-001110	Sep 13, 1996	Roof	$4,800	$4,800
0800001266	Aug 28, 2008	Demolition	$0	$130

Notice: This does not necessarily represent all the permits for this property.
Click the following link to check for additional permit data in Fort Pierce

Saint Lucie County Property Appraiser

February 8, 2022

Search Results

Comparable Search

Street Centerline

Freeway

Highway

Major Arterial

Minor Arterial

Collector

Ramp

Local

Other

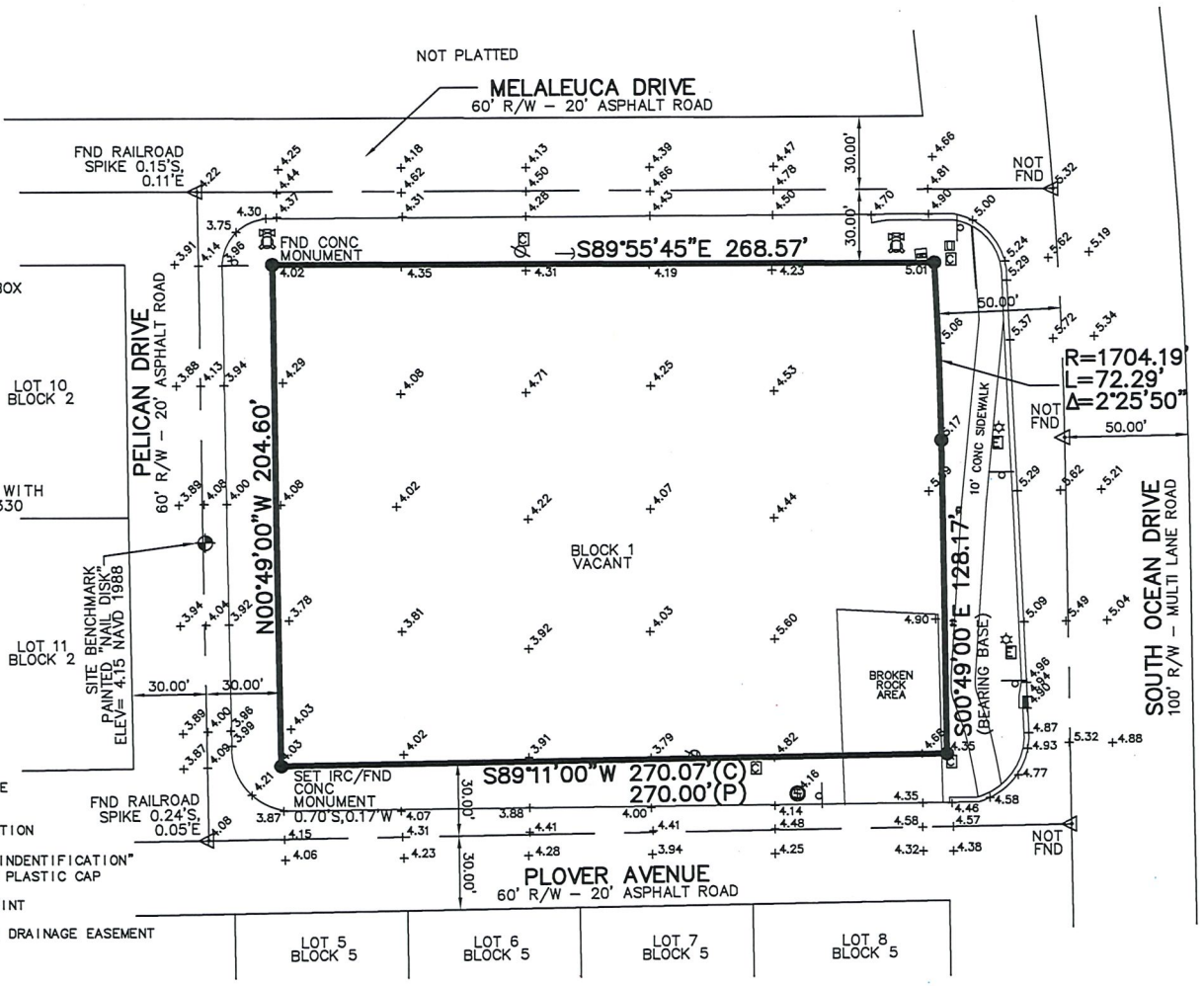
1:2,257

0 90 180 360 ft

0 25 50 100 m

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),

Parcel Info:2412-501-0002-000-3



SYMBOLS:

- = GUY WIRE ANCHOR
- = CABLE TELEVISION BOX
- = CATCH BASIN
- = CATCH BASIN INLET
- = ELECTRIC BOX
- = SIGN
- = SANITARY MANHOLE
- = FIRE HYDRANT
- = LIGHT POLE
- = UNKNOWN UTILITY
- = WATER VALVE
- = WOOD POWER POLE
- = SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330

LEGEND:

(C) = CALCULATED
(D) = DEED
(M) = MEASURED
(P) = PLATTED
CMP = CORRUGATED METAL PIPE
CNS = COULD NOT SET
CONC = CONCRETE
FFE = FINISHED FLOOR ELEVATION
FND = FOUND
IR = 5/8" IRON REBAR "NO INDENTIFICATION"
IRC = 5/8" IRON REBAR WITH PLASTIC CAP
PCOR = PROPERTY CORNER
PCP = PERMANENT CONTROL POINT
PL = PROPERTY LINE
PUDE = PUBLIC UTILITIES AND DRAINAGE EASEMENT
R/W = RIGHT-OF-WAY
R = RADIUS OF CURVE
L = LENGTH OF CURVE
SF = SQUARE FOOT
Δ = DELTA OF CURVE
● = SET 5/8" IRON REBAR WITH PLASTIC CAP "AJP PSM 6330"

GRAPHIC SCALE IN FEET
SCALE: 1" = 50'

LEGAL DESCRIPTION:

BLOCK 1, SURFSIDE UNIT ONE, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 10, PAGE 17, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

SURVEY NOTES:

1. THIS IS A BOUNDARY SURVEY AS DEFINED IN CHAPTER 5J-17.050(11), FLORIDA ADMINISTRATIVE CODE.
2. THIS BOUNDARY SURVEY WAS PERFORMED FOR THE PURPOSE OF FUTURE DEVELOPMENT SHOWN AND DEPICTED HEREON. I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS IS A TRUE, ACCURATE AND COMPLETE DEPICTION OF A FIELD SURVEY PERFORMED UNDER MY DIRECTION AND COMPLETED ON 3-08-22. I FURTHER CERTIFY THAT SAID DRAWING IS IN COMPLIANCE WITH THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472.027, FLORIDA STATUTES.
3. UNLESS OTHERWISE NOTED ONLY PLATTED EASEMENTS ARE SHOWN HEREON.
4. NO UNDERGROUND UTILITIES OR IMPROVEMENTS WERE LOCATED UNLESS OTHERWISE SHOWN.
5. THIS SITE LIES WITHIN FLOOD ZONE "X", ACCORDING TO THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 12111C0183 K, EFFECTIVE DATE FEBRUARY 19, 2020.
6. FLOOD ZONE SHOWN HEREON IS AN INTERPRETATION BY THE SURVEYOR AND IS PROVIDED AS A COURTESY. THE FLOOD ZONE SHOULD BE VERIFIED BY A DETERMINATION AGENCY.
7. BEARINGS SHOWN HEREON ARE BASED ON THE WEST R/W LINE OF STATE ROAD A1A ASSUMED TO BEAR S00°49'00"E.
8. THE PROPERTY FALLS WITHIN THE SUBURBAN CATEGORY AS CLASSIFIED IN CHAPTER 5J-17.051(2), FLORIDA ADMINISTRATIVE CODE. ALL FIELD CONTROL MEASUREMENTS EXCEEDED 1:7,5000 FEET ACCURACY REQUIREMENTS FOR THIS CLASSIFICATION.
9. ALL LOT DIMENSIONS SHOWN ARE PER PLAT UNLESS OTHERWISE NOTED. ALL SURVEY MEASUREMENTS ARE IN FEET.
10. ALL MAPPED FEATURES SHOWN HEREON ARE UNDER THE DIRECT SUPERVISION AND RESPONSIBILITY OF ALEXANDER J. PIAZZA PSM, INC.
11. SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
12. ADDITIONS OR DELETIONS TO THE SURVEY MAP OR REPORT BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.

CERTIFIED TO:

CAMBRIDGE SQUARE, LLC.

1521 SOUTH OCEAN DRIVE

TYPE OF SURVEY:	BOUNDARY	PLOT PLAN	U/C TIE IN	FINAL	TOPOGRAPHIC
COMPLETED ON:	3-10-22				

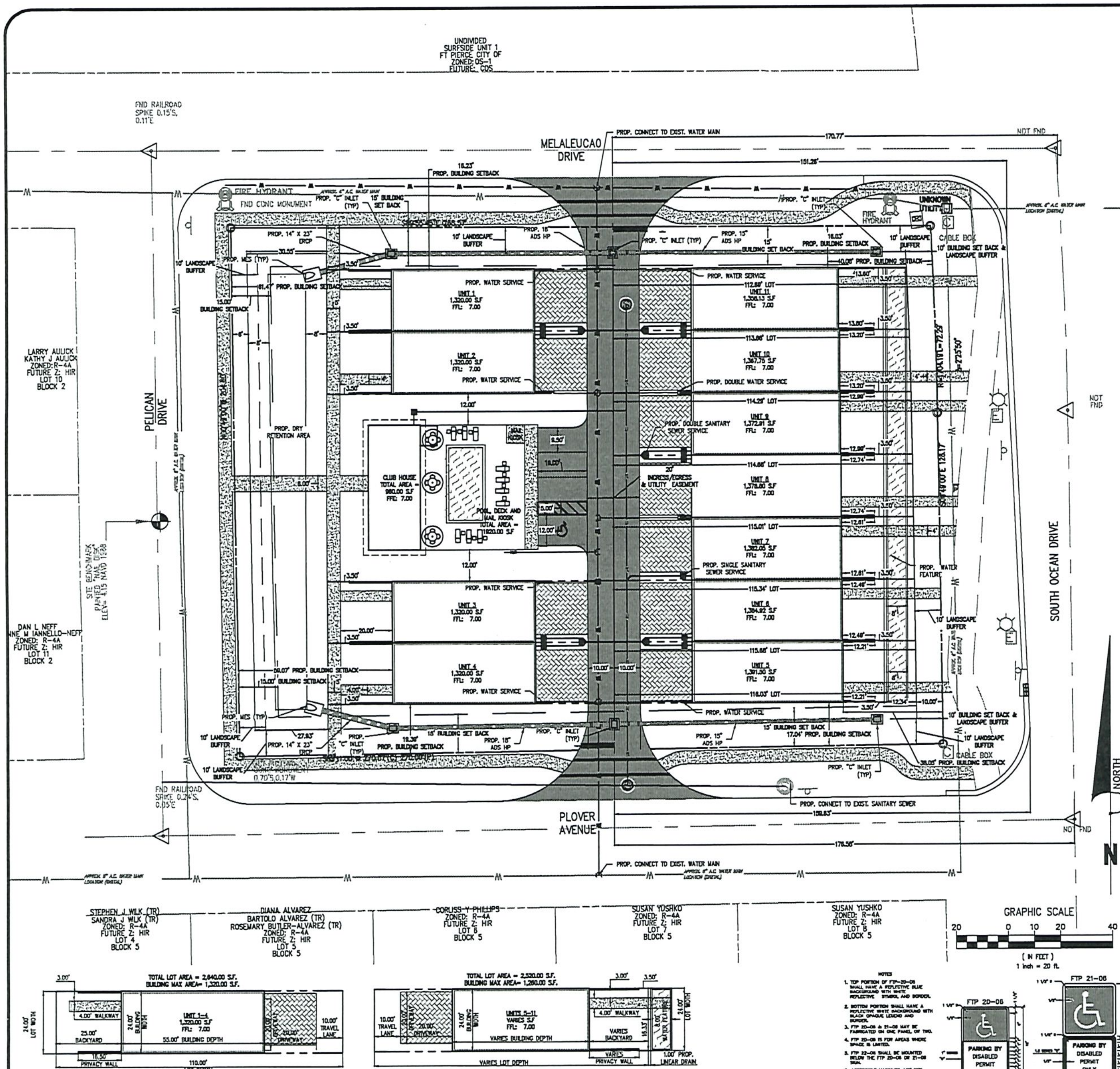
LAST FIELD DATE: 3-8-22

DATE:	REVISIONS:	BY:

ALEXANDER J. PIAZZA PSM, INC.
Surveying • Mapping • Consulting
619 SW Biltmore Street
Port St. Lucie, Florida 34983
Phone: (772) 340-7770
Fax: (772) 340-2250
LB#7280

CAD	K:\BUILDERS\DWG2022\22-8686.DWG				
REF	K:\				
FLD	CREW	FB. 000	PG. 00	JOB	22-8686
OFF	LW			DATE	3-10-22
CKD	AJP	SHEET 1	OF 1	DWG	C-1605

ALEXANDER J. PIAZZA
License Number 6330
STATE OF FLORIDA
ALEXANDER J. PIAZZA
Professional Surveyor & Mapper
Florida Certificate No. 6330



SITE DATA	
OWNER:	TEC MARINER COVE LLC
OWNER ADDRESS:	235 LAKEVIEW AVE CLIFTON, NJ 07011
SITE ADDRESS	1521 S OCEAN DR
PARCEL ID:	2412-501-0002-000-3
LEGAL DESCRIPTION:	SURFSIDE-UNIT ONE- UNDIVIDED BLK 1
COUNTY:	FORT PIERCE
SEC/TOWN/RANGE:	12/35S/40E
PANEL NO.:	12111C0183 K
FLOOD ZONE:	X
ZONING:	R4-A
FUTURE LANDUSE:	HIR
LOT SIZE:	1.25 AC.

BUILDING DATA		
BUILDING HEIGHT:	45' MAX	24'-2" TO MID POINT
BUILDINGS		3

BUILDING SETBACKS REQUIRED		
REQUIRED		PROVIDED
FRONT:	10'	40.08'
N SIDE:	15'	15.04'
S SIDE:	15'	17.04'
REAR:	10'	81.56'

PARKING SPACE REQUIRED	
UNITS:	11
SPACES PER DWELLING UNIT	2
TOTAL SPACES REQUIRED	22
ADA REQUIRED OF REG. SPACES	1

PARKING SPACES PROVIDED	
9.5' X 20' DRIVEWAY SPACES	22
9.5' X 19 PARKING SPACES	3
12' X 19' 90 DEG. ADA PARKING SPACES	1
9.5' X 22' PARALLEL PARKING	8
TOTAL SPACES PROVIDED:	34

SITE AREA			
AREAS	S.F.	ACERS	PERCENTAGE
STOTAL SITE AREA	54,654.63 S.F.	1.25 AC	100%
IMPERVIOUS AREAS			
PROPOSED BUILDING	15,060.87 S.F.	0.35 A.C.	27.56%
PROPOSED CONCRETE	9,542.59 S.F.	0.22 A.C.	17.46%
PROPOSED ASPHALT	4,996.12 S.F.	0.11 A.C.	9.14%
PROPOSE WATER FEATURE	1,343.94 S.F.	0.03 A.C.	2.45%
TOTAL IMPERVIOUS AREA	30,943.52 S.F.	0.71 A.C.	56.62%
PERVIOUS AREAS			
TOB RETENTION AREA	5,388.24 S.F.	0.12 A.C.	9.90%
9.5' X 19 PARKING SPACES	18,322.87 S.F.	0.42 A.C.	33.52%
TOTAL PERVIOUS AREA	23,711.11 S.F.	0.54 A.C.	43.38%

LOCATION MAP
N.T.S.

LEGEND
- PROP. ASPHALT
- PROP. PAVERS
- PROP. CONCRETE
- PROP. WATER FEATURE AND POOL
- PROP. STORM PIPE
- PROP. SANITARY SEWER DOUBLE CONNECTION
- PROP. SANITARY SINGLE SERVICE
- PROP. E INLET
- PROP. MITERED END
- PROP. DOUBLE WATER SERVICE
- PROP. SINGLE WATER SERVICE

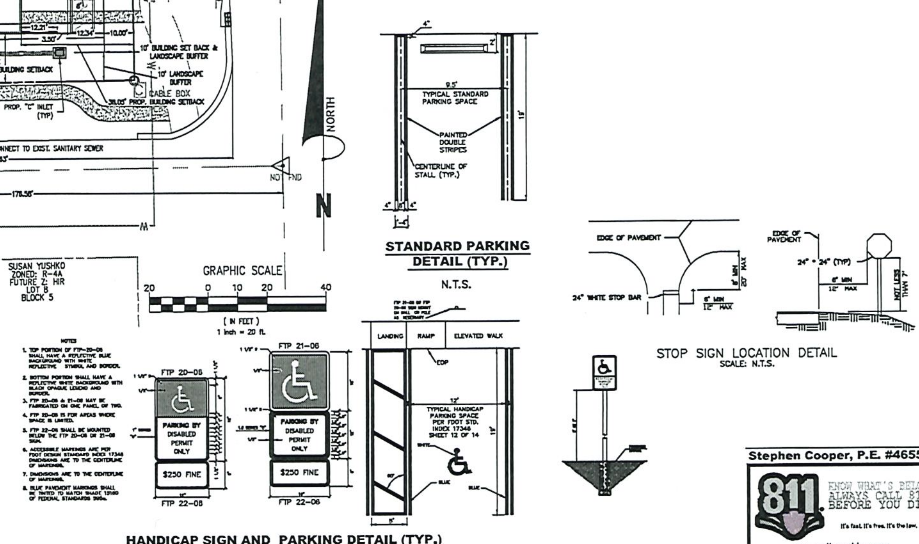
PROJECT DESCRIPTION: THE PROPOSED PLAN INCLUDES CONSTRUCTION OF 11 RESIDENTIAL TOWNHOME PRODUCTS ON THE 1.25-ACRE PARCEL. ACCESS TO BE VIA A PROPOSED TWO-WAY ALLEY OFF THE ADJACENT PUBLIC ROADS.

WATER/SEWER WOULD BE VIA CONNECTION TO AVAILABLE FPUA OWNED PUBLIC WATER AND SEWER MAINS ADJACENT TO THE SITE. DETAILS OF THESE CONNECTIONS WOULD BE DETERMINED AT TIME OF CONSTRUCTION PLANS REVIEW.

DRAINAGE WOULD BE PROVIDED VIA ONSITE DRY RETENTION AREA(S) DESIGNED TO ADDRESS BOTH STATE AND CITY OF FT. PIERCE STORM WATER MANAGEMENT CRITERIA FOR SUCH A DEVELOPMENT. PROJECT WOULD QUALIFY FOR A FDEP 10/2 STORMWATER GP (VERSES A SFWMD ERP). DETAILS OF THE RETENTION SYSTEM WOULD BE PROVIDED AT TIME OF CONSTRUCTION PLANS REVIEW.

TRAFFIC – BASED ON ITE 11TH EDITION (CODE 220 MF LOW RISE), THE PROPOSED 11 TOWNHOMES IS PREDICTED TO GENERATE 74 AVERAGE DAILY TRIPS (ADT), WITH 6 PM PEAK HOUR TRIPS (4 INBOUND/2 OUTBOUND) AND 5 AM PEAK TRIPS (1 INBOUND / 4 OUTBOUND)

SOLID WASTE – THE PROPOSED RESIDENTIAL PROJECT WOULD GET TRASH PICKUP VIA CURBSIDE.



STANDARD PARKING DETAIL (TYP.)
N.T.S.

STOP SIGN LOCATION DETAIL
SCALE: N.T.S.

HANDICAP SIGN AND PARKING DETAIL (TYP.)

Stephen Cooper, P.E. #46557

811 KNOW WHAT'S BELOW ALWAYS CALL 811 BEFORE YOU DIG
www.callsunshine.com

STEPHEN COOPER, P.E. & ASSOCIATES, INC.
- CONSULTING ENGINEER -
CIVIL ENGINEERING * SITE PLANNING * ENVIRONMENTAL PERMITTING
7450 SOUTH FEDERAL HIGHWAY
PORT ST. LUCIE, FLORIDA 34952

SCPE

SITE PLAN

MULTIFAMILY RESIDENTIAL

CITY OF FORT PIERCE — STATE OF FLORIDA

DATE:	FEB 2022
DRAWN BY:	CCL
DESIGNED BY:	SC
CHECKED BY:	SC
HORZ. SCALE:	
VERT. SCALE:	
DRAWING NO.	
JOB NO. 2022-104	

DRAWING INDEX:

LA-1: LANDSCAPE PLAN, LANDSCAPE DATA, & PLANT SCHEDULE
LA-2: EXISTING TREE INVENTORY & DISPOSITION PLAN
LA-3: LANDSCAPE DETAILS & SPECIFICATIONS

TREE REQUIREMENTS:

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 241 LF x 10' WIDE
241X10 + 20% = 2,892 SF
2,410 SF DIV. BY 300 + 20% = 10 TREES REQUIRED

SOUTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 243 LF x 10' WIDE
243X10 + 20% = 2,916 SF
2,430 SF DIV. BY 300 + 20% = 10 TREES REQUIRED

EAST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 201 LF x 10' WIDE
2010X10 + 20% = 2,412 SF
2,010 SF DIV. BY 300 + 20% = 9 TREES REQUIRED

WEST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 205 LF x 10' WIDE
2050X10 + 20% = 2,460 SF
2,050 SF DIV. BY 300 + 20% = 9 TREES REQUIRED

INTERIOR VEHICULAR USE AREAS = 9,400 S.F
9,400 SF DIV. BY 15 + 20% = 750 S.F. REQUIRED PLANTING AREA
8 INTERIOR VUA TREES REQUIRED

TOTAL TREES REQUIRED: 46 TREES

PROVIDED TREES:

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 241 LF
3,500 SF
10 TREES PROVIDED

SOUTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 243 LF
3,800 SF
10 TREES PROVIDED

EAST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 201 LF
2,700 SF
10 TREES PROVIDED

WEST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 205 LF x 10' WIDE
4,500 SF
10 TREES PROVIDED

INTERIOR VEHICULAR USE AREAS = 9,400 S.F
1,800 S.F. PROVIDED PLANTING AREA
10 INTERIOR VUA TREES REQUIRED

TOTAL TREES PROVIDED: 50 TREES

SHRUB REQUIREMENTS:

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 241 LF
CONTINUOUS HEDGE @ 36" OC = 81 SHRUBS REQUIRED

SOUTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 243 LF
CONTINUOUS HEDGE @ 36" OC = 81 SHRUBS REQUIRED

EAST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 201 LF
CONTINUOUS HEDGE @ 36" OC = 67 SHRUBS REQUIRED

WEST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 205 LF
CONTINUOUS HEDGE @ 36" OC = 69 SHRUBS REQUIRED

TOTAL SHRUBS REQUIRED: 298 SHRUBS

PROVIDED SHRUBS:

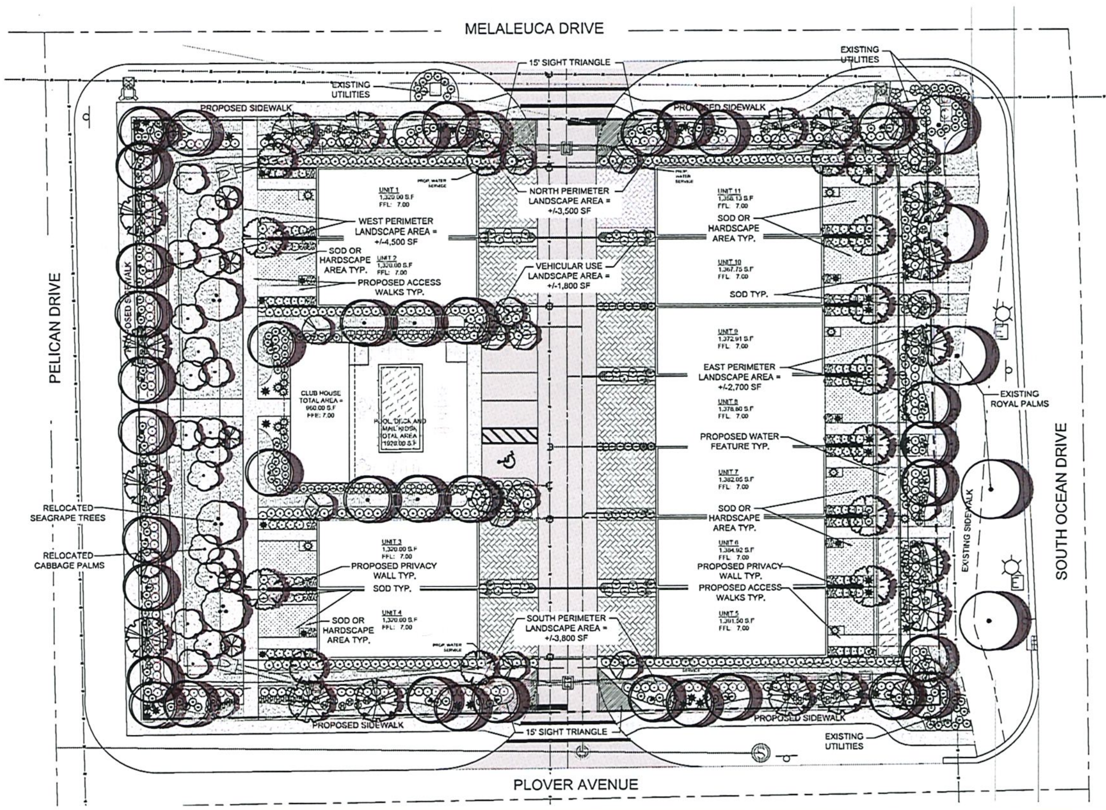
NORTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 241 LF
93 SHRUBS PROVIDED

SOUTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 243 LF
95 SHRUBS PROVIDED

EAST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 201 LF
94 SHRUBS PROVIDED

WEST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 205 LF
91 SHRUBS PROVIDED

TOTAL SHRUBS PROVIDED: 373 SHRUBS



General Landscape Notes:

1. All plants shall conform to established nursery grades and standards, to be Florida No. 1 or better, and shall be free of disease and insects at the time of installation.
2. Trees shall be a minimum of twelve (12) feet in height and have a caliper of two and one-half (2 1/2) inches at four and one-half (4 1/2) feet above the ground when installed.
3. All required trees, except palms, shall have a minimum of five (5) feet of clear trunk and a minimum five (5) foot canopy spread at the time of planting.
4. All palm trees shall have a minimum clear trunk of ten (10) feet when installed. Three palm trees are equal to one shade tree having a mature canopy spread of fifteen (15) feet.
5. Shrubs shall be a minimum of twenty-four (24) inches in height above grade immediately after planting.
6. Groundcovers, other than grass, shall be planted in a manner as to present a finished appearance and reasonably complete coverage within four (4) months after planting.
7. Turf grass shall be installed using solid sod and shall be either Bahia or St. Augustine sod.
8. All landscape areas other than sod will be provided a mulch cover of at least three (3) inches. Cypress mulch shall not be used.
9. All existing native vegetation found on the site and is not in direct conflict with the proposed buildings or parking areas shall be left undisturbed. A suitable protective barrier, constructed of metal, wood, safety fencing, or other durable material, will be placed around the staked out locations of existing native vegetation.
10. No fill materials, construction materials, concrete, paint, chemicals, or other foreign materials shall be stored, deposited, or disposed of within any areas that have been staked or fenced off as being undisturbed native vegetation areas.
11. Existing understory shall be maintained in areas of undisturbed native vegetation.
12. All Category 1 exotic plant species will be eradicated from the site.
13. Conspicuous, durable barricades will be erected around each individual tree or areas of vegetation that are to be preserved. In the event that any protective barricades are removed or altered and land clearing or construction work is being conducted on the site, all work at the site will be stopped until the barriers are restored and any necessary corrective actions taken to repair or replant any vegetation removed or damaged as a result of these encroachments.
14. Irrigation to conform to all local and State regulations with regard to water consumption.
15. All new landscaping shall be provided with 100% irrigation coverage through the establishment period, not less than 1-year.

811
Know what's below. Call before you dig.

Total Site Plant Schedule:

TREES	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE	DBH
	17	Coccoloba uvifera	Sea Grape	FG	***15'OA	8'W	STD, 6'CT, SP	Native	3" DBH
	3	Coccoloba uvifera	Sea Grape	Relocated on Site	16' HT			Native	VARIES 19"-24" DBH
	22	Conocarpus erectus 'Sericeus'	Silver Buttonwood	FG	***15' HT	8'W	STD, 6' CT, SP	Native	3" DBH
EXISTING TREES TO REMAIN	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONTAINER**	**HEIGHT**	**WIDTH**	**NOTES**	**NATIVE**	
	5	Roystonea regia	Royal Palm	Existing to Remain	30' HT			Native	
PALM TREES	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONTAINER**	**HEIGHT**	**WIDTH**	**NOTES**	**NATIVE**	
	39	Cocos nucifera 'Green Malayan'	Coconut Palm	FG	***14'CT		FH, SP	Non-native	
	19	Sabal palmetto	Sabal Palm	Relocated on Site	VARIES 10'-20' CT			Native	
	* 8	Veitchia montgomeryana	Double Montgomery Palm	FG	***12' CT, 16' OA		DBL, F, SP	Non-native	
	* 8	Veitchia montgomeryana	Single Montgomery Palm	FG	***12' CT, 16' OA		FH, SP	Non-native	

UNDERSTORY TREES	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE	DBH
	* 2	Clusia rosea 'Pitch Apple'	Pitch Apple	25G	8'HT	4' SPR	STD, 4'CT, SP	Native	1.5" DBH
	* 2	Cordia sebestena	Orange Geiger Tree	25G	8'HT	4' W	STD, 4'CT, SP	Native	1.5" DBH
SHRUBS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONTAINER**	**HEIGHT**	**WIDTH**	**NOTES**	**NATIVE**	
	** 41	Alcantarea imperialis	Imperial Bromeliad	7G	2' HT	2' W	F	Non-native	
	** 13	Alcantarea odorata	Giant Silver Bromeliad	7G	24"	24"	FULL	Non-native	
	** 103	Alocasia odora 'California'	Dwarf Alocasia	3G	24" HT	18"W	F	Non-native	
	** 285	Chrysobalanus icaco 'Redtip'	Red Tip Cocoplum	3G	24" HT	18"W	F	Native	
	118	Chrysobalanus icaco 'Horizontalis'	Horizontal Cocoplum	3G	24" HT	18"W	F	Native	
	255	Clusia guttifera	Small Leaf Clusia	3G	24" HT	18"W	F	Non-native	
	** 35	Clusia guttifera	Small-Leaf Clusia	7G	48" HT	36" W	F	Non-native	
	** 29	Cordyline fruticosa 'Auntie Lou'	Ti Plant	7G	4' HT	3'W	F	Non-native	
	** 200	Pennisetum setaceum	White Fountain Grass	3G	24" HT	18"W	F	Non-native	
	** 44	Schefflera arboricola	Green Schefflera	3G	24" HT	18"W	F	Non-native	
	** 12	Strelitzia reginae	Orange Bird of Paradise	7G	36" HT	24"W	F		
SOD/SEED	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONTAINER**	**HEIGHT**	**WIDTH**	**NOTES**	**NATIVE**	
	TBD	Paspalum Distichum	Seashore Paspalum	SOD			Free of Weeds and Pests		

*PROPOSED TREES & PALMS IN ADDITION TO 'PROVIDED' CALCULATIONS
**PROPOSED SHRUBS IN ADDITION TO 'PROVIDED' CALCULATIONS
***TREE & PALM SIZE 20% LARGER THAN CODE REQUIREMENTS

Project Team
Landscape Architect:
LAS Landscape Architectural Services, LLC
Brandon White | Owner
772-634-1357 | brandon@las-fl.com
Paul Goulas | Owner
772-631-8400 | paul@las-fl.com
1708 SE Joy Haven Street
Port St. Lucie, FL 34983
Civil Engineer:
STEPHEN COOPER, P.E. & ASSOCIATES, INC.

MULTIFAMILY RESIDENTIAL
1521 South Ocean Drive
City of Fort Pierce, Florida
Landscape Plan

Revisions		
Date	Init.	Description
7.15.23	PG	Submittal

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

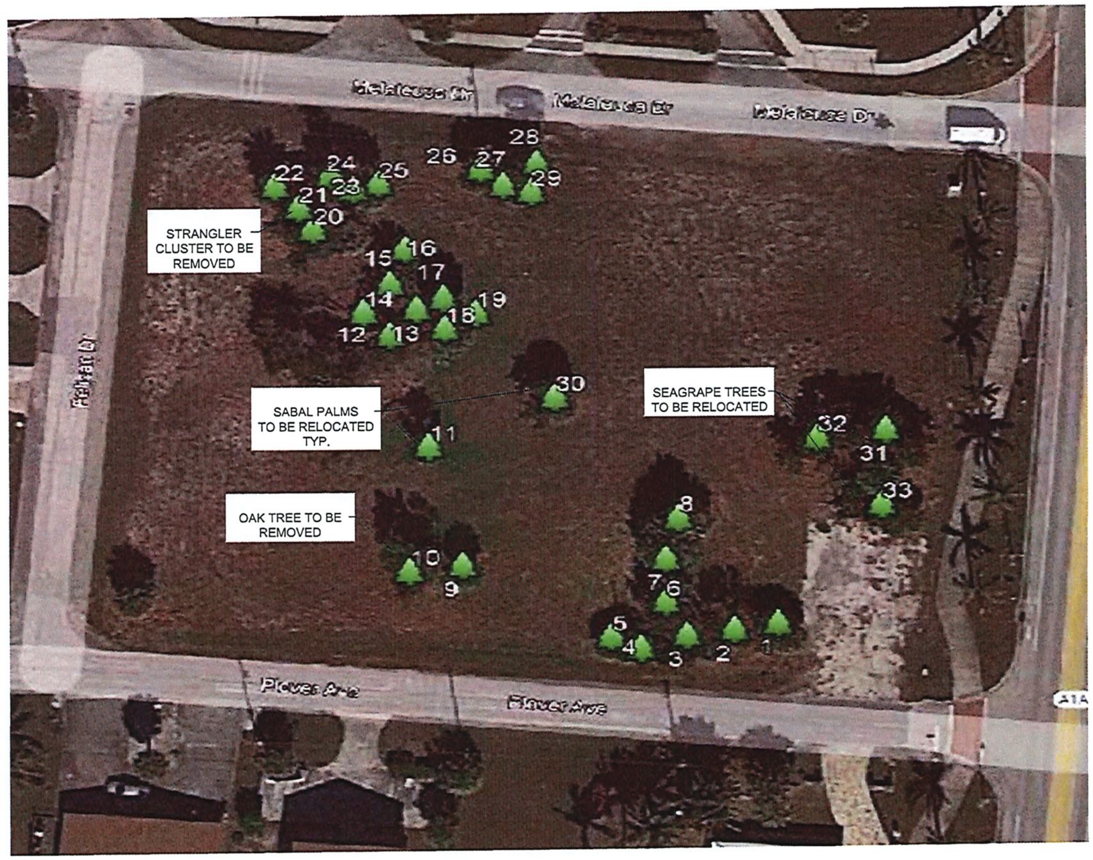
Drawn By: PG
Checked By: PG
Municipal Project:
Scale:

NORTH
SCALE: 1" = 20'
0 10' 20' 40'

LA-1

	Tree No.	Size	Species
	1	12'	Cabbage
	2	8"	Live Oak
	3	12"	Live Oak
	4	10"	Strangler Cluster
	5	14'	Cabbage
	6	12'	Cabbage
	7	12'	Cabbage
	8	13'	Cabbage
	9	12'	Cabbage
	10	5"	Live Oak
	11	12'	Cabbage
	12	6"	Live Oak
*	13	15"	Live Oak Dbl
	14	8"	Live Oak
	15	13"	Live Oak
	16	10"	Live Oak
	17	15'	Cabbage
	18	16'	Cabbage
	19	14'	Cabbage
	20	13'	Cabbage
*	21	18"	Strangler Cluster
	22	13'	Cabbage
	23	7"	Strangler Cluster
	24	13'	Cabbage
	25	17'	Cabbage
	26	13'	Cabbage
	27	14'	Cabbage
	28	17'	Cabbage
	29	14'	Cabbage
	30	13'	Cabbage
**	31	16"	Seagrape Cluster
**	32	20"	Seagrape Cluster
**	33	22"	Seagrape Cluster

ALL TREES TO BE REMOVED OR RELOCATED
*TOTAL DBH TO BE REMOVED REQUIRING MITIGATION: 33"
**TOTAL DBH TO BE RELOCATED: 58"
TOTAL SABAL PALMS TO BE RELOCATED: 19



Project Team
Landscape Architect:
Brandon White | Owner
Paul Goulas | Owner
Civil Engineer:
STEPHEN COOPER, P.E. & ASSOCIATES, INC.

MULTIFAMILY RESIDENTIAL
1521 South Ocean Drive
City of Fort Pierce, Florida
Tree Inventory & Disposition Plan

Revisions		
Date	Init.	Description
7.15.23	PG	Submittal

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By: PG
Checked By: PG
Municipal Project:
Scale:
NORTH
SCALE: 1" = 20'
0 10' 20' 40'

LA-2

LANDSCAPE SPECIFICATIONS:

PART 1: GENERAL CONDITIONS

1.01 SCOPE:
A. The landscape contract includes the supplying and planting of all trees, shrubs, vines, and ground cover together with all necessary labor, equipment, tools and materials needed for the successful completion, execution and maintenance of the landscape plans.

1.02 AGENCY STANDARDS:
A. Grades and standards of plant materials to be used shall be true to name, size, condition and graded Florida #1 or better as stated in: Grades and Standards of Florida Plant Materials published by the State of Florida Department of Agriculture, Tallahassee, Florida.

1.03 SITE EXAMINATION:
A. The Landscape Contractor shall personally examine the site and fully acquaint him/herself with all of the existing conditions in order that no mis-understanding may afterwards arise as to the character or extent of the work to be performed, and additionally, in order to acquaint him/herself with all precautions to be taken in order to avoid injury to property or persons. No additional compensation will be granted because of any unusual difficulties which may be encountered in the execution or maintenance of any portion of the work.

1.04 ERRORS AND OMISSIONS:
A. The plant list is a part of the drawings and is furnished as a convenience. The plant list indicates the name, size and quantities of specific plant materials as called for and is located on the drawings. The Landscape Contractor is responsible for his/her own quantity count, and any discrepancy between drawings and plant list shall be considered as correct on the drawings.

B. The Landscape Contractor shall not take advantage of errors or omissions in the specifications or contract drawings. Full instruction will be given if such errors are discovered. Upon the discovery of any discrepancies in, or omissions from the drawings or documents, or should the Landscape Contractor be in doubt as to their meaning, the Landscape Architect shall be notified and will determine the actions necessary to each query.

C. If plans and specifications are found to disagree after the contract is awarded, the Landscape Architect shall be the judge as to which was intended.

1.05 EXECUTION OF THE WORK:
A. The Landscape Contractor shall have his labor crews controlled and directed by a Foreman well versed in plant materials, planting methods, reading blueprints, and coordination between job and nursery in order to execute installation correctly and in a timely manner.

B. The Landscape Contractor shall provide a competent English-speaking Foreman on the project at all times, who shall be fully authorized as the Contractor's agent on the work. The Superintendent shall be capable of reading and thoroughly understanding the Plans, Specifications and other Contract Documents. If the Superintendent is deemed incompetent by the Landscape Architect, he (the superintendent) shall be immediately replaced.

C. The Landscape Contractor shall be available for any meetings with the Owner and/or Landscape Architect during implementation of the job. Any additional work or changes required as a result of failure to communicate with the Owner or Landscape Architect during implementation will be the responsibility of the Landscape Contractor.

1.06 PROTECTION OF PUBLIC AND PROPERTY:
A. The Landscape Contractor shall protect all materials and work against injury from any cause and shall provide and maintain all necessary safeguards for the protection of the public. He shall be held responsible for any damage or injury to persons or property which may occur as a result of his fault or negligence in the execution of the work, i.e. damage to underground pipes or cables.

1.07 CHANGES AND EXTRAS:
A. The Contractor shall not start work on any changes or "extras" in the project until a written agreement setting forth the adjusted prices has been executed by the Owner and the Contractor. Any work performed on changes or "extras" prior to execution of a written agreement may or may not be compensated for by the Owner at his discretion.

1.08 GUARANTEE:
A. The Landscape Contractor shall furnish a written guarantee warranting all materials, workmanship and plant materials, except sod, for a period of ONE (1) YEAR from the time of completion and acceptance by the Landscape Architect and Owner. Sod shall be guaranteed to 90 calendar days after acceptance by the Landscape Architect and Owner. All plant material shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. The guranteeing of plant material shall be construed to mean complete and immediate replacement with plant material of the same variety, type, size, quality and grade as that of the originally specified material. During the guarantee period it shall be the Landscape Contractor's responsibility to immediately replace any dead or unhealthy material as determined by the Landscape Architect. The guarantee will be null and void if plant material is damaged by lightning, hurricane force winds, or any other acts of God, as well as vandalism or lack of proper maintenance.

B. At the end of the specified guarantee period, any plant required under this contract that is dead or not in satisfactory condition, as determined by the Landscape Architect, shall be replaced. The Landscape Contractor shall be responsible for the full replacement cost of plant materials for the first replacement and share subsequent replacement (s) costs equally with the Owner, should the replacement plant fail to survive.

1.09 CARE AND MAINTENANCE:
A. The Landscape Contractor shall be responsible for the care and maintenance of all plant materials and irrigation when applicable until final acceptance by the Owner or Landscape Architect.

B. The Owner agrees to execute the instructions for such care and maintenance.

1.10 SAFETY:
A. It shall be the responsibility of the Landscape Contractor to protect all persons from injury and to avoid property damage. Adequate warning devices shall be placed and maintained during the progress of the work.

B. It shall be the contractor's responsibility to conform to all local, state, and federal safety laws and codes including the Federal Occupational Safety And Health Act (O.S.H.A.).

1.11 CONTRACTOR QUALIFICATION:
A. The Owner may require the apparent contractor (s) to qualify him/herself to be a responsible entity by furnishing any or all of the following documentary data:
1. A financial statement showing assets and liabilities of the company current to date.
2. A listing of not less than (3) completed projects of similar scope and nature.
3. Permanent name and address of place of business.
4. The number of regular employees of the organization and length of time the organization has been in business under the present name.

1.12 INSURANCE AND BONDING:
A. The contractor (s) shall submit proof of insurance for this job for the time period that the work is done. The minimum amount of Insurance shall be $300,000.00 per person and $300,000.00 per aggregate or as required by owner and agreed to in the contract.
The successful bidder shall be required to have this coverage in effect before beginning work on the site.

B. The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

1.13 PERMITS AND CERTIFICATES:
A. All contractors shall secure and pay for all permits and certificates required for his/her class of work.

PART 2: MATERIALS

2.01 PLANT MATERIALS:
A. A complete list of plants is shown on the drawings, including a schedule of quantities, sizes, and such other requirements deemed necessary. In the event discrepancies occur, the specifications on the drawings shall govern.

B. Substitutions: Substitutions of plant materials or changes in size or spacing of materials will be permitted ONLY upon written authorization by the Owner or the Landscape Architect. If plant material is not of sufficient size to meet applicable codes, a letter of variance from the appropriate agency must be obtained by the Contractor prior to issuance of any change order. If material of smaller size is to be accepted, the quantity of material shall be increased, at no additional cost to the Owner, to meet the intent of the drawings.

C. All plant materials shall have a habit of growth that is normal for the species and shall be healthy, vigorous and equal to or exceed the measurements specified in the plant list, which are the minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting.

D. All plant materials shall be nursery grown, unless otherwise noted, Florida #1 or better and shall comply with all required inspections, grading standards and plant regulations as set forth by the Florida Department of Agriculture's Grades and Standards for Nursery Plants, most current addition and Grades and Standards for Nursery Plants, most current addition.

E. Plants that do not have the normal balance of height and spread typical for the respective plant shall not be acceptable.

F. The Landscape Contractor shall install each plant to display its best side. Adjustments may be required if plants are not installed properly and/or approved by the Landscape Architect at no additional cost to owner.

2.02 INSPECTION
A. The Landscape Architect and Owner may inspect trees and shrubs at place of growth or at site before planting, for compliance with requirements for genus, species, variety, size and quality. The Landscape Architect and Owner retain the right to further inspect trees and shrubs for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Rejected plant materials shall be immediately removed from project site.

2.03 PROTECTION OF PLANT MATERIALS:
A. Balled and burlapped plants (B & B) shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Balls shall be firmly wrapped with burlap similar materials and bound with cord, rope, or wire mesh. All collected plants shall be balled and burlapped.

B. Plants with broken, damaged or insufficient rootballs will be rejected.

C. All plant material shall be protected from possible bark injury or breakage of branches. All plants transported by open trucks shall be adequately covered to prevent windburn, drying or damage to plants.

D. Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch or other protection from the drying of wind and sun. All plants shall be watered as necessary by the Landscape Contractor until planted.

2.04 STORAGE:
A. All plant materials shall be stored on the site in designated areas, specified by the Landscape Architect or Owner's agent.

B. No plant material shall be stored longer than seventy-two (72) hours unless approved by by Landscape Architect and/or owner.

C. The Landscape Architect reserves the right to reject any plant materials not in conformance with these specifications.

D. All rejected material shall be immediately removed from the site and replaced with acceptable material at no cost to the Owner.

2.05 PROTECTION DURING PLANTING:
A. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling or bark slippage by means of burlap, wood battens or other approved methods. Battons shall NOT be attached to the tree with nails.

2.06 PLANTING SOIL:
A. Planting soil for all plantings shall consist of existing native soil and shall be free of debris, roots, clay, stones, plants or other foreign materials which might be a hindrance to planting operations or be detrimental to good growth.

2.07 FERTILIZER:
A. Commercial fertilizer shall comply with the state fertilizer laws. Nitrogen shall not be less than 40% from organic source. Inorganic chemical nitrogen shall not be derived from the sodium form of nitrate. Fertilizers shall be delivered to the site in unopened original containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer that becomes caked or otherwise damaged shall be rejected.

B. Thoroughly mixed 3 lbs. of commercial fertilizer to each cubic yard of planting soil.

C. Tabletized fertilizer shall be Agriform planting tablets 20-10-5 formula, 21 gram or equal. All trees and shrubs shall be fertilized with tabletized fertilizer as follows. While backfilling plant holes, fertilizer tablets shall be equally spaced and placed adjacent to the ball mid-way in depth in accordance with the following rates:

1 gallon container	1 tablet
3 gallon container	2 tablets
5 gallon container	3 tablets
7 gallon	5 tablets

Large tubs, wire baskets, grow bags, and balled and burlapped material shall have 1 tablet for each 1/2 inch of trunk diameter (measured 3 feet from ground) or for each foot of height or spread of larger shrub material.
The Landscape Architect reserves the right to inspect and review the application of fertilizer.

2.08 MULCH:
A. Mulch material shall be clean, dry, free of weeds, seeds and pests, moistened at the time of application to prevent wind displacement. Cypress &/or Red mulch is prohibited.

B. All trees and shrub beds shall receive 3" mulch immediately after planting and thoroughly watered. Apply 2" max on tree & palm rootballs, keep away from tree & palm trunks or as required by local jusidiction.

PART 3: EXECUTION

3.01 DIGGING:
A. The Landscape Contractor shall exercise care in digging and other work so as not to damage existing work, including overhead wires, underground pipes and cables and the pipes and hydrants of watering systems. Should such overhead or underground obstructions be encountered which interfere with planting, the Owner shall be consulted and contractor will adjust the location of plants to clear such obstruction. The Contractor shall be responsible for the immediate repair of any damage caused by his work.

3.02 GRADING:
A. Grading for drainage, swales, etc. to within 4 inches of the finished grade to be provided by others.

B. It shall be the responsibility of the Landscape Contractor to provide the final grading during the course of landscape installation so as to bring sod and planting areas to their proper elevations in relation to walks, paving, drain structures, and other site conditions. The site grading plan must be checked prior to installation of sod to insure that drainage and other conditions will NOT be modified.

3.03 PLANTING:
A. Planting shall take place during favorable weather conditions.

B. The Contractor shall call for utility locates and ascertain the location of all utilities and easements so proper precautions can be taken not to damage or encroach on them.

C. Tree Planting shall be located where it is shown on the plan. No planting holes shall be dug until the proposed locations have been staked on the ground by the Contractor.

D. Excavation of holes shall extend to the required subgrades as specified on the planting diagrams located in the planting plans. Plant pits shall be circular in outline and shall have a profile which conforms to the aforementioned "Tree and Shrub Planting Diagrams".

E. A representative number of planting pits (a minimum of one in every 25 feet throughout the entire site) shall be tested for proper drainage. See Landscape Plan for complete testing methods and requirements.

F. Planting pits shall be excavated to the following dimensions and refilled with a mixture of (1/2) planting soil (1/2) existing native soil];
1 Gallon material (1 gal.): 12" x 12" x 12" min.
3 Gallon material (3 gal.): 20" x 20" x 18" min.
Lerio material (7 gal.): 30" x 30" x 24" min.
Field grown material and trees: 1-1/2 times width of ball and depth of ball plus 12" min.

G. No planting or laying of sod shall be initiated until the area has been cleaned of existing sod or other plant materials, rough grass, weeds, debris, stones etc. and the ground has been brought to an even grade, with positive drainage away from buildings and towards drain inlets and swales and approved by Landscape Architect or owner's rep.

H. Each plant shall be planted in an individual hole as specified for trees, shrubs, and vines.

I. All plants shall be set to ultimate finished grade. No filling will be permitted around trunks or stems. All ropes, wire, stakes, etc., shall be removed from sides and top of the ball and removed from hole before filling in.

J. All flagging ribbon shall be removed from trees and shrubs before planting.

K. Excess excavation (fill) from all holes shall be removed from the site, at no additional expense to Owner.

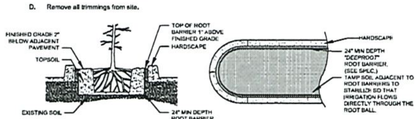
L. All palms shall be backfilled with sand, thoroughly washed in during planting operations and with a shallow saucer depression left at the soil line for future waterings. Saucer areas shall be top-dressed two (2") inches deep with topsoil raked and left in a neat, clean manner.

3.04 PRUNING:
A. Remove dead and broken branches from all plant material. Prune to retain typical growth habit of individual plants with as much height and spread as possible in a manner which will preserve the plant's natural character.

B. Make all cuts with sharp instruments flush with trunk or adjacent branch, in such a manner as to insure elimination of stubs. Cuts made at right angles to line of growth will not be permitted.

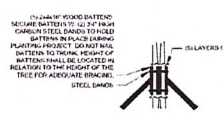
C. Trees shall not be poled or topped.

D. Remove all trimmings from site.



SPECIAL APPLICATIONS ROOT BARRIER DETAIL
NOT TO SCALE

NOTES:
1- ROOT BARRIER SHALL BE "DEEPROOT" 24" DEPTH OR APPROVED EQUAL.
2- ROOT BARRIER SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.



BRACING DETAIL
NOT TO SCALE

3.05 GUYING:
A. All trees over six (6') feet in height shall, immediately after setting to proper grade, be guyed with three sets of two strands, No. 12 gauge malleable galvanized iron, in tripod fashion. See Detail.

B. Wires shall not come in direct contact with the tree but shall be covered with an approved protection device at all contact points. Wires shall be fastened in such a manner as to avoid pulling crotches apart.

D. Stake & Brace all treess larger than 12' oa. See detail.
Stakes shall be 2" x 2" lumber of sufficient length to satisfactorily support each tree.

E. Turnbuckles for guying trees shall be galvanized or cadmium plated and shall be of adequate size and strength to properly maintain tight guy wires.

3.06 WATER:
A. Each plant or tree shall be thoroughly watered in after planting. Watering of all newly installed plant materials shall be the responsibility of the Landscape Contractor until final acceptance by the Landscape Architect.

B. See General Notes of Landscape Plan for water source.

3.07 SOD:

A. The Landscape Contractor shall sod all areas indicated on the drawings.

B. It shall be the responsibility of the Landscape Contractor to fine grade all landscape areas, eliminating all bumps, depressions, sticks, stones, and other debris.

C. The sod shall be firm, tough texture, having a compacted growth of grass with good root development. It shall contain no noxious weeds, or any other objectionable vegetation, fungus, insects, or disease. The soil embedded in the sod shall be good clean earth, free from stones and debris.

D. Before being cut and lifted, the sod shall have been mowed at least three times with a lawn mower, with the final mowing not more than seven days before the sod is cut. The sod shall be carefully cut into uniform dimensions.

E. 6-6-6 fertilizer with all trace elements is to be applied at the rate of 40 lbs. per 1,000 sq. ft. prior to laying sod.

F. Solid sod shall be laid with closely abutting, staggered joints with a tamped or rolled, even surface.

G. The finished level of all sod areas after settlement shall be one (1") inch below the top of abutting curbs,
walks, paving and wood borders to allow for building turf.

H. If in the opinion of the Landscape Architect, top dressing is necessary after rolling, clean yellow sand will be evenly applied over the entire surface and thoroughly washed in.

3.08 SEEDING:
A. The Landscape Contractor shall remove all vegetation and rocks larger than (1") in diameter from areas to be seeded, scarify the area, then apply fertilizer at a rate of 500 lbs. per acre.

B. Application: Argentine Bahia Grass seed - 200 Pounds per acre mixed with common hulled Bermuda seed - 30 lbs. per acre. All other seed mixtures shall be applied per the manufacturer's instructions.

C. Roll immediately after seeding with a minimum 500 pound roller, then apply straw mulch at the rate of 2,500 pounds per acre.

D. Apply fertilizer at the rate of 150 lbs. per acre 45-60 days after seeding.

3.09 CLEANING UP:
A. The contractor shall at all times keep the premises free from accumulations of waste materials or rubbish caused by his employees or work. He shall leave all paved areas "broom clean" when completed with his work.

3.10 MAINTENANCE:
A. Maintenance shall begin immediately after each plant is installed and shall continue until all planting has been accepted by the Owner or Landscape Architect. Maintenance shall include watering, weeding, removal of dead materials, resetting plants to proper grades or upright positions, spraying, restoration of planting saucer and/or any other necessary operations.

B. Proper protection to lawn areas shall be provided and any damage resulting from planting operations shall be repaired promptly.

C. Replacement of plants during the maintenance period shall be the responsibility of the Contractor, excluding vandalism or damage on the part of others, lighting, or hurricane force winds, until final acceptance.

D. In the event that weeds or other undesirable vegetation become prevalent, it shall be the Contractor's responsibility to remove them.

E. Trees or other plant material which fall or are blown over during the maintenance period will be reset by the Contractor at no additional expense to the Owner, the only exception being hurricane force winds.

3.11 COMPLETION, INSPECTION AND ACCEPTANCE:
A. Completion of the work shall mean the full and exact compliance and conformity with the provisions expressed or implied in the Drawings and in the Specifications, including the complete removal of all trash, debris, soil or other waste created by the Landscape Contractor.

B. Inspection of work to determine completion of contract, exclusive of the possible replacement of plants, will be made by the Owner and/or Landscape Architect at the conclusion of all planting and at the request of the Landscape Contractor.

C. All plant material shall be alive and in good growing condition for each specified kind of plant at the time of acceptance. The rating of each plant according to Florida Grades and Standards shall be equal to or better than that called for on the plans and in these Specifications at the time of final inspection and acceptance.

D. After inspection, the Landscape Contractor will be notified by the Owner of the acceptance of all plant material and workmanship, exclusive of the possible replacement of plants subject to guarantee.

DRAINAGE TESTING/DRAINAGE CHANNEL REQUIREMENTS

PRIOR TO PLANTING ALL PLANTING PITS SELECTED FOR TESTING SHALL BE TESTED IN THE FOLLOWING MANNER

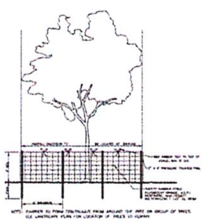
A. DIG EACH PLANTING PIT TO THE MINIMUM SPECIFIED SIZE.

B. FILL PLANTING PIT WITH TWELVE INCHES (12") OF WATER, IF THE WATER LEVEL DROPS FOUR (4") OR MORE WITHIN FOUR (4) HOURS, THE DRAINAGE IS SUFFICIENT AND A DRAINAGE CHANNEL IS NOT REQUIRED IF THE WATER LEVEL DROPS LESS THAN FOUR INCHES (4") WITHIN THE FOUR (4) HOUR PERIOD, A DRAINAGE CHANNEL IS REQUIRED.

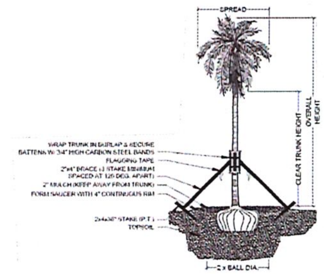
C. WHERE REQUIRED, THE DRAINAGE CHANNEL MUST EXTEND DOWN THROUGH THE NON POROUS SOIL AND INTO POROUS SOIL. (SEE DETAIL)

D. ALL MATERIAL REMOVED FROM THE DRAINAGE CHANNEL SHALL BE DISCARDED.

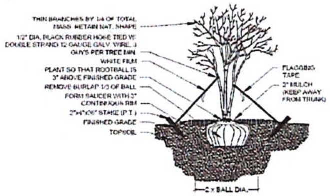
E. WHEN BACKFILLING PLANTING PITS WITH PLANTING MIXTURE, CARE MUST BE TAKEN TO KEEP THE CONSISTENCY OF THE SOIL MIX THE SAME THROUGHOUT THE PLANTING PIT AND DRAINAGE CHANNEL.



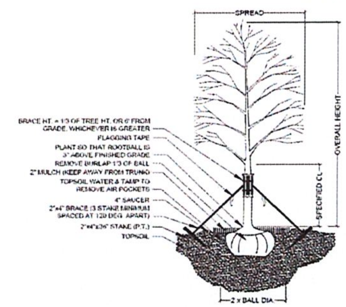
TREE PROTECTION DETAIL
NOT TO SCALE



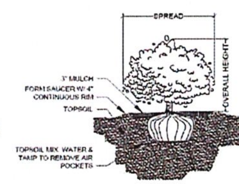
PALM PLANTING - ANGLE STAKE
NOT TO SCALE



MULTI-TRUNK PLANTING & GUYING
NOT TO SCALE



TREE PLANTING & STAKING
NOT TO SCALE



SHRUB PLANTING
NOT TO SCALE

Project Team

Landscape Architect:

LANDSCAPE ARCHITECTURAL SERVICES, LLC

Brandon White | Owner
772-834-1357 | brandon@las-fl.com
Paul Goulas | Owner
772-631-8400 | paul@las-fl.com
1706 SE Joy Haven Street
Port St. Lucie, FL 34983

Civil Engineer:

STEPHEN COOPER, P.E. & ASSOCIATES, INC.

MULTIFAMILY RESIDENTIAL
1521 South Ocean Drive
City of Fort Pierce, Florida
Details & Specifications

Revisions

Date	Init.	Description
7.15.23	PG	Submittal

REGISTERED LANDSCAPE ARCHITECT PAUL A. GOULAS LA 6666807 STATE OF FLORIDA

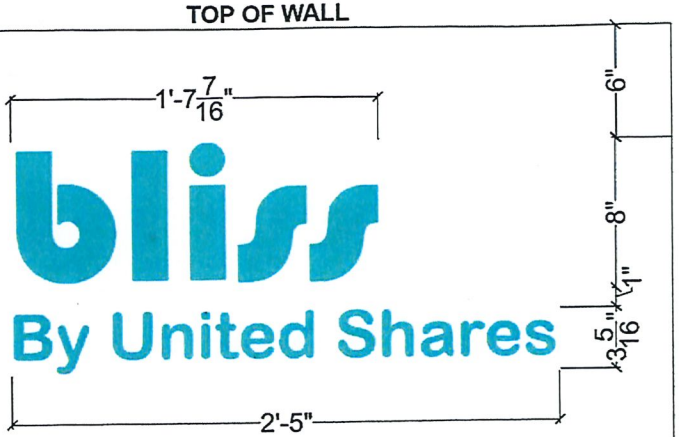
PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By:	PG
Checked By:	PG
Municipal Project:	
Scale:	

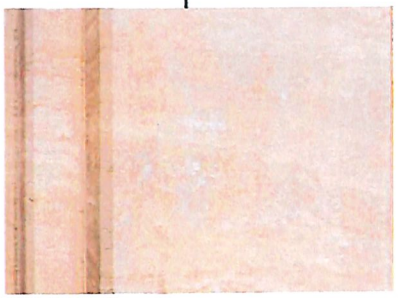
LA-3

BLISS PROJECT
MATERIALS BOARD

TOP OF WALL



PROJECT SIGN



TRAVERTINE WALL
SUPPLIER TBD

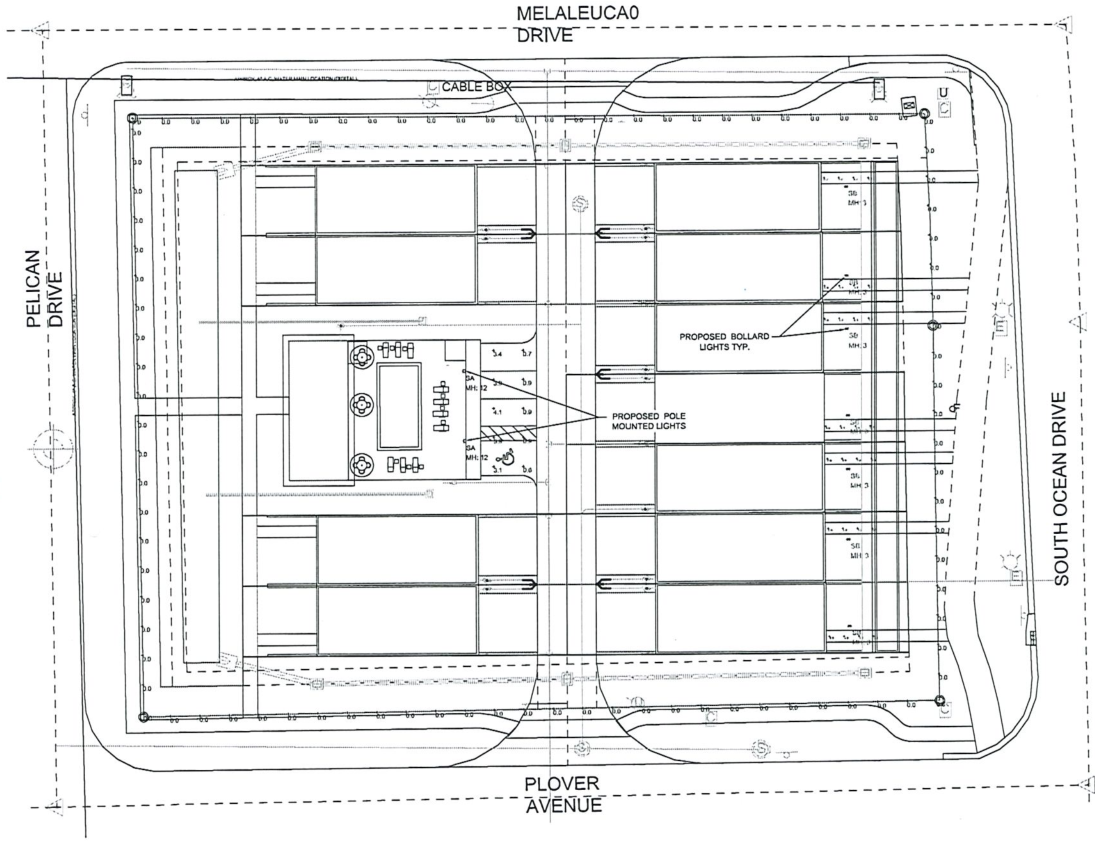
EXTERIOR FINISH WHITE PLASTER
SUPPLIER TBD

ENTRANCE DOOR MAHOGONY WOOD
SUPPLIER TBD

Luminaire Schedule								
Project: 1531 S OCEAN FT PIERCE SITE 07-10-2023								
Symbol	Qty	Label	[MANUFAC]	Description	Arr. Lum. Lumens	LLF	Lum. Watts	Total Watts
	2	SA	Landscape Forms Inc	PROFILE Area HO T4 DIFFUSE LENS POLE MOUNT 12' AFG	3303	0.900	51.2178	102.436
	7	SB	Landscape Forms Inc	PROFILE Path DIFFUSE LENS 3' BOLLARD	470	0.900	8.0059	56.041

Calculation Summary							
Project: 1531 S OCEAN FT PIERCE SITE 07-10-2023							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
AMENITY PARKING_Planar	Illuminance	Fc	2.24	4.1	0.6	3.73	6.83
PROPERTY LINE	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
UNIT 10 ENTRY WALKWAY	Illuminance	Fc	2.53	4.4	0.7	3.61	6.29
UNIT 11 ENTRY WALKWAY	Illuminance	Fc	2.78	5.0	0.7	3.97	7.14
UNIT 5 ENTRY WALKWAY	Illuminance	Fc	2.38	4.8	0.5	4.76	9.60
UNIT 6 ENTRY WALKWAY	Illuminance	Fc	2.35	4.8	0.5	4.70	9.60
UNIT 7 ENTRY WALKWAY	Illuminance	Fc	2.50	4.9	0.6	4.17	8.17
UNIT 8 ENTRY WALKWAY	Illuminance	Fc	2.38	4.1	0.7	3.40	5.86
UNIT 9 ENTRY WALKWAY	Illuminance	Fc	2.58	4.5	0.7	3.69	6.43

811
Know what's below. Call before you dig.



Profile Area Light

Spec Sheet | RW-00

landscapeforms

Housing & Materials

Electrical

Light Engines

Distributions

Warranty

Certification

POLE MOUNTED LIGHT

Profile Bollard

Spec Sheet | RW100

landscapeforms

Housing & Materials

Electrical

Light Engines

Distributions

Mounting

Warranty

Certification

BOLLARD LIGHT

*Photometrics & Lighting Specifications provided by Sesco Lighting

Project Team
Landscape Architect:
Brandon White | Owner
Paul Goulas | Owner
Civil Engineer:
STEPHEN COOPER, P.E. & ASSOCIATES, INC.

MULTIFAMILY RESIDENTIAL
1521 South Ocean Drive
City of Fort Pierce, Florida
Site Lighting Plan

Revisions		
Date	Init.	Description
7.15.23	PG	Submittal

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By: PG
Checked By: PG
Municipal Project:
Scale:
NORTH
SCALE: 1" = 20'
0 10' 20' 40'

LT-1

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

CONCURRENCY
CAPACITY ANALYSIS

I. Site Data:

	Existing Use	Future Land Use	Zoning
North	City Utilities	COS	OS-1
South	Single Family Residential Properties	HIR	R-4A
East	Beach Villas on Hutchinson Island Condos	HIR	R-4A
West	Single Family Residential Properties	HIR	R-4A

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current	HIR	R-4A	8.8	1.25	X
****Proposed**					N/A

II. Public Facilities Information:

A. Potable Water:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.125 gallons per day per square foot *2,860 gpd
Demand Analysis	Maximum PF x Flow = 2.5 x 2,860 gpd = 7,150 gpd
Current Zoning/FLU	Total gallons per day 11 du x 2.6 person/du x 100 gpd/person = 2,860 gpd
**Proposed Zoning/FLU	Total gallons per day N/A
**Change in Demand	Total gallons per day 0

* Flow = 11 du x 2.6 person/du x 100 gpd/person = 2,860 gpd

** Peaking Factor = (18+P^.5)/(4+P^.5) = (18 +28.6^.5)/(4 + 28.6^.5) = 2.5
(P = Population = 2.6 persons/du = 2.6(11 du's) = 28.6

B. Wastewater:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.1 gallons per day per square foot *2,860 gpd
Demand Analysis	Maximum PF x Flow = 2.5 x 2,860 gpd = 7,150 gpd
Current Zoning/FLU	Total gallons per day 11 du x 2.6 person/du x 100 gpd/person = 2,860 gpd
**Proposed Zoning/FLU	Total gallons per day N/A
**Change in Demand	Total gallons per day 0

C. Parks and Recreation (Residential Classifications Only):
(Du x 2.6 = persons + 44,227 = population /LOS)

Park Type	LOS	Existing Population Park Demand	Proposed Population Park Demand	Change in Demand
Regional	20 acres per 1,000 people	1.25/20 = 0.0625	N/A	0
Urban District	5 acres per 1,000 people	1.25/5 = 0.25	N/A	0
Community	2.5 acres per 1,000 people	1.25/2.5 = 0.5	N/A	0
Neighborhood	1.36 acres per 1,000 people	1.35/1.25 = 0.92	N/A	0

D. Public Schools (Residential Classifications Only):
Single Family: (du x 0.405 = students/70% K-8/30% High) Students = 11 * 0.207 = 2.28
Multi-family: (du x 0.207 = students/70% K-8/30% High) K-8 = 1.59, Highschool = 0.68

	K-8	High
School Name	Creative Arts Academy of St. Lucie	Linoln Palm Academy
City	Fort Pierce	Fort Pierce
Distance	5 Miles	5 Miles
Current Zoning/FLU Enrollment Demand	1.59	0.68
****Proposed Zoning/FLU Enrollment Demand**	N/A	N/A
****Change in Demand**	0	0

E. Solid Waste: Residential (2 yard serves 15 units, 4 yard serves 30 units, 6 yard serves 45 units, 8 yard serves 60 units)	
Demand Analysis	Maximum
Current Zoning/FLU	11 units requires 1.47 yards (2 Yards)
****Proposed Zoning/FLU**	N/A
***Change in Demand**	0

F. Stormwater:
Potential increase in volume discharged due to increased impervious coverage, reduced groundwater seepage or loss of surface water storage impacting Adopted LOS of 25-year 3-day storm Pre vs. Post Runoff (Storm sewers to convey 5 year- 1 day storm event; Canals to convey 3 year – 1 day storm event)

Impact	Project retains all runoff up to a 25 year event and provides protection for habitable structures based on a 100 year storm.

III. Transportation Analysis: *Complete ITE Trip Generation Form (Attached)*

G. Transportation Analysis: Complete ITE Trip Generation Data Form Most recent ITE Code for use; HCM Roadway Capacity		
	AADT	**AM/PM Peak Hour Trips**
Demand Analysis	Maximum	Maximum
Current Zoning/FLU	74	AM: 5 Trips, PM: 6 Trips
****Proposed Zoning/FLU**	N/A	N/A
***Change in Demand**	Trips 0	Trips 0
Impact to Capacity	0	

IV. Project Description

PHASING	
Is this project (phase) part of a larger project?	☐ Yes ☑ No
If yes, enumerate each phase, the number of units or square footage in each phase and beginning/completion date.	
Total Project: Residential Units:	Single Family: Multifamily: 11
Non-residential (square footage):	
Mixed-use (describe use):	
(If this is a single phase project, name it Phase I – Total)	Phase I - Total

RESIDENTIAL DATA					
Type	**Phase**	**Number of Units**	**Acres**	**Expected beginning date**	**Expected completion date**
Single-family, detached					
Single-family, attached					
Multi-family	I	11	1.25	1/1/2024	1/1/2025
Other (specify)					

NON-RESIDENTIAL DATA					
Type(s) specify	**Phase**	**Square footage**	**Acres**	**Expecting beginning date**	**Expected completion date**

A. Indicate whether the proposed project will be eliminating any existing recreational facilities. If yes, detail the number and type being eliminated. ☐ Yes ☑ No

B. 1. Does this application involve demolition or re-use of any structure(s)? ☐ Yes ☑ No
If yes, what is the size of the structure(s) to be demolished or re-used? _____

2. What is the current use of the structure to be demolished or re-used? _____

3. Are you claiming trip credits for the demolition or re-use of a structure(s) at the site? ☐ Yes ☐ No
If yes, provide estimates of credits for each previous use at the site. (Attach sheet with calculations)

C. Exemptions Requested:

** Complete section if requesting a change in zoning, future land use, or expanding

SCPE
STEPHEN COOPER, P.E.
& ASSOCIATES, INC.
~CONSULTING ENGINEER~
• CIVIL ENGINEERING • SITE PLANNING • ENVIRONMENTAL PERMITTING
7450 S. Federal Highway • Port St. Lucie, FL 34952
Phone: 772-336-2933 • Fax: 844-649-1426
FLORIDA CERTIFICATE OF AUTHORIZATION No. 00008856
scooper@scpeinc.com

TRAFFIC STATEMENT

for

1.25 AC Multifamily

Based on the proposed 11-unit townhome project, the following anticipated traffic is provided as follows;

MF – 11 Dwelling Units (ITE Code 220 – Low Rise Multifamily Housing)

ADT = 74 Trips Total (37 Inbound/37 Outbound – Average Rate)

PM Peak Hour of Generator = 6 Trips (4 Inbound/2 Outbound)

AM Peak Hour of Generator = 5 Trips (1 Inbound/4 Outbound)

The proposed project is not anticipated to have a significant adverse impact on the adjacent roadway.

Stephen Cooper, P.E. & Associates, Inc.

Stephen Cooper, P.E. #46557

7/21/2023

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

June 12, 2023

THIS PRE-APPLICATION LETTER IS VALID UNTIL – June 12, 2024
THIS LETTER IS NOT A PERMIT APPROVAL

Stephen Cooper, PE
SCPE
7450 S Federal Hwy, Port St Lucie, FL 34952

Dear Stephen Cooper, PE:
RE: Pre-application Review for **Category B Driveway,** Pre-application Meeting Date: **June 8, 2023**
St Lucie County - Ft Pierce; SR A1A; Sec. # 94050000; MP: 14.1; Access Class - 6;
Posted Speed - 35; SIS - No; FDOT Ref. Project:

Request:
Right-in/right-out access on the south side of Melaleuca Drive (side street), approximately 141 feet from SR A1A / S. Ocean Drive.
Right-in/right-out access on the north side of Plover Avenue (side street), approximately 150 feet from SR A1A / S. Ocean Drive.
Private sidewalk connection to existing sidewalk along SR A1A / S. Ocean Drive within FDOT right-of-way.

SITE SPECIFIC INFORMATION
Project Name & Address: **1.25 Ac Multi-Family – Vacant Property on the SW Corner of A1A and Malaleuca Dr**
Property Owner: **United Shares**; Parcel Size: **1.25 Acres**
Development Size: **11 Townhome Dwelling Units**

REQUEST APPROVED

This decision is based on your presentation of the facts, site plan and survey - please see the conditions and comments below. You may choose to review this concept further with the District Access Management Review Committee (AMRC).

Conditions:
- **Design team will advise if private sidewalk connection to the existing sidewalk is acceptable within FDOT right-of-way.**

Comments:
- All driveways not approved in this letter must be fully removed and the area restored.
- A Drainage Permit is required for any stormwater impacts within FDOT right-of-way (i.e. increased runoff or reduction of existing storage).
- The applicant shall donate property to the Department if right-of-way dedication is required to implement the improvements.
- Dimensions between driveways are measured from the near edge of pavement to near edge of pavement and for median openings are measured from centerline to centerline unless otherwise indicated.

The purpose of this Pre-Application letter is to document the conceptual review of the approximate location of driveway(s) to the State Highway System and to note required improvements, if any. This letter shall be submitted with any further reviews and for permitting. The Department's personnel shall review permit plans for compliance with this letter as well as current Department standards and/or specifications. Final design must consider the existing roadway profile and any impacts to the existing drainage system. **Note, this letter does not guarantee permit approval**. The permit may be denied based on the review of the submitted engineering plans. Be aware that any approved median openings may be modified (or closed) in the future, at the sole discretion of the Department. For right-of-way dedication requirements go to: https://osp.fdot.gov; click on Statewide Permit News; Scroll down to District 4; Scroll down to Additional Information and Examples and choose Right-of-way Donations/Dedications.
Please contact the Access Management Manager - Tel. # 954-777-4363 or e-mail: D4AccessManagement@dot.state.fl.us with any questions regarding the Pre-Approval Letter.

Sincerely,

Carina Harvey
2023.06.12 08:42:09 -04'00'

Carina Harvey
District Access Management Manager

cc: Nesa Harden
File: S:\Transportation Operations\Traffic Operations\Access Management\1. Pre-Apps and Variance\2023-06-08\1. 94050000 MP 14.1 SR A1A_1.25 Ac Multi-Family\94050000 MP 14.1 SR A1A_1.25 Ac Multi-Family.docx

Advanced Restoration Ecology

2412-501-0002-000-3

St Lucie County, FL

Environmental Assessment

Prepared For:
The Keys Company

Prepared By:

Drew Gatewood, MS, PWS
2593 NE Roberta St
Jensen Beach, FL 34957
772-242-7200
813-784-8891

The environmental assessment report below has been compiled in accordance with the St Lucie County Development Review Division and previsions set forth by the state of Florida. The parcel is listed by the St Lucie County Property Appraiser as Parcel ID number 2412-501-0002-000-3 and is a total of 1.252 acres. The property is located on 1521 S Ocean Dr Fort Pierce, FL. The following report describes the findings of our recent on-site review and database research as it pertains to St Lucie County and the State of Florida.

LAND USE RECORDS

The St Lucie County Property Appraiser's Report lists this property as 0000 Vacant Residential.

SOIL COMPOSITION:

Based on a review of the United State Department of Agriculture's Web Soil Survey database the site's soils are comprised of the following:

Canaveral Sand, 0 to 5% slope – This soil is typically found bordering sloughs and mangrove areas. It is variant in that it is somewhat poorly drained to moderately well drained. Typical vegetation includes saw palmetto, cabbage palm, and magnolia bay trees.

WILDLIFE EVALUATION:

On February 25, 2022, ARE conducted pedestrian transects across 100% of property looking for local, state and federally listed or endangered species present on the site. This survey primarily focused on the presence of gopher tortoise burrows or recent activity. During the pedestrian transects of the property, no gopher tortoise activity was observed on site, nor were any other listed plant or animal species were observed on site during the site visit.

NATIVE HABITAT

The site investigation conducted by ARE, Inc. did not find native habitat on the site. The site has been cleared and consists of open land. Species observed during the site reconnaissance included the following:

Cabbage palm (*Sabal palmetto*) Bahia Grass (*Paspalum notatum*)

WETLAND DELINEATION:

Based on the State definition of a wetland in 62-340 FAC, there are three components: hydric soils, wetland plants, and hydrologic indicators. These factors listed were not present during the site investigation. ARE concludes this property does not include state and federally jurisdictional wetlands on site in its current configuration.

COUNTY REQUIREMENTS

The County will require proof of a completed gopher tortoise survey by a licensed agent. Please submit this document with any applications to use as the needed verification of a 100% gopher tortoise survey has been completed on the site. Per FWC regulations a gopher tortoise survey is good for 90 days, and any clearing must have a valid survey prior to commencement. The County will not authorize/issue any permitting without a current gopher tortoise survey.

CONCLUSION:

Based on County requirements, ARE, Inc. conducted a site investigation throughout the property to survey for the presence of any listed plant or animal species. Gopher Tortoise burrows were not observed on site, and no other State or Federally listed species were observed on the property during the site visit. A 100% gopher tortoise survey of the property was conducted and completed by an FWC licensed gopher tortoise agent during the site investigation. Native habitat was not determined to be on site. It is the professional opinion of ARE, Inc. that there are no State or Federally jurisdictional wetlands on the site as the site's characteristics do not meet the minimum thresholds required for wetland classification.

2/25/2022

Location Map

Map Source: St. Lucie County

N

1521 S Ocean Dr
Fort Pierce, FL

Advanced Restoration Ecology

2/25/2022

Species Survey Map

Map Source: St. Lucie County

N

1521 S Ocean Dr
Fort Pierce, FL

Advanced Restoration Ecology

2/25/2022

FLUCCS

Map Source: St. Lucie County

N

1521 S Ocean Dr
Fort Pierce, FL

Advanced Restoration Ecology

Tree No.	Size	Species
1	12'	Cabbage
2	8"	Live Oak
3	12"	Live Oak
4	10"	Strangler Cluster
5	14'	Cabbage
6	12'	Cabbage
7	12'	Cabbage
8	13'	Cabbage
9	12'	Cabbage
10	5"	Live Oak
11	12'	Cabbage
12	6"	Live Oak
13	15"	Live Oak Dbl
14	8"	Live Oak
15	13"	Live Oak
16	10"	Live Oak
17	15'	Cabbage
18	16'	Cabbage
19	14'	Cabbage
20	13'	Cabbage
21	18"	Strangler Cluster
22	13'	Cabbage
23	7"	Strangler Cluster
24	13'	Cabbage
25	17'	Cabbage
26	13'	Cabbage
27	14'	Cabbage
28	17'	Cabbage
29	14'	Cabbage
30	13'	Cabbage
31	16"	Seagrape Cluster
32	20"	Seagrape Cluster
33	22"	Seagrape Cluster

2/25/2022

Tree Survey Map

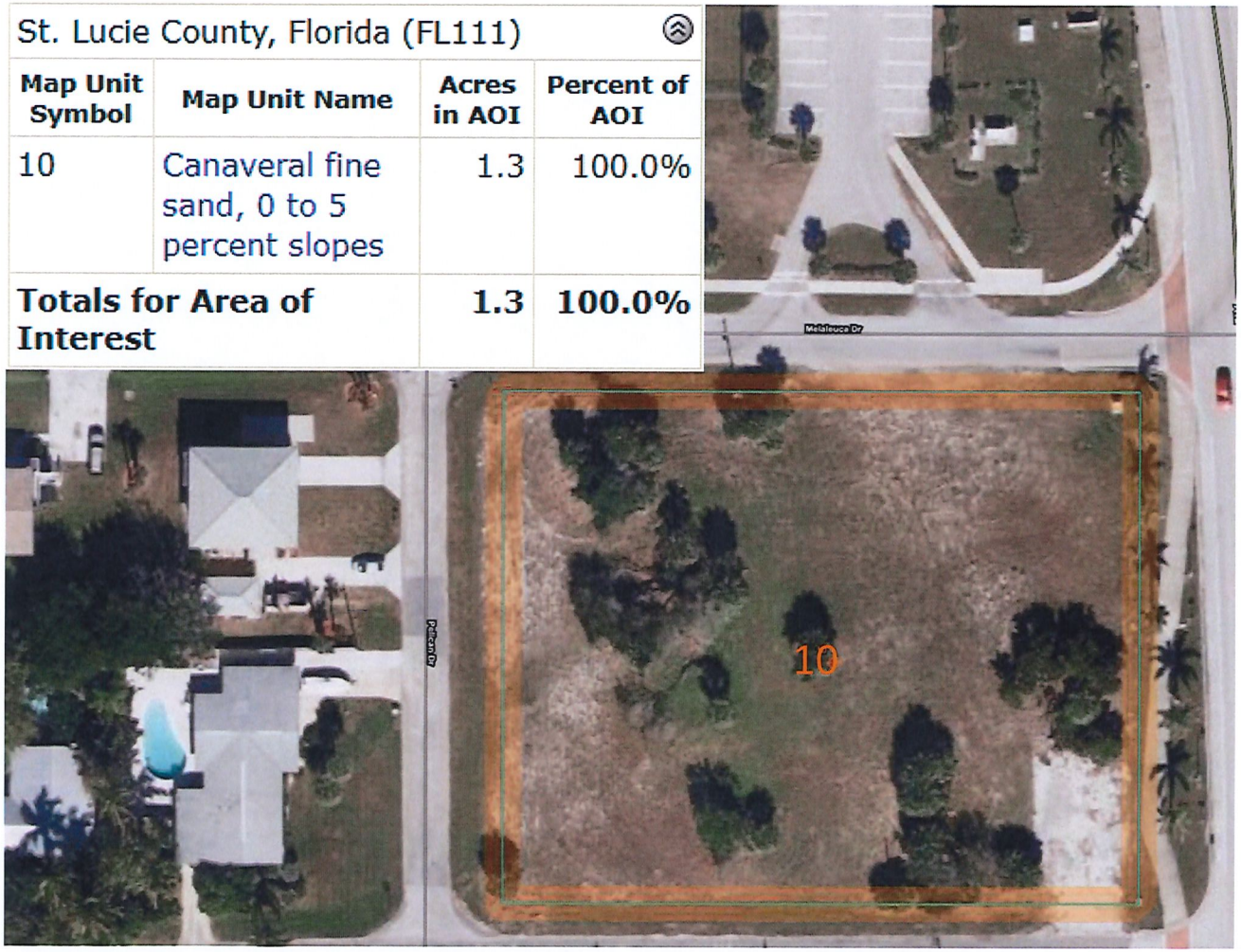
Map Source: St. Lucie County

N

1521 S Ocean Dr
Fort Pierce, FL

Advanced Restoration Ecology

St. Lucie County, Florida (FL111)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
10	Canaveral fine sand, 0 to 5 percent slopes	1.3	100.0%
Totals for Area of Interest		**1.3**	**100.0%**



2/25/2022

Soil Map

Map Source: Web Soil

N

1521 S Ocean Dr
Fort Pierce, FL

Advanced Restoration Ecology

2/25/2022

Eagle Map

Map Source: FWC

N

1521 S Ocean Dr
Fort Pierce, FL

Advanced Restoration Ecology

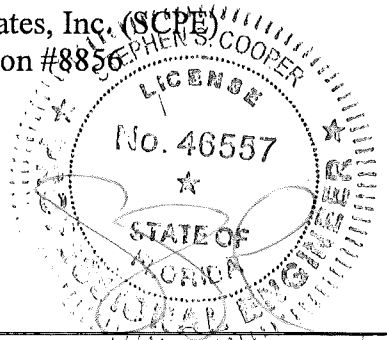
Stormwater Management Calculations

for

1.25 Acre MF Ft Pierce

Fort Pierce, Florida
May, 2023

Prepared By; Stephen Cooper, P.E. & Associates, Inc. (SCPE)
FBPE Certificate of Authorization #8856
7450 South Federal Highway
Port St. Lucie, Florida 34952
(772) 336-2933



Stephen S. Cooper, P.E. #46557

7/6/2023

I. Purpose

The purpose of this report is to provide South Florida Water Management District (SFWMD) and the City of Ft. Pierce with the calculations and documentation necessary to demonstrate the proposed surface water management system designed to serve a proposed residential townhouse development complies with state and local storm water management criteria.

II. Background

The project encompasses an approximately 1.25 acres undeveloped lot adjacent to SR-A1A and Jaycee Park. According to a survey done by Alexander J. Piazza PSM, Inc, the existing site grades between approximately 3.8 ft-NAVD and 5.0 ft-NAVD.

Based on a review of the USDA Soil Survey (see Exhibit A), the site consists of Canaveral sands. A site-specific soil evaluation was completed by KSM Engineering and Testing (see Exhibit B). Based on the results, the anticipated wet season water table is approximately elevation 2.5 ft-NAVD. Excellent percolation was discovered with a horizontal permeability rate of 75 ft-day and a vertical permeability rate at 65.8 ft/day. No confining layer was encountered to at least 13' below ground. Porosity at 30%.

Based on TR-55, soil type and site conditions, the existing Curve Number (CN) is assumed to be 36.

III. Proposed System

The site is proposed surface water management system will consist of site grading and a series of inlets and culverts which direct all stormwater runoff from the development area to a proposed dry retention area. The dry retention will have a bottom elevation at 3.5 ft-NAVD and a top of bank at 5.5 ft-NAVD.

The proposed dry retention area will be capable of retaining the required water quality treatment volume as "dead storage".

The proposed alley access road will be protected by a 10-year, 24-hour storm per City of Ft. Pierce criteria.

The dry retention area will have the ability to retain all storms up to the 25-year, 72-hour event onsite with consideration of percolation.

The City of Ft. Pierce requires analysis of the following storm events;

10 Year, 24 Hour Rainfall = 6" (Roads)
25 Year, 72 Hour Rainfall = 9.5" (Discharge/Perimeter)
100 Year, 72 Hour Rainfall = 12.23" (Habitable Min Floors)

IV. Technical

Drainage Area Breakdown

Total Site Area = 1.25 Acres (100%)
Proposed Building = 0.34 Acres
Proposed Concrete = 0.25 Acres (includes the proposed pool/water feature)
Proposed Asphalt = 0.12 Acres

Total Impervious = 0.71 Acres (56.8%)
Total Pervious = 0.54 Acres (43.2%)

CN (open) = **36 (TR-55; Table 2-2c Brush Good Condition Type A soil)**

CN(Proposed) = .568(98) + .432(36) = 71.2

S = 1000/CN – 10 = 4.0"

Water Quality

Th water quality treatment is proposed to be provided within the proposed dry retention system. The required water quality dry retention volume is calculated as follows;

Nutrient Analysis

Nutrient analysis is not applicable to this project as the system proposes 100% retention (zero discharge).

Dry Retention

WQ (required) = 1.5[1" (1.25 Acres) (1'/12")] = 0.16 Ac-Ft*

or

2.5" x % Imp (SFWMD Method);

a. 1.25 Acres – (0.34 Acres Rooftop) = 0.91 Acres
b. 0.91 – 0.54 Acres = 0.37 Acres (Water Quality Impervious Area)
c. 0.37/0.91 = 40.7% Impervious
d. 2.5" x .407 = 1.02" to be treated
e. 1.02" (1.25 Acres) (1'/12") = 0.106 Ac-Ft
f. 1.5(0.106 Ac-Ft) = 0.16 Ac-Ft*
g. 0.5(0.16 Ac-Ft) = 0.08 Ac-Ft**

*50% add water quality treatment volume required for systems discharging to a sensitive water body
**50% credit for dry retention

WQ (required) = 0.08 Ac-Ft (dry retention)
WQ (provided) = Based on the attached post development stg/sto calc (see Exhibit C); 0.08 Ac-Ft of dry retention dead storage is provided at elevation 4.6-Ft-NAVD

Water Quantity

Based on the soil testing and excellent onsite percolation encountered, the 10-year, 24 hour and the 25 yr, 72-hour storm events were flood routed using ModRet. The results indicate protection of the proposed access road and containment of the 25-year storm within the banks of the proposed dry retention area. The input and output from the ModRet floor routings are included as Exhibit D.

Finished Floors – SFWMD criteria for new construction requires protection of habitable structures. The proposed retention system will have enough storage to protect the finished floors from a 100-year, 72-hour – zero discharge storm event (P = 12.23"). To demonstrate this criterion, the runoff volume generated from a 100-year, 72-hour storm is determined as follows;

$Q = (P-.2S)^2/(P+.8S) = (12.23" - .2(4"))^2/ (12.23" + .8(4")) = 8.47''$
Runoff Volume = 1.25 Ac (8.47") (1'/12") = 0.882 Ac-Ft

Based on the attached stage-storage summary sheet, the 100 year, zero discharge stage is approximately 6.8 ft-NAVD (.89 Ac-Ft provided). The lowest proposed habitable finished floor elevation is 7 ft-NAVD, therefore providing 0.2' freeboard from the calculated 100 year, zero discharge stage.

A summary of the flood routings is provided as follows:

Storm Type	**10-Year, 24-Hour**	**25-Year, 72-Hour**	**100-Year, 72-Hour**
Rainfall (Inch)	P=6"	P=9.5"	P= 12.23"
Stage Storage (Ft-NAVD)	4.51	5.46	6.8
Peak Rate (Cubic Ft/Sec)	0*	0*	N/A

*No surface water discharge, limited to percolation into the ground.

USDA United States Department of Agriculture
Natural Resources Conservation Service

Web Soil Survey

Search

Map Unit Legend

St. Lucie County, Florida (FL111)

St. Lucie County, Florida (FL111)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
10	Canaveral fine sand, 0 to 5 percent slopes	2.1	100.0%
Totals for Area of Interest		**2.1**	**100.0%**

Soil Map

Scale 1:580 ± 1 %

Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surve that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that ma scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do r show the small areas of contrasting soils that could have been shown at a more detailed scale.

EXHIBIT A

Headquarters
11345 U.S. Highway 1
Sebastian, FL. 32958
Orlando
723 Progress Way
Sanford, FL. 32771

KSM ENGINEERING AND TESTING

Mailing
P.O. Box 78-1377
Sebastian, FL. 32978
Phone: 772-589-0712
C.A. # 5693
KSMengineering.net

Cambridge Square Investors, LLC
Alex Adorno
235 Lakeview Avenue
Clifton, NJ 07011

May 11, 2022

Re: Adorno Townhomes
1521 S. Ocean Drive
Fort Pierce, Florida
KSM Project #: 2204421-b&p

Dear Mr. Adorno:

As requested, KSM Engineering & Testing has performed a subsurface investigation at the referenced site. Presentation of the data gathered during the investigation, together with our geotechnical related opinions, are included in this report.

Site Description:

At the time of drilling, the site was fairly flat and lightly vegetated with a few scattered trees.

Project Description:

Per the client and the preliminary site plan provided by Stephen Cooper P.E. & Associates dated February 2022, it is our understanding that ten (10) three-story townhomes, a single-story clubhouse with a pool and deck, a dry retention pond, and associated parking and driving areas are planned to be constructed on the site. The clubhouse is proposed to be approximately 905 square feet. The stormwater pond is proposed along the western portion of the site.

We assume that loads from the structures will be transferred to the ground by conventional shallow footings. Although we were not furnished with structural loading conditions or a foundation plan, for our Geotechnical analysis, we estimate the maximum loads will be approximately 5,000 to 7,000 lbs per linear foot along the wall foundations. The Structural engineer of record should contact our office if the design loading exceeds our assumptions.

Based on the existing site grades at the time of the investigation, we estimate that up to 2 feet of site fill will be required to reach the desired grades in the building and pavement areas.

EXHIBIT B

KSM ENGINEERING AND TESTING

The scope of our study consisted of the following:

1. Performed Standard Penetration Test (SPT) borings in the proposed building and stormwater retention areas, a Percolation (PB) test in the proposed stormwater retention area, and Hand Auger (HA) borings with Static Cone Penetrometer Test (SCPT) readings in the proposed pavement areas to estimate the subsoil relative density and visually classify the soils.

2. Measured the observed groundwater level at each boring.

3. Evaluated the existing soil conditions with respect to the proposed construction and provided recommendations for site preparation and foundation design.

4. Obtain Shelby tube soil samples per each soil type encountered in order to perform both a constant head horizontal and vertical permeability tests in our laboratory.

5. Perform engineering calculations to determine the permeability coefficient "K" values along with estimates for the elevation of wet-season and dry-season water tables for the percolation test locations.

6. Prepared this report to document our findings.

Site Investigation:

The site investigation program consisted of performing a total of nine (9) Standard Penetration Test (SPT) borings, one (1) Percolation (PB) test, and four (4) Hand Auger (HA) borings with Static Cone Penetrometer Test (SCPT) readings in the proposed construction areas. The SPT borings were terminated at approximate depths ranging from 20 to 50 feet below existing grade. The PB boring was terminated at a depth of approximately 15 feet below existing grade, and the HA borings were terminated at a depth of approximately 6 feet below existing grade. The approximate locations of the borings are indicated on the attached Location Plan.

The SPT borings were completed in general accordance with procedures described in ASTM D-1586. Also, the groundwater table was allowed to stabilize, and the depth of the groundwater elevation recorded from existing grade.

The relationship of the SCPT readings to the relative density is listed below in Table 1:

Table 1 - Penetrometer Table

Relative Density	Static Penetrometer Reading
Very Loose or Soft	<15
Loose	15-40
Medium Dense	40-70
Dense	>70

Subsurface Condition Summary - The boring logs and SPT "N" values recorded during the SPT borings indicate the subsurface soils in the areas of the proposed structures consist of:

- Deposits of very loose to medium-dense fine-grained sand, fine-grained sand with shell fragments, and fine-grained silty sand were discovered from the surface to an approximate depth of 50 feet below existing grade.

- Within the aforementioned soil deposits, deposits of generally very loose to loose fine-grained silty sand and fine-grained sand with shell fragments were encountered from an approximate depth of 13 feet to about 15 feet below existing grade.

Unsuitable materials, such as organics, were not encountered in the borings performed. Please refer to the attached soil boring logs for specific information relative to the soil description and the SPT/SCPT resistance records.

Observed Groundwater Table - The observed water table was encountered at approximate depths ranging from 2.9 to 4.5 feet below existing grade across the site.

Estimated High Season Water Table – The high season water table is estimated to be approximately 2 feet above the encountered ground water at our boring locations.

The records of the soils encountered, the penetration resistances, and groundwater levels are shown on the attached Boring Logs.

Analytical Laboratory Testing:

The field soil boring logs and recovered soil samples were transported to KSM's office from the project site. Following the completion of the field exploration activities, visual and tactile examination of the soil samples was performed by a geotechnical engineer to identify the engineering classification of the soil samples that were obtained in the field exploration. The visual classification of the samples was performed in general accordance with the current United Soil Classification System (ASTM D 2487). Based on the engineer's review, soil samples were selected to provide data that was used to confirm the interpreted visual classification of the borings and to provide data that was used to estimate pertinent engineering parameters.

Natural Moisture Content – Testing was performed in general accordance with procedures described in ASTM D 2216-19.

Fines Content – Testing was performed in general accordance with procedures described in ASTM D 1140-17.

Atterberg Limits Tests – Testing was performed in general accordance with procedures described in ASTM D 4318-17e1.

The following tests were performed on the soils listed below:

Table 2 - Analytical Laboratory Testing Results							
Boring	Sample Depth (ft)	Soil Description	% Passing #200 Sieve	Moisture %	Atterberg Limits		
					Liquid Limit	Plastic Limit	Plasticity Index
B-2	4 – 6	Light Brown Sand with Traces of Shell Fragments	0.8	21.9	--	--	--
B-3	13 – 15	Grayish Brown Sand, Slightly Silty with Traces of Shell	12.9	29.0	NP	NP	NP
B-4	0 - 1	Brown Sand with Rock/Asphalt and Traces of Roots	8.0	5.2	--	--	--
B-4	13 – 15	Gray Silty Sand with Shell Fragments	9.0	25.4	NP	NP	NP
B-4	33 - 35	Gray Slightly Silty, Slightly Clayey Sand with Traces of Shell Fragments	12.3	30.0	--	--	--
B-7	13 - 15	Gray Clayey Sand with Shell	16.3	29.9	40	16	24

**NP = Non-plastic

Engineering Evaluation and Conclusions:

Based on the information obtained from this site investigation, we are pleased to offer the following evaluation:

Foundation Evaluation - It is KSM's professional opinion that, based on the discovered subsurface conditions, the proposed structures can be supported on conventional concrete, steel reinforced footings, provided that the near surface very loose and loose soils are compacted in accordance with the provided site preparation recommendations.

The following sections provide recommendations for site preparation and foundation design.

Site Preparation:

Site Subgrade Preparation – Due to the near surface very loose and loose soils, KSM recommends that the building site subgrade be prepared for construction of the foundations and at grade floor slabs by improving the in-place density of the soil that will support the structures within the zone where the stress from the structures will be primarily distributed. KSM has assumed that the proposed finished floors of the structures lies above the discovered land surface level. The following earthwork procedure is recommended.

1. The proposed construction area, plus a minimum margin of five feet beyond the proposed limit of construction, should initially be prepared by removing any debris and organic materials including roots and surface vegetation.

2. The exposed surface, created in step 1 above, should be graded level and proofrolled to compact the subgrade. Sufficient passes of the roller should be made to produce an in-place dry density that equals or exceeds 95 percent of the Modified Proctor (ASTM D-1557) maximum dry density to a depth of 2 feet below the proofrolled surface.

3. Upon completion of the proofrolling operation, the exposed surface should be filled to produce the desired line and grades of the building pad. Fill should consist of sandy soil containing less than 10% material that passing through the U.S. Standard no. 200 sieve and is free of debris and organic material. The fill should be placed in level lifts not to exceed 12-inch loose thickness, moisture conditioned, and compacted to attain an in- place dry density that equals or exceeds 95 percent of the Modified Proctor (ASTM D- 1557) maximum dry density.

4. Excavate the compacted pad to the proposed foundation subgrade elevation. The exposed footing subgrade should then be compacted to attain an in-place dry density that equals or exceeds 95 percent of the Modified Proctor (ASTM D-1557) maximum dry density, to depth of 24 inches below the footing subgrade surface. This can be achieved by making several passes with a "Jumping Jack" impact type compactor. Testing should be done to confirm that the specified level of compaction has been achieved.

5. Following the successful completion of the preparation of the foundation subgrade, foundation forms (if used) and steel reinforcement should be placed, and the foundation concrete should be cast, as necessary. Any backfill that is placed adjacent to the foundations, as well as backfill placed in utility trench excavations within the building pad, should be likewise compacted to attain or exceed 95 percent of the Modified Proctor (ASTM D-1557) maximum dry density.

Compaction Equipment - KSM does not recommend using heavy vibratory equipment on this site, due to the proximity of the neighboring structures and the potential that ground vibrations created by the compaction machinery might be transmitted and cause damage to the nearby structures. Accordingly, non-vibratory compaction methods are preferred to perform the recommended earthwork delineated above.

Compaction Testing - In-place density of the compacted soil can be verified using a nuclear density gauge or any other ASTM approved method to determine percent compaction. It is our recommendation that compaction tests in the excavated footings should be conducted prior to placement of any steel or concrete and conducted at every column footing and once for every 100 linear feet of footing trench.

Subgrade and each lift (12 inch loose thickness max) of fill should be tested for compaction at a frequency of no less than one test per 2,500 sf of building area, per lift and one test per 10,000 sf of pavement area, per lift with a minimum of 4 tests in each area prepared. The placement and frequency of testing can be modified at the discretion of the site contractor and the onsite soils technician based on the requirements of the project as stated by the Engineer of Record.

Foundation:

Provided that our recommendations for site preparation are followed, the proposed structures may be supported on conventional concrete, steel reinforced footings designed for an allowable soil bearing pressure of 2,500 pounds per square foot, or less.

With the foundation properly designed and the site properly prepared, we anticipate total settlement on the order of 1 of inch or less and differential settlement of less than 1/2 of an inch over 40 feet of wall. The majority of the settlement should occur during construction. This is based on the assumed loading conditions stated in the "project description" section of this report and a minimum continuous footer width of 24 inches with a minimum embedment of 18 inches. The settlement estimates have assumed that the maximum footing width is 3.5 feet for continuous footings. The Structural engineer of record should notify our office if the design loading or foundations differ from our assumptions so that we may review our settlement calculations and perform additional analysis, if necessary.

Floor Slabs:

A conventional slab-on-grade can be used in the "at grade" portion of the buildings. We recommend the disturbed subgrade below the floor slab be re-compacted to 95 percent of the modified Proctor maximum dry density (ASTM D 1557) prior to placement of the concrete. We recommend that control joints be incorporated in the slab at frequent intervals to control shrinkage cracks.

A moisture barrier is recommended beneath the floor slab to prevent moisture migration from the underlying soil resulting in dampness of the slab.

Pool:

Based on the existing soil conditions, the proposed pool can be designed and constructed using an allowable soil bearing pressure of 2,500 pounds per square foot.

When excavating the pool, if any organic soil or soft material is encountered, these materials/soils should be removed and replaced with ¾ inch stone, so the subgrade becomes firm below the pool bottom. Please note, after placing stone in the bottom of the excavation, granular soil should never be placed on top of the stone.

Backfill material behind the pool shell shall consist of clean granular sand with less than 10 percent "fines" passing the U.S. No. 200 sieve. Backfill material around the pool should be placed in loose lifts not to exceed 12 inches in thickness and compacted, per lift, to no less than 95 percent of its modified dry Proctor value (ASTM D 1557).

Based on the groundwater levels observed at the site and the estimated seasonal wet groundwater conditions, temporary dewatering may be required. Groundwater should be kept below the lowest working area to facilitate proper material placement and compaction is in accordance with this report. Dewatering operations should not be turned off until there is a sufficient amount of load applied to resist buoyancy forces.

Based on the boring performed within the limits of the pool, the discovered soils being excavated from the pool from the surface to an approximate depth of 10 feet below existing grade appear suitable for use as fill material.

KSM ENGINEERING AND TESTING

Drives and Parking Areas:

We performed four (4) Hand Auger borings with static cone penetrometer readings in the proposed drive and parking areas to evaluate the soils in relation to the proposed pavement. Unsuitable materials were not encountered in the test borings. Penetrometer readings recorded during the investigation indicates the existing soil density is generally medium dense.

Although a comprehensive pavement evaluation was not within the scope of this study, the site may be prepared to support a flexible pavement or rigid concrete pavement. The pavement should be designed for the anticipated loads and frequencies. Refer to Table 3 for the minimum pavement section. The minimum pavement design for standard duty asphalt should include the following:

Clear the roadway area of any surface debris, including vegetation, roots, organic matter and existing pavement. Stumps shall be removed entirely. The cleared areas should be graded level and proof rolled. Any soft yielding areas shall be excavated and replaced with clean compacted fill. Sufficient passes should be made during compaction operations to produce a density no less than 98 percent of its modified dry Proctor value (AASHTO T180) to a depth of two feet. Compaction testing should be performed once every 10,000 square feet or less. Additional fill shall consist of clean granular sand containing less than 10% material passing the U.S. Standard No. 200 mesh sieve and placed in loose lifts not exceeding 12 inches and compacted to the above densities. A minimum of 16 inches of separation should be maintained between the bottom of the base and the high seasonal groundwater table.

Where a concrete pavement section is used, concrete reinforcement should be designed to withstand the design traffic loads and saw cuts constructed for crack control. The concrete should have a minimum compressive strength of 4,000 psi.

Light duty pavement areas are considered car and pickup truck loading conditions and a few medium trucks such as box trucks. Heavy duty pavement areas are considered dumpster pad & apron area and semi-tractor trailer truck loading conditions.

Table 3 - Minimum Pavement Section

Pavement Type	Material	Layer Thickness (in)	
		Standard Duty	Heavy Duty
Flexible	Florida DOT Asphalt Type 3	1.5	2
	Cemented Coquina Rock (LBR of 100)*-or-Limerock* Base Course	6	8
	Stabilized Subgrade (LBR of 40)*	8	12
Rigid	Portland Cement Concrete (4,000 psi)	5	7
	Stabilized Subgrade (LBR of 40)*	6	10

* Compacted to minimum 98 percent of its modified dry Proctor value (AASHTO T180)

Pavement should be sloped and designed to allow adequate drainage of surface water. Failure to achieve proper drainage may saturate the subgrade and deteriorate the pavement. The implementation of periodic maintenance should slow the rate of deterioration over time.

Soil Percolation, Estimated Water Tables, and Hydrologic Soil Group:

The tests and observations noted in this section were performed to evaluate the drainage characteristics of the soils for this particular test locations.

Usual Open-Hole Test (in-field) – At the test location, an in-field permeability test was performed in general conformance with the South Florida Water Management District described procedures for the 'Usual Open-Hole Test' method. The results of the in-field test can be found in Table 4:

Table 4 - Usual Open-Hole Test Results	
Test Location (See Location Plan)	**Hydraulic Conductivity (CFS/SF- Ft Head)**
P-1	9.1×10^{-4}

NOTES:
1) The above hydraulic conductivity values are for a French drain installed to the same depth as the borehole tests. The designer should apply the appropriate factor of safety.
2) A hole diameter of 3" was used in the computation of the Hydraulic Conductivity values presented in the above table.

Constant Head Permeability Test (in-lab) - The horizontal and vertical permeability flow rates were determined by excavating a test pit adjacent to the soil profile and obtaining undisturbed shelby tube samples. We then performed constant head permeability tests on the field samples in our laboratory in general accordance with ASTM D 2434. Table 5 indicates the horizontal and vertical flow rates for the test location.

Table 5 - Constant Head Permeability Results (ASTM D2434)			
Test Location (See Location Plan)	**Horizontal Flow Rate (ft/day)**	**Vertical Flow Rate (ft/day)**	**Layer Depth (ft)**
P-1	75.0	65.8	0.3 - 5

Estimated Normal Wet Season & Dry Season Water Table – Table 6 indicates the observed water table and our estimated normal wet season water table and normal dry season water table for the test location. This estimate is based upon our interpretation of existing site conditions and a review of the USDA Soil Survey for St. Lucie County, Florida.

The majority of the site soils are mapped as 10—Canaveral fine sand, 0 to 5 percent slopes, according to the Soil Survey Map of St. Lucie County, Florida.

Table 6 - Water Table Observations			
Test Location (See Location Plan)	**Observed Water Table**	**Estimated Wet Season Water Table**	**Estimated Dry Season Water Table**
P-1, PB-1	3.5 Feet Below Grade	1.6 Feet Below Grade	4.6 Feet Below Grade

Estimated Confining Layer Depth – Tests performed in the location of PB-1 indicate the presence of a confining layer at an approximate depth of 13 feet below existing grade.

Estimated Porosity – Tests performed in the location of PB-1 indicate the subsurface soils have an estimated porosity of approximately 30%.

Hydrologic Soil Group – The soils in the test location can be classified in accordance with Chapter 7, Part 630 of the USDA National Engineering Handbook as follows:

Table 7 – Hydrologic Soil Group Classification	
Test Location (See Location Plan)	**Hydrologic Soil Group**
P-1	A/D

The soils in test location P-1 are part of the dual hydrologic soil group "A/D" due to the relatively low fines content in the soils, the relatively high hydraulic conductivity rates of the, the absence of a water impermeable layer, and the depth to high season water table which is less than 24 inches from the surface.

Note that the Hydrologic Soil Group is a dynamic classification which changes with the conditions of the site at any given moment. Changes in water table elevation as well as changes in the ground elevations of the site can affect the hydrologic soil group for any particular location.

KSM ENGINEERING AND TESTING

Closure:

This report has been prepared in accordance with generally accepted soil and foundation engineering practices based on the results of the test borings and the assumed loading conditions. No warranties, either expressed or implied, are intended or made. This report does not reflect any variations which may occur between the borings. If variations appear evident during the course of construction, it would be necessary to re-evaluate the recommendations of this project.

Based upon our subsurface investigation at the above-mentioned project location, the reliance of the recommendations presented within this signed and sealed report is predicated on KSM representative's involvement to verify that not only have the soils been prepared following the indicated recommendations, but the foundations are installed in compliance within the parameters indicated. The Structural Engineer of Record is responsible for confirming that the estimated capacities provided are adequate for the anticipated loading. If additional capacity is required, KSM is to be notified so that our recommendations can be amended as required.

Environmental conditions, wetland delineation, karst activity, water quality, and municipal requirements are not a part of this report.

We are pleased to be of assistance to you on this phase of your project. When we may be of further service to you or should you have any questions, please feel free to contact the office.

Respectfully,

This item has been electronically signed and sealed by Eric A. McAra, P.E. FL Lic. 69841 on the date stated directly to the right using a digital signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Digitally signed by Eric A McAra
Date: 2022.05.12 15:18:44 -04'00'

ERIC A. McARA LICENSE No 69841 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert Maxwell

Robert T. Maxwell, E.I.
Geotechnical Engineer
Florida E.I. No. 1100024249

Eric A. McAra, P.E.
Office Manager
Florida Lic. No. 69841

EAM/cv/RTM

Email to: AlexAdorno@keys.com, Scooper@scpeinc.com

KSM Engineering & Testing
P.O. Box 78-1377
Sebastian, FL 32978
Tel: (772)-589-0712
Fax: (772)-589-6469

BORING NUMBER B-1

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 COMPLETED 5/2/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 3.5 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand				25	
		Light Brown Sand				30	
		Light Brown Sand with Traces of Shell ▽				35	
5			SS		3-4-5 (9)	35	
			SS		6-12-19 (31)		
10			SS		16-18-17 (35)		
		Light Gray Sand with Shell Fragments	SS		6-6-6 (12)		
15							
		Light Grayish Brown Sand with Some Shell Fragments	SS		10-14-16 (30)		
20							
			SS		25-23-24 (47)		
25							
		Gray Sand with Some Shell Fragments	SS		18-23-16 (39)		
30							
		Gray Silty Sand with Shell	SS		7-4-2 (6)		
35							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

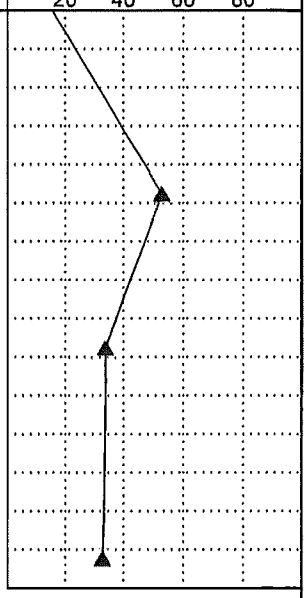
KSM Engineering & Testing
P.O. Box 78-1377
Sebastian, FL 32978
Tel: (772)-589-0712
Fax: (772)-589-6469

BORING NUMBER B-1

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
35		Gray Silty Sand with Shell *(continued)*					
		Dark Gray Sand with Traces of Shell Fragments					
40			SS		25-28-25 (53)		
		Gray Sand	SS		11-15-19 (34)		
45							
50			SS		13-15-18 (33)		

Bottom of borehole at 50.0 feet.



KSM Engineering & Testing
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Tel: (772)-589-0712
Fax: (772)-589-6469

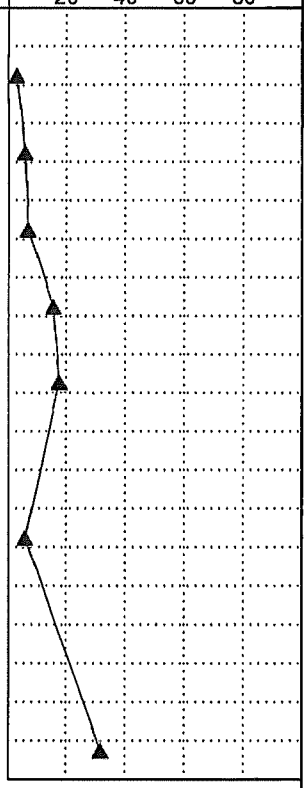
BORING NUMBER B-2

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 COMPLETED 5/2/22
GROUND ELEVATION ___ HOLE SIZE ___
DRILLING CONTRACTOR ___
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 3.8 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand	SS		1-1-2 (3)		
		Light Brown Sand with Traces of Shell Fragments ▽	SS		2-3-3 (6)		
5			SS		3-4-3 (7)		
		Light Brown Sand with Some Shell Fragments	SS		4-6-10 (16)		
10			SS		6-8-10 (18)		
		Gray Sand, Slightly Silty with Traces of Shell	SS		4-3-3 (6)		
15							
		Grayish Brown Sand with Shell Fragments	SS		9-16-16 (32)		
20							

Bottom of borehole at 20.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



KSM Engineering & Testing
P.O. Box 78-1377
Sebastian, FL 32978
Tel: (772)-589-0712
Fax: (772)-589-6469

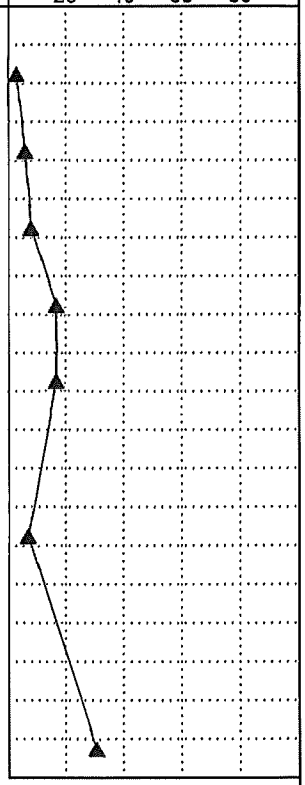
BORING NUMBER B-3

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 COMPLETED 5/2/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 4.00 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand	SS		1-1-2 (3)		
		Light Brown Sand with Traces of Shell Fragments	SS		3-3-3 (6)		
5		▽	SS		2-3-5 (8)		
		Light Brown Sand with Some Shell Fragments	SS		4-7-10 (17)		
10			SS		6-7-10 (17)		
		Grayish Brown Sand, Slightly Silty with Traces of Shell	SS		4-3-4 (7)		
15							
		Grayish Brown Sand with Shell Fragments	SS		8-15-16 (31)		
20							

Bottom of borehole at 20.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



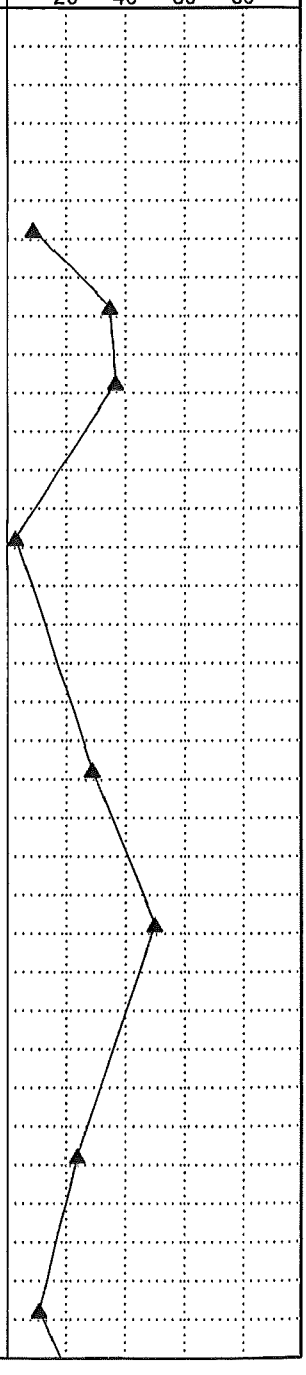
KSM Engineering & Testing
P.O. Box 78-1377
Sebastian, FL 32978
Tel: (772)-589-0712
Fax: (772)-589-6469

BORING NUMBER B-4

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 COMPLETED 5/2/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 4.5 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand with Rock/Asphalt and Some Roots				30	
		Light Brown Sand with Traces of Shell				30	
						35	
5		▽				35	
			SS		3-4-5 (9)		
			SS		12-14-21 (35)		
10			SS		14-17-20 (37)		
		Gray Silty Sand	SS		6-2-1 (3)		
15							
		Light Gray Sand with Shell Fragments	SS		11-13-16 (29)		
20							
			SS		20-24-26 (50)		
25							
		Gray Sand with Shell	SS		12-14-10 (24)		
30							
		Gray Slightly Clayey Sand with Traces of Shell Fragments	SS		8-7-4 (11)		
35							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



(Continued Next Page)

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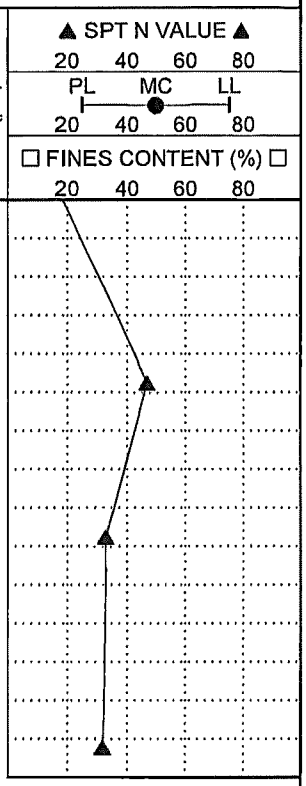
BORING NUMBER B-4

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
35		Gray Slightly Clayey Sand with Traces of Shell Fragments *(continued)*					
		Dark Gray Sand with Slight Traces of Shell Fragments					
40			SS		18-23-24 (47)		
			SS		12-15-18 (33)		
45							
			SS		13-15-17 (32)		
50							

Bottom of borehole at 50.0 feet.



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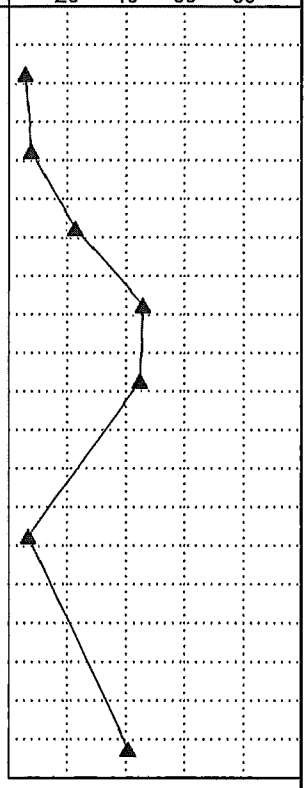
BORING NUMBER B-5

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/3/22 COMPLETED 5/3/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 3.9 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand					
			SS		1-3-3 (6)		
		Light Brown Sand with Traces of Shell Fragments					
		▽	SS		3-4-4 (8)		
5			SS		6-12-11 (23)		
			SS		9-20-26 (46)		
10			SS		16-21-24 (45)		
		Gray Sand with Shell Fragments	SS		2-2-5 (7)		
15							
		Light Gray Sand with Shell	SS		16-19-22 (41)		
20							

Bottom of borehole at 20.0 feet.



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Sebastian, FL 32978
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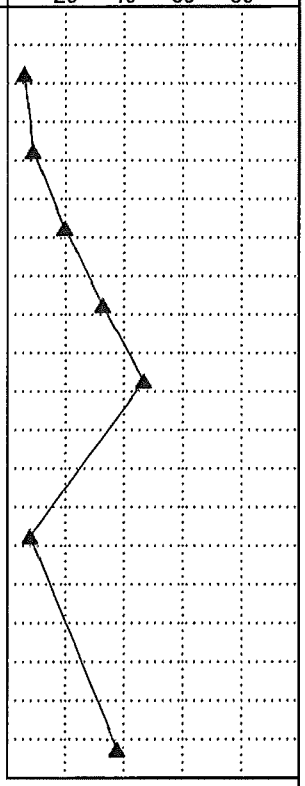
Fax: (772)-589-6469

BORING NUMBER B-6

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/3/22 COMPLETED 5/3/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 3.7 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand	SS		1-2-4 (6)		
		Light Brown Sand with Traces of Shell Fragments ▽	SS		3-4-5 (9)		
5			SS		5-9-11 (20)		
			SS		10-14-19 (33)		
10			SS		18-21-26 (47)		
		Gray Sand with Shell Fragments	SS		3-4-4 (8)		
15							
		Light Gray Sand with Shell	SS		15-19-19 (38)		
20							

Bottom of borehole at 20.0 feet.



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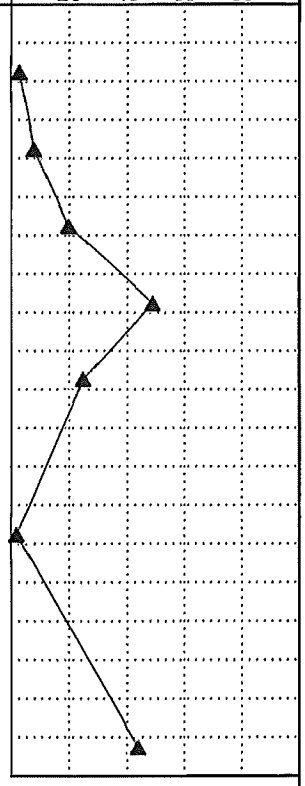
BORING NUMBER B-7

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/3/22 COMPLETED 5/3/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 2.9 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand					
			SS		1-1-2 (3)		
		▽ Light Brown Sand with Traces of Shell Fragments					
			SS		3-3-5 (8)		
5			SS		5-8-12 (20)		
			SS		13-26-23 (49)		
10			SS		14-14-11 (25)		
		Gray Clayey Sand with Shell	SS		1-1-1 (2)		
15							
		Light Gray Sand with Shell	SS		17-21-23 (44)		
20		Bottom of borehole at 20.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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BORING NUMBER B-8

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 COMPLETED 5/2/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 3.7 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand with Traces of Roots and Shell Fragments				25	
		Light Brown Sand				30	
		Light Brown Sand with Traces of Shell Fragments				35	
		▽				35	
5		Light Brown Sand with Some Shell Fragments	SS		5-8-11 (19)		
			SS		9-14-8 (22)		
10			SS		5-6-6 (12)		
		Gray Sand with Shell Fragments	SS		9-9-15 (24)		
15							
		Light Gray Sand with Lots of Shell Fragments	SS		20-22-24 (46)		
20							
		Light Gray Sand with Traces of Shell Fragments	SS		20-20-27 (47)		
25							
		Gray Sand, Slightly Silty with Traces of Shell Fragments	SS		8-15-16 (31)		
30							
			SS		4-4-5 (9)		
35							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

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BORING NUMBER B-8

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
35		Gray Sand, Slightly Silty with Traces of Shell Fragments *(continued)*					
40			SS		14-12-11 (23)		
		Gray Sand, Slightly Silty with Traces of Shell	SS		9-12-14 (26)		
45							
50			SS		11-11-12 (23)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 50.0 feet.

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BORING NUMBER HA-1

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 COMPLETED 5/2/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD ____
▽ AT TIME OF DRILLING 3.3 ft
LOGGED BY DP CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand with Traces of Roots				33	
						37	
		Light Brown Sand with Traces of Shell Fragments				40	
		▽				40	
						46	
5						43	

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 6.0 feet.

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BORING NUMBER HA-2

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 COMPLETED 5/2/22
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR ____
GROUND WATER LEVELS:
DRILLING METHOD ____
▽ AT TIME OF DRILLING 3.8 ft
LOGGED BY DP CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		Brown Sand with Traces of Roots				20		
						27		
						34		
		Light Brown Sand with Traces of Shell Fragments ▽				33		
						35		
5						37		

Bottom of borehole at 6.0 feet.

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Sebastian, FL 32978
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Fax: (772)-589-6469

BORING NUMBER HA-3

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 COMPLETED 5/2/22
GROUND ELEVATION _____ HOLE SIZE _____
DRILLING CONTRACTOR _____
GROUND WATER LEVELS:
DRILLING METHOD _____
▽ AT TIME OF DRILLING 3.5 ft
LOGGED BY DP CHECKED BY CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand with Traces of Roots				24	
						30	
		Light Brown Sand with Traces of Shell Fragments				30	
		▽				33	
						36	
5						38	

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 6.0 feet.

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BORING NUMBER HA-4

CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/2/22 **COMPLETED** 5/2/22
GROUND ELEVATION _____ **HOLE SIZE** _____
DRILLING CONTRACTOR _____
GROUND WATER LEVELS:
DRILLING METHOD _____
▽ **AT TIME OF DRILLING** 3.3 ft
LOGGED BY DP **CHECKED BY** CCC
AT END OF DRILLING ---
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		Brown Sand with Traces of Roots				26		
						30		
		Light Brown Sand with Traces of Shell Fragments				30		
		▽				34		
						37		
5						39		

Bottom of borehole at 6.0 feet.

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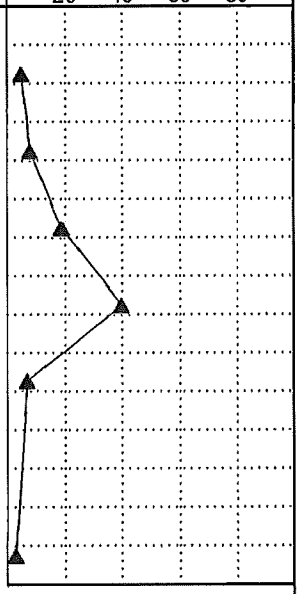
BORING NUMBER PB-1

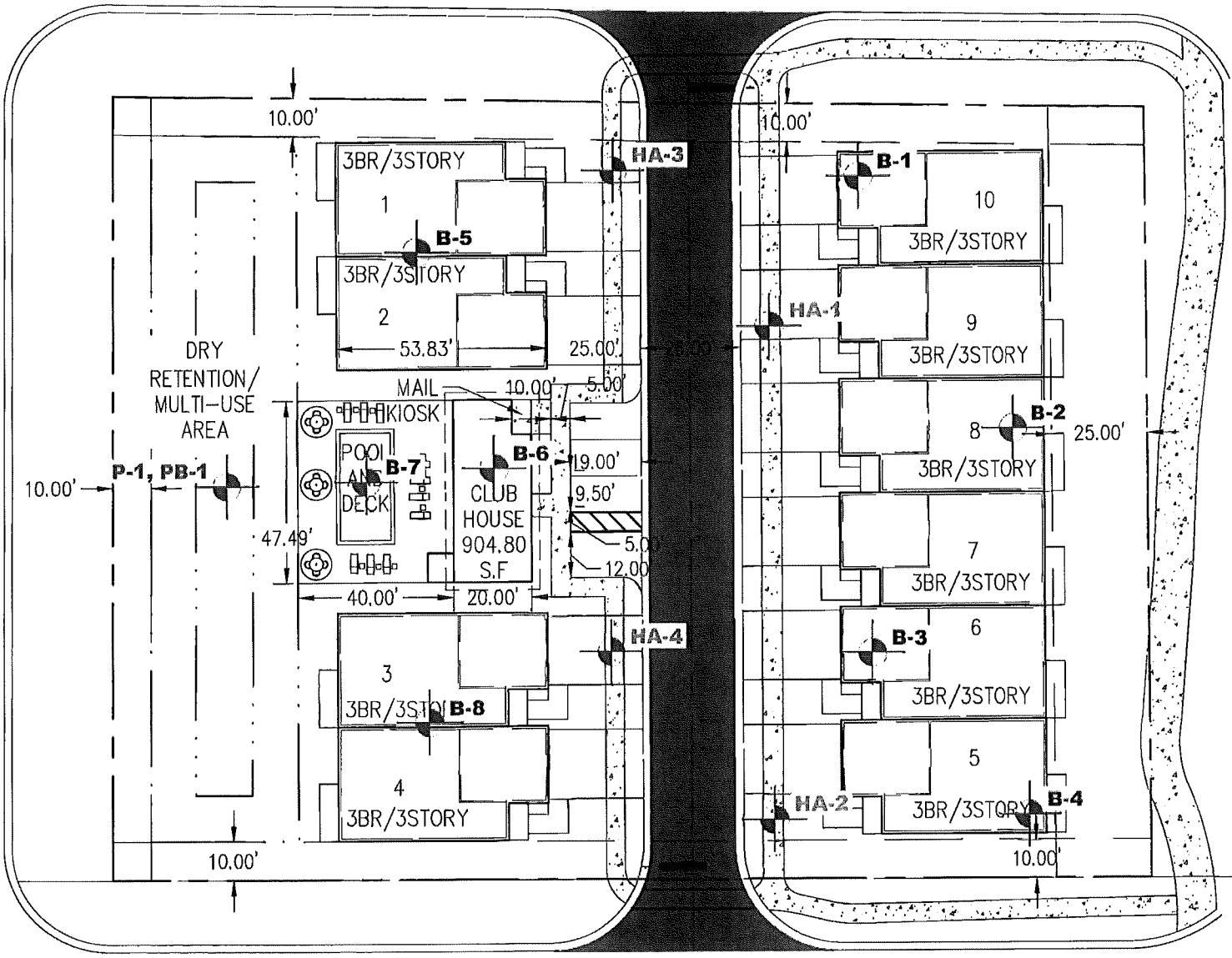
CLIENT Cambridge Square Investors, LLC
PROJECT NAME 1521 S. Ocean Drive
PROJECT NUMBER 2204421-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 5/3/22 COMPLETED 5/3/22
GROUND ELEVATION _____ HOLE SIZE _____
DRILLING CONTRACTOR _____
GROUND WATER LEVELS:
DRILLING METHOD Split Spoon Sample
▽ AT TIME OF DRILLING 3.50 ft
LOGGED BY MM/SF CHECKED BY CCC
AT END OF DRILLING --
NOTES See Attached Location Plan
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)
0		Brown Sand with Traces of Roots					
		Light Brown Sand with Traces of Shell Fragments	SS		1-2-3 (5)		
		▽	SS		3-4-4 (8)		
5			SS		6-8-11 (19)		
			SS		14-25-15 (40)		
10			SS		3-3-4 (7)		
		Gray Silty Sand with Traces of Shell	SS		1-1-2 (3)		
15							

Bottom of borehole at 15.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80





LOCATION OF SOIL TESTING

PROJECT: Adorno Townhomes, 1521 S. Ocean Drive, Fort Pierce, Florida

SHEET 1 OF 2
PERMIT #:
PROJECT #: 2204421-b&p

KSM ENGINEERING AND TESTING

DRAWN BY: C.V.
DESIGNED BY: C.C.C.
DATE: 20220505
SCALE: NOT TO SCALE

USDA SOILS SURVEY

10—Canaveral fine sand, 0 to 5 percent slopes

PROJECT: Adorno Townhomes, 1521 S. Ocean Drive, Fort Pierce, Florida

SHEET 2 OF 2
PERMIT #:
PROJECT #: 2204421-soils

KSM ENGINEERING AND TESTING

DRAWN BY: C.V.
DESIGNED BY: C.C.C.
DATE: 20220505
SCALE: NOT TO SCALE

1.25 Acre MF Ft Pierce

Stage / Storage Computations

Begin Stage Calculations = 3.5 NGVD
End Stage Calculations = 7.0 NGVD
Calculation Increment = 0.1 ft

	Bottom of Retention	Retention Banks	Asphalt Concrete	Open Space		Acres
Acres =	0.050	0.070	0.370	0.420	Total Area =	0.910
Low Rng =	3.50	3.50	5.50	5.50		
High Rng =	5.50	5.50	6.50	7.00		

Stage (NGVD)	Vertical Storage (ac.ft.)	Vertical Area (ac.)	Linear Storage (ac.ft.)	Linear Area (ac.)	Linear Storage (ac.ft.)	Linear Area (ac.)	Linear Storage (ac.ft.)	Linear Area (ac.)	Total Cumulative. Storage (ac.ft.)	Total Area (ac.)
3.5	0	0.05	0.00	0.01	0.00	0.00	0.00	0.00	**0.00**	**0.06**
3.6	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**	**0.05**
3.7	0.01	0.05	0.00	0.01	0.00	0.00	0.00	0.00	**0.01**	**0.06**
3.8	0.02	0.05	0.00	0.01	0.00	0.00	0.00	0.00	**0.02**	**0.06**
3.9	0.02	0.05	0.00	0.01	0.00	0.00	0.00	0.00	**0.02**	**0.06**
4.0	0.03	0.05	0.00	0.02	0.00	0.00	0.00	0.00	**0.03**	**0.07**
4.1	0.03	0.05	0.01	0.02	0.00	0.00	0.00	0.00	**0.04**	**0.07**
4.2	0.04	0.05	0.01	0.02	0.00	0.00	0.00	0.00	**0.04**	**0.07**
4.3	0.04	0.05	0.01	0.03	0.00	0.00	0.00	0.00	**0.05**	**0.08**
4.4	0.05	0.05	0.01	0.03	0.00	0.00	0.00	0.00	**0.06**	**0.08**
4.5	0.05	0.05	0.02	0.03	0.00	0.00	0.00	0.00	**0.07**	**0.08**
4.6	0.06	0.05	0.02	0.04	0.00	0.00	0.00	0.00	**0.08**	**0.09**
4.7	0.06	0.05	0.03	0.04	0.00	0.00	0.00	0.00	**0.09**	**0.09**
4.8	0.07	0.05	0.03	0.05	0.00	0.00	0.00	0.00	**0.09**	**0.10**
4.9	0.07	0.05	0.03	0.05	0.00	0.00	0.00	0.00	**0.10**	**0.10**
5.0	0.08	0.05	0.04	0.05	0.00	0.00	0.00	0.00	**0.11**	**0.10**
5.1	0.08	0.05	0.04	0.06	0.00	0.00	0.00	0.00	**0.12**	**0.11**
5.2	0.09	0.05	0.05	0.06	0.00	0.00	0.00	0.00	**0.14**	**0.11**
5.3	0.09	0.05	0.06	0.06	0.00	0.00	0.00	0.00	**0.15**	**0.11**
5.4	0.10	0.05	0.06	0.07	0.00	0.00	0.00	0.00	**0.16**	**0.12**
5.5	0.10	0.05	0.07	0.07	0.00	0.00	0.00	0.00	**0.17**	**0.12**
5.6	0.11	0.05	0.08	0.07	0.00	0.04	0.00	0.03	**0.19**	**0.18**
5.7	0.11	0.05	0.08	0.07	0.01	0.07	0.01	0.06	**0.21**	**0.25**
5.8	0.12	0.05	0.09	0.07	0.02	0.11	0.01	0.08	**0.24**	**0.31**

EXHIBIT C

5.9	0.12	0.05	0.10	0.07	0.03	0.15	0.02	0.11	0.27	0.38
6.0	0.13	0.05	0.11	0.07	0.05	0.18	0.03	0.14	0.31	0.44
6.1	0.13	0.05	0.11	0.07	0.07	0.22	0.05	0.17	0.36	0.51
6.2	0.14	0.05	0.12	0.07	0.09	0.26	0.07	0.20	0.41	0.57
6.3	0.14	0.05	0.13	0.07	0.12	0.30	0.09	0.22	0.47	0.64
6.4	0.15	0.05	0.13	0.07	0.15	0.33	0.11	0.25	0.54	0.70
6.5	0.15	0.05	0.14	0.07	0.18	0.37	0.14	0.28	0.61	0.77
6.6	0.16	0.05	0.15	0.07	0.22	0.37	0.17	0.31	0.69	0.80
6.7	0.16	0.05	0.15	0.07	0.26	0.37	0.20	0.34	0.77	0.83
6.8	0.17	0.05	0.16	0.07	0.30	0.37	0.24	0.36	0.86	0.85
6.9	0.17	0.05	0.17	0.07	0.33	0.37	0.27	0.39	0.95	0.88
7.0	0.18	0.05	0.18	0.07	0.37	0.37	0.31	0.42	1.03	0.91
7.1	0.18	0.05	0.18	0.07	0.41	0.37	0.36	0.42	1.13	0.91
7.2	0.19	0.05	0.19	0.07	0.44	0.37	0.40	0.42	1.22	0.91
7.3	0.19	0.05	0.20	0.07	0.48	0.37	0.44	0.42	1.31	0.91
7.4	0.20	0.05	0.20	0.07	0.52	0.37	0.48	0.42	1.40	0.91
7.5	0.20	0.05	0.21	0.07	0.55	0.37	0.52	0.42	1.49	0.91
7.6	0.21	0.05	0.22	0.07	0.59	0.37	0.57	0.42	1.58	0.91
7.7	0.21	0.05	0.22	0.07	0.63	0.37	0.61	0.42	1.67	0.91
7.8	0.22	0.05	0.23	0.07	0.67	0.37	0.65	0.42	1.76	0.91
7.9	0.22	0.05	0.24	0.07	0.70	0.37	0.69	0.42	1.85	0.91
8.0	0.23	0.05	0.25	0.07	0.74	0.37	0.73	0.42	1.94	0.91
8.1	0.23	0.05	0.25	0.07	0.78	0.37	0.78	0.42	2.04	0.91
8.2	0.24	0.05	0.26	0.07	0.81	0.37	0.82	0.42	2.13	0.91
8.3	0.24	0.05	0.27	0.07	0.85	0.37	0.86	0.42	2.22	0.91
8.4	0.25	0.05	0.27	0.07	0.89	0.37	0.90	0.42	2.31	0.91
8.5	0.25	0.05	0.28	0.07	0.92	0.37	0.94	0.42	2.40	0.91
8.6	0.26	0.05	0.29	0.07	0.96	0.37	0.99	0.42	2.49	0.91
8.7	0.26	0.05	0.29	0.07	1.00	0.37	1.03	0.42	2.58	0.91
8.8	0.27	0.05	0.30	0.07	1.04	0.37	1.07	0.42	2.67	0.91
8.9	0.27	0.05	0.31	0.07	1.07	0.37	1.11	0.42	2.76	0.91
9.0	0.28	0.05	0.32	0.07	1.11	0.37	1.16	0.42	2.85	0.91
9.1	0.28	0.05	0.32	0.07	1.15	0.37	1.20	0.42	2.95	0.91
9.2	0.29	0.05	0.33	0.07	1.18	0.37	1.24	0.42	3.04	0.91
9.3	0.29	0.05	0.34	0.07	1.22	0.37	1.28	0.42	3.13	0.91
9.4	0.30	0.05	0.34	0.07	1.26	0.37	1.32	0.42	3.22	0.91
9.5	0.30	0.05	0.35	0.07	1.30	0.37	1.37	0.42	3.31	0.91
9.6	0.31	0.05	0.36	0.07	1.33	0.37	1.41	0.42	3.40	0.91
9.7	0.31	0.05	0.36	0.07	1.37	0.37	1.45	0.42	3.49	0.91
9.8	0.32	0.05	0.37	0.07	1.41	0.37	1.49	0.42	3.58	0.91
9.9	0.32	0.05	0.38	0.07	1.44	0.37	1.53	0.42	3.67	0.91
10.0	0.33	0.05	0.39	0.07	1.48	0.37	1.58	0.42	3.76	0.91

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MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : Ft Pierce MF 1.25 Ac Site Infil
HYDROGRAPH RUNOFF DATA USED
UNSATURATED ANALYSIS INCLUDED

Pond Bottom Area	2,200.00 ft²
Pond Volume between Bottom & DHWL	7,405.00 ft³
Pond Length to Width Ratio (L/W)	8.00
Elevation of Effective Aquifer Base	-9.00 ft
Elevation of Seasonal High Groundwater Table	2.50 ft
Elevation of Starting Water Level	3.50 ft
Elevation of Pond Bottom	3.50 ft
Design High Water Level Elevation	5.50 ft
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.30
Unsaturated Vertical Hydraulic Conductivity	65.80 ft/d
Factor of Safety	2.00
Saturated Horizontal Hydraulic Conductivity	75.00 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.30
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00
Time Increment During Storm Event	2.00 hrs
Time Increment After Storm Event	12.00 hrs
Total Number of Increments After Storm Event	6.00

Runoff Hydrograph File Name: Ft Pierce 1.SAN

Time of Peak Runoff: 12.08 hrs

Rate of Peak Runoff: 2.40 cfs

Hydraulic Control Features:

	Top	Bottom	Left	Right
Groundwater Control Features - Y/N	N	N	N	N
Distance to Edge of Pond	0.00	0.00	0.00	0.00
Elevation of Water Level	0.00	0.00	0.00	0.00
Impervious Barrier - Y/N	N	N	N	N
Elevation of Barrier Bottom	0.00	0.00	0.00	0.00

EXHIBIT D

MODRET

10yr

SUMMARY OF RESULTS

PROJECT NAME : Ft Pierce MF 1.25 Ac Site Infil

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
00.00 - 0.08	2.500	0.000 *		
			0.00000	
0.08	2.500	0.07258		
			0.08179	
6.50	3.500	0.09099		0.00
			0.09386	
8.50	3.500	0.09110		0.00
			0.08834	
10.50	3.500	0.20075		0.00
			0.31316	
12.50	4.355	0.27968		0.00
			0.24621	
14.50	4.509	0.20696		0.00
			0.16771	
16.50	4.381	0.14924		0.00
			0.13077	
18.50	4.269	0.11902		0.00
			0.10727	
20.50	4.170	0.09886		0.00
			0.09045	
22.50	4.080	0.08450		0.00
			0.07854	
24.50	4.002	0.07232		0.00
			0.03500	
36.50	3.594	0.02768		0.00
			0.02035	
41.24	3.500	0.01685		0.00
			0.01335	
60.50	3.201	0.01136		0.00

Analysis Date: 5/19/2023

MODRET

10yr

SUMMARY OF RESULTS

PROJECT NAME : Ft Pierce MF 1.25 Ac Site Infil

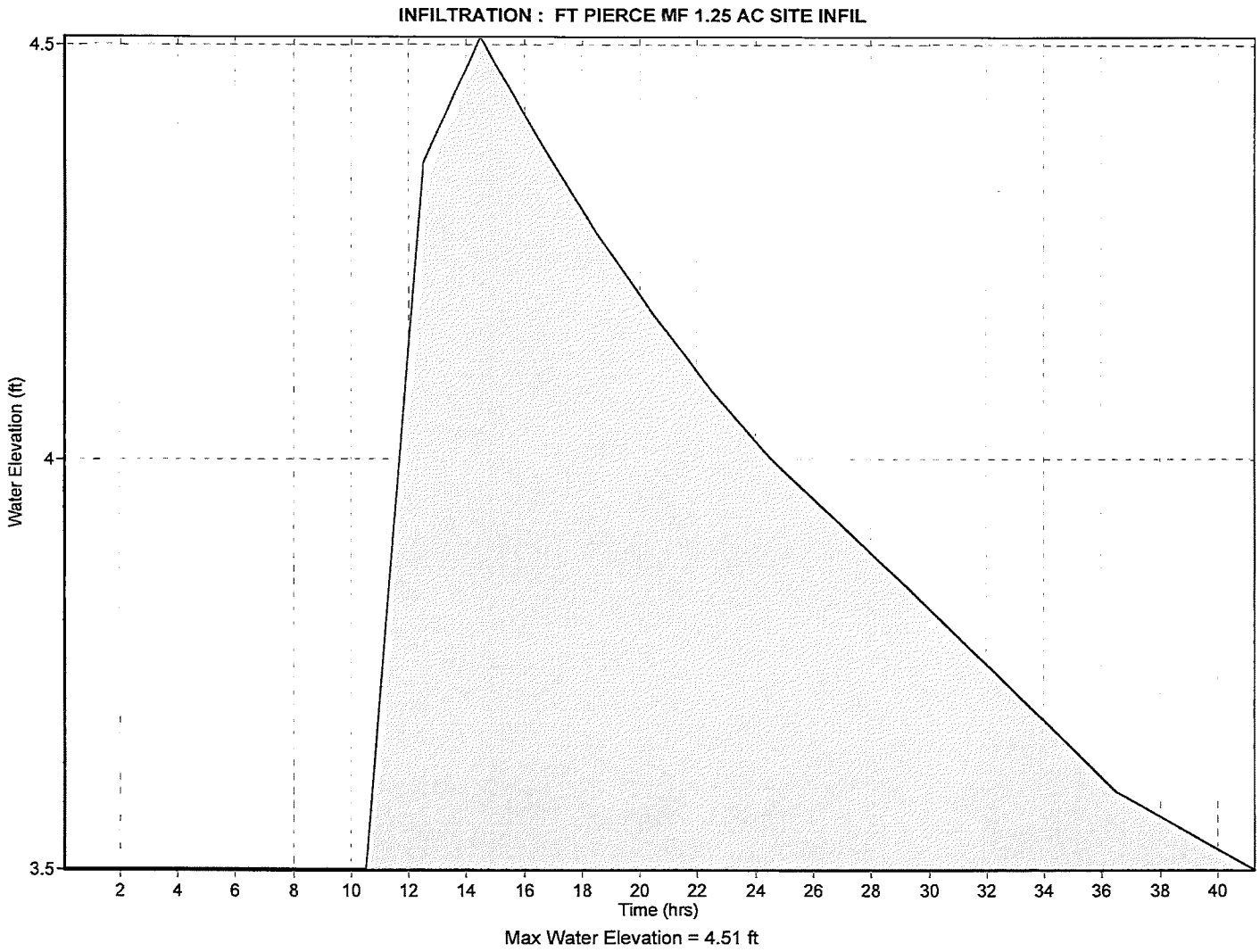
CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
			0.00938	
72.50	3.091	0.00816		0.00
			0.00694	
84.50	3.010	0.00614		0.00
			0.00533	
96.50	2.948			0.00

Maximum Water Elevation: 4.509 feet @ 14.50 hours Recovery @ 41.242 hours

* Time increment when there is no runoff

Maximum Infiltration Rate: 7.308 ft/day

Analysis Date: 5/19/2023


INFILTRATION : FT PIERCE MF 1.25 AC SITE INFIL
4.5
4
3.5
Water Elevation (ft)
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
Time (hrs)
Max Water Elevation = 4.51 ft

MODRET

HYDROGRAPH DATA INPUT - SANTA BARBARA HYDROGRAPH METHOD

Project Name : 1.25 Ac 25 Year 72 Hour Storm
Rainfall Distribution : SFWMD (72 hrs)

Contributing Basin Area	1.25 ac.
SCS Curve Number	71.20
Time of Concentration	15.00 min.
Rainfall Depth	9.50 in.
Percent DCIA	0.00 %

Analysis Date: 5/19/2023

MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : Ft Pierce MF 1.25 Ac Site Infil
HYDROGRAPH RUNOFF DATA USED
UNSATURATED ANALYSIS INCLUDED

Pond Bottom Area	2,200.00 ft²
Pond Volume between Bottom & DHWL	7,405.00 ft³
Pond Length to Width Ratio (L/W)	8.00
Elevation of Effective Aquifer Base	-9.00 ft
Elevation of Seasonal High Groundwater Table	2.50 ft
Elevation of Starting Water Level	3.50 ft
Elevation of Pond Bottom	3.50 ft
Design High Water Level Elevation	5.50 ft
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.30
Unsaturated Vertical Hydraulic Conductivity	65.80 ft/d
Factor of Safety	2.00
Saturated Horizontal Hydraulic Conductivity	75.00 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.30
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00
Time Increment During Storm Event	2.00 hrs
Time Increment After Storm Event	12.00 hrs
Total Number of Increments After Storm Event	6.00

Runoff Hydrograph File Name: Ft Pierce MF 25 Yr.SAN

Time of Peak Runoff: 60.08 hrs

Rate of Peak Runoff: 2.09 cfs

Hydraulic Control Features:

	Top	Bottom	Left	Right
Groundwater Control Features - Y/N	N	N	N	N
Distance to Edge of Pond	0.00	0.00	0.00	0.00
Elevation of Water Level	0.00	0.00	0.00	0.00
Impervious Barrier - Y/N	N	N	N	N
Elevation of Barrier Bottom	0.00	0.00	0.00	0.00

Analysis Date: 5/18/2023

MODRET

SUMMARY OF RESULTS

PROJECT NAME : Ft Pierce MF 1.25 Ac Site Infil

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
00.00 - 0.08	2.500	0.000 *		
			0.00000	
0.08	2.500	0.05583		
			0.06544	
7.92	3.500	0.07505		0.00
			0.07751	
9.92	3.500	0.06669		0.00
			0.05588	
11.92	3.500	0.05124		0.00
			0.04661	
13.92	3.500	0.04402		0.00
			0.04143	
15.92	3.500	0.03991		0.00
			0.03838	
17.92	3.500	0.03731		0.00
			0.03624	
19.92	3.500	0.03558		0.00
			0.03492	
21.92	3.500	0.03437		0.00
			0.03383	
23.92	3.500	0.03536		0.00
			0.03689	
25.92	3.500	0.03798		0.00
			0.03906	
27.92	3.500	0.03956		0.00
			0.04006	
29.92	3.500	0.04041		0.00
			0.04076	
31.92	3.500	0.04103		0.00

Analysis Date: 5/18/2023

MODRET

SUMMARY OF RESULTS

PROJECT NAME : Ft Pierce MF 1.25 Ac Site Infil

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
			0.04130	
34.00	3.500	0.04077		0.00
			0.04025	
36.00	3.500	0.03968		0.00
			0.03911	
38.00	3.500	0.03909		0.00
			0.03908	
40.00	3.500	0.03908		0.00
			0.03909	
42.00	3.500	0.03907		0.00
			0.03906	
44.00	3.500	0.03905		0.00
			0.03904	
46.00	3.500	0.04219		0.00
			0.04534	
48.00	3.500	0.04675		0.00
			0.04816	
50.00	3.500	0.04913		0.00
			0.05010	
52.00	3.500	0.05536		0.00
			0.06063	
54.00	3.500	0.06978		0.00
			0.07892	
56.00	3.500	0.09178		0.00
			0.10465	
58.00	3.665	0.21585		0.00
			0.32705	
60.00	4.719	0.36423		0.00

Analysis Date: 5/18/2023

MODRET

SUMMARY OF RESULTS

PROJECT NAME : Ft Pierce MF 1.25 Ac Site Infil

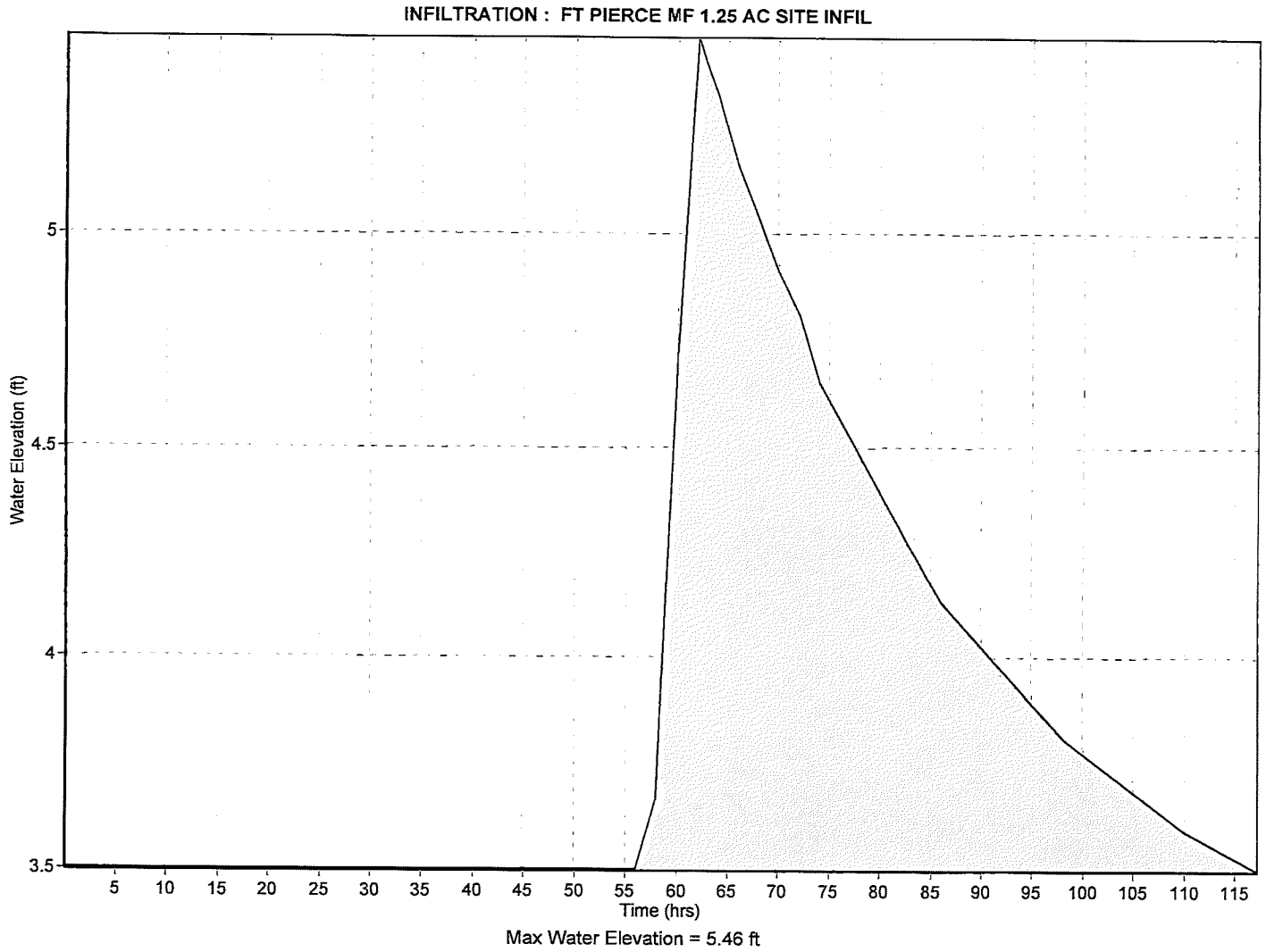
CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
			0.40141	
62.00	5.463	0.33212		0.00
			0.26284	
64.00	5.327	0.22950		0.00
			0.19617	
66.00	5.162	0.17966		0.00
			0.16316	
68.00	5.038	0.14975		0.00
			0.13634	
70.00	4.913	0.12789		0.00
			0.11943	
72.00	4.809	0.10549		0.00
			0.09155	
74.00	4.655	0.08493		0.00
			0.04519	
86.00	4.128	0.03630		0.00
			0.02742	
98.00	3.808	0.02295		0.00
			0.01849	
110.00	3.592	0.01592		0.00
			0.01335	
117.10	3.500	0.01171		0.00
			0.01007	
134.00	3.319	0.00897		0.00
			0.00787	
146.00	3.227			0.00

Maximum Water Elevation: 5.463 feet @ 62.00 hours Recovery @ 117.095 hours

* Time increment when there is no runoff

Maximum Infiltration Rate: 9.367 ft/day

Analysis Date: 5/18/2023


INFILTRATION : FT PIERCE MF 1.25 AC SITE INFIL
Water Elevation (ft)
5
4.5
4
3.5
5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115
Time (hrs)
Max Water Elevation = 5.46 ft