



Borough of Highlands  
151 Navesink Ave.  
Highlands, NJ 07732  
(732) 872-1224  
www.highlandsnj.gov

## LAND USE BOARD APPLICATION

### FOR OFFICIAL USE

Date Rec'd: 05/06/2025 Application #: LUB25-06 Fee: ck#800258 - \$850.00  
Escrow: ck#35875 - \$2,850.00 Escrow Acct# T-03-56-856-805-101

### 1. APPLICANT

Name: Highlands Landing Corporation, c/o Jack Bevins  
Address: 2 First Avenue  
City: Atlantic Highlands State: NJ Zip: 07716  
Phone: (732) 872-2628 x 1986  
Email: jack.bevins@seastreak.com  
Relation to property: Operator and Owner

### 2. OWNER

Name: Highlands Landing Corporation, c/o Jack Bevins  
Address: 2 First Avenue  
City: Atlantic Highlands State: NJ Zip: 07716  
Phone: (732) 872-2628 x 1986  
Email: jack.bevins@seastreak.com

### 3. TYPE OF APPLICATION (Check all that apply)

- ☐ Minor Subdivision
- ☐ Major Subdivision – Preliminary
- ☐ Major Subdivision – Final
- ☐ Minor Site Plan
- ☒ Major Site Plan – Preliminary
- ☐ Major Site Plan – Final
- ☒ Variance
- ☒ Use Variance

- ☐ Appeal – Zoning Denial date \_\_\_\_\_
- ☐ Appeal – Land Use Decision date \_\_\_\_\_
- ☐ Informal Concept Plan Review
- ☐ Extension of Approval
- ☐ Revision/Resubmission of Prior Application
- ☐ Other \_\_\_\_\_

### 4. PROPERTY INFORMATION

Block 100 Lot(s) 27 Address: 326 Shore Drive, Highlands, NJ 07732  
Lot size 7.66 acres # of Existing Lots 1 # of Proposed Lots 1  
Zone WC-2 Are there existing Deed Restrictions or Easements? ☐ No ☒ Yes – Please attach copies  
Has the property been subdivided? ☒ No ☐ Yes If yes, when? \_\_\_\_\_  
Attach copies of approved map or approved resolution  
Property taxes paid through \_\_\_\_\_ Sewer paid through \_\_\_\_\_

### 5. ATTORNEY (A corporation, LLC, Limited Partnership, or S-Corp **must** be represented by a NJ attorney)

Name: Salvatore Alfieri, Esq., Partner  
Address: Cleary, Giacobbe, Alfieri, Jacobs LLC 955 State Route 34, Suite 200, Matawan, NJ 07747  
Phone: (732) 583-7474 x117 Email: salfieri@cgajlaw.com



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## 6. APPLICANT'S OTHER PROFESSIONAL(S) – Engineer, Planner, Architect, etc.

Name: Najarian Associates, Inc. c/o Brad Thompson P.E.

Address: One Industrial Way West, Bldg D, Suite H  
Eatontown, NJ 07724

Phone: 732-389-0220

Email: bradt@najarian.com

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

## 7. LAND USE

**A. PROPERTY HISTORY** –Describe in detail, nature of prior use(s) on the site, start date of such use, any prior Land Use Board applications for this site (attach copy of resolution, if applicable), history of current ownership, etc.

The site is the upland portion of the Seastreak ferry facility, including the existing parking lot for ferry patrons and public use.

The northwestern portion of the property includes a beach area. The entire site is available for public access, including the beach where a fee is charged during the summer season to cover maintenance cost. During the summer, the Sandbox

beach bar and associated amenities including a stage, flexible seating and beach volleyball courts is operated on the beach

with food trucks in the parking lot. The parking lot is available for beach goers and ferry patrons. The property has been used for ferry activities for many years, prior to Seastreak's acquisition of Highlands Landing, which previously operated the ferry service.

**B. PROPOSED PLAN** –Describe in detail, proposed use for property, including, but not limited to: 1) portion to be subdivided; 2) sell lot only; 3) construct house(s) for sale; 4) how trash will be disposed; 5) landscaping; 6) hours of operation; 7) type of goods/services; 8) fire lane. Attach additional sheets if necessary.

The proposed project involves modifications to the parking lot to improve drainage, traffic flow, and pedestrian safety.

Landscaping and lighting also are proposed. The project includes striping of parking spaces, designation of sidewalks, repaving, drainage improvements and signage. A 2-row car lift for valet use also is proposed. The operation includes an

overflow parking lot at Block 101, Lot 12.01. The application including continued operation of the beach, including the

Sandbox beach bar during the summer season along with food trucks. The beach facilities operates from 4-11 pm weekdays and 10am-11pm weekends from May through October when the features are removed.

### C. ADDITIONAL INFORMATION:

		Existing	Proposed
<b>Residential:</b>	How many dwelling units?	<u>N/A</u>	<u>N/A</u>
	How many bedrooms in each unit?	<u>N/A</u>	<u>N/A</u>
	How many on-site parking spaces?	<u>N/A</u>	<u>N/A</u>
<b>Commercial:</b>	How many commercial uses on site?	<u>2</u>	<u>2</u>
	How many on-site parking spaces?	<u>957</u>	<u>804</u>



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**8. VARIANCE REQUESTS** Complete section(s) related to the relief being requested.

	Req'd	Exist.	Prop'd
<b>Minimum Lot Requirements</b>			
Lot Area			
Frontage			
Lot Depth			
<b>Minimum Yard Requirements</b>			
Front Yard Setback			
2 <sup>nd</sup> Front Yard Setback			
Rear Yard Setback			
Side Yard Setback, right			
Side Yard Setback, left			
Building Height			

	Req'd	Exist.	Prop'd
<b>Accessory Structures</b>			
Fence/Wall Height			
Garage/Shed Height			
Garage/Shed Area			
Pool Setback			
<b>Parking Requirements</b>			
On-site Parking Spaces	1,863	957	804
<b>Other</b> (please add)			

**9. OTHER RELIEF REQUESTED** Please specify relief(s) and explain below.

The project includes seasonal operation of the Sandbox beach bar from May through October. This is a second use on the site in addition to the ferry use. A restaurant is an allowed use in the zone.




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## 10. NOTARIZED SIGNATURE OF APPLICANT

I certify that the foregoing statements and the materials submitted are true. I further certify that I am the individual Applicant, or that I am an Officer of the Applicant authorized to sign the application for the business organization. Additionally, I certify that the survey or plans submitted with this application shows and discloses the premises in its entirety, and I further certify that no buildings, fences, or other facilities have been constructed, installed, or otherwise located on the premises after the date of the survey with the exception of the structures shown.


SWORN & SUBSCRIBED to before me this	
<u>28<sup>th</sup></u> day of <u>APRIL</u> 20 <u>25</u> (year)	
	(notary)
<b>JEFFREY K. UHRIG</b> NOTARY PUBLIC OF NEW JERSEY Commission # 50143035 My Commission Expires 11/10/2025	(Seal)

  
Signature  
4/28/25  
Date  
John J Barnes  
Print Full Name

## 11. NOTARIZED CONSENT OF OWNER

I certify that I am the Owner of the property which is the subject of this application, hereby consent to the making of this application and approval of the plans submitted herewith. I further consent to the inspection of this property in connection with this application as deemed necessary by the municipal agency (if owned by a corporation, a resolution must be attached authorizing the application and officer signature).

SWORN & SUBSCRIBED to before me this	
<u>28<sup>th</sup></u> day of <u>APRIL</u> 20 <u>25</u> (year)	
	(notary)
<b>JEFFREY K. UHRIG</b> NOTARY PUBLIC OF NEW JERSEY Commission # 50143035 My Commission Expires 11/10/2025	(Seal)

  
Signature  
4/28/25  
Date  
James Barker  
Print Full Name

## 12A. DISCLOSURE STATEMENT Circle all that apply.

Pursuant to N.J.S.A. 40:55D-48.1 & 48.2, please answer the following questions:

Is this application to subdivide a parcel of land into six (6) or more lots?	Yes	<input checked="" type="radio"/> No
Is this application to construct a multiple dwelling of 25 or more units?	Yes	<input checked="" type="radio"/> No
Is this an application for approval of a site(s) for non-residential purposes?	<input checked="" type="radio"/> Yes	No
Is this Applicant a corporation?	Yes	No
Is the Applicant a limited liability corporation?	<input checked="" type="radio"/> Yes	No
Is the Applicant a partnership?	<input checked="" type="radio"/> Yes	No

If you circled **YES** to any of the above, please complete the following Ownership Discloser Statement (use additional sheets if necessary).



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## 12B. BUSINESS ORGANIZATION OWNERSHIP DISCLOSURE STATEMENT

Name of Corporation, Partnership, LLC, LLP, S-Corp:

Highlands Landing Corporation ("HLC")

Listed below are the names and addresses of all owners of 10% or more of the stock/Interest\* in the above referenced business organization:

NAME	ADDRESS
Seastreak, LLC (owns 100% of HLC)	2 First Ave., Atlantic Highlands, NJ 07716

\*If a corporation or a partnership owns 10% or more of the stock of a corporation, or 10% or great Interest in a partnership, that corporation or partnership shall list the names and address of its stockholders holding 10% or more of its stock or 10% or greater interest in the partnership, and this requirement shall be followed until the names and addresses of the non-corporate stockholders and individual partners, exceeding the 10% owner ship criterion established have been listed.

SWORN & SUBSCRIBED to before me this

24 day of April 2025 (year)

Ashley Marie Pulkownik (notary)

(Seal)

Thomas M. Uygur  
Signature (Officer/Partner)

4/24/25  
Date

Thomas M. Uygur Sec, VP + Gen Cnl  
Print Full Name Title



ASHLEY MARIE  
PULKOWNIK  
Notary Public  
State of Ohio  
My Comm. Expires  
June 27, 2027

JEFFREY K. UHRIG  
NOTARY PUBLIC OF NEW JERSEY  
Commission # 50143035  
My Commission Expires 11/10/2025

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## 12B. BUSINESS ORGANIZATION OWNERSHIP DISCLOSURE STATEMENT

Name of Corporation, Partnership, LLC, LLP, S-Corp:

Seastreak, LLC ("SSLIC")

Listed below are the names and addresses of all owners of 10% or more of the stock/interest\* In the above referenced business organization:

NAME	ADDRESS
Seastreak Holding Company, LLC (owns 100% of SSLIC)	

\*If a corporation or a partnership owns 10% or more of the stock of a corporation, or 10% or great interest in a partnership, that corporation or partnership shall list the names and address of its stockholders holding 10% or more of its stock or 10% or greater interest in the partnership, and this requirement shall be followed until the names and addresses of the non-corporate stockholders and individual partners, exceeding the 10% owner ship criterion established have been listed.

SWORN & SUBSCRIBED to before me this

24 day of April 2025 (year)

[Signature] (notary)

(Seal)

[Signature] VP+ Gen. Cnsl

Date

4/24/25

Thomas M. Wayne VP+ Gen. Cnsl

Print Full Name

Title



ASHLEY MARIE  
PULKOWNIK  
Notary Public  
State of Ohio  
My Comm. Expires  
June 27, 2027

JEFFREY K. UHRIG  
NOTARY PUBLIC OF NEW JERSEY  
Commission # 50143035  
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[Signature]





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## 12B. BUSINESS ORGANIZATION OWNERSHIP DISCLOSURE STATEMENT

Name of Corporation, Partnership, LLC, LLP, S-Corp:

Seastreak Holding Company, LLC

Listed below are the names and addresses of all owners of 10% or more of the stock/interest\* In the above referenced business organization:

NAME	ADDRESS
James R. Barker 2002 Dynasty Trust	c/o Dan Johnson, Trustee Cummings & Lockwood, 6 Landmark Square, Stamford CT 06901
James A. Barker	176 Long Neck Point Rd., Darien, CT 06820
Karen Barker Marcou	3503 Newark Street, N.W., Washington, D.C. 20016
Mark W. Barker	345 Wagar Drive, Rocky River, OH 44116
Edward J. Tregurtha	111 St. John's Road, Ridgefield, CT 06877
Dorothy T. Croskey	26265 Oak Leaf Trail, Shorewood, MN 55331
Susan T. Marshall	752 Lincoln Ave., Winnetka, IL 60093
Tracy T. Child	25 Hampton Lane, Stamford, CT 06903

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SWORN & SUBSCRIBED to before me this

24 day of April 2025 (year)

[Signature] (notary)

(Seal)

[Signature]  
Signature (Officer/Partner)

4/24/25  
Date

Thomas M. Wynne Sec., VP + Gen. Cnsl.  
Print Full Name Title



ASHLEY MARIE  
PULKOWNIK  
Notary Public  
State of Ohio  
My Comm. Expires  
June 27, 2027

JEFFREY K. UHRIG  
NOTARY PUBLIC OF NEW JERSEY  
Commission # 50143035  
My Commission Expires 11/10/2025

[Signature]

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Vendor ID	Name		Payment Number	Check Date	Document Number
BOROH LDS01	Borough of Highlands		0048544	4/24/2025	35875
Our Voucher Number	Date	Amount	Amount Paid	Discount	Net Amount Paid
326 SHORE DRIVE	4/24/2025	\$2,850.00	\$2,850.00	\$0.00	\$2,850.00

\$2,850.00      \$2,850.00      \$0.00      \$2,850.00

SeaStreak, LLC  
2 First Ave.  
Atlantic Highlands, NJ 07716  
ap@seastreak.com

BMO



BMO Harris Bank N.A.  
Chicago, Illinois

2-28/710  
4/24/2025

DATE

AMOUNT  
\$2,850.00

PAY  
TO THE  
ORDER  
OF:

Two Thousand Eight Hundred Fifty Dollars and 00 Cents

Borough of Highlands  
151 NAVESINK AVE  
Highlands NJ 07732

  
AUTHORIZED SIGNATURE

035875

071000288

0046257574

35875

Security features. Details on back.

April 25, 2025

Courtney Lopez  
Highlands Zoning Officer  
151 Navesink Ave.  
Highlands, NJ 07732

Re: Seastreak Ferry Terminal- Initial Highlands Zoning Submission  
326 Shore Drive  
Block 100, Lot 27  
Borough of Highlands, Monmouth County, NJ  
Our Ref. Job No. 8407

Dear Ms. Lopez:

Enclosed please find our initial submission to your office for review of the Major Site Plan design for the above-mentioned project seeking zoning approval for the repaving of an existing parking lot with two existing variances:

- Eighteen (18) sets of plans entitled, "Seastreak Ferry Terminal Repaving Project ..." prepared by Najarian Associates, dated April 22, 2025.
- Eighteen (18) copies of the survey entitled, "Boundary & Topographic Survey..." prepared by Najarian Associates, dated June 25, 2024.
- Eighteen (18) sets of plans entitled, "Landscaping & Lighting Plans ..." prepared by Quercus Design Studio, LLC, dated March 12, 2025.
- Eighteen (18) stormwater reports entitled, "Stormwater Management Report for a proposed repaving project Seastreak Ferry Terminal ..." prepared by Najarian Associates, dated April, 2025.
- Eighteen (18) copies of the Land Use Board application.
- One (1) completed checklist
- One (1) check in the amount of \$2,850.00 made payable to "Borough of Highlands" to cover the application fee.
- Eighteen (18) copies of the check for the application fee.
- One (1) USB drive containing all above information.

**DESIGNED BY SCIENCE - ENGINEERED FOR RESULTS**

One Industrial Way West, Eatontown, NJ 07724

(732) 389-0220

[NAJARIAN.com](http://NAJARIAN.com)

---

Should you have any questions regarding the above information or enclosed documents, please call our office.

Very truly yours,  
NAJARIAN ASSOCIATES

A handwritten signature in dark blue ink, consisting of a large, stylized 'B' followed by a series of connected loops and a long horizontal stroke.

Brad Thompson, P.E.  
Director – Land Development



For District Use Only


## APPLICATION FOR SOIL EROSION AND SEDIMENT CONTROL PLAN CERTIFICATION

The enclosed soil erosion and sediment control plan and supporting information are submitted for certification pursuant to the Soil Erosion and Sediment Control Act, Chapter 251, P.L. 1975 as amended (NJSA 4:24-39 et. seq.) An application for certification of a soil erosion and sediment control plan shall include the items listed on the reverse side of this form.

Name of Project <b>Seastreak Ferry Terminal Repaving Project</b>			Project Location: Municipality <b>Highlands Borough</b>	
Project Street Address <b>326 Shore Dr., Highlands, NJ</b>			Block <b>100</b>	Lot <b>27</b>
Project Owner(s) Name <b>Highlands Landing Corporation c/o Jack Bevins</b>			Email <b>jack.bevins@seastreak.com</b>	Phone # (732) 872-2628 x 1986 Fax #
Project Owner(s) Street Address (No P.O. Box Numbers) 2 First Ave.			City <b>Atlantic Highlands</b>	State <b>NJ</b> Zip <b>07716</b>
Total Project Area (Acres) <b>7.66</b>	Total Disturbed Area (Acres) <b>7.66</b>	Total Soil Restoration Area (Acres) <b>0</b>	No. Dwelling or other Units <b>0</b>	Fee \$ <b>7960.00</b>
Plans Prepared by* <b>Najarian Associates</b>			Email of plan preparer: <b>bradt@najarian.com</b>	Phone # <b>732-389-0220</b> Fax # <b>732-389-0220</b>
Street Address <b>1 Industrial Way West</b>			City <b>Eatontown</b>	State <b>NJ</b> Zip <b>07724</b>


\*(Engineering related items of the Soil Erosion and Sediment Control Plan **MUST** be prepared by or under the direction of and be sealed by a Professional Engineer or Architect licensed in the State of New Jersey, in accordance with NJAC 13:27-6.1 et. seq.)

Agent Responsible During Construction			Email	
Street Address				
City	State	Zip	Phone	Fax #

The applicant hereby certifies that all soil erosion and sediment control measures are designed in accordance with current **Standards for Soil Erosion and Sediment Control In New Jersey** and will be installed in accordance with those Standards and the plan as approved by the Soil Conservation District and agrees as follows:

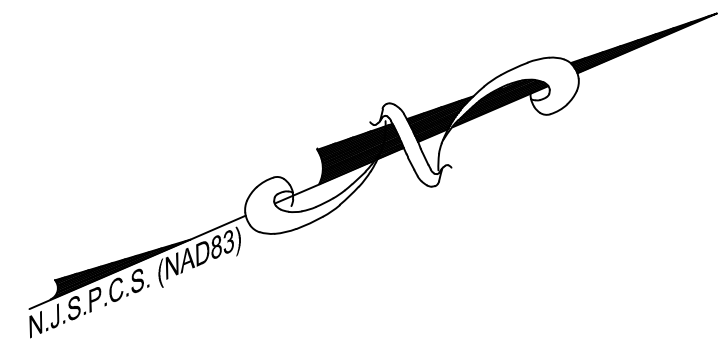
1. To notify the District in writing at least 48 hours in advance of any land disturbance activity. Failure to provide such notification may result in additional inspection fees.
2. To notify the District upon completion of the Project (Note: No certificate of occupancy can be granted until a report of compliance is issued by the District.
3. To maintain a copy of the certified plan on the project site during construction.
4. To allow District agents to go upon project lands for inspection.
5. That any conveyance of this project or portion thereof prior to its completion will transfer full responsibility for compliance with the certified plan to any subsequent owners.
6. To comply with all terms and conditions of this application and certified plan including payment of all fees prescribed by the district fee schedule hereby incorporated by reference.

The applicant hereby acknowledges that structural measures contained in the Soil Erosion and Sediment Control Plan are reviewed for adequacy to reduce offsite soil erosion and sedimentation and not for adequacy of structural design. The applicant shall retain full responsibility for any damages which may result from any construction activity notwithstanding district certification of the subject soil erosion and sediment control plan. It is understood that approval of the plan submitted with this application shall be valid only for the duration of the initial project approval granted by the municipality. All municipal renewals of this project will require submission and approval by the district. In no case shall the approval extend beyond three- and one-half years at which time resubmission and certification will be required. Soil Erosion and Sediment Control Plan certification is limited to the controls specified in the plan. It is not authorization to engage in the proposed land use unless such use has been previously approved by the municipality or other controlling agency. It is further understood that all documents, site plans, design reports etc. submitted to the district shall be made available to the public (upon request) pursuant to the Open Public Records Act, N.J.S.A. 47:1A-1 et seq.

1. Applicant Certification* Signature  Date <b>4/24/25</b> Applicant Name (Print) <b>Jack Bevins</b>	3. Plan determined complete: Signature of District Official Date
2. Receipt of fee, plan and supporting documents is hereby acknowledged: Signature of District Official Date	4. Plan certified, denied or other actions noted above. Special Remarks: Signature of District Official Date

\*If other than project owner, written authorization of owner must be attached.

SSCC251 AP10 4/19



Mathews Street  
(Asphalt Roadway)  
(20' R.C.W.)

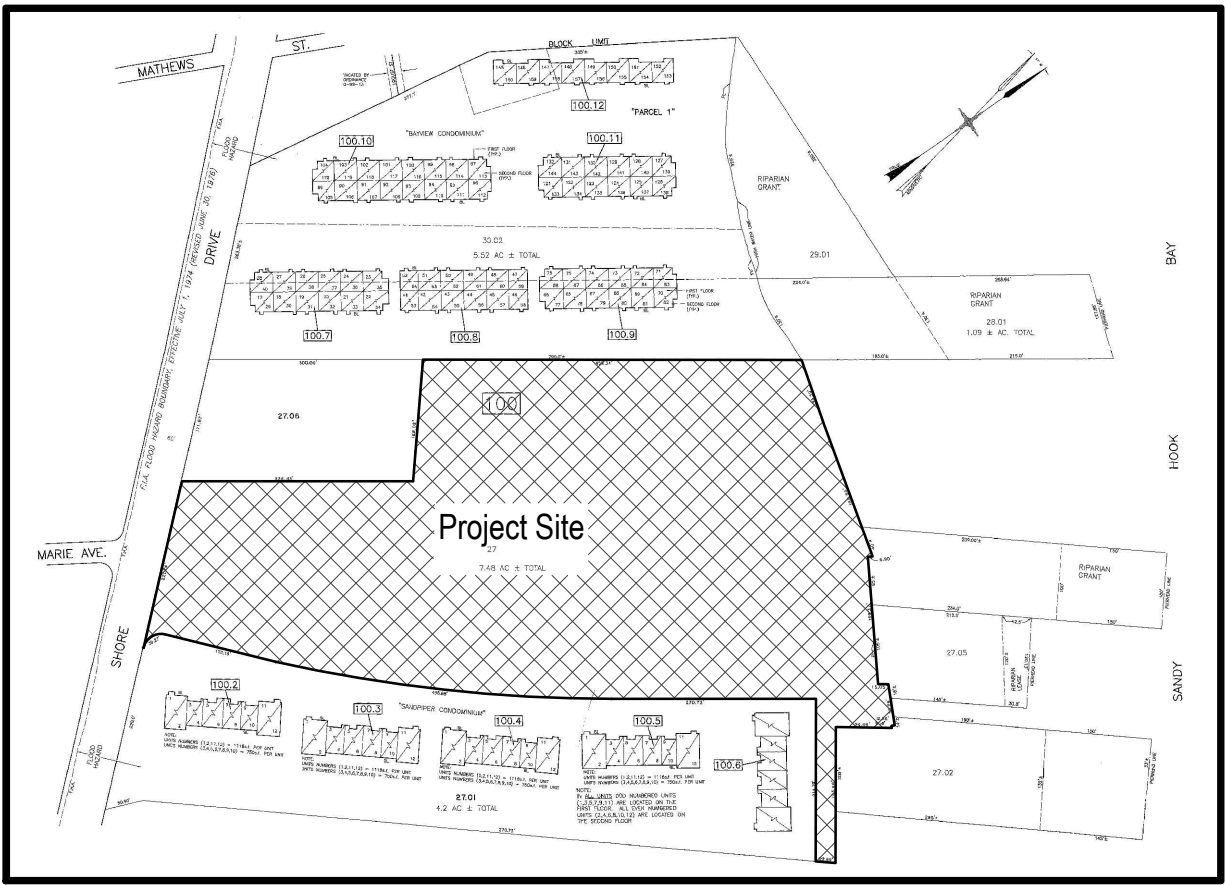
Block 100  
Lot 30.02  
Lands Now or Formerly of:  
Bayview Condominiums  
D.B. 4676, Pg. 343

N.J.D.E.P. Mean High Water  
Tidelands Claim Line  
(See Reference No. 1)

N23° 16' 01"E 452.31'  
(Deed: N23° 36' 50"E)

Riparian Grant  
Frederick W. &  
Margaret Strohmeier  
February 24, 1919  
Liber Y Pg. 29

Riparian Grant  
Frederick W. &  
Margaret Strohmeier  
February 24, 1919  
Liber Y Pg. 29



SITE LOCATION / TAX MAP  
Scale: None

Block 100  
Lot 27.06  
Lands Now or Formerly of:  
Shore Landing, L.L.C.  
D.B. 9850, Pg. 476

N23° 16' 01"E 326.42'  
(Deed: N23° 36' 50"E 326.42')

Riparian Grant  
Frederick W. &  
Margaret Strohmeier  
February 24, 1919  
Liber Y Pg. 29

Riparian Grant  
Frederick W. &  
Margaret Strohmeier  
February 24, 1919  
Liber Y Pg. 29

Sandy Hook Bay

Marie Ave.  
(Asphalt Roadway)  
(30' R.C.W.)

Shore Drive  
(Asphalt Roadway)  
(30' R.C.W.)

R=25.00', L=39.27'  
ChB=S08° 57' 49"E  
(Deed: S08° 37' 00"E)  
ChL=35.36'

R=2050.00', L=456.88'  
ChB=S29° 39' 06"W  
(Deed: S29° 59' 55"W)  
ChL=455.94'

#### GENERAL NOTES

- HORIZONTAL INFORMATION SHOWN HEREON IS IN REFERENCE TO NEW JERSEY STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM (NAD83), OBSERVED USING GPS RTK.
- ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS). TEMPORARY BENCHMARK SET: (TYPESET - MAG NAIL - 6.60').
- BEING KNOWN AND DESIGNATED AS LOT 7, BLOCK 100 SITUATED IN THE BOROUGH OF HIGHLANDS, COUNTY OF MONMOUTH AND STATE OF NEW JERSEY AS ILLUSTRATED ON THE CURRENT TAX MAP OF THE BOROUGH OF HIGHLANDS, SHEET No. 19.
- PROPERTY POSTAL ADDRESS IS COMMONLY KNOWN AS 326 SHORE DRIVE, HIGHLANDS, N.J. 07732.
- THE LOCATIONS OF UNDERGROUND STRUCTURES AND UTILITIES SHOWN HEREON ARE BASED ON ABOVEGROUND FEATURES PHYSICALLY OBSERVED. LOCATIONS OF UNDERGROUND STRUCTURES AND UTILITIES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED STRUCTURES AND UTILITIES MAY BE ENCOUNTERED. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
- THIS SURVEY IS PREPARED IN ACCORDANCE WITH DOCUMENTS SUPPLIED BY THE CLIENT AND THOSE OBTAINED THROUGH SUPPLEMENTAL RESEARCH BY NAJARIAN ASSOCIATES, LLC. THE DOCUMENTS UTILIZED MAY OR MAY NOT REPRESENT ALL THE TITLE DOCUMENTS RELEVANT TO THE SUBJECT PROPERTY. IT IS STRONGLY SUGGESTED THAT A COMPLETE TITLE SEARCH BE SUPPLIED TO THE SURVEYOR FOR REVIEW PRIOR TO THE PLACEMENT OF OR ALTERATION TO IMPROVEMENTS ON THE PROPERTY.

CERTIFIED TO  
SEASTREAK, LLC

#### MAP REFERENCES

- A MAP ENTITLED, "STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF TIDELANDS MANAGEMENT, MAP SHOWING CONVEYANCES ON SANDY HOOK - SPERMACEY COVE, HIGHLANDS BOROUGH, ATLANTIC HIGHLANDS BOROUGH, MONMOUTH COUNTY" AS FILED WITH THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AS ATLAS SHEET NO. 574-2184.
- THE MEAN HIGH WATER LINE SHOWN HEREON IS REFERENCED FROM THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AGENCY LAND RESOURCE PROTECTION WE APPLICATION.
- BLOCK 100, LOT 30.02, RIPARIAN GRANT TO FREDERICK W. & MARGARET STROHMEIER, FEBRUARY 24, 1919, LIBER Y, PAGE 24
- BLOCK 100, LOT 27, RIPARIAN GRANT TO WILLIAM H. CONNORS, MAY 31, 1906, LIBER R, PAGE 99
- BLOCK 100, LOT 27, 15 YEAR LEASE TO CHARLES J. BEIRNE, SEPTEMBER 11, 1950, LIBER K-3, PAGE 1
- BLOCK 100, LOT 27, RENEWAL OF 15 YEAR LEASE TO CONNORS HOTEL, APRIL 5, 1965, LIBER O-5, PAGE 66
- BLOCK 100, LOT 27, 5 YEAR LICENSE TO CONNORS HOTEL, EFFECTIVE MAY 16, 1982, 81-0263 RENEWAL
- BLOCK 100, LOT 27, RIPARIAN GRANT TO WILLIAM BURDGE, MAY 31, 1906, LIBER R, PAGE 103
- BLOCK 100, LOT 27 & 26.01, RIPARIAN GRANT TO HIGHLANDS OF NAVESINK IMPROVEMENT COMPANY, DECEMBER 27, 1905, LIBER 6, PAGE 497
- BLOCK 100, LOT 27 & 26.01, RIPARIAN GRANT TO WATER WITCH DEVELOPMENT COMPANY, NOVEMBER 27, 1912, LIBER T PAGE 590.

LEGEND	
DESCRIPTION	SYMBOL / ABBREVIATION
STORM INLET	
HEADWALL	
UTILITY POLE	
UTILITY POLE	
BENCH	
PAVEMENT EDGE	
STORM DRAIN	
CURB	
FENCE	
CONTOUR	
SPOT ELEVATION	
TOP/BOT CURB GRADE	
GRAVEL AREAS	
CONCRETE	

#### REVISIONS

NO.	DATE	DESCRIPTION

#### BOUNDARY & TOPOGRAPHIC SURVEY

JOB NO. 8407	
FILE NAME Survey Base.dwg	
DRAWN R.L.D.	REVIEWED
DATE 06/25/2024	SCALE 1"=40'
SHEET NO. 1	
OF 1	

THOMAS P. MENDOLA, P.L.S.  
N.J. PROFESSIONAL LAND SURVEYOR, No. 46865

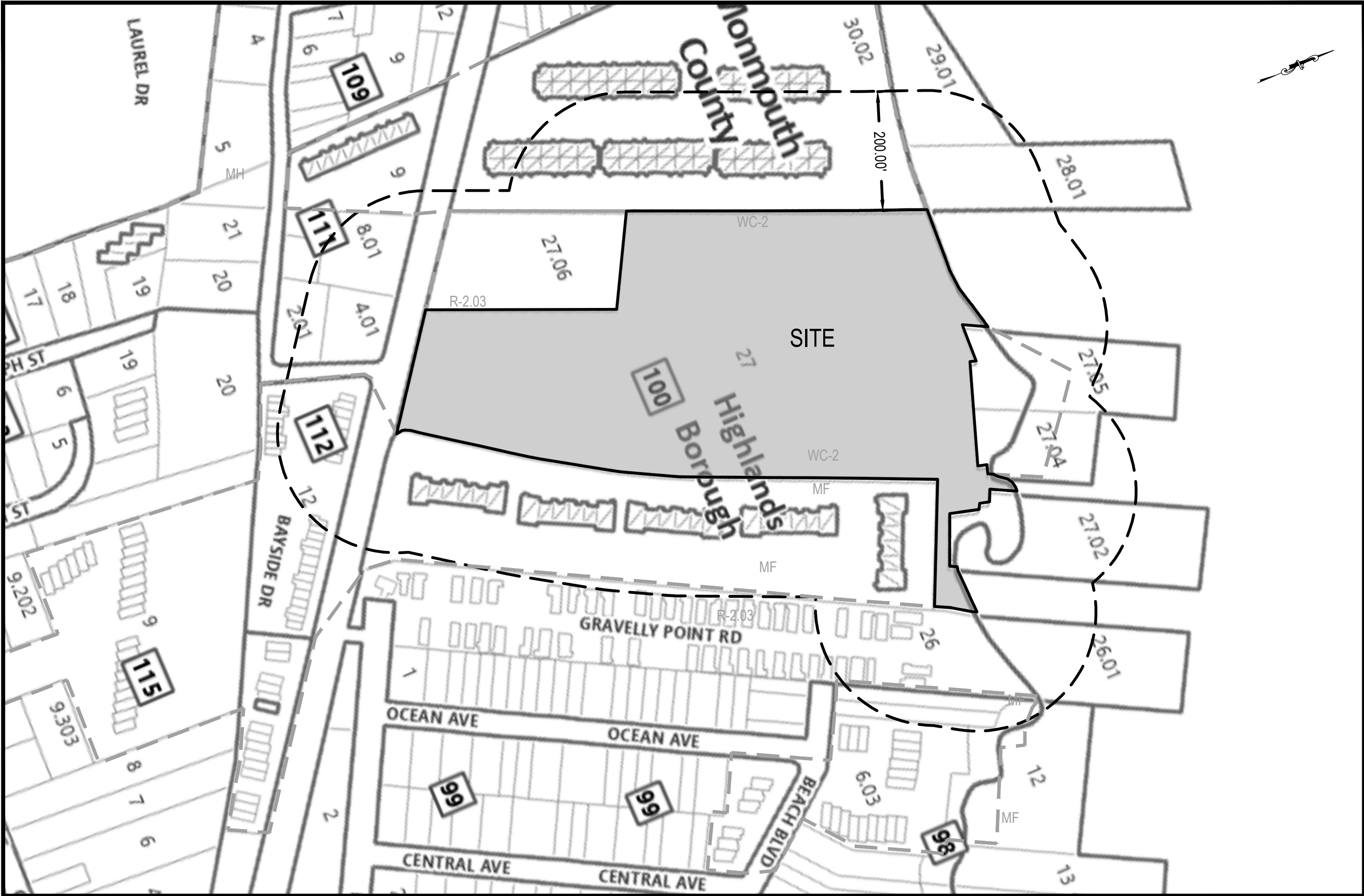
**Najarian Associates**  
Professional Engineers, Land Surveyors & Planners • Scientists  
One Industrial Way West, Eatontown, New Jersey 07724  
(732) 389-0220 • Facsimile No. (732) 389-8546  
Certificate of Authorization Certificate # 24GA27993300

SEASTREAK FERRY TERMINAL  
REPAVING PROJECT  
FOR  
HIGHLANDS LANDING  
CORPORATION

MAJOR SITE PLAN  
BLOCK 100 , LOT 27  
326 SHORE DRIVE, BOROUGH OF HIGHLANDS  
MONMOUTH COUNTY, NEW JERSEY; TAX MAP # 19



LOCATION MAP  
SCALE: 1" = 250'  
SOURCE: NJ GEO WEB



200' RADIUS MAP  
SCALE: 1" = 150'  
SOURCE: TAX MAP SHEET # 19  
BOROUGH OF HIGHLANDS, MONMOUTH COUNTY, NJ

CIVIL DRAWING LIST			
DWG. NO.	DRAWING TITLE	SCALE	LAST REV.
1	COVER SHEET	AS SHOWN	04/22/25
2	GENERAL NOTES	AS SHOWN	04/22/25
3	DEMO PLAN	1" = 40'	04/22/25
4	OVERALL SITE PLAN	1" = 40'	04/22/25
5	GRADING, DRAINAGE & UTILITY PLAN	1" = 40'	04/22/25
6	SOIL EROSION AND SEDIMENT CONTROL PLAN	1" = 40'	04/22/25
7	SOIL EROSION AND SEDIMENT CONTROL NOTES	1" = 40'	04/22/25
8	SOIL EROSION AND SEDIMENT CONTROL DETAILS	1" = 40'	04/22/25
9	DETAIL PLAN	1" = 40'	04/22/25
1 OF 1	BOUNDARY AND TOPOGRAPHIC SURVEY	1" = 40'	06/25/24

OWNER AND APPLICANT:

OWNER: HIGHLANDS LANDING CORPORATION  
2 FIRST AVENUE  
ATLANTIC HIGHLANDS, NJ 07716

APPLICANT: JACK BEVINS  
2 FIRST AVENUE  
ATLANTIC HIGHLANDS, NJ 07716

MUNICIPAL APPROVAL BLOCK

I HEREBY CERTIFY THAT I HAVE CAREFULLY EXAMINED THESE PLANS AND FIND IT CONFORMS WITH ALL MUNICIPAL ORDINANCES AND REQUIREMENTS APPLICABLE THERETO:

DATE \_\_\_\_\_ BOROUGH ENGINEER \_\_\_\_\_

APPROVED BY THE PLANNING BOARD OF BOROUGH OF HIGHLANDS, MONMOUTH COUNTY, NEW JERSEY THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, \_\_\_\_\_

DATE \_\_\_\_\_ CHAIRMAN \_\_\_\_\_

DATE \_\_\_\_\_ SECRETARY \_\_\_\_\_

Najarian

Associates

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Certificate of Authorization Certificate # 24GA27993300

BRAD M. THOMPSON, P.E.

N.J. PROFESSIONAL ENGINEER, No. 48075

REVISIONS		
NO.	DATE	DESCRIPTION

COVER

HIGHLANDS LANDING CORPORATION  
BLOCK 100, LOT 27  
TAX MAP SHEET NO. 19  
BOROUGH OF HIGHLANDS  
MONMOUTH COUNTY  
NEW JERSEY

JOB NO.  
8407

FILE NAME  
8407-Cover Sheet.dwg

DRAWN  
ERI

REVIEWED  
BMT

DATE  
04/22/25

SCALE  
N/A

SHEET NO.  
C-01

OF 9

## OWNER AND APPLICANT

OWNER: HIGHLANDS LANDING CORPORATION  
2 FIRST AVE.  
ATLANTIC HIGHLANDS, NJ 07716

APPLICANT: JACK BEVINS  
2 FIRST AVE.  
ATLANTIC HIGHLANDS, NJ 07716

## REQUIRED ADDITIONAL APPROVALS

JURISDICTIONAL AGENCY	PERMIT NUMBER	PERMIT STATUS
1. MUNICIPAL PLANNING BOARD	0000-0000	PENDING
2. MUNICIPAL SOIL MOVEMENT PERMIT	0000-0000	PENDING
3. SOIL CONSERVATION DISTRICT	0000-0000	PENDING
4. NJDEP PHA PERMIT	0000-0000	PENDING

## REFERENCES

- BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREIN WAS OBTAINED FROM A PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, HIGHLANDS LANDING CORPORATION, BLOCK 100 LOT 27, TAX MAP SHEET NO. 19 BOROUGH OF HIGHLANDS, MONMOUTH COUNTY, NEW JERSEY, PREPARED FOR SEASTREAK LLC," PREPARED BY NAJARIAN ASSOCIATES, DATED 06/22/22.
- HORIZONTAL DATUM BASED ON NEW JERSEY STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM (NAD83).
- VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM (NAV83).

## UTILITY PURVEYORS

### NATURAL GAS PURVEYOR

HIGHLANDS MUNICIPAL COURT  
151 NAVESINK AVE.  
HIGHLANDS, NJ 07732

NJNG  
1415 WYCKOFF  
WALL, NJ 07719

### MUNICIPAL WATER DEPARTMENT

NJ AMERICAN WATER - COASTAL NORTH  
CANTER STREET  
CAMDEN, NJ 08102

## USE OF PLANS NOTES

- UNLESS THESE DRAWINGS ARE SPECIFICALLY DESIGNATED AS "CONSTRUCTION ISSUE," THESE DRAWINGS OR THE IMPROVEMENTS DEPICTED HEREON SHALL NOT BE USED FOR CONSTRUCTION. CONTRACTORS MUST NOTIFY THE ENGINEER OF RECORD TO OBTAIN CONSTRUCTION DOCUMENTS.
- ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY THE ENGINEER OF RECORD OF ANY CONFLICTS, ERRORS, AMBIGUITIES, OR DISCREPANCIES IN THE DRAWINGS OR SPECIFICATIONS BEFORE STARTING CONSTRUCTION.
- ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.
- THESE DRAWINGS CONTAIN DATA INTENDED SPECIFICALLY FOR THE NOTED PROJECT AND CLIENT. THEY ARE NOT INTENDED FOR USE ON EXTENSIONS OF THIS PROJECT OF FOR REUSE ON ANY OTHER PROJECT.
- THE COPYING AND/OR MODIFICATION OF THIS DOCUMENT OR ANY OTHER PORTION THEREOF WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER OF RECORD IS PROHIBITED.
- INFORMATION FOR DESIGN LAYOUT IS CONTAINED SOLELY IN THE WRITTEN DIMENSIONS, BEARINGS, AND ANGLES CONTAINED ON THE DRAWINGS.
- THE DIMENSIONAL INFORMATION IS NOT WARRANTED NOR SHOULD IT BE CONSIDERED AS COMPLETE FOR EVERY ASPECT OF THE LAYOUT. THE STANDARD OF CARE REQUIRES THAT A LICENSED SURVEYOR CHECK THE DIMENSIONAL DATA CONSISTENCY AND MAKE SURVEY CALCULATIONS WHICH ARE CUSTOMARY FOR CONSTRUCTION LAYOUT.
- THE GRAPHICAL INFORMATION CONTAINED IN ELECTRONIC FILES IS INTENDED AS DRAWING DATA ONLY. IT IS NOT INTENDED TO SERVE AS SURVEY LAYOUT DATA.
- ALL SITE UTILITIES TO BE INSTALLED BY THE SITE CONTRACTOR TO A POINT FIVE FEET FROM THE STRUCTURE IN ACCORDANCE WITH INDUSTRY STANDARDS UNLESS SPECIFICALLY SHOWN OTHERWISE. SITE CONTRACTOR TO COORDINATE WITH BUILDING TRADES CONTRACTOR TO ENSURE COORDINATION OF UTILITY CONNECTION LOCATIONS. REPORT ANY DISCREPANCIES TO THE ENGINEER OF RECORD.
- ALL DIMENSIONAL INFORMATION SHOWN HEREON INDICATING BUILDINGS IS BASED UPON FACE OF BUILDING. ALL ROADWAY DIMENSIONS ARE TO INSIDE FACE OF CURBING.

## DEMOLITION NOTES

- THE CONTRACTOR MUST PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
- THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION ONLY REGARDING ITEMS TO BE DEMOLISHED OR REMOVED FROM THE SITE. THE CONTRACTOR MUST ALSO REVIEW THE OTHER CONSTRUCTION DOCUMENTS AND INCLUDE IN DEMOLITION ACTIVITIES ALL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW IMPROVEMENTS.
- PRIOR TO THE START OF ANY DEMOLITION THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND KEEPING A COPY OF ALL PERMITS ON SITE FOR REVIEW BY THE ENGINEER OR RECORD OR ANY OTHER JURISDICTIONAL AGENCY REPRESENTATIVE THROUGHOUT THE DURATION OF THE PROJECT AND DEMOLITION WORK.
- THE CONTRACTOR MUST NOTIFY THE OFFICE OF THE MUNICIPAL ENGINEER AND THE LOCAL SOIL CONSERVATION DISTRICT 72 HOURS PRIOR TO THE START OF DEMOLITION OR THE CONSTRUCTION OF ANY IMPROVEMENTS UNDER ITS JURISDICTION.
- ALL SOIL EROSION CONTROL MEASURES AND DRAINAGE STRUCTURES MUST BE INSTALLED PRIOR TO THE START OF ANY DEMOLITION ACTIVITIES OR SITE DISTURBANCE.
- THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE NEW JERSEY 811 ONE CALL SYSTEM TO LOCATE ALL OF THE UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES WHICH OCCUR DURING CONSTRUCTION, AT NO COST TO THE OWNER AND AT CONTRACTORS SOLE COST AND EXPENSE.
- THE CONTRACTOR MUST PROTECT AND MAINTAIN ALL ACTIVE UTILITIES AND SYSTEMS THAT ARE NOT BEING DEMOLISHED OR REMOVED DURING DEMOLITION.
- THE CONTRACTOR MUST BACKFILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION OF ON SITE FEATURES. BACKFILL MUST BE PERFORMED WITH APPROVED BACKFILL MATERIALS AND MUST BE SUFFICIENTLY COMPACTED TO SUPPORT PROPOSED IMPROVEMENTS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT OR ON SITE GEOTECHNICAL ENGINEER. BACKFILLING MUST OCCUR IMMEDIATELY AFTER DEMOLITION TO PREVENT WATER FROM ENTERING THE EXCAVATION AND POTENTIALLY CHANGING THE MOISTURE CONTENT OF THE UNDERLYING SOILS. GRADINGS OF BACKFILL AREAS MUST BE DONE IN A WAY TO PROMOTE POSITIVE DRAINAGE.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL, EITHER IN THE RIGHT OF WAY OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTORS PRICE AND IS THE CONTRACTORS SOLE RESPONSIBILITY.
- THE CONTRACTOR IS RESPONSIBLE FOR THE OFF-SITE DISPOSAL OF ALL DEMOLITION MATERIAL IN A MANNER SATISFACTORY TO THE MUNICIPAL ENGINEER. BURYING OF DEMOLITION MATERIALS WILL NOT BE PERMITTED IN ANY CASE. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
- THE CONTRACTOR MUST MAINTAIN AND PROVIDE A RECORD SET OF PLANS SHOWING THE LOCATION OF EXISTING UTILITIES THAT ARE CAPED, ABANDONED IN PLACE, OR RELOCATED DURING THE DEMOLITION PROCESS. THE RECORD DOCUMENT MUST BE PREPARED IN A LEGIBLE FORMAT AND PROVIDED TO THE OWNER AND ENGINEER OR RECORD UPON COMPLETION OF THE WORK.

## GENERAL NOTES

- THE OFFICE OF THE MUNICIPAL ENGINEER AND THE LOCAL SOIL CONSERVATION DISTRICT MUST BE NOTIFIED 72 HOURS PRIOR TO THE START OF CONSTRUCTION OF ANY IMPROVEMENTS UNDER ITS JURISDICTION.
- THESE PLANS SHALL BE SOLELY FOR INFORMATION. THE OWNER AND OTHERS PROVIDED TO THE ENGINEER OF RECORD PRIOR TO THE DATE ON THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY THE ENGINEER OF RECORD IN WRITING IF ANY ACTUAL, SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OF THE EXISTING CONDITIONS, CONDITIONS, OR REQUIREMENTS.
- THE CONTRACTOR MUST NOT SCALE OFF THE DRAWINGS. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE CHECKED AND CONFIRMED BY THE CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, ORDERING OF PARTS AND MATERIALS AND STARTING SITE WORK. SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS. DIMENSIONS SUPERSEDE GRAPHICAL REPRESENTATIONS. THE CONTRACTOR MUST MAKE CONTRACTORS OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS.
- THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL OTHER NOTES CONTAINED ON THESE PLANS, AS WELL AS ANY ADDITIONAL INFORMATION CONTAINED IN SPECIFICATIONS OR REPORTS THAT ARE PART OF THE DESIGN DOCUMENTS. ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLAN SHEETS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. IT IS THE CONTRACTORS RESPONSIBILITY TO REVIEW ALL DESIGN DOCUMENTS PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION AND TO CONFIRM WITH THE ENGINEER OF RECORD THAT THE LATEST EDITION OF THE DOCUMENTS ARE BEING USED FOR CONSTRUCTION.
- WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS, THE GEOTECHNICAL REPORT, SPECIFICATIONS, AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE CONSTRUCTION DOCUMENTS. IN THE CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENTS OR RECOMMENDATIONS CONTAINED WITHIN EITHER THESE PLANS OR THE GEOTECHNICAL REPORT MUST TAKE PRECEDENCE. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY CONFLICTS BETWEEN THE GEOTECHNICAL REPORT AND THESE PLANS PRIOR TO PROCEEDING WITH ANY FURTHER WORK. IF A GEOTECHNICAL REPORT WAS NOT CREATED FOR THE PROJECT, THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS OF THE MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE SPECIFICATIONS THAT HAVE JURISDICTION OVER THE PROJECT.
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED, NO CONSTRUCTION OR ORDERING OF MATERIALS IS TO BEGIN UNTIL THE CONTRACTOR HAS CONFIRMED THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
- THE CONTRACTOR MUST PROVIDE SUCH TEMPORARY DRAINAGE, SOIL EROSION, AND DUST CONTROL MEASURES AS MAY BE DIRECTED BY THE MUNICIPAL ENGINEER OR OTHER JURISDICTIONAL AGENCIES TO SATISFY ENVIRONMENTAL CONCERNS RELATED TO CONSTRUCTION.
- ALL ENVIRONMENTAL WORK TO BE PERFORMED ONSITE MUST BE DONE IN ACCORDANCE WITH NJDEP REGULATIONS AND CONDITIONS SPECIFIED IN ALL ENVIRONMENTAL PERMITS.
- ALL SOIL EROSION CONTROL MEASURES AND DRAINAGE STRUCTURES MUST BE INSTALLED PRIOR TO THE START OF ANY CONSTRUCTION.
- PRIOR TO ANY SITE DISTURBANCE, ALL WETLANDS TRANSITION AREA LIMITS SHALL BE CLEARLY IDENTIFIED IN THE FIELD WITH ORANGE SNAKE FENCING BY MINARI OR APPROVED EQUAL. SILT FENCE MUST BE LOCATED THIRTY FEET UPSTREAM OF SNOW FENCING AND DOWNSTREAM OF CLEARING LIMITS. THE CONTRACTOR MUST VERIFY THAT ALL PERMITS REQUIRED BY LOCAL, COUNTY, STATE, FEDERAL, OR OTHER AGENCIES HAVING JURISDICTION ARE IN HAND AND VALID PRIOR TO COMMENCING WORK.
- THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WITH CONSTRUCTION ACTIVITY OF ONE ACRE OR MORE. THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF ALL SUB-CONTRACTORS, COMPLY WITH THE SWPPP, INCLUDING LOGGING ACTIVITIES, MINIMUM ONE (1) TIME PER WEEK AND AFTER RAINFALL EVENTS), AND CORRECTIVE MEASURES, AS APPROPRIATE, ALONG WITH THE OTHER REQUIREMENTS OF A SWPPP.
- THE CONTRACTOR MUST REPAIR OR REPLACE, AT THE CONTRACTORS SOLE COST AND EXPENSE, ALL SIDEWALKS, CURBS, AND PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES WHETHER SPECIFIED ON THESE PLANS OR NOT. THE CONTRACTOR MUST REPAIR AT CONTRACTORS SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING BUILDINGS, SITE FEATURES, OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, ETC. AND MUST BEAR ALL COSTS ASSOCIATED WITH THE REPAIRS. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNS, INTERSECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT, ONCE DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE THE DAMAGED PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITION PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH ALL CITY, COUNTY, STATE, AND FEDERAL REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST PROMPTLY EQUIPMENT ALL EXISTING DAMAGE AND NOTIFY IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
- THE INSTALLATION OF UTILITIES MUST BE COORDINATED WITH BUILDING IMPROVEMENTS TO TO ASSURE THE WELL-BEING OF LIFE AND PROPERTY DURING CONSTRUCTION. WATER SERVICE IS A CRITICAL NEED AND MUST BE SCHEDULED ACCORDINGLY. WATER SUPPLY AND HYDRANT CONNECTIONS ARE TO BE ESTABLISHED AS A PRIORITY DURING INITIAL SITE DEVELOPMENT TO ASSURE ADEQUATE WATER FOR FIRE PROTECTION DURING ALL PHASES OF CONSTRUCTION.
- SIGHT TRIANGLE EASEMENTS ARE SUBJECT TO GRADING, PLANTING AND CONSTRUCTION AS DESCRIBED IN THE MUNICIPAL LAND USE ORDINANCE. SIGHT TRIANGLE EASEMENTS SHALL BE SUBJECT TO THE REQUIREMENTS ESTABLISHED IN THE LAND USE DEVELOPMENT AND REGULATIONS OF THE MUNICIPALITY.
- IT IS NOT THE INTENT OF THESE PLANS TO PROVIDE REINFORCING STEEL AND CONCRETE DESIGNS FOR ANY PRE-CAST OR POURED IN PLACE CONCRETE STRUCTURES, OTHER THAN THE REINFORCING STEEL AND CONCRETE DESIGNS SPECIFICALLY NOTED ON THESE PLANS. ANY REINFORCING STEEL AND CONCRETE DESIGN MUST BE SUPPLIED BY THE PRE-CASTING MANUFACTURER OR A REPUTABLE STRUCTURAL ENGINEER CONTRACTED BY THE CONTRACTOR.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL RULES AND REGULATIONS, LAWS, ORDINANCES, AND CODES, AND ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.) AS AMENDED, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
- THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN AND WHERE SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND UNSUITABLE STRUCTURES AND PROPERTIES. ALL OF THIS WORK IS TO BE PERFORMED AT CONTRACTORS SOLE COST AND EXPENSE.
- THE CONTRACTOR MUST INSTALL ALL STRUCTURES AND MATERIALS IN STRICT COMPLIANCE WITH THE MANUFACTURERS STANDARDS AND SPECIFICATIONS. IF THE CONTRACTOR FAILS TO DO SO, THEY AGREE TO BEAR ALL COSTS ASSOCIATED WITH THE REPAIRS OR SOLUTIONS REQUIRED TO REMEDY ANY ISSUES THAT ARISE DURING OR AFTER CONSTRUCTION.
- ALL CONSTRUCTION SHOWN HEREON MUST CONFORM TO RISIS, MINUTAPAL, AND COUNTY STANDARDS. CONSTRUCTION DETAILS, AND SPECIFICATIONS APPLICABLE TO THE DEVELOPMENT AS WELL AS THE NJDOT ROADWAY STANDARDS, UNLESS SPECIFICALLY NOTED OTHERWISE HEREIN. IN CASE OF CONFLICT, THE MORE RESTRICTIVE SHALL GOVERN. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
- THESE SITE PLAN DOCUMENTS ARE INTENDED TO SHOW THE SITE RELATED IMPROVEMENTS TO WITHIN FIVE FEET OF PROPOSED STRUCTURES. THE GENERAL CONTRACTOR MUST COORDINATE WITH ALL TRADES, THE ARCHITECT, AND ALL UTILITY COMPANIES, CONNECTIONS BETWEEN THE BUILDING AND SITE IMPROVEMENTS, AND NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
- CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL BUILDING PLANS OF RECORD FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.
- ALL ROADWAYS ARE TO BE PASSABLE FOR EMERGENCY VEHICLES DURING CONSTRUCTION. ANY ROADWAY CLOSURE OR RELOCATION MUST BE COORDINATED BY THE CONTRACTOR WITH THE LOCAL FIRE DEPARTMENT TO ENSURE ADEQUATE FIRE PROTECTION FOR ALL AREAS AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING WARNING SIGNS, BARRICADES, AND ANY AND ALL SAFETY MEASURES AS MAY BE REQUIRED BY THE NJDOT, OSHA, AND LOCAL AGENCIES.
- AS INDICATED IN THE MUTCD, SUFFICIENT CONSTRUCTION WARNING SIGNS ARE TO BE PROVIDED AND MAINTAINED BY CONTRACTOR(S) PERFORMING CONSTRUCTION WORK WITHIN ACTIVE ROADWAYS. SAE SIGNS ARE TO BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND APPROVED BY THE APPROPRIATE MUNICIPAL PERSONNEL. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL CONSTRUCTION SIGNS AT THE END OF THE PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL, EITHER IN THE RIGHT OF WAY OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTORS PRICE AND IS THE CONTRACTORS SOLE RESPONSIBILITY.
- UNLESS SPECIFICALLY SHOWN HEREIN, THE ENGINEER OF RECORD HAS NOT CONDUCTED INVESTIGATION OR PROVIDED DATA ON THE NATURE OF, OR STRUCTURAL SUITABILITY OF ANY SUBSURFACE MATERIALS. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD OF ANY UNUSUAL SOIL OR ROCK CONDITIONS. ENGINEER OF RECORD IS NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, AROUND, OR UNDER THE PROPERTY.
- IN AREAS WHERE FILL FROM THE SITE IS TO BE REUSED, THE FILL SHOULD BE TESTED TO ENSURE FILL MATERIAL IS CERTIFIED "CLEAN" IN ACCORDANCE WITH THE CURRENT NJDEP STANDARDS TO THE SATISFACTION OF THE MUNICIPAL ENGINEERS OFFICE. BURYED TOPSOIL OR ORGANIC MATERIAL MUST BE REMOVED PRIOR TO FILL OPERATIONS TO ENSURE LONG TERM STABILITY.
- ALL STUMPS AND OTHER TREE PARTS, LITTER, BRUSH, WEEDS, EXCESS OR SCRAP MATERIALS, OR OTHER DEBRIS SHALL BE REMOVED FROM THE SITE.
- THE EARTHWORK OPERATIONS SHALL BE CONDUCTED UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER TO ENSURE ADEQUATE COMPACTION WHILE MAINTAINING, TO THE EXTENT REASONABLE, THE EXISTING HYDROLOGIC SOIL CONDITIONS OF THE SITE.
- DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR THE OFF-SITE DISPOSAL OF ALL DEMOLITION MATERIAL, MATERIAL ACCUMULATED BY CLEARING, GRUBBING AND EXCAVATION SHALL BE DISPOSED OF BY THE DEVELOPER IN A MANNER SATISFACTORY TO THE MUNICIPAL ENGINEER, EXCEPT THAT MATERIALS SUITABLE FOR EMBANKMENT SHALL BE USED FOR THAT PURPOSE, IF NEEDED. BURYING OF ABOVE CITED MATERIALS WILL NOT BE PERMITTED IN ANY CASE. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
- THE LIMIT OF CLEARING SHALL BE STAKED IN THE FIELD PRIOR TO ANY DISTURBANCE.
- ALL WEATHERED CONCRETE FOR CONSTRUCTION MUST BE AT LEAST 4500 PSI.
- SEPARATE CONSTRUCTION PERMITS WILL BE REQUIRED FOR ALL WALLS IN EXCESS OF FOUR FEET IN HEIGHT.
- ALL WORK WITHIN THE COUNTY ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE COUNTY STANDARDS.

## SITE PLAN NOTES

- THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR MUST REFER TO THE GENERAL NOTES AND FULLY COMPLY WITH THEM AS WELL AS ANY PLAN SPECIFIC NOTES.
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST INSTALL THE NECESSARY SOIL EROSION CONTROL MEASURES AS INDICATED ON THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH THE APPLICABLE SOIL CONSERVATION DISTRICTS GUIDELINES.
- ALL DIRECTIONAL/TRAFFIC SIGNING AND PAVEMENT STRIPING MUST CONFORM TO THE LATEST STANDARDS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), ALONG WITH ANY LOCAL MUNICIPAL STANDARDS.
- THE LOCATIONS OF PROPOSED UTILITY POLES, UTILITY BOXES, OR ELECTRIC, TELECOM, OR NATURAL GAS UTILITIES, AND TRAFFIC SIGNS SHOWN ON THE PLANS ARE SCHEMATIC ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD-VERIFYING AND COORDINATING PROPOSED UTILITY LOCATIONS WITH THE APPROPRIATE UTILITY PURVEYOR. THE CONTRACTOR MUST COORDINATE THE LOCATION OR RELOCATION OF TRAFFIC SIGNS WITH THE ENTITY WITH JURISDICTION OVER THE RIGHT-OF-WAY.
- ALL DIMENSIONS SHOWN ARE TO BOTTOM FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, EXCEPT WHEN DIMENSION IS TO A PROPERTY LINE.
- STAKE OUT OF LOCATIONS OF DRAINAGE OR SANITARY SEWER STRUCTURES, LIGHT POLES, ETC. MUST BE PERFORMED IN STRICT ACCORDANCE WITH THE DETAILS, UNLESS NOTED CLEARLY OTHERWISE.
- ALL WEATHERED CONCRETE MUST BE AIR ENTRAINED AND INCLUDE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.
- THE CONTRACTOR MUST REPAIR OR REPLACE, AT THE CONTRACTORS SOLE COST AND EXPENSE, ALL SIDEWALKS, CURBS, AND PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES WHETHER SPECIFIED ON THIS PLAN OR NOT.

## ADA NOTES

- CONTRACTORS MUST ADHERE TO THE AMERICANS WITH DISABILITIES ACT (ADA) GUIDELINES AND THE CURRENT STATE ARCHITECTURAL ACCESS BOARD STANDARDS AND REGULATIONS FOR BARRIER FREE ACCESS FOR ALL ADA FEATURES AND ROUTES SHOWN ON THESE PLANS. ADA FEATURES OFTEN REQUIRE A HIGHER LEVEL OF PRECISION TO MEET THE STRICT GUIDELINES. FINISHED SURFACES OF THE ADA FEATURES AND SITE FEATURES ALONG THE ADA ROUTE FROM PARKING SPACES OR PUBLIC TRANSPORTATION STOPS OR RIGHTS-OF-WAY PEDESTRIAN ACCESS TO POINTS OF ACCESSIBLE BUILDING ADDRESS AND EXITS, MUST COMPLY WITH THE ADA AND ANCHORAGE GUIDELINES AND REQUIREMENTS. THE ADA GUIDELINES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING PARAMETERS:
- ADA PARKING SPACE AND PARKING AISLE SLOPES MUST NOT EXCEED A 1:50 (2%) SLOPE IN ANY DIRECTION
- CURB RAMP SLOPES MUST NOT EXCEED A 1:12 (8.3%) SLOPE FOR A MAXIMUM DISTANCE OF SIX FEET
- LANDINGS, MINIMUM OF FOUR FEET BY FOUR FEET IN SIZE) MUST BE PROVIDED AT THE TOPS AND BOTTOMS OF CURB RAMP WITH SLOPES THAT MUST NOT EXCEED A 1:50 (2%) SLOPE IN ANY DIRECTION
- WHERE A CHANGE IN PATH DIRECTION OCCURS, LANDINGS MUST BE FIVE FEET BY FIVE FEET MINIMUM WITH SLOPES THAT MUST NOT EXCEED A 1:50 (2%) SLOPE IN ANY DIRECTION
- THE ADA PATH OF TRAVEL, FROM THE POINT OF ADA ARRIVAL TO THE ADA BUILDING ENTRANCE MUST PROVIDE A 36 INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANDS OR RAILINGS CANNOT REDUCE THIS MINIMUM WIDTH). THE SLOPE ALONG THE ADA PATH OF TRAVEL MUST BE NO GREATER THAN 1:20 (5%) IN THE DIRECTION OF TRAVEL, AND MUST NOT EXCEED A 1:50 (2%) CROSS SLOPE. A MAXIMUM SLOPE OF 1:12 (8.3%) FOR A MAXIMUM RISE OF 30 INCHES CAN BE PROVIDED WHERE NECESSARY AS LONG AS THE RAMP INCLUDES ADA HAND RAILS AND LANDINGS ON EACH END THAT MEET THE LEADING MINIMUMS OUTLINED HEREIN.
- ADA LANDINGS MUST HAVE POSITIVE DRAINAGE AND BE CONSTRUCTED TO PREVENT THE GATHERING OF WATER IN THE LANDING OR ALONG THE ADA PATH OF TRAVEL.
- ADA BUILDING ENTRANCE DOORWAYS MUST HAVE A LANDING IMMEDIATELY ADJACENT TO THEM AT THE EXTERIOR OF THE BUILDING OR STRUCTURE THAT MUST BE FIVE FEET BY FIVE FEET MINIMUM WITH SLOPES THAT MUST NOT EXCEED A 1:50 (2%) SLOPE IN ANY DIRECTION.
- WHEN EXISTING ADA SITE FEATURES ARE BEING RECONSTRUCTED OR MODIFIED THE CONTRACTOR MUST VERIFY THE EXISTING ELEVATIONS SHOWN ON THESE PLANS. NOTE THAT TABLE 405.2 OF THE ADA GUIDELINES ALLOWS FOR STEEPER RAMP SLOPES IN VERY RARE CIRCUMSTANCES. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES OR FIELD CONDITIONS THAT ARE DIFFERENT IN ANY WAY FROM WHAT IS SHOWN ON THESE PLANS, IN WRITING, BEFORE STARTING CONSTRUCTION.
- THE CONTRACTOR MUST VERIFY THE SLOPES OF THE CONTRACTORS FORMS PRIOR TO POURING CONCRETE. IF ANY SLOPES ARE OBSERVED THAT DO NOT CONFORM TO THE ADA GUIDELINES, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD PRIOR TO POURING CONCRETE. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND REPLACE ANY FINISHED SURFACES OF ADA FEATURES AND SITE FEATURES ALONG THE ADA ROUTE THAT ARE NOT CONSTRUCTED IN STRICT CONFORMANCE WITH THE ADA GUIDELINES.

## GRADING AND EARTHWORK NOTES

- SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THE GRADING AND DRAINAGE PLANS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AS REFERENCED IN THIS PLAN SET. IF NO GEOTECHNICAL REPORT HAS BEEN REFERENCED, THE CONTRACTOR MUST HAVE A GEOTECHNICAL ENGINEER, LICENSED IN THE STATE OF NEW JERSEY, PROVIDE WRITTEN SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO THE CONTRACTOR COMMENCING THE GRADING WORK. SHOULD ANY OF THE SPECIFICATIONS OR RECOMMENDATIONS CONFLICT WITH THE GRADING PLAN OR SITE DETAILS, THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD IMMEDIATELY.
- THE CONTRACTOR IS REQUIRED TO SECURE ALL REQUIRED PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. THE CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO THE ENGINEER OF RECORD AND THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD IN WRITING.
- THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION TO CONFIRM NO MAJOR CHANGES SINCE THE DATE OF THE SURVEY REFERENCED AS PART OF THIS PLAN SET. IF DISCREPANCIES BETWEEN THE PLANS AND SITE CONDITIONS EXIST, THEN, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD IN WRITING.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL UNSUITABLE MATERIALS WITHIN THE IN-SITU SUBGRADE WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT TO THE REQUIRED COMPACTION. A BETTER THAN THE CONDITION PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH ALL CITY, COUNTY, STATE, AND FEDERAL REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST PROMPTLY EQUIPMENT ALL EXISTING DAMAGE AND NOTIFY IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
- SUBBASE, AGGREGATE OR MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER, OR OWNERS REPRESENTATIVE, SUBBASE MUST BE REMOVED AND REPLACED WITH APPROVED SUBBASE MATERIAL AND COMPACTED AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE LATEST EDITION OF THE NJDOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION.
- THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCIES OR CONFLICTS BETWEEN THE GRADING PLAN AND ANY OTHER PLAN SHEET WITHIN THE PLAN SET. GENERALLY, THE INFORMATION IN THE GRADING PLAN SHALL SUPERSEDE THE OTHER SHEETS OF THE PLAN SET.
- THE CONTRACTOR IS RESPONSIBLE TO IMPORT FILL OR EXPORT EXCESS MATERIAL AS NECESSARY TO PRODUCE TO THE PROPOSED GRADING DESIGN, AND TO BACKFILL EXCAVATIONS FOR THE INSTALLATION OF UNDERGROUND IMPROVEMENTS TO THE PROPOSED GRADES SHOWN HEREON.
- PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY SIX INCHES ABOVE THE FINISHED PAVEMENT GRADE UNLESS OTHERWISE NOTED. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE ENGINEER OF RECORD APPROVES FINAL CURBING OUT SHEETS PRIOR TO INSTALLING CURBING.
- THE CONTRACTOR MUST CONFIRM AND ENSURE THAT, AS CONSTRUCTED, IMPROVEMENTS CREATE THE FOLLOWING MINIMUM SLOPES (EXCEPT WHERE ADA REQUIREMENTS LIMIT THEM): 1.0% ON ALL CONCRETE SURFACES; 1.0% ON ASPHALT SURFACES; 2% IN GRASS OR LANDSCAPE AREAS AND 0.75% SLOPE AGAINST ALL CURBS TO PROVIDE POSITIVE DRAINAGE.
- WHERE RETAINING WALLS (WHETHER OR NOT THEY MEET THE JURISDICTIONAL DEFINITION) ARE IDENTIFIED ON THE PLANS, BOTH TOP AND BOTTOM OF WALL ELEVATIONS REPRESENTED ON THE OTHER SHEETS OF THE PLAN SET SHALL AND DO NOT REPRESENT THE ELEVATION OF THE PROPOSED WALL (INCLUDING THE CAP UNIT OR FOOTING), WALL FOOTINGS FOUNDATION ELEVATIONS WHICH ARE NOT IDENTIFIED HEREIN AND ARE TO BE DETERMINED BY THE CONTRACTOR, MUST BE DETERMINED AND SET BASED UPON FINAL STRUCTURAL DESIGN PREPARED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY. THE CONTRACTOR MUST ENSURE THAT THE STRUCTURAL DESIGN FOR ALL WALLS SHOWN HEREON ARE APPROVED BY THE MUNICIPALITY PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR MUST ENSURE THAT FENCING, GUIDERAIL, UTILITIES, AND OTHER SITE AMENITIES IN THE VICINITY OF THE RETAINING WALLS SHALL BE PROTECTED SCHEMATICALLY ON THESE PLANS, ARE MATERIALLY CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGN BY THE STRUCTURAL ENGINEER.
- THE CONTRACTOR MUST ENSURE THAT THERE ARE NO UTILITIES INSTALLED ON THE PASSIVE SIDE OF THE RETAINING WALL. NO EXCAVATION MAY BE PERFORMED ON THE PASSIVE SIDE OF THE RETAINING WALL WITHOUT APPROPRIATELY AND SAFELY SUPPORTING THE WALL IN ACCORDANCE WITH THE STANDARD OF CARE AND ALL APPLICABLE RULES, REGULATIONS, CODES, ORDINANCES, LAWS AND STATUTES.
- A FOUR FOOT TALL FENCE MUST BE PROVIDED ON ALL RETAINING WALLS IN EXCESS OF THIRTY INCHES IN HEIGHT FOR FALL PROTECTION.

## DRAINAGE SYSTEM NOTES

- ALL RCP DRAINAGE PIPING SHALL BE CLASS III CIRCULAR REINFORCED CONCRETE PIPE WITH SILT/SOIL TIGHT JOINTS OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON THE PLANS. ALL DIP DRAINAGE PIPING SHALL BE CLASS 32 CIRCULAR DUCTILE IRON PIPE OR APPROVED EQUAL. ALL HORE DRAINAGE PIPING SHALL BE AOS-12 HIGH-DENSITY POLYETHYLENE PIPE WITH SOIL TIGHT GASKETS, OR APPROVED EQUAL.
- WHEN PERFORATED PIPE IS SPECIFIED ON THE PLANS, IT MUST CONFORM TO AASHTO M252 FOR PIPES 4" TO 10" AND TO AASHTO M24 FOR PIPES 12" TO 60" AND TYPE 5 (SMOOTH INTERIOR WITH ANGLULAR CORRUGATIONS) WITH GASKET FOR SILT/SOIL TIGHT JOINT.
- PIPE FOR ROOF DRAIN CONNECTIONS MUST BE PVC SDR 26 OR PVC SCHEDULE 40 UNLESS INDICATED OTHERWISE.
- ALL DRAINAGE PIPE CROSSINGS WITHIN 18 INCHES OR LESS OF A SANITARY SEWER MAIN OR LATERAL MUST HAVE A CONCRETE ENCASMENT PER THE NJDEP REQUIREMENTS. IF THE DRAINAGE PIPE CROSSES ABOVE THE SANITARY PIPE, APPROPRIATE STRUCTURAL SUPPORT MUST BE PROVIDED TO PREVENT THE LOAD OF THE DRAINAGE PIPE AND WATER FROM EXCEEDING THE LOADING CAPACITY OF THE SANITARY PIPE.
- UNLESS OTHERWISE NOTED, THE ROOF DRAINS FROM BUILDING ROOFS MUST DIRECTLY CONNECT TO THE ON-SITE DRAINAGE SYSTEM.
- UNLESS OTHERWISE NOTED, ALL DRAINAGE STRUCTURES MUST BE PRECAST CONCRETE WITH A MINIMUM OF H-25 LOAD RATING. ALL DRAINAGE FRAMES, INLET GRATES, AND MANHOLE COVERS MUST BE UNPAINTED AND UNCOATED HEAVY DUTY H-30 LOADING CAST IRON.
- PRECAST CONCRETE MANUFACTURERS MUST CALCULATE THE LOAD FOR EACH DRAINAGE STRUCTURE TO CONFIRM THE MINIMUM LOAD RATING CAN BE MET CONSIDERING THE OPENINGS REQUIRED FOR THE PIPE CONNECTIONS. ANY CONFLICTS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD IMMEDIATELY.
- UNLESS OTHERWISE NOTED, OR INFERRED BY INVERT ELEVATIONS, PIPE CROWN ELEVATIONS MUST BE MATCHED IN ALL DRAINAGE MANHOLES AND INLETS.
- ALL DRAINAGE STRUCTURES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE NJDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- ALL DRAINAGE INLETS AND MANHOLES SHALL BE SET ON A SIX INCH BED OF 3/4 INCH CLEAN CRUSHED STONE.
- UNLESS OTHERWISE NOTED, ALL DRAINAGE INLET SHALL BE FITTED WITH ADA COMPLIANT BICYCLE SAFE GRATES.
- TYPE "N" ECO HEAD GRATES SHALL BE USED ON ALL TYPE D DRAINAGE INLETS
- REFERS TO THE STORMWATER OPERATIONS AND MAINTENANCE MANUAL FOR MAINTENANCE OF ALL STORMWATER BASIN AND BMP STRUCTURES ON THE SITE.
- UNLESS OTHERWISE NOTED, A MINIMUM OF TWO FEET OF CLEAR SEPARATION MUST BE PROVIDED BETWEEN PARALLEL DRAINAGE STRUCTURES.
- ALL DRAINAGE STRUCTURES MUST BE MAINTAINED AND CLEANED OF DEBRIS ON A REGULAR BASIS DURING CONSTRUCTION.
- ALL DRAINAGE STRUCTURES MUST BE MAINTAINED IN ACCORDANCE WITH THE OPERATIONS AND MAINTENANCE MANUAL AFTER CONSTRUCTION.

## UTILITY NOTES

- THE LOCATIONS OF ALL EXISTING AND PROPOSED NATURAL GAS, TELECOM, ELECTRIC, AND WATER SERVICES ARE APPROXIMATE AND THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM THE LOCATIONS OF ALL UTILITIES MEET APPROPRIATE SPACE REQUIREMENTS. WHEN REVIEWING THE EXISTING SITE CONDITIONS, THE CONTRACTOR MUST COORDINATE WITH THE LOCAL UTILITY COMPANIES PRIOR TO STARTING CONSTRUCTION TO AVOID INTERFERENCE OR CONFLICTS. THE LOCATIONS OF NATURAL GAS, TELECOM, AND ELECTRIC LINES WILL BE DETERMINED BY THE UTILITY PURVEYOR PROVIDING SERVICE. THE CONTRACTOR MUST REPORT ALL DISCREPANCIES, CONFLICTS, AND OMISSIONS IN WRITING, TO THE ENGINEER OF RECORD.
- THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE NEW JERSEY 811 ONE CALL SYSTEM TO LOCATE ALL OF THE UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES WHICH OCCUR DURING CONSTRUCTION, AT NO COST TO THE OWNER AND AT CONTRACTORS SOLE COST AND EXPENSE. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES WHICH OCCURS DURING CONSTRUCTION.
- STREETS, SIDEWALKS, DRIVEWAYS, CURBS, AND OTHER FINISHED SURFACES DISTURBED BY THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN HEREON MUST BE RESTORED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, COUNTY, THE NJDOT, AND THE SOIL CONSERVATION DISTRICT.
- THE CONTRACTOR MUST FIELD VERIFY THE PROPOSED CROSSINGS OF EXISTING UNDERGROUND UTILITIES BY USING A TEST PIT TO CONFIRM THE EXACT DEPTH PRIOR TO COMMENCEMENT OF CONSTRUCTION OF ANY PART OF THE PROPOSED UTILITY SYSTEM.
- STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON ARCHITECTURAL PLANS. THE CONTRACTOR MUST VERIFY ROOF DRAIN LOCATIONS AND SIZES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF RECORD OF ANY CONFLICTS BETWEEN ELEVATIONS OR SIZES.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING SITE PLAN DOCUMENTS AND ARCHITECTURAL PLANS FOR UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS, DOOR ACCESS, AND EXTERIOR GRADING IMMEDIATELY AROUND THE BUILDING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITY SERVICES WITH THE INDIVIDUAL COMPANIES TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLES WITH ALL UTILITY REQUIREMENTS OF THE APPLICABLE JURISDICTION AND REGULATORY AGENCIES AND ALL OTHER APPLICABLE REQUIREMENTS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR COORDINATING THE UTILITY SERVICE CONNECTIONS TO PUBLIC UTILITY INFRASTRUCTURE PRIOR TO MAKING ANY CONNECTIONS. WHERE A CONFLICT EXISTS BETWEEN THESE DOCUMENTS AND THE ARCHITECTURAL PLANS, OR WHEN THE CONTRACTOR HAS ANY QUESTIONS REGARDING THE UTILITY SERVICE CONNECTIONS, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, PRIOR TO CONSTRUCTION.
- THE LAYOUT OF COMMON UTILITY TRENCHES AND CONNECTIONS TO BUILDINGS MUST BE VERIFIED BY THE RESPECTIVE UTILITY COMPANY PRIOR TO CONSTRUCTION. THE CONTRACTOR WILL COMMON UTILITY TRENCH INSPECTION WITH THE APPROPRIATE UTILITY COMPANIES PRIOR TO BACKFILLING THE TRENCH.
- ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE EXACTLY AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND THE CONTRACTOR MUST COORDINATE SAME WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS, FILL AND COMPACTION MUST COMPLY WITH APPLICABLE REQUIREMENTS AND SPECIFICATIONS. ENGINEER OF RECORD IS NOT RESPONSIBLE FOR DESIGN OF TRENCH BACKFILL OR FOR COMPACTION REQUIREMENTS.
- DURING THE INSTALLATION OF UTILITIES, THE CONTRACTOR MUST MAINTAIN A THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEViate FROM THE INFORMATION CONTAINED WITHIN THESE PLANS. THE RECORD MUST BE KEPT ON A CLEAN COPY OF THE APPROPRIATE PLANS, WHICH THE CONTRACTOR MUST PROVIDE TO THE OWNER IMMEDIATELY UPON THE COMPLETION OF THE WORK.
- THE CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS ARE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY, OR NJDOT DETAILS AS APPLICABLE. THE CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY HAVING JURISDICTION OVER THE UTILITY WORK.
- FINAL LOCATIONS OF PROPOSED UTILITY POLES TO BE RELOCATED TO BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY. UTILITY POLE LOCATIONS DEPICTED ON THESE PLANS ARE SCHEMATIC ONLY.
- STREET LIGHTS ARE TO BE INSTALLED IN COORDINATION WITH THE UTILITY COMPANY AND MUNICIPAL STANDARDS. SPACING AND FIXTURE MANUFACTURER AND MODEL TO BE AS SPECIFIED BY THE MUNICIPAL STANDARDS.
- THE TOPS OF EXISTING MANHOLES, INLETS, CLEANOUTS, AND VALVES MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED FINISHED GRADES WITH NO TRIPPING OR SAFETY HAZARD IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS.
- SANITARY SEWER MAINS MUST BE SEPARATED FROM ALL WATER MAINS BY A MINIMUM OF TEN FEET HORIZONTALLY. IF SUCH HORIZONTAL SEPARATION IS NOT POSSIBLE, THE PIPES MUST BE IN SEPARATE TRENCHES WITH THE SEWER AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN, OR SUCH OTHER SEPARATION AS APPROVED BY THE NJDEP. WHERE APPROPRIATE SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER MUST BE ENCASED IN CONCRETE, OR CONSTRUCTED OF GLASS 33 DUCTILE IRON PIPE AND APPROPRIATELY LINED USING MECHANICAL OR SLIP-ON WATER TIGHT JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE.
- WHEN THESE PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING BUT NOT LIMITED TO STORM, SANITARY, UTILITIES, AND IRRIGATION LINES, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. THE CONTRACTOR MUST CAP ENDS AS APPROPRIATE. MARK LOCATIONS WITH A 2X4 STAKE, AND MUST NOTE THE LOCATION OF ALL OF THE ABOVE ON A CLEAN COPY OF THE PLANS AS PART OF THE RECORD DOCUMENTS.
- STORM AND SANITARY PIPE LENGTHS INDICATED ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- THE CONTRACTOR MUST NOTIFY, IN WRITING, THE MUNICIPAL ENGINEER AND ENGINEER OF RECORD AT LEAST 72 HOURS PRIOR TO INSTALLATION OF SANITARY SEWER UTILITIES. FAILURE TO HAVE SANITARY SEWER INSTALLATION AND TESTING OBSERVED BY THE DESIGNATED ENGINEER MAY REQUIRE RE-EXCAVATION OF SANITARY SEWER UTILITIES AND RE-TESTING, WHICH WILL BE DONE AT THE CONTRACTORS SOLE COST AND EXPENSE.
- NATURAL GAS METERS MUST BE PROTECTED BY BOLLARDS AND FENCES IF INSTALLED WITHIN THE EXTERIOR OF THE BUILDING AS REQUIRED BY THE JURISDICTIONAL NATURAL GAS PURVEYOR.

## REVISIONS

NO.	DESCRIPTION	DATE

## JOB NO.

8407

## FILE NAME

8407-Cover Sheet.dwg

## DRAWN

ERI

## DATE

04/22/25

## REVIEWED

BMT

## SCALE

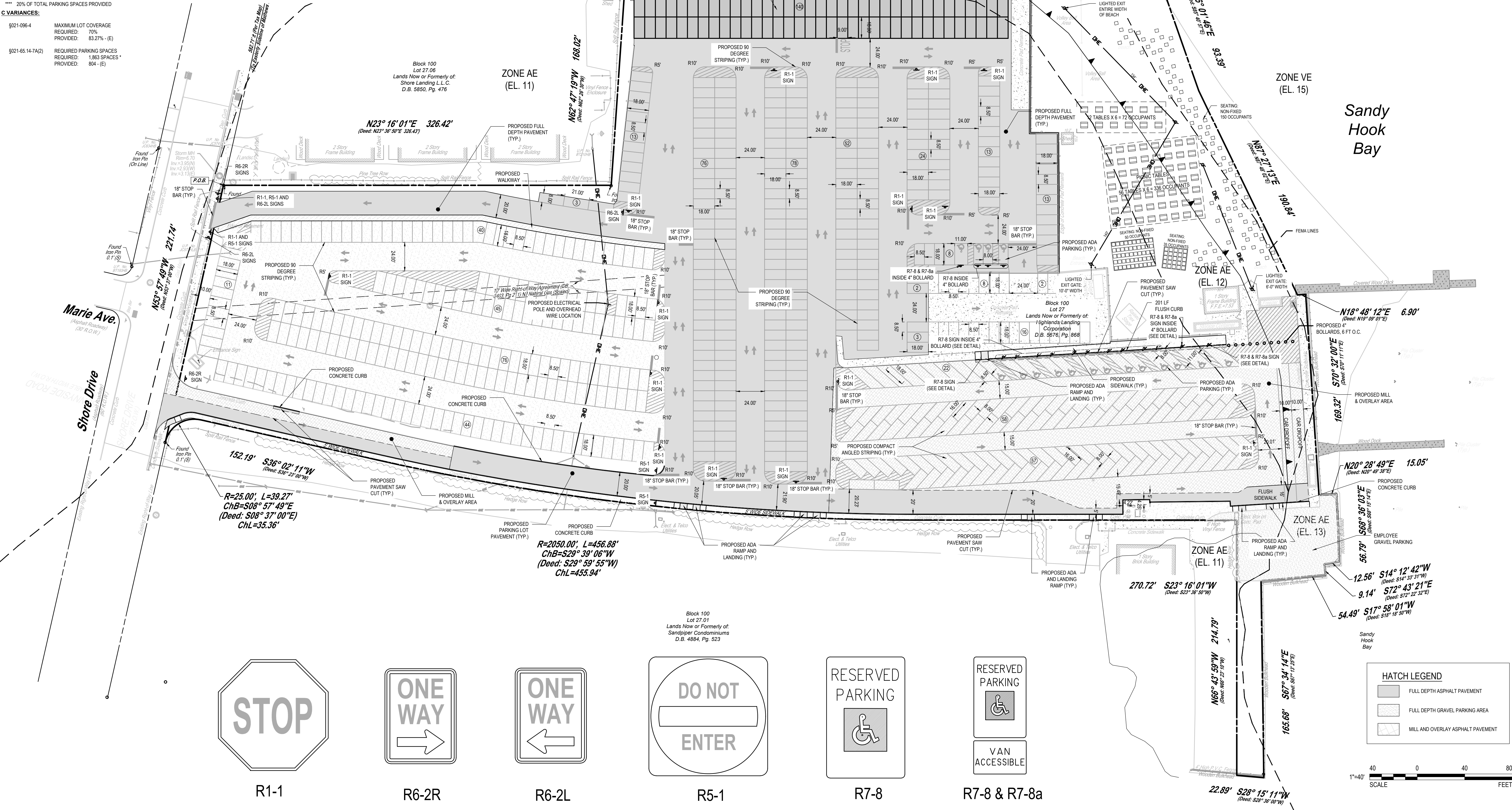


ZONING INFORMATION			
ZONE: WC-2 WATERFRONT COMMERCIAL DISTRICT			
PARAMETER	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	N/A	333,717 SF	333,717 SF
MINIMUM LOT FRONTAGE	100 FT	201.78 FT	201.78 FT
MINIMUM LOT DEPTH	150 FT	870.61 FT	870.61 FT
MINIMUM FRONT YARD SETBACK	20 FT	828.9 FT	828.9 FT
MINIMUM SIDE YARD SETBACK	10 FT	173.3 FT	173.3 FT
MINIMUM REAR YARD SETBACK	N/A	41.3 FT	41.3 FT
MAXIMUM BUILDING HEIGHTS	36 FT	< 36 FT	< 36 FT
MAXIMUM LOT COVERAGE	70%	83.68%	83.10%
MAXIMUM BUILDING COVERAGE	25%	0.20%	0.20%
FLOOR AREA RATIO	0.6000	0.0020	0.0020
PARKING			
REQUIRED PARKING SPACES	** 1,863 SPACES	*957 SPACES	804 SPACES
REQUIRED ADA PARKING SPACES	** 17 SPACES	12 SPACES	17 SPACES
REQUIRED VAN ADA PARKING SPACES	*** 3 SPACES	0 SPACES	3 SPACES
MAXIMUM COMPACT PARKING SPACES	**** 160 SPACES	0 SPACES	113 SPACES
MINIMUM FRONT YARD SETBACK	10 FT	2.05 FT	10 FT
MINIMUM SIDE YARD SETBACK	5 FT	5.44 FT	8 FT

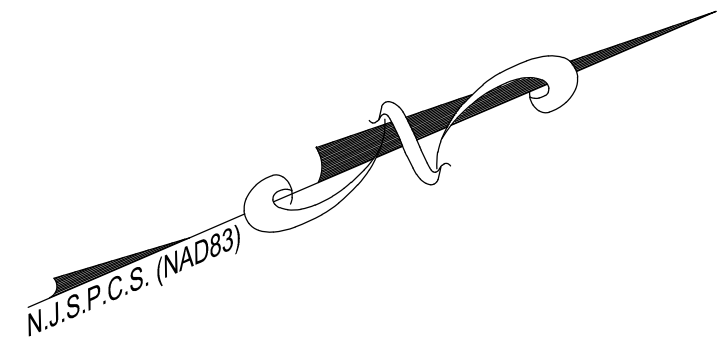
\* 0.7 SPACES/ PASSENGER SEAT DEPARTING OVER 24 HR PERIOD  
2,660 PASSENGERS X 0.7 = 1,863 REQUIRED SPACES  
(NUMBERS ARE BASED OFF REPORT WRITTEN BY BRIAN O'CALLAHAN ON 7/13/2023 REGARDING EXISTING PARKING COMPLAINTS)  
\*\* 2% OF TOTAL PARKING SPACES PROPOSED MUST BE ADA COMPLIANT SPACES  
\*\*\* 1 IN 6 ADA COMPLIANT SPACES MUST BE VAN COMPLIANT SPACE  
\*\*\*\* 20% OF TOTAL PARKING SPACES PROVIDED

C. VARIANCES:

5021-096-4	MAXIMUM LOT COVERAGE REQUIRED: 70% PROVIDED: 83.27% - (E)
5021-65.14-7A(2)	REQUIRED PARKING SPACES REQUIRED: 1,863 SPACES PROVIDED: 804 - (E)



REVISIONS	
NO.	DESCRIPTION



Mathews Street

(Asphalt Roadway)  
(20' R.O.W.)

Block 100  
Lot 30.02  
Lands Now or Formerly of:  
Bayview Condominiums  
D.B. 4676, Pg. 343

N23° 16' 01"E 452.31'  
(Deed: N23° 36' 30"E)

Block 100  
Lot 27.06  
Lands Now or Formerly of:  
Shore Landing L.C.  
D.B. 5650, Pg. 476

N23° 16' 01"E 326.42'  
(Deed: N23° 36' 50"E 326.42')

N62° 47' 19"W 168.02'  
(Deed: N62° 28' 30"W)

Sandy Hook Bay

Marie Ave.

Shore Drive

152.19' S36° 02' 11"W  
(Deed: S08° 23' 00"W)

R=25.00', L=39.27'  
ChB=S08° 57' 49"E  
(Deed: S08° 37' 00"E)  
ChL=35.36'

R=2050.00', L=456.88'  
ChB=S29° 39' 06"W  
(Deed: S29° 59' 55"W)  
ChL=455.94'

Block 100  
Lot 27.01  
Lands Now or Formerly of:  
Sandpiper Condominiums  
D.B. 4884, Pg. 523

270.72' S23° 16' 01"W  
(Deed: S23° 36' 30"W)

N66° 43' 59"W 214.79'  
(Deed: N68° 23' 0"W)

S67° 34' 14"E  
(Deed: S67° 12' 25"E)

N20° 28' 49"E 15.05'  
(Deed: N20° 49' 38"E)

S68° 36' 03"E  
(Deed: S68° 15' 45"E)

12.56' S14° 12' 42"W  
(Deed: S14° 33' 31"W)  
9.14' S72° 43' 21"E  
(Deed: S72° 22' 32"E)  
54.49' S17° 58' 01"W  
(Deed: S16° 16' 30"W)

1"=40'  
SCALE 0 40 80  
FEET

**Najarian**  
Associates  
Professional Engineers, Land Surveyors & Planners • Scientists  
One Industrial Way West, Eatontown, New Jersey 07724  
(732) 389-0220 • Facsimile No. (732) 389-8346  
Certificate of Authorization: Certificate # 24GA27993300

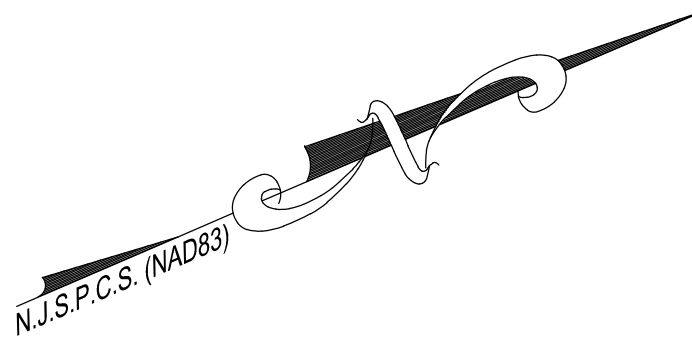
**BRAD M. THOMPSON P.E.**  
NJ PROFESSIONAL ENGINEER, No. 48075

REVISIONS

NO.	DATE	DESCRIPTION

**GRADING, DRAINAGE & UTILITY PLAN**  
HIGHLANDS LANDING CORPORATION  
BLOCK 100, LOT 27, 27.04, 27.05  
TAX MAP SHEET NO. 19  
BOROUGH OF HIGHLANDS  
MONMOUTH COUNTY  
NEW JERSEY

JOB NO. 8407  
FILE NAME 8407-GDU Plan.dwg  
DRAWN ERI  
DATE 04/22/25  
REVIEWED BMT  
SCALE 1"=40'  
SHEET NO. C-05  
OF 9



Mathews Street  
(Asphalt Roadway)  
(20' R.O.W.)

Block 100  
Lot 30.02  
Lands Now or Formerly of:  
Bayview Condominiums  
D.B. 4676, Pg. 343

ZONE AE  
(EL. 12)

N23° 16' 01" E 452.31'  
(Deed: N23° 36' 50" E)

Block 100  
Lot 27.06  
Lands Now or Formerly of:  
Shore Landing L.L.C.  
D.B. 5850, Pg. 476

ZONE AE  
(EL. 11)

N23° 16' 01" E 326.42'  
(Deed: N23° 36' 50" E 326.43')

N62° 47' 19" W 168.02'  
(Deed: N62° 48' 30" W)

ZONE VE  
(EL. 15)

Sandy Hook Bay

ZONE AE  
(EL. 12)

Block 100  
Lot 27  
Lands Now or Formerly of:  
Highlands Landing  
Corporation  
D.B. 5676, Pg. 868

Marie Ave.  
(Asphalt Roadway)  
(20' R.O.W.)

Shore Drive  
(Asphalt Roadway)  
(20' R.O.W.)

N53° 57' 49" W 221.74'  
(Deed: N53° 37' 49" W)

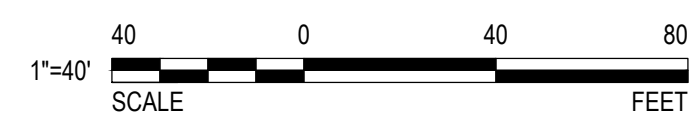
R=25.00', L=39.27'  
ChB=S08° 57' 49" E  
(Deed: S08° 37' 00" E)  
ChL=35.36'

R=2050.00', L=456.88'  
ChB=S29° 39' 06" W  
(Deed: S29° 59' 55" W)  
ChL=455.94'

Block 100  
Lot 27.01  
Lands Now or Formerly of:  
Sandpaper Condominiums  
D.B. 4684, Pg. 523

LEGEND:

- A TYPE "A" INLET PROTECTION
- B TYPE "B" INLET PROTECTION
- C TYPE "E" INLET PROTECTION
- D TEMPORARY SILTATION CONTROL FENCE
- LIMIT OF DISTURBANCE



**Najarian Associates**  
Professional Engineers, Land Surveyors & Planners • Scientists  
One Industrial Way West, Eatontown, New Jersey 07724  
(732) 389-0220 • Facsimile No. (732) 389-8546  
Certificate of Authorization Certificate # 24GA27993300

**BRAD M. THOMPSON P.E.**  
NJ PROFESSIONAL ENGINEER, No. 48075

REVISIONS	
NO.	DESCRIPTION

**SOIL EROSION & SEDIMENT CONTROL PLAN**  
HIGHLANDS LANDING CORPORATION  
BLOCK 100, LOT 27, 27.04, 27.05  
TAX MAP SHEET NO. 19  
BOROUGH OF HIGHLANDS  
MONMOUTH COUNTY  
NEW JERSEY

JOB NO. 8407  
FILE NAME 8407-Soil Erosion Plan.dwg  
DRAWN ERI  
REVIEWED BMT  
DATE 04/22/25  
SCALE 1"=40'  
SHEET NO. C-06  
OF 9

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

1. **SITE PREPARATION**
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH "STANDARDS FOR LAND GRADING, PG. 19-1."
- B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
- C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAVE BEEN SOIL COMPACTIONS. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
2. **SEEDBED PREPARATION**
- A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TESTING INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
- B. WORK LINE AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL, TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
- C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.
- D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO "STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1."
3. **SEEDING**
- A. SELECT SEED FROM RECOMMENDATIONS IN TABLE

TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTH						
SEED SELECTIONS	SEEDING RATE (#a)		OPTIMUM SEEDING DATE BASED ON PLANT HARDINESS ZONE			OPTIMUM SEED DEPTH (#)
	Per Acre	Per 1000 SF	ZONE	ZONE	ZONE	
			5b,6a	6b	7a, b	
COOL SEASON GRASSES						
1. PERENNIAL RYEGRASS	100	1.0000	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-9/1 8/15-10/15	0.5000
2. SPRING OATS	86	2.0000	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-9/1 8/15-10/15	1.0000
3. WINTER BARLEY	96	2.2000	8/1-9/15	8/15-10/1	8/15-10/15	1.0000
4. ANNUAL RYEGRASS	100	1.0000	3/15-6/1 8/1-9/15	3/1-5/15 8/1-9/15	2/15-9/1 8/15-10/15	0.5000
5. WINTER CEREAL RYE	112	2.8000	8/1-11/1	8/1-11/15	8/1-12/15	1.0000
WARM SEASON GRASSES						
6. PEARL MILLET	20	0.5000	6/1-8/1	5/15-8/15	5/1-9/1	1.0000
7. MILLET (GERMAN OR HUNGARIAN)	30	0.7000	6/1-8/1	5/15-8/15	5/1-9/1	1.0000

- B. CONVENTIONAL SEEDING: APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
- C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4. MULCHING)
- HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
- D. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD, WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
4. **MULCHING**
- MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS SEEDLING REQUIREMENT.
- A. STRAW OR HAY, UNROTTED SMALL GRASS STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.
- APPLICATION: SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE TO 70 TO 90 POUNDS WITH EACH SECTION.
- ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS:
- 1) PEG AND TWINE: DRIVE 6 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
- 2) MULCH NETTINGS: STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOVED.
- 3) CRIMPER (MULCH ANCHORING COUNTER TOOL): A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
- 4) LIQUID MULCH-BINDERS: MAY BE USED TO ANCHOR HAY OR STRAW MULCH.
- a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
- b. USE ONE OF THE FOLLOWING:
1. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER-BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
2. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
- NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
- B. WOOD-FIBER OR PAPER-FIBER MULCH: SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PROJECT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
- C. PELLETEDZ MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDBED AREA AND WATERED, FORM A MULCH MAT. PELLETEDZ MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 80-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDBED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE. APPLYING THE FLAT 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETEDZ MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

5. IRRIGATION (WHERE FEASIBLE)
- IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO THREE DAYS AFTER SEEDING) IS VEGEATION IS WELL ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
6. TOPDRESSING
- SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2A - SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY, AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT SITUATION, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.
7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION
- THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER OF THE SEEDED SPECIES) AND MOVED ONCE. NOTE THIS DESIGNATION NOT MOVED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF. SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. **SITE PREPARATION**
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH "STANDARD FOR LAND GRADING"
- B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
- C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
- D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. **SEEDBED PREPARATION**
- A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL, WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES (HTTP://INJAKES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
- B. WORK LINE AND FERTILIZER INTO THE TOPSOIL, AS NEARLY AS PRACTICAL, TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
- C. HIGH ACID PRODUCING SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL, HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.
3. **SEEDING**
- A. SELECT A MIXTURE FROM TABLE 4-3 OR USE A MIXTURE RECOMMENDED BY RUTGERS CO-OPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION WHICH IS APPROVED BY THE DISTRICT. THE SEED APPLICATION RATES IN TABLE 4-3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDBED AREA AND MOVED ONCE.
- 2) WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 80°F AND ABOVE. SEE TABLE 4-3 MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
- 3) COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 80°F. MANY GRASSES BECOME ACTIVE AT 65°F. SEE TABLE 4-3 MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL SEASON GRASSES.
- B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE-TEXTURED SOIL.
- C. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD, WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
- D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4. MULCHING BELOW.)
- HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

4. **MULCHING**
- MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
- A. STRAW OR HAY, UNROTTED SMALL GRASS STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.
- APPLICATION - SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE TO 70 TO 90 POUNDS WITH EACH SECTION.
- ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS:
- 1) PEG AND TWINE: DRIVE 6 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
- 2) MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOVED.
- 3) CRIMPER (MULCH ANCHORING COUNTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
- 4) LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR HAY, HAY OR STRAW MULCH.
- a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
- b. USE ONE OF THE FOLLOWING:
1. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER-BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
2. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
- NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
- B. WOOD-FIBER OR PAPER-FIBER MULCH: SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
- C. PELLETEDZ MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDBED AREA AND WATERED, FORM A MULCH MAT. PELLETEDZ MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 80-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDBED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE. APPLYING THE FLAT 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETEDZ MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

5. IRRIGATION (WHERE FEASIBLE)
- IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO THREE DAYS AFTER SEEDING) IS VEGEATION IS WELL ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
6. TOPDRESSING
- SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2A - SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY, AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT SITUATION, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.
7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION
- THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER OF THE SEEDED SPECIES) AND MOVED ONCE. NOTE THIS DESIGNATION NOT MOVED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF. SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

STANDARD FOR LAND GRADING

- CONDITIONS WHERE PRACTICE APPLIES
- THIS PRACTICE IS APPLICABLE WHERE GRADING TO PLANNED ELEVATIONS IS PRACTICAL, AND IT IS DETERMINED THAT GRADING IS NEEDED. GRADING THAT INVOLVES THE DISTURBANCE OF VEGETATION OVER LARGE AREAS SHALL BE AVOIDED. IT MAY BE NECESSARY TO PROVIDE FOR TEMPORARY STABILIZATION OF LARGE AREAS.
- WATER QUALITY ENHANCEMENT
- PROPER GRADING OF DISTURBED SITES WILL PROTECT AGAINST SOIL LOSS FROM EROSION, ENHANCE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER AND HELP TO PROPERLY MANAGE STORMWATER RUNOFF ALL OF WHICH WILL REDUCE OFF SITE DISCHARGE OF POLLUTANTS.
- PLANNING CRITERIA
- THE GRADING PLAN AND INSTALLATION SHALL BE BASED UPON ADEQUATE TOPOGRAPHIC SURVEYS AND INVESTIGATIONS. THE PLAN IS TO SHOW THE LOCATION, SLOPE, CUT, FILL AND FINISH ELEVATION OF THE SOIL TO BE GRADED. THE PLAN SHOULD ALSO INCLUDE AUXILIARY PRACTICES FOR SAFE DISPOSAL OF RUNOFF WATER, SLOPE STABILIZATION, EROSION CONTROL AND DRAINAGE, FACILITIES SUCH AS WATERWAYS, DITCHES, DIVERSIONS, GRADE STABILIZATION STRUCTURES, RETAINING WALLS AND SUBSURFACE DRAINS SHOULD BE INCLUDED WHERE NECESSARY.
- EROSION CONTROL MEASURES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE APPLICABLE STANDARD CONTAINED HEREIN.
- THE DEVELOPMENT AND ESTABLISHMENT OF THE PLAN SHALL INCLUDE THE FOLLOWING:
1. THE CUT/FACE OF EARTH EXCAVATIONS AND FILLS SHALL BE NO STEEPER THAN THE SAFE ANGLE OF REPOSE FOR THE MATERIALS ENCOUNTERED AND FLAT ENOUGH FOR PROPER MAINTENANCE.
2. THE PERMANENTLY EXPOSED FACES OF EARTH CUTS AND FILLS SHALL BE VEGETATED OR OTHERWISE PROTECTED FROM EROSION.
3. PROVISIONS SHALL BE MADE TO SAFELY CONDUIT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILLS SLOPES.
4. SUBSURFACE DRAINAGE IS TO BE PROVIDED IN AREAS HAVING A HIGH WATER TABLE, TO INTERCEPT SEEPAGE THAT WOULD ADVERSELY AFFECT SLOPE STABILITY, BUILDING FOUNDATIONS OR CREATE UNDESIRABLE WETNESS. SEE STANDARD FOR SUBSURFACE DRAINAGE, PG. 32-1.
5. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.
6. FILL SHALL NOT BE PLACED ADJACENT TO THE BANK OF A STREAM OR CHANNEL, UNLESS PROVISIONS ARE MADE TO PROTECT THE HYDRAULIC, BIOLOGICAL, AESTHETIC AND OTHER ENVIRONMENTAL FUNCTIONS OF THE STREAM.

- SOIL MANAGEMENT AND PREPARATION
- SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
- THIS SECTION OF THIS STANDARD ADDRESSES THE POTENTIAL FOR EXCESSIVE SOIL COMPACTION IN LIGHT OF THE INTENDED LAND USE. TESTING FOR EXCESSIVE SOIL COMPACTION WHERE PERMANENT VEGETATION IS TO BE ESTABLISHED AND MITIGATION OF EXCESSIVE SOIL COMPACTION WHEN APPROPRIATE.
- DUE TO USE OR SETTING, CERTAIN DISTURBED AREAS WILL NOT REQUIRE COMPACTION REMEDIATION INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
1. WITHIN 20 FEET OF BUILDING FOUNDATIONS WITH BASEMENTS, 12 FEET FROM SLAB OR CRAWL SPACE CONSTRUCTION.
2. WHERE SOILS OR GRAVEL SURFACES WILL BE REQUIRED TO SUPPORT POST-CONSTRUCTION VEHICULAR TRAFFIC LOADS SUCH AS PARKS, PARKING LOTS AND DRIVEWAYS (INCLUDING GRAVEL SURFACES), BICYCLE PATHS OR PEDESTRIAN WALKWAYS (SIDEWALKS) ETC)
3. AIRPORTS, RAILWAYS OR OTHER TRANSPORTATION FACILITIES
4. AREAS REQUIRING INDUSTRY OR GOVERNMENT SPECIFIED SOIL DESIGNS, INCLUDING GOLF COURSES, LANDFILLS, WETLAND RESTORATION, INDUSTRIAL DISPOSAL FIELDS, WETLAND PONDS, ETC.
5. AREAS GOVERNED OR REGULATED BY OTHER LOCAL, STATE OR FEDERAL REGULATIONS WHICH DICTATE SOIL CONDITIONS
6. BROWNFIELDS (CAPPED USES), URBAN REDEVELOPMENT AREAS, INFILL AREAS, RECYCLING YARDS, JUNK YARDS, QUARRIES AND
7. SLOPES DETERMINED TO BE INAPPROPRIATE FOR SAFE OPERATION OF EQUIPMENT
8. PORTIONS OF A SITE WHERE NO HEAVY EQUIPMENT TRAFFIC OR OTHER DISTURBANCE HAS TAKEN PLACE
9. AREAS RECEIVING TEMPORARY VEGETATIVE STABILIZATION IN ACCORDANCE WITH THE STANDARD
10. WHERE THE AREA AVAILABLE FOR REMEDIATION PRACTICES IS 500 SQUARE FEET OR LESS IN SIZE.
11. LOCATIONS CONTAINING SHALLOW (CLOSE TO THE SURFACE) BEDROCK CONDITIONS.

- AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION SHALL BE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
- SOIL COMPACTION REMEDIATION OR TESTING TO PROVE REMEDIATION IS NOT NECESSARY WILL BE REQUIRED IN AREAS WHERE PERMANENT VEGETATION IS TO BE ESTABLISHED THAT ARE NOT OTHERWISE EXEMPTED ABOVE. TESTING METHOD SHALL BE SELECTED, AND SOIL COMPACTION TESTING SHALL BE PERFORMED BY THE CONTRACTOR OR OTHER PROJECT OWNERS REPRESENTATIVE (E.G. ENGINEER). A MINIMUM OF TWO (2) TESTS SHALL BE PERFORMED FOR PROJECTS WITH AN OVERALL LIMIT OF DISTURBANCE OF UP TO ONE (1) ACRE AND AT A RATE OF TWO (2) TESTS PER ACRE OF THE OVERALL LIMIT OF DISTURBANCE. FOR LARGER AREAS WHICH SHALL BE EVENLY DISTRIBUTED OVER THE AREA OF DISTURBANCE SUBJECT TO TESTING, TESTS SHALL BE PERFORMED IN AREAS REPRESENTATIVE OF THE CONSTRUCTION ACTIVITY PREVAILING IN THE AREA. IN THE EVENT THIS TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE TESTING METHOD, THE CONTRACTOR OWNERS SHALL HAVE THE OPTION TO PERFORM COMPACTION MITIGATION OVER THE ENTIRE DISTURBED AREA (EXCLUDING EXEMPT AREAS) OR TO PERFORM ADDITIONAL TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION.
- SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.
- SOIL TEST METHOD OPTIONS

1. PROBING WIRE TEST METHOD
- THIS TEST SHALL BE CONDUCTED WITH A FIRM WIRE (15-12 GAUGE STEEL WIRE - E.G. SURVEY MARKER FLAG, STRAIGHT WIRE STOCK, ETC.), 18 TO 21 INCHES IN LENGTH, WITH 6" INCHES FROM ONE END VISIBLY MARKED ON THE WIRE. CONDUCT WIRE FLAG TEST BY HOLDING THE WIRE FLAG NEAR THE FLAG END AND PUSH IT VERTICALLY INTO THE SOIL AT SEVERAL DIFFERENT LOCATIONS IN THE FIELD TO THE LESSER OF A 6 INCH DEPTH OR THE DEPTH AT WHICH IT BENDS DUE TO RESISTANCE IN THE SOIL. RECORD THE DEPTH AT WHICH IT BENDS DUE TO RESISTANCE IN THE SOIL. THE WIRE SHOULD PENETRATE WITHOUT BENDING OR DEFORMING AT LEAST 6" INTO THE GROUND BY HAND, WITHOUT THE USE OF TOOLS. IF PENETRATION FAILS AND AN OBSTRUCTION IS SUSPECTED (ROCKS, ROOT, DEBRIS, ETC.) THE TEST CAN BE REPEATED IN THE SAME GENERAL AREA. IF THE TEST IS SUCCESSFUL, THE SOIL IS NOT EXCESSIVELY COMPACTED. IF THE WIRE IS DIFFICULT TO INSERT WIRE BENDS OR DEFORMS PRIOR TO REACHING 6 INCHES IN DEPTH THE SOIL MAY BE EXCESSIVELY COMPACTED AND COMPACTION MITIGATION OR FURTHER TESTING VIA METHOD 3 OR 4 BELOW IS REQUIRED. THE CHOICE OF WHICH IS AT THE CONTRACTOR/OWNERS DISCRETION.
2. HANDHELD SOIL PENETROMETER TEST METHOD
- THIS TEST SHALL BE CONDUCTED BASED ON THE STANDARD OPERATION PROCEDURE (SOP) #R0C2E010-001, PREPARED BY THE RUTGERS CO-OPERATIVE EXTENSION, IMPLEMENTED JUNE 1, 2010, LAST REVISED FEBRUARY 28, 2011. A RESULT OF LESS THAN OR EQUAL TO 300 PSI SHALL BE CONSIDERED PASSING. IF THE RESULT IS GREATER THAN 300 PSI THE SOIL MAY BE EXCESSIVELY COMPACTED AND COMPACTION MITIGATION OR FURTHER TESTING VIA METHOD 3 OR 4 BELOW IS REQUIRED. THE CHOICE OF WHICH IS AT THE CONTRACTOR/OWNERS DISCRETION.
3. TUBE BULK DENSITY TEST METHOD
- THIS TEST SHALL BE CERTIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER UTILIZING ONLY UNDISTURBED SAMPLES (RECONSTITUTION OF THE SAMPLE NOT PERMITTED) COLLECTED UTILIZING THE PROCEDURE FOR SOIL BULK DENSITY TESTS AS DESCRIBED IN THE USDA NRCS SOIL QUALITY TEST KIT GUIDE, SECTION 1-4, JULY 2001. WHEN THE TEXTURE OF THE SOIL TO BE TESTED IS A SAND OR LOAM SAND AND LACK OF SOIL COHESION OR THE PRESENCE OF LARGE AMOUNTS OF COARSE FRAGMENTS, ROOTS OR WORM CHANNELS PREVENT THE TAKING OF UNDISTURBED SAMPLES, THIS TEST SHALL NOT BE USED.
- WHERE THE RESULTS OF REPLICATE TESTS DIFFER BY MORE THAN TEN PERCENT (10%), THE SAMPLES SHALL BE EXAMINED FOR THE FOLLOWING DEFECTS:
- i. CRACKS, WORM CHANNELS, LARGE ROOT CHANNELS OR POOR SOIL TUBE CONTACT WITHIN THE SAMPLES.
- ii. LARGE PIECES OF GRAVEL, ROOTS OR OTHER FOREIGN OBJECTS
- iii. SMEARING OR COMPACTION OF THE UPPER OR LOWER SURFACE OF THE SAMPLES
- IF ANY OF THE DEFECTS DESCRIBED IN 3 (i-iii) ABOVE ARE FOUND, THE DEFECTIVE CORE(S) SHALL BE DISCARDED AND THE TEST REPEATED USING A NEW REPLICATE SAMPLE FOR EACH DEFECTIVE REPLICATE SAMPLE. THE BULK DENSITY (DEFINED AS THE WEIGHT OF DRY SOIL PER VOLUME) RESULTS SHALL BE COMPARED WITH THE MAXIMUM DRY BULK DENSITIES IN TABLE 4-1. A RESULT OF LESS THAN OR EQUAL TO THE APPLICABLE MAXIMUM BULK DENSITY SHALL BE CONSIDERED PASSING. IF THE RESULT IS GREATER THAN THE MAXIMUM BULK DENSITY THE SOIL SHALL BE CONSIDERED EXCESSIVELY COMPACTED AND COMPACTION MITIGATION IS REQUIRED.
4. NUCLEAR DENSITY TEST METHOD
- THIS TEST SHALL BE CERTIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER AND CONDUCTED BY A NUCLEAR GAUGE CERTIFIED INSPECTOR PURSUANT TO ASTM D6938. THE BULK DENSITY MEASUREMENT RESULTS SHALL BE COMPARED WITH THE MAXIMUM DRY BULK DENSITIES IN TABLE 4-1. A RESULT OF LESS THAN OR EQUAL TO THE APPLICABLE MAXIMUM BULK DENSITY SHALL BE CONSIDERED PASSING. IF THE RESULT IS GREATER THAN THE MAXIMUM BULK DENSITY THE SOIL SHALL BE CONSIDERED EXCESSIVELY COMPACTED AND COMPACTION MITIGATION IS REQUIRED.
5. IRRIGATION (WHERE FEASIBLE)
- IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO THREE DAYS AFTER SEEDING) IS VEGEATION IS WELL ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
6. TOPDRESSING
- SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2A - SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY, AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT SITUATION, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.

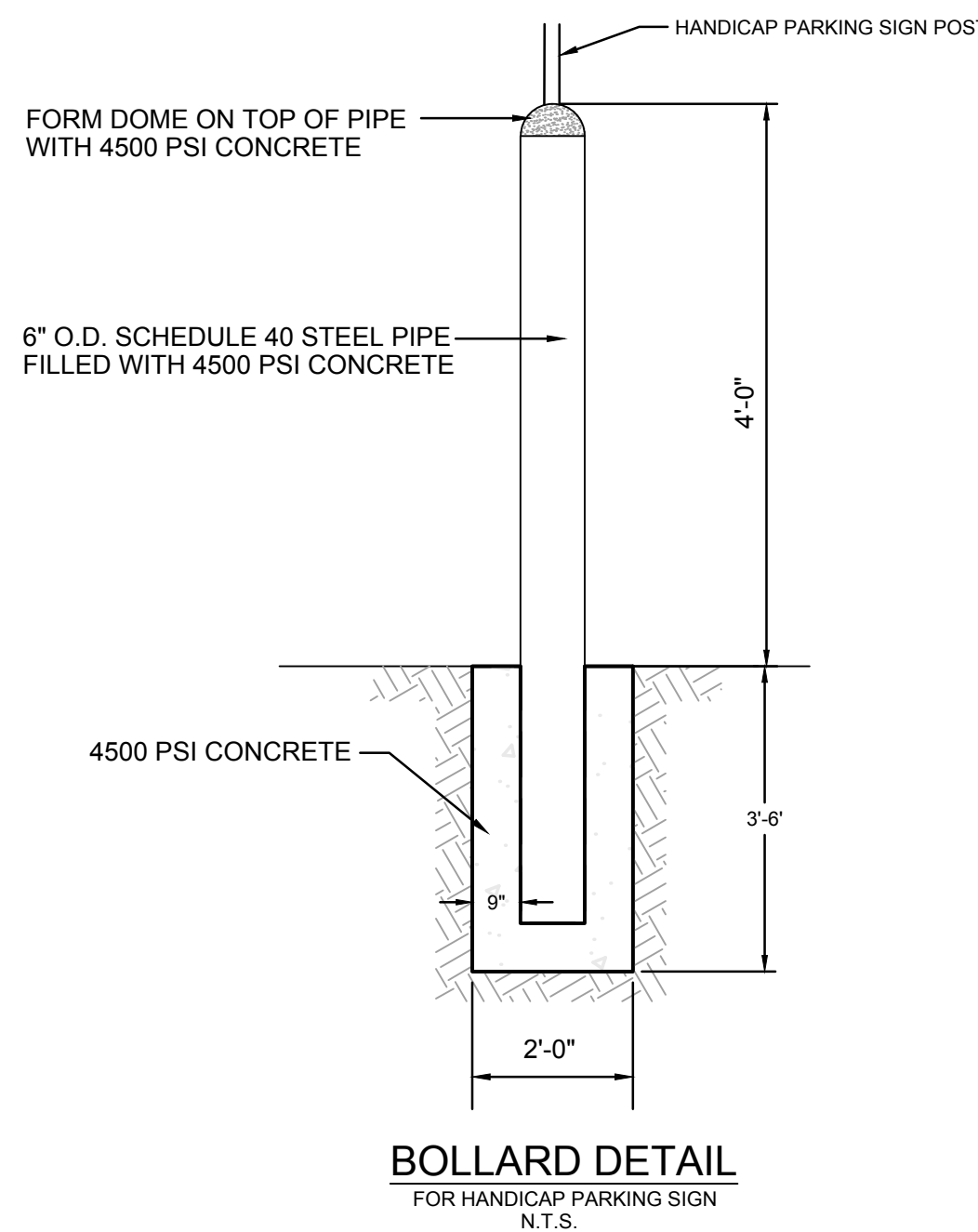
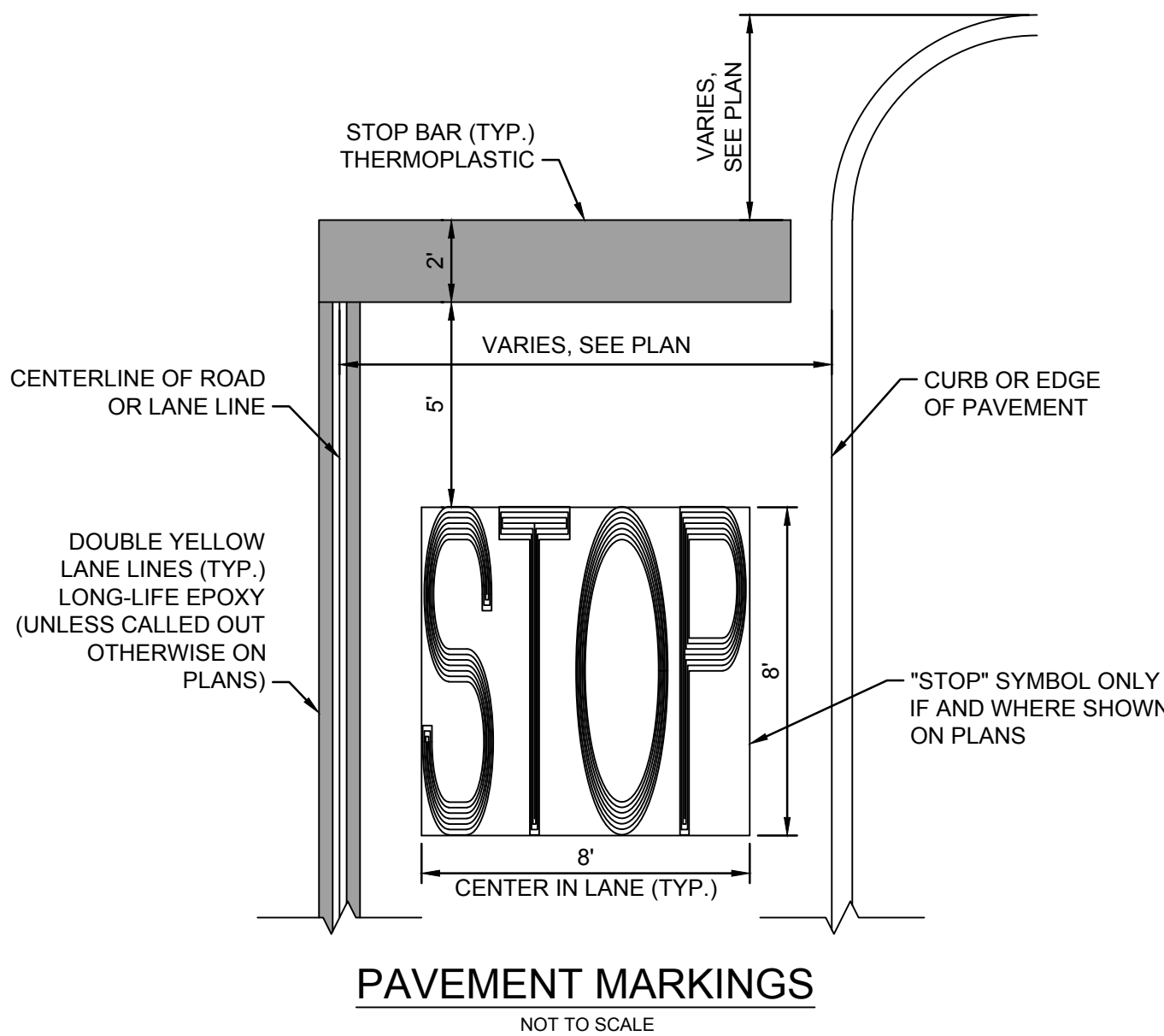
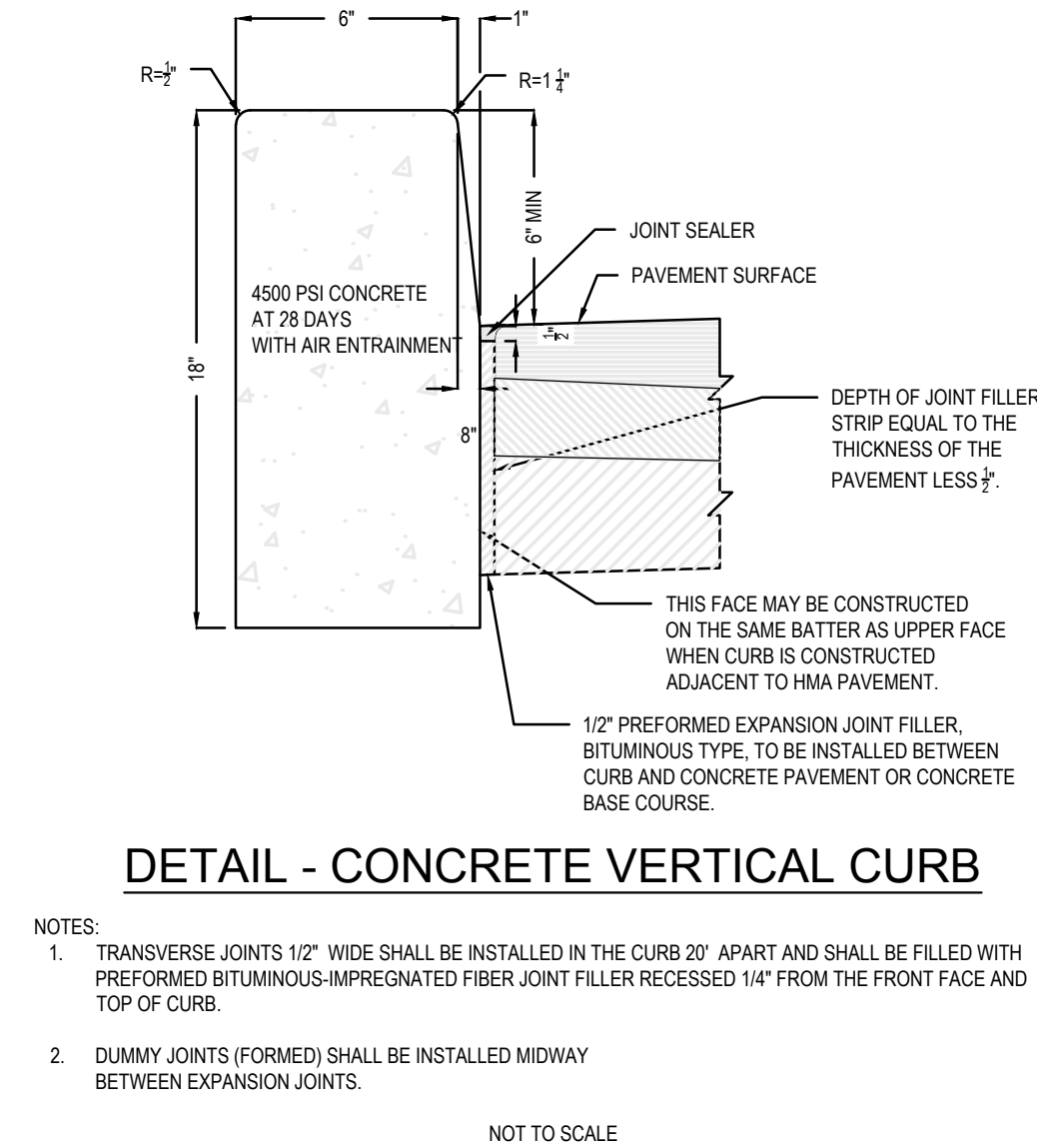
SOIL TYPE/TEXTURE	BULK DENSITY (G/CC)
COARSE, MEDIUM AND FINE SANDS AND LOAMY SANDS	1.80
VERY FINE SAND AND LOAMY VERY FINE SAND	1.77
SANDY LOAM	1.75
LOAM, SANDY CLAY LOAM	1.70
CLAY LOAM	1.65
SANDY CLAY	1.60
SILT, SILTY LOAM	1.55
SILTY CLAY LOAM	1.50
SILTY CLAY	1.45
CLAY	1.40

5. ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

PROCEDURES FOR SOIL COMPACTION MITIGATION

- IF SUBGRADE SOILS ARE DETERMINED TO BE EXCESSIVELY COMPACTED BY TESTING, AS IDENTIFIED ABOVE, PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER. RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.) OR IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER

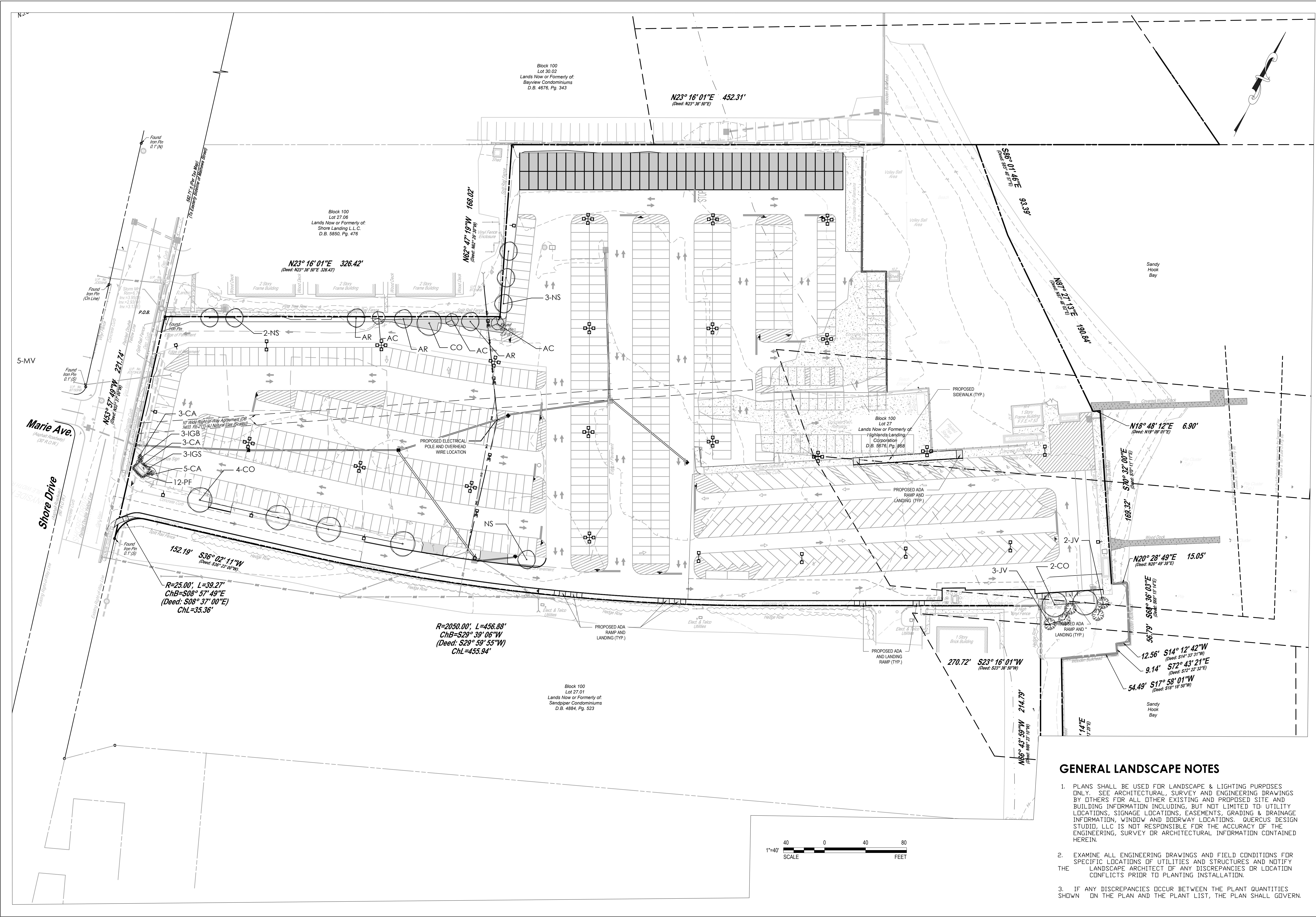




- NOTES**
1. INSTALL 6" SCHEDULE 40 STEEL PIPE BOLLARD
  2. PAINT BOLLARD WITH 1 COAT OF PRIMER AND  
(2) COATS OF SAFETY YELLOW PER SPECS.
  3. SIGN POST SHALL BE INSERTED IN BOLLARD AND BACKFILLED WITH CONCRETE

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GENERAL LANDSCAPE NOTES

- PLANS SHALL BE USED FOR LANDSCAPE & LIGHTING PURPOSES ONLY. SEE ARCHITECTURAL, SURVEY AND ENGINEERING DRAWINGS BY OTHERS FOR ALL OTHER EXISTING AND PROPOSED SITE AND BUILDING INFORMATION INCLUDING, BUT NOT LIMITED TO: UTILITY LOCATIONS, SIGNAGE LOCATIONS, EASEMENTS, GRADING & DRAINAGE INFORMATION, WINDOW AND DOORWAY LOCATIONS. QUERCUS DESIGN STUDIO, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OF THE ENGINEERING, SURVEY OR ARCHITECTURAL INFORMATION CONTAINED HEREIN.
- EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES AND STRUCTURES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR LOCATION CONFLICTS PRIOR TO PLANTING INSTALLATION.
- IF ANY DISCREPANCIES OCCUR BETWEEN THE PLANT QUANTITIES SHOWN ON THE PLAN AND THE PLANT LIST, THE PLAN SHALL GOVERN.



Highlands Landing Corporation

REVISIONS		No.	Date	Revision

Quercus

LANDSCAPE ARCHITECTURE  
1127 Vanhoose Path  
Manasquan, NJ 08736  
732-704-7996  
WWW.QUERCUSLTD.COM

Andrea M. Hopkin, LLA

NJ Licensed Landscape Architect 4500084500

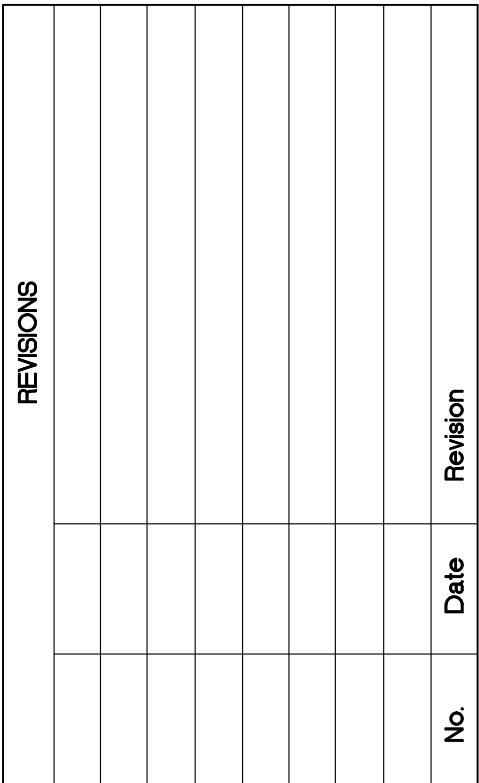
LANDSCAPE & LIGHTING PLANS  
HIGHLANDS LANDING CORPORATION  
BLOCK 100, LOTS 27, 27.04 & 27.05  
TAX MAP SHEET NO.19  
BOROUGH OF HIGHLANDS  
MONMOUTH COUNTY NEW JERSEY

Sheet Title	
Landscape Plan	
Scale 1" = 40'	Sheet No. 1 OF 4
Date 3/12/2025	
Drwn AMH	Chkd AMH
Project No. 25101	

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
<b>Deciduous Trees</b>					
AR	3	Acer rubrum 'Bowhall'	Bowhall Red Maple	2' - 2.5' cal.	B&B, Straight Central Leader
CO	7	Celtis occidentalis	Hackberry	2' - 2.5' cal.	B&B, Straight Central Leader
NS	6	Nyssa Sylvatica	Black Gum	2' - 2.5' cal.	B&B, Straight Central Leader
<b>Evergreen Trees</b>					
JV	5	Juniperus virginiana	Eastern Red Cedar	8'-10' Ht	B&B, Heavy
<b>Ornamental Trees</b>					
AC	3	Amelanchier canadensis	Serviceberry	10'-12' Ht.	B&B, multi-stemmed
<b>Shrubs</b>					
IGS	3	Ilex glabra 'Squeeze Box'	Squeeze Box Inkberry Holly	24"-36" Ht.	#3 Can
IGB	3	Ilex glabra 'Gem Box'	Gem Box Inkberry Holly	18"-24" Ht.	#2 Can
PF	12	Potentilla fruticosa 'Goldfinger'	Goldfinger Bush Cinquefoil	18"-24" Ht.	#2 Can
<b>Perennials &amp; Ornamental Grasses</b>					

Perennials & Ornamental Grasses					
CA	11	Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	18' - 24" Ht.	#2 Can

4. ALL OPEN AREAS OF THE SITE THAT ARE NOT PAVED, PLANTED OR MULCHED AS PART OF A PLANTING BED SHALL BE TURFED SO AS TO ESTABLISH PERMANENT COVER.



**Quercus**  
—DESIGN STUDIO, LLC—

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1127 Vanhoë Path  
Mansquan, NJ 08736  
732-704-7996  
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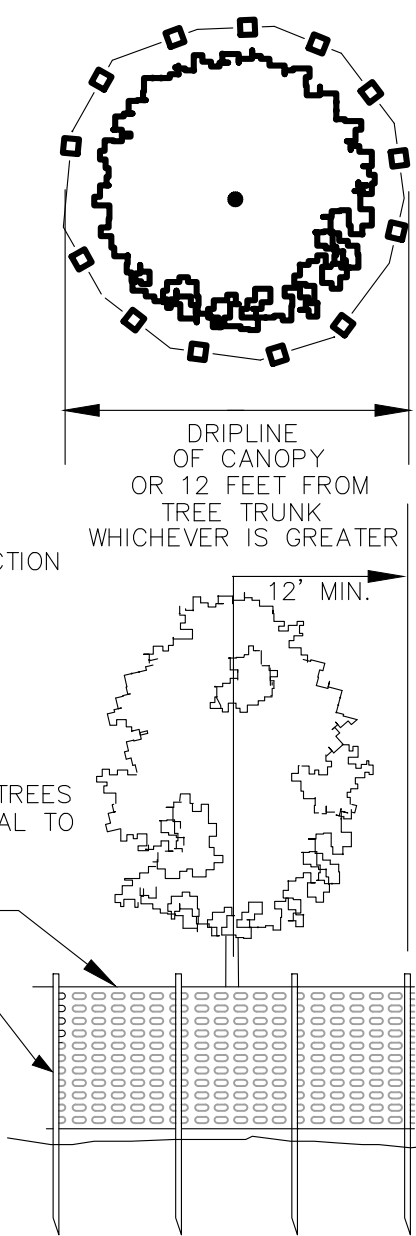
Andrea M. Hopkin  
NJ Licensed Landscape Architect AS00084500

LANDSCAPE &  
LIGHTING PLANS  
HIGHLANDS LANDING CORPORATION  
BLOCK 100, LOTS 27, 27.04 & 27.05  
TAX MAP SHEET NO.19  
BOROUGH OF HIGHLANDS  
MONMOUTH COUNTY NEW JERSEY

Sheet Title		Landscape Notes & Details	
Scale	As Shown	Sheet No.	2
Date	3/12/2025	OF	4
Drawn	Chkd		
AMH	AMH		
Project No.	25101		

6' HIGH POSTS DRIVEN INTO GROUND EVERY 6'-0"  
O.C. AND AT ALL CHANGES OF DIRECTION

NOT TO SCALE





Highlands Landing  
Corporation

[illegible]

**Landscape Architecture**  
1127 Ivanhoe Path  
Manasquan, NJ 08736  
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**Quercus**  
— DESIGN STUDIO, LLC —

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LANDSCAPE &  
LIGHTING PLANS

HIGHLANDS LANDING CORPORATION  
BLOCK 100, LOTS 27, 27.04 & 27.05  
TAX MAP SHEET NO.19  
BOROUGH OF HIGHLANDS  
MONMOUTH COUNTY NEW JERSEY

Sheet Title

## Lighting Plan

Scale  $1'' = 40'$

Date	3/12/2025
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Drwn	Chko
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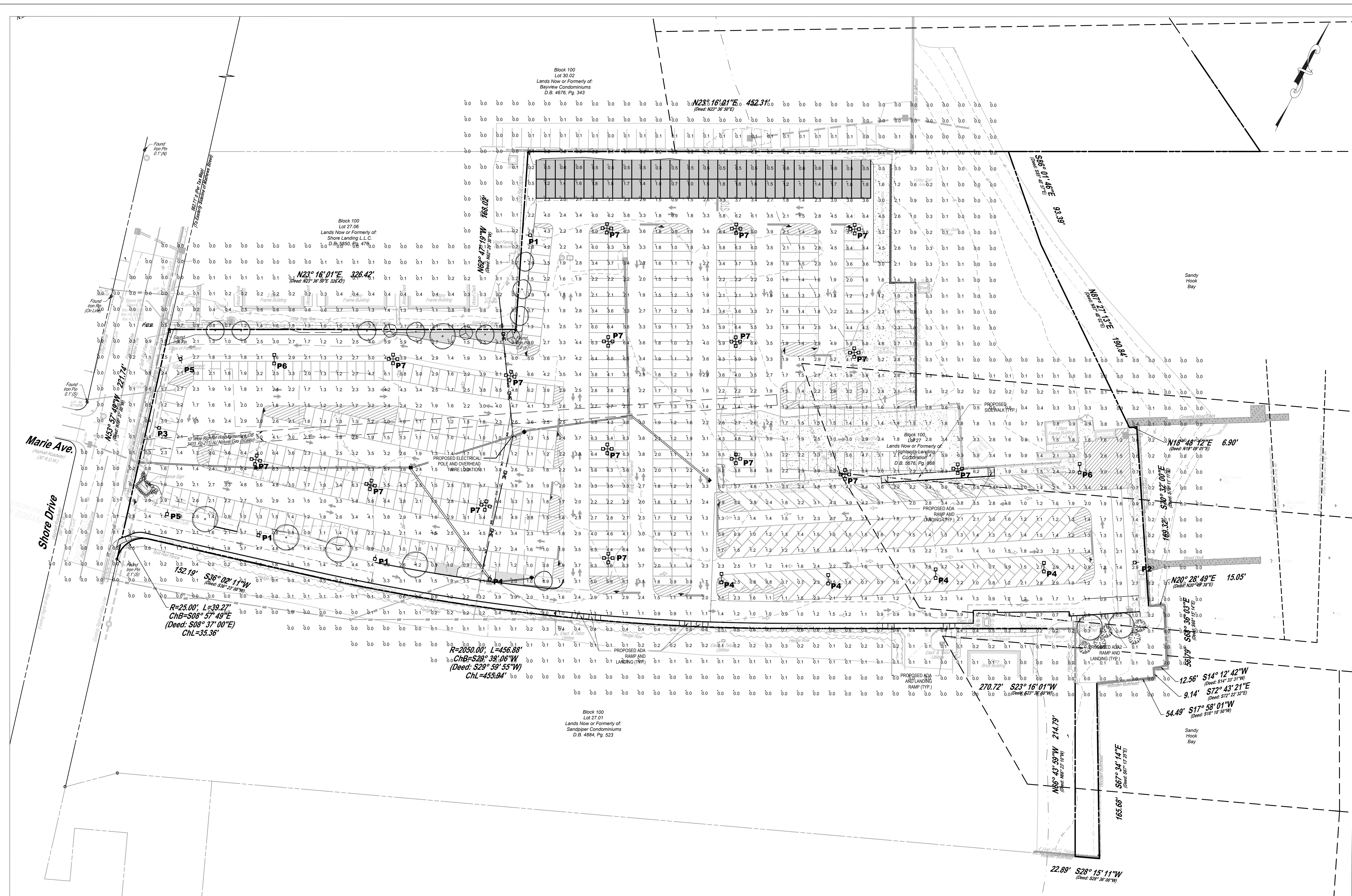
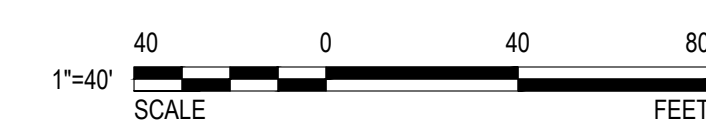
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Project No.	

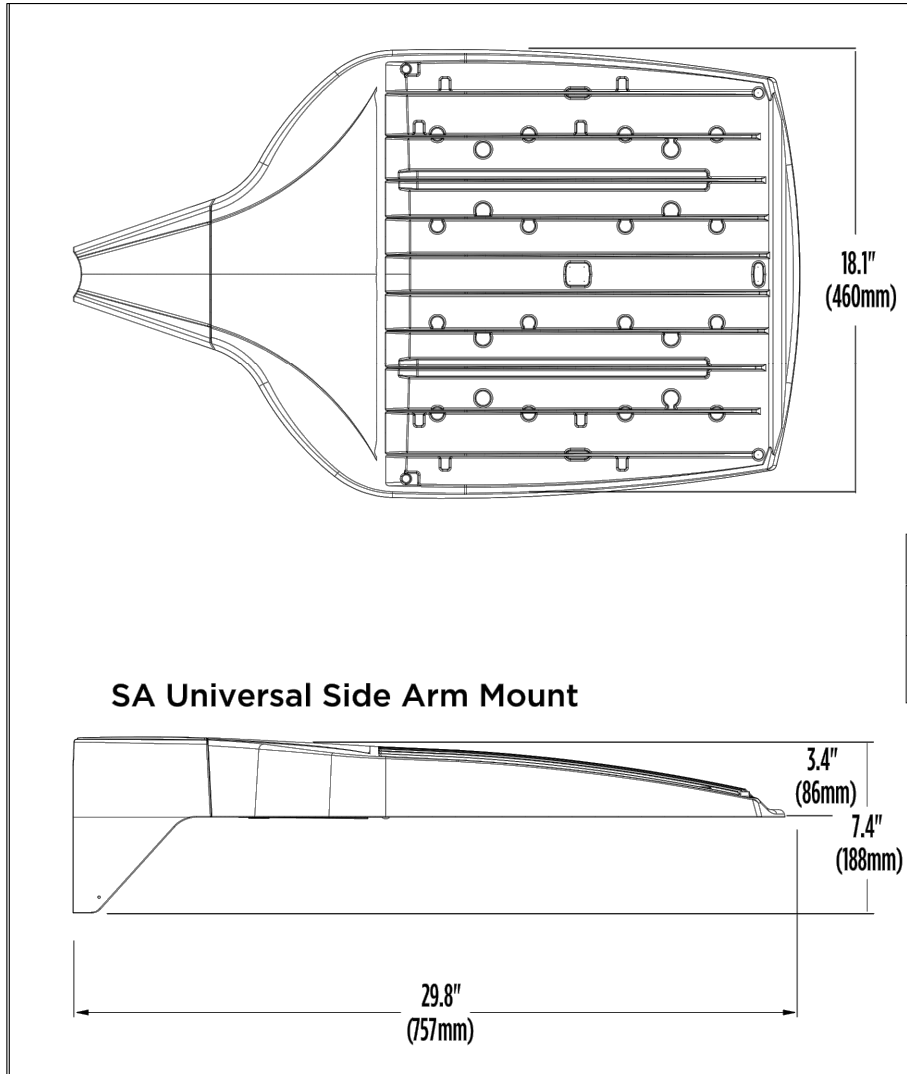
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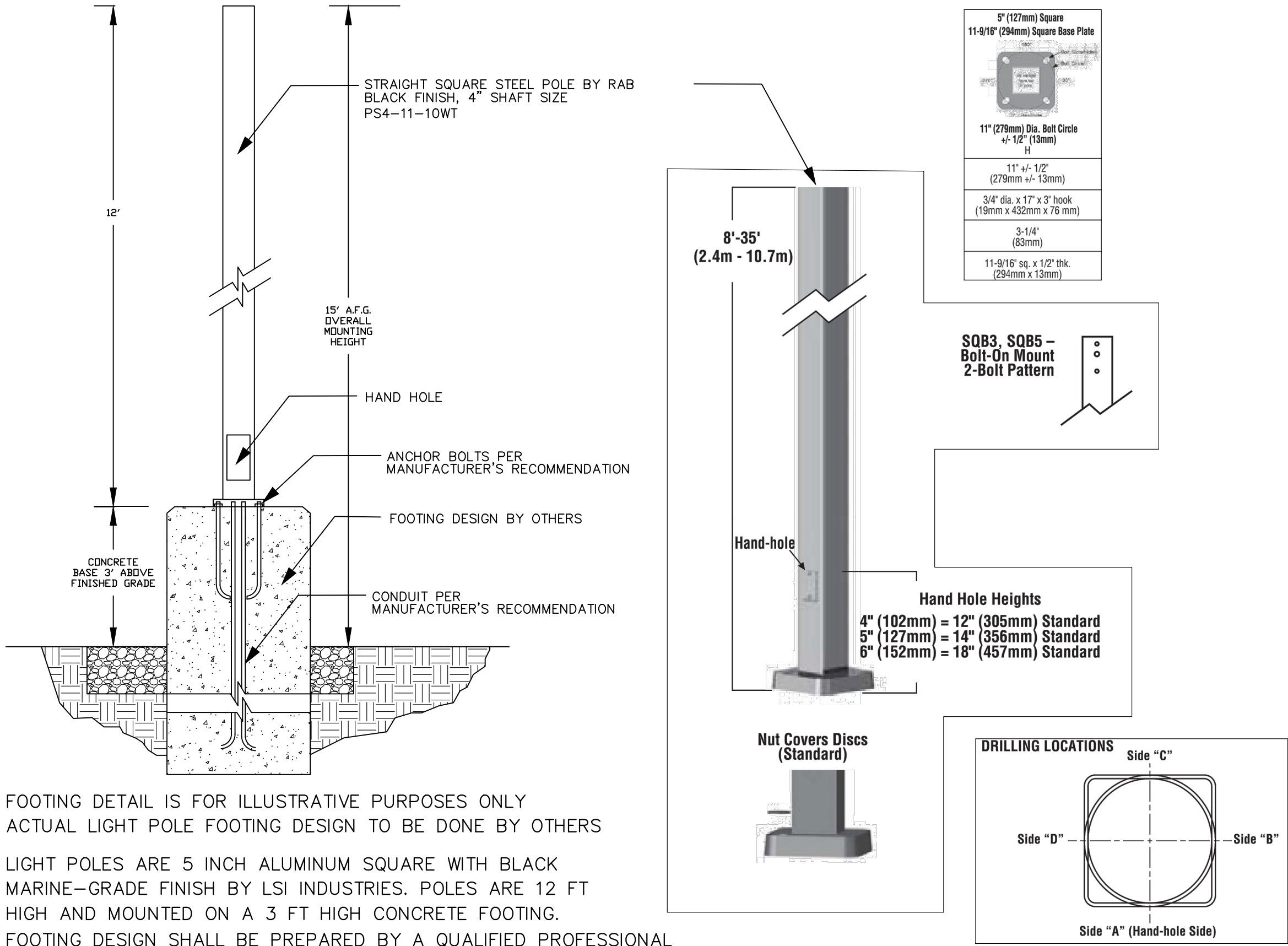




LIGHT FIXTURES ARE V-LOCITY MEDIUM (VALM) OUTDOOR LED AREA LIGHTS BY LSI INDUSTRIES, INC. FIXTURES TO BE BLACK MARINE-GRADE FINISH. SIDE ARM MOUNT. SEE LUMINAIRE SCHEDULE ON THIS SHEET FOR MOUNTING ARRANGEMENTS, LUMENS, DISTRIBUTION TYPES, COLOR TEMPS AND MANUFACTURER'S ORDERING INFORMATION. LIGHTING WILL BE CONTROLLED VIA A TIMING DEVICE. SEE LIGHTING NOTES ON THIS SHEET FOR HOURS OF OPERATION. FIXTURES TO BE MOUNTED 15' A.F.G NO SUBSTITUTIONS WITHOUT WRITTEN CONSENT FROM OWNER.

### LIGHT FIXTURE DETAIL

NOT TO SCALE



FOOTING DETAIL IS FOR ILLUSTRATIVE PURPOSES ONLY  
ACTUAL LIGHT POLE FOOTING DESIGN TO BE DONE BY OTHERS

LIGHT POLES ARE 5 INCH ALUMINUM SQUARE WITH BLACK MARINE-GRADE FINISH BY LSI INDUSTRIES. POLES ARE 12 FT HIGH AND MOUNTED ON A 3 FT HIGH CONCRETE FOOTING. FOOTING DESIGN SHALL BE PREPARED BY A QUALIFIED PROFESSIONAL. ALL ELECTRICAL WORK AND WIRING SHALL BE DONE PER MANUFACTURER'S RECOMMENDATIONS. SEE LUMINAIRE SCHEDULE ON THIS SHEET FOR ORDERING INFORMATION. NO SUBSTITUTIONS WITHOUT WRITTEN CONSENT FROM OWNER.

### LIGHT POLE DETAIL

NOT TO SCALE

### LIGHTING NOTES

SITE LIGHTING CONTROLS SEQUENCE OF OPERATION IN COMPLIANCE WITH ASHRAE 90.1-2019

- EACH SITE FIXTURE TO BE EQUIPPED WITH NX CONTROLS, WHICH IS A WIRELESS BLUETOOTH MESH CONTROL SYSTEM.
- CONTROL SYSTEM IS TO BE ACCESSIBLE VIA IOS APP FOR PROGRAMMING. NO EXTERNAL GATEWAY OR COMPONENTS REQUIRING INTERNET PERMITTED.
- EACH SITE FIXTURE TO HAVE AN INTEGRAL PHOTO SENSOR AND BUILT-IN TIME KEEPER TO ALLOW FOR THE SCHEDULING OF DIMMING EVENTS BASED ON TIME OF DAY.
- ALL SITE LIGHTS TO TURN ON A HALF HOUR BEFORE DUSK AND OFF A HALF HOUR AFTER DAWN.
- LIGHTS TO REMAIN FULL BRIGHTNESS UNIT 12 A.M., AT WHICH TIME THE LIGHTS WILL DIM TO 50% OUTPUT UNTIL DAWN.

### CALCULATION SUMMARY

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PARKING LOT	Illuminance	Fc	2.52	6.6	0.5	5.04	13.20

### LUMINAIRE SCHEDULE

Qty	Type	Arrangement	Symbol	Manufacturer	Light Fixture Spec	CCT	Lum. Lumens	LLF	Lum. Watts	Arr. Watts	Pole/Bracket Spec	Mounting AFG (FT)
4	P1	Single		LSI INDUSTRIES	VALM-12L-2-VOLTS-30K8-FINISH BLK(MARINE GRADE)-SA-CR7P-MS8 w/ NXOFM2-1R1D-UNV	3000K	9685	0.900	71	71	5SQB5-A125-12'-S-FINISH BLK(MARINE GRADE)-GA (MOUNTED ON 3' CONCRETE BASE)	15
1	P2	Single		LSI INDUSTRIES	VALM-12L-3W-30K8-FINISH BLK(MARINE GRADE)-SA-CR7P-MS8 w/ NXOFM2-1R1D-UNV	3000K	8761	0.900	71	71	5SQB5-A125-12'-S-FINISH BLK(MARINE GRADE)-GA (MOUNTED ON 3' CONCRETE BASE)	15
1	P3	Single		LSI INDUSTRIES	VALM-12L-4W-30K8-FINISH BLK(MARINE GRADE)-SA-CR7P-MS8 w/ NXOFM2-1R1D-UNV	3000K	8057	0.900	71	71	5SQB5-A125-12'-S-FINISH BLK(MARINE GRADE)-GA (MOUNTED ON 3' CONCRETE BASE)	15
4	P4	Back-Back		LSI INDUSTRIES	VALM-12L-4W-30K8-FINISH BLK(MARINE GRADE)-SA-CR7P-MS8 w/ NXOFM2-1R1D-UNV	3000K	8057	0.900	71	142	5SQB5-A125-12'-D180-FINISH BLK(MARINE GRADE)-GA (MOUNTED ON 3' CONCRETE BASE)	15
2	P5	Single		LSI INDUSTRIES	VALM-12L-5M-30K8-FINISH BLK(MARINE GRADE)-SA-CR7P-MS8 w/ NXOFM2-1R1D-UNV	3000K	10385	0.900	71	71	5SQB5-A125-12'-S-FINISH BLK(MARINE GRADE)-GA (MOUNTED ON 3' CONCRETE BASE)	15
2	P6	Back-Back		LSI INDUSTRIES	VALM-12L-5QW-30K8-FINISH BLK(MARINE GRADE)-SA-CR7P-MS8 w/ NXOFM2-1R1D-UNV	3000K	9983	0.900	71	142	5SQB5-A125-12'-D180-FINISH BLK(MARINE GRADE)-GA (MOUNTED ON 3' CONCRETE BASE)	15
16	P7	4 @ 90 Degrees		LSI INDUSTRIES	VALM-12L-5QW-30K8-FINISH BLK(MARINE GRADE)-SA-CR7P-MS8 w/ NXOFM2-1R1D-UNV	3000K	9983	0.900	71	284	5SQB5-A125-12'-Q90-FINISH BLK(MARINE GRADE)-GA (MOUNTED ON 3' CONCRETE BASE)	15



QUERCUS  
DESIGN STUDIO, LLC



PREPARED FOR:

Highlands Landing  
Corporation

REVISIONS	No.	Date	Revision

Landscape Architecture  
1127 Ivanhoe Path  
Manasquan, NJ 08736  
732-704-7996  
WWW.QUERCUSLSTUDIO.COM

**Quercus**  
-DESIGN STUDIO, LLC-

Andrea M. Hopkin  
NJ Licensed Landscape Architect AS00084500

LANDSCAPE &  
LIGHTING PLANS

HIGHLANDS LANDING CORPORATION  
BLOCK 100, LOTS 27, 27.04 & 27.05  
TAX MAP SHEET NO.19  
BOROUGH OF HIGHLANDS  
MONMOUTH COUNTY NEW JERSEY

Sheet Title  
Lighting  
Notes &  
Details

Scale  
As Shown

Date  
3/12/2025

Drwn  
AMH

Chkd  
AMH

Project No.  
25101

Sheet No.  
4

OF  
4