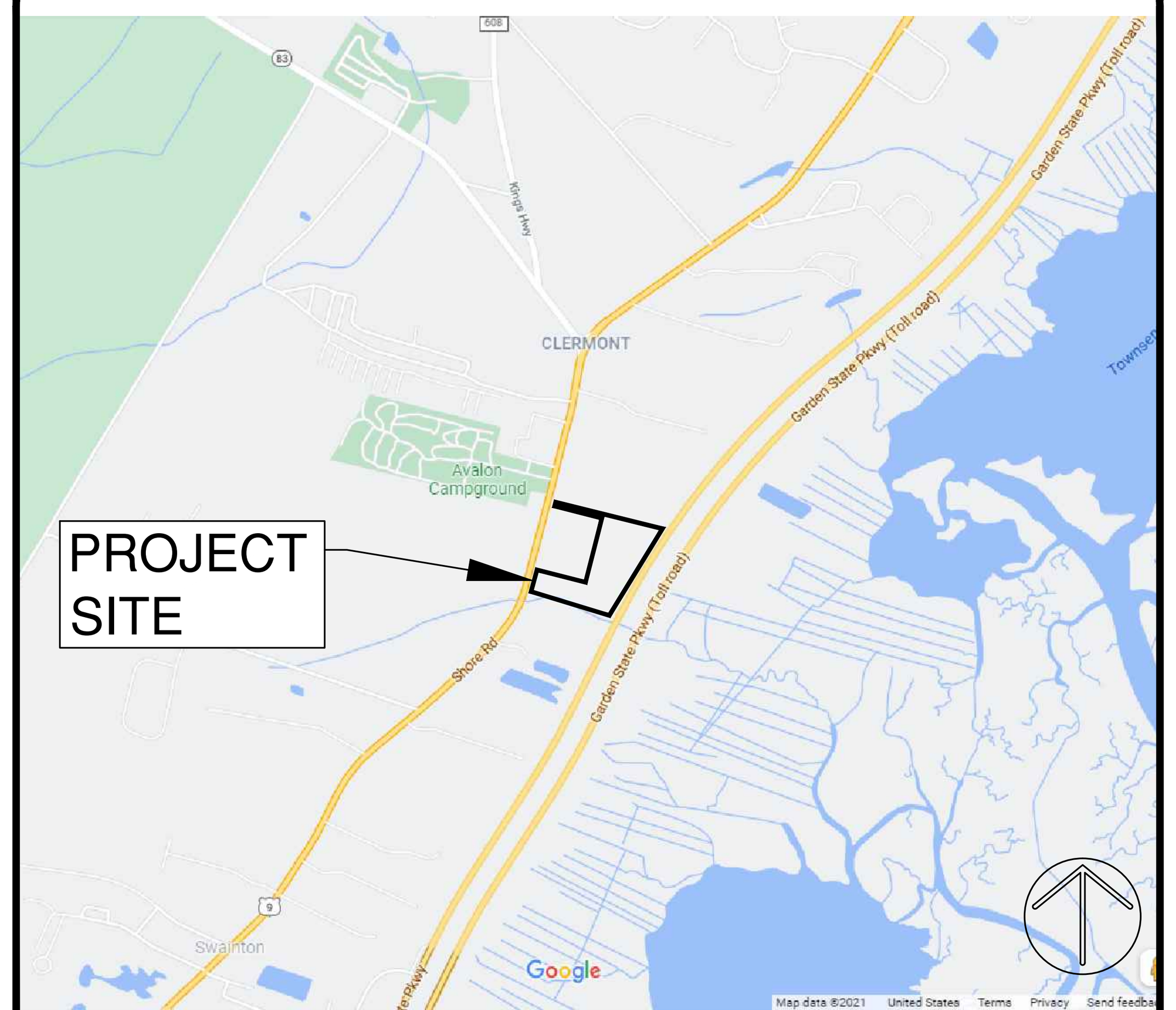
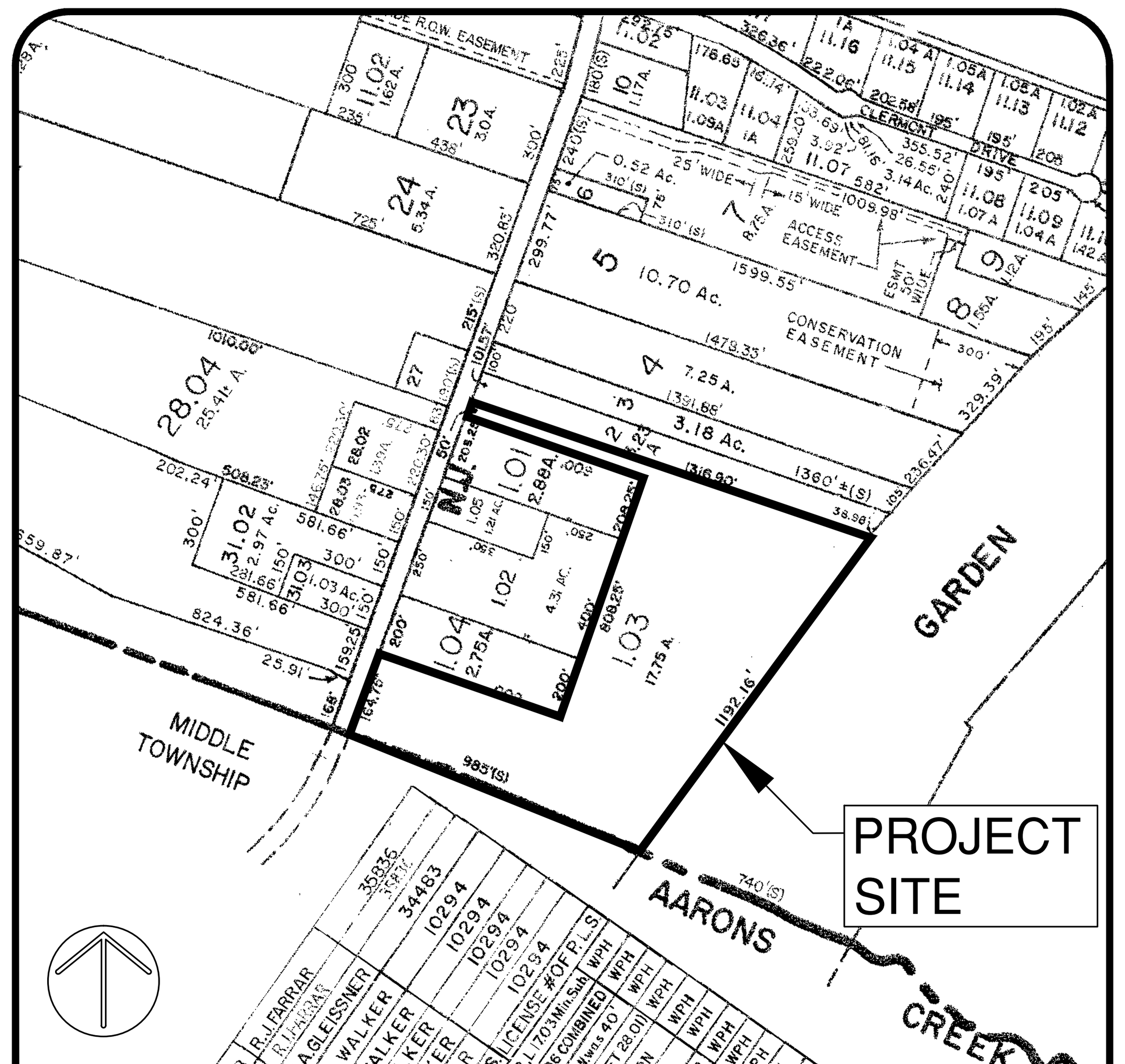
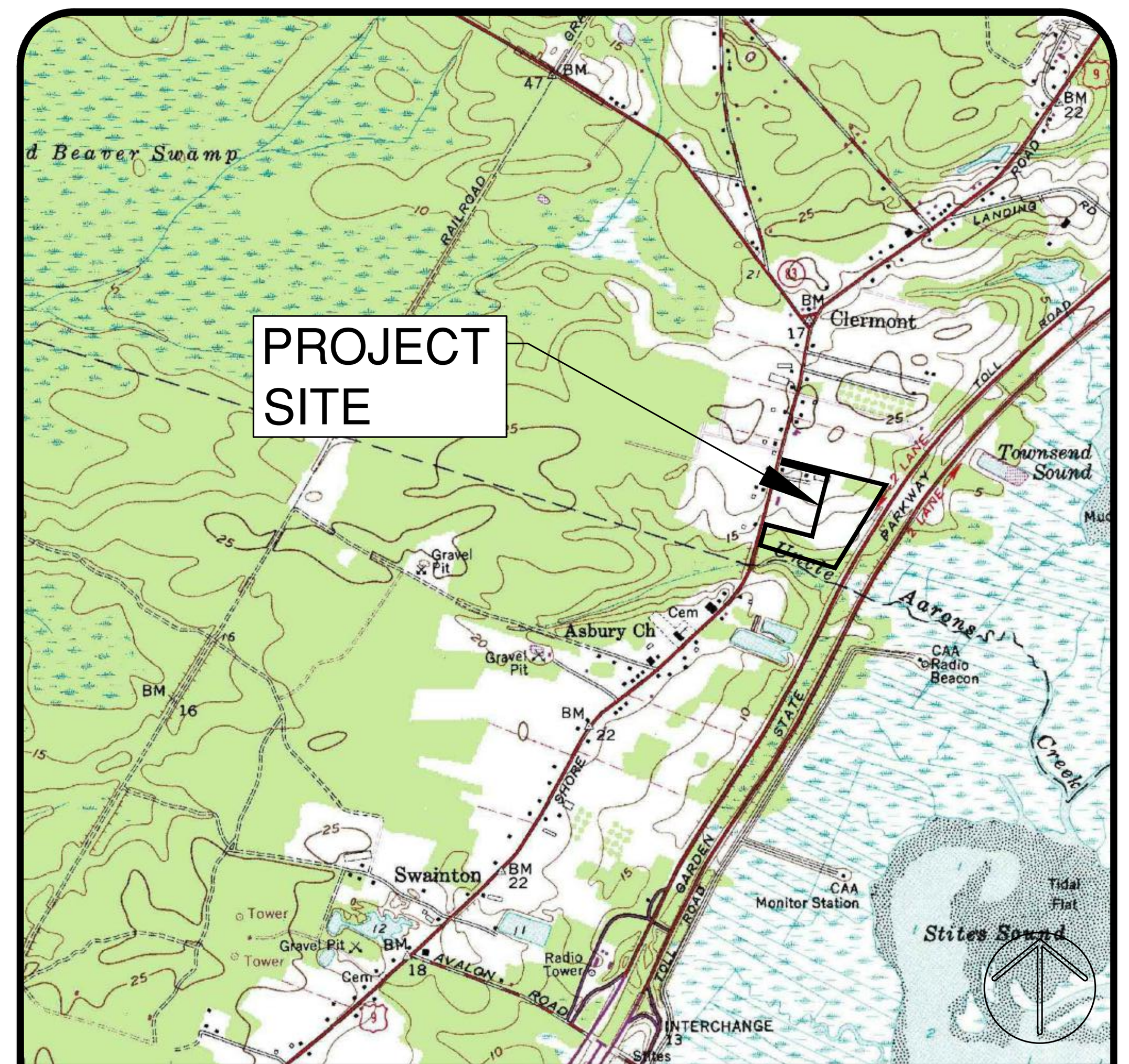


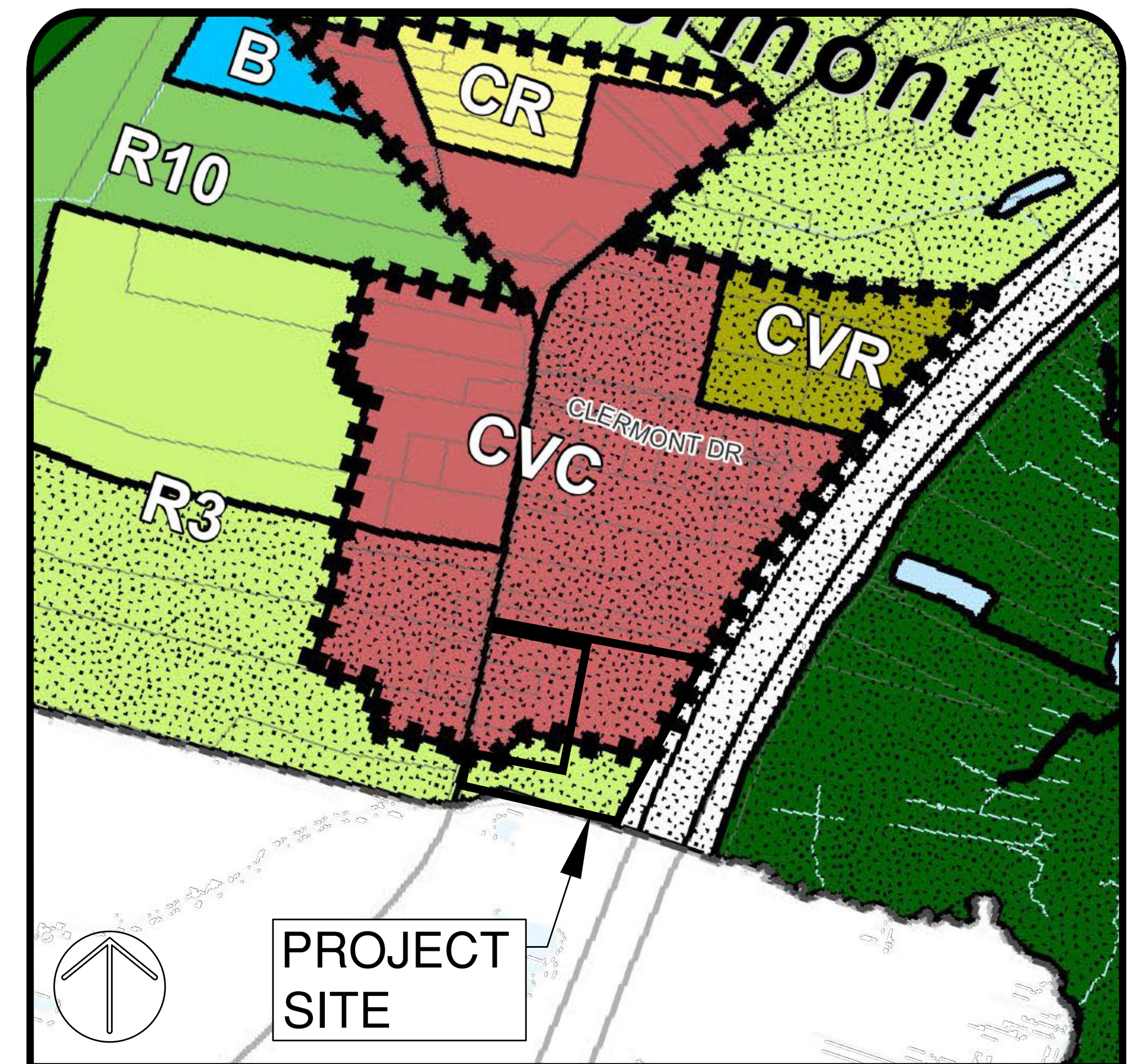
GENERAL LOCATION MAP
(GOOGLE MAP) 1" = 2000'



DENNIS TOWNSHIP TAX MAP
(SHEET #28) 1" = 500'



U.S.G.S. MAP
(WOODBINE QUADRANGLE) 1" = 2000'



DENNIS TOWNSHIP ZONING MAP
(CVC & R3 ZONING DISTRICTS) 1" = 1000'

PROPERTY OWNERS LIST WITHIN 200'

TOWNSHIP OF DENNIS
Tax Assessment Department
571 Petersburg Road
P.O. Box 204
Dennisville, NJ 08214
Phone: (609) 861-9704
Fax: (609) 861-9719

ALEXANDRA H. FASY, CTA
Tax Assessor

SEPTEMBER 2, 2021

THIS IS TO CERTIFY THAT THE FOLLOWING LIST OF PROPERTY OWNERS ARE WITHIN 200 FEET OF BLOCK 262 LOT 1.03, ACCORDING TO THE OFFICIAL TAX MAP OF DENNIS TOWNSHIP.

ATTEST *Alexandra Fasy*
ALEXANDRA H. FASY, CTA

BLOCK 262 LOT 1.03 OWNER

CAPE MAY COUNTY PLANNING BOARD
DN-309, CENTRAL MAIL ROOM
CAPE MAY COURT HOUSE, NJ 08210

VERIZON COMMUNICATIONS
% ENGINEERING DEPARTMENT
10 TANSBORO RD, FL 2
BERLIN, NJ 08009

SOUTH JERSEY GAS COMPANY
% JOSEPH SCHNEIDER
GENERAL MANAGER
SYSTEM ENGINEERING & PLANNING
1 SO JERSEY PLAZA
FOLSOM, NJ 08037

CONECTIV REAL ESTATE DEPARTMENT
5100 HARDING HIGHWAY, SUITE 399
MAYS LANDING, NJ 08330-9902

COMCAST CABLE
901 W LEEDS AVENUE
ABSECON, NJ 08201

PUBLIC SERVICE ELECTRIC & GAS CO.
MANAGER-CORPORATE PROPERTIES
80 PARK PLAZA, T6B
NEWARK, NJ 07102

CAPE ATLANTIC SOIL
CONSERVATION DISTRICT
ATTN: MICHAEL KENT
6260 OLD HARDING HIGHWAY
MAYS LANDING, NJ 08330

STATE OF NJ-DOT
CN-600 1035 PARKWAY AVE
TRENTON, NJ 08625-0600

MIDDLE TOWNSHIP
33 MECHANIC STREET
CAPE AMY COURT HOUSE, NJ 08210

BLOCK	LOT	QUAL	PROPERTY OWNER & MAILING ADDRESS / PROPERTY LOCATION
261	26		CATANOSO FAMILY LIMITED PARTNERSHIP, 1917 RT 9 N, CAPE MAY COURT HOUSE, NJ 08210, 1917 RT 9
261	27		CATANOSO, LEONARD R JR, 5 BAY ACRES DR, CAPE MAY COURT HOUSE, NJ 08210, 1909 RT 9
261	28.02		THE STAFFORD FAMILY LLC, PO BOX 523, OCEAN VIEW, NJ 08230, 1889 RT 9
261	28.04		THE STAFFORD FAMILY LLC, PO BOX 523, OCEAN VIEW, NJ 08230, 1895 & 1899 RT 9
261	30		APRILL, GREGG K, 80 GOSHEN SWAINTON RD, CAPE MAY COURT HOUSE, NJ 08210, 1863 RT 9
261	31.01		CAPE MAY COUNTY, 4 MOORE RD, ADMIN BLDG, CAPE MAY COURT HOUSE, NJ 08210, 1875 RTE 9
261	31.02		TWO BREWS LLC, 1072 RT 83 STE 3, CAPE MAY COURT HOUSE, NJ 08210, 1879 RT 9
261	31.03		PEDRONI, RICHARD, 385 E WHEAT RD, VINELAND, NJ 08360, 1877 RT 9
262	1.01		LAMBERT, JOHN J JR, 1906 RT 9, CLERMONT, NJ 08210, 1906 RT 9
262	1.02		GARDNER, JAMES & DONNA, 1830 N SHORE RD, SWAINTON, NJ 08210, 1882 RT 9
262	1.03		DKM ASSOCIATES, LP, 600 LANCASTER AVE, FRASIER, PA 19355, 1910 RT 9
262	1.04		1870 ROUTE 9, LLC, 2300 DUNE DR, AVALON, NJ 08202, 1870 RT 9
262	1.05		LAMBERT, JOHN J JR, 1906 RT 9 N, CLERMONT, NJ 08210, 1892 RT 9
262	2		FARACE, PHILIP J & LORI A, 1914 RT 9 N, CAPE MAY CH, NJ 08210, 1914 RT 9
262	3		1920 ROUTE 9 CONDOMINIUM, 1920 RT 9, CLERMONT, NJ 08210, 1920 RT 9
262	3	C-A	BRAUN, THOMAS & LISA, PO BOX 367, AVALON, NJ 08202, 1920 RT 9, UNIT A
262	3	C-B	MARGARET R DAY LLC, 10521 THIRD AVE, STONE HARBOR, NJ 08247, 1920 ROUTE 9, UNIT B
262	4		1922 RTE 9, LLC, 300 N STREET, MILLVILLE, NJ 08332, 1922 RT 9

LIST OF PROPERTY OWNERS TO BE SERVED NOTICE

PLANNING BOARD
TOWNSHIP OF MIDDLE
33 MECHANIC STREET
CAPE MAY COURT HOUSE, NJ 08210

DATE: September 1, 2021

OWNERS NAME: DKM ASSOCIATES LP

BLOCK: 262 LOT: 1.03 PROPERTY LOCATION: 1910 ROUTE 9 (DENNIS TWP)

I certify that the following is an accurate and complete list of property owners and addresses. They must be given notice pursuant to the requirements of N.J.S.A. 40:55D-12. This list has been prepared from the most recent tax rolls. (See attached sheet(s) for additional names).

Elizabeth Szapki

PROPERTY ID	PROPERTY LOCATION	CLASS	OWNERS NAME & ADDRESS
11 42	1845 RTE 9 N LEAMINGS RUN	4A	APRILL, GREG K, 80 SWAINTON GOSHEN RD, CAPE MAY COURT HOUSE, NJ 08210.1457
13.02 96	1852 RTE 9 N	2	RAIMONDO, JOHN, 680 22ND ST, AVALON, NJ 08202.2123
	ROUTE 9		STATE OF NJ DEPT OF TRANSPORTATION, 1035 PARKWAY AVE, TRENTON, NJ 08625
	GARDEN STATE PARKWAY		NJ TURNPIKE AUTHORITY/ GSP, 581 MAIN ST, WOODBRIDGE, NJ 07095

Pursuant to changes in the Municipal Land Use Law, effective August 7, 1991, all public utilities and public cable companies, PERTINENT TO THE PARTICULAR PROPERTY, must be noticed. We have enclosed a copy of those agencies, for your convenience.

CONECTIV REAL ESTATE DEPT
5100 HARDING HIGHWAY, SUITE 399
MAYS LANDING, NJ 08330-9902

VERIZON
ENGINEERING DEPT
10 TANSBORO RD., FL 2
BERLIN, NJ 08009

SOUTH JERSEY GAS COMPANY
1 SOUTH JERSEY PLAZA
FOLSOM, NJ 08037

XFINITY STORE BY COMCAST
RIO GRANDE PLAZA SHOPPING CENTER
1500 NJ -47 SUITE C12
RIO GRANDE, NJ 08242

MIDDLE TOWNSHIP SEWER UTILITY
400 MECHANIC ST
CAPE MAY COURT HOUSE, NJ 08210

NEW JERSEY AMERICAN WATER COMPANY, INC.
ATTN: DONNA SHORT, GIS SUPERVISOR
1025 LAUREL OAK ROAD
VOORHEES, NJ 08043

NEW JERSEY AMERICAN WATER
1 WATER STREET
CAMDEN, NJ 08102.

RIO GRANDE AREA

WILDWOOD WATER UTILITY
CITY OF WILDWOOD
4400 NEW JERSEY AVE
WILDWOOD, NJ 08260

AVALON MANOR AREA

NEW JERSEY AMERICAN WATER
1 WATER STREET
CAMDEN, NJ 08102

GENERAL NOTES

General Notes

1. Owner/Applicant:
   Zemac CM, LLC
   c/o David Szeker
   222 Clinton Street APT 18
   Hoboken, NJ 07030
2. The project site is known as Block 262, Lot 1.03 as shown on the Township of Dennis Tax Map, Plate No. 28. It is located at 1910 Route 9. It is 17.27 acres.
3. The property is located in both the CVC - Clermont Village Center and R3 - Rural Density Residential Zoning Districts. It is currently vacant / wooded.
4. It is the intent of the applicant to construct the following:
   - Phase 1 - 4 parking spaces, associated drives, 34,680 SF of self storage unit space with 400 SF manager's office, and five (5) stormwater basins
   - Phase 2 - 34,400 SF of self storage unit space,15,000 SF building with 8 units for contractor workshop, 32 parking spaces and drives
5. Stormwater runoff generated by the development will be stored in a series of infiltration basins.
6. Multiple uses are not permitted in the CVC Zoning District. The applicant is seeking Preliminary and Final major Site Plan Approval. a Use Variance for the proposed uses have been obtained persuant to resolution 2021-20.
7. Any concrete curb or sidewalk and/or asphalt pavement disturbed within the right-of-way shall be repaired in kind.
8. All traffic signs, utility poles, mailboxes and traffic safety devices moved during construction shall be reinstalled in their proper location.
9. This application requires approval from the following agencies:
   Dennis Township Land Use Board
   Cape Atlantic Soil Conservation District
   New Jersey Department of Transportation
   Cape May County Planning Board
   Cape may County Health Department
   New Jersey Department of Environmental Protection (Wetland, LOI)

SURVEY INFORMATION

Survey Information

Outbound and topographic survey information was taken from a plan entitled "Survey of Premises, Block 262, Lot 1.03, Township of Dennis, Cape May County, New Jersey" prepared by Kates Schneider Engineering, LLC, 215 Route 9 South, Marmora, NJ; Gregory Schneider, NJPLS. The survey is dated August 16, 2021 last revised 4/5/22. Elevations are in feet and refer to NAVD 1988.

CONTRACTOR NOTES

This set of plans has been prepared for purposes of municipal and agency review and approval. This set of plans shall not be utilized as construction documents until all conditions of approval have been satisfied on the drawings and each drawing has been revised to indicate "Issued for Construction."

Contractor shall check and verify all existing utilities, grades, site dimensions and existing conditions before proceeding with construction. Any discrepancies or unusual conditions are to be reported to design engineer/project staff immediately for adjustments or directions.

All construction to be performed in accordance with NJDOT Standard Specifications and supplementary specifications for this project.

These drawings do not include the necessary components for construction safety; however, all construction must be done in compliance with the Occupational Safety and Health Act of 1970 and all rules and regulations appurtenant to this project.

ZONING INFORMATION

Zoning Information
CVC - Clermont Village Center Zoning District

Requirement	Required	Existing	Proposed	Variance
Lot Area	1 acre	17.27 acres	17.27 acres	No
Lot Width	150'	143.9'	143.9'	No*
Lot Depth	200'	543'	543'	No
Front Yard Setback	0'-8'	n/a	646'	No*
Side Yard Setback	30'	n/a	42.5'	No
Rear Yard Setback	55'	n/a	146.76'	No
Building Coverage	35%	n/a	11.23%	No
Lot Coverage	60%	n/a	31.8%	No
Building Height	30'	n/a	<30'	No
Building Length	100'	n/a	160'	No*
Distance Between Buildings	20'	n/a	30'	No
Parking Requirement				
3,000 SF Contractor Office 1 space/200 SF	15 spaces			
12,000 SF Workshop 1 space/700 SF	17 spaces			
Total	32 spaces	n/a	32 spaces	No
400 SF Self Storage Office 1 space/200 SF	2 space			
69,080 SF Storage 1 space/1000 SF	70 spaces			
Total	72 spaces	n/a	4 spaces	No*
Sign Requirement				
Sign Area	32 SF	n/a	32 SF	No
Sign Height	25'	n/a	8'	No
Sign Setback	50'	n/a	10'	No*

*Variance granted persuant to resolution 2021-20

ZEMAC CM, LLC
MAJOR SITE PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

TOWNSHIP OF DENNIS APPROVAL

Chairman ____________ Date ____

Secretary ____________ Date ____

Engineer ____________ Date ____

EDA Engineering Design Associates, P.A.
Engineers Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 390-0332 • Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION#: 24GA27970300

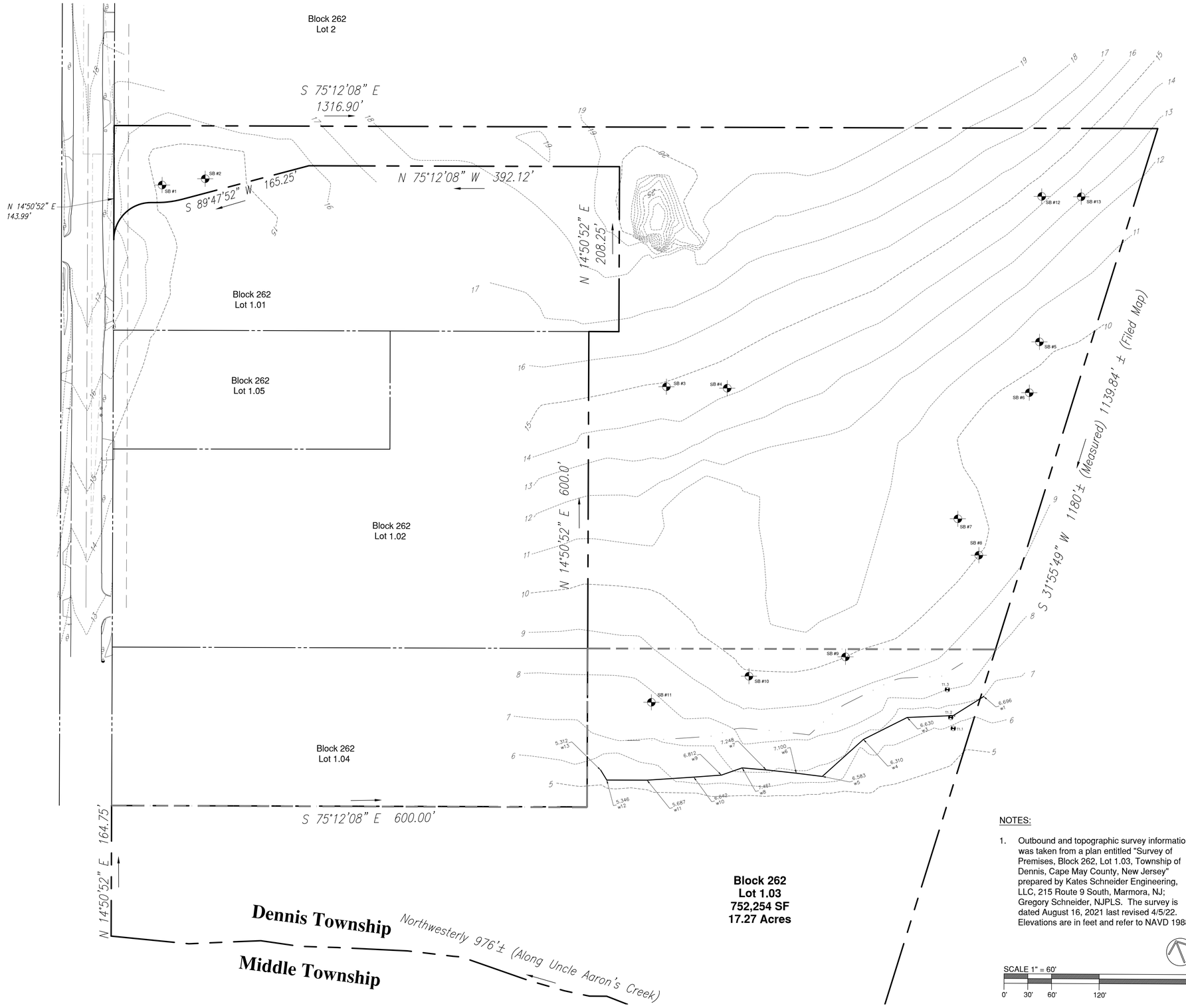
COVER SHEET
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB

EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: AS NOTED	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 1 0F 12



Block 262
Lot 1.03
752,254 SF
17.27 Acres

NOTES:

1. Outbound and topographic survey information was taken from a plan entitled "Survey of Premises, Block 262, Lot 1.03, Township of Dennis, Cape May County, New Jersey" prepared by Kates Schneider Engineering, LLC, 215 Route 9 South, Marmora, NJ; Gregory Schneider, NJPLS. The survey is dated August 16, 2021 last revised 4/5/22. Elevations are in feet and refer to NAVD 1988.

SCALE 1" = 60'

0' 30' 60' 120' 240'

EXISTING CONDITIONS PLAN

EDA Engineering Design Associates, P.A.
Engineers Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 390-0328 Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION #24GA28029900

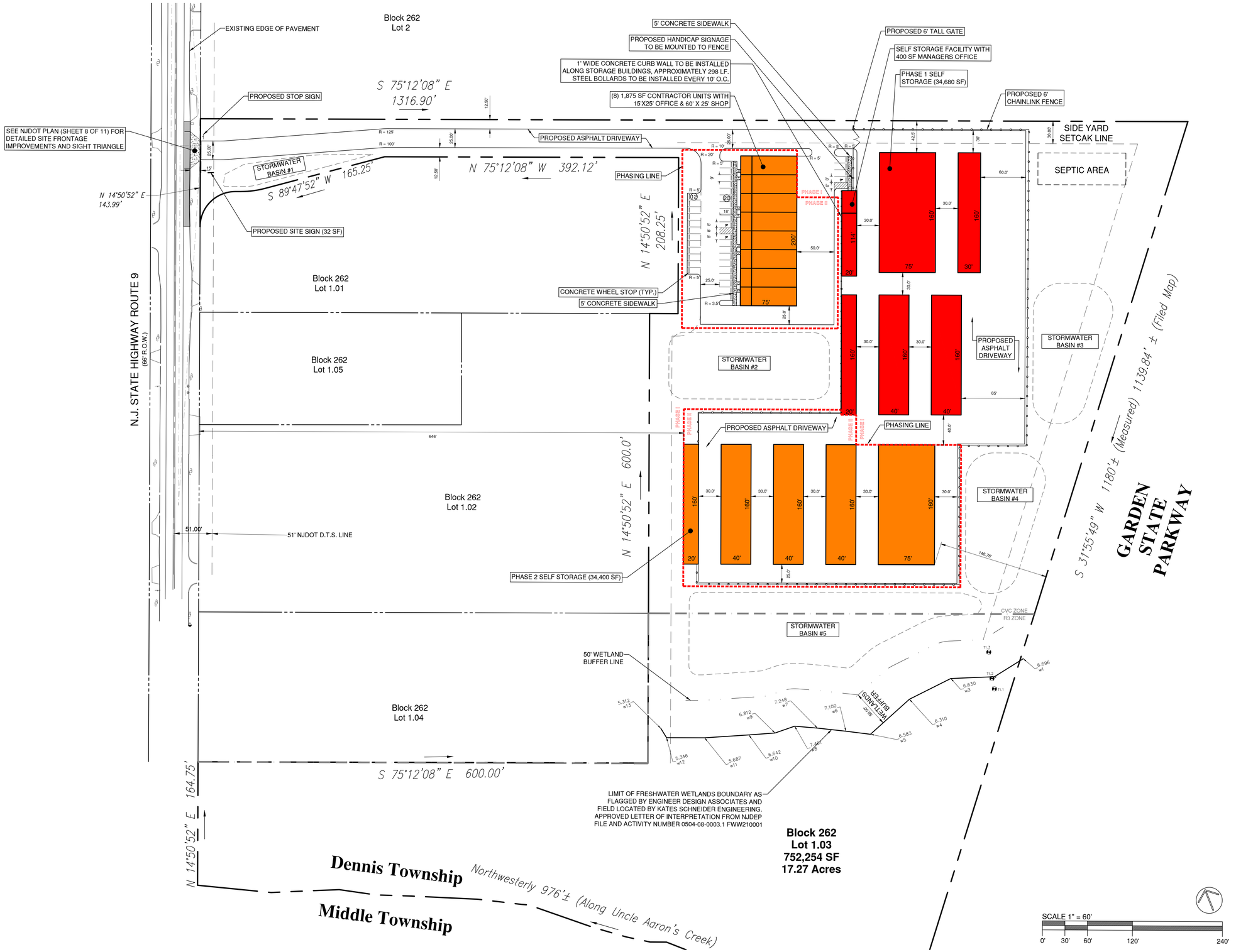
EXISTING CONDITIONS PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB

EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: 1" = 60'	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 2 0F 12



MAJOR SITE PLAN

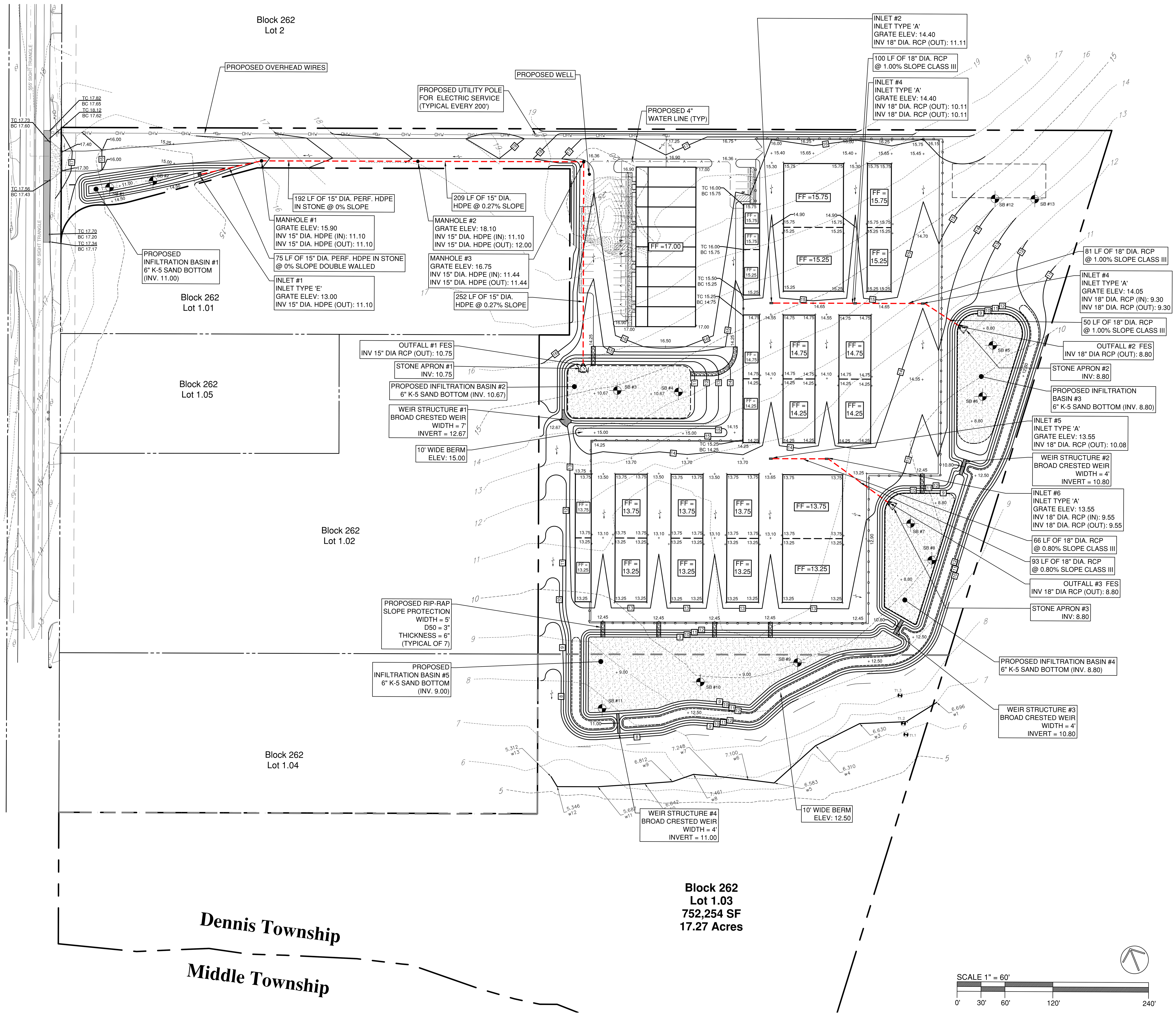
EDA Engineering Design Associates, P.A.
Engineers Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 390-0328 Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION #24GA28029900

SITE PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB

DATE: 3/10/22	DRAWN BY: MSB
SCALE: 1" = 60'	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 3 0F 12



NOTE:

1. SEPARATE UTILITY PERMIT APPLICANT WILL BE REQUIRED FOR EACH PROPOSED UTILITY WORK (GAS, ELECTRIC, WATER, SEWER, ETC.) AND APPLICANT HAS TO BE THE RESPECTIVE UTILITY COMPANY.
2. THE SITE WILL BE SERVICED BY ON SITE SEPTIC AND WELL
3. NO UNDERGROUND UTILITIES ARE PROPOSED WITHIN THE RIGHT-OF-WAY. NO GAS IS PROPOSED ON SITE.

GRADING, DRAINAGE & UTILITY PLAN

EDA
Engineering Design Associates, P.A.
Engineers Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 390-0332 • Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION#: 24GA27970300

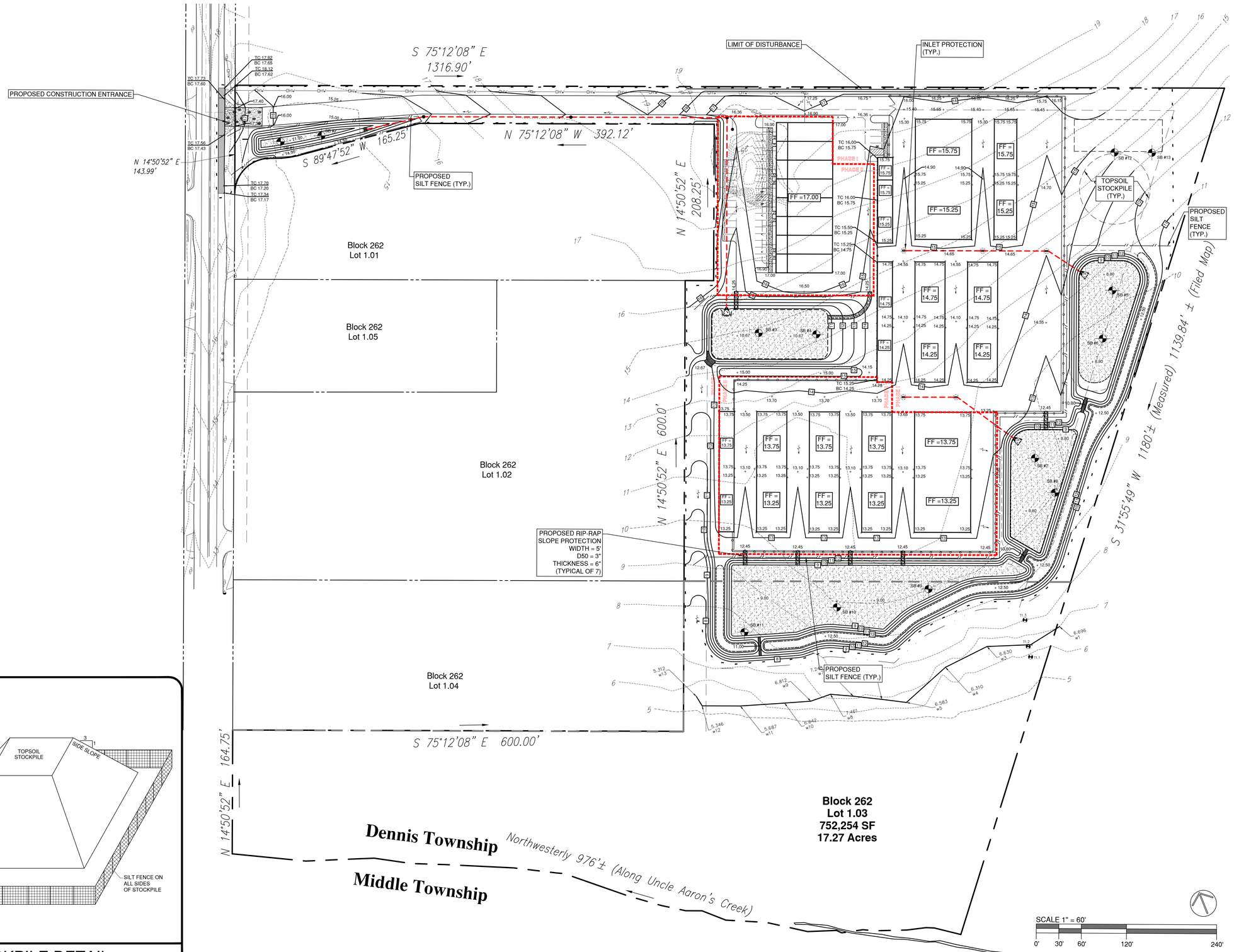
GRADING DRIANAGE & UTILITY PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

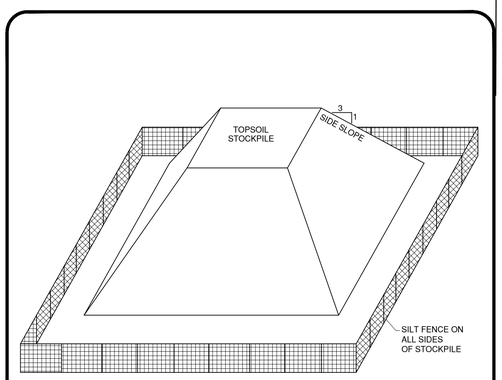
VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB

EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: 1" = 60'	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 4 0F 12





TOPSOIL STOCKPILE DETAIL

EDA
Engineering
Design
Associates, P.A.
Engineers Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 390-0328 Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION #24GA28000900

SOIL EROSION PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB
REV. PER NJDOT	5/18/2022	MSB

EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: 1" = 60'	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 5 OF 12

SOIL EROSION & SEDIMENT CONTROL PLAN

SOIL EROSION AND SEDIMENT CONTROL PLAN

1. All applicable erosion and sediment control practices shall be in place prior to any grading or installation of proposed structures or utilities.
2. Soil Erosion and Sediment Control practices on this plan shall be constructed in accordance with the standards for Soil Erosion and Sediment Control in New Jersey.
3. Applicable erosion and sediment control practices shall be left in place until construction is completed and/or the area is stabilized.
4. The contractor shall perform all work, furnish all materials and install all measures required to reasonably control soil erosion resulting from construction operations and prevent excessive flow of sediment from the construction site.
5. Any disturbed area that is to be left exposed for more than thirty (30) days and not subject to construction traffic shall immediately receive a temporary seeding and fertilization in accordance with the New Jersey Standards and their rates should be included in the narrative. If the season prohibits temporary seeding, the disturbed areas will be mulched with salt hay or equivalent and anchored in accordance with the New Jersey Standards (i.e. peg and twine, mulch netting or liquid mulch binder).
6. It shall be the responsibility of the developer to provide confirmation of lime, fertilizer and seed and seed application and rates of application at the request of the Soil Conservation District.
7. All critical areas subject to erosion will receive a temporary seeding in combination with straw mulch at a rate of 2 tons per acre, according to the New Jersey Standards immediately following rough grading.
8. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
9. All sedimentation structures will be inspected and maintained on a regular basis and after every storm event.
10. A crushed stone, tire cleaning pad will be installed wherever a construction access exists. The stabilized pad will be installed according to the standards for stabilized construction access.
11. All driveways must be stabilized with 2 1/2" crushed stone or sub-base prior to individual lot construction.
12. All paved areas must be kept clean at all times.
13. All catch basin inlets will be protected according to the certified plan.
14. All storm drainage outlets will be stabilized, as required, before the discharge points become operational.
15. All dewatering operations must discharge directly into a sediment filter area. The sediment filter should be composed of a suitable sediment filter fabric. (see detail). The basin must be dewatered to normal pool within 10 days of the design storm.
16. N.J..SA. 4:24-39, Est Seq, requires that no certificate of occupancy be issued before all provisions of the certified soil erosion and sediment control plan have been complied with for permanent measures. All site work for the project must be completed prior to the district issuing a report of compliance as a prerequisite to the issuance of a certificate of occupancy by the municipality.
17. Mulching is required on all seeded areas to insure against erosion before grass is established to promote earlier vegetation cover.
18. Offsite sediment disturbance may require additional control measures to be determined by the erosion control inspector.
19. A copy of the certified Soil Erosion and Sediment Control Plan must be maintained on the project site during construction.
20. The Soil Conservation District shall be notified 48 hours prior to any land disturbance.
21. Any conveyance of this project prior to its completion will transfer full responsibility for compliance with the certified plan to any subsequent owners.
22. Immediately after the completion of stripping and stockpiling of topsoil, the stockpile must be stabilized according to the standard for temporary vegetative cover. Stabilize topsoil with straw mulch for protection if the season does not permit the application and establishment of temporary seeding. All soil stockpiles are not to be located within fifty (50) feet of a floodplain, slope, roadway or drainage facility and the base must be protected with a sediment barrier.
23. Any changes to the site plan will require the submission of a revised Soil Erosion and Sediment Control Plan to the Soil Conservation District. The revised plan must be in accordance with the current New Jersey Standards for Soil Erosion and Sediment Control.
24. Methods for the management of high acid producing soils shall be in accordance with the standards. High acid producing soils are those found to contain iron sulfides or have a pH of 4 or less.
25. Temporary and permanent seeding measures must be applies according to the New Jersey Standards, and mulched with salt hay or equivalent and anchored in accordance with the New Jersey Standards (i.e. peg and twine, mulch netting or liquid mulch binder).
26. Maximum side slopes of all exposed surfaces shall not be constructed steeper than 3:1 unless otherwise approved by the district.
27. Dust is to be controlled by an approved method according to the New Jersey Standards and may include watering with a solution of calcium chloride and water.
28. Adjoining properties shall be protected from excavation and land filling operations on the proposed site.
29. Use staged construction methods to minimize exposed surfaces, where applicable.
30. All vegetative material shall be selected in accordance with American Standards for Nursery Stock of the American Association of the Nurseryman and in accordance with the New Jersey Standards.
31. Natural vegetation and species shall be retained where specified on the Landscaping Plan.
32. The soil erosion inspector may require additional soil erosion measures to be installed, as directed by the district inspector.

STORMWATER MANAGEMENT MAINTENANCE PROGRAM

BASIN MAINTENANCE
In order to ensure that all retention and detention basins function properly, a maintenance program must be followed. The following are the minimum requirements for the maintenance of all basins.

1. Annual visual inspection of outlet structures and basins.
   a. Inspection of outlet structures to include checking for obstructions of outfall pipes and the accumulation of silts and sediments.
   b. Inspection of basins to include the removal of debris and accumulated particles such as silts and sediments.
2. For maintenance of vegetated basins:
   a. Mowing of grass is required regularly to ensure the aesthetic quality of the site. All clippings shall be raked and bagged to avoid thatch buildup.
   b. A dense turf, with extensive root growth, is encouraged to reduce erosion and enhance infiltration throughout the bottom and the side of the basin. Well-established turf of the floor and sides will grow through sediment deposits, thus forming a porous turf and preventing the formation of an impermeable layer.
   c. Grasses of the fescue family are recommended for seeding, primarily due to their adaptability to dry sandy solid, drought resistance, hardiness, and ability to withstand brief inundations. Fescues will also permit longer intervals between mowings.
   d. Seed type: A mixture of the following special water-tolerant seed will ensure a high quality grass for retention basins.

INGREDIENTS	SEEDING RATE
Mixture 8	
Fescue	2.1Lb./1,000 SF
Perennial Rye Grass	0.25Lb./1,000 SF
Kentucky Bluegrass	0.25Lb./1,000 SF
White Clover	0.10Lb./1,000 SF

   e. Fertilizing and liming: Bi-annually
      Fertilize with 10-20-10 at a rate of 11lbs./1,000 SF
      Lime with pulverized dolomite limestone at a rate of 90lbs./1,000 SF
3. Long term Maintenance
   a. In order to ensure proper function of all basins, every seven years each basin bottom shall be scarified to a depth of 4" to remove sediments and silts. Then 4" of topsoil must be added and reseeded.

STORMWATER STRUCTURE MAINTENANCE
Maintenance is the work required to keep structures in practice, or restore them to their original physical and functional condition. Maintenance as it applies to this situation shall be devised into two stages: that which is necessary to allow for continuing performance of stormwater controls during the construction period and long term maintenance following construction. Both stages are necessary for the life of the stormwater structures and systems.

1. MINIMUM REQUIREMENTS FOR MAINTENANCE
   a. TRENCHES/SWALES - Tenches/Swales to be inspected for rubbish or channel obstructions, bank failure,accumulation of silts and sediments, undesirable vegetation growth, rodents, and overall system failure.
   b. OUTLET STRUCTURE/CONDUIT
      Inspection of outlet structures and conduit to include checking for of pipe, accumulation of silts and sediments, cracking, corrosion, deterioration from freezing, salt or chemicals, excessive wear or damage from settling.
   c. SPILLWAYS/INLETS/MANHOLES
      Inspection to include checking for cracking, rodents, obtructions(silt-sediment, trash or other.) Check any gates, racks, or grates, for damage from corrosion, ice debris. Check for unauthorized modifications, tampering or vandalism.
2. LONG TERM MAINTENANCE
   a. As noted, any basin, pipe, pit, trench or inlet not functioning as designed will be thoroughly as prescribed. Any system that continues to remain inoperable after thorough cleaning must be removed and replaced.

RESPONSIBILITY
All on-site retention facilities shall be the sole responsibility of the developer/owner, his assigns and/or heir. The responsibility shall include but not be limited to installation, inspection, and maintenance.

DETENTION FACILITY MAINTENANCE
The primary mechanical equipment use in the Annual Maintenance of the Basins will be for lawn cutting. The exact type and size of this equipment is to be determined by the maintenance service under contract for the project.

SOIL CONSERVATION NOTES

STORMWATER MANAGEMENT MAINTENANCE PROGRAM

MULCHING

Mulching is required on all seeding. It is defined as stabilizing exposed soils with non-vegetative materials. The purpose is to protect exposed soil surfaces from erosion damage and to reduce offsite environmental damage. Mulching provides temporary mechanical protection against wind or rainfall induced soil erosion until permanent vegetative cover may be established. This practice is applicable to areas subject to erosion, where the season and other conditions may not be suitable for growing. An erosion-resistant cover or where stabilization is needed for a short period until more suitable protection can be applied.

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.

2. PROTECTIVE MATERIALS
   A. Mulch materials should be unrotted small grain straw, hay free of seeds, or salt hay to be applied at the rate of 2.0 to 2.5 tons per acre (90 to 115 pounds per 1,000 square feet.)

Asphalt emulsion is recommended at the rate of 600 to 1,200 gallons per acres. This is suitable for a limited period of time where travel by people, animals, or machines is not a problem.

Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as recommended by the manufacturer.

Wood-fiber or paper-fiber mulch at a rate of 1,500 pounds per acre may be applied by a hydroseeder.

Mulch netting such as paper jute, excelsior, cotton, or plastic, may be used.

Woodchips applied uniformly to a minimum depth of 2 inches may be used. Woodchips will not be used on areas where flowing water could wash them into an inlet and plug it.

Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 SF applied uniformly to a minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C-33) is recommended.

3. MULCH
   Mulch anchoring should 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 depending upon the size of the area , steepness of slopes, and costs.

   A. Peg and Twine - Drive 8 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 with two or more round turns.
   B. Mulch Nettings - Staple paper, jute,cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
   C. Crimper (mulch anchoring 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 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.

   D. Liquid Mulch-Binders - May be used to anchor salt hay, hay, or straw mulches
      a. Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.
      b. Use one of the following:
         (1) Organic and Vegetable Based Binders - Naturally occurring, power based, hydrophilic materials that mixed with formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluable polymers. The vegetative gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turf grass. Vegetable based gels shall be applied at rates and weather conditions recommended by the manufacturer.
         (2) High polymer synthetic emulsion, with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersed in water. It shall be applied at rates weather conditions recommended by the manufacturer and remain tacky until germination of grass.

SOIL DE-COMPACTION & TESTING REQUIREMENTS

REQUIREMENTS
1. 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.
2. Area of the site which are subject to compaction testing and/or mitigation are graphically denoted on the certified soil erosion control plan.
3. Compaction testing locations are demoted on the plan. A copy of the plan or portion of the plan shall be used to mark locations of tests, and attached to the compaction remediation form, available for the District. The form shall be completed and submitted prior to receiving a certificate of compliance from the District.
4. Should testing indicate compaction on excess of the maximum thresholds indicated for the simplified testing methods (see details), the contractor shall have the option to perform either (1) compaction mitigation over the entire mitigation area denoted on the plan or (2) perform additional, detailed testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation. Additional testing shall be performed by a trained, licensed professional.

COMPACTION TESTING METHODS
B. Probing Wire Test (see detail)
C. Hand-help Penetrometer Test (see detail)
D. Tube Bulk Density Test (licensed professional engineer required)
E. Nuclear Density Test (licensed professional engineer required)

Notes: Additional testing methods which conform to ASTM standards and specification, and which produce a dry weight, soil bulk density measurement may be allowed subject to District approval.
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.

PROCEDURES FOR SOIL COMPACTION MITIGATION
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.). In the alternative, another method as specified by a New Jersey Professional Licensed Engineer may be substituted subject to District Approval.

STANDARDS FOR TOPSOILING

METHODS AND MATERIALS
Topsoil should be friable and loamy, free of debris, objectionable weeds and stones, and contain no toxic substance that may be harmful to plant growth. a pH range of 5.0-7.5 is acceptable. Soluble salts should not be excessive (conductivity less than 0.5 millimhos per centimeter). Topsoil hauled in from off site should have a minimum organic matter content of 2.75 percent. Organic matter content may be raised by additives.

1. Stockpiling
   a. Stockpiles of topsoil should be situated so as not to obstruct natural drainage or cause off-site environmental damage.
   b. Stockpiles should be vegetated in accordance with temporary seeding specifications on soil erosion sheet.
2. Site Preparation
   a. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance.
   b. Subsoil should be tested for lime requirement and limestone, if needed, should be applied to bring soil pH to 6.5 and incorporate into as nearly as practical to a depth of 4 inches.
   c. Immediately prior to topsoil distribution, the surface should be scarified to provide a good bond with the topsoil.
   d. Employ needed erosion control practices such as diversions, grade stabilization structures, channel stabilization measures, sedimentation basins, and waterways.

3. Applying Topsoil
   a. Topsoil should be handled only when it is dry enough to work without damaging soil structure; i.e., less than field capacity.
   b. A uniform application to a depth of 5 inches firmed in place is required. Soils with a pH of 4.0 or less or containing iron sulfide shall be covered with a minimum depth of 12 inches of soil having a pH of 5.0 or more.

DUST CONTROL STANDARDS

The following methods should be considered for dust control at the request of the Township Construction Code Official, or upon inspection by an S.C.D. official.

1. Spray - On Adhesive - On mineral soils (not effective on muck soils.) Keep traffic off these areas.

	Water Dilution	Type of Nozzle	Apply Gallons/Acre
Anionic asphalt emulsion	7:1	Coarse spray	1,200
Latex emulsion	12 1/2 :1	Fine spray	235
Resin in water	4:1	Fine spray	300

2. Tillage - To roughen surface and bring clods to the surface. This is a temporary emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, and spring-toothed harrows are examples of equipment which may produce the desired effect.
3. Sprinkling - Site is sprinkled until the surface is wet.
4. Barriers - Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to crate walls, bales of hay and similar material can be used to control air currents and soil blowing.
5. Calcium Chloride - Shall be in the form of loose dry granules at a rate that will keep surface moist but not cause or flakes fine enough to feed through commonly used spreaders pollution or plant damage. If used on steeper slopes, Then pollution or plant damage. If used on steeper slopes, Then use other practices to prevent washing into streams or accumulation around plants.
6. Stone - Cover surface with crushed stone or coarse gravel.
7. Mulch - Stabilization with approved mulches and vegetation cover being temporary of permanent.

SEEDING SPECIFICATIONS

Temporary Seeding		
Fertilizer	(10-20-10 or equivalent)	11 Lbs./1,000 SF
Limestone	(50% Calcium plus MgO)	90 Lbs./1,000 SF
Perennial Rye Grass	(Lolium multiflorum)	1 Lb./1,000 SF
Permanent Seeding		
Fertilizer	(10-20-10 or equivalent)	11 Lbs./1,000 SF
Limestone	(50% Calcium plus MgO)	90 Lbs./1,000 SF
Mixture B-15	Kentucky Bluegrass	0.9 Lbs./1,000 SF
	(Three Cultivar Blend)	
	Hard Fescue	4.0 Lbs./1,000 SF
	Perennial Rye Grass	0.7 Lbs./1,000 SF

FERTILIZER
Work lime and fertilizer into soil as nearly as practical to depth of four inches (4"0). Remove from the surface all stones two inches (2") or larger. Roll soil to firm the seed bed where feasible. Use specifications as shown above.
Note: Optimum seeding dates February 1 to April 30 and August 15 to October 30.

SOIL CONSERVATION NOTES

PHASE	OPERATION	TIME PERIOD
A.	ESTABLISH EROSION CONTROL MEASURES	2 DAYS
B.	SITE CLEARING	3 DAYS
C.	ROUGH GRADING	2 DAYS
D.	CONSTRUCT STORMWATER BASIN INCLUDING VEGETATIVE STABILIZATION	N/A
E.	CONSTRUCT SANITARY SEWER SYSTEM & WATER SYSTEM	N/A
F.	CONSTRUCT STORM DRAINAGE STRUCTURES	5 DAYS
G.	FINE GRADE AND CONSTRUCT STONE BASE	2 DAYS
H.	CONSTRUCT DRAINAGE SWALES	N/A
I.	PERFORM TEMPORARY SEEDING AS NECESSARY	2 DAYS
J.	PERFORM PAVING AND CONSTRUCT SIDEWALKS	3 DAYS
K.	LAY BUILDING FOUNDATIONS AND CONSTRUCT DWELLINGS	N/A
L.	PERFORM SUBSOILS COMPACTION TEST	1 DAY
M.	SCARIFY/TILL SUBSOILS TO A MIN. DEPTH OF 6 INCHES	2 DAYS
N.	PERFORM PERMANENT SEEDING AND LANDSCAPING	2 DAYS

VARIOUS LOT GRADING TO CONTINUE THROUGHOUT CONSTRUCTION SEQUENCE.
DURATION OF EACH SEQUENCE WILL VARY DUE TO SECTIONALIZATION AND MARKET CONDITIONS.
CONSTRUCTION WILL BEGIN SPRING 2018

CONSTRUCTION SEQUENCE

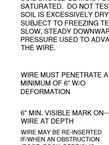
PROBING WIRE TEST - 15.5 GAUGE STEEL WIRE (SURVEY FLAG)

SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPS. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE WIRE.

WIRE MUST PENETRATE A MINIMUM OF 6" W/O DEFORMATION

6" MIN. VISIBLE MARK ON WIRE AT DEPTH

WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROOT, ROCK, DEBRIS) IS ENCOUNTERED.



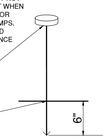
HANDHELD SOIL PENETROMETER TEST

SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPS. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE PROBE.

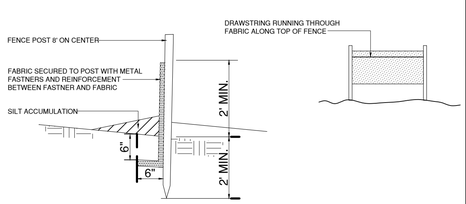
GAUGE READING 300 PSI OR LESS AT MIN. 6" DEPTH

6" MIN. VISIBLE MARK ON SHAFT AT DEPTH

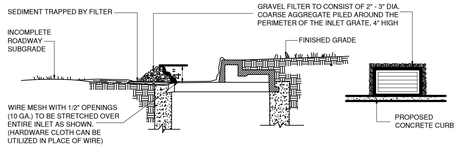
PROBE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROOT, ROCK, DEBRIS) IS ENCOUNTERED.



COMPACTION TESTING DETAILS

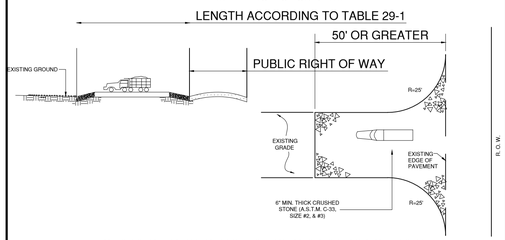


SILT FENCE DETAIL



NOTE: IF STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED

INLET PROTECTION DETAIL



CONTRACTOR TO PROVIDE APPROPRIATE TRANSITION BETWEEN THE STABILIZED ENTRY AND THE R.O.W.

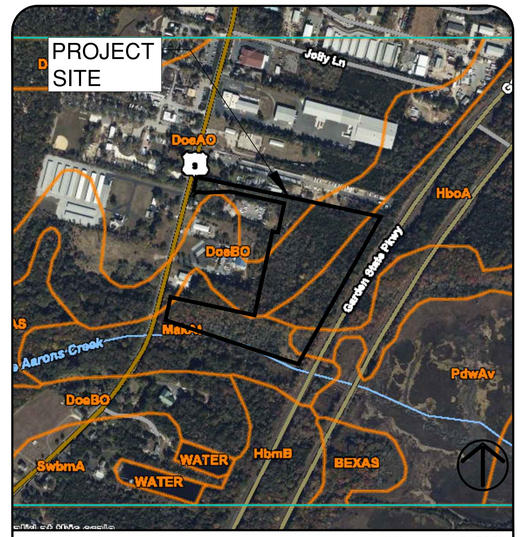
STABILIZED CONSTRUCTION ENTRANCE DETAIL

Maintenance

The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto roadways. This may require periodic dressing with additional stone or additional length as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed, or tracked onto roadways (public or private) or other impervious surfaces must be removed immediately.

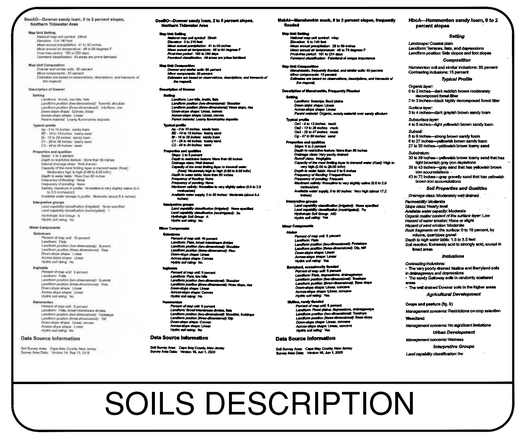
Where accumulation of dust/sediment is inadequately cleaned or removed by conventional methods, a power broom or street sweeper will be required to clean paved or impervious surfaces. All other access points which are not stabilized shall be blocked off.

SOIL CONSERVATION DETAILS



S.C.D. SOILS MAP

SCALE: 1"=500'



SOILS DESCRIPTION

LAND COVER

A. Total Area of Site..... 17.27 Acres
B. Present Cover.....Developed
C. Total Area of Disturbance..... 9.944 Acres
D. Adjacent Site Conditions.....Developed

RESPONSIBILITY

All soil erosion and sediment control measures and facilities shall be the sole responsibility of the developer/owner. The responsibility shall include, but not be limited to installation, inspection, and maintenance of conditions during and following construction.

Owner/Applicant:
Zemac CM, LLC
c/o David Szeker
222 Clinton Street APT 18
Hoboken, NJ 07030

Project Location:
1910 Route 9
Dennis Township, NJ 08210

GENERAL INFORMATION

EDA
Engineering
Design
Associates, P.A.
Engineers Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 390-0332 • Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION#: 24GA27970600

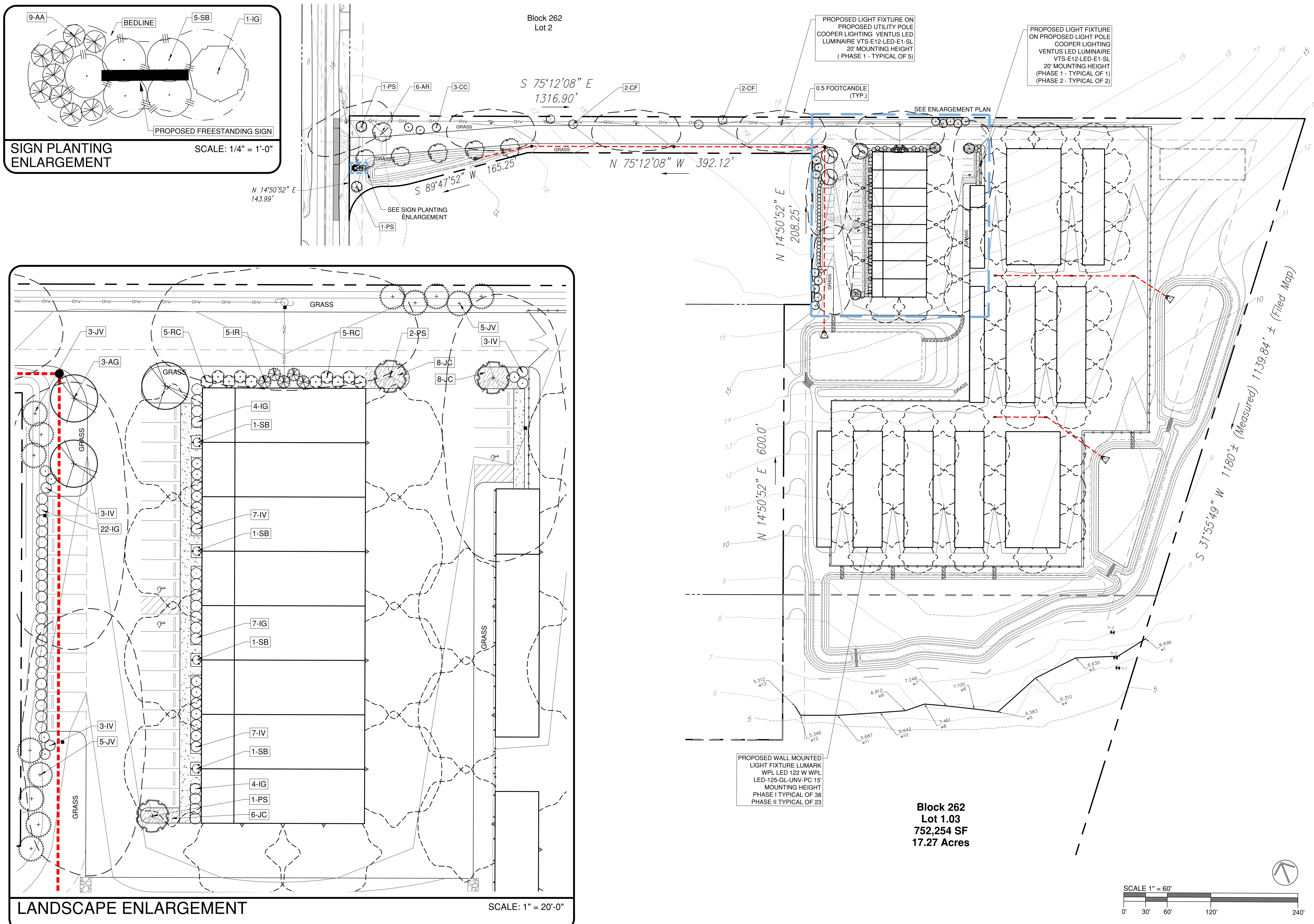
SOIL EROSION PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB
REV. PER NJDOT	5/18/2022	MSB

EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: AS NOTED	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 6 OF 12



LANDSCAPING & LIGHTING PLAN

EDA Engineers - Landscape Architects - Planners

Engineering Design Associates, P.A.
Engineers Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 390-0332 • Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION#: 24GA27970300

LANDSCAPING & LIGHTING PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

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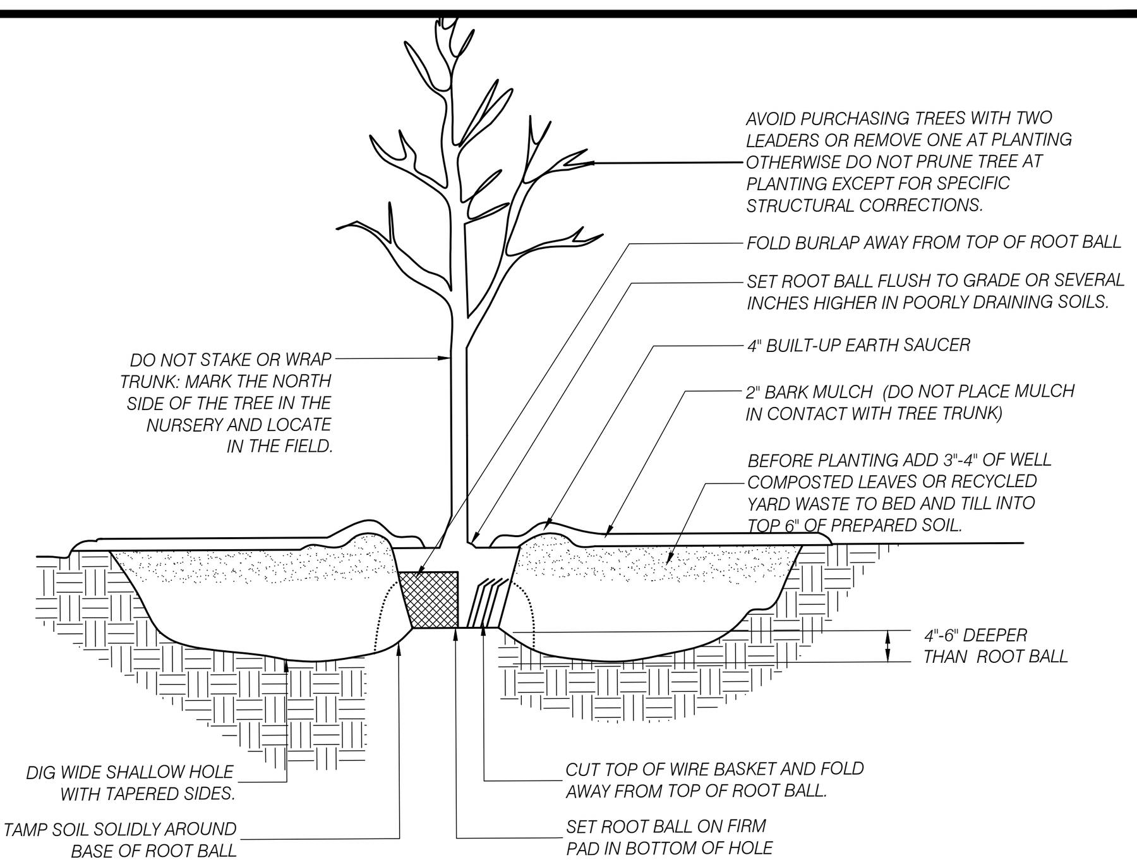
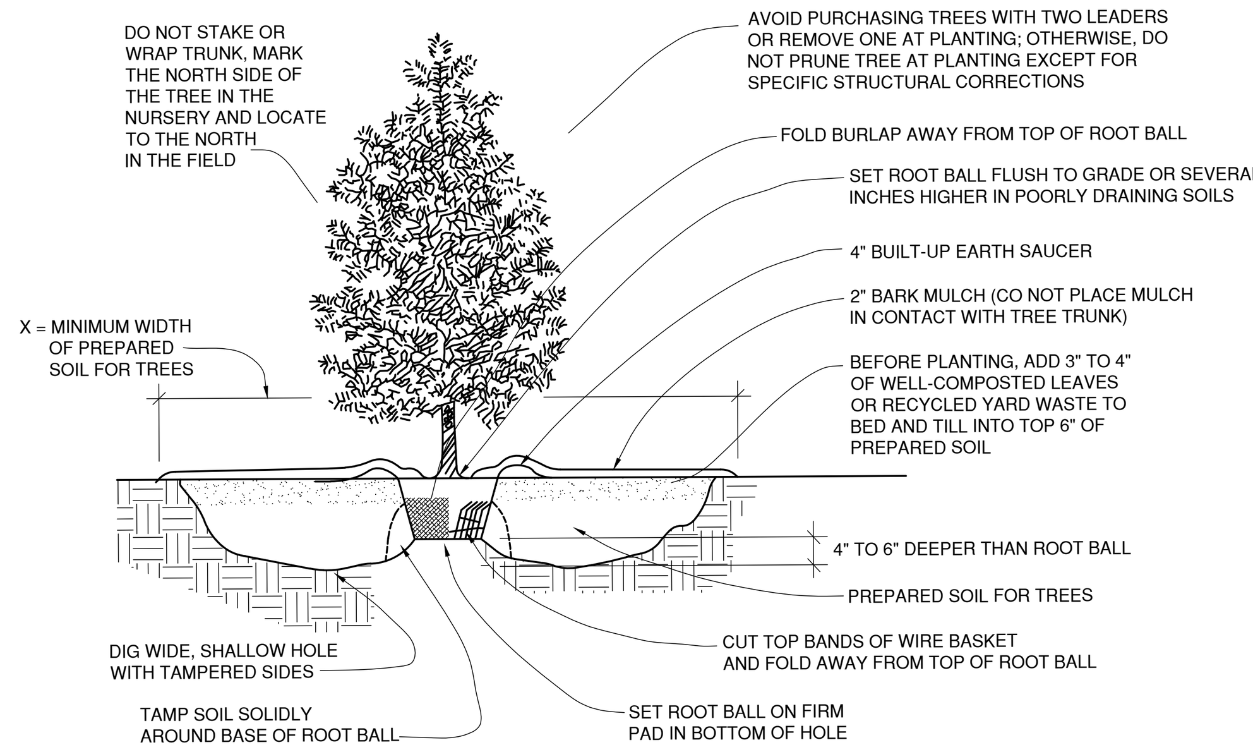
DATE: 3/10/22	DRAWN BY: MSB
SCALE: AS NOTED	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 7 0F 12



NOTES:
1. For container-grown trees, use fingers or small hand tools to pull the roots out of the outer layer of potting soil; then cut or pull apart any roots circling the perimeter of the container.
2. Incorporate commercially prepared mycorrhiza spores in the soil immediately around the root ball at rates specified by the manufacturer.
3. During the design phase, confirm that water drains out of the soil, design alternative drainage systems as required.
4. Thoroughly soak the tree root ball and adjacent prepared soil several times during the first month after planting and regularly throughout the following two summers.
5. The planting process is similar for deciduous and evergreen trees.

DECIDUOUS TREE PLANTING DETAIL

N.T.S.



NOTES:
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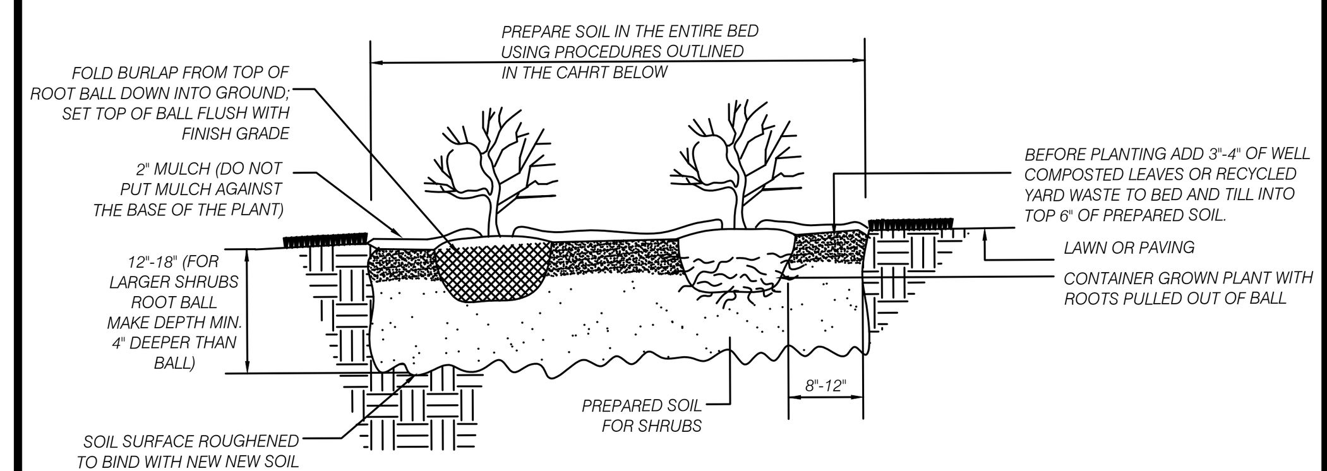
2. Incorporate commercially prepared mycorrhiza spores in the soil immediately around the root ball at rates specified by the manufacturer.
3. During the design phase, confirm that water drains out of the soil, design alternative drainage systems as required.
4. Thoroughly soak the tree root ball and adjacent prepared soil several times during the first month after planting and regularly throughout the following two summers.
5. The planting process is similar for deciduous and evergreen trees.

EVERGREEN TREE PLANTING DETAIL

N.T.S.



NOTES:
1. For container-grown trees, use fingers or small hand tools to pull the roots out of the outer layer of potting soil; then cut or pull apart any roots circling the perimeter of the container.
2. Incorporate commercially prepared mycorrhiza spores in the soil immediately around the root ball at rates specified by the manufacturer.
3. During the design phase, confirm that water drains out of the soil, design alternative drainage systems as required.
4. Thoroughly soak the tree root ball and adjacent prepared soil several times during the first month after planting and regularly throughout the following two summers.
5. The planting process is similar for deciduous and evergreen trees.

SHRUB PLANTING DETAIL

N.T.S.

PLANTING NOTES

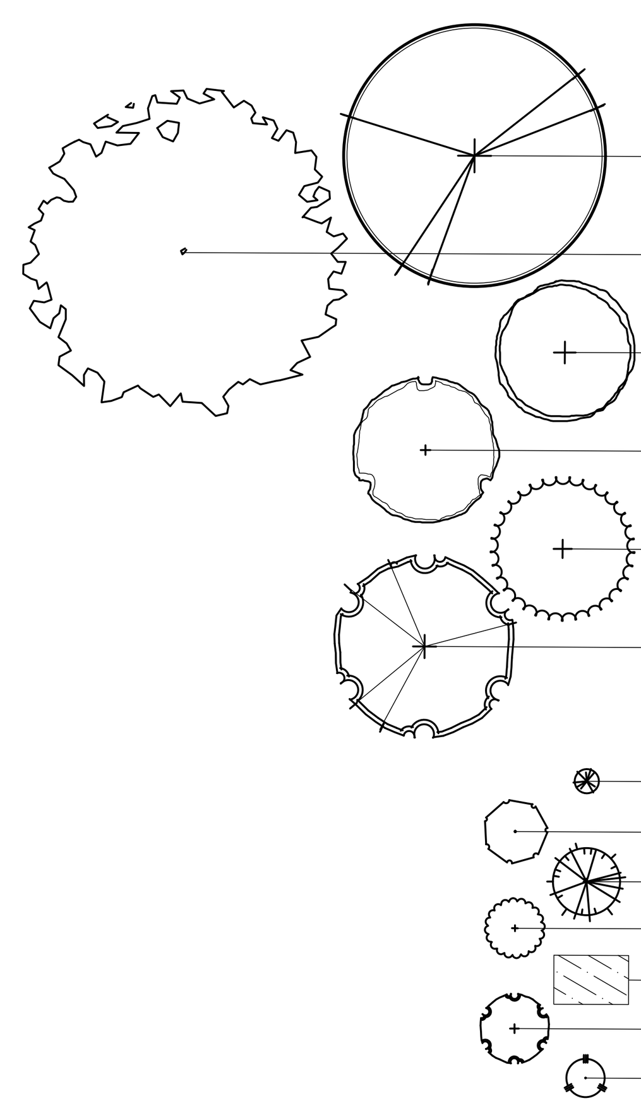
1. PLANT MATERIALS SHALL BE FURNISHED AND INSTALLED AS INDICATED INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS AND CLEAN UP
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING CORRECT GRADES ANMD ALIGNMENT.
3. PLANTS SHALL NE TYPICAL OF THEIR SPECIES AND VARIETY: HAVE NORMAL GROWTH HABITS, WELL DEVELOPED BRANCHES, DENSELY FOLIATED; VIGROUS ROOT SYSTEMS AND BE FREE FROM DETECTS AND INJURIES.
4. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.
5. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISION SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST TWO (2) YEARS FOR TEES AND A MINIMUM OF TWO GROWING SEASONS FOR SCHRUBS. REPLACMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACMENTS SHALL HAVE A GUARANTEE EQUAL TO THATSTATED ABOVE.
6. IN SO FAR AS IT PRACTIABLE, PLANT MATERIALS SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT TO BE PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE (3) DAY PERIOD AFTER DELIVERY.
7. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z80 (REV 1980) "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMMERICAN ASSOCIATION OF NURSERYMAN, INC.
8. ALL PLANTS SHALL BE PLANTED IN TOPSOIL THAT IS THROUGHLY WATERED AND TAMPED AS BACKFILLING PROGRESSES. NOTHING BUT SUITABLE TOPSOIL, FREE OF DRY SOD, STIFF CLAY, LITTER, ETC., SHALL BE USED FOR PLANTING.
9. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME AS TO DAMAGE THE BARK AND BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE BALL ONLY.
10. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTABLE LOCAL PRACTICE,
11. NO PLANT, EXCEPT GROUND COVERS, SHALL BE PLANTED LESS THEN TWO (2) FEET FROM EXISTING STRUCTURES AND SIDEWALKS.
12. SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT, AFTER SETTLEMENT A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE PLANT IN THE CENTER OF THE PIT.
13. ALL INJURED SHALL BE PRUNED TO MAKE CLEAN ENDS BEFORE PLANTING. IT IS ADVISABLE TO PRUNE APPROXIMATELY 1/3" OF THE GROWTH OF LARGE TREES (2" CALIPER AND OVER) BY THE REMOVAL OF SUPERFUOUS BRANCHES, THOSE WHICH CROSS, THOSE WHICH RUN PARALLEL, ETC. MAIN LEADER OF

TREES MUST NOT BE CUT BACK. LONG SIDE BRANCHES, HOWEVER, MUST BE SHORTENED.

14. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS. CUT OVER 3/4" IN DIAMETER SHALL BE PAINTED WITH SUITABLE TREE PAINT.
15. TREES SHALL BE SUPPOTED IMMEDIATELY AFT ER PLANTING. ALL TREES SIX (6) INCHES AND OVER IN CALIPER SHALL BE GUYED. SMALLER TREES SHALL BE STAKED. GUYING WIRES AND STAKES SHALL BE INSTALLED AS INDICATED.
16. THE TRUNKS OF ALL TREES SHALL BE WRAPPED AS SOON AS POSSIBLE AFTER PLANTING ACCORDING TO STANDARD PROCEDURES AND AS INDICATED.

PLANTING NOTES

N.T.S.



PLANTING LEGEND

TREES

ABRV	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	QTY
AG	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE APPLE SERVICEBERRY	1.5" CAL.	B&B	3
AR	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2.5" CAL.	B&B	6
CC	CERCIS CANADENSIS	EASTERN REDBUD	6'-7'	B&B	3
CF	CORNUS FLORIDA	FLOWERING DOGWOOD	6'-7'	B&B	4
JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	5'-6'	B&B	13
PS	PRUNUS SARGENTII	SARGENT CHERRY	6'-7'	B&B	5

SHRUBS & PERENNIALS

AA	ASTILBE X ARENDSII 'RHEINLAND'	RHEINLAND ASTILBE	#1	CONT.	9
IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	#5	CONT.	38
IR	ILEX X 'RUTZAN'	RED BEAUTY HOLLY	#5	CONT.	5
IV	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEETSPIRE	#5	CONT.	23
JC	JUNIPERUS CONFERTA 'BLUE PACIFIC'	BLUE PACIFIC SHORE JUNIPER	#3	CONT.	22
RC	RHODODENDRON CATWABIENSE	CATAWBA RHODODENDRON	30-36"	B&B	10
SB	SPIREA X BUMALDA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	#3	CONT.	9

PLANTING SCHEDULE

N.T.S.

LANDSCAPE CONTRACTOR NOTES

1. DRAWINGS TO BE SCALED FOR PURPOSES OF LOCATING SOIL BERMS, PLANT MATERIAL, PLANTING BEDS, GROUND COVER AREAS AND OTHER SITE AMENITIES SHOWN. DRAWINGS ARE DIAGRAMATIC; PLANT MATERIAL SUBJECT TO FIELD ADJUSTMENT.
2. ALL PLANT MATERIAL TO BE SET IN PREPARED MULCH BEDS. FINAL BED LINES TO BE APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT OR REPRESENTATIVE.
3. ALL PLANT MATERIAL TO BE IRRIGATED.
4. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL PLANT MATERIAL QUANTITIES. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. PLAN HOLDS PRECEDENT.

GRASSES
AREAS TO BE SEEDED SHALL CONSIST OF THE FOLLOWING SEED MIXTURES TO INSURE A HIGH QUALITY GRASS.

REBEL II TALL FESCUE - 8 LBS PER 1000 SF
ECLIPSE KENTUCKY BLUE GRASS - 4 LBS PER 1000 SF

FERTILIZING AND LIMING SHALL BE COMPLETED PRIOR TO SEEDING LAWN AREAS TWICE PER YEAR.

PLANTING BED - TO BE CONSTRUCTED AS SHOWN ON PLAN. USE THE FOLLOWING SPECIFICATIONS OR AN APPROVED EQUAL.

A. MULCH - BEDS TO BE FILLED WITH A 4" LAYER OF LICORICE ROOT MULCH (RIGHT DRESS INC.)
B. WEED BARRIER - MULCH TO BE PLACED OVER TERRA TOP LS WEED CONTROL FABRIC OR 4 MIL. BLACK POLYETHYLENE.
C. EDGING - PLANTING BED TO BE EDGED WITH BLACK DIAMOND POLYETHYLENE BED DIVIDER (VALLEY VIEW SPECIALTIES CO.)

CONTRACTOR NOTES

N.T.S.

Engineering Design Associates, P.A.
Engineers Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 390-0332 • Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION#: 24GA27970300

LANDSCAPE NOTES & DETAILS
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

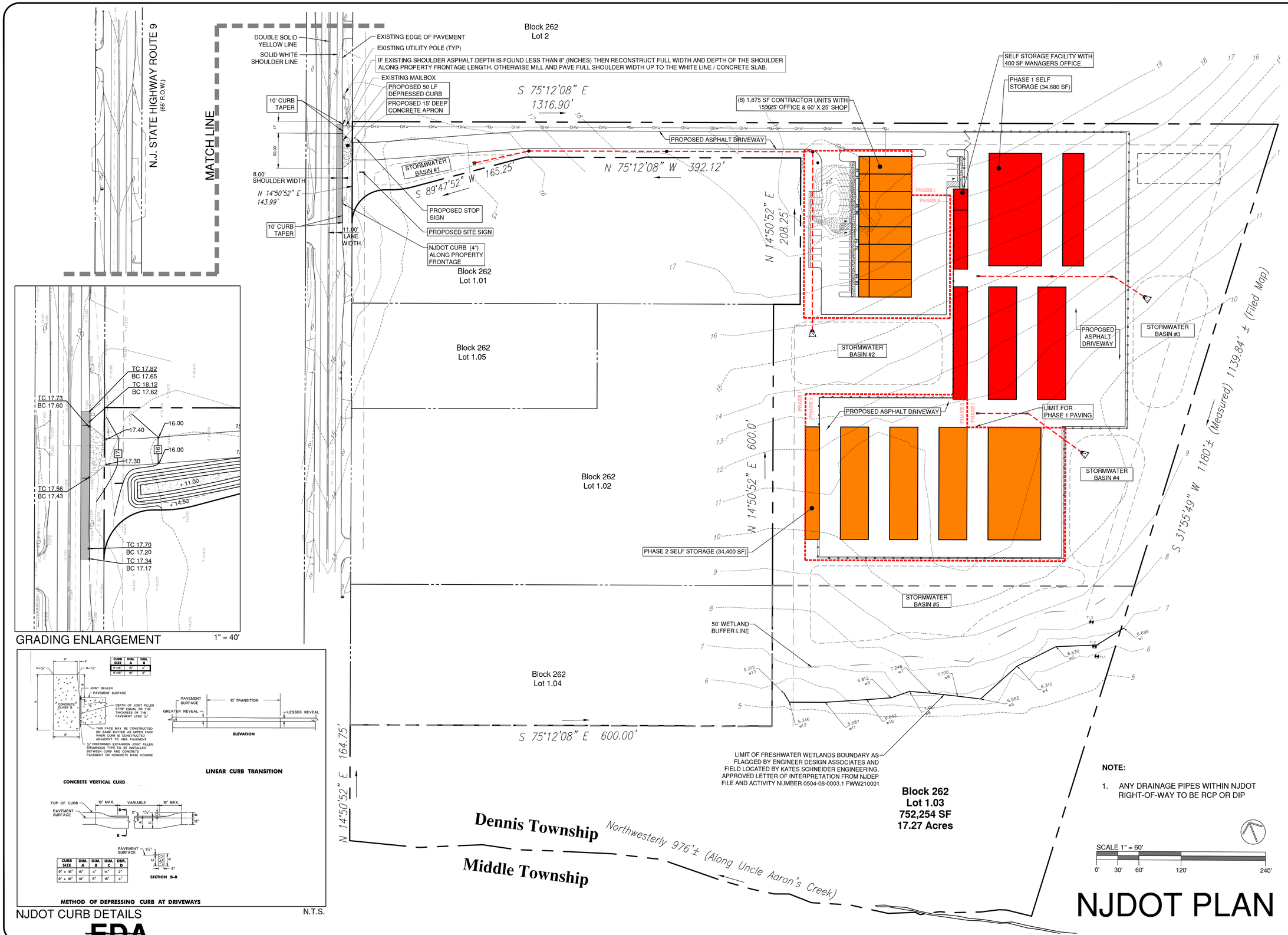
VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB

EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: NTS	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 8 0F 12

LANDSCAPE NOTES & DETAILS



GRADING ENLARGEMENT 1" = 40'

NJDOT CURB DETAILS N.T.S.

NOTE:

1. ANY DRAINAGE PIPES WITHIN NJDOT RIGHT-OF-WAY TO BE RCP OR DIP

NJDOT PLAN

EDA Engineering Design Associates, P.A.
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CAMBRIDGE PROFESSIONAL OFFICES
6 Cambridge Drive Ocean View New Jersey 08230
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CERTIFICATE OF AUTHORIZATION No. 24GA27970300

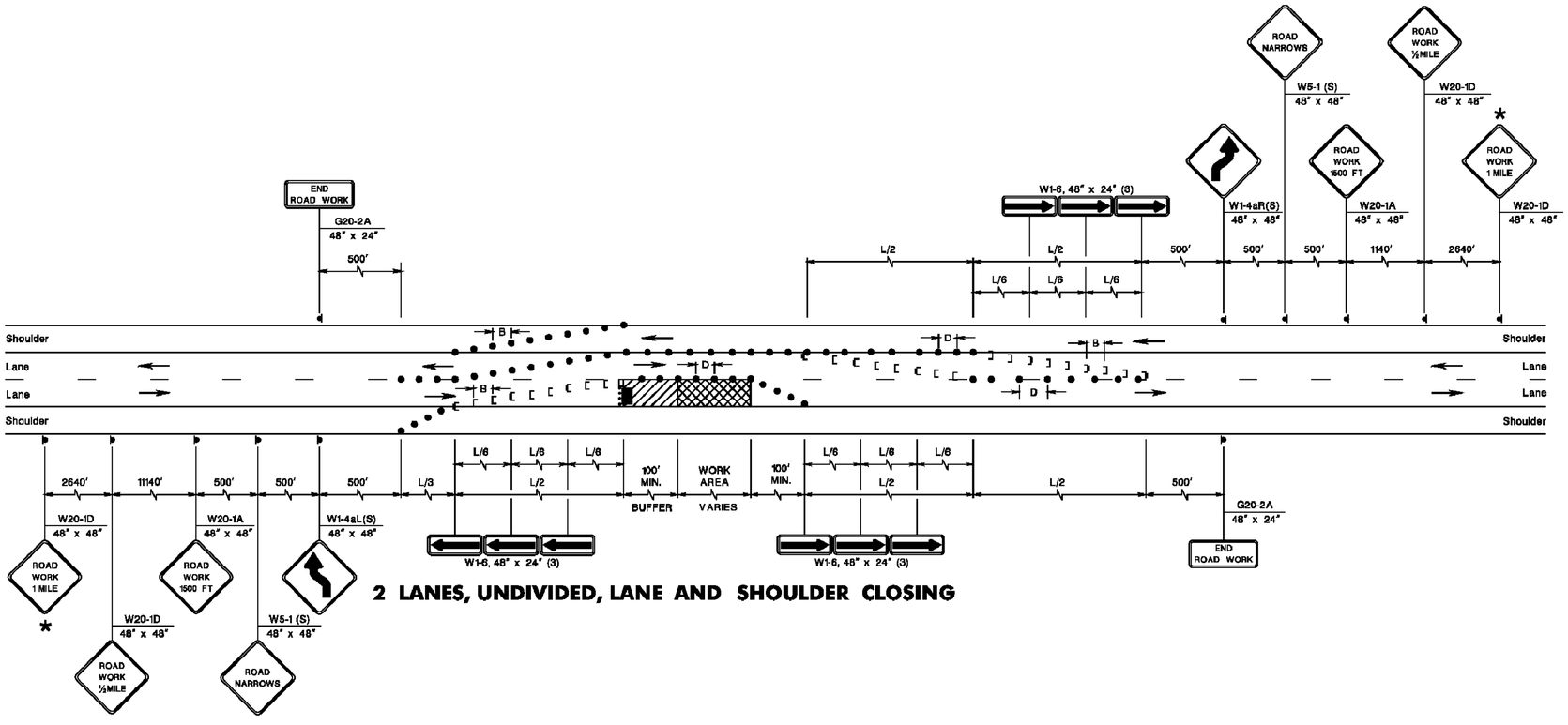
NJDOT PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB
REV. PER NJDOT	5/18/2022	MSB

EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: 1" = 60'	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 9 0F 12



2 LANES, UNDIVIDED, LANE AND SHOULDER CLOSING

* INSTALL THIS SIGN FOR ROADS WITH A POSTED SPEED LIMIT OF 45 M.P.H. OR GREATER UNLESS OTHERWISE DIRECTED BY THE RE.

NOTE:

SEE RECOMMENDED TAPER LENGTH AND SPACING TABLE ON SHEET TCD-2 FOR VALUES OF L, B, AND D.

REGULATORY APPROACH SPEED OF TRAFFIC MILES/HOUR	RECOMMENDED SIGHT DISTANCE TO BEGINNING OF CHANNELIZING TAPERS		
	DESIRABLE		MINIMUM
	RURAL FEET	URBAN FEET	RURAL AND URBAN FEET
25	375	525	150
30	450	625	200
35	525	725	250
40	600	825	325
45	675	925	400
50	750	1025	475
55	875	1150	550
60	1000	1275	650
65	1050		725

NOTES:

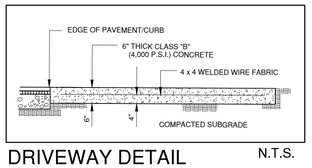
1. AVOIDANCE MANEUVER IS FOR A SPEED, PATH, AND / OR DIRECTION CHANGE PRIOR TO THE BEGINNING OF CHANNELIZING TAPERS.
2. RECOMMENDED DISTANCES BETWEEN TWO SEPARATE LANE CLOSURES ARE DOUBLE THE VALUES SHOWN ABOVE.
3. RURAL AND URBAN ROAD DESIGNATIONS ARE AS DEFINED IN THE NJDOT STATE HIGHWAY STRAIGHT LINE DIAGRAMS.
4. PROVIDE DESIRABLE VALUES WHEREVER POSSIBLE. IF IT IS NOT FEASIBLE OR PRACTICAL TO PROVIDE DESIRABLE VALUES BECAUSE OF HORIZONTAL OR VERTICAL CURVATURE OR IF RELOCATION OF THE TAPER IS NOT POSSIBLE, THEN MINIMUM VALUES CAN BE APPLIED. WHEN MINIMUM VALUES ARE USED, PAY SPECIAL ATTENTION TO THE USE OF SUITABLE TRAFFIC CONTROL DEVICES WHEN PROVIDING ADVANCED WARNING OF THE CONDITIONS THAT ARE LIKELY TO BE ENCOUNTERED.
5. LOCATE TAPERS TO MAXIMIZE THE VISIBILITY OF THEIR TOTAL LENGTH.

OPTIONAL CONNECTION TYPE B TREATMENT AT VERTICAL DROP OFF

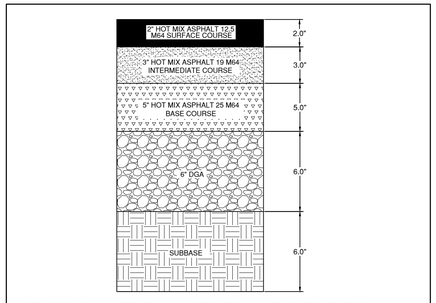
REGULATORY APPROACH SPEED OF TRAFFIC MILES /HOUR	MINIMUM TAPER RATIO IN LENGTH PER FOOT OF WIDTH	RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS: MINIMUM TAPER LENGTH L – FOR LANE WIDTHS 10′	11′	12′	MAXIMUM DEVICE (B) SPACING ALONG TAPERS IN FEET	RECOMMENDED SPACING ALONG TANGENTS: MAXIMUM DEVICE (D) SPACING ALONG TANGENTS IN FEET
25	10.5:1	105	115	125	25	50
30	15:1	150	165	180	30	60
35	20.5:1	205	225	245	35	70
40	27:1	270	300	325	40	80
45	45:1	450	495	540	45	90
50	50:1	500	550	600	50	100
55	55:1	550	605	660	55	110
60	60:1	600	660	720	60	120
65	65:1	650	715	780	65	130

NOTE:

THE MAXIMUM DEVICE SPACING ALONG CURVES IS DEFINED FOR TAPERS (B) IN THE ABOVE TABLE.



DRIVEWAY DETAIL N.T.S.



1. MATERIALS FOR THE ASPHALT CONCRETE SURFACE SHALL CONFORM TO SECTION 404.02 OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2019).
2. MATERIALS FOR THE ASPHALT CONCRETE BASE SHALL CONFORM TO SECTIONS 901.02 AND 304.02 OF THE N.J. DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2019).
3. THICKNESSES MAY HAVE TO BE CONSTRUCTED IN MULTIPLE LIFTS, BASED ON EQUIPMENT CAPABILITIES.
4. THE GRANULAR BASE SHALL BE DENSE GRADED AGGREGATE CONFORMING TO SECTION 901.08 OR SOIL AGGREGATE DESIGNATED I-5 CONFORMING TO SECTION 901.09 AND SHOWN IN TABLE 901-2 OF THE N.J. DEPARTMENT OF TRANSPORTATIONS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2019).
5. ALL SUBGRADES SHALL BE CONSIDERED "POOR," UNLESS THE APPLICANT PROVES OTHERWISE THROUGH CBR TESTING OR FIELD EVALUATION OF SOIL CLASSIFICATION. TEST RESULTS SHALL BE REVIEWED BY THE MUNICIPAL ENGINEER.
6. SUBGRADE COMPACTION SHALL BE APPROVED BY THE MUNICIPAL ENGINEER.
7. DRAWINGS ARE BASED ON THE FOLLOWING DESIGN ASSUMPUTIONS: A 20-YEAR DESIGN PERIOD WITH STAGED CONSTRUCTION IS USED. BASE COURSES ARE DESIGNED TO WITHSTAND THE CONSTRUCTION TRAFFIC ANTICIPATED DURING A 3-YEAR CONSTRUCTION PERIOD AND HAVE A RESIDUAL LIFE OF 17 YEARS AT THE END OF THE 3-YEAR PERIOD. THE ENTIRE PAVEMENT SECTION, BASE COURSE PLUS FINISH COURSE, IS DESIGNED TO WITHSTAND THE TRAFFIC LOADING FOR THE REMAINING 17 YEARS OF THE 20-YEAR DESIGN PERIOD.

NJDOT ASPHALT PAVEMENT SECTION N.T.S.

NOTE:

1. CONTRACTOR TO OBTAIN NJ ONE-CALL NUMBER FOR UTILITY MARK OUT AND SUPPLY CONFIRMATION NUMBER TO NJDOT.
2. ALLOWABLE WORKING HOURS: 8AM TO 5 PM

EDA Engineering Design Associates, P.A.
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CERTIFICATE OF AUTHORIZATION No. 24GA27970300

NJDOT MPT PLAN
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

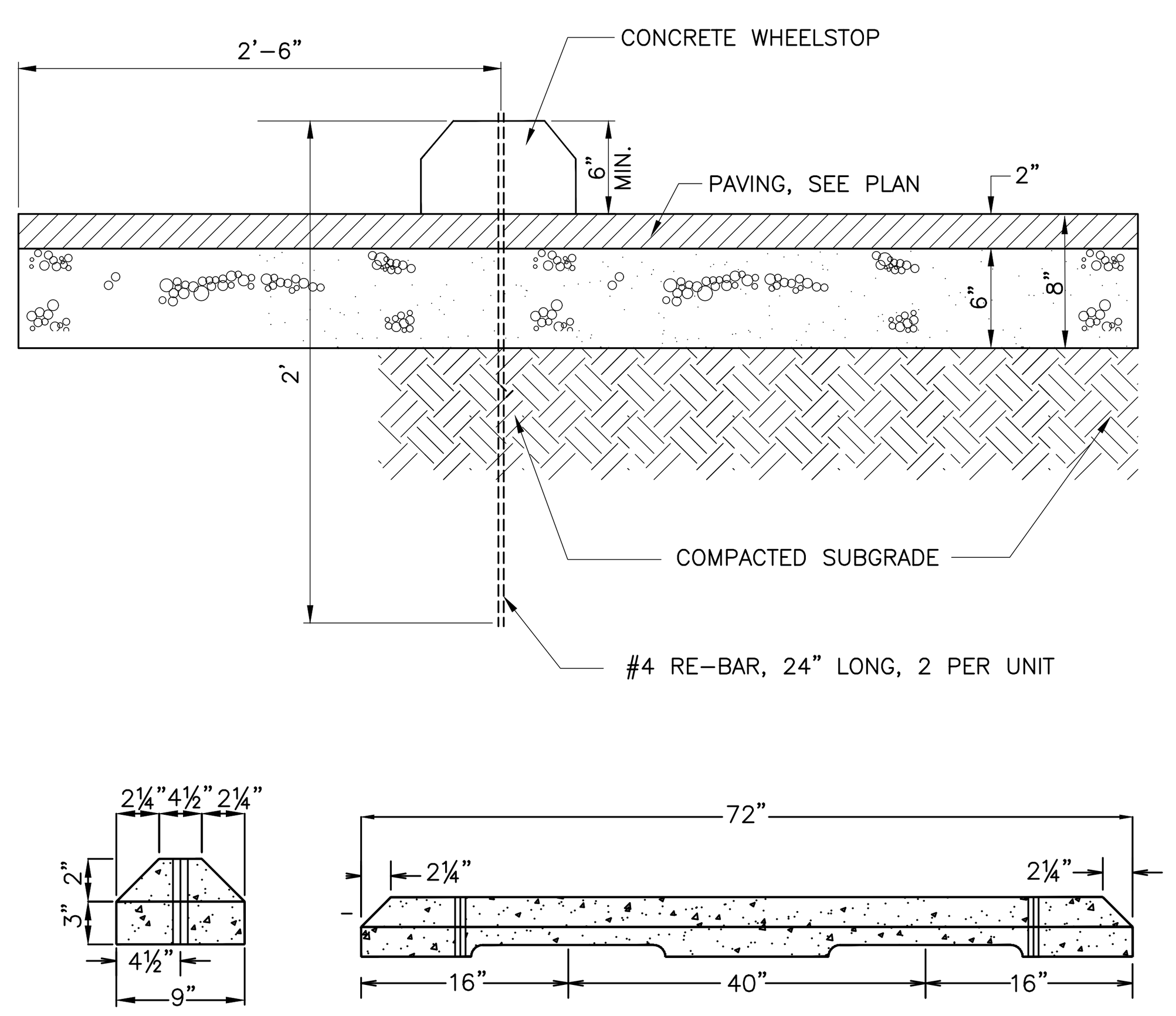
VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB
REV. PER NJDOT	5/18/2022	MSB

EDA

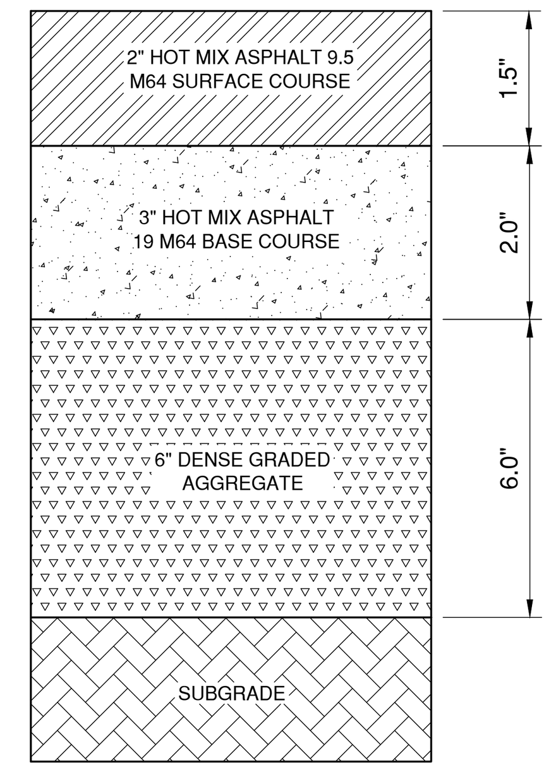
DATE: 3/10/22	DRAWN BY: MSB
SCALE: 1" = 60'	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 10 0F 12

NJDOT TRAFFIC CONTROL PLAN



CONCRETE WHEEL STOP

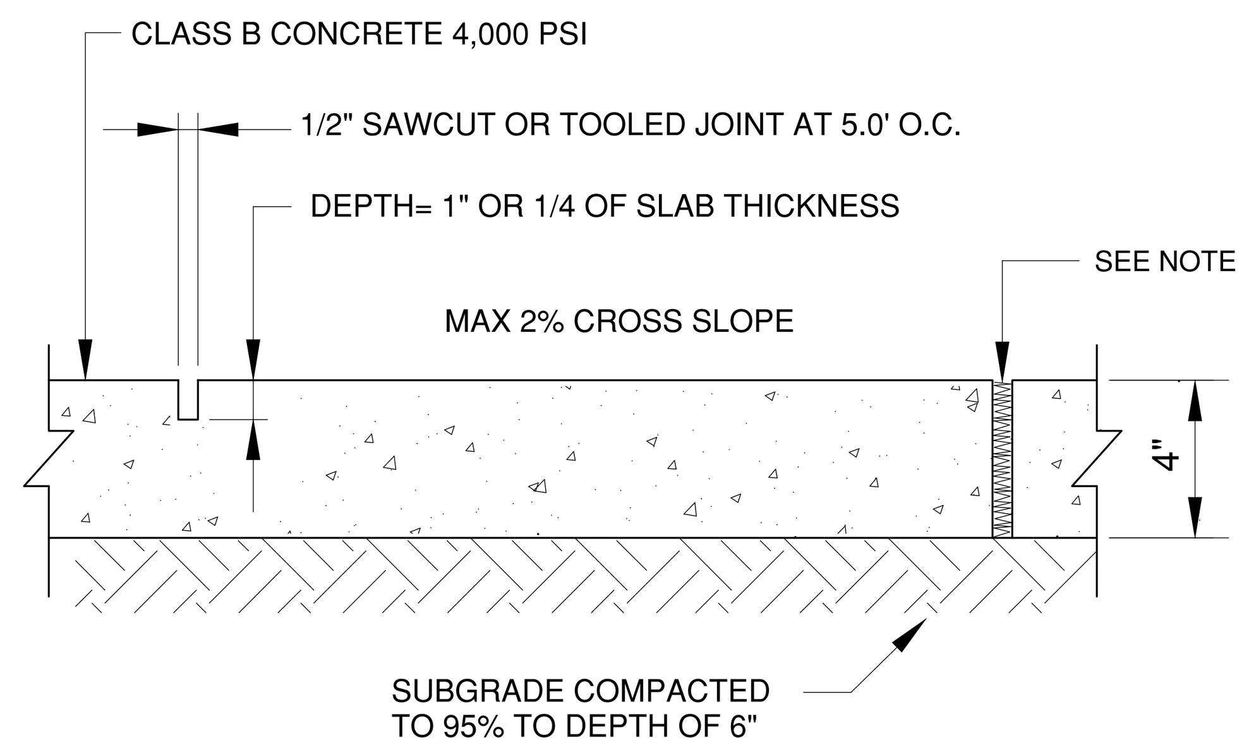
NTS



1. MATERIALS FOR THE ASPHALT CONCRETE SURFACE SHALL CONFORM TO SECTION 404.02 OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (1989)
2. MATERIALS FOR THE ASPHALT CONCRETE BASE SHALL CONFORM TO SECTIONS 301.02 AND 304.02 OF THE N.J. DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (1989)
3. THICKNESSES MAY HAVE TO BE CONSTRUCTED IN MULTIPLE LIFTS, BASED ON EQUIPMENT CAPABILITIES.
4. THE GRANULAR BASE SHALL BE DENSE GRADED AGGREGATE CONFORMING TO SECTION 901.08 OR SOIL AGGREGATE DESIGNATED I-5 CONFORMING TO SECTION 901.09 AND SHOWN IN TABLE 901-2 OF THE N.J. DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (1989)
5. ALL SUBGRADES SHALL BE CONSIDERED "POOR," UNLESS THE APPLICANT PROVES OTHERWISE THROUGH CBR TESTING OR FIELD EVALUATION OF SOIL CLASSIFICATION. TEST RESULTS SHALL BE REVIEWED BY THE MUNCIPAL ENGINEER.
6. SUBGRADE COMPACTION SHALL BE APPROVED BY THE MUNCIPAL ENGINEER.
7. DRAWINGS ARE BASED ON THE FOLLOWING DESIGN ASSUMPTIONS: A 20-YEAR DESIGN PERIOD WITH STAGED CONSTRUCTION IS USED. BASE COURSES ARE DESIGNED TO WITHSTAND THE CONSTRUCTION TRAFFIC ANTICIPATED DURING A 3-YEAR CONSTRUCTION PERIOD AND HAVE A RESIDUAL LIFE OF 17 YEARS AT THE END OF THE 3-YEAR PERIOD. THE ENTIRE PAVEMENT SECTION, BASE COURSE PLUS FINISH COURSE, IS DESIGNED TO WITHSTAND THE TRAFFIC LOADING FOR THE REMAINING 17 YEARS OF THE 20-YEAR DESIGN PERIOD.

ASPHALT PAVING DETAIL

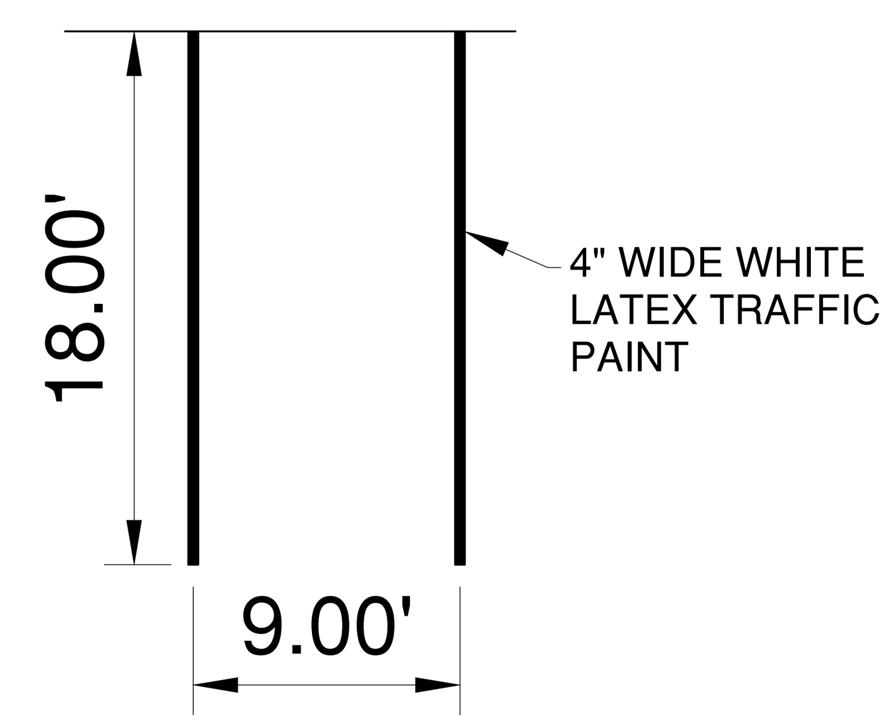
NTS



NOTE : INSTALL 1/2" WIDE TRAVERSE JOINTS IN SIDEWALK 20.0' C-C. FILL JOINTS WITH PREFORMED BITUMINOUS IMPREGNATED FIBER JOINT FILLER WHICH COMPLIES WITH REQUIREMENTS FOR TYPE 3 FILLER IN AASHTO SPEC M-153.

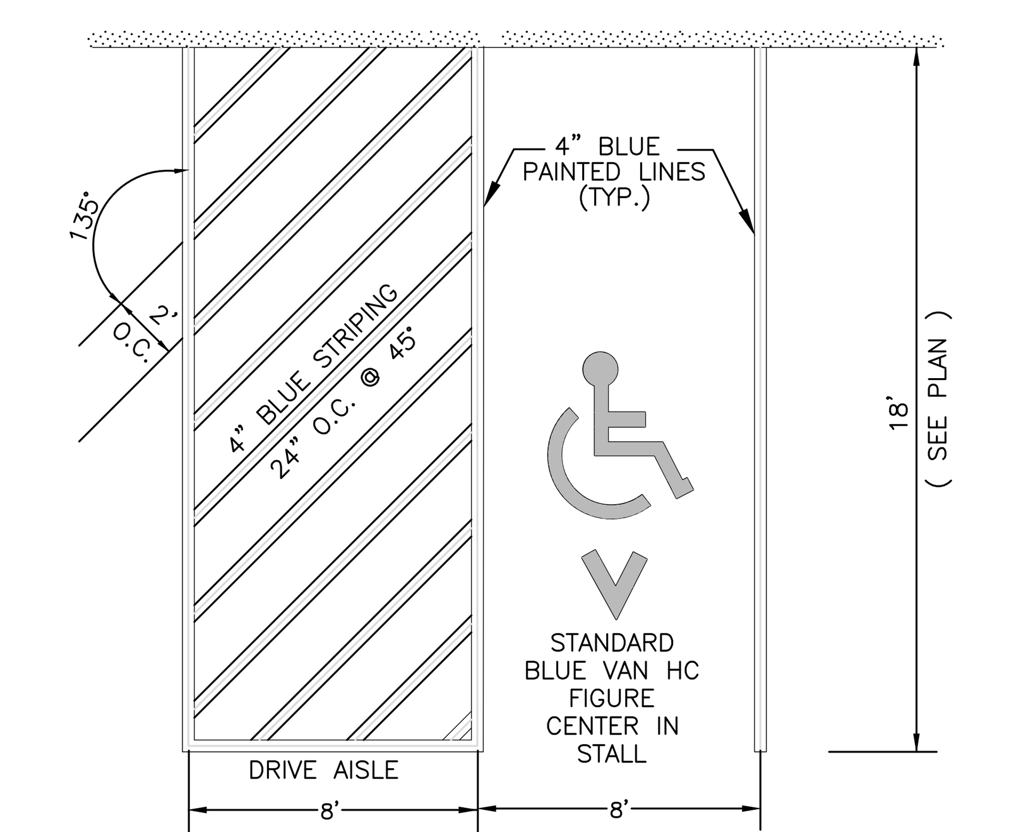
CONCRETE SIDEWALK DETAIL

NTS



TYPICAL STRIPING DETAIL

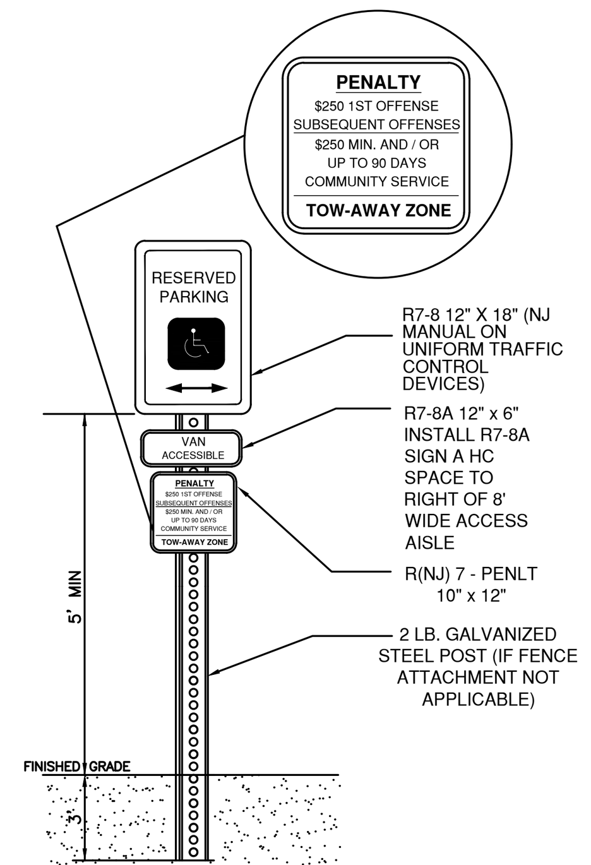
NTS



NOTE:
THE ACCESS AISLE SHOULD BE 8 FEET WIDE FOR CAR ACCESSIBLE SPACES

HANDICAP PARKING DETAIL

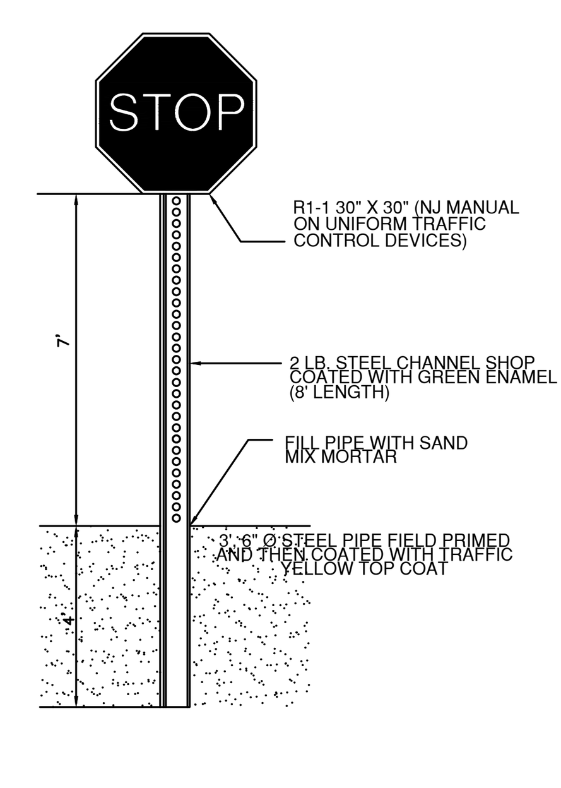
NTS



THE BOTTOM OF THE R7–8 SIGN SHALL BE MOUNTED APPROXIMATELY 60 INCHES ABOVE THE PARKING LOT OR SIDEWALK SURFACE WHEN THE SIGN IS PARALLEL TO THE SIDEWALK AND APPROXIMATELY 72 UNCHES ABOVE THE PARKING LOT OR SIDEWALK SURFACE WHEN THE SIGN IS PERPENDICULAR TO THE SIDEWALK.

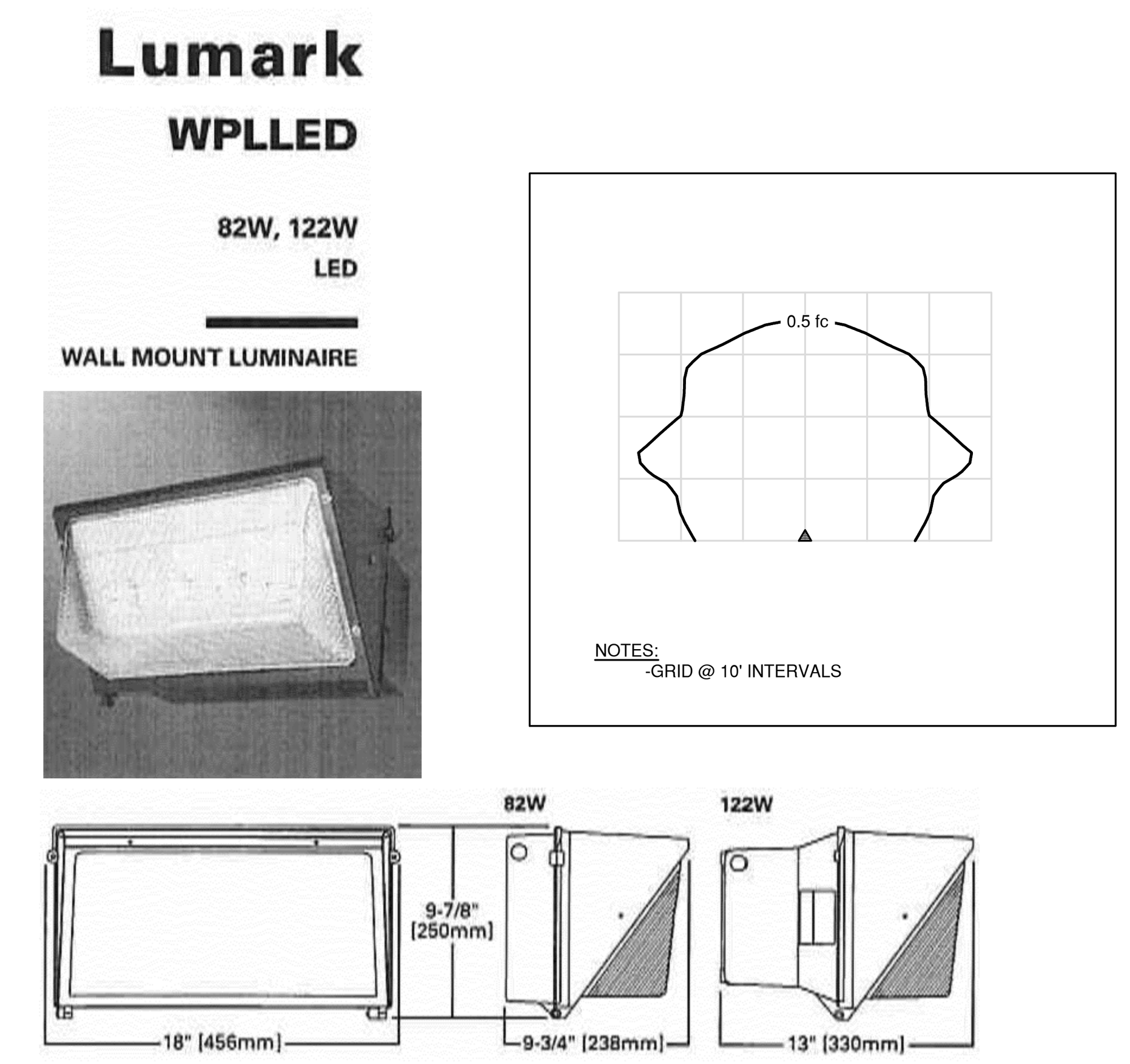
HANDICAP SIGNAGE DETAIL

NTS



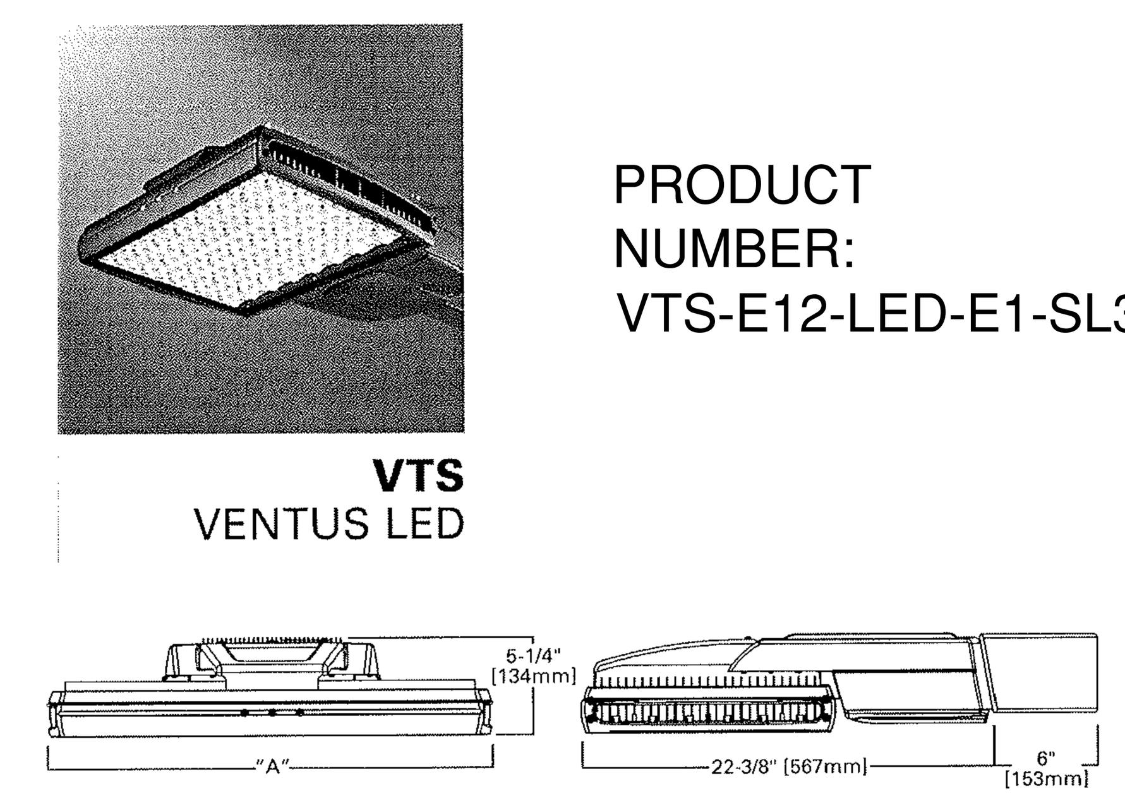
STOP SIGN DETAIL

NTS



WALL MOUNTED LIGHT DETAIL

NTS

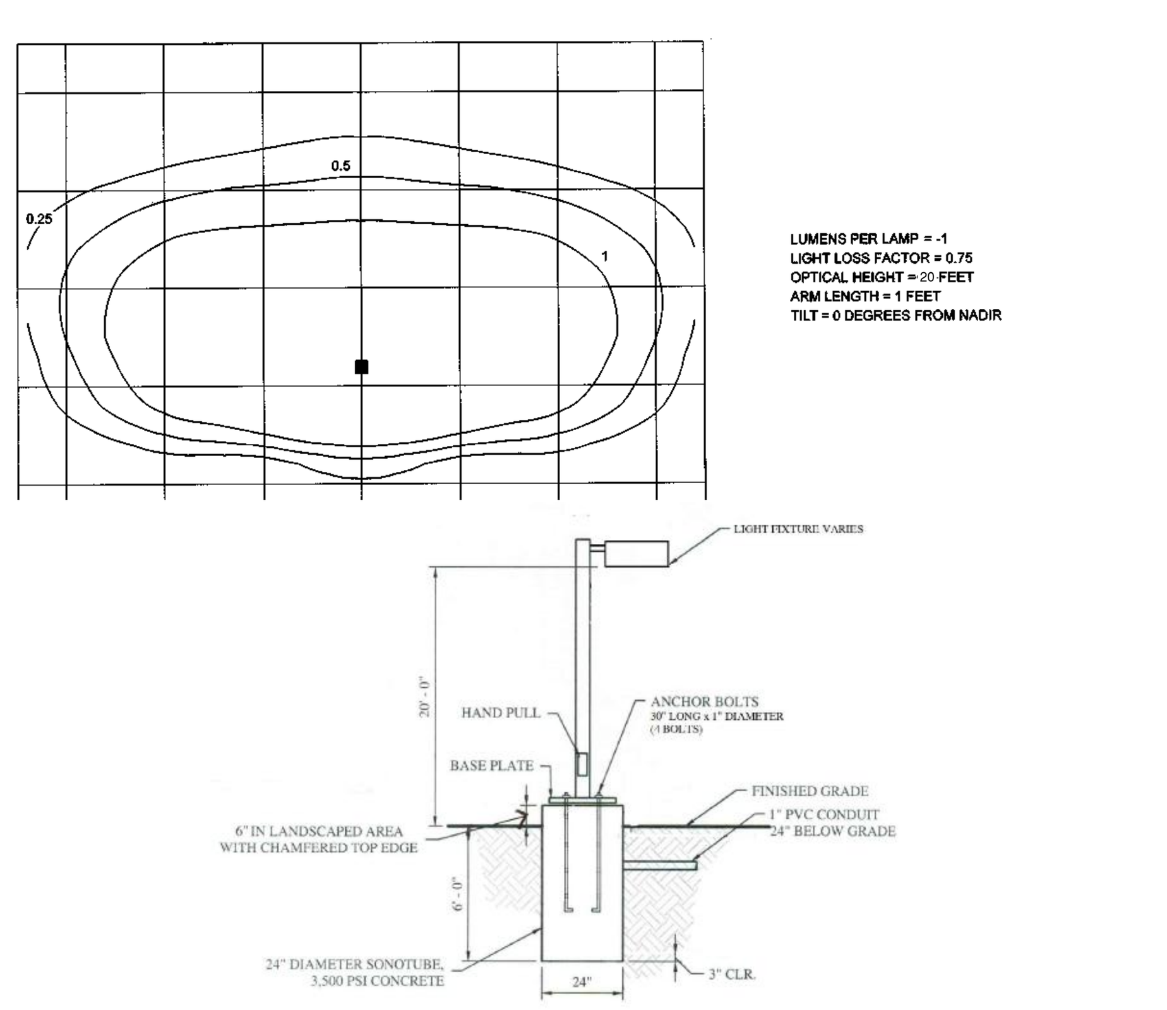


DIMENSIONAL DATA

Number of LightBars	"A" Width	Weight		EPA [Square Feet]	
		Without Arm	With Arm	Without Arm	With Arm
2-4	12-7/8" [328mm]	24 lbs. [10.91 kgs.]	29 lbs. [13.18 kgs.]	0.94	1.00
5-8	18" [458mm]	30 lbs. [13.64 kgs.]	35 lbs. [15.91 kgs.]	1.10	1.20
9-12	25-7/8" [658mm]	39 lbs. [17.73 kgs.]	44 lbs. [20.00 kgs.]	1.31	1.44

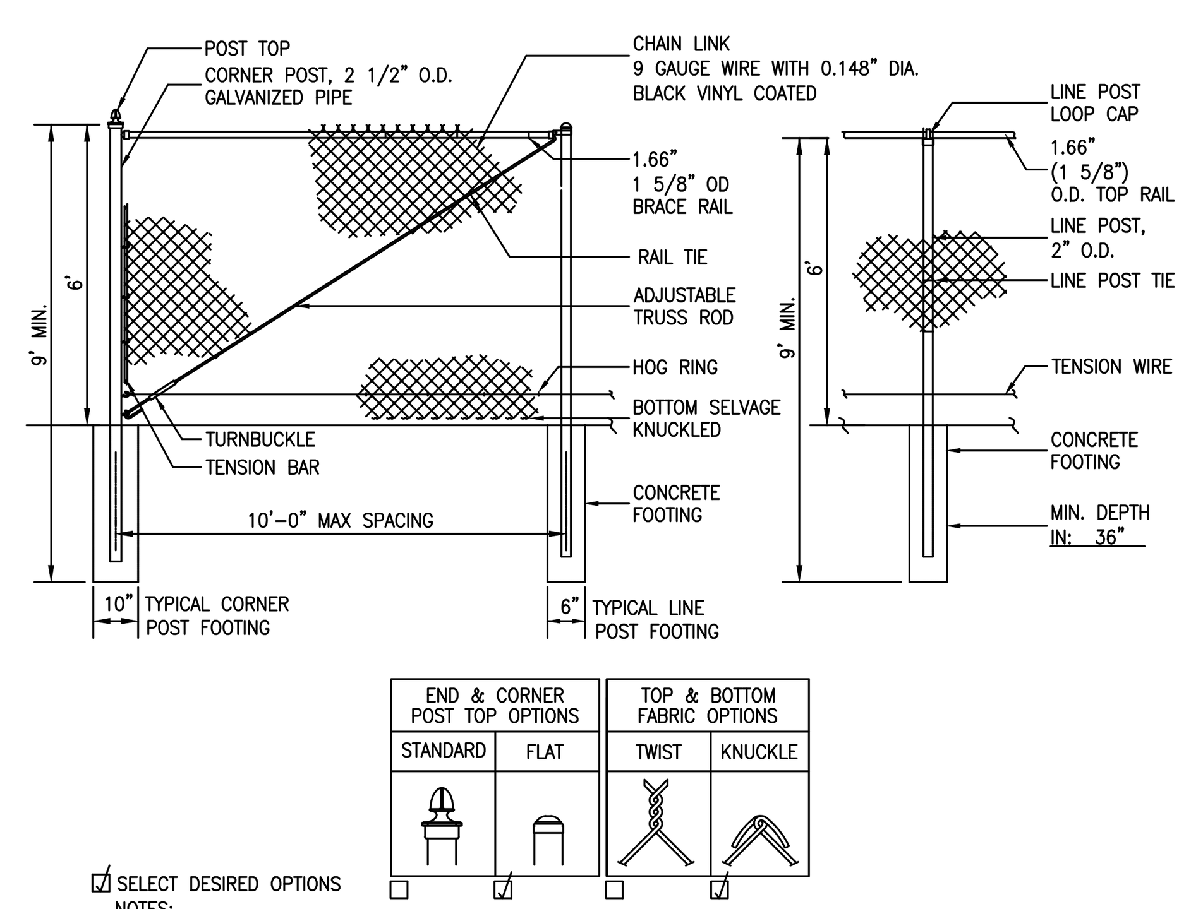
POLE MOUNTED LIGHT DETAIL

NTS



POLE MOUNTED LIGHT FOUNDATION & FOOTCANDLE DETAIL

NTS



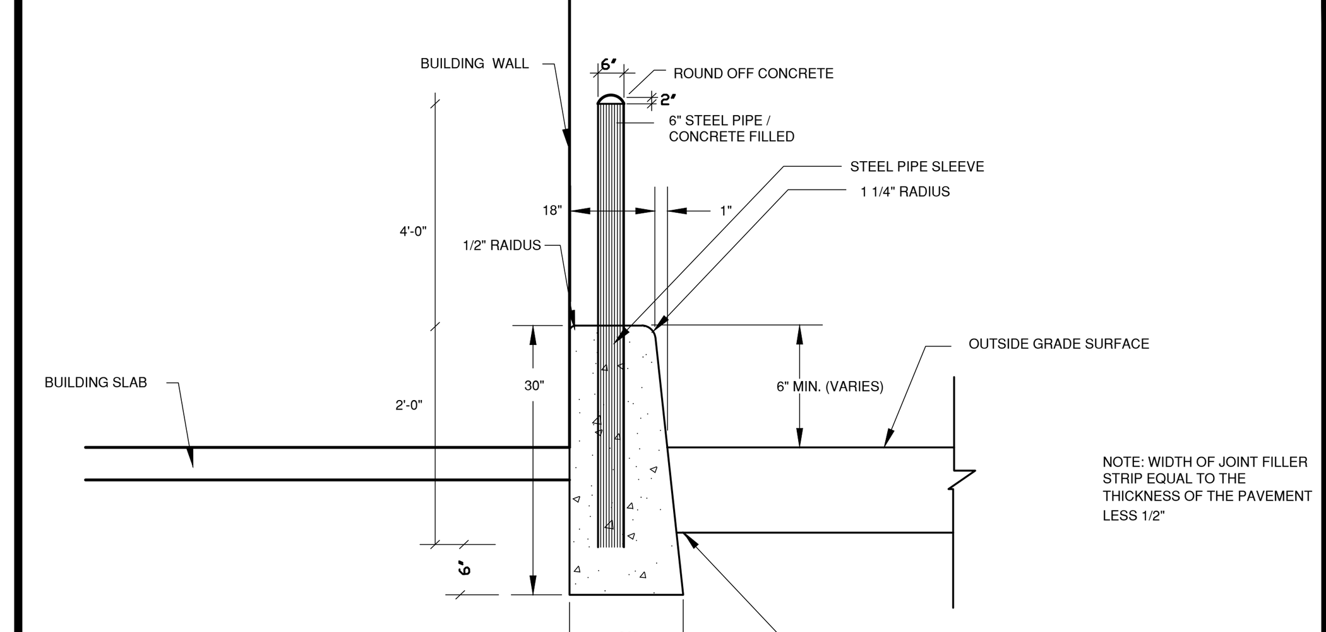
☑ SELECT DESIRED OPTIONS

NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. SPECIFICATIONS SHOWN CAN BE CHANGED BY THE MANUFACTURER ONLY.
4. FOOTING WIDTH TO BE (4)X POST WIDTH.
5. ALL WIRE FABRIC SHALL BE BLACK VINYL COATED.

6' HIGH CHAINLINK FENCE DETAIL

NTS



NOTES: 1. CONCRETE TO BE NJDOT CLASS "B" (AIR ENTRAINED)

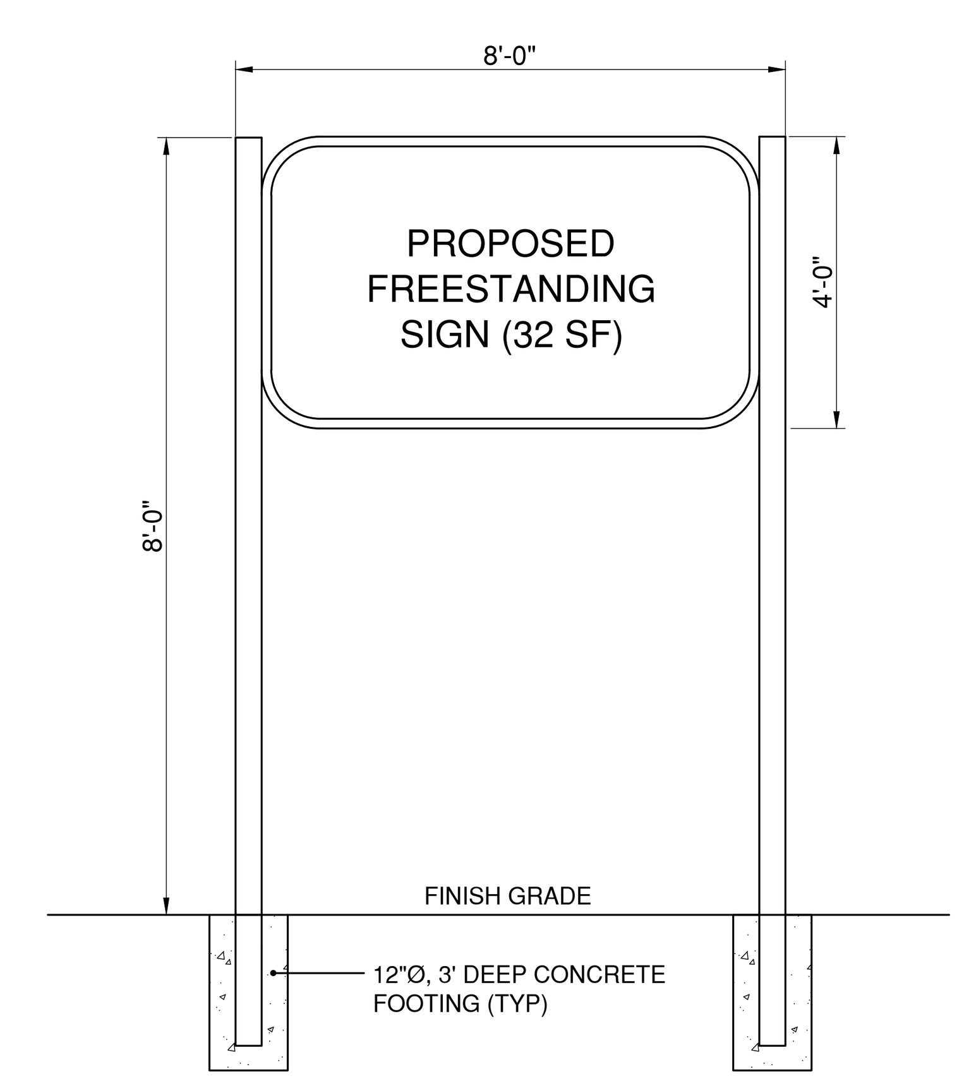
2. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" APART AND SHALL BE FILLED WITH PREFORMED. BITUMINOUS-IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTO M-213, RECESSED 1/4" FROM THE FRONT FACE AND TOP OF THE CURB

3. DUMMY JOINTS (FORMED) SHALL BE INSTALLED MIDWAY BETWEEN EXPANSION JOINTS.

- PIPE TO BE PRIMED & PAINTED IN FIELD FOLLOWING INSTALLATION USING ENAMEL RUST PROOF PAINT IN COLORS CONFORMING WITH PROJECT.

CONCRETE CURB WALL & BOLLARD DETAIL

NTS



SITE SIGN DETAIL

NTS

EDA Engineering Design Associates, P.A.
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CAMBRIDGE PROFESSIONAL OFFICES
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(609) 390-0332 • Fax (609) 390-9204
CERTIFICATE OF AUTHORIZATION#: 24GA27970300

ENGINEERING DETAILS

BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
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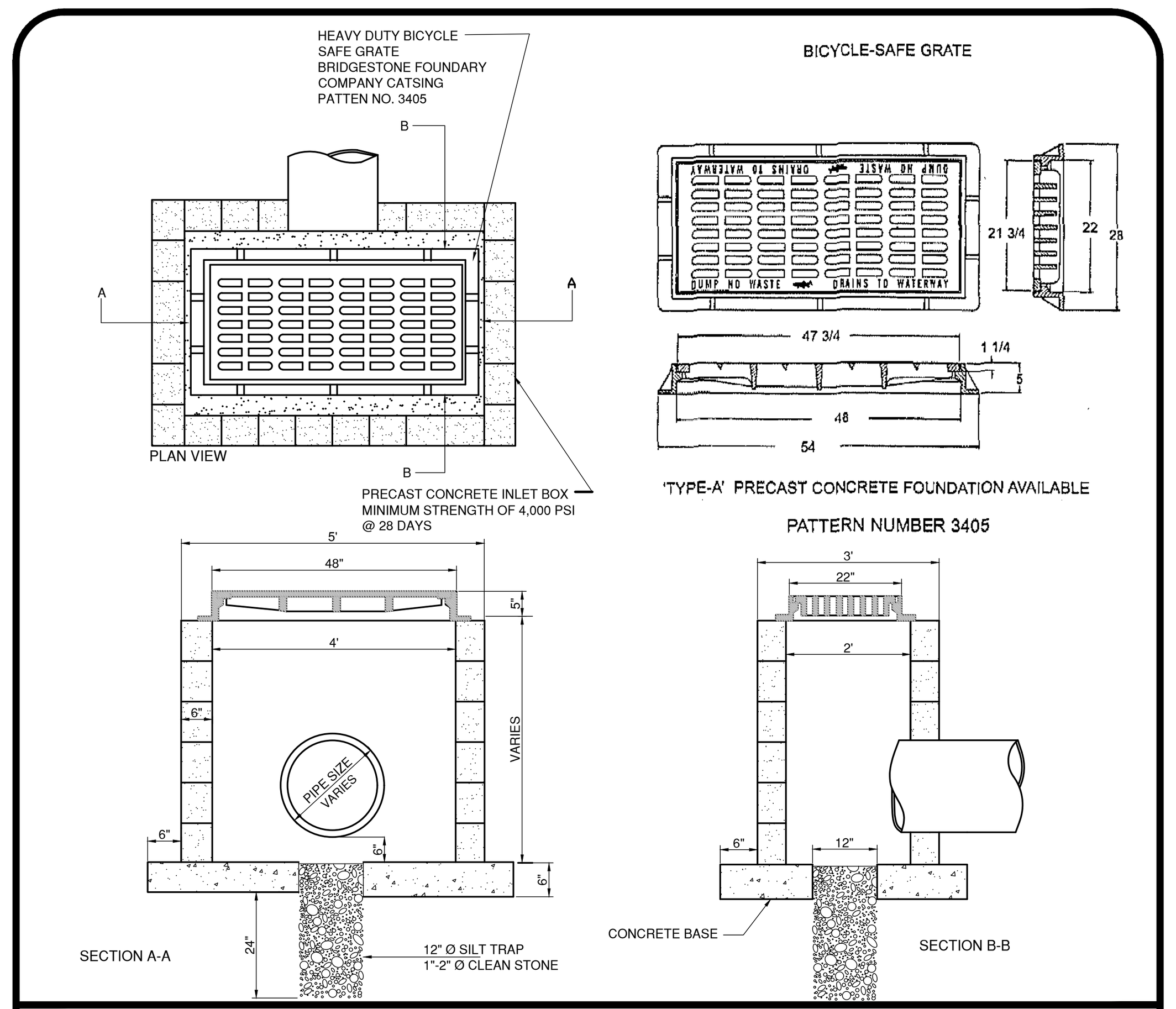
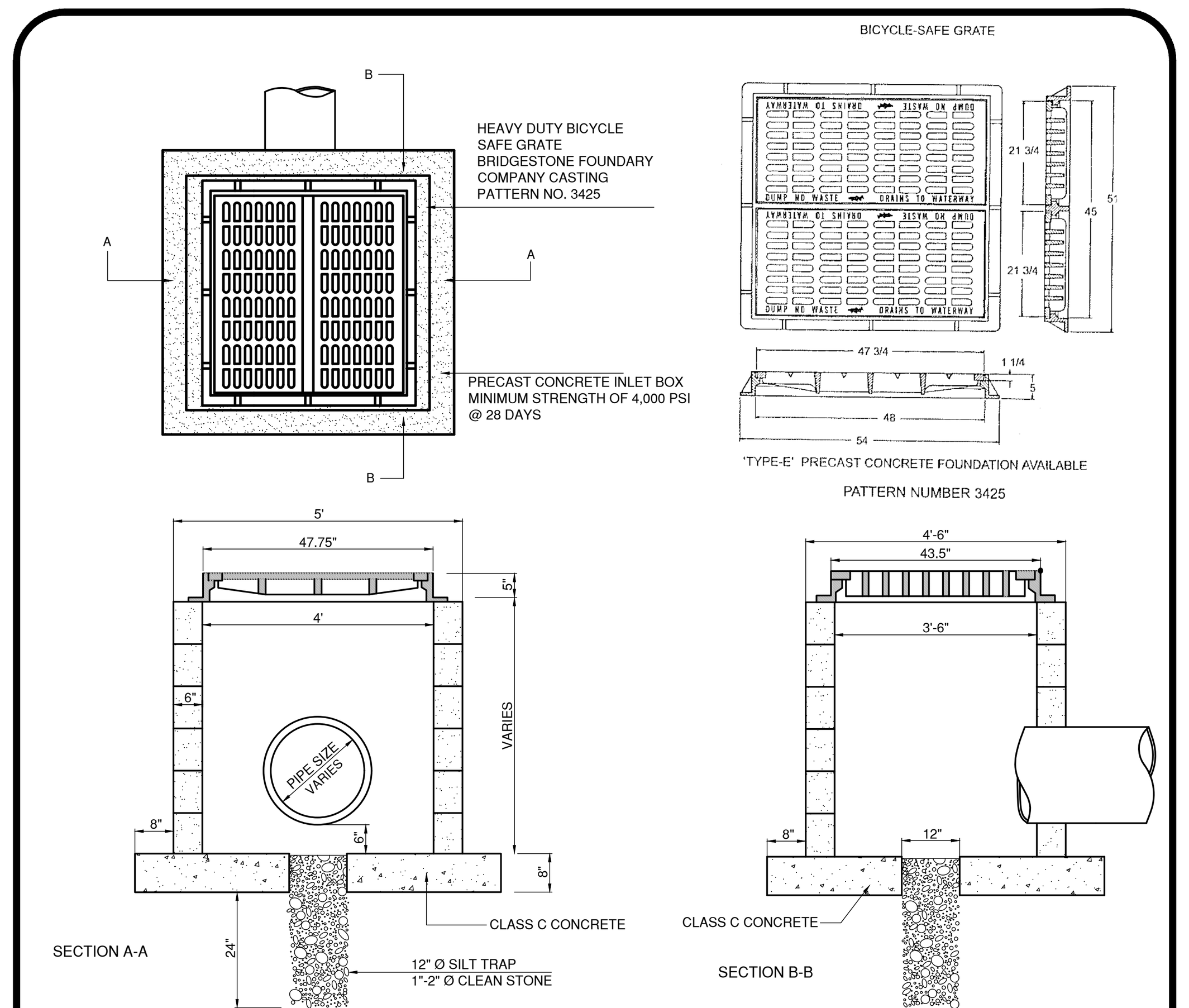
EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: AS NOTED	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 11 OF 12



'A' INLET DETAIL
NTS



'E' INLET DETAIL
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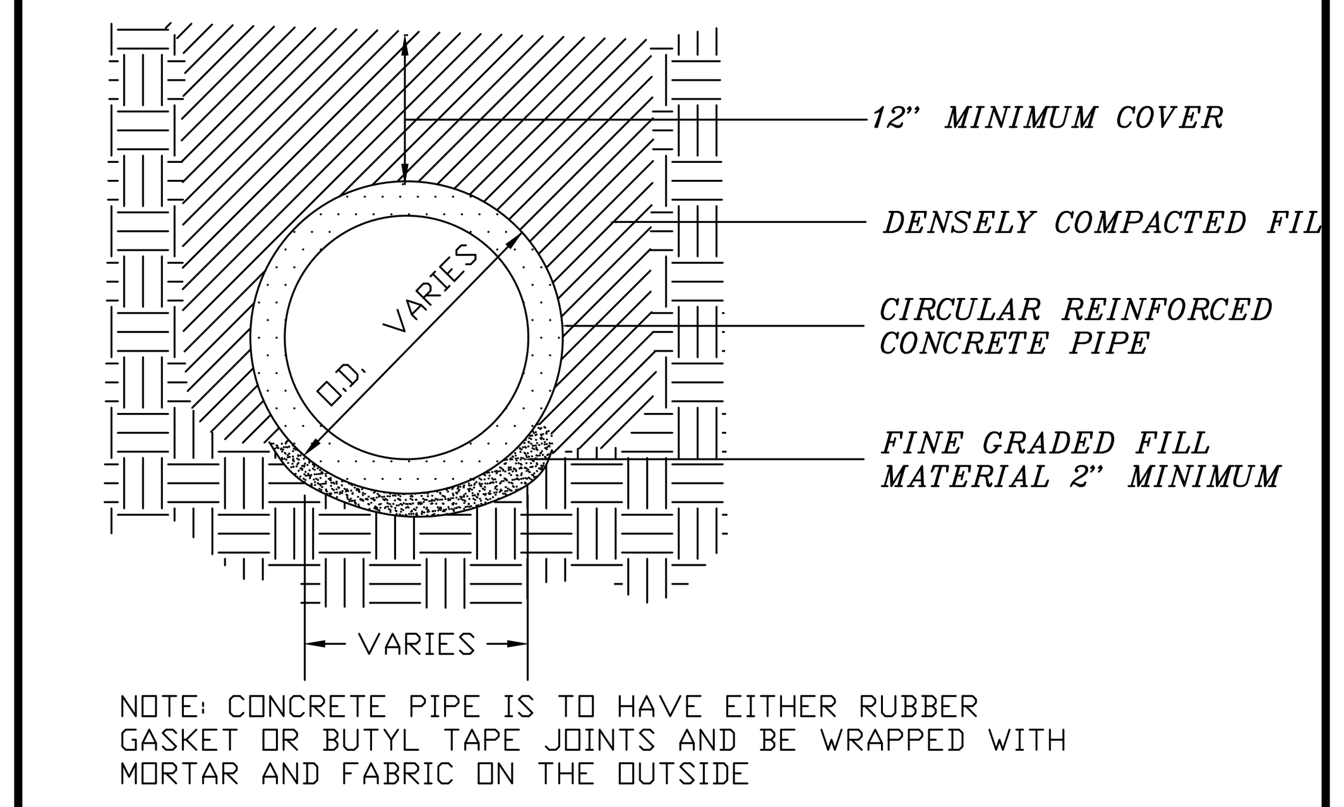

PIPE BEDDING DETAIL
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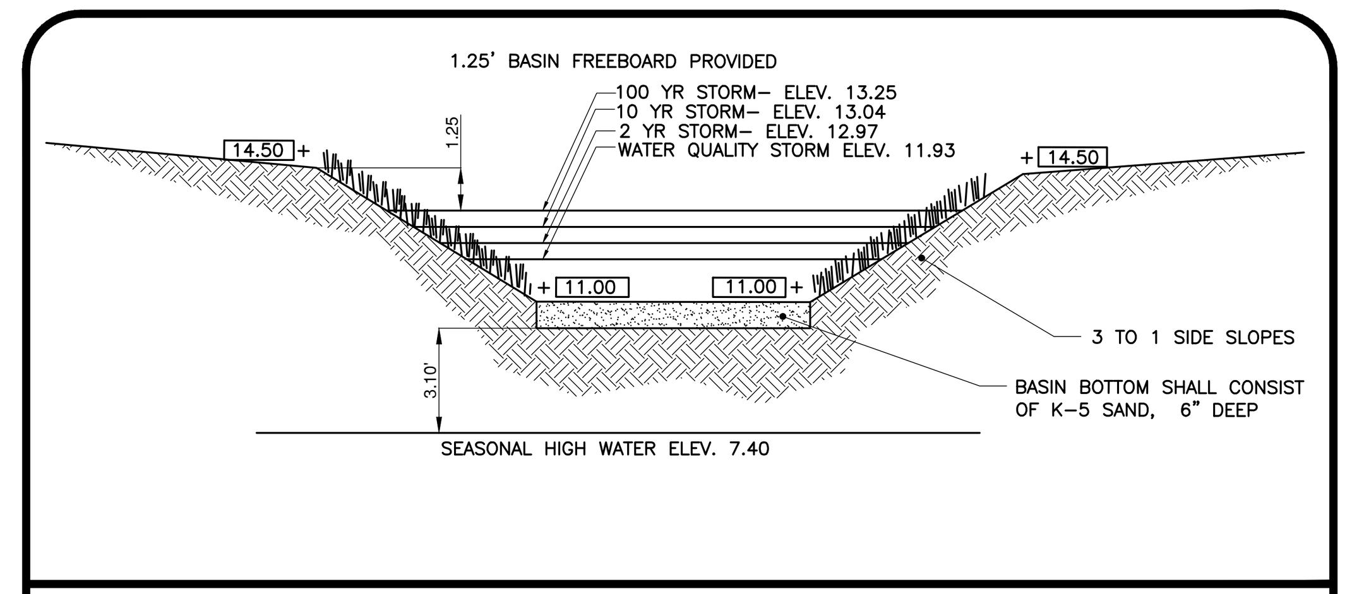
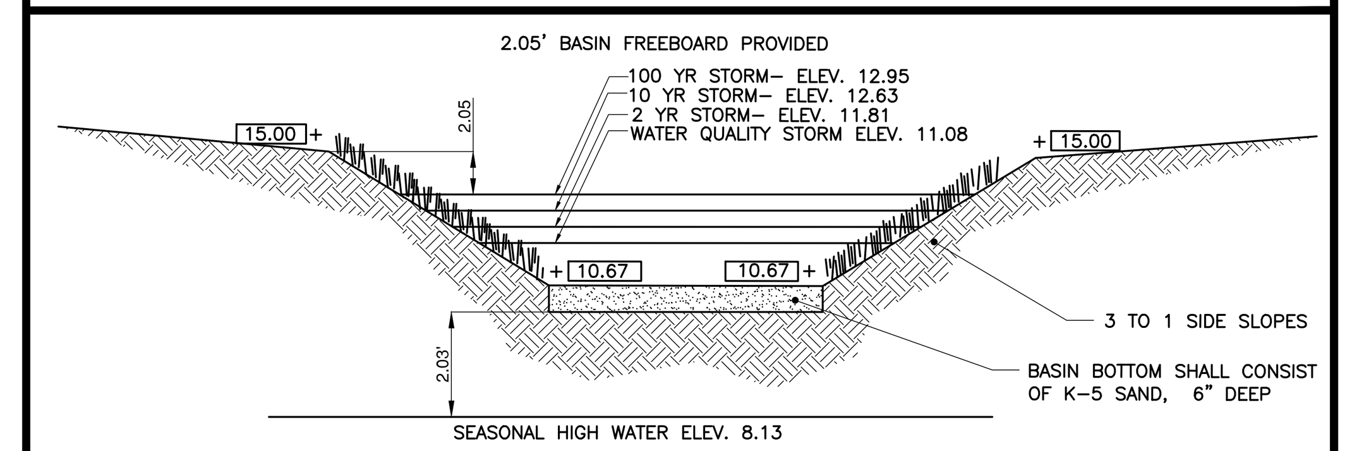
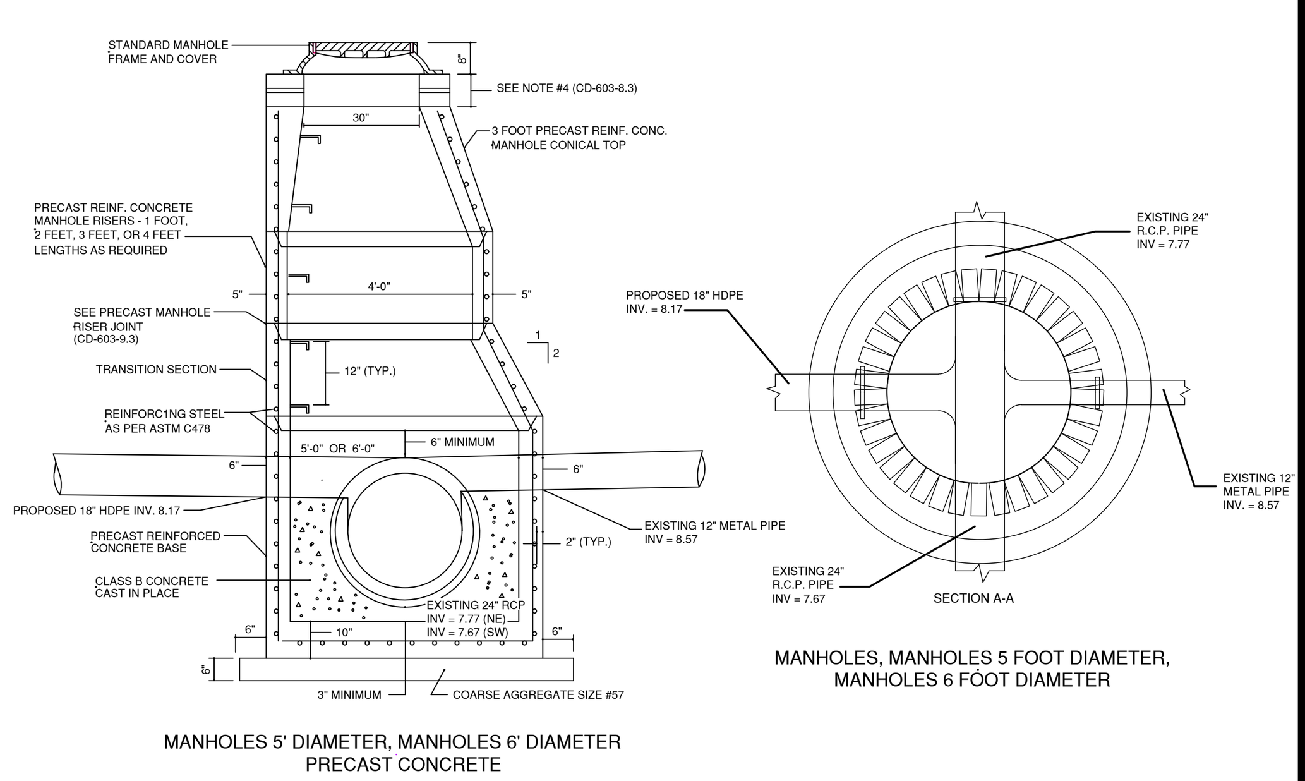


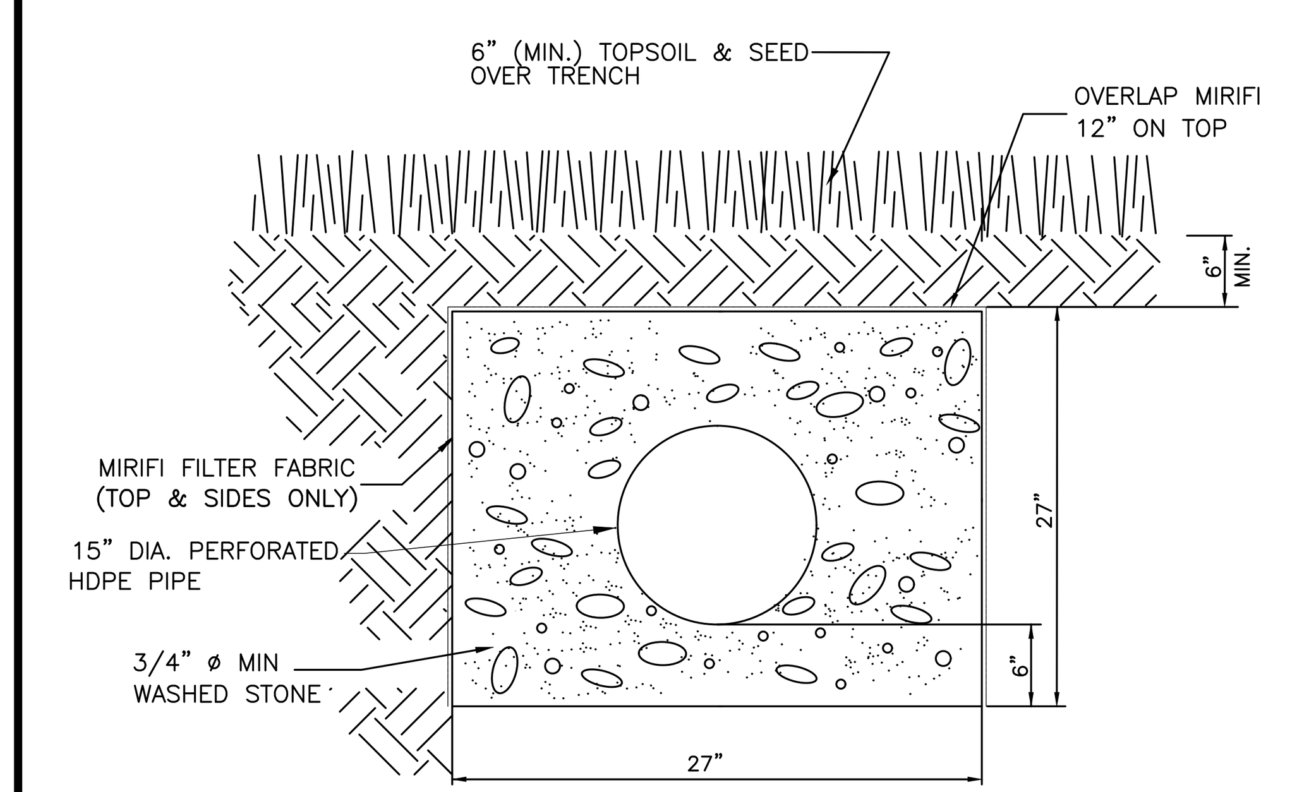
STORM WATER BASIN DETAIL #1
NTS



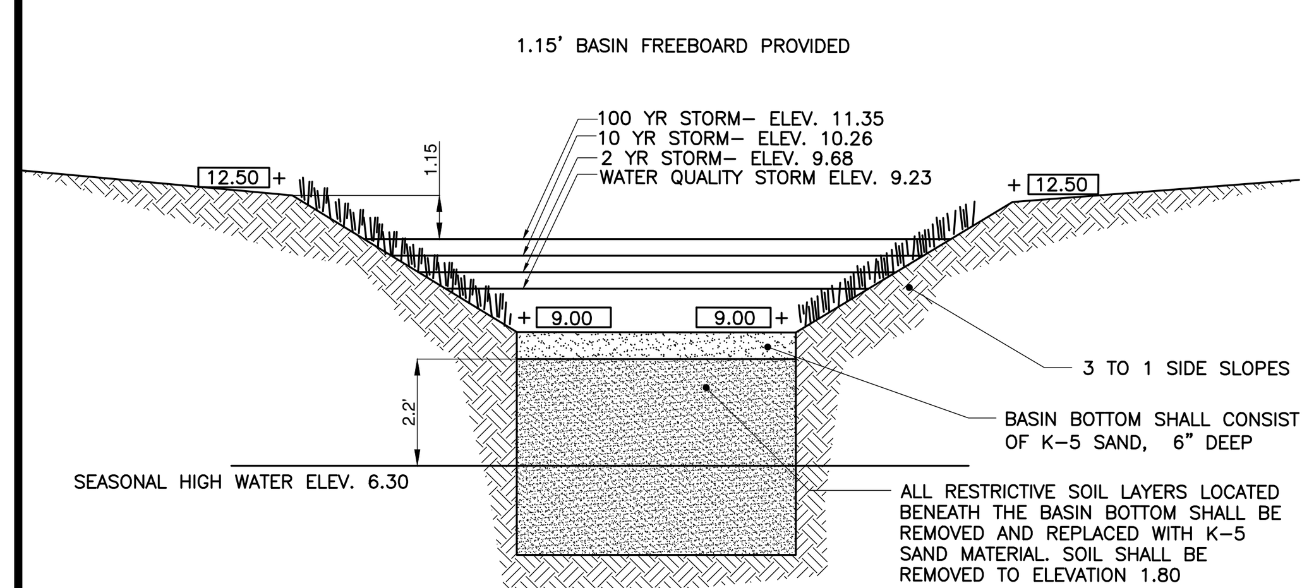
STORM WATER BASIN DETAIL #2
NTS



MANHOLE DETAIL
NTS



HDPE PERF. PIPE IN STONE DETAIL
NTS



STORM WATER BASIN DETAIL #5
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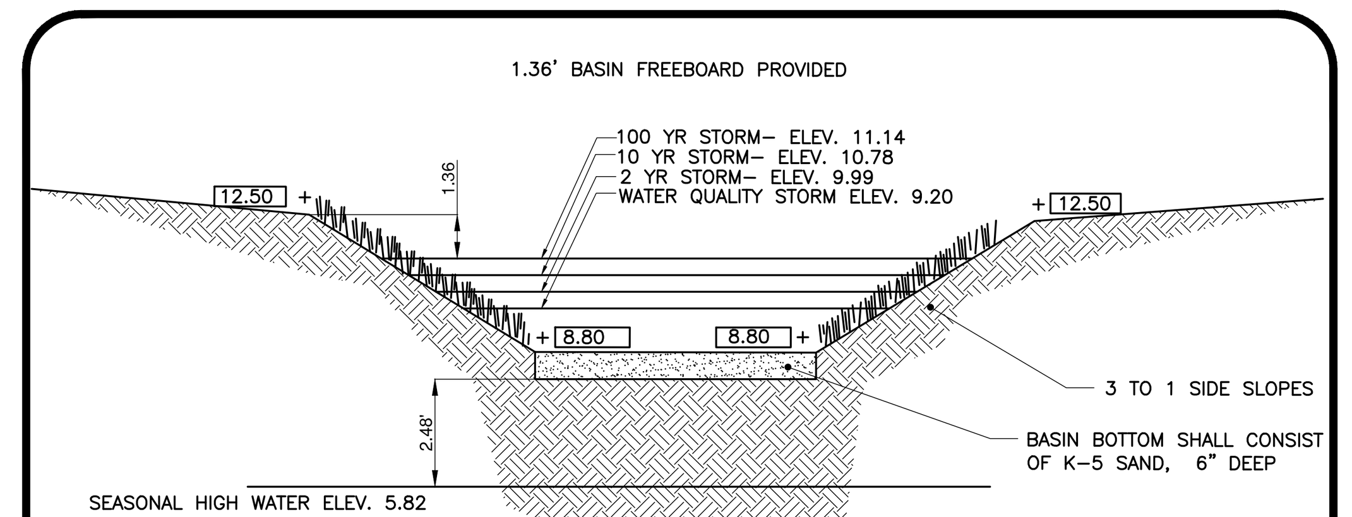

STORM WATER BASIN DETAIL #3
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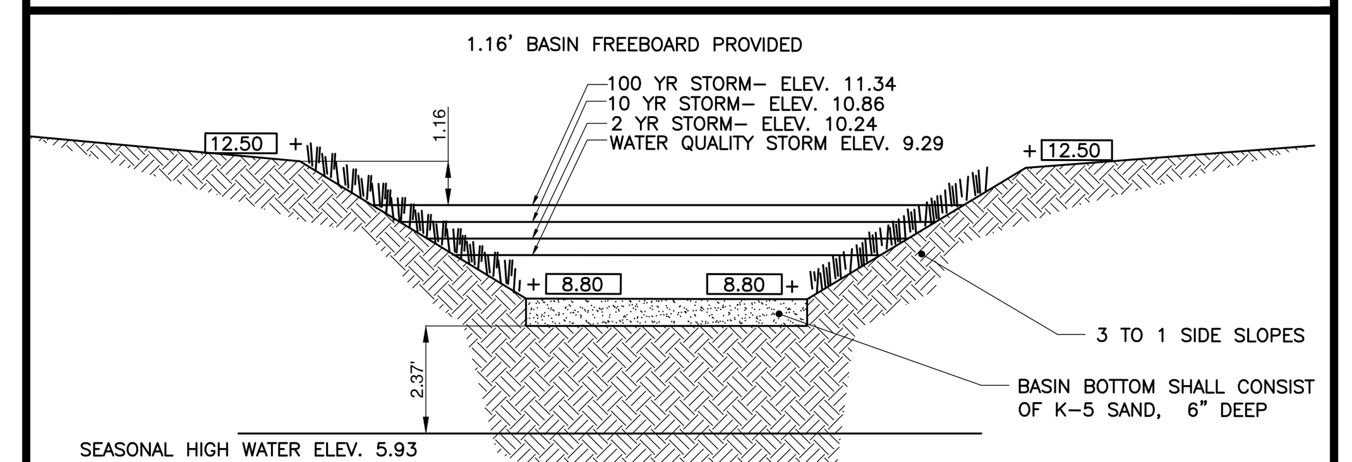
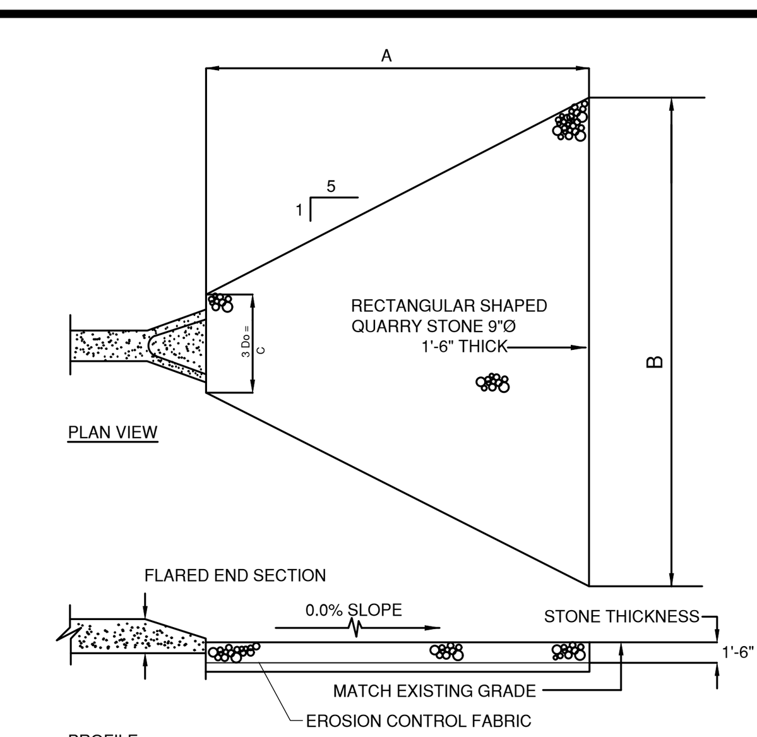
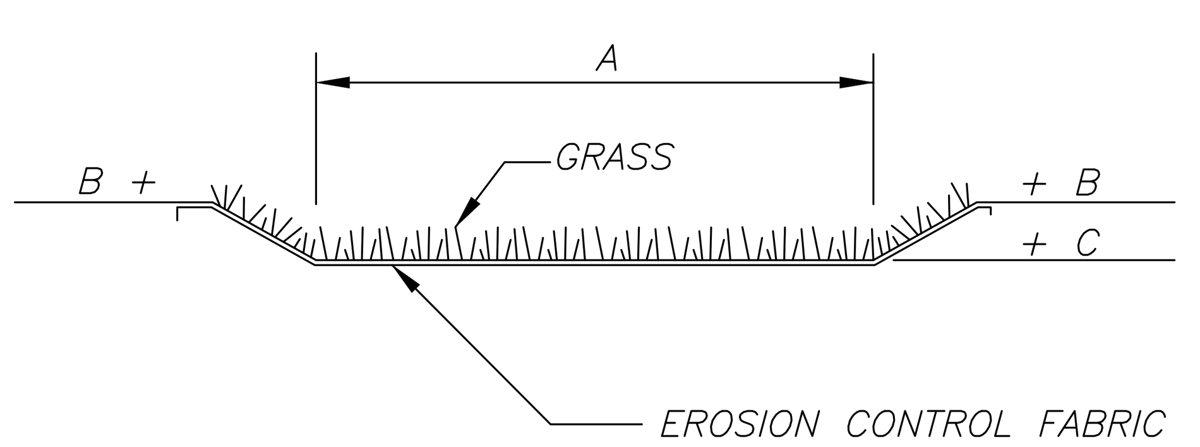


STORM WATER BASIN DETAIL #4
NTS



STONE APRON SCHEDULE			
	A	B	C
APRON #1			
APRON #2			
APRON #3			

STONE APRON DETAIL
NTS



SPILLWAY ELEVATION SCHEDULE			
	A	B	C
BROAD CRESTED WEIR #1	7'	15.00	12.67
BROAD CRESTED WEIR #2	4'	12.50	10.80
BROAD CRESTED WEIR #3	4'	12.50	10.80
BROAD CRESTED WEIR #4	4'	12.50	11.00

BROAD CRESTED WEIR DETAIL
NTS

TEST PIT #1

DEPTH	DESCRIPTION
0"- 11"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
11"- 32"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
32"- 39"	10YR 6/6 Brownish Yellow, Loamy Sand, Subangular Blocky, Friable
39"- 90"	10YR 7/6 Yellow, Sand, Single Grain, Loose
90"- 113"	10YR 7/3 Very Pale Brown, Sand, Single Grain, Loose w/mottles of 10YR 8/1 White, Few, Fine & Faint
113"- 150"	10YR 8/2 Very Pale Brown, Fine Sand, Single Grain, Loose

Depth of Seasonal High Water: 90"
Depth of Groundwater: 130"
Date Performed: 5/26/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #2

DEPTH	DESCRIPTION
0"- 11"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
11"- 24"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
24"- 42"	10YR 5/6 Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
42"- 88"	10YR 6/6 Brownish Yellow, Loamy Sand, Subangular Blocky, Friable
88"- 145"	10YR 7/2 Light Gray, Sand, Single Grain, Loose w/mottles of 10YR 8/1 White, Few, Fine & Faint

Depth of Seasonal High Water: 88"
Depth of Groundwater: 127"
Date Performed: 5/26/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #3

DEPTH	DESCRIPTION
0"- 6"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
6"- 20"	10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
20"- 39"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
39"- 57"	10YR 7/6 Yellow, Loamy Sand, Subangular Blocky, Friable
57"- 80"	10YR 7/4 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable
80"- 156"	10YR 7/2 Light Gray, Fine Sand, Single Grain, Loose w/mottles of 10YR 8/1 White, Few, Fine & Faint

Depth of Seasonal High Water: 80"
Depth of Groundwater: 134"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #4

DEPTH	DESCRIPTION
0"- 5"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
5"- 21"	10YR 6/4 Light Yellowish Brown, Loamy Sand, Subangular Blocky, Friable
21"- 43"	10YR 6/6 Brownish Yellow, Loamy Sand, Subangular Blocky, Friable
43"- 80"	10YR 7/4 Very Pale Brown, Sandy Loam, Subangular Blocky, Friable
80"- 93"	10YR 7/3 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable w/mottles of 10YR 8/1 White, Few, Fine & Faint
93"- 156"	10YR 8/1 White, Fine Sand, Single Grain, Loose

Depth of Seasonal High Water: 80"
Depth of Groundwater: 130"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #5

DEPTH	DESCRIPTION
0"- 7"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
7"- 18"	10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
18"- 29"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
29"- 55"	10YR 7/6 Yellow, Loamy Sand, Subangular Blocky, Friable
55"- 96"	10YR 6/4 Light Yellowish Brown, Loamy Sand, Subangular Blocky, Friable w/mottles of 10YR 7/1 Light Gray, Few, Fine & Faint
96"- 135"	10YR 7/2 Light Gray, Sand, Single Grain, Loose

Depth of Seasonal High Water: 55"
Depth of Groundwater: 98"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #6

DEPTH	DESCRIPTION
0"- 6"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
6"- 17"	10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
17"- 45"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
45"- 84"	10YR 6/6 Brownish Yellow, Loamy Sand, Subangular Blocky, Friable w/mottles of 10YR 7/1 Light Gray, Few, Fine & Faint
84"- 128"	10YR 6/3 Pale Brown, Sand, Single Grain, Loose w/mottles of 10YR 8/1 White, Common, Medium & Distinct

Depth of Seasonal High Water: 45"
Depth of Groundwater: 93"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #7

DEPTH	DESCRIPTION
0"- 7"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
7"- 20"	10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
20"- 38"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
38"- 52"	10YR 7/4 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable
52"- 90"	10YR 7/2 Light Gray, Fine Sand, Single Grain, Loose w/mottles of 10YR 8/1 White, Few, Fine & Faint
90"- 138"	10YR 6/1 Gray, Sand, Single Grain, Loose

Depth of Seasonal High Water: 52"
Depth of Groundwater: 102"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

SOIL BORINGS #1 - #7
NTS

TEST PIT #8

DEPTH	DESCRIPTION
0"- 7"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
7"- 19"	10YR 6/3 Pale Brown, Sandy Loam, Subangular Blocky, Friable
19"- 36"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
36"- 58"	10YR 7/4 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable
58"- 136"	10YR 7/2 Light Gray, Fine Sand, Single Grain, Loose w/mottles of 10YR 7/1 Light Gray, Few, Fine & Faint

Depth of Seasonal High Water: 58"
Depth of Groundwater: 126"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #9

DEPTH	DESCRIPTION
0"- 6"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
6"- 17"	10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
17"- 30"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
30"- 50"	10YR 7/4 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable w/layers of 10YR 6/6 Brownish Yellow, Subangular Blocky, Friable
50"- 85"	10YR 7/3 Very Pale Brown, Sand, Single Grain, Loose w/mottles of 10YR 7/1 Light Gray, Few, Fine & Faint
85"- 128"	10YR 7/1 Light Gray, Sand, Single Grain, Loose

Depth of Seasonal High Water: 50"
Depth of Groundwater: 103"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #10

DEPTH	DESCRIPTION
0"- 7"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
7"- 23"	10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
23"- 33"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
33"- 42"	10YR 7/3 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable
42"- 86"	10YR 6/4 Light Yellowish Brown, Loamy Sand, Subangular Blocky, w/mottles of 10YR 8/1 White, Few, Fine & Faint, layers of 10YR 5/6 Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
86"- 120"	10YR 7/2 Light Gray, Loamy Sand, Subangular Blocky, Friable

Depth of Seasonal High Water: 42"
Depth of Groundwater: 99"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #11

DEPTH	DESCRIPTION
0"- 3"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
3"- 26"	10YR 6/6 Brownish Yellow, Sandy Clay Loam, Subangular Blocky, Friable
26"- 72"	10YR 6/2 Light Brownish Gray, Sandy Clay Loam, Subangular Blocky, Friable w/mottles of 10YR 6/4 Light Yellowish Brown, Common, Medium & Distinct
72"- 110"	10YR 7/2 Light Gray, Sand, Single Grain, Loose

Depth of Seasonal High Water: 26"
Depth of Groundwater: 48"
Date Performed: 5/25/2022
Performed By: Christopher J. Carey, LLA

TEST PIT #12

DEPTH	DESCRIPTION
0"- 9"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
9"- 19"	10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable
19"- 34"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
34"- 52"	10YR 6/6 Brownish Yellow, Loamy Sand, Subangular Blocky, Friable
52"- 81"	10YR 6/4 Light Yellowish Brown, Loamy Sand, Subangular Blocky, Friable w/mottles of 10YR 7/1 Light Gray, Few, Fine & Faint
81"- 103"	10YR 6/2 Light Brownish Gray, Sandy Clay Loam, Subangular Blocky, Friable
103"- 129"	10YR 6/1 Gray, Fine Sand, Single Grain, Loose

Depth of Seasonal High Water: 52"
Depth of Groundwater: 115"
Date Performed: 5/26/2022
Witnessed By: Heather Carr Johnson, Cape May County Health Dept.
Performed By: Christopher J. Carey, LLA

TEST PIT #13

DEPTH	DESCRIPTION
0"- 10"	10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable
10"- 19"	10YR 6/4 Light Yellowish Brown, Loamy Sand, Subangular Blocky, Friable
19"- 32"	10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable
32"- 55"	10YR 6/6 Brownish Yellow, Loamy Sand, Subangular Blocky, Friable
55"- 84"	10YR 7/6 Yellow, Loamy Sand, Subangular Blocky, Friable w/mottles of 10YR 7/1 Light Gray, Few, Fine & Faint
84"- 102"	10YR 6/2 Light Brownish Gray, Sandy Clay Loam, Subangular Blocky, Friable
102"- 132"	10YR 6/2 Light Brownish Gray, Sand, Single Grain, Loose

Depth of Seasonal High Water: 55"
Depth of Groundwater: 115"
Date Performed: 5/26/2022
Witnessed By: Heather Carr Johnson, Cape May County Health Dept.
Performed By: Christopher J. Carey, LLA

SOIL BORINGS #8 - #13
NTS

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ENGINEERING DETAILS
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NEW JERSEY

VINCENT C. ORLANDO
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #32498

REVISION	DATE	BY
REV. PER DENNIS TWP SUBMISSION	6/13/2022	MSB

EDA

DATE: 3/10/22	DRAWN BY: MSB
SCALE: AS NOTED	CHECKED BY: VCO
PROJECT #: 9306	SHEET: 12 0F 12