



ASBURY TOWERS

BLOCK 4401 (222)

2) LIMIT OF DISTURBANCE
PREVIOUSLY CERTIFIED.
FSCD REF.# 2017-0188
INFRASTRUCTURE IMPROVEMENT
PLANS- PHASE 5
CERTIFICATION LETTER DATED 05/25/17

5/17
OCEAN AVENUE

INSTALL SNOW FENCE
BEHIND SILT FENCE (TYP.)
SILT FENCE (TYP.)

OCEAN AVENUE

- LIMIT OF DISTURBANCE (TYP.)

KEY MAP

ASBURY PARK, NJ QUAD MAP
SCALE: 1" = 2000'
40074-B1-TF-024
1989
DMA 6164 II NE-SERIES V822



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State of NJ, Certificate of Authorization 24AG278665

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ROBERT J. CURLEY
NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE34705

PRELIMINARY/FINAL
MAJOR SITE PLAN
FOR
ASBURY PARK
WATERFRONT
REDEVELOPMENT
NORTH END
NATURALISTIC
BOARDWALK AND
DECORATIVE DUNE AND
PLANTINGS

CITY OF ASBURY
MONMOUTH COUNTY
NEW JERSEY



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SCALE: AS SHOWN	DATE: 08/16/2018	DRAWN BY: PJC	CHECKED: RJC/ARD
PROJECT NUMBER: 1300604A		DRAWING NAME: C-SESC	

SHEET TITLE: SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:
1 of 2

LEGEND

 LIMIT OF DISTURBANCE/SILT FENCE
 LIMIT OF DISTURBANCE
 SNOW FENCE

AREA OF DISTURBANCE 202,242 S.F., (4.643 AC.)

THIS PLAN IS FOR SOIL EROSION AND SEDIMENT
CONTROL MEASURES ONLY. THIS PLAN IS NOT
TO BE USED FOR SITE CONSTRUCTION

SOIL EROSION AND SEDIMENT CONTROL NOTES

THIS PLAN PREPARED TO ADDRESS EROSION AND SEDIMENT CONTROL COMPONENT OF THE STORMWATER POLLUTION PREVENTION PLAN (SPPP) AT TIME OF DESIGN. ALL OTHER COMPONENTS OF THE SPPP AND GENERAL STORMWATER PERMIT NO. NJG0008323 TO BE RESPONSIBILITY OF THE DEVELOPER AND/OR SITE CONTRACTOR.

EXISTING TIDELANDS CLAIM LINE
AS SHOWN ON NJDEP TIDELANDS CLAIMS MAP
INDEX SHEET NUMBER 504-2184
SUBJECT RIPARIAN GRANT
AS CONTAINED IN DEED BOOK 345 PAGE 198,
APPROVED MARCH 21, 1871

30 24 18 12 6 0 15 30

SCALE: 1" = 30'

FREEHOLD SOIL CONSERVATION DISTRICT NOTES

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
4. NJSA 42A-49 ET SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT, OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
5. ANY STOCKPILE OR DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN FOURTEEN (14) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 3 1/2 TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
7. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS, IN AREAS WHERE NO UTILITIES ARE PRESENT. THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ACCESS CONSISTING OF ONE INCH TO TWO INCH (1" - 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
9. ALL SOIL, WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
10. PERMANENT VEGETATION IS TO BE SEED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
11. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, OR 450 LBS/100 SQ FT OF SURFACE AREA, AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.
13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. UNLITENED DOWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DOWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DOWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DOWATERING.
15. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5000 SQUARE FEET IS DISTURBED.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL, NOTE #6.
18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

FREEHOLD SOIL CONSERVATION DISTRICT
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SEQUENCE OF COMMERCIAL CONSTRUCTION

1. INSTALL INITIAL SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING SILT FENCE, CONSTRUCTION ENTRANCE PAD, AND TEMPORARY INLET FILTERS AT EXISTING INLETS (1 WEEK)
2. TEMPORARY STABILIZATION OF AREAS INITIALLY DISTURBED. STABILIZATION TO BE ACCOMPLISHED BY USE OF TEMPORARY SEEDING AND/OR STRAW MULCHING OR EQUIVALENT MATERIAL AT A RATE OF TWO PER ACRE, ACCORDING TO STATE STANDARDS, (1 WEEK)
3. PREPARE TEMPORARY STORMWATER AND GENERAL SITE GRADING.
4. INSTALL STORM DRAINAGE SYSTEM AND ALL OTHER UTILITIES. INSTALL INLET PROTECTION (2 WEEKS)
5. DEMOLITION OF EXISTING CURBING AND SIDEWALKS (1 WEEK)
6. CONSTRUCTION OF NEW CURBING AND PLACE ROADPARKING AREA (SUBBASE) (2 WEEKS)
7. INSTALLATION OF SIDEWALK AND FINAL PAVING. ALL DISTURBED AREAS SHALL BE STABILIZED AS DEFINED IN SOIL EROSION AND SEDIMENT CONTROL NOTES, CONCERNING THE COMPLETION OF PROJECT, (2 WEEKS)
8. ESTABLISH FINAL GRADING AND PLACE PERMANENT VEGETATION COVER (1 WEEK)
9. COMPLETE FINAL LANDSCAPING (2 WEEKS)
10. REMOVE TEMPORARY ACCESS PROTECTION, SILT FENCE, AND INLET PROTECTION AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED.
- TOTAL DURATION OF PROJECT EXPECTED TO BE FOUR TO SIX MONTHS.

CONSTRUCTION SITE WASTE CONTROL COMPONENT OF THE STORMWATER POLLUTION PREVENTION PLAN (SPPP)

1. THE CONSTRUCTION SITE WASTE CONTROL COMPONENT OF THE SPPPP CONSISTS OF THE REQUIREMENTS IN 2., 3., AND 4. BELOW. THESE REQUIREMENTS BECOME OPERATIVE ON MARCH 3, 2004 AND APPLY TO CONSTRUCTION ACTIVITIES THAT COMBENCE ON OR AFTER MARCH 3, 2004. ANY NEW CONSTRUCTION ACTIVITY FOR WHICH AN RIA IS SUBMITTED ON OR AFTER MARCH 3, 2004 OR WHICH RECEIVE AUTOMATIC RENEWAL OF AUTHORIZATION UNDER THIS PERMIT AFTER MARCH 3, 2004 ALSO SHALL COMPLY WITH THESE REQUIREMENTS.
2. MATERIAL MANAGEMENT TO PREVENT OR REDUCE WASTE. ANY PESTICIDES, FERTILIZERS, FUELS, LUBRICANTS, PETROLEUM PRODUCTS, ANTI-FREEZE, PAINTS AND PAINT THINNERS, CLEANING SOLVENTS AND ACIDS, DETERGENTS, CHEMICAL ADDITIVES, AND CONCRETE CURING COMPOUNDS SHALL BE STORED IN CONTAINERS IN A DRY COVERED AREA. MANUFACTURERS' RECOMMENDED APPLICATION RATES, USES, AND METHODS SHALL BE STRICTLY FOLLOWED. THE EXTENT NECESSARY TO PREVENT OR MINIMIZE THE PRESENCE OF WASTE FROM SUCH MATERIALS IN THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT, THE PRECEDING SENTENCE DOES NOT APPLY TO ANY MANUFACTURERS' RECOMMENDATIONS ABOUT FERTILIZERS OR OTHER MATERIAL THAT CONFLICT WITH THE EROSION AND SEDIMENT CONTROL COMPONENT OF THE FACULTY'S SPPPP.
3. WASTE HANDLING. THE FOLLOWING REQUIREMENTS APPLY ONLY TO CONSTRUCTION SITE WASTE THAT HAS THE POTENTIAL TO BE TRANSPORTED BY THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT. THE HANDLING AT THE CONSTRUCTION SITE OF WASTE BUILDING MATERIAL AND RUBBLE AND OTHER CONSTRUCTION SITE WASTES, INCLUDING LITTER AND HAZARDOUS AND SANITARY WASTES, SHALL CONFORM WITH THE STATE SOLID WASTE MANAGEMENT ACT, N.J.S.A. 13:1E1 ET SEQ. AND ITS IMPLEMENTING RULES AT N.J.A.C. 7:26, 7:26A, AND 7:26G. THE NEW JERSEY PESTICIDE CONTROL CODE, ACT AT N.J.A.C. 7:30, THE STATE LITTER STATUTE (N.J.S.A. 13:1E-9.3), AND OSHA REQUIREMENTS FOR SANITATION AT 29 C.F.R. 1926 (EXCEPT WHERE SUCH CONFORMANCE IS NOT RELEVANT TO THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT). CONSTRUCTION SITES SHALL HAVE ONE OR MORE DESIGNATED WASTE COLLECTION AREAS ONSITE OR ADJACENT TO THE SITE, AND AN ADEQUATE NUMBER OF CONTAINERS (WITH LIDS OR COVERS) FOR WASTE. WASTE SHALL BE COLLECTED FROM SUCH CONTAINERS BEFORE THEY OVERFLOW, AND SPILLS AT SUCH CONTAINERS SHALL BE CLEANED UP IMMEDIATELY.
- A. CONSTRUCTION SITE WASTES INCLUDE BUT ARE NOT LIMITED TO:

- i. "CONSTRUCTION AND DEMOLITION WASTE," AS DEFINED IN N.J.A.C. 7:26-1.4 AS FOLLOWS: "WASTE BUILDING MATERIAL AND RUBBLE RESULTING FROM CONSTRUCTION, REPAIRING, REPAIR, AND DEPOSITION OPERATIONS ON HOUSES, COMMERCIAL BUILDINGS, PAVEMENTS AND OTHER STRUCTURES. THE FOLLOWING MATERIALS MAY BE FOUND IN CONSTRUCTION AND DEMOLITION WASTE: TREATED AND UNTREATED WOOD SCRAP, TREE PARTS, TREE STUMPS AND BRUSH, CONCRETE, ASPHALT, BRICKS, BLOCKS AND OTHER MASONRY; PLASTER AND WALLBOARD; ROOFING MATERIALS; CORRUGATED CARBONSTEEL; MISCELLANEOUS PAPER, FERROUS AND NON-FERROUS METAL; NON-ASBESTOS FIBERGLASS; GLASS, METAL, PLASTIC, OR PAPER CONTAINERS OR PACKAGING (WINDOW AND DOOR), AND OTHER MISCELLANEOUS MATERIALS. BUT SHALL NOT INCLUDE OTHER SOLID WASTE TYPES."
- ii. ANY WASTE BUILDING MATERIAL AND RUBBLE RESULTING FROM SUCH OPERATIONS THAT IS HAZARDOUS FOR PURPOSES OF N.J.A.C. 7:26G (THE HAZARDOUS WASTE RULE).
- iii. DISCARDED (INCLUDING "SPILLED") PESTICIDES, FERTILIZERS, PAINTS, LUBRICANTS, PETROLEUM PRODUCTS, ANTI-FREEZE, PAINTS AND PAINT THINNERS, PAINT CHIPS, AND SANDBLASTING GRITS, CLEANING SOLVENTS, ACIDS FOR CLEANING MASONRY SURFACES, DETERGENTS, CHROME POLISHES USED FOR SOIL STABILIZATION (E.G., CALCIUM CHLORIDE), AND CONCRETE CURING COMPOUNDS.
- iv. OTHER "LITTER," AS DEFINED AT N.J.S.A. 13:1E-21.5 AS FOLLOWS: "ANY USED OR UNCOMPLETED SUBSTANCE OR WASTE MATERIAL WHICH HAS BEEN DISCARDED OR ABANDONED, MADE OF ALUMINUM, GLASS, METAL, PLASTIC, OR PAPER OR OTHER NATURAL OR SYNTHETIC MATERIAL, OR ANY COMBINATION THEREOF, INCLUDING, BUT NOT LIMITED TO, ANY BOTTLE, JAR OR CAN, OR ANY TOP, CAP OR DETACHABLE TAB OF ANY BOTTLE, JAR OR CAN, ANY UNLITENED CIGARETTE, CIGAR, MATCH OR ANY PLANNING OR GLOWING MATERIAL OR ANY GARBAGE, TRASH, REFUSE, DEBRIS, RUBBER, GRASS CLIPPINGS OR OTHER LAWN OR GARDEN WASTE, NEWSPAPERS, MAGAZINES, GLASS, METAL, PLASTIC, OR PAPER CONTAINERS OR OTHER PACKAGING OR CONSTRUCTION MATERIAL, BUT DOES NOT INCLUDE THE WASTE OF THE PRIMARY PROCESSES OF MINING OR OTHER EXCAVATION PROCESSES, LOGGING, SAWMILLING, FARMING OR MANUFACTURING."
- v. SANITARY SEWAGE AND SEPTAGE.
- vi. CONTAMINATED SOILS UNCOVERED OR DISCOVERED DURING EARTHMOVING ACTIVITIES OR DURING THE CLEANUP OF A LEAK OR DISCHARGE OF A HAZARDOUS SUBSTANCE.
- vii. CONCRETE WASHOUT - CONCRETE WASHOUT ONSITE IS PROHIBITED OUTSIDE DESIGNATED AREAS. WASHOUT ACTIVITIES INCLUDE, BUT NOT LIMITED TO, THE WASHING OF TRUCKS, CHUTES, HOSES, MIXERS, HOPPERS, AND TOOLS.
- viii. DESIGNATED WASHOUT AREAS SHALL BE LINED AND BERMED TO PREVENT DISCHARGES TO SURFACE AND GROUNDWATER.
- ix. HARDENED CONCRETE FROM THE CONCRETE WASHOUT WASHOUT SHALL BE REMOVED AND PROPERLY DISPOSED OF.
- x. THE CONCRETE WASHOUT AREA SHALL BE CLEARLY DESIGNATED WITH A SIGN INDICATING THE AREAS USES.
- xi. SANITARY SEWAGE/SEPTAGE DISPOSAL - DISCHARGES OF RAW SANITARY SEWAGE OR SEPTAGE ONSITE ARE STRICTLY PROHIBITED. ADEQUATE FACILITIES WITH PROPER DISPOSAL SHALL BE PROVIDED AND MAINTAINED ONSITE OR ADJACENT TO THE SITE FOR ALL WORKERS AND OTHER SANITARY NEEDS.
- xii. SPILLS DISCHARGES OF HAZARDOUS SUBSTANCES: FEDERALLY REPORTABLE RELEASES.

- A. SPILL KITS SHALL BE AVAILABLE ONSITE OR ADJACENT TO THE SITE FOR ANY MATERIALS THAT ARE LISTED IN 2. ABOVE AND USED OR APPLIED ONSITE. ALL SPILLS OF SUCH MATERIAL SHALL BE CONTAINED AND CLEANED UP IMMEDIATELY. FURNISHED UP MATERIALS SHALL BE PROPERLY DISPOSED OF.
- B. DISCHARGES OF HAZARDOUS SUBSTANCES (AS DEFINED IN N.J.A.C. 7:1E-1.6) IN CONSTRUCTION SITE WASTES ARE SUBJECT TO THE PROVISIONS OF THE SPILL COMPENSATION AND CONTROL ACT, N.J.S.A. 58:10-2.11 ET SEQ., AND OF SEPARATE RULES FOR DISCHARGE OF PETROLEUM AND OTHER HAZARDOUS SUBSTANCES AT N.J.A.C. 7:1E. NO DISCHARGE OF HAZARDOUS SUBSTANCES RESULTING FROM AN ONSITE SPILL SHALL BE DEEMED TO BE "TRANSIENT TO AND IN COMPLIANCE WITH [THIS] PERMIT" WITHIN THE MEANING OF THE SPILL COMPENSATION AND CONTROL ACT AT N.J.S.A. 58:10-2.11.C.
- C. RELEASES IN EXCESS OF REPORTABLE QUANTITIES (RQ) ESTABLISHED UNDER 40 C.F.R. 113.117, AND 302 THAT OCCUR WITHIN A 24-HR PERIOD MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER (800 424 8802).

SPPP REQUIRED INSPECTIONS AND REPORTS

1. ROUTINE INSPECTIONS
- A. THE PERMITTEE SHALL CONDUCT AND DOCUMENT WEEKLY (MINIMUM) INSPECTIONS OF THE FACILITY TO IDENTIFY AREAS CONTRIBUTING TO THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT AND EVALUATE WHETHER THE STORMWATER POLLUTION PREVENTION PLAN (SPPP) IDENTIFIED UNDER E.I. OF THE CONSTRUCTION ACTIVITY STORMWATER (GP) PART I NARRATIVE REQUIREMENTS, INCLUDING THE SOIL EROSION AND SEDIMENT CONTROL PLAN IS BEING PROPERLY IMPLEMENTED AND MAINTAINED, OR WHETHER ADDITIONAL MEASURES ARE NEEDED TO IMPLEMENT THE SPPPP.
- B. ONCE INSTALLATION OF ANY REQUIRED OR OPTIONAL EROSION CONTROL DEVICE OR MEASURE HAS BEEN IMPLEMENTED, ROUTINE INSPECTIONS, INCLUDING VISUAL OF EACH MEASURE, SHALL BE PERFORMED BY THE CONTRACTORS' INSPECTION PERSONNEL, AND THE RESULTS REPORTED TO, INVENTORY AND REPORT THE CONDITION OF EACH MEASURE TO ASSIST IN MAINTAINING THE EROSION AND SEDIMENT CONTROL MEASURES IN GOOD WORKING ORDER.
- C. THESE REPORT FORMS SHALL BECOME AN INTEGRAL PART OF THE SPP AND SHALL BE MADE READILY ACCESSIBLE TO GOVERNMENTAL INSPECTION OFFICIALS, THE OPERATORS ENGINEER, AND THE OPERATOR FOR REVIEW UPON REQUEST DURING VISITS TO THE PROJECT SITE. IN ADDITION, COPIES OF THE REPORTS SHALL BE PROVIDED TO ANY OF THESE PERSONS, UPON REQUEST, VIA EMAIL OR FACSIMILE TRANSMISSION.
- D. OTHER RECORD-KEEPING REQUIREMENTS

- THE CONTRACTOR SHALL KEEP THE FOLLOWING RECORDS RELATED TO CONSTRUCTION ACTIVITIES AT THE SITE:
- DATES WHEN MAJOR GRADING ACTIVITIES OCCUR AND THE AREAS WHICH WERE GRADED
- DATES AND DETAILS CONCERNING THE INSTALLATION OF STRUCTURAL CONTROLS
- DATES WHEN CONSTRUCTION ACTIVITIES CEASE IN AN AREA
- DATES WHEN AN AREA IS STABILIZED, EITHER TEMPORARILY OR PERMANENTLY
- DATES OF RAINFALL AND THE AMOUNT OF RAINFALL
- DATES AND DESCRIPTIONS OF THE CHARACTER AND AMOUNT OF AN SPILLS OF HAZARDOUS MATERIALS
- THE FOLLOWING MATERIALS MAY BE FOUND IN CONSTRUCTION AND DEMOLITION WASTE: TREATED AND UNTREATED WOOD SCRAP, TREE PARTS, TREE STUMPS AND BRUSH, CONCRETE, ASPHALT, BRICKS, BLOCKS AND OTHER MASONRY; PLASTER AND WALLBOARD; ROOFING MATERIALS; CORRUGATED CARBONSTEEL; MISCELLANEOUS PAPER, FERROUS AND NON-FERROUS METAL; NON-ASBESTOS FIBERGLASS; GLASS, METAL, PLASTIC, OR PAPER CONTAINERS OR PACKAGING (WINDOW AND DOOR), AND OTHER MISCELLANEOUS MATERIALS. BUT SHALL NOT INCLUDE OTHER SOLID WASTE TYPES."

2. STORMWATER POLLUTION PREVENTION PLAN (SPPP)
- A. CONSTRUCTION ACTIVITY THAT MAY RESULT IN A STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT SHALL BE EXECUTED ONLY IN ACCORDANCE WITH A SPPPP THAT CONSISTS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND (WHERE APPLICABLE) THE CONSTRUCTION SITE WASTE CONTROL COMPONENT SET FORTH IN ATTACHMENT B TO THE GENERAL PERMIT. A COPY OF THIS SPPPP SHALL BE RETAINED BY THE PERMITTEE FOR A PERIOD OF AT LEAST FIVE (5) YEARS AFTER THE COMPLETION OF CONSTRUCTION. THIS PERIOD MAY BE EXTENDED BY WRITTEN REQUEST OF THE DEPARTMENT AT ANY TIME (SEE N.J.A.C. 7:10A-4.6).
- B. REPORTS OF NONCOMPLIANCE
- A. ALL INSTANCES OF NONCOMPLIANCE NOT REPORTED UNDER N.J.A.C. 7:10A-4.10 SHALL BE REPORTED TO THE DEPARTMENT ANNUALLY.
- C. NOTIFICATION OF COMPLETION
- A. THE SOIL CONSERVATION DISTRICT WILL PROVIDE THE DEPARTMENT A COPY OF THE REPORT OF COMPLIANCE ISSUED UNDER N.J.A.C. 26A FOR COMPLETED CONSTRUCTION ACTIVITIES, EXCEPT SINGLE FAMILY HOME CONSTRUCTION UNDER B. BELOW. THE REPORT OF COMPLIANCE SHALL SERVE AS THE NOTIFICATION OF COMPLETION.

- B. THE BUILDER OF A SINGLE FAMILY HOME THAT IS AUTHORIZED UNDER THIS PERMIT, BUT NOT WITHIN THE DEFINITION OF "PROJECT AT N.J.S.A. 42A:44-16, SHALL SEND A COPY OF THE REPORT OF COMPLIANCE TO THE SOIL CONSERVATION DISTRICT. THE SOIL CONSERVATION DISTRICT WILL PROVIDE A COPY OF THE FINAL CERTIFICATE OF OCCUPANCY TO THE DEPARTMENT, WHICH WILL SERVE AS NOTIFICATION OF COMPLETION.
- C. THE DOT SHALL PROVIDE WRITTEN NOTIFICATION TO THE DEPARTMENT WHEN DOT CERTIFIED PROJECTS ARE COMPLETED.
5. COPIES OF ALL OF THE ABOVE, INCLUDING THE SPPPP (WITH THE CERTIFIED PLAN), THE CERTIFICATION, AUTHORIZATION UNDER NIPDS' CONSTRUCTION ACTIVITY STORMWATER GENERAL PERMIT, ALL CONSTRUCTION AND PRECIPITATE SUPPLEMENTAL NOTES, THE NIDEP AND SOIL CONSERVATION DISTRICT (OR DESIGNATED MUNICIPALITY) SHALL BE MAINTAINED ON-SITE.

DUST CONTROL

1. APPLY MULCHES OR VEGETATIVE COVER AS PER N.J. SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
2. TILL AND 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 PLOWING SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
3. SPRINKLE THE SITE UNTIL THE SURFACE IS WET.
4. ERECT BARRIERS SUCH AS SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, GRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL TO CONTROL AIR CURTAINS AND SOIL BLOWING.
5. APPLY CALCIUM CHLORIDE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FLOW THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. NOT SUITABLE ON STEEPER SLOPES NEAR THE STREAMS OR POTENTIALLY ACCUMULATE AROUND PLANTS.
6. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.
7. USE SPRAY-ON ADHESIVE ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. MATERIALS AS FOLLOWS:

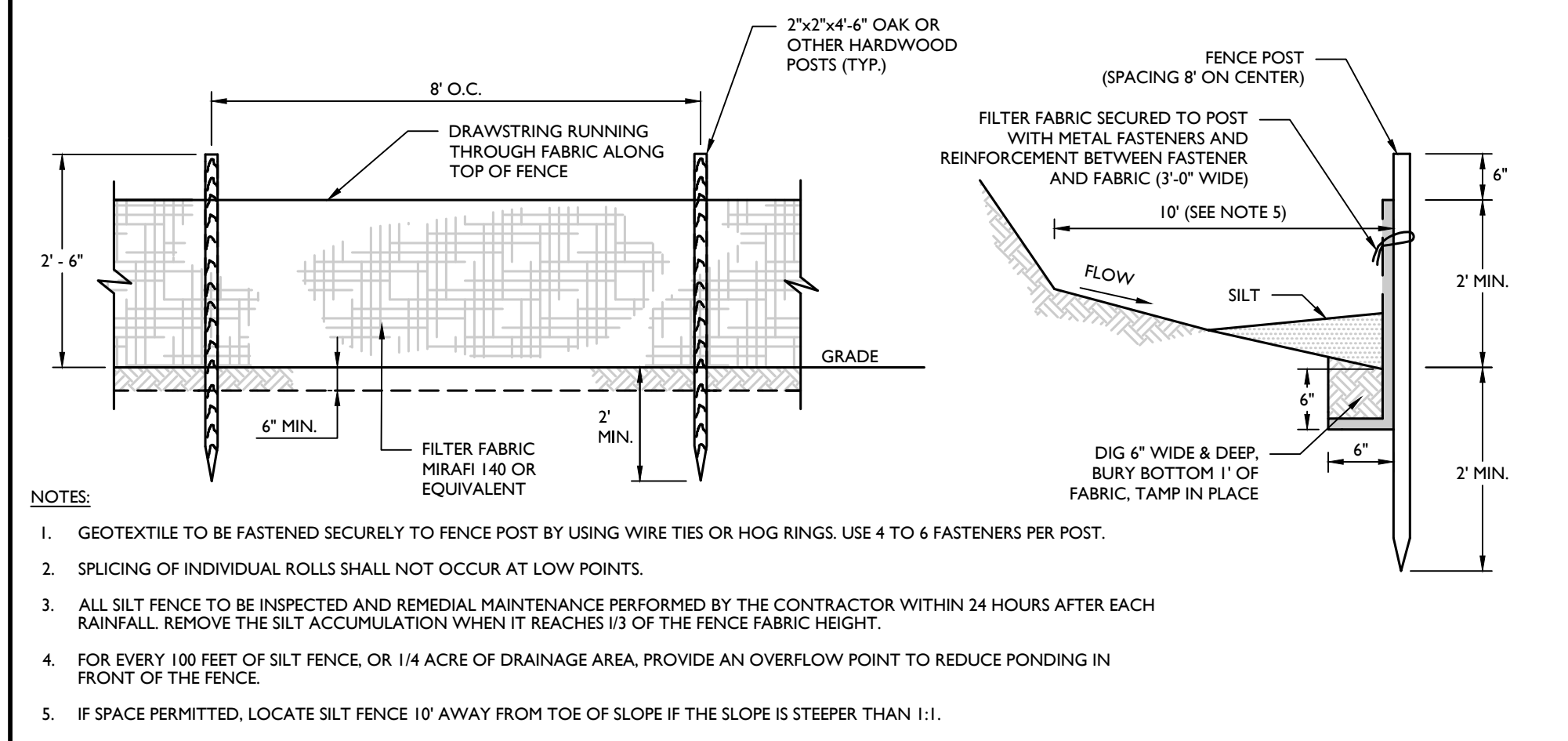
MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GAL/100 SQ. FT.
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM) - SPRAY ON		APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS.	
POLYACRYLAMIDE (PAM) - DRY SPREAD		SEED BEDDING BASIN STANDARD, P. 26-1	
ACICULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1200

STANDARD FOR DUNE STABILIZATION

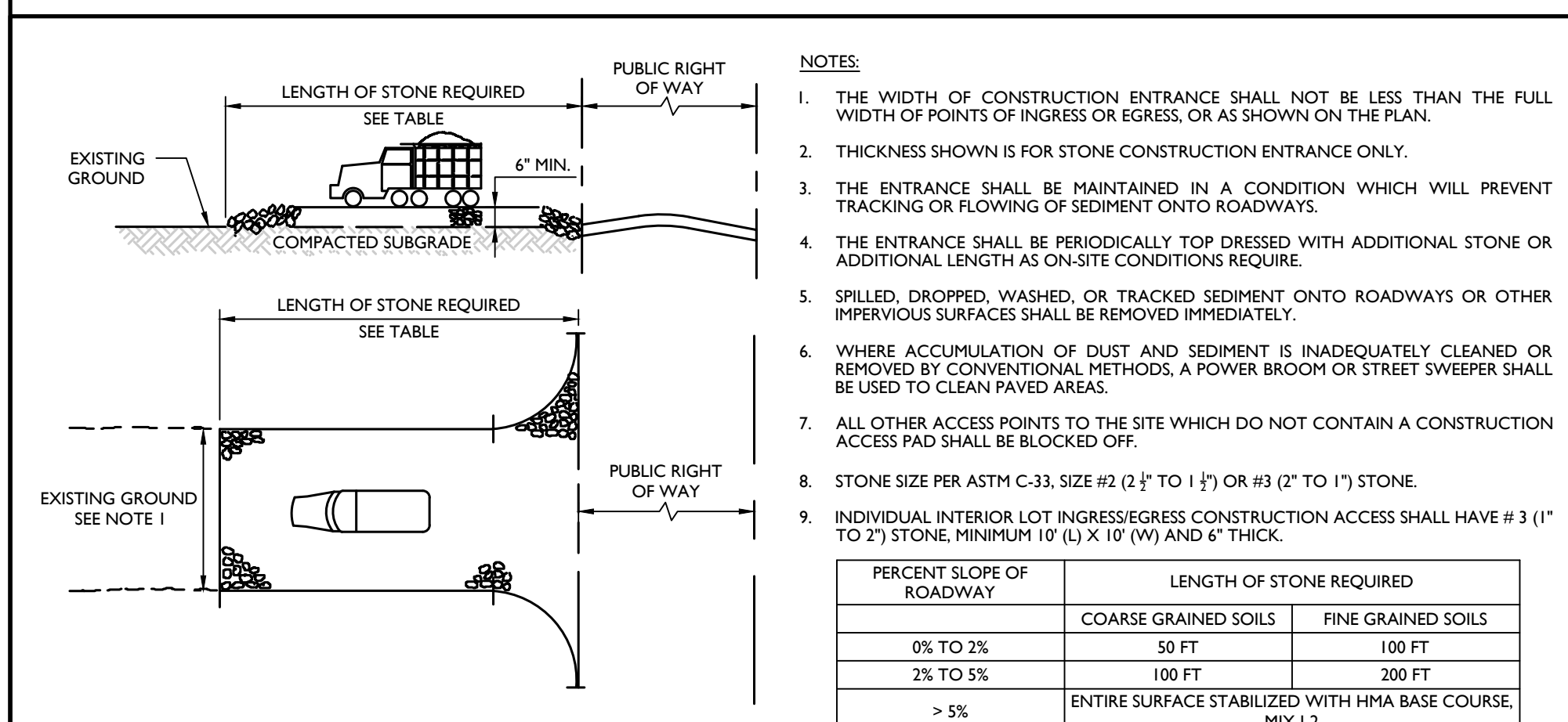
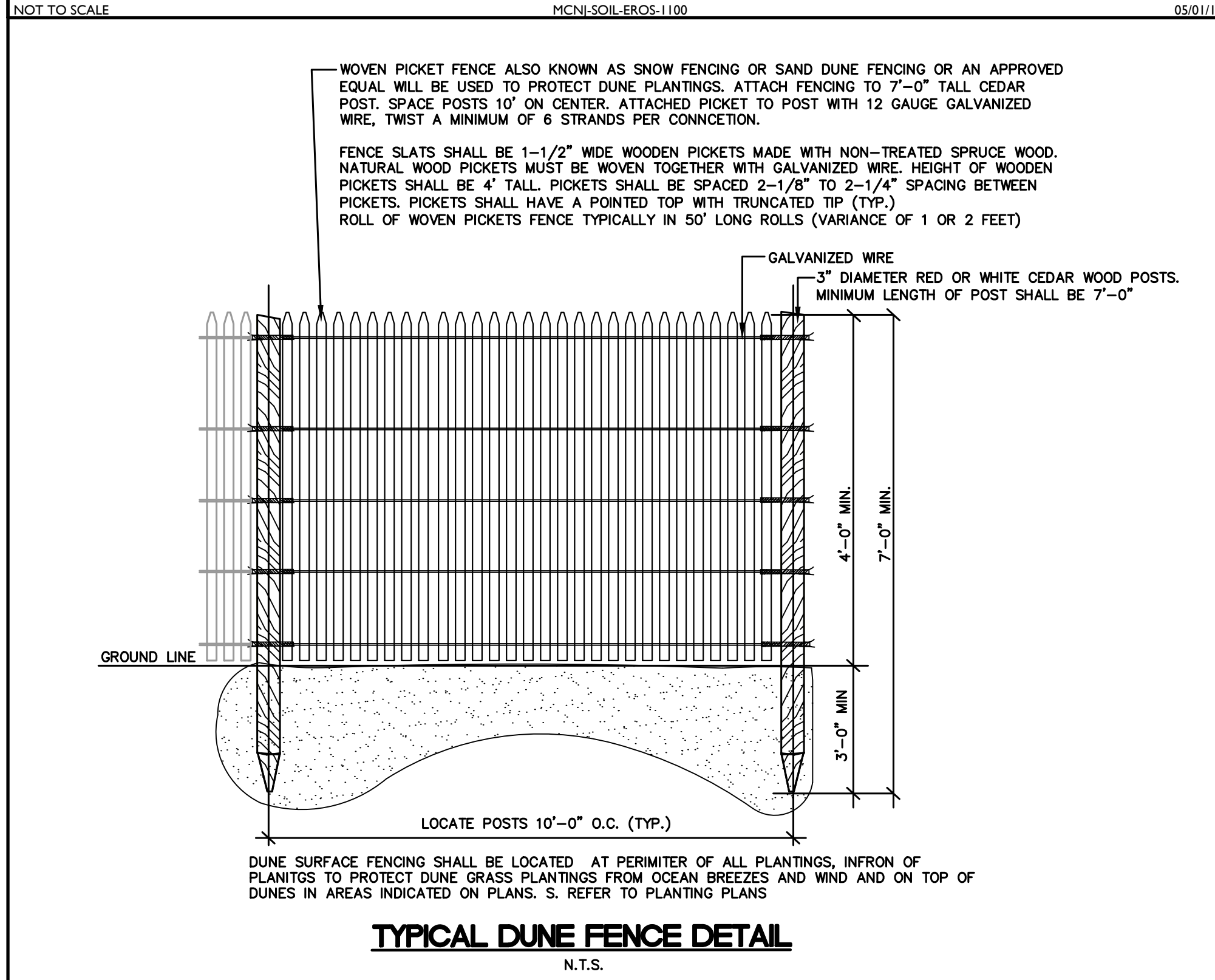
- DEFINITION
- CONTROLLING SURFACE MOVEMENT OF SAND DUNES OR SHIFTING SAND BY VEGETATIVE OR MECHANICAL MEANS.
- PURPOSE
- TO REDUCE WIND EROSION AND THE ENCRACEMENT OF SHIFTING SANDS, TO PROVIDE A BARRIER AGAINST TIDE WATER, AND TO MAKE THE AREAS USEFUL FOR OTHER PURPOSES.
- WATER QUALITY ENHANCEMENT
- REDUCES WIND EROSION, SAND MOVEMENT BY STORMS AND TIDES AND FACILITATES DUNE BUILDING AT OCEAN, BAY, FRONTAL AND BAY BACK AREAS.
- WHERE APPLICABLE
- ALONG OCEAN AND BAY SHORELINES WHERE BLOWING SANDS AND STORM WATERS MAY CAUSE EROSION DAMAGE, STAY AT LEAST ONE HUNDRED FEET (HORIZONTAL DISTANCE) FROM MEAN HIGH TIDE WATER LINE (MHTL).
- METHODS AND MATERIALS
- SAND DUNES NATURALLY FORM ON BARRIER ISLANDS. SHORELINES EXPOSED DIRECTLY TO THE OCEAN AND INLAND SAND DEPOSITS. THE SOURCE OF THIS WIND BORN SAND IS THE OCEAN OR ITS BAYS. THESE PARALLEL RIDGES OF SAND FORM PERPENDICULAR TO PREVAILING WINDS AND GROW TOWARD THEIR SOURCE OF SAND. PERIODIC STORM EVENTS AND HUMAN ACTIVITY CONTINUALLY ALTER THEIR DEVELOPMENT AND ORIGINAL CONFIGURATION. ONCE DEVELOPED THE SAND DUNES PROVIDE PROTECTION FROM MODERATE STORMS AND TIDES. THE EXISTENCE AND MAINTENANCE OF VEGETATION ON DUNES PROVIDES A NETWORK OF ROOT AND FOLIAGE WHICH HOLDS UNCONSOLIDATED SAND IN PLACE. AMERICAN BEACHGRASS IS THE DOMINANT, NATURALLY OCCURRING, VEGETATION OF THE FRONTAL DUNES OF NEW JERSEY. WHEN BEACHGRASS IS ESTABLISHED WITH STRUCTURAL RESOURCES AND OTHER DUNE SPECIES, A FORTIFIABLE WELL ANCHORED STORM BARRIER IS ESTABLISHED.
1. VEGETATION
- A. MATERIALS: THE FOLIAGE OF MOST SAND DUNE SPECIES FILTERS SAND FROM THE WIND. THE REDUCTION OF WIND VELOCITY NEAR THE DUNE'S SURFACE BY VEGETATION ALLOWS SAND TO BE DEPOSITED. THE ROOT MASS OF THESE PLANT SPECIES OF THE SAND DUNES ARE TYPICALLY DEEP, PERMANENT, AND ANCHORED. BEACHGRASS (PANICUM AMERILUM VAR. AMERILUM) IS THE MOST RELIABLE AND COMMERCIALY AVAILABLE OPTION. ONCE ESTABLISHED IT BARELY SPREADS BY A RHIZOMATOUS ROOT SYSTEM, DEVELOPING A SOIL BINDING NETWORK OF INTER-WOVEN ROOTS.
2. PLANTING
- A. LIKE A CHAIN, A DUNE SYSTEM IS NO STRONGER THAN ITS WEAKEST LINK. UNIFORM, UNBROKEN DUNE LINES ARE ESSENTIAL TO THE PROTECTION A SYSTEM CAN PROVIDE.
- B. UNCONTROLLABLE EVENTS (I.E. STORMS, CONSTRUCTION, ETC.) MAY DAMAGE SAND DUNES. IF SUCH DAMAGE OCCURS BETWEEN OCTOBER AND APRIL, REPAIR MUST BE COMPLETED BY THE END OF THE MONTH. IF THE DAMAGE IS EXPERIENCED FROM MAY TO SEPTEMBER, UTILIZE THE FOLLOWING SAND FENCING OR EXCAVATION PROCEDURES LISTED BELOW, THEN PLANT DUNE SPECIES.
- C. DUNE CROSSING AREAS
- WHERE FOOT OR VEHICULAR TRAFFIC IS EXPECTED OVER DUNES, IT IS RECOMMENDED A CURVILINEAR PATH BE CONSTRUCTED TO DIRECT TRAFFIC. THESE PATHS CAN BE CONSTRUCTED WITH BOARDWALK OR BE OF A GRAVEL BASE AND SHOULD BE BORDERED BY SAND FENCING TO FUNNEL THE TRAFFIC TO AND FROM THE BEACH.
2. SAND FENCING:
- A. A QUICK AND EFFECTIVE WAY TO BUILD TEMPORARY SAND DUNES IS WITH THE USE OF SAND FENCING. STANDARD PRACTICE UTILIZES ROWS OF FENCING AND WOODEN POSTS, ORIENTATED PARALLEL TO THE BEACH APPROXIMATELY 140 FEET (HORIZONTAL) DISTANCE FROM MEAN HIGH TIDE. A SOURCE OF SAND IS NECESSARY FOR THIS TECHNIQUE TO BE EFFECTIVE, BUT IT IS NOT LIMITED BY THE OF ESTABLISHMENT.
- A. MATERIALS
1. FENCING
- STANDARD 4 FT. SLATTED WOOD SNOW FENCING, WOOD MUST BE OCEAN FREE.
- POLYVINYL FENCING MATERIAL WITH 50% POROSITY MAY BE USED AS AN ALTERNATIVE.
- POLYURETHANE FENCING MATERIAL WITH 50% POROSITY MAY BE USED AS AN ALTERNATIVE.
- SPACE POSTS 10 FT. APART, AND SET THEM 3 FEET DEEP.
2. POSTS
- WOODEN POSTS MUST BE 6" x 6" FT. LONG, WITH A MINIMUM DIAMETER OF 10 INCHES. PARALLEL ROWS SPACED 30 TO 40 FEET APART ARE IDEAL, BUT SINGLE ROWS WITH 30 FOOT PERPENDICULAR SPURS, SPACED 40 FEET APART ARE ALSO ACCEPTABLE. THERE IS LESS THAN 100 FEET FROM THE MHT AND A PROTECTIVE DUNE IS DESIRED, A ZIGZAG PATTERN MAY NOT BE CONSIDERED WHERE THERE IS LESS THAN 50 FEET FROM THE MHT IT MAY NOT BE FEASIBLE TO BUILD DUNES.
3. REPLACEMENT - SAND WILL TYPICALLY RILL FENCING TO 1/2 OF ITS TOTAL HEIGHT AT A MAXIMUM, UPON REACHING MAXIMUM FENCE CAPACITY, ADDITIONAL LINES OF FENCE CAN BE ADDED UNTIL MAXIMUM PLANNED DUNE HEIGHT IS REACHED. REPLACE DAMAGED FENCING AND POSTS WITHIN ONE MONTH OF STORM DAMAGE TO MAINTAIN A CONTIGUOUS DUNE LINE.
- C. COMMENTS
1. THIS METHOD IS MORE EXPENSIVE PER LINEAL FOOT THAN BUILDING DUNES WITH VEGETATION. IT IS ALSO MORE PRACTICAL THAN USING EARTH MOVING MACHINERY TO CONSTRUCT DUNES.
2. ALTHOUGH DUNE HEIGHT CAN BE INCREASED, IT IS LIMITED BY THE FENCE HEIGHT AND ABILITY TO CONTINUALLY ADD MORE LINES OF FENCING.
3. PLANTING PARALLEL ROWS OF VEGETATION ON EITHER SIDE OF FENCES IS USUALLY MORE EFFECTIVE THAN EITHER VEGETATION OR FENCING TECHNIQUES ALONE.
4. WHEN COMPLEMENTING FENCING WITH VEGETATION, DO NOT PLANT CLOSER THAN TEN FEET AND NO FURTHER THAN 15 FEET FROM THE FENCE LINES. VEGETATIVE STRIPS SHOULD BE ABOUT 20 FEET WIDE (SEE FIGURE 2.2 & 2.3).
5. MECHANICAL EXCAVATION
- A. WITH THE USE OF VARIOUS EARTH MOVING MACHINES TEMPORARY EXCAVATED SAND DUNES ARE QUICKLY CREATED.
- B. SINCE THE IS REQUIRED FOR SETTLING AND COHESION TO OCCUR, SUCH DUNES ARE OFTEN SHORT LIVED AND ONLY PROVIDE MINIMAL PROTECTION TO THE PUBLIC AND PRIVATE RESOURCES BEHIND THEM.
- C. THIS METHOD IS OFTEN USEFUL IN THE REPAIR OF STORM DAMAGED SAND DUNES DURING THE FALL AND WINTER MONTHS. ANY BLOW-OUT AREAS CAN BE QUICKLY FILLED.
- D. FRONT-END LOADERS OF ALL SIZES CAN BE USED VARIOUS GRADING MACHINES ARE ALSO USEFUL.
- E. RUMPED SAND FROM OFF SHORE DREDGING CAN BE SHAPED AND POSITIONED WITH MACHINERY.

- PLANTING DATE: MARCH 15 TO APRIL 15, UNLESS SOIL IS FROZEN
- PLANTING LIMIT: 1/0 OR 2/0 BARE-ROOT SEEDLINGS OR CONTAINERIZED TRANSPLANTS: DEPTH: 2 INCHES BELOW THE NURSERY GROWN DEPTH: 12 INCHES
- DEPTH: 12 INCHES
- SPACING: 18 TO 36 INCHES
- NOTE: TO ENSURE ESTABLISHMENT (FIRST 2 YEARS) ALL COMPETING VEGETATION MUST BE REMOVED FROM WITHIN 2 FEET OF PLANTING. ALL PLANTS MUST BE PROTECTED FROM SURROUNDING VEGETATION WHICH WILL POTENTIALLY OUT-COMPETE THE TREE OR SHRUB.
- C. MAINTENANCE
1. FERTILIZER
- DATE: MAY THROUGH JULY, NO SOONER THAN 30 DAYS AFTER PLANTING
- RATE: 50 LBS. OF NITROGEN (N) PER ACRE + 25 LBS. OF PHOSPHORUS (P) AND 25 LBS. POTASSIUM (K) PER ACRE
- FREQUENCY: APPLY N FOR THE FIRST TWO YEARS AFTER PLANTING, THEN AS NEEDED TO MAINTAIN STERN DENSITY AND PLANT HEALTH.
- SINGLE OR SPILT APPLICATIONS ARE ACCEPTABLE IF NOT APPLIED BEFORE MAY 1 OR AFTER JULY 31 (SPILT APPLICATIONS MUST BE AT LEAST 30 DAYS APART).
- IT IS ONLY NECESSARY TO APPLY (P AND K) IN ALTERNATE YEARS.
- RECOMMENDED FORMULATIONS:
- 10-10-10, 20-10-10, 15-10-10, ETC. ARE ACCEPTABLE AS LONG AS THE MAXIMUM RATES PER NUTRIENT ARE NOT EXCEEDED.
 - THE RELEASE FERTILIZERS ARE ENCOURAGED THAT WILL PROVIDE THE TARGET AMOUNTS OF THE PRIMARY NUTRIENTS PER ACRE.
- NOTES: FERTILIZE DUNE GRASS PLANTING BY MECHANICAL OR BROADCAST APPLICATION, EXCEPT WHERE WOODY SPECIES ARE PLANTED. APPLY FERTILIZER WITHIN THE DRP LINE OF SHRUBS AND TREES, NOT FOLLOWING THIS PROCEDURE WILL RESULT IN EXCESSIVE HERBACEOUS GROWTH, WHICH WILL OUT-COMPETE NEWLY ESTABLISHED TREES AND SHRUBS. WHERE WOODY PLANTS ARE ESTABLISHED, FERTILIZER MAY BE BROADCAST APPLIED.

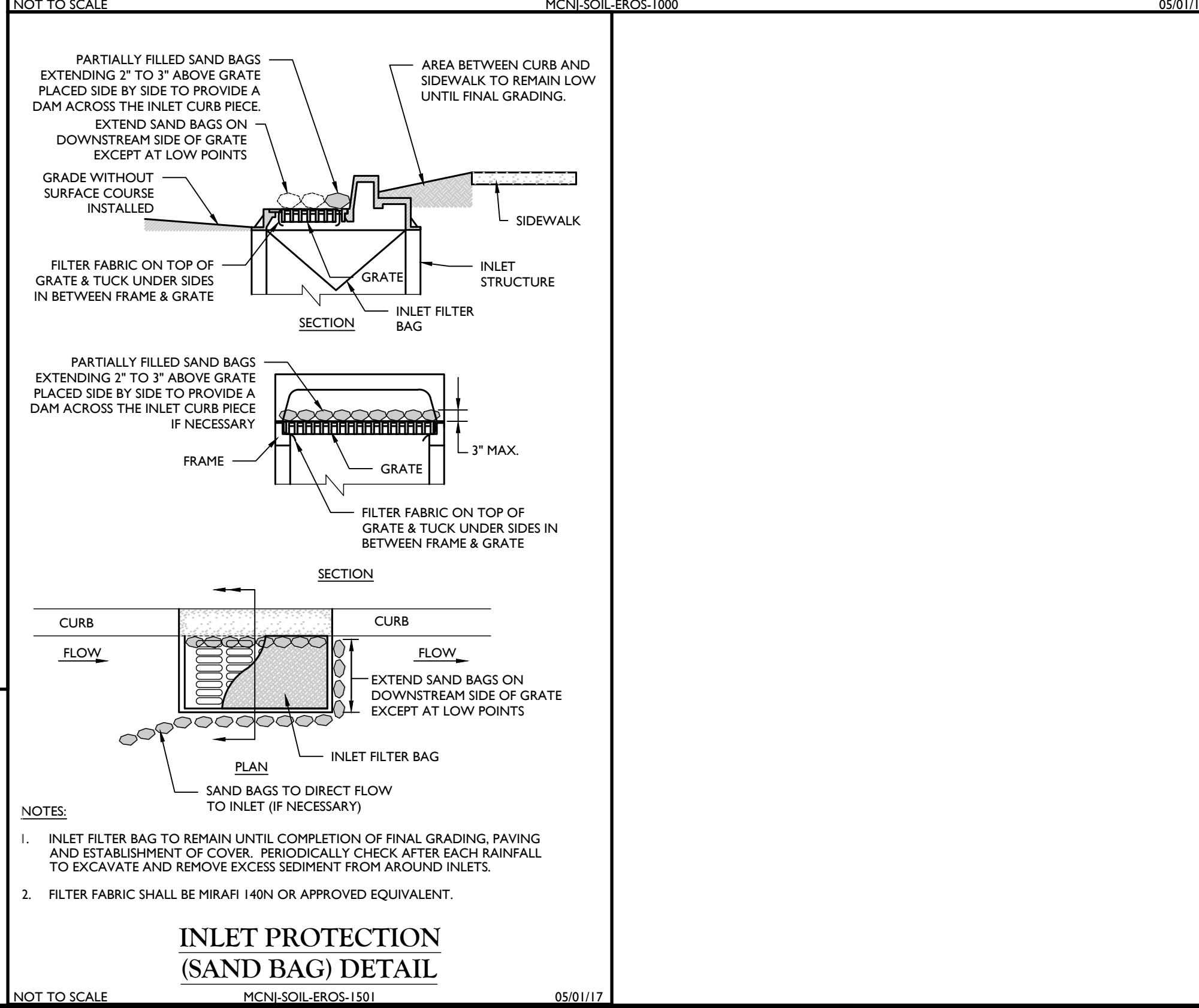
1. AMERICAN BEACHGRASS - BEACHGRASS IS SUCCESSFULLY CLASSIFIED AS A PIONEERING TYPE SPECIES. IT IS THE HARDEST SPECIES CAPABLE OF SURVIVING THE HARSH ENVIRONMENTAL CONDITIONS OF THE FRONTAL DUNES FOR INITIALLY STABILIZING A DUNE SYSTEM. THIS SPECIES IS THE MOST RELIABLE AND COMMERCIALY AVAILABLE OPTION, ONCE ESTABLISHED IT BARELY SPREADS BY A RHIZOMATOUS ROOT SYSTEM, DEVELOPING A SOIL BINDING NETWORK OF INTER-WOVEN ROOTS.
2. PLANTING DATES/OCTOBER 15 TO APRIL 15, UNDER NON-FROZEN SOIL
- PLANTING LIMIT: A MINIMUM OF TWO STEPS (CLUMPS) PER HOLE
- METHOD: HAND PLACEMENT, OR USE OF A VEGETABLE OR TREE PLANTER
- SIZE: 16 TO 18 INCH LONG STEMS, > 1/4 INCH IN DIAMETER
- DEPTH: APPROXIMATELY 8 INCHES DEEP (2" BUT < 5" IS ACCEPTABLE)
- SPACING: SEVERE SITES = 12" x 12" NORMAL SITES = 18" x 18" STABLE SITES = 24" x 24"
- NOTES:
- PLANT > 100 FEET OF HORIZONTAL DISTANCE FROM THE MEAN HIGH TIDE WATER LINE TO ENSURE SUCCESS.
 - PLANT A MINIMUM OF 10 PARALLEL ROWS, STAGGER (OFF-SET) ROWS TO MAXIMIZE PROTECTION.
 - FIRM SOIL AROUND PLANTS TO ELIMINATE AIR POUCHES.
 - IF UTILIZING DREDGED FILL ALLOW SALTS TO LEACH OUT BEFORE PLANTING AND ALLOW RAINS TO COMPACT SANDS.
2. COASTAL PANICGRASS - THIS WARM SEASON BUNCH-LIKE GRASS IS A POST STABILIZATION SPECIES THRIVING FROM THE CREST OF THE FRONTAL DUNE TO THE BEACH. IT IS THE ONLY DUNE SPECIES THAT CAN BE PLANTED ON A DUNE SITE. IT IS THE ONLY DUNE STABILIZATION SPECIES WHICH HAS BEEN DIRECTLY SEEDING ON TO THE SAND DUNES SUCCESSFULLY POTTED PLANTS AND STEPS DIVISIONS CAN ALSO BE SUCCESSFULLY ESTABLISHED ON THESE SEVERE SITES. THE ANNUAL FOLIAGE EMERGES FROM A DEEP BIRCH PERENNIAL ROOT SYSTEM WITH PERMANENTLY LIVING LEAVES. THESE SPECIES CAN BE SUCCESSFULLY PLANTED WITH OR OVER SEEDING INTO STANDS OF AMERICAN BEACHGRASS. THE PLANTING PLANT AND SEEDING TECHNIQUES OUTLINED BELOW HAVE ALSO BEEN USED TO SWITCH-GRASS SEASHORE LITTLE BLUESTEM, AND SEASHORE GOLDENROD.
- SEEDING DATES: OVER SEEDING: APRIL 1 TO MAY 1 DORMANT SEEDING: NOVEMBER 1 TO APRIL 15
- PLANTING LIMIT: SINGLE BARE-ROOT OR CONTAINERIZED SEEDLING OR DIVISION: 12 - 18 INCHES TALL
- SEEDING RATE: 8 TO 12 LB. OF PURE LIVE SEED (PLS) PER ACRE
- DEPTH: 2 INCHES DEEPER THAN THE NURSERY DEPTH
- SEED: DRILLED 1/2 TO 2 1/2 INCHES DEEP
- PLANTS: HAND PLACED, OR USE A VEGETABLE OR TREE PLANTER
- SEEDER: SEEDS: HAND OR MECHANICALLY OPERATED DRILL OR SPACER
- SPACING: PLANTS: 4" x 4" SEED: 3" TO 10" ROW SPACING
3. SALTMEADOW CORDGRASS - ALTHOUGH TYPICALLY ASSOCIATED WITH TIDAL SALT MARSHES, THIS CORDGRASS ALSO NATURALLY OCCURS IN THE SECONDARY AND BACK DUNE AREAS, PREDOMINANTLY IN INHABITED INTER-DUNE TROUGHS AND LOW BLOW-OUT AREAS. IT IS DOMINATE IN THESE MICRO-SITES SINCE MOST OTHER SAND DUNE SPECIES CANNOT TOLERATE WET TO SATURATED SOIL CONDITIONS. THE TRAILING RHIZOMES OF SALTMEADOW CORDGRASS ARE TENDER, BUT FORM DENSE MATS NEAR THE SURFACE. IT IS VEGETATIVELY ESTABLISHED ON NORMAL SITES USING FRESHLY HARVESTED STEPS (CLUMPS) OR CONTAINERIZED PLANTS ON SEVERE LOCATIONS.
- PLANTING DATE: MAY 1 TO JUNE 15
- PLANTING LIMIT: 3 TO 5 LIVE STEPS PLACED BARE-ROOT OR CONTAINERIZED
- DEPTH: 2 INCHES BELOW THE NURSERY GROWN DEPTH
- METHOD: HAND PLACED, OR VEGETABLE PLANTER
- SIZE: > 12 INCHES
- SPACING: 18 TO 36 INCHES DEPENDING ON THE SEVERITY OF THE PLANTING SITE
- UTILIZE THIS SPECIES IN LOW ELEVATION SITES OF SAND DUNES WHICH ARE FREQUENTLY INUNDATED.
4. SHRUBS AND TREES - MEDIUM SIZED SHRUBS AND SMALL TREES NATURALLY DOMINATE THE BACK DUNE ZONE OF NEW JERSEY BARRIER ISLANDS. THE SHRUBS BEGIN TO CO-INHABIT THE MID SECONDARY DUNES ONCE EXTENSIVE STANDS OF BAYBERRY, BEACH PLUM, PITCH PINE AND OTHER WOODY SPECIES COVERED THESE ISLANDS WHERE HOUSES NOW STAND. THE SHRUB SPECIES WHICH ARE WELL ADAPTED TO THE DUNE ECOSYSTEM ARE CAPABLE OF EITHER LAYERING OR ROOT SUCKERING.
- THE TREES AND SHRUBS OF THE SAND DUNES HAVE DEEP TAP ROOT SYSTEMS FOR SPRINGING ADEQUATE RHYZOMES AND LATERALS. EACH SPECIES UTILIZED FOR BACK DUNE STABILIZATION HAS ITS OWN UNIQUE ATTRIBUTES. BEACH PLUM HAS A COLDWATER BLOWING WHICH YIELDS A TASTY SUCCULENT CHERRY LIKE FRUIT. BAYBERRY ROOTS HAVE NODULES WHICH ENABLE IT TO FIX ATMOSPHERIC NITROGEN SIMILAR TO LEGUMES. IT ALSO PRODUCES AROMATIC FRUIT AND LEAVES. THE JUNIFERS WHICH ARE ADAPTED TO SAND DUNES PROVIDE THE VISUAL APPEAL OF EVERGREENS IN THE BACK DUNES.



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PROJECT NUMBER: 1300604A
DRAWING NUMBER: C-05C
SHEET NUMBER: 2 of 2