

Soil De-compaction and Testing Requirements

Soil Compaction Testing Requirements

1. Subgrade soils **prior to the application of topsoil** (see permanent seeding and stabilization notes for topsoil requirements) shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.
2. Areas 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 denoted 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 from the local soil conservation district. This form must be filled out and submitted prior to receiving a certificate of compliance from the district.
4. In the event that testing indicates compaction in excess of the maximum thresholds indicated for the simplified testing methods (see details below), the contractor/owner shall have the option to perform either (1) compaction mitigation over the entire mitigation area denoted on the plan (excluding exempt areas), or (2) perform additional, more detailed testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation. Additional detailed testing shall be performed by a trained, licensed professional.

Compaction Testing Methods

- A. Probing Wire Test (see detail)
- B. Hand-held Penetrometer Test (see detail)
- C. Tube Bulk Density Test (licensed professional engineer required)
- D. Nuclear Density Test (licensed professional engineer required)

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

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

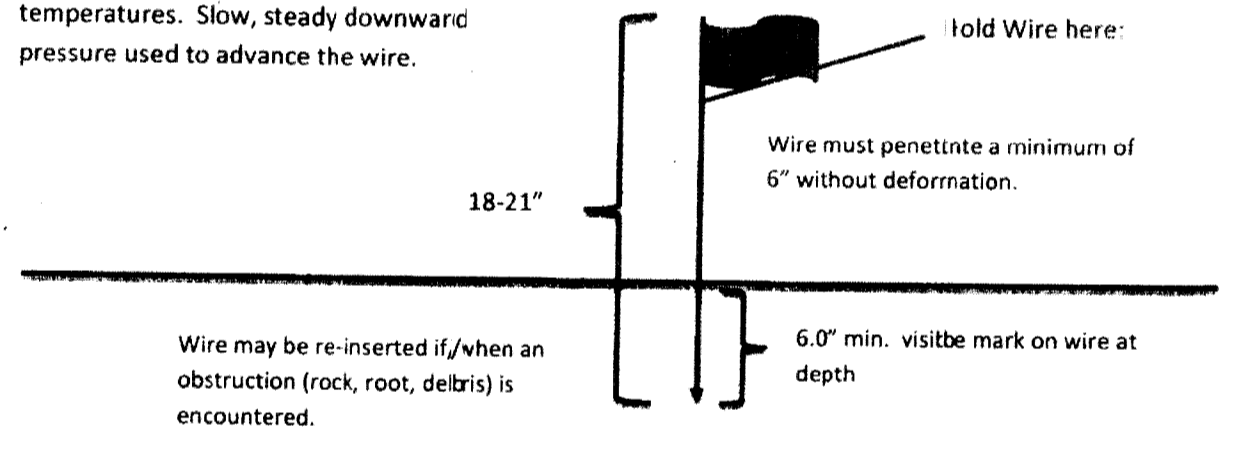
Procedures shall be used to mitigate excessive soil compaction **prior to placement of topsoil** and establishment of permanent vegetative cover.

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 Licensed Professional Engineer may be substituted subject to District Approval.

Simplified Testing Methods

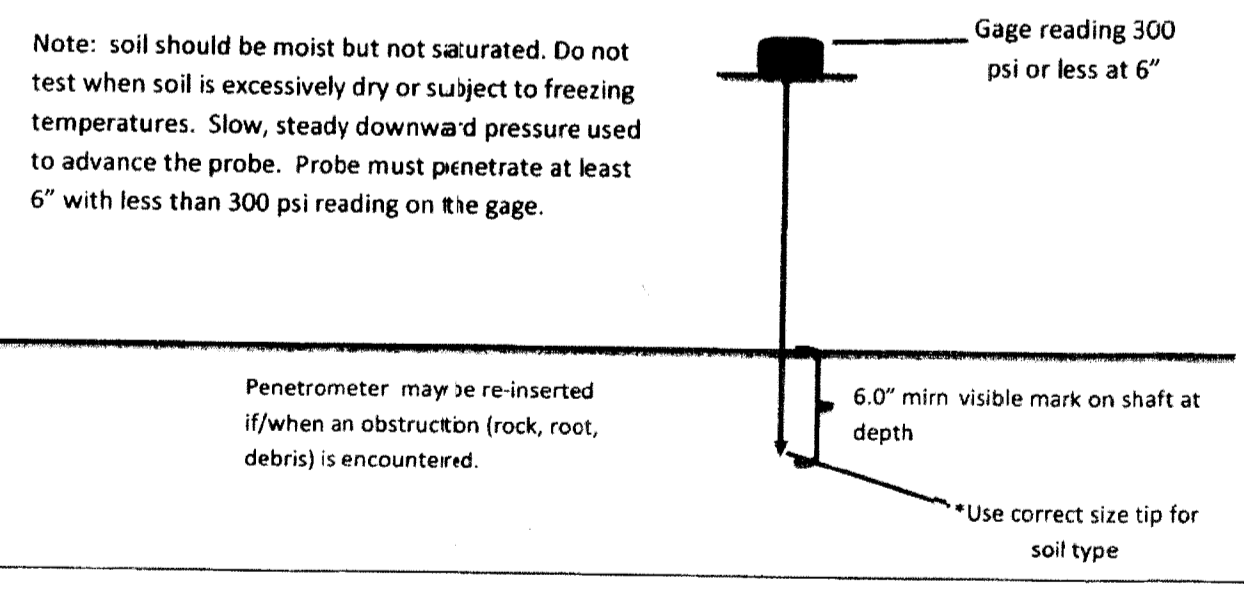
Probing Wire Test- 15.5 ga steel wire (survey flag)

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the wire.



Handheld Soil Penetrometer Test

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the probe. Probe must penetrate at least 6" with less than 300 psi reading on the gage.



SOMERSET-UNION SOIL CONSERVATION DISTRICT

THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 72 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION.

SOIL EROSION CONTROL NOTES:

- 1) ALL SOIL EROSION AND SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH THE SOIL EROSION CONTROL ACT, CHAPTER 251, P.L. 1975 AND THE INTERIM RULES AND REGULATIONS AS PUBLISHED IN THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NJ" AS ADOPTED APRIL 1987 BY THE NJ STATE SOIL CONSERVATION COMMITTEE. COPIES OF WHICH ARE AVAILABLE AT ALL SOIL CONSERVATION DISTRICT OFFICES.
- 2) ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY GRADING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
- 3) STRIPPING OF VEGETATION, GRADING OR OTHER SOIL DISTURBANCES SHALL BE DONE IN A MANNER WHICH WILL MINIMIZE SOIL EROSION.
- 4) WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
- 5) THE EXTENT OF THE DISTURBED AREA SHALL BE KEPT WITHIN PRACTICAL LIMITS. ALL DISTURBED AREAS AND STOCKPILES WHICH ARE TO REMAIN EXPOSED FOR A PERIOD LONGER THAN 30 DAYS SHALL BE TEMPORARILY STABILIZED.
- 6) WATER RUNOFF SHALL BE MINIMIZED AND RETAINED ON SITE WHEREVER POSSIBLE TO FACILITATE GROUND WATER RECHARGE.
- 7) SEDIMENT SHALL BE RETAINED ON SITE.
- 8) THE CONTRACTOR SHALL NOTIFY THE MUNICIPAL ENGINEER AND THE SOIL CONSERVATION DISTRICT 72 HOURS PRIOR TO START OF ANY CONSTRUCTION.
- 9) ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND/OR AREA IS STABILIZED.
- 10) STANDARD CONSTRUCTION DETAILS SHOWN AND THEIR USE, AS WELL AS OTHER MEASURES, SHALL BE IN ACCORDANCE WITH ABOVE SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
- 11) ANTI-TRACKING STRIPS SHALL BE UTILIZED TO MINIMIZE THE TRACKING OF MUD AND DIRT ONTO EXISTING STREETS. WHEEL WASHINGS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT.
- 12) WHERE NECESSARY, DISTURBED AREAS SHALL BE TEMPORARILY SEEDED AND/OR MULCHED UNTIL PROPER WEATHER CONDITIONS EXIST FOR ESTABLISHMENT OF A PERMANENT VEGETATIVE COVER.
- 13) FILL MATERIAL SHALL BE FREE FROM DEBRIS, PERISHABLE OR COMBUSTIBLE MATERIAL, SOOT, FROZEN OR WET EARTH AND STONES LARGER THAN 6 INCHES IN MAXIMUM DIMENSION.
- 14) ALL PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.

DUST CONTROL MATERIALS:

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLICATION RATE GALLONS PER ACRE
LATEX EMULSION	12.5:1	FINE SPRAY	255
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM)-SPRAY ON POLYACRYLAMIDE (PAM)-DRY SPREAD		APPLY ACCORDING TO MANUFACTURER'S SPECIFICATIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS. (SEE SEDIMENT BASIN STANDARDS)	
AGGREGATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1,200

VEGETATION STABILIZATION NOTES:

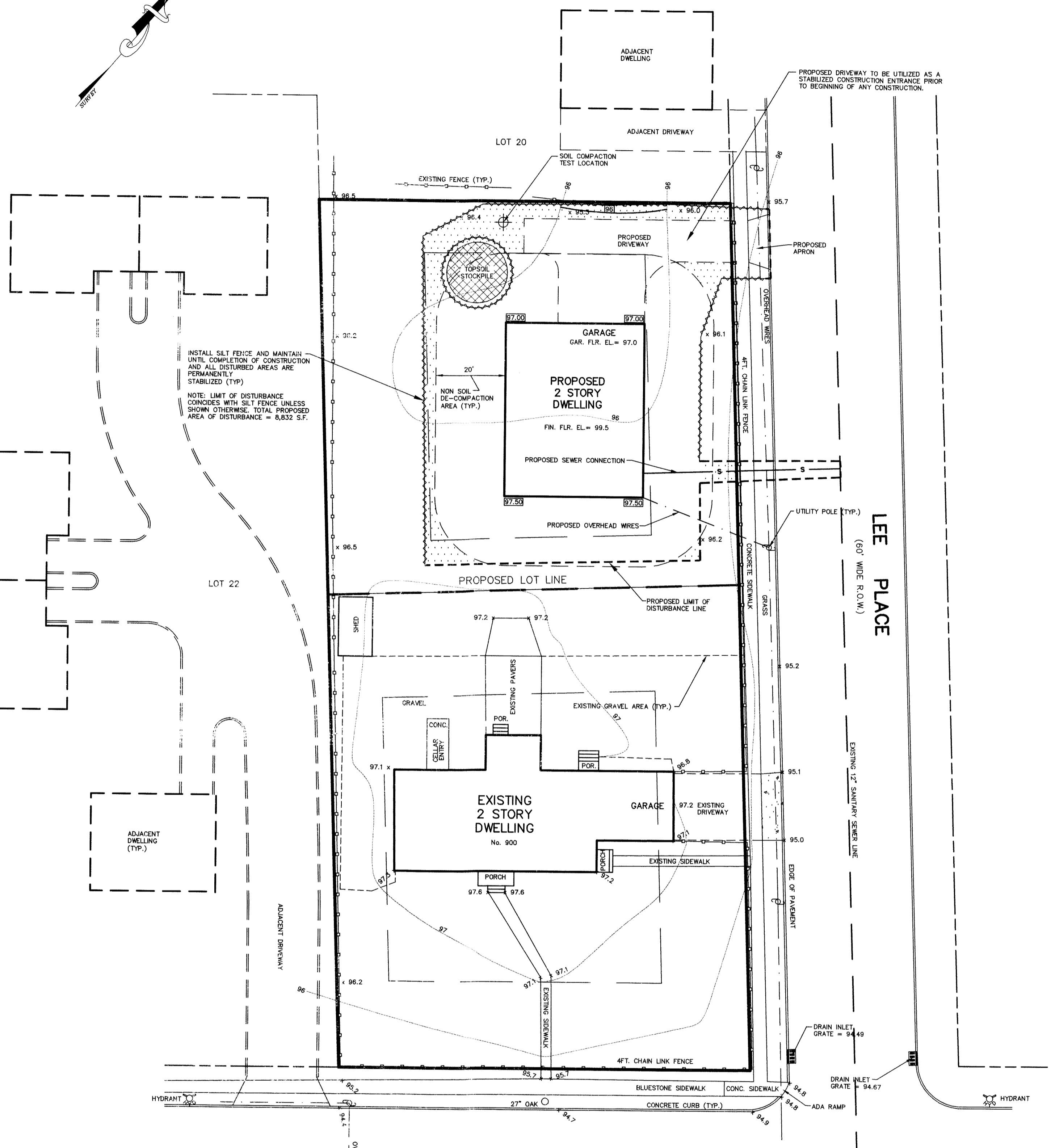
- 1) TEMPORARY VEGETATIVE COVER TO BE ESTABLISHED ON SOILS EXPOSED FROM 1 TO 12 MONTHS
 - A) ADD LIMESTONE AT A RATE OF 4000 LB/ACRE AND 10-10-10 FERTILIZER AT A RATE OF 600 LB/ACRE.
 - B) PLANT AS FOLLOWS:

BEFORE MAY 20 ANNUAL RYEGRASS	40 LB/ACRE
MAY 20-JUNE 20 SUDANGRASS	60 LB/ACRE
JUNE 20-AUG 1 WEEPING LOVEGRASS	30 LB/ACRE
AUG. 15-OCT. 15 ANNUAL RYEGRASS	40 LB/ACRE
OR APRIL-OCT. KOREAN LESPEDEZA	40 LB/ACRE
(IF ADEQUATE SOIL MOISTURE IS MAINTAINED)	25 LB/ACRE
- 2) PERMANENT VEGETATIVE COVER-GENERAL AREAS UNDER 5% SLOPE
 - A) ADD LIMESTONE AT A RATE OF 4000 LB/ACRE OR ACCORDING TO RESULTS OF SOIL TESTS AND 10-20-10 FERTILIZER AT A RATE OF 600 LB/ACRE OR ACCORDING TO RESULTS OF SOIL TESTS.
 - B) 54 LBS/AC. KENTUCKY, 38 LBS/AC. FESCUE, 5% RED TOP, AND 3% INERT (SOMETIMES DESIGNATED AS ATHLETIC FIELD MIXTURE).
- 3) PERMANENT VEGETATIVE COVER-CRITICAL AREAS- OVER 5% SLOPE
 - A) ADD LIMESTONE AT A RATE OF 4000 LB/ACRE OR ACCORDING TO RESULTS OF SOIL TESTS AND 10-20-10 FERTILIZER AT A RATE OF 600 LB/ACRE OR ACCORDING TO RESULTS OF SOIL TESTS.
 - B) SEED WITH 50 LBS/AC. OF KENTUCKY, 40 LBS/AC. FESCUE, AND 10 LBS/AC. CROWN VETCH.
- 4) MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT.
 - A) THE FOLLOWING MATERIALS ARE SUITABLE FOR MULCHING-UNROOTED STRAW OR SALT HAY 1 1/2 TO 2 TONS/ACRE, ASPHALT EMULSION OR OUTBACK ASPHALT 600 TO 1200 GAL/ACRE, WOOD FIBER OR PAPER OR PAPER FIBER (HYDROSEEDING 1500 LB/ACRE), MULCH NETTING (PAPER JUTE, EXCELSIOR, COTTON OR PLASTIC).
 - B) STRAW OR SALT HAY MULCHERS SHOULD BE IMMEDIATELY ANCHORED USING PEG TWINE NETTING, A MULCH ANCHORING TOOL, OR LIQUID MULCH BINDERS.
- 5) ALL DISTURBED AREAS NOT SCHEDULED FOR CONSTRUCTION ACTIVITIES WITHIN 30 DAYS OF DISTURBANCE SHALL BE STABILIZED WITH PERMANENT VEGETATIVE COVER.
- 6) ALL ROADSIDE SWALES AND ROAD BANKS ARE TO BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION.

TEMPORARY STABILIZATION WITH MULCH ONLY:

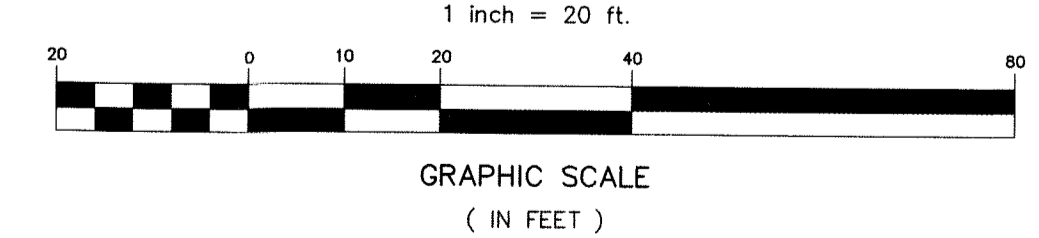
STRAW MULCH (HAY MULCH MAY BE SUBSTITUTED IF APPROVED BY THE DISTRICT) IS TO BE SPREAD UNIFORMLY AT A RATE OF 2 TO 2-1/2 TONS PER ACRE (TOTAL GROUND SURFACE COVERAGE). THIS PRACTICE IS LIMITED TO PERIODS WHEN VEGETATIVE COVER CAN NOT BE ESTABLISHED DUE TO THE SEASON OR OTHER CONDITIONS. MULCH MUST BE ANCHORED IN ACCORDANCE WITH NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL. MULCH ALONE CAN ONLY BE USED FOR SHORT PERIODS AND WILL REQUIRE MAINTENANCE AND RENEWAL. OTHER MULCH MATERIALS MAY BE UTILIZED IF APPROVED BY THE DISTRICT.

SOIL EROSION AND SEDIMENT CONTROL PLAN

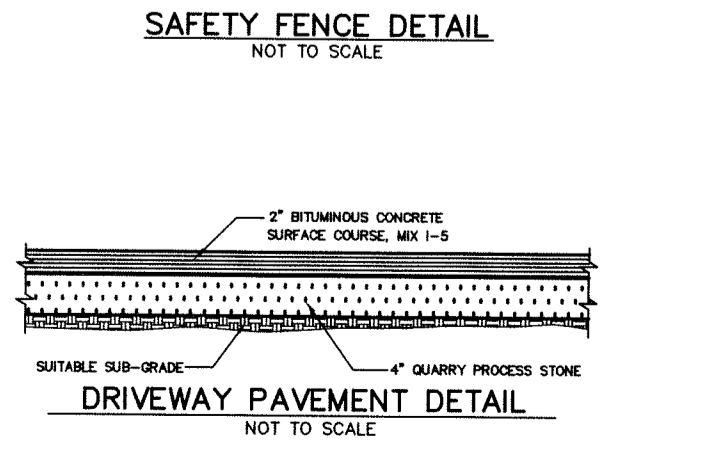
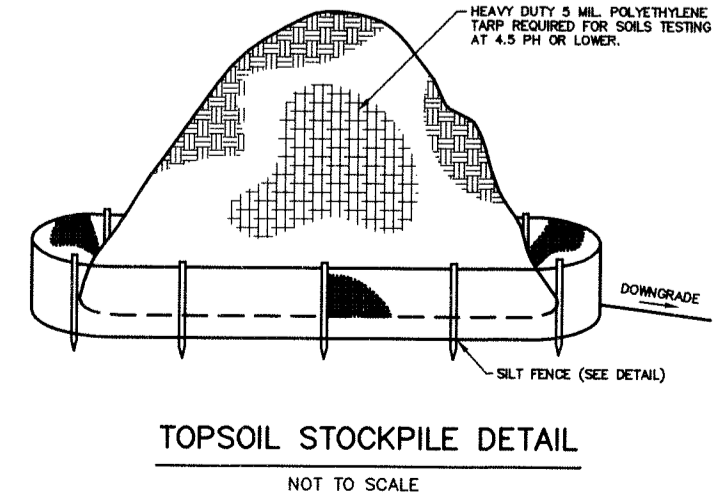


WEST SEVENTH STREET
(COUNTY ROUTE No. 601)
(60' WIDE R.O.W.)

GRADING & SOIL EROSION AND SEDIMENT CONTROL PLAN
1 inch = 20 ft.



- LEGEND:**
- SOIL COMPACTION TESTING AREAS
 - RECOMMENDED SOIL COMPACTION TEST LOCATION (APPROXIMATE 1 PER 0.5 ACRE)



NO.	DATE	REVISION
1	08/18/20	PER PLANNING BOARD

DANIEL E. PARKER
NEW JERSEY LAND SURVEYOR LIC. NO. 35866

PARKER
ENGINEERING & SURVEYING P.C.
370 EAST MAIN STREET, SOMERVILLE, N.J. 08876
PHONE: (908) 725-4400 - FAX: (908) 722-4401
E MAIL ADDRESS: PARKERES@AOL.COM

SITE PLAN
TAX MAP LOT 22 BLOCK 551
CITY OF PLAINFIELD
UNION COUNTY, NEW JERSEY

STEPHEN E. PARKER
NEW JERSEY PROFESSIONAL ENGINEER LIC. NO. 36187

DRAWN BY PJD	CHECKED BY S.E.P.	SCALE AS SHOWN	DATE 03-06-20	FILE 13260	SHEET 3 OF 3
-----------------	----------------------	-------------------	------------------	---------------	-----------------