# PHASE 1 - HOTEL

# **AMENDED FINAL MAJOR SITE PLAN FOR AMENDED PRELIMINARY SITE PLAN FOR** PHASE 3 - RESTAURANT

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# BLOCK 9, LOTS 12.01 & 12.011

TAX MAP SHEET 2, DATED MAY 16, 1998, REV. MARCH 2005 **WEST WINDSOR TOWNSHIP MERCER COUNTY, NEW JERSEY** 



1.	PRELIMINARY AND FINAL MAJOR SITE PLAN OF PROPOSED HOTEL BLOCK 9 LOT 12.01 AND 12.011, ZONE PMN-1
	DATE: AUGUST 31, 2022
	SCALE: 1"=30'
	OWNER/APPLICANT: THE BRIAD GROUP ADDRESS: 78 OKNER PARKWAY LIVINGSTON, NJ 07039
	SITE PLAN CONTROL NO.
2.	I CONSENT TO THE FILING OF THIS SITE PLAN WITH THE PLANNING BOARD OF WEST WINDSOR TOWNSHIP.
	OWNER DATE
3.	TO BE SIGNED BEFORE ISSUANCE OF A BUILDING PERMIT AND INCORPORATED ONLY ON A FINAL SITE PLAN (AS APPLICABLE):
	I HEREBY CERTIFY THAT A BOND HAS BEEN POSTED FOR ALL THE REQUIRED IMPROVEMENTS IN COMPLIANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
	TOWNSHIP CLERK DATE
4.	TO BE INCORPORATED ONLY ON FINAL SITE PLAN AND SIGNED PRIOR TO ISSUANCE OF A BUILDING PERMIT:
	VERIFICATION THAT PAYMENT OF MUNICIPAL TAXES OR ASSESSMENTS IS CURRENT
	TOWNSHIP CLERK DATE
5.	PPROVED BY THE PLANNING BOARD (PRELIMINARY APPROVAL DATE)
	(FINAL APPROVAL DATE)
	CHAIR DATE
	SECRETARY DATE
6.	APPROVED BY THE HEALTH OFFICER
	CHAIRMAN DATE
7.	EXPIRATION OF APPROVAL (PRELIMINARY - 3YEARS; FINAL -2 YEARS)
	DATE OF EXPIRATION (WITHOUT EXTENSIONS)







LOCATOR MAP SCALE: 1"= 500'



## **GENERAL NOTES:**

- drawing entitled "Topographic Survey Lots 12.01 and 12.03 Block 9, Lot 12.02 Block 9.03, West Windsor, Mercer County, New Jersey and a "Map of Survey Lots 12.01 &12.02 Block 9 West Windsor Township, Mercer County, NJ" by Stires Associates Richard Matthews P.L.S. dated revised 06/11/04. Supplemental survey work by Bowman Consulting February 2019.
- The developed portion of the property is located in flood hazard zone X (areas determined to be outside the 0.2% annual chance floodplain); as identified on National Flood Insurance Program Flood Insurance Rate Map (FIRM) No. 34021C0142F and No. 34021C0141F, effective date July 20, 2016. The Base Flood Elevation for the project site is between Elevation 63 and 64. The flood hazard line has been established utilizing the base flood elevation +1' as per NJDEP Method 3.
- Duck Pond Run.
- The State of New Jersey that all or a portion of this lot lies in a flood hazard area and or riparian zone. Certain activities in flood hazard areas and riparian zones are regulated by the New Jersey Department of Environmental Protection and some activities may be prohibited on site or may first require a Flood Hazard Permit. Contact the Division of Land Use Regulation at 609-292-0060 or www.nj.gov/dep/landuse for more information prior to any construction onsite.
- RSIS Compliance 'A' Drive Street Hierarchy Although not subject to RSIS, since it serves mixed traffic generators, we proposed 'A' Drive, off of Carnegie Center Drive, to comply as much as possible with the RSIS Residential Access street type per Table 4.6 of the Standards, except for some curb radii. The minimum centerline radius of 100' is complied with. The minimum tangent length between reverse curves is 50'; we have 83'. Curb radii are 25' or greater where required for truck movements. Some curb maximize landscaping areas.
- Underground utilities shown hereon are approximate and based solely upon above ground observations, mark-outs and/or plans provided by utility companies. The accuracy or completeness of the information shown regarding underground utilities is not guaranteed by the engineer. Connections between structures, if and where shown, may not represent actual below ground conditions. Contractor and subcontractors are responsible for ordering mark-outs, coordination with the various utility companies and for making their 13. own determination as to the location and depth of all underground utilities prior to any construction to assure disturbance and/or disruption of existing utilities is avoided where possible and minimized in all cases. As the exact elevation of existing utilities may be unknown to engineer, contractor is advised that the potential for conflicts with proposed work may exist. Exploratory excavations, contract contingencies or exclusions with Owner should be made to accommodate such an event. In the event the Contractor identifies a conflict between the proposed work and existing utilities, the conflict shall be brought to the attention of Bowman Consulting Group and the Owner prior to any work being performed.
- a. The Contractor shall determine the location and depth of the existing utility to which connection is being made before laying any pipe, conduit, etc. Discrepancies shall be reported to Bowman Consulting Group.
- b. Any temporary interruption of service to the site and/or adjacent properties shall be pre-approved in writing (email) by the respective utility.
- c. Electric, telephone, cable television and all other utility services shall be installed underground at locations determined by each respective utility entity, subject to any required municipal approval, regardless of whether or not the utilities are shown on the plans. The Contractor shall coordinate the construction of all utility mains and services with each utility entity and provide whatever construction support is required for achieving utility service. The Contractor is advised to contact each respective utility company prior to construction to identify and coordinate any scheduling requirements.
- d. Should it be required to excavate one or more trenches in existing roadways, backfilling and pavement replacement/repair shall be in accordance with the specifications of the municipality or county, as applicable. Verification of backfill requirements shall be made prior to bid.
- The Owner shall provide a copy of all permits and approvals issued for the project to the Contractor. The Contractor shall be responsible for reading and complying with the terms and conditions of all permits, approvals and authorizations issued by the various regulatory authorities for the project. The Contractor is also responsible for confirming with the Engineer that the permits and approvals provided by the Owner are complete. Responsibility for any additional permits required as construction progresses, such as building permits (including building permits for retaining walls) and road opening permits shall be coordinated between the Contractor and Owner.
- Prior to any construction or site preparation activity, the Contractor shall complete the following:
- Verify the information shown on these plans is consistent with the information shown on all other plans (architectural, landscaping, etc.) being used for construction of the project. Also, verify the plans are consistent with all conditions and requirements set forth in the permits. Report any discrepancies/inconsistencies to the Owner and Bowman Consulting prior to any construction.
- Verify the plans contain the raised seal of the engineer and display the latest Contractor's risk.
- Determine all applicable specifications, as well as all requirements for shop drawings, inspections and testing applicable to project by contacting the local building official, municipal engineer and each affected utility company (or agency). In the event of a conflict between any specifications and the information shown on these plans, Bowman Consulting and the Owner shall be notified in order to resolve the conflict prior to any construction.
- Contact the local police department relevant to any work to be performed in or near public streets, as well as ingress and egress requirements during construction. Traffic control requirements shall be established between the Contractor and police department at this time.

- Boundary and Topographic Information shown hereon taken from an Autocad 6. These plans are intended specifically and solely for the construction of the subject project and shall not be used for any other purpose. The copying or modification of these plans or any portion thereof is a violation of copyright law. Relevant documentation pertaining to any product proposed by the Contractor on the basis of an "approved equal" shall be submitted to the municipal engineer and Bowman Consulting at least two weeks in advance of ordering product.
  - The product must be approved for incorporation into the project by both the 24. The plan has been designed with the intent to comply with all applicable municipal engineer and Bowman Consulting Group. All confirmations/verifications between the Contractor, Owner and/or Engineer shall be via email or other written form(s) of communication.
  - Contractor to notify the applicable Soil Conservation District in writing at least 72 9 hours prior to any site preparation or construction activities.
- The regulated water body that the project site flood hazard line is based on is 10. Contractor to call the New Jersey One Call System (800-272-1000) to have all underground utilities located prior to any site disturbance.
  - 11. The contractor shall provide the Owner and Bowman Consulting Group with a list of all shop drawings, inspections, testing, certifications, as-built plans and 25. similar post-construction approval requirements pertaining to the project. The list shall identify the specific individual responsible for performing each test and/or providing each certification and/or as-built map. In particular, should NJDEP permits apply to any utility construction and should the permit require a certification of the work upon completion, the Contractor shall determine the individual responsible for providing the certification. The Contractor shall then be responsible for coordinating with each individual identified on the list and scheduling the work to assure each individual has sufficient opportunity to conduct the required tests, obtain required measurements and/or perform any services or work required to prepare the required post-construction approval documents
- radii are less to minimize asphalt, and minimize crosswalk lengths, and 12. Contractor to coordinate all work with all utility companies and/or public agencies providing utility service, as applicable, and abide by all of their requirements relevant to the performance and inspection of all work affecting their utilities, including complying with any and all testing requirements. In the event requirements or specifications of the utility company or public authority conflict with the plans, the municipal requirements shall govern. In such case, the Contractor shall advise the Owner and Engineer prior to proceeding with any work
  - Contractor to coordinate with the Owner relevant to the scheduling of all work and any restrictions thereto, (such as maintaining operations at the site or ingress/egress restrictions, etc.). Any requirements for phasing and/or multiple mobilizations shall be identified and resolved prior to commencement of the work.
  - 14. It is the Contractor's responsibility to protect all property markers and monuments from disturbance throughout construction. Notify the Owner immediately should any property markers or monuments be inadvertently disturbed or damaged.
  - 15. Prior to any construction, the horizontal limits of the work (Limits of Disturbance - LOD) shall be established and delineated on-site. Disturbance beyond these permitted limits exposes the contractor to fines and penalties by regulatory adencies.
  - 16. The exact location of all work shall be established from the control points and all stakeout shall be referenced from baselines established from the control points. All dimensions and distances, both horizontal and vertical, shall be verified for consistency with the plans by the entity responsible for layout prior to the construction of each project element. In the event of any discrepancies between the layout and dimensions/distances shown on the plans, the layout entity shall notify Bowman Consulting for resolution of the discrepancy prior to any 30. Post-construction certification as to the construction of a retaining wall or other construction for the specific element.
  - 17. Information for field layout shall be taken from the plans. Graphical information as may also be provided via electronic files is intended as drawing data only and 31. Where shop drawings are specified on the plans or required by an inspecting is not to serve as basis for survey layout. Standard practice requires the layout entity check dimensional data for consistency and to make survey calculations as customary for layout.
  - 18. The location and inverts of all existing storm and sanitary sewers shown hereon 32. Unless otherwise noted, all materials and workmanship shall conform to the shall be verified by the Contractor prior to any construction. Any discrepancies shall be reported to Bowman Consulting Group immediately and no construction shall commence until any such discrepancies are resolved.
  - 19. The intent of the plans is to provide a smooth transition, maintaining effective positive drainage, at all locations where the proposed construction is to connect to existing infrastructure, such as for curb, pavement, and sidewalk. The entity responsible for stakeout shall--prior to any construction---verify the intended smooth connections will be achieved. Unless otherwise noted on the plans or directed by the inspecting authority, smooth transitions shall be considered to meet the following minimum criteria:
  - No low points or "bird baths" will be created, except at locations where drainage inlets exist or will be constructed.
  - All final grades will have a minimum slope of 0.5%.
  - Abrupt changes in grade are avoided. Slope changes exceeding 2.0% shall be considered abrupt for the purpose of this requirement. In the event the entity responsible for layout should determine a smooth transition cannot be achieved at one or more locations, Bowman Consulting Group shall be notified for resolution prior to any construction.
- revision as "Issued for Construction". The use of any other plans is at the 20. Contractor is responsible for their own verification of existing topographic information, should there be any suspected discrepancies with the topography depicted on the plans and actual physical conditions. Any confirmed discrepancy identified by the Contractor's verification shall be reported to the 39. All storm and sanitary sewer pipe lengths shown hereon are from center of Engineer for resolution prior to any site disturbance. Once any site disturbance occurs, the Contractor shall have no claim for extra work based upon suspected or confirmed topographic discrepancies.
  - 21. The Contractor is solely responsible for construction site safety and for determining the means and methods for all construction activities. All safety precautions must be undertaken and maintained as required by local, State and Federal codes.
  - 22. The Contractor shall determine and comply with any and all traffic control requirements of the local police department and any public agency hiving

- are noted:

- the Contractor.

WEST WINDSOR TOWNSHIP TAX MAP SHEETS 7.04, 8.03, 13.02 &14.01 DATED APRIL 7, 1998

jurisdiction relevant to any construction in or near public streets as well as for 43. All PVC sanitary sewer pipe shall be SDR 35. ingress and egress during construction.

23. The Contractor shall provide necessary barricades, sufficient lights, signs, and other traffic control measures as may be necessary within the project for the protection and safety of the public. All such traffic control devices shall be maintained in satisfactory condition throughout the construction period.

requirements for barrier free access, including the satisfying all requirements of 47. Any acid producing soils encountered during construction shall be handled as Subchapter 7 of the New Jersey Uniform Construction Code for Barrier Free Access (NJAC 5:23-7), as well as the Americans with Disabilities Act (ADA). In general, barrier free access for site construction is to be provided (between all parking spaces designated as ADA and the front door of adjacent buildings). However, prior to construction, the Contractor shall verify the routes required to be barrier free with the local building code official. Should any identified routes conflict with the grading shown on the plans, the Contractor shall notify Bowman Consulting for resolution prior to any construction.

The Contractor is responsible for the completed construction along barrier free routes complying with all applicable requirements at NJAC 5:23-7, whether specifically stated on the plans or not. In particular, the following requirements

a. Slopes within accessible parking spaces and adjacent access aisles shall not exceed two percent (2.0%) in any direction.

b. Slopes for curb ramps shall not exceed 1:12 (8.3%).

c. All doorways shall have an exterior landing at least four feet wide and five feet long, sloped for positive drainage at two percent (2.0%), unless otherwise specified on the plans.

d. Each barrier free route shall provide for a minimum four foot unobstructed (car overhangs at curbs must be considered) width with a longitudinal (direction of route) slope no greater than 1:20 (5%). Cross slope shall not 54. Locally sourced materials will be used to the extent practical. exceed two percent (2.0%). In turning areas, cross slope must be less than 2.0 % in all directions. Where shown on the plans and/or where the grading (8.3%) shall be constructed, having a maximum rise of 30 inches. Hand rails complying with the Subchapter 7 requirements shall be installed for all such ramps, except curb ramps at pavement edges.

e. Refer to the detail sheets for landings at curb ramps. All other ramps shall be provided with landings at each end and each landing shall be at least five feet long with a width matching the width of the ramp. Landings shall slope no more than two percent (2.0%) in any direction. The Contractor is responsible for assuring all construction along barrier free routes complies with all requirements.

Prior to the actual pouring of concrete along barrier free routes, the Contractor shall check all formwork to verify compliance with the applicable barrier free requirements and request confirmation of same by the inspecting authority. . A building permit is required for all walls four or more feet in height. Contractor

is responsible for securing said permit(s). 28. Bottom of wall elevations (BW) shown on the plans indicate ground elevation at toe of wall upon completion of construction. Footing elevations to be taken from

the structural plans procured by the contractor. 29. It is not the intent of these plans to provide structural design for any pre-cast or cast in place concrete structure. All structural design of pre-cast and/or cast-in-place concrete structures shall be prepared by a Professional Engineer

retained by the Contractor. structural components to be provided by a professional engineer engaged by

authority, at least three copies of the drawings shall be provided to Bowman Consulting Group for review. All shop drawings are to be prepared by a New Jersey professional engineer.

New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition.

33. Contractor shall be responsible for site clean-up following completion of construction. All disposal of debris shall be in accordance with applicable local, county, state and federal regulations.

34. Any damage to existing infrastructure, including by not limited to, pavement, sidewalks, curb, lighting facilities, utilities, or landscaping, due to the actions of the Contractor shall be repaired by the Contractor (at his sole expense) to the satisfaction of the owner of the damaged item.

35. All equipment, materials, etc. shall be confined to the project site. No encroachment onto public right-of-ways or adjacent properties is permitted unless specified on the plans or granted to the Contractor in writing. 36. Any omissions in the standard details or lack of information must be brought to

the attention of Bowman Consulting Group, prior to construction. 37. Existing pavement shall be saw cut in straight lines to the full depth of the existing asphalt (except at the edge of butt joints).

38. The frame and grates of all inlets, manholes and sewer cleanout boxes shall be adjusted as necessary to match proposed grades. All such elevation adjustments shall be performed in accordance with all applicable specifications and regulations.

structure to center of structure, unless otherwise indicated.

40. All pipes with greater than 2' of cover to be RCP reinforced concrete pipe conforming to ASTM D-76, Class III, Wall B. All pipes with less than 2' of cover to be RCP reinforced concrete pipe conforming to ASTM D-76, Class V, Wall B. 41. HDPE to be N-12 double walled, (soil tight) corrugated pipe as manufactured by Advanced Drainage Systems, or approved equal.

42. Sanitary sewer shall be separated from water mains by a distance of at least 10 feet horizontally or 18-inches vertically, if horizontal separation is not possible.



AERIAL MAP SCALE: 1"= 400 **REFERENCE:** AERIAL 2012-2015 HIGH RESOLUTION ORTHOPHOTOGRAPHY OBTAINED FROM THE NEW JERSEY GEOGRAPHIC INFORMATION NETWORK. GREEN BELT REFERENCE

APPROXIMATE LOCATION SCALED FROM TOWNSHIP OF WEST WINDSOR MASTER PLAN CONSERVATION PLAN ELEMENT PROPOSED GREENBELT SCALE: 1"=400

- 44. All on-site water main shall have a minimum cover of 4 feet.
- 45. All water main pipe shall be cement lined ductile iron pipe, Class 52, unless otherwise noted on the plan or required by the water purveyor. 46. All pipe shall be installed in accordance to applicable manufacturers
- specifications.
- per the Mercer County Soil Conservation District guidelines. 48. Maintenance of the Stormwater Management Facility will be the responsibility of
- the property owner. 49. The following sanitary sewer testing is to be successfully performed prior to
- approval from West Windsor Township; -Air Pressure Test

# -Mandrel Test

- -Vacuum Test of all Manholes -Water jetting and video of sewer mains
- 50. Sanitary sewers between SMH S-7 & 6 and between SMH S-1 & SMH EX are to be privately owned and maintained
- 51. The following outside agency approvals will be required;

-Mercer County Planning Board -Mercer County Soils Conservation District & State 5G-3 Permit -DRCC

- -NJDEP 52. Outdoor Architectural Decorative light fixtures to be LED.
- 53. Energy Star appliances shall be installed throughout the project.
- 55. Low-E Glazing and double pane windows will be installed.
- along the path of travel exceeds 5%, a ramp with a maximum slope of 1:12 56. The applicant intends to dedicate an easement to a portion of Block 9.03, Lot 12.02 for the Township Greenbelt in exchange for the disturbance of the Proposed Greenbelt as shown on the plans, subject to review and approval of the Township of West Windsor.

# **FIRE & EMERGENCY NOTES**

- 1. A lock box to allow immediate access by the Fire Department shall be installed on the front of each building.
- 2. The position of the fire department connection that supports the fire sprinkler system shall be at the front of each building. 3. Fire department standpipes shall be installed in each stair tower. The standpipes shall have 2-1/2' national standard thread hose outlets on each stair tower floor landing. The standpipes shall be tied into the fire sprinkler piping so that there will be only one fire department
- connection. 4. Full fire sprinklers will be installed in each building.

# LEGEND

		PROPOSED	STORMWATER LINE
	s s s	PROPOSED	SANITARY LINE
		PROPOSED	LIMIT OF DISTURBANCE
	SF SF	PROPOSED	SILT FENCE
	SSF SSF SSF	PROPOSED	SUPER SILT FENCE
	- w w w	PROPOSED	WATER LINE
		PROPOSED	CURB
		PROPOSED	DEPRESSED CURB
		PROPOSED	RETAINING WALL
		PROPOSED	BLOCK LIMIT LINE
		PROPOSED	PHASE LIMIT LINE
	- x x x	PROPOSED	SPLIT RAIL FENCE
	PROPOSED 'B' INLET	$\bigcirc$	PROPOSED WATER METER
	PROPOSED 'E' INLET	o <sup>c.s.</sup>	PROPOSED CURB STOP
⊕	PROPOSED YARD INLET	<b>o</b> <sup>C.O.</sup>	PROPOSED CLEANOUT
•	PROPOSED MANHOLE	-0-	PROPOSED SIGN
WV M	PROPOSED WATER VALVE	-+-	PROPOSED STREET SIGN
◀	PROPOSED HYDRANT		

# **REQUESTED WAIVERS** 1. PARKING PROVIDED IN EXCESS OF REQUIRED PARKING

# ZONING TABLE PMN-I NON-RESIDENTIAL USES

MAXIMUM DISTANCE FOR RETAIL FROM US RT ONE IS 475 FT WHICH COMPLIES.

Min. Lot Area

Min. Lot Depth

PERMITTED USE: YES

HOTEL USE

HOTEL PARKING - TOTAL A) 130 Rooms @ 1 Parking Space



ZONING MAP SCALE: 1"=1000" REFERENCE WEST WINDSOR TOWNSHIP ZONING MAP DATED APRIL 1, 2019.

		SCAL E: 1"-500'	
		30ALE. 1 = 300	
)	500	1,000	2,000 ft.

2. SOUTH FACING BUILDING MOUNTED SIGN SIZE (SEE ARCHITECTURAL PLANS)

LOCATION: NON-RESIDENTIAL USES SHALL BE LOCATED ON BLOCK 9 LOT 12.01, WITHIN 700' OF US RT 1

BLOCK 9, LOT 12.01 ZONE: PMN-1 (PLANNED MIX USE NEIGHBORHOOD/AFFORDABLE HOUSING)

HOTEL USE	REQUIRED	APPROVED	HOTEL USE	PROPOSED AMENDED SITE PLAN
Min. Lot Area	1 Ac.	4.13 Ac.	Min. Lot Area	4.13 Ac.
Min. Lot Width	200 Ft.	N/A	Min. Lot Width	N/A
Min. Lot Depth	200 Ft.	835 Ft.	Min. Lot Depth	835 Ft.
Min. Front Yard (Public Street)	35 Ft.	82.5 Ft. (Route 1)	Min. Front Yard (Public Street)	83.0 Ft. (Route 1)
Min. Front Yard (Internal Street)	15 Ft.	87.5 Ft. ('A' Drive)	Min. Front Yard (Internal Street)	15.0 Ft. (Internal Driveway)
Min. Side Yard (North)	20 Ft.	51.2 Ft. (Carnegie Center Drive Side)	Min. Side Yard (North)	41.7 Ft. (Carnegie Center Drive Side)
Min. Side Yard (South)	20 Ft.	27.9 Ft. (Retail Side-From Building Facade)	Min. Side Yard (South)	33.9 Ft. (Retail Side-From Building Faca
Min. Number of Rooms	120	130	Min. Number of Rooms	128
Max. Building Height	60 Ft./5 stories	< 60 Ft./5 stories	Max. Building Height	47'-8" Ft./4 stories
Max. Impervious Coverage	75%	74.3% (Proposed Hotel Lot)	Max. Impervious Coverage	<72.1% (Proposed Hotel Lot)
Max. Signage, North Elev. (Sec. 200-32B)	100 SF	N/A	Max. Signage, North Elev.	48 SF
Max. Signage, South Elev. (Sec. 200-32B)	100 SF	N/A	Max. Signage, South Elev.	73 SF
HOTEL PARKING - TOTAL	208 Spaces	208 Spaces Total	HOTEL PARKING	136 Total Spaces Required
A) 130 Rooms @ 1 Parking Space/Key	130 Spaces		A) 128 Rooms @ 1 Parking Space/Key	128 Spaces
120 Room Minimum Required				
B) 10-15 Employees/Shift @ 0.5 Space/Employee	8 Spaces		B) 10-15 Employees/Shift @ 0.5 Space/Employee	8 Spaces
C) Rooftop Bar w/ 210 Seats @ 1Space/3 Seats	70 Spaces		C) N/A	
RESTAURANT PARKING - TOTAL	104 Spaces	104 Spaces	RESTAURANT PARKING	122 Spaces
A) 250 Seats @ 1 Space/3 Seats = 84 Spaces	84 Spaces		A) 306 Seats @ 1 Space/3 Seats = 102 Spaces	
40 Employees @ 0.5/Employee = 20 Spaces	20 Spaces		40 Employees @ 0.5/Employee = 20 Spaces	
B) Useable SF = 60% of 6,915 SF = 4,149 SF			B) Useable SF = 60% of 8,075 SF = 4,845 SF	
4,149 x 1 Space/40 SF = 104 Spaces			4.845 x 1 Space/40 SF = 122 Spaces	
TOTAL PARKING REQUIRED (hotel + restaurant)	312 Spaces			258 Spaces
TOTAL PARKING PROVIDED (hotel + restaurant)		312 Spaces Provided		290 Spaces Provided
ELECTRIC VEHICLE CHARGING SPACES	4% (12 Spaces)	1 Space		12 Spaces
		1 Loading Space provided for each hotel		1 Loading Space provided for each hote

	9 9 9 1111
	12/15/22
	6 5 4 3 2 REV PER 2nd ROUND TRC COMMENTS
	PROJ.: 080823-02-001 DATE: 9/12/2022 CHKD: V/W THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN IS AUTHORIZED FOR USE ONLY BY THE PARTY FOR WHOM THE WORK WAS CONTRACTED OR TO WHOM IT IS CERTIFIED. THIS DRAWING MAY NOT BE COPIED. REUSED. DISCLOSED. DISTRIBUTED OR RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF
<u>CHANGE</u> NONE	Bowman
NONE NONE NONE NONE -9.5'	Phone: 732-665-5500 FAX: 732-665-5501 NJ Certificate of Authorization No. 24GA28222600
+6' -2 ROOMS -1 STORY -2.2% N/A N/A	Bowman Consulting Group, Ltd. 303 W. Main Street Freehold, New Jersey 07728 www.bowmanconsulting.com E-mail: NJ@BowmanConsulting.com
-72 SPACES +18 SPACES -54 Spaces -22 Spaces +11 Spaces NONE	AMENDED FINAL SITE PLAN FOR PHASE 1 - HOTEL AMENDED PRELIMINARY SITE PLAN FOR PHASE 3 - RESTAURANT ZONING CHART & GENERAL NOTES
NS ARE E USED D OR	SHEET NO.

-9.5' ade) +6' -2 ROC -1 STO -2.2% N/A N/A

-54 Spac -22 Spa +11 Sp NONE

THESE PLANS A NOT TO BE USE FOR BID OR CONSTRUCTION



LOT 87 BLOCK 9 W. EL. 62.09 BEXHIBIT' W CARNEGIE GROSSWALK FASEMENT AREA DEED BOOK 3823 RAGE 35 GR 68.43 INV. 61.88 B-EXHIBIT M-4 CARNEGIE LANDSCARE EASEMENT. BAREA DEED BOOK 3823 PAGE 135 \_\_\_\_\_ INV. 61.43 DEED BOOK 3823 PAGE 135 1650.83 CONC. MON. ONC. MON. FOUND ~ - - - ~ EXHIBIT I ACCESS EASEMENT AREA R=22.97' DEED BOOK 3823 PAGE 135 L=23.00 C=22.05' BRG \$35 29'25"W EXHIBIT K CARNEGIE GREENWAY EASEMENT AREA - DEED BOOK 3823 PAGE 135 CINNECT S64'10'37"W 195.71 EXHIBIT O-3 CARNEGIE WATER QUALITY EASEMENT AREA DEED BOOK 3823 PAGE 135 DRAINAGE EASEMENT DEED BOOK 4026 PAGE 58 CONC. MON. EXHIBIT S GREENWAY EASEMENT AREA · I FOUND SLOPE EASEMENT DEED BOOK 4026 PAGE 58 DEED BOOK 3823 PAGE 135 **N** 1.34 ROA R=524.27' L=234.07' MQ C=232.13' BRG \$51 23'11 CONC. MON. S81\*38'31"W *53.75*' R=2004.90 L=347.84' CONC. MON. FOUND C=347.40' BRG N60'16'45 DRAMAGE EASEMEI DEED BOOK 4026 N24°45'02"E 4.92'-JUC. MON. FOUND \_DRAINAGE\_EASEMENT \_DEED\_BOOK\_4026\PA^^ R=1915.33' L=43.88' C = 1





┍**╺╬┊╩**╔╱┊╾╾╾┲┊<mark>┝╡</mark>┲<u>┲┲┲┲┲┲┲┲┲┲┲</u>┲┲┲┲┲┲ F BUILDING 61' x 218' BH 34'-0 BH 34'-0 TEMPORARY PHASE 1 CURB AT BACK OF PARKING STALLS AND ROAD INTERSECTIONS (AS NEEDED) PHASE 2 PREVIOUSLY APPROVED PHASE 1 STORM SEWER MAIN / UTILITY CORRIDOR HAS BEEN CONSTRUCTED PER PHASE 2 RESIDENTIAL INFRASTRUCTURE IMPROVEMENTS PREVIOUSLY APPROVED PHASE 1 SANITARY-SEWER MAIN / UTILITY CORRIDOR HAS BEEN CONSTRUCTED PER PHASE 2 RESIDENTIAL PHASE 1 
 Flag Pole
 Flag Pole
 Flag Pole

 0H
 UP #03630000
 UP #03630000
 UP

 Real Estate Sign
 % Solar Panel
 W/S
 UP
 Elen Poli 12 KCP INV() LOT 52 Grass Area BLOCK 8 PREVIOUSLY APPROVED PHASE 1 SANITARY SEWER MAIN / UTILITY CORRIDOR HAS BEEN CONSTRUCTED PER PHASE 2 RESIDENTIAL INFRASTRUCTURE IMPROVEMENTS LOT 3 LOT 10 LOT 27 BLOCK 8 BLOCK 8 BLOCK 8











![](_page_5_Picture_1.jpeg)

![](_page_5_Picture_3.jpeg)

	ORING TAB	LE GROUND WATER ENCOUNTERED
B-101	79.5	12.5 FT.
B-102 B-103	79.5 79.5	12 FT. 12 FT.
о <u>те</u> В-104	82.5	13 FT.
B-105 B-106	82.5 79.0	16 FT. 9 FT.
B-107	78.5	6 FT.
B-108	78.5	7.5 FT.
TEST F	PIT TABLE	
TEST PIT #	GROUND ELEV. 72.0	GROUND WATER ENCOUNTERED 7 FT.
TP-2	71.0	6 FT.
TP-3 TP-101	73.0 80.5	7.5 FT. N/E
TP-102	80.5	9.5 FT.
TP-103 TP-104	82.0 84.0	13.5 FT. 12 FT.
TP-105	79.0	7 FT.
TP-106 TP-107	80.5 79.0	9.5 FT. 5 FT.
TP-108	77.0	6.5 FT.
TP-109 TP-110	77.0	5.5 FT.
TESTE	ντταρί ε	
TEST PIT #	GROUND ELEV.	GROUND WATER ENCOUNTERED
TP-201	73.0	6 FT.
TP-202	72.0 71.0	9 FT.
TP-204	68.0	8 FT.
TP-205	72.0 72.0	9 FT.
TP-207	71.0	7.5 FT.
TP-208	68.0	7 FT.
TP-210	68.0	7 FT.
TP-211	69.0 70.0	5.5 FT.
TP-213	71.5	5 FT.
TP-214	73.5	4 FT.
TP-216	74.0 69 5	5 FT. 5 FT.
TP-219	69.0	4 FT.
TP-221 TP-222	67.0 67.0	6 FT. 5.5 FT.
TP-223	68.0	7 FT.
TP-224 TP-225	69.0 67.0	7.5 FT. 7 FT.
TP-226	70.5	6.5 FT.
TP-228 TP-229	70.5 69.0	6.5 FT. 6.5 FT.
TP-230	67.5 73.0	7 FT.
TP-232	67.0	6 FT.
TP-233 TP-234	74.0 71.5	N/E 11 FT.
TP-235	73.0	12 FT.
TP-236 TP-237	73.0 67.0	13.5 FT. 9 FT.
TP-238	68.5	7.5 FT.
90 TP-239	72.5	8 FT.
TP-241	69.5	5.5 FT.
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-001 (ENG) - 080823-02-0 1. 2.	ES: DEP PERMITS FC (IF APPLICABLE) THE OWNERS OI NECESSARY STC CROSS EASEME AND UTILITIES P APPROVAL OF T GREASE TRACE	DR DEWATERING WILL BE SECURED F EACH PHASE WILL GRANT ANY DRM WATER AND SANITARY SEWER NTS AS SHOWN ON THE GRADING LAN, SUBJECT TO THE REVIEW AND HE TOWNSHIP ENGINEER
<b>3-02-001 (ENG) - 080823-02-0</b> . 1. 2. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	ES: DEP PERMITS FC (IF APPLICABLE) THE OWNERS OI NECESSARY STC CROSS EASEME AND UTILITIES P APPROVAL OF T GREASE TRAPS TWP. ORDINANC SANITARY SEWF	DR DEWATERING WILL BE SECURED F EACH PHASE WILL GRANT ANY DRM WATER AND SANITARY SEWER NTS AS SHOWN ON THE GRADING LAN, SUBJECT TO THE REVIEW AND HE TOWNSHIP ENGINEER AT THE HOTEL WILL COMPLY WITH E 133-22. ERS SHALL BE INSTALLED PER TWP.
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![](_page_6_Figure_1.jpeg)

NOTE: "OFF-SITE" STORMWATER AND SANITARY SEWER INFRASTRUCTURE CONTAINED WITHIN PHASE 1 IS PREVIOUSLY APPROVED.

120 ft.

![](_page_6_Picture_3.jpeg)

SHEET	AMENDED FINAL SITE PLAN FOR PHASE 1 - HOTEL AMENDED PRELIMINARY SITE PLAN FOR PHASE 3 - RESTAURANT	Bowman Consulting Group, Ltd. 303 W. Main Street Freehold, New Jersey 07728 Freehold, New Jersey 07728	PROJ.: 080823-02-001 DATE: 9/12/2022 CHKD: VVW	5	11		
Г No.	GRADING & LITILITIES PLAN	www.bowmanconsulting.com E-mail: NJ@BowmanConsulting.com No. 24GA28222600	THIS DEAWING AND ALL INFORMATION CONTAINED HEREIN IS AUTHORIZED FOR LISE ONI Y RY THE PARTY FOR WHOM	4	10		
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	BLOCK 9, LOTS 12.01 and 12.011		WITHOUT THE WRITTEN CONSENT OF BOWMAN CONSULTING GROUP, LTD.	1 REV PER TRC COMMENTS	11/15/22		
	IOWNSHIP OF WEST WINDSOR, MERCER COUNTY, NEW JERSEY	JAMES M. WARD N.J. Professional Engineer, Lic. 24GE04343400	LTD. ALL RIGHTS RESERVED	REVISION	DATE CHKD	REVISION	DATE CHKD

![](_page_6_Figure_6.jpeg)

![](_page_7_Figure_0.jpeg)

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![](_page_7_Figure_6.jpeg)

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	SHEE	AMENDED FINAL SITE PLAN FOR PHASE 1 - HOTEL AMENDED PRELIMINARY SITE PLAN FOR PHASE 3 - RESTAURANT	Bowman Consulting Group, Ltd. 303 W. Main Street Freehold, New Jersey 07728 FAX: 732-665-5500 FAX: 732-665-5500	PROJ.: 080823-02-001 DATE: 9/12/2022 CHKD: V//W	0 2	11		
/	Г No.		www.bowmanconsulting.com E-mail: NJ@BowmanConsulting.com No. 24GA28222600	THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN IS AUTHORIZED FOR UNE ONLY BY THE DADATY FOD MLDAM	4	10		
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		TOWNSHIP OF WEST WINDSOR, MERCER COUNTY, NEW JERSEY	JAMES M. WARD N.J. Professional Engineer, Lic. 24GE04343400		REVISION	DATE CHKD	REVISION	DATE CHKD

# PHASE 1: TITLE 39 -ENFORCEMENT AREA-SEE NOTE

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1. UPON APPROVAL OF AN APPLICATION TO THE TOWNSHIP OF WEST WINDSOR, AND PURSUANT TO N.J.S.A. 39:5A-1, THE PROVISIONS OF SUBTITLE 1, TITLE 39 OF THE REVISED STATUTES OF THE STATE OF NEW JERSEY SHALL BE MADE APPLICABLE TO THE SEMI-PUBLIC ROADWAYS, DRIVEWAYS, PARKING AREAS, AND OTHER AREAS USED FOR VEHICULAR TRAFFIC ON THE PROPERTY SHOWN HEREON AND SHALL BE ENFORCED BY THE WEST WINDSOR POLICE DEPARTMENT, AND/OR ANY OTHER AUTHORIZED POLICE ENFORCEMENT AGENCY.

SCALE: 1"=30'

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30

NOTE

![](_page_10_Picture_4.jpeg)

![](_page_10_Picture_5.jpeg)

![](_page_10_Figure_6.jpeg)

![](_page_11_Picture_0.jpeg)

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![](_page_11_Picture_3.jpeg)

![](_page_11_Picture_4.jpeg)

# MERCER COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL GENERAL NOTES

### REQUIRED SOIL EROSION AND SEDIMENT CONTROL NOTES (for inclusion on all SESC plans submitted for review and certification)

1. The Mercer County Soil Conservation District shall be notified 48 hours prior to starting land disturbance activity. Notice may be mailed, faxed or emailed to:MCSCD, 590 Hughes Drive, Hamilton Square, NJ 08690Phone: 609-586-9603 Fax: 609-586-1117 Email: Pauls1mercer@aol.com If applicable to this project, the owner should be aware of his or her obligation to file for a NJPDES Construction Activity

Updated August 2014

- Stormwater 5G3 Permit (NJG0088323) via the NJDEP online permitting system (www.nj.gov/dep/online) and to maintain the associated best management practices and Stormwater Pollution Prevention Plan self-inspection logbook onsite at all times. This permit must be filed prior to the start of soil disturbance. The online application process will require entry of an SCD certification code, which is provided by the Soil Conservation District upon certification of the Soil Erosion and Sediment Control Plan. The Mercer County Soil Conservation District shall be notified of any changes in ownership. 4. Any changes to the Certified Soil Erosion and Sediment Control Plan, including an increase in the limit of disturbance, will require the submission of revised Soil Erosion and Sediment Control Plans to the District for recertification. The revised plans must meet
- all current State Soil Erosion & Sediment Control STANDARDS. A copy of the certified Soil Erosion and Sediment Control plan shall be maintained on site at all times. All Soil Erosion and Sediment Control practices shall be installed prior to any major soil disturbances, or in their proper sequence as outlined within the Sequence of Construction on the Certified Soil Erosion and Sediment Control Plan, and maintained until
- permanent protection is established. All work shall be done in accordance with the current STANDARDS for Soil Erosion and Sediment Control in NJ. If language contained within any other permit for this project is more restrictive than (but not contradictory to) what is contained within these notes or on the Certified Soil Erosion and Sediment Control Plan, then the more restrictive permit requirements shall be followed. 8. The Standard for Stabilized Construction Access requires the installation of a  $1\frac{1}{2}$ " to  $2\frac{1}{2}$ " clean stone tracking pad at all construction driveways immediately after initial site disturbance, whether identified on the certified plan or not. The width shall span the full width of egress, and length shall be 50 ft. or more, depending on site conditions and as required by the STANDARD.
- This shall include individual lot access points within residential subdivisions. If the egress is to a County road, then a 20 ft. long paved transition shall be provided between the edge of pavement and the stone access pad. 9. A sub-base course will be applied immediately following rough grading and installation of improvements in order to stabilize streets, roads, driveways and parking areas. In areas where no utilities are present, the sub-base shall be installed within 15 days of preliminary grading, provided that all other requirements related to detention basins, swales and the Sequence of Construction have been met.
- 10. Any disturbed areas that will be left exposed more than 14 days and not subject to construction activity will immediately receive temporary stabilization. If the season prevents establishment of a temporary vegetative cover, or if the area is not topsoiled, then the disturbed areas will be mulched with straw, or equivalent material, at a rate of two (2) tons per acre, according to State STANDARDS. Sloped areas in excess of 3H:1V shall be provided with erosion control blankets. Critical areas subject to erosion (i.e. steep slopes, roadway embankments, environmentally sensitive areas) will receive temporary stabilization immediately after initial disturbance or rough grading
- 11. Any steep slopes (i.e. slopes greater than 3:1) receiving pipeline or utility installation will be backfilled and stabilized daily, as the installation proceeds. 12. Permanent vegetation shall be seeded or sodded on all exposed areas within ten (10) days after final grading and topsoiling. All agronomic requirements contained within the STANDARDS and on the Certified Plan shall be employed. Mulch with binder in accordance with the STANDARDS, shall be used on all seeded areas. Save all tags and/or bags used for seed, lime and fertilizer.
- and provide them to the District inspector to verify that mixtures and rates meet the STANDARDS. 13. At the time when the 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 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, then non-vegetative means of permanent ground stabilization will have to be employed. 14. During the course of construction, soil compaction may occur within haul routes, staging areas and other project areas. In
- accordance with the Standard for Topsoiling, compacted surfaces should be scarified 6" to 12" immediately prior to topsoil application. This will help ensure a good bond between the topsoil and subsoil. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.). 15. Prior to seeding, topsoil shall be worked to prepare a proper seedbed. This shall include raking of the topsoil and removal of debris and stones, along with other requirements of the Standard for Permanent Vegetative Cover for Soil Stabilization. 16. 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 buried with limestone in accordance with the STANDARD and be covered with a minimum of 12" of soil having a pH of 5 or more prior to topsoil application and seedbed preparation. If the area is to receive tree or shrub plantings, or is located on a slope, then the area shall be covered with a minimum of 24" of soil having a pH of 5 or more. 7. Mulching to the STANDARDS is required for obtaining a Conditional Report of Compliance. Conditional ROC's are only issued when the season prohibits seeding. Permanent stabilization must then be completed during the optimum seeding season
- immediately following the Conditional ROC, or the completion of work in a given area. 18. Hydroseeding is a two-step process. The first step includes seed, fertilizer, lime, etc., along with minimal amounts of mulch to promote consistency, good seed-to-soil contact, and give a visual indication of coverage. Upon completion of the seeding operation, hydromulch should be applied at a minimum rate of 1500 lbs. per acre in second step. The use of hydro-mulch, as opposed to straw, is limited to optimum seeding dates as listed in the STANDARDS. The use of Hydromulch on sloped areas is
- discouraged. 19. The contractor is responsible for keeping all adjacent roads clean during life of the construction project. All sediment washed, dropped, tracked or spilled onto paved surfaces shall be immediately removed.
- 20. The developer shall be responsible for remediating any erosion or sediment problems that arise as a result of ongoing construction, and for employing additional erosion and sediment control measures at the request of the Mercer County Soil **Conservation District** 21. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational.
- 22. All detention / retention basins must be fully constructed (inclusive of all structural components and liners) and permanently stabilized prior to paving or prior to the addition of any impervious surfaces. Permanent stabilization includes, but may not be limited to: topsoil, seed, straw mulch and binders or erosion control blankets on all seeding, all agronomic requirements as
- specified on the Certified Soil Erosion and Sediment Control Plan, installation of the outflow control structures and discharge storm drainage piping, low flow channels, conduit outlet protection, emergency spillways, and lap ring protection. 23. The riding surface of all utility trenches within paved areas shall be 3/4" clean stone or base pavement until such time as final
- pavement has been installed. Temporary soil riding surfaces are prohibited. 24. All construction dewatering (trenches, excavations, etc.) must be done through an inlet or outlet filter in accordance with the Standard for Dewatering or as depicted on the Certified Soil Erosion and Sediment Control Plan. Discharge locations for the
- watering operation must contain perennial vegetation or similar stable surface. 25. All swales or channels that will receive runoff from paved surfaces must be permanently stabilized prior to the installation of pavement. If the season prohibits the establishment of permanent stabilization, the swales or channels may be temporarily stabilized in accordance with the STANDARDS.
- 26. NJSA 4:24-39 et seq. requires that no Certificate of Occupancy or Temporary Certificate of Occupancy be issued by the Municipality before the provisions of the Certified Soil Erosion and Sediment Control Plan have been satisfied. Therefore, all site work for site plans and all work around individual lots in subdivisions must be completed before the District issues a Report of Compliance or Conditional Report of Compliance, which must be forwarded to the Municipality prior to the issuance of a Certificate of Occupancy or Temporary Certificate of Occupancy, respectively.

MERCER COUNTY SOIL CONSERVATION DISTRICT 590 HUGHES DRIVE HAMILTON SQUARE, N.J. 08690

# CONSTRUCTION SEQUENCE

ITE	EMS AND DURATIONS OF CONSTRUCTION WILL OCCUR APPROXIMATELY AS	FOLLOWS:
	PHASE	DURATION
1.	TEMPORARY SOIL EROSION FACILITIES	1 WEEK
2.	CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE	1 WEEK
3.	INSTALL SILT FENCE	1 WEEK
4.	ROUGH CLEARING, STRIP TOPSOIL, AND GRADING	4WEEKS
5.	CONSTRUCT STORM WATER BASINS AND PERMANENT STABILIZATION DETENTION BASINS (NOT INCLUDING SAND BOTTOMS)	6WEEKS
6.	TEMPORARY SEEDING *	2 WEEKS
7.	SANITARY SEWER INSTALLATION	8 WEEKS
8.	STORM SEWER INSTALLATION	6 WEEKS
9.	INLET PROTECTION	IMMEDIATELY
10.	CURB & SIDEWALK INSTALLATION	4 WEEKS
11.	ROAD SUB-BASE	2 WEEKS
12.	MAINTENANCE OF TEMPORARY EROSION CONTROL MEASURES	CONTINUOUSLY
13.	CONSTRUCTION OF THE BUILDINGS	30 MONTHS
14.	SOIL RESTORATION TESTING/SCARIFICATION/VERIFICATION	1 WEEK
15.	5" THICK TOPSOIL LAYER TO BE INSTALLED THROUGHOUT THE PROJECT AREA	1 WEEK
16.	FINAL SEEDING AND LANDSCAPING	4 WEEKS
17.	FINAL PAVEMENT COURSE	2 WEEK
	NOTE	

![](_page_12_Figure_24.jpeg)

![](_page_12_Figure_25.jpeg)

# SPPP REQUIRED INSPECTIONS AND REPORTS

A. THE PERMITTEE SHALL CONDUCT AND DOCUMENT ROUTINE INSPECTIONS OF THE FACILITY TO A. IDENTIFY AREAS CONTRIBUTING TO THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT AND EVALUATE WHETHER THE STORMWATER POLLUTION PREVENTION PLAN (SPPP) IDENTIFIED UNDER e.1 OF THE 5G3-CONSTRUCTION ACTIVITY STORMWATER (GP) PART 1 NARRATIVE REQUIREMENTS, INCLUDING THIS SOIL EROSION AND SEDIMENT CONTROL PLAN IS BEING PROPERLY IMPLEMENTED AND MAINTAINED, OR WHETHER ADDITIONAL MEASURES ARE NEEDED TO IMPLEMENT THE SPPP. (ROUTINE INSPECTIONS MINIMUM WEEKLY) HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT A RATE OF 6 TONS PER

ACRE (OR 275 POUNDS PER 1.000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS: HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT A RATE OF 6 TONS PER ACRE (OR 275 POUNDS PER 1.000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A DH OF 5 OR MORE EXCEPT AS FOLLOWS:

OTHER RECORD-KEEPING REQUIREMENTS THE CONTRACTOR SHALL KEEP THE FOLLOWING RECORDS RELATED TO CONSTRUCTION ACTIVITIES AT THE

1. 1. ROUTINE INSPECTIONS

- 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 ANY SPILLS OF HAZARDOUS MATERIALS - RECORDS OF REPORTS FILED WITH REGULATORY AGENCIES IF REPORTABLE QUANTITIES OF HAZARDOUS MATERIALS SPILLED - A VISIBLE SIGN SHALL BE POSTED ON THE SITE TO IDENTIFY THE LOCATION OF SPPP
- ANNUAL REPORTS AND CERTIFICATIONS. A. THE PERMITTEE SHALL PREPARE AN ANNUAL REPORT SUMMARIZING EACH INSPECTION PERFORMED UNDER 1.A., ABOVE, THIS REPORT SHALL BE ACCOMPANIED BY AN ANNUAL CERTIFICATION, ON A FORM PROVIDED BY THE NJDEP THAT THE FACILITY IS IN COMPLIANCE WITH ITS SPPP AND THIS PERMIT, EXCEPT THAT IF THERE ARE ANY INCIDENTS OF NONCOMPLIANCE THOSE INCIDENTS SHALL BE IDENTIFIED IN THE CERTIFICATION. IF THERE ARE INCIDENTS OF NONCOMPLIANCE. THE REPORT SHALL IDENTIFY THE STEPS BEING TAKEN TO REMEDY THE NONCOMPLIANCE AND TO PREVENT SLICH INCIDENTS FROM RECURRING. THE REPORT AND CERTIFICATION SHALL BE SIGNED AND DATED BY THE PERMITTEE IN ACCORDANCE WITH N. LA C. 7:14A-4.9 AND SHALL BE MAINTAINED FOR A PERIOD OF AT LEAST FIVE YEARS ALONG WITH COPIES OF ALL INSPECTION REPORTS AND RECORD KEEPING. THIS PERIOD MAY BE EXTENDED BY WRITTEN REQUEST FROM THE DEPARTMENT AT ANY TIME (SEE N.J.A.C. 7:14A-6.6)
- 3. REPORTS OF NONCOMPLIANCE A. ALL INSTANCES OF NONCOMPLIANCE NOT REPORTED UNDER N.J.A.C. 7:140A-6.10 SHALL BE REPORTED TO THE DEPARTMENT ANNUALLY
- 4. 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. 2:90-1 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. 4:24-41G, SHALL SEND A COPY OF THE FINAL CERTIFICATE OF OCCUPANCY TO THE SOIL CONSERVATION DISTRICT. THE SOIL CONSERVATION DISTRICT WILL PROVIDE A COPY OF THE FINAL CERTIFICATION 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.

# MITIGATION NOTES FOR ACIDIC SOIL

- 1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
- 2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.
- 3. STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT. ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
- TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE EXPOSED MORE THAN 30 DAYS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING
- 5. HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT A RATE OF 6 TONS PER ACRE (OR 275 POUNDS PER 1 000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS: A. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE
- B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
- 6 EQUIPMENT USED FOR MOVEMENT OF HIGH ACID PRODUCING SOILS SHOULD BE CLEANED AT THE END OF FACH DAY TO PREVENT SPREADING OF HIGH ACID SOIL MATERIALS TO OTHER PARTS OF THE SITE INTO STREAMS OR STORMWATER CONVEYANCES AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
- 7. NON VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SILT FENCE, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID PRODUCING SOILS FROM, AROUND OR OFF THE SITE.
- 8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE, (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PG, 7-1, PERMANEN VEGETATIVE COVER FOR SOIL STABILIZATION PG 4-1 AND STANDARDS FOR SOIL FROSION AND SEDIMENT CONTROL IN NEW LATEST EDITION). MONITORING SHOULD CONTINUE FOR APPROXIMATELY 6 TO 12 MONTHS TO ASSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.
- 9. MONITORING OF AREAS WHERE HIGH ACID PRODUCING SOIL HAS BEEN PLACED OR BURIED SHOULD BE PERFORMED FOR AT LEAST 2 YEARS OR LONGER IF PROBLEMS OCCUR, TO ASSURE THERE IS NO MIGRATION OF POTENTIAL ACIDE LEACHATE.

![](_page_12_Figure_47.jpeg)

STOCKPILE AREA NOT TO SCAL

![](_page_12_Figure_49.jpeg)

### STOCKPILE TOP & SIDES TO BE IMMEDIATELY STABILIZED WITH TEMPORARY SEED FERTILIZER

— STOCKPILED TOPSOIL

# CONSTRUCTION SITE WASTE CONTROL COMPONENT OF THE STORMWATER POLLUTION PREVENTION PLAN (SPPP) (THIS IS FOR CONSTRUCTION WASTE ONLY)

- 1. THE CONSTRUCTION SITE WASTE CONTROL COMPONENT OF THE SPPP CONSISTS OF THE REQUIREMENT IN 2., 3., AND 4. BELOW. THESE REQUIREMENTS BECOME OPERATIVE ON MARCH 3, 2004 AND APPLY TO CONSTRUCTION ACTIVITIES THAT COMMENCE ON OR AFTER MARCH 3, 2004, ANY NEW CONSTRUCTION ACTIVITY FOR WHICH AN REA IS SUBMITTED ON OR AFTER MARCH 3, 2004 OR WHICH WILL RECEIVE AUTOMATIC RENEWAL OR AUTHORIZATION UNDER THIS PERMIT AFTER MARCH 3, 2004 ALSO SHALL COMPLY WITH THESE REQUIREMENTS.
- 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 TO 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 FERTILIZER OR OTHER MATERIAL THAT CONFLICT WITH THE EROSION AND SEDIMENT CONTROL COMPONENT OF THE FACILITY'S SPPP.)
- 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. 13:1E- ET SEQ., AND ITS IMPLEMENTING RULES AT N.J.A.C. 7:26, 7:26A, AND 7:26G, THE NEW JERSEY PESTICIDE CONTROL CODE AT N.J.A.C. 7:30, THE STATE LITTER STATUTE N.J.S.A. 13:1e-99.3); 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. 7:7:26-1.4 AS FOLLOWS: "WASTE BUILDING MATERIAL AND RUBBLE RESULTING FROM CONSTRUCTION, REMODELING, REPAIR, AND DEMOLITION 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 CARDBOARD AND MISCELLANEOUS PAPER: FERROUS AND NON-FERROUS METAL: NON-ASBESTOS BUILDING INSULATION: PLASTIC SCRAP: DIRT: CARPETS AND PADDING GLASS (WINDOW AND DOOR); AND OTHER MISCELLANEOUS MATERIALS; BUT SHALL NOT INCLUDE OTHER SOLID
- 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 RULES)
- III, DISCARDED (INCLUDING SPILLED) PESTICIDES, FERTILIZERS, FUELS, LUBRICANTS, PETROLEUM PRODUCTS, ANTI-FREEZE, PAINTS AND PAINT THINNERS, PAINT CHIPS AND SANDBLASTING GRITS, CLEANING SOLVENTS, ACIDS FOR CLEANING MASONRY SURFACES, DETERGENTS, CHEMICAL ADDITIVES USED FOR SOIL STABILIZATION (E.G. CALCIUM CHLORIDE), AND CONCRETE CURING COMPOUNDS. IV. OTHER "LITTER" AS DEFINED AT N.J.S.A. 13:1E-215.D AS FOLLOWS: "ANY USED OR UNCONSUMED SUBSTANCE OR
- WASTE MATERIAL WHICH HAS BEEN DISCARDED WHETHER MADE OF ALUMINUM, GLASS, PLASTIC, RUBBER, 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 UNLIGHTED CIGARETTE, CIGAR, MATCH OR ANY FLAMING OR GLOWING MATERIAL OR ANY GARBAGE, TRASH, REFUSE, DEBRIS, RUBBISH, GRASS CLIPPINGS OR OTHER LAWN OR GARDEN WASTE, NEWSPAPERS, MAGAZINES, CLASS. METAL. PLASTIC OR PAPER CONTAINERS OR OTHER PACKAGING OR CONSTRUCTION MATERIAL, BUT DOES NOT INCLUDE THE WASTE OF THE PRIMARY PROCESSES OF MINOR OR OTHER EXTRACTION PROCESSES. LOGGING, SAWMILLING, FARMING OR MANUFACTURING."
- V. SANITARY SEWAGE AND SEPTAGE.

WASTE TYPES

- VI. CONTAMINATED SOILS ENCOUNTERED OR DISCOVERED DURING EARTHMOVING ACTIVITIES OR DURING THE CLEANUP OF A LEAK OR DISCHARGE OF A HAZARDOUS SUBSTANCE. B. CONCRETE TRUCK WASHOUT - CONCRETE TRUCK WASHOUT ONSITE IS PROHIBITED OUTSIDE DESIGNATED AREAS. DESIGNATED WASHOUT AREAS SHALL BE LINED AND BERMED TO PREVENT DISCHARGES TO SURFACE AND GROUND WATER. HARDENED CONCRETE FROM CONCRETE TRUCK WASHOUT SHALL BE REMOVED AND PROPERLY DISPOSED
- OF C. 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.
- 4. SPILLS: DISCHARGE OF HAZARDOUS SUBSTANCES,

(800-424-8802)

- 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. CLEANED 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, NJAC 58:10-23.11 ET SEQ., AND OF DEPARTMENT RULES FOR DISCHARGE OF PETROLEUM AND OTHER HAZARDOUS SUBSTANCES AT NJAC 7:1E. NO DISCHARGE OF HAZARDOUS SUBSTANCES RESULTING FROM AN ONSITE SPILL SHALL BE DEEMED TO BE "PURSUANT TO AND IN COMPLIANCE WITH (THIS) PERMIT" WITHIN THE MEANS OF THE SPILL COMPENSATION AND CONTROL ACT AT NJSA 58;10-2311C. C. RELEASES IN EXCESS OF REPORTABLE QUANTITIES (RQ) ESTABLISHED UNDER 40 C.F.R. 110,

117 AND 302 THAT OCCUR WITHIN A 24-HOUR PERIOD MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER

# **RIPRAP SPECIFICATIONS RIPRAP GRADATION**

THE RIPRAP SHALL BE COMPOSED OF WELL-GRADED MIXTURE SUCH THAT 50% OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE d50 SIZE AS DETERMINED FROM THE DESIGN PROCEDURE. A WELL-GRADED MIXTURE AS USED HEREIN IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZES BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE d50 SIZE. THE d75 SHOULD BE 1.25 TIMES THE d50 AND THE d15 SHOULD BE 0.5 TIMES THE d50 SIZE.

THE DESIGNER AFTER DETERMINING THE RIPRAP SIZE THAT WILL BE STABLE UNDER THE FLOW CONDITION SHALL CONSIDER THAT SIZE TO BE A MINIMUM SIZE AND THEN, BASED ON RIPRAP GRADATIONS ACTUALLY AVAILABLE IN THE AREA SELECT THE SIZE OR SIZES THAT EQUAL OR EXCEED THE MINIMUM SIZE. THE POSSIBILITY OF VANDALISM SHALL BE CONSIDERED BY THE DESIGNER IN SELECTING A RIPRAP SIZE. IF THE d50 SIZE IS INCREASED, THE APRON THICKNESS SHALL BE INCREASED PROPORTIONATELY.

FILTER SYNTHETIC FILTER FABRIC SHALL MEET THE U.S. ARMY CORPS OF ENGINEERS GUIDE SPECS, CWO2215, NOVEMBER 1977 FOR STRENGTH. RIPRAP THAT IS 12" AND LARGER SHALL NOT BE DUMPED DIRECTLY ONTO SYNTHETIC FILTER CLOTH UNLESS THE MANUFACTURER RECOMMENDS SUCH USE OF THE CLOTH. OTHERWISE, A 4" MINIMUM THICKNESS BLANKET OF GRAVEL SHALL BE PLACED DIRECTLY ON THE FILTER CLOTH BY HAND OR BY THE BUCKET OF THE EQUIPMENT.

# QUALITY

STONE FOR RIPRAP SHALL CONSIST OF FIELD STONE OR QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. THE STONE SHALL BE HARD AND ANGULAR AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING. THE SPECIFIC GRAVITY ON THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5. RUBBLE CONCRETE MAY BE USED, PROVIDED IT HAS A DENSITY OF AT LEAST 150 POUNDS PER CUBIC FOOT, AND OTHERWISE MEETS THE REQUIREMENTS OF THIS STANDARD.

# PERMANENT SEED MIX:

- 70% TURF TYPE TALL FESCUE • 20% PERENNIAL RYE GRASS
- 10% KENTUCKY BLUEGRASS
- APPLY AT TOTAL RATE OF 200#/ACRE

![](_page_12_Figure_87.jpeg)

STABILIZED CONSTRUCTION ENTRANC NOT TO SCALE

![](_page_12_Figure_89.jpeg)

Standards for Soil Erosion and Sediment Control in New Jersey

January 2014

Perforated (removable)
12" = 36" pipe wrapped w/
hardware cloth and Geotex

IDTTOM PLATE FOR EA

# **REMOVABLE PUMPING STATION** (LONG DURATION DEWATERING)

![](_page_12_Figure_91.jpeg)

![](_page_12_Figure_92.jpeg)

# Soil Management and Preparation

Subgrade soils prior to the application of topsoil shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.

This section of this Standard addresses the potential for excessive soil compaction in light of the intended land use, testing for excessive soil compaction where permanent vegetation is to be established and mitigation of excessive soil compaction when appropriate.

Within 20 feet of building foundations with basements, 12 feet from slab or crawl space construction. 2. Where soils or gravel surfaces will be required to support post-construction vehicular traffic loads such as roads, parking lots and driveways (including gravel surfaces), bicycle paths or pedestrian walkways (sidewalks etc)

Due to use or setting, certain disturbed areas will not require compaction remediation including, but not limited to the

- 3. Airports, railways or other transportation facilities 4. Areas requiring industry or government specified soil designs, including golf courses, landfills, wetland
- restoration, septic disposal fields, wet/lined ponds, etc. Areas governed or regulated by other local, state or federal regulations which dictate soil conditions 6. Brownfields (capped uses), urban redevelopment areas, , in-fill areas, , recycling yards, junk yards, ouarries and 7. Slopes determined to be inappropriate for safe operation of equipment
- 8. Portions of a site where no heavy equipment travel or other disturbance has taken place Areas receiving temporary vegetative stabilization in accordance with the Standard. 10. Where the area available for remediation practices is 500 square feet or less in size.
- 11. Locations containing shallow (close to the surface) bedrock conditions. Areas of the site which are subject to compaction testing and/or mitigation shall be graphically denoted on the

certified soil erosion control plan. Soil compaction remediation or testing to prove remediation is not necessary will be required in areas where permanent vegetation is to be established that are not otherwise exempted above. Testing method shall be selected, and soil compaction testing shall be performed by, the contractor or other project owner's representative (e.g. engineer). A minimum of two (2) tests shall be performed for projects with an overall limit of disturbance of up to one (1) acre and at a rate of two (2) tests per acre of the overall limit of disturbance for larger areas which shall be evenly distributed over the area of disturbance subject to testing. Tests shall be performed in areas representative of the construction activity prevailing in the area. In the event this testing indicates compaction in excess of the maximum thresholds indicated for the testing method, the contractor/owner shall have the option to perform compaction mitigation over the entire disturbed area (excluding exempt areas) or to perform additional testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation.

Soil compaction testing is not required if/when subsoil compaction remediation (scarification/tillage (6" minimum depth) or similar) is proposed as part of the sequence of construction.

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# PREF

<form></form>	STANDARD FOR STORM SEWER INLET PROTECTION				DATE CHKI
	DEFINITION DRARY BARRIER AND SETTLING FACILITY INSTALLED AT A STORM SEWER				
	PURPOSE POSE OF STORM SEWER INLET PROTECTION IS TO INTERCEPT AND				Z
	CONDITIONS WHERE PRACTICE APPLIES				REVISIO
<text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text>	CONTRIBUTING DRAINAGE AREA IS 3 ACRES OR LESS. A STORM SEWER OR THE OUTLET CHANNEL OF A STORM SEWER NEEDS PROTECTION FROM SEDIMENT.				L L
<text><section-header><section-header></section-header></section-header></text>	TRAFFIC WILL NOT DESTROY OR CAUSE CONSTANT MAINTENANCE OF THE STORM SEWER INLET PROTECTION.				
<text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text>	A TRAFFIC HAZARD WILL NOT BE CREATED.	12	11	<u>ත</u> හ	2
	WATER QUALITY ENHANCEMENT MARY BENEFIT TO WATER QUALITY IS REMOVAL OF SEDIMENT FROM ATER RUNOFF PRIOR TO ENTERING THE STORM SEWER SYSTEM. AS AN BENEFIT, OTHER FLOATABLE DEBRIS, SUCH AS VEGETATIVE MATTER AND MAY ALSO BE FILTERED OUT OF THE RUNOFF.	$\square$		2/15/22	1/15/22 DATE CHKD
	DESIGN CRITERIA LOWING APPLIES TO ALL METHODS OF STORM SEWER INLET TION: MUST SLOW THE STORM WATER, PROVIDE THE COARSE SEDIMENT PARTICLES A CHANCE TO SETTLE, AND PROVIDE AN AREA TO RETAIN THE PARTICLES THAT HAVE SETTLED. IN ALL CASES, THE INLET PROTECTION SHOULD NOT COMPLETELY			~	~
<text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text>	CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER			DMMENTS	NOISI
<text><section-header></section-header></text>	SYSTEM. IETHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET TION MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.			ID TRC CO	MENTS REV
<section-header><section-header></section-header></section-header>	IONS SHALL BE FREQUENT. MAINTENANCE, REPAIR, AND REPLACEMENT E MADE PROMPTLY, AS NEEDED. THE BARRIER SHALL BE REMOVED HE AREA DRAINING TOWARD THE INLET HAS BEEN STABILIZED.			PER 2nd ROUN	PER TRC COM
<text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text>	ADDITIONAL NOTES	9	5 4	3 2 REV	1 REV
<text><text><text><text><text><text><text></text></text></text></text></text></text></text>	RACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PERMANENT EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. PROPERTY OWNERS SHALL ASSUME THIS RESPONSIBILITY AFTER TRUCTION IS COMPLETED AND CERTIFICATES OF OCCUPANCY ARE D.	2-001	LL INFORMATION AUTHORIZED FOR PTV FOR WHOM	THIS DRAWING THIS DRAWING ED, REUSED, JTED OR RELIED	EN CONSENT OF G GROUP, LTD. SULTING GROUP, RESERVED
<text><text><text><text><text><text><text></text></text></text></text></text></text></text>	COIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION URES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.	080823-02 9/12/2022	VVVV VVVV WING AND AI D HEREIN IS , V RV THF PA	RK WAS CON- RK WAS CON- IS CERTIFIED NOT BE COPII (ED, DISTRIBL	T THE WRITTE N CONSULTIN DWMAN CONS ALL RIGHTS
<text><text><text><text><text><text></text></text></text></text></text></text>	CONTRACTOR IS RESPONSIBLE FOR KEEPING THE ROADWAYS CLEAN AT IMES. ANY SEDIMENT SPILLED OR TRACKED ON THE ROADWAY WILL BE NED UP IMMEDIATELY, OR AT MINIMUM, BY THE END OF EACH WORK DAY.	PROJ.: ( DATE: 9			WITHOUT BOWMAN © 2022 BC LTD.
<text><text><text><text></text></text></text></text>	SLOPES TO RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH W MULCH OR SUITABLE EQUAL. (SEE ANCHORING NOTES & NOTE NO. 6 DIL EROSION & SEDIMENT CONTROL NOTES.)				
<text></text>	S AND SLOPED AREAS ALONG THE ROAD SHALL BE BROUGHT TO GRADE STABILIZED AS SOON AS POSSIBLE. CONTRACTOR SHALL PROVIDE ADDITIONAL ROWS OF SEDIMENT BARRIER				
<section-header><section-header></section-header></section-header>	FENCING, HAY BALES OR STONE BERM) AS NECESSARY DURING THE ISE OF CONSTRUCTION SUCH THAT THE CONTRIBUTION DRAINAGE AREA IS THAN 1 ACRE AND THE LENGTH OF SLOPE ABOVE THE BARRIER IS THAN 150'.			U	
<section-header><section-header></section-header></section-header>	ASIN SHALL NOT BE UTILIZED AS A SEDIMENT BARRIER DURING TRUCTION. INLET PROTECTION SHALL BE MAINTAINED DURING TRUCTION AND ANY DEWTERING OPERATIONS SHALL DISCHARGE INTO				
<text></text>	DUST CONTROL NOTE				
	NERATION SHALL BE CONTROLLED ON A CONSTANT BASIS BY WETTING FACE AND/OR APPLICATION OF CALCIUM CHLORIDE.			5	
				5	
		35-5500	55-5501 ization 222600		3400
	DEPTH 11 12 13 W1 W2 W3	ne: 732-66	4X: 732-66 of Author 24GA282		3E0434
	(FT.)         (FT.)         (FT.)         (FT.)         (FT.)         (FT.)         (FT.)         (FT.)           0.63         7.6         3.8         1.9         6.3         2.5         1.9	Pho	F, Certificate No.		Lic. 24G
	0.75         9         4.5         2.25         7.5         3         2.25           1         12         6         3         10         4         3		0 ſN		gineer,
	1.25     15     7.5     3.75     12.5     5     3.75	, Ltd.		11	onal En
<section-header>      Proprior Data Data Data Data Data Data Data Dat</section-header>	1.5         18         9         4.5         15         6         4.5           1.75         21         10.5         5.25         17.5         7         5.25	Group	J.com	AMA AMA	Professi
<section-header>         BY DEVISION STRATEGY DEPORTING TO CONTROL STRATEGY DEPORTING         SACE ALL STRATES         SACE ALL STRATES         P drained the Deporting of granulation (section the protection the protectican the protection the protectican the protecti</section-header>		ulting	7728 ng.com Consulting		N J F
<text></text>	ONFORM TO "STANDARDS FOR SOIL EROSION AND ROL IN NEW JERSEY."	Cons	/ Jersey 07 nconsultir Bowman(		NARIA IN
- Maximum Dry Bulk Densities (grams/cubic centimeter) by soil type: Soil Type/Texture Bulk Densities ( Soil Type/Texture Bulk Densities	SCOUR HOLE DIMENSIONS	Wmar W. Main S	ehold, Nev w.bowma nail: NJ@		MES M
Soil Type/Texture       Bulk Density (gree)         Toruse, Medium and Fine       1.80 (gree)         Yery Fine Sand and Loamy       1.75 (consec, Medium and Fine)         Sing City Loam       1.65 (consec)         Sing City Loam       1.66 (consec)         Wey Hyne Soll Bulk density measurement may be allowed subject to         methods which comform to ASTM standards and pecifications, and esc (cales), irrigation systems, etc.) or in the alternative, another method as specified to sistant Engineer.         wey status and wegetative matter which will interfere with the grading operation erations esc (cales), irrigation systems, etc.) or in the alternative, another method as specified to esc (cales), irrigation systems, etc.) or in the alternative, another method as specified to esc (cales), irrigation systems, etc.) or in the alternative, another method as specified to esc (cales), irrigation systems, etc.) or in the alternative, another method aspecelity consec)	- Maximum Dry Bulk Densities (grams/cubic centimeter) by soil type	Be	Free T w w		_ √
Important of Loamy Sands       1.77         Important of Loamy Sands       1.77         Loam, Sandy Clay Loam       1.70         Loam, Sandy Clay Loam       1.66         Silty Stil Loam       1.65         Silty Stil Loam       1.65         Silty Stil Loam       1.66         Silty Stil Loam       1.65         Silty Stil Loam       1.65         Silty Stil Loam       1.65         Silty Stil Loam       1.46         Silty Stil Loam       1.46         Silty Stil Loam       1.46         Stilty Stilt Loam       1.46         Stilty Stilt Stilt Composition systems, etc.) or in the alternative stilt be trough deep scarification/tillage (6' minimum depth) where there is no es (cables, impacted and disposed of according to the plant.         Arcks, stumps and vegetative matter which will interfere with the grading operation or the objected of plantered for objected of plantered topsoeld material stall be removed and disposed of according to the plant.         Arcks, stumps and vegetative matter and stalls be protected from erosion. See [able fill.         Impacted as determined by structural engineering requirements for their intended falle planter of foris	Soil Type/Texture     Bulk Density (g/cc)       Coarse, Medium and Fine     1.80	║ 。	AILS		≻
Image: Standy Clay Loam       1.75         Image: Standy Clay Loam       1.66         Standy Clay Loam       1.65         Still; Sill Loam       1.55         Sill; Clay Loam       1.45         Clay Loam       1.45         Sill; Clay Loam       1.45         Clay       1.45         Sill; Clay       1.45         Sill; Clay       1.45         Sill; Clay       1.45         Sill; Sill Clay       Sill Clay Clay         Medba Solid Clay       Solid Particle Solid Clay         Medba Solid Clay       Solid Particle Solid Clay         Medba Solid Clay       Solid Particle Solid Clay         Mappe: Solid Clay       Solid Particle Solid Solid Solid Solid Solid Clay         Mappe: Solid Clay       Solid Particle Solid So	Sands and Loamy Sands       Very Fine Sand and Loamy       Very Fine Sand	IIRAN		J )	JERSE
Silling Vial Joam       1.05         Silly Clay       1.50         Silly Clay       1.40         USDA Natural Resource Concerns: Compaction, April 1996.         methods which comform to ASTM standards and pecificaitons, and         ry weight, soil bulk density measurement may be allowed subject to         method which comform to ASTM standards and pecificaitons, and         ry weight, soil bulk density measurement may be allowed subject to         methods which comform to ASTM standards and pecificaitons, and         ry weight, soil bulk density measurement may be allowed subject to         is shall be through deep scarification/fillage (* minimum depl) where there is no         es (cables, irrigation systems, etc.) or in the alternative, another method as specified by         sissinal Engineer.         wrocks, stumps and vegetative matter which will interfere with the grading operation or         rifl areas shall be removed and disposed of according to the plan.         stockpiled in anounts necessary to complete finish grading of all exposed areas         ard for Topsoiling, pg. 8-1.         mater da determined by structural engineering requirements for their intended         date slipping, erosion or excessive saturation.         efficient finecessary in accordance with the Standard for Tree Protection During         FOR BID OR         CONSTRUCTION	Sandy Loam     1.75       Loam, Sandy Clay Loam     1.70       Clay Loam     1.65	EL RESTA	ROL	 ) /	NEW
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Sump Pits are temporary pits which are used to remove excess water while minimizing sedimentation. Th

January 2014

Standards for Soil Erosion and Sediment Control in New Jersey

# SUMP PIT (SHORT DURATION DEWATERING

# PREFORMED SCOUR HOLE DETAIL NOT TO SCALE

# Soil Test Method Options

# 1. Probing Wire Test Method

This test shall be conducted with a firm wire (15-1/2 gauge steel wire - e.g. survey marker flag, straight wire stock, etc.), 18 to 21 inches in length, with 6" inches from one end visibly marked on the wire. Conduct wire flag test by holding the wire flag near the flag end and push it vertically into the soil at several different locations in the field to the lesser of a 6 inch depth or the depth at which it bends due to resistance in the soil. Record the depth at which it bends due to resistance in the soil. The wire should penetrate without bending or deforming at least 6" into the ground by hand, without the use of tools. If penetration fails and an obstruction is suspected (rocks, root, debris, etc.) the test can be repeated in the same general area. If the test is successful the soil is not excessively compacted. If the wire is difficult to insert (wire bends or deforms prior to reaching 6 inches in depth) the soil may be excessively compacted and compaction mitigation or further testing via method 3 or 4 below is required, the choice of which is at the contractor/owner's discretion.

# Handheld Soil Penetrometer Test Method

This test shall be conducted based on the Standard Operation Procedure (SOP) #RCE2010-001, prepared by the Rutgers Cooperative Extension, Implemented June 1, 2010, last revised February 28, 2011. A result of less than or equal to 300 psi shall be considered passing. If the result is greater than 300 psi the soil may be excessively compacted and compaction mitigation or further testing via method 3 or 4 below is required, the choice of which is at the contractor/owner's discretion.

# 3. Tube Bulk Density Test Method

This test shall be certified by a New Jersey Licensed Professional Engineer utilizing only undisturbed samples (reconstitution of the sample not permitted) collected utilizing the procedure for Soil Bulk Density Tests as described in the USDA NRCS Soil Quality Test Kit Guide, Section 1-4, July 2001. When the texture of the soil to be tested is a sand or loamy sand and lack of soil cohesion or the presence of large amounts of coarse fragments, roots or worm channels prevent the taking of undisturbed samples, this test shall not be used.

Where the results of replicate tests differ by more than ten percent (10%), the samples shall be examined for the following defects: i. Cracks, worm channels, large root channels or poor soil tube contact within the samples;

ii. Large pieces of gravel, roots or other foreign objects iii. Smearing or compaction of the upper or lower surface of the samples

If any of the defects described in 3 (i-iii) above are found, the defective core(s) shall be discarded and the test repeated using a new replicate sample for each defective replicate sample. The bulk density (defined as the weight of dry soil per volume) results shall be compared with the Maximum Dry Bulk Densities in Table 19-1. A result of less than or equal to the applicable maximum bulk density shall be considered passing. If the result is greater than the maximum bulk density the soil shall be considered excessively compacted and compaction mitigation is required.

# 4. Nuclear Density Test Method

This test shall be certified by a New Jersey Licensed Professional Engineer and conducted by a nuclear gauge certified inspector pursuant to ASTM D6938. The bulk density measurement results shall be compared with the Maximum Dry Bulk Densities in Table 19-1. A result of less than or equal to the applicable maximum bulk density shall be considered passing. If the result is greater than the maximum bulk density the soil shall be considered excessively compacted and compaction mitigation is required.

STANDARD

FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

Establishment of permanent vegetative cover on exposed soils where perennial vegetation is needed for long-term protection.

To permanently stabilize the soil, ensuring conservation of soil and water, and to enhance the environment.

Water Quality Enhancement Slows the over-land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

Where Applicable On exposed soils that have a potential for causing off-site environmental damage.

Methods and Materials

1. <u>Site Preparation</u>

A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for Land Grading.

B. Immediately prior to seeding and topsoil application, the subsoil shall be evaluated for compaction in accordance with the Standard for Land Grading .

C. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 5 inches (unsettled) is required on all sites. Topsoil shall be amended with organic matter, as needed, in accordance with the Standard for Topsoiling.

D. Install needed erosion control practices or facilities such as diversions, grade-stabilization structures, channel stabilization measures, sediment basins, and waterways.

2. <u>Seedbed Preparation</u>

A. Uniformly apply ground limestone and fertilizer to topsoil which has been spread and firmed, according to soil test recommendations such as offered by Rutgers Co-operative Extension Soil sample mailers are available from the local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not incorporated, apply one-half the rate described above during seedbed preparation and repeat another one-half rate application of the same fertilizer within 3 to 5 weeks after seeding.

B. Work lime and fertilizer into the topsoil as nearly as practical to a depth of 4 inches with a disc, spring-tooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.

C. High acid producing soil. Soils having a pH of 4 or less or containing iron sulfide shall be covered with a minimum of 12 inches of soil having a pH of 5 or more before initiating seedbed reparation. See Standard for Management of High Acid-Producing Soils for specific requirements.

<u>Seeding</u>

A. Select a mixture from Table 4-3 or use a mixture recommended by Rutgers Cooperative Extension or Natural Resources Conservation Service which is approved by the Soil Conservation District. Seed germination shall have been tested within 12 months of the planting date. No seed shall be accepted with a germination test date more than 12 months old unless retested. . Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage with the specified seed mixture for the seeded area and mowed once.

2. Warm-season mixtures are grasses and legumes which maximize growth at high temperatures, generally 850 F and above. See Table 4-3 mixtures 1 to 7. Planting rates for warm-season grasses shall be the amount of Pure Live Seed (PLS) as determined by germination testing results.

3. Cool-season mixtures are grasses and legumes which maximize growth at temperatures below 85oF. Many grasses become active at 65oF. See Table 4-3, mixtures 8-20. Adjustment of planting rates to compensate for the amount of PLS is not required for cool season grasses.

B. Conventional Seeding is performed by applying seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse-textured soil.

C. After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

D. Hydroseeding is a broadcast seeding method usually involving a truck, or trailer-mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short-fibered mulch may be applied with a hydroseeder following seeding. (also see Section 4-Mulching below). Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. When poor seed to soil contact occurs, there is a reduced seed germination and growth.

Mulching Mulching is required on all seeding. Mulch will protect against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.

A. Straw or Hay. Unrotted small grain straw, hay free of seeds, to be applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed.

Application - Spread mulch uniformly by hand or mechanically so that at least 85% of the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.

Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

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 around each peg with two or more round turns.

2. Mulch Nettings - Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

Crimper (mulch anchoring coulter tool) - A tractor-drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

4. Liquid Mulch-Binders - May be used to anchor salt hay, hay or straw mulch.

a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.

b. Use one of the following:

(1) Organic and Vegetable Based Binders - Naturally occurring, powder-based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turf grass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.

(2) Synthetic Binders - High polymer synthetic emulsion, miscible with water when diluted and, following application of mulch, drying and curing, shall no longer be soluble or dispersible in water. Binder shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

Wood-fiber or paper-fiber mulch - shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder.

C. Pelletized mulch - compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers, and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-seed free mulch is desired, or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

5. Irrigation (where feasible)

If soil moisture is deficient supply new seeding with adequate water (a minimum of 1/4 inch applied up to twice a day until vegetation is well established). This is especially true when seedings are made in abnormally dry or hot weather or on droughty sites.

6. Topdressing

Since soil organic matter content and slow release nitrogen fertilizer (water insoluble) are prescribed in Section 2A - Seedbed Preparation in this Standard, no follow-up of topdressing is mandatory. An exception may be made where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop. In that instance, topdress with 10-10-10 or equivalent at 300 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.

7. Establishing Permanent Vegetative Stabilization

The quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch and other management are essential. The seed application rates in Table 4-3 are required when a Report of Compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation is established prior to requesting a Report of Compliance from the district. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative cover (of the seeded species) and mowed once. Note this designation of mowed once does not guarantee the mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.

# Establishment of temporary vegetative cover on soils exposed for periods of two to 6 months which are not being graded, not under active construction or not scheduled for permanent seeding within 60 days.

To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

Water Quality Enhancement Provides temporary protection against the impacts of wind and rain, slows the over land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances. Where Applicable

On exposed soils that have the potential for causing off-site environmental damage.

Methods and Materials 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. 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. Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).

2. Seedbed Preparation A. Apply ground limestone and fertilizer according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample mailers are available from the local Rutgers Cooperative Extension offices. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and

> Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.

> Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled in accordance with the above Soils high in sulfides or having a pH of 4 or less refer to Standard for Management of High Acid Producing Soils, pg.

## Select seed from recommendations in Table 7-2.

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Seeding

Mulching

requirement.

Conventional Seeding. Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil, to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. (also see Section IV Mulching) Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks,

stumps, etc. After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching

A. Straw or Hay. Unnrotted small grain straw, hay free of seeds, applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed. Application. Spread mulch uniformly by hand or mechanically so that approximately 95% of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section. Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

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 cris-cross and a square pattern. Secure twine around each peg with two or more round turns.

2. Mulch Nettings. Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

3. 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 so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

4. Liquid Mulch-Binders. - May be used to anchor hay or straw mulch.

a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.

# b. Use one of the following:

(1) Organic and Vegetable Based Binders - Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state. (2) Synthetic Binders - High polymer synthetic emulsion, miscible with water when diluted and following application to

mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

Note: All names give above are registered trade names. This does not constitute a commendation of these products to the exclusion of other products.

Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 ponds per acre (or as recommended by the project manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.

Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, forma mulch mat. Pelletized mulch shall be applies in accordance with the manufacturers recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs./1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has bee found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-seed free mulch is desired or on sites where straw mulch and tackifier agent are not practical or desirable.

Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

![](_page_13_Picture_74.jpeg)

![](_page_13_Figure_75.jpeg)

![](_page_13_Figure_76.jpeg)

EROSION CONTROL MATTING

![](_page_13_Figure_78.jpeg)

![](_page_13_Figure_79.jpeg)

![](_page_13_Figure_80.jpeg)

TOP OF STRUCTURE TRASH RACK

![](_page_13_Figure_84.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_14_Picture_1.jpeg)

![](_page_15_Figure_0.jpeg)

SN OUTE  $(\Pi)$ JERSEY HIC NEW

![](_page_15_Figure_2.jpeg)

![](_page_15_Picture_4.jpeg)

![](_page_16_Figure_0.jpeg)

Ш  $(\Pi)$ Ī

![](_page_16_Figure_2.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_17_Figure_1.jpeg)

![](_page_18_Figure_0.jpeg)

![](_page_19_Figure_0.jpeg)

CRUSHED STONE (CHOKED) FOUNDATION COURSE (NJDOT N₀. 57 COARSE AGGREGATE) COMPACTED TO DENSITY OF INSITU SOILS IN 6" LAYERS

![](_page_20_Figure_0.jpeg)

![](_page_20_Figure_1.jpeg)

![](_page_20_Figure_3.jpeg)

,	2	C	2	0	
E	1	1	7		2
ł	1	//	1	/	1
F	//	//	1	//	1
K	1	1/	/	1	1

	DIMENSION (IN.)				
ALLECATION	А	в	С	D	
BLOCK M.H.	* 13 3/4	9 5/16	3 3/4	2	
CAST IN PLACE WALLS	17 3/4	13 13/16	3 3/4	2	
PRECAST M.H.	* 13 3/4	11	3 3/4	-	

![](_page_20_Picture_20.jpeg)

![](_page_20_Figure_23.jpeg)

STUB

SLOPE (

AS REQUIRED