

SOIL EROSION AND SEDIMENT CONTROL PLAN

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

STORMWATER MANAGEMENT MAINTENANCE PROGRAM

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

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

INGREDIENTS	SEEDING RATE
Mixture B	
Fescue	2.1lb./1,000 SF
Perennial Rye Grass	0.25lb./1,000 SF
Kentucky Bluegrass	0.25lb./1,000 SF
White Clover	0.10lb./1,000 SF
- Fertilizing and liming: Bi-annually
Fertilize with 10-20-10 at a rate of 11lbs./1,000 SF
Lime with pulverized dolomite limestone at a rate of 90lbs./1,000 SF
- Long term Maintenance
 - In order to ensure proper function of all basins, every seven years each basin bottom shall be scarified to a depth of 4" to remove sediments and silts. Then 4" of topsoil must be added and reseeded.

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

SOIL CONSERVATION NOTES

STORMWATER MANAGEMENT MAINTENANCE PROGRAM

- MINIMUM REQUIREMENTS FOR MAINTENANCE
 - TRENCHES/SWALES
Trenches/swales to be inspected for rubbish or channel obstructions, bank failure, accumulation of silts and sediments, undesirable vegetation growth, rodents, and overall system failure.
 - OUTLET STRUCTURE/CONDUIT
Inspection of outlet structures and conduit to include checking for obstruction of pipe, accumulation of silts and sediments, cracking, corrosion, deterioration from freezing, salt or chemicals, excessive wear or damage from settling.
 - SPILLWAYS/INLETS/SMANHOLES
Inspection to include checking for cracking, rodents, obstructions/silt-sediment, trash or other. Check any gates, racks, or grates, for damage from corrosion, ice debris. Check for unauthorized modifications, tampering or vandalism.
 - LONG TERM MAINTENANCE
As noted, any basin, pipe, pit, trench or inlet not functioning as designed will be thoroughly inspected. Any system that continues to remain inoperable after thorough clearing must be removed and replaced.
- RESPONSIBILITY**
All on-site retention facilities shall be the sole responsibility of the developer/owner, his assigns and/or heir. The responsibility shall include but not be limited to installation, inspection, and maintenance.
- DETENTION FACILITY MAINTENANCE**
The primary mechanical equipment use in the Annual Maintenance of the Basins will be for lawncutting. The exact type and size of this equipment is to be determined by the maintenance service under contract for the project.
- MULCHING**
Mulching is required on all seeding. It is defined as stabilizing exposed soils with non-vegetative materials. The purpose is to protect exposed soil surfaces from erosion damage and to reduce offsite environmental damage. Mulching provides temporary mechanical protection against wind or rainfall until permanent vegetative cover may be established. This practice is applicable to areas subject to erosion, where the season and other conditions may not be suitable for growing. An erosion-resistant cover or where stabilization is needed for a short period until more suitable protection can be applied.
- SITE PREPARATION**
A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, pg 19-1.
B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
- PROTECTIVE MATERIALS**
A. Mulch materials should be unrotted small grain straw, hay free of seeds, or salt hay to be applied at the rate of 2.0 to 2.5 tons per acre (90 to 115 pounds per 1,000 square feet.)
Asphalt emulsion is recommended at the rate of 600 to 1,200 gallons per acres. This is suitable for a limited period of time where travel by people, animals, or machines is not a problem.
Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as recommended by the manufacturer.
Wood-fiber or paper-fiber mulch at a rate of 1,500 pounds per acre may be applied by a hydroseeder.
Mulch netting such as paper jute, excelsior, cotton, or plastic, may be used.
Woodchips applied uniformly to a minimum depth of 2 inches may be used. Woodchips will not be used on areas where flowing water could wash them into an inlet and plug it.
Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 SF applied uniformly to a minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C-33) is recommended.
- Mulch anchoring should be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs depending upon the size of the area, steepness of slopes, and costs.
 - Peg and Twine - Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and a square pattern. Secure twine with two or more round turns.
 - 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 tool) - A tractor-drawn implement, somewhat like a disc-harrow, especially designed to push or outsome of the broadcast long fiber mulch 3 to 4 inches into the soil as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
 - Liquid Mulch-Binders - May be used to anchor salt hay, hay, or straw mulches
 - Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.
 - Use one of the following:
 - Emulsified asphalt - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2) Apply 0.04 gal/sq.yd. or 194 gal./acre on flat slopes less than 8 feet high. On slopes 8 feet or more high, use 0.075 gal./sq.yd. or 363 gal./acre. These materials may be difficult to apply uniformly and will discolor surfaces.
 - Organic and Vegetable Based Binders - Naturally occurring, power based, hydrophilic materials that mixed with formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetative gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Vegetable based gels shall be applied at rates and weather conditions recommended by the manufacturer.
 - High polymer synthetic emulsion, with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersed in water. It shall be applied at rates weather conditions recommended by the manufacturer and remain tacky until germination of grass.

METHODS FOR TOPSOILING

- METHODS AND MATERIALS**
Topsoil should be friable and loamy, free of debris, objectionable weeds and stones, and contain no toxic substance that may be harmful to plant growth, a pH range of 5.0-7.5 is acceptable. Soluble salts should not be excessive (conductivity less than 0.5 millimhos per centimeter). Topsoil hauled in from off site should have a minimum organic matter content of 2.75 percent. Organic matter content may be raised by additives.
- Stockpiling
 - Stockpiles of topsoil should be situated so as not to obstruct natural drainage or cause off-site environmental damage.
 - Stockpiles should be vegetated in accordance with temporary seeding specifications on soil erosion sheet.
 - Site Preparation
 - Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance.
 - Subsoil should be tested for lime requirement and limestone, if needed, should be applied to bring soil pH to 6.5 and incorporate into as nearly as practical to a depth of 4 inches.
 - Immediately prior to topsoil distribution, the surface should be scarified to provide a good bond with the topsoil.
 - Empty needed erosion control practices such as diversions, grade stabilization structures, channel stabilization measures, sedimentation basins, and waterways.
 - Applying Topsoil
 - Topsoil should be handled only when it is dry enough to work without damaging soil structure; i.e., less than field capacity.
 - A uniform application to a depth of 5 inches (unsettled) is recommended. Soils with a pH of 4.0 or less or containing iron sulfide shall be covered with a minimum depth of 12 inches of soil having a pH of 5.0 or MORE.

DUST CONTROL STANDARDS

- The following methods should be considered for dust control at the request of the Township Construction Code Official, or upon inspection by an S.C.D. official.
- Spray - On Adhesive - On mineral soils (not effective on muck soils) Keep traffic off these areas.

Water Dilution	Type of Nozzle	Apply Gallons/Acre
Antonic asphalt emulsion	7:1	Coarse spray 1,200
	12 1/2:1	Fine spray 235
Restin in water	4:1	Fine spray 300
 - Tillage - To roughen surface and bring clods to the surface. This is a temporary emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plow spaced about 12 inches apart, and spring-toothed harrows are examples of equipment which may produce the desired effect.
 - Sprinkling - Site is sprinkled until the surface is wet.
 - Barriers - Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to crate walls, bales of hay and similar material can be used to control air currents and soil blowing.
 - Calcium Chloride - Shall be in the form of loose dry granules at a rate that will keep surface moist but not cause or flakes fine enough to feed through commonly used spreaders, pollution or plant damage. If used on steeper slopes, then pollution or plant damage. If used on steeper slopes, then use other practices to prevent washing into streams or accumulation around plants.
 - Stone - Cover surface with crushed stone or coarse gravel.
 - Mulch - Stabilization with approved mulches and vegetation cover being temporary or permanent.

SEEDING SPECIFICATIONS

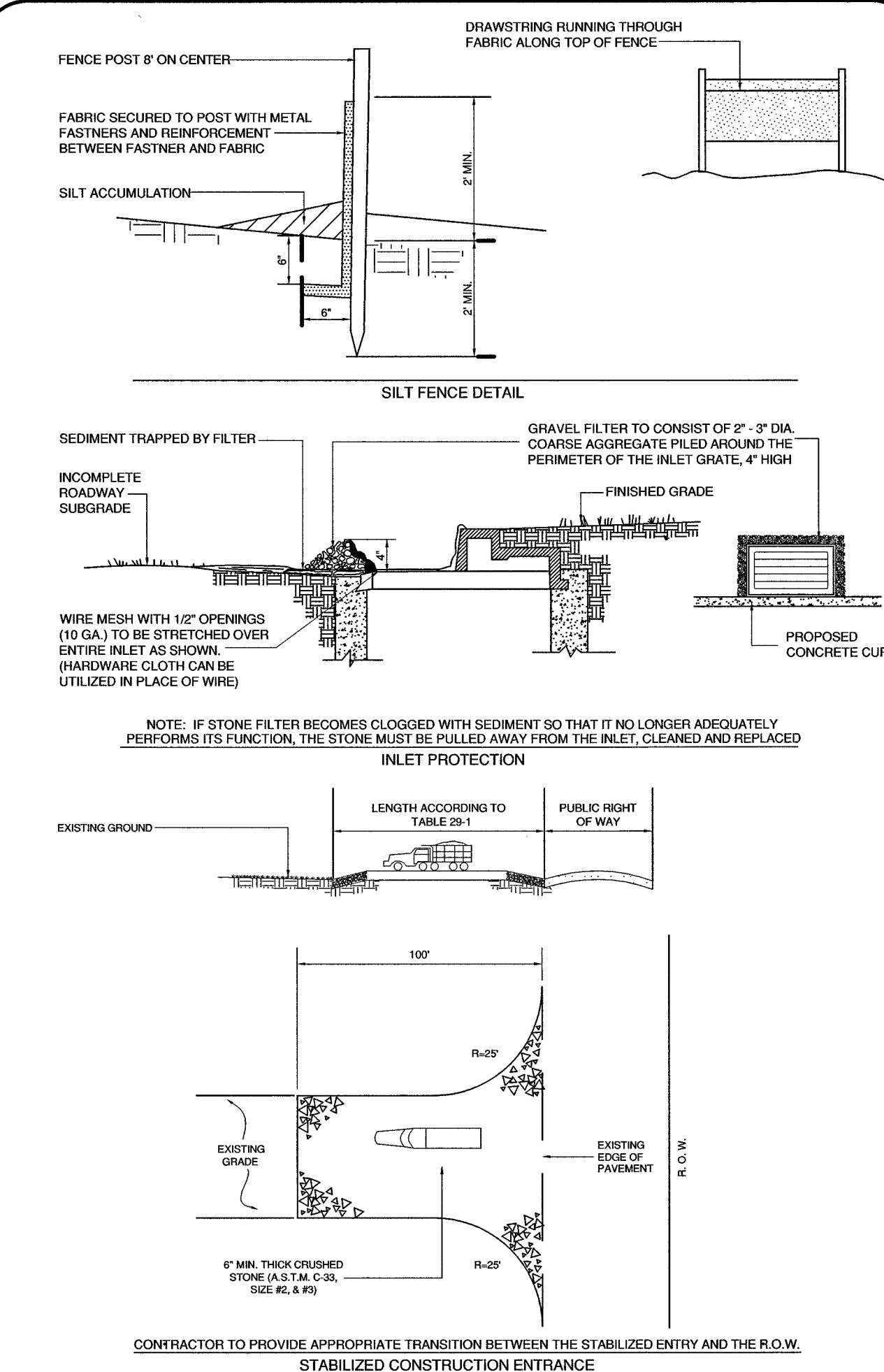
- | | | |
|-------------------|--------------------------|-------------------|
| Temporary Seeding | (10-20-10 or equivalent) | 11 Lbs./1,000 SF |
| Fertilizer | (50% Calcium plus MgO) | 90 Lbs./1,000 SF |
| Limestone | (Lolium multiflorum) | 1 Lb./1,000 SF |
| Permanent Seeding | (10-20-10 or equivalent) | 11 Lbs./1,000 SF |
| Fertilizer | (50% Calcium plus MgO) | 90 Lbs./1,000 SF |
| Limestone | Kentucky Bluegrass | 0.9 Lbs./1,000 SF |
| Mixture B-15 | (Three Cultivar Blend) | |
| | Hard Fescue | 4.0 Lbs./1,000 SF |
| | Perennial Rye Grass | 0.7 Lbs./1,000 SF |
- FERTILIZER**
Work lime and fertilizer into soil as nearly as practical to depth of four inches (4"). Remove from the surface all stones two inches (2") or larger. Roll soil to firm the seed bed where feasible. Use specifications as shown above.
Note: Optimum seeding dates February 1 to April 30 and August 15 to October 30.

SOIL CONSERVATION NOTES

PHASE	OPERATION	TIME PERIOD
A.	ESTABLISH EROSION CONTROL MEASURES	2 DAYS
B.	SITE CLEARING	2 DAYS
C.	ROUGH GRADING	5 DAYS
D.	CONSTRUCT STORMWATER BASIN INCLUDING VEGETATIVE STABILIZATION	5 DAYS
E.	CONSTRUCT SANITARY SEWER SYSTEM & WATER SYSTEM	5 DAYS
F.	CONSTRUCT STORM DRAINAGE STRUCTURES	5 DAYS
G.	FINE GRADE AND CONSTRUCT STONE BASE	5 DAYS
H.	CONSTRUCT DRAINAGE SWALES	2 DAYS
I.	PERFORM TEMPORARY SEEDING AS NECESSARY	2 DAYS
J.	PERFORM PAVING AND CONSTRUCT SIDEWALKS	5 DAYS
K.	LAY BUILDING FOUNDATIONS	90 DAYS
L.	PERFORM PERMANENT SEEDING AND LANDSCAPING	2 DAYS

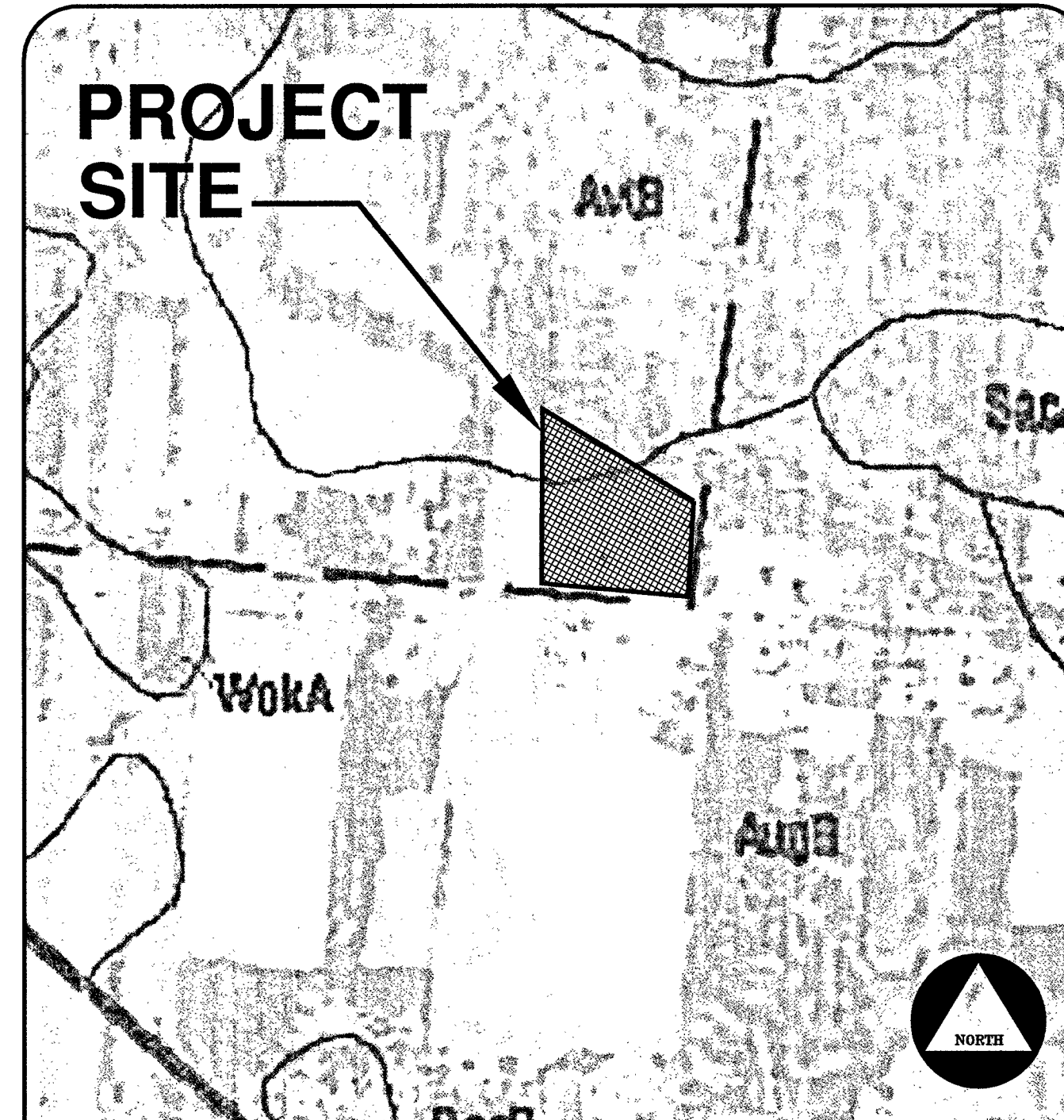
VARIOUS LOT GRADING TO CONTINUE THROUGHOUT CONSTRUCTION SEQUENCE.
DURATION OF EACH SEQUENCE WILL VARY DUE TO SECTIONALIZATION AND MARKET CONDITIONS.
CONSTRUCTION WILL BEGIN SPRING 2015.

CONSTRUCTION SEQUENCE



Maintenance
The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto roadways. This may require periodic dressing with additional stone or additional length as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed, or tracked onto roadways (public or private) or other impervious surfaces must be removed immediately.
Where accumulation of dust/sediment is inadequately cleaned or removed by conventional methods, a power broom or street sweeper will be required to clean paved or impervious surfaces. All other access points which are not stabilized shall be blocked off.

SOIL CONSERVATION NOTES



S.C.D. SOILS MAP

SOIL TYPE: Aura Sandy Loam (AugB)
The Aura Sandy Loam land complex is gently sloping and well drained. Seasonal high water table is more than 6'.
Classification: 2-5 percent slopes
Land Capability Classification 2e
Hydrologic group: B

SOIL TYPE: Aura-Sassafras land complex (AVB)
The Aura-Sassafras land complex is gently sloping and well drained. Seasonal high water table is more than 6'.
Classification: 2-5 percent slopes
Land Capability Classification 2e
Hydrologic group: B
Description as per U.S.D.A. Soil Conservation Service, County Soil Survey dated 2003

SOILS DESCRIPTION

- LAND COVER**
- Total Area of Site: 5.15 Acres
 - Present Cover: Developed
 - Total Area of Disturbance: 2.20 Acres
 - Adjacent Site Conditions: Developed

RESPONSIBILITY

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

Applicant:
In His Presence Worship Center
PO Box 1564
Millville, NJ 08332
dwennishalom@gmail.com
Phone: 856/265-3622

GENERAL INFORMATION

EDA Engineering Design Associates, P.A.
Environmental Planners Landscape Architects
CAMBRIDGE PROFESSIONAL OFFICES
5 Cambridge Drive Ocean View New Jersey 08230
(609) 265-3622 FAX: (609) 265-3624
REGISTERED PROFESSIONAL ENGINEERS

SOIL EROSION & SEDIMENT CONTROL
BLOCK 6701 LOT 3
TOWNSHIP OF FRANKLIN
GLOUCESTER COUNTY, NEW JERSEY

JOSEPH H. MAFFEI
PROFESSIONAL ENGINEER
N.J.P.E. LIC. #37894

IF THIS PLAN OR DOCUMENT DOES NOT CONTAIN A RAISED SEAL IMPRESSION BEARING THE NAME AND REGISTRATION NUMBER OF THE ABOVE SIGNED PROFESSIONAL, IT MAY NOT BE AN AUTHORIZED COPY OF THE ORIGINAL DOCUMENT AND MAY HAVE BEEN ALTERED. REPRODUCTION OR FURTHER DISSEMINATION OF THE CONTENTS IN WHOLE OR IN PART REQUIRES PERMISSION IN WRITING FROM ENGINEERING DESIGN ASSOCIATES, P.A.

REV.	PER ZONING BRD	DATE	BY
1	REV. PER PINELANDS	1-12-15	JLB
2	REV. PER PINELANDS	5-19-14	JLB
REVISION		DATE	BY

EDA

DATE: 3/14/14	DRAWN BY: JLB
SCALE: AS NOTED	CHECKED BY: JHM
PROJECT #: 6745	SHEET: 9 OF 9

