



PLANNING DEPARTMENT
Cumberland County

**Cumberland County
Subdivision and Land Development
Review Report**

Cumberland County Planning Department
310 Allen Road, Suite 101
Carlisle, PA 17013
Telephone: (717) 240-5362

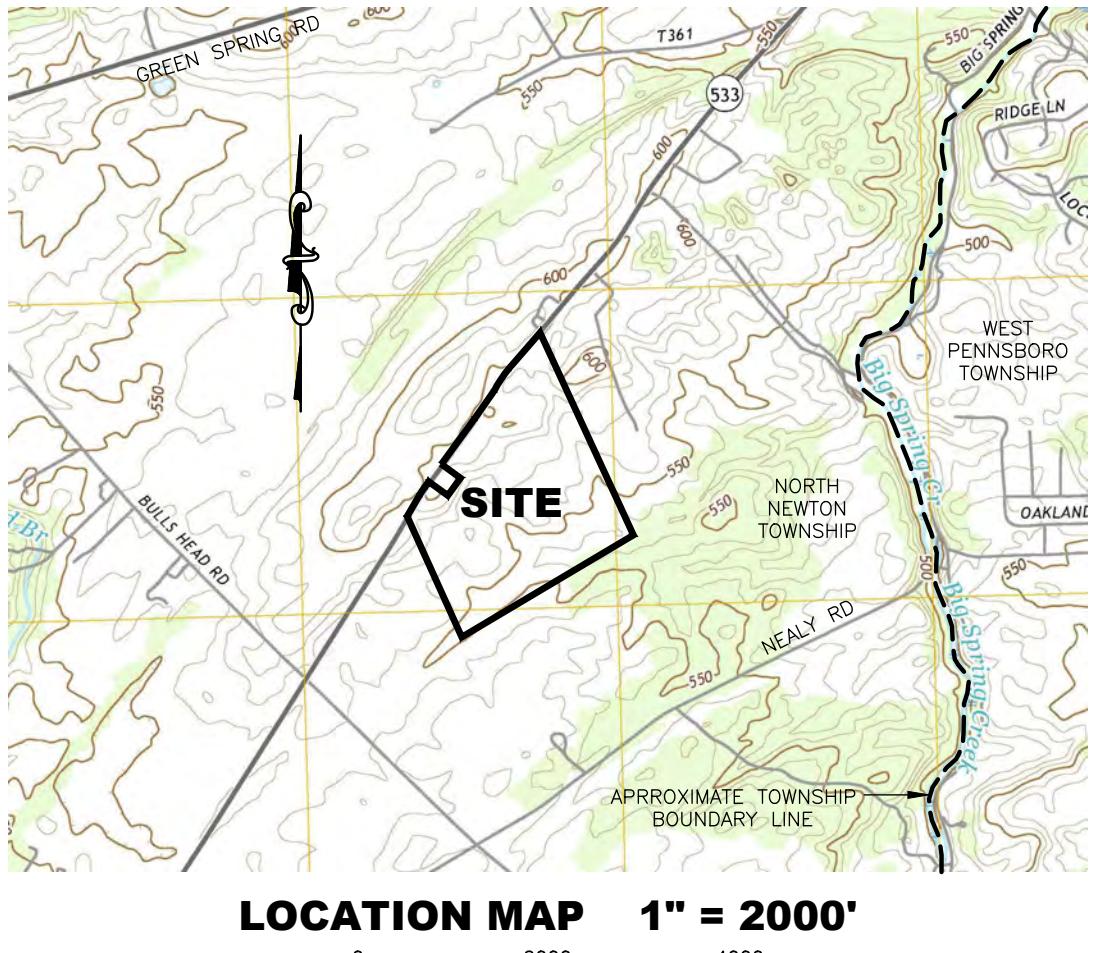
Municipality:	Date Received:	Date Reviewed:	Reviewed By:	Plan Number:
North Newton Township	1/23/2026	1/28/2026	SH	P26-44
<i>Plan Title:</i>				
<i>Alvin and Laura Hoover</i>				
Plan Status:	<i>Plan Type:</i>			
Preliminary/Final	<i>Land Development Plan</i>			
<i>Comments and Recommendations:</i>				

1. The title of the plan should include the status (preliminary/final) (SLDO 260-24.A.1).
2. As a condition of approval, the sewage planning module in site improvement note 6 should be finalized (SLDO 260-24.C).
3. The erosion and sediment control plan should be submitted to the Cumberland County Conservation District for approval (SLDO 260-24.G).
The conservation district should determine whether the proposed screening and buffer yard should be included in the limits of disturbance.
4. The minimum radius of the edge of pavement at the driveway entrance should be 35 feet. The radius should be labeled on the plan (SLDO 260-35.C).
5. Survey monuments or markers should be labeled and described (SLDO 260-37).
6. The township should determine whether a dedication of recreation land or a fee in lieu of dedication will apply to the development (SLDO 260-42). General plan note 10 should be clarified.
7. This property appears to be enrolled in the Cumberland County Clean and Green Program and may be subject to roll-back taxes. Contact the Cumberland County Tax Assessment Office for information.
8. Please work with the municipal addressing authority to determine addresses as soon as possible. Providing complete and accurate addressing information to Cumberland County GIS when plans are finalized, but before construction, ensures that they can be added to the Master Street Address Guide (MSAG). An up-to-date MSAG is critical to ensuring that addresses validate in the 9-1-1 system. Other utility providers also depend on the MSAG to validate installations in new developments. If you have any questions regarding addressing or the MSAG, please contact Garrett McKinney, MSAG Coordinator, at (717)240-6418 or ghmckinney@cumberlandcountypa.gov.
9. Cumberland County strives to create the most accurate public records possible. The following electronic AutoCAD files (.dwg) are **required** by the Planning Department prior to or at the time of recording any plan. Please note that the Planning Department **will not sign the plan for recording**

until this information is emailed to planningreviews@cumberlandcountypa.gov. Links to online file downloads are acceptable. Applicants are required to provide the following information:

- a. **Parcel boundaries**
- b. **Lot lines**
- c. **Building footprints**
- d. **Road rights-of-ways**
- e. **Edge of pavement**
- f. **Declaration of planned communities/condominiums documents (including amendments)**

MINOR LAND DEVELOPMENT PLAN FOR ALVIN H. & LAURA N. HOOVER NORTH NEWTON TOWNSHIP, CUMBERLAND COUNTY, COMMONWEALTH OF PENNSYLVANIA



OWNER INFORMATION

Alvin H. & Laura N. Hoover
535 Shippensburg Road
Newville, PA 17241
Phone: (717) 776-7987

SOURCE OF TITLE

Alvin H. & Laura N. Hoover
Deed Instrument: 202143275
T.M.P. 30-09-0515-002

STATEMENT OF OWNERSHIP, ACKNOWLEDGEMENT OF PLAN AND OFFER OF DEDICATION

Commonwealth Of Pennsylvania:
County Of Cumberland:

On this _____ day of _____, 2026 before me, the undersigned officer, personally appeared Alvin H. Martin & Laura N. Hoover, who being duly sworn according to law depose and say that they are the owners of the property shown on this plan and that they acknowledge the same to be their plan and desire the same to be recorded as such according to law; and all roads or parts thereof, if not previously dedicated, are hereby tendered for dedication to public use.

Alvin H. Hoover _____
Laura N. Hoover _____

Notary Public
Witness my hand and seal the above day and date written.

NORTH NEWTON TOWNSHIP BOARD OF SUPERVISORS APPROVAL

Approved by the North Newton Township Supervisors and all conditions imposed with respect to such approval were completed on this _____ day of _____, 2026.

North Newton Township
Board Of Supervisors

Attest:
North Newton
Township
Secretary _____
Chairperson _____

NORTH NEWTON TOWNSHIP PLANNING COMMISSION RECOMMENDED APPROVAL

Recommended for approval by the North Newton Township Planning Commission this _____ day of _____, 2026.

North Newton Township
Planning Commission

North Newton Township
Planning Commission Secretary _____
Chairperson _____

CUMBERLAND COUNTY PLANNING DEPARTMENT REVIEW

Reviewed by the Cumberland County Planning Department this _____ day of _____, 2026.

Cumberland County
Planning Department

Director Of Planning _____

ENGINEER'S CERTIFICATION

Michael L. Wadel, P.E. _____ Date _____

I hereby certify that, to the best of my knowledge, this plan meets the requirements of the North Newton Township Zoning & Land Development Ordinance for a land development plan. I further certify that, to the best of my knowledge, the stormwater management facilities shown and described hereon were designed in accordance with the Pennsylvania Stormwater Best Management Practices Manual and North Newton Township Stormwater Ordinance 2011-2.

0 150 300 450
SCALE: 1" = 150'

LOCATION MAP 1" = 2000'

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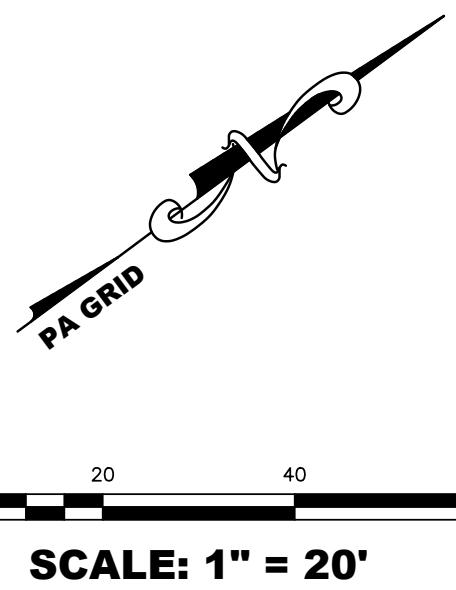
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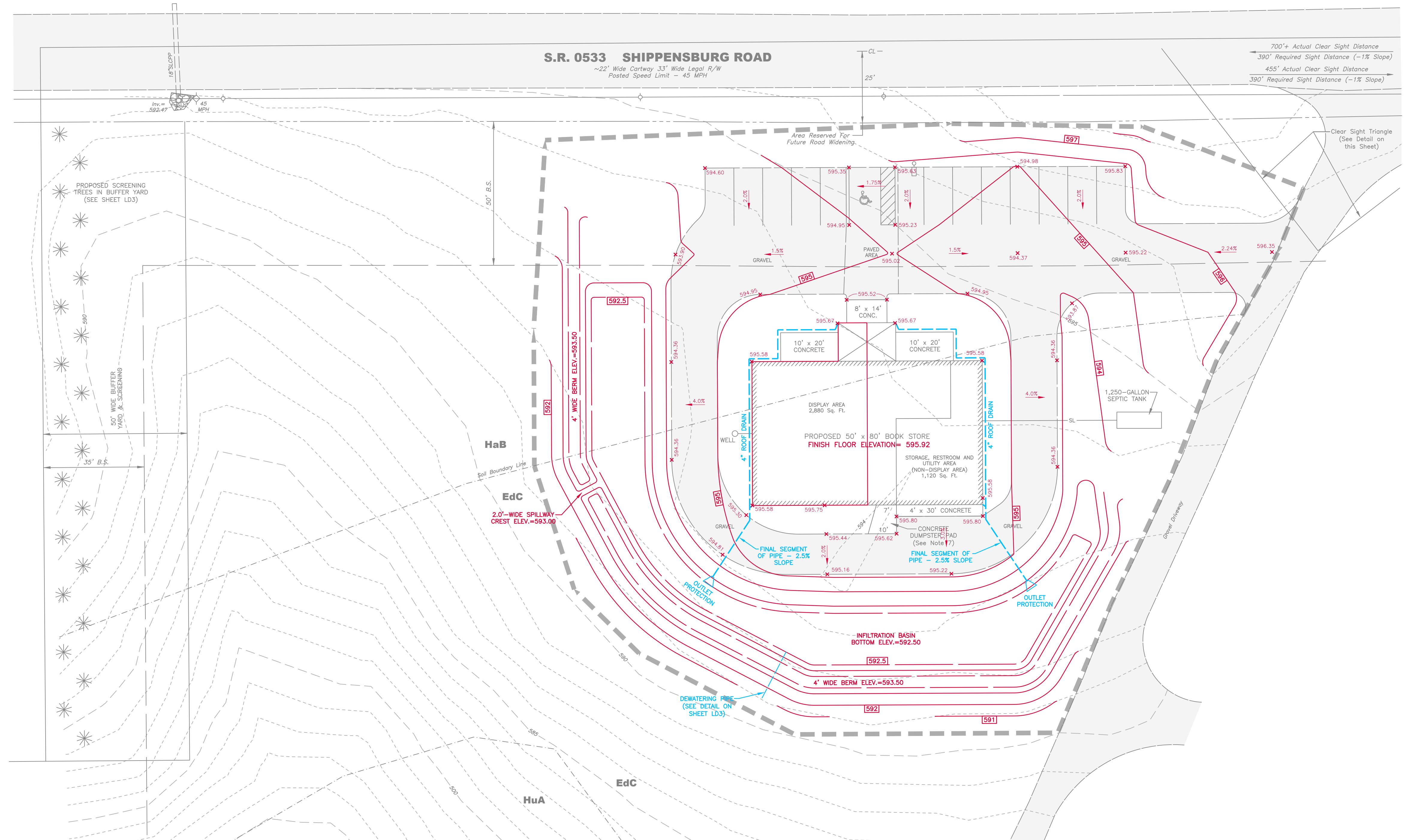
1" = 2000'

0 2000 4000

1



N/E
Steven W. & Thomas H. Nealy
Deed Instrument 202302352
T.M.P. 30-08-0593-112



SOIL INFORMATION

EdC
Edom silty clay loam,
8 to 15 percent slopes
Not considered a hydric soil
Not considered prime farmland

HaB
Hagerstown silt loam,
3 to 8 percent slopes
Not considered a hydric soil
Considered prime farmland

HuA
Huntington silt loam,
0 to 5 percent slopes
Has 5% of hydric inclusions
Considered prime farmland

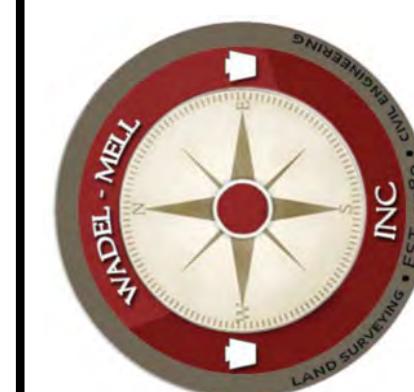
Soil boundaries and classifications shown
hereon were plotted from publicly available
data provided by the U.S. Department of
Agriculture.

LEGEND

Ex.	Existing
C.M.	Concrete Monument
Pt.	Point
R/W	Right-Of-Way
T.M.P.	Tax Map & Parcel
N/F	Now or Formerly
—	Contour Line
○—	Woods/Brush
—○—	Utility Pole
——	Adjoinder Line

STORMWATER & GRADING PLAN

(ALVIN H. & LAURA N. HOOVER)



WADEL-MELL INC.
SURVEYING & ENGINEERING
25 BROAD STREET
NEWVILLE, PA 17241
PHONE: (717) 776-6241
FAX: (717) 776-9277
www.wadelmell.com

DATE	January 20, 2026
SCALE	1" = 20'
FILE NO.	25109
DRAWN BY	J.B.M.M.L.W.
Sheet No.	LD2

CONSTRUCTION DETAILS & NOTES

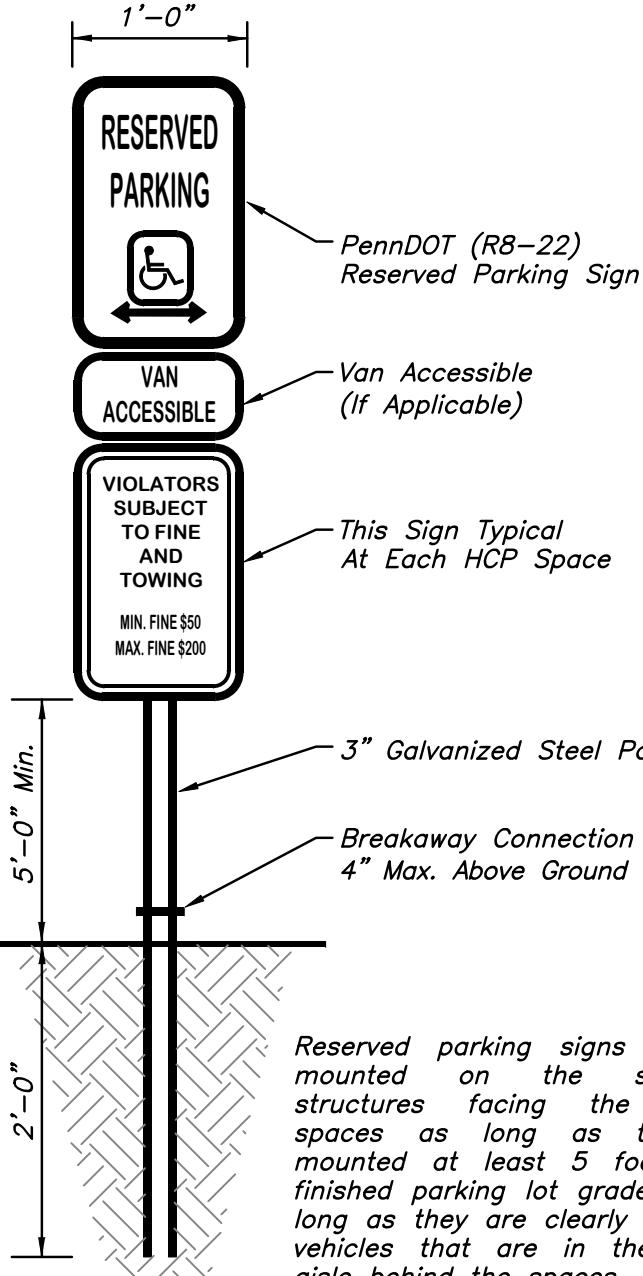
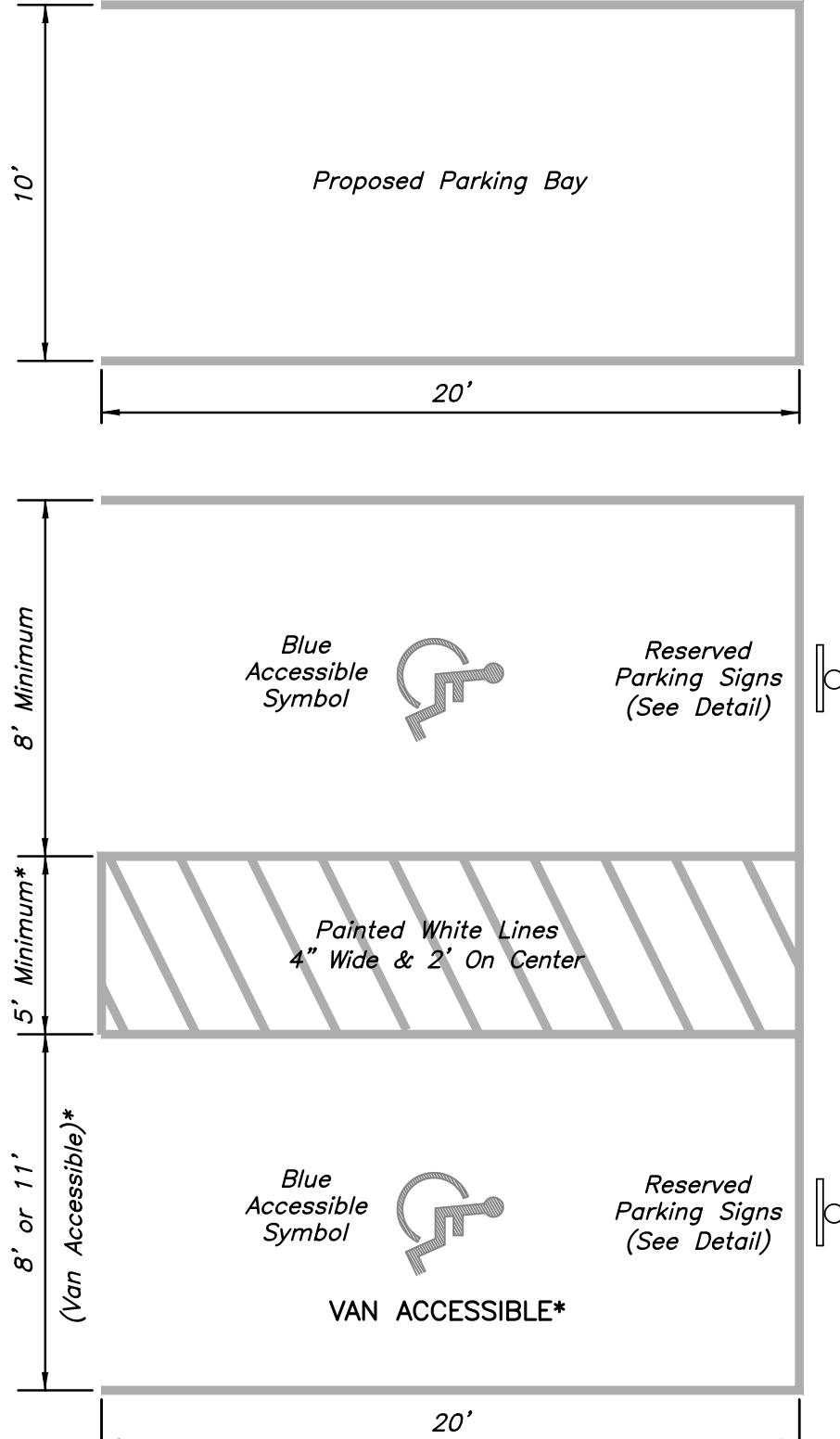
(ALVIN H. & LAURA N. HOOVER)



WADEL-MELL INC.
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FAX: (717) 776-9277
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PLAN REVISIONS	REVISIONS	DATE



The accessible spaces and the accessible route between the accessible spaces and the accessible entrance(s) shall be constructed in accordance with the latest Americans with Disabilities Act (ADA) Regulations.

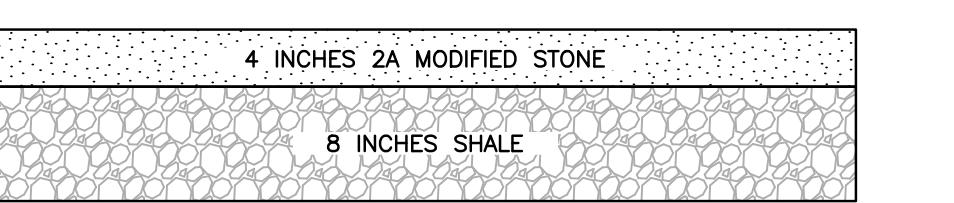
- If only one ADA accessible space is provided, it must be a van accessible space unless otherwise noted on this plan.

* The total width of a van accessible space, and the adjoining striped loading/unloading area must be 16'. There are two acceptable layouts to meet this requirement:

- 1) an 11' wide parking space and a 5' wide striped area OR
- 2) an 8' wide parking space and an 8' wide striped area

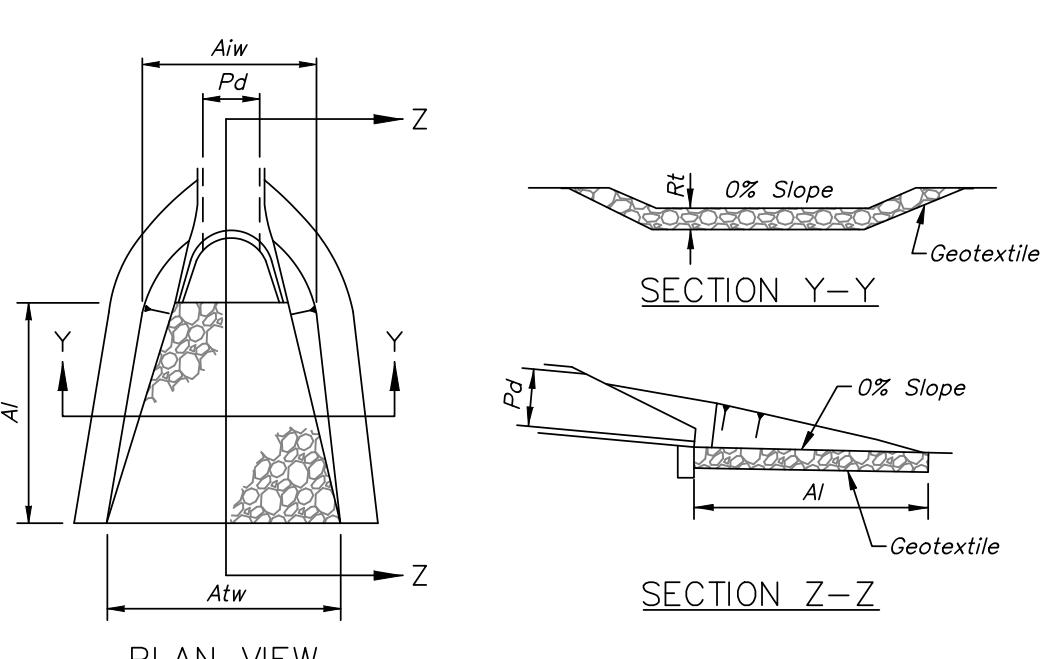
PARKING SPACE DETAILS

NOT TO SCALE



GRAVEL CROSS-SECTION (TYPICAL)

NOT TO SCALE



OUTLET PROTECTION SPECIFICATIONS

OUTLET NO.	PIPE SIZE Pd (IN)	RIPRAP		APRON		
		SIZE R—	THICK. Rt (IN)	LENGTH Al (FT)	INITIAL WIDTH Atw (FT)	TERMINAL WIDTH Atw (FT)
4" R.D.	4	3	9	3	1	4
4" R.D.	4	3	9	3	1	4

NOTES:
All aprons shall be constructed to the dimensions shown. Terminal widths shall be adjusted as necessary to match receiving channels.

All aprons shall be inspected at least weekly and after each runoff event. Displaced riprap within the apron shall be replaced immediately.

STANDARD CONSTRUCTION DETAIL #9-1 RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

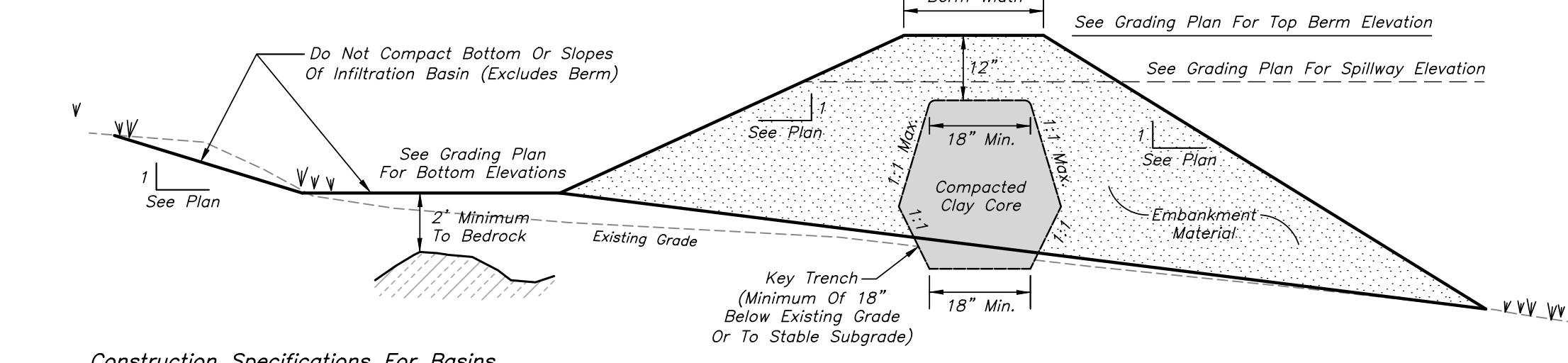
NOT TO SCALE

SCREENING DETAIL & NOTES

NOT TO SCALE

CROSS-SECTION & CONSTRUCTION DETAILS FOR BASINS

NOT TO SCALE



SPILLWAY DETAIL

Construction Specifications For Basins

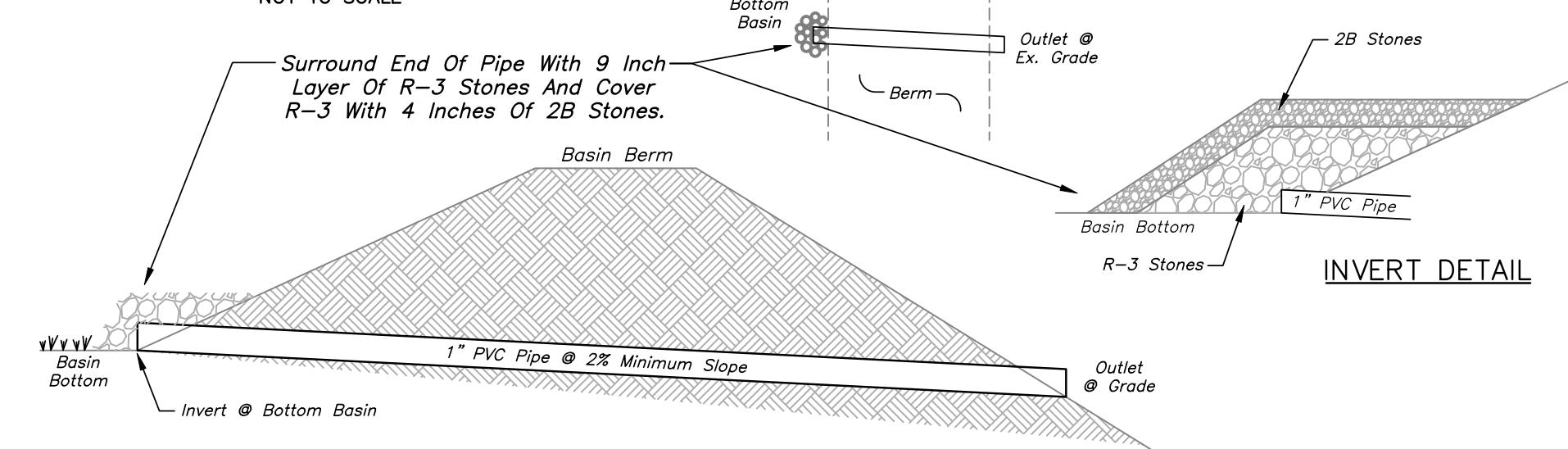
1. Basin grading should be deferred until all disturbed areas that contribute runoff to the basin have been stabilized or protected as outlined in the sequence of construction in the E&S control notes. All infiltration areas shall be protected from sedimentation and compaction during the construction phase, so as to maintain their maximum infiltration capacity. Relatively light tracked equipment is required for this operation to avoid compaction of the infiltration area. When subgrade for the basin is reached, the subgrade should be loosened to a depth of at least six inches prior to placement of topsoil in order to ensure maximum soil permeability. After the final grading is completed, the basin bottom should be well-aerated, highly porous vegetated area to encourage infiltration. Do not compact the bottom of the basin.
2. Grasses of the fescue family are recommended for seeding primarily due to their adaptability to drought resistance, hardiness, and ability to withstand brief inundations. The use of fescues also permits long intervals between mowings. Refer to the permanent seeding notes for specifications. Refer to inspection and maintenance for infiltration basins of post construction vegetation care.
3. The top of the compacted clay core shall be depressed at the emergency spillway in order to maintain the minimum cover of 1 foot.

Compaction Specifications For Berm:

1. Place embankment material, other than rock, in uniform layers of not more than a loose 8-inch depth for the full width unless otherwise directed.
2. Compact each layer for its full width to not less than 95% of the dry weight density.

DEWATERING PIPE FOR INFILTRATION BERMS & BASINS

NOT TO SCALE



CROSS-SECTION

Notes:

1. Install the dewatering pipe during construction of the basin berm and install filter stones immediately.
2. The dewatering pipe will be left in operation until the infiltration basin dewatering is permanently stabilized. Once permanent stabilization has occurred, the filter stones shall be removed and the pipe shall be capped at both ends so that no water may pass through the pipe.
3. In the event that maintenance must be performed on the basin, the caps can be removed from the ends of the pipe and the basin can be dewatered to allow maintenance operations to occur. After maintenance is completed, the pipe ends must be re-capped.

PERMANENT SEEDING

1. **SEEDBED PREPARATION:**
Place topsoil at a depth of six to twelve inches (6-12"). If time passes between topsoil placement and seeding, loosen upper 2 inches minimum by discing, raking, or other means.

2. **SOIL SUPPLEMENTS*:**
It is recommended that soil testing be done prior to seeding and mulching to determine the proper soil amendments and application rates. Soil test kits are inexpensive and may be obtained from the county cooperative extension service office. In the absence of soil testing, amendments should be added as follows:

—Apply 2480 LBS. Pulverized Agricultural Limestone Per 1000 Sq. Yds.
—Apply 210 LBS. 10-10-20 Analysis Commercial Fertilizer Per 1000 Sq. Yds.

soil supplements may be blended into the soil during tillage.

3. **SEEDING*:**

TYPES & RATES—	(MOST SITES)	(ADVERSE SITES)
TALL FESCUE	60 lbs./ac.	75 lbs./ac.
FINE FESCUE	35 lbs./ac.	40 lbs./ac.
KENTUCKY BLUEGRASS	25 lbs./ac.	30 lbs./ac.
REDTOP* AND PERENNIAL RYEGRASS	3 lbs./ac.	3 lbs./ac.
OR	15 lbs./ac.	20 lbs./ac.

** Keep seeding rate to that shown above. These species have many seeds per pound and are very competitive. To seed small quantities of small seeds such as redtop, dilute with dry sawdust, sand, rice hulls, buckwheat hulls, etc.

Seeding rates above are based on 100% Pure Live Seed (PLS). PLS is the product of the percentage of pure seed times germination divided by 100. For example, to secure the actual planting rate for Fine Fescue on an adverse site, divide 40 pounds PLS by the PLS percentage shown on the seed tag or calculated as previously discussed. Thus, if the PLS content of a given seedlot is 75%, divide 40 PLS by 0.75 to obtain 53.3 pounds of seed, the amount of seed required to plant one acre. All mixtures in this table are shown in terms of PLS.

For best results, grass seedings should be made in spring (March, April, and early May). However, through proper choice of seed mixtures, seed specifications, and establishment techniques, disturbed sites can be seeded almost any time from spring to fall. Grass seedings generally need a growing period of at least four to six weeks prior to hard frost to produce seedlings sufficiently large and hardy to survive the winter.

4. **MULCHING:**
Apply 3 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted grain straw immediately after seeding. Anchor mulch immediately after application by using 100-150 gallons per acre (3 1/2 gallons per 1000 sq. ft.) of emulsified asphalt or by using 800-1000 pounds of Cellulose fiber.

* The seeding specifications and soil supplement specifications listed above were taken from "Erosion Control & Conservation Plantings on Noncropland" by Penn State. This source contains additional information regarding seeding and should be consulted by the contractor if necessary. Alternate seed mixtures are permissible if they are shown to be suitable for use in the location, climate, and conditions proposed.

INSPECTION & MAINTENANCE NOTES FOR INFILTRATION BASINS

Water levels in the basin shall be checked after each major precipitation event (> 2.0 inches in a 24-hour period). The basin should completely de-water within 72 hours of the end of the precipitation. If the basin does not completely de-water within 72 hours, then the infiltration surface must be removed. This may require the removal and replacement of existing soils or simply regrade the soil to be leveled and re-seeded. If soil removal is required, the replacement soil should be of a type and quality which has characteristics which support long term infiltration. At the time of renovation, Department of Environmental Protection specifications for the construction, repair, and/or renovation of infiltration areas may be consulted in order to ascertain changes or improvements regarding the best method of renovation.

The surface of the infiltration basin shall be maintained in such a manner as to result in a thick dense coverage of grass. See this sheet for the specified seed mixture. Vegetation over the surface of the infiltration areas shall be maintained in good condition and bare spots shall be re-seeded. The areas shall be inspected at least twice per year. Also inspect for signs of water contamination/spills, and slope stability in the berms.

Inspect twice per year for accumulation of sediment and damage or erosion of the outlet spillway, berms, or infiltration area surface. Remove any sediment accumulations and restore the original cross-section of the infiltration areas. Remove accumulated sediment from basin as required. Restore original cross section and infiltration rate. Properly dispose of sediment in an approved disposal area in accordance with current DEP Guidelines.

Now only as appropriate for vegetative cover species and as few times per year as feasible to meet municipal regulations. Bagging grass clippings is not necessary to maintain lawn. Leaving grass clippings on the lawn after mowing ensures that nutrients will be returned to the soil. Grass clippings are 20-30% protein, and usually contain about 4% nitrogen, 2% potassium and 0.5% phosphorus as well as all the necessary trace elements plants need. When leaving clippings on the lawn, adjust lawn mower to remove no more than one third (1/3) of the grass leaf surface at any one mowing. Any mower can be used, but one that mulches as it cuts is best. If grass clippings are collected, they must be recycled or composted in accordance with current DEP Guidelines.

Vehicles and equipment shall not be parked or driven on the infiltration areas and care should be taken to avoid excessive compaction by mowers.

GENERAL STORMWATER MANAGEMENT PLAN NOTES

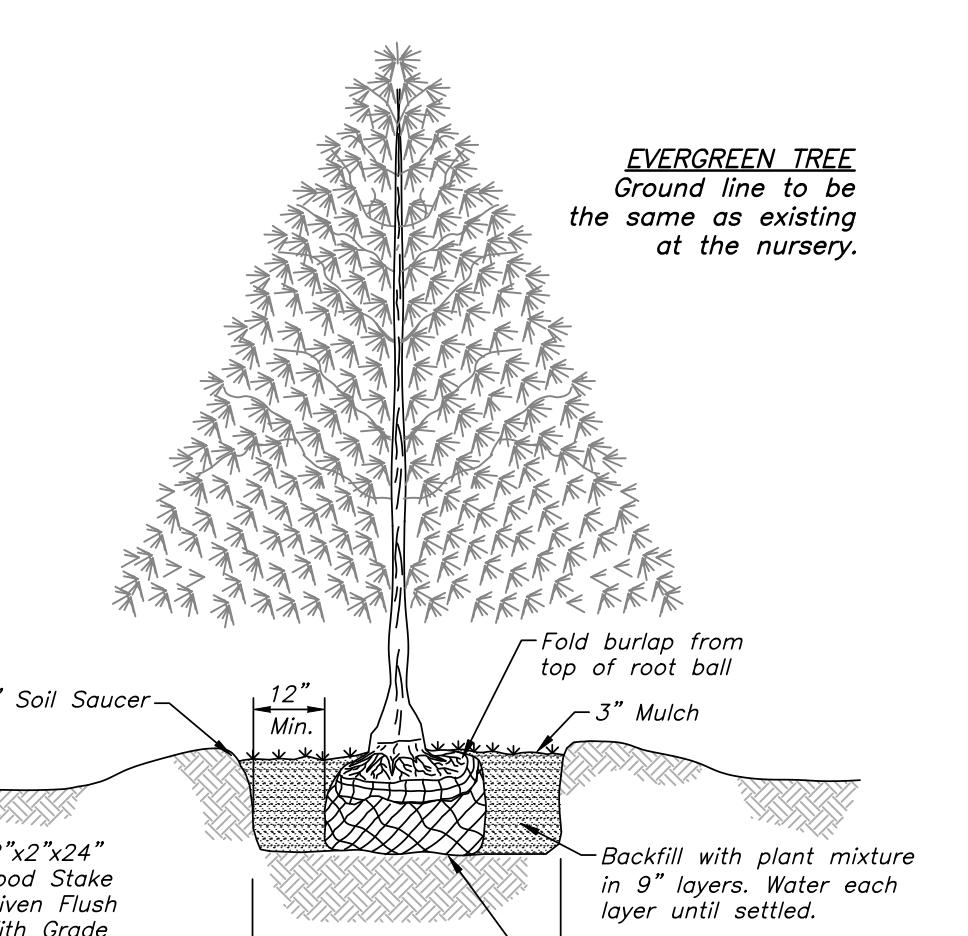
1. Runoff from the entire surface of the proposed building roof must be discharged to the infiltration Basin. Rain gutters, downspouts and/or PVC leaders will be utilized as needed to ensure runoff from the roof is directed to the basin as shown on the plan.

2. The property owner or developer, as applicable, is responsible for implementation of the erosion and sedimentation control/stormwater management plan.

3. All drainage facilities shall be owned and maintained by the developer until land on which the facility is located, is developed and sold. The ownership of all storm drainage channels located within drainage easements occupying any lot or tract will be transferred with the lot or tract. The responsibility for normal operation and maintenance of the channel surface will be that of the respective lot or tract owner, their heirs, and assigns. All such drainage facilities shall remain unobstructed and shall be maintained by the lot or tract owner relative to shape, alignment, gradient, cover, and hydraulic capacity as constructed by the developer.

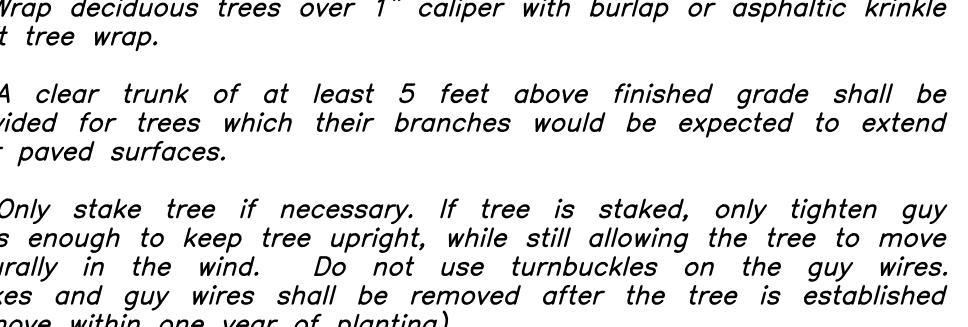
4. North Newton Township Supervisors and their employees shall have access to any and all drainage easements and/or drainage facilities and shall have the right at their discretion to maintain or repair the facilities as necessary to restore them to the design conditions. If the need for such maintenance or repair is a result of a direct act or negligence by the property owner(s), then the cost to complete the maintenance or repair shall be borne by the responsible property owner(s).

5. North Newton Township hereby acknowledges that the stormwater management plan as proposed herein meets and is consistent with the Township's ordinances relating to stormwater management, developer/applicant and Township acknowledge that this plan may require a National Pollutant Discharge Elimination System (NPDES) permit from the Department of Environmental Protection, Commonwealth of Pennsylvania. As a result of the NPDES permit program, the stormwater management plan as proposed may be changed and/or altered. If the NPDES permit program requirements result in changes and/or alterations, the applicant/developer shall submit the changes and/or alterations from the stormwater management plan to the Township and Township's Engineer for review and approval. Similarly, if the stormwater management plan is changed and/or altered as a result of PennDOT requirements, the applicant/developer shall submit the changes and/or alterations from the stormwater management plan to the Township and Township's Engineer for review and approval.



Notes:

1. Each buffer yard shall include a planting screen of evergreen trees or shrubs extending the length of the lot line. All screening materials and landscaping shall not encroach upon the adjoining property line at full maturity.
2. Plant materials needed to form the visual screen shall have a minimum height when planted of six feet and will grow to a minimum of 15 feet tall at maturity on ten-foot centers maximum. In addition, existing vegetation on and around the site shall be preserved to the greatest extent possible.
3. Plants needed to form the visual screen shall be of such species, spacing and size as can reasonably be expected to produce within five years a mostly solid year-round visual screen. Species used for screening must be selected from the following list unless otherwise approved in writing by the Township:
 - American Arborvitae (*Thuja occidentalis*)
 - Concolor Fir (*Abies concolor*)
 - Fraser Fir (*Abies Fraseri*)
 - Douglas Fir (*Pseudotsuga menziesii*)
4. The plant visual screen shall be interrupted only at: (1) Approved points of approximately perpendicular vehicle or pedestrian ingress and egress to the lot; (2) Locations necessary to comply with safe sight distance requirements; (3) Locations needed to meet other specific state, Township, and utility requirements.
5. The plant screen shall be maintained in a healthy condition. Any landscaping that dies or is severely damaged shall be replaced by the current property owner as soon as is practical considering growing seasons, within a maximum of 150 days.



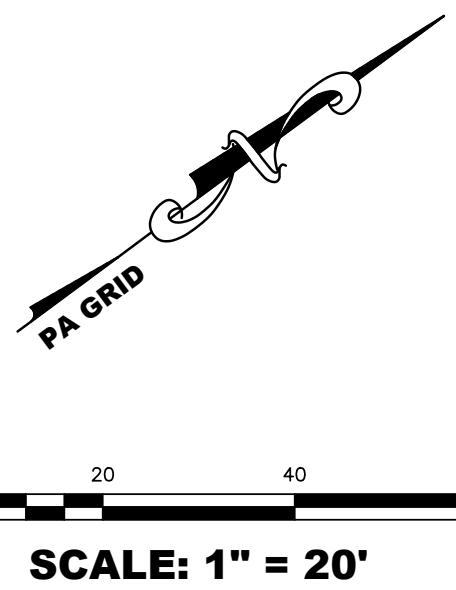
Notes:

1. If the root ball wrap is plastic, cut and remove the entire wrap.
2. Planting mix is a 3:1 ratio of topsoil and peat moss.
3. Wrap deciduous trees over 1" caliper with burlap or asphaltic krinkle kraft tree wrap.
4. A clear trunk of at least 5 feet above finished grade shall be provided for trees whose branches would be expected to extend over paved surfaces.
5. Only stake tree if necessary. If tree is staked, only tighten guy wires enough to keep tree upright, while still allowing the tree to move naturally in the wind. Do not use turnbuckles on the guy wires. Stakes and guy wires shall be removed after the tree is established (remove within one year of planting).

TREE PLANTING DETAIL

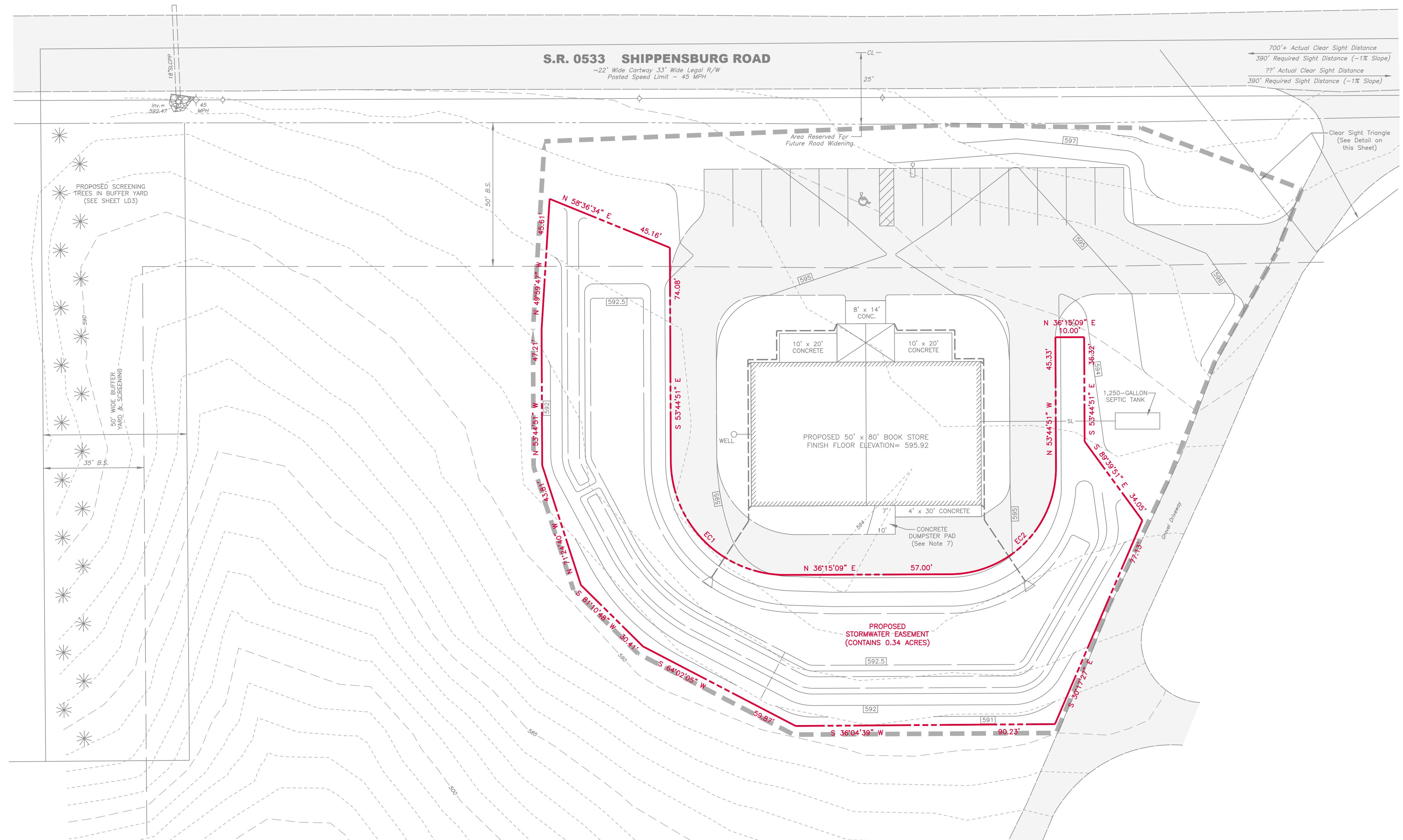
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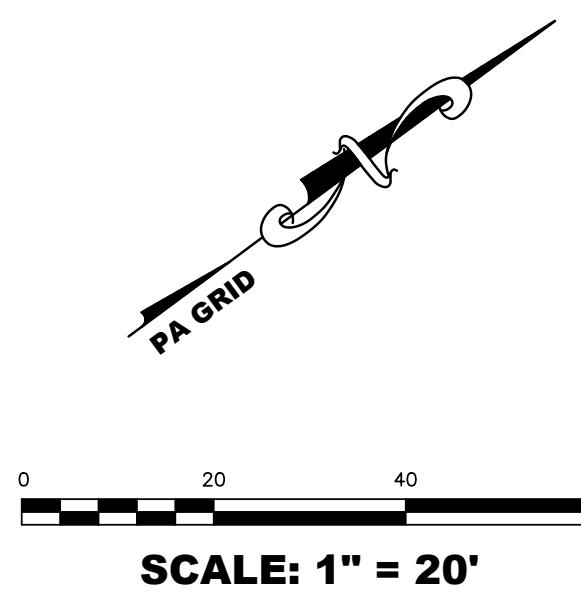
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Scale	As Shown
File No.	25109
Drawn By	J.B.M.I.M.L.W.
Sheet No.	LD3



N/E
Steven W. & Thomas H. Nealy
Deed Instrument 202302352
T.M.P. 30-08-0593-112

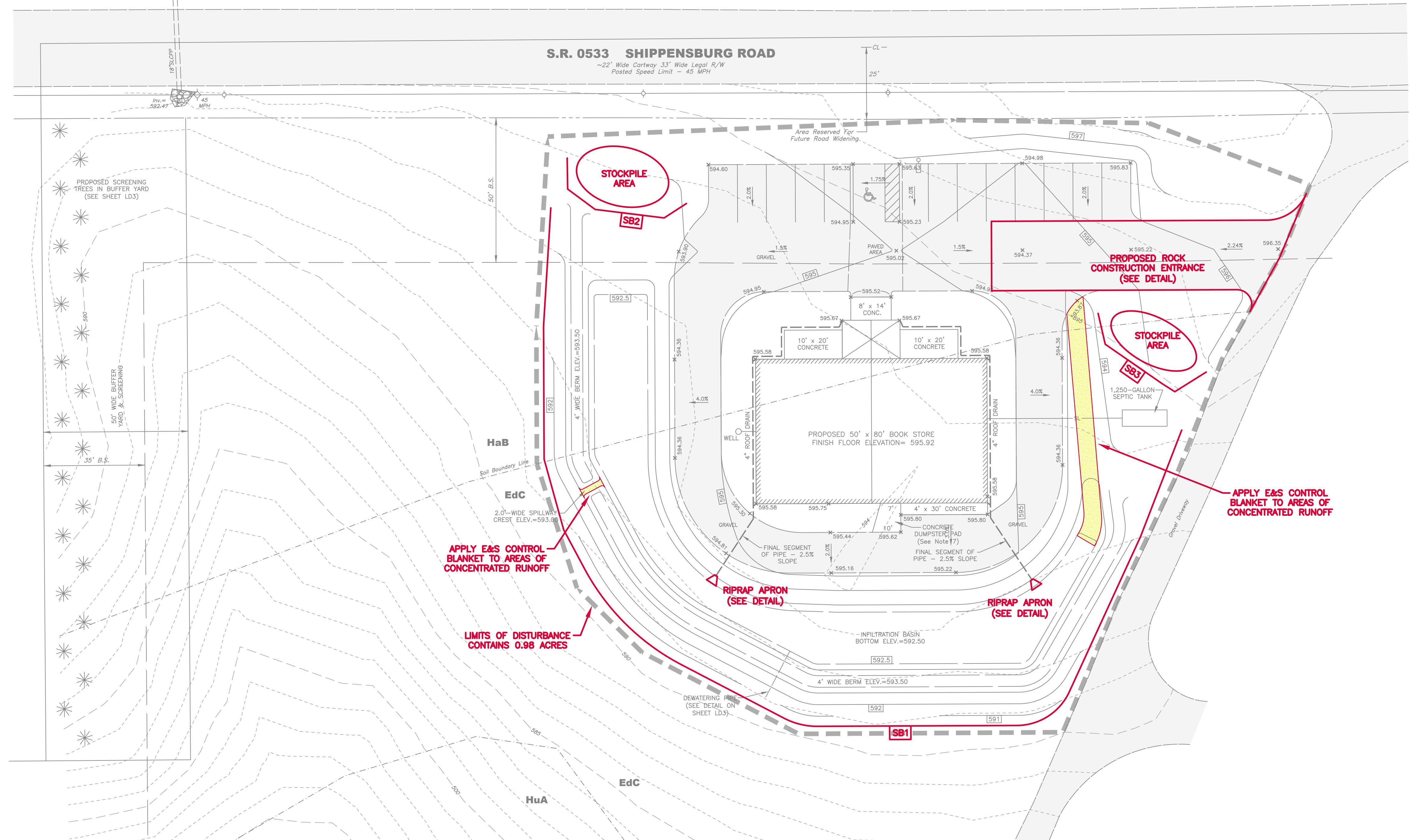
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N/F
Steven W. & Thomas H. Neel
Deed Instrument 20230235
T.M.P. 30-08-0593-112

SCALE: 1" = 20'



SOIL INFORMATION

*Edom silty clay loam,
8 to 15 percent slopes
Not considered a hydric soil
Not considered prime farmland*

HaB Hagerstown silt loam,
3 to 8 percent slopes
Not considered a hydric soil

*Not considered a hydric soil
Considered prime farmland*

HuA 0 to 5 percent slopes
Has 5% of hydric inclusions
Considered prime farmland

Soil boundaries and classifications shown hereon were plotted from publicly available data provided by the U.S. Department of Agriculture.

LEGEND

Ex.	Existing
C.M.	Concrete Monument
Pt.	Point
R/W	Right-Of-Way
T.M.P.	Tax Map & Parcel
N/F	Now or Formerly
— — — —	Contour Line
~~~~~	Woods/Brush
—○—	Utility Pole
— — — —	Adjoiner Line

— Where silt sock is placed on paved or impervious surfaces, 8" concrete blocks shall be placed immediately downslope of sock to hold in place. (Blocks shall be spaced at the same intervals as recommended for stakes on detail.)

- When trenching, place dirt on upper side of trench. the total length of excavated trench open at any one time should not be greater than the total length of utility line that can be placed in the trench and backfilled in one working day. All trenches opened in a working day, shall be closed, seeded and mulched at the end of the same working day.

— Accumulated sediment shall be removed when it reaches 1/2 the above ground height of the barrier and shall be returned to upland areas on site and incorporated into on site grading.

# SILT BARRIER INFORMATION

31 12" Filter Sock  
32 12" Filter Sock  
33 12" Filter Sock

## E&S LEGEND

The diagram illustrates the layout of a site with the following features:

- Proposed Outlet Protection:** Indicated by a red arrow pointing towards the top right.
- Proposed Stockpile Area:** Indicated by a red oval shape.
- Proposed Silt Barrier:** Indicated by a red line with a box labeled "SB1" and a red arrow pointing towards the bottom right.
- Limits Of Disturbance:** Indicated by a red line with a dashed pattern.
- E&S Control Lining:** Indicated by a thick red line at the bottom.

## WATERSHED CLASSIFICATION

**WATERSHED CLASSIFICATION**

*The Limits Of Disturbance as shown on this plan are located entirely within the Big Spring Creek Watershed. The receiving waters have a Chapter 93 listing of CWF (Cold Water Fishes) with migratory fish.*

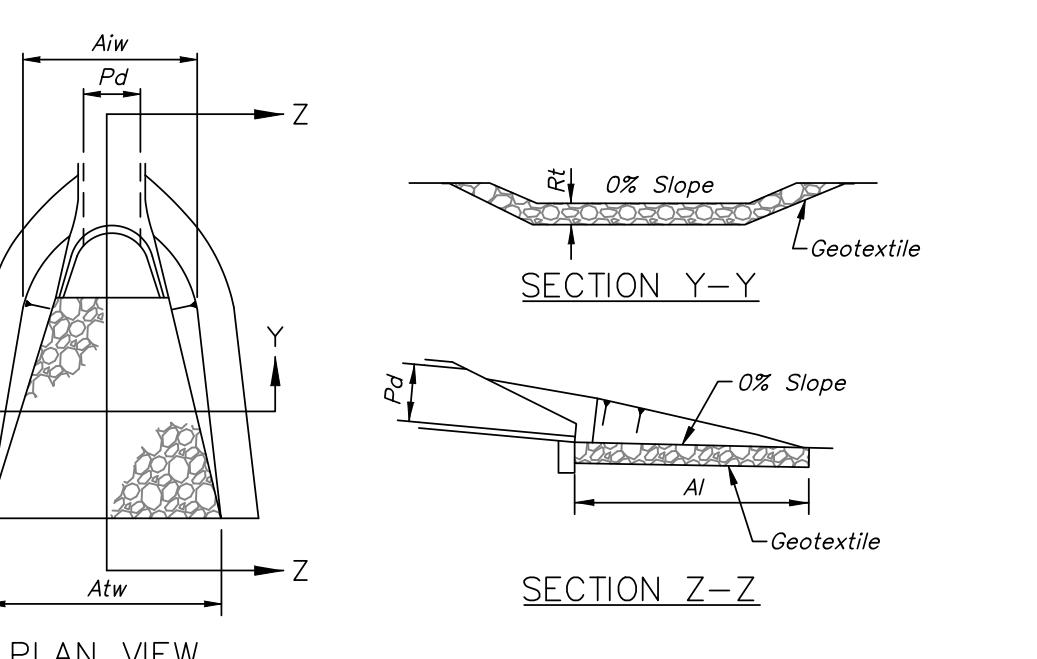


**WADEL-MELL INC.**  
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**TABLE 4.1 COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS**

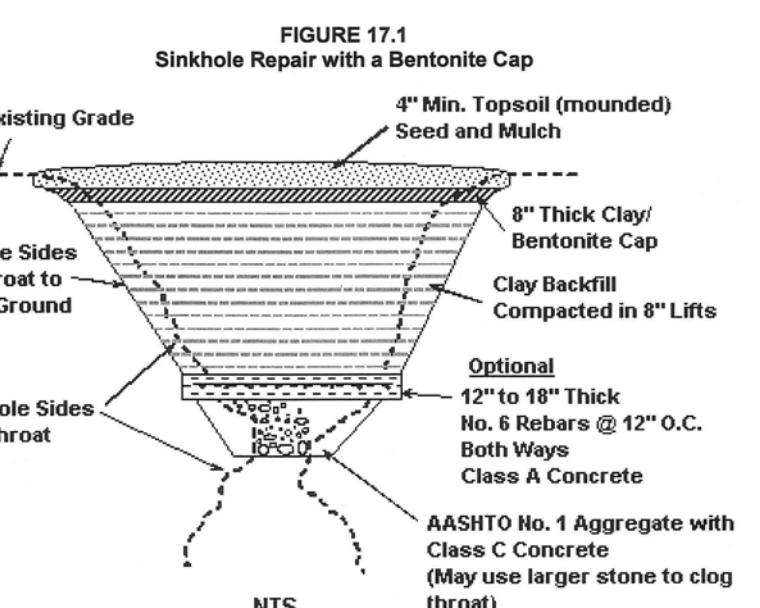
Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMPP)
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	12"	12"	12"	12"	12"
	18"	18"	18"	18"	18"
	24"	24"	24"	24"	24"
	32"	32"	32"	32"	32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength	26 psi	26 psi	44 psi	202 psi	
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.	100% at 1000 hr.	100% at 1000 hr.	
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years
Two-ply systems					
Inner Containment Netting		HDPE biaxial net Continuously wound Fusion-welded junctures 3/4" X 3/4" Max. aperture size			
Outer Filtration Mesh		Composite Polypropylene Fabric (Woven layer & non-woven fleece mechanically fused via needle punch) 3/16" Max. aperture size			
Sock fabrics composed of burlap may be used on projects lasting 6 months or less.					



**SINKHOLE REPAIR DETAILS**

Immediately following the identification of any sinkholes or areas of potential subsidence, the area of concern shall be protected from any further exposure to concentrated runoff. Efforts shall immediately be made to ensure that runoff is directed around and/or away from the area of concern. Next, a licensed professional experienced in sinkhole repair shall be engaged in order to have the area inspected and then to have a plan of repair developed. Finally, repair shall be made, as directed by the professional, in a timely manner. All actions taken during this process shall be recorded in the inspection/repair log being kept for the property in question.

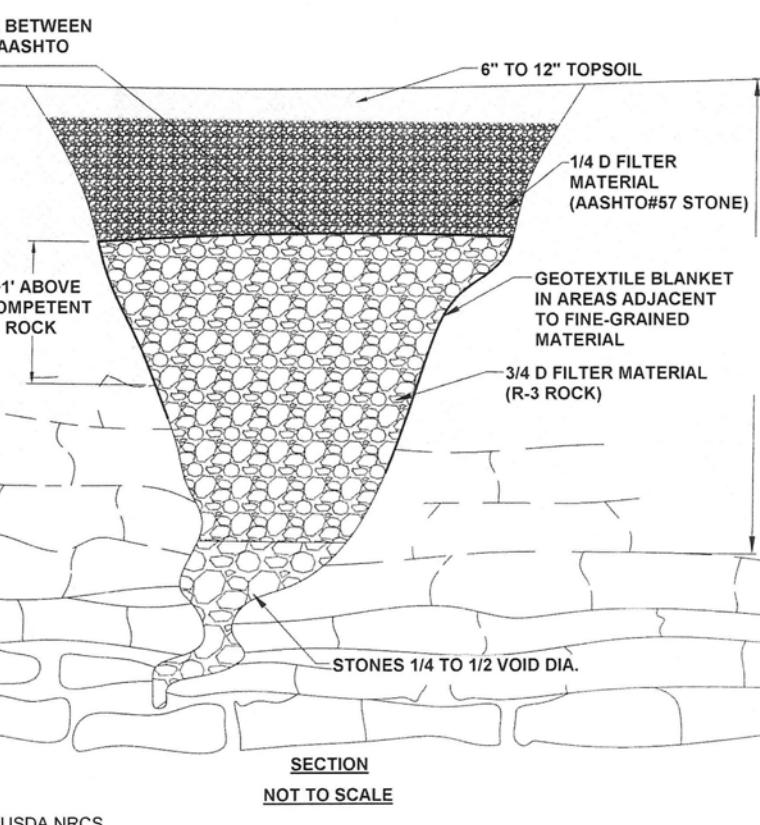
**SINKHOLE REPAIR OPTIONS**



PA DEP  
Loose material shall be excavated from the sinkhole and expose solution void(s) if possible. Enlarge sinkhole if necessary to allow for installation of filter materials. Occupational Safety and Health Administration (OSHA) regulations must be followed at all times during excavation.

Stones used for the "bridge" and filters shall have a moderately hard rock strength and be resistant to abrasion and degradation. Shale and similar soft and/or non-durable rock are not acceptable.

FIGURE 17.2 Sinkhole Repair with a Pervious Cover

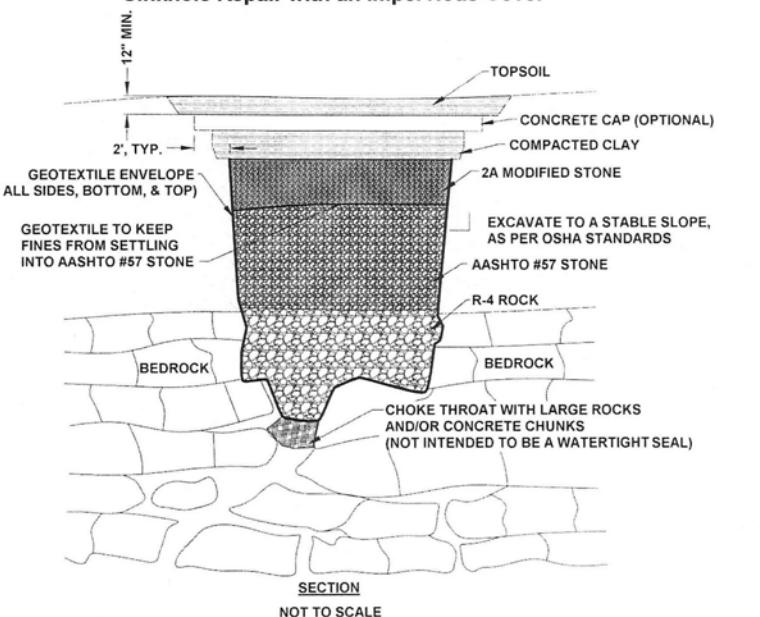


Adapted from USDA NRCS

Loose material shall be excavated from the sinkhole and expose solution void(s) if possible. Enlarge sinkhole if necessary to allow for installation of filter materials. OSHA regulations must be followed at all times during excavation.

Stones used for the "bridge" and filters shall have a moderately hard rock strength and be resistant to abrasion and degradation. Shale and similar soft and/or non-durable rock are not acceptable.

FIGURE 17.3 Sinkhole Repair with an Impervious Cover



Adapted from USDA NRCS

Loose material shall be excavated from the sinkhole and expose solution void(s) if possible. Enlarge sinkhole if necessary to allow for installation of filter materials. OSHA regulations must be followed at all times during excavation.

Geotextile shall be non-woven with a burst strength between 100 and 200 psi.

Select field stone(s) about 1.5 times larger than solution void(s) to form "bridge." Place rock(s) so no large openings exist along the sides. Stones used for the "bridge" and filters shall have a moderately hard rock strength and be resistant to abrasion and degradation. Shale and similar soft and/or non-durable rock are not acceptable.

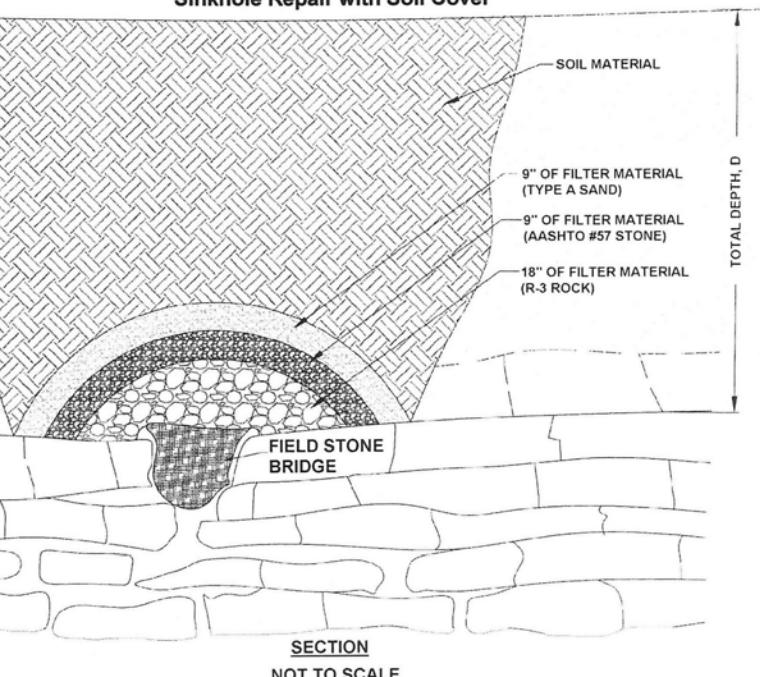
Minimum thickness of R-4 rock is 18". AASHTO #57 stone thickness shall be 1/2 of that of the R-4 rock. Minimum thickness of 2A modified crushed stone shall be 9". AASHTO #57 stone and 2A modified crushed stone shall be compacted after each placement.

Compacted clay seal shall be a minimum of 12" thick. Clay shall be placed in 6" to 9" lifts and thoroughly compacted.

Concrete cap, which is optional, shall be a minimum of 8" thick. Use 4000 psi concrete with 6" X 6" - 6 gauge welded wire fabric, or 3 rebar on 18" O.C. both ways.

Topsoil shall be a minimum of 12" thick. Grade for positive drainage away from sinkhole area.

FIGURE 17.4 Sinkhole Repair with Soil Cover



Adapted from USDA NRCS

Loose material shall be excavated from the sinkhole and expose solution void(s) if possible. Enlarge sinkhole if necessary to allow for installation of filter materials. OSHA regulations must be followed at all times during excavation.

Select field stone(s) about 1.5 times larger than solution void(s) to form "bridge." Place rock(s) so no large openings exist along the sides. Stones used for the "bridge" and filters shall have a moderately hard rock strength and be resistant to abrasion and degradation. Shale and similar soft and/or non-durable rock are not acceptable.

Minimum thickness of R-4 rock is 18". AASHTO #57 stone thickness shall be a minimum of 8" thick. Minimum thickness of 2A modified crushed stone shall be 9". NOTE: A non-expansive granular with a burst strength between 100 and 200 psi may be substituted for the AASHTO #57 stone and type A sand.

Soil shall be mineral soil with at least 12% fines and overfilled by 5% to allow for settlement. Suitable soil from the excavation may be used. Any available topsoil shall be placed on top surface.

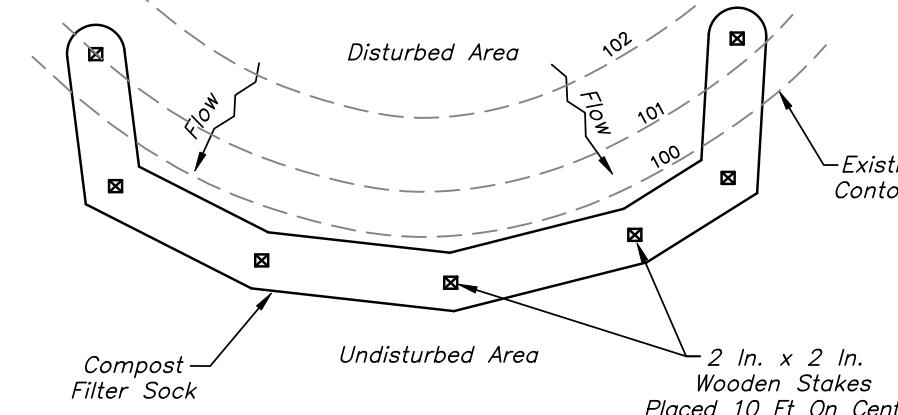
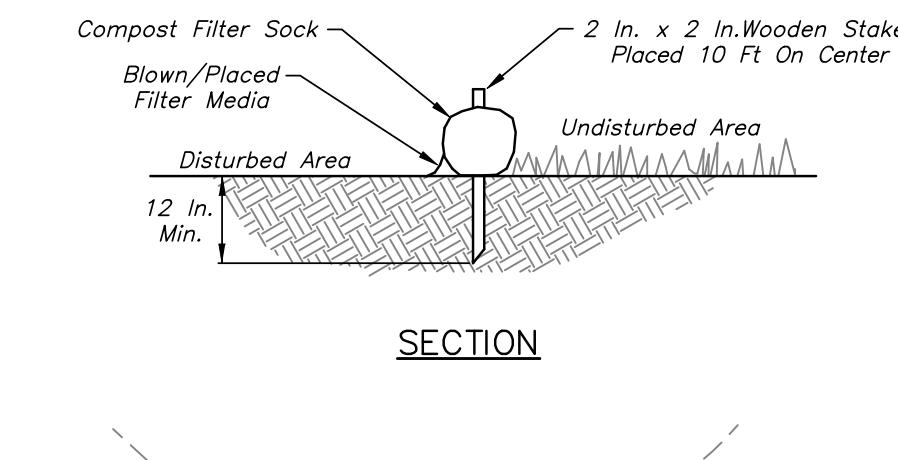
# E&S CONTROL DETAILS & NOTES (ALVIN H. & LAURA N. HOOVER)



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**TABLE 4.2 COMPOST STANDARDS**

Compost shall meet the following standards:	
Organic Matter Content	25% - 100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	5.5 - 8.5
Moisture Content	30% - 60%
Particle Size	30% - 50% pass through 3/8" SIEVE
Soluble Salt Concentration	5.0 dS/m (mmhos/cm) Maximum



**NOTES:**  
Compost fabric shall meet standards of Table 4.1 of the PA DEP Erosion Control Manual.

Compost shall meet the standards of Table 4.2 of the PA DEP Erosion Control Manual.

Compost filter sock shall be placed at existing level grade. Both ends of the barrier shall be extended at least 8 feet up slope at 45 degrees to the main barrier alignment. Maximum slope length above any barrier shall not exceed that specified for the size of the sock and the slope of its tributary area.

Traffic shall not be permitted to cross compost filter socks.

Accumulated sediment shall be removed when it reaches 1/2 the above ground height of the barrier and disposed in the manner described elsewhere in the plan.

Compost filter socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable compost filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

**STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK**  
NOT TO SCALE

NOTES:  
Remove topsoil prior to installation of rock construction entrance. Extend rock over full width of entrance.

Runoff shall be diverted from roadway to a suitable sediment removal BMP prior to entering rock construction entrance.

Mountable berm shall be installed wherever optional culvert pipe is used and proper pipe cover as specified by manufacturer is not otherwise provided. Pipe shall be sized appropriately for size of ditch being crossed.

Maintenance: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on roadway, extend length of rock construction entrance by 50' foot increments until condition is alleviated or install wash rock. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

The blanket shall be stapled in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

**ROCK CONSTRUCTION ENTRANCE**  
NOT TO SCALE

NOTES:  
Seed and soil amendments shall be applied according to the rates in the plan drawings prior to installing the blanket.

Provide anchor trench at toe of slope in similar fashion as at top of slope.

Slope surface shall be free of rocks, clogs, sticks, and grass.

Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

The blanket shall be stapled in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

**STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION**  
NOT TO SCALE

NOTES:  
* NORTH AMERICAN GREEN S75 OR EQUIVALENT

NOTES:  
Seed and soil amendments shall be applied according to the rates in the plan drawings prior to installing the blanket.

Provide anchor trench at toe of slope in similar fashion as at top of slope.

Slope surface shall be free of rocks, clogs, sticks, and grass.

Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

The blanket shall be stapled in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

**STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK**  
NOT TO SCALE

NOTES:  
Remove topsoil prior to installation of rock construction entrance. Extend rock over full width of entrance.

Runoff shall be diverted from roadway to a suitable sediment removal BMP prior to entering rock construction entrance.

Mountable berm shall be installed wherever optional culvert pipe is used and proper pipe cover as specified by manufacturer is not otherwise provided. Pipe shall be sized appropriately for size of ditch being crossed.

Maintenance: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on roadway, extend length of rock construction entrance by 50' foot increments until condition is alleviated or install wash rock. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

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