

CONSTRUCTION SEQUENCE NARRATIVE - PHASE I

THE CONTRACTOR SHALL PROVIDE THE COUNTY INSPECTOR 48 HOUR NOTIFICATION TO SCHEDULE AN ON-SITE PRE-CONSTRUCTION MEETING FOR THE ISSUANCE OF A LAND DISTURBANCE PERMIT. IF CONSTRUCTION DOES NOT COMMENCE FOR 180 DAYS FOLLOWING THE PRE-CONSTRUCTION MEETING, OR IF THE PROJECT IS DORMANT FOR 180 DAYS DURING THE CONSTRUCTION PHASE, A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE CONSTRUCTION CAN RE-START.

LAND DISTURBANCE OUTSIDE THE PRELIMINARY LIMITS OF DISTURBANCE MAY NOT OCCUR UNTIL THE INSTALLATION OF THE INITIAL EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN APPROVED BY THE ENVIRONMENTAL INSPECTOR. ALL EROSION CONTROL MEASURES MUST BE PLACED AS THE FIRST STEP IN THE CONSTRUCTION PROCESS.

NO EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED WITHOUT THE APPROVAL OF THE COUNTY ENVIRONMENTAL INSPECTOR.

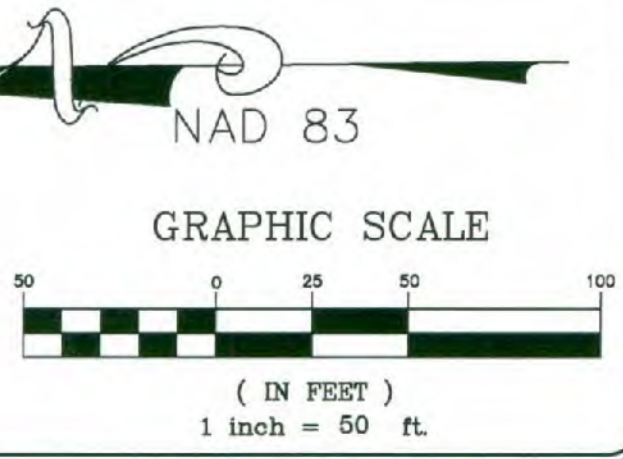
EROSION CONTROL PHASE I:

1. PRIOR TO SCHEDULING A PRE-CONSTRUCTION MEETING, INSTALL BARRICADE TAPE AND RPA SIGNS ALONG THE LIMITS OF THE RPA BUFFER. RPA SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH SIGN SPACING, LOCATION, AND INSTALLATION GUIDELINES IN SECTION 6.3.3 OF THE ENVIRONMENTAL COMPLIANCE MANUAL.
2. INSTALL THE CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS. A WASH RACK IS TO BE INSTALLED IF DEEMED NECESSARY BY THE COUNTY INSPECTOR AT CONSTRUCTION ENTRANCES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MINIMIZE THE AMOUNT OF MUD AND CONSTRUCTION DEBRIS FROM ENTERING ALL ROADS.
3. CONTRACTOR SHALL CLEAR ONLY THOSE AREAS AS SPECIFIED ON THE EROSION CONTROL PHASE ONE PLANS AS NECESSARY TO INSTALL THE SEDIMENT BASIN, SILT FENCE, AND DIVERSION DIKES.
4. PRIOR TO DIGGING THE BASIN, INSTALL ALL SILT FENCE AND THE CLEAN WATER DIVERSION DIKE.
5. CONTRACTOR SHALL START FROM THE SEDIMENT BASIN AND INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLAN.
6. INSTALL TEMPORARY SEEDING FOR ALL DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 14 DAYS. INSTALL PERMANENT SEEDING WITHIN 7 DAYS OF REACHING FINAL GRADE.
7. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS BASINS AND DIVERSION DIKES, IMMEDIATELY AFTER INSTALLATION.
8. ONCE THE SEDIMENT BASIN HAS BEEN INSTALLED, THE CONTRACTOR SHALL COORDINATE WITH THE COUNTY ENVIRONMENTAL INSPECTOR PRIOR TO PROCEEDING TO CLEARING AND GRUBBING.

EROSION CONTROL MEASURE NOTES:

1. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT AND IMMEDIATELY PROVIDE ANY NECESSARY REPAIRS AND/OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES.
2. ALL DISTURBED AREAS ARE TO DRAIN TO AN APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
3. TEMPORARY SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 14 DAYS.
4. ALL TEMPORARY EARTH BERMS, DIVERSIONS, SEDIMENT BASINS, SILT TRAPS, AND STOCKPILES ARE TO BE MULCHED AND SEEDED FOR VEGETATIVE COVER IMMEDIATELY UPON CONSTRUCTION. STRAW OR HAY MULCH IS REQUIRED.
5. ANY DISTURBED AREA NOT HAVING ESTABLISHED VEGETATION BY NOVEMBER 1ST, IS TO BE SEEDED ON THAT DATE WITH OATS, ABRUZZI, RYE, OR EQUIVALENT AND MULCHED WITH HAY OR STRAW MULCH. THE CONTRACTOR SHALL MODIFY THIS REQUIREMENT AS APPLICABLE DEPENDING ON THE PROPOSED CONSTRUCTION SCHEDULE.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION SEDIMENTATION AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR.
7. ALL EROSION & SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT EDITION OF THE EROSION AND SEDIMENT CONTROL HANDBOOK FOR HENRICO COUNTY.
8. ADJUST SOIL STOCKPILE AS NEEDED TO PERFORM GRADING.

EROSION CONTROL	
EROSION CONTROL DEVICES AS PER VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK	
STR. & SPEC.	
CE 3.02	CONSTRUCTION ENTRANCE
SAF 3.01	SAFETY FENCE
SF 3.05	SILT FENCE
TP 3.38	TREE PROTECTION
	ORANGE BARRICADE TAPE
IP 3.07	INLET PROTECTION
DD 3.09	TEMPORARY DIVERSION DIKE
SB 3.14	TEMPORARY SEDIMENT BASIN
CIP 3.08	CULVERT INLET PROTECTION
TS 3.31	TEMPORARY SEEDING
	LIMITS OF DISTURBANCE



Townes
SITE ENGINEERING
9850 Lori Road, Suite 201
Chesterfield, Virginia 23832
Phone: (804) 748-9011 Fax: (804) 748-2590
Company Website: www.townes.com

ASK US HOW

PROFESSIONAL ENGINEER
ZACKARY A. WILKINS
Lic. No. 050952
06 / 18 / 2018

POD Master Case # SUB201800018
© 2017 Townes Site Engineering
will be subject to legal action.

PEMBERTON RIDGE
TUCKAHOE DISTRICT
HENRICO COUNTY, VIRGINIA
EROSION AND SEDIMENT CONTROL - PHASE I

REVISIONS	
DATE	ITEM
02/09/2018	PER COMMENTS
04/06/2018	PER COMMENTS
05/23/2018	PER COMMENTS
06/18/2018	APPROVAL LETTER

DATE
12 / 4 / 2017

SCALE
1" = 50'

PROJECT MANAGER
ZACKARY A. WILKINS, P.E.

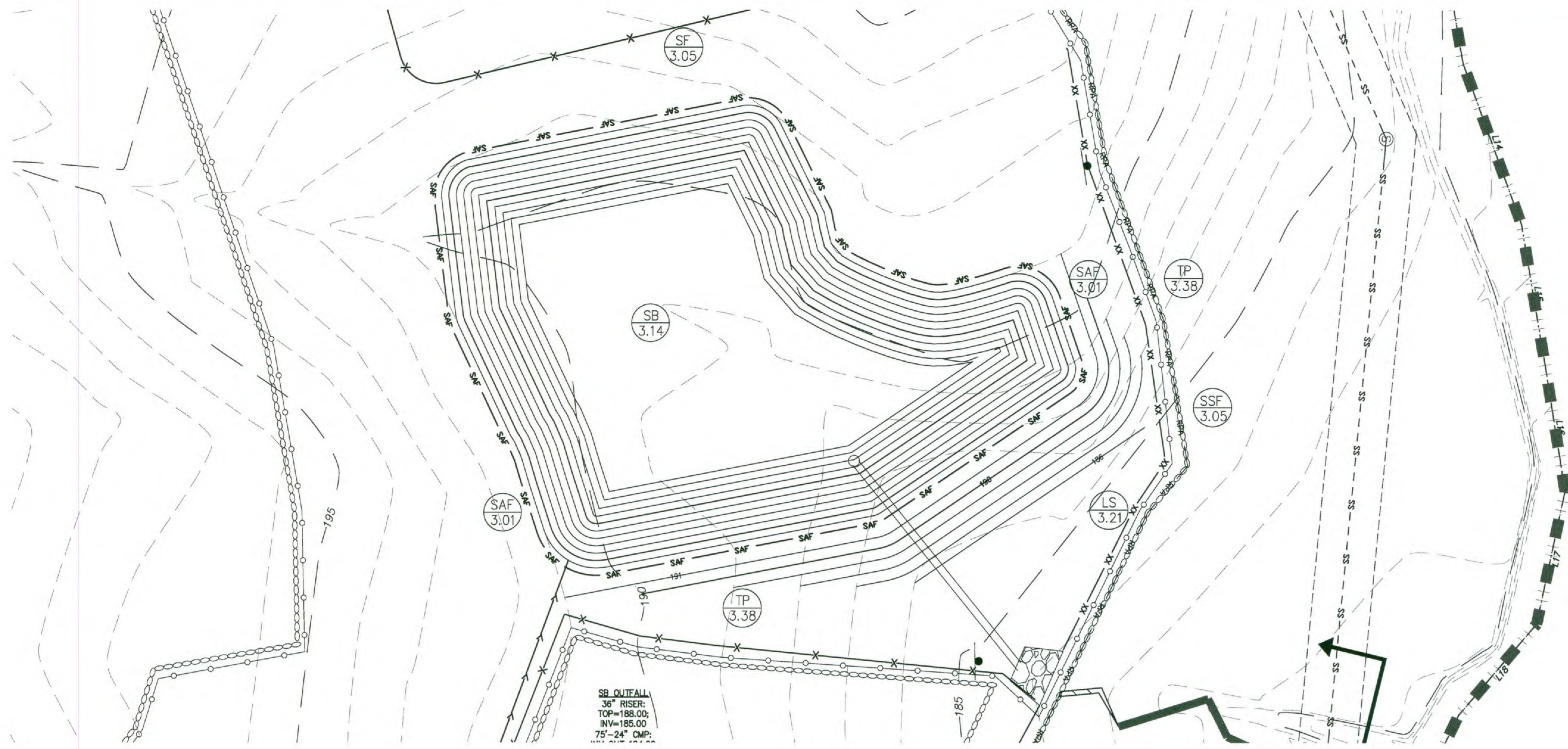
DESIGNED BY
AUSTIN H. GOYNE

CHECKED BY

PROJ.#
20170121

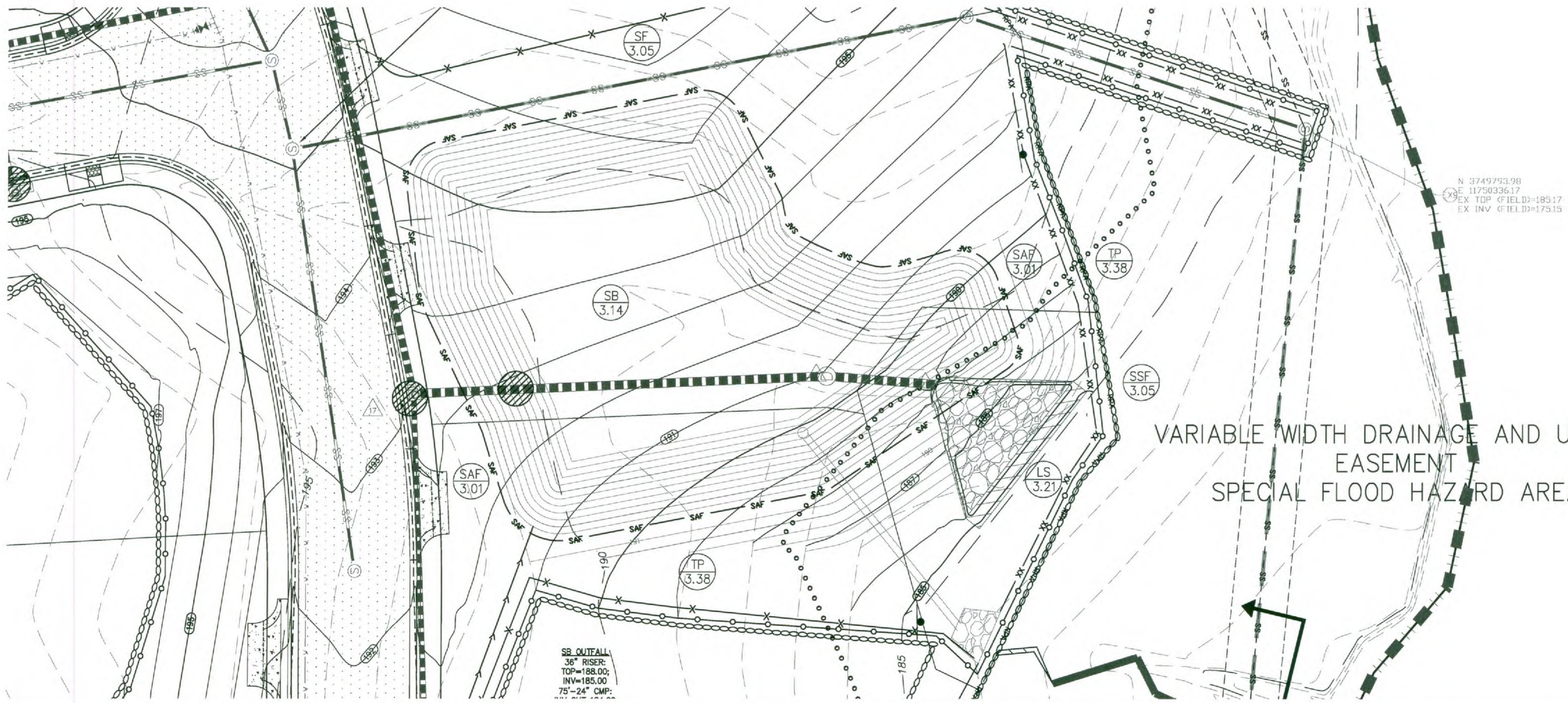
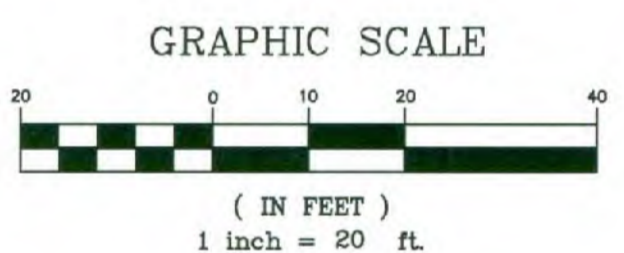
SHEET #
C - 4

This drawing and the design shown is the property of Townes Site Engineering the reproduction, copying, or other use of this drawing without their written consent is prohibited and any infringement will be subject to legal action.



PHASE I

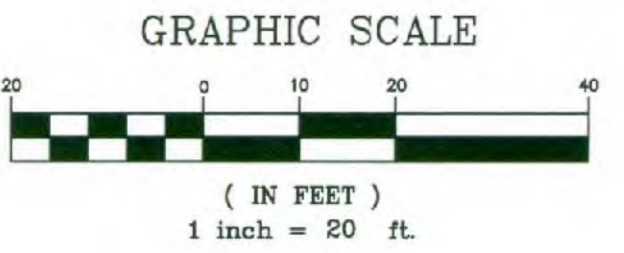
SB OUTFALL
36" RISER
TOP=188.00
INV=185.00
75'-24" CMP



PHASE II

SB OUTFALL
36" RISER
TOP=188.00
INV=185.00
75'-24" CMP

VARIABLE WIDTH DRAINAGE AND UTILITY
EASEMENT
SPECIAL FLOOD HAZARD AREA



Townes
SITE ENGINEERING
9850 Lori Road, Suite 201
Chesterfield, Virginia 23832
Phone: (804) 748-9011 Fax: (804) 748-2590
Company Website: www.ctownes.com

ASK US HOW
POD Master Case # SUB201800018
© 2017 Townes Site Engineering

PROFESSIONAL ENGINEER
ZACKARY A. WILKINS
Lic. No. 050952
06 / 18 / 2018

PEMBERTON RIDGE
TUCKAHOE DISTRICT
HENRICO COUNTY, VIRGINIA
EROSION AND SEDIMENT CONTROL
GRADING INSETS

REVISIONS	
DATE	ITEM
02/08/2018	PER COMMENTS
04/06/2018	PER COMMENTS
05/23/2018	PER COMMENTS
06/15/2018	APPROVAL LETTER

DATE
12 / 4 / 2017

SCALE
1" = 20'

PROJECT MANAGER
ZACKARY A. WILKINS, P.E.

DESIGNED BY
AUSTIN H. GOYNE

CHECKED BY

PROJ #
20170121

SHEET #
C - 5

This drawing and the design shown is the property of Townes Site Engineering the reproduction, copying, or other use of this drawing without their written consent is prohibited and any infringement will be subject to legal action.

ENERGY DISSIPATOR CONSTRUCTION NARRATIVE

- The sides and bottom of the plunge pool excavation shall be lined with filter fabric underlining and Class A1 rip rap in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, State Minimum Standards and Specifications Number 3.19.
- The spreader weir section shall be constructed by excavating a trench to the depth and configuration shown, laying down hardware cloth and backfilling with VDOT No. 3 aggregate. The hardware cloth shall be galvanized steel, 1/2 inch mesh, 19 gauge. The hardware cloth shall be wrapped around the aggregate and timber as shown and the edges stapled to the top of the timber every 12" with 3/4 inch galvanized steel staples.
- The 6" x 6" treated timber shall be level.
- Special considerations shall be made where a cross slope exists in the area of construction and outfall, and where there is a possibility that storm water may flow around and bypass the spreader weir. The contractor shall construct an additional timber and aggregate weir section as shown that ties back into existing grade.
- A minimum of clearing and grading may be required downstream of the spreader weir section to insure free overflow of storm water over the weir. Generally, all clearing and grading shall be kept to a minimum, but where required, the disturbed area shall be planted with sod in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, State Minimum Standards and Specifications Number 3.33. The sod shall be secured with netting and staples in accordance with Plate 3.33-2.

NOTE: A CONSTRUCTION RECORD DRAWING AND CERTIFICATION THAT THE SWM FACILITY HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN MUST BE SUBMITTED TO THE COUNTY AND APPROVED PRIOR TO THE RELEASE OF THE EC BOND.

CONSTRUCTION SEQUENCE NARRATIVE - PHASE II

LAND DISTURBANCE OUTSIDE THE PRELIMINARY LIMITS OF DISTURBANCE MAY NOT OCCUR UNTIL THE INSTALLATION OF ALL EROSION AND SEDIMENT CONTROL MEASURES WITHIN THE ASSOCIATED DRAINAGE AREA AS APPROVED BY THE COUNTY ENVIRONMENTAL INSPECTOR.

NO EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED WITHOUT THE APPROVAL OF THE ENVIRONMENTAL INSPECTOR.

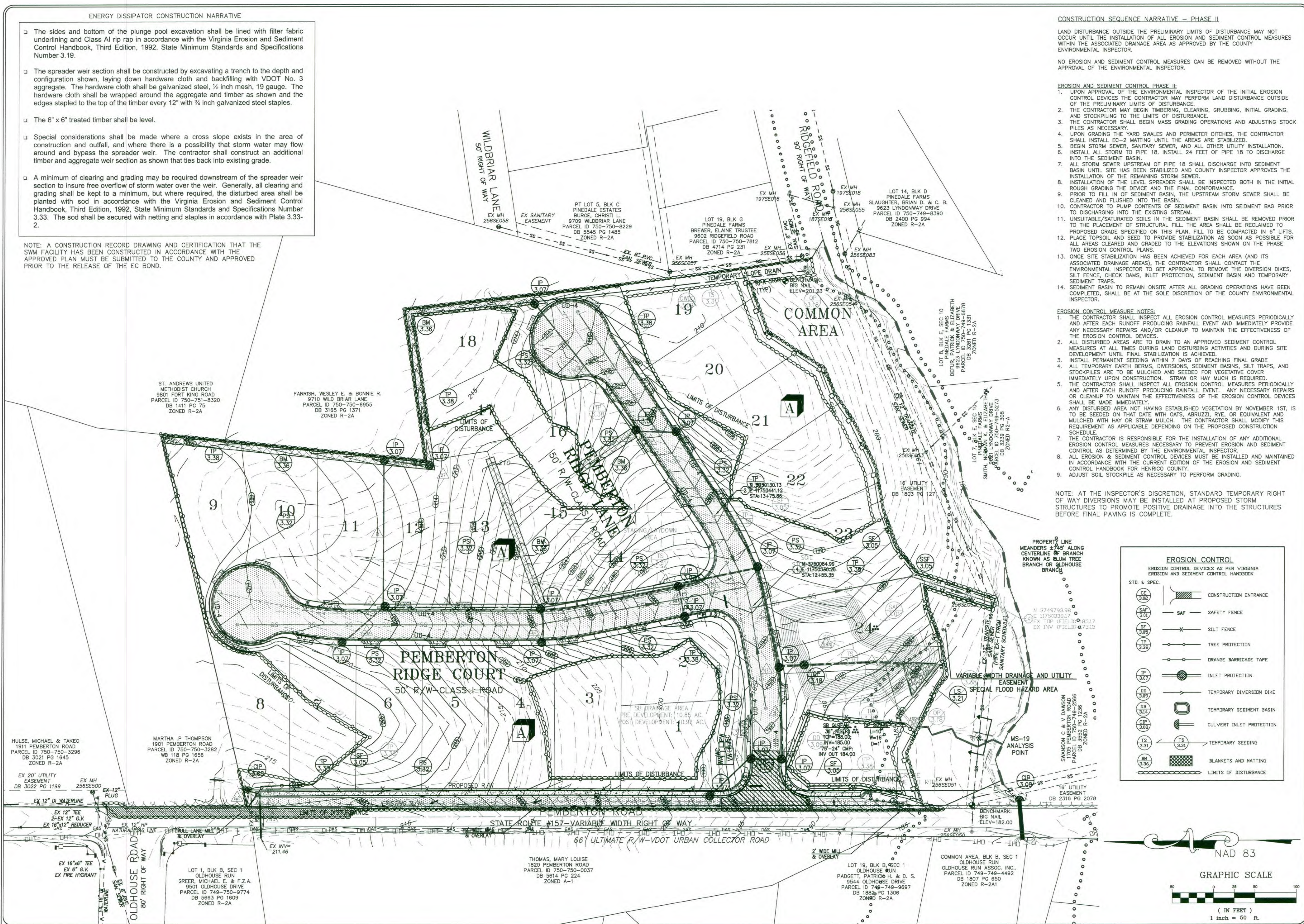
EROSION AND SEDIMENT CONTROL PHASE II

- UPON APPROVAL OF THE ENVIRONMENTAL INSPECTOR OF THE INITIAL EROSION CONTROL DEVICES THE CONTRACTOR MAY PERFORM LAND DISTURBANCE OUTSIDE OF THE PRELIMINARY LIMITS OF DISTURBANCE.
- THE CONTRACTOR SHALL BEGIN MASS GRADING OPERATIONS AND ADJUSTING STOCK PILES AS NECESSARY.
- UPON GRADING THE YARD SWALES AND PERIMETER DITCHES, THE CONTRACTOR SHALL INSTALL EC-2 MATTING UNTIL THE AREAS ARE STABILIZED.
- BEGIN STORM SEWER, SANITARY SEWER, AND ALL OTHER UTILITY INSTALLATION.
- INSTALL ALL STORM TO PIPE 18. INSTALL 24 FEET OF PIPE 18 TO DISCHARGE INTO THE SEDIMENT BASIN.
- ALL STORM SEWER UPSTREAM OF PIPE 18 SHALL DISCHARGE INTO SEDIMENT BASIN UNTIL SITE HAS BEEN STABILIZED AND COUNTY INSPECTOR APPROVES THE INSTALLATION OF THE REMAINING STORM SEWER.
- INSTALLATION OF THE LEVEL SPREADER SHALL BE INSPECTED BOTH IN THE INITIAL ROUGH GRADING OF THE DEVICE AND THE FINAL CONFORMANCE.
- PRIOR TO FILL IN OF SEDIMENT BASIN, THE UPSTREAM STORM SEWER SHALL BE CLEANED AND FLUSHED INTO THE BASIN.
- CONTRACTOR TO PUMP CONTENTS OF SEDIMENT BASIN INTO SEDIMENT BAG PRIOR TO DISCHARGING INTO THE EXISTING STREAM.
- UNSATURATED SOILS IN THE SEDIMENT BASIN SHALL BE REMOVED PRIOR TO THE PLACEMENT OF STRUCTURAL FILL. THE AREA SHALL BE RECLAIMED TO PROPOSED GRADE SPECIFIED ON THIS PLAN. FILL TO BE COMPACTED IN 6" LIFTS. PLACE TOPSOIL AND SEED TO PROVIDE STABILIZATION AS SOON AS POSSIBLE FOR ALL AREAS CLEARED AND GRADED TO THE ELEVATIONS SHOWN ON THE PHASE TWO EROSION CONTROL PLANS.
- ONCE SITE STABILIZATION HAS BEEN ACHIEVED FOR EACH AREA (AND ITS ASSOCIATED DRAINAGE AREAS), THE CONTRACTOR SHALL CONTACT THE ENVIRONMENTAL INSPECTOR TO GET APPROVAL TO REMOVE THE DIVERSION DIKES, SILT FENCE, CHECK DAMS, INLET PROTECTION, SEDIMENT BASIN AND TEMPORARY SEDIMENT TRAPS.
- SEDIMENT BASIN TO REMAIN ONSITE AFTER ALL GRADING OPERATIONS HAVE BEEN COMPLETED, SHALL BE AT THE SOLE DISCRETION OF THE COUNTY ENVIRONMENTAL INSPECTOR.

EROSION CONTROL MEASURE NOTES:

- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT AND IMMEDIATELY PROVIDE ANY NECESSARY REPAIRS AND/OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES.
- ALL DISTURBED AREAS ARE TO DRAIN TO AN APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- INSTALL PERMANENT SEEDING WITHIN 7 DAYS OF REACHING FINAL GRADE.
- ALL TEMPORARY EARTH BERMS, DIVERSIONS, SEDIMENT BASINS, SILT TRAPS, AND STOCKPILES ARE TO BE MULCHED AND SEEDED FOR VEGETATIVE COVER IMMEDIATELY UPON CONSTRUCTION. STRAW OR HAY MULCH IS REQUIRED.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- ANY DISTURBED AREA NOT HAVING ESTABLISHED VEGETATION BY NOVEMBER 1ST, IS TO BE SEEDDED ON THAT DATE WITH OATS, ABRUZZI, RYE, OR EQUIVALENT AND MULCHED WITH HAY OR STRAW MULCH. THE CONTRACTOR SHALL MODIFY THIS REQUIREMENT AS APPLICABLE DEPENDING ON THE PROPOSED CONSTRUCTION SCHEDULE.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENT CONTROL AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR.
- ALL EROSION & SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REVISIONS SECTION OF THE EROSION AND SEDIMENT CONTROL HANDBOOK FOR HENRICO COUNTY.
- ADJUST SOIL STOCKPILE AS NECESSARY TO PERFORM GRADING.

NOTE: AT THE INSPECTOR'S DISCRETION, STANDARD TEMPORARY RIGHT OF WAY DIVERSIONS MAY BE INSTALLED AT PROPOSED STORM STRUCTURES TO PROMOTE POSITIVE DRAINAGE INTO THE STRUCTURES BEFORE FINAL PAVING IS COMPLETE.



EROSION CONTROL	
EROSION CONTROL DEVICES AS PER VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK	
STD. & SPEC.	
CE 3.05	CONSTRUCTION ENTRANCE
SAF 3.01	SAFETY FENCE
SF 3.05	SILT FENCE
TP 3.36	TREE PROTECTION
IP 3.07	ORANGE BARRICADE TAPE
DD 3.09	INLET PROTECTION
SB 3.14	TEMPORARY DIVERSION DIKE
CIP 3.08	TEMPORARY SEDIMENT BASIN
IS 3.31	CULVERT INLET PROTECTION
IS 3.31	TEMPORARY SEEDING
BM 3.36	BLANKETS AND MATTING
	LIMITS OF DISTURBANCE

Townes
SITE ENGINEERING
9850 Lori Road, Suite 201
Chesterfield, Virginia 23832
Phone: (804) 748-9011 Fax: (804) 748-2590
Company Website: www.ctownes.com

ASK US HOW

PROFESSIONAL ENGINEER
ZACKARY A. WILKINS
Lic. No. 050952
06 / 18 / 2018

PEMBERTON RIDGE
TUCKAHOE DISTRICT
HENRICO COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL - PHASE II

REVISIONS	
DATE	ITEM
02/08/2018	PER COMMENTS
04/06/2018	PER COMMENTS
05/23/2018	PER COMMENTS
06/18/2018	APPROVAL LETTER

DATE: 12 / 4 / 2017
SCALE: 1" = 50'
PROJECT MANAGER: ZACKARY A. WILKINS, P.E.
DESIGNED BY: AUSTIN H. GOYNE
CHECKED BY:
PROJ. #: 20170121
SHEET #: C - 6

This drawing and the design shown is the property of Townes Site Engineering. The reproduction, copying, or other use of this drawing without their written consent is prohibited and any infringement will be subject to legal action. © 2017 Townes Site Engineering. POD Master Case # SUB2017000018. POD # SUB2017-00167