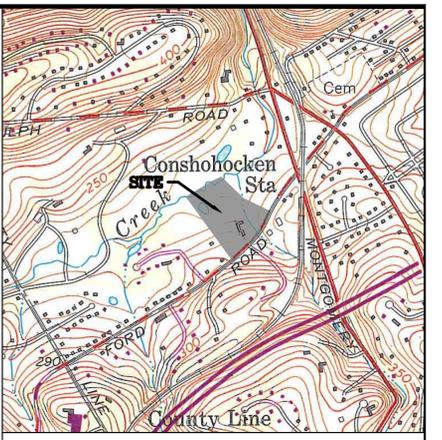


### LEGEND

	EXISTING TRACT BOUNDARY LINE
	EXISTING ADJOINER PROPERTY LINE
	PROPOSED LOT LINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	LEGAL RIGHT-OF-WAY LINE
	REQUIRED RIGHT-OF-WAY LINE
	BUILDING SETBACK LINE
	EXISTING STREAM & W.S.E.
	EXISTING FLOOD PLAIN LINE
	EXISTING FENCE LINE
	EXISTING BUILDING
	EXISTING WALL
	EXISTING BRICK PAVING
	EXISTING EDGE OF PAVING
	EXISTING PLANTED AREA
	PROPOSED CURB LINE
	EXISTING IRON PIN
	PROPOSED IRON PIN
	PROPOSED CONCRETE MONUMENT
	EXISTING SIGN
	DEDICATED OPEN SPACE AREA
	WETLAND AREA



**LOCATION MAP**  
1" = 1000'

### PLAN INDEX

1	OF 15	RECORD PLAN
2	OF 15	EXISTING FEATURES PLAN
3	OF 15	SIGHT DISTANCE PLAN & PROFILE
4	OF 15	GRADING PLAN
5	OF 15	ELDERBROOKE LANE PROFILE
6	OF 15	UTILITY PLAN
7	OF 15	LANDSCAPE PLAN
8	OF 15	EROSION & SEDIMENTATION CONTROL PLAN
9	OF 15	EROSION & SEDIMENTATION CONTROL NOTES
10	OF 15	EROSION & SEDIMENTATION CONTROL DETAILS
11	OF 15	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
12	OF 15	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
13	OF 15	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES

ON THE \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_ BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, RESIDING IN \_\_\_\_\_ PERSONALLY APPEARED \_\_\_\_\_ WHO IN DUE FORM OF LAW ACKNOWLEDGED THAT HE EXECUTED THE FOREGOING PLAN BY SIGNING SAME, AND THAT HE IS THE OWNER OF THE DESIGNATED LAND, THAT ALL NECESSARY APPROVAL OF THE PLAN HAS BEEN OBTAINED, AND THAT HE DESIRES THAT THE FOREGOING PLAN BE DULY RECORDED.

WITNESS MY HAND AND NOTARIAL SEAL THE DAY AND YEAR AFORESAID

NOTARY PUBLIC \_\_\_\_\_  
MY COMMISSION EXPIRES \_\_\_\_\_

I HEREBY CERTIFY THAT \_\_\_\_\_ IS THE REGISTERED OWNER OF THE LAND HERIN SUBDIVIDED OR DEVELOPED AND THAT I DO HEREBY ADOPT THIS PLAN.

OWNER \_\_\_\_\_  
APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_ BY THE PLANNING COMMISSION OF THE TOWNSHIP OF UPPER MERION.

CHAIRPERSON \_\_\_\_\_ VICE-CHAIRPERSON \_\_\_\_\_

REVIEWED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_ BY THE ENGINEER OF UPPER MERION TOWNSHIP.

TOWNSHIP ENGINEER \_\_\_\_\_

RECORDED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_ IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY IN NORRISTOWN, PENNSYLVANIA.

PLAN BOOK NO. \_\_\_\_\_ PAGE \_\_\_\_\_

RECORDER \_\_\_\_\_

MCPC No. \_\_\_\_\_

PROCESSED and REVIEWED. A report has been prepared by the Montgomery County Planning Commission in accordance with the Municipalities Planning Code.

Certified this date \_\_\_\_\_

For the Director  
Montgomery County Planning Commission

PROPERTY DATA:  
RECORD OWNER: JAMES F. & CAROLYN L. LOSTY  
ADDRESS: 231 WEST MATSONFORD ROAD, RADNOR, PA 19087  
TAX MAP DATA: PARCEL # 58-00-13546-00-4  
GROSS AREA: BLOCK 44, UNIT 2 10.35 ACRES

### ZONING DATA TABLE

R-1A RURAL RESIDENTIAL DISTRICT		CLUSTER DEVELOPMENT OVERLAY CRITERIA	
ZONING REQUIREMENTS	REQUIRED	DEVELOPABLE ACREAGE CALCULATION:	
MINIMUM LOT AREA:	1 ACRE	TOTAL NET TRACT AREA:	9.81 ACRES
MINIMUM LOT WIDTH (AT BUILDING LINE):	175'	TOTAL SLOPES >25%:	0 ACRES
MINIMUM FRONT YARD:	50'	TOTAL SLOPES >15%:	0 ACRES
MINIMUM SIDE YARD:	20'/50' AGG.	TOTAL FLOODPLAIN/WETLAND AREA:	2.77 ACRES
MINIMUM SIDE YARD (ABUTTING A STREET):	50'	% OF FLOODPLAIN/WETLAND AREA:	28.3 %
MINIMUM SIDE YARD (ACCESSORY USE):	10'	TOTAL DEVELOPABLE AREA:	7.03 ACRES
MINIMUM REAR YARD:	40'	MAXIMUM DENSITY:	7.03 AC. / 1 AC.=7 LOTS
MINIMUM REAR YARD (ACCESSORY USE):	10'	MINIMUM FRONT YARD AT PUBLIC STREET:	30'
MAXIMUM BUILDING HEIGHTS:		MINIMUM REAR YARD:	25'
DWELLING:	35'/2.5 STORIES	MINIMUM DISTANCE BETWEEN BUILDINGS:	20'
ACCESSORY:	14'/1 STORY		
NON-DWELLING:	35'		
MAXIMUM BUILDING COVERAGE:	15%		
MAXIMUM IMPERVIOUS COVERAGE:	30%		

### PROPOSED PARKING AND SETBACK TABULATION

	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	LOT 6	LOT 7
PROPOSED FRONT YARD:	N/A	31'	44'	34'	35'	33'	44'
PROPOSED REAR YARD:	N/A	27'	41'	61'	77'	95'	77'
PROPOSED DISTANCE BETWEEN BUILDINGS:	N/A	40'	32'	30'	23'	23'	113'
PROPOSED PARKING:	N/A	4	4	4	4	4	4
COMMON PARKING (1/3 SPACE):	N/A	1	3	2	2	1	0
REQUIRED OFF STREET PARKING, LOTS 2-7: 4 BEDROOMS = 3 PARKING SPACES, EACH LOT TO HAVE A 3 CAR GARAGE							



- ### GENERAL NOTES:
- THE ULTIMATE RIGHT-OF-WAY OF MATSONFORD ROAD IS BEING OFFERED FOR DEDICATION.
  - PROPOSED CONSTRUCTION AND RIGHT-OF-WAY OF ELDERBROOKE LANE IS BEING OFFERED FOR DEDICATION.
  - ALL UTILITIES SHALL BE UNDERGROUND.
  - A HOMEOWNERS ASSOCIATION WILL BE RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM AND KEEPING IT IN GOOD WORKING ORDER.
  - BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A FIELD SURVEY PERFORMED BY CZOP/SPECTER, INC. ON 6/21/01.
  - VERTICAL DATUM WAS BASED ON SANITARY SEWERS.
  - THE SITE IS TO BE SERVED BY PUBLIC SEWER AND WATER.
  - ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER AND CZOP/SPECTER, INC. IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN. THE ENGINEER RESERVES THE RIGHT TO CORRECT THESE DRAWINGS.
  - ALL CONSTRUCTION AND MATERIALS SHALL BE IN CONFORMANCE WITH PENNDOT FORM 408 AND UPPER MERION TOWNSHIP STANDARDS.
  - THE STORMWATER MANAGEMENT FACILITY BEING PROPOSED ON THIS SITE WILL BE DEEMED RESTRICTED. REMOVAL OR ALTERATION OF SAID FACILITY IS STRICTLY PROHIBITED WITHOUT THE EXPRESS WRITTEN APPROVAL OF UPPER MERION TOWNSHIP.
  - A BLANKET EASEMENT THAT RUNS WITH THE LAND WILL BE OFFERED THAT ALLOWS UPPER MERION TOWNSHIP ACCESS TO THE PROPERTY FOR THE PURPOSES OF INSPECTING AND, IF NECESSARY, MAKING REPAIRS TO THE STORMWATER MANAGEMENT FACILITY.
  - ALL IRON PINS, AT A MINIMUM, TO BE 5/8" REBAR, 18" LENGTH.

### WAIVERS REQUESTED

§140A-13.B(1)(b) - PARTIAL WAIVER OF THE REQUIREMENT TO REDUCE THE TEN YEAR POST DEVELOPMENT FLOW TO THE TWO YEAR PREDEVELOPED RATE.

§145-14.D - REQUIRING LOT SIDELINES TO BE RADIAL OR PERPENDICULAR TO THE STREET RIGHT-OF-WAY.

§145-20.C(2) - REQUIRING CURB AND SIDEWALK ALONG MATSONFORD ROAD; SIDEWALK ONLY ALONG ELDERBROOKE LANE FRONTAGE OF LOT 1.

§145-39.A - REQUIRING THE DEDICATION OF TWENTY PERCENT OF NET AREAS AS PARKLAND. THE OFFER OF A FEE IN LIEU OF IS BEING REQUESTED.

THE WETLANDS DELINEATION AS SHOWN HEREON REPRESENTS AN ACCURATE DEPICTION OF A FIELD DELINEATION OF THE REGULATED WETLANDS AND/OR WATERCOURSE BOUNDARY PERFORMED IN ACCORDANCE WITH THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL AND REGIONAL SUPPLEMENTS, AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION GUIDELINES AND STANDARDS PER PA CODE TITLE 25, CHAPTER 105.

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

SURVEYOR CERTIFICATION:  
I, Seboh Galestianian, a registered surveyor of the Commonwealth of Pennsylvania, certify that this plan represents a field survey by me or under my supervision, that all property corners are set as shown hereon, that all geometric and geodetic details as shown are correct, and that all lots or tracts have a boundary closure error of 1:10,000 or better.

Seboh Galestianian #SU-051079-E Date \_\_\_\_\_ (seal)

1	PER TOWNSHIP ENG. LETTER DATED 2/1/2016	R.I.B.	3/30/16
No.	REVISION	BY	DATE

### USER NOTICE

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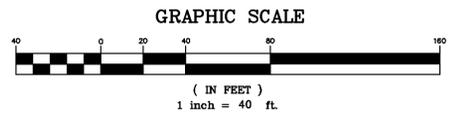
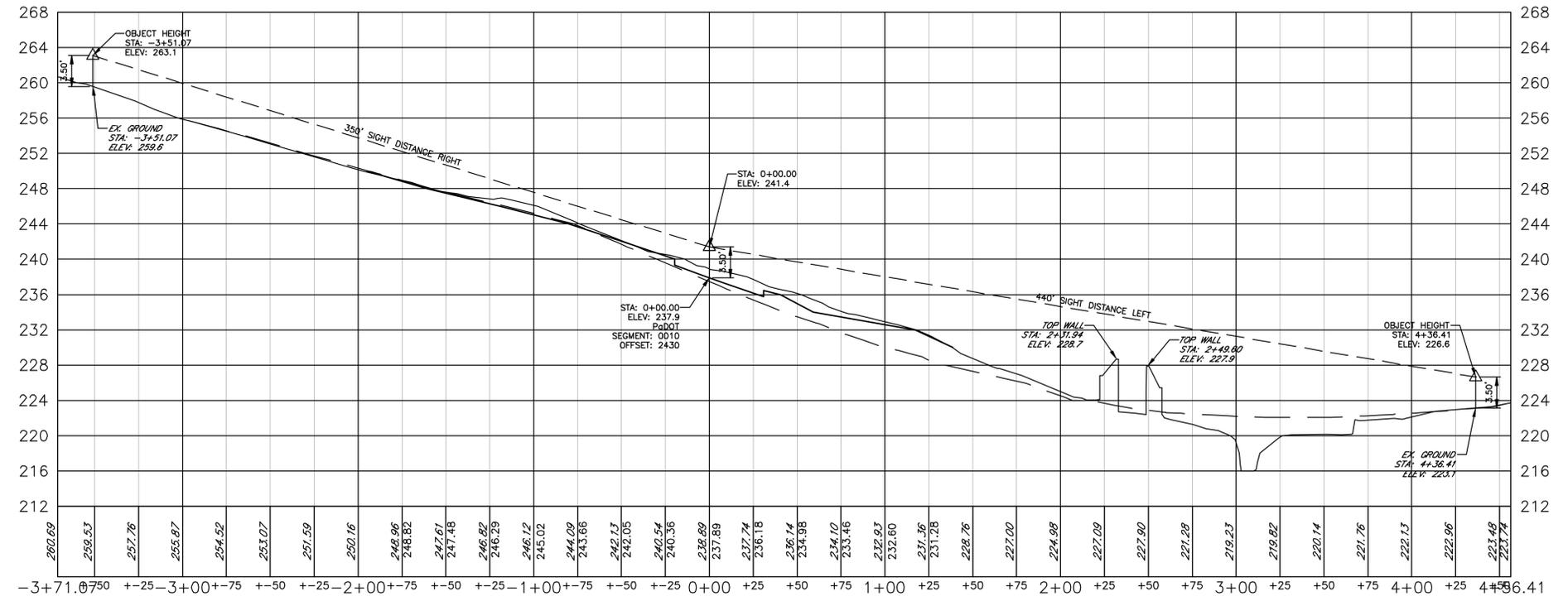
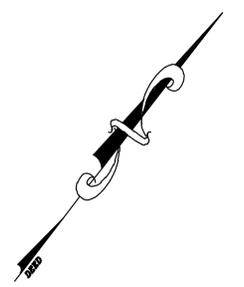
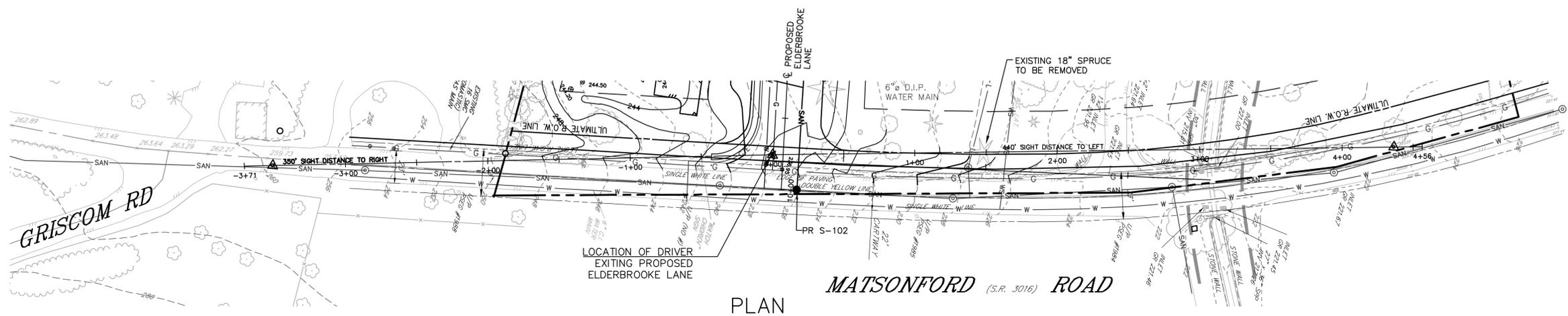
# LOSTY SUBDIVISION

UPPER MERION TWP. MONTGOMERY COUNTY, PA

## RECORD PLAN

DRAWN BY RJB	PREPARED FOR <b>JAMES F. &amp; CAROLYN L. LOSTY</b> 231 MATSONFORD ROAD RADNOR, PA 19087	DATE 1/7/2016
CHECKED BY		JOB NO. 1697-3
SCALE 1" = 40'		DRAWING FILE 1697-3.dwg
FIELD BOOK N/A	<b>CZOP SPECTER</b> Civil Engineering • Surveyors • Construction Management 1000 Madison Ave Suite 220 Norristown, PA 19403 (484)831-5795 www.czopspecter.com	SHEET NO. 1 OF 15





1	PER TOWNSHIP ENG. LETTER DATED 2/1/2016	R.J.B.	3/30/16
No.	REVISION	BY	DATE

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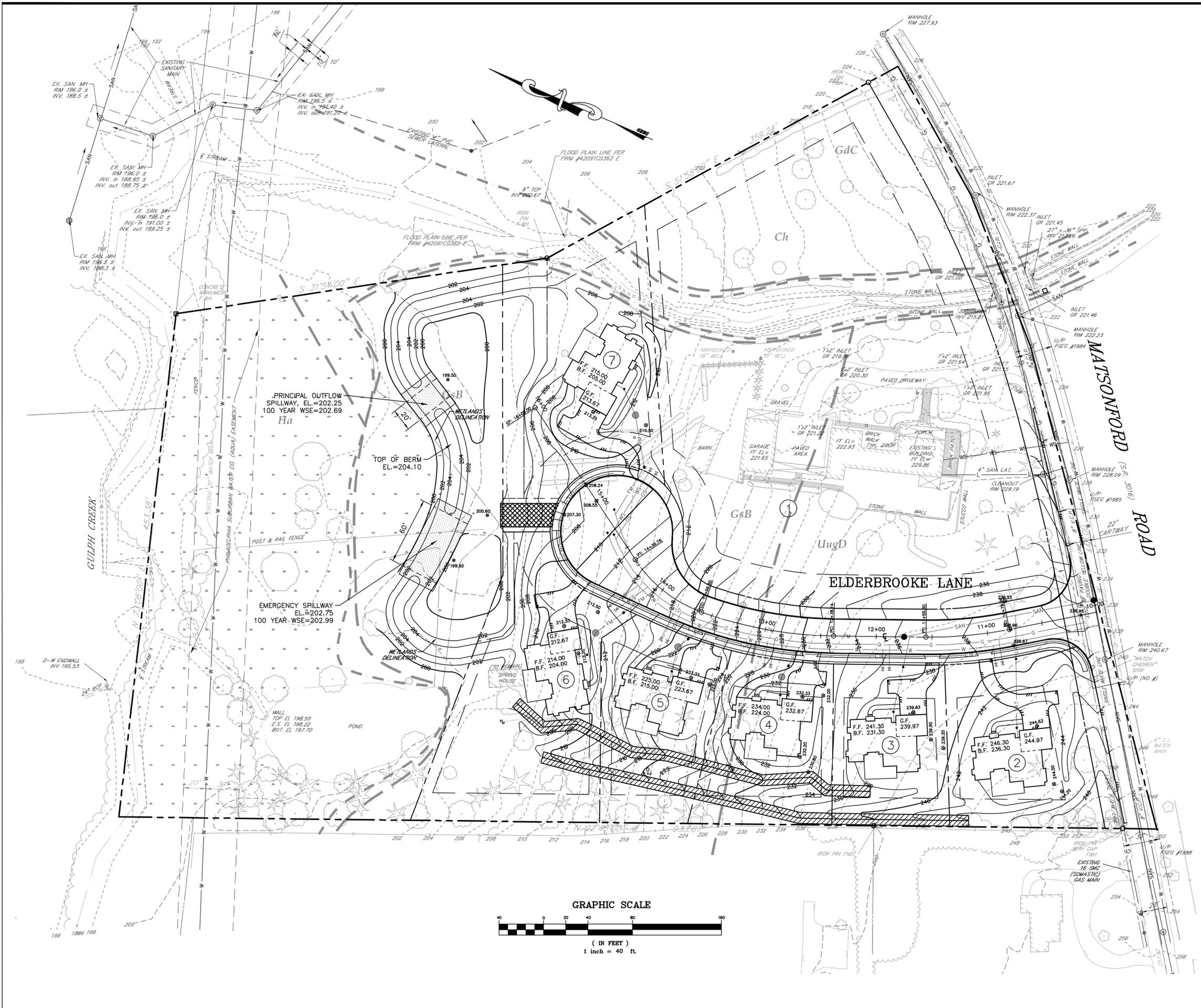
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**LOSTY SUBDIVISION**

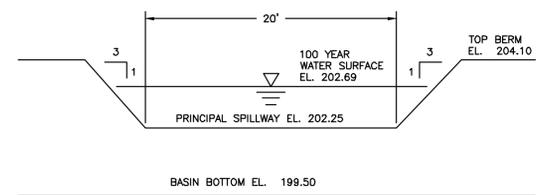
UPPER MERION TWP. MONTGOMERY COUNTY, PA

**SIGHT DISTANCE PLAN & PROFILE**

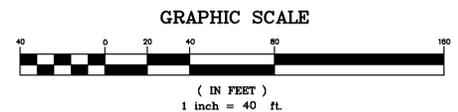
DRAWN BY RJB	PREPARED FOR <b>JAMES F. &amp; CAROLYN L. LOSTY</b> 231 MATSONFORD ROAD RADNOR, PA 19087	DATE 1/7/2016
CHECKED BY		JOB NO. 1697-3
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FIELD BOOK N/A		SHEET NO. 3 OF 15



LEGEND	
---	EXISTING CONTOUR
---	EXISTING INDEX CONTOUR
---	PROPOSED CONTOUR
---	EXISTING STORMWATER MAIN
---	EXISTING SANITARY MAIN
---	PROPOSED 8" SANITARY GRAVITY MAIN
---	PROPOSED 2" SANITARY FORCE MAIN
---	PROPOSED 4" SANITARY LATERAL
---	EXISTING WATER MAIN
---	PROPOSED 8" WATER MAIN
---	PR. 2" WATER SERVICE LATERAL & VALVE
---	PR. 6" FIRE SERVICE LATERAL & HYDRANT
---	EXISTING GAS MAIN
---	PROPOSED 4" GAS MAIN
---	PR. 1" GAS SERVICE LATERAL & VALVE
---	PR. CABLE/TELEPHONE/ELECTRIC LINE
---	EXISTING BUILDING
---	PROPOSED BUILDING
---	EXISTING EDGE OF PAVING
---	PROPOSED EDGE OF PAVING
---	EXISTING CURB LINE
---	PROPOSED CURB LINE
---	PROPERTY LINE
---	LEGAL RIGHT-OF-WAY
---	ULTIMATE RIGHT-OF-WAY
---	BUILDING SETBACK LINE
---	EXISTING INLET
---	EXISTING MANHOLE
---	PROPOSED MANHOLE
---	EXISTING VALVE
---	EXISTING FIRE HYDRANT
---	EXISTING LIGHT POST
---	PROPOSED LIGHT POST
---	EXISTING MAILBOX
---	EXISTING SIGN
---	EXISTING UTILITY POLE



**PRINCIPAL OUTFLOW SPILLWAY DETAIL**  
NTS



1	PER TOWNSHIP ENG. LETTER DATED 2/1/2016	R.J.B.	3/30/16
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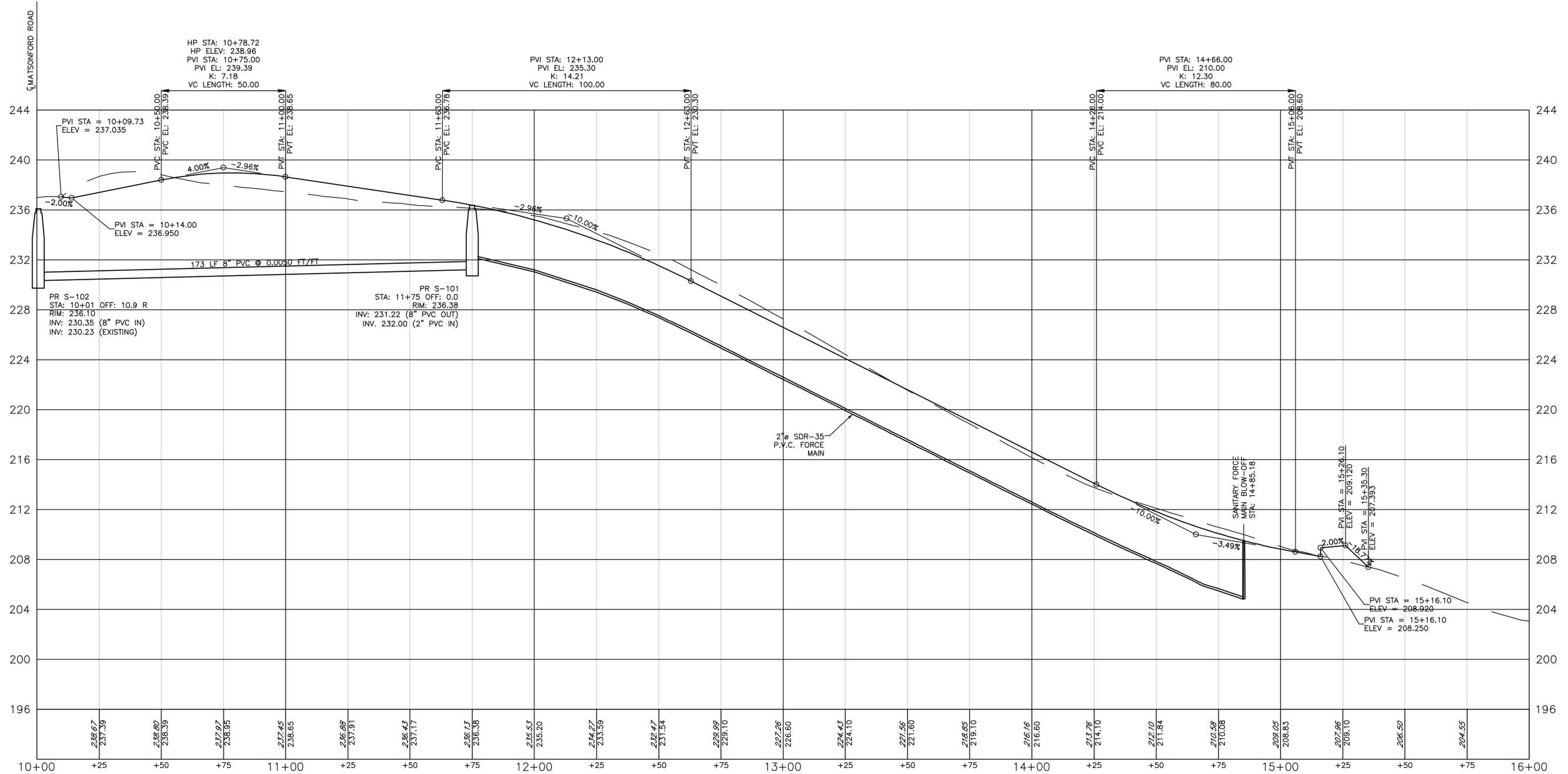
# LOSTY SUBDIVISION

UPPER MERION TWP. MONTGOMERY COUNTY, PA

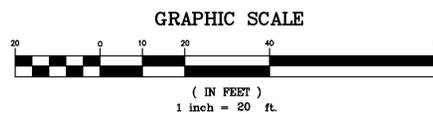
## GRADING PLAN

DRAWN BY	RJB	PREPARED FOR	JAMES F. & CAROLYN L. LOSTY 231 MATSONFORD ROAD RADNOR, PA 19087	DATE	1/7/2016
CHECKED BY				JOB NO.	1697-3
SCALE	1" = 40'			DRAWING FILE	1697-3.dwg
FIELD BOOK	N/A			SHEET NO.	4 OF 15
				1000 Madison Ave Suite 220 Norristown, PA 19403 (484)831-5795 www.czopspecter.com Civil Engineering • Surveyors • Construction Management	

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**ELDERBROOKE LANE PROFILE**  
 PROFILE SCALE: 1"=20' (HORZ.) 1"=4' (VERT.)



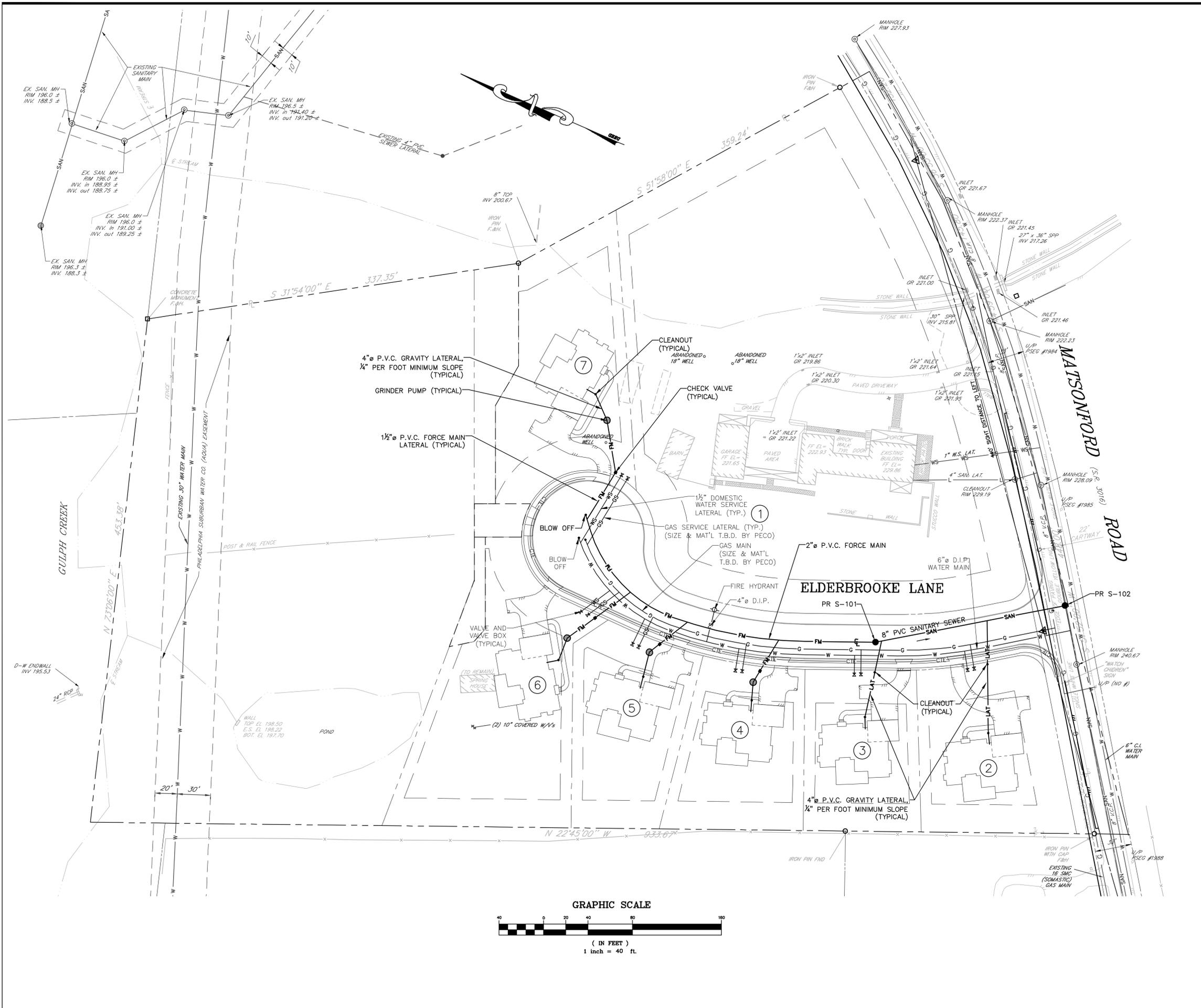
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**LOSTY SUBDIVISION**  
 UPPER MERION TWP. MONTGOMERY COUNTY, PA

**ELDERBROOKE LANE PROFILE**

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LEGEND	
	EXISTING STORMWATER MAIN
	EXISTING SANITARY LINE
	PROPOSED 8" SANITARY GRAVITY MAIN
	PROPOSED 2" SANITARY FORCE MAIN
	PROPOSED 4" SANITARY LATERAL
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	EXISTING FIRE HYDRANT
	EXISTING LIGHT POST
	PROPOSED LIGHT POST
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING UTILITY POLE



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 PENNSYLVANIA LAW REQUIRES 3  
 WORKING DAYS NOTICE FOR  
 CONSTRUCTION PHASE AND 10 WORKING  
 DAYS IN DESIGN STAGE - STOP CALL  
 PENNSYLVANIA ONE CALL SYSTEM, INC.  
 1-800-242-1776  
 THE SITE SERIAL NUMBER IS  
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COMPANY: COMCAST CABLEVISION ADDRESS: 1 APOLLO ROAD PLYMOUTH MEETING, PA 19462 CONTACT: TOM DEMSEY EMAIL:	COMPANY: USIC ADDRESS: 450 SOUTH HENDERSON ROAD KING OF PRUSSIA, PA 19406 CONTACT: NIKKIA SIMPKINS EMAIL: nikkiasimpkins@usicllc.com
COMPANY: UPPER MERION TOWNSHIP ADDRESS: 175 WEST VALLEY FORGE ROAD KING OF PRUSSIA, PA 19406 CONTACT: TODD LACHENMAYER EMAIL: tlachenmayer@umtownship.org	COMPANY: TREDYFFRIN TOWNSHIP ADDRESS: 1100 DUPORTAL ROAD BERWYN, PA 19312 CONTACT: J DEAN WILKINS EMAIL: dwilkins@tredyffrin.org
COMPANY: UPPER MERION TOWNSHIP MUN. AUTH. ADDRESS: 175 WEST VALLEY FORGE ROAD KING OF PRUSSIA, PA 19406 CONTACT: GARY PICARD EMAIL: gpicard@umtownship.org	COMPANY: VERIZON PENNSYLVANIA, LLC ADDRESS: 15 MONTGOMERY AVENUE, FLOOR 2 PITTSBURGH, PA 15212 CONTACT: DEBORAH BARUM EMAIL: deborah.d.dello@verizon.com
COMPANY: COMCAST ADDRESS: 4400 WAYNE AVENUE PHILADELPHIA, PA 19140 CONTACT: ROBERT HARVEY EMAIL: bob_harvey@cable.comcast.com	

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No.	REVISION	BY	DATE

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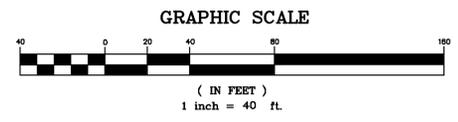
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# LOSTY SUBDIVISION

UPPER MERION TWP. MONTGOMERY COUNTY, PA

## UTILITY PLAN

DRAWN BY RJB	PREPARED FOR <b>JAMES F. &amp; CAROLYN L. LOSTY</b> 231 MATSONFORD ROAD RADNOR, PA 19087	DATE 1/7/2016
CHECKED BY		JOB NO. 1697-3
SCALE 1" = 40'	1000 Madison Ave Suite 220 Norristown, PA 19403 (484)831-5795 www.czopspecter.com	DRAWING FILE 1697-3.dwg
FIELD BOOK N/A	Civil Engineering • Surveyors • Construction Management	SHEET NO. 6 OF 15



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### LEGEND

	TREE/VEGETATION REMOVAL AREA
	TREE/VEGETATION PROTECTION AREA
	BASIN SEEDING AREA
	PROPERTY LINE BUFFER AREAS
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING HEDGEROW
	EXISTING TREE LINE

### TREE REMOVAL TABULATION

TREES GREATER THAN 12" DIAMETER

EVERGREEN		
SPECIES	DIAMETER IN INCHES (DBH)	REPLACEMENT TREES REQ'D
SPRUCE	14"	4
SPRUCE	18"	6
SPRUCE	34"	6
PINE	14"	4
DECIDUOUS		
SPECIES	DIAMETER IN INCHES (DBH)	REPLACEMENT TREES REQ'D
MAPLE	26"	6
ELM	12"	4
ELM	24"	6
<b>TOTAL REPLACEMENT TREES REQUIRED</b>		<b>36</b>

### TREE PRESERVATION TABULATION

TREES GREATER THAN 12" DIAMETER

EVERGREEN		
SPECIES	DIAMETER IN INCHES (DBH)	REPLACEMENT TREES REQ'D
SPRUCE	24"	6
PINE	12"	4
PINE	14"	4
PINE	24"	6
PINE	24"	6
HOLLY	12"	4
DECIDUOUS		
SPECIES	DIAMETER IN INCHES (DBH)	REPLACEMENT TREES REQ'D
OAK	30"	6
MAPLE	12"	4
MAPLE	20"	6
MAPLE	20"	6
MAPLE	24"	6
MAPLE	30"	6
MAPLE	40"	8
MAPLE	40"	8
CHERRY	15"	4
ELM	14"	4
ELM	20"	6
ELM	34"	6
ELM	36"	8
<b>TREE PRESERVATION CREDITS</b>		<b>108</b>

### PROPOSED STREET TREE TABULATION

NUMBER OF STREET TREES REQUIRED: 26

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QTY.
	ACER RUBRUM	RED MAPLE	2 1/2" MIN. CAL. (BALL & BAG)	9
	PLANTUS OCCIDENTALIS	SYCAMORE	2 1/2" MIN. CAL. (BALL & BAG)	9
	TILIA AMERICANA	AMERICAN LINDEN	2 1/2" MIN. CAL. (BALL & BAG)	8

### PROPOSED INFILTRATION BASIN LANDSCAPE TABULATION

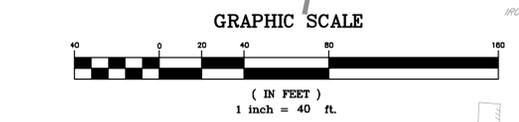
SYMBOL	SCIENTIFIC NAME	COMMON NAME	QTY.	SIZE	REMARKS
	ACER RUBRUM	RED MAPLE	6	3 1/2" (MIN)	B&B
	MAGNOLIA VIRGINIA	SWEETBAY MAGNOLIA	2	2 1/2" (MIN)	B&B
	QUERCUS BICOLOR	SWAMP WHITE OAK	3	3 1/2" (MIN)	B&B
	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	2	3' HEIGHT	CONTAINER
	ROSA PALUSTRIS	SWAMP ROSE	9	3' HEIGHT	CONTAINER

### SEED MIX (INFILTRATION BASIN)

RECLAIM WETLANDS MIXTURE	
25% REDTOP	10% SOFT RUSH
25% VIRGINIA WILD RYE	10% LURID SEDGE
15% FOX SEDGE	5% JOE PYE RYE
10% WOOLGRASS	

### PROPERTY LINE FILTERING BUFFER VEGETATION TABULATION

BUFFER AREA	LENGTH	REQUIRED CANOPY TREES	REQUIRED UNDERSTORY TREES	REQUIRED EVERGREEN TREES	REQUIRED SHRUBS
A	120 L.F.	3	3	6	6
		①	②	50% ③ 50% ④	50% ⑤ 50% ⑥
B	260 L.F.	5	5	13	13
		①	②	50% ③ 50% ④	50% ⑤ 50% ⑥



- ① RED MAPLE (ACER RUBRUM)
- ② SWEETBAY MAGNOLIA (MAGNOLIA VIRGINIANA)
- ③ WHITE PINE (PINUS STROBUS)
- ④ CANADIAN HEMLOCK (TSUGA CANADENSIS)
- ⑤ RED-STEM DOGWOOD (CORNUS SERICA)
- ⑥ SPICEBUSH (LINDERA BENZOIN)

1 PER TOWNSHIP ENG. LETTER DATED 2/1/2016  
 No. \_\_\_\_\_ REVISION \_\_\_\_\_ R.J.B. 3/30/16 BY DATE

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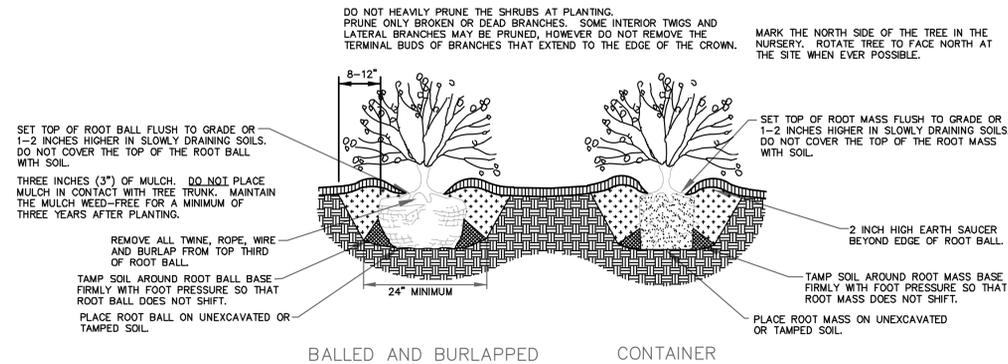
# LOSTY SUBDIVISION

UPPER MERION TWP. MONTGOMERY COUNTY, PA

## LANDSCAPE PLAN (1 OF 2)

DRAWN BY RJB	PREPARED FOR <b>JAMES F. &amp; CAROLYN L. LOSTY</b> 231 MATSONFORD ROAD RADNOR, PA 19087	DATE 1/7/2016
CHECKED BY JA		JOB NO. 1697-3
SCALE 1" = 40'	 Civil Engineering • Surveyors • Construction Management	DRAWING FILE 1697-3.dwg
FIELD BOOK N/A		1000 Madison Ave Suite 220 Norristown, PA 19403 (484)831-5795 www.czopspecter.com

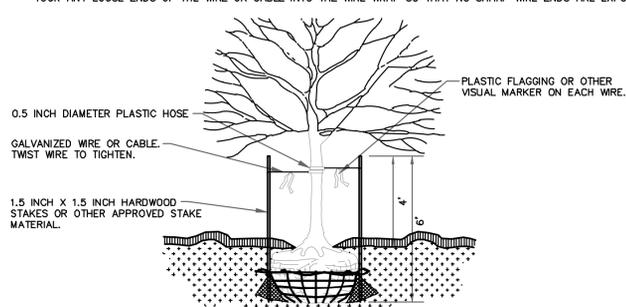
SHEET NO.  
7 OF 15



BALLED AND BURLAPPED CONTAINER

NOTES:  
1. PLANTS WITH POOR QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED SHALL BE REJECTED.  
2. PLANTS THAT DO NOT DISPLAY THE NORMAL CHARACTERISTICS FOR THEIR SPECIES SHALL BE REJECTED.

**DECIDUOUS & EVERGREEN SHRUB DETAIL**  
N.T.S.



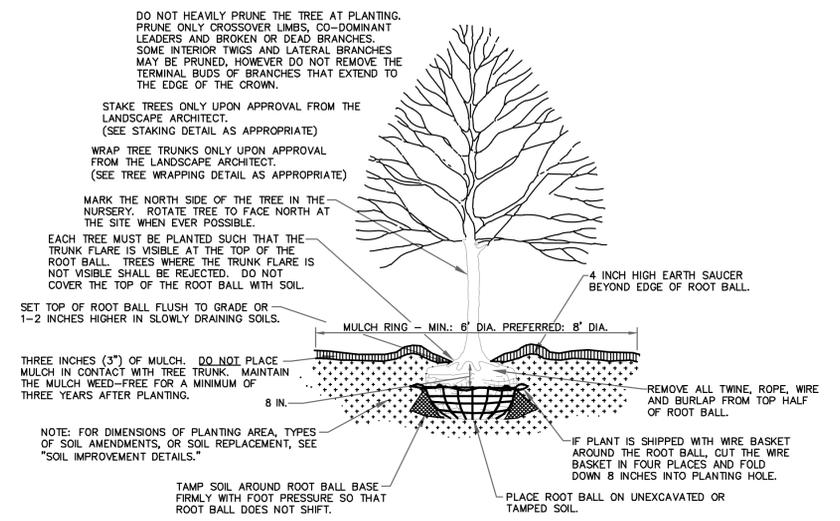
ALL STAKES SHALL BE DRIVEN OUTSIDE THE EDGE OF THE ROOT BALL.

ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM 0.5 INCH.

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT:  
o ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOILS. STAKING ADVISABLE.  
o TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.  
o TREE LOCATED ON STEEP SLOPES (GREATER THAN 33%). STAKING ADVISABLE.

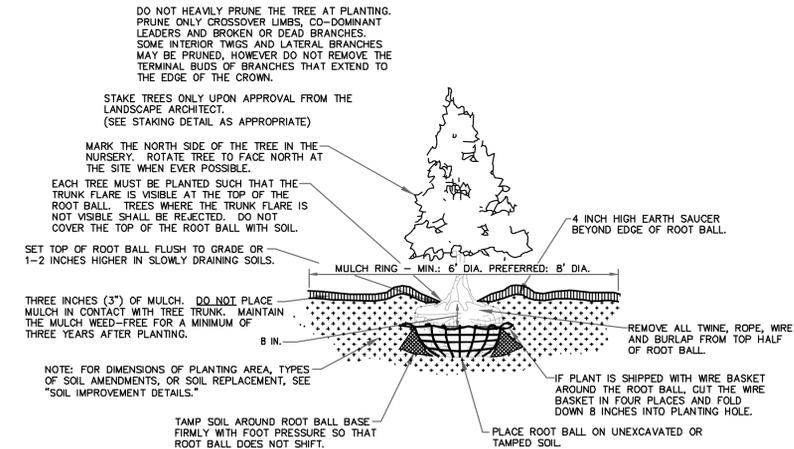
**DECIDUOUS TREE STAKING DETAIL**  
**TREES 3" CALIPER OR LESS**  
N.T.S.



NOTES:  
1. TREES WITH POOR QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED SHALL BE REJECTED.  
2. TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS SHALL BE REJECTED.  
3. TREES WITH CENTRAL LEADER BROKEN SHALL BE REJECTED.  
4. TREES THAT DO NOT DISPLAY THE NORMAL CHARACTERISTICS SHALL BE REJECTED.

**DECIDUOUS TREE PLANTING DETAIL**  
**IN ALL SOIL TYPES**  
N.T.S.

THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 8 FEET SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.



NOTES:  
1. TREES WITH POOR QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED SHALL BE REJECTED.  
2. TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS SHALL BE REJECTED.  
3. TREES WITH CENTRAL LEADER BROKEN SHALL BE REJECTED.  
4. TREES THAT DO NOT DISPLAY THE NORMAL CHARACTERISTICS SHALL BE REJECTED.

**EVERGREEN TREE PLANTING DETAIL**  
**IN ALL SOIL TYPES**  
N.T.S.

THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 8 FEET SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.

**GENERAL LANDSCAPE NOTES:**

- ALL PLANT MATERIAL SHALL MEET THE MINIMUM STANDARDS FOR HEALTH, FORM, AND ROOT CONDITIONS AS OUTLINED IN THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS ANSI Z60.1 1996 OR LATER. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; HAVE WELL DEVELOPED BRANCHES; BE DENSELY FOLIATED; HAVE VIGOROUS ROOT SYSTEMS; AND BE FREE FROM DEFECTS AND INJURIES.
- ALL PLANT MATERIAL SHALL BE HARDY WITHIN THE USDA HARDINESS ZONE 6. THE PLANT MATERIAL MUST BE OBTAINED FROM LOCAL NURSERIES WITHIN 75 MILES OF THE PROJECT SITE. IF MATERIAL CANNOT BE OBTAINED WITHIN THE 75-MILE RADIUS THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER.
- THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BEFORE PLANTING OR DIGGING.
- ALL SHADE TREE AND EVERGREEN TREE PLANTINGS SHALL BE LOCATED AT LEAST 10 HORIZONTAL FEET FROM UNDERGROUND UTILITIES WHENEVER POSSIBLE. THE DESIGN ENGINEER MUST BE NOTIFIED IMMEDIATELY IF PLANTINGS ARE PROPOSED TO BE PLANTED NEAR OR OVER UNDERGROUND UTILITIES SO THAT FIELD ADJUSTMENTS CAN BE MADE.
- SHADE TREES SHALL NOT BE PLANTED UNDER OVERHEAD WIRES. IF THIS FIELD CONDITION EXISTS THE CONTRACTOR SHALL ADVISE THE DESIGN ENGINEER SO THAT FIELD ADJUSTMENTS CAN BE MADE OR APPROPRIATE PLANT MATERIAL CAN BE SUBSTITUTED.
- PLANT MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS INDICATED ON THE LANDSCAPING PLAN INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS AND CLEANUP.
- THE CONTRACTOR SHALL REPORT TO THE DESIGN ENGINEER IF ANY SOIL OR DRAINAGE CONDITIONS ARE ENCOUNTERED CONSIDERED DETRIMENTAL TO THE GROWTH AND OR HEALTH OF THE PLANT MATERIAL.
- ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISIONS SHALL BE MADE FOR A GUARANTEE OF AT LEAST TWELVE (12) MONTHS FOR TREES AND SHRUBS. AT A MINIMUM THE PLANT MATERIAL SHALL BE GUARANTEED FOR AT LEAST ONE (1) GROWING SEASONS. THE GROWING SEASONS SHALL START MAY 15 AND END OCTOBER 15. REPLACEMENT OF BROKEN, DEAD OR DISEASED PLANT MATERIAL SHALL BE MADE AT THE EARLIEST PLANTABLE TIME WHETHER THE SAME YEAR OR THE FOLLOWING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE PERIOD OF AT LEAST TWELVE (12) MONTHS OR TWO GROWING SEASONS STARTING FROM THE TIME THE PLANT MATERIAL IS REPLACED.
- DURING THE GUARANTEE PERIOD THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE PLANT MATERIAL WHICH INCLUDES BUT NOT LIMITED TO PRUNING, MULCHING, FERTILIZING AND WATERING TO INSURE THE HEALTH OF THE PLANT MATERIAL. FOLLOWING THE GUARANTEE PERIOD THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR THE MAINTENANCE OF THE PLANT MATERIAL.
- WHEN EVER PRACTICAL THE PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE THE CONTRACTOR SHALL PROTECT THE NURSERY STOCK NOT PLANTED. HOWEVER, PLANTS SHALL NOT REMAIN UNPLANTED MORE THAN THREE (3) DAYS FROM THE PERIOD OF DELIVERY.
- PLANTING SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH THE ACCEPTED LOCAL HORTICULTURAL INDUSTRY PRACTICE.
- ALL PLANT MATERIALS SHALL BE PLANTED PER THE DETAILS WHICH INCLUDES TOPSOIL THAT CONTAINS AT LEAST FIFTY (50) PERCENT PARTIALLY DECOMPOSED ORGANIC MATTER AND IS FREE OF SOD, STIFF CLAY, LITTER, STONES, ETC.
- THE CONTRACTOR SHALL SET ALL PLANTS PLUMB, STRAIGHT AND AT THE CORRECT GRADE. THE PLANT MATERIAL SHALL BE SET SUCH THAT AFTER SETTLEMENT A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. THE PLANT SHALL BE LOCATED IN THE CENTER OF THE PLANTING HOLE OR PIT.
- TOPSOIL SHALL BE STOCKPILED ON THE SITE. NO TOPSOIL SHALL BE REMOVED FROM THE SITE WITHOUT WRITTEN APPROVAL FROM THE OWNER AND THE MUNICIPALITY. TOPSOIL SHALL BE REPLACED AT A DEPTH OF FOUR (4) INCHES THROUGHOUT THE SITE. THE TOPSOIL SHALL BE FREE OF STONES, CONSTRUCTION DEBRIS AND SOD CHUNKS. THE TOPSOIL SHALL BE SCREENED USING A SCREEN SIZE OF 3/4 INCH BY 3/4 INCH. THE FINAL GRADING OF THE TOPSOIL SHALL BE RAKED. IF THE TOPSOIL CONTAINS MORE THAN FIFTY (50) PERCENT CLAY THEN PARTIALLY DECOMPOSED ORGANIC MATTER SHALL BE ADDED AT A RATE OF ONE PART TOPSOIL TO ONE PART ORGANIC MATTER.
- THE CENTRAL LEADER FOR DECIDUOUS AND EVERGREEN TREES SHALL NOT BE CUT OTHERWISE THE PLANT MATERIAL WILL BE CONSIDERED DEAD. THE PLANT MATERIAL WILL THEN BE REPLACED BY THE CONTRACTOR. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH HORTICULTURAL INDUSTRY STANDARDS TO PRESERVE THE NATURAL CHARACTER OF THE PLANT MATERIAL. PRUNING SHALL BE DONE WITH CLEAN AND SHARP TOOLS. AT NO TIME SHALL THE PRUNING WOUND BE PAINTED WITH PRUNING PAINT. IF CUTS GREATER THAN ONE (1) INCH ARE MADE THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER.
- ALL TREE PROTECTION FENCE SHALL BE PLACED FIVE (5) FEET OUTSIDE THE DRIP LINE OF THE EXISTING TREE CANOPY.
- ALL STREET TREES SHALL BE SETBACK A MINIMUM OF FIVE (5) FEET FROM THE SIDEWALK AND A MAXIMUM OF FIFTEEN (15) FEET FROM THE SIDEWALK. IF NO SIDEWALK IS TO BE INSTALLED THE MEASUREMENTS SHALL BE TAKEN FROM THE ULTIMATE RIGHT-OF-WAY LINE.
- ALL PLANT MATERIAL SHALL BE CERTIFIED DISEASE AND PEST FREE.
- TREE STAKING SHALL BE DONE ONLY AT THE DIRECTION OF THE DESIGN ENGINEER OR IF THE SITE CONDITION WARRANTS THE STAKING. THE CONDITIONS THAT MIGHT REQUIRE STAKING WOULD BE STEEP SLOPES AND OR WINDY SITES. TREE WRAP SHALL ONLY BE USED AT THE DIRECTION OF THE DESIGN ENGINEER.
- NO PLANT MATERIAL OVER TWELVE (12) INCHES IN HEIGHT AT FINAL MATURITY SHALL BE PLANTED CLOSER THAN FIVE (5) FEET TO STRUCTURES, SIDEWALKS, CURB LINES OR DRIVEWAYS.

1	PER TOWNSHIP ENG. LETTER DATED 2/1/2016	R.J.B.	3/30/16
No.	REVISION	BY	DATE

**USER NOTICE**

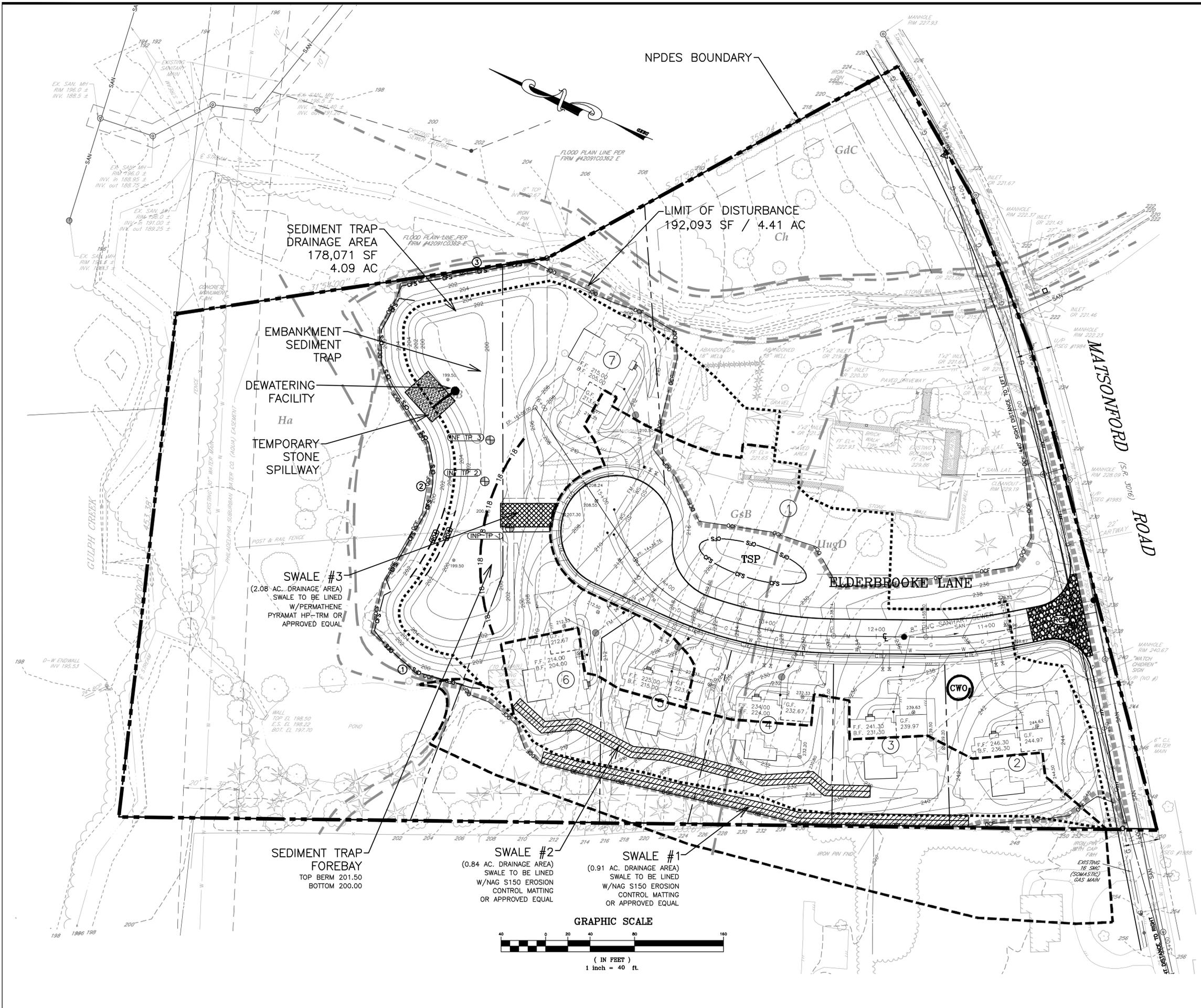
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**LOSTY SUBDIVISION**

UPPER MERION TWP. MONTGOMERY COUNTY, PA

**LANDSCAPE NOTES & DETAILS**

DRAWN BY	PREPARED FOR	DATE
RJB	JAMES F. & CAROLYN L. LOSTY	1/7/2016
CHECKED BY	231 MATSONFORD ROAD	JOB NO.
	RADNOR, PA 19087	1697-3
SCALE	1000 Madison Ave Suite 220 Norristown, PA 19403 (484)831-5795 www.czopspecter.com	DRAWING FILE
1" = 40'		1697-3.dwg
FIELD BOOK		SHEET NO.
N/A		8 OF 15



LEGEND	
	LIMIT OF DISTURBANCE LINE
	NPDES BOUNDARY LINE
	SEDIMENT TRAP DRAINAGE AREA
	CHANNEL DRAINAGE AREA
	COMPOST FILTER SOCK
	ORANGE CONSTRUCTION FENCE
	TEMPORARY CONTOUR
	SEDIMENT TRAP FOREBAY BERM (18" COMPOST FILTER SOCK)
	ROCK CONSTRUCTION ENTRANCE
	TOPSOIL STOCKPILE AREA
	CONCRETE WASHOUT
	DEWATERING FACILITY W/HOSE
	INFILTRATION TEST PIT LOCATION

COMPOST FILTER SOCK TABLE	
SOCK NUMBER	SOCK DIA. (IN.)
1	12
2	12
3	12

NOTE:  
ALL EROSION CONTROL MATTING TO BE INSTALLED AS OUTLINED IN MANUFACTURERS SPECIFICATIONS

SEDIMENT TRAP DRAINAGE AREA  
178,071 SF  
4.09 AC

LIMIT OF DISTURBANCE  
192,093 SF / 4.41 AC  
Ch

EMBANKMENT SEDIMENT TRAP

DEWATERING FACILITY

TEMPORARY STONE SPILLWAY

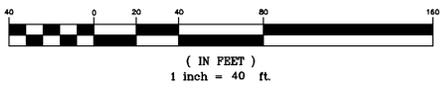
SWALE #3  
(2.08 AC. DRAINAGE AREA)  
SWALE TO BE LINED  
W/PERMATHENE  
PYRAMAT HP-TRM OR  
APPROVED EQUAL

SEDIMENT TRAP FOREBAY  
TOP BERM 201.50  
BOTTOM 200.00

SWALE #2  
(0.84 AC. DRAINAGE AREA)  
SWALE TO BE LINED  
W/NAG S150 EROSION  
CONTROL MATTING  
OR APPROVED EQUAL

SWALE #1  
(0.91 AC. DRAINAGE AREA)  
SWALE TO BE LINED  
W/NAG S150 EROSION  
CONTROL MATTING  
OR APPROVED EQUAL

GRAPHIC SCALE



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# LOSTY SUBDIVISION

UPPER MERION TWP. MONTGOMERY COUNTY, PA

## EROSION & SEDIMENTATION CONTROL PLAN

DRAWN BY RJB	PREPARED FOR JAMES F. & CAROLYN L. LOSTY 231 MATSONFORD ROAD RADNOR, PA 19087	DATE 1/7/2016
CHECKED BY		JOB NO. 1697-3
SCALE 1" = 40'	 1000 Madison Ave Suite 220 Norristown, PA 19403 (484)831-5795 www.czopspecter.com Civil Engineering • Surveyors • Construction Management	DRAWING FILE 1697-3.dwg
FIELD BOOK N/A		SHEET NO. 9 OF 15

### E&S PLANNING AND DESIGN 102.4(b)(1)

THE PROPOSED E&S PLAN HAS BEEN DESIGNED TO REASONABLY MINIMIZE THE BOUNDS AND DURATION OF SOIL CONTAMINATION AND GENERAL EARTH DISTURBANCE. THE DESIGN METHOD UTILIZED BY CZOP/SPECTER ANTICIPATES POTENTIAL FOR BOTH EROSION AND STORMWATER RUNOFF CHALLENGES IN ORDER TO FORMULATE SOLUTIONS THAT WILL EFFECTIVELY REDUCE OR ELIMINATE ENVIRONMENTAL DAMAGES AND MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION.

BASED ON THE INFILTRATION TESTING AT THE SITE, THE RATE SEEMS TO BE SUFFICIENT FOR THE BMP PROPOSED. A SOILS REPORT IS INCLUDED IN THE POST CONSTRUCTION STORMWATER MANAGEMENT REPORT.

OTHER CONTROLS AND MEASURES ARE NOT NECESSARY SINCE THE PROPOSED CONTROLS AND MEASURES ARE SUCCESSFUL IN ATTAINING E&S GOALS.

### TYPES, DEPTH, SLOPE, LOCATIONS AND LIMITATIONS OF THE SOILS 102.4(b)(2)(i)

THE PROJECT SOIL TYPES ARE AS FOLLOWS:

- Ch - CORDURUS SILT LOAM, 0 TO 3 PERCENT SLOPES  
DEPTH TO WATER TABLE: 18 TO 36 INCHES  
DEPTH TO RESTRICTIVE FEATURE: 72 TO 99 INCHES TO LITHIC BEDROCK  
LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WETNESS/FLOODING AND FROST ACTION; LOW DEPTH TO WATER TABLE;
- ChC - CLADSTONE GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES  
DEPTH TO WATER TABLE: MORE THAN 80 INCHES  
DEPTH TO RESTRICTIVE FEATURE: 60 TO 100 INCHES TO LITHIC BEDROCK  
LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WETNESS/FLOODING AND FROST ACTION; LOW STRENGTH
- ChB - GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES  
DEPTH TO WATER TABLE: 6 TO 36 INCHES  
DEPTH TO RESTRICTIVE FEATURE: 15 TO 30 INCHES TO FRAGFAN; 60 TO 90 INCHES TO PARALITHIC BEDROCK  
LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WETNESS/FLOODING AND FROST ACTION; LOW DEPTH TO WATER TABLE; LOW STRENGTH
- Ho - HATBORO SILT LOAM, 0 TO 3 PERCENT SLOPES  
DEPTH TO WATER TABLE: 0 TO 6 INCHES  
DEPTH TO RESTRICTIVE FEATURE: 60 TO 99 INCHES TO LITHIC BEDROCK  
LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WETNESS/FLOODING AND FROST ACTION; LOW DEPTH TO WATER TABLE; LOW STRENGTH
- UgD - URBAN LAND—UDORTHENTS, SCHIST AND GNEISS COMPLEX, 8 TO 25 PERCENT SLOPES  
DEPTH TO WATER TABLE - IN UDORTHENTS, SCHIST AND GNEISS - ABOUT 60 INCHES  
DEPTH TO RESTRICTIVE FEATURE:  
URBAN LAND - 10 TO 99 INCHES TO LITHIC BEDROCK  
UDORTHENTS, SCHIST AND GNEISS - 20 TO 70 INCHES TO PARALITHIC BEDROCK  
LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WETNESS/FLOODING AND FROST ACTION; LOW STRENGTH

AN INFILTRATION STUDY WAS CONDUCTED USING A DOUBLE RING INFILTRATOR AS DESCRIBED BY ASTM-D3385-03 STANDARDS. THREE TEST LOCATIONS WERE SELECTED, REVEALING SIGNIFICANT INFILTRATION RATES FOR TWO OF THESE LOCATIONS.

### SOIL LIMITATIONS (SOILS)/RESOLUTIONS

- CUTBANKS CARE. (Ch, ChC, ChB, Ho, UgD)  
CUTBANKS TO BE STABILIZED DURING ALL DIGGING/TRENCHING OPERATIONS.
- CORROSIVE TO CONCRETE/STEEL. (Ch, ChC, ChB, Ho, UgD)  
CONCRETE AND STEEL THAT IS EXPOSED TO SOIL SHALL BE COATED OR SEPARATED FROM SOIL BY STONE.
- EASILY ERODIBLE. (ChC, UgD) DROUGHTY. (UgD)  
BACKFILLED/EXPOSED SOIL TO BE SUFFICIENTLY COMPACTED AND STABILIZED.
- FLOODING. (Ch, Ho) DEPTH TO SATURATED ZONE/SEASONAL HIGH WATER TABLE. (Ch, ChB, Ho)  
SHOULD FLOODING AND/OR HIGH WATER LEVELS BE ENCOUNTERED, PROPER DRAINAGE SYSTEMS TO BE IMPLEMENTED.
- HYDRIC/HYDRIC INCLUSIONS. (Ch, ChC, ChB, Ho)  
DISTURBED SOILS TO BE PROPERLY STABILIZED.
- LOW STRENGTH/LANDSLIDE PRONE. (Ch, ChB, Ho, UgD)  
SLOPED CUT AREAS TO BE PROPERLY STABILIZED. SLOPED FILL AREAS TO BE PROPERLY COMPACTED & STABILIZED.
- SLOW PERCOLATION. (Ch, ChC, ChB, Ho, UgD)  
ANY AREAS INTENDED FOR INFILTRATION TO BE VERIFIED TO THE SATISFACTION OF THE MUNICIPAL AGENCY HAVING JURISDICTION.
- PIPING. (Ch, ChB, Ho)  
PIPING TO BE STONE BACKFILLED AND PROPERLY COMPACTED.
- POOR SOURCE OF TOPSOIL. (ChB, Ho, UgD)  
IF ONSITE TOPSOIL IS POOR, THEN APPROVED AMENDMENTS SHOULD BE ADDED PRIOR TO RESPREADING.
- ROOT ACTION. (Ch, ChC, ChB, Ho, UgD)  
GRADING DURING WINTER MONTHS SHOULD BE MINIMIZED OR AVOIDED COMPLETELY IF POSSIBLE.
- SHRINK/SWELL. (ChC)  
FILL AREAS TO HAVE THE PROPER AMOUNT OF EXTRA MATERIAL ADDED AND COMPACTED TO THE APPROPRIATE COMPACTION. ALL DISTURBED AREAS TO HAVE APPROPRIATE SETTLING TIME PRIOR TO FINAL GRADING.
- WETNESS. (Ch, ChB, Ho)  
FILL AREAS TO BE PROPERLY COMPACTED AND ALL DISTURBED AREAS ALLOWED TIME TO SETTLE PRIOR TO FINAL GRADING.

### LOCATION OF ALL SURFACE WATERS AND THEIR CLASSIFICATION UNDER CHAPTER 93 102.4(b)(3)(v)

THE PROJECTS RECEIVING WATERCOURSE IS AN UNNAMED TRIBUTARY TO GULPH CREEK, WHICH BISECTS THE SITE AND RUNS FROM SOUTHEAST TO NORTH, WHERE IT INTERSECTS GULPH CREEK NEAR THE NORTHERN MOST CORNER OF THE SITE. THESE WATERWAYS ARE ALSO SHOWN ON THE USFWS MAP INCLUDED IN THE NARRATIVE.

THE CHAPTER 93 CLASSIFICATION OF THE UNNAMED TRIBUTARY TO GULPH CREEK IS WW / WF. (WARM WATER FISHES, MIGRATORY FISHES)

### SEQUENCE OF BMP INSTALLATION AND REMOVAL 102.4(b)(3)(vi)

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE.

### GENERAL EARTH DISTURBANCE NOTES

- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- PERMITTEES AND CO-PERMITTEES ARE RESPONSIBLE FOR ENSURING THAT A LICENSED PROFESSIONAL HAVE OVERSIGHT RESPONSIBILITIES FOR THE DESIGN AND PROPER INSTALLATION OF BMPs IDENTIFIED IN THE PCSM PLAN PRIOR TO THE SUBMISSION OF THE NOT FOR THIS PERMIT. THE LICENSED PROFESSIONAL SHALL CERTIFY THAT THE BMPs IDENTIFIED IN THE PLAN HAVE BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLAN. THE INSTALLATION SCHEDULE OF PCSM BMPs AND MAINTENANCE REQUIREMENTS CONTAINED WITHIN THE APPROVED PCSM PLAN MUST BE FOLLOWED; AND FAILURE TO COMPLY WITH THE INSTALLATION SCHEDULE IS A VIOLATION OF THIS PERMIT, THE CLEAN STREAMS LAW, AND THE CLEAN WATER ACT.

### SCHEDULE OF EARTHMOVING ACTIVITIES

- INSTALL ROCK CONSTRUCTION ENTRANCE INTO SITE FROM MATSONFORD ROAD.
- INSTALL PERIMETER EROSION CONTROLS (COMPOST FILTER SOCK / SILT FILTER FENCE).
- INSTALL CONSTRUCTION ZONE / TREE PROTECTION FENCE.
- CONSTRUCT SEDIMENT TRAP. (SEE SEDIMENT TRAP CONSTRUCTION SEQUENCE BELOW)
- CLEAR SITE VEGETATION AS REQUIRED.
- CONSTRUCT STORMWATER DIVERSION BERM AT REAR OF LOTS 2 THROUGH 6.
- STRIP TOPSOIL AND STORE IN DESIGNATED TOPSOIL STOCKPILE AREA. TOPSOIL STOCKPILE AREA TO BE IMMEDIATELY PROTECTED WITH COMPOST FILTER SOCKS/SILT FENCE AND STABILIZED PER THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS AS INDICATED IN GENERAL EARTH DISTURBANCE NOTE #1 ABOVE.
- ESTABLISH EQUIPMENT AND CONSTRUCTION MATERIAL STOCKPILE AREA. PROTECT WITH COMPOST FILTER SOCK/SILT FILTER FENCE.
- ROUGH GRADE AND STABILIZE APPROPRIATE SITE AREAS TO TEMPORARY AND/OR PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS AS INDICATED IN GENERAL EARTH DISTURBANCE NOTE #1 ABOVE.
- INSTALL SITE UTILITIES.
- CONSTRUCT ROADWAY (INSTALL CURBING, SIDEWALK, BASE COURSE AND BINDER COURSE, WEARING COURSE NOT TO BE INSTALLED IN THIS STEP).
- RESPREAD TOPSOIL IN AREAS NOT INTENDED FOR HOUSE CONSTRUCTION AND PERMANENTLY STABILIZE. AREAS WHERE HOUSE CONSTRUCTION WILL BE PERFORMED TO BE TEMPORARILY STABILIZED PER GENERAL EARTH DISTURBANCE NOTE #1.
- UPON COMPLETION OF ROADWAY CONSTRUCTION AND ACHIEVING 70% VEGETATIVE COVER IN ALL OTHER DISTURBED AREAS, THE SEDIMENT TRAP SHALL BE CONVERTED INTO AN INFILTRATION BASIN (SEE INFILTRATION BASIN CONSTRUCTION SEQUENCE).
- CONSTRUCT HOUSES ON LOTS 2 THROUGH 7. INDIVIDUAL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED ON EACH LOT AS CONSTRUCTION TAKES PLACE (SEE HOUSE CONSTRUCTION SEQUENCE).
- UPON COMPLETION OF HOUSE CONSTRUCTION AND STABILIZATION OF ALL INDIVIDUAL LOTS, INSTALL WEARING COURSE ON THE ROADWAY.

REMOVE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AND STABILIZED ANY AREAS DISTURBED TO ACCOMMODATE THOSE MEASURES. INSTALL EROSION CONTROL BLANKET ON ALL AREA WHERE THE SOIL HAS BEEN DISTURBED.

### SEDIMENT TRAP CONSTRUCTION SEQUENCE

- CLEAR AND GRUB AREA OF SEDIMENT TRAP.
- STRIP TOPSOIL AND STOCKPILE.
- EXCAVATE TRAP TO NECESSARY BOTTOM ELEVATION.
- CONSTRUCT TRAP SPILLWAY AND BERM.
- CONSTRUCT SEDIMENT TRAP FOREBAY AND TEMPORARY SWALE. SWALE SHOULD BE STABILIZED IMMEDIATELY
- PLACE CLEANOUT STAKE NEAR CENTER OF TRAP.

### HOUSE CONSTRUCTION SEQUENCE

- INSTALL EROSION AND SEDIMENTATION PERIMETER CONTROLS AS HOUSE CONSTRUCTION BEGINS FOR EACH LOT. (SEE DETAILS)
- EXCAVATE AREA FOR FOUNDATION, REGRADE LOT AS NEEDED.
- CONSTRUCT FOUNDATION AND UTILITY CONNECTIONS, IF NEEDED, FINE GRADE AREA TO INSURE PROPER DRAINAGE AWAY FROM THE STRUCTURE.
- INSTALL STONE BASE FOR DRIVEWAY
- CONSTRUCT HOUSE

- RESPREAD TOPSOIL AND PERMANENTLY STABILIZE PER GENERAL EARTH DISTURBANCE NOTE #1.
- INSTALL DRIVEWAY BINDER/WEARING COURSE
- UPON FINAL STABILIZATION OF THE LOT (AS SPECIFIED IN GENERAL EARTH DISTURBANCE NOTE #2) EROSION AND SEDIMENTATION CONTROL BMPs SHALL BE REMOVED. AREA DISTURBED DURING THE REMOVAL OF THE BMPs TO BE STABILIZED IMMEDIATELY.

### INFILTRATION BASIN CONSTRUCTION SEQUENCE

- PROTECT INFILTRATION BASIN AREA FROM COMPACTION PRIOR TO INSTALLATION.
- IF POSSIBLE, INSTALL INFILTRATION BASIN DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES.
- INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
- IF NECESSARY, EXCAVATE INFILTRATION BASIN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
- INSTALL OUTLET CONTROL STRUCTURES.
- SEED AND STABILIZE TOPSOIL. (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS.)
- UPON FINAL STABILIZATION OF THE BASIN (AS SPECIFIED IN GENERAL EARTH DISTURBANCE NOTE #2) EROSION AND SEDIMENTATION CONTROL BMPs SHALL BE REMOVED. AREA DISTURBED DURING THE REMOVAL OF THE BMPs TO BE STABILIZED IMMEDIATELY.

### OTHER BMP'S

- SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.
- AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOO DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.

### MAINTENANCE PROGRAM 102.4(b)(3)(vii)

- VEGETATION SHALL BE MOWED WHENEVER NECESSARY TO MAINTAIN A PLEASING APPEARANCE AND DISCOURAGE WEED GROWTH. ALL LOCAL REGULATIONS WILL BE COMPLIED WITH.
- AREAS THAT CONTAIN SOO SHALL BE CHECKED VERY CAREFULLY TO ENSURE THAT JOINTS BETWEEN THE SOO STRIPS ARE TIGHT AND SECURE. WHERE AN ADJACENT SEPARATION IS EVIDENT, A CAREFUL INSPECTION OF THE BOTTOM OF THE STRIP IS TO BE MADE TO DETERMINE WHETHER UNDERMINING OF THE STRIPS IS OCCURRING. IF IT IS, THE STRIPS SHALL BE ROLLED UP, THE SUBSURFACE SHALL BE FILLED AND GRADED AS REQUIRED, AND THE SOO STRIPS SHALL BE RE-LAID WITH TIGHT JOINTS AND PEGGING.
- SEEDED AREAS THAT HAVE WASHED AWAY SHALL BE FILLED AND GRADED AS NECESSARY AND THEN RESEDED. A BURLAP OR STRAW COVER WILL BE APPLIED AT A RATE OF 3 TON/ACRE TO RETAIN THE SEED UNTIL IT HAS A CHANCE TO ROOT PROPERLY.
- THE ABOVE PROCEDURE SHALL BE REPEATED AFTER EACH SIZABLE STORM UNTIL NO MORE SIGNS OF EROSION ARE EVIDENT. AT WEEKLY INTERVALS THEREAFTER, INSPECTIONS AND NECESSARY CLEANING WILL BE DONE. PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN, CUT, REPAIR, REPLACEMENT, REGRAIDDING, RESEEDING, REMULCHING & RENETTING MUST BE DONE IMMEDIATELY.
- ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AT COMPLETION OF THE PROJECT AFTER ALL EXPOSED SOIL SURFACES ARE FINISH GRADED AND STABILIZED. THE FINISH GRADE OF THE BASIN SHALL THEN BE SEEDED PERMANENTLY AND RESEDED AS NECESSARY UNTIL ESTABLISHED.
- ANY SEDIMENT BUILD-UP THAT OCCURS AT COMPOST FILTER SOCKS AND/OR INLET AREAS, SHALL BE REMOVED AS REQUIRED TO PROVIDE FILTRATION FOR THE NEXT RAINFALL OR STORM OCCURRENCE. WHERE THE CONTROL MEASURE CAN NO LONGER BE MAINTAINED DUE TO EXCESSIVE BUILD-UP AND/OR DAMAGE, MEASURE SHALL BE REPLACED.
- ONCE SEDIMENT BUILDUP REACHES THE CLEANOUT MARK ON THE CLEANOUT STAKE IN THE SEDIMENT TRAP, THE SEDIMENT MUST BE REMOVED FROM THE TRAP IMMEDIATELY AND THE BOTTOM OF THE TRAP IS TO BE RESHAPED TO ITS ORIGINAL SIZE AND CAPACITY. CARE SHOULD BE TAKEN DURING THIS OPERATION SO AS NOT TO UNDERMINE THE SPILLWAY OR BERM.
- ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AT COMPLETION OF THE PROJECT AFTER ALL EXPOSED SOIL SURFACES ARE FINISH GRADED AND STABILIZED. THE FINISH GRADE OF THE BASIN SHALL THEN BE SEEDED PERMANENTLY AND RESEDED AS NECESSARY UNTIL ESTABLISHED.
- ANY SEDIMENT BUILD-UP THAT OCCURS AT COMPOST FILTER SOCKS AND/OR INLET AREAS, SHALL BE REMOVED AS REQUIRED TO PROVIDE FILTRATION FOR THE NEXT RAINFALL OR STORM OCCURRENCE. WHERE THE CONTROL MEASURE CAN NO LONGER BE MAINTAINED DUE TO EXCESSIVE BUILD-UP AND/OR DAMAGE, MEASURE SHALL BE REPLACED.
- ONCE SEDIMENT BUILDUP REACHES THE CLEANOUT MARK ON THE CLEANOUT STAKE IN THE SEDIMENT TRAP, THE SEDIMENT MUST BE REMOVED FROM THE TRAP IMMEDIATELY AND THE BOTTOM OF THE TRAP IS TO BE RESHAPED TO ITS ORIGINAL SIZE AND CAPACITY. CARE SHOULD BE TAKEN DURING THIS OPERATION SO AS NOT TO UNDERMINE THE SPILLWAY OR BERM.
- WHEN SEDIMENT BUILDS UP TO ONE HALF THE HEIGHT OF THE SEDIMENT TRAP FOREBAY, THE SEDIMENT MUST BE CLEANED OUT AND THE FOREBAY REFORMED TO IT'S ORIGINAL SHAPE AND CAPACITY.
- UPON INSPECTION OF THE TEMPORARY SWALE, ANY SEDIMENT FOUND MUST BE REMOVED IMMEDIATELY.
- ANY SEDIMENT LADEN WATER THAT IS TO BE REMOVED MUST BE PUMPED THROUGH A PUMPED WATER FILTER BAG TO AN UNDISTURBED, STABILIZED AREA.
- THE OPERATOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF THE EROSION & SEDIMENTATION CONTROL MEASURES AND MAINTENANCE PROGRAM AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLANS, AS WELL AS MAINTAINING A WRITTEN REPORT DOCUMENTING INSPECTIONS AND REPAIRS SPECIFIED.

### RECYCLING OR DISPOSAL OF MATERIALS 102.4(b)(3)(viii)

CONSTRUCTION WASTES ANTICIPATED FROM THIS PROJECT INCLUDE, BUT ARE NOT LIMITED TO: WOOD, TIMBER, STONE AND ASPHALT RUBBLE, METAL FENCING MATERIAL AND BUILDING MATERIALS SUCH AS LUMBER, PLYWOOD AND ROOFING MATERIALS.

THE OPERATOR SHALL REMOVE FROM THIS SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601 ET SEQ., 271.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THIS LOCATION.

### GEOLOGIC FORMATIONS/SOIL CONDITIONS THAT MAY HAVE THE POTENTIAL TO CAUSE POLLUTION 102.4(b)(3)(ix)

THE SITE HAS NOT BEEN SUBJECT TO ANY INDUSTRIAL PROCESSES THAT WOULD DEGRADE THE QUALITY OF THE LAND. THE ENVIRONMENTAL INTEGRITY OF THE SOIL HAS NOT BEEN CORRUPTED TO THE POINT IN WHICH ANY THREATENING POLLUTANTS ARE PRESENT.

HOWEVER, SHOULD ANY UNFORESEEN THREATENING POLLUTION CAUSING CONDITIONS ARE ENCOUNTERED, THE OPERATOR WILL ENSURE PROPER CONTAINMENT AND DISPOSAL OF THIS MATERIAL. THE OPERATOR SHALL NOTIFY THE COUNTY CONSERVATION DISTRICT AND/OR THE PROJECT ENGINEER IF FURTHER ASSISTANCE OR DIRECTION IS REQUIRED.

### POTENTIAL THERMAL IMPACTS TO SURFACE WATERS 102.4(b)(3)(x)

THE POTENTIAL THERMAL IMPACTS ARE THE INCREASE IN IMPERVIOUS AREA CREATING MORE RUNOFF THROUGH DEVELOPMENT. MEASURES TAKEN TO ALLEVIATE THERMAL IMPACTS ARE THE EXTENSIVE USE OF CHANNELS AND SWALES AND THE PROPER DETOURING OF THE PROPOSED BASIN THROUGH INFILTRATION.

### EXISTING/PROPOSED RIPARIAN FOREST BUFFERS 102.4(b)(3)(xi)

NO RIPARIAN BUFFERS OR RIPARIAN FOREST BUFFERS ARE NECESSARY FOR THIS SITE. THERE IS NO EXISTING TMDL THAT APPLIES. THE SITE DISCHARGES TO AN UNNAMED TRIBUTARY TO GULPH CREEK, A WATER BODY LISTED AS IMPAIRED, HAVING SILTATION, WATER FLOW VARIABILITY, AND METALS AS THE CAUSE OF THE IMPAIRMENT.

### GENERAL EROSION AND SEDIMENTATION CONTROL NOTES

- ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN, A COPY OF THE APPROVED DRAWING AND DATED BY THE REVIEWING AGENCY MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL NOTIFY ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARED, THE PCSM PLAN PREPARED, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
- AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
- AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
- CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
- AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
- ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON THE SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE CONTRACTOR FOR THE ENTIRE DURATION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
- VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM LOTS 1 AND 2 ONTO MATSONFORD ROAD.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRAIDDING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS TO THOSE INSTALLED WILL BE REQUIRED.
- A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
- SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 8 TO 12 INCHES ON COMPACTED SOILS - PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO GO TO PLACED TOPSOIL SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

- ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOO, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED TO ACCORDING TO THE STANDARDS OF THIS PLAN.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
- PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
- E&S BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPs.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPs. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPs SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
- FAILURE TO CORRECTLY INSTALL E&S BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPs MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 802 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
- CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATER OR GROUNDWATER SYSTEMS.
- ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTES.
- SEDIMENT BASINS AND/OR TRAPS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURES AND/OR POLLUTE THE SURFACE WATERS.
- SEDIMENT BASINS SHALL BE PROTECTED FROM UNAUTHORIZED ACTS BY THIRD PARTIES.
- ANY DAMAGE THAT OCCURS IN WHOLE OR IN PART AS A RESULT OF BASIN OR TRAP DISCHARGE SHALL BE IMMEDIATELY REPAIRED BY THE PERMITTEE IN A PERMANENT MANNER SATISFACTORY TO THE MUNICIPALITY, LOCAL CONSERVATION DISTRICT, AND THE OWNER OF THE DAMAGED PROPERTY.
- EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS. PLAN MAPS AND/OR DETAIL SHEETS.
- FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROCKS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN MAXIMUM 12" LAYERED LIFTS AT 95% DENSITY.

### TEMPORARY STABILIZATION AND PERMANENT STABILIZATION

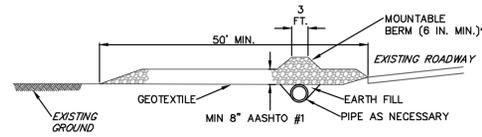
- AS LITTLE NATURAL VEGETATIVE COVER AS NECESSARY TO ACHIEVE PROPER GRADING WILL BE REMOVED.
- THE "SCHEDULE OF EARTH MOVING ACTIVITIES" SHALL BE STRICTLY ADHERED TO.
- STOCKPILED MATERIAL SHALL BE STABILIZED AGAINST EROSION BY SEEDING AND MULCHING WITH ANNUAL RYE GRASS AT A RATE OF 4 LBS./1000 SO. FT., IF SEASONAL CONDITIONS WILL NOT PERMIT SEEDING, THEN STOCKPILES WILL BE ENCLOSED WITH A BALED STRAW BARRIER.
- HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
- MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 OR STEEPER.
- STRAW MULCH SHALL BE APPLIED IN LONG STRIPS, NOT CHOPPED OR FINELY BROWN.
- STOCKPILES OF MULCHES SUCH AS WOOD CHIPS, CRUSHED STONE, STRAW AND JUTE MESH SHALL BE KEPT ON SITE & BE AVAILABLE TO DEAL WITH EROSION CONDITIONS AS THEY ARISE.
- ALL CUT AREAS WHOSE SURFACES ARE SUBJECT TO EROSION ACTION SHALL BE PROTECTED WITH ONE OF THE ABOVE MULCHES.
- DIVERSION BERMS, CHANNELS OF CONVEYANCE AND STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRAIDDING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY IF THE EROSION AND SEDIMENT CONTROL BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS TO THOSE INSTALLED WILL BE REQUIRED.
- SEDIMENT MUST BE REMOVED IN AREAS WHERE ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE ORIGINALLY EXPOSED COMPOST FILTER SOCKS.
- SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPE AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
- ANY COMPOST FILTER SOCKS THAT HAVE BEEN UNDERMINED OR TOPPED WILL BE REPLACED WITH ROCK FILTER OUTLET IMMEDIATELY.
- COMPOST FILTER SOCKS MUST BE INSTALLED PARALLEL TO EXISTING CONTOURS OR CONSTRUCTED LEVEL ALIGNMENTS, ENDS OF FENCING MUST BE EXTENDED 45 DEGREES TO THE ALIGNMENT OF THE MAIN FENCING SECTION.
- TO ALL AREAS WHICH WILL REMAIN OPEN (UNVEGETATED) FOR MORE THAN EITHER 1 DAY IN SPECIAL PROTECTION WATERSHEDS OR FOUR DAYS IN ALL OTHER WATERSHEDS, AND WILL BE SUBJECT TO THE ACTION OF CONSTRUCTION EQUIPMENT, APPLY A WOOD CHIP MULCH AT A RATE OF 4-6 TONS/ACRE OR STRAW MULCH AT 3 TONS/ACRE. ALL OTHER AREAS SHALL BE TEMPORARILY SEEDED AND MULCHED WITH ANNUAL RYE GRASS AT A RATE OF 4 LBS./1000 S.F. (SEE SEEDING SPECIFICATIONS FOR ALL APPLICABLE SEEDING & FERTILIZER INFORMATION)
- AN E&S PLAN SHALL BE SUBMITTED TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT AND IMPLEMENTED FOR ALL SPILL AND BORROW AREAS. THE E&S PLAN SHALL BE REVIEWED BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT.
- THE NPDES BOUNDARY IS EQUAL TO THE LIMITS OF DISTURBANCE OF THE SITE AND ANY OFF-SITE AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL. OFF-SITE FACILITIES SUCH AS: UTILITIES AND ROADWAYS.
- UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (E&S MANUAL), COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION NO. 363-2134-008, APRIL 2000, AS AMENDED AND UPDATED. EROSION AND SEDIMENT CONTROL BMPs SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED AND PCSM BMPs ARE OPERATIONAL.
- TEMPORARY LIME APPLICATION RATE SHALL BE 100 LBS PER 1,000 SF. TEMPORARY FERTILIZER SHALL BE 10-10-10, APPLIED AT A RATE OF 12.5 LBS PER 1,000 SF. THE RATES AND FERTILIZER TYPE PROVIDED SHALL BE ADJUSTED ACCORDING TO THE LATEST SOIL TEST RESULTS.
- ENERGY DISSIPATORS OF DUMPED ROCK ARE TO BE PLACED AT THE OUT FALL OF ALL TEMPORARY PIPE LOCATIONS.

### PERMANENT CONTROL MEASURES:

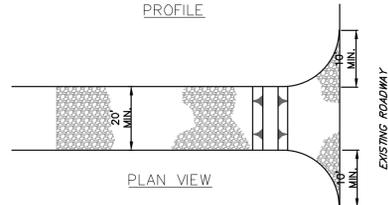
- GRADE ALL CUT AREAS TO A 2:1 SLOPE OR FLATTER.
- GRADE ALL FILL AREAS TO A 2:1 SLOPE OR FLATTER.
- PERMANENT GRASS, SOO OR GROUND COVER SHALL BE ESTABLISHED FOLLOWING FINAL GRADING. SEEDED AND SODDED AREAS SHALL BE FERTILIZED AT A RATE OF 25 LBS PER 1,000 S.F.
- THE PERMANENT SEED MIX FOR LAWN AREAS SHALL BE 60% RAVEN KENTUCKY BLUEGRASS, 20% SEVEN SEAS CHEWINGS FESQUE, AND 20% SOPRANO PERENNIAL RYEGRASS. THE PERMANENT SEED MIX FOR SWALE AREAS SHALL BE 68 % REED CANARYGRASS (COMMON), 14% REDTOP AND 18 % BIRDFOOT TREFOL (KING OR MANFIELD) . PERCENTAGES EQUAL PROPORTION BY WEIGHT. FOR ALL SEEDED AREAS APPLY AT A RATE OF TEN TO TWELVE POUNDS PER 1,000 S.F. PERMANENT LIME APPLICATION RATE SHALL BE 240 LBS PER 1,000 S.F. PERMANENT FERTILIZER SHALL BE 10-10-20, APPLIED AT A RATE OF 25 LBS PER 1,000 S.F. THE RATES AND FERTILIZER TYPE PROVIDED SHALL BE ADJUSTED ACCORDING TO THE LATEST SOIL TEST RESULTS.

### UTILITY LINE TRENCH EXCAVATION:

- GENERAL- EXPOSED TRENCH EXCAVATIONS HAVE A HIGH POTENTIAL FOR ACCELERATED EROSION AND SEDIMENT POLLUTION. SINCE THESE EXCAVATIONS ARE USUALLY LOCATED AT LOWER ELEVATIONS ALONG OR ACROSS EARTH DISTURBANCE SITES, OPEN TRENCHES SERVE TO CONCENTRATE SEDIMENT LADEN RUNOFF AND CONVEY IT TO THE SITE BOUNDARIES OR WATERWAYS. THE MOST IMPORTANT EROSION AND SEDIMENT POLLUTION CONTROL CONSIDERATION FOR TRENCH CONSTRUCTION IS THE LIMITING AND SPECIFIC SCHEDULING OF WORK ACTIVITIES.
  - CONSTRUCTION OF THE CROSSING WILL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION M.
    - LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
    - WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACK FILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
    - LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACK FILLING THAT CAN BE COMPLETED THE SAME DAY.
    - TRENCH PLUGS WILL BE PLACED IN ACCORDANCE WITH TABLE 4.11 AND BE CONSTRUCTED OF THE MATERIALS AND TO THE DETAILS SHOWN IN FIGURE 4.21 (OF THE CHAPTER 102 PROGRAM MANUAL).
  - AT ALL CROSSINGS OF WATERS OF THE COMMONWEALTH, TRENCH PLUGS WILL BE INSTALLED AT THE BANKS AFTER TRENCH EXCAVATION. THE PLUGS MAY BE TEMPORARILY REMOVED WHEN PLACING THE PIPE, BUT THEN REPLACED.
    - CONSTRUCTION OF THE CROSSING WILL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION M.
      - WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMP



PROFILE



PLAN VIEW

\* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

**NOTES:**

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

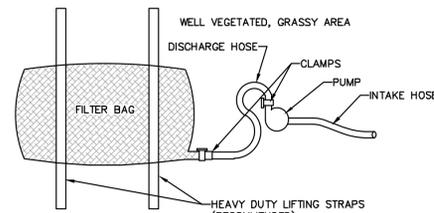
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

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.

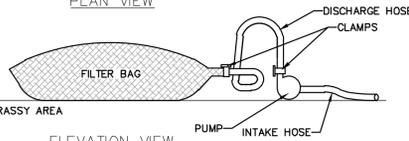
MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE 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 RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

**STANDARD CONSTRUCTION DETAIL #3-1  
ROCK CONSTRUCTION ENTRANCE**

NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

**NOTES:**

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4832	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AGS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HO OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

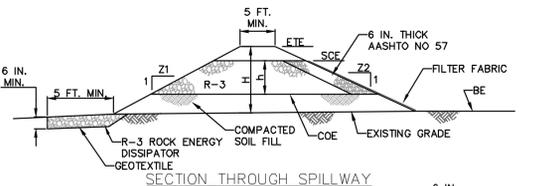
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

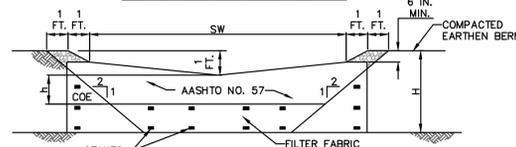
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

**STANDARD CONSTRUCTION DETAIL #3-16  
PUMPED WATER FILTER BAG**

NOT TO SCALE



SECTION THROUGH SPILLWAY



INSIDE FACE

TRAP NO.	Z1 (FT)	Z2 (FT)	H (FT)	h (FT)	EMBANK. TOP ELEV. ETE (FT)	SPILLWAY CREST ELEV. SCE (FT)	CLEAN OUT ELEV. COE (FT)	BOTTOM ELEV. BE (FT)	SPILLWAY WIDTH SW (FT)
1	3	3	4	1	204.0	202.0	201.0	200.0	24

**NOTES:**

EMBANKMENT OUTLET SHALL BE COMPOSED ENTIRELY OF ROCK ABOVE CLEAN OUT ELEVATION (COE); MAIN BODY R-3 OR LARGER -- R-4 TO BE USED FOR DRAINAGE AREAS GREATER THAN 3.0 ACRES. INSIDE FACE AASHTO #57 STONE OR SMALLER. A 6 IN. THICK LAYER OF COMPOST, COMPOST SOCK, OR CLEAN SAND SHALL BE INSTALLED ON TOP OF THE AASHTO #57 STONE AND SECURELY ANCHORED IN HO WATERSHEDS. 24 IN. DIAMETER COMPOST SOCK(S) SHALL BE USED IN PLACE OF FILTER FABRIC AND AASHTO #57 STONE IN EV WATERSHEDS.

FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 9 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 6 IN. UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS.

ALL SEDIMENT TRAPS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT.

ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES SHALL BE PROVIDED.

A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE TRAP IN THE MANNER DESCRIBED IN THE E&S PLAN.

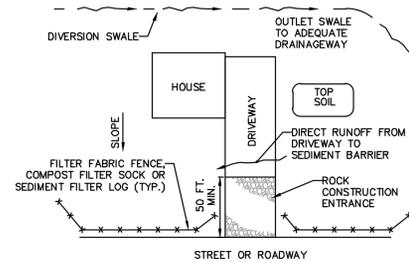
CHECK EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE IMMEDIATELY RESTORED TO THE DESIGN SPECIFICATIONS.

DISPLACED RIPRAP WITHIN THE SPILLWAY OR OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS INSIDE THE TRAP SHALL BE STABILIZED BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. TO ASSIST IN REMOVING SEDIMENT, WHICH MAY BE SATURATED, A DEVICE SUCH AS IS SHOWN IN STANDARD CONSTRUCTION DETAIL #7-18 MAY BE USED TO DEWATER THE SEDIMENT PRIOR TO ITS REMOVAL.

**STANDARD CONSTRUCTION DETAIL #8-1  
EMBANKMENT SEDIMENT TRAP**

NOT TO SCALE



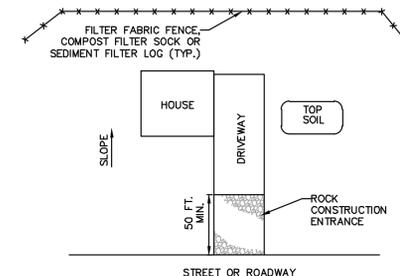
PLAN VIEW

**NOTES:**

THE UPSLOPE DIVERSION CHANNEL SHOULD BE INSTALLED WHEREVER THE LOT EXTENDS MORE THAN 150 FEET ABOVE THE ROADWAY OR WHERE RUNOFF FROM AREAS ABOVE THE LOT IS NOT OTHERWISE DIVERTED AWAY FROM THE LOT. THE CHANNEL SHOULD BE PROPERLY SIZED AND PROVIDED WITH A SUITABLE PROTECTIVE LINING. THE DESIGNER AND/OR CONTRACTOR MUST EXERCISE CAUTION TO PROTECT ALL DOWNSTREAM PROPERTY OWNERS WHEN SELECTING A DISCHARGE POINT FOR THIS CHANNEL.

**STANDARD CONSTRUCTION DETAIL #10-1  
TYPICAL ON-LOT BMPs FOR LOT ABOVE ROADWAY**

NOT TO SCALE



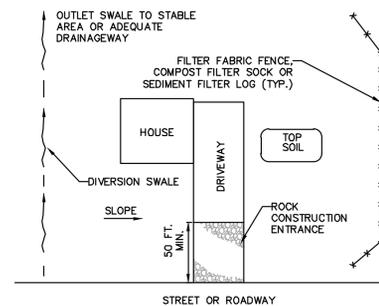
PLAN VIEW

**NOTES:**

THE AREA DOWNSLOPE OF THE FILTER FENCE/COMPOST SOCK BARRIER/SEDIMENT FILTER LOG MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED.

**STANDARD CONSTRUCTION DETAIL #10-2  
TYPICAL ON-LOT BMPs FOR LOT BELOW ROADWAY**

NOT TO SCALE



PLAN VIEW

**NOTES:**

THE AREA DOWNSLOPE OF THE FILTER FENCE/COMPOST SOCK BARRIER/SEDIMENT FILTER LOG MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED.

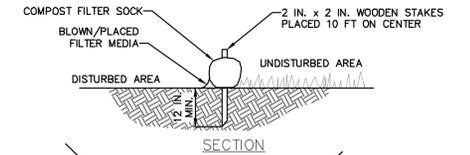
THE UPSLOPE DIVERSION CHANNEL SHOULD BE INSTALLED WHEREVER RUNOFF FROM AREAS ABOVE THE LOT ARE NOT OTHERWISE DIVERTED AWAY FROM THE LOT. THE CHANNEL SHOULD BE PROPERLY SIZED AND PROVIDED WITH A SUITABLE PROTECTIVE LINING. THE DESIGNER AND/OR CONTRACTOR MUST EXERCISE CAUTION TO PROTECT ALL DOWNSTREAM PROPERTY OWNERS WHEN SELECTING A DISCHARGE POINT FOR THIS CHANNEL.

IN AREAS WHERE SLOPE IS AT AN OBLIQUE ANGLE TO THE ROADWAY, BMPs SHALL BE ADJUSTED ACCORDINGLY.

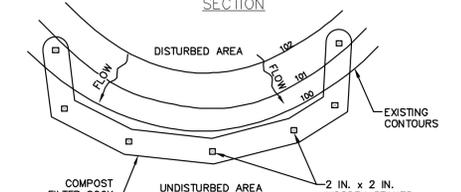
DIVERSION CHANNEL MAY OUTLET TO ROADSIDE DITCH OR STORM SEWER SYSTEM, BUT NOT ONTO STREET OR ROADWAY.

**STANDARD CONSTRUCTION DETAIL #10-3  
TYPICAL ON-LOT BMPs FOR LOT  
ALONG ASCENDING OR DESCENDING ROADWAY**

NOT TO SCALE



SECTION



PLAN VIEW

**NOTES:**

SOCK 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.

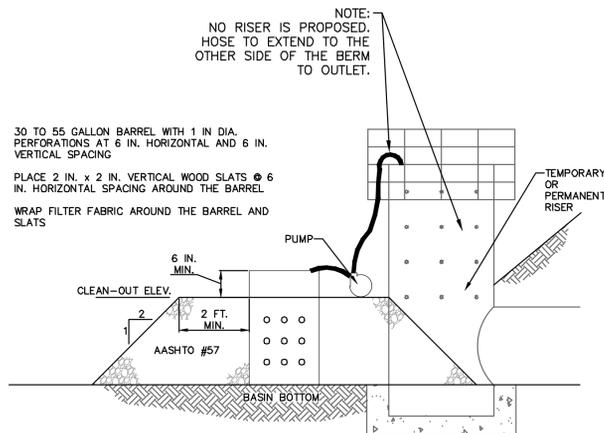
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

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



NOTE:  
NO RISER IS PROPOSED. HOSE TO EXTEND TO THE OTHER SIDE OF THE BERM TO OUTLET.

30 TO 55 GALLON BARREL WITH 1 IN. DIA. PERFORATIONS AT 6 IN. HORIZONTAL AND 6 IN. VERTICAL SPACING

PLACE 2 IN. x 2 IN. VERTICAL WOOD SLATS @ 6 IN. HORIZONTAL SPACING AROUND THE BARREL

WRAP FILTER FABRIC AROUND THE BARREL AND SLATS

**NOTES:**

DEWATERING FACILITY SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF BASIN/TRAP.

PRIOR TO INITIATING OPERATION OF DEWATERING FACILITY, ALL ACCUMULATED SEDIMENT SHALL BE CLEANED FROM THE INSIDE OF THE BARREL.

DEWATERING FACILITY SHALL BE CONTINUOUSLY MONITORED DURING OPERATION. IF FOR ANY REASON THE DEWATERING FACILITY CEASES TO FUNCTION PROPERLY, IT SHALL BE IMMEDIATELY SHUT DOWN AND NOT RESTARTED UNTIL THE PROBLEM HAS BEEN CORRECTED.

**STANDARD CONSTRUCTION DETAIL #7-18  
SEDIMENT BASIN OR SEDIMENT TRAP**

NOT TO SCALE

1	PER TOWNSHIP ENG. LETTER DATED 2/1/2016	R.J.B.	3/30/16
No.	REVISION	BY	DATE

**USER NOTICE**

ANY USER OF THESE PLANS IS RESPONSIBLE FOR CONTACTING THE APPROPRIATE AGENCY IN THE EVENT OF DISCREPANCIES BETWEEN THE PLAN, PLAN DETAILS, SHOP DRAWINGS, CONSTRUCTION STANDARDS, AND FIELD CONDITIONS. THE APPLICABLE AGENCY MUST BE CONTACTED AND DISCREPANCIES RESOLVED BEFORE PROPOSED IMPROVEMENTS ARE CONSTRUCTED. THE PREPARER OF THESE PLANS AND ALL REVIEWING AGENCIES ARE NOT LIABLE FOR ANY DISCREPANCIES.

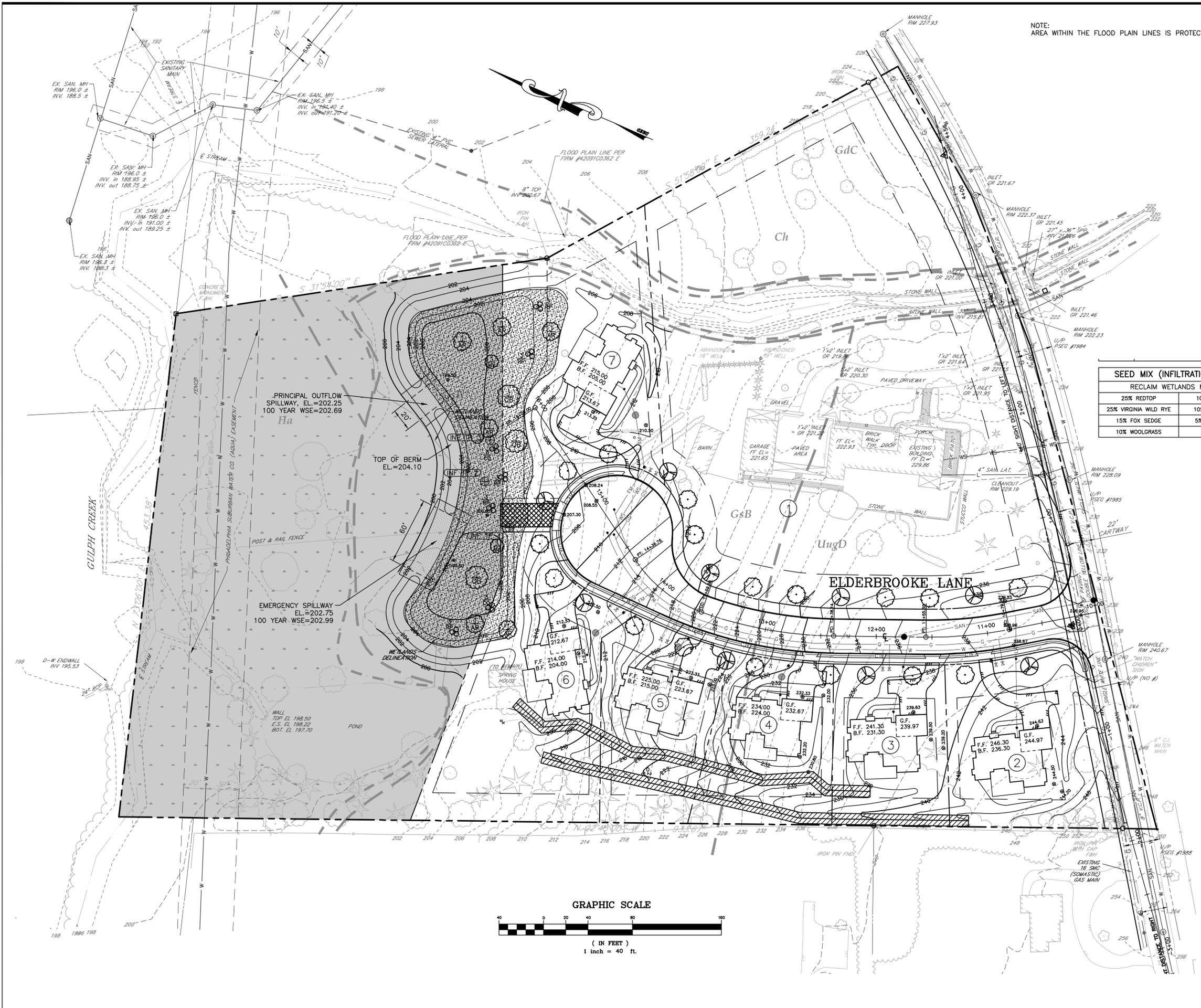
**LOSTY SUBDIVISION**

UPPER MERION TWP. MONTGOMERY COUNTY, PA

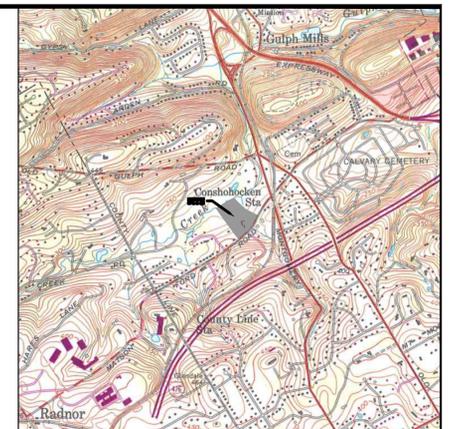
**EROSION & SEDIMENTATION CONTROL DETAILS**

DRAWN BY	PREPARED FOR	DATE
RJB	JAMES F. & CAROLYN L. LOSTY	1/7/2016
CHECKED BY	231 MATSONFORD ROAD	JOB NO.
	RADNOR, PA 19087	1697-3
SCALE	1000 Madison Ave	DRAWING FILE
1" = 40'	Suite 220	1697-3.dwg
FIELD BOOK	Norristown, PA 19403	SHEET NO.
N/A	(484)831-5795	11 OF 15
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NOTE:  
AREA WITHIN THE FLOOD PLAIN LINES IS PROTECTED AREA.



LOCATION MAP  
1" = 2000'

**LEGEND**

--- 297 ---	EXISTING CONTOUR
--- 300 ---	EXISTING INDEX CONTOUR
--- 298 ---	PROPOSED CONTOUR
---	EXISTING STORMWATER MAIN
---	EXISTING INLET
---	EXISTING BUILDING
---	PROPOSED BUILDING
---	EXISTING EDGE OF PAVING
---	PROPOSED EDGE OF PAVING
---	EXISTING CURB LINE
---	PROPOSED CURB LINE
---	PROPERTY LINE
---	LEGAL RIGHT-OF-WAY
---	ULTIMATE RIGHT-OF-WAY
---	BUILDING SETBACK LINE
[Pattern]	BASIN SEEDING AREA
[Pattern]	DEDICATED OPEN SPACE AREA
(INF TP 1)	INFILTRATION TEST PIT LOCATION

**SEED MIX (INFILTRATION BASIN)**

RECLAIM WETLANDS MIXTURE	
25% REDTOP	10% SOFT RUSH
25% VIRGINIA WILD RYE	10% LURID SEDGE
15% FOX SEDGE	5% JOE PYE RYE
10% WOOLGRASS	

**PROPOSED STREET TREE TABULATION**

NUMBER OF STREET TREES REQUIRED: 26

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QTY.
[Symbol]	ACER RUBRUM	RED MAPLE	2 1/2" MIN. CAL. (BALL & BAG)	9
[Symbol]	PLANTUS OCCIDENTALIS	SYCAMORE	2 1/2" MIN. CAL. (BALL & BAG)	9
[Symbol]	TILIA AMERICANA	AMERICAN LINDEN	2 1/2" MIN. CAL. (BALL & BAG)	8

**PROPOSED INFILTRATION BASIN LANDSCAPE TABULATION**

SYMBOL	SCIENTIFIC NAME	COMMON NAME	QTY.	SIZE	REMARKS
[Symbol]	ACER RUBRUM	RED MAPLE	6	3 1/2" (MIN)	B&B
[Symbol]	MAGNOLIA VIRGINIA	SWEETBAY MAGNOLIA	2	2 1/2" (MIN)	B&B
[Symbol]	QUERCUS BICOLOR	SWAMP WHITE OAK	3	3 1/2" (MIN)	B&B
[Symbol]	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	2	3' HEIGHT	CONTAINER
[Symbol]	ROSA PALUSTRIS	SWAMP ROSE	9	3' HEIGHT	CONTAINER

1 PER TOWNSHIP ENG. LETTER DATED 2/1/2016  
 No. REVISION BY DATE R.J.B. 3/30/16

**USER NOTICE**

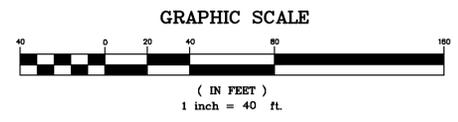
ANY USER OF THESE PLANS IS RESPONSIBLE FOR CONTACTING THE APPROPRIATE AGENCY IN THE EVENT OF DISCREPANCIES BETWEEN THE PLAN, PLAN DETAILS, SHOP DRAWINGS, CONSTRUCTION STANDARDS, AND FIELD CONDITIONS. THE APPLICABLE AGENCY MUST BE CONTACTED AND DISCREPANCIES RESOLVED BEFORE PROPOSED IMPROVEMENTS ARE CONSTRUCTED. THE PREPARER OF THESE PLANS AND ALL REVIEWING AGENCIES ARE NOT LIABLE FOR ANY DISCREPANCIES.

# LOSTY SUBDIVISION

UPPER MERION TWP. MONTGOMERY COUNTY, PA

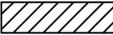
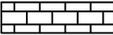
## POST COSTRUCTION STORMWATER MANAGEMENT PLAN

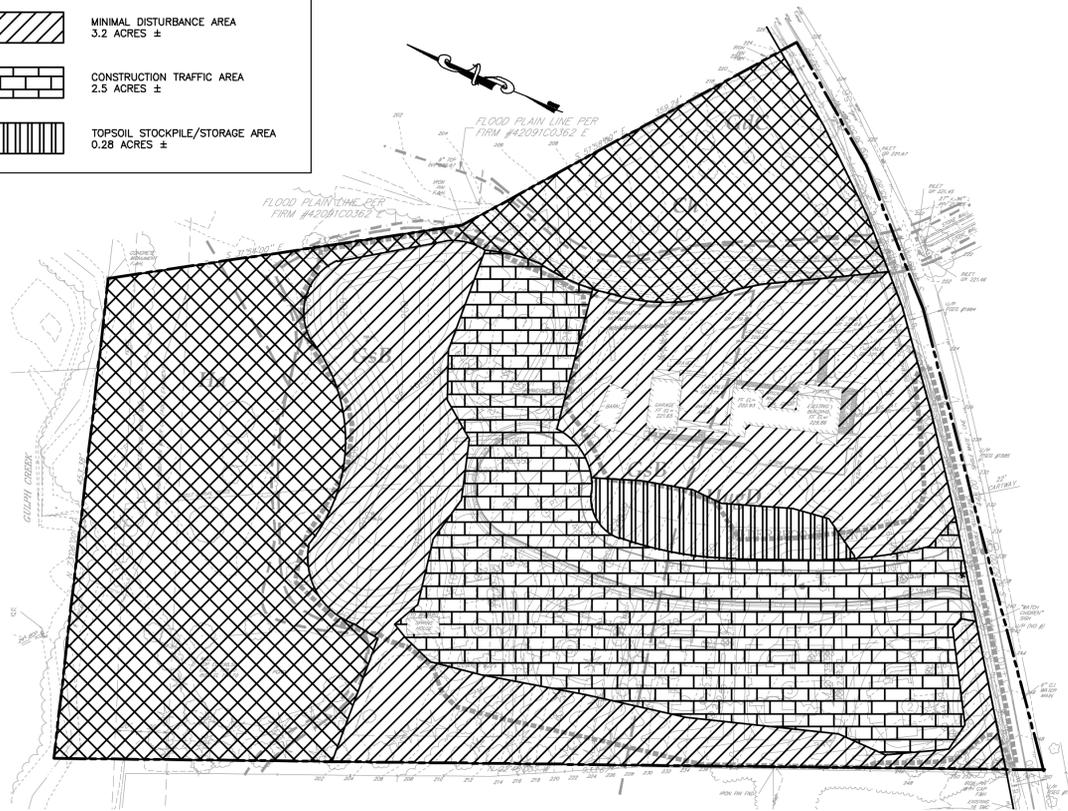
DRAWN BY RJB	PREPARED FOR JAMES F. & CAROLYN L. LOSTY 231 MATSONFORD ROAD RADNOR, PA 19087	DATE 1/7/2016
CHECKED BY		JOB NO. 1697-3
SCALE 1" = 40'		DRAWING FILE 1697-3.dwg
FIELD BOOK N/A		1000 Madison Ave Suite 220 Norristown, PA 19403 (484)831-5795 www.czopspecter.com Civil Engineering • Surveyors • Construction Management



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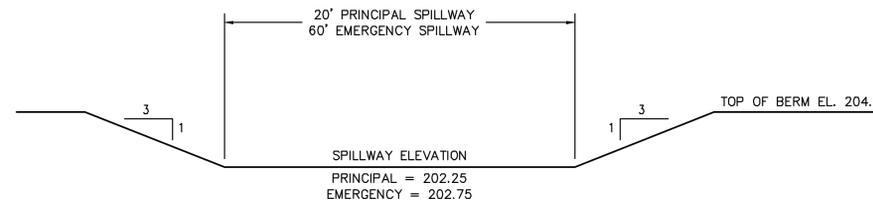
LEGEND

-  PROTECTED AREA  
3.8 ACRES ±
-  MINIMAL DISTURBANCE AREA  
3.2 ACRES ±
-  CONSTRUCTION TRAFFIC AREA  
2.5 ACRES ±
-  TOPSOIL STOCKPILE/STORAGE AREA  
0.28 ACRES ±



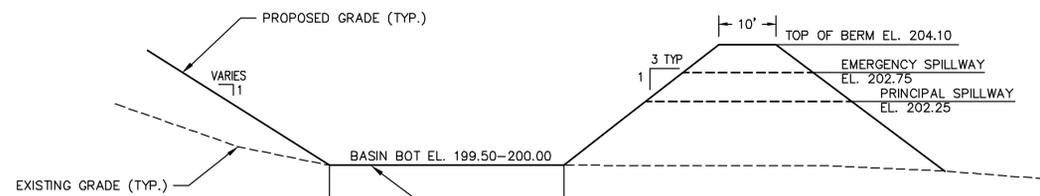
SOIL MANAGEMENT PLAN

1" = 80'



SPILLWAY DETAIL

NTS



BASIN DETAIL

NTS

1	PER TOWNSHIP ENG. LETTER DATED 2/1/2016	R.J.B.	3/30/16
No.	REVISION	BY	DATE

USER NOTICE

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# LOSTY SUBDIVISION

UPPER MERION TWP. MONTGOMERY COUNTY, PA

POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

DRAWN BY RJB	PREPARED FOR <b>JAMES F. &amp; CAROLYN L. LOSTY</b> 231 MATSONFORD ROAD RADNOR, PA 19087	DATE 1/7/2016
CHECKED BY	1000 Madison Ave Suite 220 Norristown, PA 19403 (484)831-5795 www.czopspecter.com	JOB NO. 1697-3
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**POST CONSTRUCTION STORMWATER MANAGEMENT FACILITIES OPERATION AND MAINTENANCE RESPONSIBILITIES**

WITHIN THREE (3) MONTHS OF THE APPLICATION FOR NOTICE OF TERMINATION OF THE NPDES PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEPARTMENT), THE LOT OWNER SHALL ASSUME RESPONSIBILITY FOR STORMWATER RELATED DISCHARGES FROM THE SITE. SUBSEQUENTLY ALL INSPECTIONS AND ANY MAINTENANCE REQUIRED FOR THE CONTINUED OPERATION OF POST CONSTRUCTION STORMWATER MANAGEMENT BMPs SHALL BE THE RESPONSIBILITY OF THE LOT OWNER. REQUIRED INSPECTION CHECKLISTS ARE ATTACHED HERETO AND SHALL BE COMPLETED FOR EACH INSPECTION PERIOD INDICATED. THE LOT OWNER SHALL CONTINUOUSLY AND PERPETUALLY MAINTAIN THE STORM WATER MANAGEMENT FACILITIES IN ACCORDANCE WITH THE CONDITIONS OF APPROVAL, THE PLAN, AND WITH MANUFACTURERS' SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- A. RIP-RAP AREAS
- B. THE INFILTRATION BASIN
- C. SLOPED LAWN AREAS
- D. TREES PLANTED ONSITE

**POST CONSTRUCTION STORMWATER MANAGEMENT GENERAL NOTES:**

1. INSPECTIONS OF ALL STORM WATER MANAGEMENT FACILITIES SHALL BE COMPLETED ANNUALLY, AND DURING OR IMMEDIATELY AFTER CESSATION OF A 25-YEAR OR GREATER STORM EVENT, A COMPREHENSIVE ANNUAL INSPECTION REPORT SHALL BE COMPLETED BY A CIVIL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA, WHO SHALL PREPARE AND SUBMIT A WRITTEN INSPECTION REPORT TO THE TOWNSHIP BY JULY 31ST OF EACH YEAR. THE REPORT SHALL IDENTIFY THE CONDITION OF THE STORM WATER MANAGEMENT FACILITIES, REPAIRS AND MAINTENANCE PERFORMED DURING THE YEAR AND/OR REQUIRED, CLEANUP REQUIRED, AND ANY OTHER PERTINENT INFORMATION TO PROPERLY ASCERTAIN WHETHER STORM WATER MANAGEMENT FACILITIES ARE FUNCTIONING PROPERLY AND IN ACCORDANCE WITH THE DESIGN AND APPROVED PLAN. THE REPORT SHALL INCLUDE A CERTIFICATION BY THE CIVIL ENGINEER THAT THE FACILITIES ARE FUNCTIONING AND WILL CONTINUE TO FUNCTION PROPERLY AS AFORESAID. PCSM REPORTING AND RECORD KEEPING: THE PCSM PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY PADEP OR THE CONSERVATION DISTRICT.
2. ALL MATERIALS COLLECTED BY THE STORM WATER MANAGEMENT FACILITIES, INCLUDING BUT NOT LIMITED TO OIL AND SEDIMENT, SHALL BE IN ACCORDANCE WITH ALL OTHER APPLICABLE REGULATIONS. THE TOWNSHIP SHALL REVIEW THE ANNUAL REPORT SHALL INCLUDE A LIST OF ALL MATERIALS DISPOSED AND CERTIFICATION OF REGULATORY COMPLIANCE WITH DISPOSAL REQUIREMENTS.
3. SHOULD A STORMWATER MANAGEMENT FACILITY NOT FUNCTION PROPERLY; THE TOWNSHIP SHALL BE NOTIFIED IN WRITING WITHIN 10 DAYS OF THE DISCOVERY OF THE MALFUNCTION AND THE PROPOSED MAINTENANCE, REPAIRS OR MODIFICATIONS NECESSARY TO RESOLVE THE MALFUNCTION. ALL MAINTENANCE, REPAIRS OR MODIFICATIONS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MANUFACTURER OR DESIGNER. IF A REPAIR OR MODIFICATION IS MADE NOT WITHIN MANUFACTURER'S OR DESIGNER'S SPECIFICATIONS, SAID REPAIR OR MODIFICATION SHALL BE APPROVED IN WRITING BY THE MANUFACTURER OR DESIGNER, AND A COPY OF THE APPROVAL SHALL BE FILED WITH THE TOWNSHIP. THE MAINTENANCE, REPAIR, OR MODIFICATION MAINTENANCE MUST BE COMPLETED WITHIN 30 DAYS OF DISCOVERY OF THE MALFUNCTION, OR IMMEDIATELY UPON DISCOVERY IF THE MALFUNCTION POSES A THREAT TO THE PUBLIC HEALTH OR SAFETY.
4. THE TOWNSHIP RESERVES THE RIGHT TO REQUIRE ADDITIONAL DEVICES (SUCH AS AN OIL ABSORBENT HYDROPHOBIC BOOM, ETC.) IF THE FACILITIES AS DESIGNED DO NOT FUNCTION TO ADEQUATELY MAINTAIN THE QUALITY OF THE STORMWATER LEAVING THE STORMWATER MANAGEMENT FACILITY.
5. THE PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMPs. ADDITIONAL SOIL TESTING MAY BE REQUIRED PRIOR TO THE INSTALLATION OF INFILTRATION BMPs TO ENSURE PROPER LOCATION AND FUNCTION. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPs, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT. CRITICAL TIMES FOR CONSTRUCTION OVERSIGHT ARE DURING THE EXCAVATION AND INSTALLATION OF THE INFILTRATION BASIN.
6. A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING THE APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO ACCEPTING THE NOT, THE CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY THE ADEQUATE INSTALLATION AND FUNCTIONING OF THE STORMWATER BMPs.
7. UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER § 102.22(a) (2) (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMPs IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH §§ 102.4 AND 102.8 (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS AND PCSM REQUIREMENTS), THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE PA DEP OR CONSERVATION DISTRICT.
8. THE NOTICE OF TERMINATION MUST INCLUDE: (1) THE FACILITY NAME, ADDRESS AND LOCATION; (2) THE OPERATOR NAME AND ADDRESS; (3) THE PERMIT NUMBER; (4) THE REASON FOR PERMIT TERMINATION; (5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs IN ACCORDANCE WITH § 102.8(m) AND PROOF OF COMPLIANCE WITH § 102.8(m) (2).
  - A. FINAL CERTIFICATION: THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS: "I (NAME) DO HEREBY CERTIFY THAT THE PENALTIES OF 18 P.S.A. § 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE PA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."
    - (1) THE PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN.
    - (2) THE PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs.

**INFILTRATION BASIN**

**MAINTENANCE AND INSPECTION ISSUES**

1. THE TRIBUTARY AREA UPORADENT OF INFILTRATION BASIN (ROADBED, SWALES, ETC.) SHOULD BE INSPECTED FOR DEBRIS LEAST TWO TIMES PER YEAR AND AFTER RUNOFF EVENTS. ANY SIGNS/SOURCES OF DEBRIS TO BE CORRECTED IMMEDIATELY.
2. THE VEGETATION ALONG THE SURFACE OF THE INFILTRATION BASIN SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED AS SOON AS POSSIBLE.
3. VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON AN INFILTRATION BASIN, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
4. INSPECT THE BASIN AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS. MOSQUITO'S SHOULD NOT BE A PROBLEM IF THE WATER DRAINS IN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STATIC WATER LEVELS.
5. ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS.
6. MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES.
7. REMOVE ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE. PROPERLY DISPOSE OF SEDIMENT.

**INFILTRATION BASIN SPECIFICATIONS**

1. SITE PREPARATION
  - A. ALL EXCAVATION AREAS, EMBANKMENTS, AND WHERE STRUCTURES ARE TO BE INSTALLED SHALL BE CLEARED AND GRUBBED AS NECESSARY.
  - B. WHERE FEASIBLE, TREES AND OTHER NATIVE VEGETATION SHOULD BE PROTECTED.
  - C. ANY CLEARED MATERIAL SHOULD BE USED AS MULCH FOR EROSION CONTROL OR SOIL STABILIZATION.
  - D. CARE SHOULD BE TAKEN TO PREVENT COMPACTION OF THE BOTTOM OF THE RESERVOIR. IF COMPACTION SHOULD OCCUR, SOILS SHOULD BE RESTORED AND AMENDED.
2. EARTH FILL MATERIAL & PLACEMENT
  - A. THE FILL MATERIAL SHOULD BE TAKEN FROM APPROVED DESIGNATED EXCAVATION AREAS. IT SHOULD BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIALS. MATERIALS ON THE OUTER SURFACE OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION.
  - B. AREAS WHERE FILL IS TO BE PLACED SHOULD BE PREPARED PRIOR TO PLACEMENT. FILL MATERIAL FOR THE EMBANKMENT SHOULD BE PLACED IN MAXIMUM 8"-INCH LIFTS. THE PRINCIPAL SPILLWAY SHOULD BE INSTALLED CONCURRENTLY WITH FILL REPLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.
  - C. THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE SITE SHOULD BE CONTROLLED. FOR THE EMBANKMENT, EACH LIFT SHOULD BE COMPACTED TO 95% OF THE STANDARD PROCTOR. FILL MATERIAL SHOULD CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.
3. EMBANKMENT CORE
  - A. THE CORE SHOULD BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHOULD BE AT LEAST FOUR FEET. THE HEIGHT SHOULD EXTEND UP TO AT LEAST THE 10-YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHOULD BE 1 TO 1 OR FLATTER. THE CORE SHOULD BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. THE CORE SHOULD BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.
4. STRUCTURE BACKFILL
  - A. BACKFILL ADJACENT TO PIPES AND STRUCTURES SHOULD BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHOULD BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE WATER SHOULD BE PLACED COMPLETELY UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHOULD DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET TO ANY PART OF THE STRUCTURE. EQUIPMENT SHOULD NOT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24 INCHES OR GREATER OVER THE STRUCTURE OR PIPE.
  - B. STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF THE PADOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. MATERIAL SHOULD BE PLACED SO THAT A MINIMUM OF 6 INCHES OF FLOWABLE FILL SHOULD BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL SHOULD BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOWING THE PIPE. WHEN USING FLOWABLE FILL ALL METAL PIPE SHOULD BE BITUMINOUS COATED. ADJOINING SOIL FILL SHOULD BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 4 INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT.
  - C. REFER TO CHAPTER 220 OF PENNDOT PUB. 408 (2009).
5. STABILIZATION
  - A. ALL BORROW AREAS SHOULD BE GRADDED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOL AND BORROW AREAS, AND BERMS SHOULD BE STABILIZED BY SEEDING, PLANTING AND MULCHING.

**TREE MAINTENANCE:**

- THE PROPOSED LARGE CANOPY TREES AND EVERGREEN TREES AS WELL AS THE EXISTING TREES TO REMAIN, ARE SHOWN ON THE PCSM PLAN PROVIDED TO THE STORMWATER MANAGEMENT ROUTE TO THE PROJECT.
- THE TREES SHOWN MUST BE NATIVE SPECIES, MINIMUM 2" CALIPER, AND A MINIMUM TREE HEIGHT OF 6'.
- THESE TREES SHALL BE MAINTAINED AND PROTECTED FOR THE LIFE OF THE PROJECT (50 YEARS) OR UNTIL REDEVELOPMENT OCCURS.
- ESCROW SHALL BE PROVIDED FOR THE REPLACEMENT OF TREES THAT DIE WITHIN 5 YEARS OF CONSTRUCTION. DEAD TREES SHALL BE REPLACED WITHIN 6 MONTHS.

**PROTECTED AND MINIMUM DISTURBANCE / MINIMUM SOIL COMPACTION AREAS:**

- THE PCSM PLAN SHOWS PROTECTED AREAS OF MINIMUM DISTURBANCE AND MINIMUM SOIL COMPACTION.
- THESE AREAS OF MINIMUM SOIL COMPACTION SHOULD REQUIRE CONSIDERLY LESS MAINTENANCE THAN OTHERS AREAS. LANDSCAPE VEGETATION WILL LIKELY BE HEALTHIER, HAVE A HIGHER SURVIVAL RATE, REQUIRE LESS IRRIGATION AND FERTILIZER, AND EVEN LOOK BETTER.
- SOME MAINTENANCE ACTIVITIES SUCH AS FREQUENT LAWN MOWING CAN CAUSE CONSIDERABLE SOIL COMPACTION AFTER CONSTRUCTION AND SHOULD BE AVOIDED WHENEVER POSSIBLE.
- PLANTING LOW-MAINTENANCE NATIVE VEGETATION IS THE BEST WAY TO AVOID DAMAGE DUE TO MAINTENANCE.

**LAWN AREAS:**

ALL LAWN AREAS SHALL BE MAINTAINED WITH A MINIMUM OF 70 PERCENT GRASS STAND AND SHALL BE MOWED REGULARLY TO A THREE TO FOUR INCH HEIGHT DURING THE GROWING SEASON. ANY BARE SPOTS SHALL BE RESEDED AND MULCHED IN THE SPRING OR FALL. ONLY SPOT APPLICATION OF HERBICIDES SHALL BE USED TO CONTROL WEEDS.

**NATURAL AREAS:**

LARGE AREAS OF OPEN SPACE SHALL BE MAINTAINED IN A MEADOW CONDITION AND SHALL BE INSPECTED AT THE BEGINNING AND END OF EACH GROWING SEASON. ANY BARE AREAS SHALL BE RESEDED. THESE NATURAL AREAS SHALL BE MOWED TO A GRASS HEIGHT OF NOT LESS THAN SIX INCHES. ONLY SPOT APPLICATION OF HERBICIDES SHALL BE USED TO CONTROL WEEDS.

**PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS**

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPs ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs.

FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPs AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER § 102.7(b)(5) (RELATING TO PERMIT TERMINATION)

THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPs AND TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs LOCATED ON THE PROPERTY.

**GENERAL PCSM PLANNING AND DESIGN §102.8(f)**

THE E&S PLAN PROPOSED BY CZOP SPECTER AIMS TO MINIMIZE THE IMPERVIOUS AREA ON THE SITE WHILE AVOIDING UNNECESSARY LAND CLEARING AND RE-GRADATION. ALTHOUGH RE-GRADATION IS UNAVOIDABLE IN ORDER TO MEET DRAINAGE NEEDS, LAND CLEARING IS NOT RECOMMENDED. THE PRESCRIBED LAND DEVELOPMENT WILL IMPROVE LOCAL DRAINAGE FEATURES AND VEGETATION. THE PROPOSED PLAN EFFECTIVELY PRESERVES LOCAL WATERWAYS WITHOUT DEGRADING THE QUALITY OF WATER BY DECREASING THE RUNOFF RATE AND VOLUME.

OTHER STRUCTURAL AND NONSTRUCTURAL BMPs ARE NOT NECESSARY TO CONSIDER SINCE THE PROPOSED BMPs ARE EFFECTIVE OF ATTAINING PCSM GOALS INCLUDING PREVENTING OR MINIMIZING CHANGES IN STORMWATER RUNOFF.

**EXISTING TOPOGRAPHIC FEATURES OF THE PROJECT SITE AND IMMEDIATE SURROUNDING AREA §102.8(f)(1)**

SEE POST CONSTRUCTION STORMWATER MANAGEMENT NARRATIVE AND PLAN FOR LOCATION MAP (USGS QUADRANGLE, NORRISTOWN, PA)

**TYPES, DEPTH, SLOPE, LOCATIONS AND LIMITATIONS OF THE SOILS AND GEOLOGIC FORMATIONS §102.8(f)(2)**

- THE PROJECT SOIL TYPES ARE AS FOLLOWS:
- Ch – CODORUS SILT LOAM, 0 TO 3 PERCENT SLOPES
    - DEPTH TO WATER TABLE: 18 TO 36 INCHES
    - DEPTH TO RESTRICTIVE FEATURE: 72 TO 99 INCHES TO LITHIC BEDROCK
    - LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WEINNESS/FLOODING AND FROST ACTION; LOW DEPTH TO WATER TABLE; LOW STRENGTH
  - GcC – GLADSTONE GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES
    - DEPTH TO WATER TABLE: MORE THAN 80 INCHES
    - DEPTH TO RESTRICTIVE FEATURE: 60 TO 100 INCHES TO LITHIC BEDROCK
    - LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WEINNESS/FLOODING AND FROST ACTION; LOW STRENGTH
  - GcB – GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES
    - DEPTH TO WATER TABLE: 6 TO 36 INCHES
    - DEPTH TO RESTRICTIVE FEATURE: 15 TO 30 INCHES TO FRAGIPAN; 60 TO 99 INCHES TO PARALITHIC BEDROCK
    - LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WEINNESS/FLOODING AND FROST ACTION; LOW DEPTH TO WATER TABLE; LOW STRENGTH
  - Ho – HATBORO SILT LOAM, 0 TO 3 PERCENT SLOPES
    - DEPTH TO WATER TABLE: 0 TO 6 INCHES
    - DEPTH TO RESTRICTIVE FEATURE: 60 TO 99 INCHES TO LITHIC BEDROCK
    - LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WEINNESS/FLOODING AND FROST ACTION; LOW DEPTH TO WATER TABLE; LOW STRENGTH
  - Uuq – URBAN LAND-UDORTHENTS, SCHIST AND GNEISS COMPLEX, 8 TO 25 PERCENT SLOPES
    - DEPTH TO WATER TABLE: URBAN LAND – N/A; UDORTHENTS, SCHIST AND GNEISS – ABOUT 60 INCHES
    - DEPTH TO RESTRICTIVE FEATURE: URBAN LAND – 10 TO 99 INCHES TO LITHIC BEDROCK UDORTHENTS, SCHIST AND GNEISS – 20 TO 70 INCHES TO PARALITHIC BEDROCK
    - LIMITATIONS: CORROSIVE TO STEEL/CONCRETE; SUSCEPTIBLE TO WEINNESS/FLOODING AND FROST ACTION; LOW STRENGTH

- SOIL LIMITATIONS (SOILS)/RESOLUTIONS**
1. **CUTBANKS CAVE:** (Ch, GcC, GcB, Ho, UuqD)
    - CUTBANKS TO BE STABILIZED DURING ALL DIGGING/TRENCHING OPERATIONS.
  2. **CORROSIVE TO CONCRETE/STEEL:** (Ch, GcC, GcB, Ho, UuqD)
    - CONCRETE AND STEEL THAT IS EXPOSED TO SOIL SHALL BE COATED OR SEPARATED FROM SOIL BY STONE.
  3. **EASILY ERODIBLE:** (GcC, UuqD) **DROUGHTY:** (UuqD)
    - BACKFILLED/EXPOSED SOIL TO BE SUFFICIENTLY COMPACTED AND STABILIZED.
  4. **FLOODING:** (Ch, Ho) **DEPTH TO SATURATED ZONE/SEASONAL HIGH WATER TABLE:** (Ch, GcB, Ho)
    - SHOULD FLOODING AND/OR HIGH WATER LEVELS BE ENCOUNTERED, PROPER DRAINAGE SYSTEMS TO BE IMPLEMENTED.
  5. **HYDRIC/HYDRIC INCLUSIONS:** (Ch, GcC, GcB, Ho)
    - DISTURBED SOILS TO BE PROPERLY STABILIZED.
  6. **LOW STRENGTH/LANDSLIDE PRONE:** (Ch, GcB, Ho, UuqD)
    - SLOPED CUT AREAS TO BE PROPERLY STABILIZED. SLOPED FILL AREAS TO BE PROPERLY COMPACTED & STABILIZED.
  7. **SLOW PERCOLATION:** (Ch, GcC, GcB, Ho, UuqD)
    - ANY AREAS INTENDED FOR INFILTRATION TO BE VERIFIED TO THE SATISFACTION OF THE MUNICIPAL AGENCY HAVING JURISDICTION.
  8. **PIPING:** (Ch, GcB, Ho)
    - PIPING TO BE STONE BACKFILLED AND PROPERLY COMPACTED.
  9. **POOR SOURCE OF TOPSOIL:** (GcB, Ho, UuqD)
    - IF ONSITE TOPSOIL IS POOR, THEN APPROVED AMENDMENTS SHOULD BE ADDED PRIOR TO RESPREADING.
  10. **EROSY ACTION:** (Ch, GcC, GcB, Ho, UuqD)
    - GRADING DURING WINTER MONTHS SHOULD BE MINIMIZED OR AVOIDED COMPLETELY IF POSSIBLE.
  11. **SHRINK/SWELL:** (GcC)
    - FILL AREAS TO HAVE THE PROPER AMOUNT OF EXTRA MATERIAL ADDED AND COMPACTED TO THE APPROPRIATE COMPACTION. ALL DISTURBED AREAS TO HAVE APPROPRIATE SETTLING TIME PRIOR TO FINAL GRADING.
  12. **WEINNESS:** (Ch, GcB, Ho)
    - FILL AREAS TO BE PROPERLY COMPACTED AND ALL DISTURBED AREAS ALLOWED TIME TO SETTLE PRIOR TO FINAL GRADING.

**RECEIVING SURFACE WATERS §102.8(f)(5)**

THE PROJECTS RECEIVING WATERCOURSE IS AN UNNAMED TRIBUTARY TO GULPH CREEK, WHICH BISECTS THE SITE AND RUNS FROM SOUTHEAST TO NORTH, WHERE IT INTERSECTS GULPH CREEK NEAR THE NORTHERN MOST CORNER OF THE SITE. THESE WATERWAYS ARE ALSO SHOWN ON THE USGS QUAD MAP INCLUDED IN THE NARRATIVE.

THE CHAPTER 93 CLASSIFICATION OF THE UNNAMED TRIBUTARY TO GULPH CREEK IS WWF / WF. (WARM WATER FISHES, MIGRATORY FISHES).

**SEQUENCE OF PCSM BMP IMPLEMENTATION OR INSTALLATION §102.8(f)(7)**

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE.

**GENERAL EARTH DISTURBANCE NOTES**

1. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
2. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
3. PERMITTEES AND CO-PERMITTEES ARE RESPONSIBLE FOR ENSURING THAT A LICENSED PROFESSIONAL HAVE OVERSIGHT RESPONSIBILITIES FOR THE DESIGN AND PROPER INSTALLATION OF BMPs IDENTIFIED IN THE PCSM PLAN PRIOR TO THE SUBMISSION OF THE NOT FOR THIS PERMIT. THE LICENSED PROFESSIONAL SHALL CERTIFY THAT THE BMPs IDENTIFIED IN THE PLAN HAVE BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLAN THE INSTALLATION SCHEDULE OF PCSM BMPs AND MAINTENANCE REQUIREMENTS CONTAINED WITHIN THE APPROVED PCSM PLAN MUST BE FOLLOWED; AND FAILURE TO COMPLY WITH THE INSTALLATION SCHEDULE IS A VIOLATION OF THIS PERMIT, THE CLEAN STREAMS LAW, AND THE CLEAN WATER ACT.

**SCHEDULE OF EARTHMOVING ACTIVITIES**

1. INSTALL ROCK CONSTRUCTION ENTRANCE INTO SITE FROM MATSONFORD ROAD.
2. INSTALL PERIMETER EROSION CONTROLS (COMPOST FILTER SOCK / SILT FILTER FENCE).
3. INSTALL CONSTRUCTION ZONE / TREE PROTECTION FENCE.
4. CONSTRUCT SEDIMENT TRAP. (SEE SEDIMENT TRAP CONSTRUCTION SEQUENCE BELOW)
5. CLEAR SITE VEGETATION AS REQUIRED.
6. CONSTRUCT STORMWATER DIVERSION BERM AT REAR OF LOTS 2 THROUGH 6.
7. STRIP TOPSOIL AND STORE IN DESIGNATED TOPSOIL STOCKPILE AREA. TOPSOIL STOCKPILE AREA TO BE IMMEDIATELY PROTECTED WITH COMPOST FILTER SOCKS/SILT FENCE AND STABILIZED PER THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS AS INDICATED IN GENERAL EARTH DISTURBANCE NOTE #1 ABOVE.
8. ESTABLISH EQUIPMENT AND CONSTRUCTION MATERIAL STOCKPILE AREA. PROTECT WITH COMPOST FILTER SOCK/SILT FILTER FENCE.
9. ROUGH GRADE AND STABILIZE APPROPRIATE SITE AREAS TO TEMPORARY AND/OR PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS AS INDICATED IN GENERAL EARTH DISTURBANCE NOTE #1 ABOVE.
10. INSTALL SITE UTILITIES.
11. CONSTRUCT ROADWAY (INSTALL CURBING, SIDEWALK, BASE COURSE AND BINDER COURSE, WEARING COURSE NOT TO BE INSTALLED IN THIS STEP).
12. RESPREAD TOPSOIL IN AREAS NOT INTENDED FOR HOUSE CONSTRUCTION AND PERMANENTLY STABILIZE AREAS WHERE HOUSE CONSTRUCTION WILL BE PERFORMED TO BE TEMPORARILY STABILIZED PER GENERAL EARTH DISTURBANCE NOTE #1.
13. UPON COMPLETION OF ROADWAY CONSTRUCTION AND ACHIEVING 70% VEGETATIVE COVER IN ALL OTHER DISTURBED AREAS, THE SEDIMENT TRAP SHALL BE CONVERTED INTO AN INFILTRATION BASIN (SEE INFILTRATION BASIN CONSTRUCTION SEQUENCE).
14. CONSTRUCT HOUSES ON LOTS 2 THROUGH 7. INDIVIDUAL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED ON EACH LOT AS CONSTRUCTION TAKES PLACE (SEE HOUSE CONSTRUCTION SEQUENCE).
15. UPON COMPLETION OF HOUSE CONSTRUCTION AND STABILIZATION OF ALL INDIVIDUAL LOTS, INSTALL WEARING COURSE ON THE ROADWAY.
16. REMOVE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AND STABILIZED ANY AREAS DISTURBED TO ACCOMMODATE THOSE MEASURES. INSTALL EROSION CONTROL BLANKET ON ALL AREA WHERE THE SOIL HAS BEEN DISTURBED.

**HOUSE CONSTRUCTION SEQUENCE**

1. INSTALL EROSION AND SEDIMENTATION PERIMETER CONTROLS AS HOUSE CONSTRUCTION BEGINS FOR EACH LOT. (SEE DETAILS)
2. EXCAVATE AREA FOR FOUNDATION, REGRADE LOT AS NEEDED.
3. CONSTRUCT FOUNDATION AND UTILITY CONNECTIONS. IF NEEDED, FINE GRADE AREA TO INSURE PROPER DRAINAGE AWAY FROM THE STRUCTURE.
4. INSTALL STONE BARE FOR DRIVEWAY
5. CONSTRUCT HOUSE
6. RESPREAD TOPSOIL AND PERMANENTLY STABILIZE PER GENERAL EARTH DISTURBANCE NOTE #1.
7. INSTALL DRIVEWAY BINDER/WEARING COURSE
8. UPON FINAL STABILIZATION OF THE LOT (AS SPECIFIED IN GENERAL EARTH DISTURBANCE NOTE #2) EROSION AND SEDIMENTATION CONTROL BMPs SHALL BE REMOVED. AREA DISTURBED DURING THE REMOVAL OF THE BMPs TO BE STABILIZED IMMEDIATELY.
9. **INFILTRATION BASIN CONSTRUCTION SEQUENCE**
  1. PROTECT INFILTRATION BASIN AREA FROM COMPACTION PRIOR TO INSTALLATION.
  2. IF POSSIBLE, INSTALL INFILTRATION BASIN DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES.
  3. INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
  4. IF NECESSARY, EXCAVATE INFILTRATION BASIN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
  5. INSTALL OUTLET CONTROL STRUCTURES.
  6. SEED AND STABILIZE TOPSOIL. (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS.)
  7. UPON FINAL STABILIZATION OF THE BASIN (AS SPECIFIED IN GENERAL EARTH DISTURBANCE NOTE #2) EROSION AND SEDIMENTATION CONTROL BMPs SHALL BE REMOVED. AREA DISTURBED DURING THE REMOVAL OF THE BMPs TO BE STABILIZED IMMEDIATELY.

**RECYCLING OR DISPOSAL OF MATERIALS §102.8(f)(11)**

CONSTRUCTION WASTES ANTICIPATED FROM THIS PROJECT INCLUDE, BUT ARE NOT LIMITED TO: WOOD TIMBER, STONE AND ASPHALT RUBBLE, BUILDING MATERIALS SUCH AS LUMBER, PLYWOOD AND ROOFING MATERIALS.

THE OPERATOR SHALL REMOVE FROM THIS SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THIS SITE.

**GEOLOGIC FORMATIONS OR SOIL CONDITIONS §102.8(f)(12)**

THE SITE HAS NOT BEEN SUBJECT TO ANY INDUSTRIAL PROCESSES THAT WOULD DEGRADE THE QUALITY OF THE LAND. THE ENVIRONMENTAL INTEGRITY OF THE SOIL HAS NOT BEEN CORRUPTED TO THE POINT IN WHICH ANY THREATENING POLLUTANTS ARE PRESENT.

HOWEVER, SHOULD ANY UNFORESEEN THREATENING POLLUTION CAUSING CONDITIONS ARE ENCOUNTERED, THE OPERATOR WILL ENSURE PROPER CONTAINMENT AND DISPOSAL OF THIS MATERIAL. THE OPERATOR SHALL NOTIFY THE COUNTY CONSERVATION DISTRICT AND/OR THE PROJECT ENGINEER IF FURTHER ASSISTANCE OR DIRECTION IS REQUIRED.

**RIPIARIAN FOREST BUFFER MANAGEMENT PLAN §102.8(f)(14)**

NO RIPIARIAN BUFFERS OR RIPIARIAN FOREST BUFFERS ARE NECESSARY FOR THIS SITE. THERE IS NO EXISTING TMDL THAT APPLIES. THE SITE DISCHARGES TO AN UNNAMED TRIBUTARY TO GULPH CREEK, A WATER BODY LISTED AS IMPAIRED, HAVING SILTATION, WATER FLOW VARIABILITY, AND METALS AS THE CAUSE OF THE IMPAIRMENT.

1	PER TOWNSHIP ENG. LETTER DATED 2/1/2016	R.J.B.	3/30/16
No.	REVISION	BY	DATE

**USER NOTICE**

ANY USER OF THESE PLANS IS RESPONSIBLE FOR CONTACTING THE APPROPRIATE AGENCY IN THE EVENT OF DISCREPANCIES BETWEEN THE PLAN, PLAN DETAILS, SHOP DRAWINGS, CONSTRUCTION STANDARDS, AND FIELD CONDITIONS. THE APPLICABLE AGENCY MUST BE CONTACTED AND DISCREPANCIES RESOLVED BEFORE PROPOSED IMPROVEMENTS ARE CONSTRUCTED. THE PREPARER OF THESE PLANS AND ALL REVIEWING AGENCIES ARE NOT LIABLE FOR ANY DISCREPANCIES.

# LOSTY SUBDIVISION

UPPER MERION TWP. MONTGOMERY COUNTY, PA

<b>POST COSTRUCTION STORMWATER MANAGEMENT NOTES</b>			
DRAWN BY	PREPARED FOR	DATE	
RJB	JAMES F. & CAROLYN L. LOSTY	1/7/2016	
CHECKED BY	231 MATSONFORD ROAD	JOB NO.	
	RADNOR, PA 19087	1697-3	
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