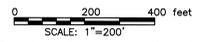


**LEGEND**

- UTILITY POLE
- LIGHT POLE
- SUBJECT PROPERTY LINE
- PROPERTY LINE
- PROPOSED PROPERTY LINE
- ROADWAY CENTERLINE
- IP- IRON PIN SET
- FOUND- IRON PIN FOUND
- FOUND- IRON PIPE FOUND
- EXISTING CONTOURS (APPROXIMATE)
- 1000
- WETLAND AREA
- EDGE OF WOODED AREA
- ZONING BOUNDARY LINE (APPROXIMATE)
- FEMA FLOOD ZONE BOUNDARY
- PERMIT BOUNDARY

- NOTES:**
1. THE PHYSICAL FEATURES SHOWN ON THIS DRAWING WERE PHOTOGRAMMETRICALLY COMPILED BY AEROCON PHOTOGRAMMETRIC SERVICES, INC. USING AERIAL PHOTOGRAPHY TAKEN ON APRIL 15, 2006. THE CONTOURS SHOWN ON THIS DRAWING WERE ACQUIRED FROM PAMAP (DATED 2007). THE CONTOUR INFORMATION IS REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
  2. THE PROPERTY BOUNDARY INFORMATION SHOWN (E.G. DISTANCES AND BEARINGS) ON THIS DRAWING IS BASED ON SURVEYS PREPARED BY ARROW SURVEYING AND DESIGN, RECORDED DEED DESCRIPTIONS, AND SUMMIT TOWNSHIP TAX MAPS. NO PROPERTY BOUNDARY SURVEY WAS PERFORMED BY PORTER CONSULTING ENGINEERS, P.C. (PCE).
  3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITY LINE LOCATIONS. THE UTILITY LINE LOCATIONS SHOWN ON THIS PLAN WERE OBSERVED FROM FIELD EVIDENCE AND ARE APPROXIMATE.
  4. NO SUBSURFACE UTILITY LOCATIONS WERE DETERMINED BY PORTER CONSULTING ENGINEERS, P.C. THE SUBSURFACE UTILITIES SHOWN ON THIS PLAN ARE BASED ON VISIBLE MARKINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING ALL PERTINENT UTILITIES LOCATED PRIOR TO BEGINNING CONSTRUCTION.
  5. THE WETLAND AREAS SHOWN HAVE BEEN DELINEATED BY PCE IN ACCORDANCE WITH US ARMY CORPS OF ENGINEERS AND Pa. DEP REQUIREMENTS. EXISTING AND UPDATED WETLAND BOUNDARIES WERE FIELD VERIFIED BY PCE IN JANUARY 2017.
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  7. AS SHOWN HEREON, PORTIONS OF THIS PARCEL ARE LOCATED IN A SPECIAL HAZARD AREA DESIGNATED "ZONE AE" AND "ZONE X" IN ACCORDANCE WITH FIRM MAP SUMMIT TOWNSHIP COMMUNITY - PANEL NUMBERS 42039C0290D AND 42039C0293D, EFFECTIVE DATE AUGUST 16, 2012. ALL FLOOD ZONE DESIGNATIONS AND BOUNDARIES SHOWN ON THIS DRAWING WERE REPRODUCED FROM EXISTING FLOOD INSURANCE RATE MAPS (FIRMS) AND ARE APPROXIMATE.
  8. THE FORMER JO-WINN MOBILE HOME PARK IS NO LONGER IN OPERATION, AND ALL MOBILE HOMES HAVE BEEN VACATED. THE MOBILE HOMES HAVE BEEN REMOVED FROM THE PROPERTY.
  9. A PORTION OF WETLAND AREA A IDENTIFIED IN THE ORIGINAL 2006 WETLAND DELINEATION PLAN WAS SUBSEQUENTLY DETERMINED TO BE ON A PARCEL UNDER DISPUTED TITLE. SAID PARCEL IS NOT PART OF THE CURRENT PROJECT, AND THE ACREAGE OF WETLAND AREA A WITHIN THIS PARCEL HAS BEEN DEDUCTED FROM THE TOTAL AREA FOR WETLAND AREA A AS SHOWING ON THE WETLAND AREA SUMMARY TABLE.

**EXISTING SITE PLAN**



**IMPORTANT NOTE:**  
ADJACENT PROPERTY OWNER INFORMATION IS SHOWN ON THE PROPERTY PLAN.  
PORTER CONSULTING ENGINEERS, P.C. FILE NO.: 12038-1702-M, DRAWING NO. C1.1 DATED 2/8/2017.

**PROPERTY OWNER/DEVELOPER**  
SNOW WATERS DEVELOPMENT, LLC  
20 SOUTH SANTA CRUZ AVE.  
SUITE 320  
LOS GATOS, CA 95030  
CONTACT:  
JEFF DAVENPORT  
22487 HOBBS ROAD  
MEADVILLE, PA. 16335  
814-720-2915

**PROPERTY LOCATION**  
S.R. 618  
CONNEAUT LAKE, PA. 16316  
PARCEL No. 5508-55, 5512-61  
RECORD BOOK 1017, Page 1043  
SUMMIT TOWNSHIP, CRAWFORD COUNTY, PENNSYLVANIA

**CALL BEFORE YOU DIG!**  
PENNSYLVANIA LAW REQUIRES  
3 WORKING DAYS NOTICE FOR  
CONSTRUCTION PHASE AND 10 WORKING  
DAYS IN DESIGN STAGE - STOP CALL  
POCS SERIAL NUMBER  
**20170611402**  
1-800-242-1776

No.	Date	Revisions	By

Engineer's Seal:

Engineer's Signature: L. Ashley Porter, P.E.  
Lic. No. PE-052292-E

**PCE** Meadville Office: 515 State Street, Meadville, Pennsylvania 16335, Phone: (814) 337-4447, Fax: (814) 337-3700, www.pceengineers.com

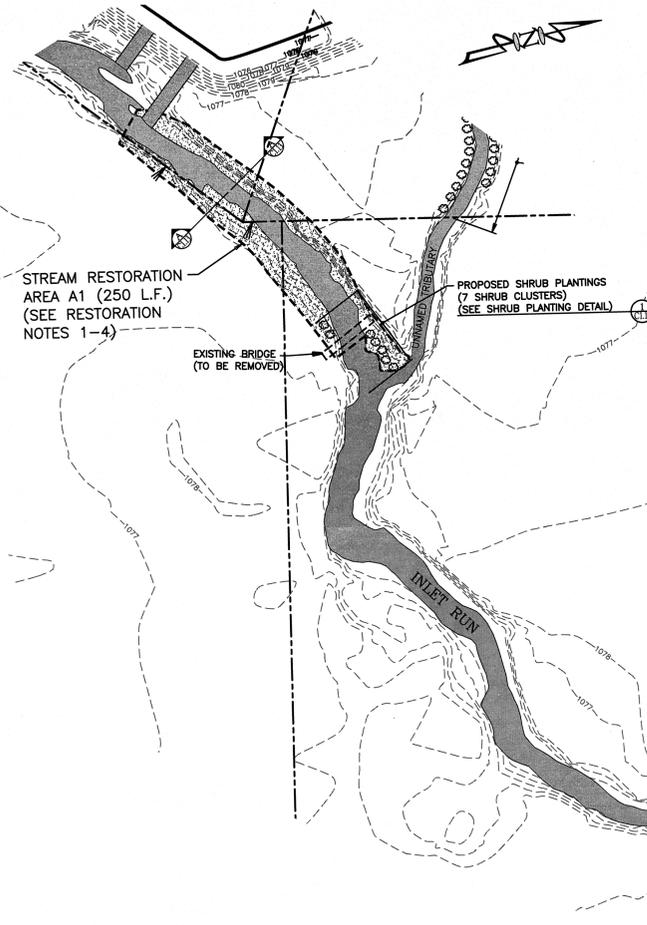
Porter Consulting Engineers, P.C.  
Developing Engineered Solutions To Meet Your Project Needs

**SNOW WATERS DEVELOPMENT, LLC  
PROJECT SNOW WATERS  
CHAPTER 105/SECTION 404 JOINT PERMIT APPLICATION  
EXISTING SITE PLAN**

SUMMIT TOWNSHIP, CRAWFORD COUNTY, PENNSYLVANIA

File No.: 12038-1703-A, Drawn by: JAMES D. KLECK, Checked by: [Signature], Date: 5/19/2017, Approved by: [Signature]

**C1.1**



STREAM RESTORATION AREA A1 (250 L.F.) (SEE RESTORATION NOTES 1-4)

PROPOSED SHRUB PLANTINGS (7 SHRUB CLUSTERS) (SEE SHRUB PLANTING DETAIL)

**TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS**

SPECIFICATIONS: The Department recommends the use of the Penn State Agronomy Guide as the standard to use for selection of species, seed specifications, mixtures, timing and fertilizer, time of seeding, and seeding methods. Specifications for these items may also be obtained from Penn DOT's Publication #200, Section 800 or by contacting the applicable county conservation district. Upon selection of a reference, that reference must be used to provide the specifications for seeding, mulching, and soil amendments. The following specifications will be used for this project.

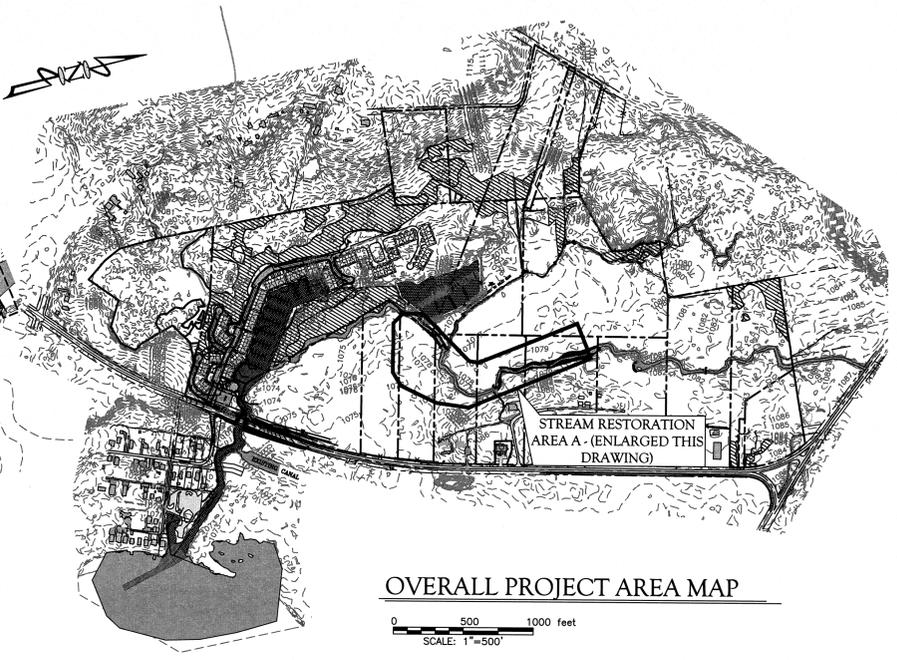
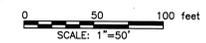
Species	Seeding Rate	Seeding Date	Remarks
(Temporary)			
Seeding Date	March to Aug. 15		
% Pure Live Seed	85		
Application Rate	100		lb./acre
Fertilizer Type	Contractor's choice		lb./acre
Fertilizer Appl. Rate	10-10		lb./acre
Liming Rate	1		ton/acre
Mulch Type	Hay or straw		ton/acre
Mulch Rate	2		ton/acre
(Permanent)			
Species	Elymus Villosus + Agrostis Perennans		
% Pure Live Seed	85		
Application Rate	8 (Pure Live Seed) + 2 (Pure Live Seed)		lb./acre
Fertilizer Type	Contractor's choice		lb./acre
Fertilizer Appl. Rate	100-200-200		lb./acre
Liming Rate	1		ton/acre
Mulch Type	Hay or straw		ton/acre
Mulch Rate	2		ton/acre
Anchor Material	N/A		
Anchor Method	N/A		
Rate of Anchor Material Appl.	N/A		
Seeding Season Dates	Spring or Fall		
(Permanent-Slope Slope)			
% Pure Live Seed	N/A		
Application Rate	N/A		
Fertilizer Type	N/A		
Fertilizer Appl. Rate	N/A		
Liming Rate	N/A		
Mulch Type	N/A		
Mulch Rate	N/A		
Anchor Material	N/A		
Anchor Method	N/A		
Rate of Anchor Material Appl.	N/A		
Seeding Season Dates	Spring or Fall		

STREAM RESTORATION AREA A2 (750 L.F.) (SEE RESTORATION NOTES 1-4)

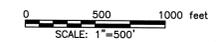
PROPOSED SHRUB PLANTINGS (16 SHRUB CLUSTERS) (SEE SHRUB PLANTING DETAIL)

PROPOSED SHRUB PLANTINGS (15 SHRUB CLUSTERS) (SEE SHRUB PLANTING DETAIL)

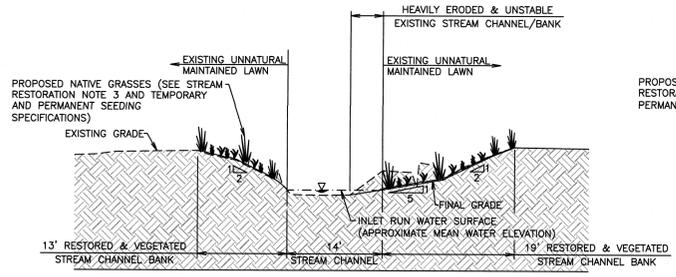
**STREAM RESTORATION/MITIGATION PLAN - RESTORATION AREA A**



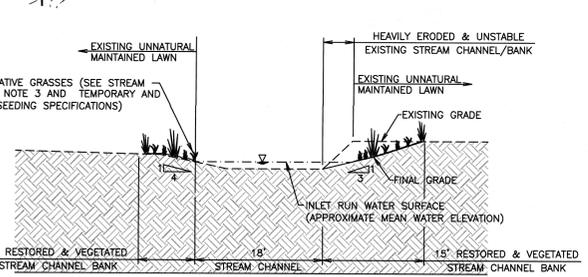
**OVERALL PROJECT AREA MAP**



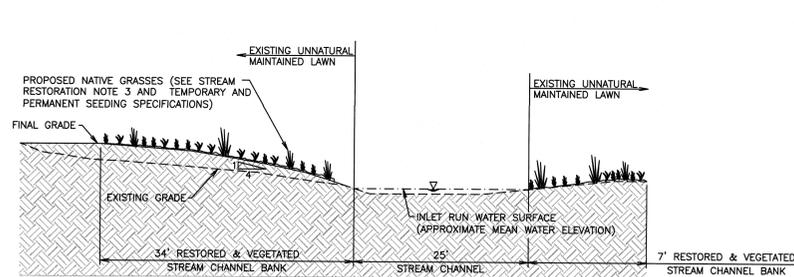
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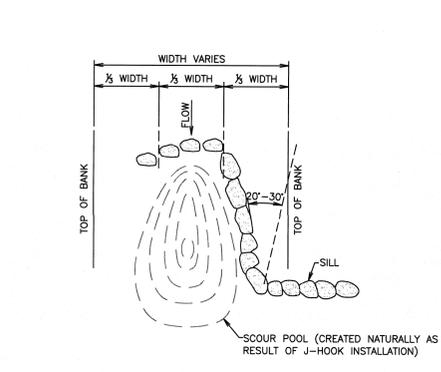
**SECTION A-A**  
SCALE: 1"=10'



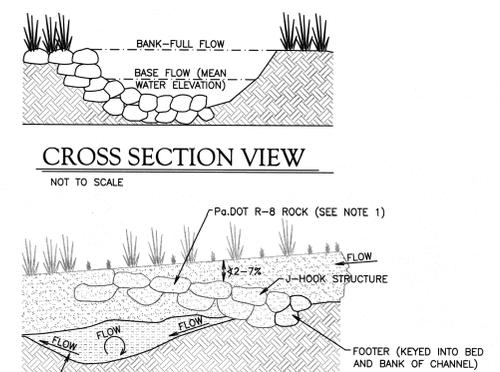
**SECTION B-B**  
SCALE: 1"=10'



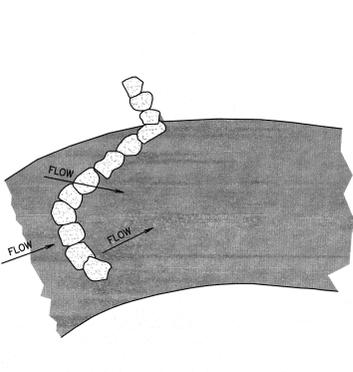
**SECTION C-C**  
SCALE: 1"=10'



**PLAN VIEW**



**PROFILE VIEW**



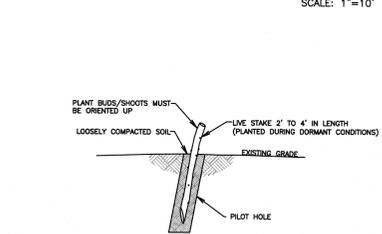
**J-HOOK (TYPICAL)**

- CONSTRUCTION NOTES:**
1. THE BOULDERS USED TO CONSTRUCT THE J-HOOK STRUCTURE AND FOOTER SHALL MEET THE Pa. DOT REQUIREMENTS FOR SIZE, THICKNESS, AND DENSITY FOR R-8 ROCK. ADDITIONALLY, THE BOULDERS SHALL WEIGH A MINIMUM OF 100-POUNDS AND BE COMPOSED OF MATERIAL OF LOCAL ORIGINS (e.g. SANDSTONE AND GRANITE). NO SHALE, LIMESTONE, CONCRETE, BRICK, ORGANIC, OR OTHER MANMADE MATERIALS SHALL BE USED.
  2. THE J-HOOKS SHALL BE CONSTRUCTED OF ANGULAR BOULDERS POSITIONED TO PROVIDE A STABLE AND SECURE STRUCTURE CAPABLE OF WITHSTANDING NORMAL AND HIGH WATER FLOWS.
  3. J-HOOK STRUCTURES SHALL BE KEYPED IN TO THE BED AND BANK OF THE CHANNEL TO PREVENT UNDERMINING AND BANK EROSION.

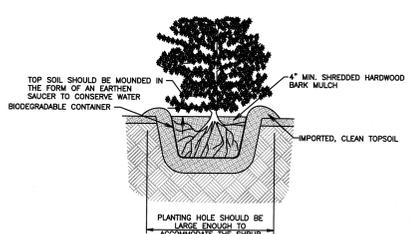
- MAINTENANCE NOTES:**
1. THE J-HOOKS SHALL BE INSPECTED PERIODICALLY AND AFTER HIGH-WATER PERIODS TO ENSURE PROPER OPERATION. BOULDERS SHALL BE REPLACED AND RESET AS NEEDED. ACCUMULATED DEBRIS SHALL BE REMOVED AND PROPERLY DISPOSED OF. ANY ASSOCIATED BANK EROSION SHALL BE REPAIRED AND STABILIZED.
  2. IF VEGETATION GROWING ON OR ADJACENT TO THE J-HOOK INTERFERES WITH THE FUNCTION OR PERFORMANCE OF THE J-HOOK STRUCTURE, SAID VEGETATION SHALL BE REMOVED.

**TYPICAL J-HOOK DETAIL**

NOT TO SCALE



**LIVE STAKE SHRUB PLANTING**



**CONTAINER SHRUB PLANTING**

**SHRUB PLANTING DETAIL**

NOT TO SCALE

**SHRUB PLANTING SCHEME**

COMMON NAME	SCIENTIFIC NAME	NO. OF PLANTS
WINTERBERRY	<i>Ilex verticillata</i>	100
RED CHOKEBERRY	<i>Aronia arbutifolia</i>	100
NINEBARK	<i>Physocarpus opulifolius</i>	100

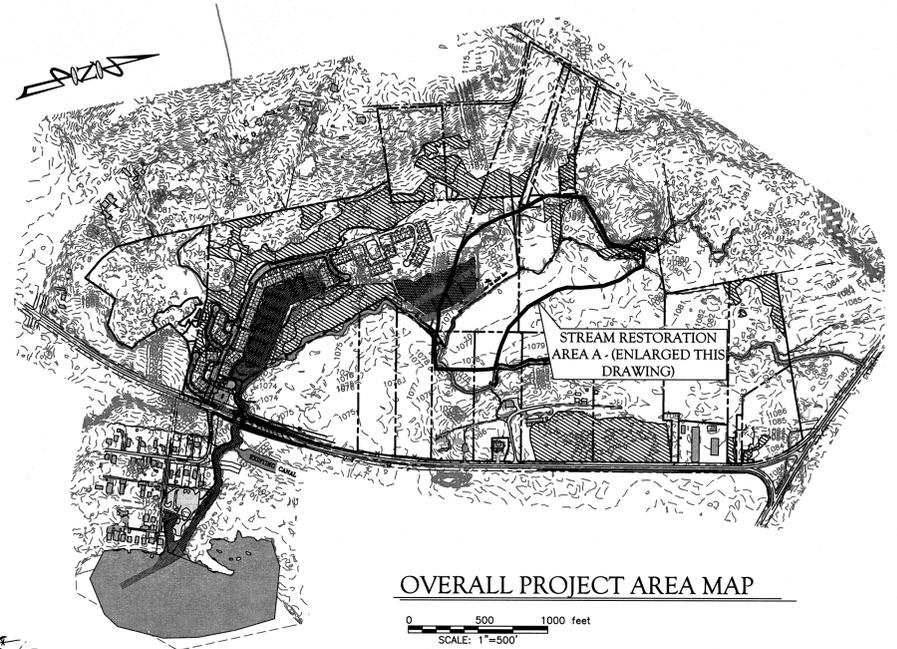
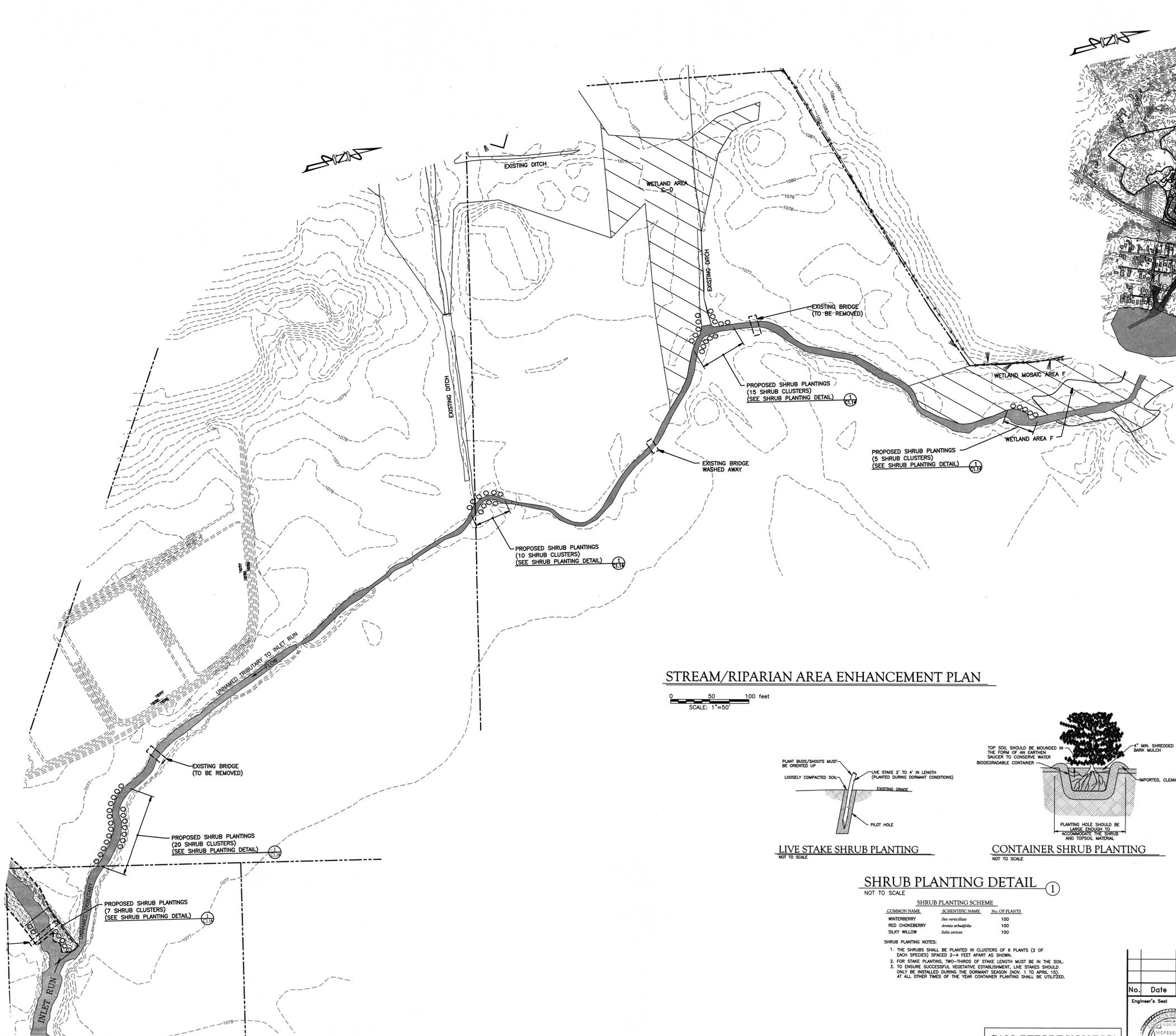
- SHRUB PLANTING NOTES:**
1. THE SHRUBS SHALL BE PLANTED IN CLUSTERS OF 6 PLANTS (2 OF EACH SPECIES) SPACED 2-4 FEET APART AS SHOWN.
  2. FOR STAKE PLANTING, TWO-THIRDS OF STAKE LENGTH MUST BE IN THE SOIL.
  3. TO ENSURE SUCCESSFUL VEGETATION ESTABLISHMENT, LIVE STAKES SHOULD ONLY BE INSTALLED DURING THE DORMANT SEASON (NOV. 1 TO APRIL 15). AT ALL OTHER TIMES OF THE YEAR CONTAINER PLANTING SHALL BE UTILIZED.

- STREAM RESTORATION NOTES:**
1. ALL GRADING AND EARTH MOVING ACTIVITIES SHALL BE COMPLETED DURING LOW-FLOW CONDITIONS IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. ALL EXCAVATING AND GRADING WORK SHALL BE COMPLETED FROM THE STABILIZED STREAM BANK. NO HEAVY EQUIPMENT SHALL BE PERMITTED IN THE STREAM CHANNEL.
  2. FINAL STABILIZED STREAM BANKS SHALL HAVE A MAXIMUM SLOPE OF 2:1.
  3. UPON COMPLETION OF EARTH MOVING ACTIVITIES, THE STREAM BANKS SHALL BE SEEDDED WITH ELYMUS VILLOSUS (SILKY WILDBERRY) AT A RATE OF 8 (PURE LIVE SEED) LBS./ACRE AND AGROSTIS PERENNANS (AUTUMN BENTGRASS) AT A RATE OF 2 (PURE LIVE SEED) LBS./ACRE.
  4. THE CONTRACTOR SHALL EXERCISE CARE NOT TO DISTURB ADJACENT NATURAL RIPARIAN AND STREAM AREAS DURING RESTORATION ACTIVITIES. EXISTING STREAM BANK VEGETATION NOT LOCATED WITHIN RESTORATION AREAS WILL REMAIN UNDISTURBED EXCEPT AS NECESSARY TO CONSTRUCT AND MAINTAIN GOLF COURSE IMPROVEMENTS (i.e. CART PATHS, TEE BOXES, FAIRWAYS AND GREENS).
  5. THE J-HOOK LOCATIONS SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED BASED ON ACTUAL FIELD CONDITIONS.
  6. THE STREAM RESTORATION AREAS SHOWN REPRESENT GENERAL AREAS IN WHICH THE PROPOSED MODIFICATIONS ARE SUITABLE, AND ACTUAL LOCATIONS MAY VARY BASED ON FIELD CONDITIONS. ADDITIONALLY, OTHER PORTIONS OF STREAM BANK THROUGHOUT THE DEVELOPMENT MAY REQUIRE MINOR MODIFICATION IN ORDER TO PROTECT EXISTING AND PROPOSED IMPROVEMENTS AND WILL BE STABILIZED AND IMPROVED USING THE SAME TECHNIQUES AND STRUCTURES DETAILED IN THIS DRAWING PACKAGE.

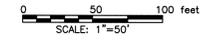
**LEGEND**

- SUBJECT PROPERTY LINE (PROJECT BOUNDARY)
- PROPERTY LINE
- FOUND IRON PIN FOUND
- FOUND IRON PIPE FOUND
- \* EXISTING EVERGREEN TREE
- o EXISTING TREE
- EXISTING EDGE OF WOODED AREA
- PROPOSED EDGE OF WOODED AREA
- EDGE OF WATER
- EXISTING CONTOURS (APPROXIMATE)
- STREAM RESTORATION BANK STABILIZATION
- STREAM RESTORATION AREA BOUNDARY (APPROXIMATE)

<p><b>PCE</b></p> <p>Porter Consulting Engineers, P.C. Developing Engineered Solutions To Meet Your Project Needs</p>		<p>Meshville Office: 525 State Street Meshville, Pennsylvania 16833 Phone: (814) 333-3700 Fax: (814) 455-5544</p>	<p>Erte Office: 2700 South Road Erte, Pennsylvania 16806 Phone: (814) 455-5544 Fax: (814) 455-4033</p>
<p>No. _____ Date _____</p> <p>Revisions _____</p> <p>By _____</p>	<p><b>IMPORTANT NOTES</b></p> <p>The design and/or specifications as shown on this drawing, and/or any copy thereof, are the exclusive property of Porter Consulting Engineers, P.C. in accordance with all applicable copyright laws. Any use or reproduction of the drawing or its contents without the expressed written authorization of Porter Consulting Engineers, P.C. is prohibited and shall be considered unlawful.</p> <p>This drawing is not intended or approved for final use unless it bears the Seal and Signature of the professional in responsible charge of the associated designs, and the drawing shall be considered preliminary and for review purposes only until it has been signed "Approved by" L. Ashley Porter, P.E.</p>		
<p>Engineer's Seal</p>	<p>Engineer's Signature: L. Ashley Porter, P.E. Lic. No. PE-052392-E</p>		
<p><b>CALL BEFORE YOU DIG!</b></p> <p>PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL.</p> <p>POCS SERIAL NUMBER: 20170611402</p>			
<p>File No.: 12038-1703-A Scale: SHOWN Date: 5/19/2017</p>		<p>Drawn by: JAMES D. KLECK Checked by: G. M. M... Approved by: L. Ashley Porter</p>	
<p>SNOW WATERS DEVELOPMENT, LLC PROJECT SNOW WATERS CHAPTER 105/SECTION 404 JOINT PERMIT APPLICATION STREAM RESTORATION/MITIGATION PLAN</p>		<p>SUMMIT TOWNSHIP, CRAWFORD COUNTY, PENNSYLVANIA</p>	
<p>Drawing No. <b>C1.13</b></p>			



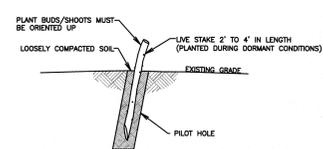
**STREAM/RIPARIAN AREA ENHANCEMENT PLAN**



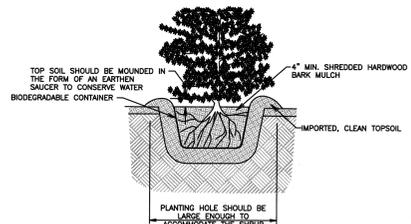
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**LEGEND**

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- FOUND IRON PIN FOUND
- FOUND IRON PIPE FOUND
- \* EXISTING EVERGREEN TREE
- EXISTING TREE
- EXISTING EDGE OF WOODED AREA
- PROPOSED EDGE OF WOODED AREA
- PROPOSED SHRUB CLUSTER
- EDGE OF WATER
- -1000- EXISTING CONTOURS (APPROXIMATE)
- WETLAND AREA



**LIVE STAKE SHRUB PLANTING**  
NOT TO SCALE



**CONTAINER SHRUB PLANTING**  
NOT TO SCALE

**SHRUB PLANTING DETAIL ①**  
NOT TO SCALE

**SHRUB PLANTING SCHEME**

COMMON NAME	SCIENTIFIC NAME	NO. OF PLANTS
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RED CHOCOBERRY	<i>Aronia arbutifolia</i>	100
SILKY WILLOW	<i>Salix sericea</i>	100

- SHRUB PLANTING NOTES:
1. THE SHRUBS SHALL BE PLANTED IN CLUSTERS OF 6 PLANTS (2 OF EACH SPECIES) SPACED 2-4 FEET APART AS SHOWN.
  2. FOR STAKE PLANTING, TWO-THIRDS OF STAKE LENGTH MUST BE IN THE SOIL.
  3. TO ENSURE SUCCESSFUL VEGETATIVE ESTABLISHMENT, LIVE STAKES SHOULD ONLY BE INSTALLED DURING THE DORMANT SEASON (NOV. 1 TO APRIL 15). AT ALL OTHER TIMES OF THE YEAR CONTAINER PLANTING SHALL BE UTILIZED.

- STREAM/RIPARIAN ENHANCEMENT NOTES:
1. THE PLANTING LOCATIONS SHOWN ARE APPROXIMATE.
  2. THE CONTRACTOR SHALL EXERCISE CARE NOT TO DISTURB ADJACENT NATURAL RIPARIAN AND STREAM AREAS DURING PLANTING ACTIVITIES.
  3. NO MOWING IS PROPOSED IN THE AREAS WHERE PROPOSED PLANTINGS ARE SHOWN.

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<b>SNOW WATERS DEVELOPMENT, LLC</b> PROJECT SNOW WATERS CHAPTER 105/SECTION 404 JOINT PERMIT APPLICATION STREAM/RIPARIAN AREA ENHANCEMENT PLAN			
SUMMIT TOWNSHIP, CRAWFORD COUNTY, PENNSYLVANIA			
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