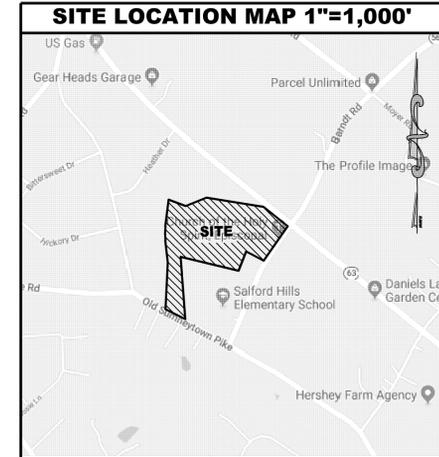
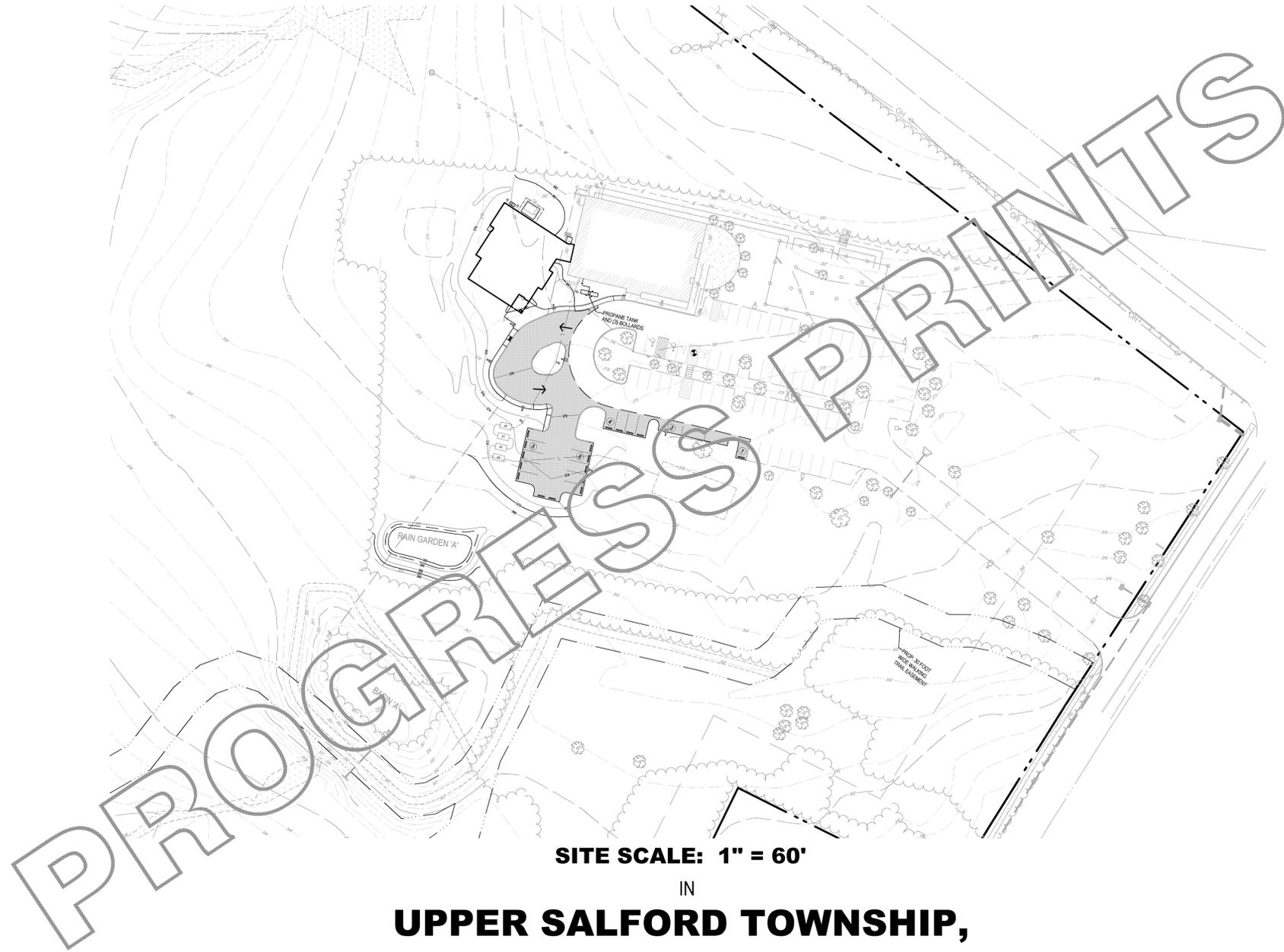


# PRELIMINARY-FINAL LAND DEVELOPMENT

OF

# CHURCH OF THE HOLY SPIRIT



INDEX OF SHEETS	
SHEET	SHEET NAME
00	COVER SHEET
01	LAND DEVELOPMENT PLAN
02	EXISTING FEATURES DEMO PLAN
03	STORM & GRADING PLAN
04	CONSTRUCTION DETAILS - PCSWM
05	LANDSCAPE PLAN - PCSWM
06	LANDSCAPE DETAILS - PCSWM
07	LIGHTING PLAN
08	EROSION & SEDIMENT CONTROL PLAN
09	EROSION & SEDIMENT CONTROL DETAILS
10	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (A)
11	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (B)
12	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (C)

**SITE SCALE: 1" = 60'**

IN  
**UPPER SALFORD TOWNSHIP,  
 MONTGOMERY COUNTY, PA**

PREPARED FOR

**CHURCH OF THE  
 HOLY SPIRIT**

2871 BARNDT ROAD  
 HARLEYSVILLE, PA 19438

BID SET - APRIL 12, 2021

ORIGINATION DATE: FEBRUARY 26, 2020  
 REVISED: APRIL 17, 2020  
 AUGUST 20, 2020  
 SEPTEMBER 30, 2020  
 NOVEMBER 25, 2020  
 MARCH 30, 2021

**ACT 287 NOTIFICATION**



THE UNDERGROUND UTILITY LINE PROTECTION LAW (ACT 287 OF 1974 AS AMENDED BY ACT 187 OF 1996 AND ACT 199 IN JANUARY 2005)

SITE SERIAL NO. 2519032715

LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 OF 1974 AS AMENDED BY ACT 187 OF 1996 AND ACT 199 IN JANUARY 2005, CONTRACTORS MUST VERIFY LOCATIONS OF UNDERGROUND UTILITIES BY NOTIFYING FACILITY OWNERS THROUGH THE ONE-CALL SYSTEM, 1-800-242-7776, NO LESS THAN 3, NOR MORE THAN 10 DAYS PRIOR TO EXCAVATION OR DEMOLITION WORK.

**Horizon**  
 ENGINEERING

Civil Engineers | Land Surveyors | Landscape Architects

428 Main Street • Pottsville, PA 17873 • Phone 267.923.8673 • Fax 267.923.8679  
 www.horizonengineers.com

Note: These plans are not to be used for construction unless the plan contains a red stamp indicating "ISSUED FOR CONSTRUCTION" by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.



SUMNEYTOWN PIKE (S.R. 0063)

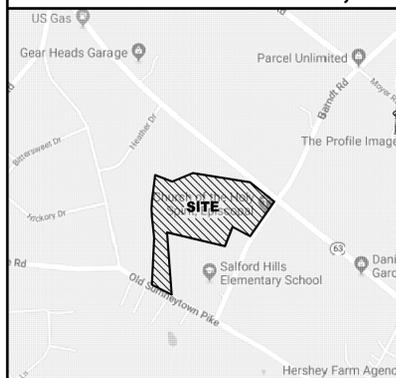
BARNDT ROAD (S.R. 1036)

OLD SUMNEYTOWN PIKE



BID SET  
APRIL 12, 2021

SITE LOCATION MAP 1"=1,000'



Note: These plans are not to be used for construction unless the plan contains a red stamp indicating 'issued for construction' by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.

OWNER INFORMATION

THE SUBJECT PARCEL IS IDENTIFIED BY THE FOLLOWING INFORMATION AS RECORDED IN THE OFFICE FOR RECORDING OF DEEDS, MONTGOMERY COUNTY COURTHOUSE IN NORRISTOWN, PENNSYLVANIA.

TOWNSHIP:	UPPER SALFORD	COUNTY:	MONTGOMERY
PARCEL NO.:	62-00-00223-005	DEED BOOK/PAGE:	5080 - 492
PARCEL AREA:	27.83 Ac.	TOTAL TRACT AREA:	27.83 Ac. (BY SURVEY)

RECORD OWNER:  
CHURCH FOUNDATION THE TRUSTEE  
1601 MARKET ST APT 1015  
PHILADELPHIA, PA  
19103-2326

GENERAL NOTES

- BOUNDARY LINE AND ADJOINING PARCEL OWNERS TAKEN FROM EXISTING DEEDS AND PLANS OF RECORD AS WELL AS A BOUNDARY SURVEY PERFORMED BY HORIZON ENGINEERING, LLC IN NOVEMBER OF 2019.
- EXISTING TOPOGRAPHY IN THE AREA PROPOSED IMPROVEMENTS AND OTHER SURFACE INFORMATION TAKEN FROM A GROUND SURVEY PERFORMED BY HORIZON ENGINEERING, LLC IN NOVEMBER OF 2019. ELEVATIONS SHOWN ARE EXPRESSED IN US SURVEY FEET AND ARE BASED UPON USGS DATUM OBTAINED THROUGH LEICA SURFACE NETWORK.  
BENCHMARK= MAGNAIL  
ELEVATION = 379.80 IN PARKING LOT 47 SOUTH OF SOUTHEAST CORNER OF EXISTING CHURCH BUILDING.
- EXISTING WETLANDS OBTAINED FROM PLANS OF RECORD WITH WETLANDS LOCATED IN JULY 1996 BY DELVAL SOIL AND ENVIRONMENTAL CONSULTANTS AND FIELD VERIFIED/CONFIRMED IN AUGUST 2020 BY PENNS TRAIL ENVIRONMENTAL, LLC.
- LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBLUT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES.

SOILS DATA

SOILS DATA OBTAINED FROM A NRCS NATIONAL COOPERATIVE SOIL SURVEY DATED OCTOBER 30, 2019.

Bo BROWNVILLE - FINALS SILT LOAM, SOMEWHAT POORLY DRAINED  
DEPTH TO SEASONALLY HIGH WATER TABLE: 2'  
HYDROLOGIC SOIL GROUP: D  
LIMITATIONS: SEASONAL HIGH WATER TABLE  
RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES.

hBc HUNTERSVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES  
DEPTH TO SEASONALLY HIGH WATER TABLE: 0-1'  
HYDROLOGIC SOIL GROUP: D  
LIMITATIONS: SEASONAL HIGH WATER TABLE  
RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES.

KIB KUMESVILLE CHANNERY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED  
DEPTH TO SEASONALLY HIGH WATER TABLE: 0-1'  
HYDROLOGIC SOIL GROUP: D  
LIMITATIONS: SEASONAL HIGH WATER TABLE  
RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES.

KIC KUMESVILLE CHANNERY SILT LOAM, 8 TO 16 PERCENT SLOPES, SEVERELY ERODED  
DEPTH TO SEASONALLY HIGH WATER TABLE: 0-1'  
HYDROLOGIC SOIL GROUP: D  
LIMITATIONS: IMPERMEABLE SUBSTRATUM, DEPTH TO BEDROCK  
RESOLUTIONS: LIMIT EARTHWORK CUT AND REDUCE COMPLICATIONS OF WETNESS BY USE OF DRAINAGE FACILITIES.

ReB REHOBOTH SILT LOAM, 8 TO 16 PERCENT SLOPES, MODERATELY ERODED  
DEPTH TO SEASONALLY HIGH WATER TABLE: 1.5-2'  
HYDROLOGIC SOIL GROUP: D  
LIMITATIONS: SEASONAL HIGH WATER TABLE, SLOPE WEARABILITY  
RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES.

UusB URSULA LAND-LOTTMENTS, SHALE AND SANDSTONE COMPLEX, 1 TO 3 PERCENT SLOPES, MODERATELY ERODED  
DEPTH TO SEASONALLY HIGH WATER TABLE: 0.5-1'  
HYDROLOGIC SOIL GROUP: A  
LIMITATIONS: POTENTIALLY SHALLOW DEPTH TO BEDROCK  
RESOLUTIONS: IN AREAS OF SHALLOW BEDROCK, LIMIT EARTHWORK CUT TO GREATEST EXTENT PRACTICABLE.

ACT 287 NOTIFICATION

THE UNDERGROUND UTILITY LINE PROTECTION LAW (ACT 287 OF 1996 AS AMENDED BY ACT 10 OF 1996 AND ACT 199 IN JANUARY 2003)

SITE SERIAL NO. 20190300715

LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. IN ACCORDANCE WITH PENNSYLVANIA LEGISLATIVE ACT 287 OF 1996, AS AMENDED BY ACT 10 OF 1996 AND ACT 199 IN JANUARY 2003, CONTRACTORS MUST VERIFY LOCATIONS OF UNDERGROUND UTILITIES BY NOTIFYING FACILITY OWNERS THROUGH THE ONE CALL SYSTEM. HORIZONTAL DEPTH SHALL BE MORE THAN 10 DAYS PRIOR TO EXCAVATION OR DEMOLITION WORK.

PROJECT MANAGER: MTS  
DRAWING FILE NAME: SHL\_XFPL  
PLAN ORIGINATOR DATE: 02-26-20  
PLAN SCALE: 1"=80'  
PROJECT NUMBER: 2303  
SHEET NUMBER: 02 OF 12

LEGEND

- EDGE OF PAVED ROAD
- - - ADJOINING OWNER LOT LINES
- EXTERIOR TRACT BOUNDARY
- BUILDING SETBACK LINE
- EDGE OF DRIVEWAY LINE
- EASEMENT
- FENCE
- FERM FLOOD PLAIN
- GUIDE RAIL
- RIGHT-OF-WAY
- STREAM
- TRAIL
- SANITARY SEWER PIPE
- SANITARY SEWER FORCE MAIN
- SANITARY SEWER LATERAL
- STORM SEWER PIPE
- ELECTRIC
- OVER HEAD WIRE
- UNDER GROUND WIRE
- CONCRETE WALLS
- ZONING LINES
- INTERMEDIATE CONTOURS
- INDEX CONTOURS
- SOIL DELINEATION

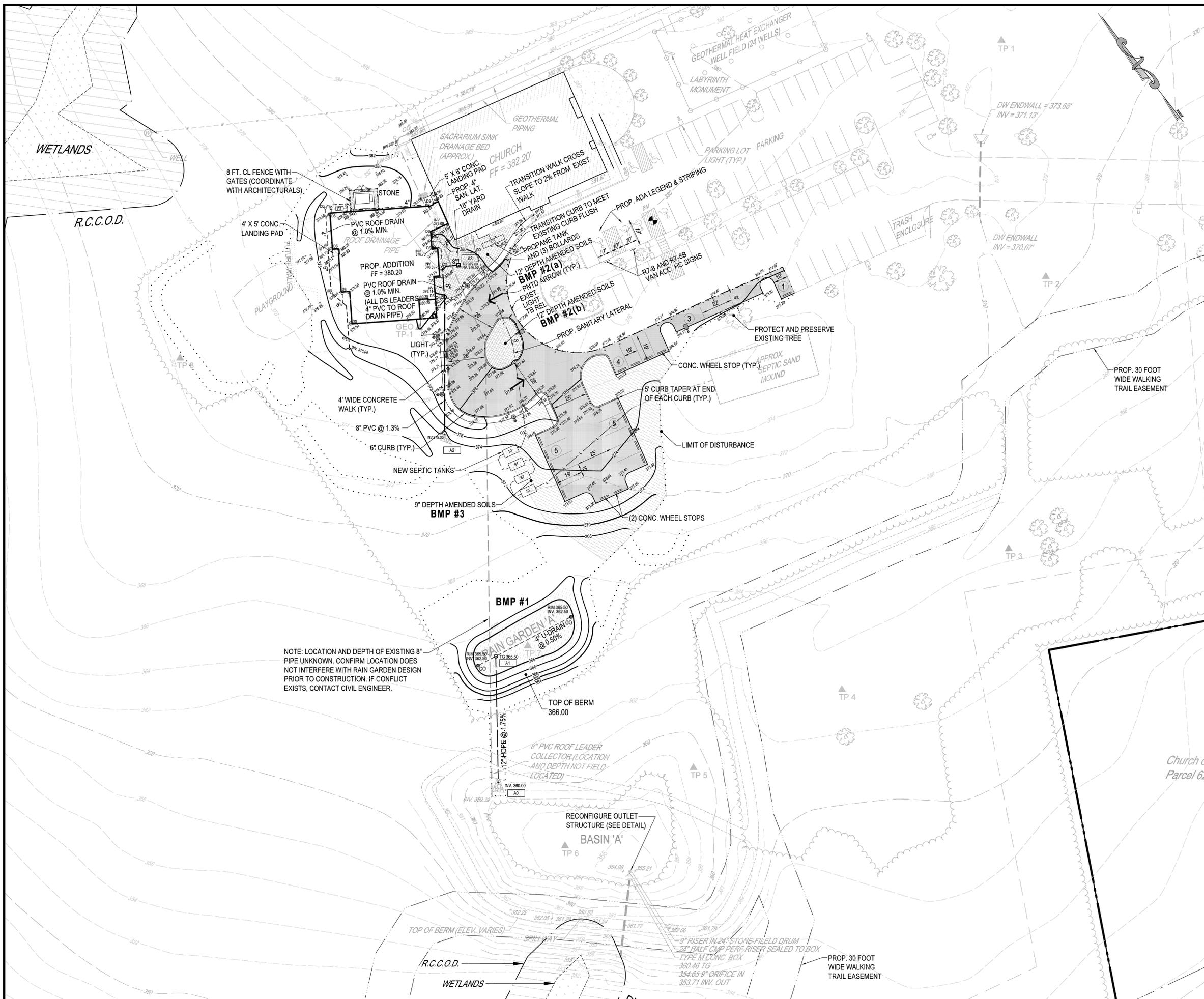
PkD3  
ReC2

BID SET - APRIL 12, 2021

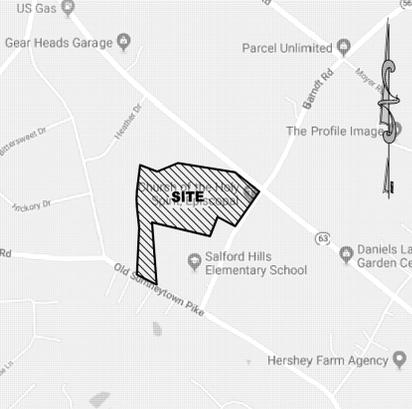
**Horizon**  
ENGINEERING  
Civil Engineers | Land Surveyors | Landscape Architects  
428 Main Street • Pottsville, PA 17073 • Phone: 717.262.8879 • Fax: 717.262.8879  
www.horizoneng.com

PRELIMINARY-FINAL LAND DEVELOPMENT  
EXISTING FEATURES, DEMOLITION PLAN  
FOR THE  
**CHURCH OF THE HOLY SPIRIT**  
UPPER SALFORD, TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

PROJECT MANAGER: MTS  
DRAWING FILE NAME: SHL\_XFPL  
PLAN ORIGINATOR DATE: 02-26-20  
PLAN SCALE: 1"=80'  
PROJECT NUMBER: 2303  
SHEET NUMBER: 02 OF 12



**SITE LOCATION MAP 1"=1,000'**



**CONSTRUCTION NOTES**

- GENERAL CONSTRUCTION:**
1. THIS PLAN CONTAINS INFORMATION PERTAINING TO UNDERGROUND UTILITIES WHICH IS FOR GENERAL INFORMATION ONLY, AND MAY NOT BE BASED ON AN ACTUAL SUBSURFACE LOCATION SURVEY. ALL SUBSURFACE INFORMATION SHOWN ON THESE PLANS NEEDS TO BE VERIFIED BY THE PLAN USER. THE PREPARER OF THIS PLAN ASSUMES NO RESPONSIBILITY FOR AND MAKES NO REPRESENTATION OR WARRANTIES AS TO THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES OR OTHER UNDERGROUND FEATURES. THE PLAN USER SHALL EXECUTE A PA ONE CALL PRIOR TO ANY EXCAVATION ON THE SITE.
  2. ALL CONSTRUCTION SHALL CONFORM TO UPPER SALFORD TOWNSHIP STANDARDS AND SPECIFICATIONS OR PENN. D.O.T. STANDARDS AND FORM 408 (LATEST EDITION), WHICHEVER IS APPLICABLE.
  3. TOPSOIL SHOULD BE REMOVED FROM ALL AREAS OF CONSTRUCTION AND STORED SEPARATELY. PRIOR TO BULK EXCAVATION. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHOULD BE REDISTRIBUTED ON THE CONSTRUCTION SITE UNIFORMLY.
  4. PROPOSED CURBS ARE 6" (SIX INCHES) TALL.
- STORM SEWER:**
1. ALL STORM SEWER INLETS SHALL BE ADS NYLOPLAST.
  2. UNLESS OTHERWISE NOTED, ALL STORM SEWER PIPING SHALL BE SCHEDULE 40 PVC.
  3. POSITIVE DRAINAGE MINIMUM 2% SHALL BE PROVIDED TO PROPOSED YARD INLETS.
  4. PROPOSED DEVELOPMENT AREA SHALL BE GRADED TO ENSURE PROPER DRAINAGE AWAY FROM BUILDINGS WITHOUT PONDING. A MINIMUM OF 2% SLOPE AWAY FROM BUILDINGS SHALL BE PROVIDED ON ALL GRASS AREAS TOWARD SWALES, INLETS OR EXISTING DRAINAGE PATTERNS FLOWING AWAY FROM BUILDINGS.
  5. ANY SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE PROJECT ENGINEER PRIOR TO CONTINUING CONSTRUCTION IN THAT AREA.
  6. ALL PROPOSED STORM PIPE LENGTHS ARE MEASURED FROM CENTER OF INLET TO CENTER OF INLET.

- AS BUILT PLANS REQUIRED:**
1. AS BUILT PLANS SHALL BE PROVIDED BY THE CONTRACTOR DOCUMENTING THE AS-BUILT CONDITIONS. PLANS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL LICENSED SURVEYOR. SEALED PLANS AND CAD FILES SHALL BE PROVIDED.
  2. THE GENERAL SITE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL AS BUILT PLANS AND PROFILES.
  3. AS BUILT PLANS AND PROFILES MUST DOCUMENT ALL COMPONENTS OF THE CONSTRUCTED WATER SUPPLY, SANITARY SEWER, AND STORM SEWER SYSTEMS.
  4. AS BUILT PLANS MUST DOCUMENT THE FINISHED GRADE CONDITION OF ALL STORM WATER BMP FACILITIES, POSSIBLY INCLUDING BUT NOT LIMITED TO ALL: BASINS, INFILTRATION FACILITIES, RAIN GARDENS, SUBSURFACE SEEPAGE BEDS, AND ANY OTHER BMP NOTED ON THE POST CONSTRUCTION STORM WATER PLANS.

- SIGN LEGEND:**
- THE FOLLOWING SYMBOLS HAVE BEEN UTILIZED FOR SIGNAGE. REFER TO THE DETAIL SHEETS FOR SIGNAGE FABRICATION SIZES AND DETAILS.
- R7-8 RESERVED PARKING SIGN (PADOT 'R7-8')
  - R7-8B VAN ACCESSIBLE SIGN (PADOT 'R7-8B')

**NOTE:**  
A LICENSED PROFESSIONAL OR DESIGNEE SHALL BE ON-SITE FOR THE FOLLOWING CRITICAL STAGES OF THE PCSWM PLAN IMPLEMENTATION:

- INSTALLATION OF RAIN GARDEN 'A'
- INSTALLATION OF AMENDED SOILS

**ACT 287 NOTIFICATION**

THE UNDERGROUND UTILITY LINE PROTECTION LAW (ACT 287 OF 1996 AS AMENDED BY ACT 187 OF 1996 AND ACT 199 IN JANUARY 2003)

SITE SERIAL NO. 2019030715

LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF THE SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. IN ACCORDANCE WITH REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 OF 1996 AS AMENDED BY ACT 187 OF 1996 AND ACT 199 IN JANUARY 2003, CONTRACTORS MUST VERIFY LOCATIONS OF UNDERGROUND UTILITIES BY NOTIFYING FACILITY OWNERS THROUGH THE ONE CALL SYSTEM 1-800-NOT-DIG, NO LESS THAN 3 WORK MORE THAN 10 DAYS PRIOR TO EXCAVATION OR DEMOLITION WORK.

PROJECT MANAGER: MTS  
DRAWING FILE NAME: SH\_ZCI-Stm-Grade  
PLAN ORIGIN DATE: 02-26-20  
PLAN SCALE: 1"=30'  
PROJECT NUMBER: 2303  
SHEET NUMBER: 03 OF 12

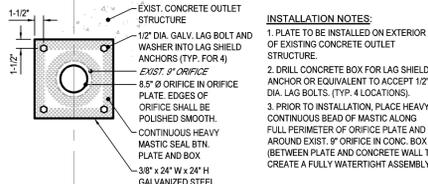
Note: These plans are not to be used for construction unless the plan contains a red stamp indicating issued for construction by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.

**BID SET - APRIL 12, 2021**

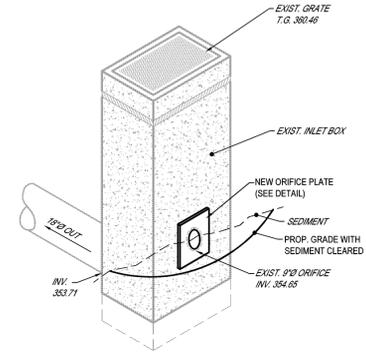
NO.	REVISIONS	DATE
1	REVISED PER TECHNICAL LETTER DATED OCTOBER 1, 2020	10.01.2020
2	REVISED PER TECHNICAL LETTER DATED JANUARY 1, 2021	01.01.2021
3	REVISED PER TECHNICAL LETTER DATED MARCH 1, 2021	03.01.2021

**Horizon ENGINEERING**  
Civil Engineers | Land Surveyors | Landscape Architects  
428 Main Street • Pottsville, PA 17073 • Phone: 267.262.8879 • Fax: 267.223.8879  
www.horizoneng.com

PRELIMINARY-FINAL LAND DEVELOPMENT  
STORM & GRADING PLAN  
REVISION OF  
**CHURCH OF THE HOLY SPIRIT**  
UPPER SALFORD, TOWNSHIP, NORTH SOMERSET COUNTY, PENNSYLVANIA



**DETENTION BASIN "A" ORIFICE PLATE DETAIL**  
N.T.S.

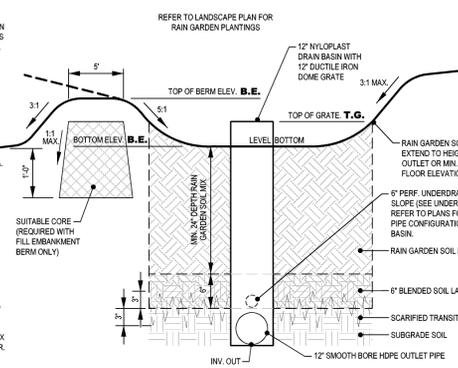


NOTE: REMOVE EXISTING PERF. CMP RISER AFFIXED TO BOX EXTERIOR, EXISTING DRUM AND PVC RISER SET IN STONE ADJACENT INLET BOX, AND ANY OTHER REMAINING EAS STRUCTURES FROM ORIGINAL CONSTRUCTION PROJECT THAT WERE NEVER REMOVED FOR BASIN CONVERSION UPON THE CONCLUSION OF THAT PROJECT. REVEAL EXISTING ORIFICE BY REMOVING EXISTING SEDIMENT BUILT UP AROUND BOX. RESEED AREA OF SEDIMENT REMOVAL AND COVER WITH ANCHORED COIR FIBER MATTING OR SIMILAR.

**DETENTION BASIN "A" OUTLET STRUCTURE DETAIL**  
N.T.S.

**RAIN GARDEN CONSTRUCTION NOTES:**

- CONSTRUCT RAIN GARDEN IN ACCORDANCE WITH PLANS AND DETAILS, INCLUDING UNDER DRAIN, OUTLET STRUCTURE, LANDSCAPE PLANTINGS AND EROSION CONTROL BLANKET PROTECTION.
- PERFORM ROUGH GRADE OPERATIONS, EXCAVATING FOR RAIN GARDEN SOIL MIX AND PLACING FILL MATERIAL TO CONSTRUCT BERM (WHERE APPLICABLE). PROVIDE SURVEY CONFIRMATION OF ROUGH GRADE PRIOR TO PLACING SOIL MIX.
- FILL EMBANKMENT BERM**  
\* FILL EMBANKMENT BERM SHALL BE CONSTRUCTED WITH A CORE OF SUITABLE MATERIAL, IN MAX. 6' LIFTS COMPACTED TO A DENSITY NOT LESS THAN 96% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557. LIFTS SHALL BE CONTINUOUS OVER ENTIRE LENGTH OF FILL.  
\* CORE SHALL BE MIN. 2' WIDE AT TOP, WITH SIDE SLOPES NO STEEPER THAN 1:1.  
\* CORE SHALL EXTEND TO THE TOP OF GRADE ELEVATION MINIMUM.  
\* CORE SHALL EXTEND TO A MIN. DEPTH EQUAL TO ONE FOOT BELOW ADJACENT GRADE.  
\* CORE TRENCH EXCAVATION SHALL BE KEPT FREE OF STANDING WATER DURING THE BACKFILLING OPERATION.
- INSTALL UNDERDRAIN PER PLANS AND DETAILS.
- PROVIDE HIGH QUALITY SANDY LOAM PLANTING MIX TO A MINIMUM DEPTH OF 24 INCHES.  
**RAIN GARDEN SOIL MIX**  
RAIN GARDEN SOIL SHALL CONSIST OF THE FOLLOWING PARTS BY VOLUME:  
55% SAND, SHARP, COARSE SAND WITH UNIFORM GRAIN SIZE (C-100) (D10=4)  
35% ORGANIC COMPOST, HIGH QUALITY AND MEETING U.S. COMPOSTING COUNCIL'S S.T.A. 10% LOAM OR SANDY LOAM TOPSOIL  
\* SOIL MIX MUST BE HOMOGENEOUSLY BLENDED  
\* CLAY CONTENT OF MIX MUST BE LIMITED TO NO MORE THAN 10% DRY WEIGHT  
\* ORGANIC MATTER OF MIX MUST BE GREATER THAN 10% DRY WEIGHT  
\* PH OF MIX SHALL BE BETWEEN 6.0 AND 7.5  
\* THE FOLLOWING DOCUMENTATION MUST BE SUBMITTED IN ADVANCE OF CONSTRUCTION:  
A. CERTIFIED LAB TEST RESULTS CONFIRMING COMPLIANCE WITH ABOVE STANDARDS  
1) LABORATORY ANALYSIS OF SAND, INCLUDING UNIFORMITY COEFFICIENT (Cu)  
2) LABORATORY ANALYSIS AND CERTIFICATION OF COMPOST, INCLUDING THE S.T.A.  
3) LABORATORY ANALYSIS OF TOPSOIL  
\* THE FOLLOWING DOCUMENTATION MUST BE SUBMITTED FOLLOWING CONSTRUCTION:  
B. DELIVERY TICKETS ACCOMPANYING EACH TRUCKLOAD DELIVERED TO SITE CONFIRMING CONTENTS AND QUANTITIES
- PLACE RAIN GARDEN SOIL MIX IN MAXIMUM 6' LIFTS, ENSURING EACH LIFT IS FIRMLY SETTLED BUT NOT MECHANICALLY COMPACTED. PROVIDE SURVEY CONFIRMATION OF FINAL GRADES PRIOR TO THE START OF PLANTING OPERATIONS.  
LIFT 1: LOOSEN BASE OF SUBGRADE TO 6" DEPTH, PLACE 3 INCHES OF RAIN GARDEN SOIL MIX AND BLEND WITH UPPER 3" OF LOOSENED SUBGRADE, CREATING A TRANSITION LAYER. REMAINING LIFTS: PLACE RAIN GARDEN SOIL MIX IN MAXIMUM 6"CH LIFTS.
- INSTALL TREES AND SHRUBS IN ACCORDANCE WITH LANDSCAPE PLAN.
- INSTALL PERENNIALS AND/OR SEED IN ACCORDANCE WITH LANDSCAPE PLAN.
- INSTALL 3 INCHES WELL-COMPOSTED LEAF MULCH OVER ENTIRE RAIN GARDEN BOTTOM AREA (EXCLUDING AREAS SPECIFIED TO BE SEEDED - SEE BELOW). TREES AND SHRUBS ABOVE THE RAIN GARDEN WATER CONTAINMENT AREA SHALL BE MULCHED WITH HARDWOOD MULCH.
- INSTALL SEED IN AREAS SPECIFIED TO BE SEEDED IN ACCORDANCE WITH THE LANDSCAPE PLAN IF APPLICABLE. SEED SHALL NOT BE INSTALLED AMONG SHRUB GROUPINGS AND PERENNIAL GROUPINGS, WHICH SHALL BE FULLY MULCHED IN CONTIGUOUS MULCH BEDS.
- INSTALL EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S150 BN) OVER ALL AREAS (B) OF SEED ON RAIN GARDEN FLOOR AND LOWER 12" OF SIDE SLOPES. OVERLAP UPSTREAM BLANKET OVER DOWNSTREAM BLANKET TO PREVENT UPLIFT FROM INRUSH OF STORM WATER.



RAIN GARDEN I.D.	RISER I.D.	BOTTOM B.E.	TOP BERM T.B.	TOP GRADE T.G.	INV. OUT	U-DRAIN INV.
RAIN GARDEN A	A1	385.0	385.0	385.5	381.5	382.50

**RAIN GARDEN "A" DETAIL**  
N.T.S.

**R7-88 VAN ACCESSIBLE SIGN**

The Van Accessible Sign (R7-88) may be used as a supplemental sign to indicate that a parking space is reserved for persons with a van. The sign shall be placed in the center of the parking space. The sign shall be placed in the center of the parking space. The sign shall be placed in the center of the parking space.



DIMENSIONS - mm (IN)												
SIGN SIZE	C	D	E	F	G	H	MARKING	BLANK	BLANK	BLANK	BLANK	BLANK
300 x 150	300	150	150	150	150	150	150	150	150	150	150	150

APPROVED FOR THE SECRETARY OF TRANSPORTATION  
By: *M. C. Ryan* Date: 01-03-2021  
Chief Traffic Engineering and Operations Division  
Bureau of Highway Safety and Traffic Engineering

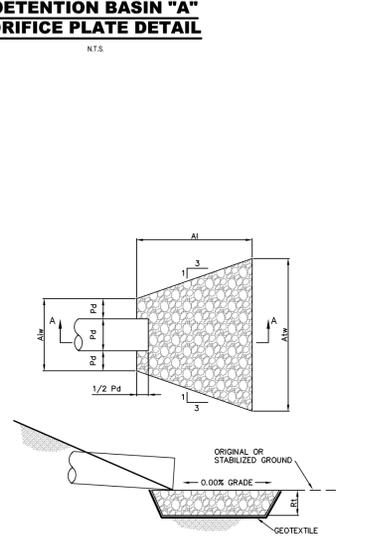
**R7-8 RESERVED PARKING SIGN**

The Reserved Parking Sign (R7-8) is authorized to mark the location of a parking space which is reserved for handicapped persons or severely disabled vehicles. When used the R7-8 sign should generally be installed at the front of each reserved parking stall except in the case of parking spaces reserved for disabled persons not exceeding 20 sq. ft. (200 sq. cm) along the side of the street, where installed at the front of the parking stall, the single or double-headed arrow may be deleted from the R7-8 sign and the message may be located anywhere.



DIMENSIONS - mm (IN)												
SIGN SIZE	C	D	E	F	G	H	I	J	K	L	M	N
300 x 150	300	150	150	150	150	150	150	150	150	150	150	150

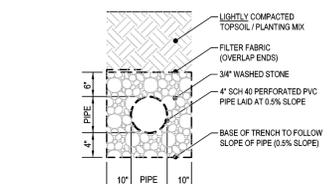
APPROVED FOR THE SECRETARY OF TRANSPORTATION  
By: *M. C. Ryan* Date: 01-03-2021  
Chief Traffic Engineering and Operations Division  
Bureau of Highway Safety and Traffic Engineering



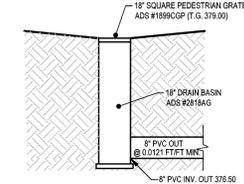
OUTLET NO.	PIPE DIA. (IN)	PIPE SIZE (IN)	RIPRAP THICK. (IN)	RIPRAP LENGTH (FT)	APRON INITIAL WIDTH (FT)	APRON TERMINAL WIDTH (FT)
A-0	12	4	18	12	3	11
A-2	8	3	9	7	2	7

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.  
ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.  
EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.

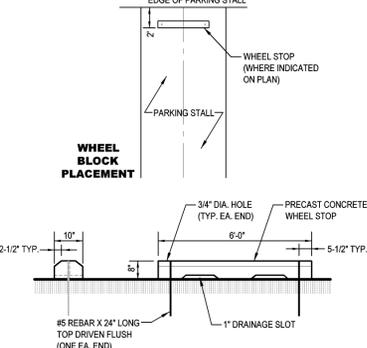
**STANDARD CONSTRUCTION DETAIL #9-2 RIPRAP APRON AT PIPE OUTLET NO FLARED ENDWALL**  
N.T.S.



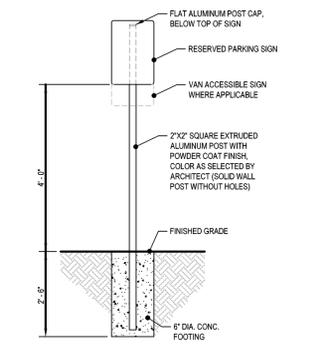
**UNDERDRAIN DETAIL FOR BASINS & RAINGARDENS**  
N.T.S.



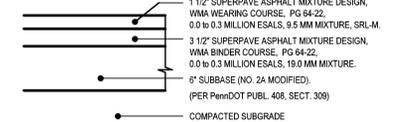
**ADS LAWN INLET DETAIL**  
N.T.S.



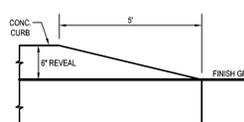
**WHEEL STOP DETAIL**  
N.T.S.



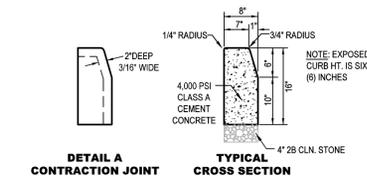
**HANDICAP SIGN POST DETAIL**  
N.T.S.



**TYPICAL DRIVEWAY / PARKING LOT PAVEMENT CROSS-SECTION**  
N.T.S.

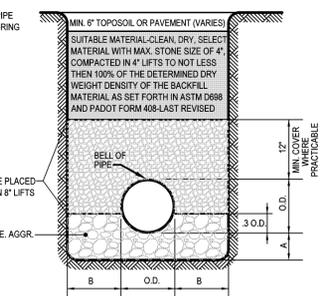


**CURB TAPER DETAIL**  
N.T.S.

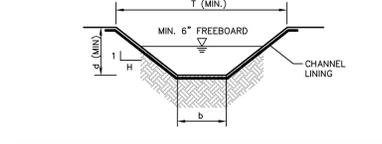


**6\"/>**

PIPE SIZE	(A)	(B)
6\"/>		

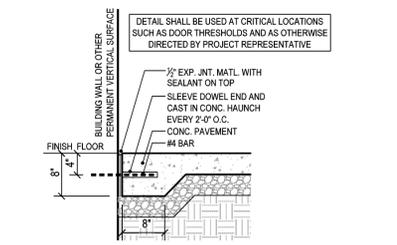


**UTILITY TRENCH RESTORATION DETAIL (OUTSIDE PUBLIC RIGHT-OF-WAY)**  
N.T.S.

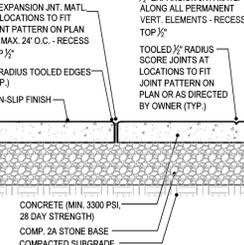


SWALE ID	SLOPE FT/FT	(T) FT	(d) FT	(b) FT	(H) FT	TEMPORARY LINING*	PERMANENT LINING
A	0.022	6.5	0.75	2	3	S75BN	VEGETATION

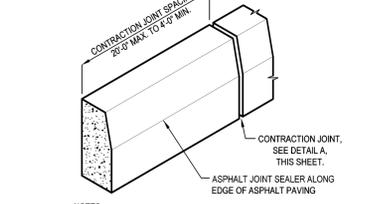
\* NORTH AMERICAN GREEN OR EQUIVALENT  
**PERMANENT SWALE SUMMARY**  
N.T.S.



**DOWELED CONC. PAVEMENT**  
N.T.S.



**CONCRETE SIDEWALK DETAIL**  
N.T.S.



**6\"/>**

Note: These plans are not to be used for construction unless the plan contains a red stamp indicating 'issued for construction' by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.

**BID SET - APRIL 12, 2021**

NO.	DATE	REVISIONS
1	03/23/2021	PROCESSED SET FOR BIDDING
2	03/23/2021	REVISED PER TECHNICAL LETTER DATED OCTOBER 1, 2020
3	03/23/2021	REVISED PER TECHNICAL LETTER DATED JUNE 1, 2020
4	03/23/2021	REVISED PER TECHNICAL LETTER DATED JUNE 1, 2020
5	03/23/2021	REVISED PER TECHNICAL LETTER DATED JUNE 1, 2020

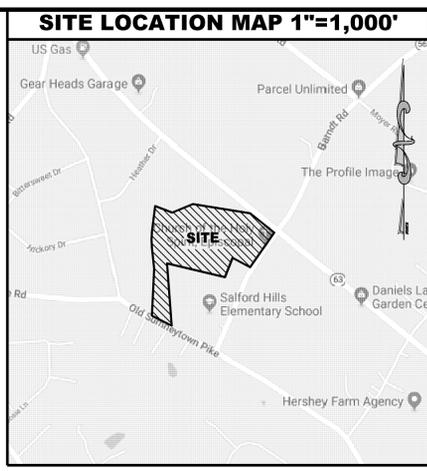
**Horizon ENGINEERING**  
Civil Engineers | Land Surveyors | Landscape Architects  
428 Main Street • Pottsville, PA 17073 • Phone: 610-267-2322/8679 • Fax: 610-267-2323/8679  
www.horizoneng.com

PRELIMINARY-FINAL LAND DEVELOPMENT  
CONSTRUCTION DETAILS - PCSWMM  
**CHURCH OF THE HOLY SPIRIT**  
RECORDED COPY  
UPPER SALFORD, TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

PROJECT MANAGER: MTS  
DRAWING FILE NAME: SH\_Z-DET  
PLAN ORIGINATOR/DATE: 02-26-20  
PLAN SCALE: N.T.S.  
PROJECT NUMBER: 2303  
SHEET NUMBER: 04 OF 12

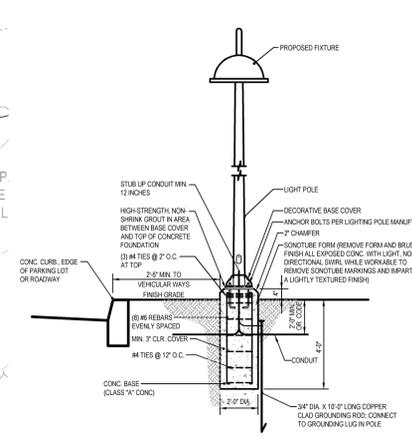
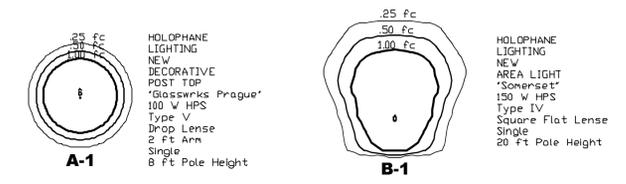




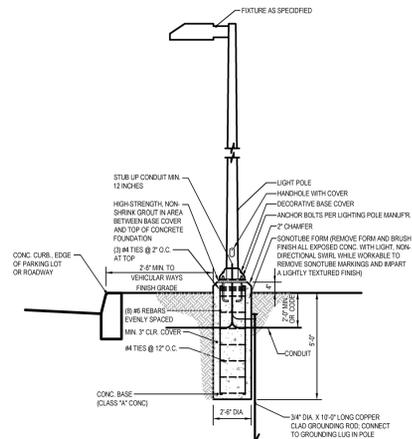


Note: These plans are not to be used for construction unless the plan contains a red stamp indicating issued for construction by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.

LIGHT SCHEDULE						
Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Wattage
A-1	4	HOLOPHANE LIGHTING	GS100HP002X575N SINGLE 8 FT POLE	GLASWERKS II HALLBROOK	100W CLEAR HPS	100
B-1	2	HOLOPHANE LIGHTING	SMST15AHP000XXCF SINGLE 20 FT POLE	SOMERSET	150W CLEAR HPS	150



**FIXTURE "A" LIGHT STANDARD ANCHORING DETAIL FOR DECORATIVE LIGHT**  
N.T.S.



**FIXTURE "B" & "X" LIGHT STANDARD ANCHORING DETAIL FOR NEW & RELOCATED SHOEBOX LIGHTS**  
N.T.S.

BID SET - APRIL 12, 2021

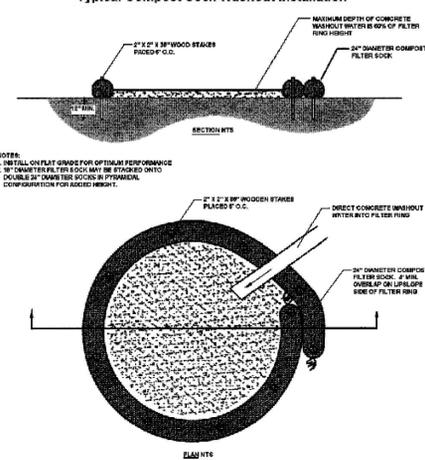
**Horizon ENGINEERING**  
Civil Engineers | Land Surveyors | Landscape Architects  
428 Main Street - Pottsville, PA 17073 • Phone: 610.267.8879 • Fax: 610.267.8879  
www.horizoneng.com

PRELIMINARY-FINAL LAND DEVELOPMENT  
LIGHTING PLAN  
**CHURCH OF THE HOLY SPIRIT**  
UPPER SALFORD, TOWNSHIP, NORTH SOMERSET COUNTY, PENNSYLVANIA

PROJECT MANAGER	MTS
DRAWING FILE NAME	Sht_ZLight
PLAN ORIGINATION DATE	02-26-20
PLAN SCALE	1"=30'
PROJECT NUMBER	2303
SHEET NUMBER	07 OF 12



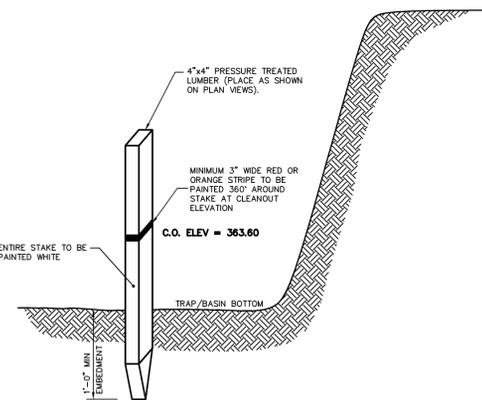
**FIGURE 3.18**  
Typical Compost Sock Washout Installation



A suitable impervious geomembrane shall be placed at the location of the washout prior to installing the socks.  
Adapted from Filtraxx

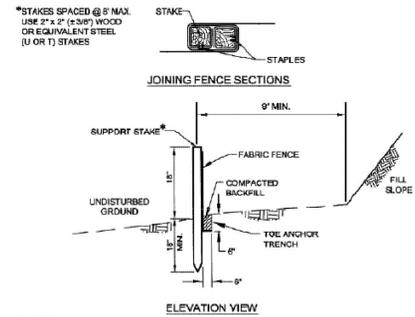
**NOTES:**

1. A SUITABLE IMPERVIOUS GEOMEMBRANE SHOULD BE PLACED AT THE LOCATION OF THE WASHOUT.
2. COMPOST SOCKS SHOULD BE STAKED IN THE MANNER RECOMMENDED BY THE MANUFACTURER AROUND THE PERIMETER OF THE GEOMEMBRANE SO AS TO FORM A RING WITH THE ENDS OF THE SOCK LOCATED AT THE UPOPE CORNER.
3. CARE MUST BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS.
4. WHERE NECESSARY, SOCKS MAY BE STACKED AND STAKED SO AS TO FORM A TRIANGULAR CROSS-SECTION.
5. THE WASHOUT FACILITY SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.
6. ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.
7. GEOMEMBRANE SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.



**SEDIMENT TRAP CLEANOUT STAKE DETAIL**  
N.T.S.

**STANDARD CONSTRUCTION DETAIL # 4-7**  
Standard Silt Fence (18" High)



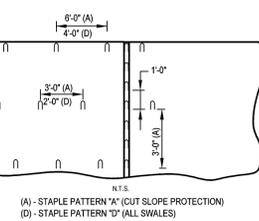
Fabric shall have the minimum properties as shown in Table 4.3.  
Fabric width shall be 30" minimum. Stakes shall be hardwood or equivalent steel (U or T) stakes.  
Silt fence shall be placed at level existing grade. Both ends of the fence shall be extended at least 8 feet up slope at 45 degrees to the main fence alignment (see Figure 4.1).  
Sediment shall be removed when accumulations reach half the aboveground height of the fence.  
Any section of silt fence which has been undermined or topped shall be immediately replaced with a rock filter outlet (Standard Construction Detail # 4.5).  
Fence shall be removed and properly disposed of when tributary area is permanently stabilized.

**INSTALLATION GUIDELINES:**

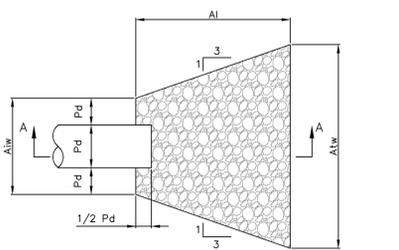
1. ALL SURFACES ARE TO BE PREPARED SO THAT EROSION CONTROL BLANKET LIES IN CLOSE CONTACT TO THE SOIL. AFTER SEEDING, THE FABRIC IS INSTALLED BY UNROLLING IN THE DIRECTION OF THE EXPECTED WATER FLOW. SECURE FABRIC USING SQUARE TOP STAPLES. (STANDARD STAPLES ARE 11 GAUGE WIRE WITH AN INCH WIDE TOP AND SIX INCH LEADS.)
2. INSTALL AN ANCHOR TRENCH (6"x6") AT LEAST ONE FOOT BEYOND THE CREST OF THE SLOPE. UNROLL EROSION CONTROL BLANKET DOWNHILL, BEGINNING AT THE BOTTOM OF THE ANCHOR TRENCH. PLACING STAPLES IN THE BOTTOM OF THE TRENCH AT ONE FOOT INTERVALS. IF CONDITIONS DO NOT PERMIT AN ANCHOR TRENCH, EXTEND THE FABRIC AT LEAST 2 FEET BEYOND THE CREST AND SECURE WITH STAPLES AT SIX FOOT INTERVALS.
3. SECURE EROSION CONTROL BLANKET BY PLACING STAPLES AS DETAILED ALONG EDGES AND OVERLAPS. FOR THREE TO ONE SLOPES, PLACE STAPLES AS DETAILED. FOR STEEPER SLOPES, INCREASE USE OF STAPLES (i.e. 1 FOOT CENTERS). FOR Milder SLOPES, DECREASE USE OF STAPLES. ADJACENT FABRIC PANELS SHOULD BE OVERLAPPED AT LEAST 2 INCHES. PLACE ADDITIONAL STAPLES AS NEEDED, TO BLOCK POTENTIAL WATER FLOW CHANNELS.
4. IN LOW-FLOW VELOCITY CHANNELS AND SWALES, PLACE ADDITIONAL STAPLES AT 25 FOOT INTERVALS, IN THE CENTER OF EXPECTED FLOW. AT 25 FOOT INTERVALS, PLACE ADDITIONAL ROWS OF STAPLES (6 INCHES APART) IN A PERPENDICULAR DIRECTION TO THE FLOW.
5. FOR ADDITIONAL PROTECTION OR MOISTURE RETENTION, PLACE A THIN LAYER OF HAY OR STRAW BENEATH EROSION CONTROL BLANKET.

**STAPLING GUIDELINES:**

1. DETAIL SHOWS OVERLAP AND PORTIONS OF TWO EROSION CONTROL BLANKET PANELS.
2. STAGGER STAPLE SPACING TO BLOCK POTENTIAL WATER FLOW CHANNELS. PLACE ADDITIONAL STAPLES AS NEEDED, AT POTENTIALLY HIGH FLOW AREAS.



**EROSION CONTROL BLANKET DETAIL (USE NORTH AMERICAN GREEN FABRIC OR APPROVED EQUAL)**  
N.T.S.



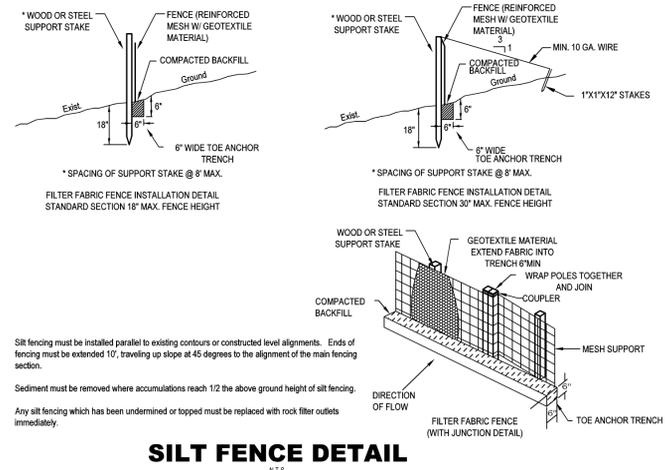
OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP SIZE R- (IN)	THICK. RT (IN)	LENGTH AI (FT)	APRON INITIAL WIDTH AIw (FT)	APRON TERMINAL WIDTH ATw (FT)
A-0	12	4	18	12	3	11
A-2	8	3	9	7	2	7

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.

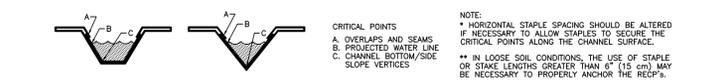
**STANDARD CONSTRUCTION DETAIL #9-2**  
RIPRAP APRON AT PIPE OUTLET  
NO FLARED ENDWALL  
N.T.S.



**SILT FENCE DETAIL**  
N.T.S.

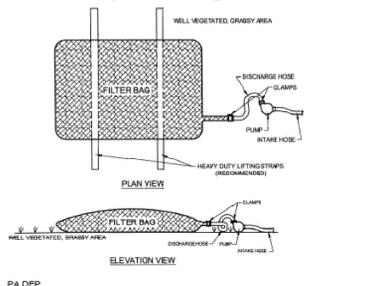
**NORTH AMERICAN GREEN**  
EROSION CONTROL Products  
Guaranteed SOLUTIONS  
14649 HIGHWAY 41 NORTH  
EVANSVILLE, IN 47725  
800-772-2040  
www.nogreen.com

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-TO-SEED DO NOT SEED PREPARED AREA. CELL-TO-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDING BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP'S.
3. ROLL CENTER RECP'S IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP'S END OVER END (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP'S.
5. FULL LENGTH EDGE OF RECP'S AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) (DEPENDING ON RECP'S TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



**CHANNEL INSTALLATION**  
N.T.S.

**STANDARD CONSTRUCTION DETAIL # 3-16**  
Pumped Water Filter Bag



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-4632	265 lb
Puncture	ASTM D-4833	110 lb
Mullen Burst	ASTM D-3786	350 psi
UV Resistance	ASTM D-4355	70%
AOS % Retained	ASTM D-4751	80 Sieve

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.

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.

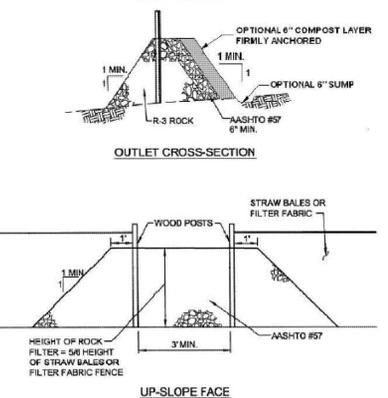
BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS, WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.

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

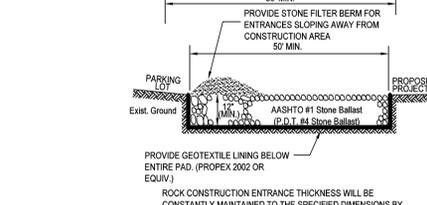
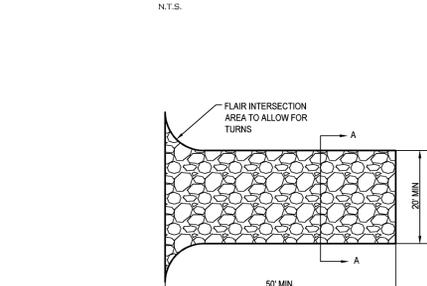
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

**STANDARD CONSTRUCTION DETAIL # 4-6**  
Rock Filter Outlet



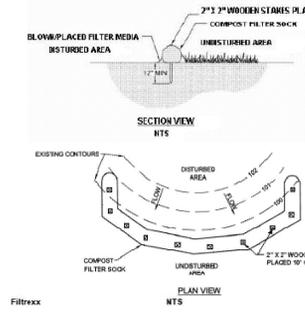
A rock filter outlet shall be installed where failure of a silt fence or straw bale barrier has occurred due to concentrated flow. Anchored compost layer shall be used on upslope face in HQ and EV watersheds.  
Sediment shall be removed when accumulations reach 1/3 the height of the outlet.

**STOCKPILE CONTROL**  
N.T.S.

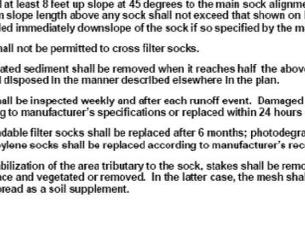


**TIRE CLEANING AREA**  
(TEMP. DURING CONSTRUCTION)  
N.T.S.

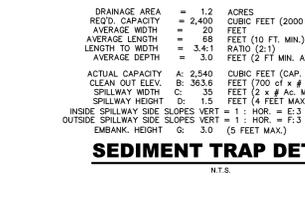
**STANDARD CONSTRUCTION DETAIL #4-1**  
COMPOST FILTER SOCK



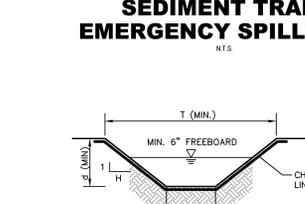
**SEDIMENT TRAP DETAIL**  
N.T.S.



DRAINAGE AREA	A = 1.2 ACRES	CUBIC FEET (2000 cf x # Ac.)
REQ'D. CAPACITY	B = 2400	
AVERAGE WIDTH	C = 20 FEET	
AVERAGE LENGTH	D = 68 FEET (10 FT. MIN.)	
LENGTH TO WIDTH RATIO	E = 3.4:1	(2:1)
AVERAGE DEPTH	F = 3.0 FEET (2 FT. MIN. AVE. DEPTH REQ'D.)	
ACTUAL CAPACITY	A = 2,540	CUBIC FEET (CAP. AT POINT A)
CLEAN OUT ELEV.	B = 36.15	FEET (700' c.f. # AC.)
SPILLWAY WIDTH	C = 35	FEET (2' x # AC. MIN.)
SPILLWAY HEIGHT	D = 1.5	FEET (4 FEET MAX.)
INSIDE SPILLWAY SIDE SLOPES	VERT = 1:1	HOR. = E:3 (1:2 MIN)
OUTSIDE SPILLWAY SIDE SLOPES	VERT = 1:1	HOR. = F:3 (1:2 MIN)
EMBANK. HEIGHT	G = 3.0	(5 FEET MAX.)



**TYPICAL CROSS-SECTION SEDIMENT TRAP EMERGENCY SPILLWAY**  
N.T.S.



SWALE ID	SLOPE FT/FT	(T) FT	(d) FT	(b) FT	(H) FT	TEMPORARY LINING*	PERMANENT LINING
A	0.022	6.5	0.75	2	3	S75BN	VEGETATION

**PERMANENT SWALE SUMMARY**  
N.T.S.

SWALE ID	SLOPE FT/FT	(T) FT	(d) FT	(b) FT	(H) FT	TEMPORARY LINING*
A	0.022	6.5	0.75	2	3	S75BN
B	0.060	7.5	1.0	1.5	3	S75BN

**TEMPORARY SWALE SUMMARY**  
N.T.S.

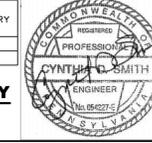
Note: These plans are not to be used for construction unless the plan contains a red stamp indicating "issued for construction" by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.

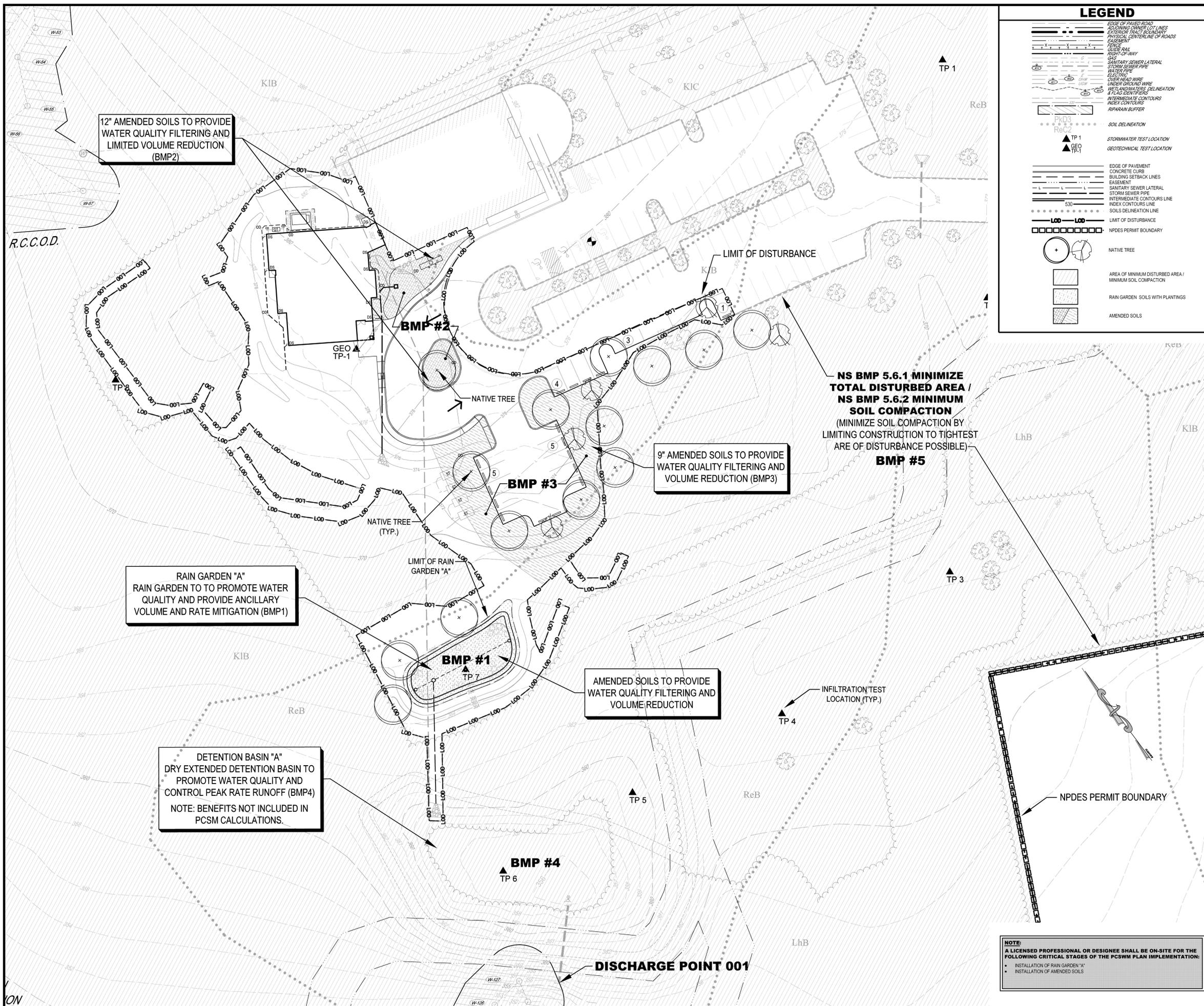
**BID SET - APRIL 12, 2021**

**Horizon ENGINEERING**  
Civil Engineers | Land Surveyors | Landscape Architects  
428 Main Street • Pottsville, PA 18803 • Phone: 202.282.8979 • Fax: 202.282.8978  
www.horizoneng.com

**CHURCH OF THE HOLY SPIRIT**  
PRELIMINARY-FINAL LAND DEVELOPMENT  
EROSION & SEDIMENT CONTROL DETAILS  
REVISIONS OF

PROJECT MANAGER: MTS  
DRAWING FILE NAME: SHL\_ZES-DET  
PLAN ORIGINATOR DATE: 02-26-20  
PLAN SCALE: N.T.S.  
PROJECT NUMBER: 2303  
SHEET NUMBER: 09 OF 12





12" AMENDED SOILS TO PROVIDE WATER QUALITY FILTERING AND LIMITED VOLUME REDUCTION (BMP2)

9" AMENDED SOILS TO PROVIDE WATER QUALITY FILTERING AND VOLUME REDUCTION (BMP3)

RAIN GARDEN "A" RAIN GARDEN TO PROMOTE WATER QUALITY AND PROVIDE ANCILLARY VOLUME AND RATE MITIGATION (BMP1)

DETENTION BASIN "A" DRY EXTENDED DETENTION BASIN TO PROMOTE WATER QUALITY AND CONTROL PEAK RATE RUNOFF (BMP4)  
NOTE: BENEFITS NOT INCLUDED IN PCSM CALCULATIONS.

AMENDED SOILS TO PROVIDE WATER QUALITY FILTERING AND VOLUME REDUCTION

NS BMP 5.6.1 MINIMIZE TOTAL DISTURBED AREA / NS BMP 5.6.2 MINIMUM SOIL COMPACTION (MINIMIZE SOIL COMPACTION BY LIMITING CONSTRUCTION TO TIGHTEST ARE OF DISTURBANCE POSSIBLE) BMP #5

DISCHARGE POINT 001

### LEGEND

- EDGE OF PAVED ROAD
- ADJOINING OWNER LOT LINES
- EXTERIOR TRACT BOUNDARY
- PHYSICAL CENTERLINE OF ROADS EASEMENT
- FENCE
- GUIDE RAIL
- RIGHT-OF-WAY
- SANITARY SEWER LATERAL
- STORM SEWER PIPE
- WATER PIPE
- OVERHEAD WIRE
- UNDERGROUND WIRE
- WETLANDS DELINEATION
- 4-8' AND DEEPER TRENCHES
- INTERMEDIATE CONTOURS
- INDEX CONTOURS
- RIPRAP SLOPER
- SOIL DELINEATION
- STORMWATER TEST LOCATION
- GEOTECHNICAL TEST LOCATION
- EDGE OF PAVEMENT
- CONCRETE CURB
- BUILDING SETBACK LINES
- EASEMENT
- SANITARY SEWER LATERAL
- STORM SEWER PIPE
- INTERMEDIATE CONTOURS LINE
- INDEX CONTOURS LINE
- SOILS DELINEATION LINE
- LIMIT OF DISTURBANCE
- NPDES PERMIT BOUNDARY
- NATIVE TREE
- AREA OF MINIMUM DISTURBED AREA / MINIMUM SOIL COMPACTION
- RAIN GARDEN SOILS WITH PLANTINGS
- AMENDED SOILS

### SITE LOCATION MAP 1"=1,000'

### OWNER INFORMATION

THE SUBJECT PARCEL IS IDENTIFIED BY THE FOLLOWING INFORMATION AS RECORDED IN THE OFFICE FOR RECORDING OF DEEDS, MONTGOMERY COUNTY COURTHOUSE IN NORRISTOWN, PENNSYLVANIA.

TOWNSHIP: UPPER SALFORD COUNTY: MONTGOMERY

PARCEL NO. DEED BOOK/PAGE PARCEL AREA  
 62-00-00223-005 5080-492 27.83 Ac.  
 TOTAL TRACT AREA: 27.83 Ac. (BY SURVEY)

RECORD OWNER:  
 CHURCH FOUNDATION THE TRUSTEE  
 1601 MARKET ST APT 1015  
 PHILADELPHIA, PA  
 19103-2326

### SOILS DATA

SOILS DATA OBTAINED FROM A NRCS NATIONAL COOPERATIVE SOIL SURVEY DATED OCTOBER 30, 2019.

By ROMANVILLE - HANOVERS SILT LOAMS, SOMEWHAT POORLY DRAINED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 0'  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 15 TO 20 PERCENT SLOPES, SEVERELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 20 TO 25 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 25 TO 30 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 30 TO 35 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 35 TO 40 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 40 TO 45 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

By KILNESHVILLE CHANNERY SILT LOAM, 45 TO 50 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 6"  
 HYDROLOGIC SOIL GROUP: D  
 PERCENT SAND: 10  
 PERCENT SILT: 80  
 PERCENT CLAY: 10  
 LIMITATIONS: SEASONAL HIGH WATER TABLE  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES

### INFILTRATION TEST DATA

Pit No.	Pt Depth (in, BGS)	Observed Rock Features (in, BGS)	Depth to Rock (in, BGS)	Depth to Water (in, BGS)	Infiltration Rate (in/hr)	Average Infiltration Rate (in/hr)
SW-1	72	10 to 72	72	Seeps at 60	N/A	N/A
SW-2	24	10 to 24	24	NE	N/A	N/A
SW-3	62	12 to 62	62	Seeps at 28	N/A	N/A
SW-4	27	17 to 27	27	NE	N/A	N/A
SW-5	36	10 to 36	36	NE	N/A	N/A
SW-6	60	12 to 60	60	Seeps at 12	N/A	N/A
SW-7	56	20 to 56	56	NE	N/A	N/A
SW-8	58	11 to 58	58	Seeps at 40	N/A	N/A

NE= not encountered

Infiltration testing was not performed at any of the test pits due to the observed shallow seasonal high water table and/or bedrock. The seasonal high water table conditions observed are due to a perched water table condition from percolating surface waters and not due to a deeper regional groundwater table. Additionally, VW did not encounter a test pit location that would have a 2-foot separation distance to the shallow seasonal high water table; therefore, infiltration testing was not performed as it does not meet the PA Stormwater BMP Manual guidelines for infiltration facilities.

### AS BUILT PLANS REQUIRED:

- AS BUILT PLANS SHALL BE PROVIDED BY THE CONTRACTOR DOCUMENTING THE AS-BUILT CONDITIONS. PLANS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL LICENSED SURVEYOR. SEALED PLANS AND CAD FILES SHALL BE PROVIDED.
- THE GENERAL SITE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL AS BUILT PLANS AND PROFILES.
- AS BUILT PLANS AND PROFILES MUST DOCUMENT ALL COMPONENTS OF THE CONSTRUCTED WATER SUPPLY, SANITARY SEWER, AND STORM SEWER SYSTEMS.
- AS BUILT PLANS MUST DOCUMENT THE FINISHED GRADE CONDITION OF ALL STORM WATER BMP FACILITIES, INCLUDING BUT NOT LIMITED TO ALL BASINS, RAIN GARDENS, AND ANY OTHER BMP NOTED ON THE POST CONSTRUCTION STORM WATER PLANS.

### ACT 287 NOTIFICATION

THE UNDERGROUND UTILITY LINE PROTECTION LAW (ACT 287 OF 1984 AS AMENDED BY ACT 187 OF 1996 AND ACT 188 OF JANUARY 2005)

SITE SERIAL NO. 2019030215

LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF THE SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 OF 1984, AS AMENDED BY ACT 187 OF 1996 AND ACT 188 OF JANUARY 2005, CONTRACTORS MUST VERIFY THE LOCATION OF UNDERGROUND UTILITIES BY THE PRESENT FACILITY OWNERS THROUGH THE ONE-CALL SYSTEM, 1-800-242-3776, NO LESS THAN 3 WORK MORE THAN 10 DAYS PRIOR TO EXCAVATION OR DEMOLITION WORK.

ONE-CALL SYSTEM: 800-242-3776

PA 1-800-242-3776

Note: These plans are not to be used for construction unless the plan contains a red stamp indicating issued for construction by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.

### BID SET - APRIL 12, 2021

PROCESSED FOR BIDDING ARCHITECTS  
 REVISIONS  
 1. 03.23.2021  
 2. 04.01.2021  
 3. 04.01.2021  
 4. 04.01.2021  
 5. 04.01.2021

### Horizon ENGINEERING

Civil Engineers | Land Surveyors | 187677 | Phone: 267-252-1877 | Fax: 267-252-1879  
 428 Main Street • Pottsville, PA 17870 • www.horizoneng.com

### PRELIMINARY-FINAL LAND DEVELOPMENT

### POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (A)

### CHURCH OF THE HOLY SPIRIT

UPPER SALFORD, TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

PROJECT MANAGER: MTS  
 DRAWING FILE NAME: Sht\_PCSWM  
 PLAN ORIGINATOR DATE: 02-26-20  
 PLAN SCALE: 1"=30'  
 PROJECT NUMBER: 2303  
 SHEET NUMBER: 10 OF 12



**NOTE:**  
 A LICENSED PROFESSIONAL OR DESIGNEE SHALL BE ON-SITE FOR THE FOLLOWING CRITICAL STAGES OF THE PCSWM PLAN IMPLEMENTATION:  
 • INSTALLATION OF RAIN GARDEN 'A'  
 • INSTALLATION OF AMENDED SOILS

**SITE LOCATION MAP 1"=1,000'**



Note: These plans are not to be used for construction unless the plan contains a red stamp indicating 'issued for construction' by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.

**OWNER INFORMATION**

THE SUBJECT PARCEL IS IDENTIFIED BY THE FOLLOWING INFORMATION AS RECORDED IN THE OFFICE FOR RECORDING OF DEEDS, MONTGOMERY COUNTY COURTHOUSE IN NORRISTOWN, PENNSYLVANIA.

TOWNSHIP: UPPER SALFORD COUNTY: MONTGOMERY  
 PARCEL NO. DEED BOOK/PAGE: PARCEL AREA:  
 62-00-00223-005 5080-492 27.83 Ac.  
 TOTAL TRACT AREA: 27.83 Ac. (BY SURVEY)

RECORD OWNER:  
 CHURCH FOUNDATION THE TRUSTEE  
 1601 MARKET ST APT 1015  
 PHILADELPHIA, PA  
 19103-2326

**SOILS DATA**

SOILS DATA OBTAINED FROM A NRCS NATIONAL COOPERATIVE SOIL SURVEY DATED OCTOBER 30, 2019.

Bo: BOYMANVILLE - HANOVERS SILT LOAMS, SOMEWHAT POORLY DRAINING  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 0'  
 HYDROLOGIC SOIL GROUP: D  
 DEPTH TO BEDROCK: 0'  
 DEVELOPMENT LIMITATIONS: POORLY DRAINING, OCCASIONAL FLOODING  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES.

KIB: KILBUCKHAM SILT LOAM, 3 TO 8 PERCENT SLOPES  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 0-1'  
 HYDROLOGIC SOIL GROUP: D  
 DEPTH TO BEDROCK: 0'  
 DEVELOPMENT LIMITATIONS: POORLY DRAINING, OCCASIONAL FLOODING  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES.

KIC: KILBUCKHAM SILT LOAM, OCCASIONALLY PONDED 3 TO 8 PERCENT, SEVERELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 1'  
 HYDROLOGIC SOIL GROUP: D  
 DEPTH TO BEDROCK: 1-2'  
 DEVELOPMENT LIMITATIONS: IMPERMEABLE SUBSTRATUM, DEPTH TO BEDROCK  
 RESOLUTIONS: LIMIT EARTHWORK CUT AND REDUCE COMPLICATIONS OF WETNESS BY USE OF DRAINAGE FACILITIES.

ReB: READINGTON SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 0-1'  
 HYDROLOGIC SOIL GROUP: D  
 DEPTH TO BEDROCK: 1-2'  
 DEVELOPMENT LIMITATIONS: IMPERMEABLE SUBSTRATUM, DEPTH TO BEDROCK  
 RESOLUTIONS: LIMIT EARTHWORK CUT AND REDUCE COMPLICATIONS OF WETNESS BY USE OF DRAINAGE FACILITIES.

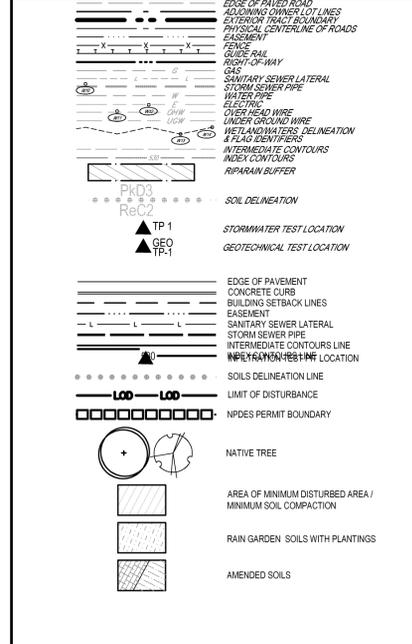
LhA: LITTLETON SILT LOAM, 3 TO 8 PERCENT SLOPES, SEVERELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 0-1'  
 HYDROLOGIC SOIL GROUP: D  
 DEPTH TO BEDROCK: 1-2'  
 DEVELOPMENT LIMITATIONS: IMPERMEABLE SUBSTRATUM, DEPTH TO BEDROCK  
 RESOLUTIONS: LIMIT EARTHWORK CUT AND REDUCE COMPLICATIONS OF WETNESS BY USE OF DRAINAGE FACILITIES.

LhB: LEHIGH SILT LOAM, 3 TO 8 PERCENT SLOPES, SEVERELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 0-1'  
 HYDROLOGIC SOIL GROUP: D  
 DEPTH TO BEDROCK: 1-2'  
 DEVELOPMENT LIMITATIONS: IMPERMEABLE SUBSTRATUM, DEPTH TO BEDROCK  
 RESOLUTIONS: LIMIT EARTHWORK CUT AND REDUCE COMPLICATIONS OF WETNESS BY USE OF DRAINAGE FACILITIES.

UusB: UPPER SALFORD SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 1-2'  
 HYDROLOGIC SOIL GROUP: C  
 DEPTH TO BEDROCK: 3-5'  
 DEVELOPMENT LIMITATIONS: SEASONAL HIGH WATER TABLE, SLOPE PERMEABILITY  
 RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES.

PKD: PENN ALNESVILLE CHANNERY SILT LOAMS, 15 TO 20 PERCENT SLOPES, MODERATELY ERODED  
 DEPTH TO SEASONALLY HIGH WATER TABLE: 0-1'  
 HYDROLOGIC SOIL GROUP: A  
 DEPTH TO BEDROCK: 1-2'  
 DEVELOPMENT LIMITATIONS: POTENTIALLY SHALLOW DEPTH TO BEDROCK  
 RESOLUTIONS: IN AREAS OF SHALLOW BEDROCK, LIMIT EARTHWORK CUT TO GREATEST EXTENT PRACTICABLE.

**LEGEND**



**INFILTRATION TEST DATA**

Pit No.	Pit Depth (in, BGS)	Observed Redox Features (in, BGS)	Depth to Rock (in, BGS)	Depth to Observed Water (in, BGS)	Infiltration Test Depth (in, BGS)	Average Infiltration Rate (in/hr)
SW-1	72	10 to 72	72	Seeps at 50	N/A	N/A
SW-2	24	10 to 24	24	NE	N/A	N/A
SW-3	82	12 to 82	82	Seeps at 28	N/A	N/A
SW-4	27	17 to 27	27	NE	N/A	N/A
SW-5	38	10 to 38	38	NE	N/A	N/A
SW-6	80	12 to 80	80	Seeps at 12	N/A	N/A
SW-7	56	20 to 56	56	NE	N/A	N/A
SW-8	50	11 to 50	50	Seeps at 40	N/A	N/A

NE= not encountered

Infiltration testing was not performed at any of the test pits due to the observed shallow seasonal high water table and/or bedrock limiting zones. The seasonal high water table conditions observed are due to a perched water table condition from precipitating surface waters and not due to a deeper regional groundwater table. Additionally, VW did not encounter a test pit location that would have a 2-foot separation distance to this shallow seasonal high perched water table; therefore, infiltration testing was not performed as it does not meet the PA Stormwater BMP Manual guidelines for infiltration facilities.

**AS BUILT PLANS REQUIRED:**

- AS BUILT PLANS SHALL BE PROVIDED BY THE CONTRACTOR DOCUMENTING THE AS-BUILT CONDITIONS. PLANS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL LICENSED SURVEYOR. SEaled PLANS AND CAD FILES SHALL BE PROVIDED.
- THE GENERAL SITE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL AS BUILT PLANS AND PROFILES.
- AS BUILT PLANS AND PROFILES MUST DOCUMENT ALL COMPONENTS OF THE CONSTRUCTED WATER SUPPLY, SANITARY SEWER, AND STORM SEWER SYSTEMS.
- AS BUILT PLANS MUST DOCUMENT THE FINISHED GRADE CONDITION OF ALL STORM WATER BMP FACILITIES, INCLUDING BUT NOT LIMITED TO ALL BASINS, RAIN GARDENS, AND ANY OTHER BMP NOTED ON THE POST CONSTRUCTION STORM WATER PLANS.

**ACT 287 NOTIFICATION**

THE UNDERGROUND UTILITY LINE PROTECTION LAW (ACT 287 OF 1996 AS AMENDED BY ACT 191 OF 1996 AND ACT 199 OF JANUARY 2002)

SITE SERIAL NO. 2019030715

LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF THE SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 OF 1996, AS AMENDED BY ACT 191 OF 1996 AND ACT 199 OF JANUARY 2002, CONTRACTORS MUST VERIFY LOCATIONS OF UNDERGROUND UTILITIES BY NOTIFYING FACILITY OWNERS THROUGH THE ONE-CALL SYSTEM. 1-800-242-3776, NO LESS THAN 3 NOR MORE THAN 15 DAYS PRIOR TO EXCAVATION OR DEMOLITION WORK.

**BID SET - APRIL 12, 2021**

PROCESSED FOR 2020 ARCHITECTS  
 REVISIONS  
 1 03/23/2021  
 2 03/23/2021  
 3 03/23/2021  
 4 03/23/2021  
 5 03/23/2021  
 6 03/23/2021

**Horizon**  
 ENGINEERING  
 Civil Engineers | Land Surveyors | Landscape Architects  
 428 Main Street • Pottsville, PA 19363 • Phone: 610-267-9879 • Fax: 610-267-9879  
 www.horizoneng.com

PRELIMINARY-FINAL LAND DEVELOPMENT  
 POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (B)  
 REVISIONS FOR  
**CHURCH OF THE HOLY SPIRIT**  
 UPPER SALFORD, TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

PROJECT MANAGER: MTS  
 DRAWING FILE NAME: SHL\_PCSWM  
 PLAN ORIGINATOR DATE: 02-26-20  
 PLAN SCALE: 1"=80'  
 PROJECT NUMBER: 2303  
 SHEET NUMBER: 11 of 12

STANDARD STORMWATER FACILITIES MAINTENANCE AND MONITORING AGREEMENT

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by and between \_\_\_\_\_ (hereinafter "the "landowner") and \_\_\_\_\_ County; Pennsylvania, (hereinafter "Municipality");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of \_\_\_\_\_ County, Pennsylvania, Deed Book \_\_\_\_\_ at Page \_\_\_\_\_, (hereinafter "Property").

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the Subdivision/Land Management Plan (hereinafter "Plan") for the \_\_\_\_\_ Subdivision which is expressly made a part hereof, as approved or to be approved by the Municipality, provides for detention or retention of stormwater within the confines of the Property; and

WHEREAS, the Municipality and the Landowner, his successors and assigns agree that the health, safety, and welfare of the residents of the Municipality require that on-site stormwater management facilities be constructed and maintained on the Property; and

WHEREAS, the Municipality requires, through the implementation of the \_\_\_\_\_ Watershed \_\_\_\_\_ Stormwater Management Plan, that stormwater management facilities as shown on the Plan be constructed and adequately maintained by the Landowner, his successors and assigns.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

- 1. The on-site stormwater management facilities shall be constructed by the Landowner, his successors and assigns, in accordance with the terms and conditions and specifications identified in the Plan.
2. The Landowner, his successors and assigns, shall maintain the stormwater management facilities in good working condition, acceptable to the Municipality so that they are performing their design functions.
3. The Landowner, his successors and assigns, hereby grants permission to the Municipality, his authorized agents and employees, upon presentation of proper identification, to enter upon the Property at reasonable times, such as following a storm of the intensity for which the facility was designed to control, and to inspect the stormwater management facilities whenever the Municipality deems necessary.
4. All reasonable costs for said inspections shall be born by the Landowner and payable to the Municipality.
5. The owner shall convey to the municipality easements and/or rights-of-way to ensure access for periodic inspections by the Municipality and maintenance, if required.
6. In the event the Landowner, his successors and assigns, fails to maintain the stormwater management facilities in good working condition acceptable to the Municipality, the Municipality may enter upon the property and take such necessary and prudent action to maintain said stormwater management facilities and to charge the costs of the maintenance and/or repairs to the Landowner, his successors and assigns.
7. The Landowner, his successors and assigns, will perform maintenance in accordance with the maintenance schedule for the stormwater management

facilities including sediment removal as outlined on the approved schedule and/or drainage plan.

8. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like on account of the Landowner's or his successors' and assigns' failure to perform such work, the Landowner, his successors and assigns, shall reimburse the Municipality upon demand, within 30 days of receipt of invoice thereof, for all costs incurred by the Municipality hereunder. If not paid within said 30-day period, the Municipality may enter a lien against the property in the amount of such costs, or may proceed to recover his costs through proceedings in equity or at law as authorized under the provisions of the Second Class Township Code, including the filin of a lien against the real property on which the work was performed..

9. The Landowner, his successors and assigns, shall indemnify the Municipality and its agents and employees against any and all damages, accidents, casualties, occurrences or claims that might arise or be asserted against the Municipality for the construction, presence, existence or maintenance of the stormwater management facilities by the Landowner and his successors and assigns.

10. In the event a claim is asserted against the Municipality, its agents, or employees, the Municipality shall promptly notify the Landowner and his successors and assigns, and they shall defend, at their own expense, any suit based on such claim. If any judgment or claims against the Municipality, his agents or employees shall be allowed, the Landowner and his successors and assigns shall pay all costs and expenses in connection therewith.

11. In the advent of an emergency or the occurrence of special or unusual circumstances or situations, the Municipality may enter the property, if the Landowner is not immediately available, without notification or identification, to inspect and perform necessary maintenance and repairs, if needed, when the health, safety or welfare of the citizens is at jeopardy. However, the Municipality shall notify the Landowner of an inspection, maintenance, or repair undertaken within five days of the activity. The Landowner shall reimburse the Municipality for its costs.

This Agreement shall be recorded among the land records of Montgomery County, Pennsylvania and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs, and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL) \_\_\_\_\_ For the Municipality:

(SEAL) \_\_\_\_\_ For the Landowner:

ATTEST: \_\_\_\_\_ (City, Borough, Township)

County of Montgomery, Pennsylvania

\_\_\_\_\_, a Notary Public in and for the County and State aforesaid, whose commission expires on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, do hereby certify that \_\_\_\_\_ whose name(s) is/are signed to the foregoing Agreement bearing date of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, has acknowledged the same before me in my said county and state.

GIVEN UNDER MY HAND THIS \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

NOTARY PUBLIC

Note: This Appendix is illustrative. All specific Maintenance Agreement must be prepared and recorded by the Township Solicitor.

NOTE: A LICENSED PROFESSIONAL OR DESIGNEE SHALL BE ON-SITE FOR THE FOLLOWING CRITICAL STAGES OF THE PCSWM PLAN IMPLEMENTATION:
• INSTALLATION OF RAIN GARDEN "A"
• INSTALLATION OF AMENDED SOILS

SOILS DATA

SOILS DATA OBTAINED FROM A NRCS NATIONAL COOPERATIVE SOIL SURVEY DATED OCTOBER 30, 2019.
By: BOWMANVILLE - KNANERS SILT LOAM, SOMEWHAT POORLY DRAINED
HYDROIC SOL RATING: NO
HYDROIC SOIL GROUP: D
DEPTH TO BEDROCK: 8-F
DEVELOPMENT LIMITATIONS: POORLY DRAINED, OCCASIONAL FLOODING
RESOLUTIONS: REDUCE COMPLICATIONS OF WETNESS THROUGH APPROPRIATE USE OF DRAINAGE FACILITIES.

1. DETENTION BASIN
EA STORM-11\*
INSPECT STRUCTURES
INSPECT STRUCTURES
INSPECT FOR EROSION
INSPECT FOR EROSION
INSPECT FOR EROSION

2. RAIN GARDEN
12X
INSPECT SEDIMENT ACCUMULATION
INSPECT CONDITION OF GROUND COVER
EVALUATE PLANT HEALTH
INSPECT MULCH LEVEL AND REPLENISH AS NEEDED
INSPECT FOR EROSION AND EXOTIC PLANT SPECIES

3. SOIL AMENDMENT
4 TREE PLANTINGS
INSPECT FOR EROSION & SETTLING
WATERING, PRUNING, WEEDING, FERTILIZING AND INSPECTING FOR PESTS & DISEASE

PCSWM BMP OPERATION & MAINTENANCE PROCEDURES:
1. DRY EXTENDED DETENTION BASIN:
THE FOLLOWING MAINTENANCE ACTIVITIES ARE TO BE PERFORMED ON A QUARTERLY BASIS AT MINIMUM.

2. RAIN GARDENS / BIORIENTATION:
PERIODIC WEEDING MAY BE REQUIRED, PARTICULARLY DURING THE ESTABLISHMENT PERIOD.
DETENTION CAN ALSO NEED TO BE REMOVED YEARLY. PERMANENT PLANTINGS MAY BE CUT DOWN ANNUALLY AT THE END OF THE GROWING SEASON.

3. SOIL AMENDMENT & RESTORATION:
THE SOIL RESTORATION PROCEDURE MAY NEED TO BE REPEATED OVER TIME, DUE TO COMPACTION BY USE AND/OR SETTLING.

PCSWM LONG TERM OPERATIONS & 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 THE LONG TERM OPERATION AND MAINTENANCE OF THE PCSWM BMP.

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 PURSUANT TO THE PENALTIES OF 19 P.S.C.A. § 406A 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 DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSWM PLAN.

GENERAL PCSWM NOTES:
1. 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, KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

2. 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 BUILT IN ACCORDANCE WITH 102A AND 102(B) (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS AND PCSWM REQUIREMENTS), THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.

THE NOTICE OF TERMINATION MUST INCLUDE:
(1) THE FACILITY NAME, ADDRESS AND LOCATION
(2) THE OPERATOR NAME AND ADDRESS
(3) THE POINT 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 PCSWM BMPS IN ACCORDANCE WITH 102.8(b) AND PROOF OF COMPLIANCE WITH 102.8(b)(2).

PRIOR TO ACCEPTING THE NOTICE OF TERMINATION, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION.

ALTERATION OF BMPS:
NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE OR ALTER ANY EXISTING STORMWATER BMP, UNLESS IT IS PART OF AN APPROVED MAINTENANCE PROGRAM, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.

NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING OR VEGETATION ON A STORMWATER BMP OR WITHIN A DRAINAGE EASMENT, WHICH WOULD LIMIT OR ALTER THE FUNCTIONING OF THE BMP, WITHOUT WRITTEN APPROVAL OF THE MUNICIPALITY.

CALCULATIONS:
REFER TO THE POST-CONSTRUCTION STORMWATER MANAGEMENT NARRATIVE, PREPARED BY HORIZON ENGINEERING ASSOCIATES, LLC, DATED FEBRUARY 28, 2020, AS LAST REVISED.

STORMWATER FACILITIES OPERATION & MAINTENANCE

POST CONSTRUCTION STORMWATER MANAGEMENT BMPS OVERSIGHT: FOLLOWING CONSTRUCTION AND INSTALLATION OF PERMANENT BMP FACILITIES, AN ONGOING MAINTENANCE AND INSPECTION PROGRAM SHALL BE EMPLOYED ON A PERIODIC BASIS BY THE OWNER, HIS/HERS HEIRS, ASSIGNS OR SUCCESSORS. THE SPECIFIC DETAILS OF THE VARIOUS MAINTENANCE AND INSPECTION REQUIREMENTS ARE DETAILED BELOW.

MAINTENANCE RESPONSIBILITY: DURING CONSTRUCTION, THE SITE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE MAINTENANCE PROCEDURES DETAILED BELOW. UPON COMPLETION OF CONSTRUCTION, FINAL INSPECTION AND WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE RESPONSIBILITY FOR MAINTENANCE OF ALL CONSTRUCTION BMPS SHALL TRANSFER TO THE OWNER OF LAND UPON WHICH A PERMANENT PCSWM BMP SETS OR HIS ASSIGNS OR SUCCESSORS.

RESPONSIBLE PARTY: THE RESPONSIBLE PARTY SHALL BE:
CHECKOUT THE NEXT OWNER
ATTN: THE REVEREND KATHRYN ANDERSON

PERMITTIVITY: THE PCSWM BMP FACILITIES ARE INTRODUCED AS PERMANENT STORMWATER MANAGEMENT FACILITIES AND THEREFORE SHALL BE MAINTAINED FOR PERPETUITY UTILIZING THE FOLLOWING CRITERIA AND A GUIDE: AS STRUCTURES AGE, REPAIRS AND ULTIMATE REPLACEMENT MAY BE NECESSARY. CONSULT WITH A LICENSED PENNSYLVANIA PROFESSIONAL ENGINEER AND/OR THE TOWNSHIP ENGINEER IF ANY RESPONSIBILITIES ARE SUSPECTED TO VIOLATE THE APPROPRIATE CORRECTIVE ACTION.

SEDIMENT DISPOSAL: DURING CONSTRUCTION, SEDIMENT REMOVED FROM PCSWM FACILITIES MAY BE UTILIZED WITHIN AREAS OF CONSTRUCTION, UPON THE CONCLUSION OF CONSTRUCTION, SEDIMENT MAY BE DEPOSITED ON-SITE AND STABILIZED UTILIZING A LANDSCAPING OPERATING AND MAINTENANCE PLAN, OR REMOVED FROM THE SITE AND APPROPRIATELY UTILIZED ELSEWHERE.

PCSWM FACILITY INSPECTION SCHEDULE:
MIN. OCCURRENCE ACTION REQUIRED

1. DETENTION BASIN
EA STORM-11\*
INSPECT STRUCTURES
INSPECT STRUCTURES
INSPECT FOR EROSION
INSPECT FOR EROSION
INSPECT FOR EROSION

2. RAIN GARDEN
12X
INSPECT SEDIMENT ACCUMULATION
INSPECT CONDITION OF GROUND COVER
EVALUATE PLANT HEALTH
INSPECT MULCH LEVEL AND REPLENISH AS NEEDED
INSPECT FOR EROSION AND EXOTIC PLANT SPECIES

3. SOIL AMENDMENT
4 TREE PLANTINGS
INSPECT FOR EROSION & SETTLING
WATERING, PRUNING, WEEDING, FERTILIZING AND INSPECTING FOR PESTS & DISEASE

PCSWM BMP OPERATION & MAINTENANCE PROCEDURES:
1. DRY EXTENDED DETENTION BASIN:
THE FOLLOWING MAINTENANCE ACTIVITIES ARE TO BE PERFORMED ON A QUARTERLY BASIS AT MINIMUM.

2. RAIN GARDENS / BIORIENTATION:
PERIODIC WEEDING MAY BE REQUIRED, PARTICULARLY DURING THE ESTABLISHMENT PERIOD.
DETENTION CAN ALSO NEED TO BE REMOVED YEARLY. PERMANENT PLANTINGS MAY BE CUT DOWN ANNUALLY AT THE END OF THE GROWING SEASON.

3. SOIL AMENDMENT & RESTORATION:
THE SOIL RESTORATION PROCEDURE MAY NEED TO BE REPEATED OVER TIME, DUE TO COMPACTION BY USE AND/OR SETTLING.

PCSWM LONG TERM OPERATIONS & 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 THE LONG TERM OPERATION AND MAINTENANCE OF THE PCSWM BMP.

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 PURSUANT TO THE PENALTIES OF 19 P.S.C.A. § 406A 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 DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSWM PLAN.

GENERAL PCSWM NOTES:
1. 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, KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

2. 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 BUILT IN ACCORDANCE WITH 102A AND 102(B) (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS AND PCSWM REQUIREMENTS), THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.

THE NOTICE OF TERMINATION MUST INCLUDE:
(1) THE FACILITY NAME, ADDRESS AND LOCATION
(2) THE OPERATOR NAME AND ADDRESS
(3) THE POINT 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 PCSWM BMPS IN ACCORDANCE WITH 102.8(b) AND PROOF OF COMPLIANCE WITH 102.8(b)(2).

PRIOR TO ACCEPTING THE NOTICE OF TERMINATION, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION.

ALTERATION OF BMPS:
NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE OR ALTER ANY EXISTING STORMWATER BMP, UNLESS IT IS PART OF AN APPROVED MAINTENANCE PROGRAM, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.

NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING OR VEGETATION ON A STORMWATER BMP OR WITHIN A DRAINAGE EASMENT, WHICH WOULD LIMIT OR ALTER THE FUNCTIONING OF THE BMP, WITHOUT WRITTEN APPROVAL OF THE MUNICIPALITY.

CALCULATIONS:
REFER TO THE POST-CONSTRUCTION STORMWATER MANAGEMENT NARRATIVE, PREPARED BY HORIZON ENGINEERING ASSOCIATES, LLC, DATED FEBRUARY 28, 2020, AS LAST REVISED.

BMP SEQUENCE & CONSTRUCTION KEY

BMPs AS PROPOSED SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE PROJECT PLANS. BMPs SHALL BE OPERATED AND MAINTAINED FOR PERPETUITY IN STRICT ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND IN ACCORDANCE WITH THE "STORMWATER FACILITIES OPERATION & MAINTENANCE" NOTES CONTAINED ON THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN.

THE TIMING OF CONSTRUCTION FOR EACH BMP IS EXPLAINED WITHIN THE "CONSTRUCTION STAGING" NOTES ON THE PROJECT EROSION AND SEDIMENTATION CONTROL PLANS.

SPECIFIC STEPS OF CONSTRUCTION AND IMPERATIVE NOTES FOR EACH BMP ARE CONTAINED WITHIN THE VARIOUS SHEETS OF THE OVERALL PROJECT PCSWM PLAN SET. PLEASE REVIEW THE FOLLOWING INFORMATION SPECIFIC TO EACH BMP PRIOR TO CONSTRUCTION:

1. SURFACE DETENTION BASIN A
"DETENTION BASIN A OUTLET STRUCTURE DETAIL" ON STORM AND CONSTRUCTION DETAILS SHEET
"DETENTION BASIN A ORIFICE PLATE DETAIL" ON STORM AND CONSTRUCTION DETAILS SHEET

CONSTRUCTION SEQUENCE:
1. BASIN A IS AN EXISTING FACILITY AND REQUIRES NO NEW CONSTRUCTION.
2. REMOVE EXISTING TEMPORARY SEDIMENT BASIN COMPONENTS (REMAINANTS) FROM THE ORIGINAL CONSTRUCTION IN THE LATE 1990S) FROM OUTLET BOX AS DESCRIBED ON DETAIL.
3. REMOVE EXISTING SEDIMENT THAT HAS BUILT UP IN FRONT OF THE OUTLET STRUCTURE TO DAYLIGHT OUTLET ORIFICE.

2. RAIN GARDEN A
"RAIN GARDEN DETAIL" ON STORM AND CONSTRUCTION DETAILS SHEET
"UNDERDRAIN DETAIL" ON STORM AND CONSTRUCTION DETAILS SHEET
"RAIN GARDEN DETAIL PLANTING PLAN" ON LANDSCAPE DETAIL SHEET
"PLANTING DETAIL AND NOTES ON LANDSCAPE DETAIL PLAN" ON LANDSCAPE DETAIL SHEET

CONSTRUCTION SEQUENCE:
CONSTRUCT IN ACCORDANCE WITH RAIN "GARDEN CONSTRUCTION NOTES" ON RAIN GARDEN DETAIL.

3. SOIL AMENDMENT
"AMENDED SOIL SPECIFICATION" ON LANDSCAPE DETAIL SHEET
"LOCATION AND PLACEMENT OF AMENDED SOILS ON STORMWATER DETAIL AND GRADING PLAN AND POST CONSTRUCTION STORMWATER MANAGEMENT PLAN" ON LANDSCAPE DETAIL SHEET

CONSTRUCTION SEQUENCE:
CONSTRUCT IN ACCORDANCE WITH "4. COMPOST SOIL AMENDMENT INSTALLATION" NOTES AND ALL PRECEDING INFORMATION CONTAINED WITHIN THE AFOREMENTIONED AMENDED SOIL SPECIFICATIONS.

4. TREE PLANTINGS
"PLANTING NOTES", "GENERAL NOTES", "PLANT SCHEDULES AND DETAILS ON LANDSCAPE DETAIL SHEET
"PLANTING LAYOUT ON LANDSCAPE DETAIL SHEET"
CONSTRUCTION IN ACCORDANCE WITH THE AFOREMENTIONED NOTES, SCHEDULES, DETAILS AND PLAN AND PLACE CONSTRUCTION HAS CONCLUDED IN THE AREA, TOPSOIL IS PLACED AND FINISH GRADING HAS OCCURRED.

THE ABOVE LIST IS NOT EXHAUSTIVE AND DOES NOT INCLUDE ANCILLARY DETAILS, NOTES AND DETAILS. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL INFORMATION CONTAINED IN THE PROJECT PLAN SET AND MANUFACTURERS' WRITTEN INSTRUCTIONS.

PCSWM PLAN COMPLIANCE NOTE

THIS PLAN MINIMIZES EXTENT OF IMPERVIOUS AREA BY CONSTRUCTING THE MINIMAL AMOUNT OF PARKING SPACES. THIS PLAN MAXIMIZES PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION BY REDUCING RATE TO EXISTING DISCHARGE POINTS. THIS PLAN MINIMIZES EXTENT OF LAND CLEARING AND GRADING BY ONLY DISTURBING AREAS NECESSARY FOR CONSTRUCTION.

DURATION OF EARTH DISTURBANCE HAS BEEN LIMITED BY PROVIDING AN EFFICIENT SEQUENCE OF CONSTRUCTION TO THE CONTRACTOR. SOIL CONSTRUCTION IS MINIMIZED BY MINIMIZING THE EXTENT AND DURATION OF CONSTRUCTION ACTIVITIES. THE PLAN UTILIZES A PROPOSED DETENTION BASIN SYSTEM TO CONTROL THE PEAK RATE RUNOFF. EVAPOTRANSPIRATION AND PORE SPACE WITHIN AMENDED SOILS MITIGATES THE 2-YEAR VOLUME INCREASE. WATER QUALITY IS BEING MITIGATED BY RAIN GARDEN AND VEGETATED SWALE.

ALTERATION OF BMPS:

IT SHALL BE UNLAWFUL TO ALTER OR REMOVE ANY PERMANENT STORMWATER BMP REQUIRED BY AN APPROVED BMP OPERATIONS AND MAINTENANCE PLAN, OR TO ALLOW THE PROPERTY TO REMAIN IN A CONDITION WHICH DOES NOT CONFORM TO AN APPROVED BMP OPERATIONS AND MAINTENANCE PLAN, UNLESS AN EXCEPTION IS GRANTED IN WRITING BY THE MUNICIPALITY.

NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE OR ALTER ANY EXISTING STORMWATER BMP, UNLESS IT IS PART OF AN APPROVED MAINTENANCE PROGRAM, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.

NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING OR VEGETATION ON A STORMWATER BMP OR WITHIN A DRAINAGE EASEMENT, WHICH WOULD LIMIT OR ALTER THE FUNCTIONING OF THE BMP, WITHOUT WRITTEN APPROVAL OF THE MUNICIPALITY.

GEOLOGICAL FORMATIONS

THERE ARE NO KNOWN GEOLOGICAL FORMATIONS PRESENT ON THE SITE.

RECYCLING STATEMENT

INDIVIDUALS RESPONSIBLE FOR MAINTENANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS GENERATED AS PART OF LONG-TERM OPERATIONS AND MAINTENANCE OF BMPs INCLUDING, BUT NOT LIMITED TO, SOIL, PLANT TRIMMINGS, TRASH, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL, WHEREVER POSSIBLE, RECYCLING OR REUSE OF WASTE IS PREFERRED, RATHER THAN DISPOSAL.

OWNER INFORMATION

THE SUBJECT PARCEL IS IDENTIFIED BY THE FOLLOWING INFORMATION AS RECORDED IN THE OFFICE FOR RECORDING OF DEEDS, MONTGOMERY COUNTY COURTHOUSE, PENNSYLVANIA.

TOWNSHIP: UPPER SALFORD COUNTY: MONTGOMERY
PARCEL NO. DEED BOOK/PAGE PARCEL AREA
62-00-0023-005 5080 - 492 27.83 Ac.

RECORD OWNER:
CHURCH FOUNDATION THE TRUSTEE
101 MARKET ST #PT 1015
PHILADELPHIA, PA
19103-2328

OWNER'S ACKNOWLEDGEMENT

I, \_\_\_\_\_ OF CHURCH OF THE HOLY SPIRIT, ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED DRAINAGE PLAN AND/OR POST CONSTRUCTION STORMWATER MANAGEMENT PLAN MUST BE APPROVED BY UPPER SALFORD TOWNSHIP AND THE MONTGOMERY COUNTY CONSERVATION DISTRICT.

ENGINEERS'S CERTIFICATION

I, CYNTHIA D. SMITH, P.E., ON THIS DATE, \_\_\_\_\_, HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE PENNSYLVANIA BOROUGHS STORMWATER ORDINANCE.

ACT 287 NOTIFICATION

THE UNDERGROUND UTILITY LINE PROTECTION LAW (ACT 287 OF 1974 AS AMENDED BY ACT 151 OF 1996 AND ACT 199 OF JANUARY 2002)
SITE SERIAL NO. 201903015

LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF THE SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 OF 1974, AS AMENDED BY ACT 181 OF 1996 AND ACT 199 OF JANUARY 2002, CONTRACTORS MUST VERIFY LOCATION OF UNDERGROUND UTILITIES BY NOTIFYING FACILITY OWNERS THROUGH THE ONE-CALL SYSTEM, 1-800-242-3776, NO LESS THAN 3 WORK DAYS PRIOR TO COMMENCING ANY EXCAVATION WORK.

SIGNATURE DATE

ENGINEERS'S CERTIFICATION

I, CYNTHIA D. SMITH, P.E., ON THIS DATE, \_\_\_\_\_, HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE PENNSYLVANIA BOROUGHS STORMWATER ORDINANCE.

ACT 287 NOTIFICATION

THE UNDERGROUND UTILITY LINE PROTECTION LAW (ACT 287 OF 1974 AS AMENDED BY ACT 151 OF 1996 AND ACT 199 OF JANUARY 2002)
SITE SERIAL NO. 201903015

LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF THE SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 OF 1974, AS AMENDED BY ACT 181 OF 1996 AND ACT 199 OF JANUARY 2002, CONTRACTORS MUST VERIFY LOCATION OF UNDERGROUND UTILITIES BY NOTIFYING FACILITY OWNERS THROUGH THE ONE-CALL SYSTEM, 1-800-242-3776, NO LESS THAN 3 WORK DAYS PRIOR TO COMMENCING ANY EXCAVATION WORK.

SIGNATURE DATE

PROJECT MANAGER: MTS
DRAWING FILE NAME: SHL\_PCSWM
PLAN ORIGINATOR DATE: 02-26-20
PLAN SCALE: 1"=30'

PROJECT NUMBER: 23003
SHEET NUMBER: 12 OF 12

Note: These plans are not to be used for construction unless the plan contains a red stamp indicating "issued for construction" by Horizon Engineering Associates, LLC. Horizon Engineering Associates, LLC shall assume no liability for construction performed from plans not containing this stamp.

BID SET - APRIL 12, 2021
PROCESSES SET FOR BIDDING
REVISIONS
DATE
03.26.2021
03.29.2021
04.02.2021
04.05.2021

Horizon ENGINEERING
Civil Engineers | Land Surveyors | Architecture
428 Main Street • Pottsville, PA 18703 • Phone: 207-322-1870 • Fax: 207-322-8679
www.horizoneng.com

PRELIMINARY-FINAL LAND DEVELOPMENT
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (C)
CHURCH OF THE HOLY SPIRIT
UPPER SALFORD, TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA