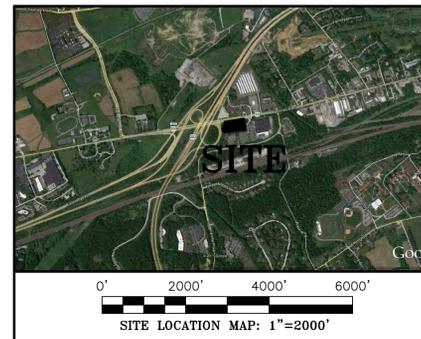


# PRELIMINARY/FINAL PLANS

## ***LOCH AERIE***

East Whiteland Township, Chester County, Pennsylvania



### SHEET INDEX

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SP-9	SITE DETAILS

OWNER  
LOCH AERIE MANSION LLC  
700 LANCASTER AVENUE  
MALVERN, PA. 19355  
610-389-2665

CIVIL ENGINEER AND SURVEYOR  
NePo ASSOCIATES, INC.  
Engineers, Surveyors & Environmental Scientists  
458 EAST KING ROAD  
MALVERN, PA 19355  
(610) 429-0605 FAX: (610) 296-3146

APPLICANT  
NEIL DAVIS  
728 PROVIDENCE ROAD  
MALVERN, PA. 19355  
610-389-2665

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 5/17/18	6/13/18	MWN
2.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 6/25/18	8/16/18	MWN

**GENERAL NOTES:**

- OUTBOUND PROPERTY MONUMENTATION INFORMATION TAKEN FROM ACTUAL FIELD SURVEY PERFORMED BY NEPO ASSOCIATES, INC. IN JUNE 2017. CURRENT DEED RECORDED IN DEED BOOK 9410, PAGE 736. CLOSURE ERROR IS 0.03 FT. IN 20,000 FT. TOTAL PROPERTY CONSISTS OF 2.08 ACS. PLAN BEARINGS BASED ON THE PENNSYLVANIA STATE PLANE. GRID AZIMUTH. BENCHMARK IS AN EXISTING SANITARY SEWER MANHOLE LOCATED TO THE NORTHEAST OF THE PROPERTY WITH ELEVATION 437.65.
- PLANIMETRIC AND TOPOGRAPHIC INFORMATION TAKEN FROM ACTUAL FIELD SURVEY PERFORMED BY NEPO ASSOCIATES, INC. DURING JUNE 2017. PROPERTY, PLANIMETRIC AND TOPOGRAPHIC ELEVATIONS ARE BASED ON UNITED STATES GEODIC SURVEY DATUM.
- THERE ARE NO WATERS OF THE COMMONWEALTH AND/OR WETLANDS ON SITE.
- NO 100 YEAR FLOODPLAIN EXIST ON THE SITE AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP # 42029C01556.
- PROJECT LISTED WITH PENNSYLVANIA ACT 172, SERIAL NUMBER 20180581570. THE FOLLOWING UTILITY COMPANIES WERE NOTIFIED:
  - AQUA PENNSYLVANIA
  - CROWN CASTLE
  - EAST WHITELAND TOWNSHIP
  - COMCAST CABLE
  - PECO ENERGY
  - BUCKEYE PIPELINE
  - VERIZON PENNSYLVANIA INC
  - TRANSCO GAS PIPELINE
  - INTERSTATE ENERGY
  - SUNOCO PIPELINE
- THERE ARE NO EXISTING OR PROPOSED DEED RESTRICTION ON THIS PROPERTY.
- ANY INFORMATION APPEARING ON THESE DRAWINGS AS TO THE UNDERGROUND LINES OF A USER, SUCH AS A PUBLIC UTILITY, HAVE BEEN INCORPORATED HEREON PURSUANT TO PENNSYLVANIA GENERAL ASSEMBLY ACT NO. 172. THIS INFORMATION HAS BEEN PROVIDED BY THE RESPECTIVE USERS LISTED BY THE RECORDER OF DEED OF CHESTER COUNTY, PENNSYLVANIA. NEPO ASSOCIATES, INC. HAS NOT MADE AN INDEPENDENT DETERMINATION WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION AND SPECIFICALLY DISCLAIMS ANY WARRANTY OR REPRESENTATION AS TO THE ACCURACY OF SUCH INFORMATION. ANYONE UTILIZING THESE DRAWINGS FOR CONSTRUCTION IS ADVISED TO CALL 1-800-242-1776 FOR UNDERGROUND UTILITIES PRIOR TO EXCAVATION IN ACCORDANCE WITH PENNSYLVANIA ACT NO. 172.
- ANY SCALED DIMENSION FROM THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION WITHOUT CONFIRMATION BY NEPO ASSOCIATES, INC. (610-429-0605).
- AN AS-BUILT PLAN SHALL BE PROVIDED TO EAST WHITELAND TOWNSHIP WITHIN 90 DAYS OF CONSTRUCTION COMPLETION.
- THE ENTIRE SITE IS NOT UNDERLAIN BY KARST GEOLOGY.
- THE TOWNSHIP SHALL BE GRANTED A 20 FOOT WIDE DRAINAGE EASEMENT OVER ENTIRE PROPERTY FOR THE INSPECTION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM.
- ANY REVISION TO THE APPROVED SWM SITE PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE TOWNSHIP, AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE CONSERVATION DISTRICT OR TOWNSHIP (AS APPLICABLE) FOR A DETERMINATION OF ADEQUACY PRIOR TO THE CONSTRUCTION OF THE REVISED FEATURES.
- PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY, ALL PROPERTY CORNERS SHALL BE LOCATED WITH AN IRON PIN.

**ZONING RELIEF:**

AND NOW, THIS 26TH DAY OF JUNE, 2017, THE FOLLOWING VARIANCES ARE HEREBY GRANTED TO THE APPLICANT, LOCH AERIE MANSION, LLC., IN CONNECTION WITH THE PROPOSED USE AND DEVELOPMENT OF THE SUBJECT PROPERTY AS A BANQUET HALL/SPECIAL EVENTS FACILITY:

- A VARIANCE FROM THE 35-FOOT PERIMETER SETBACK REQUIREMENT, AS SET FORTH IN SECTION 200-34.C AND THE TABLE OF DEVELOPMENT STANDARDS FOR MIXED USE DISTRICTS (ATTACHMENT 7) IS HEREBY GRANTED TO THE APPLICANT, IN ORDER TO ENCRANCH APPROXIMATELY 24 FEET INTO THE REAR YARD SETBACK AREA ADJACENT TO THE SOUTH PROPERTY LINE, SUCH THAT THE PROPOSED ADDITION WOULD BE APPROXIMATELY 11 FEET FROM THE SOUTH PROPERTY LINE, SUBSTANTIALLY AS DEPICTED ON EXHIBIT A-6.
- A VARIANCE FROM THE 30-FOOT FRONT YARD SETBACK REQUIREMENT FOR DRIVEWAYS, INTERIOR ROADWAYS AND PARKING AREAS (AS MEASURED FROM AN ARTERIAL STREET ULTIMATE RIGHT-OF-WAY) IS HEREBY GRANTED TO THE APPLICANT, IN ORDER TO PROVIDE AN INTERNAL DRIVEWAY AND PORTIONS OF PARKING AREAS ENCRANCHING APPROXIMATELY 20 FEET INTO THE FRONT YARD PARKING AND DRIVEWAY SETBACK AREA, SUCH THAT THE DRIVEWAY WOULD BE LOCATED APPROXIMATELY 10 FEET FROM THE LANCASTER AVENUE (ROUTE 30) RIGHT-OF-WAY LINE, SUBSTANTIALLY AS DEPICTED ON EXHIBIT A-6.

THE VARIANCES HEREIN GRANTED ARE EXPRESSLY SUBJECT TO THE APPLICANT'S COMPLIANCE WITH THE FOLLOWING CONDITIONS:

- THE APPLICANT SHALL BE ENTITLED TO UTILIZE A PORTION OF THE EXISTING LOCH AERIE MANSION AS AN APARTMENT DWELLING UNIT, WITH THE REMAINDER OF THE BUILDING AND THE PROPOSED BANQUET HALL/SPECIAL EVENTS FACILITY, AS TESTIFIED BY THE APPLICANT'S REPRESENTATIVE, MR. DAVIS.
- THE PROPOSED ADDITION WILL MAINTAIN A MINIMUM SETBACK FROM THE SOUTH PROPERTY LINE OF 11 FEET.
- THE INTERNAL DRIVEWAY PARALLELING LANCASTER AVENUE SHALL MAINTAIN A SETBACK OF NOT LESS THAN 10 FEET FROM THE NORTH PROPERTY LINE.

THE VARIANCES HEREIN GRANTED ARE EXPRESSLY GRANTED IN THE CONTEXT OF EXHIBIT A-6, THE SITE PLAN DEPICTING THE PROPOSED DEVELOPMENT OF THE PROPERTY, INCLUDING THE PROVISION OF INTERNAL DRIVEWAYS AND 70 PARKING SPACES, PROVIDED THAT AN ADDITIONAL 3 PARKING SPACES WILL BE PROVIDED ON-SITE IN THE CONTEXT OF THE PROPOSED APARTMENT USAGE OF A PORTION OF THE LOCH AERIE MANSION. THE VARIANCES HEREIN GRANTED DO NOT AUTHORIZE THE APPLICANT TO DEVELOP THE PROPERTY SUBSTANTIALLY AS DEPICTED ON EXHIBIT A-7, UTILIZING PARKING SPACES FROM THE HOME DEPOT PROPERTY IN LIEU OF ON-SITE PARKING, UNLESS AND UNTIL THE APPLICANT FILES A NEW APPLICATION FOR A VARIANCE TO AUTHORIZE OFF-SITE PARKING, IN WHICH EVENT, THE APPLICANT SHALL FOLLOW THE GUIDELINES SET FORTH IN OUR FINDING OF FACT NO. 22.

**HISTORIC RESOURCE PRESERVATION NOTES**

REFERRING TO THE CODE OF ORDINANCES OF THE TOWNSHIP OF EAST WHITELAND, CHESTER COUNTY, PENNSYLVANIA, ADOPTED BY ORDINANCE 41-74, MAY 16, 1974 AND REVISED AND AS REVISED PER CHAPTER 101 OF THE ZONING CODE.

A HISTORIC RESOURCE CERTIFICATE OF APPROPRIATENESS SHALL BE SUBMITTED TO THE TOWNSHIP FOR ANY SUBDIVISION, LAND DEVELOPMENT, LAND DISTURBANCE OR EXTERIOR STRUCTURAL ALTERATION (INCLUDING APPLICATION FOR DEMOLITION) OF A RESOURCE OR TO A BUILDING.

THIS PROPERTY CONTAINS A HISTORIC RESOURCE AS IDENTIFIED ON HISTORIC RESOURCE INVENTORY OF EAST WHITELAND TOWNSHIP IDENTIFIED AS HISTORIC RESOURCE HRP #3, WHICH IS KNOWN AS LOCH AERIE MANSION.

**ZONING INFORMATION: AREA AND BULK REQUIREMENTS**

R.O.C. REGIONALLY ORIENTED COMMERCIAL DISTRICT

DESCRIPTION	REQUIRED	EXISTING	PROPOSED
LOT AREA	30 AC.	2.08 AC.	2.08 AC.
LOT WIDTH			
⊙ RIGHT-OF-WAY	100 FT.	322.83 FT.	322.83 FT.
⊙ BUILDING SETBACK	150 FT.	414.0 FT.	414.0 FT.
YARD REQUIREMENTS			
ADJ. TO ARTERIAL STREET	60 FT.	103.08 FT.	103.08 FT.
ADJ. TO COLLECTOR STREET	20 FT.	N/A	N/A
ADJ. TO RESIDENTIAL	100 FT.	N/A	N/A
ADJ. TO ALL OTHER BOUNDARY	30 FT.	48.19 FT.	11.19 FT.*
IMPERVIOUS COVERAGE	65% MAX.	5.1%	17.6%
BUILDING COVERAGE	40% MAX.	3.3%	7.4%
PARKING SETBACK	30 FT.	N/A	11.00*

\* VARIANCE GRANTED AS IDENTIFIED IN "ZONING RELIEF", THIS SHEET

**PARKING REQUIREMENT TABLE**

DESCRIPTION	REQUIREMENT	REQUIRED
APARTMENT (1 UNIT)	3 PER DWELLING UNIT*	3
OFFICES (1,750 SF)	1 PER 250 SF GFA	7
BANQUET HALL (6,300 SF)	1 PER 100 SF GFA**	63
	TOTAL REQUIRED	73
	TOTAL PROVIDED	73
PROPOSED PARKING STALLS	67	
PROPOSED HANDICAP STALLS	6 (8.2% OF TOTAL STALLS)	
TOTAL PARKING PROVIDED	73	

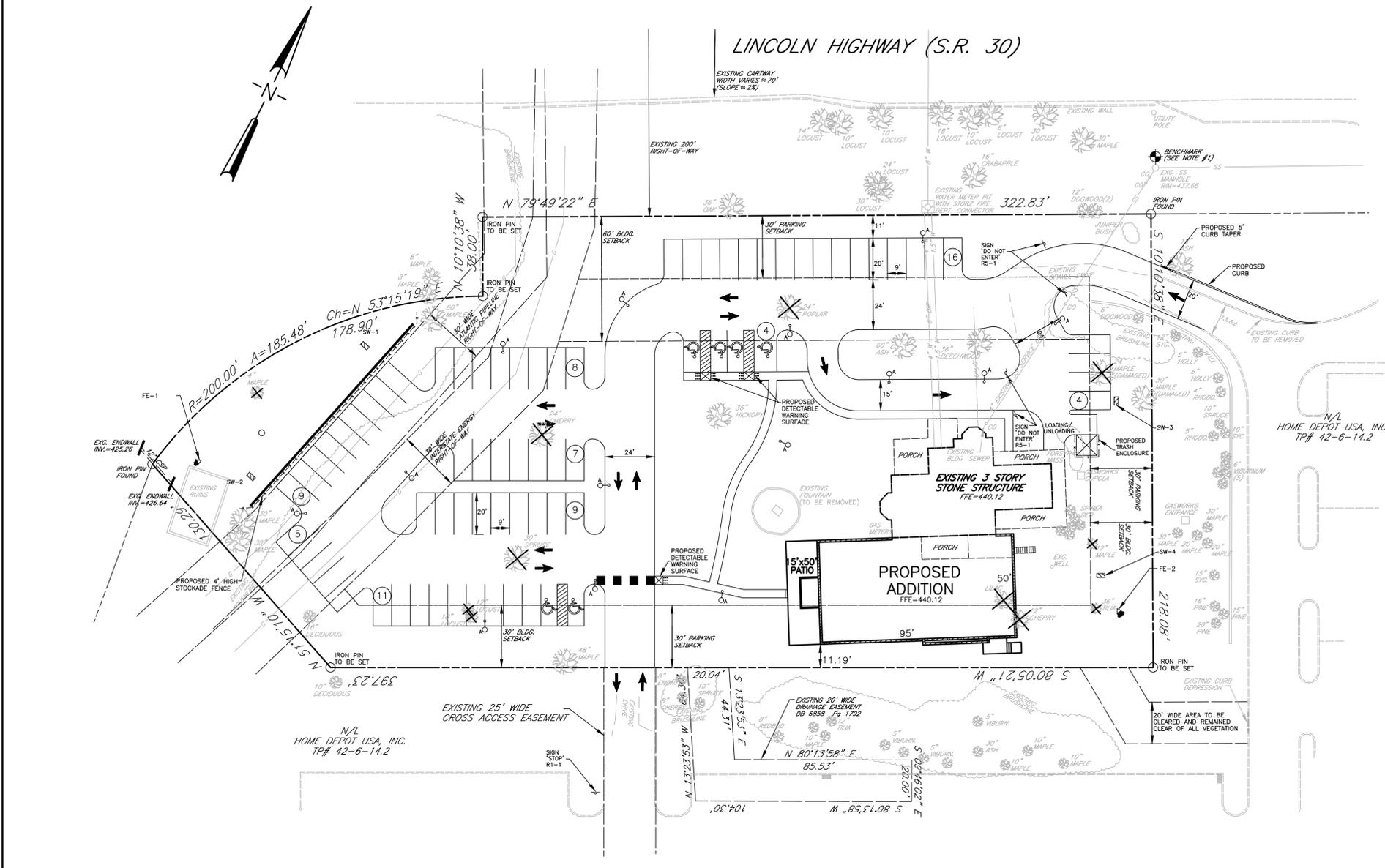
\* ORDINANCE LISTS NO APARTMENT CATEGORY, USED MOST CONSERVATIVE RESIDENTIAL OPTION

\*\* ORDINANCE LISTS NO BANQUET HALL CATEGORY, USED MOST CONSERVATIVE RESTAURANT CATEGORY AS DIRECTED BY TOWNSHIP TRAFFIC ENGINEER



**LEGEND**

- PROPERTY LINE
- BUILDING SETBACK LINE
- ⊙ PARKING STALL COUNT



**CERTIFICATIONS**

**OWNER:**  
STATE OF PENNSYLVANIA  
COUNTY OF CHESTER  
By: \_\_\_\_\_  
ATTEST: \_\_\_\_\_  
ON THIS, THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, BEFORE ME, THE UNDERSIGNED OWNER PERSONALLY APPEARED \_\_\_\_\_ WHO, BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS HE IS THE OWNER OF THE PROPERTY THESE FINAL PLANS ARE MADE WITH HIS FREE CONSENT AND THAT IT IS DESIRED TO RECORD THE SAME.

OWNER \_\_\_\_\_  
OWNER \_\_\_\_\_  
NOTARY PUBLIC \_\_\_\_\_

**ENGINEER:**  
THESE PLANS ARE PREPARED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE COMMONWEALTH OF PENNSYLVANIA, CHESTER COUNTY AND THE TOWNSHIP OF EAST WHITELAND WITH THE FOLLOWING WAIVER REQUESTS:

SECTION	REQUIREMENT DESCRIPTION
170-306.K.4	INFILTRATION SETBACK OF 20 FEET FROM PROPERTY LINE
170-310.8.17	OUTFALL PIPE, DIAMETER, TRASH RACK AND ANTI-VORTEX DEVICE
175-23C	PREPARATION OF STUDIES
175-31A	MINIMUM DRIVEWAY WIDTH OF 20 FEET

**ZONING**  
SEE ZONING RELIEF, THIS SHEET

DANIEL POPPLEWELL, P.E.  
PE - 039244 - E

**SURVEYOR:**  
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED FROM AN ACTUAL FIELD SURVEY PERFORMED BY ME IN ACCORDANCE WITH THE "MINIMUM STANDARDS OF PRACTICE FOR PROFESSIONAL LAND SURVEYORS IN THE COMMONWEALTH OF PENNSYLVANIA" AS ADOPTED BY THE PENNSYLVANIA SOCIETY OF LAND SURVEYORS AND THAT ALL THE EXISTING MONUMENTS, PIPES, STONES, ETC. ARE AS SHOWN.

LESLIE P. GIERSCH  
SU-049227-E

**BOARD OF SUPERVISORS:**  
REVIEWED BY RESOLUTION OF THE BOARD OF SUPERVISORS OF EAST WHITELAND TOWNSHIP THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

(CHAIRMAN) \_\_\_\_\_  
(VICE CHAIR) \_\_\_\_\_  
(SUPERVISOR) \_\_\_\_\_

**PLANNING COMMISSION:**  
REVIEWED BY THE EAST WHITELAND TOWNSHIP PLANNING COMMISSION, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

CHAIRMAN \_\_\_\_\_  
MEMBER \_\_\_\_\_

**TOWNSHIP ENGINEER:**  
REVIEWED BY THE EAST WHITELAND TOWNSHIP ENGINEER, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

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

**RECORDER OF DEEDS:**  
RECORDER IN THE OFFICE OF THE RECORDER OF DEEDS OF CHESTER COUNTY, WEST CHESTER, PA IN PLAN BOOK \_\_\_\_\_ PAGE \_\_\_\_\_ ON THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

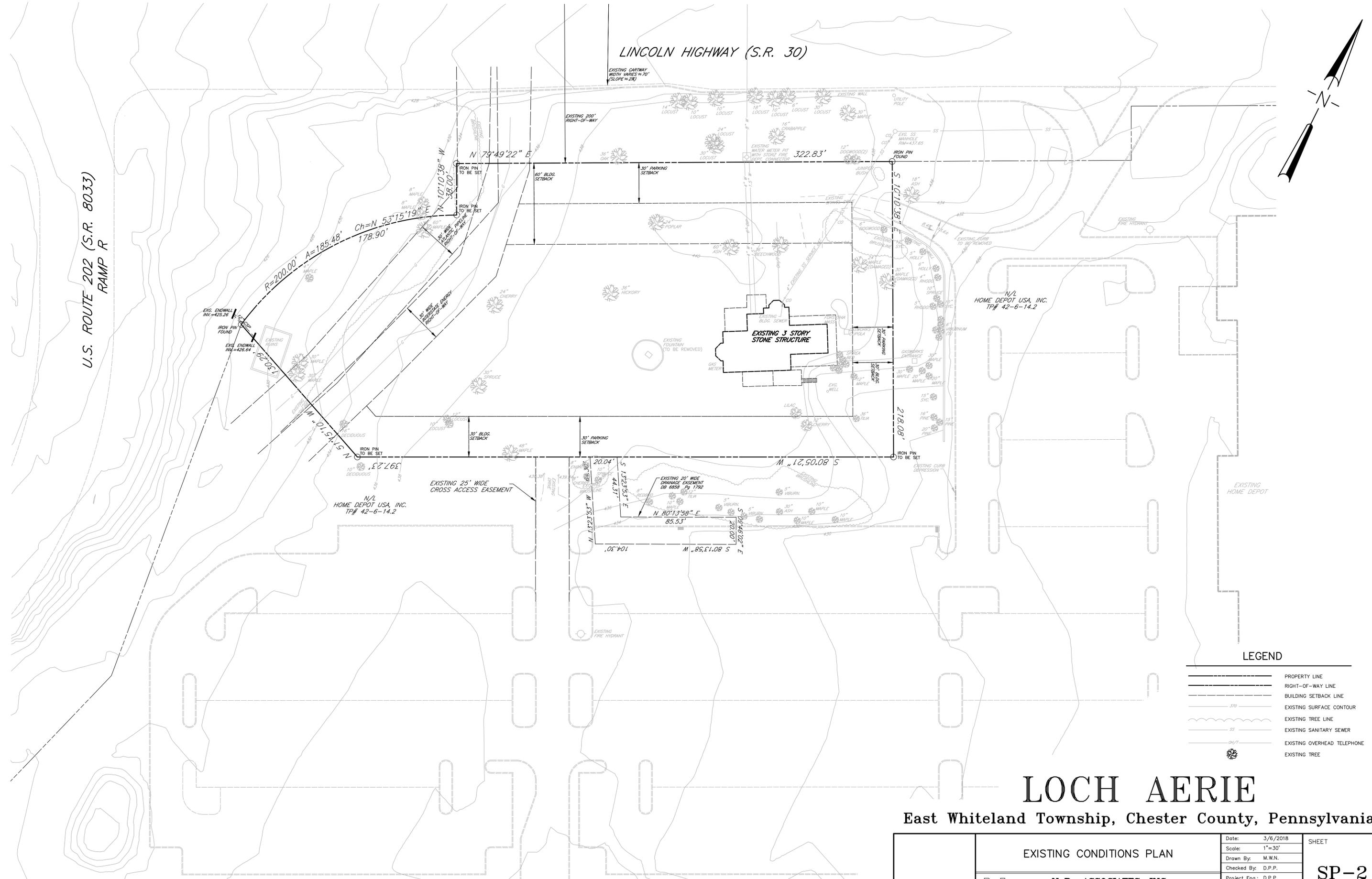
DEPUTY RECORDER OF DEEDS \_\_\_\_\_

# LOCH AERIE

## East Whiteland Township, Chester County, Pennsylvania

<p><b>NePo ASSOCIATES, INC.</b> Engineers, Surveyors &amp; Environmental Scientists 458 E. KING ROAD MALVERN, PA 19355 (610) 429-0605 FAX(610) 296-3146</p>	<p>Date: 3/6/2018</p> <p>Scale: 1"=30'</p> <p>Drawn By: M.W.N.</p> <p>Checked By: D.P.P.</p> <p>Project Eng.: D.P.P.</p> <p>Project No.: 096-09</p> <p>Dwg. No.: 096-09-SP1</p> <p>Issued:</p>	<p>SHEET</p> <p><b>SP-1</b></p> <p>OF 9</p>
	<p><b>SITE LAYOUT PLAN</b></p>	

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 5/17/18	6/13/18	MWN
2.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 6/25/18	8/16/18	MWN



U.S. ROUTE 202 (S.R. 8033)  
RAMP R

LINCOLN HIGHWAY (S.R. 30)

EXISTING 3 STORY  
STONE STRUCTURE

N/L HOME DEPOT USA, INC.  
TP# 42-6-14.2

N/L HOME DEPOT USA, INC.  
TP# 42-6-14.2

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- BUILDING SETBACK LINE
- EXISTING SURFACE CONTOUR
- EXISTING TREE LINE
- EXISTING SANITARY SEWER
- EXISTING OVERHEAD TELEPHONE
- EXISTING TREE

# LOCH AERIE

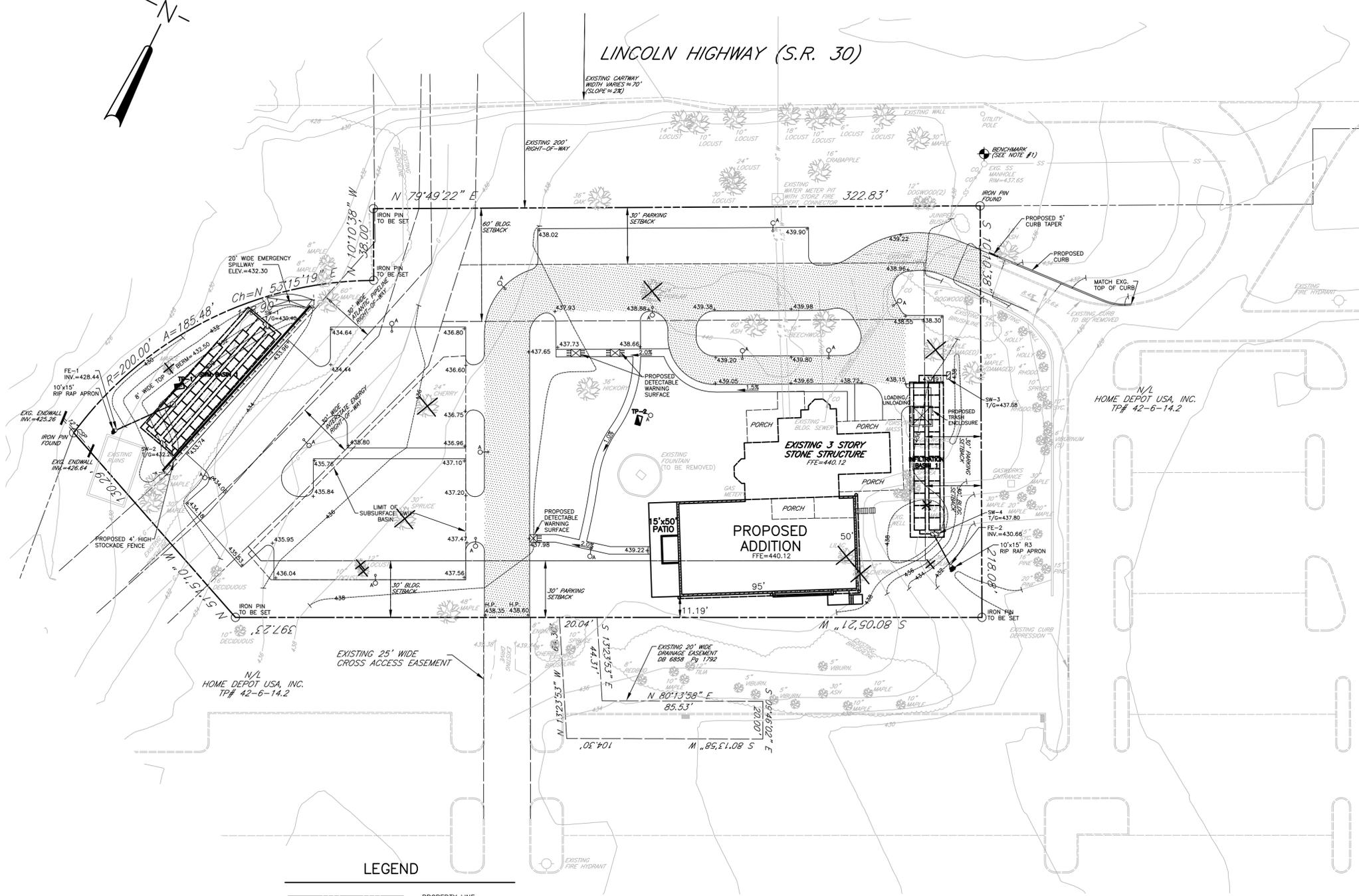
East Whiteland Township, Chester County, Pennsylvania

	EXISTING CONDITIONS PLAN	Date: 3/6/2018	SHEET  <b>SP-2</b>  OF 9
	<b>NePo ASSOCIATES, INC.</b> Engineers, Surveyors & Environmental Scientists 456 E. KING ROAD MALVERN, PA 19355 (610) 429-0605 FAX(610) 296-3146	Scale: 1"=30' Drawn By: M.W.N. Checked By: D.P.P. Project Eng.: D.P.P. Project No.: 096-09 Dwg. No.: 096-09-SP2 Issued:	

**GENERAL NOTES**

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- THERE ARE NO WATERS OF THE COMMONWEALTH AND/OR WETLANDS ON SITE.
- NO 100 YEAR FLOODPLAIN EXIST ON THE SITE AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP # 42029C0155G.
- PROJECT LISTED WITH PENNSYLVANIA ACT 172, SERIAL NUMBER 20163271953. THE FOLLOWING UTILITY COMPANIES WERE NOTIFIED:
  - AQUA PENNSYLVANIA
  - CROWN CASTLE
  - EAST WHITELAND TOWNSHIP
  - COMCAST CABLE
  - PECO ENERGY
  - BUCKEYE PIPELINE
  - VERIZON PENNSYLVANIA INC
  - TRANSOCO GAS PIPELINE
  - INTERSTATE ENERGY
  - SUNOCO PIPELINE
- THERE ARE NO EXISTING OR PROPOSED DEED RESTRICTION ON THIS PROPERTY.
- ANY INFORMATION APPEARING ON THESE DRAWINGS AS TO THE UNDERGROUND LINES OF A USER, SUCH AS A PUBLIC UTILITY, HAVE BEEN INCORPORATED HEREON PURSUANT TO PENNSYLVANIA GENERAL ASSEMBLY ACT NO. 172. THIS INFORMATION HAS BEEN PROVIDED BY THE RESPECTIVE USERS LISTED BY THE RECORDER OF DEED OF CHESTER COUNTY, PENNSYLVANIA. NEPO ASSOCIATES, INC. HAS NOT MADE AN INDEPENDENT DETERMINATION WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION AND SPECIFICALLY DISCLAIMS ANY WARRANTY OR REPRESENTATION AS TO THE ACCURACY OF SUCH INFORMATION. ANYONE UTILIZING THESE DRAWINGS FOR CONSTRUCTION IS ADVISED TO CALL 1-800-242-1776 FOR UNDERGROUND UTILITIES PRIOR TO EXCAVATION IN ACCORDANCE WITH PENNSYLVANIA ACT NO. 172.
- ANY SCALED DIMENSION FROM THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION WITHOUT CONFIRMATION BY NEPO ASSOCIATES, INC. (610-429-0605).
- WATER SERVICE IS PUBLIC WATER PROVIDED BY AQUA PA.
- SANITARY SEWER SERVICE PROVIDED BY EAST WHITELAND TOWNSHIP.
- THE APPLICANT WILL BEGIN CONSTRUCTION WITHIN 1 YEAR.
- THIS APPLICATION IS DEVELOPED UNDER EAST WHITELAND TOWNSHIP ZONING DISTRICT: ROC REGIONALLY ORIENTED COMMERCIAL DISTRICT
- INsofar AS PRACTICAL AND TO THE FULLEST EXTENT POSSIBLE, ALL UTILITIES SHALL BE INSTALLED UNDERGROUND IN ACCORDANCE WITH THE EAST WHITELAND TOWNSHIP CODE OR ORDINANCES.
- A GRADING PERMIT SHALL BE OBTAINED FROM THE TOWNSHIP BEFORE ANY GRADING OR CLEARING HAS COMMENCED OR A BUILDING PERMIT HAS BEEN ISSUED, AS SET FORTH BY THE EAST WHITELAND TOWNSHIP CODE OR ORDINANCES.
- CONSERVATION OF TREES SHALL BE IN ACCORDANCE WITH THE EAST WHITELAND TOWNSHIP CODE OF ORDINANCES.
- SOIL CLASSIFICATION FOR THE ENTIRE SITE IS: C1B, Conestoga Silt Loam 3-8% slopes.
- PRIOR TO START OF INSTALLATION, CONTRACTORS ARE TO ACCURATELY FIELD MEASURE THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITY LINES AT PROPOSED CONNECTIONS. CONTRACTORS ARE TO IMMEDIATELY NOTIFY NEPO ASSOCIATES, INC. (610-429-0605) OF ANY DEVIATIONS FROM PLAN INFORMATION.
- EARTHWORK CRITERIA:
  - FILL SOILS:
    - FILL MATERIALS SHALL BE IN ACCORDANCE WITH ASTM D-2487. THE MAXIMUM PARTICLE SIZE FOR THE FILL IS THREE (3) IN, WHERE FILL CONSISTS OF ROCKY MATERIAL. SUCH MATERIAL SHALL BE WELL DISTRIBUTED THROUGHOUT THE FILL. FILL CONTAINING TOPSOIL, BRUSH, SOD, PEAT, ROOTS OR OTHER ORGANIC, PERISHABLE OR DELETERIOUS MATTER, INCLUDING, BUT NOT LIMITED TO SNOW, ICE OR FROZEN SOILS, SHALL BE CONSIDERED UNSUITABLE MATERIAL FOR USE IN THE REINFORCED ZONE AND SHALL BE REMOVED.
    - FILL MATERIALS SHALL BE OBTAINED FROM ON-SITE EXCAVATIONS, AND SHALL BE WELL GRADED WITH A MAXIMUM PARTICLE SIZE OF THREE INCHES, AND SHALL CONFORM TO ASTM D-2487 GROUP SYMBOL ML, CL, SM, OR SC. FILL SHALL HAVE A MAXIMUM PLASTICITY INDEX OF 30.
  - FILL PLACEMENT:
    - PRIOR TO FILL PLACEMENT, THE CONTRACTOR SHALL CLEAR AND GRUB THE FILL ZONE AREA, REMOVING TOPSOIL, STUMPS, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIALS.
    - PLACE AND COMPACT FILL MATERIAL IN EQUAL CONTINUOUS LAYERS NOT EXCEEDING THICKNESS OUTLINED BELOW AND COMPACT TO 95% MAXIMUM DRY DENSITY, STANDARD PROCTOR, IN ACCORDANCE TO ASTM D698. MAINTAIN OPTIMUM MOISTURE CONTENT OF FILL MATERIALS TO ATTAIN REQUIRED COMPACTION DENSITY.
    - ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN THREE FEET OF STRUCTURE.
    - FILL MATERIAL SHOULD BE PLACED AT THE FOLLOWING THICKNESS AND COMPACTED AS SPECIFIED:
      - FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING EIGHT (8) INCHES IN COMPACTED THICKNESS FOR HEAVY COMPACTION EQUIPMENT.
      - FOR ZONES COMPACTED WITH HAND-OPERATED EQUIPMENT, FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING FOUR (4) INCHES IN COMPACTED THICKNESS. SELECT FILL SHALL BE COMPACTED WITH THREE PASSES OF A VIBRATORY PLATE COMPACTOR.
      - WHERE EXISTING SLOPES ARE 4H:1V OR STEEPER, THE EXISTING SLOPE SHALL BE BENCHMARKED TO PROVIDE HORIZONTAL FILL SUBGRADES. BENCH HEIGHTS SHOULD NOT EXCEED FOUR (4) FEET.
      - COMPACTION SHALL BE PERFORMED, IN ACCORDANCE WITH ASTM D1556, D2922, AND D3017.
      - ALL STORM DRAINAGE PIPES AND FITTINGS SHALL BE REINFORCED CONCRETE WITH BELL AND SPIGOTED GASKETED JOINTS OR APPROVED EQUAL BY THE TOWNSHIP ENGINEER.

- ALL STORM MANHOLES, INLETS AND ENDWALLS SHALL BE PRECAST CONCRETE AND CONFORM TO LATEST PADOT FORM 408 AND RC STANDARDS.
- ALL SANITARY SEWER RELATED CONSTRUCTION MATERIALS, MEANS, METHODS, TESTING & PROCEDURES SHALL BE IN ACCORDANCE WITH EAST WHITELAND TWP STANDARD SPECS FOR CONSTRUCTION OF SANITARY SEWERS & APPURTENANCES BEARING A SHEET DATE OF MAY 9, 2013.
- REFER TO SECTION 4 OF THE EAST WHITELAND TWP STANDARD SPECS SEWERS & APPURTENANCES BEARING A COVER DATE OF MAY 9, 2013 FOR HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS BETWEEN SANITARY SEWER AND OTHER UNDERGROUND UTILITIES.
- MUNICIPAL REGULATIONS, POLICIES AND STANDARDS MUST BE MET AND SUPERSEDE ALL CONTRACT DOCUMENTS UNLESS OTHERWISE NOTED.
- LIMITS OF DISTURBANCE ARE SET FROM CONSTRUCTION IMPROVEMENT PLANS PREPARED BY NEPO ASSOCIATES, INC. THE CLEARING OF TREES SHALL BE WITHIN THE LIMITS OF CLEARING SHOWN ON THE PLAN. IT IS PROPOSED TO CLEAR THE EXISTING VEGETATION, INCLUDING WOODED AREAS, IN ACCORDANCE WITH THE CONSTRUCTION IMPROVEMENT PLAN. CONTRACTOR TO MARK IN FIELD ALL TREES TO BE REMOVED AND LIMITS OF CLEARING FOR INSPECTION BY EAST WHITELAND TOWNSHIP PRIOR TO ANY REMOVAL.
- PROTECTION OF VEGETATION DURING CONSTRUCTION:
  - ALL WOODED VEGETATION TO BE RETAINED ON A DEVELOPMENT SITE SHALL BE PROTECTED BY THE ERECTION OF A SNOW FENCE OR OTHER MEANS APPROVED BY THE TOWNSHIP ENGINEER, AT THE DRIP LINE IF THAT LINE IS WITHIN TWENTY-FIVE (25) FEET OF ANY PROPOSED DISTURBED AREAS.
  - CONSTRUCTION EQUIPMENT OPERATORS SHALL MINIMIZE DAMAGE TO EXISTING TREE TRUNKS AND ROOT SYSTEMS. ROOTS SHALL NOT BE CUT OR DAMAGED WITHIN THE AREAS CIRCUMSCRIBED BY THE DRIP LINE OF ANY TREE TO BE RETAINED.
  - TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING CONSTRUCTION SHALL BE PROTECTED FROM FURTHER DAMAGE BY FENCING OR OTHER STRUCTURAL BARRIER. TREATMENT OF DAMAGED AREAS SHALL BE DICTATED BY THE NATURE OF THE INJURY. BARK SHALL BE CUT BACK TO A POINT WHERE IT IS INTACT AND TIGHT TO THE TREE. EXPOSED ROOTS SHALL BE CLEANED OF DEBRIS AND COVERED WITH TOPSOIL.
  - TREES SHALL NOT BE USED FOR ROPING, CABLES, SIGNS, OR FENCING. NAILS OR SPIKES SHALL NOT BE DRIVEN INTO TREES.
  - THE AREA AROUND THE BASE OF THE EXISTING VEGETATION TO BE RETAINED SHALL BE LEFT OPEN. NO EARTH MOVING, IMPERVIOUS COVER, OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS OR FILL SHALL BE ALLOWED WITHIN THE DRIP LINE OF ANY VEGETATION OR TREE TO BE RETAINED.
  - GRADING CHANGES PROPOSED FOR ANY LAND DEVELOPMENT SITE SHALL NOT RESULT IN AN ALTERATION TO SOIL OR DRAINAGE CONDITIONS WHICH WOULD ADVERSELY AFFECT VEGETATION TO BE RETAINED FOLLOWING SITE DISTURBANCE UNLESS ADEQUATE PROVISION ARE MADE TO PROTECT SUCH VEGETATION AND ITS ROOT SYSTEM.
  - TRENCHES DUG FOR UTILITY LINES OR SIMILAR PURPOSES SHALL MINIMIZE DISTURBANCE TO THE ROOT ZONES OF ALL VEGETATION TO BE RETAINED ON A LAND DEVELOPMENT SITE.
  - IF TRENCHES MUST BE EXCAVATED IN THE ROOT ZONE, ALL DISTURBED ROOTS SHALL BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH SHALL BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING SOIL COMPACTION NEAR THE AFFECTED ROOTS.
- ALL LANDSCAPED AREAS INITIALLY TO BE SEEDED IN ACCORDANCE WITH GENERAL CONSERVATION NOTES.
- INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES I.E. CLEANING THE SOIL/SEDIMENT FROM THE FABRIC, STONE, BED, ETC. AND/OR REPLACEMENT OF THE FABRIC AND STONE SHOULD BE ADDRESSED.
- ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.
- THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
- TEMPORARY VEGETATION AND/OR MULCHING SHALL BE USED TO PROTECT CRITICAL AREAS DURING DEVELOPMENT. CRITICAL AREAS SHALL BE CONSTRUED TO MEAN THOSE PORTIONS OF THE SITE WHICH ARE EXTREMELY VULNERABLE TO SOIL EROSION.
- THE ENTIRE SITE IS NOT UNDERLAIN BY KARST GEOLOGY.
- DEVELOPER SHALL APPLY FOR A SEWER CONNECTION PERMIT CONCURRENTLY WITH THE BUILDING PERMIT APPLICATION FOR THE PROJECT.
- THE TOWNSHIP SHALL BE GRANTED A 20 FOOT WIDE DRAINAGE EASEMENT OVER ALL STRUCTURES/COMPONENTS OF THE STORMWATER MANAGEMENT SYSTEM WHEN THE SYSTEM IS LOCATED WITHIN UNDEDICATED LANDS.
- THE SANITARY SEWER LATERAL AND THE BUILDING SEWER ARE EXISTING FEATURES AND WILL CONTINUE TO BE UTILIZED BY THE EXISTING STRUCTURE AND PROPOSED ADDITION.
- THE EXISTING TOWNSHIP SANITARY SEWER SYSTEM CAN ACCOMMODATE THE INCREASE IN SANITARY FLOW FROM THE PROJECT WITHOUT THE CREATION OF A HYDRAULIC OVERLOAD WITHIN THE NEXT FIVE (5) YEARS, CONDITIONED UPON THE COMPLETION OF AT LEAST ONE (1) OF THE FOLLOWING PROJECTS TO ULTIMATELY ELIMINATE AN EXISTING DOWNSTREAM CAPACITY ISSUE ALONG ROUTE 30:
  - SUBSTANTIAL COMPLETION OF THE CONSTRUCTION PHASE OF THE PLANEBOOK ROAD REGIONAL PUMP STATION, WHICH INCLUDES CONNECTION TO THE SANITARY SEWER LOCATED WITHIN THE CHESTER VALLEY TRAIL NEAR PHOENIXVILLE PIKE.
  - EXTENSION OF THE EXISTING SANITARY SEWER ACROSS THE CHESTER VALLEY GOLF COURSE, WHICH WILL ALLOW THE EXISTING CHURCH ROAD PUMP STATION TO BE TAKEN OFF LINE.



**LEGEND**

	PROPERTY LINE
	RIGHT-OF-WAY LINE
	BUILDING SETBACK LINE
	EXISTING SURFACE CONTOUR
	PROPOSED SURFACE CONTOUR
	EXISTING TREE LINE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING OVERHEAD TELEPHONE
	EXISTING TREE
	EXISTING TREE TO BE REMOVED
	PROPOSED HEAVY DUTY PAVEMENT

# LOCH AERIE

East Whiteland Township, Chester County, Pennsylvania

<p><b>NePo ASSOCIATES, INC.</b> Engineers, Surveyors &amp; Environmental Scientists 458 E. KING ROAD MALVERN, PA 19355 (610) 429-0605 FAX(610) 296-3146</p>	<p>Date: 3/6/2018</p> <p>Scale: 1"=30'</p> <p>Drawn By: M.W.N.</p> <p>Checked By: D.P.P.</p> <p>Project Eng.: D.P.P.</p> <p>Project No.: 096-09</p> <p>Dwg. No.: 096-09-SP3</p> <p>Issued:</p>	<p>SHEET</p> <p><b>SP-3</b></p> <p>OF 9</p>
	<p>PE -39244-E</p>	

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 5/17/18	6/13/18	MWN
2.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 6/25/18	8/16/18	MWN

**GENERAL CONSERVATION NOTES:**

**INTENT OF CONSERVATION PROGRAM:**

THE INTENT OF THIS PROGRAM IS TO PREVENT ACCELERATED EROSION OF THE EXPOSED SITE SOILS DURING THE CONSTRUCTION AND PERMANENT LIFE PERIODS OF THE DEVELOPMENT. THE PROGRAM REQUIRES RETENTION OF ALL SEDIMENTS ON THE CONSTRUCTION SITE TO MINIMIZE THE IMPACT OF DEVELOPMENT ON EXISTING STREAMS AND ADJACENT PROPERTY OWNERS. THESE OBJECTIVES WILL BE ACHIEVED BY MINIMIZING THE EXPOSURE TIME OF POTENTIALLY ERODIBLE SOILS TO RUNOFF AND INSTALLATION OF THE TEMPORARY AND PERMANENT CONSERVATION PRACTICES IN PROPER SEQUENCE WITH CONSTRUCTION. THE INTENT OF THIS PROGRAM SHOULD BE UNDERSTOOD AND IMPLEMENTED THROUGHOUT THE ENTIRE DEVELOPMENT. THE VARIOUS CONSTRUCTION TRADES SHOULD BE APPRISED OF THIS PROGRAM AND DIRECTED TO PREVENT UNDUE DISTURBANCE OF PREPARED AND PROTECTED SURFACES.

**SURFACE STABILIZATION CRITERIA:**

ALL DENUDED SOIL SURFACES, INCLUDING SOIL STOCKPILES, ARE SUBJECT TO EROSION AND SHALL BE STABILIZED IMMEDIATELY EITHER AS TEMPORARILY OR PERMANENT COVER IN ACCORDANCE WITH SPECIFICATIONS BELOW. CRUSHED STONE ON PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MAY BE SEEDED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCHED AT A RATE OF 2-3 BALES/1000 SF OR 3 TONS/ACRE. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE SEEDED WITH A PERMANENT SEED MIXTURE AND MULCHED AT A RATE OF 2-3 BALES/1000 SF OR 3 TONS/ACRE. DURING NON-GERMINATION PERIODS, MULCH SHALL BE APPLIED AT A RATE OF 2-3 BALES/1000 SF OR 3 TONS/ACRE. GERMINATION PERIODS SHALL BE FROM APRIL 1ST TO JUNE 15TH AND AUGUST 15TH TO OCTOBER 15TH. AT THE BEGINNING OF THE NEXT GERMINATION PERIOD, MULCHED AREAS SHALL BE LIMED, FERTILIZED, SEEDED, WITH EITHER A TEMPORARY OR PERMANENT SEED MIXTURE, AND REMULCHED AT A RATE OF 2-3 BALES/1000 SF OR 3 TONS/ACRE. ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

**A. TEMPORARY COVER ON DISTURBED AREAS:**

DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MAY BE SEEDED AND MULCHED WITH A TEMPORARY COVER. PREPARATION OF THE SURFACE, FERTILIZATION AND SEEDING WITH EITHER ANNUAL OR WINTER RYE GRASS SHALL BE DONE IN COMPLIANCE WITH THE DELAWARE COUNTY SOIL CONSERVATION DISTRICT (DCCD) STANDARD FOR "TEMPORARY COVER FOR CRITICAL AREAS." GROUND LIMESTONE SHALL BE APPLIED AT THE RATE OF 190 LBS/1,000 SF FERTILIZER FOR TEMPORARY STABILIZATION SHALL BE APPLIED AT A RATE OF 50-50-50 PER ACRE. THE FERTILIZER AND LIMESTONE SHALL BE WORKED INTO THE SOIL TO A DEPTH OF FOUR (4) INCHES PRIOR TO SEEDING. ANNUAL RYEGRASSES SHALL BE APPLIED AT A RATE OF 1.5 LB/1,000 SF AND WINTER RYE AT A RATE OF 3.5 LBS/1,000 SF AND MULCHED WITH HAY OR STRAW AT A RATE OF 2-3 BALES/1000 SF OR 3 TONS/ACRE AND NON ASPHALTIC EMULSION, IN ACCORDANCE WITH THE DCCD STANDARD "MULCHING".

**B. PERMANENT COVER ON DISTURBED AREAS:**

DISTURBED AREAS WHICH ARE EITHER FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED WITH A PERMANENT COVER. ALL LANDSCAPED AREAS PLANNED TO BE MAINTAINED SHOULD BE TOPSOILED WITH A MINIMUM OF 4" OF ON-SITE TOPSOIL, SEEDED WITH A TURFGRASS MIXTURE WHICH CONTAINS EITHER 15-20% PENN FINE OR MANHATTAN RYE GRASS, OR 2% RED TOP. GROUND LIMESTONE SHALL BE APPLIED AT THE RATE OF 190 LBS/1000 SF OR 4 TO 6 TONS/ACRE. THE FERTILIZER AND LIMESTONE SHALL BE WORKED INTO THE SOIL TO A DEPTH OF FOUR (4) INCHES PRIOR TO SEEDING. FERTILIZER 10-20-20 FOR PERMANENT STABILIZATION MINIMUM IS 930 LBS/ACRE PER PENN STATE AGRONOMY GUIDE. PERMANENT VEGETATION ON AREAS WHICH WILL NOT BE REGULARLY MAINTAINED SHALL BE TOPSOILED WITH A MINIMUM OF 4" OF ON-SITE TOPSOIL, SEEDED WITH A MIXTURE OF KENTUCKY 31 TALL FESCUE (88%) AND RED TOP (12%) AT RATES OF 1.5 LBS/1000 SF AND 4 LBS/1000 SF IN NORMAL LANDSCAPING AREAS AND DRAINAGEWAYS RESPECTIVELY. KENTUCKY 31 TALL FESCUE TO BE ENDOPHYTE FREE. ENDOPHYTE FREE FAWN OR JOHNSTONE TALL FESCUE MAY BE SUBSTITUTED IF K31 ENDOPHYTE FREE IS NOT AVAILABLE. PREPARATION OF THE SEEDBED, FERTILIZATION AND MAINTENANCE SHALL BE DONE IN ACCORDANCE WITH APPLICABLE DCCD STANDARDS AND THE ADVICE OF THE PENNSYLVANIA STATE UNIVERSITY AGRICULTURAL EXTENSION SERVICE. NEW SEEDINGS ON FLAT AND MILD SLOPE AREAS SHALL BE MULCHED WITH STRAW AT A RATE OF 2-3 BALES/1000 SF OR 3 TONS/ACRE. NEW SEEDINGS ON SLOPES AND WITHIN MODERATE DRAINAGE CHANNELS, SHALL BE SIMILARLY MULCHED WITH STRAW, AND RUNOFF DIVERTED FROM THE SEED BEDS UNTIL GRASS IS ESTABLISHED. APPLICABLE DCCD STANDARDS FOR "PERMANENT SEED AND LEGUME COVER ON CRITICAL AREAS ON PREPARED SEED BED AND MULCHING", SHALL BE USED.

**C. CRITICAL VEGETATION AREAS (C.V.A.):**

STEEPLY GRADED AREAS WHICH ARE AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR SHALL BE TOPSOILED WITH A MINIMUM OF 4" OF ON-SITE TOPSOIL, SEEDED AS IN PARAGRAPH "B" ABOVE, IMMEDIATELY. JUTE NETTING SHALL BE USED TO HOLD TOPSOIL, SEED AND MULCH PLACE. PER PARAGRAPH B, UPON FINAL GRADING OR AFTER COMPLETION OF PUBLIC IMPROVEMENTS, C.V.A. ARE DELINEATED ON THE CONSERVATION PLANS. IN GENERAL, JUTE NETTING SHALL BE USED ON ALL CUT SLOPES STEEPER THAN 3:1, ALL FILL SLOPES STEEPER THAN 4:1 AND IN ALL DRAINAGE SWALES.

**MAINTENANCE OF TEMPORARY SEDIMENTATION CONTROL STRUCTURES:**

MAINTENANCE OF ALL TEMPORARY SEDIMENTATION CONTROL STRUCTURES SHALL BE IN ACCORDANCE WITH THESE PLANS. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AFTER EACH STORM EVENT AND ON A WEEKLY BASIS. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY.

**A. STABILIZED CONSTRUCTION ENTRANCE:**

THE STABILIZED CONSTRUCTION ENTRANCES ARE TO BE CONSTRUCTED PER THE DETAIL. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED SO THAT TIRE SCRUBBING ACTIVITY DOES NOT BECOME INEFFECTIVE. ANY BUILDUP OF MUD OR SOIL ON THE STREET SHALL BE CLEANED AT THE END OF EACH WORKING DAY.

**B. SILT FENCE:**

SILT FENCE SHALL BE INSTALLED PER THE DETAIL. SILT FENCE TO BE INSTALLED PARALLEL TO THE GROUND CONTOUR. A MINIMUM OF 10 FOOT ANGLE STRIP TO BE INSTALLED AT EACH END OF SILT FENCE RUN. SEDIMENT SHALL BE REMOVED FROM SILT FENCES WHEN IT REACHES 1/2 THE FENCE HEIGHT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER. SILT FENCING WHICH HAS BEEN UNDERMINED, TOPPED, OR BREACHED SHALL BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY.

**C. SEDIMENT TRAPS:**

CLEANOUT STAKES MARKING THE CLEANOUT ELEVATIONS SHALL BE PLACED AT HALF THE DISTANCE BETWEEN POINTS OF CONCENTRATED FLOW ENTERING THE TRAP AND THE OUTLET. WHEN THE SILT DEPOSITS REACH AN ELEVATION OF HALF THE CLEANOUT ELEVATION, THE TRAP SHALL BE CLEANED OF SEDIMENT. THE CLEANOUT ELEVATION IS INDICATED ON THE SCHEDULE ON SHEET 13.

**D. SEDIMENT BASINS:**

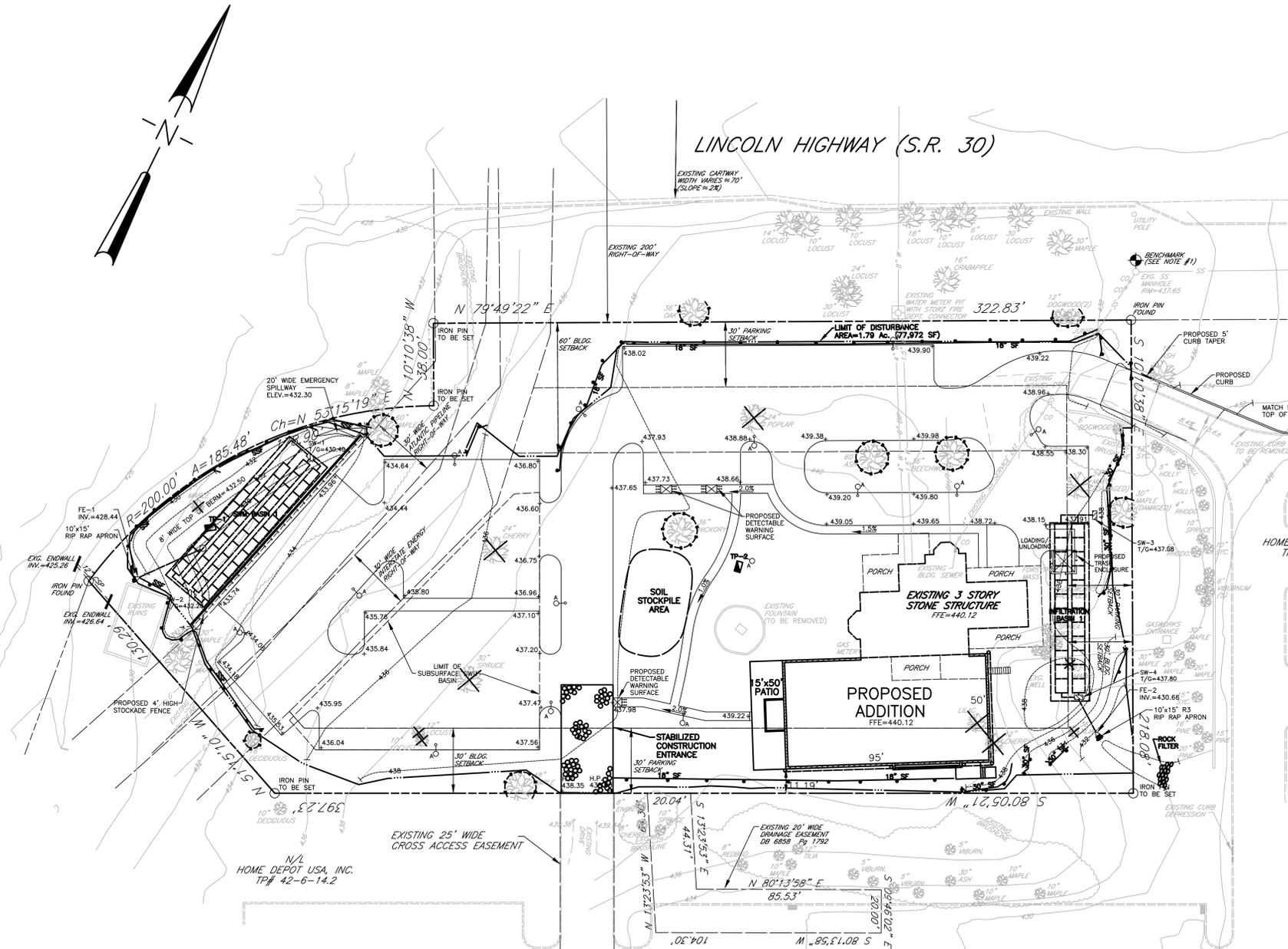
CLEANOUT STAKES MARKING THE CLEANOUT ELEVATIONS SHALL BE PLACED AT HALF THE DISTANCE BETWEEN POINTS OF CONCENTRATED FLOW ENTERING THE BASIN AND THE OUTLET. WHEN THE SILT DEPOSITS REACH AN ELEVATION OF HALF OF THE CLEANOUT ELEVATION, THE BASIN SHALL BE CLEANED OF SEDIMENT. THE CLEANOUT ELEVATION IS INDICATED ON THE SCHEDULE ON SHEET 13. OUTLET STRUCTURES, INCLUDING SKIMMERS, SHALL BE INSPECTED FOR LEAKS. ALL JOINTS SHALL BE MAINTAINED AS ORIGINAL INSTALLATION.

**E. INLET SILT TRAPS:**

INLET SILT TRAPS SHALL BE CONSTRUCTED PER THE DETAIL ON SHEET 13 AND CLEANED AFTER EACH STORM EVENT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER.

**F. DUST CONTROL:**

DUST AND OTHER PARTICULATES SHALL BE KEPT WITHIN TOLERABLE LIMITS BY USING WATER. APPLICATION SHALL BE AS NEEDED OR AS DIRECTED BY THE TOWNSHIP ENGINEER OR THE CONSERVATION DISTRICT.



Township/County: East Whiteland, Chester Test Pit Location: 1  
 Test Date: 2/21/18 Weather: Sunny, Warm

Depth (inches)	Color	Texture	Structure		Consistence	Boundary Distinctness	% Coarse Fragment Type	Redoximorphic Features	
			Type	Grade				Quantity	Contrast
0-6	10 Yr 3/3	SiLo	Gran	Mod	Fri	Abt Sm			
6-19	10 Yr 5/4	SiLo	Sbk	Wk	Fri	Ci Sm			
19-54	10 Yr 5/6	SiLo	Sbk	Wk	Fri				
Bottom Pit @ 54"									

Township/County: East Whiteland, Chester Test Pit Location: 2  
 Test Date: 2/21/18 Weather: Sunny, Warm

Depth (inches)	Color	Texture	Structure		Consistence	Boundary Distinctness	% Coarse Fragment Type	Redoximorphic Features	
			Type	Grade				Quantity	Contrast
0-7	10 Yr 3/3	Lo	Gran	Mod	Fri	Abt Sm			
7-20	10 Yr 5/4	SiLo	Sbk	Wk	Fri	Ci Sm			
20-80	Var Br/Tan	SiLo	Sbk	Wk	Fri				
Bottom Pit @ 80"									

Method: Double-Ring Infiltrometer Township: East Whiteland Weather: Sunny, Warm  
 Equipment: 8" diameter inner ring County: Chester Completed By: Edward Beideman  
 Equipment: 12" diameter outer ring Test Date: 2/21/18 Signature: \_\_\_\_\_

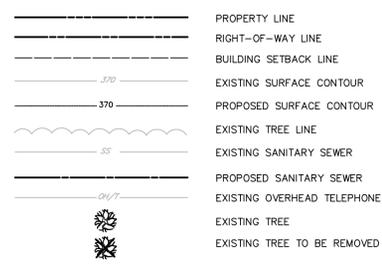
Test Location	Testing Depth (inches)	Presoak 30 min.	Presoak 1 hr.	1	2	3	4	Final Time Interval (Min.)	Infiltration Rate (inch/hr)
1	30	3/8	1/4	1/4	1/4	1/4	1/4	30	0.50
2	54	1 1/2	1 1/4	1 1/4	1 1/4	1 1/4	1 1/8	30	2.25

**SOILS LEGEND**

Symbol	Name, Slope	Soil Classification
CtB	Conestoga silt loam, 3-8% slopes	B

Source: Soil Survey of Chester County, Pennsylvania

**LEGEND**



**NOTES:**

- THE TOWNSHIP SHALL BE GRANTED A 20 FOOT WIDE DRAINAGE EASEMENT OVER ENTIRE PROPERTY FOR THE INSPECTION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM.
- THE ENTIRE SITE IS NOT UNDERLAIN BY KARST GEOLOGY.
- ANY REVISION TO THE APPROVED SWM SITE PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE TOWNSHIP, AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO, AND APPROVED BY, THE CONSERVATION DISTRICT OR TOWNSHIP (AS APPLICABLE) FOR A DETERMINATION OF ADEQUACY PRIOR TO THE CONSTRUCTION OF THE REVISED FEATURES.
- SITE BENCHMARK IS AN EXISTING SANITARY SEWER MANHOLE LOCATED TO THE NORTHEAST OF THE PROPERTY WITH ELEVATION OF 437.65.

**LOCH AERIE**

East Whiteland Township, Chester County, Pennsylvania

<p><b>NePo ASSOCIATES, INC.</b>          Engineers, Surveyors &amp; Environmental Scientists          458 E. KING ROAD MALVERN, PA 19355          (610) 429-0605 FAX(610) 296-3146</p>	<p>CONSERVATION PLAN</p>	<p>Date: 3/6/2018          Scale: 1"=30'          Drawn By: M.W.N.</p>	<p>SHEET</p>
	<p>PE -39244-E</p>	<p>SP-4</p>	<p>Checked By: D.P.P.          Project Eng.: D.P.P.          Project No.: 096-09          Dwg. No.: 096-09-SP4          Issued:</p>

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 5/17/18	6/13/18	MWN
2.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 6/25/18	8/16/18	MWN

**LANDSCAPE NOTES:**

- ALL PROPOSED PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF EIGHTEEN MONTHS FROM THE DATE OF INITIAL ACCEPTANCE.
- IN CASE OF A DISCREPANCY BETWEEN PLAN QUANTITIES SHOWN ON THE PLAN AND QUANTITIES SHOWN ON THE PLANT LIST, THE PLAN SHALL GOVERN.
- ALL LANDSCAPED AREAS INITIALLY TO BE SEEDED IN ACCORDANCE WITH CONSERVATION PLANS.
- ALL WOODY VEGETATION TO BE RETAINED ON A DEVELOPMENT SITE SHALL BE PROTECTED BY THE ERECTION OF A SNOW FENCE OR OTHER MEANS, APPROVED BY THE TOWNSHIP ENGINEER, AT THE DRIP LINE IF THAT LINE IS WITHIN TWENTY-FIVE (25) FEET OF ANY PROPOSED DISTURBED AREAS.
- CONSTRUCTION EQUIPMENT OPERATORS SHALL MINIMIZE DAMAGE TO EXISTING TREE TRUNKS AND ROOT SYSTEMS. ROOTS SHALL NOT BE CUT OR DISTURBED WITHIN THE AREAS CIRCUMSCRIBED BY THE DRIP LINE OF ANY TREE TO BE RETAINED.
- TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING CONSTRUCTION SHALL BE PROTECTED FROM FURTHER DAMAGE BY FENCING OR OTHER STRUCTURAL BARRIER. TREATMENT OF DAMAGED AREAS SHALL BE DICTATED BY THE NATURE OF THE INJURY. BARK SHALL BE CUT BACK TO A POINT WHERE IT IS INTACT AND TIGHT TO THE TREE. EXPOSED ROOTS SHALL BE CLEANED OF DEBRIS AND COVERED WITH TOPSOIL.
- TREES SHALL NOT BE USED FOR ROPING, CABLES, SIGNS OR FENCING. NAILS OR SPIKES SHALL NOT BE DRIVEN INTO TREES.
- THE AREA AROUND THE BASE OF EXISTING VEGETATION TO BE RETAINED SHALL BE LEFT OPEN. NO EARTH MOVING, IMPERVIOUS COVER, OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS OR FILL SHALL BE ALLOWED WITHIN THE DRIP LINE OF ANY VEGETATION OR TREE TO BE RETAINED.  
PROTECTION OF VEGETATION FROM GRADING AND EXCAVATIONS:  
GRADING CHANGES PROPOSED FOR ANY LAND DEVELOPMENT SITE SHALL NOT RESULT IN AN ALTERATION TO SOIL OR DRAINAGE CONDITIONS WHICH WOULD ADVERSELY AFFECT VEGETATION TO BE RETAINED FOLLOWING SITE DISTURBANCE UNLESS ADEQUATE PROVISION ARE MADE TO PROTECT SUCH VEGETATION AND ITS ROOT SYSTEM.  
TRENCHES DUG FOR UTILITY LINES OR SIMILAR PURPOSES SHALL MINIMIZE DISTURBANCE TO THE ROOT ZONES OF ALL VEGETATION TO BE RETAINED ON A LAND DEVELOPMENT SITE.  
IF TRENCHES MUST BE EXCAVATED IN THE ROOT ZONE, ALL DISTURBED ROOTS SHALL BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH SHALL BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING SOIL COMPACTION NEAR THE AFFECTED ROOTS.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INSTALLATION PRIOR TO THE COMMENCEMENT OF THE EIGHTEEN (18) MONTH GUARANTEE PERIOD. THE CONTRACTOR MUST MAINTAIN ALL PLANT MATERIAL BY WATERING, FERTILIZING, DISEASE CONTROL, PRUNING, WEEDING, AND ANY OTHER MEANS WHICH THE CONTRACTOR DEEMS NECESSARY INCLUDING REPLACEMENT OF DEAD OR STOLEN PLANT MATERIAL AS NECESSARY IN ORDER TO MAINTAIN THE PLANT MATERIAL IN A CONDITION AS SPECIFIED AND DESCRIBED IN ANY APPLICABLE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER'S REPRESENTATIVE IF IMPERVIOUS DRAINAGE CONDITIONS ARE ENCOUNTERED PRIOR TO PLANTING.  
THE FOLLOWING STANDARDS SHALL APPLY TO ALL PROPOSED LANDSCAPING:  
MULCH SHALL BE TWO INCHES OF SHREDDED HARDWOOD, CEDAR BARK OR RLA APPROVED EQUAL.  
THE LANDSCAPE CONTRACTOR SHALL SCARIFY THE SIDES AND BOTTOM OF THE ROOT BALL OF ANY CONTAINER GROWN PLANTS PRIOR TO PLANTING.  
ALL PLANTING BACKFILL SHALL CONSIST OF SEVENTY-FIVE PERCENT (75%) EXISTING SOIL AND TWENTY-FIVE PERCENT (25%) ORGANIC COMPOSE COMPLETELY MIXED PRIOR TO BACKFILL. SEE PLANTING DETAILS FOR SUBJECT AREAS.  
APPLY 'ROOTS 2' OR APPROVED EQUAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED RATES. APPLY DURING PLANTING OPERATIONS. APPLY INITIAL TIME RELEASE FERTILIZER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED RATES. MINIMUM RELEASE PERIOD SHALL BE SIX (6) MONTHS.
- OBTAIN APPROVAL OF OWNER'S REPRESENTATIVE RLA PRIOR TO APPLICATION OF FERTILIZER AMENDMENTS.
- ALL TREE STAKES AND TIES SHALL BE REMOVED AND DISPOSED OF AT COMPLETION OF EIGHTEEN (18) MONTHS GUARANTEE PERIOD BY THE LANDSCAPE CONTRACTOR.

**LANDSCAPE REQUIREMENTS:**

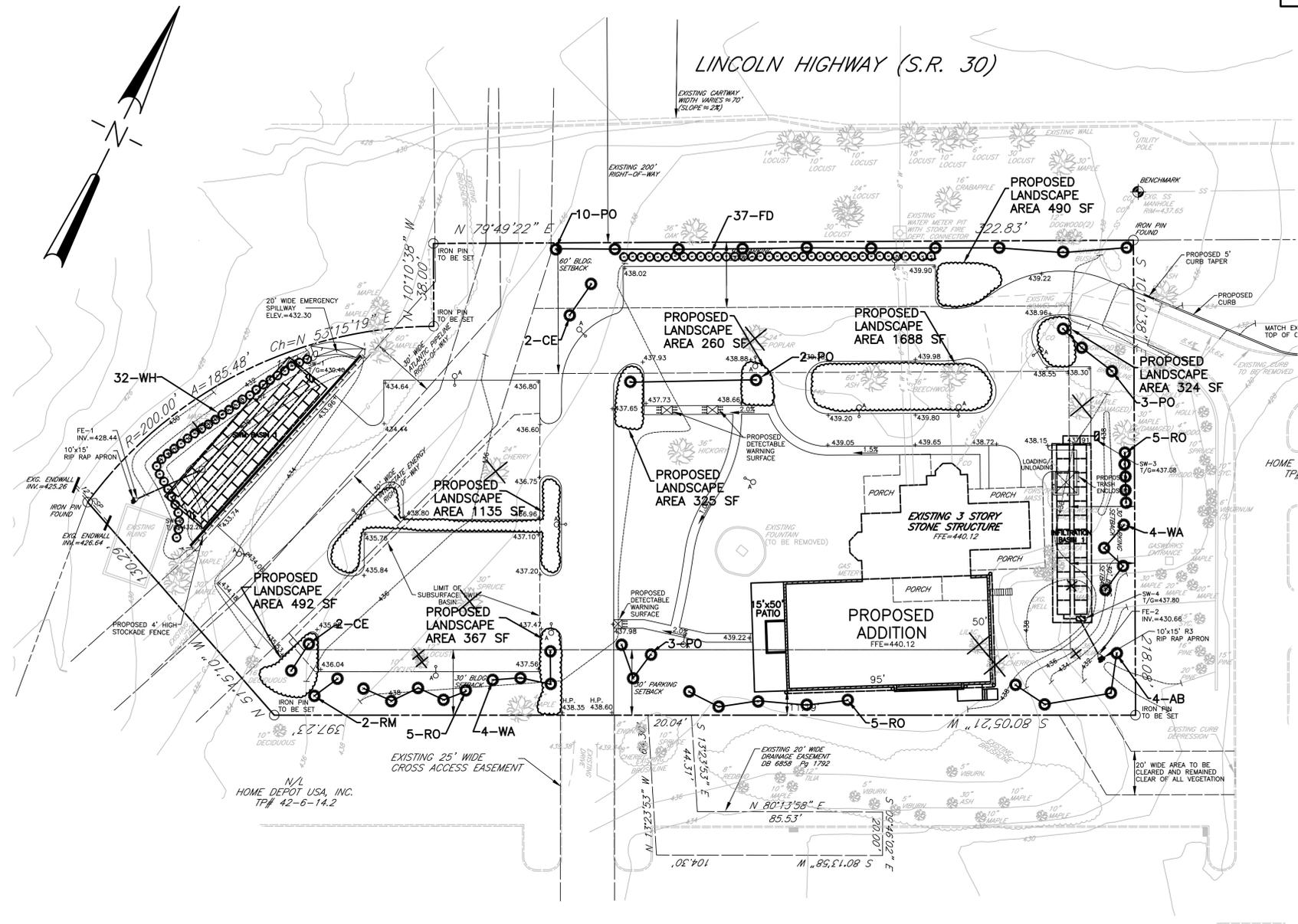
<b>BUFFERS (ZONING ORDINANCE 200-61)</b>		
REQUIREMENT	REQUIRED	
1 SHADE TREE/40 LF OF PROPERTY LINE	969.08*/40=24.22≈25 TREES	
<b>PARKING LOT (ZONING ORDINANCE 200-69 F and G)</b>		
REQUIREMENT	REQUIRED	
1 SHADE TREE/35 LF (200-69F)	322.83**/35=9.22≈10 TREES	
1 SHADE TREE/300 SF (200-69G)	4,591/300=15.30≈16 TREES	
* PROPERTY LINE = 218.08+397.23+130.29+185.48+38.00=969.08 L.F.		
** STREET FRONTAGE/PERIMETER PARKING=322.83 L.F.		
<b>INTERIOR LANDSCAPE CALCULATION (ZONING ORDINANCE 200-69G(1))</b>		
REQUIREMENT	REQUIRED	PROVIDED
5% of GROSS AREA INTERIOR VEHICULAR USE (33,920 SF)	1,696 SF	4,591 SF

**LANDSCAPE SCHEDULE:**

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
<b>DECIDUOUS TREES</b>					
AB	4	Fagus grandifolia	American Beech	3" - 3.5" cal.	B&B
CE	4	Ulmus parviflora	Chinese Elm	3" - 3.5" cal.	B&B
PO	18	Quercus palustris	Pin Oak	3" - 3.5" cal.	B&B
RM	2	Acer rubrum	Red Maple	3" - 3.5" cal.	B&B
RO	15	Quercus borealis	Red Oak	3" - 3.5" cal.	B&B
WA	8	Fraxinus americana	White Ash	3" - 3.5" cal.	B&B
TOTAL	51				
<b>SHRUBS</b>					
WH	32	Crataegus phaenopyrum	Washington Hawthorn	3 gal.	Dense
FD	37	Cornus florida	Flowering Dogwood	3 gal.	Dense
TOTAL	69				

**LEGEND**

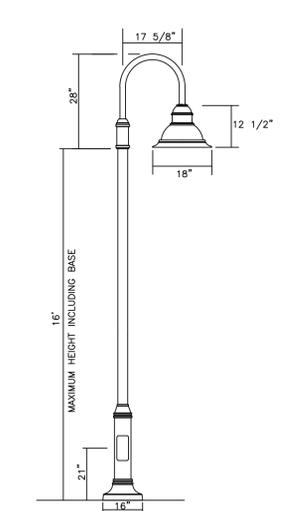
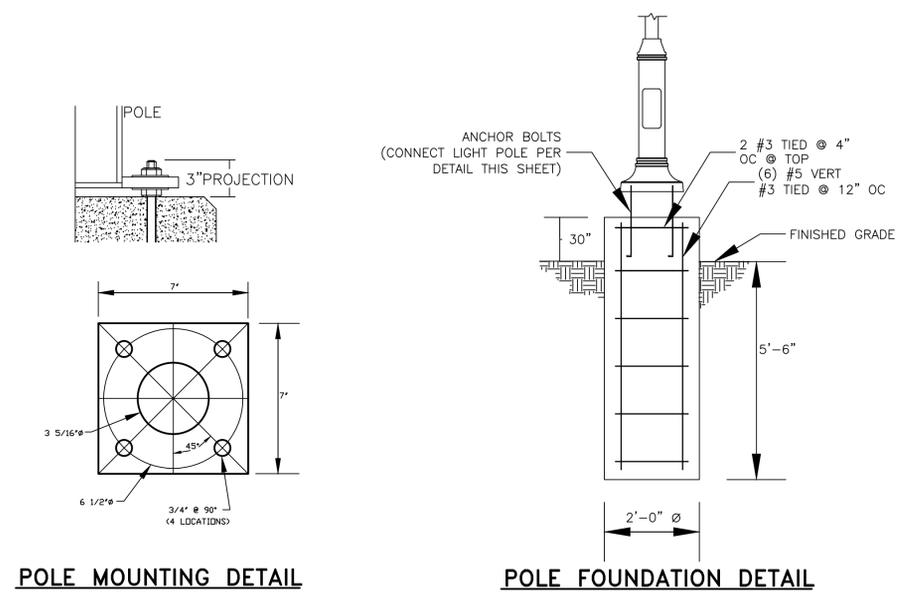
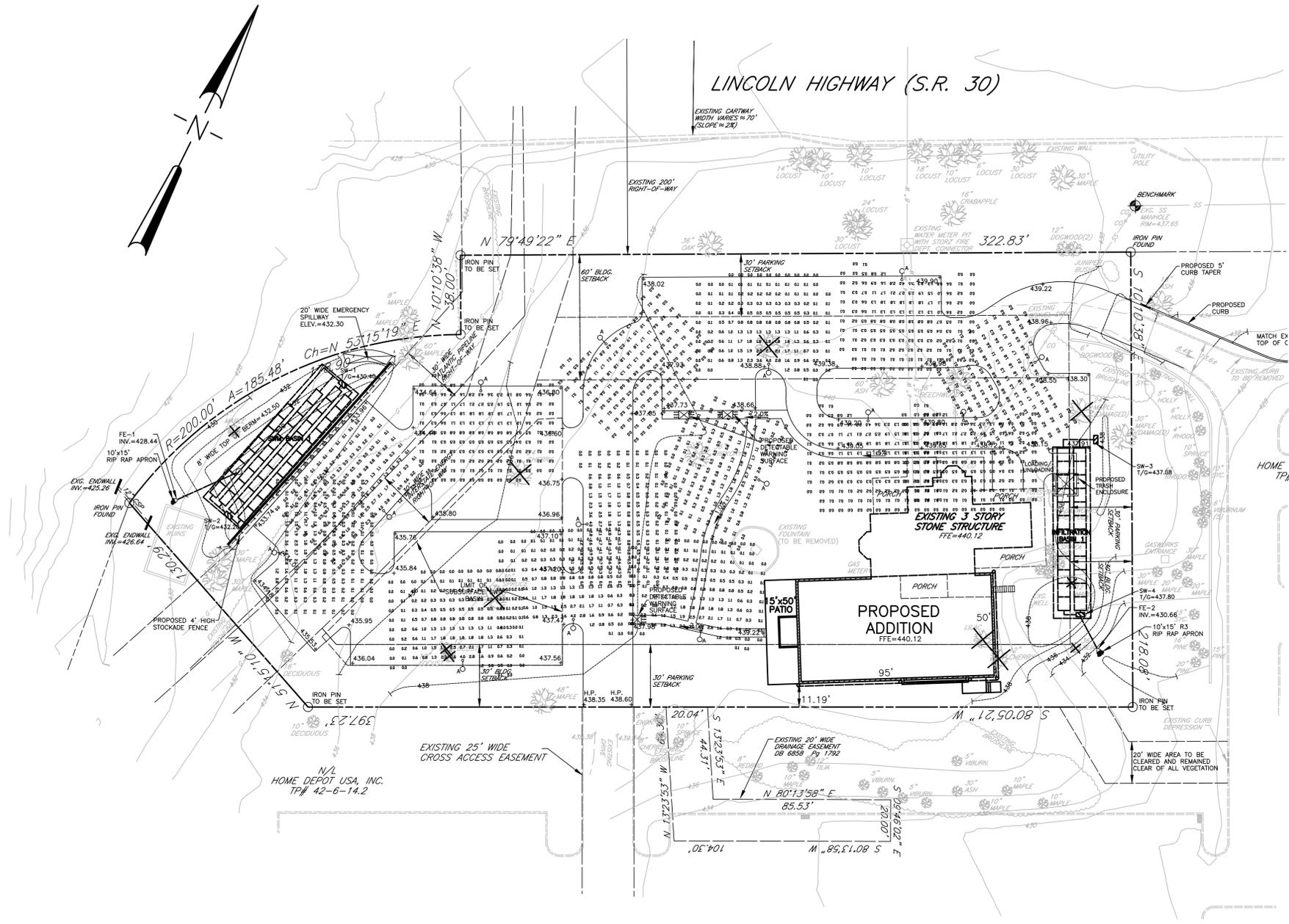
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- BUILDING SETBACK LINE
- EXISTING SURFACE CONTOUR
- PROPOSED SURFACE CONTOUR
- EXISTING TREE LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING OVERHEAD TELEPHONE
- EXISTING TREE
- EXISTING TREE TO BE REMOVED



**LOCH AERIE**  
East Whiteland Township, Chester County, Pennsylvania

<b>LANDSCAPE PLAN</b>	Date: 3/6/2018	SHEET
	Scale: 1"=30'	
<b>N&amp;P ASSOCIATES, INC.</b> Engineers, Surveyors & Environmental Scientists 458 E. KING ROAD MALVERN, PA 19355 (610) 429-0605 FAX(610) 296-3146	Drawn By: M.W.N.	<b>SP-5</b>
	Checked By: D.P.P.	
	Project Eng.: D.P.P.	
	Project No.: 096-09	
	Dwg. No.: 096-09-SP5	OF 9
	Issued:	

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 5/17/18	6/13/18	MWN
2.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 6/25/18	8/16/18	MWN



**LEGEND**

	PROPERTY LINE
	RIGHT-OF-WAY LINE
	BUILDING SETBACK LINE
	EXISTING SURFACE CONTOUR
	PROPOSED SURFACE CONTOUR
	EXISTING TREE LINE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING OVERHEAD TELEPHONE
	EXISTING TREE
	EXISTING TREE TO BE REMOVED

- LIGHTING NOTES**
1. THE TOWNSHIP RESERVES THE RIGHT TO CONDUCT POST-INSTALLATION NIGHTTIME INSPECTIONS TO VERIFY COMPLIANCE WITH THE COMMITMENTS MADE ON THE APPROVED LIGHTING PLAN, AND IF APPROPRIATE, TO REQUIRE REMEDIAL ACTION AT NO EXPENSE TO THE TOWNSHIP.
  2. POLES SUPPORTING LIGHTING FIXTURES FOR THE ILLUMINATION OF PARKING AREAS AND LOCATED DIRECTLY BEHIND PARKING SPACES, SHALL BE PLACED A MINIMUM OF FIVE (5) FEET OUTSIDE PAVED AREA, OR ON CONCRETE PEDESTALS AT LEAST THIRTY (30) INCHES HIGH ABOVE THE PAVEMENT, OR SUITABLY PROTECTED FROM POTENTIAL VEHICULAR IMPACT BY OTHER APPROVED MEANS.
  3. OUTDOOR LIGHTING TO COME ON AT DUSK AND REMAIN ON NO LATER THAN 11:00 PM.
  4. POST-APPROVAL ALTERATIONS TO LIGHTING PLAN OR INTENDED SUBSTITUTIONS FOR APPROVED LIGHTING EQUIPMENT SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
  5. ALL FIXTURES SHALL BE AIMED STRAIGHT DOWN AND MEET ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) FULL CUTOFF CRITERIA.

**NOTES:**

WIRING: GAUGE (#14) TEW WIRES, 6" MINIMUM EXCEEDING TOP OF THE BRACKET.

HARDWARE: ALL EXPOSED SCREWS WILL BE IN STAINLESS STEEL. ALL SEALS AND SEALING DEVICES ARE MADE AND/OR LINED WITH EPDM AND/OR SILICONE.

FINISH: TEXTURED COLOR TO BE ADVISED (STANDARD LUMEC COLOR); BLACK. APPLICATION OF A POLYESTER POWDER COAT PANT. (4 MILS/100 MICRONS). THE CHEMICAL COMPOSITION PROVIDES A HIGHLY DURABLE UV AND SALT SPRAY RESISTANT FINISH IN ACCORDANCE TO THE ASTM-B117-73 STANDARD AND HUMIDITY PROOF IN ACCORDANCE TO THE ASTM-D2247-68 STANDARD.

DECORATIVE ELEMENT: MADE OF DECAST A380, WELDED.

CENTRAL TUBING: MADE OF ALUMINUM 6063-T6, 3 IN. OUTSIDE DIAMETER. MECHANICALLY FASTENED BY TWO SETS OF THREE SET-SCREWS AT 120 DEGREES AROUND THE BRACKET.

Numeric Summary				
Label	Calc Type	Units	Avg	Max
Parking Lot	Fc		0.57	4.0
Property Line	Fc		0.04	0.6

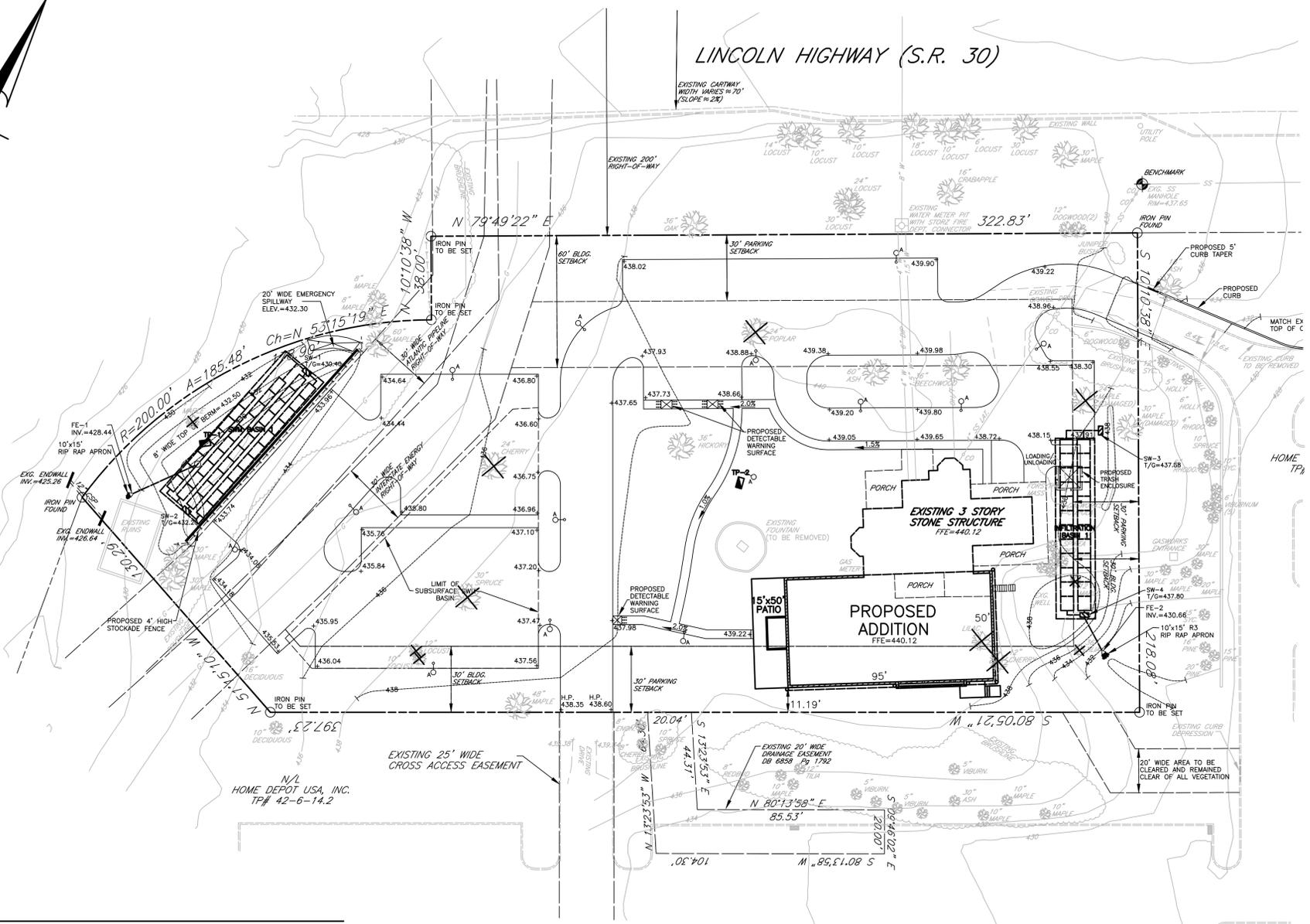
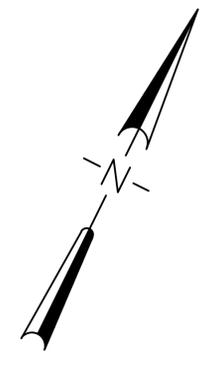
MAXIMUM MOUNT HEIGHT = 12'-0"

# LOCH AERIE

East Whiteland Township, Chester County, Pennsylvania

	<b>SITE LIGHTING PLAN</b>	Date: 3/6/2018	SHEET
	<b>NePo ASSOCIATES, INC.</b> Engineers, Surveyors & Environmental Scientists 458 E. KING ROAD MALVERN, PA 19355 (610) 429-0605 FAX(610) 296-3146	Scale: 1"=30'	
		Drawn By: M.W.N.	OF 9
		Checked By: D.P.P.	
		Project Eng.: D.P.P.	
		Dwg. No.: 096-09-SP6	
		Issued:	

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**LEGEND**

	PROPERTY LINE
	RIGHT-OF-WAY LINE
	BUILDING SETBACK LINE
	EXISTING SURFACE CONTOUR
	PROPOSED SURFACE CONTOUR
	EXISTING TREE LINE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING OVERHEAD TELEPHONE
	EXISTING TREE
	EXISTING TREE TO BE REMOVED

**POST CONSTRUCTION SWM NOTES:**

THE INTENT OF THE POST DEVELOPMENT STORMWATER MANAGEMENT PLAN IS TO IDENTIFY ON SITE BEST MANAGEMENT PRACTICES' FACILITIES, COLLECTIVELY REFERRED TO HEREIN AS BMP'S, ON THE PROJECT AND TO PROVIDE THE BUILDER AND PROPERTY OWNER WITH AN OUTLINE OF LONG-TERM STRATEGIES FOR THEIR MANAGEMENT. THE PRIMARY GOAL IS TO PROVIDE A COST-EFFICIENT MANAGEMENT STRATEGY FOR THE PROJECT'S BMP'S.

THE CONTRACTOR SHALL CONSTRUCT AND/OR INSTALL ALL IMPROVEMENTS INCLUDING PLANTINGS, INFILTRATION FACILITIES, STORM DRAINAGE, STORMWATER MANAGEMENT BASINS AND OTHER LANDSCAPE BUFFERING FEATURES IDENTIFIED ON THE APPROVED PLANS.

THE MAINTENANCE AND ENHANCEMENT OF BMP'S SHALL BE GOVERNED BY THIS PLAN AND PERFORMED BY THE PROPERTY OWNER AFTER TRANSFER OF PROPERTY FROM THE CONTRACTOR. THIS PLAN ALSO PROVIDES THE FLEXIBILITY FOR THE OWNER TO PLANT FLOWERS AND/OR ADDITIONAL NATIVE SHRUBS AND TREES, SO LONG AS SUPPLEMENTAL LANDSCAPING DOES NOT CONFLICT WITH GUIDELINES DESCRIBED HEREIN.

THE PROPERTY OWNER WILL OWN, MAINTAIN, AND FUND THE MANAGEMENT OF ALL BMP'S DESCRIBED IN THIS DOCUMENT. THE BMP'S SHALL BE MAINTAINED ON AN ONGOING BASIS IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THIS PLAN.

IN ORDER TO ENSURE BMP'S MAINTENANCE AND MANAGEMENT PRACTICES CONTINUE TO MEET THE NEEDS OF THE SITE, THE CONTRACTOR SHALL CONTRACT WITH A QUALIFIED PROFESSIONAL, SUCH AS A LANDSCAPE ARCHITECT, CERTIFIED ARBORIST, OR CIVIL ENGINEER TO PERFORM AN INITIAL INSPECTION OF ALL BMP'S. A REPORT OUTLINING THE CONSULTANT'S FINDINGS AND RECOMMENDATIONS, CONSISTENT WITH THE STANDARDS OF THIS PLAN, SHALL BE SUBMITTED TO THE PROPERTY OWNER. THE CONTRACTOR SHALL IMPLEMENT ANY RECOMMENDATIONS WITHIN ONE YEAR OF THE ISSUANCE OF THE REPORT OR PRIOR TO TRANSFER OF PROPERTY.

STORMWATER MANAGEMENT FACILITIES SHALL ALSO BE INSPECTED AND AS-BUILT DURING AND UPON COMPLETION OF INSTALLATION OF THOSE FACILITIES BY A REGISTERED PROFESSIONAL ENGINEER. UPON COMPLETION OF THE STORMWATER MANAGEMENT FACILITIES INSPECTION, A REPORT OUTLINING THE FINDINGS WILL BE SUBMITTED TO THE CONTRACTOR. IF PROBLEMS ARE OBSERVED, CORRECTIVE ACTION SHALL BE TAKEN IMMEDIATELY. IF MAJOR REPAIR IS REQUIRED, THE REPORT WILL BE FORWARDED TO THE TOWNSHIP, FOR THE TOWNSHIP ENGINEER TO APPROVE.

UPON TRANSFER OF PROPERTY OWNERSHIP, OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF THE FOLLOWING AREAS, DESCRIBED BELOW:

1. **LANDSCAPED AREAS:** LANDSCAPED AREAS INCLUDE ALL ORNAMENTAL TREES AND SHRUBS, EXISTING "SPECIMEN TREES", MEADOW AREA, AND MAINTAINED LAWN AREAS LOCATED ON THE PROJECT. MANAGEMENT AND MAINTENANCE TASKS FOR EACH OF THESE AREAS ARE AS FOLLOWS:
  - A. **ORNAMENTAL TREES AND SHRUBS** - ORNAMENTAL TREES AND SHRUBS ARE LOCATED THROUGHOUT THE PROJECT AND INCLUDE NATIVE CANOPY AND UNDERSTORY TREES, EVERGREENS, AND SHRUBS. A CERTIFIED ARBORIST OR LANDSCAPE ARCHITECT SHALL INSPECT ORNAMENTAL TREES AND SHRUBS ANNUALLY FOR THE FIRST 5, PRUNING, FERTILIZING, AND REPLANTING WHERE NECESSARY. TREES SHOULD BE PRUNED TO A LOWEST BRANCHING HEIGHT OF 8 FEET. DISEASED OR DEAD TREES AND SHRUBS SHALL BE REPLACED WITH THE SAME SPECIES DESCRIBED ON THE APPROVED LANDSCAPE PLANS, UNLESS THE OWNER'S CONSULTANT FINDS SITE CONDITIONS FAVOR OTHER SPECIES. REPLACEMENT PLANTINGS SHALL BE OF NATIVE ORIGIN ONLY.
  - B. **SPECIMEN TREES** - SPECIMEN TREES CONSIST OF LARGE CALIPER TREES IDENTIFIED DURING THE PLANNING PROCESS AS IMPORTANT LANDSCAPE FEATURES. A CERTIFIED ARBORIST OR LANDSCAPE ARCHITECT SHALL INSPECT SPECIMEN TREES EVERY FIVE YEARS. WHERE FURTHER TREE GROWTH POSES A THREAT TO HUMAN SAFETY OR THE HEALTH OF OTHER SPECIMEN TREES, CORRECTIVE ACTION SHALL BE TAKEN IMMEDIATELY.
  - C. **LAWN AREAS** - LAWN AREAS ARE LOCATED THROUGHOUT THE PROJECT. ALL LAWN AREAS SHALL BE MOWED AS NECESSARY AND MAINTAINED WITH GOOD GRASS COVER. THE HOMEOWNER SHALL HAVE THE RIGHT TO INSTALL ADDITIONAL LANDSCAPING IN THE LAWN AREAS.
  - D. **MEADOW AREAS** - MEADOW AREAS COMPRISE ALL AREAS NOT COVERED UNDER WOODLAND AREAS OR LANDSCAPE. MEADOW AREAS PERFORM CRITICAL STORMWATER MANAGEMENT AND SCENIC FUNCTIONS AND ARE MUCH LESS EXPENSIVE TO MAINTAIN THAN LAWN AREAS. MEADOW AREAS MAY ALSO BE A FUNCTIONAL SYSTEM, CREATING A CONTINUUM OF HABITAT TYPES CONDUCIVE TO WILDLIFE MIGRATION AND NESTING. MEADOWS USING A LARGE DECK MOWER (I.E. BRUSH HOG) PULLED BY A TRACTOR, THE MANAGEMENT SCHEDULE SHOULD INCLUDE ONE EARLY SPRING MOWING, WITH A SECOND MID-SUMMER MOWING (BETWEEN JULY 15 AND AUGUST 1) ONLY AS NEEDED FOR REMOVAL OF INVASIVE PLANTS. SELECTIVE APPLICATION OF GLYPHOSATE HERBICIDE (ROUNDUP) OR CUTTING OF SPECIFIC PATCHES OF INVASIVE SPECIES (I.E. CANADA THISTLE, PHRAGMITES) SHOULD BE DONE THROUGHOUT THE GROWING SEASON AS NECESSARY USING A BRUSH CUTTER, WEED WHACKER, BRUSH HOG, AND BACKPACK SPRAYER. SELECTIVELY CUT CANADA THISTLE (IF ANY) BY MID-JUNE TO AVOID SEED DISPERSAL. FOLLOW WITH SPOT APPLICATIONS OF GLYPHOSATE HERBICIDE TO CUT STEMS. SUPPLEMENT MEADOW PLANTINGS WITH PLUGS OF NATIVE GRASSES AND WILDFLOWERS TO ENHANCE HIGHLY VISIBLE AREAS. WATER PLUGS WEEKLY FOR THE FIRST MONTH AND AS NECESSARY DURING DRIER PERIODS. IF DAMAGED OR DISTURBED MEADOW AREAS EXIST, IN THE FALL, APPLY ADDITIONAL SEED TO DISTURBED AREAS, PARTICULARLY IN AREAS WHERE INVASIVE SPECIES ARE PROBLEMATIC. A COVER CROP OF OATS OR ANNUAL RYE IS RECOMMENDED TO COMPETE AGAINST WEEDS. SEEDING CAN BE DONE BY HAND BROADCASTING. RATES AND METHODS SHOULD FOLLOW SEED CATALOG OR DISTRIBUTOR RECOMMENDATIONS, WITH APPROXIMATELY 1 LB. OF SEED RECOMMENDED PER ACRE. SEEDS SHOULD THEN BE FIRMED INTO THE SOIL USING A ROLLER, OR TRACTOR TIRES. THE SEEDBED SHOULD BE COVERED WITH WEED-FREE STRAW MULCH TO AVOID EROSION OF SEEDS AND SOIL.

2. **STORMWATER MANAGEMENT FACILITIES:** STORMWATER MANAGEMENT FACILITIES LOCATED ON THE PROJECT INCLUDE AN INDIVIDUAL SUBSURFACE STORMWATER BASIN AND AN ABOVE GROUND BASIN. THESE FACILITIES SHALL BE MANAGED IN GOOD, CLEAN, UNOBSTRUCTED, AND PROPER OPERATING CONDITION. INSPECTION OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND SHALL TAKE PLACE ON AN ANNUAL BASIS. INSPECTION SHALL ALSO TAKE PLACE FOLLOWING 3" OR GREATER STORM EVENTS.
- STORMWATER MANAGEMENT FACILITIES LOCATED ON THE LOT INCLUDE SUBSURFACE INFILTRATION BASIN, SHALLOW DETENTION BASIN, INLETS, CULVERTS AND GRASS SWALES. THESE FACILITIES SHALL BE MANAGED IN GOOD, CLEAN, UNOBSTRUCTED, AND PROPER OPERATING CONDITION. INSPECTION OF THESE FACILITIES BY THE PROPERTY OWNER SHALL TAKE PLACE ON AN ANNUAL BASIS. INSPECTION SHALL ALSO TAKE PLACE FOLLOWING A MAJOR STORM EVENT.
- INLETS AND SUBSURFACE SWM BASIN REMOVE GRATES AND RIMS ANNUALLY TO INSPECT FOR LEAKS AND STRUCTURAL INTEGRITY. ALL DEBRIS AND SEDIMENT TO BE REMOVED EVERY SIX (6) MONTHS. ALL SEDIMENT AND DEBRIS TO BE DISPOSED IN ACCORDANCE WITH CURRENT AND COUNTY REGULATIONS WITHIN THE LIMITS OF THEIR RESPECTIVE LOTS.
- PROPERTY OWNER IS RESPONSIBLE FOR ANNUAL AND POST-STORM INSPECTIONS OF BMP'S AFTER SETTLEMENT ON THIS PROPERTY. THEY SHALL MAKE NOTE OF THE FOLLOWING CONDITIONS FOR EACH STORMWATER MANAGEMENT FACILITY:
- A. **DETENTION BASIN**
    1. LOOK FOR GULLIES OR BARE AREAS ON THE BERM OR EMBANKMENTS. THESE AREAS SHOULD NOT BE ERODED OR BARE.
    2. ENSURE THE DISCHARGE ORIFICE, OR OVERFLOW RISER, AND SPILLWAY ARE CLEAR OF SEDIMENT AND DEBRIS.
    3. LOOK FOR STANDING WATER IN THE BOTTOM OF THE BASIN. BASIN SHOULD BE EMPTY WITHIN 2 DAYS AFTER A STORM EVENT.
    4. ENSURE THE SPILLWAY, BERM, AND EMBANKMENTS ARE NOT OVERGROWN WITH UNDERBRUSH AND TREES.
  - B. **SWALES**
    1. LOOK FOR BARE AREAS WITHIN THE SWALES. THESE AREAS SHOULD NOT BE ERODED OR BARE.
    2. ENSURE SWALES ARE CLEAR OF OBSTRUCTIONS.
    3. ENSURE SWALES ARE NOT OVERGROWN WITH UNDERBRUSH AND TREES.
  - C. **INFILTRATION BASIN**
    1. EXAMINE GRATES ABOVE INLET BOXES ADJACENT TO INFILTRATION AREAS. ENSURE THAT GRATES ARE FREE OF DEBRIS.
    2. LOOK FOR STANDING WATER IN THE BOTTOM OF THE INLET BOXES. INLET BOXES SHOULD BE EMPTY WITHIN 2 DAYS AFTER A STORM EVENT.
    3. IF PROBLEMS SUCH AS EROSION OR FACILITY MALFUNCTION ARE OBSERVED, PROPERTY OWNER SHALL CONTACT THE TOWNSHIP ENGINEER AND TAKE IMMEDIATE CORRECTIVE ACTION AS NECESSARY.
- ALL BASINS SHALL BE MAINTAINED WITH THE GRASSES AND PLANTINGS OUTLINED ON THE LANDSCAPE PLAN AND CAPABLE OF TOLERATING WET AND DRY CONDITIONS. MAINTENANCE OBLIGATIONS SHALL INCLUDE NORMAL AND ROUTINE SURFACE MAINTENANCE, REMOVAL OF WEEDS, MOWING OF GRASSES, IN ACCORDANCE WITH THE PROVISIONS FOR MEADOW AREAS DESCRIBED ABOVE. REMOVAL OF SILT AND DEBRIS, AND ANY STRUCTURAL MAINTENANCE WHICH MAY BE REQUIRED FOR PROPER OPERATION AND PERFORMANCE.
- IF PROBLEMS SUCH AS EROSION OR FACILITY MALFUNCTION ARE OBSERVED, THE BUILDER/OWNER SHALL CONTACT THE TOWNSHIP ENGINEER AND TAKE IMMEDIATE CORRECTIVE ACTION AS NECESSARY.
- THE ACTIVITIES AND TASKS REQUIRED BY THIS PLAN SHALL BE CONDUCTED TO PRESERVE AND PROTECT THE BMP'S.

**LIST OF REQUIRED REGULATORY APPROVALS:**

AGENCY	STATUTES
PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION	
- NPDES GENERAL PERMIT	APPLIED
- LAND PLANNING EXEMPTION APPROVAL	APPLIED
COUNTY OF CHESTER	
- EARTH DISTURBANCE APPROVAL	APPLIED
- PLANNING COMMISSION REVIEW	RECEIVED COMMENT
EAST WHITELAND TOWNSHIP	
- LAND DEVELOPMENT APPROVAL	RECEIVED COMMENT

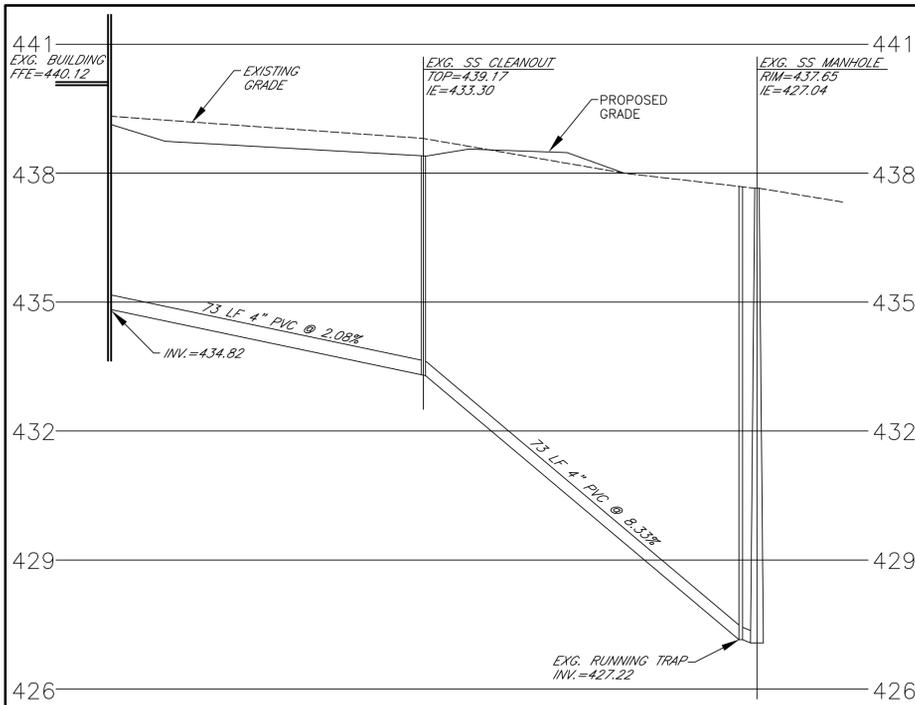
I DANIEL POPPLEWELL, P.E., ON THIS \_\_\_\_\_ DAY, 20\_\_\_\_, HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE THE STORMWATER MANAGEMENT PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE EAST WHITELAND TOWNSHIP ORDINANCE NO. 250-2014, EAST WHITELAND TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

DANIEL POPPLEWELL, P.E. DATE

# LOCH AERIE

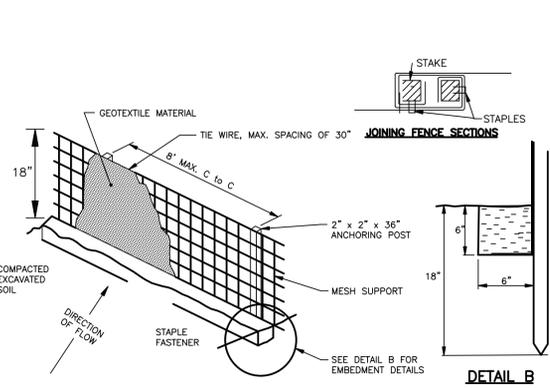
East Whiteland Township, Chester County, Pennsylvania

<p>POST CONSTRUCTION STORMWATER MANAGEMENT PLAN</p>		Date: 3/6/2018	SHEET
		Scale: 1"=30'	
<p><b>NePo ASSOCIATES, INC.</b> Engineers, Surveyors &amp; Environmental Scientists 458 E. KING ROAD MALVERN, PA 19355 (610) 429-0605 FAX(610) 296-3146</p>	<p>Drawn By: M.W.N.</p> <p>Checked By: D.P.P.</p> <p>Project Eng.: D.P.P.</p> <p>Project No.: 096-09</p> <p>Dwg. No.: 096-09-SP7</p> <p>Issued:</p>		<p>SP-7</p> <p>OF 9</p>
	<p>PE -39244-E</p>		



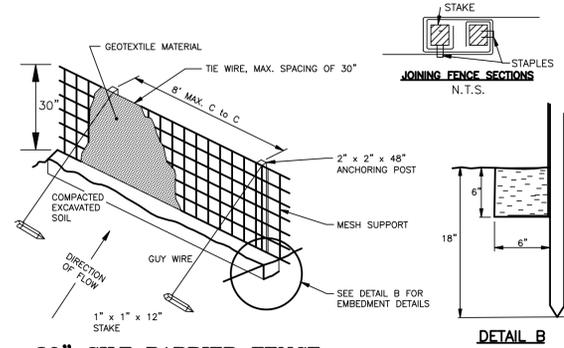
**PROFILE: EXISTING SANITARY SEWER**

1"=30' HOR.  
1"=3' VER.



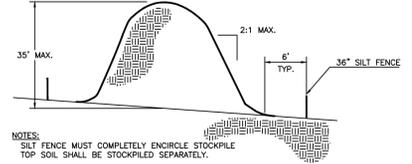
**18" SILT BARRIER FENCE**  
N.T.S.

**NOTES:**  
SILT FENCE MUST BE PLACED AT LEVEL GRADE.  
BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.  
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.  
ANY SECTIONS OF FILTER FABRIC FENCE WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. (SEE ROCK FILTER OUTLET DETAIL).



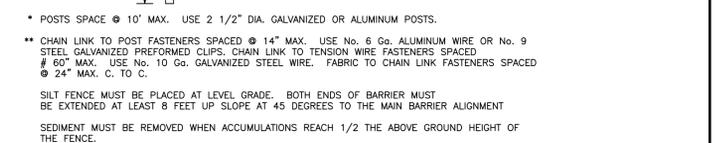
**30" SILT BARRIER FENCE**  
N.T.S.

**NOTES:**  
SILT FENCE MUST BE PLACED AT LEVEL GRADE.  
BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.  
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.  
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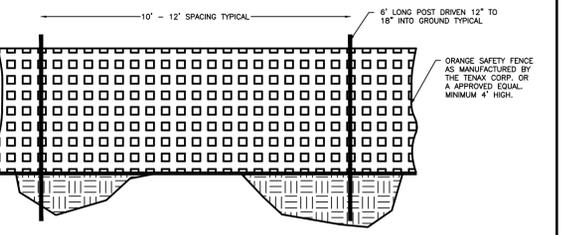


**TYPICAL STOCKPILE - CROSS SECTION**  
N.T.S.

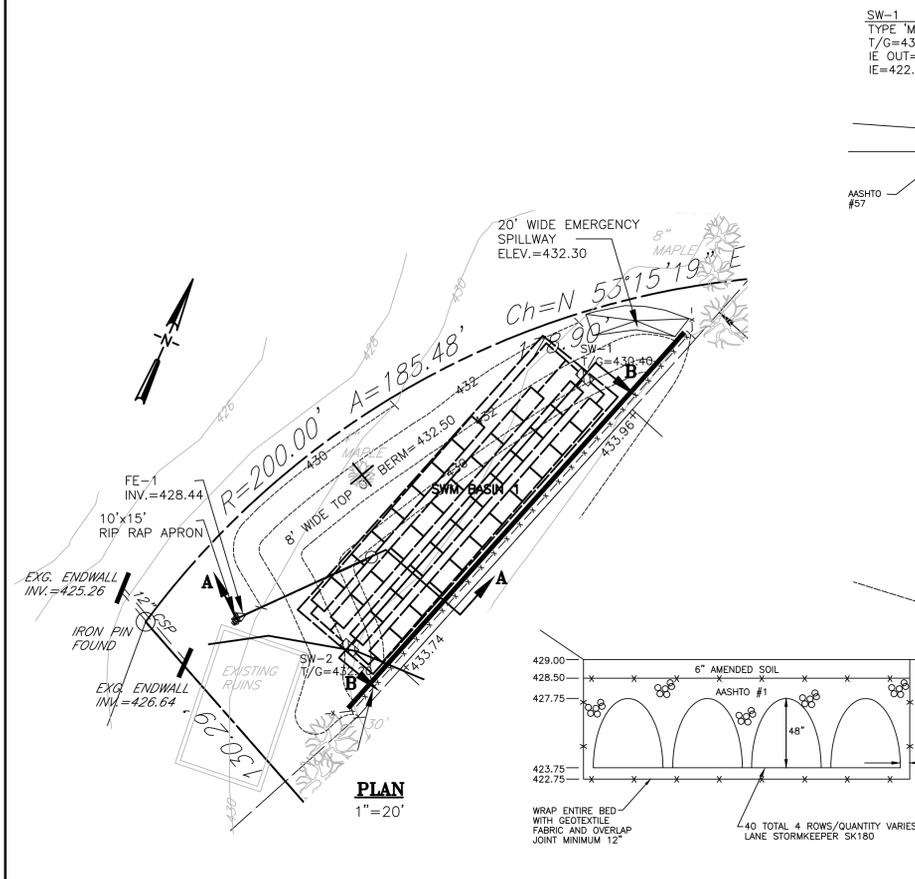
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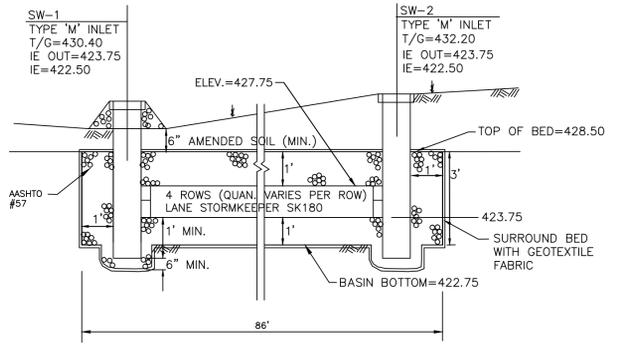
**SUPER SILT FENCE**  
N.T.S.



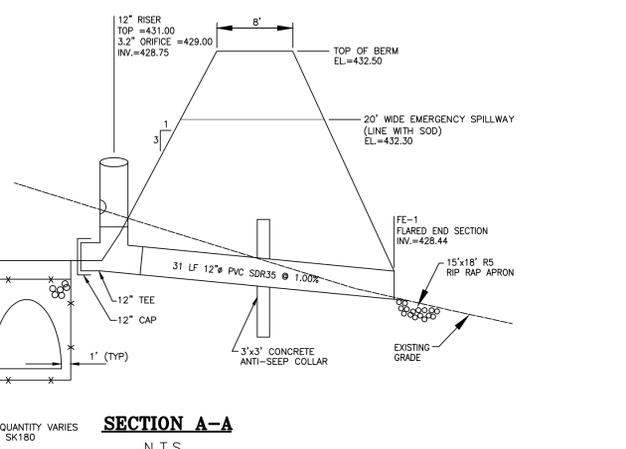
**WOODLANDS PROTECTION FENCING**  
N.T.S.



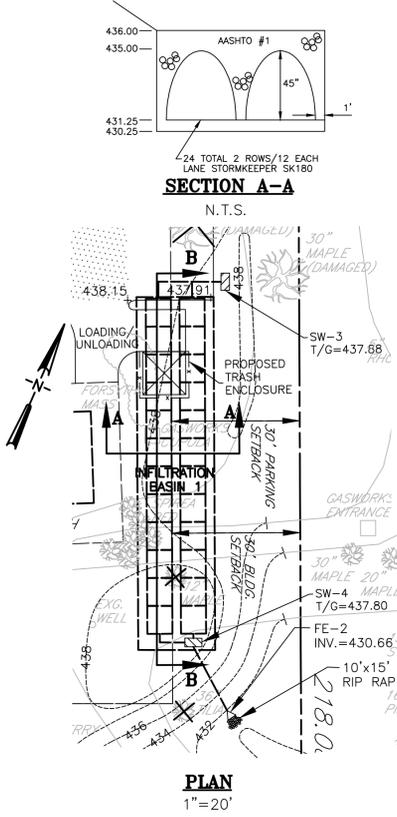
**PLAN**  
1"=20'



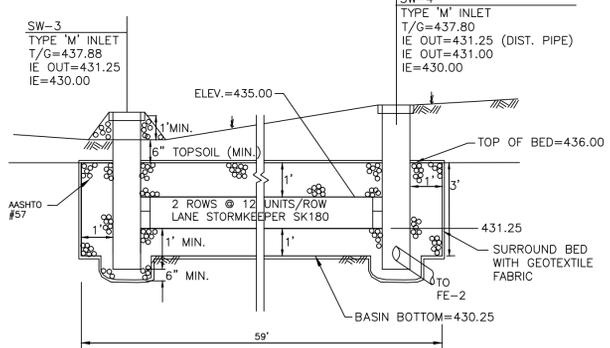
**SECTION A-A**  
N.T.S.



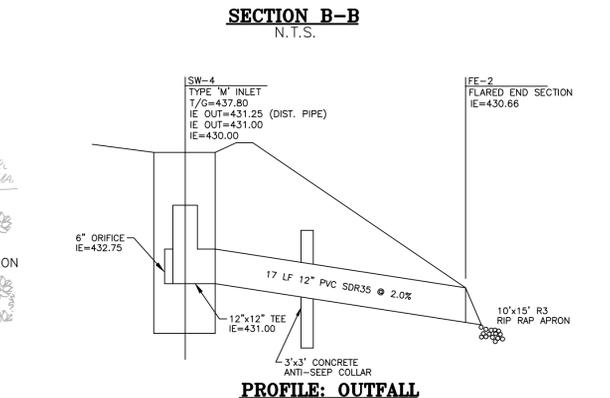
**SECTION B-B**  
N.T.S.



**PLAN**  
1"=20'



**SECTION A-A**  
N.T.S.



**SECTION B-B**  
N.T.S.

**PROFILE: OUTFALL**  
N.T.S.

**STORMWATER MANAGEMENT BASIN 1**

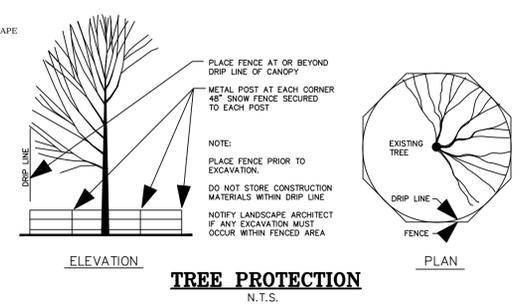
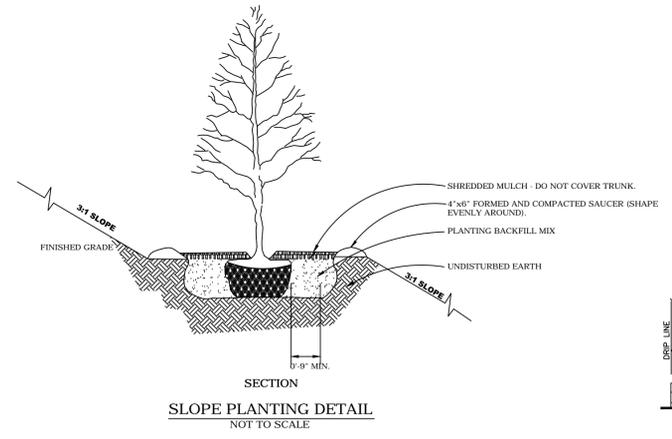
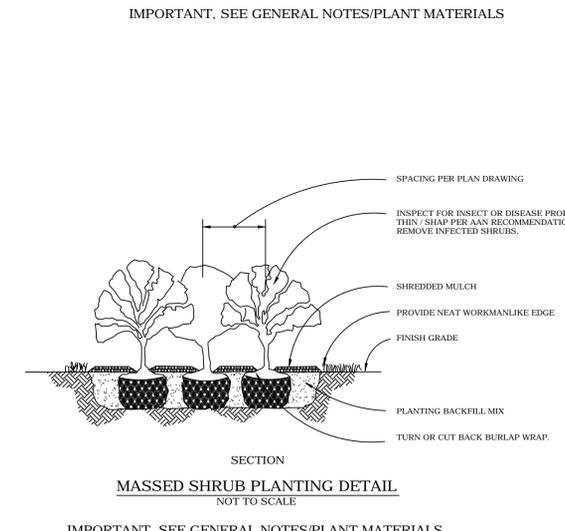
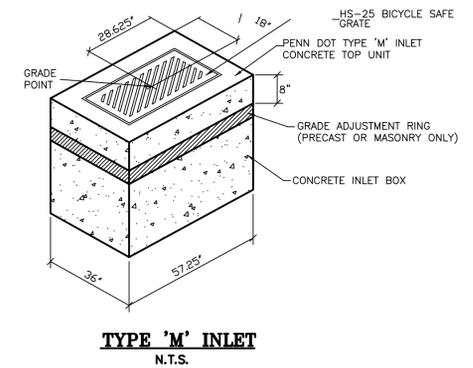
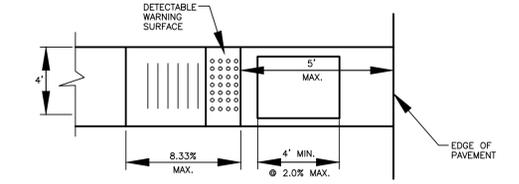
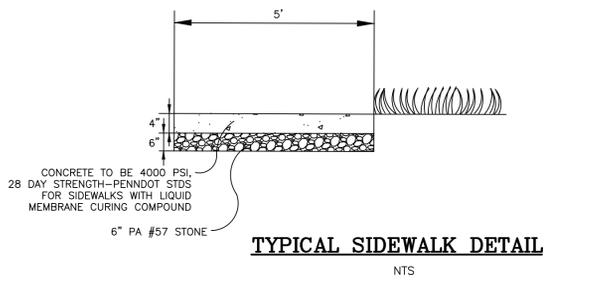
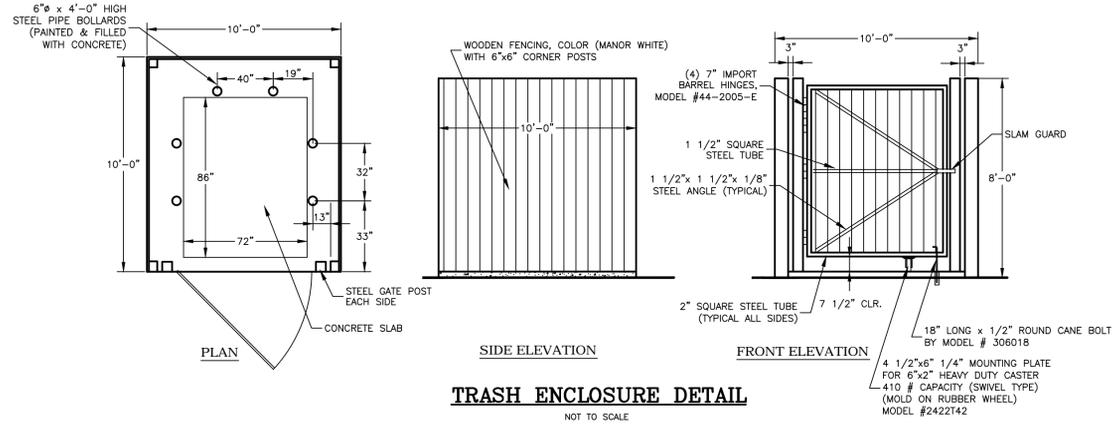
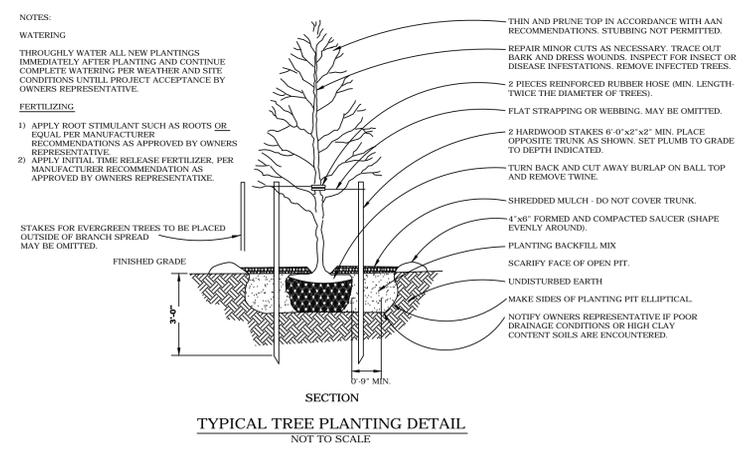
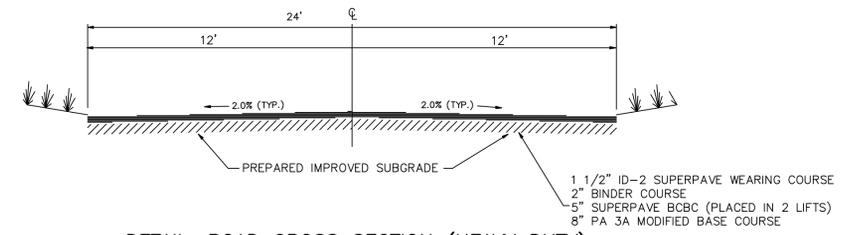
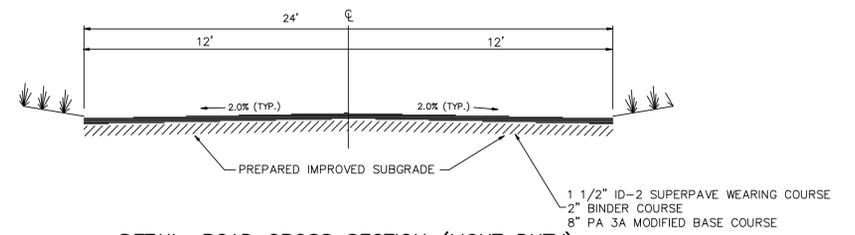
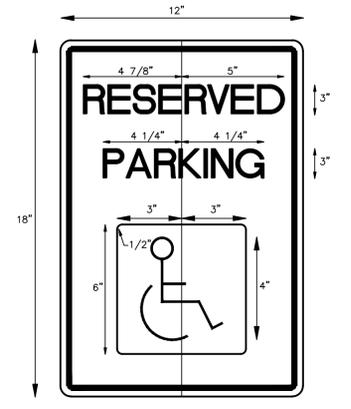
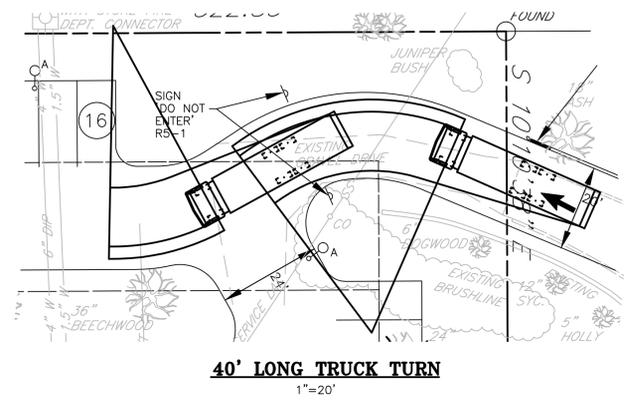
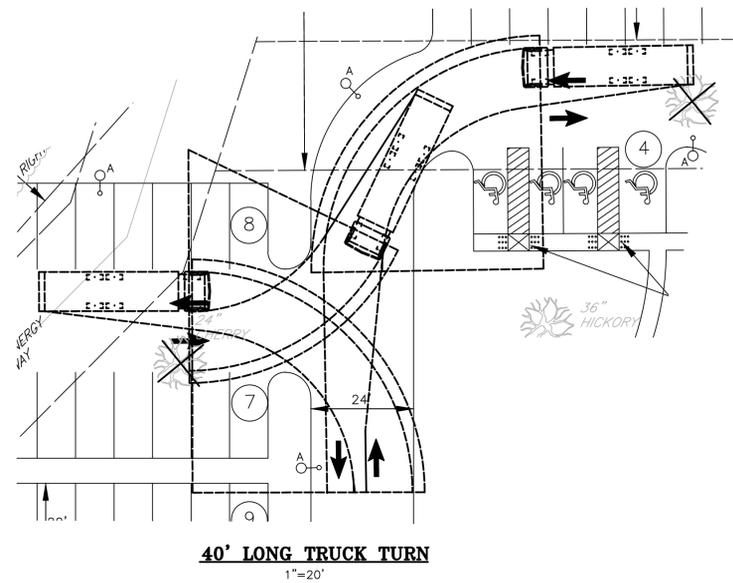
**INFILTRATION BASIN 1**

**LOCH AERIE**

East Whiteland Township, Chester County, Pennsylvania

	SITE DETAILS		Date: 3/6/2018	SHEET
	<b>NePo ASSOCIATES, INC.</b> Engineers, Surveyors & Environmental Scientists 458 E. KING ROAD MALVERN, PA 19355 (610) 429-0605 FAX(610) 296-3146		Scale: 1"=30'	
			Drawn By: M.W.N.	<b>SP-8</b>
			Checked By: D.P.P.	
			Project Eng.: D.P.P.	
			Dwg. No.: 096-09-SP8	
			Issued:	OF_9

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 5/17/18	6/13/18	MWN
2.	REVISED PER TOWNSHIP ENGINEER REVIEW LETTER DATED 6/25/18	8/16/18	MWN



# LOCH AERIE

East Whiteland Township, Chester County, Pennsylvania

SITE DETAILS		Date:	3/6/2018
Scale:		1"=30'	SHEET
Drawn By:		M.W.N.	<b>SP-9</b>
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Project Eng.:		D.P.P.	
Project No.:		096-09	
Dwg. No.:		096-09-SP9	OF 9
Issued:			



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