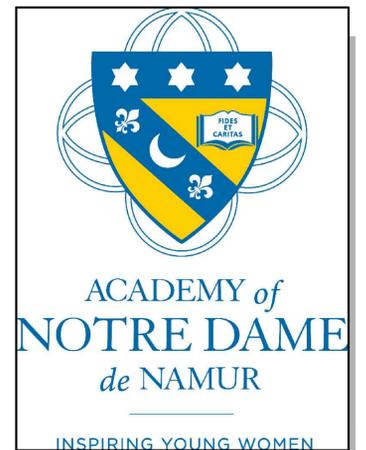


LOCATION MAP
SCALE: 1" = 600'

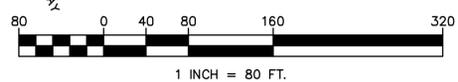
FINAL LAND DEVELOPMENT PLAN FOR ACADEMY OF NOTRE DAME de NAMUR

RADNOR TOWNSHIP DELAWARE COUNTY PENNSYLVANIA

OWNER/APPLICANT:
ACADEMY OF NOTRE DAME de NAMUR
560 SPROUL ROAD
VILLANOVA, PA 19085-1220
(610) 687-0650



- SHEET INDEX:**
- SHEET 01 - ILLUSTRATIVE SITE PLAN
 - SHEET 02 - RECORD PLAN
 - SHEET 03 - SOIL, VEGETATION, & WATER RESOURCES MAP
 - SHEET 04 - EXISTING CONDITIONS / REMOVALS PLAN
 - SHEET 05 - GRADING & UTILITY PLAN
 - SHEET 06 - POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
 - SHEET 07 - POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
 - SHEET 08 - EROSION AND SEDIMENTATION CONTROL PLAN
 - SHEET 09 - EROSION AND SEDIMENTATION CONTROL PLAN
 - SHEET 10 - EROSION AND SEDIMENTATION CONTROL DETAILS
 - SHEET 11 - EROSION AND SEDIMENTATION CONTROL DETAILS
 - SHEET 12 - PCSM DETAILS
 - SHEET 13 - PCSM DETAILS

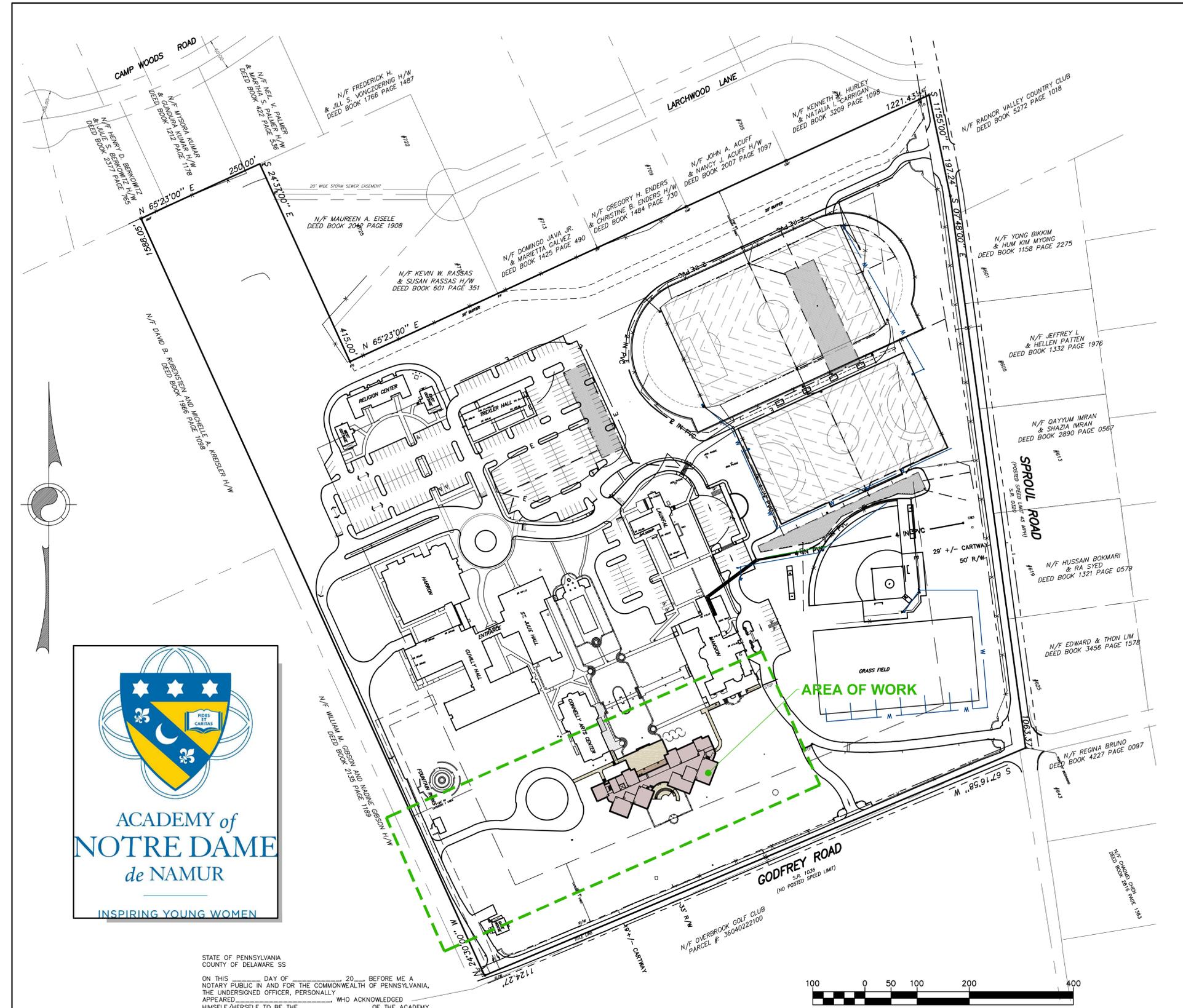


Serial Number: 20160541517
CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING
DAYS IN DESIGN STAGE-STOP CALL
Pennsylvania One Call System, Inc.
1-800-242-1776

ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.
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AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

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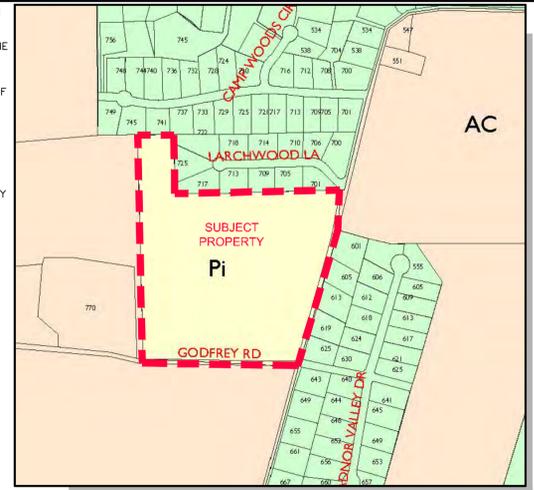
ILLUSTRATIVE SITE PLAN		FILE NO.:	15-372
ONE-CALL:	20160541517	OWNER/APPLICANT	ACADEMY OF NOTRE DAME
DRAWN BY:	BDM		560 SPROUL ROAD
CHECKED BY:	KRM		VILLANOVA, PA 19085-1220
PER. TIME ENG. COMMENTS		SHEET	1 OF 13
DATE		DATE:	AUGUST 31, 2016
		SCALE:	1" = 80'



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LOCATION MAP
SCALE: 1" = 600'
TOTAL AREA (TO THE TITLE LINE)
38.143 ACRES/1,661,497 S.F.

EXISTING IMPERVIOUS COVERAGE:		PROPOSED IMPERVIOUS COVERAGE:	
BUILDINGS	83,110 SF (5.0%)	BUILDINGS	97,932 SF (5.9%)
DRIVES/PARKING	208,524 SF	DRIVES/PARKING	219,533 SF (5.9%)
WALLS	3,399 SF	WALLS	3,126 SF
WALKS, PATIOS, ETC.	59,873 SF	WALKS, PATIOS, ETC.	66,086 SF
TRACK	60,136 SF	TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)	TOTAL	446,813 SF (26.9%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)	ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)	SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)	GRASSPAVE	1,664 SF (0.1%)

- GENERAL NOTES**
- OWNER/APPLICANT: NOTRE DAME DE NAMUR INC. 560 SPROUL ROAD VILLANOVA, PA 19085-1220 PHONE: 610-687-0650
 - TAX MAP PARCEL: 36-37-086-001
 - TAX FOLIO NUMBER: 36040284800
 - GROSS TRACT AREA: 1,661,497 S.F., 38.143 ACRES
 - SOURCE OF TITLE: DEED BOOK 2369, PAGE 796
 - BOUNDARY SURVEY, AND PARTIAL TOPOGRAPHIC SURVEY OF ACADEMY OF NOTRE DAME DE NAMUR GROUP INC. PERFORMED IN FEBRUARY 2016.
 - ADDITIONAL SITE INFORMATION TAKEN FROM A PLAN ENTITLED "MINOR GRADING PERMIT - ACADEMY OF NOTRE DAME DE NAMUR" PREPARED BY MOMENEE & ASSOCIATES, INC. DATED MARCH 31, 2014, LAST REVISED JULY 8, 2014. FILE # 12-043.
 - ADDITIONAL TOPOGRAPHY TAKEN FROM A PLAN ENTITLED "FINE ARTS BUILDING - ACADEMY OF NOTRE DAME DE NAMUR" PREPARED BY MOMENEE & ASSOCIATES INC. DATED AUGUST 12, 1998, LAST REVISED 12/14/98 (FILE #98114).
 - VERTICAL DATUM: U.S.G.S. BENCHMARK KV1909 "RADNOR 1961", ELEVATION 394.82.
 - WETLANDS MAPPING FROM NATIONAL WETLANDS INVENTORY MAP. NO WETLANDS ARE LOCATED WITHIN THE AREA OF THE PROPOSED IMPROVEMENTS.
 - THIS SITE IS NOT LOCATED WITHIN THE FEMA 100-YR FLOODPLAIN ZONE.
 - SOIL INFORMATION TAKEN FROM THE SOIL SURVEY FOR CHESTER AND DELAWARE COUNTIES PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.
 - PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA.
 - THE SITE IS SERVED BY PUBLIC SEWERS.
 - THE INTENT OF THIS PLAN SET IS TO SHOW THE CONSTRUCTION OF A NEW SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS BUILDING AND RELATED SITE IMPROVEMENTS.
 - THE STORMWATER MANAGEMENT IMPROVEMENTS SHOWN INCLUDE CONTROL OF THE PREVIOUSLY INSTALLED CONNELLY FINE ARTS BUILDING PATIO REPLACEMENT.

WAIVERS REQUESTED:

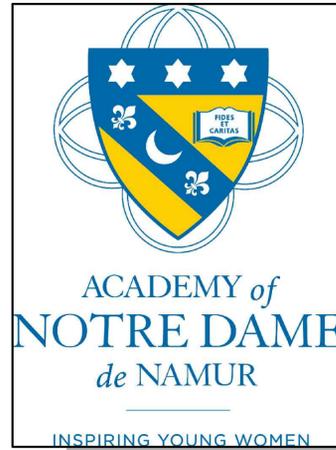
- § 255-20.B(5): REQUEST TO NOT PROVIDE A TRANSPORTATION IMPACT STUDY.
- § 255-27: B(3)(d) AND C(1): REQUEST TO NOT PROVIDE ADDITIONAL IMPROVEMENTS OR RIGHT-OF-WAY ALONG GODFREY ROAD (S.R. 1036).

EXISTING REQUIRED PARKING SPACES:	AREA USE DESCRIPTION	AREA USE QUANTITY	REQUIRED PARKING
OFFICE (NET SF)	7,604 SF	39 SPACES (1 SP PER 200 SF)	
LARGEST ASSEMBLY AREA	6,148 SF	154 SPACES (1 SP PER 40 SF)	
UNSPECIFIED AREA	12,652 SF	43 SPACES (1 SP PER 300 SF)	
TOTAL REQUIRED	236 SPACES		
TOTAL PROVIDED	310 SPACES		
SURPLUS	74 SPACES		

PROPOSED REQUIRED PARKING SPACES:	AREA USE DESCRIPTION	AREA USE QUANTITY	REQUIRED PARKING
OFFICE (NET SF)	9,474 SF	48 SPACES (1 SP PER 200 SF)	
LARGEST ASSEMBLY AREA	7,448 SF	187 SPACES (1 SP PER 40 SF)	
UNSPECIFIED AREA	14,552 SF	49 SPACES (1 SP PER 300 SF)	
TOTAL REQUIRED	284 SPACES		
TOTAL PROVIDED	310 SPACES		
SURPLUS	26 SPACES		

- LINE TYPE LEGEND:**
- ADJOINER LINE
 - EXISTING PROPERTY LINE
 - EXISTING RIGHT OF WAY
 - EXISTING BUILDING SETBACK
 - EXISTING FENCE
 - PROPOSED BUILDING AREA
 - PROPOSED IMPERVIOUS AREA

- SYMBOL LEGEND:**
- SURVEY MONUMENT
 - SURVEY MARKER



STATE OF PENNSYLVANIA
COUNTY OF DELAWARE SS

ON THIS _____ DAY OF _____ 20____, BEFORE ME A NOTARY PUBLIC IN AND FOR THE COMMONWEALTH OF PENNSYLVANIA, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED _____ WHO ACKNOWLEDGED HIMSELF/HERSELF TO BE THE _____ OF THE ACADEMY OF NOTRE DAME DENAMUR AND THE OWNER OF THE PROPERTY SHOWN ON THIS PLAN AND THE LAND DEVELOPMENT PLAN THEREOF WAS MADE AT HIS/HER DIRECTION AND THAT HE/SHE ACKNOWLEDGES THE SAME TO BE HIS/HER ACT AND PLAN AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN.

(SIGNATURE)

NOTARY PUBLIC OR OTHER OFFICER

MY COMMISSION EXPIRES: _____

ZONING DATA - PI (PLANNED INSTITUTIONAL DISTRICT):		EXISTING		PROPOSED	
ITEM	REQUIREMENT	38.143 ACRES (GROSS)	1,612,673 SF 37.022 ACRES (NET)	38.143 ACRES (GROSS)	1,612,673 SF 37.022 ACRES (NET)
LOT AREA	10 ACRES MINIMUM	1,612,673 SF 37.022 ACRES (NET)	1,243' ALONG SPROUL ROAD,	1,612,673 SF 37.022 ACRES (NET)	1,243' ALONG SPROUL ROAD,
LOT WIDTH	300' MIN	1,139' ALONG GODFREY ROAD	83,110 SF (5.0%)	1,139' ALONG GODFREY ROAD	97,932 SF (5.9%)
BUILDING AREA	MAX 30%	1,179,205 SF (73.1%)	170'	1,147,434 SF (71.2%)	<38' (STEM BUILDING)
REQUIRED GREEN AREA	NOT LESS THAN 55% OF NET AREA	170'	177'	170'	177'
BUILDING HEIGHT	38 FEET MAX	120' MIN FOR BUILDINGS	50'	120' MIN FOR BUILDINGS	50'
FRONT YARD	60' MIN FOR PARKING, VEHICULAR ACCESS**	MIN 125' FOR CATEGORY 1 USES	70'	MIN 125' FOR CATEGORY 1 USES	70'
SIDE YARD	MIN 125' FOR CATEGORY 1 USES	MIN 200' FOR CATEGORY 2 USES	116'	MIN 125' FOR CATEGORY 1 USES	116'
REAR YARD	MIN 200' FOR CATEGORY 2 USES	MIN 200' FOR CATEGORY 2 USES	108'	MIN 200' FOR CATEGORY 2 USES	108'

** WITH THE EXCEPTION OF APPROVED ACCESS ROADS

Serial Number: 20160541517

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776

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RECORD PLAN	FILE NO.: 15-372
MOMENEE, INC. a Karins Company ENGINEERING PLANNING SURVEYING	
FINAL LAND DEVELOPMENT PLAN	
ACADEMY OF NOTRE DAME - STEM BUILDING	
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA	
ONE-CALL: 20160541517	OWNER/APPLICANT: ACADEMY OF NOTRE DAME
DRAWN BY: BDM	VILLANOVA, PA 19085-1220
CHECKED BY: KRM	
DATE: AUGUST 31, 2016	SHEET 2 OF 13
SCALE: 1" = 100'	

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SOURCE OF TITLE
 ACADEMY OF NOTRE DAME
 560 SPROUL RD
 VILLANOVA PA 19085-1220
 PARCEL # 36040264800
 PIN # 36-37-086:001
 DEED BOOK-PAGE: 4027-0810

GENERAL NOTES

- OWNER/APPLICANT: NOTRE DAME DE NAMUR INC. 560 SPROUL ROAD VILLANOVA, PA 19085-1220 PHONE: 610-687-0650
- TAX MAP PARCELS: 36-37-086-001
- TAX TOLID NUMBER: 36040264800
- GROSS TRACT AREA: 1,661,497 S.F., 38.143 ACRES
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- PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA. THE SITE IS SERVED BY PUBLIC SEWERS.

EXISTING IMPERVIOUS COVERAGE:

BUILDINGS	83,110 SF (5.0%)
DRIVES/PARKING	208,524 SF
WALLS	3,309 SF
WALKS, PATIOS, ETC.	59,873 SF
TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)

LINE TYPE LEGEND:

---	ADJOINER LINE
---	EXISTING PROPERTY LINE
---	EXISTING RIGHT OF WAY
---	EXISTING BUILDING SETBACK
---	EXISTING FENCE
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING ELECTRIC LINE
---	EXISTING GAS LINE
---	EXISTING WATER LINE
---	EXISTING SANITARY LINE
---	EXISTING STORM PIPES
---	EXISTING 1' MINOR CONTOUR
---	EXISTING 5' MAJOR CONTOUR
---	TO BE REMOVED
---	EXISTING SLOPES 14-20%
---	EXISTING SLOPES 20%+

SYMBOL LEGEND:

□	SURVEY MONUMENT
○	SURVEY MARKER
⊙	LIGHT
⊕	UTILITY POLE
●	EXISTING TREE
✕	TREE TO BE REMOVED

SOILS INFORMATION

NAME	% SLOPE	DEPTH TO WATER	DEPTH TO BEDROCK	EROD.	HYDRO GROUP	SOIL LIMITATIONS
GeB	3-8	6.6+	4.17	Moderate	B	Moderate
Glentg						
Channery Silt Loam						

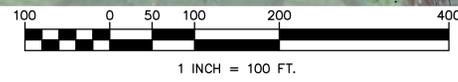
Serial Number: 20160541517

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SOIL, VEGETATION & WATER RESOURCES MAP FILE NO.: 15-372

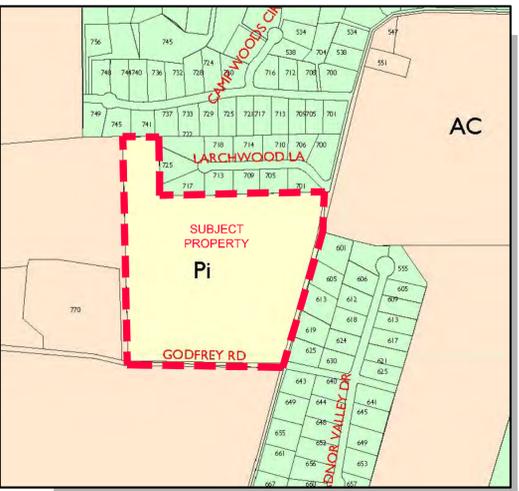
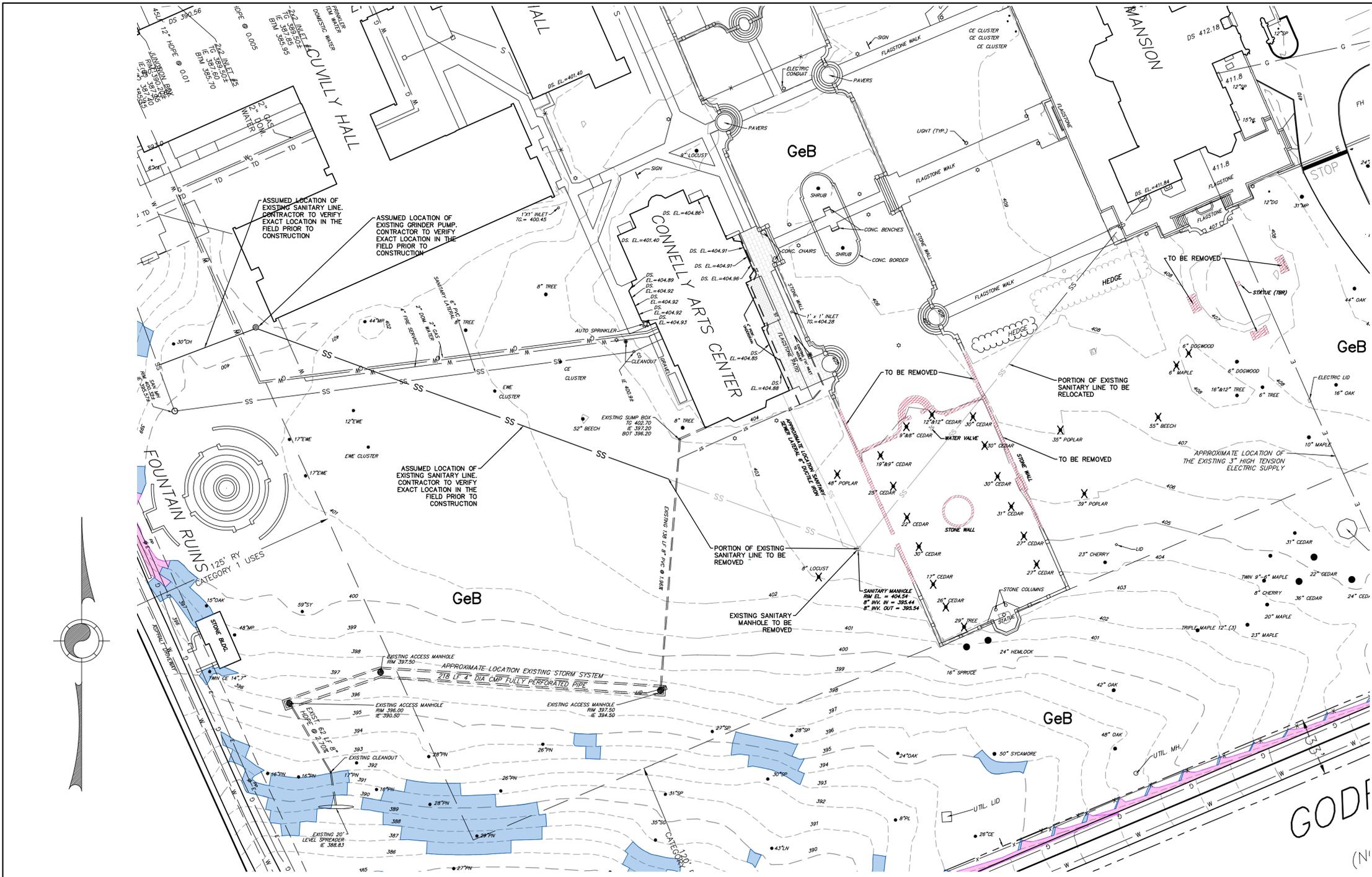
MOMENEE, INC.
 a Karins Company
 ENGINEERING | PLANNING | SURVEYING

REGISTERED PROFESSIONAL ENGINEER
 KEVIN R. MOMENEE
 ENGINEER PE020328E

FINAL LAND DEVELOPMENT PLAN
ACADEMY OF NOTRE DAME - STEM BUILDING
 RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

ONE-CALL:	20160541517	OWNER/APPLICANT:	ACADEMY OF NOTRE DAME
DRAWN BY:	BDM		560 SPROUL ROAD
CHECKED BY:	KRM		VILLANOVA, PA 19085-1220

SHEET **3** OF 13
 DATE: AUGUST 31, 2016
 SCALE: 1" = 100'



LOCATION MAP
SCALE: 1" = 600'

SOURCE OF TITLE
ACADEMY OF NOTRE DAME
560 SPROUL RD
VILLANOVA PA 19085-1220
PARCEL #: 36040264800
PIN #: 36-37-086:001
DEED BOOK-PAGE: 4027-0810

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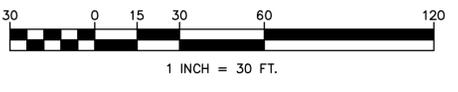
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---	EXISTING ELECTRIC LINE
---	EXISTING GAS LINE
---	EXISTING WATER LINE
---	EXISTING SANITARY LINE
---	EXISTING STORM PIPES
---	EXISTING 1" MINOR CONTOUR
---	EXISTING 5' MAJOR CONTOUR
---	TO BE REMOVED
---	EXISTING SLOPES 14-20%
---	EXISTING SLOPES 20%+

SYMBOL LEGEND:

□	SURVEY MONUMENT
○	SURVEY MARKER
☆	LIGHT
○	UTILITY POLE
●	EXISTING TREE
✕	TREE TO BE REMOVED

SOILS INFORMATION

NAME	DEPTH TO WATER	DEPTH TO BEDROCK	HYDRO GROUP	EROD.	SOIL LIMITATIONS
GeB Glenely Chanery Silt Loam	3-8 6.6+	4.17	Moderate	B	Moderate



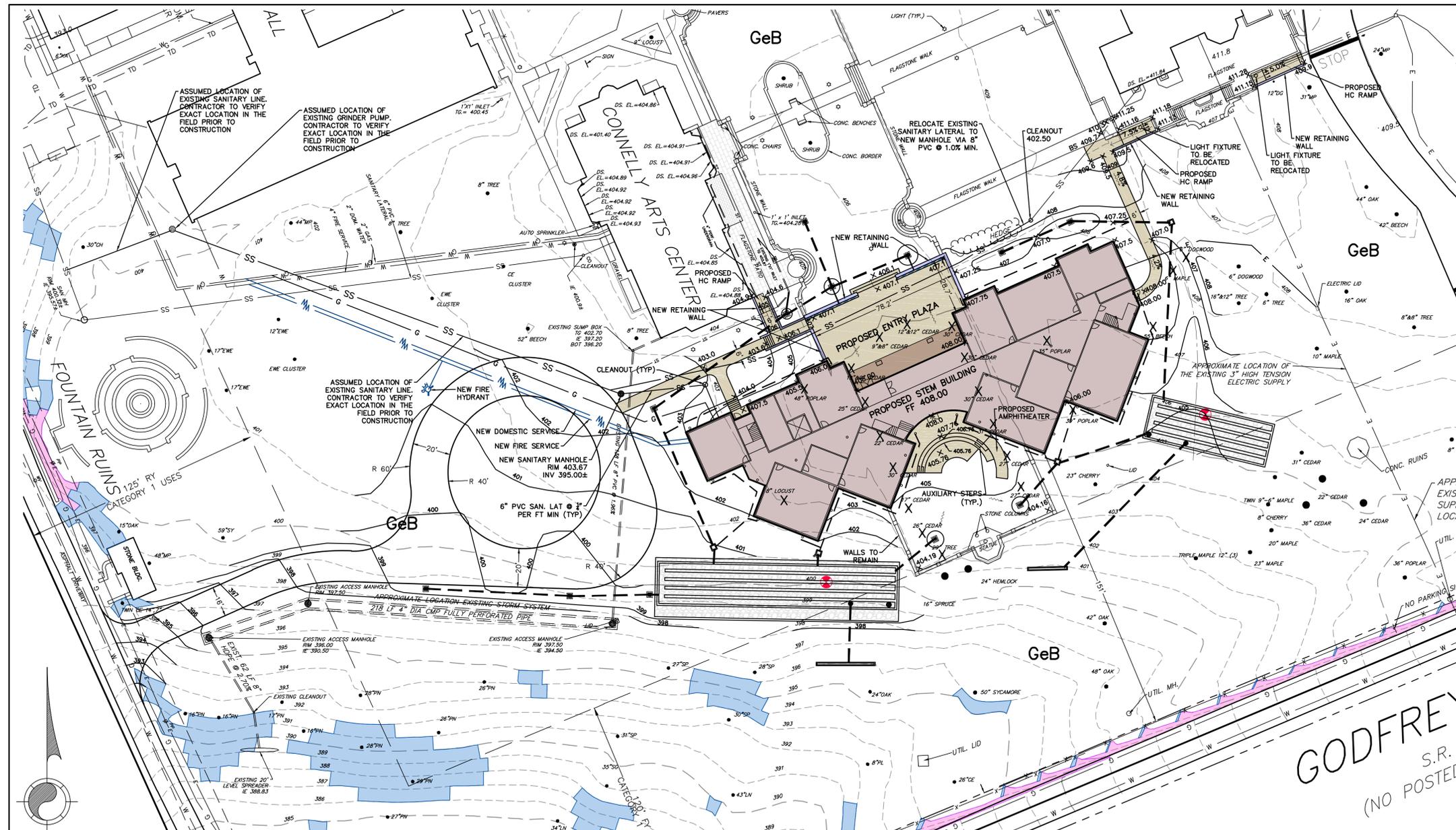
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AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK, THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

DISCLAIMER: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY DISCLAIMS ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS AND DRAWINGS. ANY REUSE OR REPRODUCTION OF THESE PLANS AND DRAWINGS WITHOUT THE WRITTEN PERMISSION OF MOMENEE, INC. IS STRICTLY PROHIBITED. MOMENEE, INC. SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE, LOSS, OR EXPENSES INCURRED BY ANY PARTY AS A RESULT OF THE USE OF THESE PLANS AND DRAWINGS.

EXISTING CONDITIONS / REMOVALS PLAN		FILE NO.: 15-372
FINAL LAND DEVELOPMENT PLAN ACADEMY OF NOTRE DAME - STEM BUILDING		
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA		
ONE-CALL: 20160541517	OWNER/APPLICANT: ACADEMY OF NOTRE DAME	
DRAWN BY: BDM	560 SPROUL ROAD	
CHECKED BY: KRM	VILLANOVA, PA 19085-1220	
DATE: 08/31/2016	SHEET 4 OF 13	SCALE: 1" = 30'



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Serial Number: 20160541517

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL

Penncast One Call System, Inc.
1-800-242-1776

CONTRACTOR: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY DISCLAIMS ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPERTIES RIGHTS IN THESE PLANS AND DRAWINGS, BEING THE PROPERTY OF MOMENEE, INC. THEY ARE TO BE USED ONLY WITH RESPECT TO THE PROJECT AND ARE NOT TO BE ASSIGNED TO ANY THIRD PARTY. PERIODIC REVISIONS OR AMENDMENTS TO THESE PLANS AND DRAWINGS SHALL BE MADE BY MOMENEE, INC. WITHOUT WRITTEN PERMISSION OF MOMENEE, INC. ANY RE-USE WITHOUT WRITTEN PERMISSION, REPRODUCTION, COPIES OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO MOMENEE, INC. MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES INCURRED, INCLUDING REASONABLE ATTORNEY'S FEES.

SYMBOL LEGEND:

☐	SURVEY MONUMENT
○	SURVEY MARKER
⊗	PERC TEST
☆	LIGHT
⊕	UTILITY POLE
●	EXISTING TREE
✕	TREE TO BE REMOVED
✕ 405.5	PROPOSED SPOT ELEVATION

LINE TYPE LEGEND:

---	EXISTING PROPERTY LINE
- - - -	EXISTING RIGHT OF WAY
- · - · -	EXISTING FENCE
- · - · - ·	EXISTING OVERHEAD ELECTRIC
- · - · - · -	EXISTING ELECTRIC LINE
- · - · - · - ·	EXISTING GAS LINE
- · - · - · - · -	EXISTING WATER LINE
- · - · - · - · - ·	EXISTING SANITARY LINE
- · - · - · - · - · -	EXISTING STORM PIPES
- · - · - · - · - · - ·	EXISTING 1" MINOR CONTOUR
- · - · - · - · - · - · -	EXISTING 5' MAJOR CONTOUR
- · - · - · - · - · - · - ·	PROPOSED CONTOUR
- · - · - · - · - · - · - · -	PROPOSED STORM PIPE
- · - · - · - · - · - · - · - ·	PROPOSED BUILDING AREA
- · - · - · - · - · - · - · - · -	PROPOSED IMPERVIOUS AREA

TREES TO BE REMOVED:

1-6" MAPLE	19'-8" CEDAR	4-30" CEDAR
1-6" DOGWOOD	1-22" CEDAR	1-31" CEDAR
1-8" LOCUST	1-25" CEDAR	1-35" POPLAR
8'-8" CEDAR	1-26" CEDAR	1-39" POPLAR
12'-12" CEDAR	2-27" CEDAR	1-48" POPLAR
1-17" CEDAR	1-29" TREE	1-55" BEECH

TREE REPLACEMENT FORMULA:

6 - 18 INCH DBH REMOVED	=	1 REPLACEMENT TREE
19 - 29 INCH DBH REMOVED	=	3 REPLACEMENT TREES, 2 BEING LARGE CANOPY TREES
30 INCH DBH & GREATER REMOVED	=	6 REPLACEMENT TREES, 4 BEING LARGE CANOPY TREES

TOTAL TREES BEING REMOVED:

6 - 18 INCH DBH	=	9
19 - 29 INCH DBH	=	7
30 INCH DBH & GREATER	=	9
TOTAL	=	25

REPLACEMENT TREES REQUIRED = 84, 50 BEING LARGE CANOPY TREES

NOTE: SHOULD ANY ADDITIONAL TREES BE REMOVED, ADDITIONAL REPLACEMENT TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE RADNOR TOWNSHIP ORDINANCE No. 2012-05.

TREE REPLACEMENT NOTES:

- 1) REPLACEMENT TREES WILL BE SELECTED FROM THE LIST OF TOWNSHIP APPROVED TREES PRIOR TO THE ISSUANCE OF A GRADING PERMIT.
- 2) TREES TO BE PLANTED OUTSIDE OF REQUIRED SITE LINE.

CARE OF EXISTING TREES:

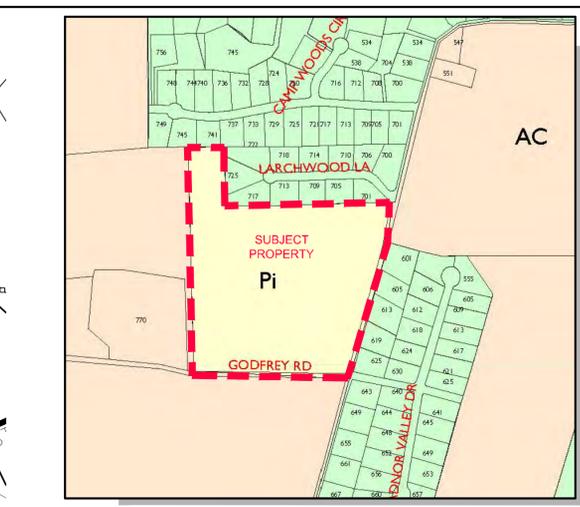
1. TREE PROTECTION FENCING SHALL BE INSTALLED TO PROTECT ALL EXISTING TREES FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES, AND OTHERS. MAINTAIN PROTECTION FENCING FOR THE DURATION OF PROJECT.
2. SELECTIVELY PRUNE EXISTING TREES AT THE EDGE OF ALL TREE PROTECTION ZONES, AND OTHER EXISTING TREES AFFECTED BY CONSTRUCTION, UNDER LANDSCAPE ARCHITECT'S DIRECTION. REMOVE SUCKER SHOOTS, DEAD, RUBBING AND DAMAGED BRANCHES.
3. ANY EXCAVATION NEAR ADJACENT ROOT SYSTEMS WILL REQUIRE ROOT PRUNING OF AFFECTED TREE(S).
4. FERTILIZE PRUNED EXISTING TREES WITH 3 TO 4 LBS. OF LIQUID FERTILIZER PER 1,000 SQUARE FEET OF DRIP AREA, OR, 5 GALLONS OF LIQUID FERTILIZER PER CALIPER INCH OF TRUNK DIAMETER.
5. FERTILIZE IN EARLY SPRING BEFORE GROWTH BEGINS.
6. FERTILIZE BEGINNING 2' FROM TRUNK AT INTERVALS 2' TO 3' ON CENTER IN A GRID-LIKE PATTERN TO A DEPTH OF 6-18" WITHIN THE DRIFLINE AND BEYOND WHERE POSSIBLE. INJECTION FERTILIZATION METHOD SHALL BE ACCEPTABLE SUBJECT TO LANDSCAPE ARCHITECT'S APPROVAL.

NOTES:

- 1.) THE STORMWATER MANAGEMENT FACILITIES ARE DESIGNED FOR THE NEW AND/OR REPLACEMENT IMPERVIOUS COVER ON SITE PLUS AN ADDITIONAL 1,000 SF FOR POSSIBLE FUTURE DEVELOPMENT. IF THIS IS CONSTRUCTED IN THE FUTURE, 500 SF MAY BE DIRECTED TO PCSM #1 AND 500 SF MAY BE DIRECTED TO PCSM #2. IN ADDITION, THE STORMWATER FACILITIES WERE DESIGNED TO ACCOUNT FOR 1,668 SF OF IMPERVIOUS COVER FROM THE CONNELLY CENTER PATIO.
- 2.) THE MAINTENANCE OF THE ON-SITE STORMWATER MANAGEMENT FACILITIES IS THE RESPONSIBILITY OF THE OWNER.
- 3.) THE TOWNSHIP ENGINEER'S OFFICE SHALL BE NOTIFIED 48 HOURS PRIOR TO THE CONSTRUCTION OF THE SEEPAGE BED AND PRIOR TO THE START OF EARTHMOVING ACTIVITIES.
- 4.) ON-SITE TREES ARE TO BE SAVED AND PRESERVED WHEREVER POSSIBLE.
- 5.) ALL WOODY VEGETATION IS TO BE RETAINED WITHIN TWENTY-FIVE FEET OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT THE DRIFLINES.
- 6.) GRADE CHANGES AROUND THE DRIFLINES OF TREES TO BE RETAINED SHALL BE MINIMIZED. TREATMENT OF TREES TO CONSTRUCTION TO PROTECT THE ROOT SYSTEM SHALL BE PERFORMED.
- 7.) ALL DISTURBED ROOTS MUST BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH MUST BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING COMPACTION. TREE LIMBS MUST BE CUT BACK IN PROPORTION TO THE ROOT AREA LOSS.
- 8.) ON-SITE TREES TO BE SAVED SHALL BE PREPARED FOR CONSTRUCTION BY APPROPRIATE FERTILIZATION AND PROTECTED BY APPROPRIATE FENCING. ALL TREES ARE TO BE DEEP ROOT FERTILIZED USING 16-32-16 SLOW RELEASE, WATER DISPENSIBLE @ 15 LBS. PER 100 GALLON OR EQUAL.
- 9.) A GENERAL EASEMENT IS HEREBY CREATED OVER THE STORMWATER MANAGEMENT SYSTEM THAT PERMITS INGRESS AND EGRESS BY RADNOR TOWNSHIP.

SOILS INFORMATION

DEPTH TO TOP OF WATER BEDROCK	DEPTH TO HYDRO SOIL LIMITATIONS	GROUP
GeB Geniel Channery Silt Loam	3-8 6.6+	4.17 Moderate B Moderate



LOCATION MAP
SCALE: 1" = 600'

SOURCE OF TITLE
ACADEMY OF NOTRE DAME
560 SPROUL RD
VILLANOVA PA 19085-1220
PARCEL #: 36040264800
PIN #: 36-37-096-001
DEED BOOK-PAGE: 4027-0810

GENERAL NOTES:

1. VERTICAL DATUM: U.S.G.S. BENCHMARK KV1909 "RADNOR 1961", ELEVATION 394.82.
2. WETLANDS MAPPING FROM NATIONAL WETLANDS INVENTORY MAP. NO WETLANDS ARE LOCATED WITHIN THE AREA OF THE PROPOSED WORK.
3. THIS SITE IS NOT LOCATED WITHIN THE FEMA 100-YR FLOODPLAIN ZONE.
4. PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA.
5. THE SITE IS SERVED BY PUBLIC SEWERS.
6. THE REFERENCED SURVEY(S), AND THIS PLAN, WERE COMPLETED WITHOUT THE AVAILABILITY OF A CURRENT TITLE REPORT AND SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED IN A FULL AND ACCURATE TITLE REPORT.
7. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
9. THE PA ONE-CALL NUMBER FOR THIS SITE IS 20160541517.
10. SOIL DATA RETRIEVED VIA THE WEB SOIL SURVEY PROVIDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE AVAILABLE ONLINE AT <http://websoilsurvey.nrcs.usda.gov/>.

EXISTING IMPERVIOUS COVERAGE:

BUILDINGS	83,110 SF (5.0%)
DRIVES/PARKING	208,524 SF
WALLS	3,399 SF
WALKS, PATIOS, ETC.	59,815 SF
TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)

ARTIFICIAL TURF FIELDS

SOFTBALL INFIELD MIX	156,795 SF (9.4%)
GRASSPAVE	18,426 SF (1.1%)
TOTAL	1,664 SF (0.1%)

IMPERVIOUS COVERAGE TO BE REMOVED:

WALLS	581 SF
WALKS, PATIOS, ETC.	223 SF
TOTAL	804 SF

IMPERVIOUS COVERAGE TO BE ADDED:

BUILDINGS	14,822 SF
DRIVES/PARKING	11,009 SF
WALLS	308 SF
WALKS, PATIOS, ETC.	6,436 SF
TRACK	60,136 SF
TOTAL	32,575 SF

PROPOSED IMPERVIOUS COVERAGE:

BUILDINGS	97,932 SF (5.9%)
DRIVES/PARKING	219,533 SF
WALLS	3,126 SF
WALKS, PATIOS, ETC.	66,086 SF
TRACK	60,136 SF
TOTAL	446,813 SF (26.9%)

ARTIFICIAL TURF FIELDS

SOFTBALL INFIELD MIX	156,795 SF (9.4%)
GRASSPAVE	18,426 SF (1.1%)
TOTAL	1,664 SF (0.1%)

GRADING & UTILITY PLAN

FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

FINAL LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

ONE-CALL:	20160541517	OWNER/APPLICANT	ACADEMY OF NOTRE DAME
DRAWN BY:	BDM		560 SPROUL ROAD
CHECKED BY:	KRM		VILLANOVA, PA 19085-1220

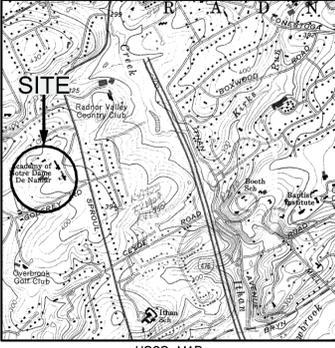
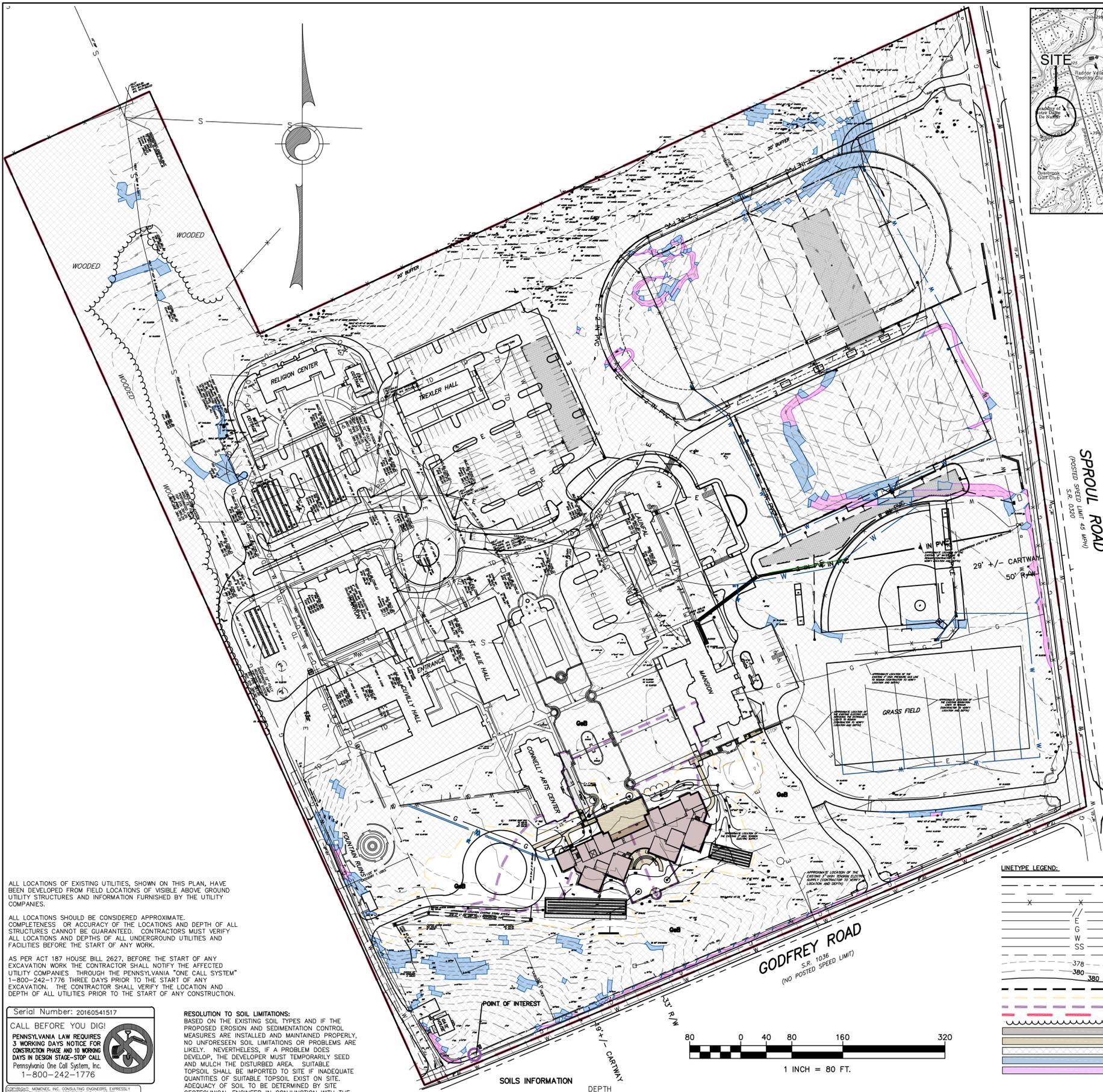
REGISTERED PROFESSIONAL ENGINEER
KEVIN R. MOMENEE
ENGINEER PE020328E

FINAL LAND DEVELOPMENT PLAN

SHEET 5 OF 13

DATE: AUGUST 31, 2016

SCALE: 1" = 30'



USGS MAP



SOILS MAP



LOCATION MAP
SCALE: 1" = 2,000'

PCSM REPORTING AND RECORD KEEPING:
THE PCSM PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

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 18 PA.C.S.A. 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS:
UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPs ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs.

FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORD INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPs AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEE, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER 102.22(b)(5) RELATING TO PERMIT TERMINATION.

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

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

RECYCLING OR DISPOSAL OF MATERIALS:
THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

PCSM WASTE IS LIMITED TO THE SEDIMENT THAT COLLECTS IN INLET SUMPS AND/OR SWM SYSTEMS. THESE STRUCTURES SHALL BE CLEANED OUT IN ACCORDANCE WITH THE PROVIDED OPERATION AND MAINTENANCE REQUIREMENTS OF THOSE STRUCTURES AND DISPOSED OF PROPERLY.

IN THE EVENT A POLLUTION INCIDENT OCCURS WHICH CAUSES OR THREATENS TO CAUSE SURFACE OR GROUNDWATER POLLUTION, THE OWNER SHALL:
(1) PROMPTLY NOTIFY THE DEPARTMENT BY TELEPHONE OF THE LOCATION AND NATURE OF THE DANGER;
(2) NOTIFY ALL KNOWN DOWNSTREAM USERS OF THE WATER;
(3) IMMEDIATELY TAKE ALL NECESSARY STEPS TO PREVENT INJURY TO PROPERTY AND DOWNSTREAM USERS, AND PROTECT WATERS FROM POLLUTION OR DANGER OF POLLUTION;
(4) REMOVE ANY CONTAMINATION FROM AFFECTED GROUND OR SURFACE WATER TO THE EXTENT REQUIRED BY THE DEPARTMENT.

PROTECTED NATURAL / SENSITIVE RESOURCES:

RESOURCE	EXISTING	PROTECTED
WATERBODIES	0 ACRES	0 ACRES
FLOODPLAINS	0 ACRES	0 ACRES
WETLANDS	0 ACRES	2.06 ACRES
WOODLANDS	0 ACRES	0.69 ACRES
STEEP SLOPES 15%-25%	0.69 ACRES	0.30 ACRES
STEEP SLOPES OVER 25%	0.30 ACRES	3.05 ACRES
TOTAL PROTECTED AREA =	3.05 ACRES	3.05 ACRES
AREA OF MINIMUM DISTURBANCE =	33.00 ACRES	
TOTAL PROTECTED AREA =	36.05 ACRES	

OWNER / APPLICANT:
ACADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085

PERMITS / COMMENTS:

DATE: _____
BY: _____

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Serial Number: 20160541517
CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN PHASE-STOP CALL
Pennsylvania One Call System, Inc.
1-800-242-1776

RESOLUTION TO SOIL LIMITATIONS:
BASED ON THE EXISTING SOIL TYPES AND IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY THE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

SPECIFIC GEOLOGIC AND SOIL CONDITIONS:
NO SPECIAL SOIL OR GEOLOGIC ISSUES ARE KNOWN.

SOILS INFORMATION

NAME	SLOPE	DEPTH TO S. H. WATER	DEPTH TO BEDROCK	ERODIBILITY	GROUP	HYDRO LIMITATIONS	LOAD BEARING CAPACITY	GRAVEL SOURCE	TOPSOIL SOURCE	POND RESERVOIR AREAS	EMBANKMENTS	IRRIGATION	RESIDENTIAL DEVELOPMENT	LAWNS
GaB	3-8	6.6+	4.17	Moderate	B	Moderate	Not Limited	Poor	Poor	Somewhat Limited	Very Limited	Somewhat Limited	Not Limited	Somewhat Limited
GlenG														
Channery														
Silt Loam														

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POST CONSTRUCTION STORMWATER MANAGEMENT PLAN FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

REGISTERED PROFESSIONAL ENGINEER
KEVIN R. MOMENEE
DNUMBER PE002022E

FINAL LAND DEVELOPMENT PLAN
ACADEMY OF NOTRE DAME - STEM BUILDING
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

ONE-CALL: 20160541517	OWNER/APPLICANT: ACADEMY OF NOTRE DAME	SHEET 6 OF 13
DRAWN BY: BDM	560 SPROUL ROAD	DATE: AUGUST 31, 2016
CHECKED BY: KRM	VILLANOVA, PA 19085-1220	SCALE: 1" = 80'

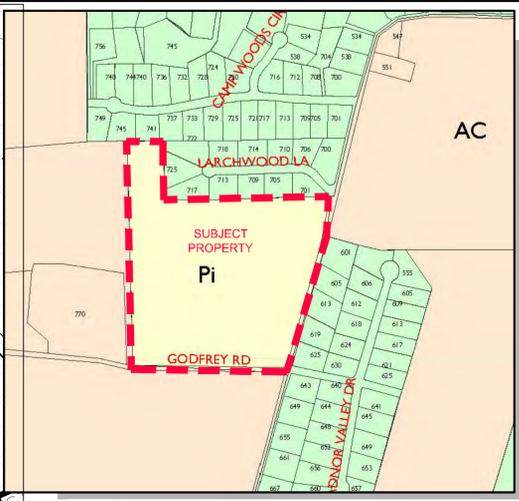
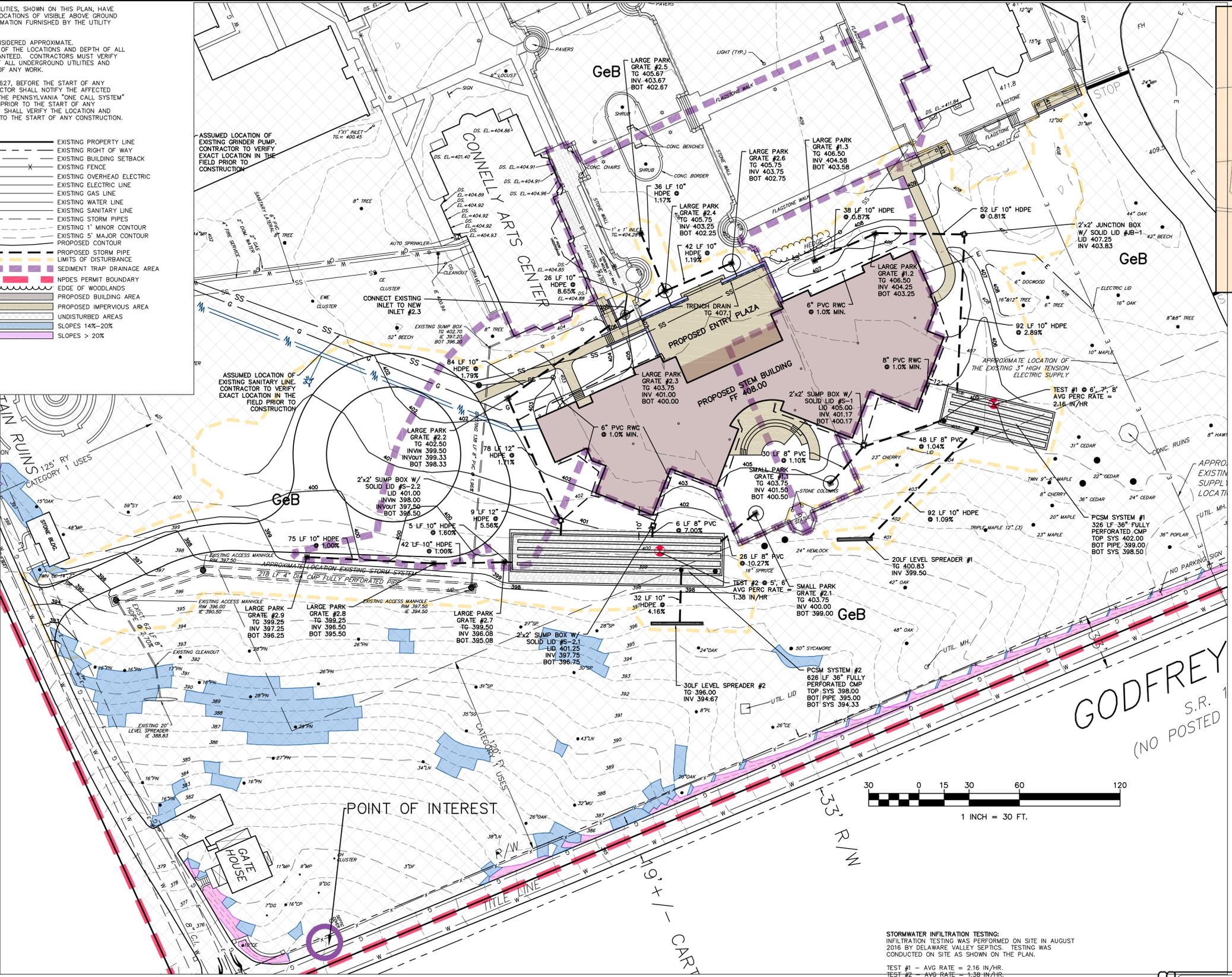
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- LINE TYPE LEGEND:**
- EXISTING PROPERTY LINE
 - EXISTING RIGHT OF WAY
 - EXISTING BUILDING SETBACK
 - EXISTING FENCE
 - EXISTING OVERHEAD ELECTRIC
 - EXISTING ELECTRIC LINE
 - EXISTING GAS LINE
 - EXISTING WATER LINE
 - EXISTING SANITARY LINE
 - EXISTING STORM PIPES
 - EXISTING 1' MINOR CONTOUR
 - EXISTING 5' MAJOR CONTOUR
 - PROPOSED STORM PIPE
 - LIMITS OF DISTURBANCE
 - SEDIMENT TRAP DRAINAGE AREA
 - NPDES PERMIT BOUNDARY
 - EDGE OF WOODLANDS
 - PROPOSED BUILDING AREA
 - PROPOSED IMPERVIOUS AREA
 - UNDISTURBED AREAS
 - SLOPES 14% - 20%
 - SLOPES > 20%

- SYMBOL LEGEND:**
- SURVEY MONUMENT
 - SURVEY MARKER
 - ⊗ PERC TEST
 - ⊙ LIGHT
 - ⊙ 405.5 PROPOSED SPOT ELEVATION
 - UTILITY POLE
 - EXISTING TREE
 - ✕ TREE TO BE REMOVED



LOCATION MAP
SCALE: 1" = 600'

SOURCE OF TITLE
ACADEMY OF NOTRE DAME
560 SPOUL RD
VILLANOVA PA 19085-1220
PARCEL # 36040264800
PIN # 36-37-086:001
DEED BOOK # PAGE: 4027-0810

- GENERAL NOTES:**
- VERTICAL DATUM: U.S.G.S. BENCHMARK KV1909 "RADNOR 1961", ELEVATION 394.82.
 - WETLANDS MAPPING FROM NATIONAL WETLANDS INVENTORY MAP. NO WETLANDS ARE LOCATED WITHIN THE AREA OF THE PROPOSED WORK.
 - THIS SITE IS NOT LOCATED WITHIN THE FEMA 100-YR FLOODPLAIN ZONE.
 - PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA. THE SITE IS SERVED BY PUBLIC SEWERS.
 - THE REFERENCED SURVEY(S), AND THIS PLAN, WERE COMPLETED WITHOUT THE AVAILABILITY OF A CURRENT TITLE REPORT AND SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED IN A FULL AND ACCURATE TITLE REPORT.
 - THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
 - THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
 - THE PA ONE-CALL NUMBER FOR THIS SITE IS 20160541517.
 - SOIL DATA RETRIEVED VIA THE WEB SOIL SURVEY PROVIDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE AVAILABLE ONLINE AT <http://websoilsurvey.nrcs.usda.gov/>.

EXISTING IMPERVIOUS COVERAGE:

BUILDINGS	83,110 SF (5.0%)
DRIVES/PARKING	208,524 SF (13.1%)
WALLS	3,399 SF
WALKS, PATIOS, ETC.	59,873 SF
TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)

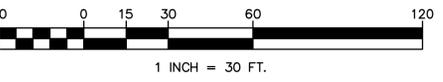
ARTIFICIAL TURF FIELDS 156,795 SF (9.4%)
SOFTBALL INFIELD MIX 18,426 SF (1.1%)
GRASSPAVE 1,664 SF (0.1%)

PROPOSED IMPERVIOUS COVERAGE:

BUILDINGS	97,932 SF (5.9%)
DRIVES/PARKING	219,533 SF (13.7%)
WALLS	3,126 SF
WALKS, PATIOS, ETC.	66,086 SF
TRACK	60,136 SF
TOTAL	446,813 SF (26.9%)

ARTIFICIAL TURF FIELDS 156,795 SF (9.4%)
SOFTBALL INFIELD MIX 18,426 SF (1.1%)
GRASSPAVE 1,664 SF (0.1%)

- OPERATION AND MAINTENANCE NOTES:**
- INFILTRATION TESTING WAS PERFORMED ON SITE IN AUGUST 2016 BY DELAWARE VALLEY SEPTICS. TESTING WAS CONDUCTED ON SITE AS SHOWN ON THE PLAN.
 - THE PROPERTY OWNER SHALL NOT ALTER OR REMOVE THE STORMWATER FACILITIES ON THE SITE.
 - GENERAL OBJECTIVES OF MAINTENANCE ARE TO PREVENT CLOGGING OF THE INLETS, OUTLETS, PREVENT STANDING WATER, AND PREVENT THE GROWTH OF WEEDS AND NOXIOUS PLANTS.
 - REGULAR INSPECTIONS SHOULD BE MADE OF INFILTRATION FACILITIES ESPECIALLY DURING WET WEATHER TO ENSURE THAT THE FACILITY IS MAINTAINING DESIRABLE RETENTION TIMES.
 - ANNUALLY ASSESS THE VARIOUS SPECIES OF THE PLANT COVER. IT MAY BE NECESSARY TO SUPPLEMENT AND/OR REMOVE VARIOUS SPECIES DUE TO THEIR GROWING PATTERNS.
 - AFTER ANY STORM RAINFALL EVENT OF A 2-YR OR GREATER MAGNITUDE, THE INFILTRATION BED AND ASSOCIATED OUTLET WORKS SHOULD BE INSPECTED. ANY DAMAGE OR BLOCKAGE TO THE OUTLET STRUCTURES SHOULD BE REPAIRED OR REMOVED IMMEDIATELY. ANY ERODED AREAS SHOULD BE TOPSOILED AND PERMANENTLY SEEDED AND MULCHED.



STORMWATER INFILTRATION TESTING:
INFILTRATION TESTING WAS PERFORMED ON SITE IN AUGUST 2016 BY DELAWARE VALLEY SEPTICS. TESTING WAS CONDUCTED ON SITE AS SHOWN ON THE PLAN.

TEST #1 - AVG RATE = 2.16 IN/HR
TEST #2 - AVG RATE = 1.38 IN/HR

WORKSHEET 5B SUMMARY

PROPOSED BMP	INFILTRATION RATE (IN/HR)	SAFETY FACTOR	DESIGN INFILTRATION RATE (IN/HR)	DEWATERING TIME (HR)	TOTAL DRAINAGE AREA (SF)	IMPERVIOUS DRAINAGE AREA (SF)	BMP SURFACE AREA (SF)	TOTAL DRAINAGE AREA LOADING RATIO	IMPERVIOUS AREA LOADING RATIO	WATER SURFACE ELEVATION @ 2-YR STORM	BOT OF INFILTRATION BMP	ELEV. @ INFILTRATION TEST	2-YR TRIBUTORY VOLUME (CF)	VOLUME TO BE INFILTRATED (CF)
BMP 6.4.3 BMP Infiltration System 1	2.16	2.0	1.08	31	15243	9773	1564	10:1	6:1	400.34	398.50	398.50	2689	2689
BMP 6.4.3 BMP Infiltration System 2	1.38	2.0	0.69	54	47382	22597	3968	12:1	8:1	396.73	394.33	394.00	6696	5791

SOILS INFORMATION

NAME	DEPTH TO TOP OF BEDROCK	DEPTH TO WATER	HYDRO SOIL GROUP	LOAD BEARING CAPACITY	GRAVEL SOURCE	TOPSOIL SOURCE	POND RESERVOIR AREAS	EMBANKMENTS	IRRIGATION	RESIDENTIAL DEVELOPMENT	LAWNS			
GeB Glenegl Channery Silt Loam	3-8	6.6+	4.17	Moderate	B	Moderate	Not Limited	Poor	Poor	Somewhat Limited	Very Limited	Somewhat Limited	Not Limited	Somewhat Limited

Serial Number: 20160541517
CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL
1-800-242-1776

RESOLUTION TO SOIL LIMITATIONS:
BASED ON THE EXISTING SOIL TYPES AND IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

SPECIFIC GEOLOGIC AND SOIL CONDITIONS:
NO SPECIAL SOIL OR GEOLOGIC ISSUES ARE KNOWN.

CONTRACTOR: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RECEIVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS AND DRAWINGS. THE PROPERTY OF MOMENEE, INC. IS TO BE USED ONLY WITH RESPECT TO THE PROJECT AND ARE NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE, INC. ANY RE-USE WITHOUT WRITTEN PERMISSION OF MOMENEE, INC. IS PROHIBITED. MOMENEE, INC. IS NOT RESPONSIBLE FOR ANY DAMAGE, LOSSES, AND EXPENSES INCURRED BY ANY PARTY AS A RESULT OF ANY RE-USE OF THESE PLANS AND DRAWINGS WITHOUT THE EXPRESS WRITTEN PERMISSION OF MOMENEE, INC.

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

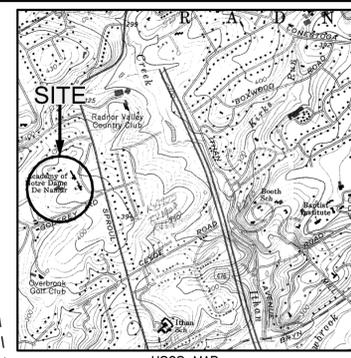
FINAL LAND DEVELOPMENT PLAN
ACADEMY OF NOTRE DAME - STEM BUILDING
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

OWNER/APPLICANT: ACADEMY OF NOTRE DAME
560 SPOUL ROAD
VILLANOVA, PA 19085-1220

ONE-CALL: 20160541517
DRAWN BY: BDM
CHECKED BY: KRM

REGISTERED PROFESSIONAL ENGINEER
KEVIN R. MOMENEE
ENGINEER PE020328E

SHEET 7 OF 13
DATE: AUGUST 31, 2016
SCALE: 1" = 30'



USGS MAP



SOILS MAP



LOCATION MAP
SCALE: 1" = 2,000'

NOTES:

1. THE NPDES BOUNDARY IS EQUAL TO THE PROPERTY BOUNDARY OF THE SITE AND ANY OFF-SITE AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL. OFF-SITE UTILITIES SUCH AS: UTILITIES AND ROADWAYS.
2. CHAPTER 93 STREAM CLASSIFICATION: CWF, MF RECEIVING WATER: MILES RUN TO DARBY CREEK
3. ANY AREA DISTURBED ON SLOPING LANDS GREATER THAN 15% AND WHERE TREES HAVE BEEN REMOVED SHALL BE IMMEDIATELY STABILIZED WITH JUTE NETTING OR AN EROSION CONTROL BLANKET.
4. THE PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMPs. ADDITIONAL SOIL TESTING MAY BE REQUIRED PRIOR TO THE INSTALLATION OF INFILTRATION BMPs TO ENSURE PROPER LOCATION AND FUNCTION. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPs, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
5. WHERE POTENTIAL THERMAL IMPACTS TO SURFACE WATERS EXIST, APPROPRIATE MEASURES SHALL BE TAKEN TO AVOID/MINIMIZE/OR MITIGATE THESE IMPACTS INCLUDING BUT NOT LIMITED TO MINIMIZING IMPERVIOUS, MINIMIZING THE EXTENT AND DURATION OF SITE DISTURBANCE, PROTECTING EXISTING SHADE TREES, INSTALLING NEW PLANTINGS AS SOON AS FEASIBLE, MAXIMIZING VEGETATED SWALES, MINIMIZING DENuded AND CONCRETE CHANNELS AND MAXIMIZING DETENTION FACILITY AREAS WHILE MINIMIZING POOL DEPTHS.

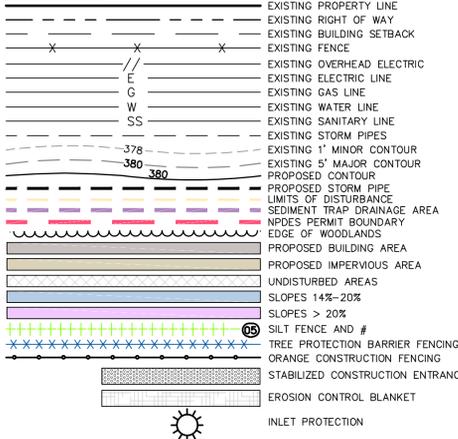
TREE PROTECTION NOTES:

1. ALL WOODY VEGETATION TO BE RETAINED WITHIN TWENTY-FIVE (25) FEET OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT THE DRIPLINES. THE FINAL LOCATION MUST BE APPROVED BY THE TOWNSHIP ARBORIST PRIOR TO THE ISSUANCE OF PERMITS. THE LOCATION OF THE DRIPLINES AND FENCING SHALL BE FIELD ADJUSTED IN ORDER TO MINIMIZE IMPACT TO EXISTING TREES.
2. NO IMPERVIOUS COVER SHALL BE PERMITTED WITHIN THE DRIPLINES OF TREES TO REMAIN. THE TOWNSHIP ARBORIST MUST APPROVE THE LOCATION AND EXTENT OF THE PAVING IF TREES ARE TO REMAIN.
3. GRADE CHANGES AROUND THE DRIPLINES OF TREES TO BE RETAINED SHALL BE MINIMIZED. TREATMENT OF THE TREES PRIOR TO CONSTRUCTION TO PROTECT THE ROOT SYSTEM SHALL BE PERFORMED. THE TOWNSHIP ARBORIST MUST APPROVE THE PROCEDURE.
4. IF TRENCHES FOR UTILITIES ARE PROPOSED WITHIN THE DRIPLINES OF TREES, ALL DISTURBED ROOTS MUST BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH MUST BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING COMPACTION. TREE LIMBS MUST BE CUT BACK IN PROPORTION TO THE ROOT AREA LOSS.
5. ON-SITE TREES TO BE SAVED SHALL BE PREPARED FOR CONSTRUCTION BY APPROPRIATE CROWN AND DEEP ROOTING FERTILIZATION AND PROTECTED BY APPROPRIATE FENCING PRIOR TO THE ISSUANCE OF AN EROSION CONTROL OR MINOR GRADING PERMIT. ALL TREES ARE TO BE DEEP ROOT FERTILIZED USING 16-32-16 SLOW RELEASE, WATER DISPERSIBLE @ 15 LBS PER 100 GALLON OR EQUAL. THE TOWNSHIP ARBORIST SHALL APPROVE THE PROCEDURE.
6. SOIL WITHIN THE DRIPLINE OF TREES DISTURBED BY CONSTRUCTION SHALL BE AERATED AT THE END OF CONSTRUCTION ACTIVITIES.
7. ALL TREES IN THE RIGHT-OF-WAY SHALL BE TRIMMED, IF DEAD OR DISEASED, TREES SHALL BE REMOVED AND REPLACED. NEW STREET TREES SHALL BE PLANTED AS REQUIRED BY THE TOWNSHIP.
8. SHOULD ANY TREES NOT SCHEDULED OR PERMITTED TO BE REMOVED BY IRREPARABLE DAMAGED DURING CONSTRUCTION ACTIVITIES AND DIE WITHIN EIGHTEEN (18) MONTHS OF THE CONCLUSION OF CONSTRUCTION ACTIVITIES, THESE TREES WILL BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 101-9A(2).

GENERAL E&S PLANNING AND DESIGN:

- THE EROSION AND SEDIMENTATION CONTROL PLAN IS DESIGNED IN ORDER TO DEMONSTRATE THAT THE FOLLOWING CRITERIA HAVE BEEN ATTAINED:
- E&S PLAN MINIMIZES EXTENT AND DURATION OF EARTH DISTURBANCE - THE CONSTRUCTION TIMING & SEQUENCE WAS DEVELOPED TO EFFECTIVELY STAGE CONSTRUCTION IN A MANNER TO LIMIT SITE DISTURBANCE, MINIMIZE THE DURATION OF EARTH DISTURBANCE, AND PROTECT EXISTING SITE FEATURES. TOTAL SITE DISTURBANCE IS LIMITED TO 2.09 ACRES OF THE TOTAL 38 ACRE SITE.
 - E&S PLAN MAXIMIZES PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION - THE SITE CURRENTLY DRAINS UNCONTROLLED INTO THE EXISTING ROADSIDE CHANNEL ALONG THE NORTHERN SIDE OF GODFREY ROAD. COMMON FACILITIES SUCH AS APPROPRIATELY SIZED SILT FENCE AND OTHER TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ARE SCHEDULED TO BE INSTALLED PRIOR TO CONSTRUCTION. THESE FACILITIES WILL MAINTAIN THE EXISTING DRAINAGE PATTERNS AND DRAIN INTO THE MILES RUN. TREE PROTECTION FENCING IS PROPOSED TO BE INSTALLED AROUND THE EXISTING VEGETATION TO REMAIN TO PROTECT THE EXISTING VEGETATION OUTSIDE THE PROPOSED WORK AREAS.
 - E&S PLAN MINIMIZES SOIL COMPACTION - THE TYPE OF EQUIPMENT USED DURING CONSTRUCTION SHALL NOT CAUSE UNDUE COMPACTION AND TRAFFIC OVER DISTURBED AREAS SHALL BE KEPT AT A MINIMUM IN ORDER TO MINIMIZE SOIL COMPACTION.
 - E&S PLAN UTILIZES OTHER MEASURES OR CONTROLS THAT PREVENT OR MINIMIZE GENERATION OF INCREASED STORMWATER RUNOFF - STRUCTURAL AND/OR NONSTRUCTURAL BMPs SHALL BE UTILIZED TO PREVENT OR MINIMIZE CHANGES IN STORMWATER RUNOFF; THESE SHALL INCLUDE BUT ARE NOT LIMITED TO THE INSTALLATION OF APPROPRIATELY SIZED SILT FENCE, EROSION CONTROL BLANKET, AND MINIMIZING THE OVERALL IMPERVIOUS SURFACES TO LESS THAN THE EXTENT ALLOWABLE PER THE ZONING ORDINANCE.

LINE/TYPE LEGEND:



ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

Serial Number: 20160541517
CALL BEFORE YOU DIG!
 PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776

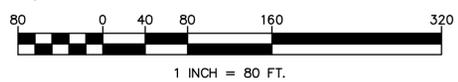
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SPECIFIC GEOLOGIC AND SOIL CONDITIONS:
 NO SPECIAL SOIL OR GEOLOGIC ISSUES ARE KNOWN.

SOILS INFORMATION

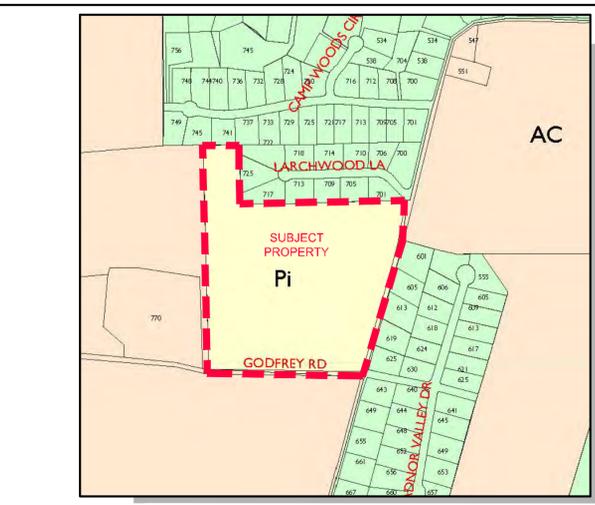
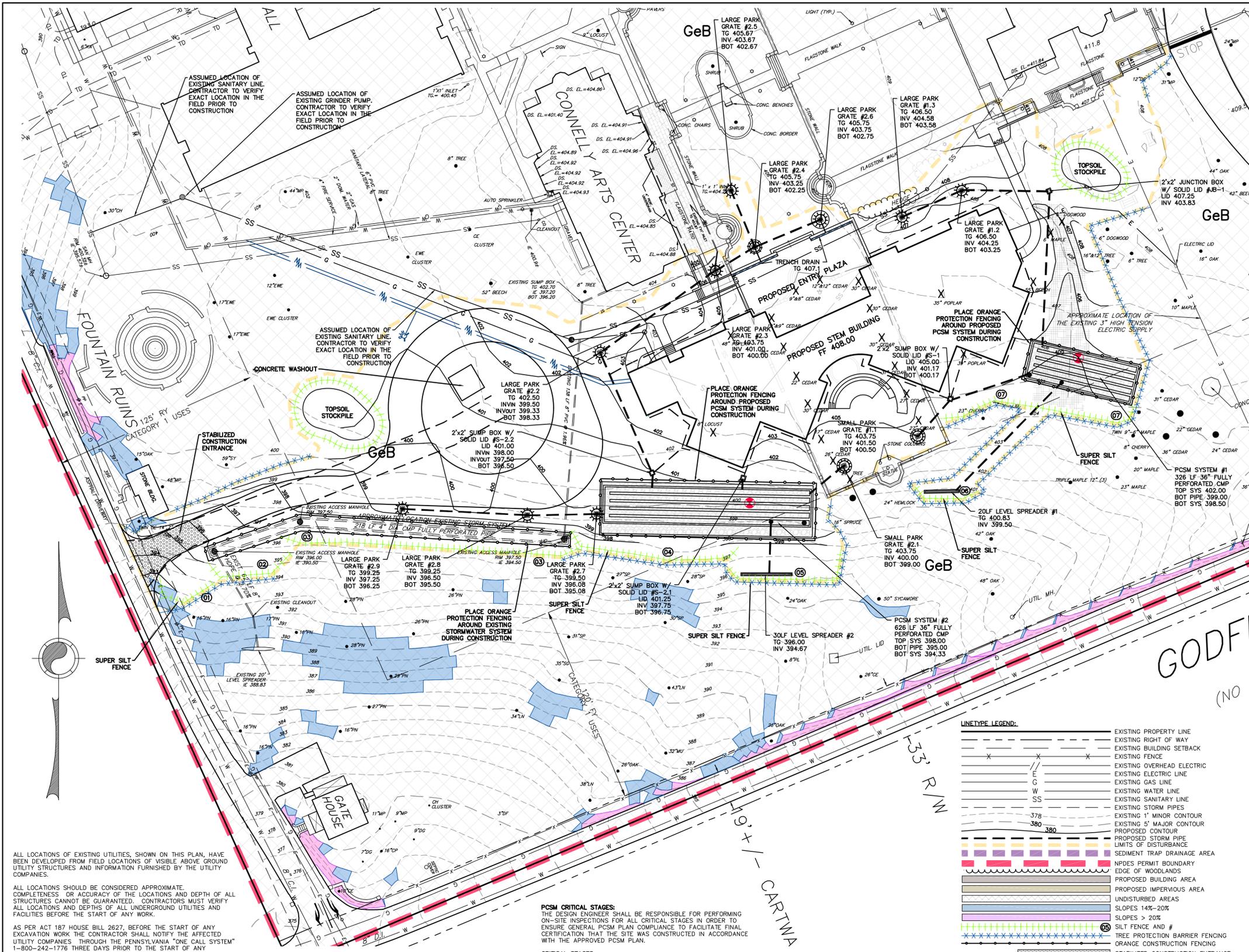
NAME	% SLOPE	DEPTH TO S. H. WATER	DEPTH TO BEDROCK	ERODIBILITY	GROUP	HYDRO SOIL LIMITATIONS	LOAD BEARING CAPACITY	GRAVEL SOURCE	TOPSOIL SOURCE	POND RESERVOIR AREAS	EMBANKMENTS	IRRIGATION	RESIDENTIAL DEVELOPMENT	LAWNS
GeB Glenc Channey Silt Loam	3-8	6.6+	4.17	Moderate	B	Moderate	Not Limited	Poor	Poor	Somewhat Limited	Very Limited	Somewhat Limited	Not Limited	Somewhat Limited

**EROSION AND SEDIMENTATION CONTROL PLAN
 DISTURBED AREA 91,000 SF± (2.09 AC)**



EROSION & SEDIMENTATION CONTROL PLAN		FILE NO.:	15-372
MOMENEY, INC. a Karins Company ENGINEERING PLANNING SURVEYING			
FINAL LAND DEVELOPMENT PLAN			
ACADEMY OF NOTRE DAME - STEM BUILDING			
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA			
ONE-CALL:	20160541517	OWNER/APPLICANT:	ACADEMY OF NOTRE DAME
DRAWN BY:	BDM		560 SPROUL ROAD
CHECKED BY:	KRM		VILLANOVA, PA 19085-1220
DATE:		SHEET:	8 OF 13
		DATE:	AUGUST 31, 2016
		SCALE:	1" = 80'





CONSTRUCTION TIMING & SEQUENCE:

All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed before any following stage is initiated. Clearing and grubbing shall be limited only to those areas described in each stage. Deviation from that sequence must be approved in writing from the local conservation district or by the department prior to implementation.

1. Construction begins. Anticipated date: September 2017
2. Install the stabilized construction entrance off western site driveway as shown on the plans. This entrance must be utilized by all construction vehicles entering/exiting the site.
3. Install tree protection fencing as indicated on plan. Tree protection fencing must be in place and approved prior to any disturbance. The limits of disturbance shall be staked out and clearly marked in the field. All disturbance shall be contained to the delineated limit of construction. Install orange construction fencing around the existing and proposed PSCM system areas as shown.
4. Install silt fence as indicated on plan. Silt fence shall be installed up-slope of construction fencing. Note: additional sediment barriers shall be installed downgrade of any disturbance areas as needed throughout the entire project.
5. Prior to earth disturbance, notify the Township Engineer that construction is going to begin.
6. Begin to demolish and remove from site the portions of the existing walls, walks, and other designated impervious areas as shown on the plans. All construction debris shall be removed from the site and disposed of in an approved manner.
7. Clear and grub the areas as necessary within the limits of disturbance of existing vegetation. Strip topsoil and stockpile suitable material for future use. Unsuitable material shall be disposed of properly. Surround stockpile with silt fence. Temporary seed all stockpiled topsoil.
8. Install the construction staging area.
9. Rough grade the site. Any graded or disturbed area must be temporarily seeded if no further earth moving is anticipated immediately. Excess material shall be moved to the fill area noted on the plans.
10. Install the new sanitary manhole and reconfigure the existing sanitary lines as shown on the plans.
11. Excavate for and begin to construct the foundations for the new building. Upon completion of foundation walls and first floor framing, backfill foundations and rough grade around building.
12. Continue with building construction. In conjunction with the building construction, begin construction of the amphitheater.
13. Stabilize and install temporary ground cover vegetation on graded areas that remain undisturbed during building construction. Any graded or disturbed areas must be temporarily seeded if no further earth moving is anticipated immediately. Upon completion or temporary cessation of the earth disturbance activity that will exceed 4 days, or any stage thereof, the project site shall be immediately stabilized with the appropriate temporary or permanent stabilization.
14. Inspect sediment barriers frequently, especially after heavy storms. Replace and repair sediment barriers as necessary.
15. Install stone base course for new driveway access. Install underground utilities as necessary.
16. Install roof rainwater collection system, inlets, pump bases, junction box, and the associated conveyance piping as shown on the plans. Install inlet protection on the inlets. All inlets shall be completely seeded off until the contributory area to the inlets are permanently stabilized.
17. **CRITICAL STAGE:** (The site's engineer or designee shall be on site to inspect the installation of the PSCM facilities) - Upon final stabilization of the respective contributory areas, excavate for and install the PSCM System #1 and PSCM System #2. Excavate to the bottom of the permanent system, as indicated on the plans. Install geotextile fabric, plan bedding and pipe system as indicated on the plans. Installation of the stone shall be checked by the design or site engineer prior to installation to ensure that it is clean washed stone. In the event that sediment enters or clogs the system appropriate measures shall be taken (i.e. cleaning the soil/sediment from the fabric, stone, bed, etc. And or replacement of the fabric and stone). If groundwater or bedrock is found during the excavation of the pipe system, the engineer shall be consulted to determine the necessary measures that should be taken. The bottom of the system shall be undisturbed or uncompacted subgrade. Connect PSCM System #1 to the level spreader #1, and connect PSCM System #2 to the level spreader #2. Unblock all inlets and connect inlets to the systems as shown on the plans.
18. 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 runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, reconstruction, regrading, reseeding, re-mulching, and re-planting, must be performed immediately.
19. Remove excavated materials not required for final construction from site and dispose of them in an approved manner.
20. Remove any accumulated surplus storage materials and staging area and rough grade areas of removals.
21. Install top courses on new driveway areas.
22. Spread stockpiled topsoil around all disturbed areas. Seed all graded areas to re-establish vegetation. Stabilized slopes in excess of 4:1 with sod or netting and mulch.
23. Remove construction fencing and spread stockpile topsoil over remaining disturbed areas. Seed all graded areas to re-establish vegetation. All slopes in excess of 4:1 shall be stabilized immediately. Remove inlet protection from inlets. Note: consultation with the county conservation district is required prior to removal of any temporary E&S controls.
24. Install landscape materials and hardscape materials.
25. Upon the re-establishment of vegetation on all denuded areas, remove all sediment barriers.
26. Stabilize and seed any areas disturbed by the removal of sediment barriers.
27. Construction finished. Anticipated date: December 2018.
28. Complete Notice of Termination and submit to the Delaware County Conservation District upon the completion of the entirety of the project.

ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

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SPECIFIC GEOLOGIC AND SOIL CONDITIONS:
 NO SPECIAL SOIL OR GEOLOGIC ISSUES ARE KNOWN.

PCSM CRITICAL STAGES:
 THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR PERFORMING ON-SITE INSPECTIONS FOR ALL CRITICAL STAGES IN ORDER TO ENSURE GENERAL PCSM PLAN COMPLIANCE TO FACILITATE FINAL CERTIFICATION THAT THE SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN.

CRITICAL STAGES:

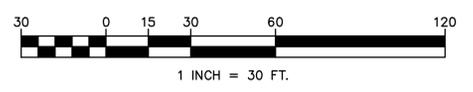
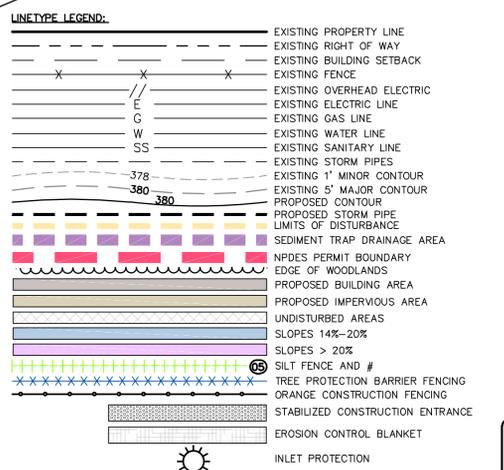
- INSTALLATION OF TEMPORARY E&S CONTROL DEVICES
- SITE GRADING PRIOR TO THE INSTALLATION OF THE SLOPE STABILIZATION
- INSTALLATION OF PCSM SYSTEM #1
- INSTALLATION OF PCSM SYSTEM #2
- REMOVAL OF TEMPORARY E&S CONTROL DEVICES

THE SITE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THESE STAGES.

- INSTALLATION OF TEMPORARY E&S CONTROL DEVICES
- SITE GRADING PRIOR TO THE INSTALLATION OF THE SLOPE STABILIZATION
- INSTALLATION OF PCSM SYSTEM #1
- INSTALLATION OF PCSM SYSTEM #2
- REMOVAL OF TEMPORARY E&S CONTROL DEVICES

SOILS INFORMATION

NAME	DEPTH TO BEDROCK	% SLOPE	S. H. WATER	DEPTH TO ERODIBILITY	HYDRO SOIL GROUP	LOAD BEARING CAPACITY	GRAVEL SOURCE	TOPSOIL SOURCE	POND RESERVOIR AREAS	EMBANKMENTS IRRIGATION	RESIDENTIAL DEVELOPMENT	LAWNS
GeB	4.17	3-8	6.6+	Moderate	B	Moderate	Not Limited	Poor	Somewhat Limited	Very Limited	Somewhat Limited	Somewhat Limited
Glenelg												
Channery												
Silt Loam												



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EROSION & SEDIMENTATION CONTROL PLAN

MOMENE, INC.
 a Karins Company
 ENGINEERING | PLANNING | SURVEYING

REGISTERED PROFESSIONAL ENGINEER
 KEVIN R. MOMENE
 LICENSE NO. PE020328E

FILE NO.: 15-372

FINAL LAND DEVELOPMENT PLAN
ACADEMY OF NOTRE DAME - STEM BUILDING
 RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

OWNER/APPLICANT
 ACADEMY OF NOTRE DAME
 560 SPOUL ROAD
 VILLANOVA, PA 19085-1220

ONE-CALL: 20160541517
 DRAWN BY: BDM
 CHECKED BY: KRM

SHEET 9 OF 13
 DATE: AUGUST 31, 2016
 SCALE: 1" = 30'

EROSION AND SEDIMENT CONTROL NOTES:

**RECEIVING WATER: MILES RUN TO DARBY CREEK
CHAPTER 93 CLASSIFICATION: CWF, MF**

01. ALL SLOPES 3:1 OR STEEPER WILL UTILIZE ECOS (NORTH AMERICAN OR EQUAL).

02. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION, THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED.

WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION ON SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:

- A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.
- B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE REOCURENCE OF THE NON-COMPLIANCE.
- C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.

03. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED EAS CONTROL PLAN THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE MONTGOMERY COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

04. ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NONDISTURBED AREAS.

05. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64 EROSION CONTROL RULES AND REGULATIONS TITLE 25, PART 1. ENVIRONMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.

06. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE MONTGOMERY COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL, BORROW AREAS, REGARDLESS OF THEIR LOCATION.

07. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

08. NEWLY GRADED SLOPES TWENTY FIVE PERCENT (25%) OR GREATER SHALL BE IMMEDIATELY SODDED OR STABILIZED WITH EROSION CONTROL NETTING. UPON COMPLETION OR TEMPORARY CESSATION OF ANY EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY PHASE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

10. SHOULD UNFORESEEN EROSION CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT. STOCKPILES OF WOODCHIPS, HAY BALES, CRUSHED STYROFOAM AND OTHER MULCH SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.

11. THE CONTRACTOR SHALL, BY SCHEDULING THE CONSTRUCTION, UTILIZE NEW PLANTINGS AND PROPERLY INSTALL EROSION CONTROL FENCING, HAY BALES AND OTHER EROSION CONTROL MEASURES TO MINIMIZE EROSION DAMAGE.

12. ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED MUST BE SEEDED AND MULCHED IMMEDIATELY. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE RECOMMENDED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED WITH A QUICK GERMINATING MIXTURE AND MULCH. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED IMMEDIATELY.

13. A ROUTINE "END-OF-DAY-CHECK" SHALL BE MADE DURING CONSTRUCTION TO MAKE SURE THAT ALL CONTROL MEASURES ARE WORKING PROPERLY. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL DESIGN, IMPLEMENT, AND MAINTAIN CONTROL MEASURES WHICH PREVENT ACCELERATED EROSION AND SEDIMENTATION. THERE SHALL BE NO ADVERSE DISCHARGE OF THE SEDIMENT OR OTHER SOLID MATERIALS FROM THE SITE AS THE RESULT OF STORM WATER RUNOFF.

14. TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED ONLY AFTER THE CONSTRUCTION AREA AND CONTAINED SILT IS STABILIZED AND THE LAWN AREA ESTABLISHED.

15. ALL PERSONS ENTERING ACTIVE TANKS, MANHOLES, INLETS, ETC. MUST COMPLY WITH OSHA REQUIREMENTS FOR ENTRY INTO CONFINED SPACES.

16. WHERE DRAINAGE SWALES ARE WITHIN 2' OF A BASEMENT, WATERPROOFING SHALL BE APPLIED TO THE BASEMENT.

17. ON-SITE TREES TO BE SAVED SHALL BE PREPARED FOR CONSTRUCTION BY APPROPRIATE FERTILIZATION AND PROTECTED BY APPROPRIATE FENCING.

18. THE PERMITTEE MUST DEVELOP, AND HAVE APPROVED BY THE DISTRICT, A SEPARATE EROSION AND SEDIMENTATION CONTROL PLAN FOR EACH SPOIL, BORROW, OR OTHER WORK AREA NOT DETAILED IN THE PERMITTED PLAN, WHETHER LOCATED WITHIN OR OUTSIDE OF THE CONSTRUCTION LIMITS.

19. GRADING EQUIPMENT SHALL NOT BE ALLOWED TO CROSS PERMANENT OR INTERMITTENT STREAMS PRIOR TO OBTAINING THE APPROPRIATE PERMITS.

20. NO EXCAVATIONS OR FILLS THAT ENDOCH ON NATURAL WATERCOURSES, FLOOD HAZARD AREAS, CONSTRUCTED CHANNELS, OR WETLANDS SHALL OCCUR WITHOUT THE NECESSARY STATE AND/OR FEDERAL PERMITS.

21. STORMWATER MANAGEMENT RECHARGE FACILITIES SHALL BE FENCED OFF DURING CONSTRUCTION.

22. CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH. UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES, THE PROJECT SITE MUST BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

23. TO PROTECT ADJACENT PROPERTIES, ALL AREAS REQUIRING INTERIM STABILIZATION MUST BE ADDRESSED IMMEDIATELY FOLLOWING COMPLETION OF DISTURBANCE.

24. FORDING OF LIVE OR INTERMITTENT STREAMS OR TRAVEL IN THEIR BEDS BY MECHANIZED EQUIPMENT IS NOT PERMITTED; BRIDGES OR CULVERTS SHALL BE USED WHEN CROSSING STREAMS IS NECESSARY.

25. ALL WOODY VEGETATION TO BE RETAINED WITHIN 25 FT. OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT THE DRIPLINES. THE FINAL LOCATION MUST BE APPROVED BY THE TOWNSHIP ARBORIST PRIOR TO THE ISSUANCE OF PERMITS. THE LOCATION OF THE DRIPLINES AND FENCING SHALL BE FIELD ADJUSTED IN ORDER TO MINIMIZE IMPACT TO EXISTING TREES.

26. SHOULD ANY TREES NOT SCHEDULED OR PERMITTED TO BE IRREPARABLY DAMAGED DURING CONSTRUCTION AND DIE WITHIN (18) MONTHS OF THE CONCLUSION OF CONSTRUCTION ACTIVITIES, THOSE TREES WILL BE REQUIRED TO BE REPLACED.

27. IF THE CONTRACTOR CAN NOT BALANCE THE CUT AND FILL SOIL VOLUMES THAN AN ADDITIONAL PLAN FOR EACH SPOIL AREA WILL BE SUBMITTED TO THE CHESTER COUNTY CONSERVATION DISTRICT FOR APPROVAL.

28. TEMPORARILY SEED ALL STOCKPILED TOPSOIL. IMMEDIATELY TEMPORARILY SEED ALL TEMPORARY E & S CONTROL AREAS.

29. 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 RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME, AND NAME OF THE PERSON CONDUCTING THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

30. EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH.

31. UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES, THE PROJECT SITE MUST BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

32. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE. OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

33. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF 3 TONS PER ACRE.

34. PERMANENT VEGETATION TO BE SEED ON ALL EXPOSED AREAS IMMEDIATELY AFTER FINAL GRADING. MULCH TO BE USED AS NECESSARY FOR PROTECTION UNTIL SEEDING IS ESTABLISHED. MULCH SHALL BE APPLIED AT 3.0 TONS PER ACRE.

35. ALL WORK WILL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE COUNTY, AND THE TOWNSHIP.

36. THE DRIVEWAY/PARKING AREA SUBBASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO PREVENT SUBGRADE EROSION, AND TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUBBASE SHALL BE INSTALLED WITHIN 15 DAYS OF THE PRELIMINARY GRADING.

37. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR SUITABLE EQUIVALENT, AT A RATE OF 3 TONS PER ACRE.

38. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).

39. A STABILIZED CONSTRUCTION ENTRANCE PAD OF 15" TO 2" SIZE CLEAN STONE WILL BE PLACED AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE. DIMENSIONS: LENGTH - NOT LESS THAN 50 FT. EXCEPT ON SINGLE RESIDENCE LOT WHERE 30 FT. MINIMUM WOULD APPLY, WIDTH - 10 FT. MINIMUM , BUT NOT LESS THAN THE FULL WIDTH OF THE ENTRANCE OR EXIT DRIVES, DEPTH - NOT LESS THAN 6". FILTER CLOTH IS REQUIRED PRIOR TO STONE PLACEMENT EXCEPT ON SINGLE RESIDENCE LOTS.

40. ANY CHANGES TO THE EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT OFFICE. THE REVISED PLANS MUST MEET ALL CURRENT STATE EROSION AND SEDIMENT POLLUTION CONTROL REQUIREMENTS, AS WELL AS ALL DISTRICT REQUIREMENTS.

41. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OF OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIC RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1-YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN 1-YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

42. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

43. IN CONJUNCTION WITH EARTHMOVING ACTIVITY, INSTALL THE DESIGNED CONSERVATION MEASURES IN ACCORDANCE WITH SUBMITTED PLANS AND SPECIFICATIONS.

A) INSTALL SEDIMENT BARRIERS AS CLOSE TO CONTOURS AS POSSIBLE. BARRIERS WILL BE CHECKED PERIODICALLY. DAMAGED BARRIERS ARE TO BE REPLACED AND SEDIMENT WHICH IS COLLECTED BY THE BARRIER WILL BE REMOVED AND SPREAD AND STABILIZED WITH VEGETATION ELSEWHERE ON THE SITE.

B) SEDIMENT SHALL NOT BE ALLOWED TO ACCUMULATE HIGHER THAN ONE FOOT ABOVE EXISTING GRADE. SEE DETAILS FOR SEDIMENT BARRIER TYPE AND INSTALLATION PROCEDURES.

C) DURING CONSTRUCTION, ALL SEDIMENT TRAPPED AT BARRIERS SHALL BE CLEANED OUT AFTER EACH EROSION PRODUCING STORM.

44. ON-SITE GRADING DURING CONSTRUCTION SHALL BE LIMITED AND RESTRICTED TO ONLY THAT IMMEDIATE AREA REQUIRED FOR THE CONSTRUCTION PROCEDURE.

45. TOPSOIL TAKEN FROM CONSTRUCTION AREAS SHALL BE SEEDED WITH VEGETATIVE COVER AND STOCKPILED FOR RE-USE IN FINISH GRADING.

46. GRADED AREAS ARE TO BE TEMPORARILY SEEDED AND MULCHED FOLLOWING EARTHMOVING PROCEDURES.

47. INSPECT SEDIMENT CONTROLS FREQUENTLY, ESPECIALLY AFTER HEAVY STORMS. REPLACE AND REPAIR SEDIMENT CONTROLS AS NECESSARY.

48. AREAS WHICH ARE TO BE TOP-SOLED SHALL BE SCARPED TO A MINIMUM DEPTH OF 3 TO 5 INCHES (6 TO 12 INCHES ON COMPACTED SOILS) PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING, I.E. YARDS.

49. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORKDAY, OR AS NEEDED OR AS DIRECTED BY THE DCCO OR MUNICIPALITY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEEPED INTO ANY ROAD SIDE DITCH, STORM SEWER OR SURFACE WATER.

GENERAL NOTES -- MAINTENANCE DURING CONSTRUCTION:

1. AREAS THAT CONTAIN SOD SHALL BE CHECKED VERY CAREFULLY TO ENSURE THAT JOINTS BETWEEN THE SOD STRIPS ARE TIGHT AND SECURE. WHERE JOINT SEPARATION IS IN EVIDENCE, A CAREFUL INSPECTION OF EACH JOINT SHALL BE MADE TO DETERMINE WHETHER UNDERMINING OF THE STRIPS IS OCCURRING. IF IT IS, THE STRIPS SHALL BE ROLLED UP, THE SUBSURFACE SHALL BE FILLED AND GRADED AS REQUIRED, AND THE SOD STRIPS SHALL BE RE-LAD WITH JOINT TIGHT AND PEGGING.

2. SEEDED AREAS THAT HAVE WASHED AWAY SHALL BE FILLED AND GRADED AS NECESSARY AND THEN RESEED. A BURIAL OR STRAW COVER WILL BE APPLIED TO RETURN THE SEED UNTIL IT HAS A CHANCE TO ROOT PROPERLY.

3. THE ABOVE PROCEDURE SHALL BE REPEATED AFTER EACH SIZEABLE STORM UNTIL NO MORE SIGNS OF EROSION ARE EVIDENT. AT MONTHLY INTERVALS THEREAFTER, INSPECTIONS AND NECESSARY CLEANING WILL BE DONE.

4. AFTER SLOPES AND SWALES ARE ESTABLISHED, WEEKLY INSPECTIONS SHALL BE MADE TO DETERMINE THE DURABILITY OF THE STABILIZATION MEASURES. AN INSPECTION OF ALL FACILITIES WILL BE MADE AFTER EVERY STORM TO DETERMINE THEIR RESISTANCE TO DRIVING RAIN.

STABILIZATION NOTES:

1. THE PERMITTEE(S) SHALL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROLS AND RELATED ITEMS INCLUDED WITHIN ON THESE PLANS UNTIL THE SITE IS PERMANENTLY STABILIZED.

2. STORMWATER RUNOFF FROM UNSTABILIZED AREAS DURING THE CONSTRUCTION PROCESS IS TO BE RESTRICTED FROM ENTERING THE INFILTRATION BED IN ACCORDANCE WITH MEASURES OUTLINED THROUGHOUT THE NOTES SHOWN ON THE PLANS.

UTILITY LINE TRENCH EXCAVATION NOTES:

A. LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE OF PLUS TO TWO TIMES THE LENGTH OF PIPE INSTALLATION. AFTER COMPLETION OF THE INSTALLATION OF ALL FACILITIES TO BE INSTALLED, WORK CROSSLING AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUS CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.

C. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

D. LIMIT ONLY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUS INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.

E. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL BE REUSED THROUGHOUT THE PROJECT.

F. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED.

CLEAN FILL REQUIREMENTS:

IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE APPLICANT.

CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. THE TERM "USED ASPHALT" DOES NOT INCLUDE DUMPED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE.

CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1a AND FP-1b FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL". ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.

ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES INCLUDING, BUT NOT LIMITED TO VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.

ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S "MANAGEMENT OF FILL".

FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT. IF NECESSARY, THESE REGULATIONS ARE AVAILABLE ONLINE AT WWW.PACODE.COM.

MAINTENANCE OF TEMPORARY SEDIMENTATION CONTROL:
A ROUTINE "END OF DAY CHECK" SHALL BE MADE DURING CONSTRUCTION TO MAKE SURE THAT ALL CONTROL MEASURES ARE WORKING PROPERLY. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL PREVENT ACCELERATED EROSION AND SEDIMENTATION. THERE SHALL BE NO ADVERSE DISCHARGE OF THE SEDIMENT OR OTHER SOLID MATERIALS FROM THE SITE AS A RESULT OF STORMWATER RUNOFF.

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROL AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY.

1. STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCES ARE TO BE CONSTRUCTED PER THE DETAIL. THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE DETAIL DIMENSION. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS WILL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.

2. SILT FENCE: SILT FENCE SHALL BE INSTALLED PER THE DETAIL. 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 OR TOPPED WILL BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY.

3. ROCK FILTER OUTLETS: ROCK FILTER OUTLETS SHALL BE INSTALLED PER THE DETAIL. SEDIMENT SHALL BE REMOVED FROM BEHIND ROCK FILTER OUTLET AFTER EACH STORM EVENT. WHEN STONE BECOMES CLOGGED WITH SEDIMENT, THE ROCK FILTER OUTLET SHALL BE REPLACED WITH CLEAN STONE.

4. INLET PROTECTION: INLET PROTECTION SHALL BE CONSTRUCTED PER THE DETAIL AND CLEANED AFTER EACH STORM EVENT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER.

5. SWALES: ALL SWALES MUST BE TEMPORARILY LINED WITH CURLEX TO ALLOW VEGETATION TO ESTABLISH. IF VEGETATION CAN NOT GROW THEN THAT AREA MUST BE SODDED.

6. SEDIMENT DISPOSAL: SILT REMOVED FROM TEMPORARY SEDIMENT CONTROL STRUCTURES SHALL BE DISPOSED OF ON-SITE IN LANDSCAPED AREAS LOCATED OUTSIDE OF FLOOD PLAINS, WETLANDS, STEEP SLOPES AND DRAINAGE SWALES.

7. DUST CONTROL: DUST AND OTHER PARTICLES 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. USE OF GASES OR OTHER CHEMICALS TO CONTROL DUST AGENTS SHALL BE LIMITED TO ONLY THOSE PARTICULAR SITUATIONS IN WHICH PERIODIC CLEANING AND/OR WETTING IS NOT FEASIBLE DUE TO CONDITIONS CAUSED BY WEATHER, TRAFFIC, ETC.

8. AIR POLLUTION: BURNING OF TREES, STUMPS, CUTTINGS, AND OTHER PERISHABLE MATERIALS WILL NOT BE PERMITTED UNLESS SPECIFICALLY ALLOWED BY THE MUNICIPALITY. THE PROVISIONS OF THE PENNSYLVANIA AIR POLLUTION CONTROL ACT SHALL BE STRICTLY ENFORCED TO DATE, WILL GOVERN AND AREA A PART OF THIS PLAN BY REFERENCE.

PERMANENT STABILIZATION NOTE:
AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OF OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST OTHER MOVEMENTS. ROADWAYS AND PARKING AREAS SHOULD AT LEAST HAVE A CLEAN SUBBASE IN PLACE.

MONITORING, INSPECTION, AND REPORTING REQUIREMENTS:

VISUAL INSPECTIONS:
THE PERMITTEE AND CO-PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOT BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT, AND CONDUCTED BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT EAS BMP'S AND PCSM BMP'S ARE PROPERLY CONSTRUCTED AND MAINTAINED TO EFFECTIVELY MINIMIZE POLLUTION TO THE WATERS OF THIS COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE AT A MINIMUM:

- (1) A SUMMARY OF SITE CONDITIONS, EAS BMP AND PCSM BMP, IMPLEMENTATION AND COMPLIANCE ACTIONS; AND
- (2) THE DATE, TIME, NAME AND SIGNATURE OF THE PERSON CONDUCTING THE INSPECTION.

NONCOMPLIANCE REPORTING:
WHERE EAS, PCSM OR PPC BMP'S ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND CO-PERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT. NONCOMPLIANCE REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:

- (1) ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE;
- (2) THE PERIOD OF NONCOMPLIANCE, INCLUDING EXACT DATES AND TIMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE;
- (3) STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT REOCURENCE OF THE NONCOMPLIANCE; AND
- (4) THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS.

REDUCTION, LOSS, OR FAILURE OF THE BMP'S:
UPON REDUCTION, LOSS, OR FAILURE OF THE BMP'S, THE PERMITTEE AND CO-PERMITTEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMP'S OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT. SUCH RESTORED BMP'S OR ALTERNATIVE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMP'S.

TERMINATION OF COVERAGE:
NOTE: UPON PERMANENT STABILIZATION OF EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THIS PERMIT AND WHEN BMP'S IDENTIFIED IN THE PCSM PLAN HAVE BEEN PROPERLY INSTALLED, THE PERMITTEE AND/OR CO-PERMITTEE OF THE FACILITY MUST SUBMIT A NOT FORM THAT IS SIGNED IN ACCORDANCE WITH PART B, SECTION 1.C, SIGNATORY REQUIREMENTS, OF THIS PERMIT. ALL LETTERS CERTIFYING DISCHARGE TERMINATION ARE TO BE SENT TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE NOT MUST CONTAIN THE FOLLOWING INFORMATION: FACILITY NAME, ADDRESS, AND LOCATION, OPERATOR NAME, AND ADDRESS, PERMIT NUMBER, IDENTIFICATION AND PROOF OF ACKNOWLEDGMENT FROM THE PERSON(S) WHO WILL BE RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, AND THE REASON FOR PERMIT TERMINATION. THE PERMITTEE HAS RECEIVED WRITTEN ACKNOWLEDGEMENT OF THE NOT, THE PERMITTEE WILL REMAIN RESPONSIBLE FOR OPERATING AND MAINTAINING ALL EAS BMP'S AND PCSM BMP'S ON THE PROJECT SITE AND WILL BE RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

COMPLETION CERTIFICATE AND FINAL PLANS:
WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PROPER INSTALLATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITTEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED ENGINEER OR ARCHITECT AND THE PERMITTEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED EAS AND PCSM PLANS.

RECYCLING OR DISPOSAL OF MATERIALS:
THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

CONSTRUCTION/DEMOLITION WASTE --SOLID WASTE RESULTING FROM THE CONSTRUCTION OR DEMOLITION OF BUILDINGS AND OTHER STRUCTURES, INCLUDING, BUT NOT LIMITED TO, WOOD, PLASTER, METALS, ASPHALTIC SUBSTANCES, BRICKS, BLOCK AND UNSERIALIZED CONCRETE. THE TERM DOES NOT INCLUDE THE FOLLOWING IF THEY ARE SEPARATE FROM OTHER WASTE AND ARE USED AS CLEAN FILL:

- (i) UNCONTAMINATED SOIL, ROCK, STONE, GRAVEL, BRICK AND BLOCK, CONCRETE AND USED ASPHALT; AND
- (ii) WASTE FROM LAND CLEARING, GRUBBING AND EXCAVATION, INCLUDING TREES, BRUSH, STUMPS AND VEGETATIVE MATERIAL.

MANAGEMENT OF CONSTRUCTION AND DEMOLITION WASTE:
SALVAGING - BY DEFINITION, MATERIALS SALVAGED FOR USE IN THEIR INTENDED FUNCTION ARE NOT WASTES. EXAMPLES INCLUDE: BATHROOM FIXTURES, CEILING PANELS, DOORS, FLOORING, LIGHTING FIXTURES, MIRRORS, ETC.

SOURCE SEPARATED RECYCLABLE MATERIALS ARE ALSO NOT WASTES. FOR CONSTRUCTION, RENOVATION AND DEMOLITION ACTIVITIES THIS INCLUDES: CARDBOARD, GLASS, METALS, PAPER AND PLASTICS.

ALL CONCRETE TRUCKS SHALL UTILIZE THE CONCRETE WASHOUT AREA AS INDICATED ON THE EROSION & SEDIMENT CONTROL PLAN FOR CLEANING OUT TRUCKS. ACCUMULATED MATERIAL SHALL BE DISPOSED OF PROPERLY IN ACCORDANCE WITH THE REGULATIONS NOTED ABOVE.

IN THE EVENT A POLLUTION INCIDENT OCCURS WHICH CAUSES OR THREATENS TO CAUSE SURFACE OR GROUNDWATER POLLUTION, THE OWNER SHALL:

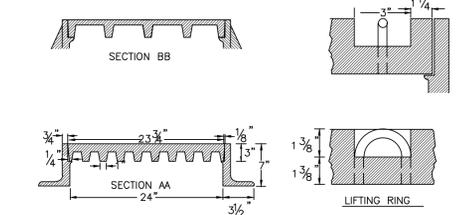
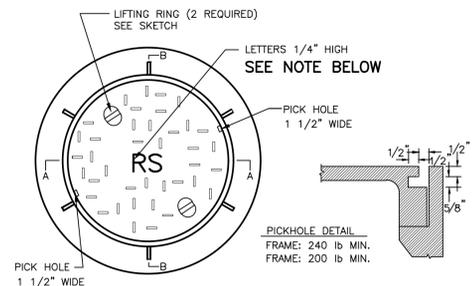
- (1) PROMPTLY NOTIFY THE DEPARTMENT BY TELEPHONE OF THE LOCATION AND NATURE OF THE DANGER,
- (2) NOTIFY ALL KNOWN DOWNSTREAM USERS OF THE WATER,
- (3) IMMEDIATELY TAKE ALL NECESSARY STEPS TO PREVENT INJURY TO PROPERTY AND DOWNSTREAM USERS, AND PROTECT WATERS FROM POLLUTION OR DANGER OF POLLUTION,
- (4) REMOVE ANY CONTAMINATION FROM AFFECTED GROUND OR SURFACE WATER TO THE EXTENT REQUIRED BY THE DEPARTMENT.

HYDROSEEDING SPECIFICATIONS:
DEFINITION: STABILIZING SEDIMENT PRODUCING AND SEVERELY ERODED AREAS BY ESTABLISHING PERMANENT GRASS COVER.

PURPOSE: TO PROVIDE PERMANENT VEGETATIVE COVER TO CONTROL RAPID RUN-OFF AND EROSION.

PROCEDURE: SURFACE TO BE HYDRO-SEEDED SHALL BE CLEANED OF ALL DEBRIS AND OTHER MATTER HARMFUL TO UNIFORM GERMINATION. A WATER-SLURRY MIXTURE COMPOSED OF THE BELOW MENTIONED "MATERIALS" SHALL BE SPRAYED UNIFORMLY OVER THE AREAS TO BE HYDRO-SEEDED.

MATERIALS:
PERMANENT

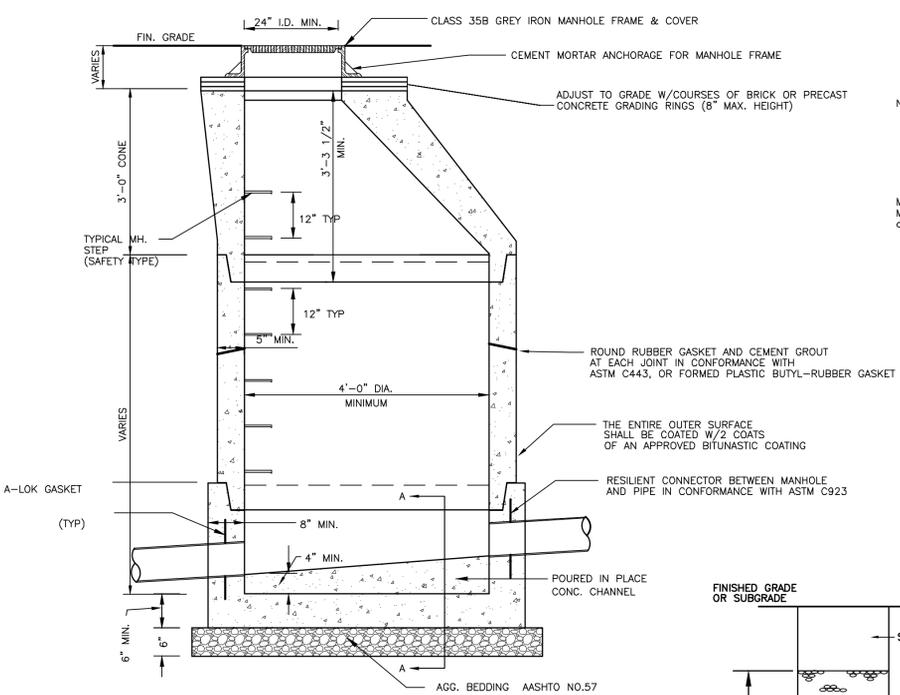
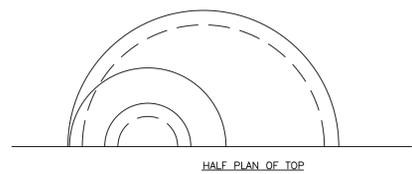


MANHOLE FRAME AND COVER
N.T.S.

LETTERING NOTE:
ALL NEW SANITARY MANHOLE LIDS TO BE LABELED "RS"

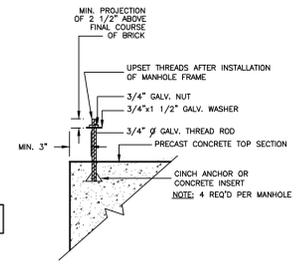
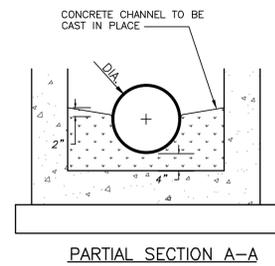
STANDARD MANHOLE: NEENAH FOUNDRY COMPANY, TYPE N FRAMED, MANHOLE FRAME AND COVER - CATALOG NUMBER R-1788-A1, SOLID FRAME, HEAVY DUTY. FURNISH WITH FOUR 7/8 INCH ANCHOR HOLES ON 27-15/16 INCH DIAMETER BOLT CIRCLE.

WATERTIGHT MANHOLE: NEENAH FOUNDRY COMPANY, CATALOG NUMBER R-1916-D, SOLID FRAME, HEAVY DUTY. FURNISH WITH FOUR 7/8 INCH ANCHOR HOLES ON 27-15/16 INCH DIAMETER BOLT CIRCLE. ALL MANHOLES NOT LOCATED IN PAVED AREAS ARE TO BE EQUIPPED WITH WATERTIGHT FRAMES AND COVERS

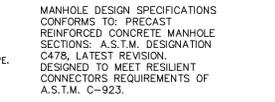
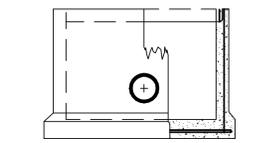


PRECAST CONCRETE MANHOLE (SANITARY SEWER)
N.T.S.

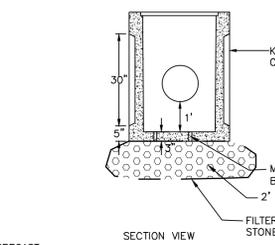
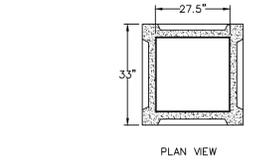
SANITARY SEWER NOTES:
1. THE CONTRACTOR IS TO VERIFY THE EXISTING SANITARY LINES BEFORE CONSTRUCTION.
2. EXFILTRATION TESTS TO BE PERFORMED ON ALL 8" SANITARY SEWER LINES IN ACCORDANCE WITH PA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
3. CONSTRUCTION IN ACCORDANCE WITH TOWNSHIP STANDARDS AND SPECIFICATIONS.



ANCHOR BOLT DETAIL FOR PRE-CAST MANHOLE
N.T.S.

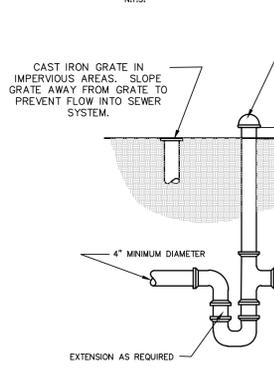


MANHOLE DESIGN SPECIFICATIONS
N.T.S.

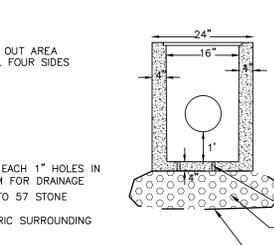


2' x 2' SUMP BOX (NON-TRAFFIC BEARING)
SUMP BOX

Manufactured by MODERN CONCRETE SEPTIC TANK CO. or other NFCA certified plant

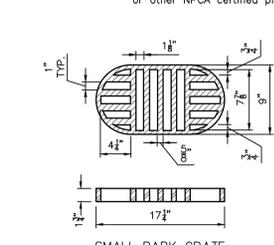


SANITARY SEWER LATERAL TRAP
N.T.S.

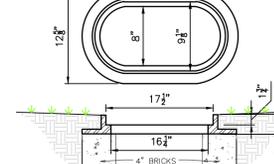


SMALL PARK GRATE BOX (NON-TRAFFIC BEARING)

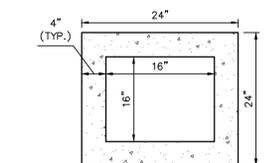
Manufactured by MODERN CONCRETE SEPTIC TANK CO. or other NFCA certified plant



SMALL PARK GRATE



SMALL PARK FRAME

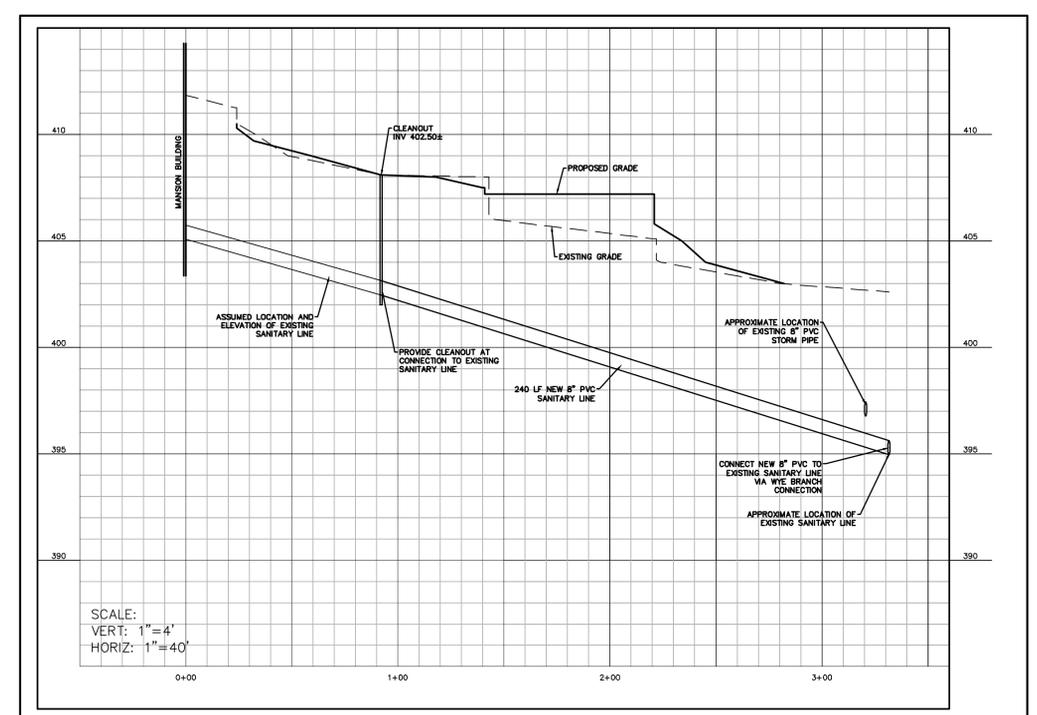


SMALL PARK GRATE DETAIL
N.T.S.

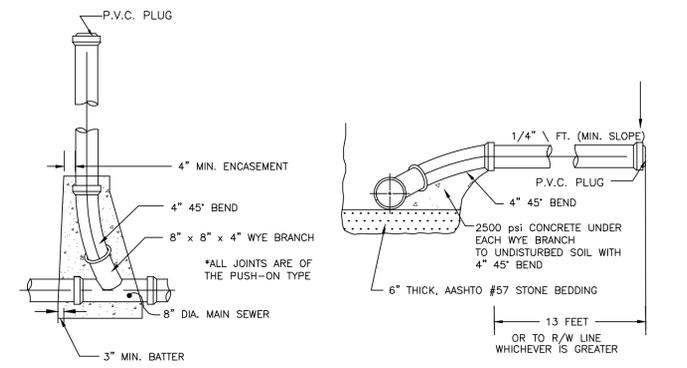
NOTE: PRECAST CONCRETE 24" x 24" BOX AND CONVERSION LID SUPPLIED BY: CONTINENTAL CONCRETE PRODUCTS, INC. POTTSTOWN, PA, PHONE:(610)327-3700, FAX:(610)327-9488.

SPECIFICATIONS:
-GRAY IRON MEETS OR EXCEEDS ASTM A48 CLASS 30 B
-MINIMUM CONCRETE STRENGTH 3750 PSI @28 DAYS (PENNDOT CLASS AA)
-1 1/2" MINIMUM CONCRETE COVER (ALL REINFORCEMENT)
-STEEL REINFORCEMENT MEETS ASTM A615 (0.12 IN²/FT EACH WAY)
-MATERIAL AND WORKSMANSHIP IN ACCORDANCE WITH PENNDOT PUB. 408
-LOCATION OF PIPE OPENINGS AS REQUIRED

INLET BOX W/ CONVERSION LID AND LARGE PARK FRAME & GRATE



SANITARY SEWER PROFILE FROM MANSION BUILDING

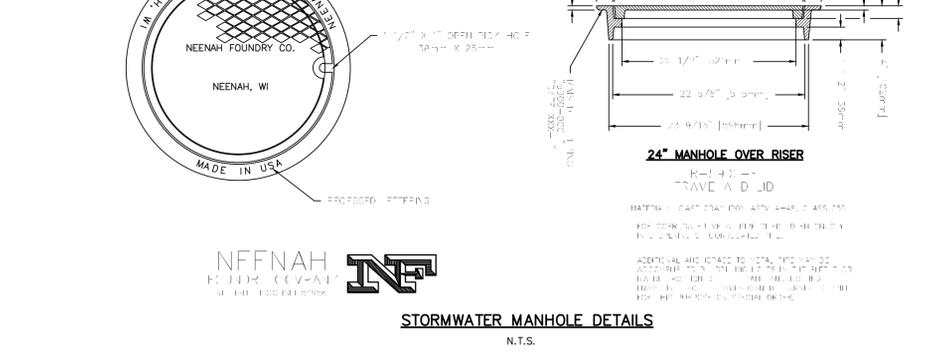
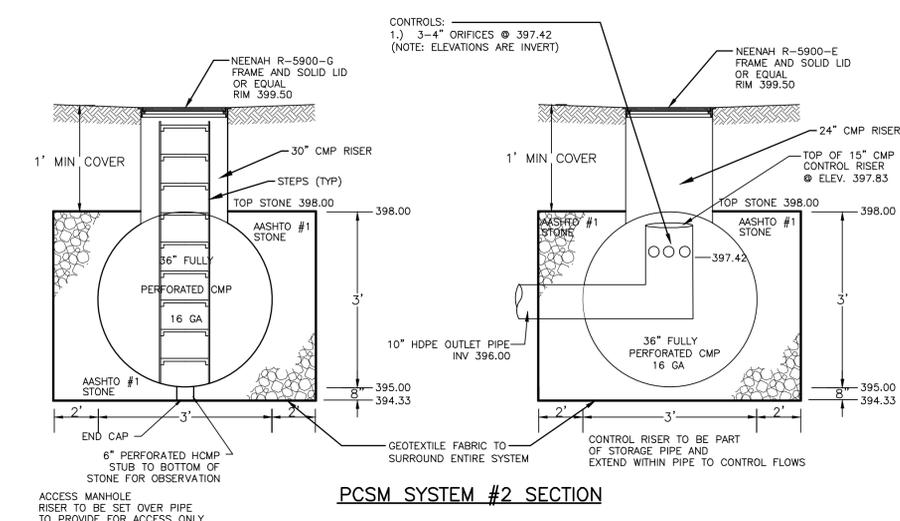
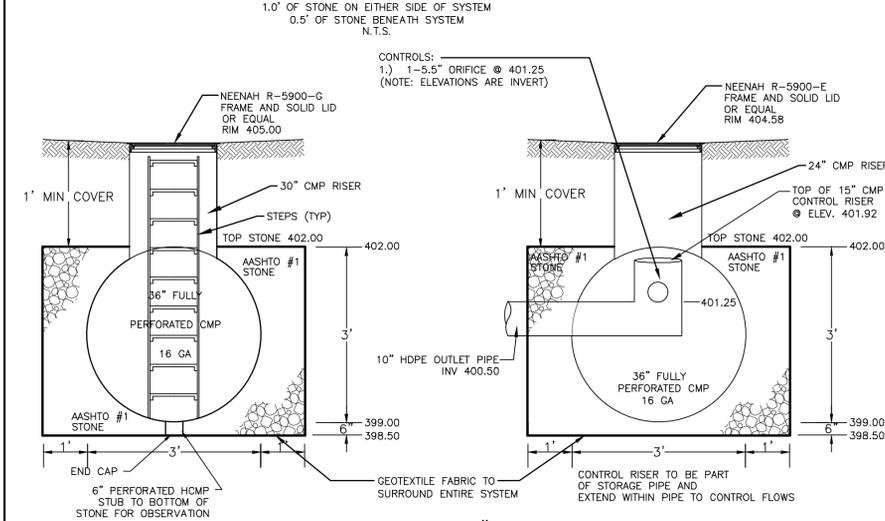
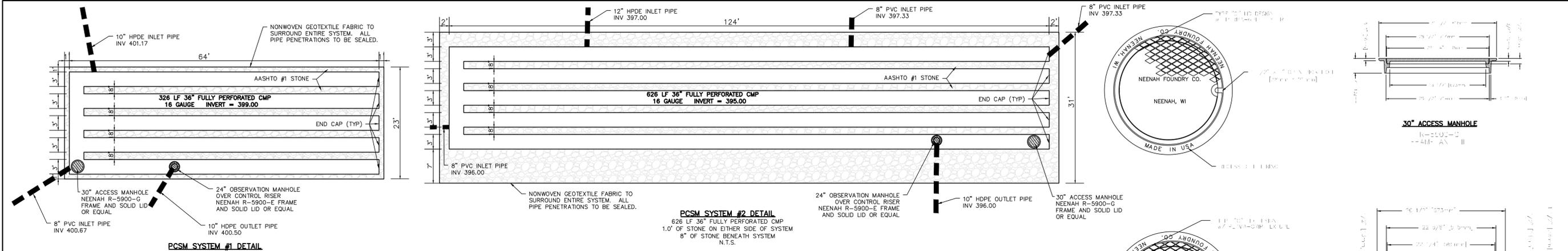


WYE BRANCH CONNECTION
N.T.S.

SANITARY LATERAL NOTES
• WYE CONNECTIONS AND LATERAL STUBS ARE TO BE INSTALLED AS PART OF THE SEWER MAIN CONSTRUCTION.
• LATERALS ARE TO BE EXTENDED A MINIMUM OF 10- FEET INTO THE AS MEASURED FROM THE R/W LINE OR ADJACENT LOT LINE.
• LATERALS ARE TO BE CAPPED FOR FUTURE CONNECTION BY LOT DEVELOPER AND ENDS OF LATERAL SHALL BE MARKED WITH A 2X4 STAKE.
• CLEANOUTS ARE TO BE PROVIDED AT ALL BENDS ON SANITARY LATERALS.
• THERE SHALL BE A MINIMUM DISTANCE OF 5- FEET BETWEEN LATERALS AND BETWEEN LATERALS AND MANHOLES.

RESERVED: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS AND DRAWINGS. THE PROPERTY OF MOMENEE, INC. SHALL REMAIN WITH THE PROPERTY OF MOMENEE, INC. THEY ARE TO BE USED ONLY WITH RESPECT TO THE PROJECT AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. ANY RE-USE WITHOUT WRITTEN PERMISSION OF MOMENEE, INC. IS PROHIBITED. MOMENEE, INC. SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT. MOMENEE, INC. SHALL NOT BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT. MOMENEE, INC. SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT. MOMENEE, INC. SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT.

PCSM DETAILS		FILE NO.: 15-372
<p>MOMENEE, INC. a Karins Company ENGINEERING PLANNING SURVEYING</p>		
<p>REGISTERED PROFESSIONAL ENGINEER KEVIN R. MOMENEE ENGINEER PE020328E</p>		
<p>FINAL LAND DEVELOPMENT PLAN ACADEMY OF NOTRE DAME - STEM BUILDING</p>		
<p>RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA</p>		
ONE-CALL: 2016054157	OWNER/APPLICANT: ACADEMY OF NOTRE DAME	SHEET 12 OF 13
DRAWN BY: BDM	560 SPOUL ROAD	DATE: AUGUST 31, 2016
CHECKED BY: KRM	VILLANOVA, PA 19085-1220	SCALE: AS NOTED



CONSTRUCTION NOTES:

1. GEOTEXTILE FABRIC SHALL BE CLEAN NON-WOVEN GEOTEXTILE (PERMEABLE FILTER FABRIC) CLASS 1 AND SHALL BE IN ACCORDANCE WITH PADOT SPECIFICATION FROM 408. THE TYPE AND/OR THICKNESS SHALL BE DUPONT TYPAR #3401, AMOCO PROPEX #4545 OR APPROVED EQUAL OR AS OTHERWISE INDICATED ON THE PLAN.
2. ALL STONE USED FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHALL BE UNIFORMLY GRADED, CLEAN, AND WASHED CRUSHED STONE AGGREGATE MEETING PENNDOT/AASHTO #1 SPECIFICATIONS.
3. ALL PERSONS ENTERING ACTIVE TANKS, MANHOLES, INLETS, ETC. MUST COMPLY WITH OSHA REQUIREMENTS FOR ENTRY INTO CONFINED SPACES.
4. RAIN WATER DOWNSPOUTS SHALL BE INSTALLED TO COLLECT AND CONVEY IT TO THE APPROPRIATE STORMWATER MANAGEMENT FACILITY.
5. CLEANOUTS ARE REQUIRED AT ALL CHANGES IN DIRECTION OF THE ROOF DRAINS AND SANITARY SEWER LATERALS.
6. ALL SEEPAGE BEDS SHALL BE INSTALLED WITH A MINIMUM SEPARATION DISTANCE OF 10 FEET FROM ALL BASEMENT WALLS.
7. ALL CMP AND HCMP SHALL BE ALUMINUM OR ALUMINIZED STEEL.
8. ALL HDPE PIPE SHALL BE SMOOTH INTERIOR FLOW.
9. ALL PVC PIPE SHALL BE SDR 35.
10. THE RISER CONNECTIONS IN THE STORMWATER MANAGEMENT SYSTEM SHALL BE WATER-TIGHT. REFER TO DETAILS.
11. WHERE DRAINAGE SWALES ARE WITHIN 20' OF A BASEMENT, WATERPROOFING SHALL BE APPLIED TO THE BASEMENT.
12. PERFORATIONS FOR 36" CMP SHALL SATISFY AASHTO DESIGNATION M36/M 36M-90 FOR CLASS 2 PERFORATIONS. THE PERFORATIONS SHALL BE CIRCULAR HOLES WITH NOMINAL DIAMETERS OF 5/16 TO 3/8 INCH. THE PERFORATIONS SHALL BE UNIFORMLY SPACED AROUND THE FULL PERIPHERY OF THE PIPE. THE PERFORATIONS SHALL PROVIDE AN OPENING AREA OF NOT LESS THAN 3.3 SQ. IN. PER SQ. FT. OF PIPE SURFACE BASED ON NOMINAL DIAMETER AND LENGTH OF PIPE. 30 PERFORATIONS, 3/8 INCH DIAMETER, PER SQUARE FOOT OR 566 PERFORATIONS PER LINEAR FOOT SATISFIES THIS REQUIREMENT.

FILL NOTES:

1. IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE PERMITTEE.
2. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE).
3. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
4. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.
5. ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
6. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PADOT.GOV.

STORMWATER MANAGEMENT FACILITY MAINTENANCE PLAN

THE STORMWATER MANAGEMENT SYSTEMS ON THIS LOT CONSISTS OF TWO SUBSURFACE DETENTION/RECHARGE BASINS. THE BASINS ARE COMPOSED OF FULLY PERFORATED CORRUGATED METAL PIPE WITHIN A STONE BED SURROUNDED BY FILTER FABRIC. AN INTERNAL CONTROL RISER ALLOWS CONTROLLED DISCHARGE OF FLOWS FROM THE SYSTEMS. WATER RUNOFF IS DIRECTED TO THE INFILTRATION BEDS VIA A ROOF RAINWATER COLLECTION SYSTEM, SERIES OF INLETS, AND PIPING WHICH CAPTURE AND COLLECT RUNOFF FROM THE NEW ROOF AREAS, AMPHITHEATER, ENTRY PLAZA, WALKS, AND SOME OTHER AREAS ON THE PROPERTY. THE INLETS ARE PROVIDED WITH A ONE FOOT SUMP BELOW THE INLET AND OUTLET PIPES SO THAT DEBRIS CAN BE COLLECTED PRIOR TO FLOWING INTO THE SUBSURFACE INFILTRATION BEDS.

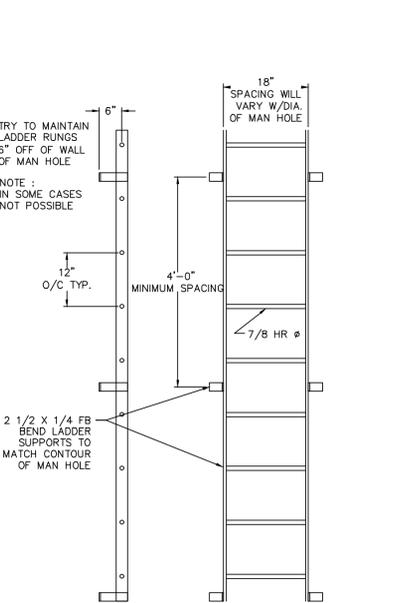
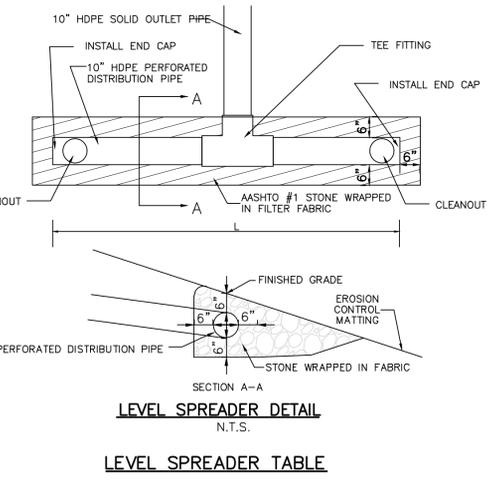
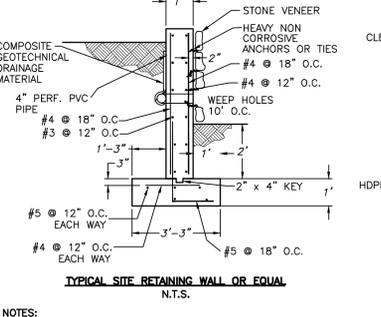
THE SYSTEMS ARE DESIGNED TO PROMOTE GROUNDWATER RECHARGE. A CONTROL STRUCTURE WITHIN THE SYSTEMS DISCHARGE TO PROPOSED LEVEL SPREADERS WHERE THE RUNOFF MAY BE DISSIPATED TO GRADE IN AN UN-CONCENTRATED MANNER. AN ACCESS MANHOLE WITH A LADDER IS PROVIDED AT THE CONTROL STRUCTURE TO FACILITATE ACCESS AND MAINTENANCE OF THE SYSTEM.

THE RESPONSIBILITY FOR THE CONTINUED OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITIES ON THIS LOT IS THAT OF THE PROPERTY OWNER.

MAINTENANCE OF THE FACILITIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

1. THE OWNER, OCCUPANT, TENANT OR OTHER USER OF THE PROPERTY SHALL NOT IMPEDRE THE FLOW OF WATER DRAINING TO THE STORMWATER MANAGEMENT BASIN.
2. ALL ROOF DOWNSPOUTS, INLETS, CURB OPENINGS AND OTHER WATER WAYS SHALL BE KEPT OPEN AND OPERATION TO PASS THE FLOW OF WATER TO THE BASIN AS INTENDED.
3. GRASS AND LANDSCAPING IN THE VICINITY OF ALL INLETS SHALL BE KEPT TRIM AND FREE FROM DEBRIS ACCUMULATION, AND DOWNSPOUTS AND INLETS SHALL BE KEPT FREE OF OBSTRUCTIONS THAT COULD BLOCK THE FREE FLOW OF WATER TO AND WITHIN THEM.
4. INLET SUMPS SHALL BE CLEANED OF ACCUMULATED DEBRIS BEFORE ANY DEBRIS CAN BE DISCHARGED INTO THE SYSTEMS. INLET STRUCTURES SHALL BE INSPECTED AT LEAST MONTHLY TO INSURE THAT THEY ARE CLEAN AND REMAIN OPERATIONAL.
5. SUBSURFACE PIPES SHALL BE INSPECTED ON AN ANNUAL BASIS TO INSURE THAT THEY ARE CLEAN AND OPERATIONAL. ACCUMULATED DEBRIS AND SILT SHALL BE REMOVED IN A TIMELY MANNER. THE SUBSURFACE PIPES SHALL BE KEPT FREE OF OBSTRUCTIONS THAT COULD BLOCK THE FREE FLOW OF WATER WITHIN THEM.
6. PROMPT REMEDIAL MEASURES ARE TO BE TAKEN IN THE EVENT OF ANY BLOCKAGE OR MALFUNCTION OF THE SYSTEM.

THE OWNER, OCCUPANT, TENANT OR OTHER USER OF THE PROPERTY SHALL NOT TAKE ANY MEASURES TO DISRUPT OR IN ANY WAY IMPAIR THE EFFECTIVENESS OF THE BASIN OR ITS CONTROLS. THIS INCLUDES ALTERATION OF GRADES IN ANY MANNER THAT WOULD DIVERT RUNOFF AWAY FROM INLET COLLECTION POINTS.

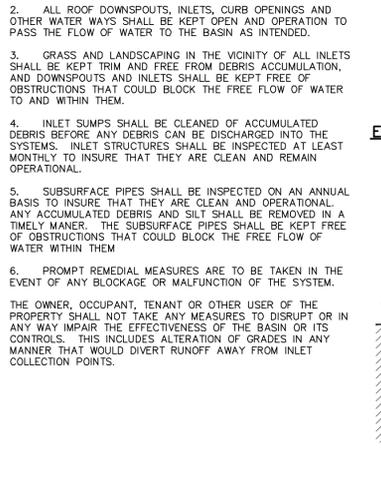


CONSTRUCTION SPECIFICATIONS FOR STORMWATER MANAGEMENT SYSTEMS

1. ALTER AND REFINE THE GRADES AS NECESSARY TO BRING SUBGRADE TO REQUIRED GRADES AND SECTIONS AS SHOWN IN THE DRAWINGS.
2. THE TYPE OF EQUIPMENT USED IN SUBGRADE PREPARATION CONSTRUCTION SHALL NOT CAUSE UNDESIRABLE SUBGRADE COMPACTION. TRAFFIC OVER SUBGRADE SHALL BE KEPT AT A MINIMUM.
3. INSTALL POLYPROPYLENE NONWOVEN GEOTEXTILE FABRIC WHICH MEETS PADOT CLASS 1 SPECIFICATIONS (I.E. DUPONT TYPAR #3401, AMOCO PROPEX #4545, OR APPROVED EQUAL) ON BOTTOM OF BED AREAS AND TACK UP SIDES OF EXCAVATION, WHERE EDGES OF ROLLS OVERLAP, THEY SHALL DO SO BY AT LEAST EIGHTEEN INCHES. ADEQUATE FABRIC SHALL BE LEFT ON THE ROLLS (NOT CUT FROM SIDE INSTALLATION) TO FACILITATE OVERTOPPING THE SYSTEM AT COMPLETION OF INSTALLATION.
4. ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHALL BE UNIFORMLY GRADED AND CLEAN, WASHED, AGGREGATE. THE STONE SHALL MEET PENNDOT/AASHTO #1 SPECIFICATIONS. STONE TO BE CHECKED BY THE DESIGN OR SITE ENGINEER PRIOR TO INSTALLATION.
5. STONE BASE COURSE SHALL BE LAID OVER A DRY SUBGRADE TO A DEPTH SHOWN IN DRAWINGS. DO NOT ROLL OR COMPACT THE STONE BASE COURSE. KEEP THE BASE COURSE CLEAN FROM DEBRIS, CLAY AND ERODING SOIL. INSTALL TANKS AND PIPE AS SHOWN AND BACKFILL WITH STONE.
6. COVER SYSTEM WITH REMAINING FABRIC, ALLOWING OPENINGS FOR ACCESS COVERS.
7. SYSTEM TO BE TOTALLY ENCLOSED IN THE NON-WOVEN GEOTEXTILE FABRIC.
8. INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES SHOULD BE KEPT IN GOOD WORKING ORDER.
12. EXCAVATION FOR THE INFILTRATION FACILITY SHALL BE PERFORMED WITH EQUIPMENT THAT WILL NOT COMPACT THE BOTTOM OF THE SEEPAGE BED OR LIKE FACILITY.
13. THE BOTTOM OF THE BED AND/OR TRENCH SHALL BE SCARIFIED PRIOR TO THE PLACEMENT OF AGGREGATE.

INFILTRATION BMP NOTES:

1. INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE PCSM INFILTRATION SYSTEMS #1-2, 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.
2. ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.
3. THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
4. INFLOW AND OUTFLOW POINTS INTO THE INDIVIDUAL ON-LOT SYSTEMS SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES OR DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESE SYSTEMS. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.
5. PRIOR TO THE PLACEMENT OF STONE IN THE PCSM INFILTRATION SYSTEMS 1-2, THE CONTRACTOR SHALL MAKE A TEST PIT 2 FEET BELOW THE BED BOTTOM TO ENSURE THAT BEDROCK AND/OR GROUNDWATER ARE NOT PRESENT IN THIS ZONE. IN THE EVENT THAT BEDROCK AND/OR BEDROCK ARE WITHIN 2 FEET OF BED BOTTOM, THE BED SHALL BE RELOCATED AND REDESIGNED BEFORE CONSTRUCTION MAY CONTINUE.
6. AFTER THE PCSM INFILTRATION SYSTEMS 1-2 ARE COMPLETELY INSTALLED, ALL HEAVY CONSTRUCTION EQUIPMENT SHALL BE RESTRICTED FROM THE INFILTRATION BEDS TO ELIMINATE IMPACTS WHICH MAY COMPROMISE IT. IN THE EVENT ANY IMPACTS COMPROMISE THE FUNCTIONALITY OF THE BMP INFILTRATION SYSTEMS, IT MUST BE IMMEDIATELY REPAIRED OR REPLACED TO DESIGN SPECIFICATIONS.
7. ALL BMP INFILTRATION SYSTEMS SHALL BE LOCATED A MINIMUM OF 10' FROM A BASEMENT WALL.
8. THE PROJECT ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE INITIATION OF ANY EMB OR PCSM CRITICAL STAGE OF CONSTRUCTION AS NOTED ON THE EROSION & SEDIMENTATION CONTROL PLAN AND POST CONSTRUCTION STORMWATER MANAGEMENT PLAN. CRITICAL STAGES INCLUDE THOSE LISTED ON THIS SHEET OF THESE PLANS AND MORE GENERALLY THE INSTALLATION OF UNDERGROUND TREATMENT OR STORAGE BMPs, STRUCTURALLY ENGINEERED BMPs, OR OTHER BMPs AS DEEMED APPROPRIATE BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR PERFORMING ON-SITE INSPECTIONS FOR ALL CRITICAL STAGES IN ORDER TO ENSURE GENERAL PCSM PLAN COMPLIANCE TO FACILITATE FINAL CERTIFICATION THAT THE SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN.



PCSM DETAILS

MOMENEE, INC.
 a Karins Company
 ENGINEERING | PLANNING | SURVEYING

REGISTERED PROFESSIONAL ENGINEER
 KEVIN R. MOMENEE
 LICENSE NO. PE020323E

FINAL LAND DEVELOPMENT PLAN
ACADEMY OF NOTRE DAME - STEM BUILDING
 RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

OWNER/APPLICANT
 ACADEMY OF NOTRE DAME
 560 SPOUL ROAD
 VILLANOVA, PA 19085-1220

ONE-CALL: 20160541517
 DRAWN BY: BDM
 CHECKED BY: KRM

FILE NO.: 15-372

SHEET 13 OF 13
 DATE: AUGUST 31, 2016
 SCALE: AS NOTED

Serial Number: 2016-011-1937

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776



THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.

Table with columns: UTILITY COMPANY, PHONE NUMBER. Lists AT & T, PECO, ZAYO BANDWIDTH, AQUA PENNSYLVANIA, INC., LEVEL 3, VERIZON, COMCAST CABLE, MCI, RADNOR TOWNSHIP.

LEGEND

Legend table with symbols and descriptions for existing contours, spot elevations, utility lines, signs, and proposed features like building, paving, and fences.

PLAN SHEET LIST:

Table with columns: SHEET, DATE. Lists sheets 1 through 14, including illustrative site plan, record plan, vicinity plan, grading and utility plan, etc.

FOLIO 36-02-01218-00 THE CRESTWOOD APARTMENTS LANDS N/F JAMES G. LEVIN & RAYMOND M. LEVIN VOL. 1371 PG. 1404 (R421 LANCASTER AVENUE)

FOLIO 36-02-01218-00 ABERWYCK APARTMENTS LANDS N/F JAMES G. LEVIN & RAYMOND M. LEVIN VOL. 1604 PG. 140 PARCEL A (PREMISES A)

ULTIMATE RIGHT OF WAY OFFERED FOR DEDICATION TO RADNOR TOWNSHIP UPON RECORDATION OF PLAN PER RADNOR CODE 255-17.B.1 & 2.

EXISTING RETAINING WALLS TO BE REMOVED AND 4' WIDE MIN SIDEWALK TO BE INSTALLED

EXISTING RETAINING WALLS TO BE REMOVED AND 4' WIDE MIN SIDEWALK TO BE INSTALLED

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EXISTING RETAINING WALLS TO BE REMOVED AND 4' WIDE MIN SIDEWALK TO BE INSTALLED

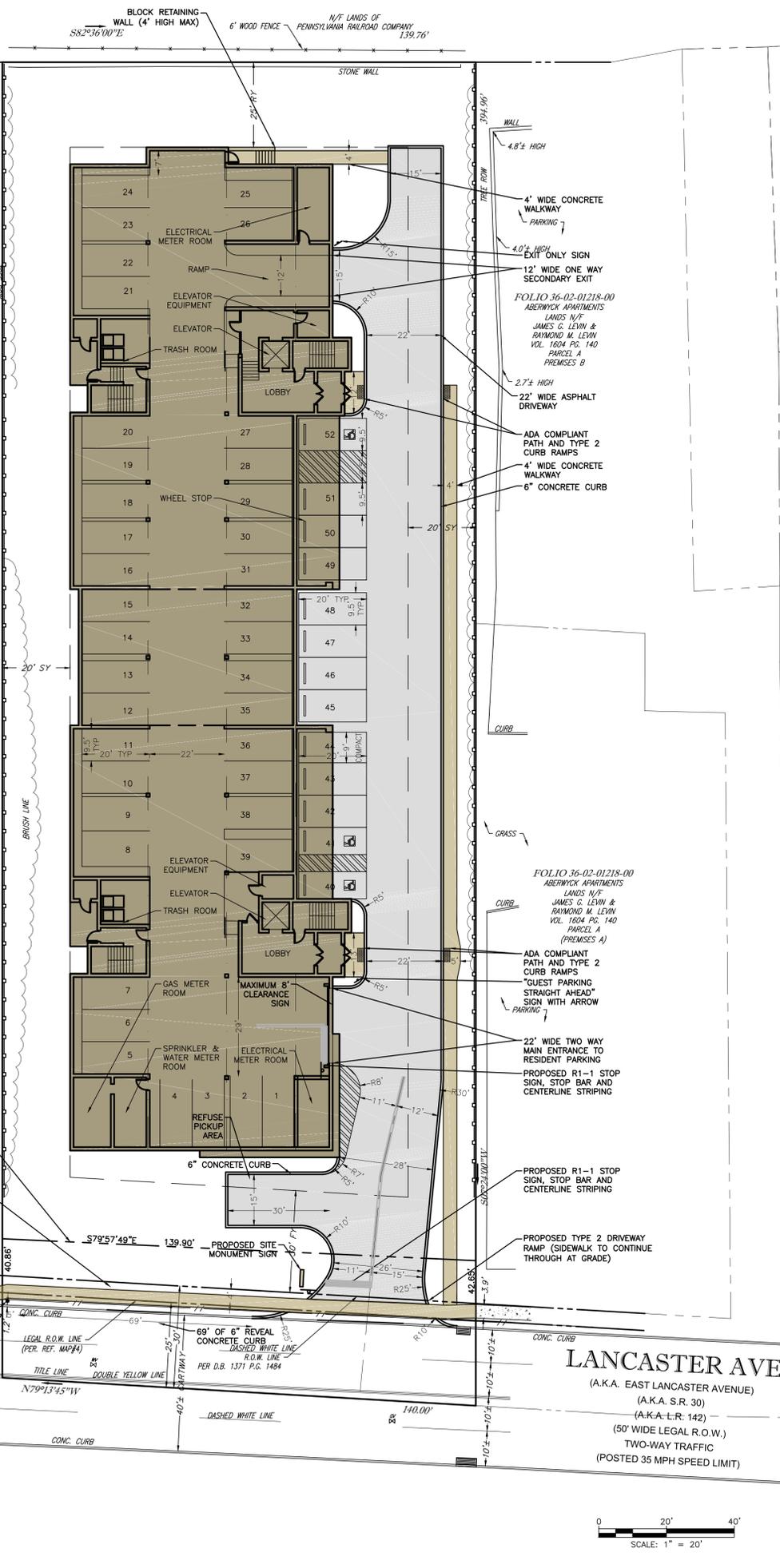
EXISTING RETAINING WALLS TO BE REMOVED AND 4' WIDE MIN SIDEWALK TO BE INSTALLED

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EXISTING RETAINING WALLS TO BE REMOVED AND 4' WIDE MIN SIDEWALK TO BE INSTALLED

EXISTING RETAINING WALLS TO BE REMOVED AND 4' WIDE MIN SIDEWALK TO BE INSTALLED



ZONING DATA R-6 (RESIDENCE DISTRICT): Table with columns: MINIMUM LOT SIZE, MINIMUM LOT AREA PER UNIT, MAXIMUM BUILDING COVERAGE, etc.

- NOTES: 1. * EXISTING NON-COMFORMITY 2. LOT AREA PER UNIT BASED ON CONSOLIDATED LOT AREA 3. IMPERVIOUS PERCENTAGES BASED ON CONSOLIDATED SITE AREA 4. FOR MORE DETAILED INFORMATION REFER TO THE ZONING CODE OF RADNOR TOWNSHIP, LATEST EDITION.

EXISTING LOT DATA: Table with columns: TAX FOLIO NUMBER, TAX MAP NUMBER, SITE AREA, LOT AREA.

CONSOLIDATED LOT DATA: Table with columns: SITE AREA, LOT AREA.

EXISTING IMPERVIOUS COVERAGE: Table with columns: BUILDINGS, WALKS & PORCHES, PATIOS, ASPHALT DRIVES, GRAVEL DRIVES, OTHER, TOTAL.

PROPOSED IMPERVIOUS COVERAGE: Table with columns: BUILDINGS, WALKS, DRIVES, OTHER, TOTAL.

- GENERAL NOTES: 1. THESE PLANS ARE BASED ON THE NOTED REFERENCES AND THE INTENT OF THESE PLANS IS TO ILLUSTRATE A 22 UNIT MULTI-FAMILY DEVELOPMENT AS PERMITTED BY THE RADNOR TOWNSHIP R-6 ZONING DISTRICT. THE UNITS WILL BE A MIX OF 2 AND 3 BEDROOM UNITS. 2. THE MAJORITY OF THE EXISTING FEATURES WILL BE REMOVED AS SHOWN ON THE DEMOLITION PLAN. 3. THIS PROJECT WILL BE DEVELOPED AS A CONDOMINIUM. TRASH AND SNOW REMOVAL WILL BE THE RESPONSIBILITY OF THE HOME OWNERS ASSOCIATION. COMMON DUMPSTER AREAS ARE SHOWN ON THE PLAN. A WASTECADDY OR SIMILAR PRODUCT WILL BE USED TO WHEEL THE DUMPSTERS OUT OF THE GARAGE TO THE DESIGNATED REFUSE PICKUP AREA. 4. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT FACILITIES WILL BE THE OBLIGATION OF THE HOME OWNERS ASSOCIATION. 5. THE PROPERTY SHALL BE GRADED SO THAT RUNOFF FROM THE MAJORITY OF THE PROPOSED DEVELOPMENT WILL BE DIRECTED TO AND COLLECTED BY A SERIES OF INLETS AND PIPES AS SHOWN ON THE PLAN AND CONVEYED TO THE UNDERGROUND STORMWATER MANAGEMENT SYSTEM WHICH WILL PROVIDE THE TOWNSHIP AND DEP REQUIRED RATE AND VOLUME CONTROLS. THE COLLECTED RUNOFF WILL BE OVER-CONTROLLED BY THE STORMWATER FACILITIES TO COMPENSATE FOR THE RUNOFF FROM THE REMAINING SITE AREAS THAT ARE UNCONTROLLED. OVERFLOW FROM THE PROPOSED STORMWATER MANAGEMENT FACILITIES WILL BE PIPED TO EXISTING STORM SEWER FACILITIES LOCATED IN LANCASTER AVENUE. 6. THE DEVELOPMENT WILL BE SERVICED BY A NEW GRAVITY SEWER LATERAL WHICH WILL CONNECT TO THE EXISTING SEWER MAIN IN LANCASTER AVENUE. 7. THE DEVELOPMENT WILL BE SERVICED BY NEW WATER LATERAL WHICH WILL CONNECT TO EXISTING WATER MAIN IN LANCASTER AVENUE. 8. ALL PROPOSED UTILITY LINES SHALL BE UNDERGROUND WHERE FEASIBLE. 9. LIGHTING WILL BE PROVIDED FOR THE PROPOSED PARKING AND PEDESTRIAN WALKWAYS IN ACCORDANCE WITH TOWNSHIP CODES INCLUDING 280-105.E. ADDITIONAL INFORMATION IS INCLUDED ON PLANS PREPARED BY GLACKIN THOMAS PANZAK. 10. THE PROPOSED MONUMENT SIGN SHALL BE INSTALLED IN ACCORDANCE WITH TOWNSHIP CODES INCLUDING 280-121.C. 11. LANDSCAPING WILL BE PROVIDED IN ACCORDANCE WITH THE TOWNSHIP CODES. ADDITIONAL INFORMATION IS INCLUDED ON PLANS PREPARED BY GLACKIN THOMAS PANZAK. 12. TYPICAL EROSION AND SEDIMENTATION CONTROLS ARE PROPOSED FOR THE CONSTRUCTION OF THIS PROPERTY INCLUDING A STABILIZED CONSTRUCTION ENTRANCE, FILTER SOCKS, SILT FENCE, INLET PROTECTION, TOPSOIL STOCKPILES SURROUNDED BY SILT FENCE AND EROSION CONTROL MATTING, ETC. AS WELL AS OTHER TYPICAL EROSION CONTROL MEASURES INCLUDING LIMITING SITE DISTURBANCE, IMMEDIATE STABILIZATION, ETC. 13. THE PROJECT'S RECEIVING WATERCOURSE IS ITHAN CREEK WHICH IS PART OF THE DARBY CREEK WATERSHED AND THE CHAPTER 93 CLASSIFICATION IS CWF, MF. 14. A LOW VOLUME HIGHWAY OCCUPANCY PERMIT SHALL BE OBTAINED FROM THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION FOR ANY WORK PROPOSED WITHIN THE STATE RIGHT OF WAY. 15. AS REQUIRED BY PENNDOT, DURING CONSTRUCTION, PEDESTRIAN ACCESSIBLE ROUTES MUST BE MAINTAINED OR TEMPORARY FACILITIES PROVIDED FOR ALL EXISTING PEDESTRIAN ROUTES ALONG LANCASTER AVENUE (SR 30.) 16. THE APPLICANT SHALL PAY A FEE IN LIEU OF PROVIDING PARK AND RECREATION LAND IN ACCORDANCE WITH 255-43.1. 17. PROPOSED WALKWAYS SLOPES SHALL NOT EXCEED 5%.



LOCATION MAP SCALE 1" = 600'

- REFERENCE PLANS: 1. BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED FOR RADNOR FAMILY PRACTICE BY CONTROL POINT ASSOCIATES, INC., CHALFONT, PA, DATED MAY 2, 2014 AND LAST REVISED MAY 14, 2014. FILE NO. CP14056 2. ZONING MAP OBTAINED ELECTRONICALLY FROM THE RADNOR TOWNSHIP WEBSITE 3. LIDAR TOPOGRAPHY AND OTHER GIS OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU 4. AERIAL PHOTOGRAPH "PA_X24_Y082" & "PA_X25_Y082" PROVIDED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION AND AERIAL PHOTOGRAPHY ACCESSED ELECTRONICALLY AT MAPS.GOOGLE.COM. 5. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

- REFERENCE PLAN #1 NOTES: 1. PROPERTY KNOWN AS FOLIO 36-02-01219-00 & 36-02-01219-01, BLOCK 61 AS IDENTIFIED ON THE TAX MAPS OF DELAWARE COUNTY, RADNOR TOWNSHIP, COMMONWEALTH OF PENNSYLVANIA. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT 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. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. 2. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON. 3. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN. 4. BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER REF. MAP NUMBER 42045C0017F AND 42045C0036F. MAP REVISED NOVEMBER 18, 2009 5. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY. 6. ELEVATIONS ARE BASED UPON PA DOT BENCHMARK F101 REPUTED TO BE NAVD 1988 ELEVATION 343.57 7. UNDERGROUND STORM SEWER AND SANITARY SEWER PIPES ARE DRAWN GRAPHICALLY ON THIS SURVEY APPROXIMATE. UNDERGROUND STORM AND SANITARY PIPES SHOULD BE VERIFIED INDEPENDENTLY AS TO THEIR LOCATION, SIZE AND TYPE AND SHOULD BE CONSIDERED BY THE CONTRACTOR OR DESIGN CONSULTANT PRIOR TO CONSTRUCTION. 8. THESE UNDERGROUND UTILITY COMPANIES DID NOT RESPOND TO PA ONE CALL REQUEST: ELECTRIC, GAS, AND TELEPHONE.

- REFERENCE PLAN #1 REFERENCES: 1. MAP #015 OF THE OFFICIAL TAX MAPS OF THE RADNOR TOWNSHIP, DELAWARE COUNTY, COMMONWEALTH OF PENNSYLVANIA. 2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, PENNSYLVANIA, DELAWARE COUNTY, PANEL 36 OF 250", COMMUNITY-PANEL NUMBER 420428 0036 F, MAP REVISED: NOV 18, 2009. 3. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, PENNSYLVANIA, DELAWARE COUNTY, PANEL 17 OF 250", COMMUNITY-PANEL NUMBER 420428 0017 F, MAP REVISED: NOV 18, 2009. 4. MAP ENTITLED "COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF HIGHWAYS, DRAWING FOR CONSTRUCTION AND CONDEMNATION OF RIGHT OF WAY ROUTE NO. 142 SECTION NO. 1 IN DELAWARE COUNTY; FROM STA. 2882+35 TO STA. 2891+10, LENGTH 875.0 FT @ 0.166 MI.; SHEETS 1-3. MAP ENTITLED "AS BUILT SURVEY MADE FOR J. GORDON AND LOIS T. LONGNECKER, RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA," PREPARED BY PERKS ASSOCIATES, INC., DATE MARCH 28, 2002. PLAN D-36-13 384.

RECORD OWNER: WALKER FAMILY PROPERTIES, LLP 427 EAST LANCASTER AVENUE WAYNE, PA 19087

EQUITABLE OWNER: 427 LANCASTER AVE, LLC 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073

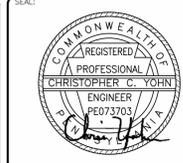
Table with project information: PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT, PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087, MUNICIPALITY: RADNOR TOWNSHIP, COUNTY: DELAWARE COUNTY.

Table with plan information: PLAN SET: FINAL PLANS, SHEET NAME: ILLUSTRATIVE SITE PLAN.

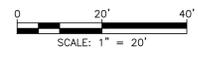
Table with client information: PREPARED FOR: EQUITABLE OWNER/APPLICANT 427 LANCASTER AVE, 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073.

Table with date and scale information: DATE: JANUARY 6, 2017, SCALE: 1" = 20', ONE CALL NUMBER: 2016-011-1937, DRAWN BY: CCY, PROJECT NUMBER: 15-031.

Table with contact information: PREPARED BY: YOHN ENGINEERING, LLC 555 SECOND AVENUE, SUITE G-110 COLLEGEVILLE, PA 19426 610-489-4580 WWW.YOHNENGINEERING.COM.



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Serial Number: 2016-011-1937

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776



THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.

Table with columns: UTILITY COMPANY, PHONE NUMBER. Lists AT & T, PECO, ZAYO BANDWIDTH, AQUA PENNSYLVANIA, INC., VERIZON, COMCAST CABLE, RADNOR TOWNSHIP.

LEGEND

Legend table listing symbols for existing contours, spot elevations, curbs, valves, manholes, signs, etc.

PLAN SHEET LIST:

Table listing sheet numbers and titles: SHEET 1: ILLUSTRATIVE SITE PLAN, SHEET 2: RECORD PLAN (SHEET 1 OF 1 FOR RECORDING), etc.

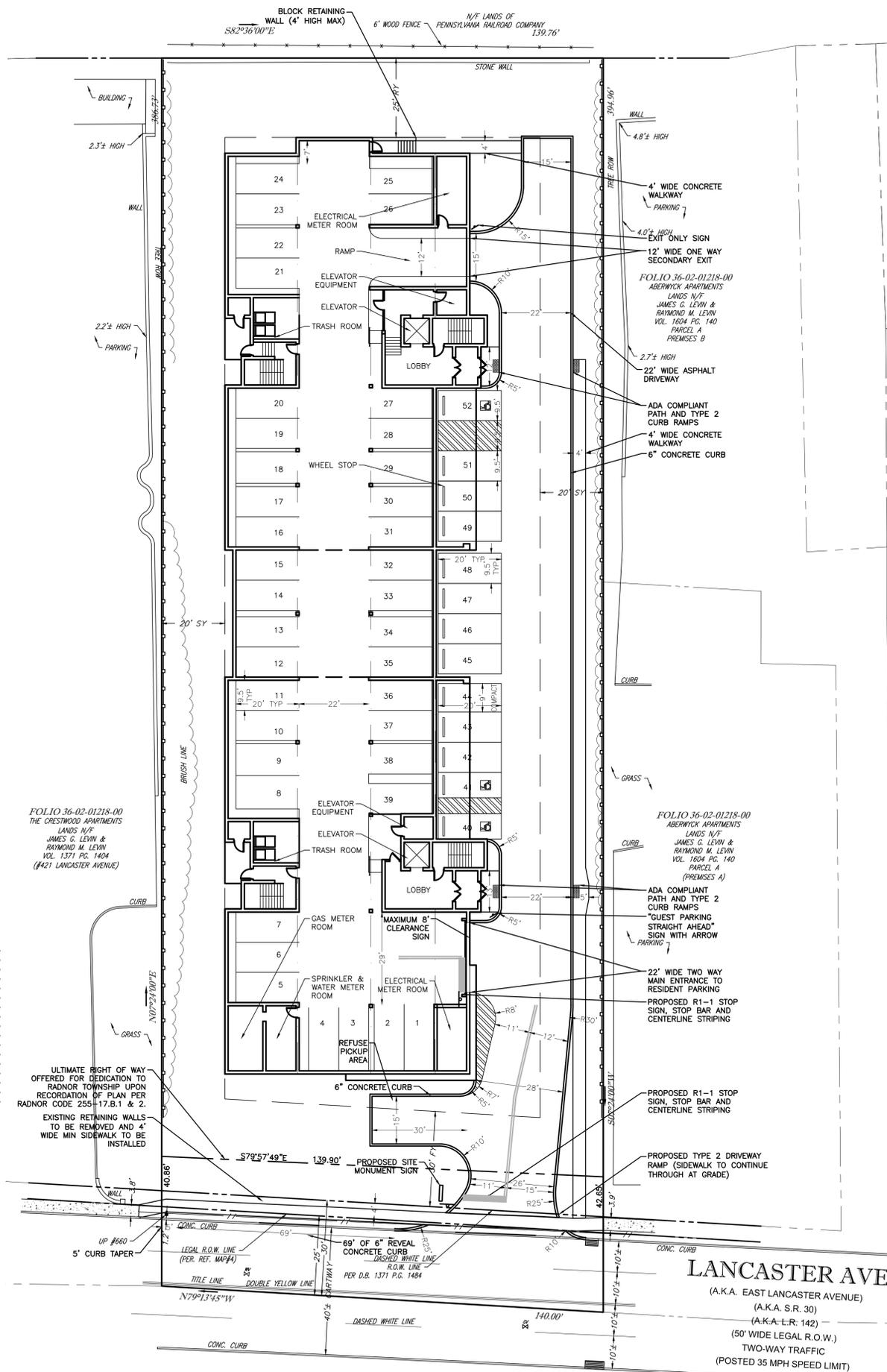
DATE:

Table listing dates for each sheet: 01/06/17, 01/06/17, 01/06/17, etc.

FOLIO 36-02-01218-00 THE CRESTWOOD APARTMENTS LANDS N/F JAMES G. LEVIN & RAYMOND M. LEVIN VOL. 1371 PG. 1404 (P421 LANCASTER AVENUE)

ULTIMATE RIGHT OF WAY OFFERED FOR DEDICATION TO RADNOR TOWNSHIP UPON RECORDATION OF PLAN PER RADNOR CODE 255-17.B.1 & 2.

EXISTING RETAINING WALLS TO BE REMOVED AND 4' WIDE MIN SIDEWALK TO BE INSTALLED



ZONING DATA R-6 (RESIDENCE DISTRICT): REQUIRED, EXISTING, PROPOSED. Lists metrics like minimum lot size, building coverage, etc.

- NOTES: 1. * EXISTING NON-CONFORMITY 2. LOT AREA PER UNIT BASED ON CONSOLIDATED LOT AREA 3. IMPERVIOUS PERCENTAGES BASED ON CONSOLIDATED SITE AREA 4. FOR MORE DETAILED INFORMATION REFER TO THE ZONING CODE OF RADNOR TOWNSHIP, LATEST EDITION.

EXISTING LOT DATA: TAX FOLIO NUMBER, TAX MAP NUMBER, SITE AREA, LOT AREA.

CONSOLIDATED LOT DATA: SITE AREA, LOT AREA.

EXISTING IMPERVIOUS COVERAGE: BUILDINGS, WALKS, PATIOS, ASPHALT DRIVES, GRAVEL DRIVES, OTHER, TOTAL.

PROPOSED IMPERVIOUS COVERAGE: BUILDINGS, WALKS, DRIVES, OTHER, TOTAL.

- GENERAL NOTES: 1. THESE PLANS ARE BASED ON THE NOTED REFERENCES AND THE INTENT OF THESE PLANS IS TO ILLUSTRATE A 22 UNIT MULTI-FAMILY DEVELOPMENT AS PERMITTED BY THE RADNOR TOWNSHIP R-6 ZONING DISTRICT...



- REFERENCE PLANS: 1. TOPOGRAPHIC SURVEY PREPARED FOR RADNOR FAMILY PRACTICE BY CONTROL POINT ASSOCIATES, INC., CHALFONT, PA, DATED MAY 2, 2014 AND LAST REVISED MAY 14, 2014. FILE NO. CP14056 2. ZONING MAP OBTAINED ELECTRONICALLY FROM THE RADNOR TOWNSHIP WEBSITE...

- REFERENCE PLAN #1 NOTES: 1. PROPERTY KNOWN AS FOLIO 36-02-01219-00 & 36-02-01219-01, BLOCK 61 AS IDENTIFIED ON THE TAX MAPS OF DELAWARE COUNTY, RADNOR TOWNSHIP, COMMONWEALTH OF PENNSYLVANIA...

- REFERENCE PLAN #1 REFERENCES: 1. MAP #015 OF THE OFFICIAL TAX MAPS OF THE RADNOR TOWNSHIP, DELAWARE COUNTY, COMMONWEALTH OF PENNSYLVANIA...

RECORD OWNER: WALKER FAMILY PROPERTIES, LLP 427 EAST LANCASTER AVENUE WAYNE, PA 19087

EQUITABLE OWNER: 427 LANCASTER AVE, LLC 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073

ON THIS THE ___ DAY OF _____, 20___, BEFORE ME, THE UNDERSIGNED PERSONALLY APPEARED DAVID SCOTT BREHMAN, MEMBER OF 427 E. LANCASTER, LLC, WHO BEING DULY SWORN ACCORDING TO LAW DEPOSES AND SAYS THAT 427 E. LANCASTER, LLC IS THE EQUITABLE OWNER OF THE PROPERTY SHOWN ON THIS PLAN...

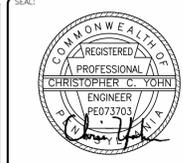
BY: NAME: DAVID SCOTT BREHMAN TITLE: MEMBER

PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087

PLANNING: FINAL PLANS SHEET NAME: RECORD PLAN (SHEET 1 OF 1 FOR RECORDING)

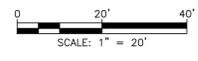
PREPARED FOR: EQUITABLE OWNER/APPLICANT 427 E. LANCASTER, LLC 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073

DATE: JANUARY 6, 2017 SCALE: 1" = 20' ONE CALL NUMBER: 2016-011-1937 DRAWN BY: CCY PROJECT NUMBER: 15-031



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LANCASTER AVE. (A.K.A. EAST LANCASTER AVENUE) (A.K.A. S.R. 30) (A.K.A. E.R. 142) (50' WIDE LEGAL R.O.W.) TWO-WAY TRAFFIC (POSTED 35 MPH SPEED LIMIT)



Serial Number: 2016-011-1937

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776

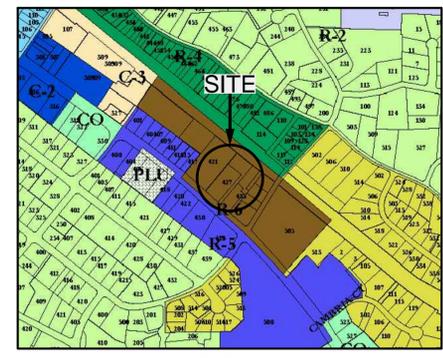


THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 20141072620

Table with 2 columns: UTILITY COMPANY, PHONE NUMBER. Lists AT & T, PECO, ZAYO BANDWIDTH, AQUA PENNSYLVANIA, INC., LEVEL 3, VERIZON, COMCAST CABLE, MCI, RADNOR TOWNSHIP.

LEGEND

- Legend items: EXISTING CONTOUR, EXISTING SPOT ELEVATION, EXIST. TOP OF CURB ELEVATION, EXIST. GUTTER ELEVATION, EXIST. TOP OF WALL ELEVATION, EXIST. BOTTOM OF WALL ELEVATION, EXIST. FINISHED FLOOR ELEVATION, WATER VALVE, UNKNOWN VALVE, GAS VALVE, GAS METER, OVERHEAD WIRES, APPROX. LOC. UNDERGROUND GAS LINE, APPROX. LOC. UNDERGROUND TEL. LINE, APPROX. LOC. UNDERGROUND WATER LINE, UTILITY POLE, UTILITY POLE/LIGHT POLE, SIGN, MAIL BOX, ABOVE GROUND, UNDER GROUND, DEPRESSED CURB, EDGE OF PAVEMENT, LANDSCAPED AREA, RAILROAD TIE WALL, TYPICAL, WATER MANHOLE, CATCH BASIN OR INLET, PARKING SPACE COUNT, DEPRESSED CURB, DEED DESIGNATION, OFFSET OF STRUCTURE AT GROUND LEVEL RELATIVE TO PROPERTY LINE, SOLID YELLOW LINE, DOUBLE YELLOW LINE, HEIGHT, DASHED WHITE LINE, BUILDING, ELEVATION.



- REFERENCE PLANS: 1. BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED FOR RADNOR FAMILY PRACTICE BY CONTROL POINT ASSOCIATES, INC., CHALFONT, PA, DATED MAY 2, 2014 AND LAST REVISED MAY 14, 2014. FILE NO. CP14056. 2. ZONING MAP OBTAINED ELECTRONICALLY FROM THE RADNOR TOWNSHIP WEBSITE. 3. LIDAR TOPOGRAPHY AND OTHER GIS OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU. 4. AERIAL PHOTOGRAPH "PA_X24_Y082" & "PA_X25_Y082" PROVIDED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION AND AERIAL PHOTOGRAPHY ACCESSED ELECTRONICALLY AT MAPS.GOOGLE.COM. 5. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

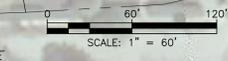
- REFERENCE PLAN #1 NOTES: 1. PROPERTY KNOWN AS FOLIO 36-02-01219-00 & 36-02-01219-01, BLOCK 61 AS IDENTIFIED ON THE TAX MAPS OF DELAWARE COUNTY, RADNOR TOWNSHIP, COMMONWEALTH OF PENNSYLVANIA. 2. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT 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 PROPOSED UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. 3. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON. 4. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN. 5. BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER REF. MAP NUMBER 42045C0017F AND 42045C0036F. MAP REVISED NOVEMBER 18, 2009. 6. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY. 7. ELEVATIONS ARE BASED UPON PA DOT BENCHMARK F101 REPUTED TO BE NAVD 1988 ELEVATION 343.57. 8. UNDERGROUND STORM SEWER AND SANITARY SEWER PIPES ARE DRAWN GRAPHICALLY ON THIS SURVEY APPROXIMATE. UNDERGROUND STORM AND SANITARY PIPES SHOULD BE VERIFIED INDEPENDENTLY AS TO THEIR LOCATION, SIZE AND TYPE AND SHOULD BE CONSIDERED BY THE CONTRACTOR OR DESIGN CONSULTANT PRIOR TO CONSTRUCTION. 9. THESE UNDERGROUND UTILITY COMPANIES DID NOT RESPOND TO PA ONE CALL REQUEST: ELECTRIC, GAS, AND TELEPHONE.

- REFERENCE PLAN #1 REFERENCES: 1. MAP #015 OF THE OFFICIAL TAX MAPS OF THE RADNOR TOWNSHIP, DELAWARE COUNTY, COMMONWEALTH OF PENNSYLVANIA. 2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, PENNSYLVANIA, DELAWARE COUNTY, PANEL 36 OF 250", COMMUNITY-PANEL NUMBER 420428 0036 F, MAP REVISED: NOV 18, 2009. 3. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, PENNSYLVANIA, DELAWARE COUNTY, PANEL 17 OF 250", COMMUNITY-PANEL NUMBER 420428 0017 F, MAP REVISED: NOV 18, 2009. 4. MAP ENTITLED "COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF HIGHWAYS, DRAWING FOR CONSTRUCTION AND CONDEMNATION OF RIGHT OF WAY ROUTE NO. 142 SECTION NO. 1 IN DELAWARE COUNTY; FROM STA. 2882+35 TO STA. 2891+10, LENGTH 875.0 FT 0.166 MI, SHEETS 1-3. 5. MAP ENTITLED "AS BUILT SURVEY MADE FOR J. GORDON AND LOIS T. LONGENECKER, RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA," PREPARED BY YERKS ASSOCIATES, INC., DATE MARCH 28, 2002. PLAN D-36-13 384.

RECORD OWNER: WALKER FAMILY PROPERTIES, LLP 427 EAST LANCASTER AVENUE WAYNE, PA 19087

Table with 2 columns: EXISTING LOT DATA, EXISTING IMPERVIOUS COVERAGE. Lists tax folio numbers, map numbers, site areas, lot areas, and coverage types like buildings, walks, patios, etc.

Table with 20 columns: SYMBOL, NAME, %SLOPE, ERODIBILITY INDEX, HYDROLOGIC GROUP, AGRICULTURAL CAPABILITY CLASS, DRAINAGE, LOAD BEARING CAPACITY, DEPTH TO SH WATER, DEPTH TO BEDROCK, GRAVEL SOURCE, SAND SOURCE, ROAD/FILL SOURCE, TOPSOIL SOURCE, LOCAL ROADS AND STREETS, POND RESERVOIR AREAS, EMBANKMENTS, IRRIGATION, RESIDENTIAL DEVELOPMENT, LIGHT INDUSTRIAL, SEWAGE LAGOONS, ON-SITE SEPTIC, LAWNS.



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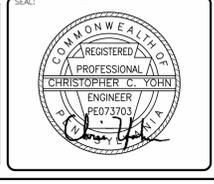


Table with 2 columns: PROJECT, PROJECT ADDRESS, MUNICIPALITY, COUNTY. Lists: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT, 427 EAST LANCASTER AVENUE, WAYNE, PA 19087, RADNOR TOWNSHIP, DELAWARE COUNTY.

Table with 2 columns: PLAN SET, SHEET NAME. Lists: FINAL PLANS, VICINITY PLAN.

PREPARED FOR: EQUITABLE OWNER/APPLICANT 427 E. LANCASTER, LLC 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073

DATE: JANUARY 6, 2017 SCALE: 1" = 60' ONE CALL NUMBER: 2016-011-1937 DRAWN BY: CCY PROJECT NUMBER: 15-031

PREPARED BY: YOHN ENGINEERING, LLC 555 SECOND AVENUE, SUITE G-110 COLLEGEVILLE, PA 19426 610-489-4580 WWW.YOHNENGINEERING.COM



Serial Number: 2016-011-1937

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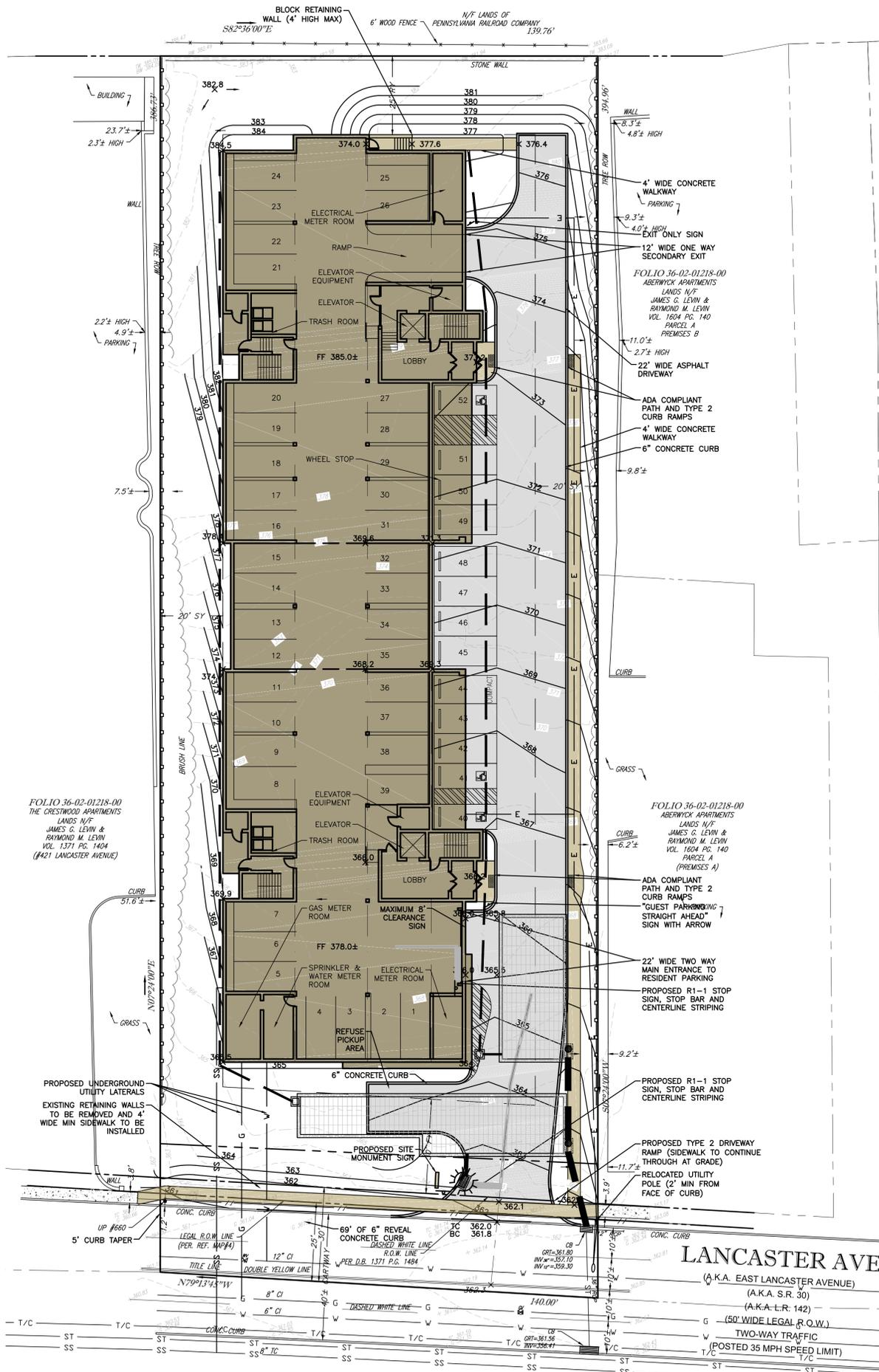


THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 20141072620

Table with columns: UTILITY COMPANY, PHONE NUMBER. Lists AT & T, PECO, ZAYO BANDWIDTH, AQUA PENNSYLVANIA, INC., VERIZON, COMCAST CABLE, RADNOR TOWNSHIP.

LEGEND

- Legend items: EXISTING CONTOUR, EXISTING SPOT ELEVATION, EXIST. TOP OF CURB ELEVATION, EXIST. GUTTER ELEVATION, EXIST. TOP OF WALL ELEVATION, EXIST. BOTTOM OF WALL ELEVATION, EXIST. FINISHED FLOOR ELEVATION, WATER VALVE, UNKNOWN VALVE, GAS VALVE, GAS METER, OVERHEAD WIRES, APPROX. LOC. UNDERGROUND GAS LINE, APPROX. LOC. UNDERGROUND TEL. LINE, APPROX. LOC. UNDERGROUND WATER LINE, UTILITY POLE, UTILITY POLE/LIGHT POLE, SIGN, MAIL BOX, ABOVE GROUND, UNDER GROUND, DEPRESSED CURB, EDGE OF PAVEMENT, LANDSCAPED AREA, RAILROAD TIE WALL, TYPICAL, WATER MANHOLE, CATCH BASIN OR INLET, PARKING SPACE COUNT, DEPRESSED CURB, DEED DESIGNATION, OFFSET OF STRUCTURE AT GROUND LEVEL RELATIVE TO PROPERTY LINE, SOLID YELLOW LINE, DOUBLE YELLOW LINE, HEIGHT, DASHED WHITE LINE, BLDG. BUILDING, ELEVATION, PROPOSED BUILDING, PROPOSED PAVING, PROPOSED IMPERVIOUS WALKS, WALLS, ETC., PROPOSED RIGHT-OF-WAY, PROPOSED FENCE, PROPOSED STORM PIPES.



ZONING DATA R-6 (RESIDENCE DISTRICT): REQUIRED, EXISTING, PROPOSED. Columns include MINIMUM LOT SIZE, MINIMUM LOT AREA PER UNIT, MAXIMUM BUILDING COVERAGE, MINIMUM FRONT YARD, MINIMUM SIDE YARD, MINIMUM REAR YARD, MAXIMUM IMPERVIOUS COVERAGE, MAXIMUM BUILDING HEIGHT, MAXIMUM BUILDING LENGTH, MINIMUM PARKING.

- NOTES: 1. * EXISTING NON-COMFORMITY 2. LOT AREA PER UNIT BASED ON CONSOLIDATED LOT AREA 3. IMPERVIOUS PERCENTAGES BASED ON CONSOLIDATED SITE AREA 4. FOR MORE DETAILED INFORMATION REFER TO THE ZONING CODE OF RADNOR TOWNSHIP, LATEST EDITION.

EXISTING LOT DATA: TAX FOLIO NUMBER, TAX MAP NUMBER, SITE AREA, LOT AREA. Values for 36-02-01219-00 and 36-02-01219-01.

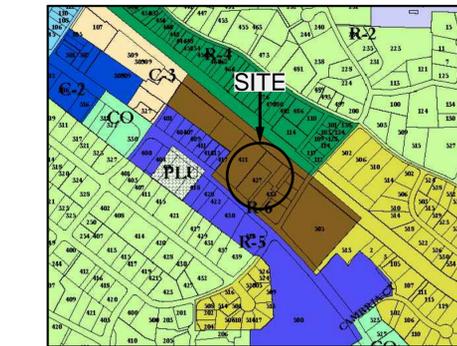
CONSOLIDATED LOT DATA: SITE AREA, LOT AREA. Values for 54,622 SF and 50,423 SF.

EXISTING IMPERVIOUS COVERAGE: BUILDINGS & PORCHES, WALKS, PATIOS, ASPHALT DRIVES, GRAVEL DRIVES, OTHER. Total: 25,627 SF (46.9%).

PROPOSED IMPERVIOUS COVERAGE: BUILDINGS, WALKS, PATIOS, DRIVES, OTHER. Total: 34,783 SF (63.7%).

- GENERAL NOTES: 1. THESE PLANS ARE BASED ON THE NOTED REFERENCES AND THE INTENT OF THESE PLANS IS TO ILLUSTRATE A 22 UNIT MULTI-FAMILY DEVELOPMENT AS PERMITTED BY THE RADNOR TOWNSHIP R-6 ZONING DISTRICT... 2. THE MAJORITY OF THE EXISTING FEATURES WILL BE REMOVED AS SHOWN ON THE DEMOLITION PLAN... 3. THIS PROJECT WILL BE DEVELOPED AS A CONDOMINIUM... 4. TRASH AND SNOW REMOVAL WILL BE THE RESPONSIBILITY OF THE HOME OWNERS ASSOCIATION... 5. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT FACILITIES WILL BE THE OBLIGATION OF THE HOME OWNERS ASSOCIATION... 6. THE PROPERTY SHALL BE GRADED SO THAT RUNOFF FROM THE MAJORITY OF THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN... 7. THE DEVELOPMENT WILL BE SERVICED BY A NEW GRAVITY SEWER LATERAL WHICH WILL CONNECT TO THE EXISTING SEWER MAIN IN LANCASTER AVENUE... 8. THE DEVELOPMENT WILL BE SERVICED BY NEW WATER LATERAL WHICH WILL CONNECT TO EXISTING WATER MAIN IN LANCASTER AVENUE... 9. ALL PROPOSED UTILITY LINES SHALL BE UNDERGROUND WHERE FEASIBLE... 10. LIGHTING WILL BE PROVIDED FOR THE PROPOSED PARKING AND PEDESTRIAN WALKWAYS IN ACCORDANCE WITH TOWNSHIP CODES INCLUDING 280-105.E... 11. THE PROPOSED MONUMENT SIGN SHALL BE INSTALLED IN ACCORDANCE WITH TOWNSHIP CODES INCLUDING 280-121.C... 12. LANDSCAPING WILL BE PROVIDED IN ACCORDANCE WITH THE TOWNSHIP CODES... 13. TYPICAL EROSION AND SEDIMENTATION CONTROLS ARE PROPOSED FOR THE CONSTRUCTION OF THIS PROPERTY INCLUDING A STABILIZED CONSTRUCTION ENTRANCE, FILTER SOCKS, SILT FENCE, INLET PROTECTION, TOPSOIL STOCKPILES SURROUNDED BY SILT FENCE AND EROSION CONTROL MATTING, ETC. AS WELL AS OTHER TYPICAL EROSION CONTROL MEASURES INCLUDING LIMITING SITE DISTURBANCE, IMMEDIATE STABILIZATION, ETC... 14. THE PROJECT'S RECEIVING WATERCOURSE IS ITHAN CREEK WHICH IS PART OF THE DARBY CREEK WATERSHED AND THE CHAPTER 93 CLASSIFICATION IS CWF, MF... 15. A LOW VOLUME HIGHWAY OCCUPANCY PERMIT SHALL BE OBTAINED FROM THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION FOR ANY WORK PROPOSED WITHIN THE STATE RIGHT OF WAY... 16. AS REQUIRED BY PENNDOT, DURING CONSTRUCTION, PEDESTRIAN ACCESSIBLE ROUTES MUST BE MAINTAINED OR TEMPORARY FACILITIES PROVIDED FOR ALL EXISTING PEDESTRIAN ROUTES ALONG LANCASTER AVENUE (SR 30)... 17. THE APPLICANT SHALL PAY A FEE IN LIEU OF PROVIDING PARK AND RECREATION LAND IN ACCORDANCE WITH 255-43.1... 18. PROPOSED WALKWAYS SLOPES SHALL NOT EXCEED 5%.

AVERAGE BUILDING GRADE CALCULATIONS: TABLE with columns ELEV, AVERAGE, LENGTH, PRODUCT. Includes sub-tables for FRONT and BACK.



- REFERENCE PLANS: 1. TOPOGRAPHIC SURVEY PREPARED FOR RADNOR FAMILY PRACTICE BY CONTROL POINT ASSOCIATES, INC., CHALFONT, PA, DATED MAY 2, 2014 AND LAST REVISED MAY 14, 2014. FILE NO. CP14056 2. ZONING MAP OBTAINED ELECTRONICALLY FROM THE RADNOR TOWNSHIP WEBSITE 3. LIDAR TOPOGRAPHY AND OTHER GIS OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASD.PSU.EDU 4. AERIAL PHOTOGRAPH "PA_X24_Y082" & "PA_X25_Y082" PROVIDED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION AND AERIAL PHOTOMETRY ACCESSED ELECTRONICALLY AT MAPS.GOOGLE.COM 5. SOILS INFORMATION VIA THE NATIONAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

- REFERENCE PLAN #1 NOTES: 1. PROPERTY KNOWN AS FOLIO 36-02-01219-00 & 36-02-01219-01, BLOCK 61 AS IDENTIFIED ON THE TAX MAPS OF DELAWARE COUNTY, RADNOR TOWNSHIP, COMMONWEALTH OF PENNSYLVANIA... 2. LOCATION OF UNDERGROUND UTILITIES ARE SHOWN ON THE UTILITY COMPANIES CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED... 3. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON... 4. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN... 5. BY GRAPHIC PLOTTING ONLY THEREIN IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER REF. MAP NUMBER 42045C0017F AND 42045C0036F. MAP REVISED NOVEMBER 18, 2009... 6. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY... 7. ELEVATIONS ARE BASED UPON PA DOT BENCHMARK F101 REPUTED TO BE NAVD 1988 ELEVATION 343.57... 8. UNDERGROUND STORM SEWER AND SANITARY SEWER PIPES ARE DRAWN GRAPHICALLY ON THIS SURVEY APPROXIMATE. UNDERGROUND STORM AND SANITARY PIPES SHOULD BE VERIFIED INDEPENDENTLY AS TO THEIR LOCATION, SIZE AND TYPE AND SHOULD BE CONSIDERED BY THE CONTRACTOR OR DESIGN CONSULTANT PRIOR TO CONSTRUCTION... 9. THESE UNDERGROUND UTILITY COMPANIES DID NOT RESPOND TO PA ONE CALL REQUEST: ELECTRIC, GAS, AND TELEPHONE.

- REFERENCE PLAN #1 REFERENCES: 1. MAP #015 OF THE OFFICIAL TAX MAPS OF THE RADNOR TOWNSHIP, DELAWARE COUNTY, COMMONWEALTH OF PENNSYLVANIA... 2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, PENNSYLVANIA, DELAWARE COUNTY, PANEL 36 OF 250", COMMUNITY-PANEL NUMBER 420428 0036 F, MAP REVISED: NOV 18, 2009... 3. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, PENNSYLVANIA, DELAWARE COUNTY, PANEL 17 OF 250", COMMUNITY-PANEL NUMBER 420428 0017 F, MAP REVISED: NOV 18, 2009... 4. MAP ENTITLED "COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF HIGHWAYS, DRAWING FOR CONSTRUCTION AND CONDEMNATION OF RIGHT OF WAY ROUTE NO. 142 SECTION NO. 1 IN DELAWARE COUNTY; FROM STA. 2882+35 TO STA. 2891+10, LENGTH 875.0 FT 0.166 MI, SHEETS 1-3... 5. MAP ENTITLED "AS BUILT SURVEY MADE FOR J. GORDON AND LOIS L. LONGENECKER, RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA," PREPARED BY YERKS ASSOCIATES, INC., DATE MARCH 28, 2002. PLAN D-36-13 384.

RECORD OWNER: WALKER FAMILY PROPERTIES, LLP 427 EAST LANCASTER AVENUE WAYNE, PA 19087

EQUITABLE OWNER: 427 LANCASTER AVE, LLC 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073

AVERAGE BUILDING GRADE CALCULATIONS: TABLE with columns ELEV, AVERAGE, LENGTH, PRODUCT. Includes sub-tables for BACK and TOTAL.

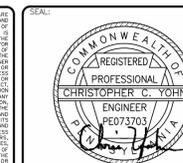
PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087 MUNICIPALITY: RADNOR TOWNSHIP COUNTY: DELAWARE COUNTY

Table with columns: PLAN SET, SHEET NAME. Values: FINAL PLANS, GRADING AND UTILITY PLAN.

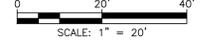
PREPARED FOR: EQUITABLE OWNER/APPLICANT 427 LANCASTER AVE 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073

DATE: JANUARY 6, 2017 SCALE: 1\"/>

PREPARED BY: YOHN ENGINEERING, LLC 555 SECOND AVENUE, SUITE G-110 COLLEGEVILLE, PA 19426 610-489-4580 WWW.YOHNEENGINEERING.COM



ALL DOCUMENTS PREPARED OR FURNISHED BY ENGINEER AND PROPERTY INTEREST (INCLUDING THE CONTRACT AND THE DEED OF SALE) TO BE CONSIDERED AS PART OF THE RECORD. THE ENGINEER'S LIABILITY IS LIMITED TO THE SCOPE OF THE SERVICES PROVIDED AND DOES NOT INCLUDE THE DESIGN OR CONSTRUCTION OF ANY STRUCTURE OR THE PERFORMANCE OF ANY OTHER SERVICE. THE ENGINEER'S LIABILITY IS LIMITED TO THE SCOPE OF THE SERVICES PROVIDED AND DOES NOT INCLUDE THE DESIGN OR CONSTRUCTION OF ANY STRUCTURE OR THE PERFORMANCE OF ANY OTHER SERVICE.



Serial Number: 2016-011-1937

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776

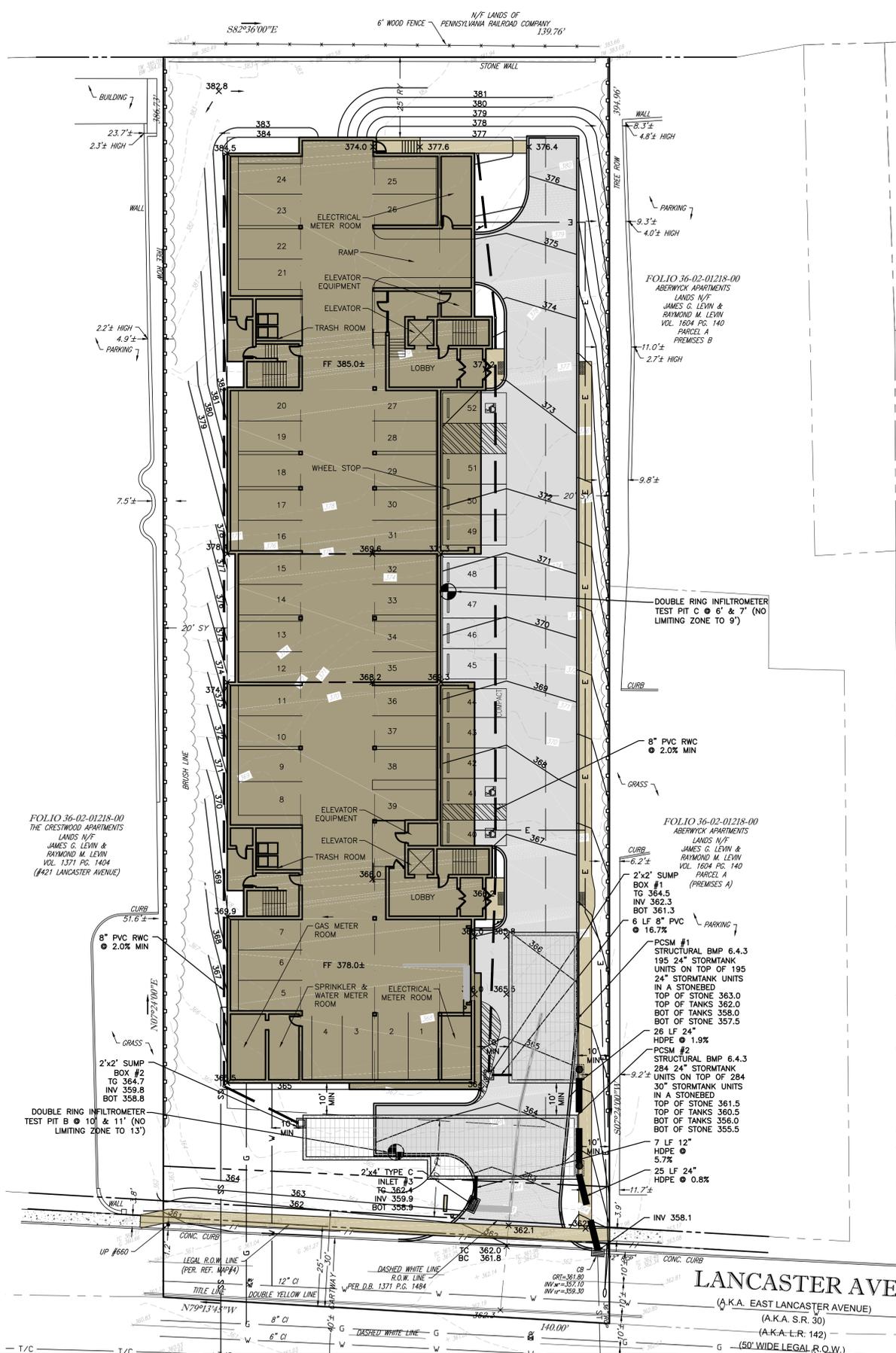


THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 20141072620

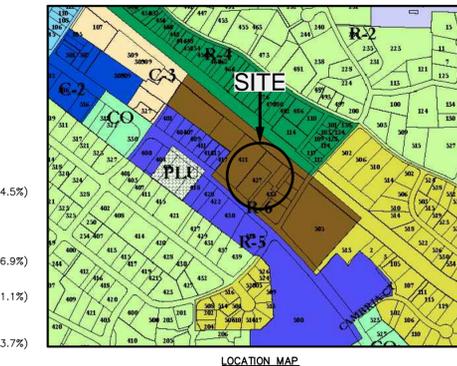
Table with columns: UTILITY COMPANY, PHONE NUMBER. Lists AT & T, PECO, ZAYO BANDWIDTH, AQUA PENNSYLVANIA, INC., LEVEL 3, VERIZON, COMCAST CABLE, RADNOR TOWNSHIP.

LEGEND

Legend table with symbols and descriptions for contours, elevations, utilities, signs, and structures.



EXISTING LOT DATA, CONSOLIDATED LOT DATA, EXISTING IMPERVIOUS COVERAGE, PROPOSED IMPERVIOUS COVERAGE, GENERAL NOTES, STORMWATER MANAGEMENT OPERATION AND MAINTENANCE PROCEDURES, RECORD OWNER, EQUITABLE OWNER, ZONING DATA, and various technical notes.

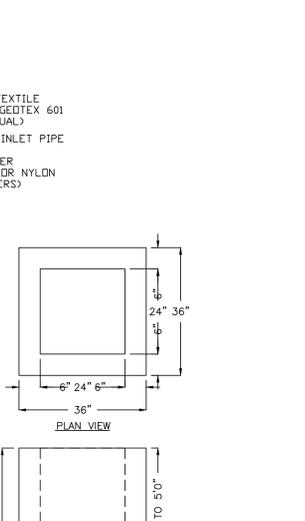
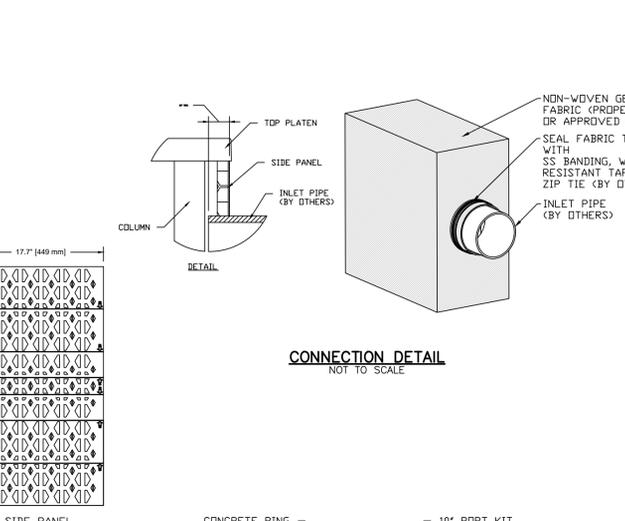
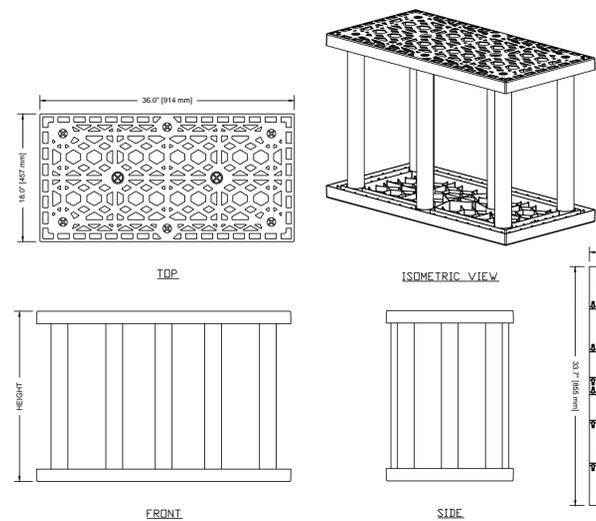


REFERENCE PLANS, REFERENCE MAP #1 NOTES, REFERENCE MAP #1 REFERENCES, and a table comparing ZONING DATA (REQUIRED vs EXISTING) for various metrics like lot area, front yard, and building height.

SOILS INFORMATION table with columns for SYMBOL, NAME, %SLOPE, ERODIBILITY INDEX, HYDROLOGIC GROUP, AGRICULTURAL CAPABILITY CLASS, DRAINAGE, LOAD BEARING CAPACITY, DEPTH TO WATER, DEPTH TO BEDROCK, GRAVEL SOURCE, SAND SOURCE, ROAD/FILL SOURCE, TOPSOIL SOURCE, LOCAL ROADS AND STREETS, POND RESERVOIR AREAS, EMBANKMENTS, IRRIGATION, RESIDENTIAL DEVELOPMENT, LIGHT INDUSTRIAL, SEWAGE LAGOONS, ON-SITE SEPTIC, LAWN.

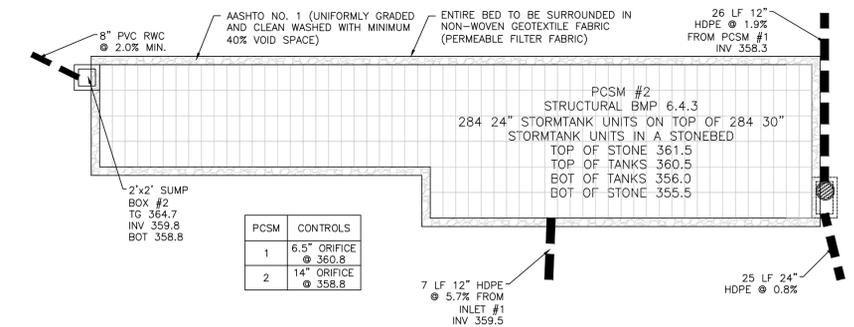
Professional Engineer seal for Christopher C. Yohn, P.E., PE07303, State of Pennsylvania.

Project information block including PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT, PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087, and Yohn Engineering, LLC logo.



PIPE PERFORATION SPECIFICATIONS

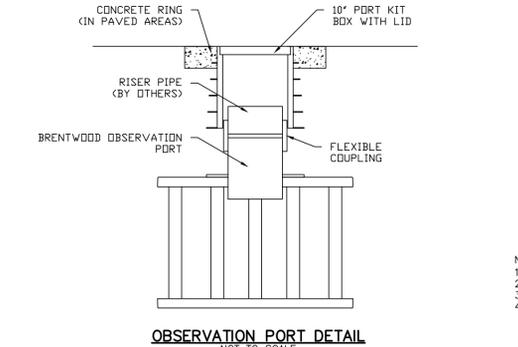
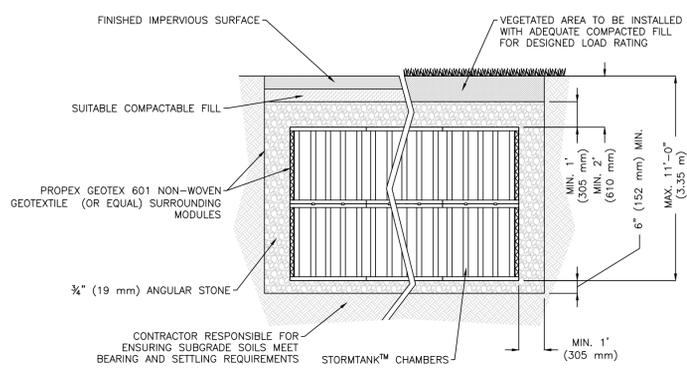
PIPE SIZE	MINIMUM PERFORATION DIAMETER	MINIMUM OPENING AREA	HOLES PER LINEAR FOOT
6"	5/16"	3.31 SQ. IN.	12
8"	5/16"	3.31 SQ. IN.	16
10"	5/16"	3.31 SQ. IN.	20
12"	5/16"	3.31 SQ. IN.	24
15"	5/16"	3.31 SQ. IN.	29
18"	5/16"	3.31 SQ. IN.	35
24"	5/16"	3.31 SQ. IN.	47
30"	5/16"	3.31 SQ. IN.	59
36"	5/16"	3.31 SQ. IN.	71
48"	5/16"	3.31 SQ. IN.	94
60"	5/16"	3.31 SQ. IN.	118
72"	5/16"	3.31 SQ. IN.	141



UNDERGROUND STORMWATER MANAGEMENT INSTALLATION:

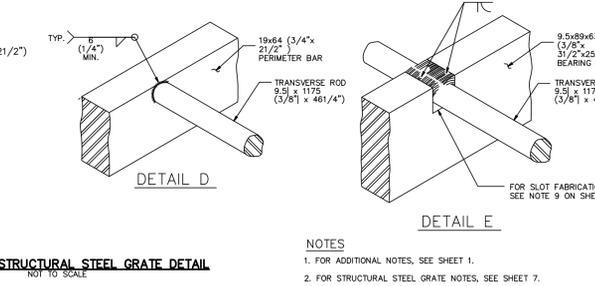
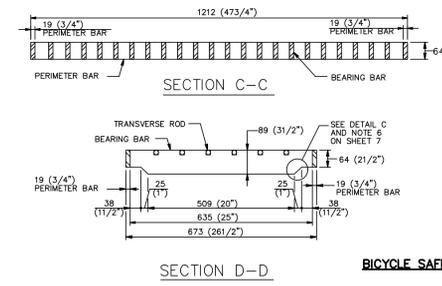
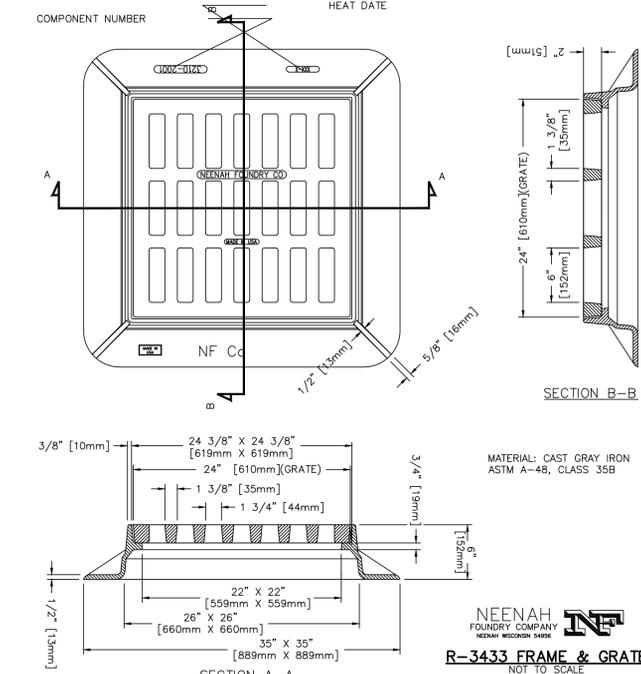
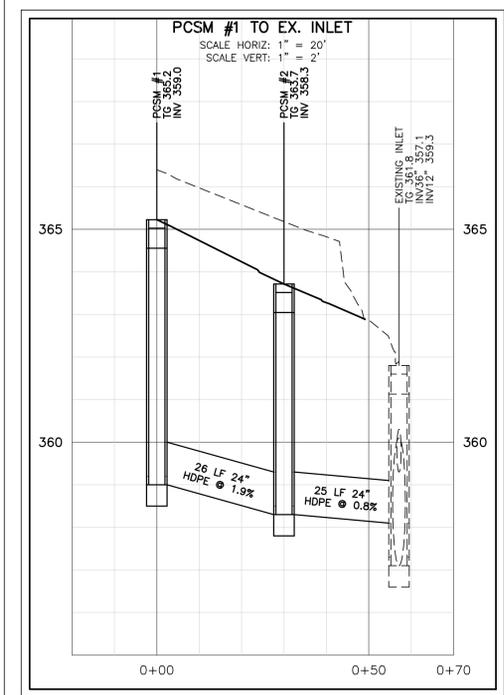
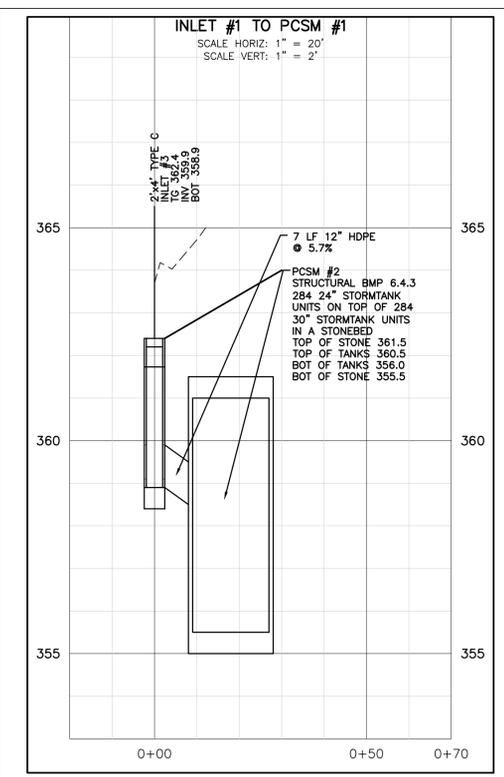
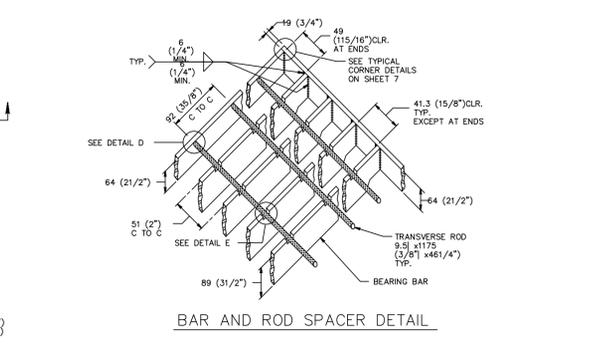
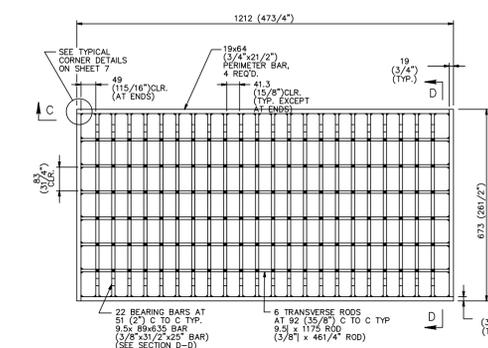
- THE EXISTING SUBGRADE UNDER THE BED AREAS SHOULD NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO GEOTEXTILE AND STONE BED PLACEMENT.
- WHERE EROSION OF SUBGRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHOULD BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE (OR EQUIVALENT) AND LIGHT TRACTOR. ALL FINE GRADING SHOULD BE DONE BY HAND. ALL BED BOTTOMS SHOULD BE AT LEVEL GRADE.
- SEEPAGE BED FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL/SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, IT SHALL BE CLEANED FROM THE FABRIC, STONE, BED, ETC. AND/OR THE FABRIC AND STONE SHALL BE REPLACED.
- GEOTEXTILE AND BED AGGREGATE SHOULD BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION AND INSTALLATION OF STRUCTURES. GEOTEXTILE SHOULD BE PLACED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDATIONS. ADJACENT STRIPS OF GEOTEXTILE SHOULD OVERLAP A MINIMUM OF 16 INCHES. IT SHOULD ALSO BE SECURED AT LEAST 4 FEET OUTSIDE OF BED IN ORDER TO PREVENT ANY RUNOFF OR SEDIMENT FROM ENTERING THE STORAGE BED. THIS EDGE STRIP SHOULD REMAIN IN PLACE UNTIL ALL BARE SOILS CONTIGUOUS TO BEDS ARE STABILIZED AND VEGETATED. AS THE SITE IS FULLY STABILIZED, EXCESS GEOTEXTILE ALONG BED EDGES CAN BE CUT BACK TO THE EDGE OF THE BED.
- CLEAN-WASHED, UNIFORMLY GRADED AGGREGATE WITH MINIMUM 40% VOID SPACE SHOULD BE PLACED IN THE BED IN MAXIMUM 8-INCH LIFTS. EACH LAYER SHOULD BE LIGHTLY COMPACTED, WITH CONSTRUCTION EQUIPMENT KEPT OFF THE BED BOTTOM AS MUCH AS POSSIBLE.
- APPROVED SOIL MEDIA SHOULD BE PLACED OVER INFILTRATION BED IN MAXIMUM 6-INCH LIFTS.

NOTES:
 1. SIDE PANELS TO BE INSTALLED ALONG SYSTEM PERIMETER, UNLESS OTHERWISE SPECIFIED.
 2. ALL HEIGHTS TO BE CUT FROM A 36" (914 mm) SIDE PANEL AT PRE-SCRIBED LOCATIONS, EXCEPT 33" (838 mm) SIDE PANEL.

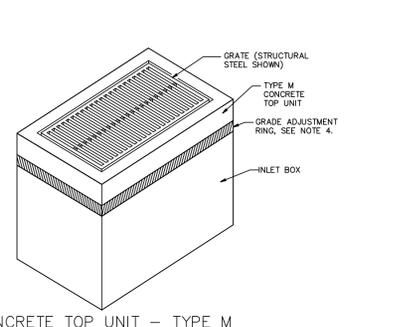
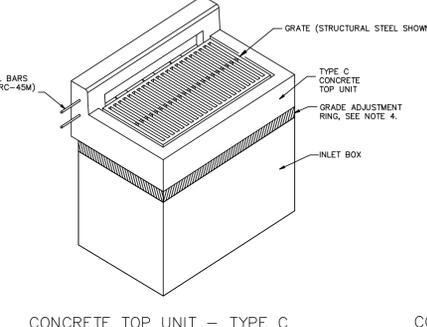


NOTES / SPECIFICATIONS:
 1. SECTIONS MADE IN 6" INCREMENTS
 2. CONCRETE STRENGTH: 4000 PSI MIN @ 28 DAYS
 3. STRUCTURE CONFORMS TO ASTM C913-02
 4. DESIGN: HS-25 TRAFFIC LOADING

2'x2' INLET / SUMP BOX
 NOT TO SCALE



NOTES:
 1. FOR ADDITIONAL NOTES, SEE SHEET 1.
 2. FOR STRUCTURAL STEEL GRATE NOTES, SEE SHEET 7.



PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087
MUNICIPALITY: RADNOR TOWNSHIP **COUNTY:** DELAWARE COUNTY

PLAN SET: FINAL PLANS
SHEET NUMBER: POST CONSTRUCTION STORMWATER MANAGEMENT NOTES AND DETAILS

PREPARED FOR: EQUITABLE OWNER/APPLICANT
 427 E. LANCASTER, LLC
 44 PAPER MILL ROAD
 NEWTOWN SQUARE, PA 19073

DATE: JANUARY 6, 2017
SCALE: NO SCALE
ONE CALL NUMBER: 2016-011-1937
DRAWN BY: CCY
PROJECT NUMBER: 15-031

PREPARED BY: YOHN ENGINEERING, LLC
 555 SECOND AVENUE, SUITE G-110
 COLLEGEVILLE, PA 19426
 610-489-4580
 WWW.YOHNENGINEERING.COM

SEAL: CHRISTOPHER C. YOHN
 REGISTERED PROFESSIONAL ENGINEER
 PE073703

YOHN Engineering, LLC

7 of 14

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Serial Number: 2016-011-1937

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776

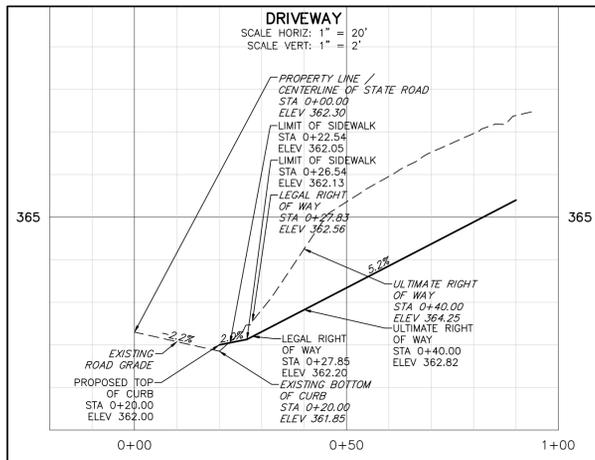


THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 20141072620

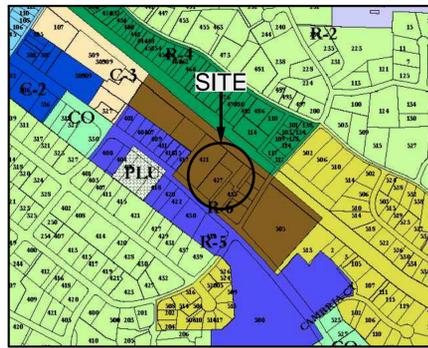
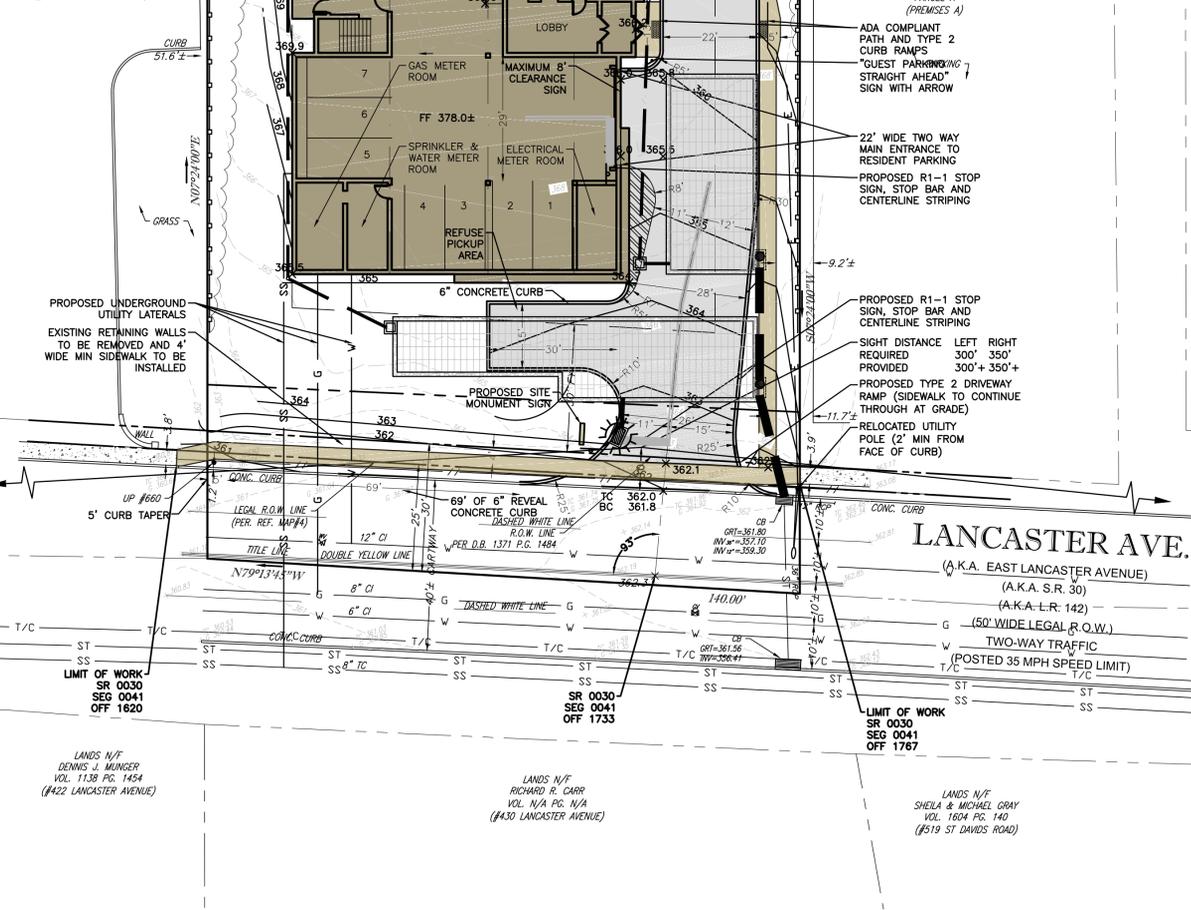
Table with columns: UTILITY COMPANY, PHONE NUMBER. Lists AT & T, PECO, ZAYO BANDWIDTH, AQUA PENNSYLVANIA, INC., LEVEL 3, VERIZON, COMCAST CABLE, MCI, RADNOR TOWNSHIP.

LEGEND

- Legend items: EXISTING CONTOUR, EXISTING SPOT ELEVATION, EXIST. TOP OF CURB ELEVATION, EXIST. GUTTER ELEVATION, EXIST. TOP OF WALL ELEVATION, EXIST. BOTTOM OF WALL ELEVATION, EXIST. FINISHED FLOOR ELEVATION, WATER VALVE, UNKNOWN VALVE, GAS VALVE, GAS METER, OVERHEAD WIRES, APPROX. LOC. UNDERGROUND GAS LINE, APPROX. LOC. UNDERGROUND TEL. LINE, APPROX. LOC. UNDERGROUND WATER LINE, UTILITY POLE, UTILITY POLE/LIGHT POLE, SIGN, MAIL BOX, ABOVE GROUND, UNDER GROUND, DEPRESSED CURB, EDGE OF PAVEMENT, LANDSCAPED AREA, RAILROAD TIE WALL, TYPICAL, WATER MANHOLE, CATCH BASIN OR INLET, PARKING SPACE COUNT, DEPRESSED CURB, DEED DESIGNATION, OFFSET OF STRUCTURE AT GROUND LEVEL RELATIVE TO PROPERTY LINE, SOLID YELLOW LINE, DOUBLE YELLOW LINE, HEIGHT, DASHED WHITE LINE, BUILDING, ELEVATION, PROPOSED BUILDING, PROPOSED PAVING, PROPOSED IMPERVIOUS WALKS, WALLS, ETC., PROPOSED RIGHT-OF-WAY, PROPOSED FENCE, PROPOSED STORM PIPES.



FOLIO 36-02-01218-00 THE CRESTWOOD APARTMENTS LANDS N/F JAMES G. LEVIN & RAYMOND M. LEVIN VOL. 1204 PG. 140 (#421 LANCASTER AVENUE)



LOCATION MAP SCALE 1" = 600'

- PENNDOT NOTES: 1. THE LOCATION OF ALL UTILITIES ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. 2. MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH PENNDOT PUBLICATION 213. 3. NO TRAFFIC RESTRICTIONS OR LANE CLOSURES ARE PERMITTED ON LEGAL HOLIDAYS AND/OR BETWEEN THE HOURS OF 6:00 AM TO 9:00 AM AND 3:00 PM TO 6:00 PM, MONDAY THROUGH FRIDAY. 4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ANY DEBRIS AND FLUSH OUT ALL EXISTING AND PROPOSED STORM DRAINAGE FACILITIES WITHIN THE PROJECT LIMITS AT THE COMPLETION OF CONSTRUCTION. 5. ALL PROPOSED PAVEMENT MARKINGS MUST BE HOT THERMOPLASTIC ON BITUMINOUS PAVEMENT, INCLUDING LONG AND SHORT LINES AND PAVEMENT MARKING LEGENDS. 6. NO UNSUITABLE MATERIAL IS TO BE USED IN ANY PORTION OF THE ROADWAY CONSTRUCTION. 7. ALL WORK PERFORMED WITHIN THE STATE LEGAL RIGHT-OF-WAY MUST BE IN ACCORDANCE WITH PENNDOT PUBLICATIONS. 8. THE CONTRACTOR MUST CONTACT THE CHESTER COUNTY PERMIT INSPECTOR BEFORE COMMENCING WORK. 9. THE CONTRACTOR MUST NOTIFY THE DISTRICT PRESS OFFICE AT 610-205-6800 ABOUT THE CONSTRUCTION PROJECT 2 WEEKS PRIOR TO THE START OF THE JOB. 10. THE CONTRACTOR MUST COMPLY WITH ALL US DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS AS REVISED 1995. (OSHA 2226) ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATION PUBLICATION 408/2011. LATEST REVISION, AND SHALL MEET OR EXCEED THE MUNICIPALITY'S STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SIGHT DISTANCE NOTE: ALL SIGHT DISTANCE OBSTRUCTIONS (INCLUDING BUT NOT LIMITED TO EMBANKMENTS AND VEGETATION) SHALL BE REMOVED BY THE DEVELOPER (PERMITTEE) TO PROVIDE A MINIMUM OF 300' OF CONTINUOUS SIGHT DISTANCE TO THE LEFT AND A MINIMUM OF 350' OF CONTINUOUS SIGHT DISTANCE TO THE RIGHT FOR A DRIVER EXISTING THE PROPOSED INTERSECTION ONTO THE THROUGH HIGHWAY. THE DRIVER MUST BE CONSIDERED TO BE POSITIONED 10 FEET FROM THE NEAR EDGE OF THE CLOSEST HIGHWAY THROUGH TRAVEL LANE (FROM THE CURB LINE IF CURING IS PRESENT) AT AN EYE HEIGHT OF 3'-6" ABOVE THE PAVED SURFACE. THE POINT SIGHTED BY THE EXISTING DRIVER SHALL ALSO BE 3'-6" ABOVE THE PAVED SURFACE LOCATED IN THE CENTER OF THE CLOSEST HIGHWAY TRAVEL LANE DESIGNATED FOR USE BY THE APPROACHING TRAFFIC. THE CONTINUOUS SIGHT DISTANCE SHALL BE MAINTAINED BY THE PERMITTEE.

Table: NEAREST INTERSECTIONS. Columns: SIDE OF DRIVEWAY, SIDE OF STREET, SEG/OFFSET, NAME. Lists intersections with Lancaster Ave.

Table: NEAREST DRIVEWAYS. Columns: SIDE OF DRIVEWAY, SIDE OF STREET, SEG/OFFSET. Lists driveway locations.

- MAINTENANCE AND PROTECTION OF TRAFFIC NOTES: 1. A WORK ZONE TURN ON HEADLIGHTS SIGN, R22-1, SIZED 48 X 36 SHALL BE INSTALLED 250' TO 1000' BEFORE THE FIRST SIGN AS SPECIFIED BY PUBLICATION 213. 2. AN ACTIVE WORK ZONE WHEN FLASHING SIGN, W21-19, SIZED 36 OR 48 SQUARE SIZES (SAME SIZE AS OTHER WARNING SIGNS), SHALL BE INSTALLED AS CLOSE TO PRACTICAL TO THE BEGINNING OF THE ACTIVE WORK ZONE, AND BE PLACED IN ADVANCE OF ANY FLAG PERSON. A WHITE FLASHING LIGHT MUST BE ATTACHED TO THE W21-19 SIGN. 3. AN END ACTIVE WORK ZONE SIGN, W21-20, SIZED 36 OR 48 SQUARE SIZES (SAME SIZE AS OTHER WARNING SIGNS), SHALL BE PLACED IMMEDIATELY AT THE END OF THE ACTIVE WORK ZONE. THIS IS NOT REQUIRED IF AN END ROAD WORK SIGN (G20-2) IS USED AT THE SAME LOCATION.

PATA 502 (Old PATA 25) - Notes

PATA 501 (Old PATA 24) Work Space Beyond Shoulder

PATA 402 (Old PATA 18) - Notes

PATA 401 (Old PATA 5) Work Space On Or Beyond The Shoulder (No Roadway Encroachment)

1. Refer to PATA 007 for installing advance warning signs for freeways and expressways.



Sign Spacing Chart table with columns: Condition, Distance, Speed, W, L, 1/2L, 1/3L, Min. Channelizing Devices, D, E, H. Includes taper length formulas.

1. For left lane closures, the Left Lane Closed (W20-SL) sign shall be used instead of the Right Lane Closed (W20-SR) sign and the Left Lane Ends (W4-2L) sign shall be used instead of the Right Lane Ends (W4-2R) sign.

2. Refer to PATA 007 for installing advance warning signs for freeways and expressways.



Sign Spacing Chart table for PATA 402 with columns: Condition, Distance, Speed, W, L, 1/2L, 1/3L, Min. Channelizing Devices, D, E, H. Includes taper length formulas.

1 01/06/17 FINAL PLANS REV DATE COMMENTS



PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087 MUNICIPALITY: RADNOR TOWNSHIP COUNTY: DELAWARE COUNTY

PLAN SET: FINAL PLANS SHEET NAME: LOW VOLUME HIGHWAY OCCUPANCY PERMIT PLAN

PREPARED FOR: EQUITABLE OWNER/APPLICANT 427 E. LANCASTER, LLC 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073

DATE: JANUARY 6, 2017 SCALE: 1" = 20' ONE CALL NUMBER: 2016-011-1937 DRAWN BY: CCY PROJECT NUMBER: 15-031

PREPARED BY: YOHN ENGINEERING, LLC 555 SECOND AVENUE, SUITE G-110 COLLEGEVILLE, PA 19426 610-489-4580 WWW.YOHNENGINEERING.COM

YOHN Engineering, LLC 8 of 14

Serial Number: 2016-011-1937

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776

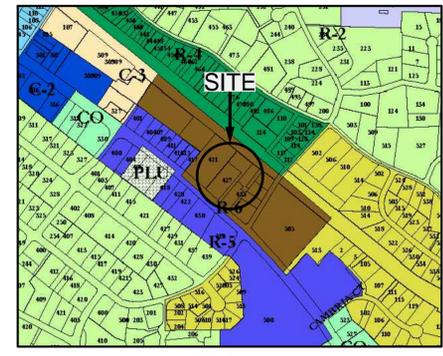
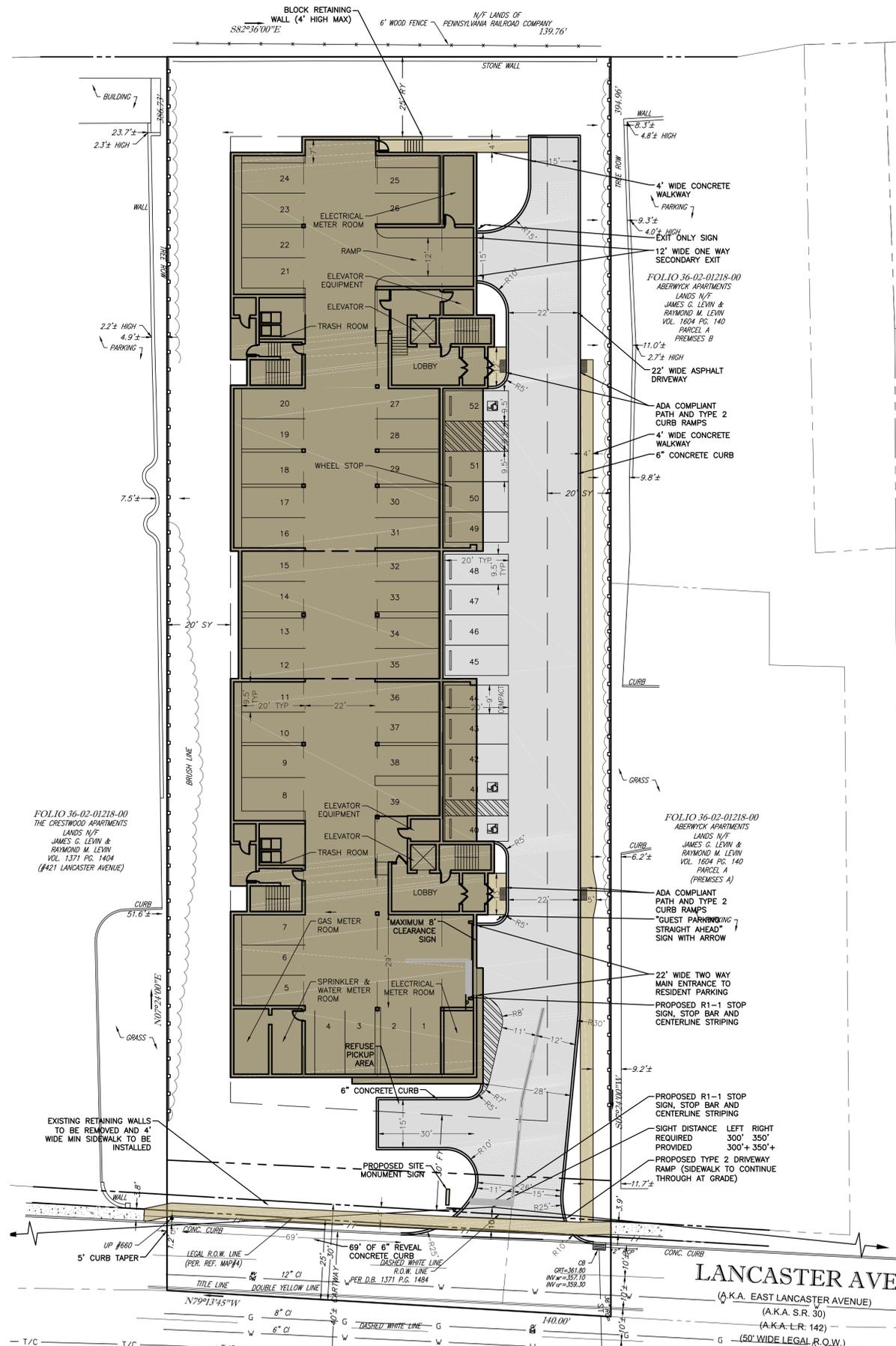


THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 20141072620

Table with columns: UTILITY COMPANY, PHONE NUMBER. Lists AT & T, PECO, ZAYO BANDWIDTH, AQUA PENNSYLVANIA, INC., VERIZON, COMCAST CABLE, MCI, RADNOR TOWNSHIP.

LEGEND

Legend table with columns: SYMBOL, DESCRIPTION. Includes existing contours, elevations, utility poles, signs, and various pavement and curb types.

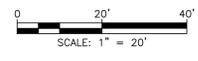


LOCATION MAP SCALE 1" = 600'

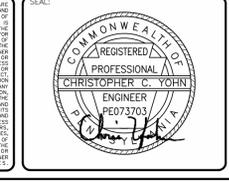
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NOTES: BASED ON THE INFORMATION IN THE SOILS REPORT AND INFILTRATION TEST REPORT, IF THE PROPOSED GRADING AND POST CONSTRUCTION STORMWATER MANAGEMENT ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL OR GEOLOGIC LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

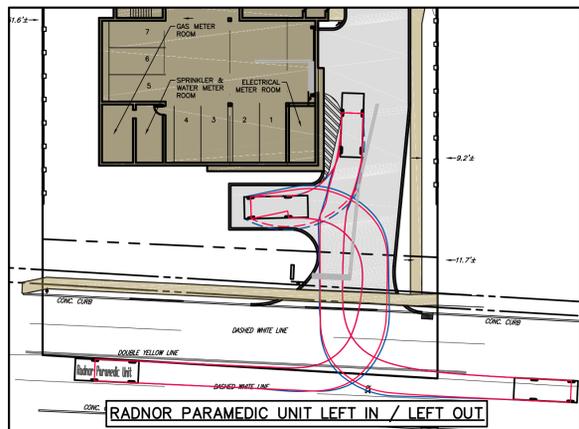
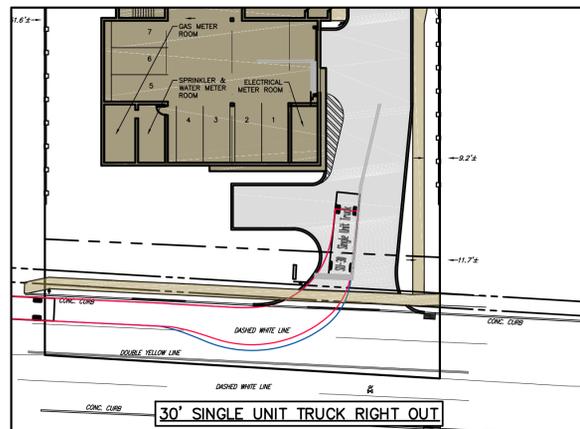
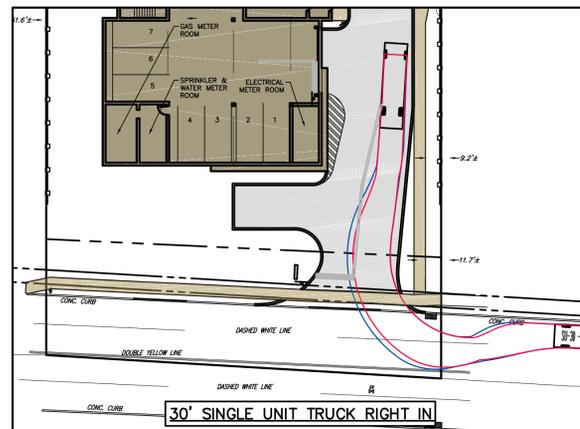
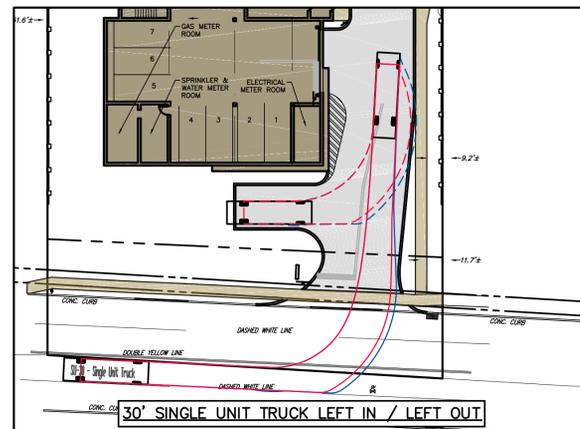
LANCASTER AVE. (A.K.A. EAST LANCASTER AVENUE) (A.K.A. S.R. 30) (A.K.A. E.R. 142) (50' WIDE LEGAL R.O.W.) TWO-WAY TRAFFIC (POSTED 35 MPH SPEED LIMIT)



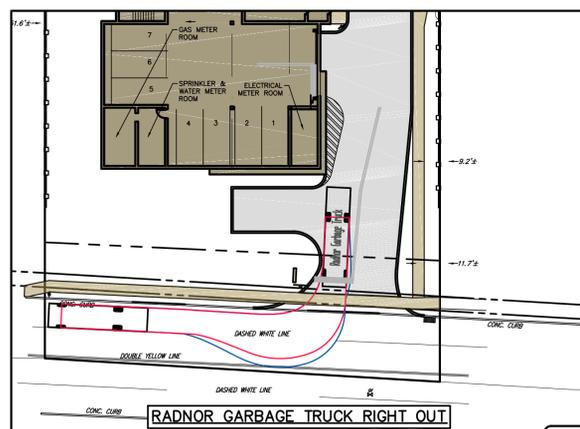
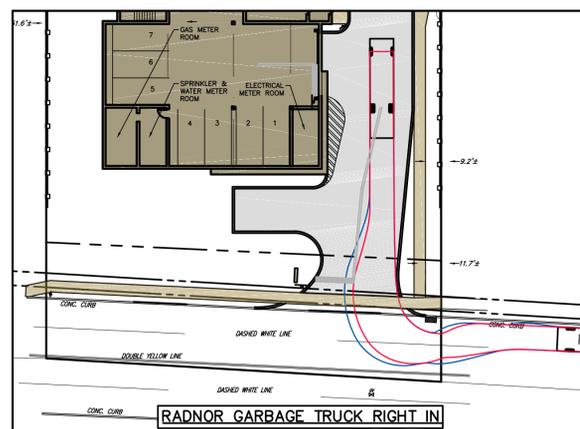
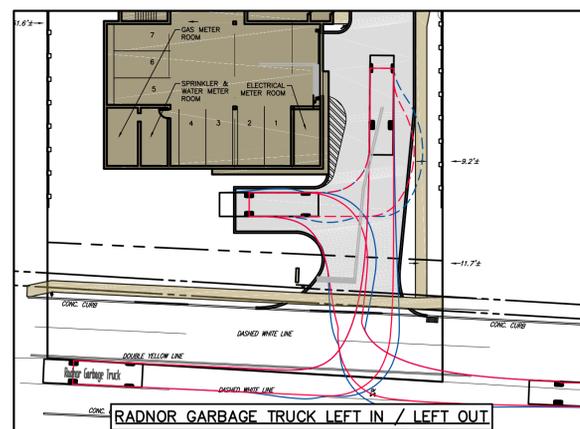
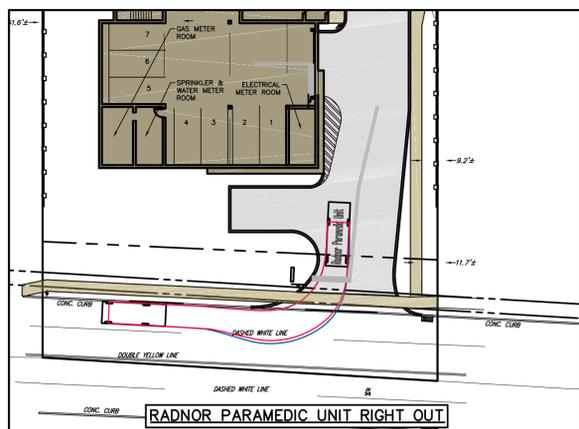
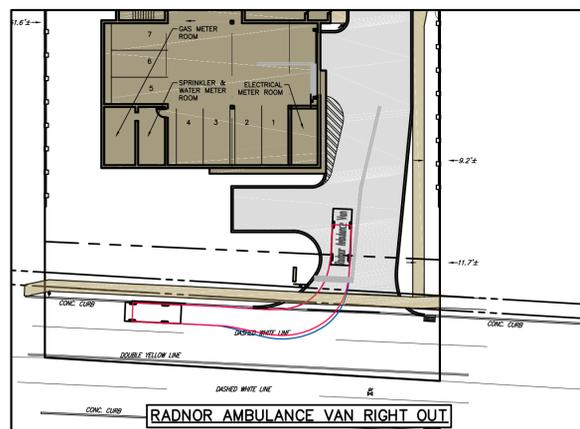
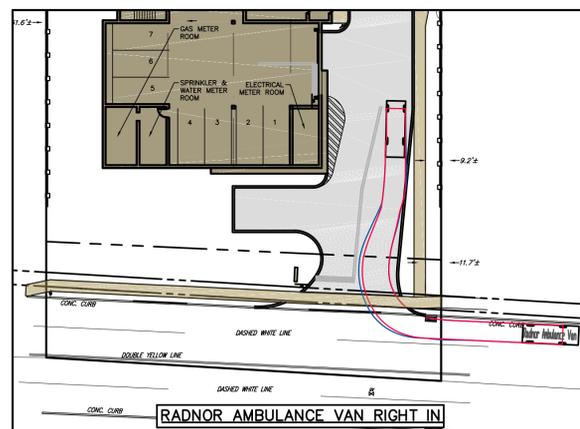
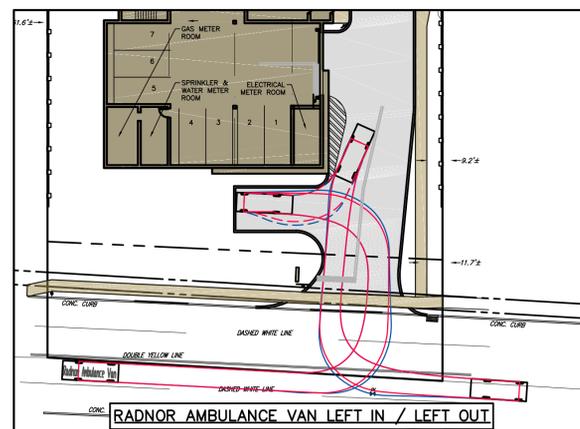
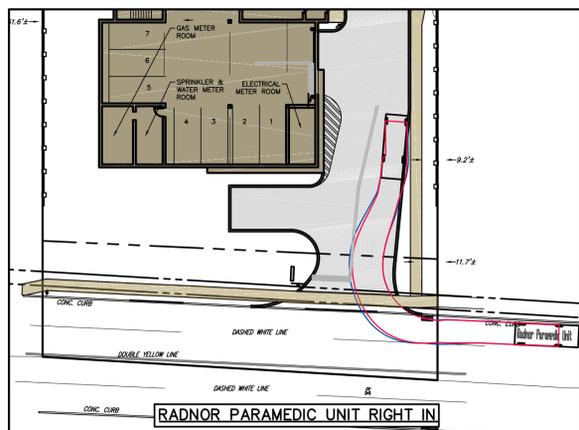
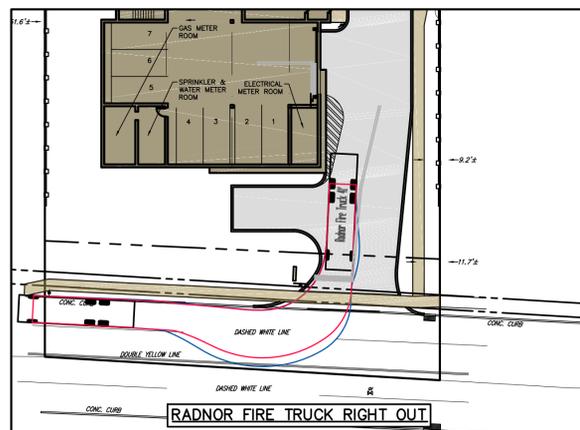
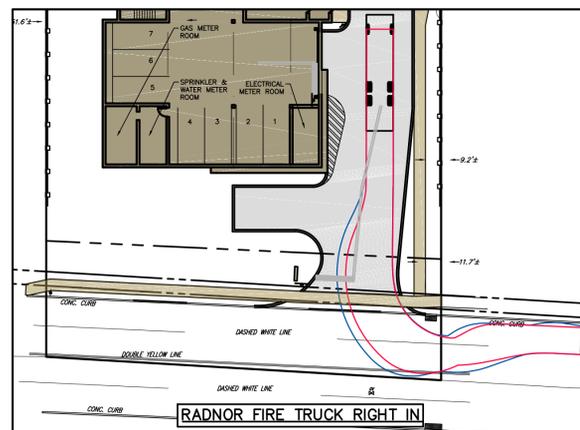
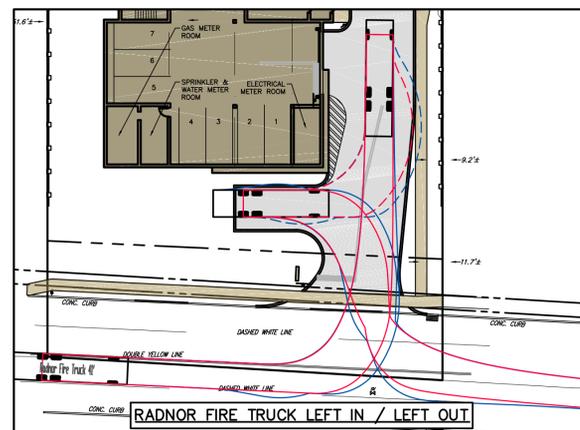
Revision table with columns: REV, DATE, COMMENTS. Shows revision 1 dated 01/06/17 for FINAL PLANS.



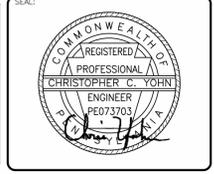
Project information block including PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT, PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087, MUNICIPALITY: RADNOR TOWNSHIP, COUNTY: DELAWARE COUNTY, PLAN SET: FINAL PLANS, SHEET NAME: PAVEMENT SIGNAGE AND MARKING PLAN, PREPARED FOR: EQUITABLE OWNER/APPLICANT, 427 E. LANCASTER, LLC, 44 PAPER MILL ROAD, NEWTOWN SQUARE, PA 19073, DATE: JANUARY 6, 2017, SCALE: 1" = 20', ONE CALL NUMBER: 2016-011-1937, PROJECT NUMBER: CCY 15-031, PREPARED BY: YOHN ENGINEERING, LLC, 555 SECOND AVENUE, SUITE G-110, COLLEGEVILLE, PA 19426, 610-489-4580, WWW.YOHNEENGINEERING.COM, SHEET: 9 of 14.



	Radnor Fire Truck 41'	Overall Length: 40.90ft
		Overall Width: 9.50ft
		Overall Body Height: 0.98ft
		Min Body Ground Clearance: 9.50ft
		Track Width: 5.00ft
		Lock-to-lock time: 5.00s
		Max Wheel Angle: 45.00°
	SU-30 - Single Unit Truck	Overall Length: 30.00ft
		Overall Width: 8.50ft
		Overall Body Height: 13.50ft
		Min Body Ground Clearance: 1.36ft
		Track Width: 8.00ft
		Lock-to-lock time: 5.00s
		Max Steering Angle (Virtual): 31.80°
	Radnor Garbage Truck	Overall Length: 35.00ft
		Overall Width: 8.57ft
		Overall Body Height: 10.54ft
		Min Body Ground Clearance: 1.00ft
		Track Width: 8.27ft
		Lock-to-lock time: 6.00s
		Wall to Wall Turning Radius: 33.33ft
	Radnor Paramedic Unit	Overall Length: 22.50ft
		Overall Width: 7.67ft
		Overall Body Height: 9.71ft
		Min Body Ground Clearance: 0.43ft
		Track Width: 7.67ft
		Lock-to-lock time: 5.00s
		Wall to Wall Turning Radius: 30.83ft
	Radnor Ambulance Van	Overall Length: 19.83ft
		Overall Width: 6.67ft
		Overall Body Height: 7.92ft
		Min Body Ground Clearance: 0.52ft
		Track Width: 6.67ft
		Lock-to-lock time: 5.00s
		Wall to Wall Turning Radius: 27.17ft



ALL DRAWINGS PREPARED OR FURNISHED BY ENGINEER AND PROPERTY INTEREST (INCLUDING THE COPYRIGHT AND THE RIGHT OF FIRST AND SECOND PUBLICATION) ARE HEREBY ASSIGNED TO THE ENGINEER. OWNER SHALL HAVE A LIMITED LICENSE TO USE THE DRAWINGS FOR THE PROJECT AND FOR THE PROJECT ONLY. NO OTHER USE OR REPRODUCTION OF THESE DRAWINGS IS PERMITTED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER. THE ENGINEER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION AND DATA PROVIDED TO HIM BY THE OWNER. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION AND DATA PROVIDED TO HIM BY ANY OTHER PARTY. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION AND DATA PROVIDED TO HIM BY ANY OTHER PARTY.



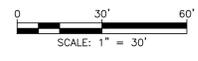
PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT	
PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087	
MUNICIPALITY: RADNOR TOWNSHIP	COUNTY: DELAWARE COUNTY
PLAN SET: FINAL PLANS	
SHEET NAME: MANEUVERABILITY PLAN	

1	01/06/17	FINAL PLANS
REV	DATE	COMMENTS

PREPARED FOR: EQUITABLE OWNER/APPLICANT
427 E. LANCASTER, LLC
44 PAPER MILL ROAD
NEWTOWN SQUARE, PA 19073

DATE: JANUARY 6, 2017
SCALE: 1" = 30'
ONE CALL NUMBER: 2016-011-1937
DRAWN BY: CCY
PROJECT NUMBER: 15-031

PREPARED BY: YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE G-110
COLLEGEVILLE, PA 19426
610-489-4580
WWW.YOHNENGINEERING.COM



Serial Number: 2016-011-1937

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776



THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 20141072620

Table with 2 columns: UTILITY COMPANY, PHONE NUMBER. Lists AT & T, PECO, ZAYO BANDWIDTH, AQUA PENNSYLVANIA, INC., LEVEL 3, VERIZON, COMCAST CABLE, MCI, RADNOR TOWNSHIP.

LEGEND

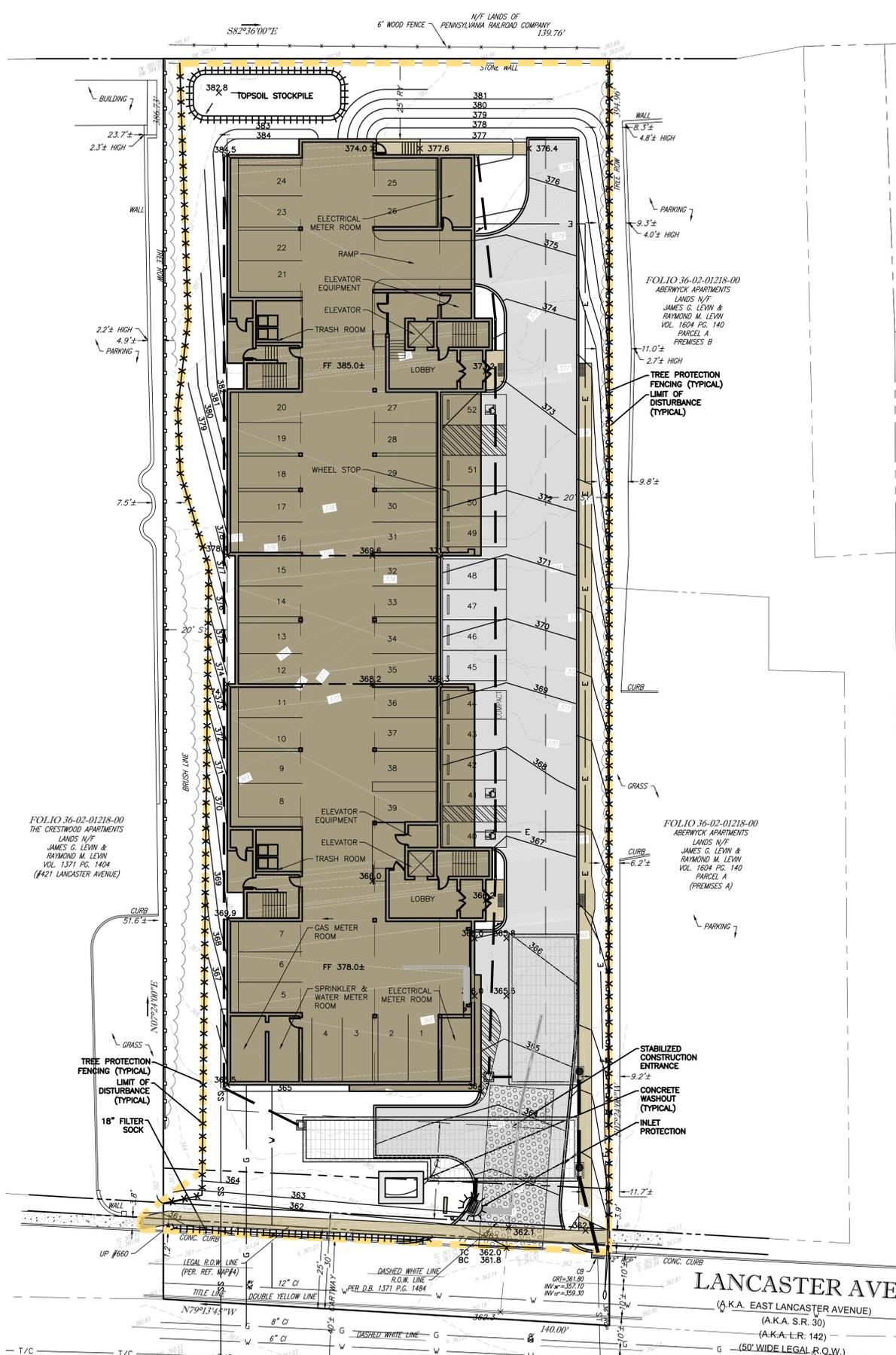
Legend table listing symbols for existing contours, elevations, valves, wires, and underground lines.

Legend table listing symbols for signs, mail boxes, ground types, curbs, pavement, and building features.

Legend table listing symbols for proposed building, paving, fences, storm pipes, and disturbance limits.

SOILS INFORMATION table with columns for SYMBOL, NAME, SLOPE, ERODIBILITY INDEX, HYDROLOGIC GROUP, AGRICULTURAL CAPABILITY CLASS, DRAINAGE, LOAD BEARING CAPACITY, DEPTH TO SH WATER, DEPTH TO BEDROCK, GRAVEL SOURCE, SAND SOURCE, ROAD/FILL SOURCE, TOPSOIL SOURCE, LOCAL ROADS AND STREETS, POND RESERVOIR AREAS, EMBANKMENTS, IRRIGATION, RESIDENTIAL DEVELOPMENT, LIGHT INDUSTRIAL, SEWAGE LAGOONS, ON-SITE SEPTIC, LAWN.

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LOCATION MAP SCALE 1" = 500'

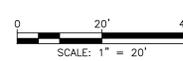
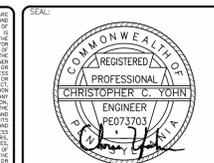
DISTURBED AREA: 47,700± SF (1.1 AC)

- CONSTRUCTION TIMING AND SEQUENCE NOTES: 1. THE TOWNSHIP ENGINEER SHALL BE NOTIFIED FOLLOWING THE INSTALLATION OF PROTECTIVE BARRIERS AND 48 HOURS PRIOR TO THE START OF EARTHMOVING ACTIVITIES AS WELL AS 48 HOURS PRIOR TO THE INSTALLATION OF THE STORMWATER MANAGEMENT SYSTEM AND ASSOCIATED FACILITIES. 2. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

- CONSTRUCTION TIMING AND SEQUENCE: 1. ANTICIPATED START OF CONSTRUCTION: MARCH 2017. 2. INSTALL THE TREE PROTECTION FENCING, COMPOST FILTER SOCKS #1-5 AND NOTIFY TOWNSHIP FOR APPROVAL AND 48 HOURS PRIOR TO THE START OF EARTHMOVING ACTIVITIES. 3. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES (INCLUDING CLEARING AND GRUBBING), THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE PLAN PREPARER AND A REPRESENTATIVE FROM THE DELAWARE CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING. 4. INSTALL THE STABILIZED CONSTRUCTION ENTRANCES. ALL CONSTRUCTION VEHICLES SHALL UTILIZE THESE ENTRANCES TO EXIT THE SITE. 5. UPON COMPLETION OF THE FILTER SOCKS, CONSTRUCTION ENTRANCES AND TREE PROTECTION, CLEAR AND GRUB THE SITE WITHIN THE LIMITS OF DISTURBANCE. STRIP TOPSOIL AND STOCKPILE FOR FUTURE USE. SURROUND STOCKPILE WITH SILT FENCE AND IMMEDIATELY STABILIZE. UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE OR ANY STAGE OR PHASE OF AN ACTIVITY WHERE A CESSATION OF EARTH DISTURBANCE ACTIVITIES EXCEED 4 DAYS, THE SITE SHALL BE IMMEDIATELY SEED, MULCHED OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION PENDING FUTURE EARTH DISTURBANCE ACTIVITIES. 6. BEGIN REMOVAL OF ALL FEATURES DESIGNATED TO BE REMOVED. 7. CONCURRENT WITH REMOVALS, ROUGH GRADE THE SITE. ANY WATER PUMPED FROM WORK AREAS SHALL BE TREATED FOR SEDIMENT REMOVAL PRIOR TO DISCHARGING TO A SURFACE WATER THROUGH THE USE OF A PUMPED WATER FILTER BAG OR OTHER APPROVED DEVICE. 8. INSTALL THE SITES UTILITIES, RETAINING WALLS AND THE STONE BASE FOR THE DRIVEWAY AND PARKING AREAS. 9. CONCURRENT WITH UTILITIES AND DRIVEWAY STONE, BEGIN BUILDING CONSTRUCTION. 10. ONCE THE ROOF IS COMPLETE, INSTALL RAINWATER CONDUCTOR PIPING, INLETS, SUMP BOXES, TRENCH DRAIN, STORMWATER MANAGEMENT SYSTEMS (CRITICAL STAGE) AND ASSOCIATED PIPING. INSTALL INLET PROTECTION IMMEDIATELY. NOTIFY THE TOWNSHIP ENGINEER 48 HOURS PRIOR TO THE INSTALLATION OF THE STORMWATER MANAGEMENT SYSTEMS AND ASSOCIATED FACILITIES. 11. FINAL GRADE THE SITE AND INSTALL THE WALKWAYS AND FINAL PAVING. 12. SPREAD TOPSOIL, SEED AND IMMEDIATELY STABILIZE. 13. UPON SITE STABILIZATION, REMOVE THE TEMPORARY BMPs AND ACTIVATE THE PERMANENT STORMWATER MANAGEMENT SYSTEMS. THE STORMWATER MANAGEMENT SYSTEMS SHALL NOT RECEIVE RUNOFF WITHOUT THE PRIOR APPROVAL FROM THE TOWNSHIP ENGINEER AND UNTIL THE ENTIRE DRAINAGE AREA CONTRIBUTORY HAS ACHIEVED FINAL STABILIZATION. 14. REMOVE THE EROSION AND SEDIMENTATION CONTROLS AND IMMEDIATELY STABILIZE DENUDED AREAS. 15. ANTICIPATED END OF CONSTRUCTION: NOVEMBER 2018.

LANCASTER AVE. (A.K.A. EAST LANCASTER AVENUE) (A.K.A. S.R. 30) (A.K.A. E.R. 142) (50' WIDE LEGAL R.O.W.) TWO-WAY TRAFFIC (POSTED 35 MPH SPEED LIMIT)

Project information block including: PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT; PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087; MUNICIPALITY: RADNOR TOWNSHIP; COUNTY: DELAWARE COUNTY; PLAN SET: FINAL PLANS; SHEET NAME: EROSION AND SEDIMENTATION CONTROL PLAN; PREPARED BY: YOHN ENGINEERING, LLC; DATE: JANUARY 6, 2017; SCALE: 1" = 20'; ONE CALL NUMBER: 2016-011-1937; PROJECT NUMBER: CCY 15-031.



STANDARD E&S PLAN NOTES:

- STOCKPILE HEIGHTS MUST NOT EXCEED 15 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
- THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES. THE OPERATOR SHALL MAINTAIN AND MAKE AVAILABLE TO DELAWARE CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS, ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
- BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE DELAWARE CONSERVATION DISTRICT.
- THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE DELAWARE CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
- ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
- THE OPERATOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
- ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO THE PROPOSED DEVELOPMENT FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE BMP'S.
- EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE DELAWARE CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
- SOD OR MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
- STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENT CONTROL BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
- AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
- ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE DELAWARE CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN, IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELLED, OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS. PRIOR TO PLACEMENT OF TOPSOIL, AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 6 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING.
- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- CONCRETE WASH WATER SHALL BE HANDLED IN ACCORDANCE WITH THE E&S BMP MANUAL REGULATIONS, IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
- GRADING AND EARTHMOVING OPERATIONS SHALL BE MINIMIZED DURING THE PERIOD FROM NOVEMBER 15 TO APRIL 1 WHEN RE-VEGETATION OF EXPOSED GROUND SURFACE IS DIFFICULT. MULCH, STRAW, STONE AND/OR SOD SHALL BE USED TO STABILIZE ALL AREAS DENUDED DURING THIS TIME PERIOD.
- THE RUNOFF CROSSING TO THE ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE MANAGED SO THAT THE WATER QUALITY / QUANTITY IMPACT IS MINIMIZED TO THE ADJACENT PROPERTIES. ADDITIONAL DIVERSION BERMS, STONED CONSTRUCTION STAGING AREAS, AND INLETS/PIPING SHALL BE PROVIDED AS NECESSARY / DIRECTED IN ORDER TO ENSURE ACCEPTABLE CONDITIONS DURING THE CONSTRUCTION PHASE.
- ALL TOPSOIL SHALL REMAIN ONSITE UNLESS OTHERWISE DIRECTED BY THE OWNER.

CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE NOTES:

- IF THE SITE WILL HAVE EXCESS FILL THAT WILL NEED TO BE EXPORTED TO AN OFF SITE LOCATION, THE RESPONSIBILITY OF CLEAN FILL DETERMINATION AND ENVIRONMENTAL DUE DILIGENCE RESTS ON THE APPLICANT. IF ALL CUT AND FILL MATERIALS WILL BE USED ON THE SITE, A CLEAN FILL DETERMINATION IS NOT REQUIRED BY THE OPERATOR UNLESS THERE IS A BELIEF THAT A SPILL OR RELEASE OF REGULATED SUBSTANCE OCCURRED ON SITE.
- APPLICANTS AND/OR OPERATORS MUST USE ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT THE FILL MATERIAL ASSOCIATED WITH THE PROJECT QUALIFIES AS CLEAN FILL. ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL," DOCUMENT NUMBER 258-2182-773. A COPY OF THIS POLICY IS AVAILABLE ONLINE AS WWW.DEPWEB.STATE.PA.US.
- CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREGGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE).
- CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL."
- ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.
- ENVIRONMENTAL DUE DILIGENCE INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE, IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL."
- FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL: REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.

TOPSOIL APPLICATION:

- GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENEO TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE.
- TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 TO 8 INCHES MINIMUM - 2 INCHES ON FILL OUTSLOPES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SOILING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS UNLESS SUCH DEPRESSIONS ARE PART OF THE PCSM PLAN.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONGEALING STATE THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTOUR WHEREVER POSSIBLE PRIOR TO SEEDING.

TURFGRASS ESTABLISHMENT:

SOIL TESTING

- A SOIL TEST TO DETERMINE LIME AND FERTILIZER REQUIREMENTS PROVIDES THE BEST GUIDE FOR PROPER TURFGRASS ESTABLISHMENT. ROUGH-GRADING
 - REMOVE ALL DEBRIS, INCLUDING LARGE STONES.
 - TILL SOIL AND BRING AREA TO ROUGH-GRADE PRIOR TO LIMING OR FERTILIZATION.
 - WHERE TOPSOIL IS TO BE REPLACED OR BROUGHT IN, FIRST ROUGH-GRADE THE AREA TO THE CONTOUR OF THE FINISHED GRADE TO FACILITATE UNIFORM DISTRIBUTION OF TOPSOIL.
- LIMING
 - WHERE A TEST HAS BEEN MADE, BROADCAST AND WORK INTO A 4 TO 6-INCH SOIL DEPTH TO MEET THE REQUIREMENT SHOWN BY THE TEST.
 - WHERE LIME REQUIREMENT EXCEEDS 200 LBS. PER 1,000 SF, APPLY ONE HALF THE LIME REQUIREMENT, TILL, APPLY THE REMAINING ONE HALF, AND RETILL.
 - WHERE A TEST IS NOT AVAILABLE, BROADCAST AND WORK INTO A 4 TO 6-INCH SOIL DEPTH A MINIMUM OF 100 LBS. PER 1,000 SF.
- BASIC FERTILIZATION
 - WHERE A TEST HAS BEEN MADE, BROADCAST THE RECOMMENDED FERTILIZER AND WORK INTO THE SOIL TO A 4 TO 6-INCH DEPTH.
 - WHERE A TEST HAS NOT BEEN MADE, BROADCAST AND WORK INTO THE SOIL TO A 4 TO 6-INCH DEPTH 25 TO 35 LBS. OF 0-46-0 FERTILIZER OR EQUIVALENT PER 1,000 SF.

SOIL AMENDMENTS

- WHERE A TEST INDICATES THE SOIL HAS A LOW ORGANIC MATTER CONTENT, WORK THE RECOMMENDED ORGANIC MATTER INTO THE SOIL TO A 2 TO 4-INCH DEPTH BEFORE APPLYING THE STARTER FERTILIZER.
- REED SEDGE PEAT, MOSS PEAT, OR A COMBINATION OF THE TWO MATERIALS IS RECOMMENDED AS A SOURCE OF ORGANIC MATTER.

TILLAGE

- TILL SEEDBED TO A 4 TO 6-INCH DEPTH MAKING SURE THE LIMESTONE (IF REQUIRED), AMENDMENTS (IF REQUIRED) AND THE BASIC FERTILIZER ARE UNIFORMLY MIXED THROUGHOUT THE SOIL PROFILE. POCKETS OF LIMESTONE, AMENDMENTS OR FERTILIZER MUST BE AVOIDED.

FINISH-GRADING

- RAKE AREA TO FINISH-GRADE PRIOR TO SEEDING. LIGHT ROLLING WILL INDICATE ANY LOW SPOTS OR OTHER IRREGULARITIES OF THE AREA.
- STARTER FERTILIZATION
 - IMMEDIATELY PRIOR TO SEEDING, BROADCAST AND WORK INTO THE TOP INCH OF SOIL 40 LBS. OF A 10-5-5, 10-6-4 OR 25 LBS. OF A 16-8-8 FERTILIZER OR THE EQUIVALENT PER 1,000 SF. THE FERTILIZER MUST BE TURF GRADE, HAVING AN APPROXIMATE 2-1-1 RATIO AND CONTAINING 35 PERCENT OR MORE OF THE TOTAL NITROGEN AS WATER INSOLUBLE OR CONTROLLED RELEASE NITROGEN.

SEEDING

- LATE SUMMER TO EARLY FALL IS THE BEST TIME FOR SEEDING PERMANENT TURFGRASS.
- SOW RECOMMENDED SEED MIXTURE ADAPTED TO USE AND CLIMATIC CONDITIONS OF THE AREA.
- DIVIDE TOTAL SEED QUANTITY INTO TWO EQUAL LOTS, SOWING ONE LOT IN ONE DIRECTION AND THE SECOND LOT AT RIGHT ANGLES TO THE FIRST WITH A MECHANICAL SEEDER OR SPREADER.

COVER SEED

- RAKE LIGHTLY OR DRAG AREA TO COVER SEED NO DEEPER THAN ¼ IN. SEED-SOIL CONTACT
 - ROLL LIGHTLY TO FIRM SOIL AROUND SEED.

MULCHING

- MULCH SEEDED AREA WITH CLEAN STRAW OR MARSH HAY AT 3.0 TONS PER ACRE. LIGHT MULCHES (SOME SOIL SHOWING THROUGH MULCH) MAY BE LEFT ON THE AREA TO DECOMPOSE. HEAVY MULCHES (COMPLETE SOIL COVERAGE) SHOULD BE REMOVED FROM THE AREA WITHIN A FEW DAYS AFTER SEED GERMINATION.

PERMANENT SEED MIXTURES		
SPECIES	% OF MIXTURE	SEED RATE
SUNNY AREAS AND WELL-DRAINED SOILS		
KENTUCKY BLUEGRASS	100%	2-3 LB/1,000 SF
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	80-90% 10-20%	3-4 LB/1,000 SF
KENTUCKY BLUEGRASS FINE FESCUES PERENNIAL RYEGRASS	40-60% 30-40% 10-20%	3-4 LB/1,000 SF
TURF-TYPE TALL FESCUE	100%	6-8 LB/1,000 SF
TURF-TYPE PERENNIAL RYEGRASS	100%	4-5 LB/1,000 SF
PARTIALLY SHADED AREAS		
FINE FESCUES KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	40-50% 40-50% 10-20%	4 LB/1,000 SF
FINE FESCUES	100%	4-5 LB/1,000 SF
TURF-TYPE TALL FESCUE	100%	6-8 LB/1,000 SF
HEAVY SHADE, WELL-DRAINED SOILS		
FINE FESCUES	100%	4-5 LB/1,000 SF
HEAVY SHADE, POORLY-DRAINED SOILS		
ROUGH BLUEGRASS	100%	2-3 LB/1,000 SF

TEMPORARY SEED MIXTURE		
SPECIES	% OF MIXTURE	SEED RATE
ANNUAL OR ITALIAN RYEGRASS	100%	4-5 LB/1,000 SF

SEED MIXTURE NOTES:

- SEEDING AND TURFGRASS INFORMATION TAKEN FROM THE PENN STATE COLLEGE OF AGRICULTURAL SCIENCES. FOR ADDITIONAL INFORMATION REFER TO HTTP://PLANTSCIENCE.PSU.EDU/RESEARCH/CENTERS/TURF.
- THE PERCENTAGE OF WEED SEEDS SHOULD NOT EXCEED 1.0% BY WEIGHT IN THE CONTAINER. GOOD QUALITY GRASS SEED USUALLY CONTAINS NO MORE THAN 0.5% WEED SEEDS.
- SEEDS OR SEED MIXTURES CONTAINING TIMOTHY, MEADOW FESCUE, ORCHARDGRASS, TALL OATGRASS, ANNUAL RYEGRASS OR CLOVER ARE GENERALLY NOT SUGGESTED FOR TURFGRASS USE.
- ALL SEEDING RATES IN THIS PUBLICATION ARE IN POUNDS PER 1000 SQUARE FEET. IF CONVERTING TO AN ACRE BASIS, MULTIPLY BY 43.
- IT IS SUGGESTED THAT 3-5 VARIETIES OF KENTUCKY BLUEGRASS BE USED IN THE BLEND OR MIXTURE.
- WHEREVER SEED AND MULCH IS APPLIED BY HYDROSEEDING METHODS, THE SEED AND MULCH SHOULD BE APPLIED IN SEPARATE APPLICATIONS WITH THE SEED BEING APPLIED FIRST AND THE MULCH SPRAYED ON TOP OF THE SEED.
- IN CRITICAL AREAS (E.G. ADJACENT TO OR WITHIN 50 FEET OF STREAMS, PONDS, OR WETLANDS) A PROTECTIVE BLANKET SHOULD BE PROVIDED FOR ALL SEEDED AREAS.

TABLE 11.2
Soil Amendment Application Rate Equivalents

Soil Amendment	Permanent Seeding Application Rate			Notes
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	
Agricultural lime	6 tons	240 lb.	2,480 lb.	Or as per soil test; may not be required in agricultural fields
10-10-20 fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test; may not be required in agricultural fields
Temporary Seeding Application Rate				
Agricultural lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpiles
10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpiles

Adapted from Penn State, "Erosion Control and Conservation Plantings on Noncrop Land"

NOTE: A compost blanket which meets the standards of this chapter may be substituted for the soil amendments shown in Table 11.2.

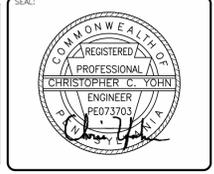
TABLE 11.6
Mulch Application Rates

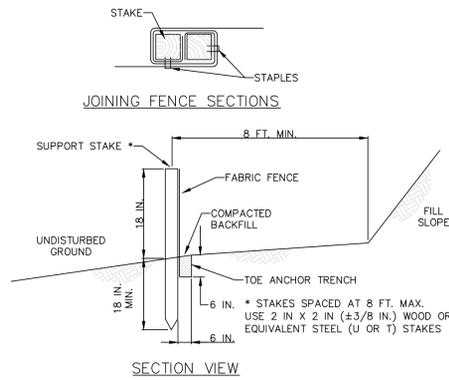
Mulch Type	Application Rate (Min.)			Notes
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	
Straw	3 tons	140 lb.	1,240 lb.	Either wheat or oat straw, free of weeds, not chopped or finely broken
Hay	3 tons	140 lb.	1,240 lb.	Timothy, mixed clover and timothy or other native forage grasses
Wood Chips	4 - 6 tons	185 - 275 lb.	1,650 - 2,500 lb.	May prevent germination of grasses and legumes
Hydromulch	1 ton	47 lb.	415	See limitations above

COMPOSTING - Compost has been shown to be an effective means of temporary stabilization for some areas that are to be vegetated. In addition to holding soil particles in place until vegetation becomes established, it has the added benefits of providing filtering of water infiltrating the soil, increased retention of soil moisture, and providing some plant nutrients.

PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT	
PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087	
MUNICIPALITY: RADNOR TOWNSHIP	COUNTY: DELAWARE COUNTY
PLAN SET: FINAL PLANS	
SHEET NAME: EROSION AND SEDIMENTATION CONTROL NOTES AND DETAILS	
1 01/06/17 FINAL PLANS	
REV DATE COMMENTS	
PREPARED FOR: EQUITABLE OWNER/APPLICANT NOV. LLC 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073	DATE: JANUARY 6, 2017 SCALE: N/A ONE CALL NUMBER: 2016-011-1937 DRAWN BY: CCY PROJECT NUMBER: 15-031
PREPARED BY: YOHN ENGINEERING, LLC 555 SECOND AVENUE, SUITE G-110 COLLEGEVILLE, PA 19426 610-489-4580 WWW.YOHNENGINEERING.COM	SHEET: 12 of 14

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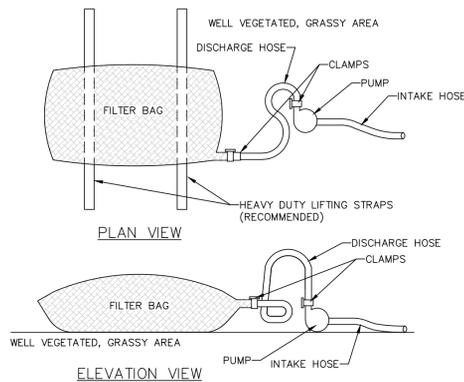




- NOTES:**
- FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.
 - FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.
 - SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
 - SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND 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 # 4-6).
 - FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

**STANDARD CONSTRUCTION DETAIL #4-7
STANDARD SILT FENCE (18" HIGH)**

NOT TO SCALE



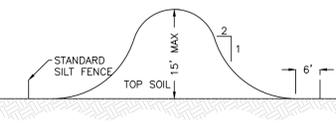
- NOTES:**
- LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 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

- A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.
- BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.
- NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HO OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.
- THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.
- FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

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

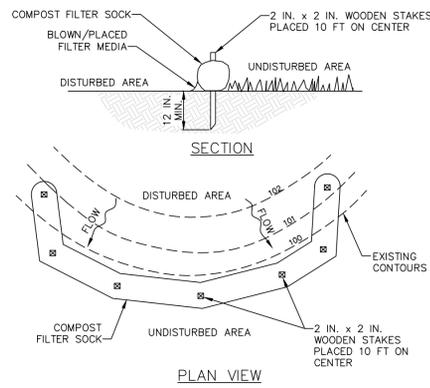
NOT TO SCALE



- NOTES:**
- SILT FENCE MUST COMPLETELY ENCIRCLE STOCKPILES
 - TOPSOIL SHALL NOT BE REMOVED FROM THE DEVELOPMENT SITE OR USED AS FILL.
 - TOPSOIL SHALL BE REMOVED FROM THE AREAS OF THE ROADWAY AND STORED SEPARATELY.
 - TOPSOIL SHALL BE STABILIZED TO MINIMIZE EROSION DURING STORAGE.
 - UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED ON THE SITE.

TYPICAL SOIL STOCKPILE CROSS SECTION

NOT TO SCALE

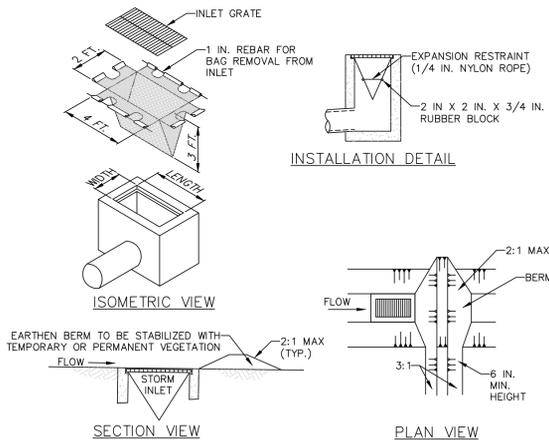


- NOTES:**
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
 - COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
 - TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
 - ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
 - COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
 - BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
 - UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

#	LENGTH	SLOPE	SIZE
1	360	6	24

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

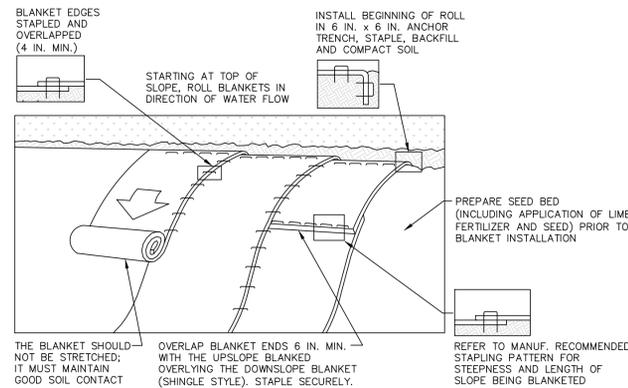
NOT TO SCALE



- NOTES:**
- MAXIMUM DRAINAGE AREA = 1/2 ACRE.
 - INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
 - ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.
 - AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS. A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
 - INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED 50% AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.
 - DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

**STANDARD CONSTRUCTION DETAIL #4-16
FILTER BAG INLET PROTECTION - TYPE M INLET**

NOT TO SCALE

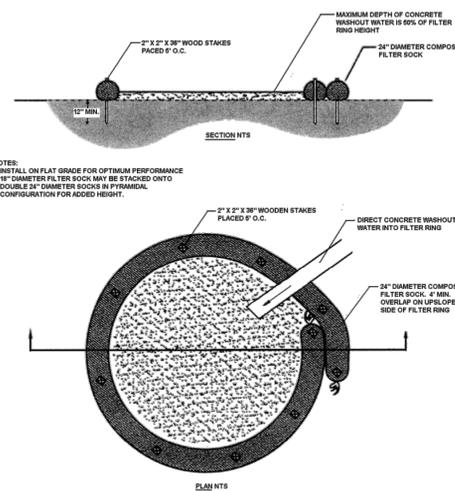


- NOTES:**
- SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
 - PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
 - SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
 - BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
 - THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

**STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION**

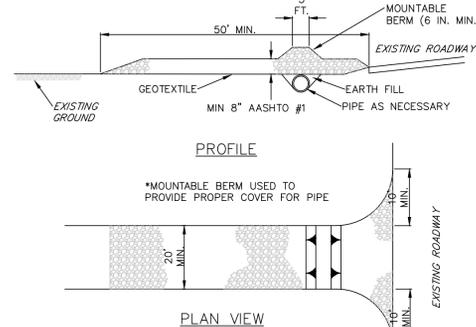
NOT TO SCALE

Typical Compost Sock Washout Installation



- NOTES:**
- INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
 - 2" DIAMETER FILTER SOCK MAY BE STAKED ONTO DOUBLE 2" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

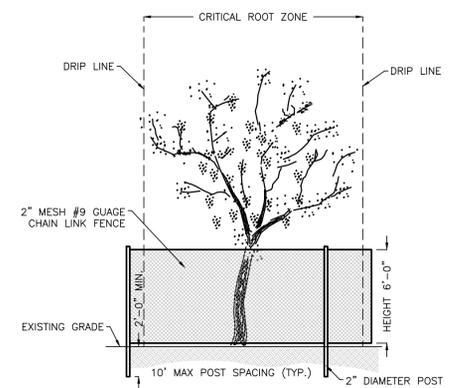
A suitable impervious geomembrane shall be placed at the location of the washout prior to installing the socks.
Adapted from Filtrexx



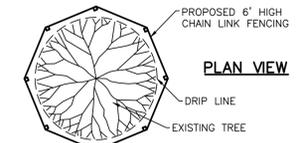
- NOTES:**
- REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
 - RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
 - MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
 - MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

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

NOT TO SCALE



- DO NOT:**
- ALLOW RUN OFF OF SPILLAGE OF DAMAGING MATERIALS INTO THE AREA BELOW ANY TREE CANOPY.
 - STORE MATERIALS, STOCKPILE SOIL, OR PARK OR DRIVE VEHICLES WITHIN THE TPZ.
 - CUT, BREAK, SKIN, OR BRUISE ROOTS, BRANCHES OR TRUNKS WITHOUT FIRST OBTAINING AUTHORIZATION FROM THE CONSULTING ARBORIST.
 - ALLOW FIRES UNDER AND ADJACENT TO TREES.
 - DISCHARGE EXHAUST INTO FOLIAGE.
 - SECURE CABLE, CHAIN, OR ROPE TO TREES OR SHRUBS.
 - TRENCH, DIG, OR OTHERWISE EXCAVATE WITHIN THE DRIFLINE OR TPZ OF THE TREES) WITHOUT FIRST OBTAINING AUTHORIZATION FROM THE CONSULTING ARBORIST.
 - APPLY SOIL STERILANTS UNDER PAVEMENT NEAR EXISTING TREES.

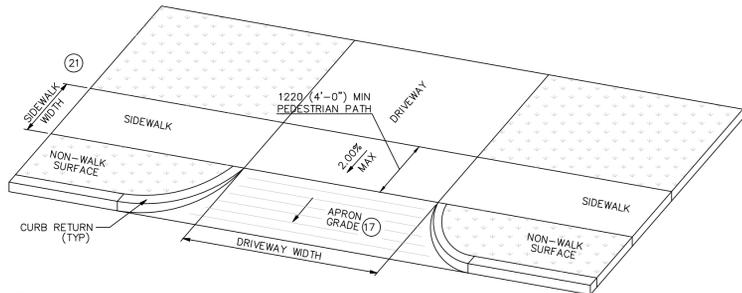
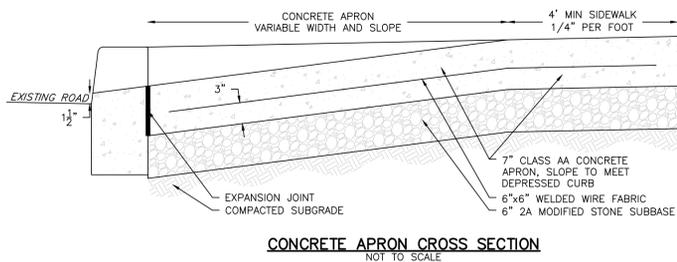


- TREE PROTECTION SPECIFICATIONS:**
- A 4" LAYER OF COARSE MULCH OR WOODCHIPS IS TO BE PLACED BENEATH THE DRIFLINE OF THE PROTECTED TREES. MULCH IS TO BE KEPT 12" FROM THE TRUNK.
 - A PROTECTIVE BARRIER OF 6' CHAIN LINK FENCING SHALL BE INSTALLED AROUND THE DRIFLINE OF PROTECTED TREE(S). THE FENCING CAN BE MOVED WITHIN THE DRIFLINE IF AUTHORIZED BY THE CONSULTING ARBORIST BUT NOT CLOSER THAN 2' FROM THE TRUNK OF ANY TREE. FENCE POSTS SHALL BE 2.0" IN DIAMETER AND ARE TO BE DRIVEN 2' INTO THE GROUND. THE DISTANCE BETWEEN POSTS SHALL NOT BE MORE THAN 10'. THIS ENCLOSED AREA IS THE TREE PROTECTION ZONE (TPZ).
 - MOVABLE BARRIERS OF CHAIN LINK FENCING SECURED TO CEMENT BLOCKS CAN BE SUBSTITUTED FOR "FIXED" FENCING IF THE CONSULTING ARBORIST AGREES THAT THE FENCING WILL HAVE TO BE MOVED TO ACCOMMODATE CERTAIN PHASES OF CONSTRUCTION. THE BUILDER MAY NOT MOVE THE FENCE WITHOUT AUTHORIZATION FROM THE CONSULTING ARBORIST.
 - WHERE THE CONSULTING ARBORIST HAS DETERMINED THAT TREE PROTECTION FENCING WILL INTERFERE WITH THE SAFETY OF WORK CREWS, TREE WRAP MAY BE USED AS AN ALTERNATIVE FORM OF TREE PROTECTION. WOODEN SLATS AT LEAST ONE INCH THICK ARE TO BE BOUND SECURELY, EDGE TO EDGE, AROUND THE TRUNK. A SINGLE LAYER OR MORE OF ORANGE PLASTIC CONSTRUCTION FENCING IS TO BE WRAPPED AND SECURED AROUND THE OUTSIDE OF THE WOODEN SLATS. MAJOR SCAFFOLD LIMBS MAY REQUIRE PROTECTION AS DETERMINED BY THE CONSULTING ARBORIST. STRAW WADDLE MAY ALSO BE USED AS A TRUNK WRAP BY COILING THE WADDLE AROUND THE TRUNK UP TO A MINIMUM HEIGHT OF SIX FEET FROM GRADE. A SINGLE LAYER OR MORE OF ORANGE PLASTIC CONSTRUCTION FENCING IS TO BE WRAPPED AND SECURED AROUND THE STRAW WADDLE.

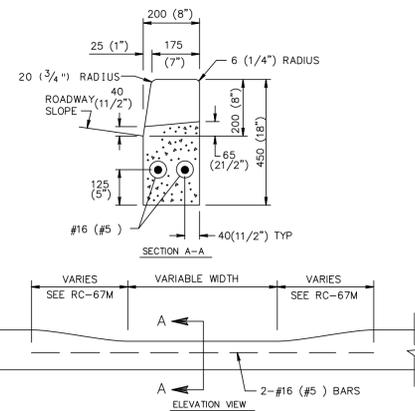
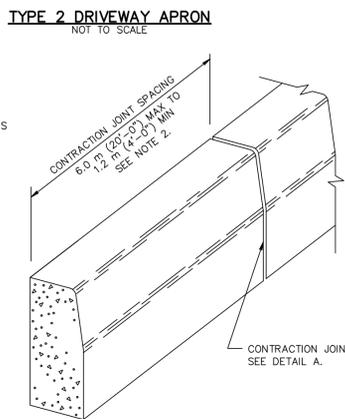
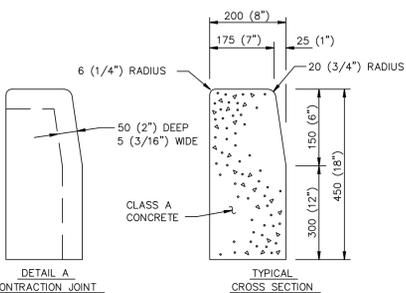
TREE PROTECTION DETAIL

NOT TO SCALE

PROJECT: PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT	
PROJECT ADDRESS: 427 EAST LANCASTER AVENUE, WAYNE, PA 19087	
MUNICIPALITY: RADNOR TOWNSHIP	COUNTY: DELAWARE COUNTY
PLAN SET: FINAL PLANS	
SHEET NAME: EROSION AND SEDIMENTATION CONTROL NOTES AND DETAILS	
1 01/06/17 FINAL PLANS	REV DATE COMMENTS
PREPARED BY: EQUITABLE OWNER/APPLICANT 427 E. LANCASTER AVE 44 PAPER MILL ROAD NEWTOWN SQUARE, PA 19073	DATE: JANUARY 6, 2017 SCALE: NO SCALE ONE CALL NUMBER: 2016-011-1937 DRAWN BY: CCY PROJECT NUMBER: 15-031
PREPARED BY: YOHN ENGINEERING, LLC 555 SECOND AVENUE, SUITE G-110 COLLEGEVILLE, PA 19426 610-489-4580 WWW.YOHNEENGINEERING.COM	SEAL: CHRISTOPHER C. YOHN REGISTERED PROFESSIONAL ENGINEER PE073703
SHEET: 13 of 14	

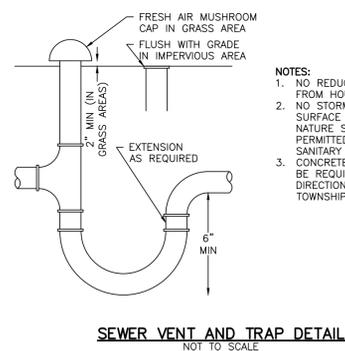
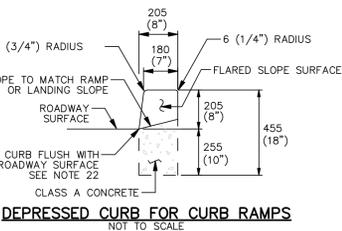


- 17) 8.00% MAX CHANGE IN GRADE BETWEEN ROAD SURFACE AND DRIVEWAY
- 21) MINIMUM SIDEWALK WIDTH 1525 (5'-0"). SIDEWALK WIDTH MAY BE REDUCED TO 1220 (4'-0") WHEN PASSING AREAS 1525 X 1525 (5'-0" X 5'-0") ARE PROVIDED EVERY 61 METERS (200').

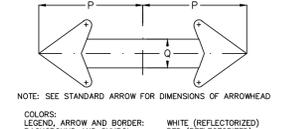


- NOTES:**
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 630 FOR PLAIN CEMENT CONCRETE CURB AND DEPRESSED CURB, SECTION 640 FOR PLAIN CEMENT CONCRETE CUTTER AND SECTION 641 FOR PLAIN CEMENT CONCRETE CURB GUTTER OR SECTIONS.
 2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
 3. PLACE 20 (3/4") THICK PREMOLDED EXPANSION JOINT FILLER MATERIAL AT END OF STRUCTURES.
 4. SEE RC-50M FOR PLAIN CEMENT CONCRETE CURB SLOPED TOP TREATMENT AT END OF STRUCTURES.
 5. WHERE CURBS ARE INSTALLED ADJACENT TO PARKING LANES A 150 (6") HIGH CURB CAN BE UTILIZED WITH APPROVAL FROM THE LOCAL MUNICIPALITY.
 6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. CUSTOMARY UNITS IN () PARENTHESES.

PLAIN CEMENT CONCRETE CURB
NOT TO SCALE

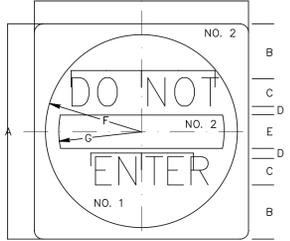


- NOTES:**
1. NO REDUCTION IN SIZE FROM HOUSE TO SEWER.
 2. NO STORM SEWER OR SURFACE WATER OF ANY NATURE SHALL BE PERMITTED TO ENTER THE SANITARY SYSTEM.
 3. CONCRETE ENCASUREMENT MAY BE REQUIRED AT THE DIRECTION OF THE TOWNSHIP.

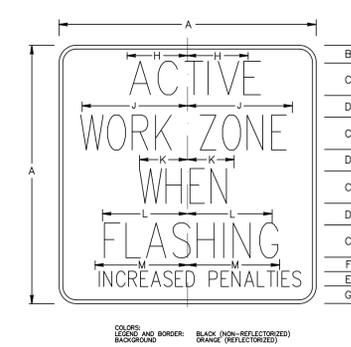
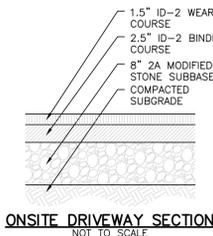
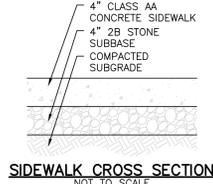


R7-8 RESERVED PARKING SIGN
NOT TO SCALE

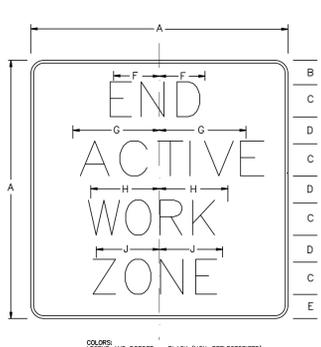
SIGN SIZE AxB	DIMENSIONS (IN)											MARGIN	BORDER	BLANK STD.		
	C	D	E	F	G	H	J	K	L	M	N					
12"x18"	2	2C	1	6	1.6	2.4	4.9	4.3	3	0.4	4	3.8	0.8	0.4	0.4	B5-1218



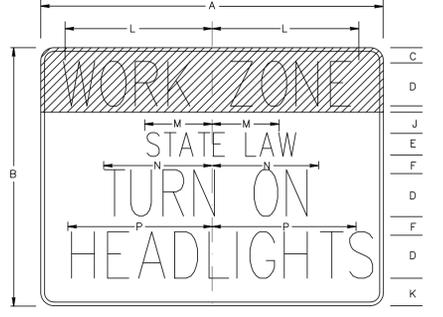
SIGN SIZE AxB	DIMENSIONS (IN)										MARGIN	BORDER	BLANK STD.
	B	C	D	E	F	G	H	J	K	L			
30"x30"	6.5	3.9D	1.9	5.0	14.4	12.2	9.9	7.8	0.6	0.8			



SIGN SIZE AxB	DIMENSIONS (IN)											MARGIN	BORDER
	B	C	D	E	F	G	H	J	K	L	M		
36"x36"	2.5	4.5C	3	2C	2	2.5	8.3	14.5	6.5	11.6	12.7	0.6	0.8
48"x48"	3.5	6C	3.5	3C	3	4	11.2	19.3	8.7	15.5	19.1	0.8	1.0



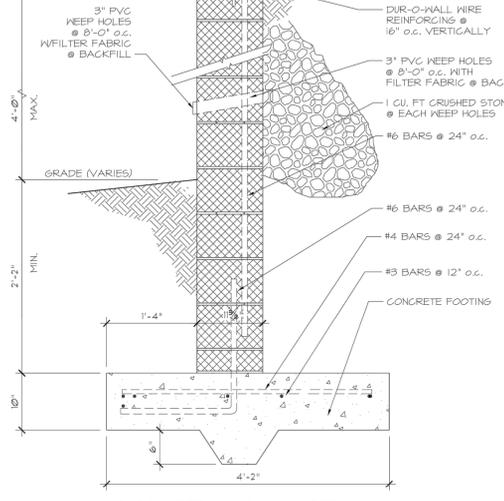
SIGN SIZE AxB	DIMENSIONS (IN)											MARGIN	BORDER
	B	C	D	E	F	G	H	J	K	L	M		
36"x36"	3.5	5E	3	3.5	7	13.2	10.5	9.6	0.6	0.6	0.8		
48"x48"	4.5	6E	3	4.5	8.4	16	12.6	11.6	0.6	0.6	0.8		



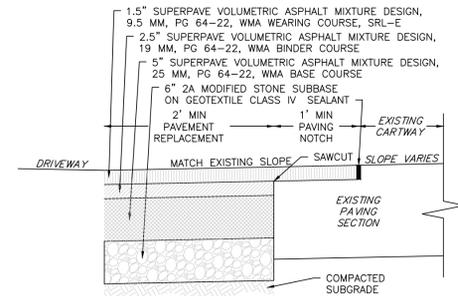
SIGN SIZE AxB	DIMENSIONS (IN)											MARGIN	BORDER	BLANK STD.
	C	D	E	F	G	H	J	K	L	M	N			
48"x36"	2.1	6C	3C	2.6	0.9	3	3.8	20.3	9.2	15.2	19.9	0.6	0.8	B5-4836

R1-1 STOP SIGN
NOT TO SCALE

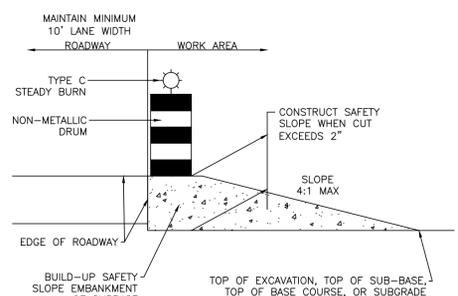
SIGN SIZE AxB	DIMENSIONS (IN)										MARGIN	BORDER	BLANK STD.	
	B	C	D	E	F	G	H	J	K	L				
24"x24"	8	8C	8	8	8	8	8	8	8	8	8	0.4	0.4	B1-24



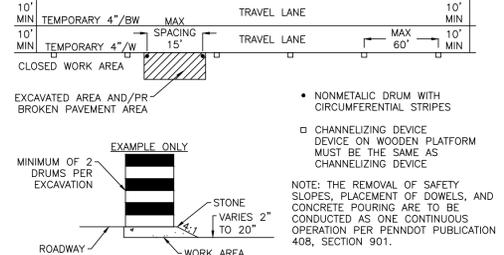
- NOTES:**
1. MAXIMUM RETAINED HEIGHT IS 4'.
 2. STAGGER VERTICAL JOINTS.
 3. DRAINAGE STONE SHALL BE PLACED IN MAXIMUM 8-INCH LIFTS AND COMPACTED.



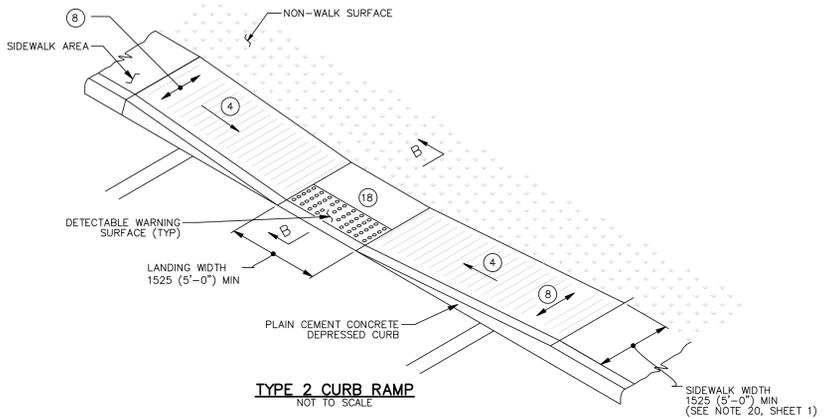
PAVEMENT SECTION WITHIN PENNDOT RIGHT OF WAY
NOT TO SCALE



SAFETY SLOPE DETAIL
NOT TO SCALE



TYPICAL PAVEMENT EXCAVATION PROTECTION (8 HOURS OR MORE)
NOT TO SCALE



TYPE 2 CURB RAMP
NOT TO SCALE

PROJECT:	PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
PROJECT ADDRESS:	427 EAST LANCASTER AVENUE, WAYNE, PA 19087
MUNICIPALITY:	RADNOR TOWNSHIP
COUNTY:	DELAWARE COUNTY

1	01/06/17	FINAL PLANS
REV	DATE	COMMENTS

PLAN SET:	FINAL PLANS
SHEET NAME:	CONSTRUCTION DETAILS

PREPARED FOR:	EQUITABLE OWNER/APPLICANT
SCALE:	AS SHOWN
ADDRESS:	44 PAPER MILL ROAD
CITY:	NEWTOWN SQUARE, PA 19073

DATE:	JANUARY 6, 2017
ONE CALL NUMBER:	2016-011-1937
DRAWN BY:	CCY
PROJECT NUMBER:	15-031



PREPARED BY:	YOHN ENGINEERING, LLC
ADDRESS:	555 SECOND AVENUE, SUITE G-110
CITY:	COLLEGEVILLE, PA 19426
PHONE:	610-489-4580
WEBSITE:	WWW.YOHNEENGINEERING.COM



TREE REPLACEMENT - SECTION 263-4.B.

TREE REPLACEMENT FORMULA:
 6" - 18" DBH removed = 1 Replacement Tree
 19" - 29" DBH removed = 3 Replacement Trees, 2 being large canopy trees
 30" DBH & Greater removed = 6 Replacement Trees, 4 being large canopy trees

TOTAL TREES BEING REMOVED:
 6" - 18" DBH removed = 2 Trees (x in poor condition or dead)
 19" - 29" DBH removed = 1 Trees (x in poor condition or dead)
 30" DBH & Greater removed = 2 Trees (x in poor condition or dead)
 TOTAL = 5 Trees (x in poor condition or dead)

TOTAL TREES REPLACEMENT TREES REQUIRED:
 6" - 18" DBH removed = 2 Trees
 19" - 29" DBH removed = 3 Trees, 2 being large canopy trees
 30" DBH & Greater removed = 12 Trees, 8 being large canopy trees
 TOTAL = 17 Trees, 10 being large canopy trees

- All replacement trees shall have a minimum DBH of 2"-2.5".
- Should any additional trees be removed, additional replacement trees shall be provided in accordance with Chapter 263 of the Radnor Township Code.

SIZE SPECIES:	CONDITION	ACTION	REPLACEMENT
14" STEWARTIA	GOOD	REMOVE	1
20" MAPLE	FAIR	REMOVE	3
12" DOGWOOD	GOOD	REMOVE	1
40" OAK	GOOD	REMOVE	6
32" OAK	GOOD	REMOVE	6
TOTAL TREE REPLACEMENT REQUIRED			17

TOTAL TREES REPLACEMENT TREES PROVIDED:
 Ten (10) large canopy trees and seven (7) understory trees have been provided.

GENERAL NOTES:

- Base information including topography, grading, utilities, building and existing vegetation location prepared by Yohn Engineering, LLC, January, 2017.
- Location of existing trees on adjacent properties are approximate based upon field observations conducted by Glackin Thomas Panzak, Inc., January 2016.
- This plan is for landscaping purposes only.
- The Landscape Architect's seal applies only to the landscape portion of this plan.
- See Sheet LP-2 for Planting Details and Planting and Maintenance Notes.
- All plant material is to be field adjusted as necessary to address existing site conditions, proposed unit landscaping, and to ensure that clear sight triangles and clear sight lines are maintained.
- Proposed shade trees shall not be planted over the top of any sewer or water laterals, mains or services. Sewer and water laterals, mains and services are shown on Landscape Plans for reference only. See engineer's plans for location of all utilities.
- Shade and evergreen trees shall be planted fifteen (15) feet from overhead utility lines or light standards. Utilities are shown on Landscape Plans for reference only. See engineer's plans for location of all utilities.
- No planting shall be installed closer than five (5) feet to any property line.
- All plantings shall be permanently maintained.
- All trees shall be pruned as necessary to maintain required light levels.
- Final location of all plant material proposed for adjacent properties shall be determined in the field in order to address existing conditions.
- Existing scrub vegetation and stumps to be removed by owner.

LEGEND:

- EXISTING VEGETATION
- PROPOSED DECIDUOUS TREE
- PROPOSED ORNAMENTAL TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS
- PROPOSED GROUND COVERS / PERENNIALS
- EXISTING TREE TO BE REMOVED
- SANDWICH BOARD FENCE

LANDSCAPE COMPLIANCE:

SECTION	CATEGORY	REQUIRED				PROVIDED			
		Shade Trees	Flowering Trees	Evergreen Trees	Shrubs	Shade Trees	Flowering Trees	Evergreen Trees	Shrubs
255-29.B.	PARKING FACILITY LANDSCAPE (1) 2.5" cal. per 5 Spaces of Single Bay Parking	3	--	--	--	3	--	--	--
255-38.B.	STREET TREES (1) 2.5" cal. tree spaced at 30' o.c. Applied to 140 LF	5	--	--	--	3	--	--	--
255-42	BUFFER SCREENS CLASS B - Lancaster Ave. (Arterial Road Classification) Option of (1) Evergreen Tree per 15 LF and (1) Evergreen Shrub per 8 LF applied to 115 LF*	--	--	8	15	--	--	8	15
TOTALS:		8	--	8	15	6	--	8	15
ADDITIONAL PLANT MATERIAL:						4	--	138	134
TOTAL PROVIDED:						10	--	146	149

NOTE:
 1. See Waiver Request.

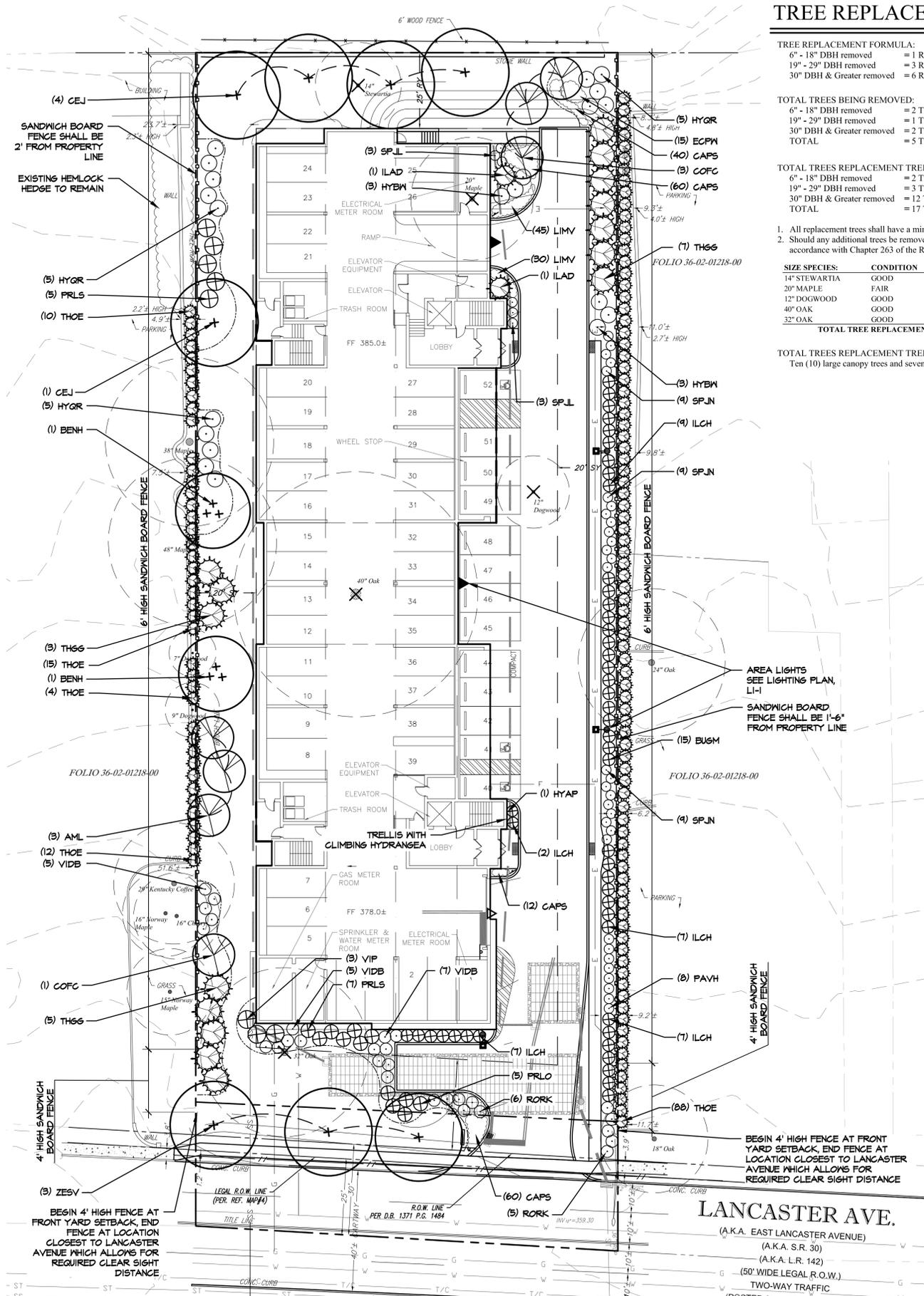
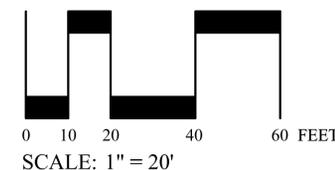
WAIVER REQUEST:

SALDO 255-38.B. STREET TREES - A partial waiver is requested to provide three (3) of the five (5) required street trees due to conflicts with underground utilities.

PLANT LIST:

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
DECIDUOUS TREES					
AML	3	Amelanchier laevis	Allegheny Serviceberry	2"-2.5" cal.	B&B
BENH	2	Betula nigra 'Heritage'	Heritage River Birch	12"-14" ht.	B&B, Multi-stem
CEJ	5	Cercidiphyllum japonicum	Katsura Tree	2"-2.5" cal.	B&B
COFC	4	Cornus florida 'Cherokee Princess'	Cherokee Princess Dogwood	2"-2.5" cal.	B&B
ZESV	3	Zelkova serrata 'Village Green'	Village Green Zelkova	2"-2.5" cal.	B&B
EVERGREEN TREES					
ILAD	2	Ilex aquipernyi 'Dragon Lady'	Dragon Lady Holly	8"-10" ht.	Cont.
THOE	129	Thuja occidentalis 'Emerald Green'	Emerald Green Arborvitae	3" ht.	Cont.
THGG	15	Thuja plicata 'Green Giant'	Green Giant Arborvitae	8"-10" ht.	B&B
SHRUBS					
BUGM	15	Buxus x 'Green Mountain'	Green Mountain Boxwood	24"-30" ht.	Cont.
HYBW	6	Hydrangea 'Blue Wave'	Blue Wave Hydrangea	24"-30" ht.	Cont.
HYQR	15	Hydrangea quercifolia 'Ruby Slippers'	Ruby Slippers Oakleaf Hydrangea	24"-30" ht.	Cont.
ILCH	32	Ilex crenata 'Helleri'	Helleri Japanese Holly	24"-30" ht.	Cont.
PRLO	5	Prunus laurocerasus 'Otto Luyken'	Otto Luyken Cherry Laurel	24"-30" ht.	Cont.
PRLS	12	Prunus laurocerasus 'Schipkaensis'	Skip Laurel	24"-30" ht.	Cont.
RORK	11	Rosa 'Red Knockout'	Red Knockout Rose	24"-30" ht.	Cont.
SPJL	6	Spiraea japonica 'Little Princess'	Little Princess Spiraea	24"-30" ht.	Cont.
SPJN	27	Spiraea japonica 'Neon Flash'	Neon Flash Spiraea	24"-30" ht.	Cont.
VIDB	17	Viburnum dentatum 'Blue Muffin'	Blue Muffin Arrowwood Viburnum	24"-30" ht.	Cont.
VIP	3	Viburnum x pragensis	Prague Viburnum	24"-30" ht.	Cont.
PERENNIALS & GROUNDCOVERS					
CAPS	172	Carex pensylvanica	Pennsylvania Sedge	2 qt.	Cont. 12" o.c.
ECPW	15	Echinacea purpurea 'White Swan'	White Coneflower	1 gal.	Cont. 18" o.c.
LIMV	75	Liriope muscari 'Variegata'	Variegated Lilyturf	2 qt.	Cont. 12" o.c.
PAVH	8	Panicum virgatum 'Heavy Metal'	Heavy Metal Switch Grass	3 gal.	Cont.
VINES					
HYAP	1	Hydrangea anomala v. petiolaris	Climbing Hydrangea	3 gal.	Cont., On Trellis

NOTE:
 1. Where there is a discrepancy between the plant list and plan, the plan shall prevail.



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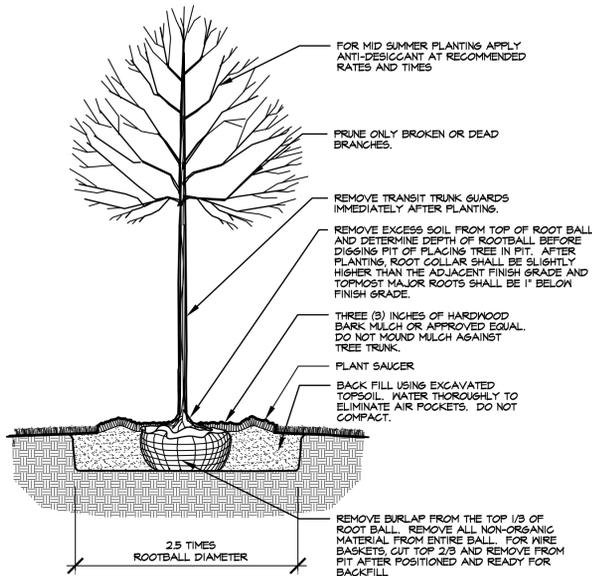
FINAL LANDSCAPE PLAN - PCSM

427 Lancaster Avenue

RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA

PROJECT #: 16-001
 DATE: 2/22/16 (sa)
 REV.: 3/4/16 (sa)
 3/7/16 (sa)
 9/30/16 (jr)
 1/6/17 (gs)

SHEET:
LP-1

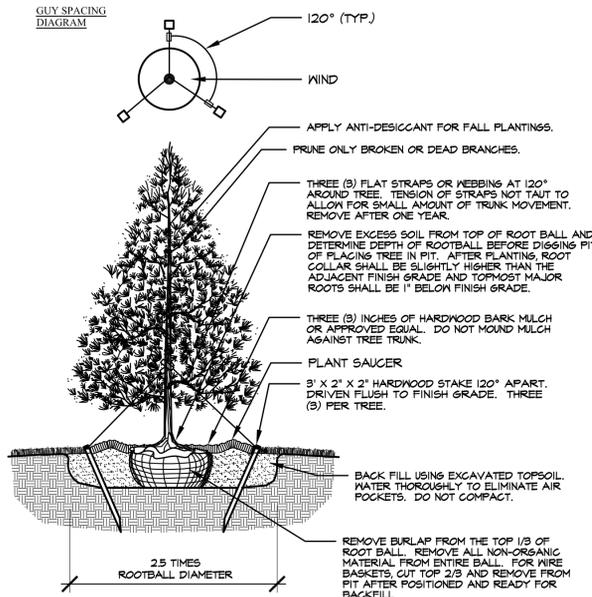


- NOTES:
1. TREES WITH POOR QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED SHALL BE REJECTED.
 2. TREES WITH CENTRAL LEADER BROKEN OR DEAD SHALL BE REJECTED.
 3. TREES THAT DO NOT DISPLAY THE TYPICAL CHARACTERISTICS FOR THEIR SPECIES SHALL BE REJECTED.

1 DECIDUOUS TREE DETAIL

NTS

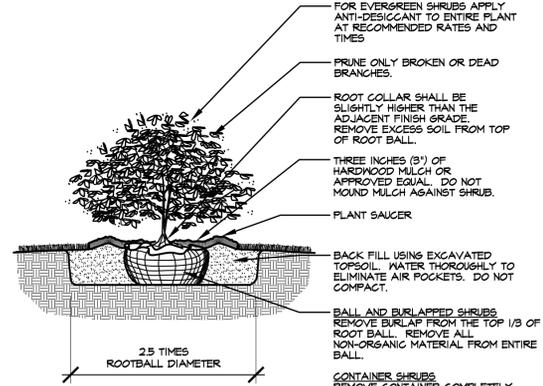
- NOTE:
1. FLOOD PLANTING PIT WITH WATER TWICE WITHIN 24 HOURS OF PLANTING.



2 EVERGREEN TREE DETAIL

NTS

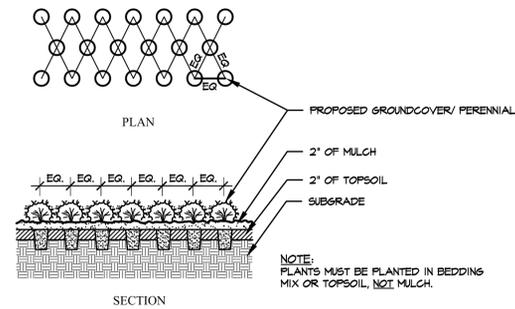
- NOTE:
1. FLOOD PLANTING PIT WITH WATER TWICE WITHIN 24 HOURS OF PLANTING.



3 SHRUB DETAIL

NTS

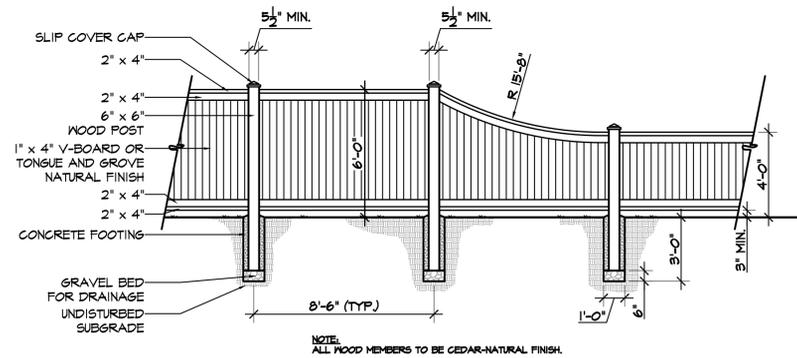
- NOTE:
1. FLOOD PLANTING PIT WITH WATER TWICE WITHIN 24 HOURS OF PLANTING.



4 PLANTING DETAIL

NTS

- NOTE:
1. PLANTS MUST BE PLANTED IN BEDDING MIX OR TOPSOIL, NOT MULCH



5 SANDWICH BOARD FENCE

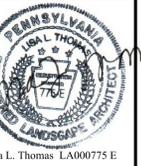
SCALE: 1/4" = 1'-0"

PLANTING NOTES:

1. The contractor shall furnish and plant all plants shown on the drawings, as specified, and in quantities indicated on the plant list.
2. All plants shall be nursery grown and freshly dug.
3. All plants shall be in accordance with The American Standard for Nursery Stock, latest edition.
4. All plants shall be hardy under climatic conditions similar to those in the locality of the project.
5. Fall Digging Hazard: Any species listed below, if included on the plant list, must not be dug in the fall (October through December) because of risk to the tree's survival. Special exceptions may be granted if the owner is notified in writing and an extended warranty on these plants is agreed upon prior to digging. The following varieties should not be dug in fall: Betula, Carpinus, Celtis, Cercidiphyllum, Crataegus, Cryptomeria, Fagus, Halesia, Ilex (tree form varieties), Liquidambar, Liriodendron, Nyssa, Ostrya, Prunus, Pyrus, Quercus (except Quercus palustris), Salix weeping varieties, and Tilia tomentosa. Digging for Malus and Zelkova varieties should be avoided in fall only when in leaf.
6. All plants shall be typical of their species or variety and shall have a normal habit or growth. They shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be certified by appropriate State and Federal authorities to be free of disease and insect pests, eggs or larvae. They shall have healthy, well-developed root systems.
7. Trees with central leader broken or dead shall be rejected.
8. Plants that do not display typical characteristics for their species shall be rejected.
9. Substitutions: When plants of a specified kind or size are not available within a reasonable distance, substitutions may be made upon written request by the contractor, if approved by the owner and/or municipal authority.
10. Measurement: Dimensions of trees and shrubs shall conform to The American Standard for Nursery Stock, latest edition.
11. Size: All plants shall conform to the measurement specified on the plant list, unless authorized in writing by the Township landscape architect and the owner.
12. Balled and burlapped plants shall be dug with firm natural balls of earth, of diameter and depth to include most of the fibrous roots. Container grown stock shall have been grown in a container long enough for the root system to have developed sufficiently to hold its soil together firm and whole. No plants shall be loose in the container.
13. Plants with poor quality root balls or root balls that have been cracked or damaged shall be rejected.
14. Root balls of all plants shall be adequately protected at all times from sun and drying winds or frost.
15. Conditions detrimental to plants: The contractor shall notify the project representative in writing of all soil or drainage conditions which the contractor considers detrimental to the growth of plants. The contractor shall state the conditions and submit a proposal for correcting the conditions, including any change in cost, for review and acceptance by the project representative.
16. The owner or the owner's representative shall be notified prior to beginning planting operations.
17. All planting shall be at the locations indicated on the drawings. The contractor shall be responsible for planting at the correct grades, alignment, and to the indicated layout of the planting beds.
18. Layout of planting: The contractor shall lay out with identifiable stakes the location of all planting beds as indicated on drawing. The layout of planting shall be approved by the project representative prior to any excavation of plant pits or plant beds.
19. Minor adjustments to plant locations may be necessary due to field conditions and final grading. The contractor shall notify the owner if major adjustments are required.
20. Planting soil shall be excavated native soil from the planting pit. Planting soil shall be thoroughly mixed, with all rocks, clods and roots removed.
21. Plants with broken root balls or excessive damage to the crown shall be replaced prior to planting.
22. If needed, trees shall be staked and guyed according to accepted industry practice.
23. Each tree and shrub shall be pruned in accordance with The American Nursery and Landscape Association Standards to preserve the natural character of the plant. All dead wood or suckers and all broken or badly bruised branches shall be removed.
24. Mulch: Immediately after planting operations are completed, all trees and shrub planting pits shall be covered with a 3" (three inch) layer of double shredded hardwood bark mulch, or other material approved by the owner or the owner's representative. A granular pre-emergent weed control shall be spread prior to mulching. The limit of this mulch for deciduous trees and single evergreen trees shall be the area of the pit. For shrub and perennial beds and for evergreen tree clusters, a continuous, mulched bed shall be created.
25. Trees in leaf, including evergreens, when planted shall be treated with anti-desiccant such as Wilt-Pruf® if planted during the months of June through September, November, and December.
26. Weed control: All planting areas shall be free from weeds prior to the beginning of planting operation. Contact herbicide sprays should only be used as required and all manufacturer's specifications followed.
27. Guarantee: All plant material shall be guaranteed by the contractor for twenty four (24) months from the date of installation. The owner shall be responsible for maintenance unless otherwise agreed with contractor. It shall be the contractor's responsibility to monitor the project during the guarantee and notify the owner if problems develop with the plant material. Any material that is 25% dead or more shall be considered dead and must be replaced at no charge. A tree shall be considered dead when the main leader has died back, or there is 25% of the crown dead.
28. All debris resulting from landscape contracting operations shall be cleaned up and removed from the site on a weekly basis.
29. Watering: Landscape contractor is responsible for watering sufficiently at the time of planting and until the job is completed, accepted and turned over to the owner.

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FINAL LANDSCAPE NOTES & DETAILS - PCSM
427 Lancaster Avenue
RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA

PROJECT #: 16-001
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SHEET:

LP-2

