

# LAND DEVELOPMENT PLANS FOR

# ROYAL FARMS - MARPLE

## ROYAL FARMS #195

MARPLE TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA  
PROJECT: 2012-2E

**ROYAL FARMS SERVICE CONTACTS**

**PROJECT MANAGER**  
RATCLIFFE ARCHITECTS  
ADDRESS: 10404 STEVENSON ROAD  
STEVENSON, MD 21153  
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**UTILITY DESIGN/LIGHTING DESIGN**  
KCI TECHNOLOGIES, INC.  
ADDRESS: 936 RIDGEBROOK ROAD  
SPARKS, MD 21152

UTILITY DESIGN CONTACT:  
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PHONE: 410-316-7800  
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ABSOLUTE SIGNS  
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GLEN BURNIE, MD 21061  
CONTACT: JOHN STOPOWSKI  
PHONE: 410-570-2623  
EMAIL: [john@signsbyabsolute.com](mailto:john@signsbyabsolute.com)

**LEED COMMUNICATION**  
ROYAL FRAMES  
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BALTIMORE, MD 21211  
CONTACT: BRITTANY ELDREDGE  
PHONE: 410-889-0200 x:142  
EMAIL: [beldredge@royalfarms.com](mailto:beldredge@royalfarms.com)

**ROYAL FARMS**  
ADDRESS: 3611 ROLAND AVENUE  
BALTIMORE, MD 21211

**CONSTRUCTION MANAGER**  
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**DIRECTOR OF REAL ESTATE**  
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**FUEL & ENVIRONMENTAL LEADER**  
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**PROJECT MANAGER-DATA/COMM**  
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PHONE: 410-889-0200 X:187  
EMAIL: [KCALGERO@ROYALFARMS.COM](mailto:KCALGERO@ROYALFARMS.COM)

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**STORE LOCATION DATA**

ROYAL FARMS - MARPLE

BUILDING PROTOTYPE: RECON 'A' (RIGHT)  
CANOPY TYPE: DOMINO  
NO. FUEL DISPENSERS: 8

**PARKING PROVIDED**  
STANDARD SPACES (10'x20'): 46  
EMPLOYEE SPACES (10'x20'): 8  
A.D.A. SPACES (8'x18'): 4  
TOTAL 58

SQUARE FEET ASPHALT: 43,174 S.F.  
SQUARE FEET LAWN (MOWED): 25,558 S.F.  
SQUARE FEET MULCH: -

**UTILITY USERS LIST**

PROVIDED FOR:  
ROYAL FARMS - MARPLE  
PA ACT 257 OF 1974  
AS AMENDED BY  
ACT 181 OF 2006

COMPANY: COMCAST CABLEVISION ADDRESS: 110 SPRINGBROOKE BOULEVARD ASTON, PA 19014 CONTACT: RICH KAN EMAIL: <a href="mailto:RICHARD_KAN@CABLE.COMCAST.COM">RICHARD_KAN@CABLE.COMCAST.COM</a>	COMPANY: MARPLE TOWNSHIP ADDRESS: 227 S. SPOUL ROAD BROOMALL, PA 19008 CONTACT: THOMAS BEACH
COMPANY: USC ADDRESS: 450 S HENDERSON RD SUITE B KING OF PRUSSIA, PA 19406 CONTACT: NIKKIA SIMPKINS EMAIL: <a href="mailto:NIKKIASIMPKINS@USCILLC.COM">NIKKIASIMPKINS@USCILLC.COM</a>	COMPANY: VERIZON PENNSYLVANIA LLC ADDRESS: 15 MONTGOMERY AVENUE, FLOOR 2 PITTSBURGH, PA 15212 CONTACT: DEBORAH BARUM EMAIL: <a href="mailto:DEBORAH.D.DELAM@VERIZON.COM">DEBORAH.D.DELAM@VERIZON.COM</a>
COMPANY: AQUA PENNSYLVANIA, INC. ADDRESS: 762 W. LANCASTER AVE BRYN MAWR, PA 19010 CONTACT: STEVE PIZZI EMAIL: <a href="mailto:SPRIZZI@AQUAMERICA.COM">SPRIZZI@AQUAMERICA.COM</a>	COMPANY: CENTRAL DELAWARE COUNTY AUTH. ADDRESS: 2128 UNITY TER. RUTLEDGE, PA 19070 CONTACT: COUNTER GULLINO EMAIL: <a href="mailto:CGC@CRAFTTECH.COM">CGC@CRAFTTECH.COM</a>

PREPARED FOR:

**ROYAL FARMS**  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211



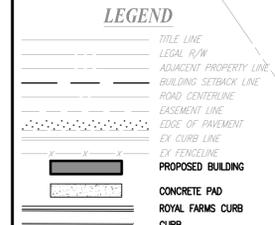
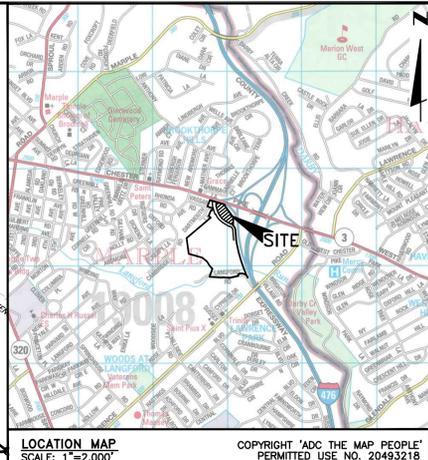
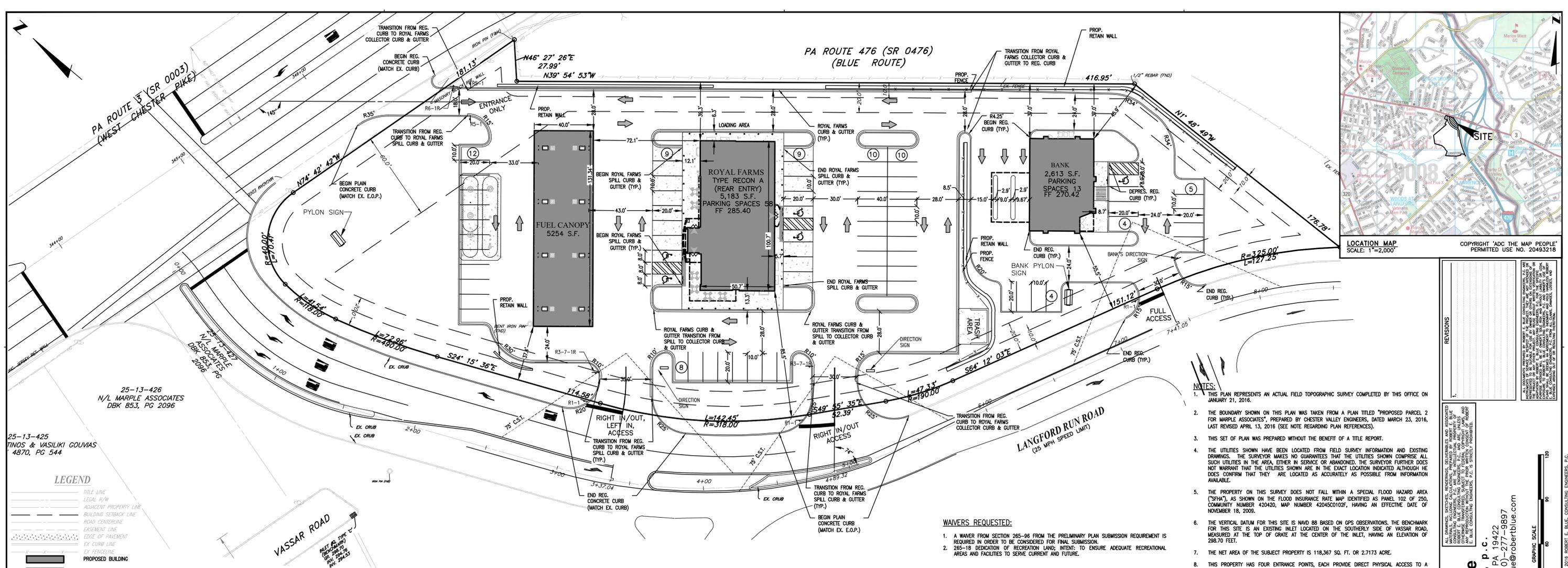
**robert e. blue**  
consulting engineers, p.c.

1149 Skippack Pike, Blue Bell, PA 19422  
tel: (610)-277-9441 fax: (610)-277-9897  
www.robertblue.com email: [rblue@robertblue.com](mailto:rblue@robertblue.com)

REVISIONS
1.

 REGISTERED PROFESSIONAL ENGINEER ROBERT E. BLUE, JR. LICENSE NO. 26169-E 10/4/2016 (DATE)	 PROFESSIONAL LAND SURVEYOR ROBERT E. BLUE, JR. LICENSE NO. SU1323A 10/4/2016 (DATE)
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**APPLICANT INFORMATION:**  
 ROYAL FARMS  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211  
 410.889.0200

**TOWNSHIP ENGINEER**  
 THIS PLAN WAS REVIEWED BY \_\_\_\_\_, THE APPOINTED TOWNSHIP ENGINEER FOR MARPLE TOWNSHIP ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2016.

**PLANNING COMMISSION RECOMMENDATION**  
 THIS PLAN WAS RECOMMENDED FOR APPROVAL BY THE TOWNSHIP OF MARPLE PLANNING COMMISSION ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2016.

**BOARD OF COMMISSIONERS APPROVAL**  
 THIS PLAN WAS APPROVED BY THE MARPLE TOWNSHIP BOARD OF COMMISSIONERS ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2016.

**DELAWARE COUNTY PLANNING COMMISSION REVIEW**  
 THIS PLAN WAS REVIEWED BY THE DELAWARE COUNTY PLANNING COMMISSION ON THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 2016.

**OWNER'S ACKNOWLEDGEMENT**  
 COMMONWEALTH OF PENNSYLVANIA:  
 ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2016, BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, PERSONALLY APPEARED \_\_\_\_\_ WHO ACKNOWLEDGES THE ACCOMPANYING TO BE AN OFFICIAL PLAN OF STREETS AND PROPERTY SITUATED IN THE TOWNSHIP OF MARPLE, DELAWARE COUNTY, PENNSYLVANIA AND DESIRED THAT SAID PLAN BE RECORDED ACCORDING TO LAW.

**811**  
 PENNSYLVANIA ONE CALL  
 DIAL 8-1-1 or 1-800-242-1776  
 BEFORE YOU DIG  
 CONTRACTORS ARE REQUIRED TO CONTACT UTILITY USERS NOT LESS THAN 3 DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK. INFORMATION ON THESE PLANS CONCERNING UTILITIES IS NOT INTENDED FOR CONSTRUCTION PURPOSES.  
 SERIAL #: 2015247296 DATE: SEPTEMBER 4, 2015

**ZONING DATA:**  
 HIGHWAY INTERCHANGE DISTRICT

DESCRIPTION	REQUIRED	EXISTING	PROPOSED
MIN TRACT AREA (AC)	25	2,717.3 <sup>1</sup>	2,717.3 <sup>1</sup>
MAX BLDG COVERAGE (%)	25	N/A	14.0
MAX IMP COVERAGE OF TRACT (%)	70	N/A	68.88
MAX IMP COVERAGE OF ANY PORTION SEPARATED BY A STREET (%)	75	N/A	68.88
MAX BLDG HEIGHT (FT)	55	N/A	38 RF 25 BANK
MAX GROSS FLOOR AREA (8500 SF/AC) (SF)	18,190	N/A	7796
<b>MIN SETBACKS FROM STREETS</b>			
BLDG FACE TO ARTERIAL STREET ULT R.O.W. (FT)	60	N/A	60
BLDG FACE TO STREET ULT R.O.W. (FT)	20	N/A	20
SURFACE PARKING TO STREET ULT R.O.W. (FT)	10	N/A	10
<b>MIN BLDG SETBACKS FROM TRACT BOUNDARY</b>			
FROM ANY RES. USE IN RES. DIST. (FT)	100	N/A	N/A
FROM OTHER TRACT BOUNDARIES (FT)	35	N/A	37
<b>MIN SURFACE PARKING AREAS TRACT PERIMETER</b>			
FROM RES. USE IN RES. DIST. (FT)	80	N/A	N/A
FROM OTHER TRACT BOUNDARIES (FT)	10	N/A	N/A

1) SUBJECT TO STIPULATION AGREEMENT (SEE NOTE #16)

**PARKING CALCULATION:**  
 (PER ZONING ORDINANCE §300.43.1.C.(c))

USE	REQ.	CRITERIA	SPACES REQUIRED	SPACES PROPOSED
ROYAL FARMS	4SP/1,000 SF	5,183 SF	21	58 (4 ADA SPACES)
BANK, FINANCIAL INSTITUTION w/DRIVE-IN	4SP/ 1,000 SF	2,613	11	13 (1 ADA SPACE)
TOTAL SPACES REQUIRED			32	
TOTAL SPACES PROPOSED				71

**WAIVERS REQUESTED:**  
 1. A WAIVER FROM SECTION 265-96 FROM THE PRELIMINARY PLAN SUBMISSION REQUIREMENT IS REQUIRED IN ORDER TO BE CONSIDERED FOR FINAL SUBMISSION.  
 2. 265-18 DEDICATION OF RECREATION LAND; INTENT: TO ENSURE ADEQUATE RECREATIONAL AREAS AND FACILITIES TO SERVE CURRENT AND FUTURE.

**SITE DATA:**  
 CURRENT OWNER: MARPLE ASSOCIATES  
 OWNER ADDRESS: 1604 WALNUT STREET PHILADELPHIA, PA 19103  
 SITE ADDRESS: WEST CHESTER PIKE BROOMALL, PA 19008  
 RECORDED DATA:  
 MARPLE TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA  
 FOLIO NUMBER: 25-00-05303-00  
 MAP NUMBER: 25-20-040:000  
 DEED BOOK 2083 PAGE 805 (DATED 10/27/2000)

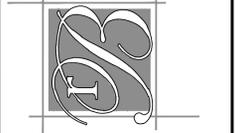
- NOTES:**
- THIS PLAN REPRESENTS AN ACTUAL FIELD TOPOGRAPHIC SURVEY COMPLETED BY THIS OFFICE ON JANUARY 21, 2016.
  - THE BOUNDARY SHOWN ON THIS PLAN WAS TAKEN FROM A PLAN TITLED "PROPOSED PARCEL 2 FOR MARPLE ASSOCIATES", PREPARED BY CHESTER VALLEY ENGINEERS, DATED MARCH 23, 2016, LAST REVISED APRIL 13, 2016 (SEE NOTE REGARDING PLAN REFERENCES).
  - THIS SET OF PLANS WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT.
  - THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPREHEND ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CONFIRM THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.
  - THE PROPERTY ON THIS SURVEY DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA ("SFHA"), AS SHOWN ON THE FLOOD INSURANCE RATE MAP IDENTIFIED AS PANEL 102 OF 250, COMMUNITY NUMBER 420420, MAP NUMBER 420450102F, HAVING AN EFFECTIVE DATE OF NOVEMBER 18, 2009.
  - THE VERTICAL DATUM FOR THIS SITE IS NAVD 88 BASED ON GPS OBSERVATIONS. THE BENCHMARK FOR THIS SITE IS AN EXISTING INLET LOCATED ON THE SOUTHERLY SIDE OF VASSAR ROAD, MEASURED AT THE TOP OF GRATE AT THE CENTER OF THE INLET, HAVING AN ELEVATION OF 288.70 FEET.
  - THE NET AREA OF THE SUBJECT PROPERTY IS 118,367 SQ. FT. OR 2,717.3 ACRES.
  - THIS PROPERTY HAS FOUR ENTRANCE POINTS, EACH PROVIDE DIRECT PHYSICAL ACCESS TO A PUBLIC STREET. ALONG WEST CHESTER PIKE (SR 0003) THERE IS A ONE WAY IN AND NO EXIT. THE SECOND ENTRANCE POINT IS ALONG LANGFORD RUN ROAD (AT STA. 3+37.04), THERE IS RIGHT IN/OUT AND LEFT IN ACCESS POINT. ALONG LANGFORD RUN ROAD (AT STA. 4+89.32) THERE IS RIGHT IN IN ACCESS, AND ALONG LANGFORD RUN ROAD (AT STA. 7+41.05) THERE IS A TWO-WAY ENTRANCE/EXIT.
  - PLAN REFERENCES:  
 A. "COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF HIGHWAYS DRAWINGS FOR CONSTRUCTION BY THE STATE HIGHWAY AND BRIDGE AUTHORITY AND CONDEMNATION OF RIGHT OF WAY ROUTE NO. 133 SECTION NO. 10", SHEET 61 OF 80, RECORDED IN HIGHWAY PLAN VOL. 2 PAGE 19 ON DECEMBER 20, 1954.  
 B. "PRELIMINARY LAND DEVELOPMENT PLANS" PREPARED FOR MARPLE ASSOCIATES BY CHESTER VALLEY ENGINEERS, INC., PAOLI, PA, 18 SHEETS, DATED AUGUST 6, 2004, LAST REVISED JUNE 30, 2011.  
 C. "PROPOSED PARCEL 2 FOR MARPLE ASSOCIATES", PREPARED BY CHESTER VALLEY ENGINEERS, DATED MARCH 23, 2016, LAST REVISED APRIL 13, 2016.
  - GENERAL MUNICIPAL EASEMENTS SHALL BE GRANTED TO THE TOWNSHIP OF MARPLE REGIONAL AUTHORITY FOR THE PURPOSE OF INSPECTION AND MAINTENANCE OF UTILITIES.
  - GENERAL UTILITIES EASEMENTS SHALL BE GRANTED TO THE UTILITY COMPANIES FOR THE PURPOSED TO INSPECTION AND MAINTENANCE OF THEIR LINES.
  - ALL CURB/EDGE OF PAVEMENT ROAD SHALL BE A MINIMUM OF 5 FT. UNLESS OTHERWISE NOTED. ALL INTERIOR CURB SHALL BE ROYAL FARMS' CURB & GUTTER UNLESS OTHERWISE NOTED. CONTRACTOR TO PROVIDE APPROPRIATE CURB TYPE TO CONFORM TO THE SITE GRADING AND WILL PROVIDE TRANSITION AS NECESSARY.
  - THE PROPERTY SHALL BE SERVED BY PUBLIC WATER/SEWER.
  - IMPROVEMENTS SHOWN WITHIN LANGFORD RUN ROAD RIGHT-OF-WAY AND WEST CHESTER PIKE (SR 0003) RIGHT-OF-WAY ARE SCHEMATIC FOR INFORMATIONAL PURPOSES ONLY. PROPOSED IMPROVEMENTS, EXCLUDING CURB RETURNS, ARE NOT A PART OF THIS DEVELOPMENT PROJECT. THE INFORMATION SHOWN IS TAKEN FROM PLANS PREPARED BY CHESTER VALLEY ENGINEERS, INC.
  - THE PROPERTY IS SUBJECT TO A SETTLEMENT AGREEMENT BETWEEN CLAUDE D. BOTTON, MARPLE ASSOCIATES, A PARTNERSHIP, MARPLE TOWNSHIP, AND COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF TRANSPORTATION DATED MARCH 5, 1991, AMENDED SEPTEMBER 10, 1992, FURTHER AMENDED NOVEMBER 18, 2015.

**REVISIONS**

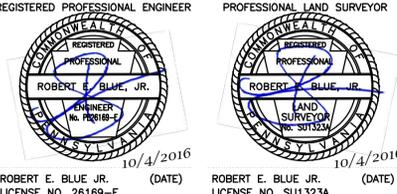
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1.	

**NOTES:**  
 ALL DRAWINGS, SPECIFICATIONS, AND ASSOCIATED DOCUMENTS SHALL BE THE PROPERTY OF ROBERT E. BLUE CONSULTING ENGINEERS, P.C. AND SHALL BE KEPT IN THE OFFICE OF ROBERT E. BLUE CONSULTING ENGINEERS, P.C. AT ALL TIMES. NO PARTS OF THESE DRAWINGS OR SPECIFICATIONS SHALL BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF ROBERT E. BLUE CONSULTING ENGINEERS, P.C.

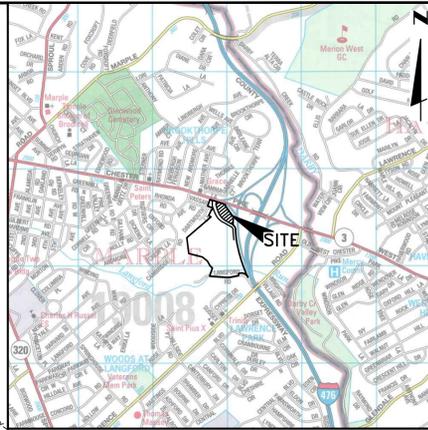
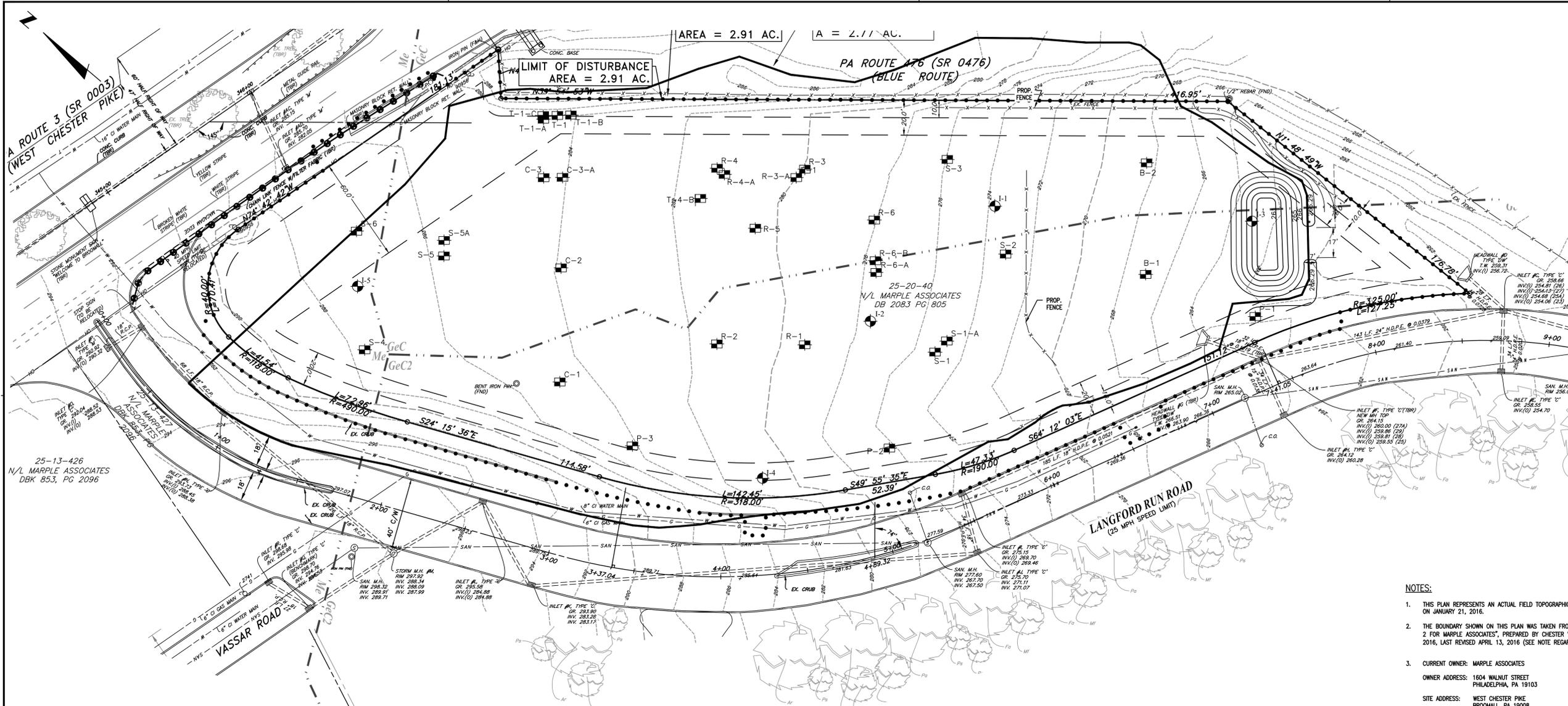
**robert e. blue**  
 consulting engineers, p.c.  
 1149 Skippack Pike, Blue Bell, PA 19422  
 tel: (610)-277-9441 fax: (610)-277-9897  
 www.robertblue.com email: rblue@robertblue.com



**ROYAL FARMS #195**  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 COMMONWEALTH OF PENNSYLVANIA  
 PREPARED FOR  
**ROYAL FARMS**  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211



**RECORD PLAN**  
 DRAWN BY: RBC CHECKED BY: RBC SCALE: 1"=30'  
 DATE: 9/9/2016 JOB NUMBER: 2012-2E SHEET NUMBER: 2 of 32



**LEGEND**

---	TITLE LINE
---	LEGAL R/W
---	ADJACENT PROPERTY LINE
---	BUILDING SETBACK LINE
---	ROAD CENTERLINE
---	EASEMENT LINE
---	EDGE OF PAVEMENT
---	EX CURB LINE
---	EX FENCELINE
---	EX CONTOUR ELEVATION
---	CONCRETE PAD/SIDEWALK
---	EX BUILDING LINE
---	EX WATER LINE
---	EX COMMUNICATIONS LINE
---	EX GAS LINE
---	EX ELECTRIC LINE
---	EX SANITARY SEWER w/ MANHOLE
---	EX STORM SEWER w/ MANHOLE
---	EX TREES (DONE BY OTHERS)
---	EX STORM INLET
---	UTILITY POLE w/ NO LIGHT ROLE
---	F.H. FIRE HYDRANT/WATER VALVE
---	SPOT ELEVATION
---	SANITARY SEWER MH
---	INFILTRATION TEST LOCATION
---	SOIL BORING LOCATION

**811**  
PENNSYLVANIA ONE CALL  
DIAL 8-1-1 or 1-800-242-1776  
BEFORE YOU DIG

CONTRACTORS ARE REQUIRED TO CONTACT UTILITY USERS NOT LESS THAN 3 DAYS NOR MORE THAN 10 DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK. INFORMATION ON THESE PLANS CONCERNING UTILITIES IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

SERIAL #: 2015247496 DATE: SEPTEMBER 4, 2015

25-13-419  
N/L MARPLE ASSOCIATES  
DBK 0907, PG 1822

AREA = 2.91 AC.  
A = 2.11 AC.

LIMIT OF DISTURBANCE  
AREA = 2.91 AC.

PA ROUTE 176 (SR 0476)  
(BLUE ROUTE)

25-20-40  
N/L MARPLE ASSOCIATES  
DB 2083 PG 805

LANGFORD RUN ROAD  
(25 MPH SPEED LIMIT)

25-13-426  
N/L MARPLE ASSOCIATES  
DBK 853, PG 2096

**SOILS TABLE**

MAP SYMBOL	SOIL NAME	SLOPES	HYDROLOGIC GROUP	SEASONAL HIGH WATER TABLE	DRAINAGE CHARACTERISTICS	SOIL ERODIBILITY
ME	MADE LAND, SCHIST & GNEISS MATERIAL		C	N/A	WELL DRAINED	N/A
GeC	GLENELG CHANNERY SILT LOAM	8 - 15	B	N/A	WELL DRAINED	N/A
GeC2	GLENELG CHANNERY SILT LOAM	8 - 15	B	N/A	WELL DRAINED	N/A

- SOIL LIMITATION RESOLUTIONS:**
- SHOULD SOIL LIMITATIONS BE ENCOUNTERED, A QUALIFIED GEOTECHNICAL ENGINEER WILL BE CONSULTED PRIOR TO PROCEEDING WITH CONSTRUCTION IN THE AREA WITH THE LIMITATIONS. APPROPRIATE EARTHWORK CONSTRUCTION TECHNIQUES, INCLUDING IMPORTING SUITABLE SOILS AND UTILIZING LOCAL SUMPS AND PUMPS (TO APPROVED SEDIMENT REMOVAL FACILITIES) TO KEEP EXCAVATIONS DRY, AS RECOMMENDED BY A QUALIFIED GEOTECHNICAL ENGINEER, SHOULD BE IMPLEMENTED IF SOIL LIMITATIONS ARE ENCOUNTERED.
  - WETNESS: PUMP EXCESS WATER TO APPROVED SEDIMENT REMOVAL FACILITIES. CAP/PLUG ANY PERENNIAL SPRINGS OR CONSISTENT SOURCES ENCOUNTERED.
  - BEDROCK: IF ROCK IS NOT RIPPLEABLE, BLASTING MAY BE REQUIRED. IF ROCK IS ENCOUNTERED IN BASIN AREAS, BASIN BOTTOM(S) MUST BE CAPPED.
  - FROST ACTION: ALL BUILDING FOUNDATIONS WILL BE SET WITH FOOTINGS BELOW FROST ACTION LEVEL. OTHER FACILITIES SHALL BE DESIGNED UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER, IF NECESSARY.
  - SLOPE: APPROPRIATE EROSION AND SEDIMENTATION CONTROL TECHNIQUES WILL BE IMPLEMENTED TO AVOID EROSION OF STEEP SLOPE AREAS PER THE APPROVED EROSION & SEDIMENTATION CONTROL PLAN.

- NOTES:**
- THIS PLAN REPRESENTS AN ACTUAL FIELD TOPOGRAPHIC SURVEY COMPLETED BY THIS OFFICE ON JANUARY 21, 2016.
  - THE BOUNDARY SHOWN ON THIS PLAN WAS TAKEN FROM A PLAN TITLED "PROPOSED PARCEL 2 FOR MARPLE ASSOCIATES", PREPARED BY CHESTER VALLEY ENGINEERS, DATED MARCH 23, 2016, LAST REVISED APRIL 13, 2016 (SEE NOTE REGARDING PLAN REFERENCES).
  - CURRENT OWNER: MARPLE ASSOCIATES  
OWNER ADDRESS: 1604 WALNUT STREET PHILADELPHIA, PA 19103  
SITE ADDRESS: WEST CHESTER PIKE BROOMALL, PA 19008  
RECORDED DATA:  
MARPLE TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA  
FOLD NUMBER: 25-00-05303-00  
MAP NUMBER: 25-20-040-000  
DEED BOOK 2083 PAGE 805 (DATED 10/27/2000)
  - THIS SET OF PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT.
  - THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CONFORM THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.
  - THE PROPERTY ON THIS SURVEY DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA ("SFHA"), AS SHOWN ON THE FLOOD INSURANCE RATE MAP IDENTIFIED AS PANEL 102 OF 250, COMMUNITY NUMBER 420420, MAP NUMBER 420450102F, HAVING AN EFFECTIVE DATE OF NOVEMBER 18, 2009.
  - THE VERTICAL DATUM FOR THIS SITE IS NAVD 88 BASED ON GPS OBSERVATIONS. THE BENCHMARK FOR THIS SITE IS AN EXISTING INLET LOCATED ON THE SOUTHERLY SIDE OF VASSAR ROAD, MEASURED AT THE TOP OF GRATE AT THE CENTER OF THE INLET, HAVING AN ELEVATION OF 298.70 FEET.
  - A SANITARY SEWER MANHOLE RM ALONG THE SOUTH SIDE OF WEST CHESTER PIKE RM HAVING AN ELEVATION OF 317.39 FEET, SEE EXISTING FEATURE PLAN SHEET 3 OF 32.
  - THE NET AREA OF THE SUBJECT PROPERTY IS 118,369 SQ. FT. OR 2.717 ACRE.
  - PLAN REFERENCES:  
A) "COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF HIGHWAYS DRAWINGS FOR CONSTRUCTION BY THE STATE HIGHWAY AND BRIDGE AUTHORITY AND CONDEMNATION OF RIGHT OF WAY ROUTE NO. 133 SECTION NO. 10", SHEET 61 OF 80, RECORDED IN HIGHWAY PLAN VOL. 2 PAGE 19 ON DECEMBER 20, 1954.  
B) "PRELIMINARY LAND DEVELOPMENT PLANS" PREPARED FOR MARPLE ASSOCIATES BY CHESTER VALLEY ENGINEERS, INC., PAOLI, PA 18 SHEETS, DATED AUGUST 6, 2004, LAST REVISED JUNE 30, 2011.  
C) "PROPOSED PARCEL 2 FOR MARPLE ASSOCIATES", PREPARED BY CHESTER VALLEY ENGINEERS, DATED MARCH 23, 2016, LAST REVISED APRIL 13, 2016.

REGISTERED PROFESSIONAL ENGINEER  
REGISTERED PROFESSIONAL LAND SURVEYOR

ROBERT E. BLUE, JR.  
LICENSE NO. 26169-E

ROBERT E. BLUE, JR.  
LICENSE NO. SU1323A

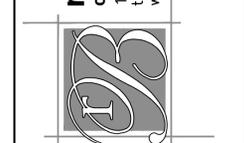
10/4/2016

**REVISIONS**

NO.	DATE	DESCRIPTION
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tel: (610)-277-9897  
www.robertblue.com email: rblue@robertblue.com



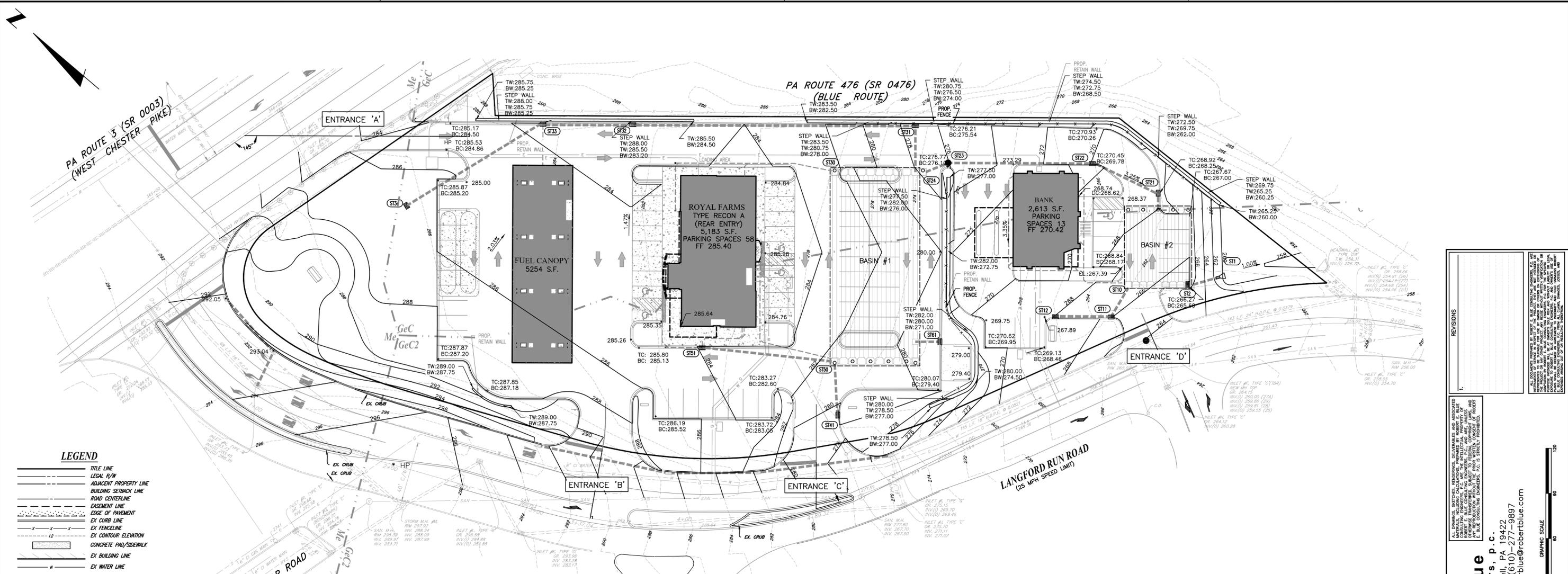
**EXISTING FEATURE PLAN**

ROYAL FARMS #195  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
ROYAL FARMS  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211

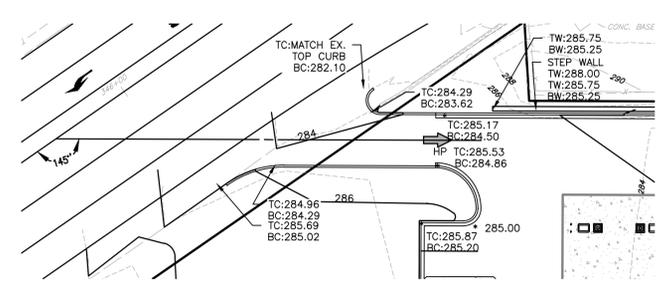
DRAWN BY: RBC  
CHECKED BY: RBC  
DATE: 9/9/2016

SCALE: 1"=30'  
SHEET NUMBER: 3 of 32

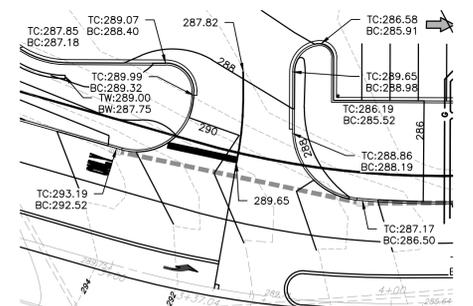


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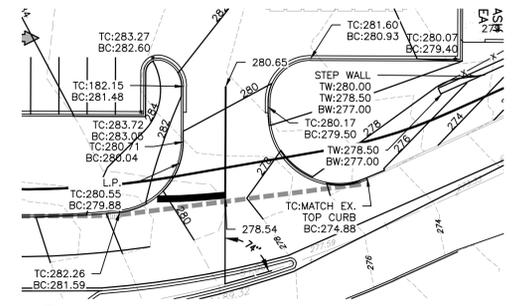
- TITLE LINE
- LEGAL R/W
- ADJACENT PROPERTY LINE
- BUILDING SETBACK LINE
- ROAD CENTERLINE
- EASEMENT LINE
- EDGE OF PAVEMENT
- EX CURB LINE
- EX FENCELINE
- EX CONTOUR ELEVATION
- CONCRETE PAD/SIDEWALK
- EX BUILDING LINE
- EX WATER LINE
- EX COMMUNICATIONS LINE
- EX GAS LINE
- EX ELECTRIC LINE
- EX SANITARY SEWER w/ MANHOLE
- EX STORM SEWER w/ MANHOLE
- EX STORM INLET
- UTILITY POLE w/ D
- L.P.
- F.H.
- SPOT ELEVATION
- SANITARY SEWER MH
- PROPOSED BUILDING
- CONCRETE PAD
- ROYAL FARMS CURB
- CURB
- PR. CONTOUR
- SPOT ELEVATION
- STORMWATER PIPE
- W/ INLET TYPE 'C'
- SANITARY SEWER
- LATERAL
- GAS SERVICE
- WATER SERVICE



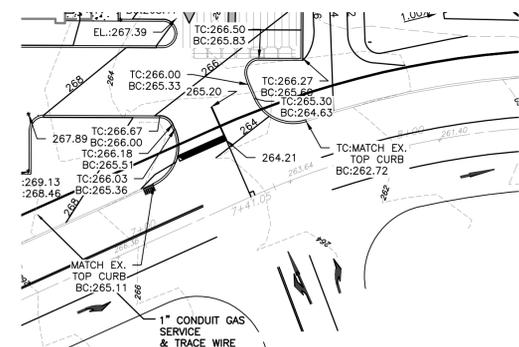
ENTRANCE 'A'  
SCALE: 1" = 30'



ENTRANCE 'B'  
SCALE: 1" = 30'



ENTRANCE 'C'  
SCALE: 1" = 30'



ENTRANCE 'D'  
SCALE: 1" = 30'

- GENERAL NOTES:**
- CONTRACTOR TO COORDINATE WITH UTILITY SERVICE PROVIDERS TO ENSURE PROPER COVERAGE OVER EXISTING AND PROPOSED UNDERGROUND UTILITIES, AND PROPER CLEARANCE PROVIDED UNDER EXISTING OVERHEAD UTILITIES.
  - THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND PROPOSED UTILITY LOCATIONS PRIOR TO CONSTRUCTION. THE UNDERGROUND UTILITIES SHOWN ARE PLOTTED AS POSSIBLE FROM INFORMATION AVAILABLE. CONTRACTOR SHALL RELOCATE ANY EXISTING UTILITIES FOUND TO BE IN CONFLICT WITH PROPOSED IMPROVEMENTS.
  - ALL IMPROVEMENTS OUTSIDE STATE RIGHTS OF WAYS NOT LIMITED TO DRIVEWAY ACCESS, CROSSWALKS, CURBING, AND ADA RAMPS ARE SHOWN SCHEMATICALLY. ALL IMPROVEMENTS, CONSTRUCTION WORKS, AND MATERIALS SHALL BE ACCORDANCE TO MUNICIPAL SPECIFICATIONS AND DESIGN STANDARDS AND/OR PADOT SPECIFICATIONS (PUBLIC WORKS) AS AMENDED AND STANDARD DETAILS, WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS. IN THE CASE OF CONFLICTING CONSTRUCTION STANDARDS THE GREATER OR MORE STRINGENT STANDARD SHALL APPLY.
  - CONTRACTOR SHALL ENSURE THAT ALL NECESSARY PERMITS AND APPROVALS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF ANY SITE CONSTRUCTION ACTIVITIES.
  - THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
  - THE BURYING OF TREES, STUMPS AND CONSTRUCTION DEBRIS IS PROHIBITED. TREES AND STUMPS MAY BE GROUND UP AND USED AS MULCH, WHERE APPLICABLE. ALL CONSTRUCTION DEBRIS MUST BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
  - ACCESSIBLE PARKING SPACES AND CURB RAMPS SHALL BE CONSTRUCTED TO COMPLY WITH THE CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN, ICC/ANSI ACCESSIBLE AND USABLE BUILDING AND FACILITIES STANDARDS AND PADOT CONSTRUCTION STANDARDS RC-67M.
  - PROPOSED SPOT ELEVATIONS ALONG THE CURB ARE BOTTOM FACE OF CURB ELEVATIONS UNLESS OTHERWISE NOTED. REFER TO CURB DETAILS FOR CURB REVEAL HEIGHTS TO CALCULATE TOP OF CURB ELEVATIONS. CURB RADIUS UNLESS OTHERWISE NOTED. PROPOSED FIRST FLOOR ELEVATIONS ARE TOP OF SLAB ELEVATIONS AND SHALL BE VERIFIED AND ADJUSTED IN THE FIELD AT THE TIME OF CONSTRUCTION TO PROVIDE POSITIVE SLOPE AWAY FROM THE ALL BUILDINGS.
  - ALL AREAS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION.
  - ALL EARTHWORK TO BE PERFORMED IN ACCORDANCE WITH THE GUIDANCE OF THE GEOTECHNICAL REPORT AND THE GEOTECHNICAL ENGINEER FOR THE PROJECT. SEE EARTH ENGINEERING INCORPORATED REPORT DATED FEBRUARY 22, 2016.
  - ALL EXISTING UTILITY VALVES SHALL BE ADJUSTED TO FINISH GRADE.
  - THE LOCATION OF THE CLEANOUTS/ACCESS POINTS OF THE UNDERGROUND STORMWATER FACILITIES WILL BE VERIFIED IN THE FIELD BY THE APPLICANT'S SURVEY CREW.
  - SOIL COMPACTION TESTING DURING CONSTRUCTION IS REQUIRED. SEE EARTH ENGINEERING INCORPORATED REPORT DATED FEBRUARY 22, 2016.

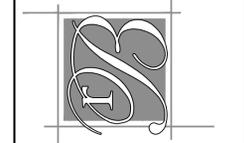
IMPROVEMENTS SHOWN WITHIN LANGFORD RUN ROAD RIGHT-OF-WAY AND WEST CHESTER PIKE (SR 0003) RIGHT-OF-WAY ARE SCHEMATIC FOR INFORMATIONAL PURPOSES ONLY. PROPOSED IMPROVEMENTS, EXCLUDING CURB RETURNS, ARE NOT A PART OF THIS DEVELOPMENT PROJECT. THE INFORMATION SHOWN IS TAKEN FROM PLANS PREPARED BY CHESTER VALLEY ENGINEERS, INC.

**REVISIONS**

NO.	DESCRIPTION
1.	

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**ROYAL FARMS #195**  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
**ROYAL FARMS**  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211

REGISTERED PROFESSIONAL ENGINEER  
ROBERT E. BLUE, JR.  
LICENSE NO. 26169-E

PROFESSIONAL LAND SURVEYOR  
ROBERT E. BLUE, JR.  
LICENSE NO. SU1323A

DATE: 9/9/2016  
JOB NUMBER: 2012-2E  
SHEET NUMBER: 4 of 32

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CONTRACTORS ARE REQUIRED TO CONTACT UTILITY USERS NOT LESS THAN 3 DAYS NOR MORE THAN 10 DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK. INFORMATION ON THESE PLANS CONCERNING UTILITIES IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

SERIAL #: 20152472496  
DATE: SEPTEMBER 4, 2015

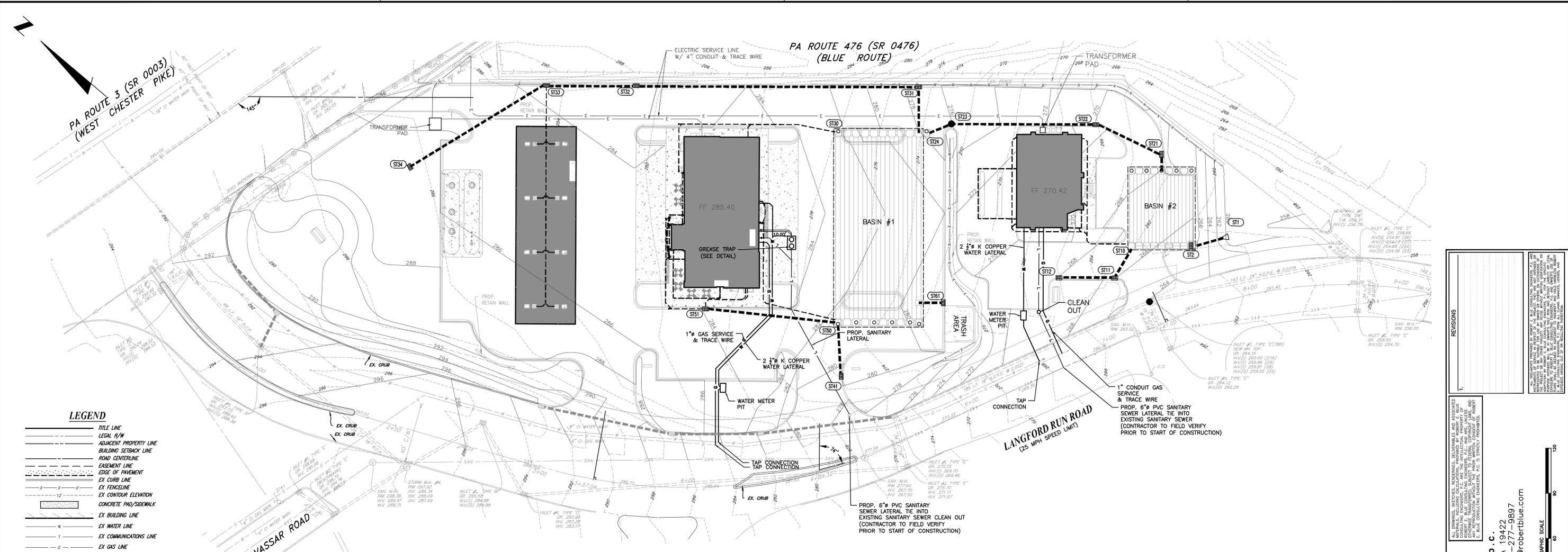
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LICENSE NO. SU1323A

10/4/2016 (DATE)

10/4/2016 (DATE)

SCALE: 1" = 30'



**LEGEND**

- TITLE LINE
- LEGAL PLAT
- ADJACENT PROPERTY LINE
- BUILDING SETBACK LINE
- ROAD CENTERLINE
- EASEMENT LINE
- EDGE OF PAVEMENT
- EX CURB LINE
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- EX ELECTRIC LINE
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- EX STORM SEWER w/MANHOLE
- EX STORM INLET
- UTILITY POLE w/ID
- LIGHT POLE
- FIRE HYDRANT/WATER VALVE
- SPOT ELEVATION
- SANITARY SEWER MH
- PROPOSED BUILDING
- CONCRETE PAD
- ROYAL FARMS CURB
- CURB
- PR. CONTOUR
- SPOT ELEVATION
- STORMWATER PIPE, W/ INLET TYPE "C"
- SANITARY SEWER LATERAL

**OSHA TRENCH EXCAVATION NOTES: (PER OSHA.GOV WEBSITE)**

1. TRENCHES FIVE (5) FEET DEEP OR GREATER REQUIRE A PROTECTIVE SYSTEM UNLESS THE EXCAVATION IS MADE ENTIRELY IN STABLE ROCK. IF LESS THAN FIVE (5) FEET DEEP, A COMPETENT PERSON MAY DETERMINE THAT A PROTECTIVE SYSTEM IS NOT REQUIRED.
2. TRENCHES TWENTY (20) FEET DEEP OR GREATER REQUIRE THE PROTECTIVE SYSTEM BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER OR BE BASED ON TABULATED DATA PREPARED AND/OR APPROVED BY A REGISTERED PROFESSIONAL ENGINEER.
3. OSHA STANDARDS REQUIRE THAT EMPLOYERS INSPECT TRENCHES DAILY AND AS CONDITIONS CHANGE BY A COMPETENT PERSON BEFORE WORKER ENTRY TO ENSURE ELIMINATION OF EXCAVATION HAZARDS. A COMPETENT PERSON IS AN INDIVIDUAL WHO IS CAPABLE OF IDENTIFYING EXISTING AND PREDICTABLE HAZARDOUS OR WORKING CONDITIONS THAT ARE HAZARDOUS, UNSANITARY, OR DANGEROUS TO WORKERS, SOIL TYPES AND PROTECTIVE SYSTEMS REQUIRED, AND WHO IS AUTHORIZED TO TAKE PROMPT CORRECTIVE MEASURES TO ELIMINATE THESE HAZARDS AND CONDITIONS.
4. OSHA STANDARDS REQUIRE SAFE ACCESS AND EGRESS TO ALL EXCAVATIONS, INCLUDING LADDERS, STEPS, RAMPS, OR OTHER SAFE MEANS OF EXIT FOR EMPLOYEES WORKING IN TRENCH EXCAVATIONS FOUR (4) FEET OR DEEPER. THESE DEVICES MUST BE LOCATED WITHIN TWENTY-FIVE (25) FEET OF ALL WORKERS.
5. KEEP ALL HEAVY EQUIPMENT AWAY FROM TRENCH EDGES.
6. IDENTIFY OTHER SOURCES THAT MIGHT AFFECT TRENCH STABILITY.
7. KEEP EXCAVATED SOIL (SPOILS) AND OTHER MATERIALS AT LEAST TWO (2) FEET FROM TRENCH EDGES.
8. KNOW WHERE UNDERGROUND UTILITIES ARE LOCATED BEFORE DIGGING.
9. TEST FOR ATMOSPHERIC HAZARDS SUCH AS LOW OXYGEN, HAZARDOUS FUMES, AND TOXIC GASES WHEN GREATER THAN FOUR (4) FEET DEEP.
10. INSPECT TRENCHES AT THE START OF EACH SHIFT.
11. INSPECT TRENCHES FOLLOWING A RAIN STORM OR OTHER WATER INTRUSION.
12. DO NOT WORK UNDER SUSPENDED OR RAISED LOADS AND MATERIALS.
13. INSPECT TRENCHES AFTER ANY OCCURRENCE THAT COULD HAVE CHANGED CONDITIONS IN THE TRENCH.
14. ENSURE THAT PERSONNEL WEAR HIGH VISIBILITY OR OTHER SUITABLE CLOTHING WHEN EXPOSED TO VEHICULAR TRAFFIC.

**GENERAL NOTES:**

1. CONTRACTOR TO COORDINATE WITH UTILITY SERVICE PROVIDERS TO ENSURE PROPER COVERAGE OVER EXISTING AND PROPOSED UNDERGROUND UTILITIES, AND PROPER CLEARANCE PROVIDED UNDER EXISTING OVERHEAD UTILITIES.
2. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND PROPOSED UTILITY LOCATIONS PRIOR TO CONSTRUCTION. THE UNDERGROUND UTILITIES SHOWN ARE PLOTTED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. CONTRACTOR SHALL RELOCATE ANY EXISTING UTILITIES FOUND TO BE IN CONFLICT WITH PROPOSED IMPROVEMENTS.
3. ALL IMPROVEMENTS IN STATE RIGHTS OF WAYS NOT LIMITED TO DRIVEWAY ACCESS, CROSSLINKS, CURBING, AND ADA RAMPS ARE SHOWN SCHEMATICALLY. STATE RIGHT OF WAY IMPROVEMENTS SHALL BE DESIGNED AND SUBMITTED BY TRAFFIC PLANNING & DESIGN, INC. ALL CONSTRUCTION WORK AND MATERIALS SHALL COMPLY WITH PADOT SPECIFICATIONS (PUB. 408/2007) AS AMENDED AND STANDARD DETAILS, WITH APPLICABLE FEDERAL, STATE AND MUNICIPAL CODES AND WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS. IN THE CASE OF CONFLICTING CONSTRUCTION STANDARDS THE GREATER OR MORE STRINGENT STANDARD SHALL APPLY.
4. ALL IMPROVEMENTS OUTSIDE STATE RIGHTS OF WAYS NOT LIMITED TO DRIVEWAY ACCESS, CROSSLINKS, CURBING, AND ADA RAMPS ARE SHOWN SCHEMATICALLY. ALL IMPROVEMENTS, CONSTRUCTION WORKS, AND MATERIALS SHALL BE ACCORDANCE TO MUNICIPAL SPECIFICATIONS AND DESIGN STANDARDS AND/OR PADOT SPECIFICATIONS (PUB. 408/2007) AS AMENDED AND STANDARD DETAILS, WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS. IN THE CASE OF CONFLICTING CONSTRUCTION STANDARDS THE GREATER OR MORE STRINGENT STANDARD SHALL APPLY.
5. CONTRACTOR SHALL ENSURE THAT ALL NECESSARY PERMITS AND APPROVALS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF ANY SITE CONSTRUCTION ACTIVITIES.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, INVERTS, ELEVATIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH THE WORK. VARIATIONS BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER AND RESOLVED PRIOR TO PROCEEDING WITH THE WORK.
7. IN ALL CASES, WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTOR SHALL NOT USE SCALED DIMENSION FOR CONSTRUCTION WITHOUT CONFIRMATION BY THE DESIGN ENGINEER.
8. ALL ENDWALLS, STORM SEWER MANHOLES AND STORM SEWER INLETS SHALL CONFORM TO PADOT SPECIFICATIONS (PUB. 408 - SECTION 605) AND STANDARD DETAILS.
9. ALL STORM SEWER PIPING SHALL BE REINFORCED CONCRETE PIPE, CLASS 3 (R.C.P.) OR HIGH-DENSITY CORRUGATED POLYETHYLENE (H.D.P.E.) TYPE-5 (SMOOTH INTERIOR) AND CONFORM TO PADOT SPECIFICATIONS (PUB. 408 - SECTION 601) AND STANDARD DETAILS. ALL STORMWATER BASIN OUTFALL PIPING SHALL BE R.C.P., CLASS 3 WITH WATER-TIGHT "O-RING" GASKET JOINTS. ALL UNDERGROUND ROOF DRAINS SHALL BE HIGH-DENSITY CORRUGATED POLYETHYLENE (H.D.P.E.) OR S.D.R. 35 PVC WITH A MINIMUM SLOPE OF 0.02 FT/FT, A MINIMUM DIAMETER OF 6 INCHES AND INSTALLED WITH A MINIMUM OF 18 INCHES OF COVER. WATER TIGHT JOINTS SHALL BE PROVIDED ON ALL STORM SEWER RUNS.
10. THE TOP OF GRADE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
11. ALL INLETS, HEADWALLS AND ENDWALLS SHALL BE STAMPED TO INDICATE "NO DUMPING".
12. ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUT LETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE MUNICIPAL ENGINEER.

**GENERAL NOTES (cont.):**

13. ALL SANITARY SEWER AND WATER FACILITIES SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH MUNICIPAL WATER & SEWER AUTHORITY SPECIFICATIONS. ALL SANITARY SEWER MAIN/LATERAL CROSSINGS WITH THE WATER LINES SHALL BE INSTALLED WITH A MINIMUM 18 INCHES VERTICAL CLEARANCE OR, IF THE CLEARANCE CANNOT BE OBTAINED, A CONCRETE ENCASEMENT SHALL BE INSTALLED ON THE SANITARY SEWER MAIN/LATERAL, A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN SANITARY SEWER MAIN/LATERALS, WATER LINES AND PROPOSED/EXISTING TREES.
14. ALL SANITARY SEWER LATERALS SHALL BE S.D.R. 35 P.V.C., A MINIMUM OF 6" IN DIAMETER AND LAID ON A SLOPE OF NOT LESS THAN 1/4" INCH PER FOOT.
15. ALL EXISTING UTILITY VALVES SHALL BE ADJUSTED TO FINISH GRADE.
16. THE LOCATION OF THE CLEANOUTS/ACCESS POINTS OF THE UNDERGROUND STORMWATER FACILITIES NEEDS TO BE VERIFIED IN THE FIELD BY THE APPLICANT'S SURVEY CREW.
17. STORM SEWER FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH MUNICIPAL SPECIFICATIONS.
18. MUNICIPAL INSPECTION OF THE MATERIALS AND CONSTRUCTION PRACTICES FOR ALL UTILITIES IS REQUIRED DURING CONSTRUCTION.
19. CABLE TELEVISION LINES SHALL BE INSTALLED UNDERGROUND PARALLEL WITH UNDERGROUND TELEPHONE AND ELECTRIC LINE. CABLE TELEVISION LINES HAVE NOT BEEN SHOWN FOR CLARITY.
20. RELOCATED OVERHEAD SERVICE CONDUCTORS MUST MAINTAIN A VERTICAL CLEARANCE TO FINAL GRADE OF 18 FEET OVER PUBLIC STREETS, ALLEYS, ROADS, PARKING AREAS SUBJECT TO TRUCK TRAFFIC, DRIVEWAYS ON OTHER THAN RESIDENTIAL PROPERTIES, AND OTHER AREAS TRAVERSED BY VEHICLES. (IN ACCORDANCE WITH NEC ARTICLE 230.24(B)(4)).
21. CONTRACTOR TO VERIFY FUNCTIONALITY OF EXISTING STORM SEWER FACILITIES, AND CLEAN OUT AND/OR REPAIR AS NECESSARY TO RESTORE FUNCTIONALITY OF THE SYSTEM.
22. HORIZONTAL SEPARATION - WHENEVER POSSIBLE, SEWERS SHOULD BE LAID AT LEAST 10 FEET, HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER MAINS. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, A SEWER MAY BE LAID CLOSER THAN 10 FEET TO A WATER MAIN IF:
  - 22.1. IT IS LAID IN A SEPARATE TRENCH OR IF
  - 22.2. IT IS LAID IN THE SAME TRENCH, WITH THE WATER MAIN LOCATED AT ONE SIDE OF A BENCH OF UNDISTURBED EARTH; AND IF
  - 22.3. THE ELEVATION OF THE TOP (CROWN) OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM (INVERT) OF THE WATER MAIN.
23. VERTICAL SEPARATION - WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHEN THE ELEVATION OF THE SEWER CANNOT BE VERIFIED TO MEET THE ABOVE REQUIREMENTS, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION. FOR A DISTANCE OF 10 FEET EXTENDING ON EACH SIDE OF THE SEWER, IF POSSIBLE, ONE FULL LENGTH OF WATER MAIN SHOULD BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. THE WATER MAIN SHOULD BE CONSTRUCTED OF SLIP-ON OR MECHANICAL-JOINT CAST IRON PIPE, PVC PIPE, OR PRE-STRESSED CONCRETE CINDER PIPE AND THE SEWER CONSTRUCTED OF MECHANICAL-JOINT CAST-IRON PIPE FOR ANY PORTION WITHIN 10 FEET OF THE WATER MAIN. BOTH SERVICES SHALL BE PRESSURE TESTED TO ASSURE WATER-TIGHTNESS PRIOR TO BACKFILLING. WHERE LESS THAN AN 18" VERTICAL SEPARATION EXISTS BETWEEN THE WATER MAIN AND SEWER, THE SEWER LINE MAY BE CONCRETE ENCASED TO FEET ON EITHER SIDE OF THE WATER MAIN. IF POSSIBLE, SEWERS CROSSING WATER MAINS SHALL BE CONSTRUCTED SO THAT THE SEWER JOINTS WILL BE COUNTERSINK AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS, WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

IMPROVEMENTS SHOWN WITHIN LANGFORD RUN ROAD RIGHT-OF-WAY AND WEST CHESTER PIKE (SR 0003) RIGHT-OF-WAY ARE SCHEMATIC FOR INFORMATIONAL PURPOSES ONLY. PROPOSED IMPROVEMENTS, EXCLUDING CURB RETURNS, ARE NOT A PART OF THIS DEVELOPMENT PROJECT. THE INFORMATION SHOWN IS TAKEN FROM PLANS PREPARED BY CHESTER VALLEY ENGINEERS, INC.

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SERIAL #: 20152472496 DATE: SEPTEMBER 4, 2015

REGISTERED PROFESSIONAL ENGINEER  
 PROFESSIONAL LAND SURVEYOR

ROBERT E. BLUE, JR.  
 LICENSE NO. 26169-E

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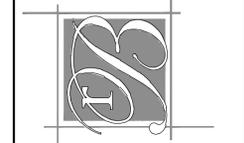
10/4/2016 (DATE)

**REVISIONS**

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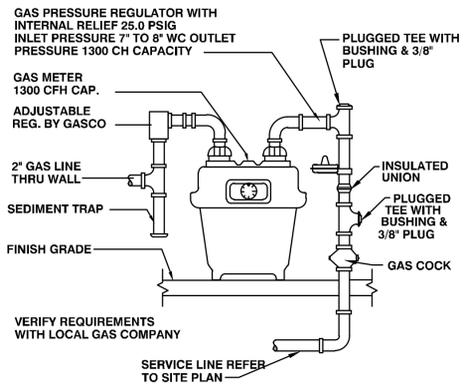
**UTILITY PLAN**

**ROYAL FARMS #195**  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
**ROYAL FARMS**  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211

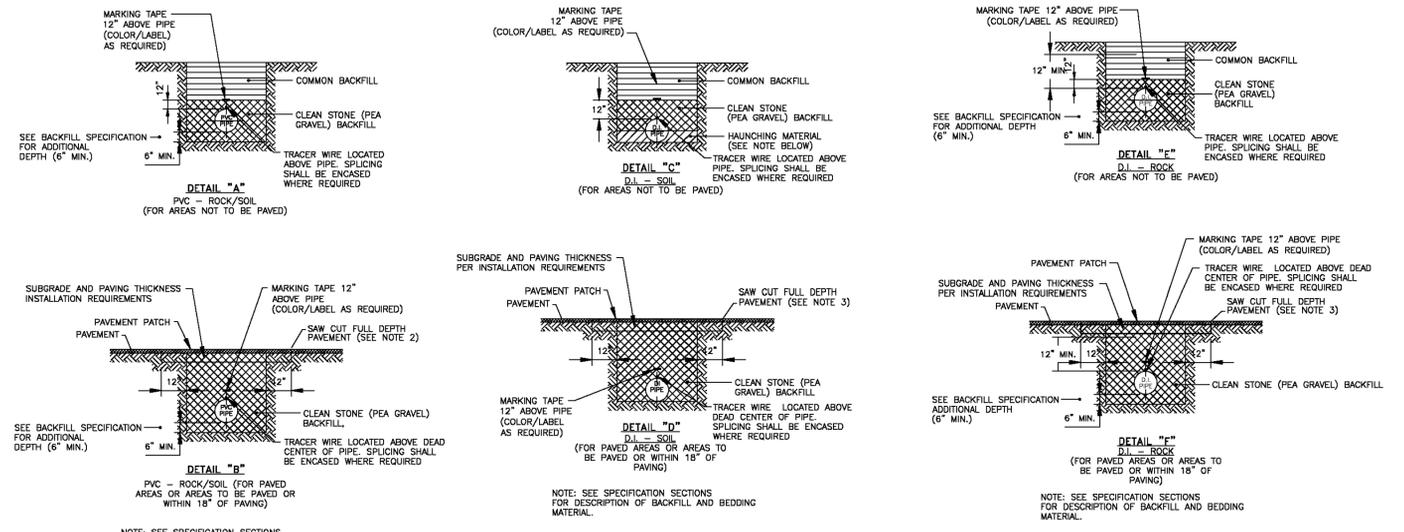
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 DRAWN BY: RBC JOB NUMBER: 2012-2E SHEET NUMBER: 5 OF 32





**GAS METER AND REGULATOR**

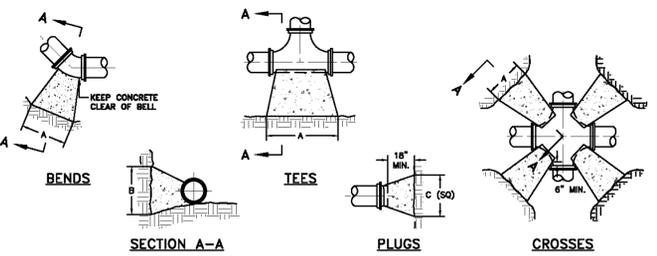
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NOTES FOR DETAILS "A" AND "B":  
 1. CAUTION MUST BE EXERCISED TO ENSURE PROPER PLACEMENT OF EMBEDMENT MATERIAL UNDER THE HAUNCHES OF THE PIPE.  
 2. IF EDGE OF SAW CUT IS <= 4LF FROM CURB LINE, REMOVE PAVEMENT TO CURB.  
 3. STONE BACKFILL TO BE MECHANICALLY COMPACTED IN 6"-12" LIFTS.

NOTES FOR DETAILS "C" AND "D":  
 1. CAUTION MUST BE EXERCISED TO ENSURE PROPER PLACEMENT OF EMBEDMENT MATERIAL UNDER THE HAUNCHES OF THE PIPE.  
 2. POLYETHYLENE ENCASEMENT ON ALL D.I. PIPE, FITTINGS, VALVES & APPURTENANCES.  
 3. IF EDGE OF SAW CUT IS <= 4LF FROM CURB LINE, REMOVE PAVEMENT TO CURB.  
 4. STONE BACKFILL TO BE MECHANICALLY COMPACTED IN 6"-12" LIFTS.

NOTES FOR DETAILS "E" AND "F":  
 1. CAUTION MUST BE EXERCISED TO ENSURE PROPER PLACEMENT OF EMBEDMENT MATERIAL UNDER THE HAUNCHES OF THE PIPE.  
 2. POLYETHYLENE ENCASEMENT ON ALL D.I. PIPE, FITTINGS, VALVES & APPURTENANCES.  
 3. IF EDGE OF SAW CUT IS <= 4LF FROM CURB LINE, REMOVE PAVEMENT TO CURB.  
 4. STONE BACKFILL TO BE MECHANICALLY COMPACTED IN 6"-12" LIFTS.

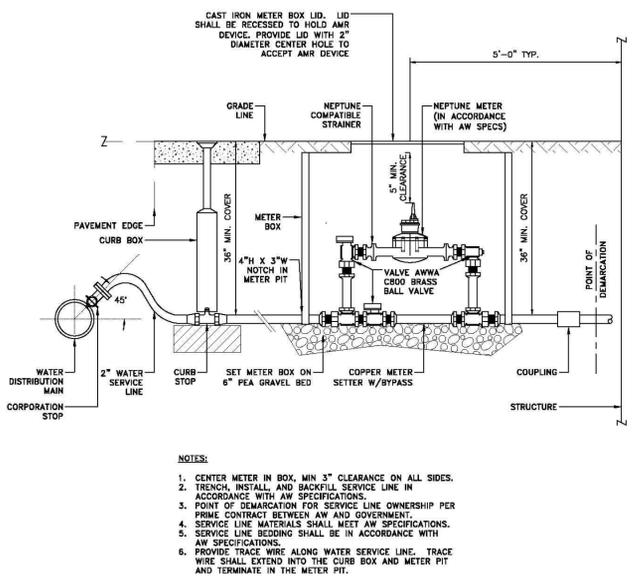


SIZE	REQUIRED BEARING AREA ON UNDISTURBED SOIL AND TYPICAL DIMENSIONS			
	CROSSES/90° BENDS		45° BENDS	
6"	4.0	32"	18"	2.2
8"	7.0	42"	24"	3.8
10"	11.0	53"	30"	6.3
12"	16.1	64"	36"	10.0
14"	21.6	74"	42"	12.5
16"	28.3	85"	48"	17.7

\* SURFACE AREA OF BEARING SOIL IS PROVIDED FOR 200 PSI MAXIMUM PRESSURE (INCLUDING SURGE) AND 2000 PSF SOIL BEARING. IF PRESSURE IS HIGHER OR SOIL BEARING IS POTENTIALLY LOWER, CONSULT THE ENGINEER FOR ADJUSTMENTS.

- NOTES:**
- COVER OVER TOP OF PIPE SHALL BE BELOW THE FROST LINE OR 30" MINIMUM, 72" MAXIMUM ACCORDING TO REGULATORY REQUIREMENTS. IF GRADING PLANS RECEIVED BY THE ENGINEER/OWNER WITH THE REQUEST FOR WATER MAIN LAYOUT INDICATE ADJUSTMENTS TO EXISTING GRADE, THEN PIPE SHALL BE INSTALLED TO MEET MINIMUM AND MAXIMUM COVER FROM PROPOSED GRADES SHOWN ON THE SAID PLANS.
  - THRUST BLOCKS SHALL BE BUILT AGAINST UNDISTURBED SOIL WITH ADEQUATE BACKING TO PREVENT MOVEMENT OF FITTING.
  - NO THRUST BLOCKS TO BE PLACED IN SEWER LATERAL DITCHES.
  - THRUST BLOCKING MUST FIT WITHIN THE EASEMENT.
  - IN SOME CASES, ADDITIONAL RESTRAINT MAY BE REQUIRED BASED ON 150 PSI STATIC PRESSURE, PLUS 50 PSI WATER HAMMER AND 2000 PSF SOIL BEARING.
  - POLYETHYLENE ENCASEMENT IS REQUIRED ON ALL D.I. PIPE AND FITTINGS.
  - THRUST BLOCKING SHALL BE PERFORMED SUCH THAT PIPE JOINTS AND BOLTS ARE ACCESSIBLE.
  - SUFFICIENT CLEARANCE SHALL BE ALLOWED BETWEEN CONCRETE AND BOLTS FOR FUTURE MAINTENANCE.
  - ALL ANCHOR BOLTS SHALL BE STAINLESS STEEL, MINIMUM 3/4" DIAMETER.
  - ALL M.J. AND FLG. FITTINGS TO RECEIVE THRUST BLOCKS SHALL BE WRAPPED IN POLYWRAP. CONTRACTOR SHALL ENSURE THAT POLYWRAP EXTENDS FAR ENOUGH BEYOND THE FITTING TO ENCLOSE ALL BOLTS WITHIN THE POLYWRAP.
  - THRUST BLOCKING DETAILS ARE SHOWN HERE FOR TYPICAL INSTALLATIONS. IN SOME CASES, ADDITIONAL RESTRAINT MAY BE REQUIRED.
  - PORTLAND CEMENT CONCRETE USED FOR THRUST BLOCKS SHALL BE MIN 3000 PSI CONCRETE.
  - FOR UNSTABLE SOIL CONDITIONS, CHECK WITH ENGINEER FOR THRUST BLOCK DIMENSIONS.
  - FOR MAIN SIZES GREATER THAN 16", SEE ENGINEER FOR THRUST BLOCK DIMENSIONS.

**THRUST BLOCK DETAIL**

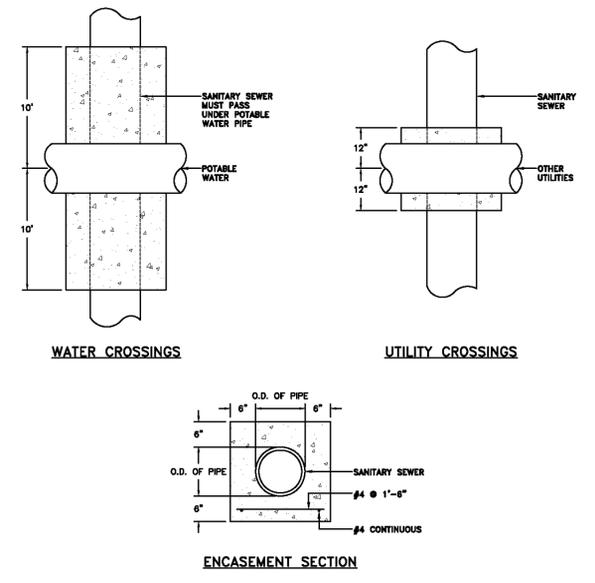
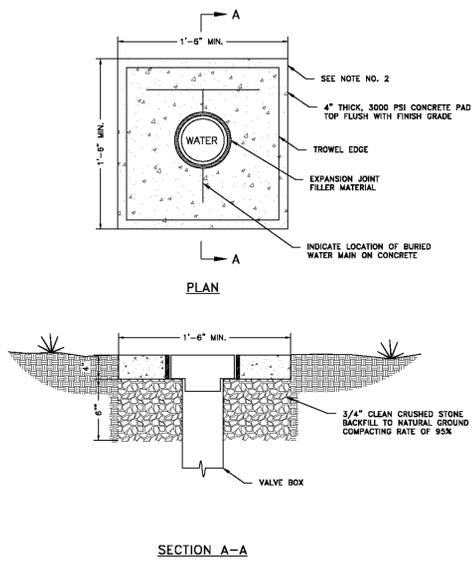


**1" WATER SERVICE INSTALLATION**

- NOTE:**
- IF PAD IS NOT TO BE POURED IMMEDIATELY AFTER VALVE BOX INSTALLATION, HOLE SHOULD BE BACKFILLED TO GRADE WITH 3/4" CLEAN CRUSHED STONE BACKFILL.
  - CONCRETE VALVE BOX PAD MAY BE CIRCULAR OR SQUARE IN SHAPE.

ALL PENNDOT DETAILS MUST CONFORM TO CURRENT RC STANDARDS.

**CONCRETE VALVE BOX PAD DETAIL**



**CONCRETE ENCASEMENT DETAIL**

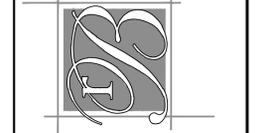
- NOTES:**
- PROVIDE CONCRETE ENCASEMENT WHEN MINIMUM SEPARATION REQUIREMENTS CAN NOT BE MET OR AS DIRECTED BY AMERICAN WATER.
  - STEEL REINFORCEMENT TO BE PROVIDED AT POINT OF UTILITY CROSSING OR AS DIRECTED BY AMERICAN WATER.

**REVISIONS**

NO.	DESCRIPTION
1.	

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**UTILITY DETAILS**

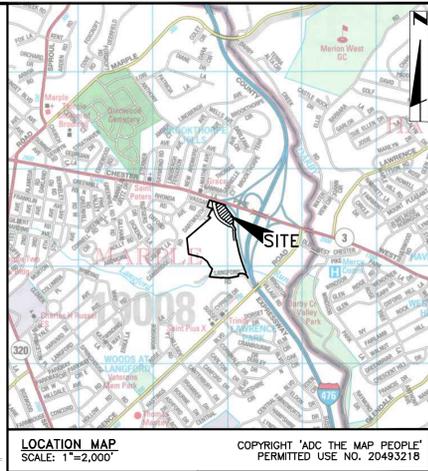
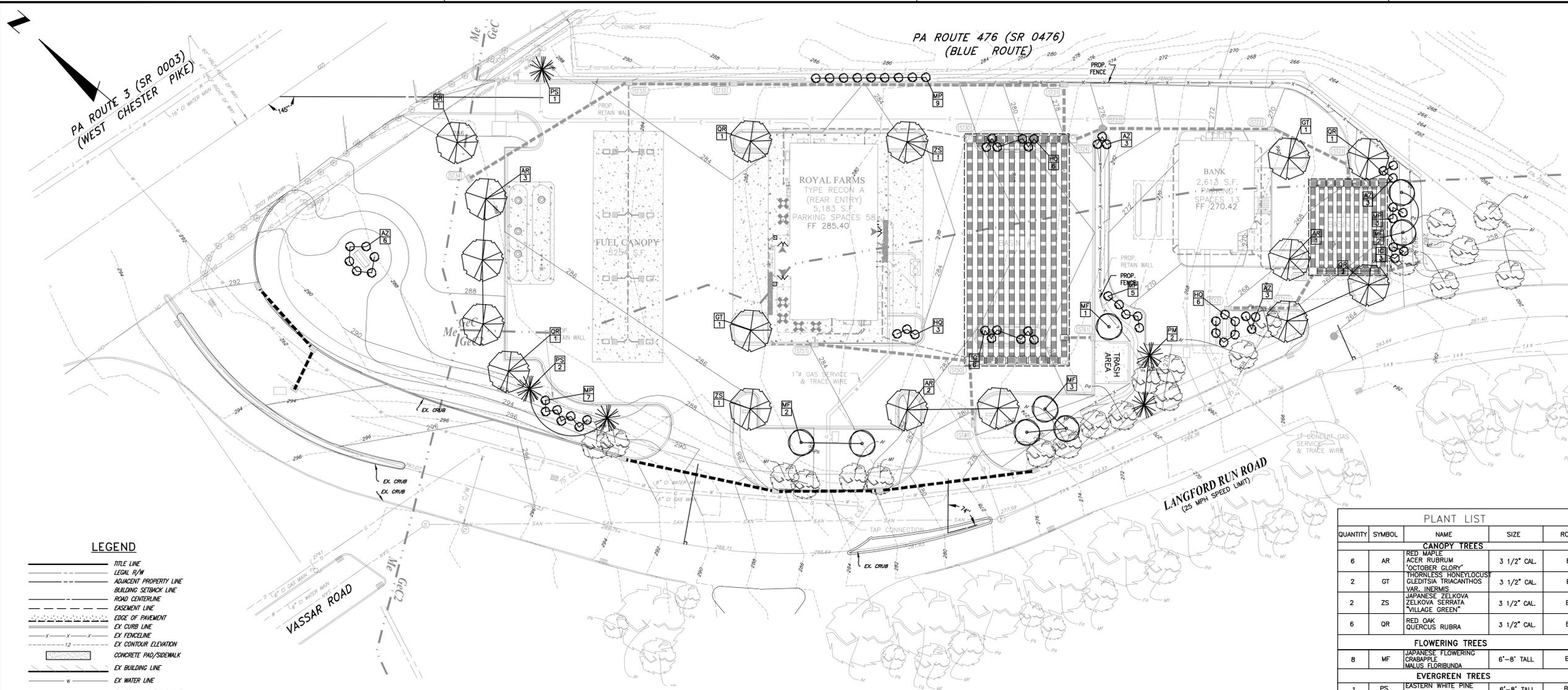
ROYAL FARMS #195  
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REGISTERED PROFESSIONAL ENGINEER  
 ROBERT E. BLUE, JR.  
 LICENSE NO. 26169-E

PROFESSIONAL LAND SURVEYOR  
 ROBERT E. BLUE, JR.  
 LICENSE NO. SU1323A

DATE: 9/9/2016  
 DRAWN BY: RBC  
 CHECKED BY: REB  
 SCALE: AS NOTED  
 SHEET NUMBER: 7 OF 32



**LEGEND**

- TITLE LINE
- LEGAL R/W
- ADJACENT PROPERTY LINE
- BUILDING SETBACK LINE
- ROAD CENTERLINE
- EASEMENT LINE
- EDGE OF PAVEMENT
- EX CURB LINE
- EX FENCELINE
- EX CONTOUR ELEVATION
- CONCRETE PAD/SIDEWALK
- EX BUILDING LINE
- EX WATER LINE
- EX COMMUNICATIONS LINE
- EX GAS LINE
- EX ELECTRIC LINE
- EX SANITARY SEWER w/ MANHOLE
- EX STORM SEWER w/ MANHOLE
- EX TREES (DONE BY OTHERS)
- EX STORM INLET
- UTILITY POLE w/AD
- LIGHT POLE
- F.H.
- SPOT ELEVATION
- SANITARY SEWER MH
- PROPOSED BUILDING
- CONCRETE PAD
- ROYAL FARMS CURB
- CURB
- PR. CONTOUR
- SPOT ELEVATION

**LANDSCAPE LEGEND**

- CANOPY TREE
- EVERGREEN TREE
- FLOWERING TREE
- ERNST BASIN SEED MIXTURE ERNMX-126

**LANDSCAPING REQUIREMENTS**

- A. CHAPTER 300 ZONING - ARTICLE X BUFFERS.**  
 300-67.300-88.300-69. BUFFER D(2) AND B(1) BUFFER REQUIRED BETWEEN COMMERCIAL AND RESIDENTIAL DISTRICTS. BUFFER CLASSIFICATION OF WEST CHESTER PIKE AND LANGFORD RUN ROAD BASED UPON 300-69 REQUIRED BUFFER TYPES FOR SETBACKS FROM STREETS.
- 300-68 B.(1) ONE CANOPY TREE PER 40 LINEAR FEET, PLUS ONE FLOWERING TREE PER 60 LINEAR FEET, PLUS ONE EVERGREEN TREE PER 60 LINEAR FEET.
- 300-68 D.(2) SIX FOOT HIGH SOLID CEDAR OR SPRUCE FENCING.
- 300-69 NO BUFFER REQUIRED BETWEEN COMMERCIAL AND ARTERIAL STREETS
- PROPOSED**  
 108 LF. PROPOSED 6' HIGH BOARD ON BOARD FENCE 80% OPAQUE  
 3 CANOPY TREES, 2 FLOWERING TREES, 2 EVERGREEN TREES
- B. CHAPTER 300 ZONING - ARTICLE XI OFF STREET PARKING 300-80 PERIMETER LANDSCAPING**  
 PERIMETER SCREENING FROM PUBLIC STREETS FOR PARKING LOTS.
- ANY PARKING AREA OF 20 OR MORE VEHICLE SPACES REQUIRES A MINIMUM OF 1 SHADE TREE PER 35 LINEAR FEET OF PERIMETER OF ADJACENT STREET, WALK RIGHT OF WAY OR ANY CONTIGUOUS PROPERTY, EQUIURED SETBACK, BUT IN NO CASE LESS THAN FIVE FT. WIDE.
- CALCULATIONS**  
 225' 1 TREES PER 35 LF = 7 TREES
- PROPOSED**  
 7 TREES
- C. CHAPTER 300 ZONING - ARTICLE XI OFF STREET PARKING 300-81 INTERIOR LANDSCAPING**  
 (A) OFF STREET LANDSCAPING SHALL CONSTITUTE A MINIMUM OF 5% OF THE GROSS VEHICULAR USE AREA  
 (C) EACH SEPARATE LANDSCAPE AREA SHALL BE AT LEAST 300 SF IN AREA AND 5' WIDE  
 (E) SHADE TREES SHALL BE PLANTED AT THE RATE OF 1 SHADE TREE PER 300 SF INTERIOR LANDSCAPED AREA
- CALCULATIONS**  
 10,275 SF PARKING AREA X 0.05 = 514 SF = 2 SHADE TREES
- PROPOSED**  
 2 SHADE TREES

**PLANTING SPECIFICATIONS:**

1. SHADE TREES REQUIREMENT ARE AS FOLLOWS: MINIMUM CALIPER OF 3" MEASURED 6" ABOVE GROUND, 14 TO 16 FEET HIGH, 8 FEET MINIMUM SPREAD, CLEAR TRUNK TO 7'-0" ABOVE GROUND AND FULL BRANCHING STRUCTURE.
2. ALL PLANT MATERIAL SHALL MEET THE STANDARDS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSMEN, (1990 OR MOST RECENT EDITION).
3. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANTING PRACTICES STATED IN CHAPTER 3 OF "TREE MAINTENANCE" BY P. P. PIRONE, (MOST RECENT EDITION).
4. ALL PLANT MATERIALS SHALL BE GUARANTEED BY THE DEVELOPER FOR ONE (1) YEAR FOLLOWING FINAL APPROVAL BY THE TOWNSHIP ENGINEER EXCEPT WHERE OTHERWISE NOTED IN THE TOWNSHIP OF MARPLE LANDSCAPE REGULATIONS.
5. PLEASE REFER TO THE LANDSCAPING ORDINANCE FOR MORE SPECIFIC INFORMATION REGARDING TOWNSHIP OF MARPLE LANDSCAPE REGULATIONS.

**PLANT LIST**

QUANTITY	SYMBOL	NAME	SIZE	ROOT
<b>CANOPY TREES</b>				
6	AR	RED MAPLE ACER RUBRUM 'OCTOBER GLORY'	3 1/2" CAL.	BB
2	GT	THORNLESS HONEYLOCUS GLADISTIA TRIACANTHOS VAR. INERMIS	3 1/2" CAL.	BB
2	ZS	JAPANESE ZELKOVA ZELKOVA SERRATA 'VILLAGE GREEN'	3 1/2" CAL.	BB
6	QR	RED OAK QUERCUS RUBRA	3 1/2" CAL.	BB
<b>FLOWERING TREES</b>				
8	MF	JAPANESE FLOWERING CRABAPPLE MALUS FLORIBUNDA	6'-8' TALL	BB
<b>EVERGREEN TREES</b>				
1	PS	EASTERN WHITE PINE PINUS STROBUS	6'-8' TALL	BB
3	PM	DOUGLAS FIR PSEUDOTSUGA MENZII	6'-8' TALL	BB
<b>SHRUBS</b>				
24	MP	BARBERRY MYRTA PENNSYLVANICA	24" TALL	BB/CAN
15	AZ	DELAWARE VALLEY WHITE AZALEA VIBURNUM PRENANSE	24" TALL	BB/CAN
9	IC	JAPANESE HOLLY (NOT HELLER)	24" TALL	BB/CAN
15	HQ	DWARF HYDRANGEA HYDRANGEA QUERCIFOLIA	24" TALL	BB/CAN

**NOTES:**

1. CONTRACTOR SHALL FIELD VERIFY LOCATION, DESCRIPTION, AND MATERIALS OF EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OF SAID UTILITIES IF NECESSARY.
  2. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IN REGARDS TO ANY IMPROVEMENT ON SITE OR OFFSITE.
  3. ALL CURBING TO HAVE AN 8" REVEAL UNLESS NOTED OTHERWISE. ALSO ALL CURB RADI SHALL HAVE A 5' RADIUS UNLESS NOTED OTHERWISE.
  4. ALL CONSTRUCTION SHALL CONFORM TO PA DOT PUBLICATION 408, LATEST REVISION.
  5. ALL EARTHWORK TO BE PERFORMED IN ACCORDANCE WITH THE GUIDANCE OF THE GEOTECHNICAL REPORT AND THE GEOTECHNICAL ENGINEER FOR THE PROJECT.
  6. ALL EXISTING UTILITY VALVES SHALL BE ADJUSTED TO FINISH GRADE.
- THE LOCATION OF THE CLEAN OUTS/ACCESS POINTS OF THE UNDERGROUND STORMWATER FACILITIES NEEDS TO BE VERIFIED IN THE FIELD BY THE APPLICANT'S SURVEY CREW. SOIL COMPACTION TESTING DURING CONSTRUCTION IS REQUIRED.

**EXISTING PLANTS (DONE BY OTHERS)**

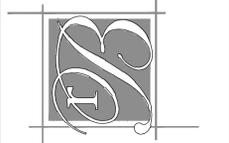
SYMBOL	BOTANICAL NAME	COMMON NAME
Ps	PINUS STROBUS	WHITE PINE
Ar	ACER RUBRUM RED SUNSET	RED SUNSET MAPLE
Fo	FRAXINUS AMERICANA ROSEHILL	ROSEHILL WHITE ASH
Po	PLATANUS OCCIDENTALIS	SYCAMORE
Mf	MALUS SPECIES	CRABAPPLE

**REVISIONS**

NO.	DESCRIPTION
1.	

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**LANDSCAPING PLAN**

**ROYAL FARMS #195**  
 MARPLE TOWNSHIP  
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 COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
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**811**  
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CONTRACTORS ARE REQUIRED TO CONTACT UTILITY USERS NOT LESS THAN 3 DAYS NOR MORE THAN 10 DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK. INFORMATION ON THESE PLANS CONCERNING UTILITIES IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

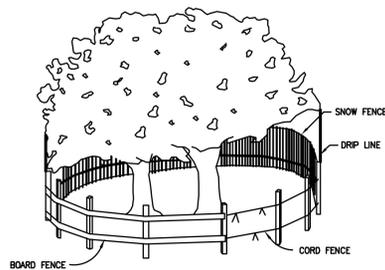
DATE: SEPTEMBER 4, 2015

IMPROVEMENTS SHOWN WITHIN LANGFORD RUN ROAD RIGHT-OF-WAY AND WEST CHESTER PIKE (SR 0003) RIGHT-OF-WAY ARE SCHEMATIC FOR INFORMATIONAL PURPOSES ONLY. PROPOSED IMPROVEMENTS, EXCLUDING CURB RETURNS, ARE NOT A PART OF THIS DEVELOPMENT PROJECT. THE INFORMATION SHOWN IS TAKEN FROM PLANS PREPARED BY CHESTER VALLEY ENGINEERS, INC.

REGISTERED PROFESSIONAL ENGINEER  
 ROBERT E. BLUE, JR.  
 LICENSE NO. 26169-E  
 10/4/2016

PROFESSIONAL LAND SURVEYOR  
 ROBERT E. BLUE, JR.  
 LICENSE NO. SU1323A  
 10/4/2016

**DRAWN BY:** RBC  
**CHECKED BY:** REB  
**DATE:** 9/9/2016  
**SCALE:** 1"=30'  
**SHEET NUMBER:** 8 of 32



**CORRECT METHODS OF TREE FENCING**

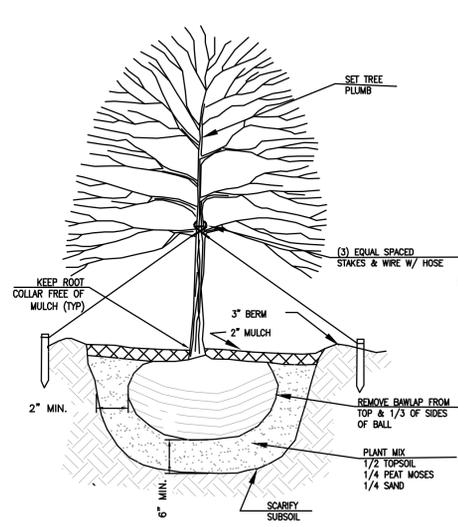
FENCING AND ARMORING: (PLATE 1.85B). ANY DEVICE MAY BE USED WHICH WILL EFFECTIVELY PROTECT THE ROOTS, TRUNK AND TOPS OF TREES RETAINED ON THE SITE. HOWEVER, TREES TO BE RETAINED WITHIN 40 FEET OF A PROPOSED BUILDING OR EXCAVATION SHALL BE PROTECTED BY FENCING. PERSONNEL MUST BE INSTRUCTED TO HONOR PROTECTIVE DEVICES. THE DEVICES DESCRIBED ARE SUGGESTED ONLY AND ARE NOT INTENDED TO EXCLUDE THE USE OF OTHER DEVICES WHICH WILL PROTECT THE TREES TO BE RETAINED.

A. SNOW FENCE - STANDARD 40 INCH HIGH SNOW FENCE SHALL BE PLACED AT THE LIMITS OF CLEARING ON STANDARD STEEL POSTS SET 6 FEET APART.

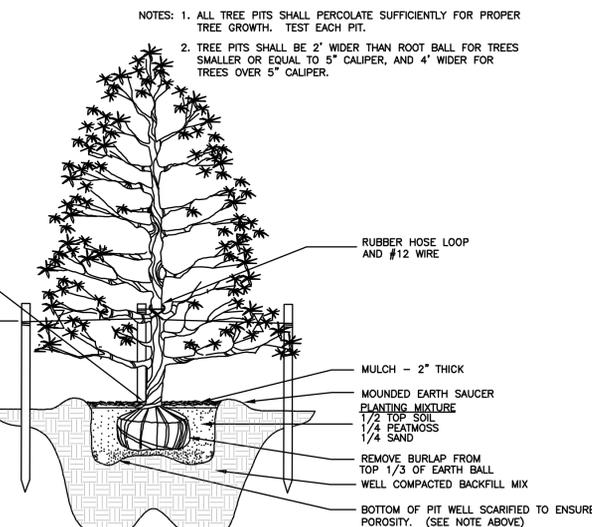
B. BOARD FENCE - BOARD FENCING CONSISTING OF 4-INCH SQUARE POSTS SET SECURELY IN THE GROUND AND PROTRUDING AT LEAST 4 FEET ABOVE THE GROUND SHALL BE PLACED AT THE LIMITS OF CLEARING WITH A MINIMUM OF TWO HORIZONTAL BOARDS BETWEEN POSTS. IF IT IS NOT PRACTICAL TO ERECT A FENCE AT THE DRIP LINE, CONSTRUCT A TRIANGULAR FENCE NEARER THE TRUNK. THE LIMITS OF CLEARING WILL STILL BE LOCATED AT THE DRIP LINE, SINCE THE ROOT ZONE WITHIN THE DRIP LINE WILL STILL REQUIRE PROTECTION.

C. CORD FENCE - POSTS WITH A MINIMUM SIZE OF 2 INCHES SQUARE OR 2 INCHES IN DIAMETER SET SECURELY IN THE GROUND AND PROTRUDING AT LEAST 4 FEET ABOVE THE GROUND SHALL BE PLACED AT THE LIMITS OF CLEARING WITH TWO ROWS OF CORD 1/4 INCH OR THICKER AT LEAST 2 FEET APART RUNNING BETWEEN POSTS WITH STRIPS OF COLORED SURVEYOR'S FLAGGING TIED SECURELY TO THE STRING AT INTERVALS NO GREATER THAN 3 FEET.

EQUIPMENT OPERATION AND STORAGE: HEAVY EQUIPMENT, VEHICULAR TRAFFIC, OR STOCKPILES OF ANY CONSTRUCTION MATERIALS INCLUDING TOPSOIL SHALL NOT BE STOCKPILED WITHIN THE DRIP LINE OF ANY TREE TO BE RETAINED. TREES BEING REMOVED SHALL NOT BE FELLED, PUSHED OR PULLED INTO TREES BEING RETAINED. EQUIPMENT OPERATORS SHALL NOT CLEAN ANY PART OF THEIR EQUIPMENT BY SLAMMING IT AGAINST THE TRUNKS OF TREES TO BE RETAINED.



**TREE PLANTING**



**EVERGREEN TREE PLANTING DETAIL**

NOTES: 1. TREE PITS SHALL BE 2' WIDER THAN ROOT BALL WIDTH.  
2. MULCH SHALL BE DOUBLE GROUND HARDWOOD BARK MULCH OR APPROVED EQUAL.

NOTES: 1. ALL TREE PITS SHALL PERCOLATE SUFFICIENTLY FOR PROPER TREE GROWTH. TEST EACH PIT.  
2. TREE PITS SHALL BE 2' WIDER THAN ROOT BALL FOR TREES SMALLER OR EQUAL TO 5" CALIPER, AND 4' WIDER FOR TREES OVER 5" CALIPER.

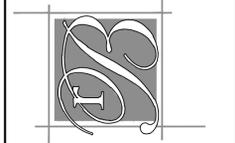
**PLANTING PROCEDURES**

1. THE LANDSCAPE CONTRACTOR SHALL FURNISH, DELIVER, MAINTAIN, AND INSTALL THE PLANT MATERIAL AND LAWN AS SHOWN ON THE PLANS IN A MANNER WHICH PRODUCES A PROFESSIONAL FINISHED PRODUCT ACCORDING TO THE BEST INDUSTRY STANDARDS AND PROCEDURES.
2. PLANTS FURNISHED SHALL BE NURSERY-GROWN STOCK AND COMPLY WITH THE AMERICAN ASSOCIATION OF NURSERMEN STANDARDS FOR NURSERY STOCK. FOR SIZES AND SPECIES SHOWN, PLANT MATERIAL MUST BE SELECTED FROM NURSERY(S) THAT HAVE BEEN INSPECTED BY STATE OR FEDERAL AGENCIES.
3. SOURCE OF PLANT MATERIALS SHALL BE WITHIN THE SAME PLANT HARDNESS ZONE AND HAVING SIMILAR CLIMATE CONDITIONS AS THE PROJECT AREA. ZONE SHALL BE AS DEFINED ON THE U. S. DEPARTMENT OF AGRICULTURE PLANT HARDNESS ZONE MAP. ALL PLANTS SHALL BE NURSERY-GROWN MATERIAL UNLESS OTHERWISE SPECIFIED.
4. MEASURE PLANT MATERIAL WHEN THE BRANCHES ARE IN THEIR NORMAL POSITION. NO PRUNING SHALL BE DONE BEFORE THE PLANT MATERIALS ARE DELIVERED TO THE SITE. PLANT MATERIAL SHALL BE NATURAL IN HABIT OF GROWTH AND BE FULL BODIED. PLANT MATERIAL SHALL POSSESS A NORMAL BALANCE BETWEEN HEIGHT AND SPREAD TYPICAL OF THE SPECIES.
5. THE ACCURACY OF SPECIES, VARIETIES AND QUANTITIES SPECIFIED FOR PLANT MATERIAL SHALL BE CONTRACTOR'S RESPONSIBILITY. QUANTITIES ARE SHOWN ON THE PLANS. PLANT LISTS (IF ANY) ARE FOR CONTRACTOR'S CONVENIENCE.
6. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL AT THE SITE THAT DOES NOT MEET SPECIFICATIONS.
7. ALL WORK SHALL BE IN ACCORDANCE WITH STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERMEN STANDARDS FOR REPRESENTATIVE SPECIES.
8. VERIFY THAT SITE IS READY FOR PLANTING PRIOR TO DELIVERY OF MATERIALS. INSTALL PLANTS AS PROMPTLY AS POSSIBLE, PREFERABLY THE SAME DAY AS DELIVERED. UNLESS PLANTED THE DAY OF DELIVERY, PILE EARTH OR MULCH AROUND THE EARTH BALL. KEEP THE PLANT BALL MOIST. PLANT MATERIALS WILL BE SUBJECT TO RE-INSPECTION BEFORE THEY ARE PLANTED.
9. PREVENT INJURY TO PLANT MATERIAL WHEN DIGGING, MOVING, UNLOADING AND TRANSPORTING. HANDLE ALL BALLED AND BURLAPPED PLANTS FROM ROOT BALL ONLY.
10. INSPECT PITS AND BEDS TO ASSURE THAT ADEQUATE DRAINAGE EXISTS. THE PERMEABILITY OF EACH PLANTING PIT AND BED SHALL BE TESTED. MINIMUM ACCEPTABLE PERCOLATION RATE SHALL BE TWO AND ONE-HALF INCHES (2 1/2") PER HOUR IN DRY CONDITIONS AND ONE AND ONE-HALF INCHES (1 1/2") PER HOUR IN WET CONDITIONS. THE OWNER SHALL BE IMMEDIATELY NOTIFIED IF THE PLANTING PITS FAIL TO PASS THE PERCOLATION TEST.
11. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY PLANT MATERIAL WHICH IS NOT IN VIGOROUS CONDITION BECAUSE OF POOR OR INADEQUATE DRAINAGE.
12. THE CONTRACTOR SHALL OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL FOR LAYOUT OF PLANT MATERIAL PRIOR TO INSTALLATION OF PLANTS. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, OR ANY OBSTACLES TO THE WORK ENCOUNTERED BY THE CONTRACTOR.
13. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL MUNICIPAL ORDINANCES AND PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR ALL APPLICABLE FEES, PERMITS, INSPECTIONS, AND NOTIFICATION OF LOCAL OFFICIALS AS REQUIRED.
14. THE CONTRACTOR SHALL NOTIFY ALL UTILITIES BEFORE ANY EXCAVATION OCCURS ACCORDING TO ACT 38.
15. PLANTING MIXTURE FOR ALL TREE AND SHRUB BACKFILL SHALL BE A MIXTURE BY VOLUME OF THE FOLLOWING MATERIALS IN QUANTITIES SPECIFIED: 1/4 PEAT MOSS, 1/2 TOPSOIL, 1/4 COARSE SAND, AND THE FERTILIZER PER CUBIC YARD OF PLANTING MIXTURE. PLANTING MIXTURE SHALL NOT BE USED IN A FROZEN OR MUDDY CONDITION.
  - 16.1. TREES LESS THAN FIVE (5) INCHES CALIPER - 2 FEET - 0 INCHES WIDER THAN BALL WIDTH AND SIX (6) INCHES DEEPER THAN BALL DEPTH.
  - 16.2. SHRUBS SMALLER THAN FIVE (5) FEET HIGH - 1 FOOT - 6 INCHES WIDER AND SIX (6) INCHES DEEPER THAN BALL DEPTH.
17. BEFORE PLACING PLANT MATERIAL INTO PITS, SCARIFY BOTTOM AND SIDES AND PLACE A SIX INCH DEPTH LAYER OF PLANTING MIXTURE. TAMP TO PREVENT SETTLEMENT. SET PLANT PLUMB AND STRAIGHT IN THE CENTER OF THE PIT. PLANTS SHALL HAVE THE SAME RELATIONSHIP TO FINISHED GRADE AS THEY HAD TO EXISTING GRADE IN THE NURSERY. REMOVE BURLAP FROM SIDES AND TOP OF TREES OR SHRUBS. REMOVE CONTAINER PLANTS FROM THEIR PLASTIC OR METAL CONTAINERS AND PROPERLY DISPOSE OF THE CONTAINERS.
18. USE PLANTING MIXTURE FOR BACKFILL AROUND TREE OR SHRUB BALL. WHEN PLANT PITS ARE APPROXIMATELY 2/3 FULL, THOROUGHLY WATER AND LEAVE TO SOAK BEFORE PROCEEDING. COMPLETE BACKFILLING SIDES OF PLANTING PIT, TAMP FIRMLY AND WATER THOROUGHLY. SHOULD SETTLEMENT OCCUR, ADD MORE PLANTING MIXTURE.
19. GUY AND STAKE TREES USING STAKES AND WIRE. PASS WIRE THROUGH HOSE SO THAT WIRE DOES NOT COME IN CONTACT WITH TREE. PLACE HOSE AROUND THE TRUNK AT THE HEIGHT SHOWN ON PLANTING DETAILS. TWIST WIRE AT HOSE TO KEEP FIRMLY IN PLACE. SPACE STAKES EVENLY AROUND THE OUTSIDE OF TREE PIT AND DRIVE EACH FIRMLY INTO GROUND.
20. PLANTS SHALL BE PLUMB, STRAIGHT, AND STABLE AFTER GUYING. PROVIDE SOIL SAUCER AROUND PLANTING PITS AS SHOWN ON PLANTING DETAILS. ALL PRUNING SHALL BE IN ACCORDANCE WITH THE NATIONAL ARBORIST ASSOCIATION STANDARDS FOR PRUNING OF SHADE TREES AND SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT BEFORE WORK BEGINS.
21. MULCH TREE, SHRUB AND MASS SHRUB PLANTING AREAS. MINIMUM DEPTH OF MULCH SHALL BE TWO (2) INCHES. MULCH AREAS WITHIN 48 HOURS AFTER PLANTING.
22. THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL IMMEDIATELY AFTER PLANTING AND UNTIL ACCEPTANCE BY THE OWNER. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, WEEDING, MULCHING, CONTROL OF INSECTS AND DISEASES, PRUNING, AND OTHER HORTICULTURAL OPERATIONS FOR PROPER GROWTH AND APPEARANCE OF PLANT MATERIALS AND BEDS, INCLUDING FERTILIZING IF REQUIRED.
23. GUARANTEE PLANTING WORK FOR ONE (1) CALENDAR YEAR FROM DATE OF ACCEPTANCE.
24. INSPECTION OF THE WORK TO DETERMINE ITS COMPLETION FOR BEGINNING THE GUARANTEE PERIOD WILL BE MADE BY THE OWNER AND LANDSCAPE ARCHITECT UPON WRITTEN NOTICE REQUESTING SUCH INSPECTION SUBMITTED BY THE CONTRACTOR AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED DATE.
25. THE CONTRACTOR SHALL REPLACE, IN ACCORDANCE WITH LANDSCAPE PLANS, ANY PLANTINGS THAT DIE OR, IN THE OPINION OF A LANDSCAPE ARCHITECT, ARE IN AN UNHEALTHY OR UNSIGHTLY CONDITION AND/OR HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING, INADEQUATE OR IMPROPER MAINTENANCE, OR ANY OTHER CAUSES DUE TO NEGLIGENCE. THE CONTRACTOR SHALL NOT BE HELD RESPONSIBLE FOR ACTS OF VANDALISM OCCURRING AFTER THE COMMENCEMENT OF THE GUARANTEE PERIOD.

NO.	REVISIONS
1.	

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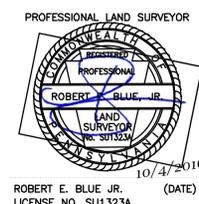
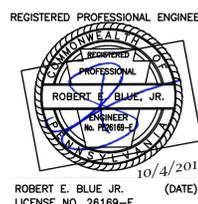
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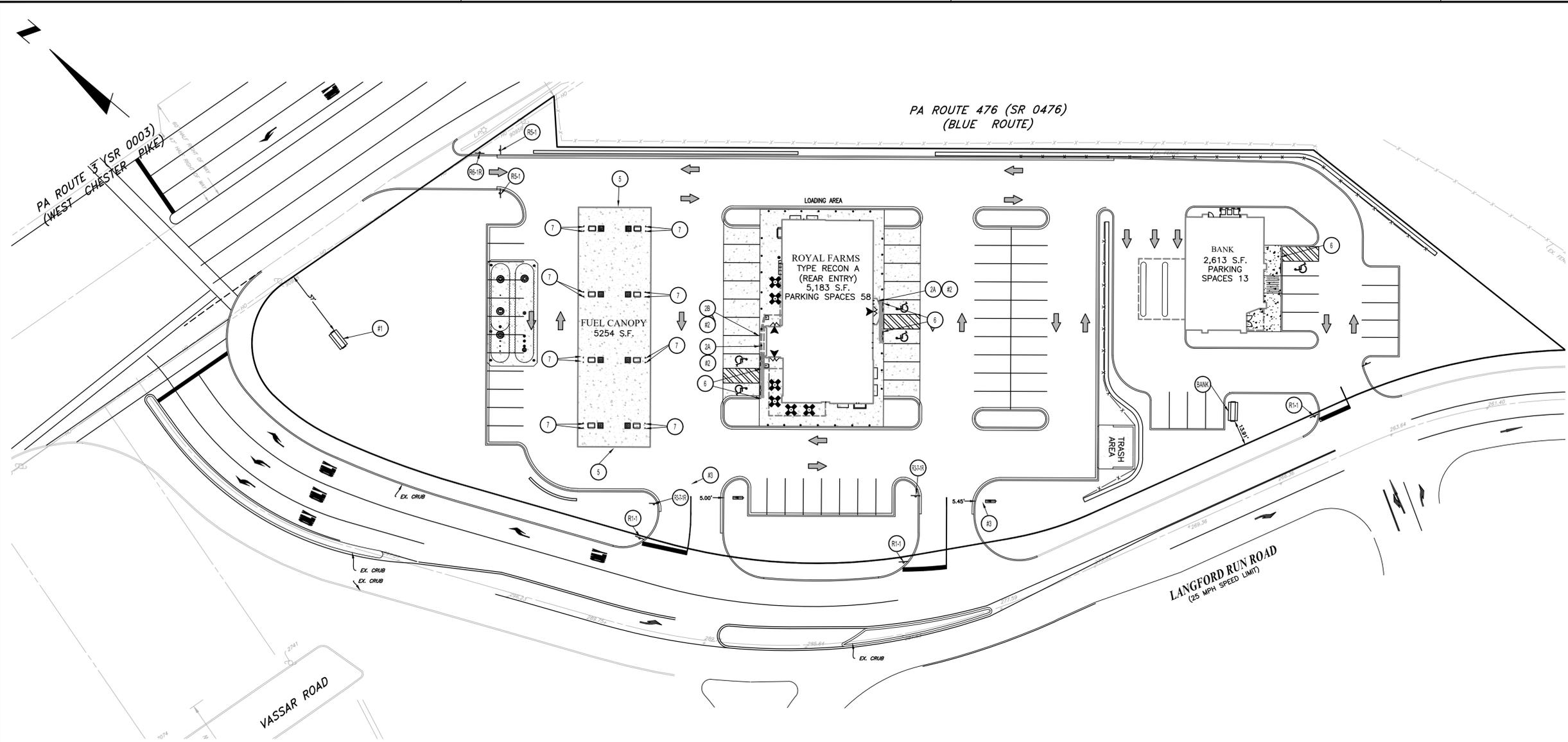
**LANDSCAPING DETAILS**

ROYAL FARMS #195  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
ROYAL FARMS  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211



DRAWN BY: RBC	CHECKED BY: RBC	SCALE: N.T.S.
DATE: 9/9/2016	JOB NUMBER: 2012-2E	SHEET NUMBER: 9 of 32



SIGN REQUIREMENTS			
SECTION	DESCRIPTION	REQUIREMENTS (SQ. FT.)	PROVIDED (SQ. FT.)
300.43.1.D.(1)(a)[1]	MAX. SURFACE DISPLAY AREA OF SIGN	250	124
300.43.1.D.(1)(a)[2]	MAX. SIGN HEIGHT	25	25
300.43.1.D.(1)(a)[3]	SIGN SHALL NOT OVERHANG ANY PARKING AREA, DRIVE, OR PEDESTRIAN WALKWAY OR BE CLOSER THAN 5 FEET FROM RIGHT-OF-WAY	5	5
300.43.1.D.(1)(d)[1][a]	AREA OF WALL-MOUNTED SIGNS ON THE FACADE OF A BUILDING SHALL NOT EXCEED ONE SQUARE FOOT OF A SIGN AREA FOR EVERY 10 SQUARE FEET OF THE WALL, INCLUDING WINDOWS, DOOR AND CORNICES, OR 300 SQUARE FEET, WHICHEVER IS LESS	ROYAL FARMS FACADE AREA = 2,292 S.F. USE 229	74.10
300.43.1.D.(1)(d)[1][b]	AREA OF WALL-MOUNTED SIGNS ON OTHER FACADE OF A BUILDING SHALL NOT EXCEED 0.5 SQUARE FOOT OF A SIGN AREA FOR EVERY 10 SQUARE FEET OF THE WALL, INCLUDING WINDOWS, DOOR AND CORNICES, OR 100 SQUARE FEET, WHICHEVER IS LESS	FUEL CANOPY AREA = 480 S.F.; USE 100	48.80
300.43.1.D.(1)(d)[2]	WALL-MOUNT SIGNS SHALL BE INSTALLED PARALLEL TO THE SUPPORTING WALL AND PROJECT NO MORE THAN 18 INCHES FROM THE FACE OF SUCH WALL AND NOT EXTEND ABOVE THE ROOF LINE OF BUILDING.		NA
300.43.1.D.(1)(e)[2]	MAX. SIGN HEIGHT	5	4.13
300.43.1.D.(1)(e)[3]	EACH SIGN SHALL BE SET BACK A MIN. OF 5 FEET FROM CURB OR EDGE OF PAVEMENT. THE SIGN SHALL NOT BE INSTALLED IN A SIGHT TRIANGLE.	5	5
300.43.1.D.(1)(f)	TRAFFIC CONTROL SIGN: EACH SIGN SHALL NOT EXCEED 7 SF. IN SIZE	7	4

SIGNAGE TABLE				
QUANTITY	SYMBOL	DESCRIPTION	AREA OF THE SIGN (SQ. FT.)	TOTAL AREA OF SIGN (SQ. FT.)
3	R1-1	STOP SIGN		
2	R3-7-1R	ALL TRAFFIC MUST TURN RIGHT SIGN		
2	RS-1	DO NOT ENTER SIGN		
1	R6-1R	ONEWAY (RIGHT)		
1	#1	GOAL POST (ROYAL FARMS)	124	124.00
2	#2	ROYAL FARMS CHANNEL LETTERS	37.05	74.10
1	2A	ROYAL FARMS CHANNEL LETTERS	37.05	37.05
1	2B	FRESH KITCHEN LETTERS	11.75	11.75
2	#3	STANDARD DIRECTIONAL SIGN	4.00	8.00
2	#5	CANOPY SIGN	35.6	71.20
5	#6	HANDICAP PARKING SIGN DETAIL		
16	#7	PUMP DESIGNATOR BLADE SIGN	0.87	13.92
			PROP. TOTAL AREA = 340.02 SQ. FT.	

NOTE: \* PAVEMENT MARKING WITHIN LANGFORD RUN ROAD AND ROUTE 3 SHALL BE THERMO PLASTIC.

IMPROVEMENTS SHOWN WITHIN LANGFORD RUN ROAD RIGHT-OF-WAY AND WEST CHESTER PIKE (SR 0003) RIGHT-OF-WAY ARE SCHEMATIC FOR INFORMATIONAL PURPOSES ONLY. PROPOSED IMPROVEMENTS, EXCLUDING CURB RETURNS, ARE NOT A PART OF THIS DEVELOPMENT PROJECT. THE INFORMATION SHOWN IS TAKEN FROM PLANS PREPARED BY CHESTER VALLEY ENGINEERS, INC.

REGISTERED PROFESSIONAL ENGINEER  
  
 ROBERT E. BLUE, JR.  
 LICENSE NO. 26169-E

PROFESSIONAL LAND SURVEYOR  
  
 ROBERT E. BLUE, JR.  
 LICENSE NO. SU1323A

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SIGNAGE PLAN

ROYAL FARMS #195  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
 ROYAL FARMS  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211

DATE: 9/9/2016  
 CHECKED BY: REB  
 SCALE: 1"=30'

SHEET NUMBER: 10 OF 32

**811**  
 PENNSYLVANIA ONE CALL  
 DIAL 8-1-1 or 1-800-242-1776  
 BEFORE YOU DIG

CONTRACTORS ARE REQUIRED TO CONTACT UTILITY USERS NOT LESS THAN 3 DAYS NOR MORE THAN 10 DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK. INFORMATION ON THESE PLANS CONCERNING UTILITIES IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

SERIAL #: 20152472496  
 DATE: SEPTEMBER 4, 2015

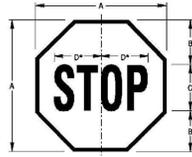
LAST SAVED: 04/09/2016 10:42:21 AM (10/4/2016 10:42:21 AM)

**R1-1**  
STOP SIGN

(a) Justification. The Stop Sign (R1-1) is authorized for use on those streets or highways which intersect with a through highway or at a stop intersection as designated by the Department with reference to State-designated highways or local authorities with reference to highways under their jurisdiction. The R1-1 sign is also authorized for use in work zones involving one-lane, two-way roadways. All intersections where all approaches are controlled by an R1-1 sign, a supplemental plaque (R1-3) or R1-4 shall be mounted below each R1-1 sign.

(b) Authorization. Before local authorities designate any highway as a through highway or stop intersection which will intersect or affect a State-designated highway, approval of such designation shall first be obtained from the Department. Approval to install R1-1 signs in work zones shall not require the approval of the Department or local authorities when the conditions stipulated in Publication 203M (relating to work zone traffic control) are satisfied.

(c) Size. The standard size R1-1 sign shall be 750 mm by 750 mm (30" x 30"), however, on low-speed minor roads and secondary streets, a 600 mm by 600 mm (24" x 24") sign may be used.



DIMENSIONS - mm (IN)									
SIGN SIZE A x B	B	C	D	E	F	G	H	J	BLANK STD.
600 x 600	200	200	254	15	15	15	15	15	BS-400
750 x 750	250	250	318	18	18	18	18	18	BS-500
900 x 900	300	300	381	21	21	21	21	21	BS-600
1050 x 1050	350	350	445	24	24	24	24	24	BS-700
1200 x 1200	400	400	508	27	27	27	27	27	BS-800
1350 x 1350	450	450	572	30	30	30	30	30	BS-900
1500 x 1500	500	500	635	33	33	33	33	33	BS-1000

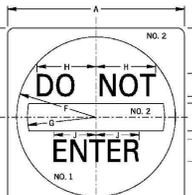
REDUCE SPACING 40%  
COLOR:  
LEGEND AND BORDER: WHITE (REFLECTORIZED)  
BACKGROUND: RED (REFLECTORIZED)

**R5-1**  
DO NOT ENTER SIGN

(a) Justification. The Do Not Enter Sign (R5-1) shall be authorized for use to prohibit traffic from entering a restricted road section.

(b) Placement. The R5-1 sign should normally be mounted on the right-hand side of the roadway, facing traffic entering the roadway or ramp in the wrong direction. However, a second sign on the left-hand side of the roadway may be justified, particularly where traffic may be approaching in a turn.

(c) Size. The standard size of the R5-1 sign shall be 750 mm by 750 mm (30" x 30"). The standard size for expressways shall be 900 mm by 900 mm (36" x 36").



DIMENSIONS - mm (IN)									
SIGN SIZE A x B	B	C	D	E	F	G	H	J	BLANK STD.
750 x 750	250	250	318	15	15	15	15	15	BS-750
900 x 900	300	300	381	18	18	18	18	18	BS-900
1050 x 1050	350	350	445	21	21	21	21	21	BS-1050
1200 x 1200	400	400	508	24	24	24	24	24	BS-1200
1350 x 1350	450	450	572	27	27	27	27	27	BS-1350
1500 x 1500	500	500	635	30	30	30	30	30	BS-1500

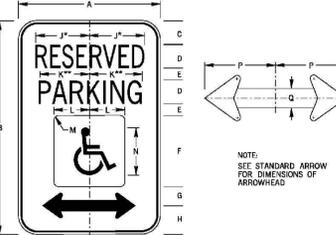
LEGEND: WHITE (REFLECTORIZED)  
BACKGROUND: RED (REFLECTORIZED)

**R7-8**  
RESERVED PARKING SIGN

The Reserved Parking Sign (R7-8) is authorized to mark the location of a parking space which is reserved for handicapped persons or severely disabled veterans.

When used the R7-8 sign should generally be installed at the front of each reserved parking stall except in the case of parallel parking, it should be installed at intervals not exceeding 30 m (100') along the side of the stalls. When installed at the front of the parking stalls, the single or double headed arrow may be omitted from the R7-8 sign and the message may be spaced accordingly.

The Reserved Parking Placard Sign (R7-8P) shall be posted in conjunction with the R7-8 sign. When used, the R7-8P sign shall be placed below the R7-8 sign.



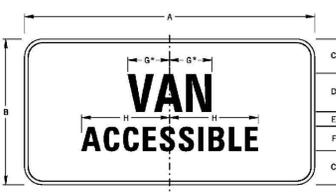
DIMENSIONS - mm (IN)										
SIGN SIZE A x B	B	C	D	E	F	G	H	J	BLANK STD.	
600 x 450	50	50	150	40	60	120	100	75	10	100
750 x 525	63	63	188	50	75	150	125	94	13	125
900 x 600	75	75	225	60	90	180	150	113	16	150
1050 x 675	90	90	263	72	108	216	175	136	19	175
1200 x 750	105	105	300	84	126	252	200	150	23	200
1350 x 825	120	120	338	100	150	280	225	169	27	225
1500 x 900	135	135	375	120	180	315	250	188	30	250

LEGEND, ARROW AND BORDER: GREEN (REFLECTORIZED)  
BACKGROUND AND SYMBOL: WHITE (REFLECTORIZED)  
SYMBOL BACKGROUND: BLUE (REFLECTORIZED)

**R7-8B**  
VAN ACCESSIBLE SIGN

The Van Accessible Sign (R7-8B) may be used as a supplemental sign to indicate that a parking space reserved with the Reserved Parking Sign (R7-8) is of sufficient size for use by the disabled to accommodate vans displaying a handicapped or severely disabled veteran registration (plate or placard).

One in every eight reserved parking spaces for the disabled, but not less than one, shall be designated with the R7-8B sign. When used, the R7-8B sign shall be placed immediately below the Reserved Parking Sign (R7-8).



ELEVATION OF TO BOTTOM OF THE RESERVED PARKING SIGN / VAN SIGN (WHICH EVER IS LOWER) TO BE 6" ABOVE THE ADJACENT GRADE OF THE PARKING STALL.

DIMENSIONS - mm (IN)									
SIGN SIZE A x B	B	C	D	E	F	G	H	J	BLANK STD.
600 x 450	50	50	150	40	60	120	100	75	10
750 x 525	63	63	188	50	75	150	125	94	13
900 x 600	75	75	225	60	90	180	150	113	16
1050 x 675	90	90	263	72	108	216	175	136	19
1200 x 750	105	105	300	84	126	252	200	150	23
1350 x 825	120	120	338	100	150	280	225	169	27
1500 x 900	135	135	375	120	180	315	250	188	30

LEGEND AND BORDER: WHITE (NON-REFLECTORIZED)  
BACKGROUND: BLUE (REFLECTORIZED)

**R6-1L**  
HORIZONTAL LEFT ONE-WAY SIGN

(a) Justification. The Horizontal Left One-Way Sign (R6-1L) shall be authorized for use to indicate a street, roadway, or alley upon which vehicular traffic is permitted to travel in only one direction.

(b) Placement. At unsignalized intersections, the R6-1L sign shall be placed on the near right-hand side and the far left-hand corner of the intersection so as to face traffic entering or crossing the one-way street. At signalized intersections, the R6-1L sign shall be placed either near the appropriate signal face, on poles holding the traffic signals, on mast arm or span wire holding the signals, or at the locations specified for unsignalized intersections.

(c) Size. The standard size of the R6-1L sign shall be 900 mm by 300 mm (36" x 12"). The standard size for expressways shall be 1350 mm by 450 mm (54" x 18").



DIMENSIONS - mm (IN)									
SIGN SIZE A x B	B	C	D	E	F	G	H	J	BLANK STD.
900 x 300	75	30	200	50	25	125	125	125	BS-900
1350 x 450	113	45	300	75	38	188	188	188	BS-1350
1800 x 600	150	60	400	100	50	250	250	250	BS-1800
2250 x 750	188	75	500	125	63	313	313	313	BS-2250
2700 x 900	225	90	600	150	75	375	375	375	BS-2700
3150 x 1050	263	105	700	175	88	438	438	438	BS-3150
3600 x 1200	300	120	800	200	100	500	500	500	BS-3600
4050 x 1350	338	135	900	225	113	563	563	563	BS-4050
4500 x 1500	375	150	1000	250	126	625	625	625	BS-4500

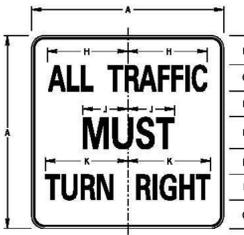
LEGEND AND BORDER: WHITE (REFLECTORIZED)  
BACKGROUND AND LEGEND: BLACK (NON-REFLECTORIZED)

**R3-7-1R**  
ALL TRAFFIC MUST TURN RIGHT SIGN

The All Traffic Must Turn Right Sign (R3-7-1R) may be used when traffic in all lanes of an approach to an intersection must turn right and may also be used as a supplement to the overhead Right Turn Sign (R3-0R).

When used, the R3-7-1R sign should be placed at the intersection with a second sign at adequate distance in advance of the intersection. When used as a supplement to the R3-0R sign, it should be placed at adequate distance in advance of the intersection.

The standard size of the R3-7-1R sign shall be 750 mm by 750 mm (30" x 30").



DIMENSIONS - mm (IN)									
SIGN SIZE A x B	B	C	D	E	F	G	H	J	BLANK STD.
750 x 750	113	100	100	125	100	113	113	113	BS-750
900 x 900	135	120	120	150	120	135	135	135	BS-900
1050 x 1050	158	140	140	175	140	158	158	158	BS-1050
1200 x 1200	180	160	160	200	160	180	180	180	BS-1200
1350 x 1350	203	180	180	225	180	203	203	203	BS-1350
1500 x 1500	225	200	200	250	200	225	225	225	BS-1500
1650 x 1650	248	220	220	275	220	248	248	248	BS-1650
1800 x 1800	270	240	240	300	240	270	270	270	BS-1800
1950 x 1950	293	260	260	325	260	293	293	293	BS-1950
2100 x 2100	315	280	280	350	280	315	315	315	BS-2100

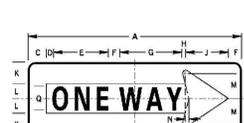
LEGEND AND BORDER: BLACK (NON-REFLECTORIZED)  
BACKGROUND: WHITE (REFLECTORIZED)

**R6-1R**  
HORIZONTAL RIGHT ONE-WAY SIGN

(a) Justification. The Horizontal Right One-Way Sign (R6-1R) shall be authorized for use to indicate a street, roadway, or alley upon which vehicular traffic is permitted to travel in only one direction.

(b) Placement. At unsignalized intersections, the R6-1R sign shall be placed on the near right-hand side and the far left-hand corner of the intersection so as to face traffic entering or crossing the one-way street. At signalized intersections, the R6-1R sign shall be placed either near the appropriate signal face, on poles holding the traffic signals, on mast arm or span wire holding the signals, or at the locations specified for unsignalized intersections.

(c) Size. The standard size of the R6-1R sign shall be 900 mm by 300 mm (36" x 12"). The standard size for expressways shall be 1350 mm by 450 mm (54" x 18").



DIMENSIONS - mm (IN)									
SIGN SIZE A x B	B	C	D	E	F	G	H	J	BLANK STD.
900 x 300	75	30	200	50	25	125	125	125	BS-900
1350 x 450	113	45	300	75	38	188	188	188	BS-1350
1800 x 600	150	60	400	100	50	250	250	250	BS-1800
2250 x 750	188	75	500	125	63	313	313	313	BS-2250
2700 x 900	225	90	600	150	75	375	375	375	BS-2700
3150 x 1050	263	105	700	175	88	438	438	438	BS-3150
3600 x 1200	300	120	800	200	100	500	500	500	BS-3600
4050 x 1350	338	135	900	225	113	563	563	563	BS-4050
4500 x 1500	375	150	1000	250	126	625	625	625	BS-4500

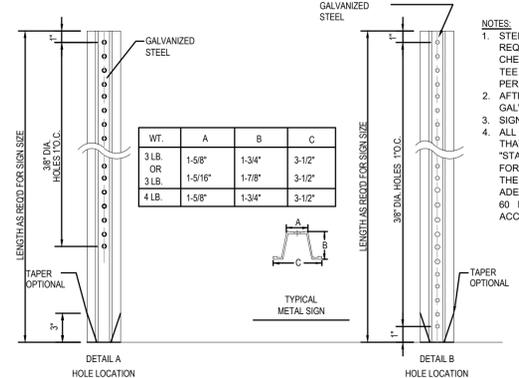
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BACKGROUND AND LEGEND: BLACK (NON-REFLECTORIZED)

**GENERAL NOTES**

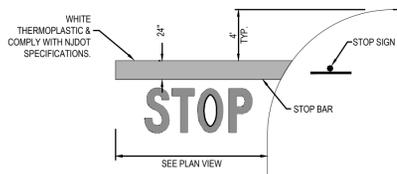
- MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE DEPARTMENT'S SPECIFICATIONS, FORM 40B.
- THESE PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE REGULATIONS GOVERNING THE DESIGN, LOCATION, AND OPERATION OF ALL OFFICIAL TRAFFIC SIGNS, SIGNALS, AND MARKINGS ON AND ALONG HIGHWAYS WITHIN THE COMMONWEALTH OF PENNSYLVANIA.
- ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED.
- THE CONTRACTOR SHALL PREPARE THE PAVEMENT SURFACE FOR THE PROPER ADHESION. ANY SWEEPING OR REMOVAL OF DIRT, GRAVEL, SAND, OR OTHER FOREIGN MATERIALS SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE NEW PAVEMENT MARKINGS, AND NO SEPARATE PAYMENT WILL BE MADE THEREFOR.
- THE CONTRACTOR SHALL REMOVE ALL PREVIOUS PAVEMENT MARKINGS, WHICH IN THE OPINION OF THE ENGINEER CONFLICT WITH THE NEW PAVEMENT MARKINGS. UNLESS SPECIFICALLY STATED OTHERWISE THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE NEW PAVEMENT MARKINGS AND NO SEPARATE PAYMENT WILL BE MADE THEREFOR.
- THE CONTRACTOR SHALL NOTE ALL SPECIAL PROVISIONS OF THE CONTRACT AND SPECIFICALLY WITH REGARD TO THE RATE OF APPLICATION, MAINTENANCE OF TRAFFIC, RESTRICTED WORKING HOURS, AND/OR RESTRICTED WEATHER CONDITIONS. NO DEVIATIONS WILL BE PERMITTED.
- UNLESS SPECIFIED OTHERWISE, THE BASIS OF MEASUREMENT SHALL BE ALONG THE LONGITUDINAL CENTERLINE OF PAVEMENT. MEASUREMENT FOR LEGENDS SHALL BE PER MESSAGE, COMPLETE AND IN PLACE.
- PRIOR TO APPLICATION, THE CONTRACTOR SHALL FIELD CHECK AND LOCATE ALL PAVEMENT MARKINGS TO THE SATISFACTION OF THE PENNDOT INSPECTOR.
- ALL MARKINGS IMPROPERLY APPLIED OR LOCATED SHALL BE COMPLETELY REMOVED AND CORRECTLY RE-APPLIED, AT THE SOLE EXPENSE OF THE CONTRACTOR.
- WHERE BITUMINOUS SEALANTS PREVENTS OR MAKES IMPRACTICAL THE EXTENDING OF LINES TO THE FACE OF THE CURB, THE CONTRACTOR SHALL EXTEND LINES TO EDGE OF SEALANT OR WITHIN ONE FOOT OF THE FACE OF CURB, WHICHEVER IS LESS.

**NOTES:**

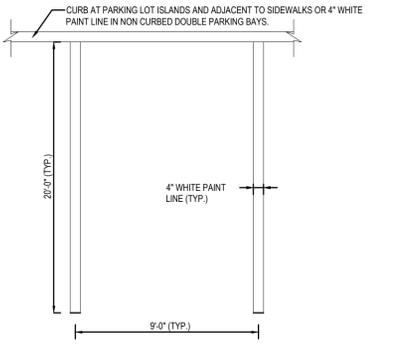
- LANE, EDGE AND CENTER LINES**
- MAKE ALL LANE LINES, EITHER SOLID OR BROKEN WHITE, 4" MINIMUM WIDE WHEN ADDITIONAL LANES ARE ADDED TO WHAT IS OTHERWISE A TWO-LANE, TWO-WAY HIGHWAY AND 6" WIDE ON ALL MULTI-LANE HIGHWAYS.
  - LANE LINES ON AN APPROACH TO A SIGNALIZED INTERSECTION SHALL BE SOLID WHITE FOR A DISTANCE OF 150' MEASURED FROM THE STOP BAR.
  - LANE LINES THAT DELINEATE THE EDGE OF A TURNING LANE ARE TO BE SOLID WHITE LINES WITH A LENGTH EQUAL 2X'S, BUT NOT LESS THAN 1/3 THE LENGTH OF THE TURN LANE, MEASURED FROM THE STOP BAR.
  - MAKE EDGE LINES SOLID WHITE LINES 4" WIDE, EXCEPT USE SOLID YELLOW LINES WHEN ADJACENT TO A MEDIAN WHICH SEPARATES OPPOSING DIRECTIONS OF VEHICULAR TRAFFIC FLOW.
  - ON TWO-LANE, TWO-WAY HIGHWAYS, THE CENTER LINES ARE YELLOW, 4" WIDE EITHER SOLID, BROKEN OR A COMBINATION THEREOF. A SOLID BARRIER LINE SHALL PRECEDE ALL CONTROLLED INTERSECTIONS BY THE MINIMUM DISTANCE NOTED IN TABLE A.
  - ON FOUR (4) OR MORE LANE UNDIVIDED HIGHWAYS, FOR CENTER LINES USE THE TWO-WAY BARRIER LINE.
  - "CENTER LANE LEFT TURN ONLY" MARKINGS ARE TWO (2) SETS OF ONE-WAY BARRIER LINES WITH BROKEN YELLOW LINES INSIDE OF THE SOLID YELLOW LINES.
  - EXTEND THE LANE LINES, EDGE LINES AND/OR CENTER LINES A DISTANCE OF 150' FROM THE STOP BAR ON MINOR APPROACHES, WHERE CONDITIONS PERMIT.
- STOP LINE**
- STOP LINES ARE SOLID WHITE LINES THAT COMPLETELY TRAVERSE EACH TRAFFIC LANE. AT AN INTERSECTION WITH A STOP SIGN, THE STOP LINE SHOULD BE PLACED AT A LOCATION NO LESS THAN 4', OR MORE THAN 30' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY TO ENSURE MAXIMUM SIGHT DISTANCE TO VEHICLES ON THE CROSSING ROAD. WHEN USED ON MULTI-LANE APPROACH TO A SIGNALIZED INTERSECTION, THE STOP LINE MAY BE STAGGERED TO ASSIST TURNING VEHICLES AND TO IMPROVE SIGHT DISTANCE FOR MOTORIST DESIRING TO MAKE A TURN ON RED.
  - LOCATE STOP LINES AT A MINIMUM OF 4' IN ADVANCE OF AND PARALLEL TO THE CROSSWALK LINES UNLESS OTHERWISE NOTED.



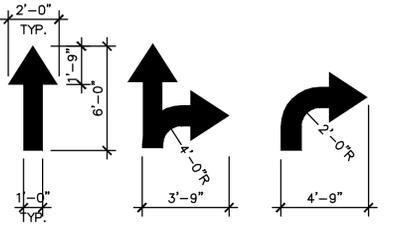
**TYPICAL METAL SIGN POST DETAIL**



**STOP BAR GRAPHIC**



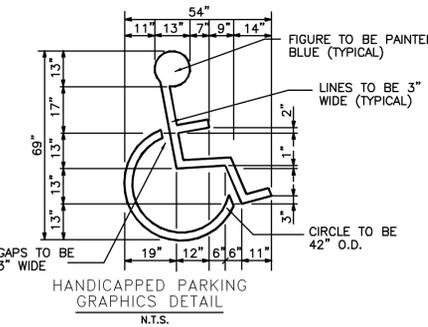
**TYPICAL PARKING SPACE DETAIL**



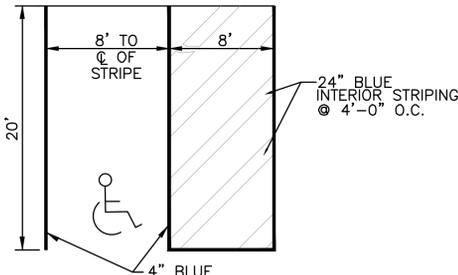
**PAINTED TRAFFIC ARROWS**

REVERSE ARROWS FOR OPPOSITE DIRECTION OF FLOW  
ALL FLOW ARROWS TO BE SOLID YELLOW THERMOPLASTIC & COMPLY WITH NJDOT SPECIFICATIONS.

SCALE: N.T.S.



HANDICAPPED PARKING GRAPHICS DETAIL  
N.T.S.



**STANDARD ACCESSIBLE DIMENSIONING**

A U.S. DEPARTMENT OF TRANSPORTATION R7-8 (RESERVED PARKING) AND SUPPLEMENTAL SIGNS AS NOTED ABOVE MUST BE MOUNTED ON A PERMANENT POST NO LOWER THAN FOUR FEET FROM THE PAVEMENT. THE POST MUST BE MOUNTED IN THE CENTER OF THE 9 FOOT WIDE ACCESSIBLE PARKING SPACE, 30 INCHES FROM THE FRONT OF THE PARKING SPACE (PLACE SIGN OUTSIDE OF WALKWAYS). SEE ILLUSTRATION ABOVE.

THE ACCESS AISLE SHALL BE DESIGNATED WITH HIGH QUALITY BLUE DIAGONAL SURFACE PAINT STRIPING.

RAMPS MUST NOT EXTEND OUT FROM THE CURB INTO THE ACCESS AISLE OF ANY ACCESS PARKING SPACE.

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**ROYAL FARMS #195**  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
COMMONWEALTH OF PENNSYLVANIA

**ROYAL FARMS**  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211

REGISTERED PROFESSIONAL ENGINEER  
REGISTERED PROFESSIONAL LAND SURVEYOR

ROBERT E. BLUE, JR.  
LICENSE NO. 26169-E

ROBERT E. BLUE, JR.  
LICENSE NO. SU1323A

DATE: 9/9/2016  
JOB NUMBER: 2012-2E  
SHEET NUMBER: 11 OF 32



1 PYLON SIGN W/FUEL  
NOT TO SCALE



CABINET: 0.40 ALUMINUM WITH ACRYLIC LETTER. ILLUMINATED WITH NEON.  
 INSTALLATION: WALL MOUNT. CONCRETE SCREWS AS SHOWN IN #2.  
 TOTAL SIGN SQUARE FOOTAGE: 37.05'

2 ROYAL FARMS CHANNEL LETTERS  
NOT TO SCALE



@ FRONT TRELLIS

FONT: COPPERPLATE GOTHIC BOLD  
 COLOR: ROYAL/NOT COPPER/RED  
 NOTE: FIRST LETTER OF EACH WORD ARE EMPHASIZED. ALL OTHER LETTERS ARE LOWERCASE  
 TOTAL SIGN SQUARE FOOTAGE: 37.05

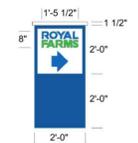
2A FRESH KITCHEN LETTERS  
NOT TO SCALE



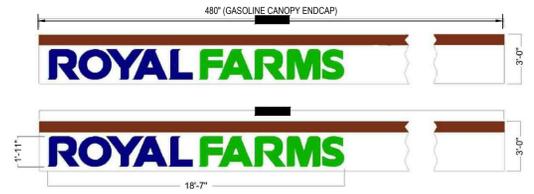
@ REAR ENTRY CANOPY

FONT: COPPERPLATE GOTHIC BOLD  
 COLOR: ROYAL/NOT COPPER/RED  
 NOTE: FIRST LETTER OF EACH WORD ARE EMPHASIZED. ALL OTHER LETTERS ARE LOWERCASE  
 TOTAL SIGN SQUARE FOOTAGE: 11.75

2B FRESH KITCHEN LETTERS  
NOT TO SCALE



3 STANDARD DIRECTIONAL SIGN  
NOT TO SCALE



TOTAL SIGN SQUARE FOOTAGE: 35.6

4 CANOPY SIGNS  
NOT TO SCALE



LEGEND AND BORDER - GREEN  
 BACKGROUND - WHITE  
 SIGN SHALL BE R7-8 (12'X18')



WHITE SYMBOL ON BLUE  
 BACKGROUND

WHERE APPLICABLE LEGEND -  
 GREEN  
 BACKGROUND - WHITE  
 (RETROFLECTIVE)  
 PROVIDE VAN ACCESSIBLE SIGN  
 R7-8a  
 (12'X6') WHERE REQUIRED



LEGEND - BLACK  
 BACKGROUND - WHITE  
 (REFLECTIVE)  
 SIGN SHALL BE R7-8P  
 (10'X12')

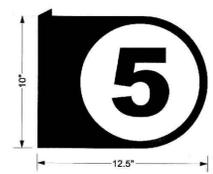
FINE VARIES PER  
 JURISDICTION

BREAKAWAY POST

NOTE:

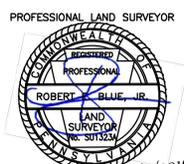
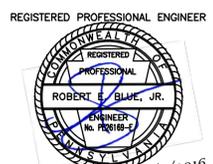
1. SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. SIGNS ATTACHED WITH ACORN NUT TYPE FASTENERS.

#6 HANDICAP PARKING SIGN DETAIL  
NOT TO SCALE



TOTAL SIGN SQUARE FOOTAGE: 0.87

#7 PUMP DESIGNATOR BLADE SIGN  
NOT TO SCALE



ROBERT E. BLUE JR. (DATE) 10/4/2016  
 LICENSE NO. 26169-E

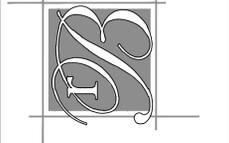
ROBERT E. BLUE JR. (DATE) 10/4/2016  
 LICENSE NO. S01323A

REVISIONS

1.	
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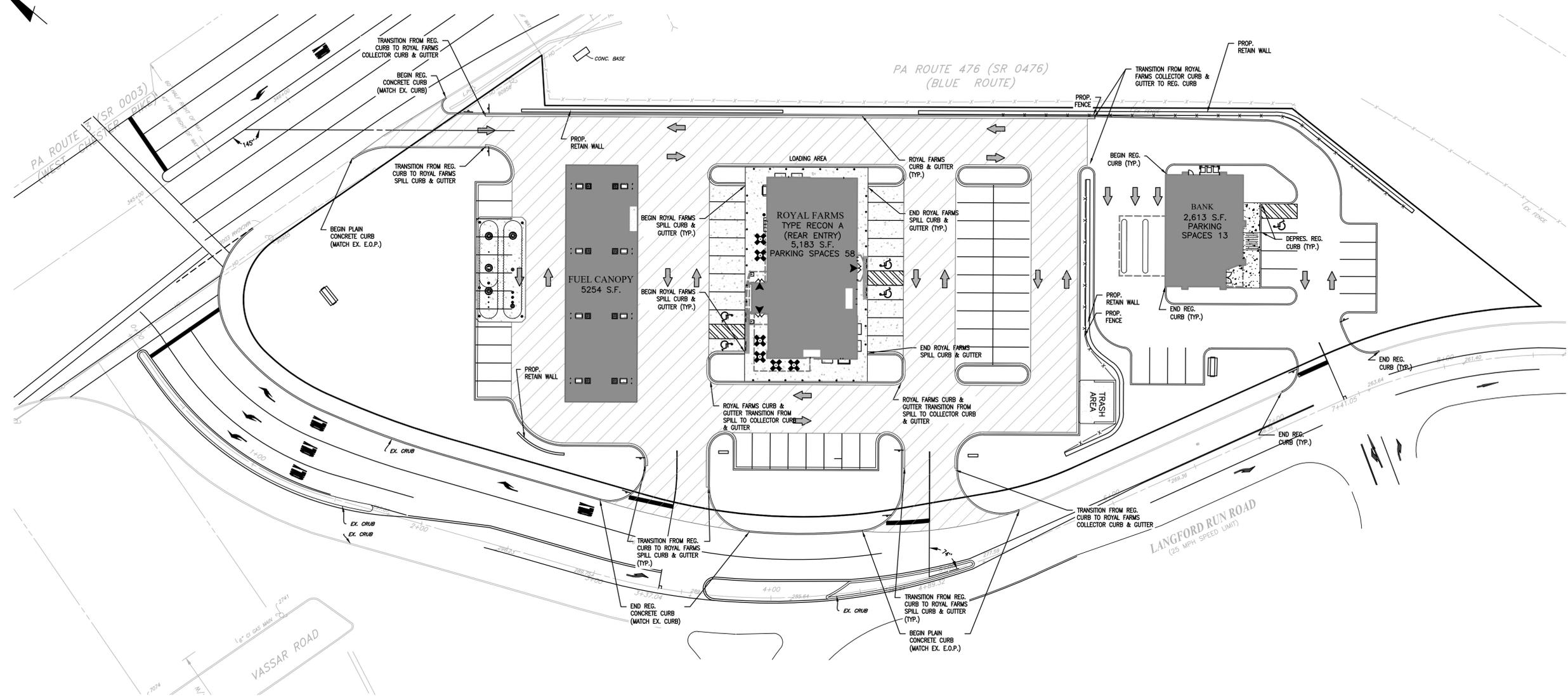


ROYAL FARMS SIGNAGE DETAILS

ROYAL FARMS #195  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
 ROYAL FARMS  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211

DRAWN BY: RBC	CHECKED BY: RBC	SCALE: N.T.S.
DATE: 9/9/2016	JOB NUMBER: 2012-2E	SHEET NUMBER: 12 OF 32

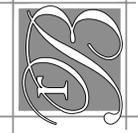


REVISIONS

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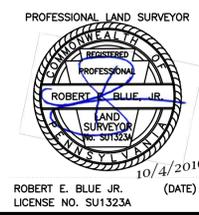
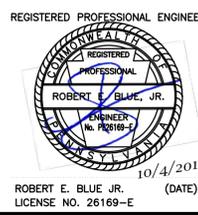
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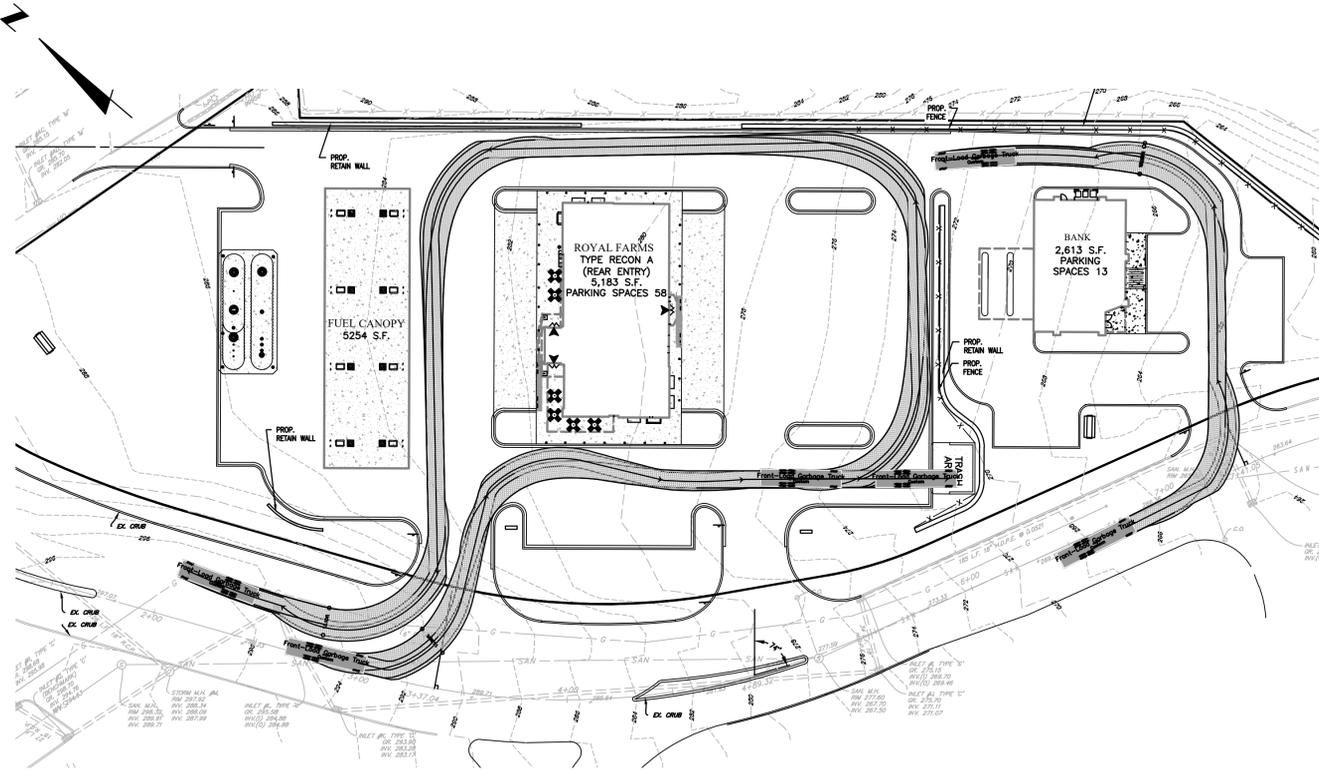
PAVEMENT PLAN

ROYAL FARMS #195  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 COMMONWEALTH OF PENNSYLVANIA

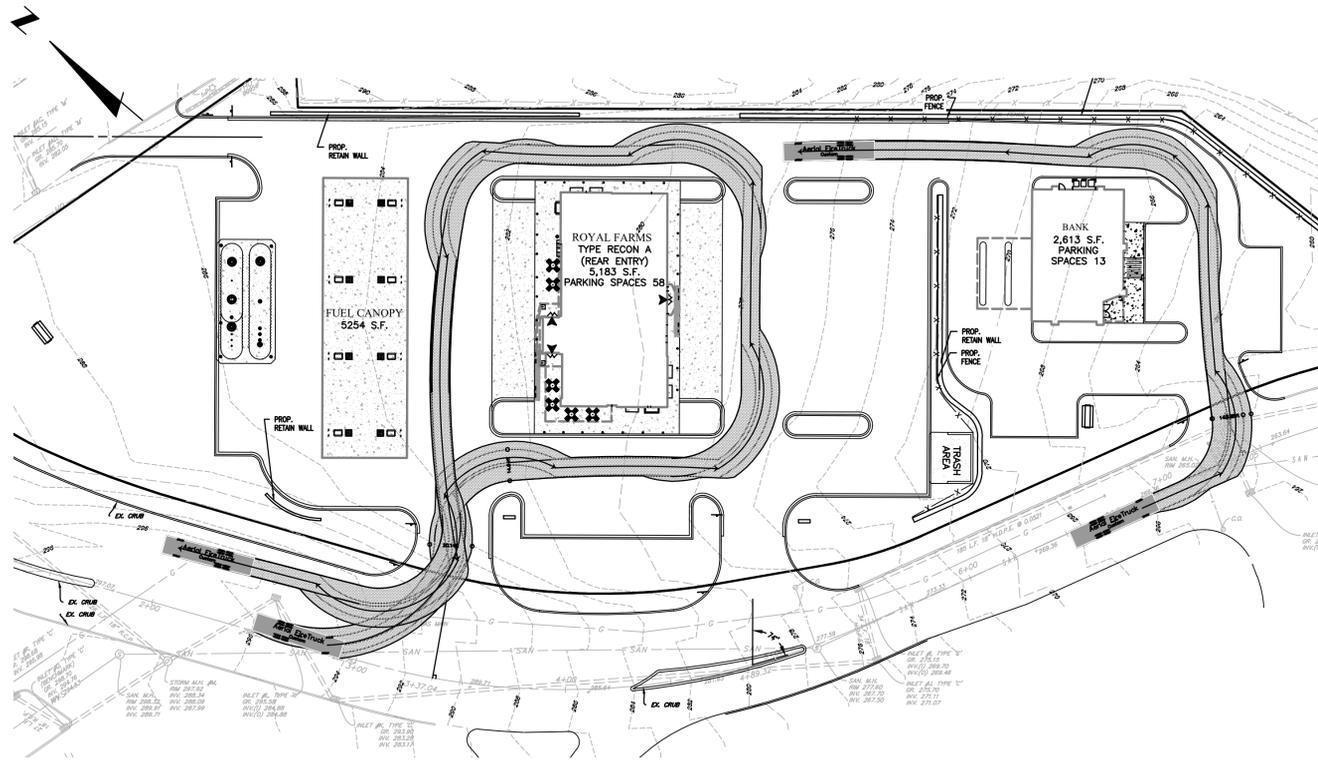
PREPARED FOR  
 ROYAL FARMS  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211



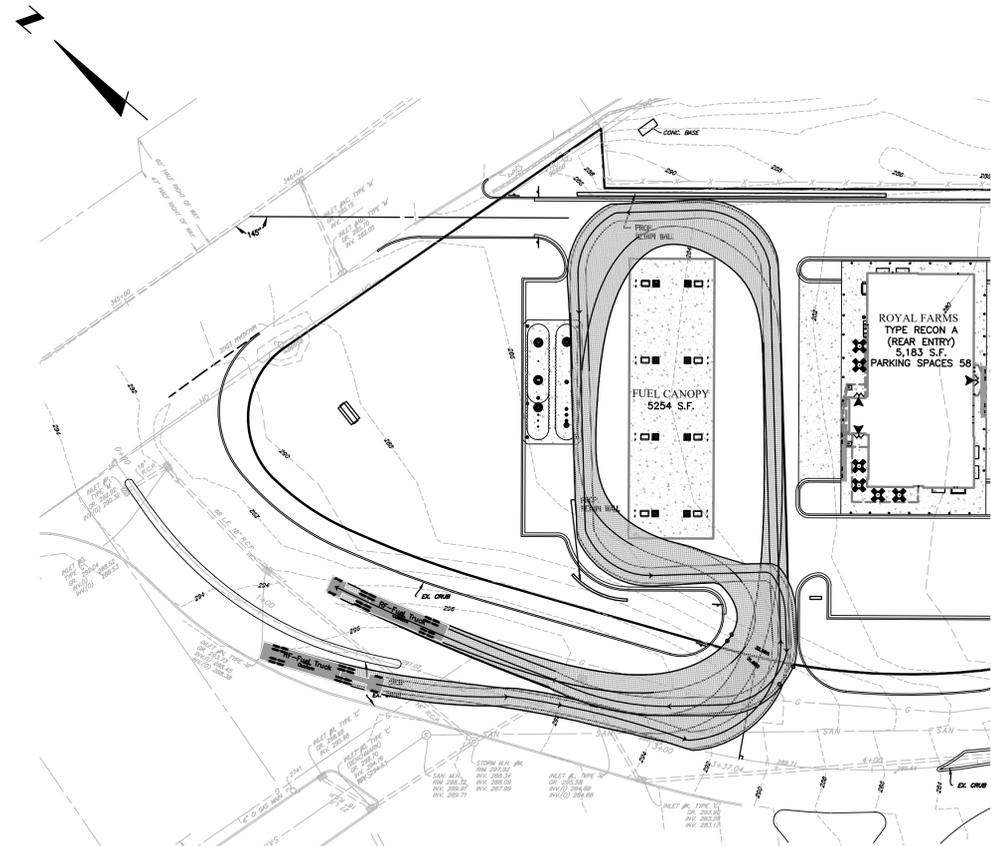
DRAWN BY: RBC	CHECKED BY: REB	SCALE: 1"=30'
DATE: 9/9/2016	JOB NUMBER: 2012-2E	SHEET NUMBER: 13 of 32



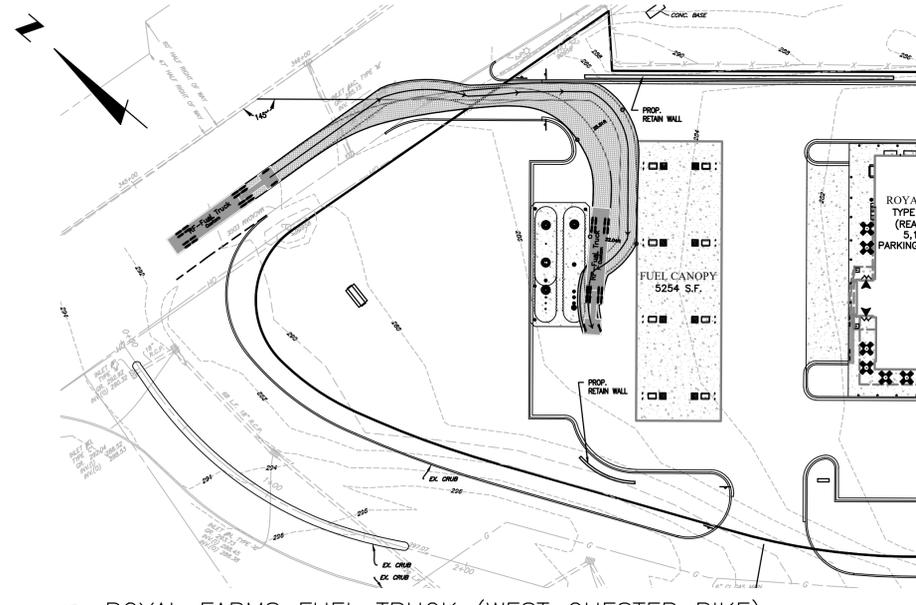
**GARBAGE TRUCK ROUTE**  
SCALE: 1" = 40'



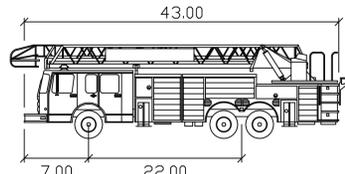
**FIRE TRUCK ROUTE**  
SCALE: 1" = 40'



**ROYAL FARMS FUEL TRUCK (LANGFORD RUN ROAD)**  
SCALE: 1" = 40'

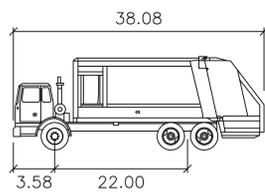


**ROYAL FARMS FUEL TRUCK (WEST CHESTER PIKE)**  
SCALE: 1" = 40'



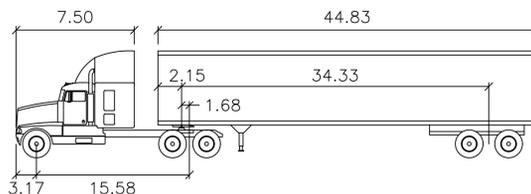
**Aerial Fire Truck**

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3



**Front-Load Garbage Truck**

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 27.4



**RF-Fuel Truck**

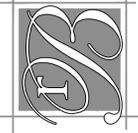
	feet		feet
Tractor Width	: 8.00	Lock to Lock Time	: 3.0
Tractor Track	: 8.00	Steering Angle	: 28.4
Tractor Overhang	: 2.15	Articulating Angle	: 75.0
Trailer Width	: 8.50		
Trailer Track	: 8.50		

**REVISIONS**

1.	
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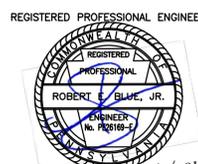
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**ROYAL FARMS #195**  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
**ROYAL FARMS**  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211



ROBERT E. BLUE, JR. (DATE) 10/4/2016  
LICENSE NO. 26169-E

ROBERT E. BLUE, JR. (DATE) 10/4/2016  
LICENSE NO. SU1323A

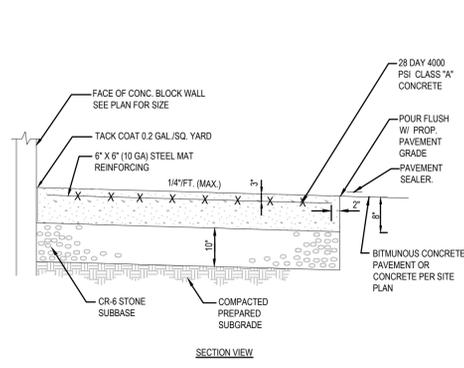
CIRCULATION PLAN

DRAWN BY: RBC CHECKED BY: RBC SCALE: 1"=40'  
DATE: 9/9/2016 JOB NUMBER: 2012-2E SHEET NUMBER: 14 OF 32

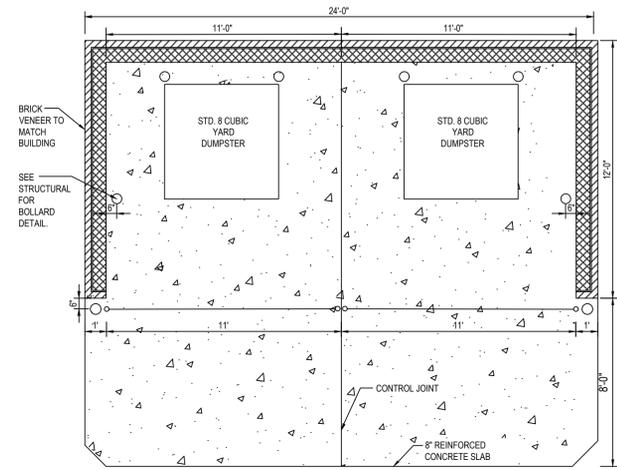
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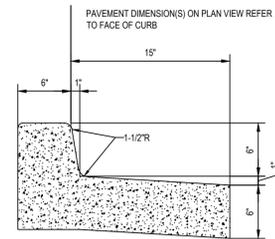




**DUMPSTER PAD WITH 8" CONCRETE PAVEMENT DETAIL**  
NOT TO SCALE



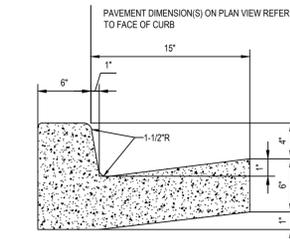
**TRASH ENCLOSURE DETAIL**  
NOT TO SCALE



**SPILL CURB & GUTTER**

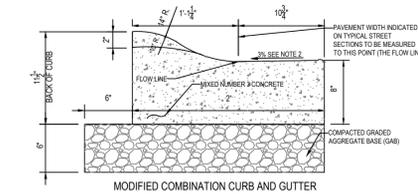
**NOTES:**

1. CONCRETE FOR CURBING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. @ 28 DAYS.
2. CONSTRUCTION STAKING FOR CURB INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE TOP OF CURB.
3. AT CONTRACTOR'S OPTION, THE GUTTER THICKNESS MAY BE INCREASED AT THE EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER CONTIGUOUS WITH BOTTOM OF ASPHALT PAVEMENT.
4. CONTRACTION JOINTS SHALL BE PLACED @ 10'-0" O.C. TOOLED 1/4" (±1/16") DEEP. EXPANSION JOINTS SHALL BE PLACED @ 40'-0" INTERVALS, MAXIMUM, AND ALL P.C.'S.



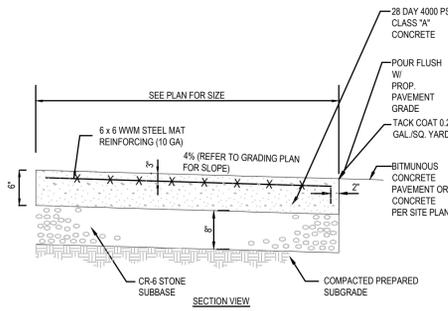
**COLLECTOR CURB & GUTTER**

**CONCRETE CURB & GUTTER DETAIL**  
NOT TO SCALE

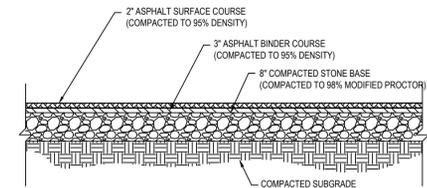


- NOTE:**
1. A REVERSE GUTTER PAN SHALL HAVE A GUTTER SLOPE OF 4.17% AWAY FROM THE FLOW LINE, AND SHALL NOT BE USED WHERE THIS DRAINAGE CREATES A HAZARDOUS CONDITION.
  2. GUTTER PAN AT THE MEDIA EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPER ELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPER ELEVATED SECTION AND THE RATE OF SUPER ELEVATION IS GREATER THAN 2% FOR MODIFIED CURB AND GUTTER.
  3. A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
  4. A POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

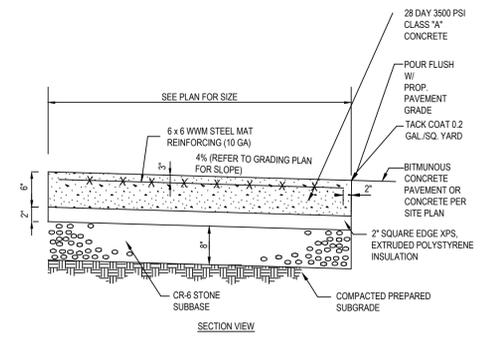
**MOUNTABLE CURB DETAIL**  
NOT TO SCALE



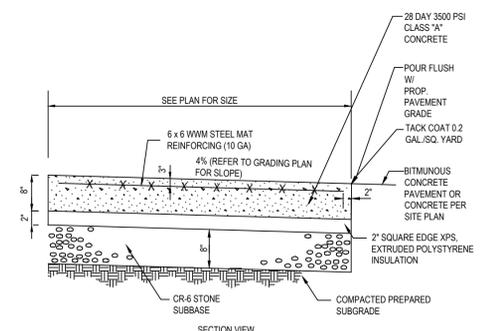
**TYPICAL 6" CONCRETE PAVEMENT DETAIL**  
NOT TO SCALE



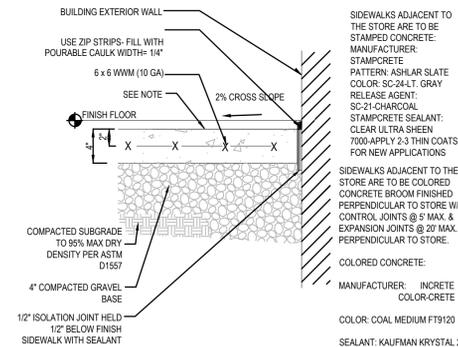
**MEDIUM DUTY ASPHALT PAVEMENT DETAIL**  
NOT TO SCALE



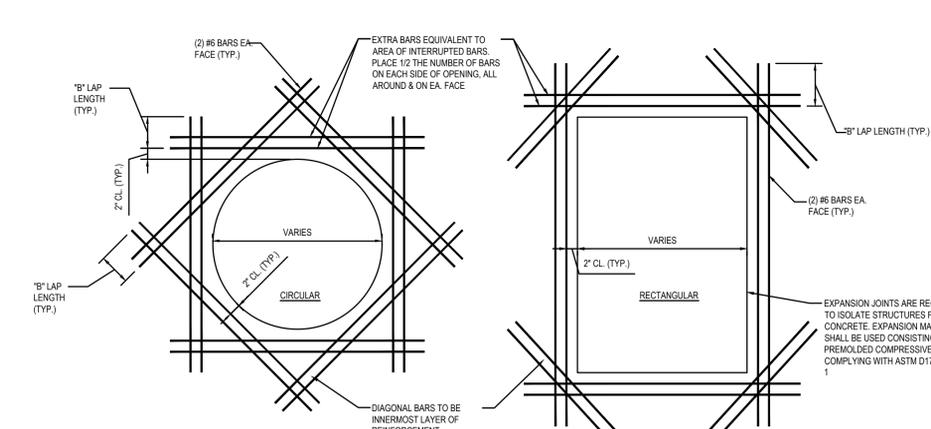
**CONCRETE PAD DETAIL @ FUEL CANOPY**  
NOT TO SCALE



**CONCRETE FUEL TANK PAD DETAIL**  
NOT TO SCALE



**SIDEWALK JOINT DETAIL**  
NOT TO SCALE

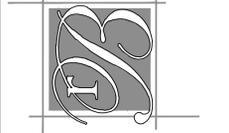


**TYPICAL OPENING REINFORCING DETAILS FOR CONCRETE AREAS W/VEHICLE ACCESS**  
NOT TO SCALE

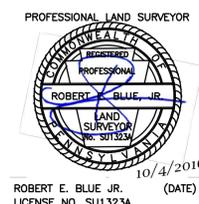
NO.	REVISIONS
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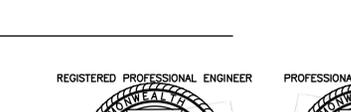
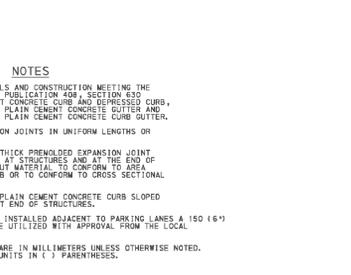
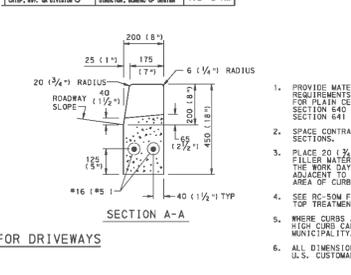
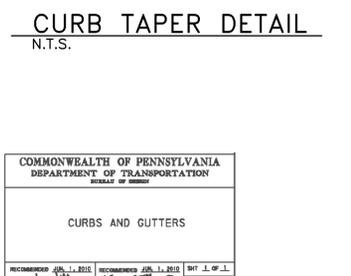
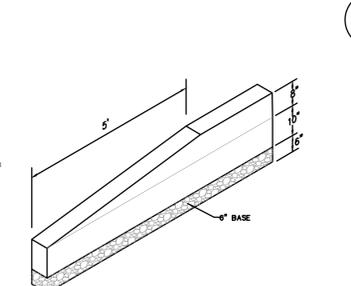
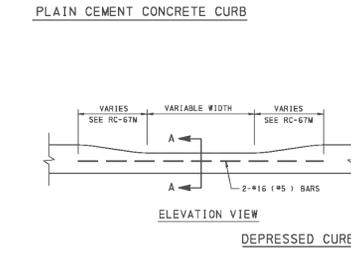
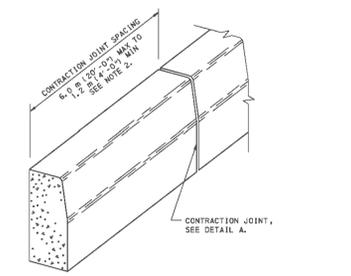
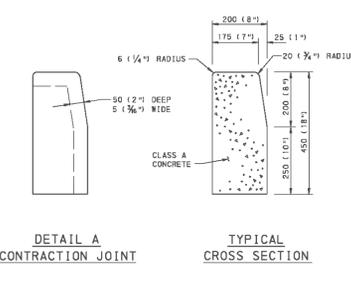
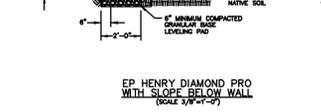
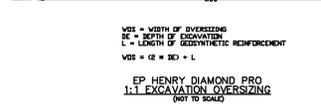
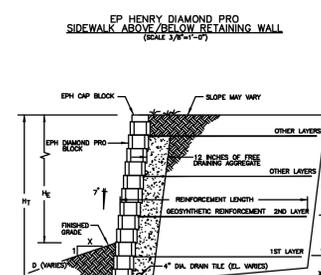
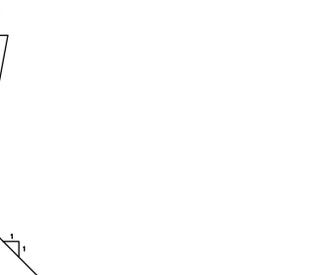
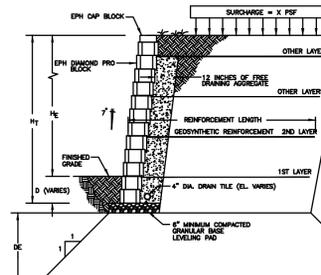
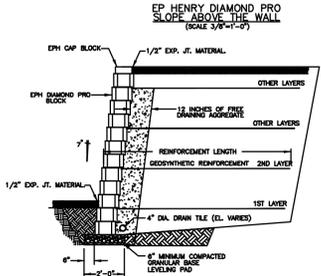
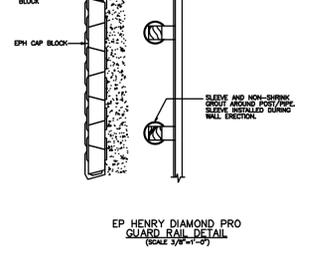
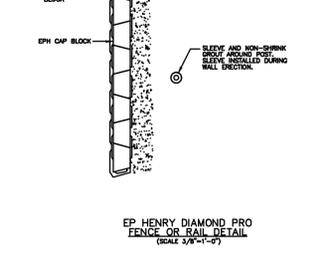
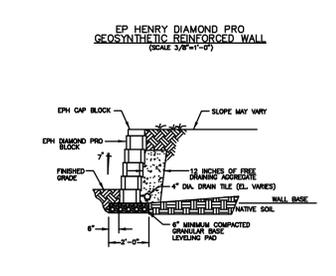
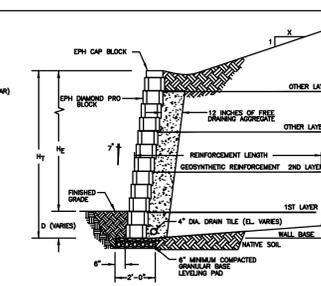
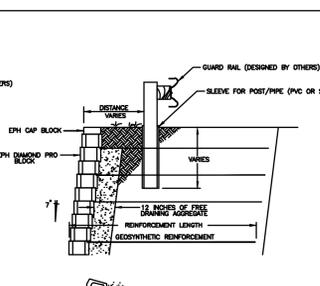
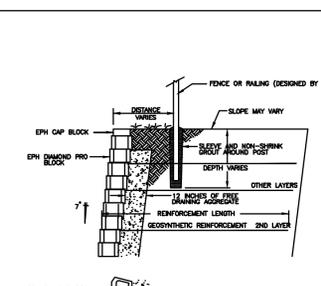
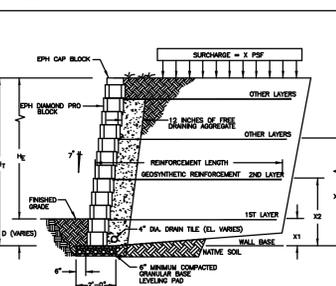
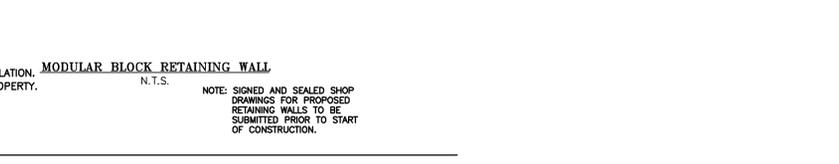
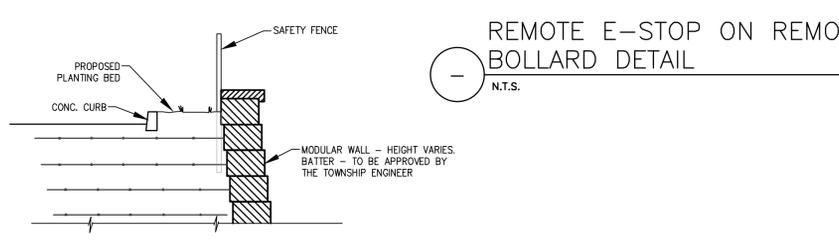
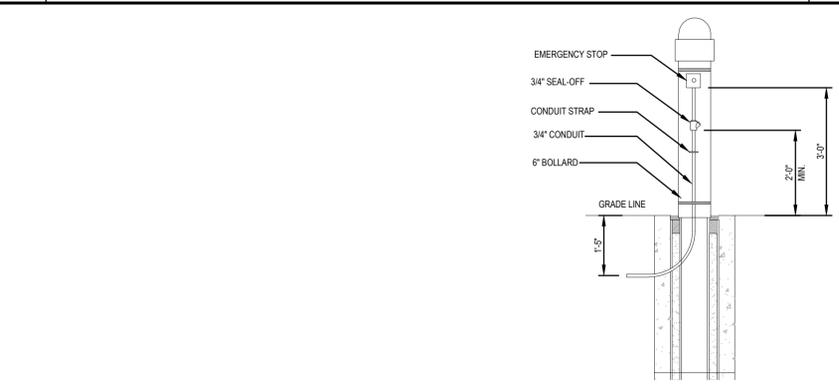
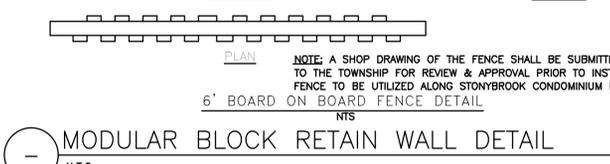
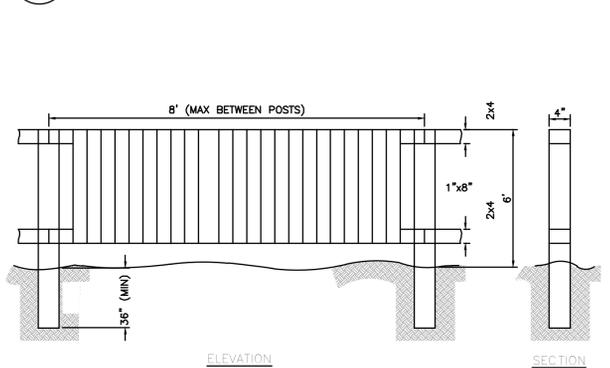
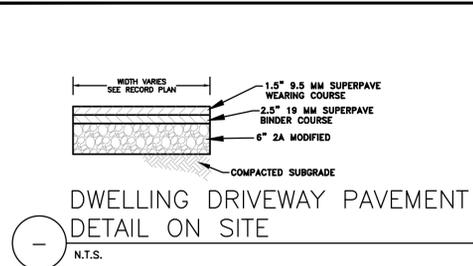
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ROYAL FARMS CONSTRUCTION DETAILS  
**ROYAL FARMS #195**  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
PENNSYLVANIA  
PREPARED FOR  
**ROYAL FARMS**  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211

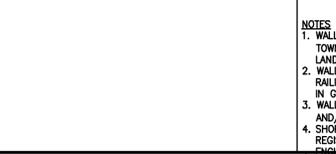


DRAWN BY: RBC	CHECKED BY: RBC	SCALE: AS NOTED
DATE: 9/9/2016	JOB NUMBER: 2012-2E	16 of 32



**INSIST ON THE BEST**  
**EP HENRY**  
 FOUNDED 1963  
 201 Park Ave.  
 P.O. Box 615  
 Woodbury, NJ 08096  
 (856)-845-6200  
 (856)-845-0023

TITLE:  
 EP Henry Diamond Pro  
 Installation Cross Sections 1  
 SCALE:



NOTES  
 1. WALL DESIGNER AND CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO MAPLE TOWNSHIP FOR APPROVAL PRIOR TO CONSTRUCTION OF RETAINING WALL / LANDSCAPING WALLS.  
 2. WALL DESIGNER AND CONTRACTOR SHALL MAKE PROVISIONS FOR FENCING AND OR RAILING AT THE TOP OF ANY WALL WHICH EXCEEDS MAXIMUM ALLOWABLE CHANGE IN GRADE PER O.S.H.A. AND TOWNSHIP REQUIREMENTS.  
 3. WALL DESIGNER AND CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AROUND AND/OR THROUGH THE RETAINING WALL.  
 4. SHOP DRAWINGS AND DESIGN CALCULATIONS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER MUST BE SUBMITTED TO THE TOWNSHIP ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

THIS DRAWING IS FURNISHED FOR PRELIMINARY DESIGN PURPOSES ONLY, AND SHOULD NOT BE USED FOR FINAL DESIGN DRAWINGS OR CONSTRUCTION DRAWINGS WITHOUT THE CERTIFICATION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE WALL WILL BE CONSTRUCTED.

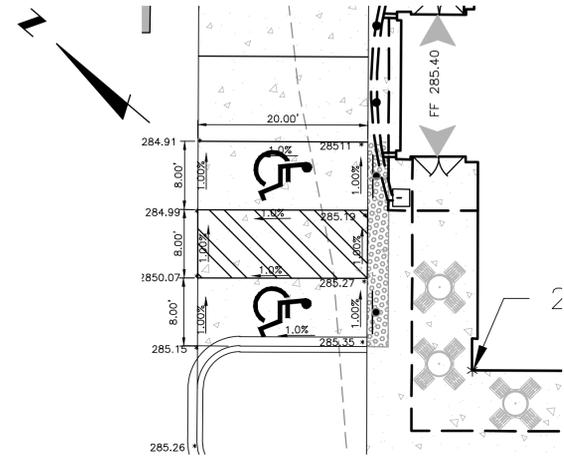


CONSTRUCTION DETAILS  
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 PREPARED FOR  
**ROYAL FARMS**  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211

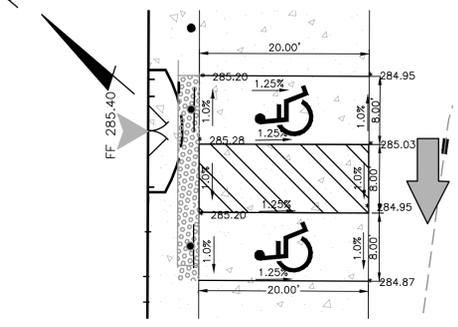
**rebert e. blue**  
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 1149 Skippack Pike, Blue Bell, PA 19422  
 tel: (610)-277-9897  
 www.rebertblue.com email: rblue@rebertblue.com

NO.	REVISIONS
1.	

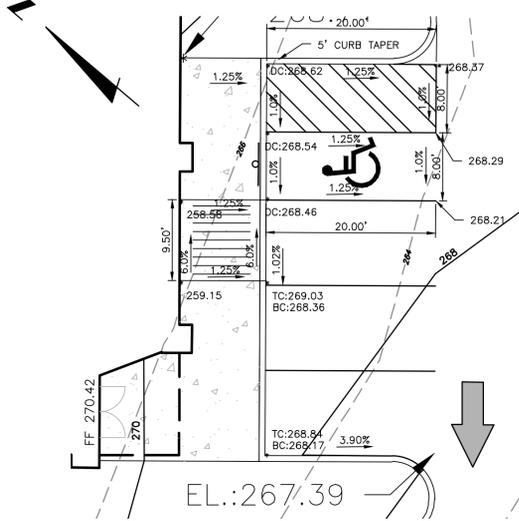
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ROYAL FARMS' ADA AT THE FRONT OF THE BUILDING  
SCALE: 1" = 10'



ROYAL FARMS' ADA AT THE REAR OF THE BUILDING  
SCALE: 1" = 10'



BANK'S ADA  
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER  
ROBERT E. BLUE JR.  
LICENSE NO. 26169-E  
10/4/2016 (DATE)

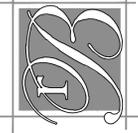
PROFESSIONAL LAND SURVEYOR  
ROBERT E. BLUE JR.  
LICENSE NO. SU1323A  
10/4/2016 (DATE)

REVISIONS

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CONSTRUCTION DETAILS  
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MARPLE TOWNSHIP  
DELAWARE COUNTY  
PENNSYLVANIA  
PREPARED FOR  
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BALTIMORE, MD 21211

DRAWN BY:	CHECKED BY:	SCALE:
RBC	REB	AS NOTED
DATE:	JOB NUMBER:	
9/9/2016	2012-2E	18 of 32

**GENERAL NOTES**

- THE STORMWATER MANAGEMENT FACILITIES AND INFRASTRUCTURE (AS SHOWN ON THE PLANS) ARE PERMANENT FACILITIES AND SUBJECT TO THE CONDITIONS OF AN APPROVED NPDES PERMIT WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP), THE STORMWATER FACILITIES AND SHALL NOT BE MODIFIED OR REMOVED UNLESS PRIOR APPROVAL IS GRANTED BY THE MUNICIPALITY AND THE PADEP.
- CONTRACTOR SHALL ENSURE THAT ALL NECESSARY PERMITS AND APPROVALS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF ANY SITE CONSTRUCTION ACTIVITIES.
- IN ALL CASES, WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTOR SHALL NOT USE SCALED DIMENSIONS FOR CONSTRUCTION WITHOUT CONFIRMATION BY THE DESIGN ENGINEER. CONTRACTOR SHALL VERIFY AD BE RESPONSIBLE FOR ALL DIMENSIONS ON THE PROJECT SITE. THE DESIGN ENGINEER MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS.
- IF THE CONDITIONS ON THE GROUND DIFFER FROM THE APPROVED PLANS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND THE MUNICIPAL ENGINEER IN WRITING.
- CONSTRUCTION, INSTALLATION AND MAINTENANCE RESPONSIBILITIES FOR POST CONSTRUCTION STORMWATER MANAGEMENT DEVICES: THE STORMWATER MANAGEMENT FACILITIES (AS SHOWN ON THE PLAN) ARE PERMANENT FACILITIES AND SHALL NOT BE MODIFIED OR REMOVED UNLESS PRIOR APPROVAL IS GRANTED BY THE MUNICIPALITY AND PADEP.
- APPLICANT'S RESPONSIBILITIES: IT SHALL BE THE RESPONSIBILITY OF THE APPLICANT TO ENSURE THAT ALL DEVICES HEREIN ARE INSTALLED AND MAINTAINED DURING CONSTRUCTION BY THE DESIGNATED CONTRACTOR(S) UNTIL SUCH TIME AS PERMANENT RESPONSIBILITY IS TRANSFERRED TO THE PROPERTY OWNER.
- CONTRACTOR'S RESPONSIBILITIES: THE CONTRACTORS RESPONSIBILITIES SHALL INCLUDE BUT NOT BE LIMITED TO THE PROPER INSTALLATION AND MAINTENANCE OF THE DEVICES HEREIN UNTIL SUCH TIME AS PERMANENT OWNERSHIP IS TRANSFERRED TO THE PROPERTY OWNER.
- PROPERTY OWNER RESPONSIBILITIES: THE OWNER, ITS SUCCESSOR OR ASSIGNS SHALL BE RESPONSIBLE FOR THE PERPETUAL MAINTENANCE OF ALL "SITE" STORMWATER MANAGEMENT DEVICES AND INFRASTRUCTURE, SUCH DEVICES SHALL INCLUDE:
  - DEVICES DEFINED IN THE BMP MAINTENANCE RESPONSIBILITY SCHEDULE BELOW.
  - STORMWATER MANAGEMENT BASINS, INCLUDING ALL STORM SEWERS AND STRUCTURES TRIBUTARY TO SUCH BASINS.
- OWNERSHIP AND MAINTENANCE: THE PROPERTY OWNER, ITS SUCCESSOR OR ASSIGNS SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT DEVICES DEPICTED HEREIN.
- SHOULD A PERCHED WATER TABLE BE ENCOUNTERED DURING THE INSTALLATION OF ANY BMP, THE DESIGN ENGINEER SHALL BE NOTIFIED TO ADDRESS ANY POTENTIAL PLAN AND PERMITTING REVISIONS.
- ALL PROPOSED INFILTRATION AREAS SHALL BE PROTECTED FROM COMPACTION DURING AND AFTER CONSTRUCTION; AND WILL BE PROTECTED UNTIL THE TRIBUTARY DRAINAGE AREAS IS COMPLETELY STABILIZED.
- WETLANDS: THERE ARE NO WETLANDS PRESENT ON SITE.
- SOILS BOUNDARIES AND INFORMATION HAS BEEN TAKEN FROM THE U.S. DEPARTMENT OF AGRICULTURE WEB SOIL SURVEY (WWW.WEBSOILSURVEY.NRCS.USDA.GOV)
- INFILTRATION TESTING ON SITE WAS PERFORMED BY EARTH ENGINEERING, INC., AUGUST 2016 . REFER TO THE INFILTRATION TEST SUMMARY TABLE.
- THE SITE DOES/DOES NOT CONTAIN PRIME AGRICULTURAL SOILS. REFER TO THE SOIL SUMMARY TABLE FOR ADDITIONAL INFORMATION.
- THE SITE DOES NOT LIE WITHIN THE DESIGNATED FEMA 100--YR FLOODPLAIN LIMIT. FLOOD PLAN MAPPING TAKEN FROM FEMA MAP NUMBER 42045C0102F DATED NOVEMBER 18, 2009.
- BASE MAPPING ON SITE TAKEN FROM A FIELD SURVEY PERFORMED BY ROBERT E. BLUE CONSULTING ENGINEERS, P.C.
- CHAPTER 93 CLASSIFICATION: THE SITE DRAINS TO LANGFORD RUN, IT IS CLASSIFIED AS WARM WATER FISHERY (WWF), MIGRATORY FISH-PASSAGE (MF).
- IN THE PREPARATION OF THE FOLLOWING PLANS FOR PROCUREMENT OF THE PADEP NPDES PERMIT BY THE IMPLEMENTATION OF THESE PLANS AND THE ASSOCIATED EROSION AND SEDIMENT CONTROL PLANS, THE PROJECT HAS BEEN DESIGNED TO:
  - PRESERVE THE INTEGRITY OF STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL AND CHEMICAL QUALITIES OF THE RECEIVING STREAM.
  - PREVENT AN INCREASE IN THE RATE OF STORMWATER RUNOFF.
  - MINIMIZE IMPERVIOUS AREAS
  - MAXIMIZE THE PROTECTION OF EXISTING DRAINAGE FEATURES AND EXISTING VEGETATION.
  - MINIMIZE LAND CLEARING AND GRADING
  - MINIMIZE SOIL COMPACTION
  - UTILIZED STRUCTURAL AND NON-STRUCTURAL BMPS THAT PREVENT OR MINIMIZE CHANGES IN STORMWATER RUNOFF.
  - MITIGATE THERMAL IMPACTS TO THE RECEIVING WATERSHED.

**OPERATION AND MAINTENANCE NOTES**

- THE STORMWATER INFRASTRUCTURE PROPOSED FOR THIS PROJECT SHALL BE DEFINED AS ALL SITE STORMWATER MANAGEMENT FACILITIES AND CONTROLS SPECIFIC AS INDICATED ON THE APPROVED PCSM PLAN. SPECIFIC OWNERSHIP AND MAINTENANCE RESPONSIBILITIES SHALL BE DEFINED AS FOLLOWS:
- APPLICANT'S RESPONSIBILITIES: IT SHALL BE THE RESPONSIBILITY OF THE APPLICANT TO ENSURE THAT ALL DEVICES HEREIN ARE INSTALLED AND MAINTAINED DURING CONSTRUCTION BY THE DESIGNATED CONTRACTOR(S) UNTIL SUCH TIME AS PERMANENT RESPONSIBILITY IS TRANSFERRED TO THE PROPERTY OWNER.
  - CONTRACTOR'S RESPONSIBILITIES: THE CONTRACTORS RESPONSIBILITIES SHALL INCLUDE BUT NOT BE LIMITED TO THE PROPER INSTALLATION AND MAINTENANCE OF THE DEVICES HEREIN UNTIL SUCH TIME AS PERMANENT OWNERSHIP IS TRANSFERRED TO THE PROPERTY OWNER.
  - PROPERTY OWNER RESPONSIBILITIES: THE PROPERTY OWNER, ITS SUCCESSOR OR ASSIGNS SHALL BE RESPONSIBLE FOR THE PERPETUAL MAINTENANCE OF ALL "SITE" STORMWATER MANAGEMENT DEVICES AND INFRASTRUCTURE, SUCH DEVICES SHALL INCLUDE:
    - DEVICES DEFINED IN THE BMP MAINTENANCE RESPONSIBILITY SCHEDULE BELOW
    - STORMWATER MANAGEMENT BASINS, INCLUDING ALL STORM SEWERS AND STRUCTURES TRIBUTARY TO SUCH BASINS.
  - PROPERTY OWNER'S RESPONSIBILITIES: DEVICES AS DEFINED IN THE BMP MAINTENANCE SCHEDULE BELOW. THE PROPERTY OWNER, ITS SUCCESSOR OR ASSIGNS SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT DEVICES DEPICTED HEREIN TO INCLUDE BIO-RETENTION BMPS AND LANDSCAPING.

THE STORMWATER MANAGEMENT DEVICES FOR THE SUBJECT PROPERTY WILL BE INSTALLED, INSPECTED AND/OR MAINTAINED BY THE APPROPRIATE PARTY AS INDICATED IN THE RESPONSIBILITIES ABOVE. INSPECTIONS AND MAINTENANCE SHALL FALL INTO TWO CLASSIFICATIONS:

- CLASS I: SHALL BE DEFINED AS THOSE ROUTINE INSPECTION AND/OR MAINTENANCE ACTIVITIES WHICH CAN BE PERFORMED WITHOUT THE DIRECTION OF A CERTIFIED PROFESSIONAL ENGINEER.
- CLASS II: SHALL BE DEFINED AS THOSE INSPECTION AND/ OR MAINTENANCE ACTIVITIES WHICH MUST BE PERFORMED BY OR UNDER THE DIRECTION OF A CERTIFIED PROFESSIONAL ENGINEER LICENSED BY THE COMMONWEALTH OF PENNSYLVANIA.

INSTALLATION: INSTALLATION OF THE DEVICES WILL BE PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND/OR MANUFACTURERS SPECIFICATIONS UNLESS APPROVED BY THE MUNICIPALITY, COUNTY CONSERVATION AND/OR PADEP.

INSPECTIONS AND REPORTING: THE SITE STORMWATER INFRASTRUCTURE SHALL BE INSPECTED ON A ROUTINE BASIS AS DEFINED BELOW.

CLASS I INSPECTIONS SHALL BE PERFORMED ON A QUARTERLY BASIS FOR THE SPECIFIC CONTROL. RESULTS OF CLASS I INSPECTIONS SHALL BE COMMUNICATED TO THE CLASS II INSPECTOR AT THE TIME OF THE CLASS II INSPECTION. CLASS I INSPECTIONS ARE THE RESPONSIBILITY OF THE CONTROL OWNER.

CLASS II INSPECTIONS SHALL BE PERFORMED ONCE A YEAR FOR THE FIRST FIVE YEARS AND ONCE EVERY THREE YEARS THEREAFTER. IN ADDITION THE STORMWATER INFRASTRUCTURE SHALL BE INSPECTED AFTER EVERY MAJOR RAINFALL EVENT (2YR EVENT OR GREATER). INSPECTIONS FOR TMAJOR EVENTS MAY BE CONSIDERED THE ANNUAL INSPECTION IF THE STORM EVENT PRECEEDS OR FOLLOWS THE REGULAR DATE BY TWO WEEKS OR LESS. THE PURPOSE OF THE INSPECTIONS IS TO ENSURE THE FACILITIES CONTINUE TO OPERATE AS DESIGNED. CLASS II INSPECTIONS FOR ALL CONTROL TYPES ARE THE RESPONSIBILITY OF THE CONTROL OWNER.

CLASS II INSPECTION REPORT: THE INSPECTING ENGINEER SHALL PREPARE A WRITTEN INSPECTION REPORT AND SUBMIT THE REPORT TO THE MUNICIPALITY AND THE COUNTY CONSERVATION DISTRICT FOR ALL MAJOR STORM EVENT, ANNUAL, AND TRIENAL INSPECTIONS. THE MUNICIPALITY AND THE COUNTY CONSERVATION DISTRICT SHALL BE NOTIFIED WITHIN 10 DAYS UPON DISCOVERY OF DYSFUNCTIONAL STORMWATER FACILITIES. THE MUNICIPALITY AND THE COUNTY CONSERVATION DISTRICT SHALL ALSO BE MADE AWARE OF ANY AND ALL PROPOSED MODIFICATIONS AND REPAIRS OF THE FACILITIES PRIOR TO IMPLEMENTATION, EXCLUDING MAINTENANCE AS DESCRIBED BELOW. ALL REPAIRS AND MODIFICATIONS SHALL BE ACCORDING TO THE SPECIFICATIONS AS NOTED ON THE APPROVED PLANS, WITHIN THE MANUFACTURERS SPECIFICATIONS OR THE INSPECTORS REPORT.

- CLASS I INSPECTIONS ACTIVITIES:**  
THE FOLLOWING ARE THE REQUIREMENTS FOR ALL CLASS I INSPECTIONS:
- STORMWATER DETENTION BASINS SHALL BE INSPECTED FOR SEDIMENT OR DEBRIS COLLECTION ON THE BOTTOM OF THE BASIN, OUTLET STRUCTURE, AND OUTLET PIPE. DEBRIS OR SEDIMENT SHALL BE REMOVED AS SOON AS POSSIBLE.
  - STORM INLETS SHALL BE VISUALLY INSPECTED AND SHALL BE CLEANED OF ANY LEAVES OR DEBRIS.
  - OBSTRUCTIONS OF THE INLETS OR OUTLET DEVICES BY TRASH AND DEBRIS
  - ANIMAL BURROWING
  - PERMANENTLY PONDED AREAS IN THE BOTTOM OF DRY POND DETENTION BASINS OR BIORETENTION FACILITIES
  - ALGAE GROWTH, STAGNANT POOLS, OR NOXIOUS OODRS
  - POOR OR DISTRESSED STAND OF GRASS
  - DISTRESSED VEGETATION
  - SIGNS OF VANDALISM
  - SEDIMENT IN RIP-RAP CHANNELS
  - PERVIOUS PAVEMENT SHALL BE CHECKED FOR SEDIMENT CLOGGING PORES.

- CLASS II INSPECTION ACTIVITIES:** THE FOLLOWING ARE THE REQUIREMENTS FOR ALL CLASS II INSPECTIONS:
- ALL ITEMS LISTED UNDER CLASS I INSPECTIONS
  - ALL PERMANENT DIVERSION BERMS AND PERMANENT SWALES SHALL BE VISUALLY INSPECTED
  - EXCESSIVE EROSION OR SEDIMENTATION
  - CRACKING OR SETTLING OF DEVICES
  - DETERIORATION OF PIPES AND CONDUITS, INCLUDING SEALS AND JOINTS AT ALL STRUCTURES
  - DETERIORATED EMERGENCY SPILLWAYS
  - WASHOUTS, BULGES OR BUMPS
  - UNSTABLE SIDE SLOPES AND EMBANKMENTS
  - DETERIORATION OF DOWNSTREAM CHANNELS
  - PIPING ALONG INLET/OUTLET BARRELS OF DETENTION BASINS
  - DETERIORATION/SCOURING OF ENERGY DISSIPATORS
  - OUTLET PROTECTION

MAINTENANCE: MAINTENANCE AND REPAIRS OF A CONTROL IS THE RESPONSIBILITY OF THE CONTROL OWNER. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO THE MAINTENANCE OF ALL GRADES AND ELEVATIONS OF SUCH FACILITIES AND SHALL DO NOTHING TO ALTER OR DAMAGE SAME OR OTHER BASIN STRUCTURES AND DEVICES. THE AFORESAID RESPONSIBILITIES OF THE HOA SHALL BE SUBJECT TO ENFORCEMENT BY THE MUNICIPALITY. IN THE EVENT THAT THE OWNER FAILS TO HONOR THE RESPONSIBILITY SET FORTH HEREIN, IN ANY MANNER, THE MUNICIPALITY SHALL HAVE THE RIGHT OF ENTRY UPON AND WITHIN THE AREA OF THE DEVICES TO UNDERTAKE SUCH INSPECTION, MAINTENANCE OR CORRECTIVE MEASURES. THE COST OF SUCH, AS WELL AS ADMINISTRATIVE, ENGINEERING AND LEGAL COSTS FOR ENFORCEMENT, MAY BE IMPOSED UPON THE RESPONSIBLE PARTY, AS DETERMINED AND ASSESSED BY THE MUNICIPALITY. FAILURE TO REMEDY ANY ASSOCIATED COSTS DESCRIBED, MAY BE SUBJECT TO THE IMPOSITION OF A LIEN BY THE MUNICIPALITY AGAINST THE OWNER/OWNERS OF THE CONTROLS OR LOTS IN QUESTION, IN THE SAME MANNER AS THE MUNICIPALITY MIGHT OTHERWISE BE EMPLOYED BY LAW TO ASSESS OR IMPOSE A LIEN AGAINST A PROPERTY FOR MUNICIPAL IMPROVEMENTS.

DURING INSPECTION AND REPAIR WORK, LIMIT VEHICULAR OPERATION ON THE CONTROL. USE LOW GROUND PRESSURE EQUIPMENT AS MUCH AS POSSIBLE WHEN PERFORMING MAINTENANCE ACTIVITIES.

**MAINTENANCE REQUIREMENTS**

**CLASS I MAINTENANCE:** THE FOLLOWING ITEMS ARE THE MINIMUM REQUIRED MAINTENANCE ITEMS FOR CLASS I MAINTENANCE ACTIVITY IN ADDITION TO ANY AND ALL ITEMS LISTED FOR THE SPECIFIC DEVICE ON THE APPROVED PCSM PLANS.

- CLEANING OF DEBRIS FROM ALL FACILITIES TO ENSURE THEY FUNCTION AS INTENDED
- WEEDING AND PRUNING OF VEGETATION
- MOWING AS INDICATED FOR THE SPECIFIC DEVICE
- WATERING OF VEGETATION AS NEEDED

**CLASS II MAINTENANCE:** THE TASKS AND PROCEDURES FOR CLASS II MAINTENANCE WILL BE DETERMINED FROM THE CLASS II INSPECTION REPORT. ALL CLASS II MAINTENANCE WILL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER. A CERTIFICATE OF THE COMPLETION OF CLASS II MAINTENANCE WILL BE PROVIDED TO THE MUNICIPALITY AND THE COUNTY CONSERVATION DISTRICT.

**MAINTENANCE PROCEDURES:**

**DETENTION BASIN MAINTENANCE**  
CLEAN AND REPAIR ALL FEATURES AS NECESSARY

REMOVE ACCUMULATED SEDIMENT WHEN CONTROL IS PRIMARILY DRY AND DISPOSE OF IN AN APPROVED MANNER.

STRUCTURES SHALL BE CLEARED IMMEDIATELY OF ALL DEBRIS THAT PREVENTS PROPER OPERATION

**ROCK ENERGY DISSIPATORS AND LEVEL SPREADER MAINTENANCE**

ANY SEDIMENT BUILDUP SHOULD BE REMOVED AND DISPOSED OF IN A LOCATION APPROVED BY PADEP.

ANY EVIDENCE OF SCOUR SHOULD BE ADDRESSED BY REPLACING ROCK OF THE PROPER SIZE AND TYPE.

ALL PROPOSED SWALES SHALL BE INSPECTED UNTIL 100% VEGETATIVE COVERAGE IS ESTABLISHED. AREAS WHERE POOR OR NO GERMINATION OCCURS SHALL BE IMMEDIATELY RE-SEEDED AND MULCHED.

**STORM SEWER PIPE MAINTENANCE**

SHALL BE INSPECTED FOR DEBRIS THAT MAY INHIBIT THE FLOW OF STORMWATER THROUGH THE CULVERT. SHOULD ANY SIGNIFICANT DEBRIS BE FOUND DURING THESE INSPECTIONS, IT SHALL BE REMOVED AND DISPOSED OF.

**STORM SEWER INLETS, STRUCTURES AND ENDWALL MAINTENANCE**

REMOVE ACCUMULATED TRASH AND SEDIMENT FROM THE ABOVE GROUND PORTION OF THE STRUCTURE. FOR WATER QUALITY INLETS, REMOVE DEBRIS AND SEDIMENT FROM THE SUMP IF GREATER THAN HALF FULL. IF SUMP REQUIRES CLEANING, INSPECT SNOUT/DEVICE FOR CLOGGING AND DETERIORATION. CLEAN AND REPAIR AS NECESSARY ACCORDING TO MANUFACTURER'S SPECIFICATIONS. DISPOSE OF MATERIAL IN AN APPROVED MANNER.

REMOVE ALL GRATES AND/OR LIDS AND INSPECT STRUCTURAL STABILITY, PROPER ANCHORAGE, AND APPLICABLE SECURITY CONTROLS. INSPECT STRUCTURE FOR STABILITY AND DETERIORATION. FULLY OPEN AND CLOSE ANY VALVES OR SHUTOFFS IN THE DEVICE. INSPECT ANY ADJACENT SLOPE AND/OR CHANNEL LINING FOR CLOGGING, EROSION, DETERIORATION AND UNWANTED VEGETATION. CLEAN AND REPAIR AS NECESSARY. DISPOSE OF ALL MATERIALS IN AN APPROVED MANNER

**E&S PLAN AND PCSM PLAN CONSISTENCY**

THE EROSION & SEDIMENT CONTROL PLAN AND THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN HAVE BEEN PROVIDED SEPARATELY; HOWEVER, THEY HAVE BEEN PLANNED, DESIGNED AND IMPLEMENTED TO BE CONSISTENT WITH ONE ANOTHER. THE EROSION & SEDIMENT CONTROL PLAN IS PROVIDED AS PART OF THIS REPORT, AND THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN HAS BEEN PROVIDED AS PART OF A SEPARATE REPORT.

**PERMITTEE OVERSIGHT NOTE**

THE PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMPS. ADDITIONAL SOIL TESTING MAY BE REQUIRED PRIOR TO THE INSTALLATION OF INFILTRATION BASINS 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.

**INFILTRATION BASIN CONSTRUCTION NOTE:**

THE CONTRACTOR SHALL MINIMIZE CONSTRUCTION TRAFFIC TO THE EXTENT PRACTICAL OVER THE INFILTRATION BASIN AREAS IN ORDER TO PROTECT THE INFILTRATION BASIN BOTTOMS FROM COMPACTION. THIS INCLUDES MINIMIZING CONSTRUCTION TRUCK TRAFFIC AND HEAVY EQUIPMENT OVER THE INFILTRATION AREAS AND THE AVOIDANCE OF MATERIAL LAYDOWN DURING CONSTRUCTION.

**THERMAL IMPACTS NOTE:**

RUNOFF FROM THE PROJECT DURING CONSTRUCTION WILL BE FILTERED THROUGH COMPOST SOCKS AND/OR A SEDIMENT TRAP. FOLLOWING THE ABOVE DEVICES, RUNOFF WILL SHEET FLOW OVER VEGETATE AREAS REDUCING ANY THERMAL INCREASE. FOLLOWING CONSTRUCTION, THERMAL IMPACTS WILL BE MITIGATED THROUGH THE USE OF INFILTRATION AND EXTENDED DETENTION.

**CONSTRUCTION WASTES:**

BUILDING DEBRIS, ASPHALT AND CONCRETE ARE THE PRIMARY WASTES ANTICIPATED DURING CONSTRUCTION.

**PROTECTION OF INFILTRATION BMPS:**

THE CONTRACTOR SHALL PROTECT ALL INFILTRATION BMPS FROM COMPACTION DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL INSTALL A VISBLE CONSTRUCTION BARRIER (ORANGE BARRIER FENCING OR EQUIVALENT) TO PREVENT COMPACTION OF THE AREA BY CONSTRUCTION VEHICLES. IF DAMAGED CONTRACTOR WILL BE RESPONSIBLE FOR THE AMENDMENT OF THE AREA AND CERTIFICATION THAT THE AREA MEETS OR EXCEED THE DESIGNED INFILTRATION RATES.

**RESPONSIBILITIES FOR FILL MATERIAL**

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 LANDOWNER.

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: 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".

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.PA.CODE.COM.

**DISPOSAL AND RECYCLING**

THE CONTRACTOR / DEVELOPER SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OR RECYCLING OF ALL WASTE PRODUCED BY CONSTRUCTION ACTIVITIES AND THE MAINTENANCE OF THE PCSM BMPS.

THE OPERATOR SHALL REMOVE FROM THIS SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES FROM THE CONSTRUCTION AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 280.1 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 THIS SITE.

**POTENTIAL POLLUTION IDENTIFICATION**

THE SITE DOES NOT CONTAIN ANY GEOLOGICAL FORMATIONS WITH POLLUTION POTENTIAL DURING CONSTRUCTION.

**CRITICAL STAGES OF CONSTRUCTION**

THE PADEP CHAPTER 102 REGULATIONS WHICH BECAME EFFECTIVE NOVEMBER 19, 2010 REQUIRE A LICENSED PROFESSIONAL OR HIS/HER DESIGNEE BE PRESENT ON-SITE TO OBSERVE, INSPECT AND SIGN-OFF ON THE CRITICAL STAGES OF THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (PCSM) IMPLEMENTATION AND FACILITY INSTALLATION. THE LICENSED PROFESSIONAL OR DESIGNEE SHALL BE PRESENT ON-SITE FOR THE FOLLOWING CRITICAL STAGES OF THE PCSM PLAN IMPLEMENTATION:

- INFILTRATION BASINS (BASIN 2)
- LANDSCAPE RESTORATION (SITE TREES)

NOTE: SIGNED AND SEALED SHOP DRAWINGS OF ALL STRUCTURES SHALL BE PROVIDED TO THE MUNICIPALITY FOR REVIEW AND APPROVAL PRIOR TO THE START OF CONSTRUCTION.

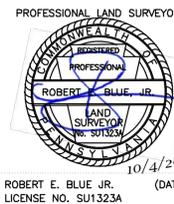
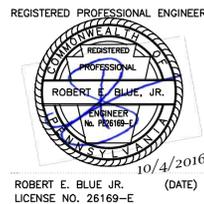
NOTE: SEE LATEST REVISIONS OF PENNDOT PUB 72 RC STANDARDS FOR ALL PENNDOT RC DETAILS.

NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF BMP'S PER MANUFACTURERS SPECIFICATION AND FINAL SHOP DRAWINGS / DESIGN.

CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY AND INSTALL ALL REQUIRED PARTS OF THE BMPS INCLUDING BUT NOT LIMITED TO HDPE LINING (OR APPROVED ALTERNATE), INLET STRUCTURES, MONITORING WELLS, STONE BED AND BACK FILL, SPECIFIED GEOTEXTILE WRAP, GEOGRID (IF REQUIRED FOR LOADING), OUTLET STRUCTURES, PIPE STUBS, OBSERVATION PORTS, AND ANY EXCAVATION OR INSTALLATION MATERIALS REQUIRED.

SOILS TABLE						
MAP SYMBOL	SOIL NAME	SLOPES	HYDROLOGIC GROUP	SEASONAL HIGH WATER TABLE	DRAINAGE CHARACTERISTICS	SOIL ERODIBILITY
ME	MADE LAND, SCHIST & GNEISS MATERIAL		C	N/A	WELL DRAINED	N/A
GcC	GLENELG CHANNERY SILT LOAM	8 - 15	B	N/A	WELL DRAINED	N/A
GcC2	GLENELG CHANNERY SILT LOAM	8 - 15	B	N/A	WELL DRAINED	N/A

- SOIL LIMITATION RESOLUTIONS:**
- SHOULD SOIL LIMITATIONS BE ENCOUNTERED, A QUALIFIED GEOTECHNICAL ENGINEER WILL BE CONSULTED PRIOR TO PROCEEDING WITH CONSTRUCTION IN THE AREA WITH THE LIMITATIONS. APPROPRIATE EARTH-WORK CONSTRUCTION TECHNIQUES, INCLUDING IMPORTING SUITABLE SOILS AND UTILIZING LOCAL SUMPS AND PUMPS (TO APPROVED SEDIMENT REMOVAL FACILITIES) TO KEEP EXCAVATIONS DRY, AS RECOMMENDED BY A QUALIFIED GEOTECHNICAL ENGINEER, SHOULD BE IMPLEMENTED IF SOIL LIMITATIONS ARE ENCOUNTERED.
  - WETNESS: PUMP EXCESS WATER TO APPROVED SEDIMENT REMOVAL FACILITIES. CAP/PLUG ANY PERENNIAL SPRINGS OR CONSISTENT SOURCES ENCOUNTERED.
  - BEDROCK: IF ROCK IS NOT RIPPLEABLE, BLASTING MAY BE REQUIRED. IF ROCK IS ENCOUNTERED IN BASIN AREAS, BASIN BOTTOM(S) MUST BE CAPPED.
  - FROST ACTION: ALL BUILDING FOUNDATIONS WILL BE SET WITH FOOTINGS BELOW FROST ACTION LEVEL. OTHER FACILITIES SHALL BE DESIGNED UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER, IF NECESSARY.
  - SLOPE: APPROPRIATE EROSION AND SEDIMENTATION CONTROL TECHNIQUES WILL BE IMPLEMENTED TO AVOID EROSION OF STEEP SLOPE AREAS PER THE APPROVED EROSION & SEDIMENTATION CONTROL PLAN



**REVISIONS**

NO.	DATE	DESCRIPTION
1.		

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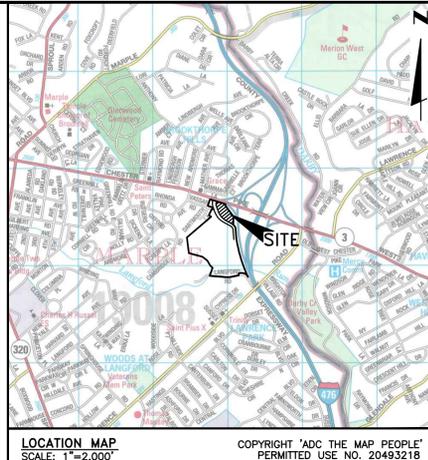
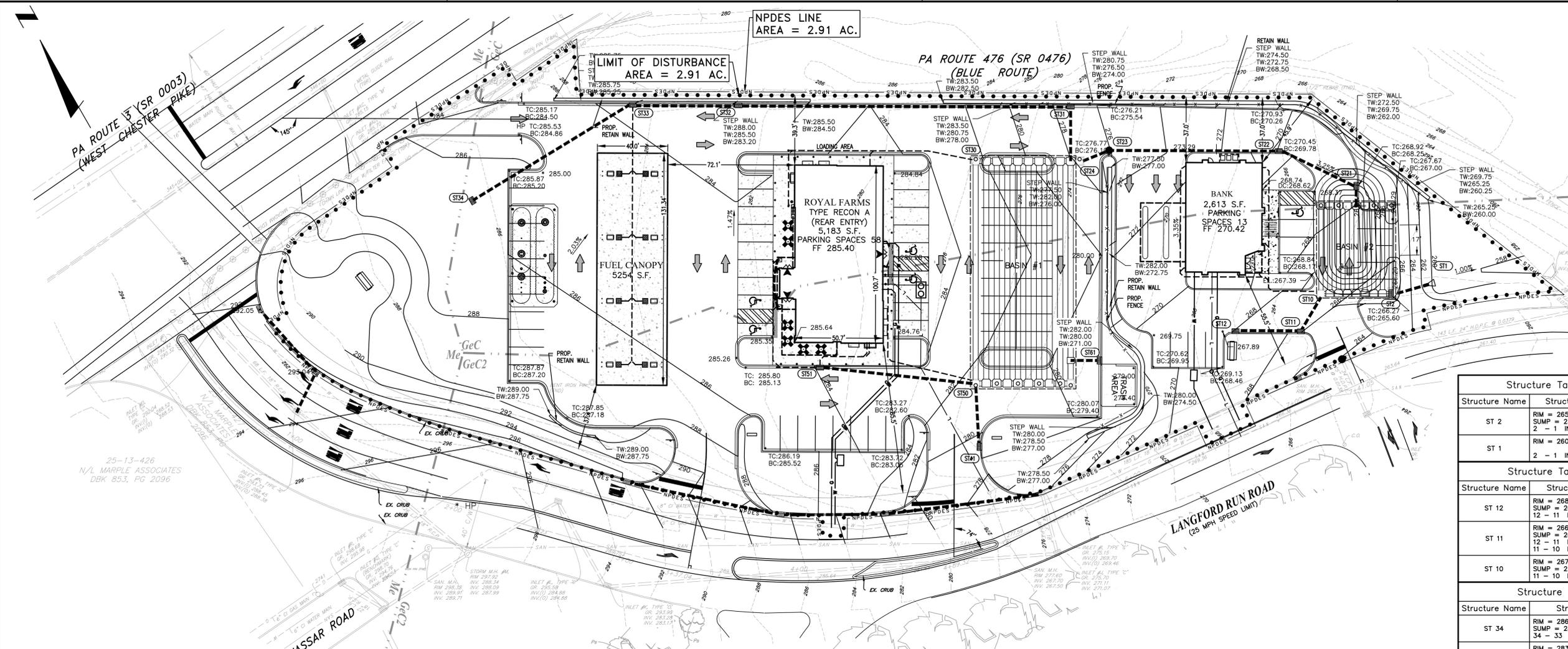


**PCSM NOTES**

**ROYAL FARMS #195**  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
PENNSYLVANIA

PREPARED FOR  
**ROYAL FARMS**  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211

DRAWN BY: RBC	CHECKED BY: RBC	SCALE: N.T.S.
DATE: 9/9/2016	JOB NUMBER: 2012-2E	SHEET: 19 OF 32

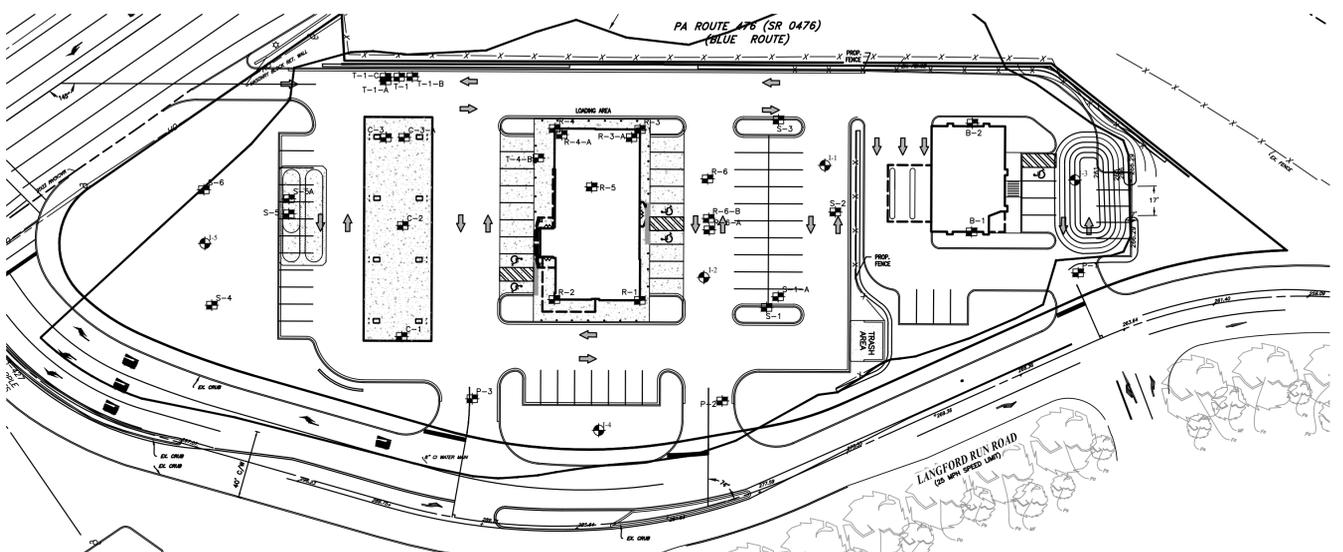


**POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**

SCALE: 1" = 30'

**LEGEND:**

- TITLE LINE
- LEGAL R/W
- ADJACENT PROPERTY LINE
- BUILDING SETBACK LINE
- ROAD CENTERLINE
- EASEMENT LINE
- EDGE OF PAVEMENT
- EX CURB LINE
- EX FENCELINE
- EX CONTOUR ELEVATION
- CONCRETE PAD/SIDEWALK
- EX BUILDING LINE
- EX WATER LINE
- EX COMMUNICATIONS LINE
- EX GAS LINE
- EX ELECTRIC LINE
- EX SANITARY SEWER w/ MANHOLE
- EX STORM SEWER w/ MANHOLE
- PROPOSED BUILDING
- CONCRETE PAD
- ROYAL FARMS CURB
- CURB
- PR. CONTOUR
- SPOT ELEVATION
- STORMWATER PIPE
- W/ INLET TYPE "C"
- SANITARY SEWER LATERAL
- GAS SERVICE
- WATER SERVICE
- INFILTRATION TEST LOCATION
- SOIL BORING LOCATION



**SOIL BORING/INFILTRATION TEST LOCATION DETAIL**

SCALE: 1" = 50'

**PERMITTEE OVERSIGHT:**  
 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.

**E&S/PCSM PLAN CONSISTENCY:**  
 THE EROSION & SEDIMENT CONTROL PLAN AND THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN HAVE BEEN PROVIDED SEPARATELY. HOWEVER, THEY HAVE BEEN PLANNED, DESIGNED AND IMPLEMENTED TO BE CONSISTENT WITH ONE ANOTHER. THE EROSION & SEDIMENT CONTROL PLAN IS PROVIDED AS PART OF THIS REPORT, AND THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN HAS BEEN PROVIDED AS PART OF A SEPARATE REPORT. REFER TO THE PLANS DATED SEPTEMBER 9, 2016, AS LAST REVISED.

**MUNICIPAL ACKNOWLEDGEMENT STATEMENT**  
 \_\_\_\_\_ ON THIS DATE \_\_\_\_\_ HAS REVIEWED AND APPROVED THIS PLAN AS BEING IN ACCORDANCE WITH THE TOWNSHIP STORMWATER MANAGEMENT ORDINANCE. NO. \_\_\_\_\_

TOWNSHIP OFFICIAL \_\_\_\_\_ DATE \_\_\_\_\_

**OWNER ACKNOWLEDGEMENT STATEMENT**  
 AS THE OWNER, I AM ACKNOWLEDGING THAT ANY REVISION TO THE APPROVED SWM SITE PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE MUNICIPALITY AND COUNTY CONSERVATION DISTRICT, AND APPROVED BY THE CONSERVATION DISTRICT OR MUNICIPALITY (AS APPLICABLE) FOR A DETERMINATION OF ADEQUACY PRIOR TO CONSTRUCTION OF THE REVISED FEATURES.

OWNER \_\_\_\_\_ DATE \_\_\_\_\_

IMPROVEMENTS SHOWN WITHIN LANGFORD RUN ROAD RIGHT-OF-WAY AND WEST CHESTER PIKE (SR 0003) RIGHT-OF-WAY ARE SCHEMATIC FOR INFORMATIONAL PURPOSES ONLY. PROPOSED IMPROVEMENTS, EXCLUDING CURB RETURNS, ARE NOT A PART OF THIS DEVELOPMENT PROJECT. THE INFORMATION SHOWN IS TAKEN FROM PLANS PREPARED BY CHESTER VALLEY ENGINEERS, INC.

**Structure Table**

Structure Name	Structure Details
ST 2	RIM = 265.60 SUMP = 259.00 2 - 1 INV IN = 259.00
ST 1	RIM = 260.86 2 - 1 INV IN = 258.80

**Structure Table**

Structure Name	Structure Details
ST 12	RIM = 268.00 SUMP = 264.00 12 - 11 INV OUT = 264.00
ST 11	RIM = 266.00 SUMP = 262.80 12 - 11 INV IN = 263.00 11 - 10 INV OUT = 262.80
ST 10	RIM = 267.00 SUMP = 259.00 11 - 10 INV IN = 262.00

**Structure Table**

Structure Name	Structure Details
ST 34	RIM = 286.00 SUMP = 280.00 34 - 33 INV OUT = 280.00
ST 33	RIM = 283.90 SUMP = 278.74 34 - 33 INV IN = 278.94 33 - 32 INV OUT = 278.74
ST 32	RIM = 283.32 SUMP = 277.94 33 - 32 INV IN = 278.14 33 - 31 INV IN = 277.94
ST 31	RIM = 277.50 SUMP = 272.95 32 - 31 INV IN = 273.15 31 - BASIN 1 INV OUT = 272.95
ST 24	RIM = 277.93 SUMP = 271.56 24 - 23 INV OUT = 271.56
ST 23	RIM = 276.10 SUMP = 271.22 24 - 23 INV IN = 271.40 24 - 22 INV OUT = 271.22
ST 22	RIM = 269.78 SUMP = 263.80 22 - 22 INV IN = 265.78 22 - 21 INV OUT = 263.80
ST 21	RIM = 268.92 SUMP = 261.20 21 - 21 INV IN = 262.84 21 - BASIN 2 INV OUT = 261.20

**Structure Table**

Structure Name	Structure Details
ST 61	RIM = 278.65 SUMP = 274.60 61 - BASIN 1 INV OUT = 274.60
ST 51	RIM = 283.95 SUMP = 278.20 51 - 50 INV OUT = 278.20
ST 50	RIM = 281.56 SUMP = 271.60 41 - 50 INV IN = 273.85 51 - 50 INV IN = 273.85
ST 41	RIM = 279.50 SUMP = 276.15 41 - 50 INV OUT = 276.15

**Pipe Table**

Pipe Name	Size	Length	Slope
2 - 1	18	20	1.00%

**Pipe Table**

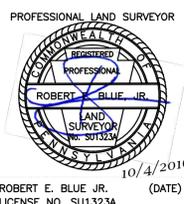
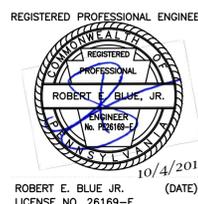
Pipe Name	Size	Length	Slope
12 - 11	18	39	2.56%
11 - 10	18	24	3.32%

**Pipe Table**

Pipe Name	Size	Length	Slope
34 - 33	18	106	1.00%
33 - 32	18	60	1.00%
32 - 31	18	189	2.53%
31 - BASIN 1	18	30	1.00%
24 - 23	18	18	0.89%
23 - 22	18	97	5.61%
22 - 21	18	48	2.00%
21 - BASIN 2	18	11	4.09%

**Pipe Table**

Pipe Name	Size	Length	Slope
61 - BASIN 1	18	16	4.69%
51 - 50	18	89	4.89%
41 - 50	18	35	6.57%



**811**  
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CONTRACTORS ARE REQUIRED TO CONTACT UTILITY USERS NOT LESS THAN 3 DAYS NOR MORE THAN 10 DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK. INFORMATION ON THESE PLANS CONCERNING UTILITIES IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

SERIAL #: 20152472496 DATE: SEPTEMBER 4, 2016

**ROYAL FARMS #195**  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 PENNSYLVANIA

PREPARED FOR  
**ROYAL FARMS**  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

DRAWN BY: RBC CHECKED BY: RBC SCALE: AS NOTED  
 DATE: 9/9/2016 JOB NUMBER: 2012-2E SHEET: 20 OF 32

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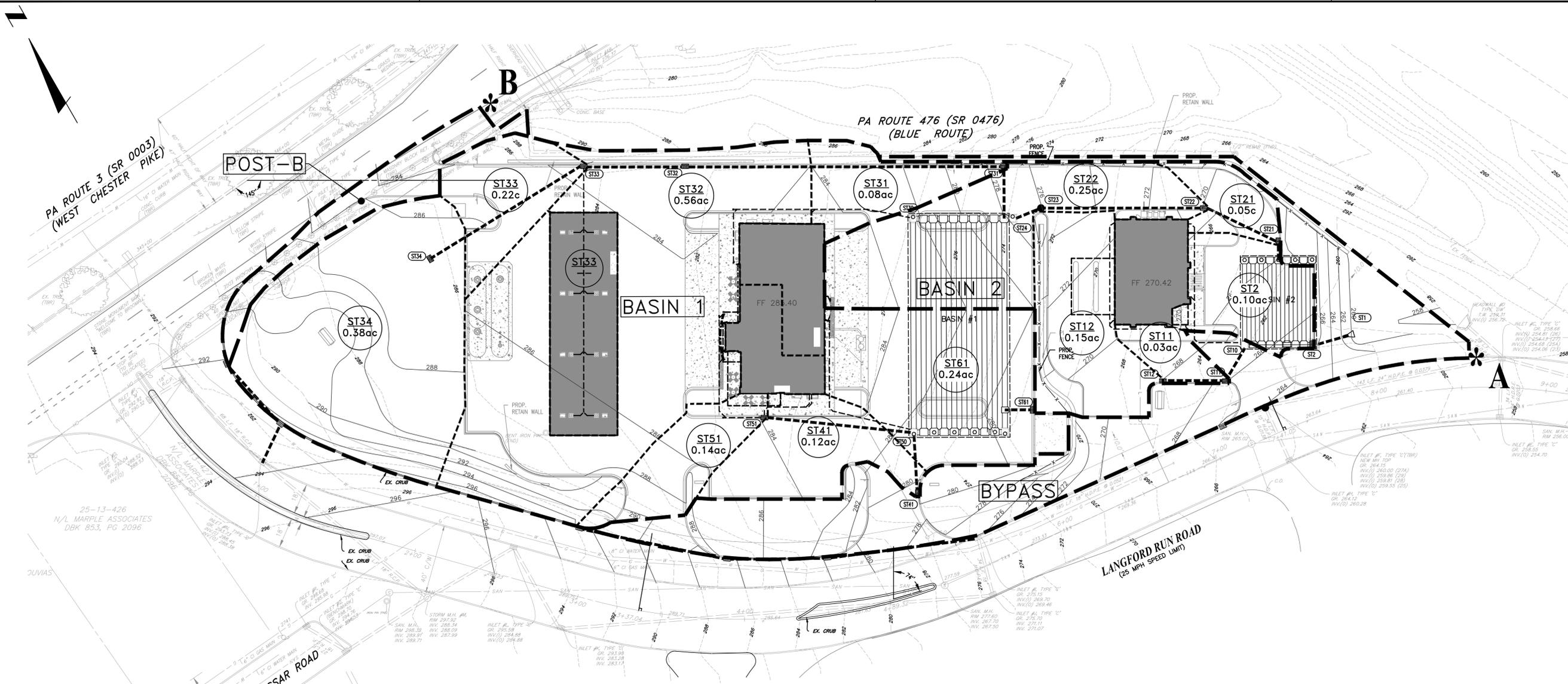
REVISIONS

NO.	DESCRIPTION
1.	

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LAST SAVE: 4/10/2016 10:54:54 AM 10/2/2016 8:14 PM





**INLET DRAINAGE AREA PLAN**  
SCALE: 1" = 30'

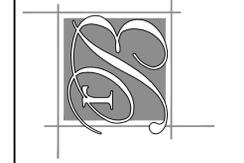
- LEGEND:**
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  - SPOT ELEVATION
  - STORMWATER PIPE
  - W/ INLET TYPE 'C'
  - SANITARY SEWER
  - LATERAL
  - GAS SERVICE
  - WATER SERVICE
  - DRAINAGE BOUNDARY
  - INLET AREA
  - INLET ID W/ AREA
  - STUDY POINT

**REVISIONS**

NO.	DESCRIPTION
1.	

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consulting engineers, p.c.  
1149 Skippack Pike, Blue Bell, PA 19422  
tel: (610)-277-9441 fax: (610)-277-9897  
www.robertblue.com email: rblue@robertblue.com



**ROYAL FARMS #195**  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
PENNSYLVANIA

PREPARED FOR  
**ROYAL FARMS**  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211

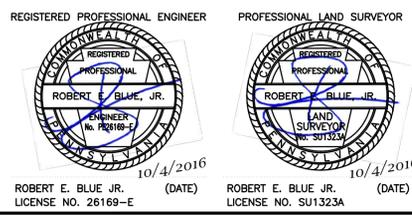
**INLET DRAINAGE AREA PLAN**

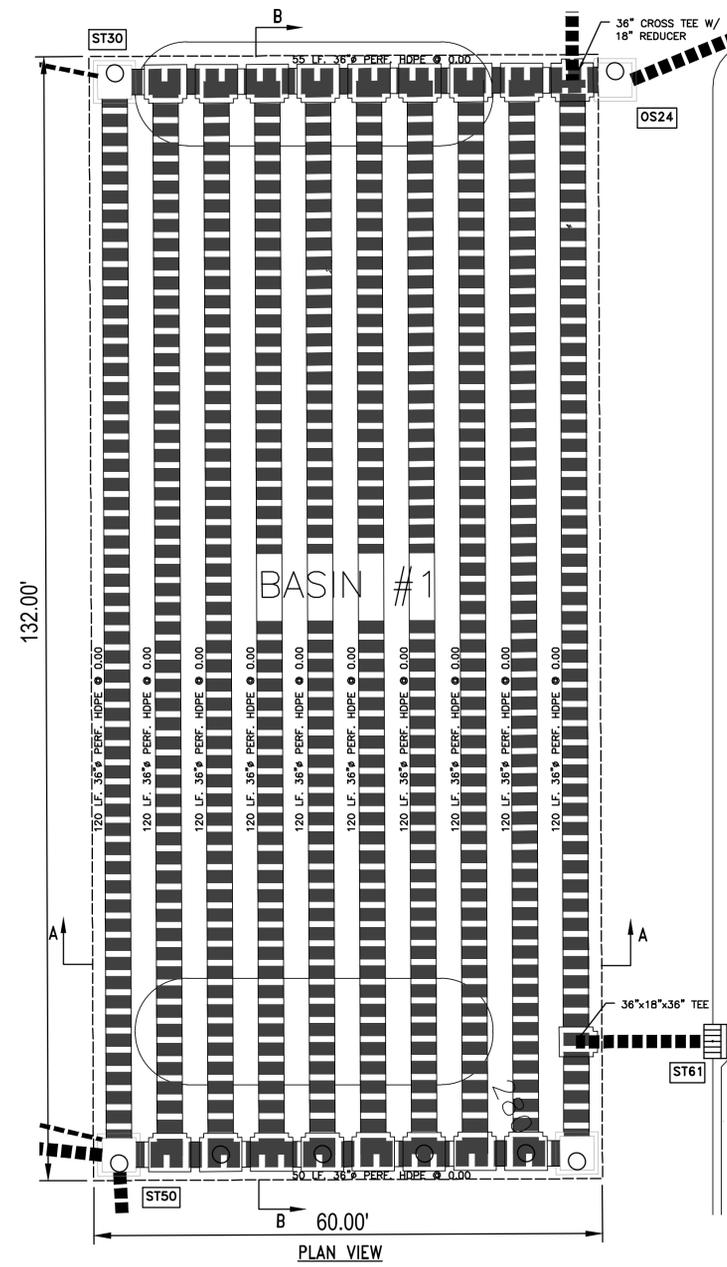
REGISTERED PROFESSIONAL ENGINEER  
ROBERT E. BLUE, JR.  
LICENSE NO. 26169-E

PROFESSIONAL LAND SURVEYOR  
ROBERT E. BLUE, JR.  
LICENSE NO. SU1323A

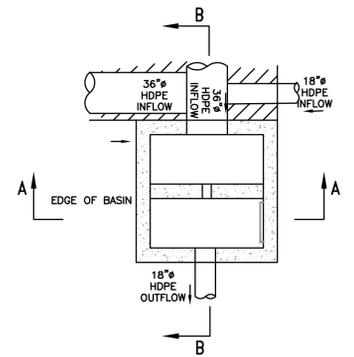
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JOB NUMBER: 2012-2E  
SCALE: 1"=30'  
PAGE: 22 OF 32

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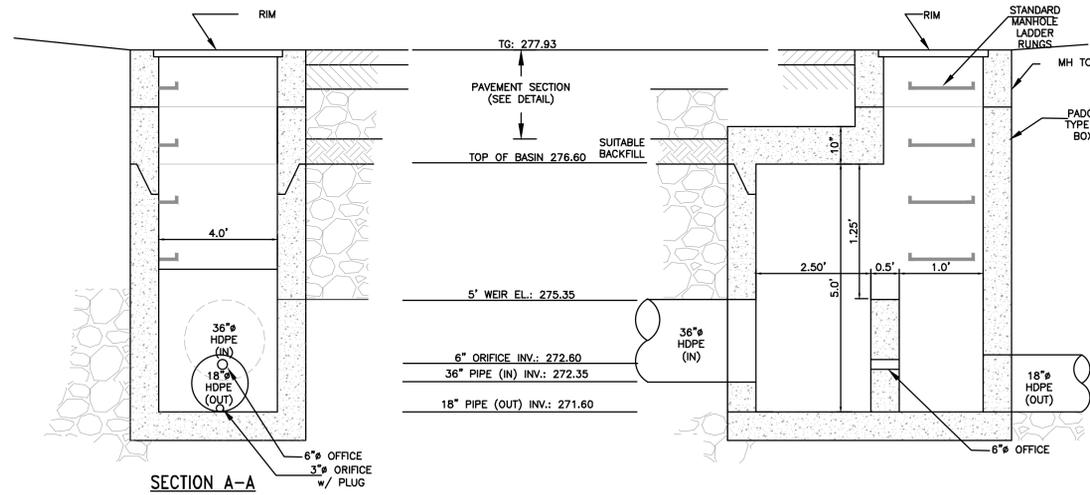


BASIN DETAIL  
N.T.S.



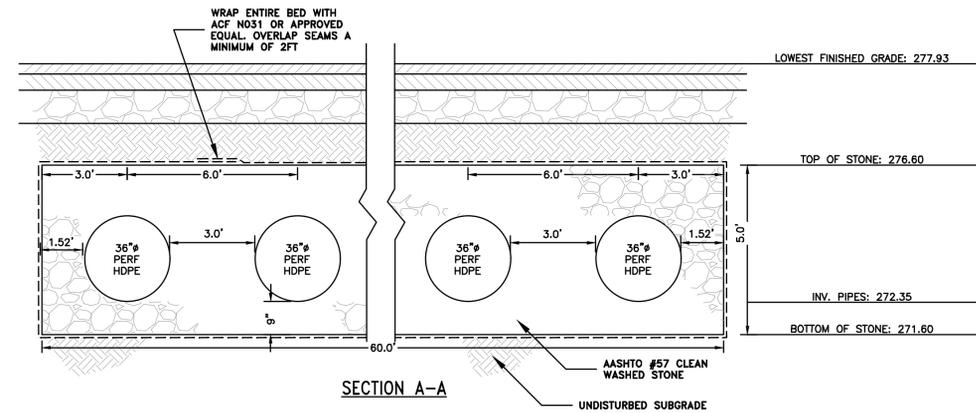
PLAN VIEW

BASIN OUTLET STRUCTURE DETAIL  
N.T.S.

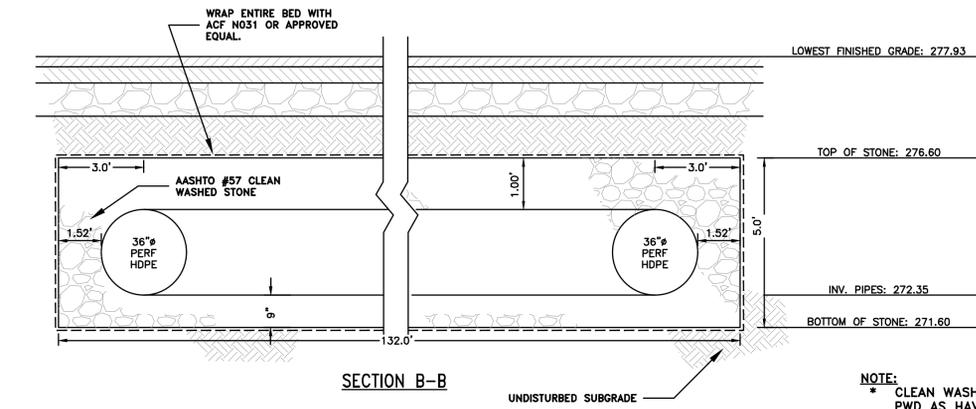


SECTION A-A

SECTION B-B



SECTION A-A



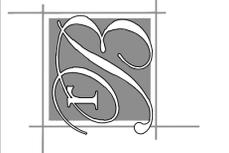
SECTION B-B

**NOTE:**  
 \* CLEAN WASHED STONE IS DEFINED BY PWD AS HAVING LESS THAN 0.5% WASH LOSS, BY MASS, WHEN TESTED PER AASHTO T-11 WASH LOSS TEST.  
 \* ALL PIPES WITHIN STONE BEDS WILL BE WRAPPED IN NON-WOVEN GEOTEXTILE FABRIC.

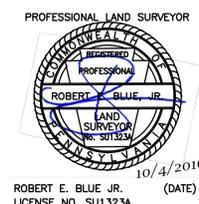
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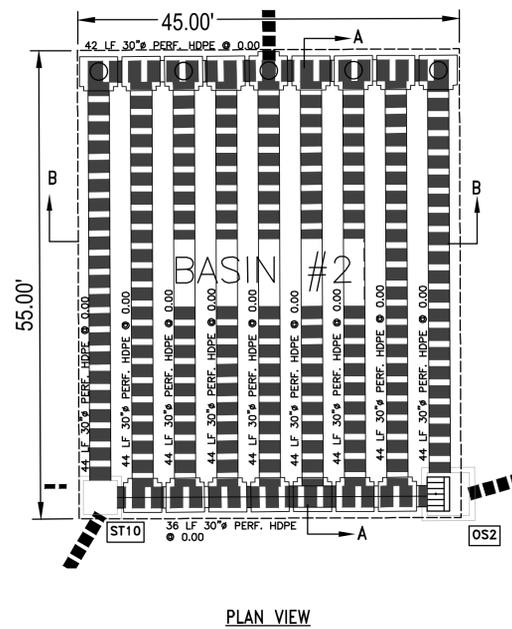
**robert e. blue**  
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 tel: (610)-277-9441 fax: (610)-277-9897  
 www.robertblue.com email: rblue@robertblue.com



**BASIN 1 DETAILS**  
**ROYAL FARMS #195**  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 PENNSYLVANIA  
 PREPARED FOR  
**ROYAL FARMS**  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211

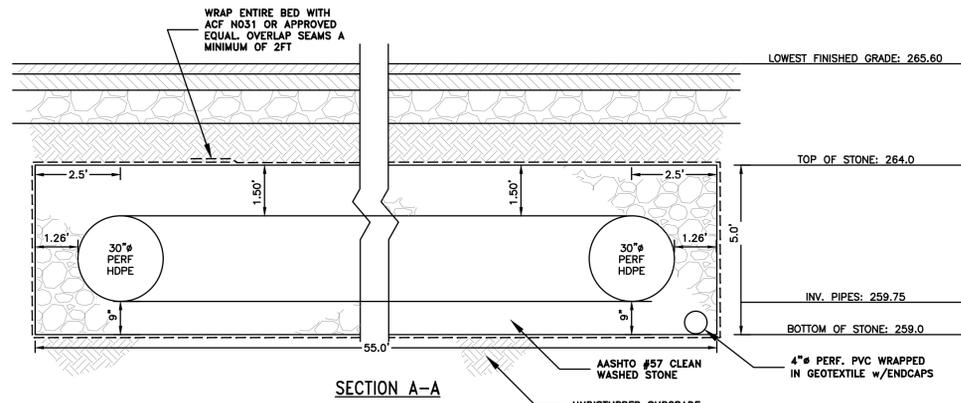


DROWN BY: RBC	CHECKED BY: RBC	SCALE: N.T.S.
DATE: 9/9/2016	JOB NUMBER: 2012-2E	23 of 32

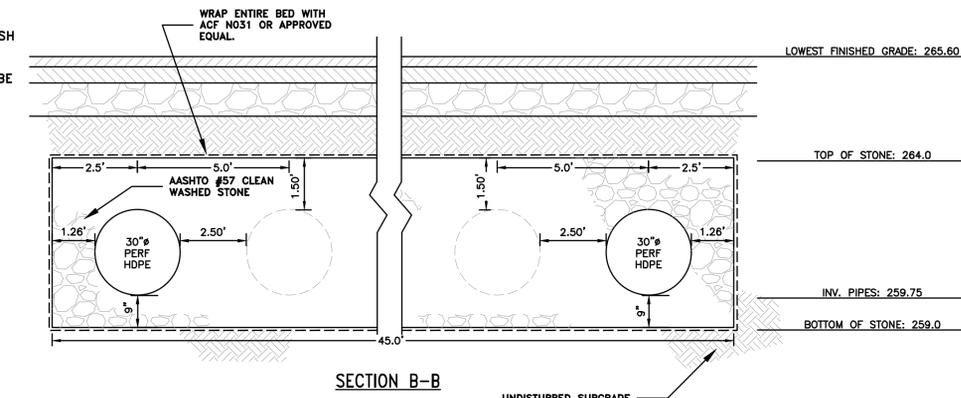


PLAN VIEW

**NOTE:**  
 \* CLEAN WASHED STONE IS DEFINED BY PWD AS HAVING LESS THAN 0.5% WASH LOSS, BY MASS, WHEN TESTED PER AASHTO T-11 WASH LOSS TEST.  
 \* ALL PIPES WITHIN STONE BEDS WILL BE WRAPPED IN NON-WOVEN GEOTEXTILE FABRIC.

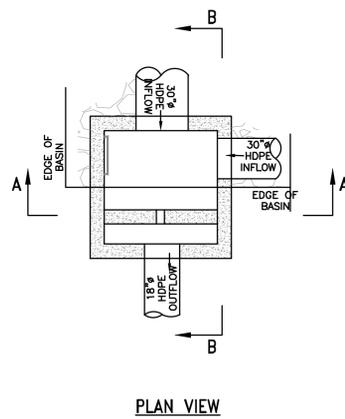


SECTION A-A

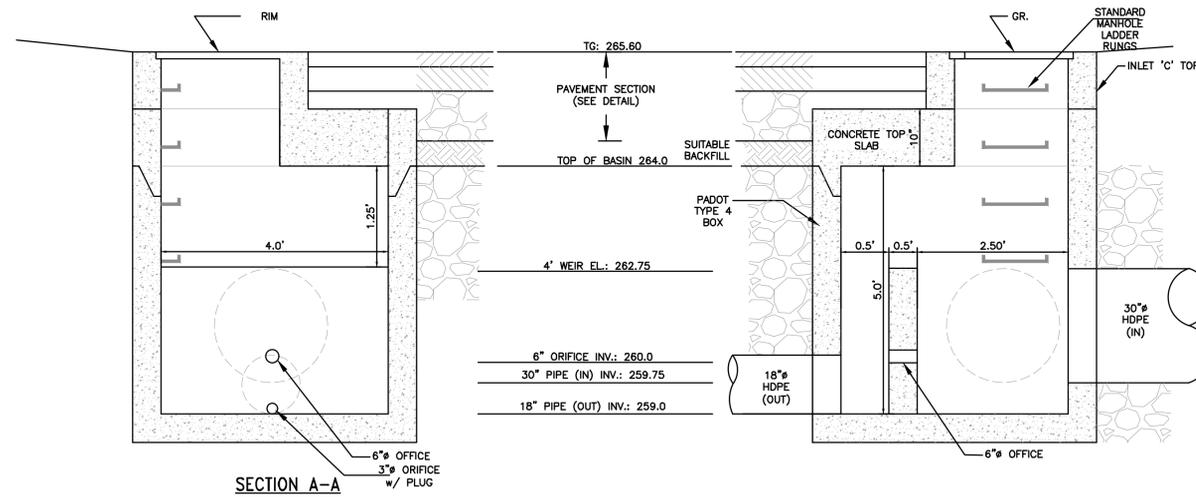


SECTION B-B

BASIN DETAIL  
N.T.S.



PLAN VIEW



SECTION A-A

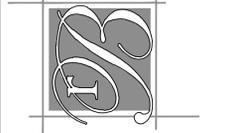
SECTION B-B

BASIN OUTLET STRUCTURE DETAIL  
N.T.S.

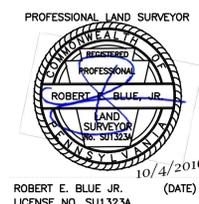
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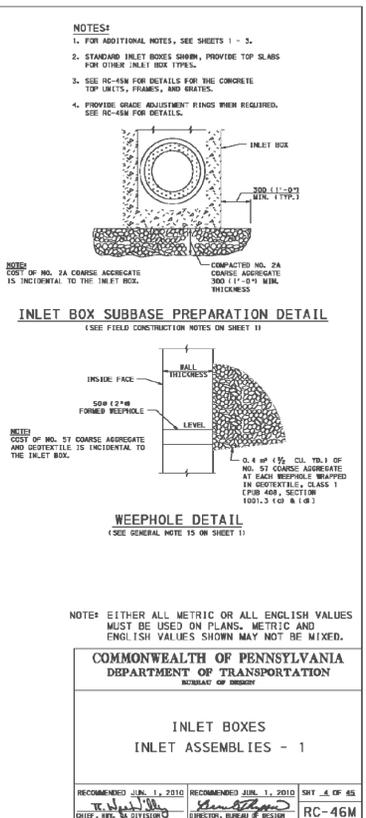
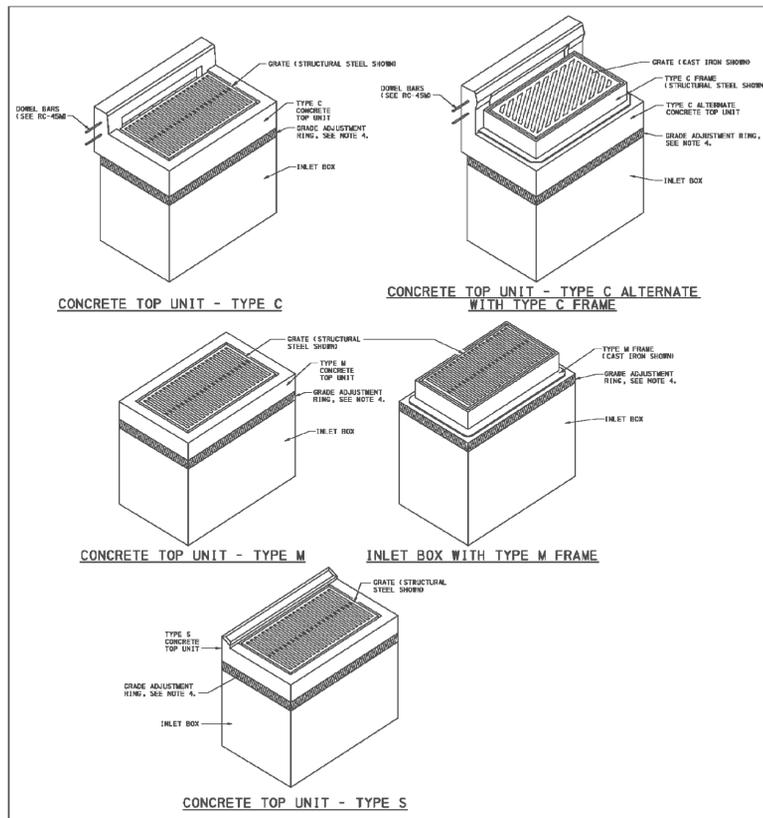
**ROYAL FARMS #195**  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 PENNSYLVANIA  
 PREPARED FOR  
**ROYAL FARMS**  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211



ROBERT E. BLUE JR. (DATE) 10/4/2016  
 LICENSE NO. 26169-E

ROBERT E. BLUE JR. (DATE) 10/4/2016  
 LICENSE NO. SU1323A

DATE	BY	CHECKED BY	SCALE
9/9/2016	RBC	RBC	N.T.S.



NOTES:  
 1. FOR ADDITIONAL NOTES, SEE SHEETS 1 - 3.  
 2. STANDARD INLET BOXES SHOWN, PROVIDE TOP SLABS FOR OTHER INLET BOX TYPES.  
 3. SEE RC-45M FOR DETAILS FOR THE CONCRETE TOP UNITS, FRAMES, AND GRATES.  
 4. PROVIDE GRADE ADJUSTMENT RINGS WHEN REQUIRED. SEE RC-45M FOR DETAILS.

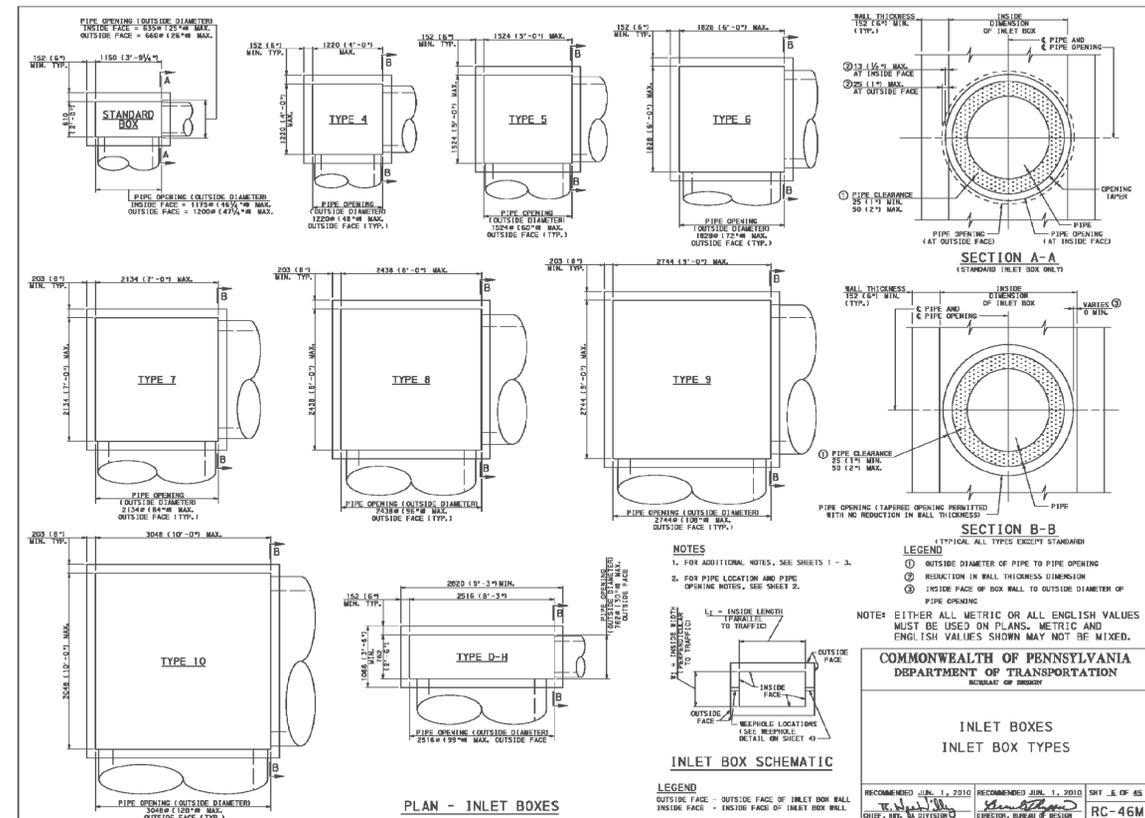
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COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION  
 BUREAU OF DESIGN

INLET BOXES  
 INLET ASSEMBLIES - 1

RECOMMENDED JUN. 1, 2010  
 DIRECTOR, BUREAU OF DESIGN

SHEET 4 OF 45  
 RC-46M



NOTES:  
 1. FOR ADDITIONAL NOTES, SEE SHEETS 1 - 3.  
 2. FOR PIPE LOCATION AND PIPING OPENING NOTES, SEE SHEET 2.

LEGEND:  
 (1) OUTSIDE DIAMETER OF PIPE TO PIPE OPENING  
 (2) REDUCTION IN WALL THICKNESS DIMENSION  
 (3) INSIDE FACE OF BOX WALL TO OUTSIDE DIAMETER OF PIPE OPENING

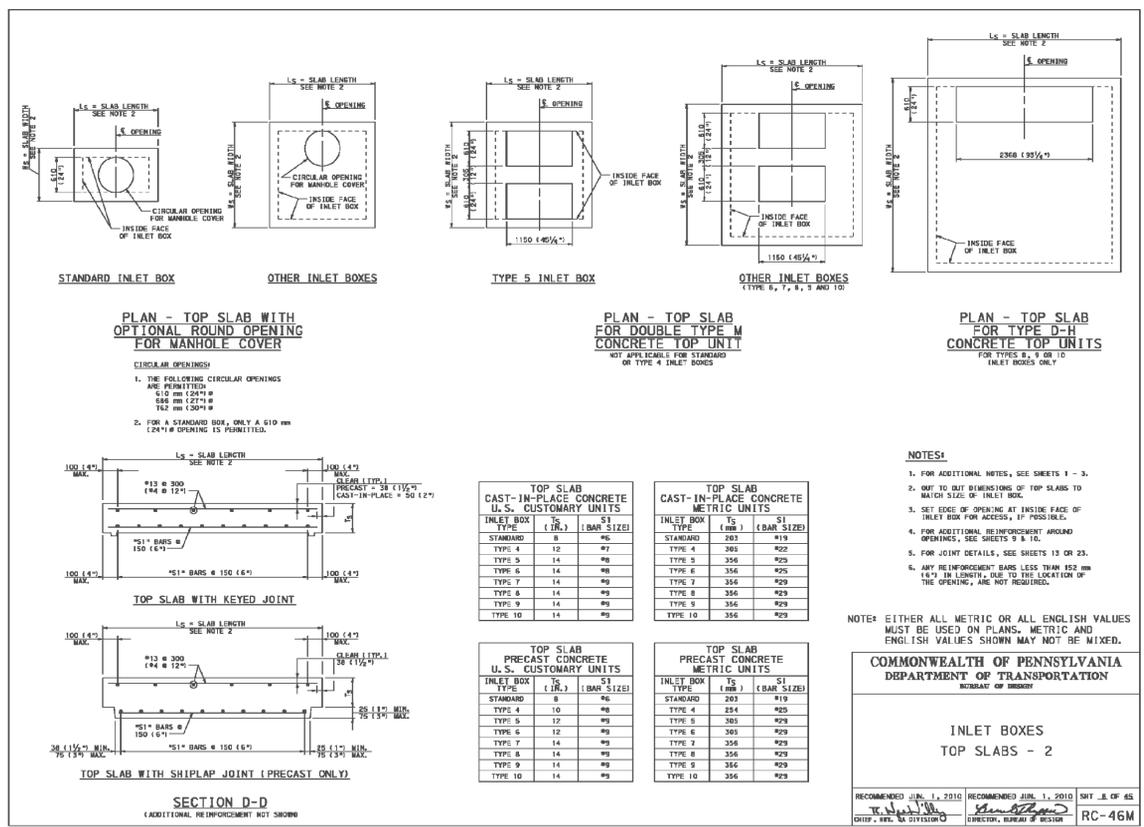
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COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION  
 BUREAU OF DESIGN

INLET BOXES  
 INLET BOX TYPES

RECOMMENDED JUN. 1, 2010  
 DIRECTOR, BUREAU OF DESIGN

SHEET 5 OF 45  
 RC-46M



NOTES:  
 1. FOR ADDITIONAL NOTES, SEE SHEETS 1 - 3.  
 2. ONE TO TWO DIMENSIONS OF TOP SLABS TO MATCH SIZE OF INLET BOX.  
 3. SET EDGE OF OPENING AT INSIDE FACE OF INLET BOX FOR ACCESS, IF POSSIBLE.  
 4. FOR ADDITIONAL REINFORCEMENT AROUND OPENINGS, SEE SHEETS 9 & 10.  
 5. FOR JOINT DETAILS, SEE SHEETS 11 OR 23.  
 6. ANY REINFORCEMENT BARS LESS THAN 1/2" (12.7 mm) IN LENGTH, DUE TO THE LOCATION OF THE OPENING, ARE NOT REQUIRED.

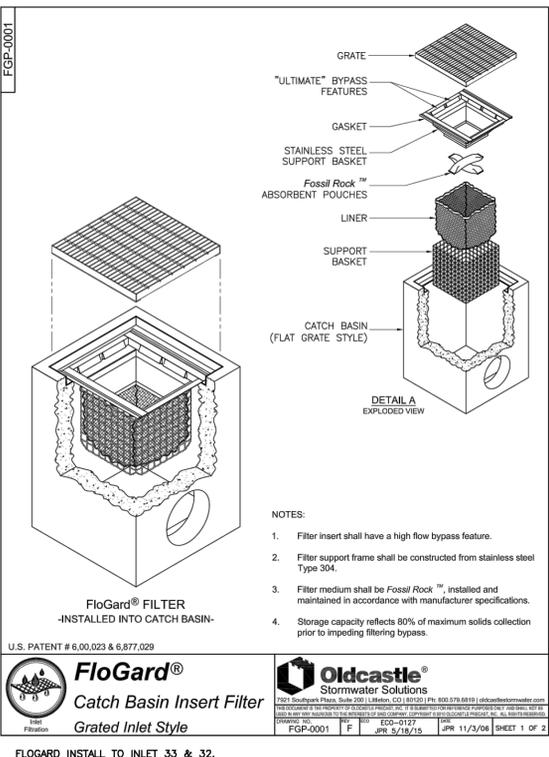
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COMMONWEALTH OF PENNSYLVANIA  
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 BUREAU OF DESIGN

INLET BOXES  
 TOP SLABS - 2

RECOMMENDED JUN. 1, 2010  
 DIRECTOR, BUREAU OF DESIGN

SHEET 6 OF 45  
 RC-46M



U.S. PATENT # 6,000,023 & 6,877,029

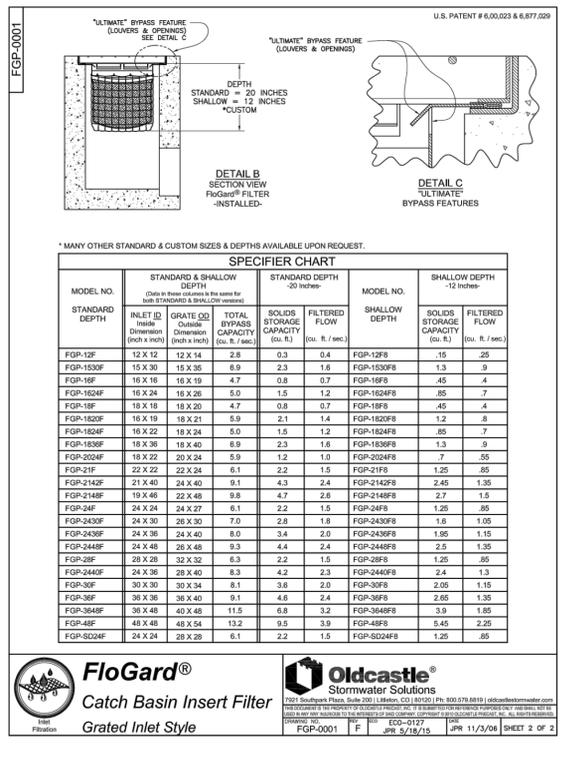
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 Catch Basin Insert Filter  
 Grated Inlet Style

FLOGARD INSTALL TO INLET 33 & 32.

U.S. PATENT # 6,000,023 & 6,877,029

**Oldcastle®**  
 Stormwater Solutions

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 Product No. FGP-0001 F JPR 5/18/15 JPR 11/3/06 SHEET 1 OF 2



U.S. PATENT # 6,000,023 & 6,877,029

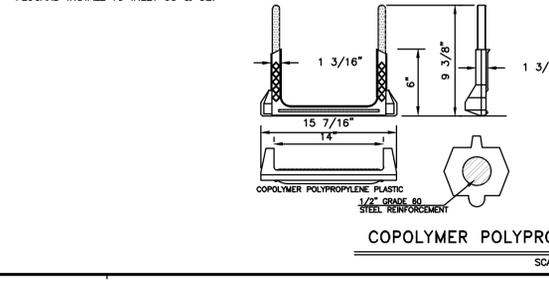
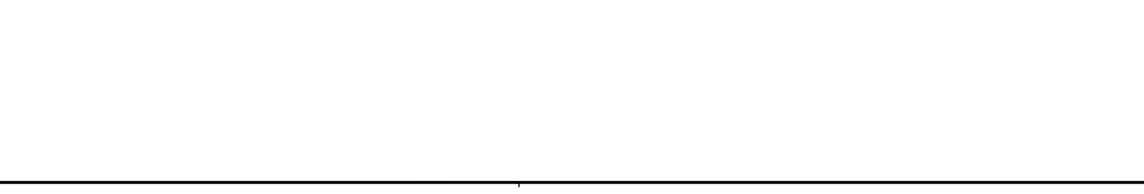
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 Product No. FGP-0001 F JPR 5/18/15 JPR 11/3/06 SHEET 2 OF 2



COPOLYMER POLYPROPYLENE PLASTIC MANHOLE STEP (ASTM C-478)  
 ELASTIC

MANHOLE STEPS ARE TO BE MADE OF COPOLYMER POLYPROPYLENE THE COPOLYMER POLYPROPYLENE TO CONFORM TO A.S.T.M. D-4141-95B PPO34483334202 (THE PREVIOUS STANDARD A.S.T.M. D-4101-92B, WAS REPEALED BY D-4101-95B)

REGISTERED PROFESSIONAL ENGINEER  
 ROBERT E. BLUE, JR.  
 LICENSE NO. 26169-E

REGISTERED PROFESSIONAL LAND SURVEYOR  
 ROBERT E. BLUE, JR.  
 LICENSE NO. SU1323A

10/4/2016

ROBERT E. BLUE, JR. (DATE)  
 LICENSE NO. 26169-E

ROBERT E. BLUE, JR. (DATE)  
 LICENSE NO. SU1323A

SCALE: N.T.S.

PCSM DETAILS

ROYAL FARMS #195  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 PENNSYLVANIA

PREPARED FOR  
 ROYAL FARMS  
 3611 ROLAND AVENUE  
 BALTIMORE, MD 21211

DRAWN BY: RBC  
 CHECKED BY: REB  
 DATE: 9/9/2016

SCALE: N.T.S.

25 OF 32

REVISIONS

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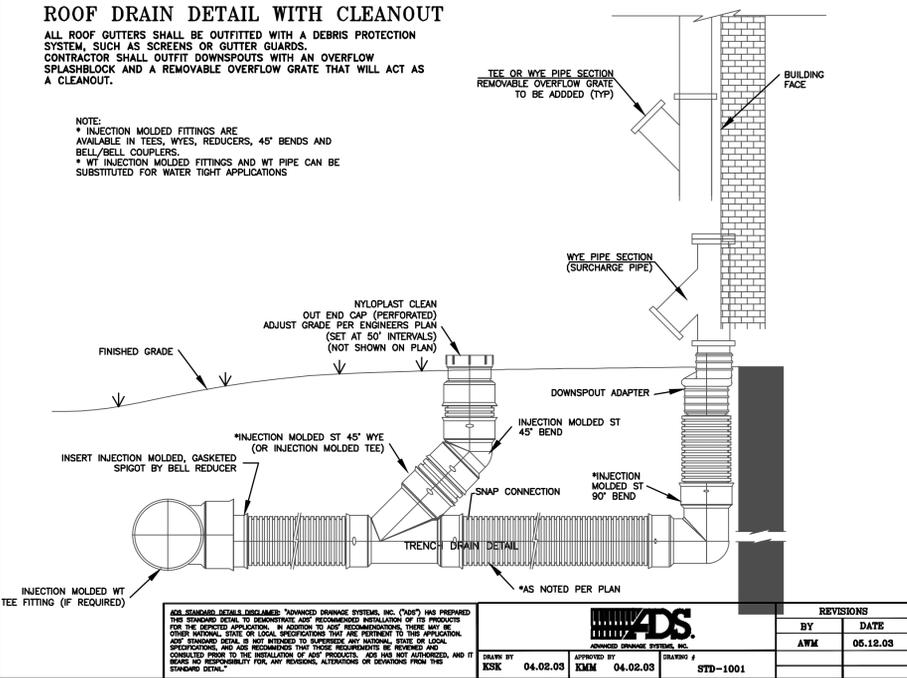




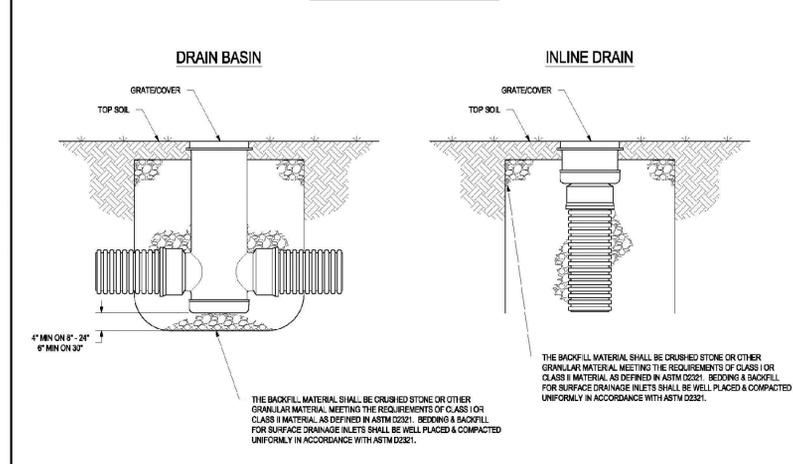
**ROOF DRAIN DETAIL WITH CLEANOUT**

ALL ROOF GUTTERS SHALL BE OUTFITTED WITH A DEBRIS PROTECTION SYSTEM, SUCH AS SCREENS OR GUTTER GUARDS. CONTRACTOR SHALL OUTFIT DOWNSPOUTS WITH AN OVERFLOW SPLASHBLOCK AND A REMOVABLE OVERFLOW GRATE THAT WILL ACT AS A CLEANOUT.

- NOTE:
- \* INJECTION MOLDED FITTINGS ARE AVAILABLE IN TEES, WYES, REDUCERS, 45° BENDS AND BELL/BELL COUPLERS.
  - \* WT INJECTION MOLDED FITTINGS AND WT PIPE CAN BE SUBSTITUTED FOR WATER TIGHT APPLICATIONS



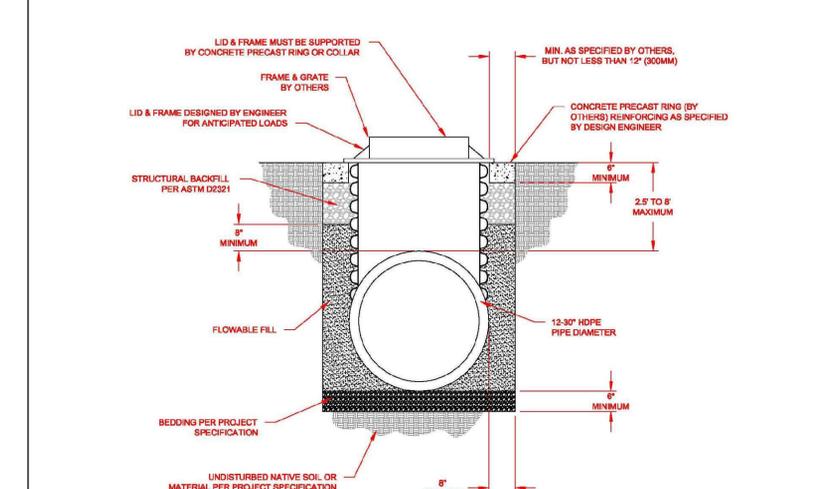
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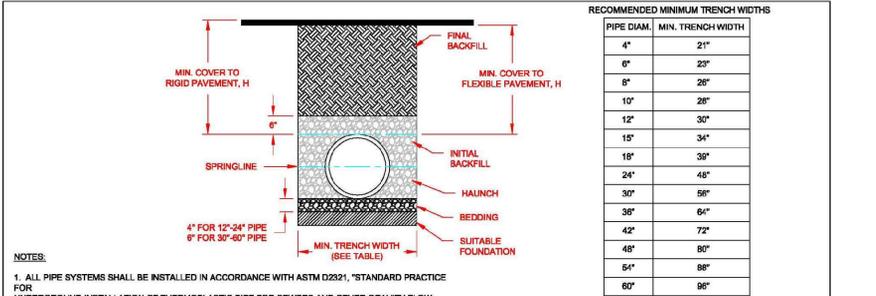
EMERGENCY OVERFLOW DETAIL

REV	DATE	DESCRIPTION	BY	CHKD
1	04.02.03	ISSUED FOR PERMIT	KJM	AWM
2	04.02.03	REVISED PER PLAN	KJM	AWM



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REV	DATE	DESCRIPTION	BY	CHKD
1	04.02.03	ISSUED FOR PERMIT	KJM	AWM
2	04.02.03	REVISED PER PLAN	KJM	AWM



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	38"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	H-20	HEAVY CONSTRUCTION (75 T/ALE LOAD)
12" - 48"	12"	48"
54" - 60"	24"	60"

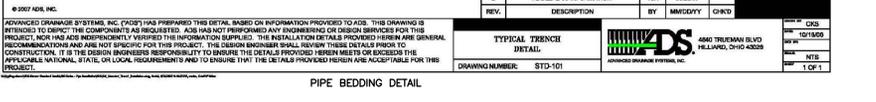
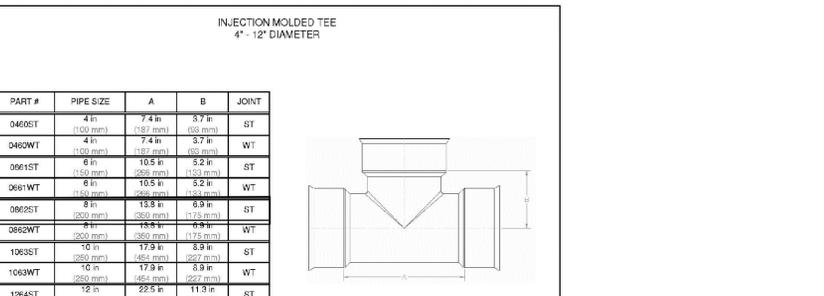
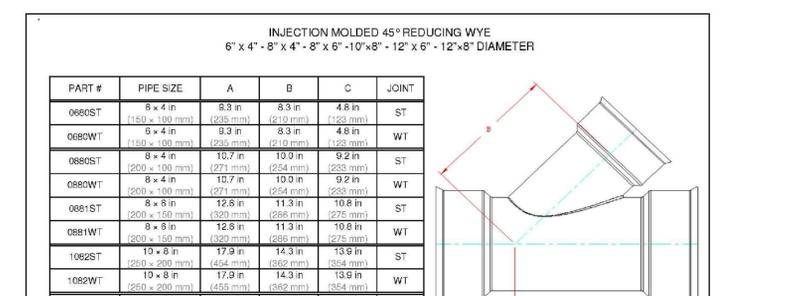
VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-50*
UP TO 24"	24"
30" - 36"	36"
42" - 60"	48"

\* COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.

\*\* E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2309 PIPE.



DUAL WALL FABRICATED REDUCING WYES

18" x 4" - 18" x 6" DIAMETER

PART #	PIPE SIZE	A	B	C	JOINT
1881N	18" x 4"	28.7 in	23.0 in	25.9 in	-
1881ANSB	18" x 4"	24" in	23.0 in	22.7 in	ST
1881ANSW	18" x 4"	24" in	23.0 in	22.7 in	WT
1881N	18" x 6"	38.9 in	25.1 in	24.0 in	-
1881ANSB	18" x 6"	28.8 in	25.1 in	24.0 in	ST
1881ANSW	18" x 6"	28.8 in	25.1 in	24.0 in	WT
1882N	18" x 8"	52.9 in	27.2 in	29.0 in	-
1882ANSB	18" x 8"	39.9 in	27.2 in	25.3 in	ST
1882ANSW	18" x 8"	39.9 in	27.2 in	25.3 in	WT
1883N	18" x 10"	66.9 in	28.7 in	29.2 in	-
1883ANSB	18" x 10"	31.9 in	28.7 in	26.7 in	ST
1883ANSW	18" x 10"	31.9 in	28.7 in	26.7 in	WT

\* FLAN END ST - SOIL TIGHT WT - WATER TIGHT

NOTE: ALL FITTINGS DIMENSIONS ARE FOR REFERENCE ONLY.

INJECTION MOLDED REDUCING TEE

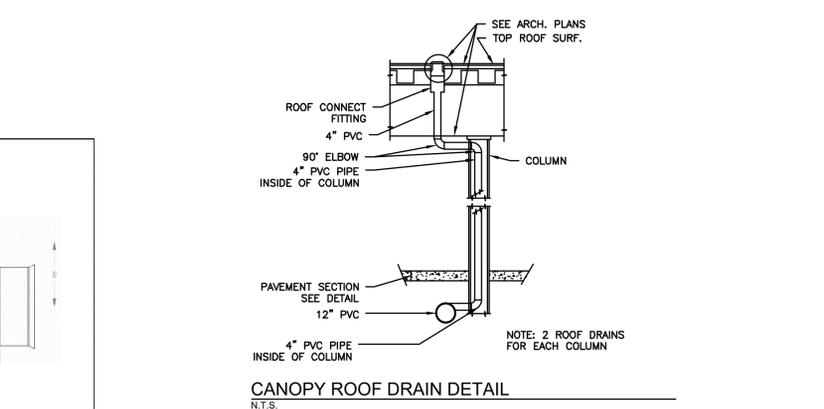
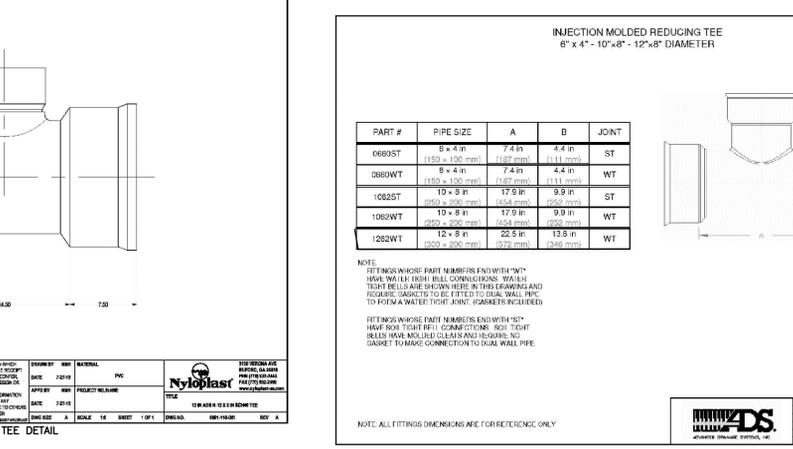
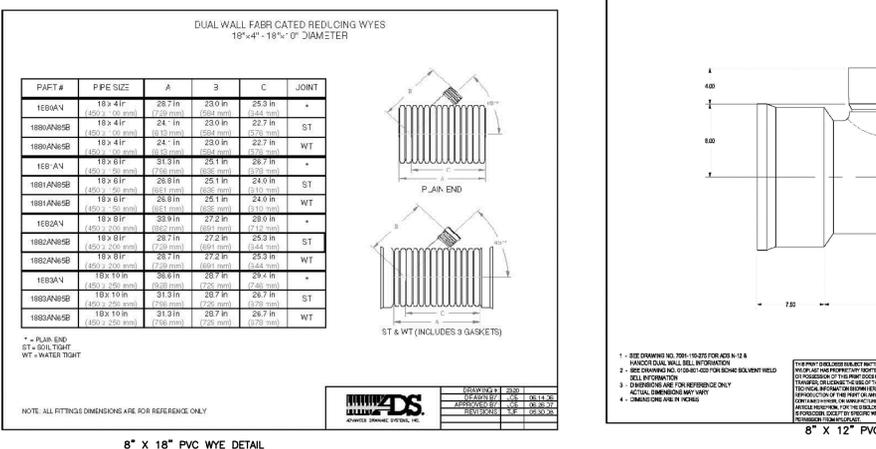
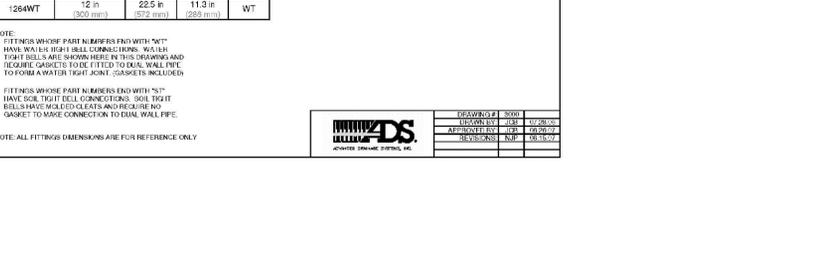
6" x 4" - 10" x 8" - 12" x 8" DIAMETER

PART #	PIPE SIZE	A	B	JOINT
0660ST	6" x 4"	7.4 in	4.4 in	ST
0660WT	6" x 4"	7.4 in	4.4 in	WT
0881ST	8" x 6"	10.5 in	5.2 in	ST
0881WT	8" x 6"	10.5 in	5.2 in	WT
1063ST	10" x 8"	13.9 in	6.9 in	ST
1063WT	10" x 8"	13.9 in	6.9 in	WT
1264WT	12" x 8"	18.1 in	11.3 in	WT

NOTE: FITTINGS WHOSE PART NUMBERS END WITH "WT" HAVE WATER TIGHT BELL CONNECTIONS. WATER TIGHT BELLS ARE SHOWN HERE IN THIS DRAWING AND REQUIRE GASKETS TO BE FITTED TO DUAL WALL PIPE TO FORM A WATER TIGHT JOINT. (GASKETS INCLUDED)

FITTINGS WHOSE PART NUMBERS END WITH "ST" HAVE SOIL TIGHT BELL CONNECTIONS. SOIL TIGHT BELLS HAVE MOLDED GASKETS AND REQUIRE NO GASKET TO MAKE CONNECTION TO DUAL WALL PIPE.

NOTE: ALL FITTINGS DIMENSIONS ARE FOR REFERENCE ONLY.



8" x 18" PVC WYE DETAIL

REV	DATE	DESCRIPTION	BY	CHKD
1	04.02.03	ISSUED FOR PERMIT	KJM	AWM
2	04.02.03	REVISED PER PLAN	KJM	AWM

8" x 12" PVC TEE DETAIL

REV	DATE	DESCRIPTION	BY	CHKD
1	04.02.03	ISSUED FOR PERMIT	KJM	AWM
2	04.02.03	REVISED PER PLAN	KJM	AWM



REVISIONS

NO.	DATE	DESCRIPTION	BY	CHKD
1	04.02.03	ISSUED FOR PERMIT	KJM	AWM
2	04.02.03	REVISED PER PLAN	KJM	AWM

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PCS&M DETAILS

ROYAL FARMS #195  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
PENNSYLVANIA

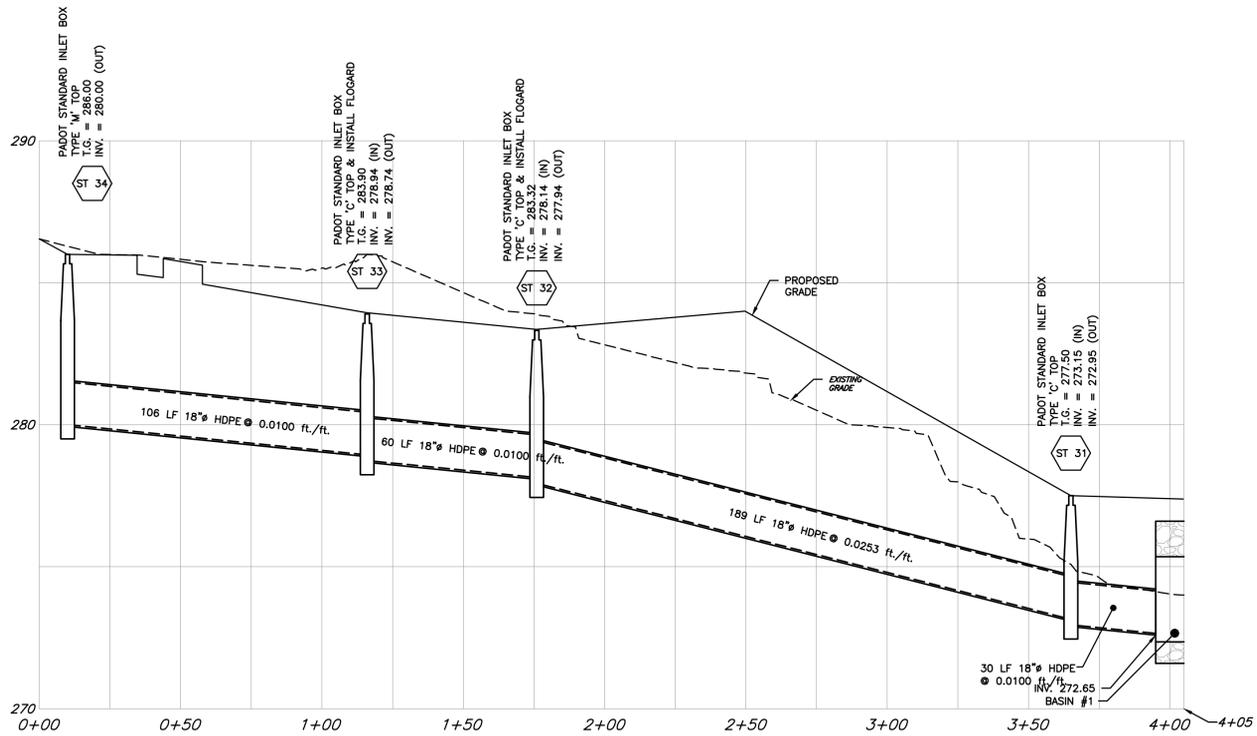
PREPARED FOR  
ROYAL FARMS  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211

REGISTERED PROFESSIONAL ENGINEER  
ROBERT E. BLUE, JR.  
LICENSE NO. 26169-E

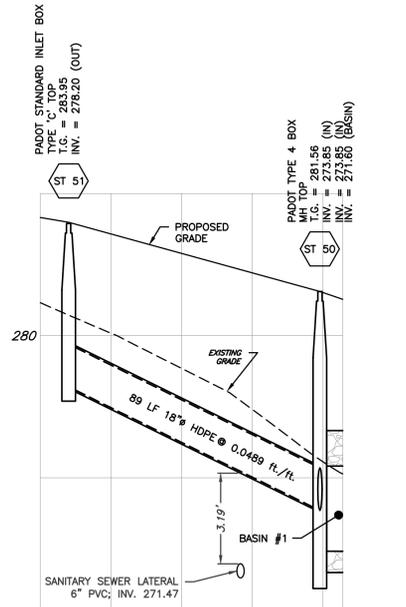
PROFESSIONAL LAND SURVEYOR  
ROBERT E. BLUE, JR.  
LICENSE NO. SU1323A

DATE: 9/9/2016  
JOB NUMBER: 2012-2E  
SCALE: N.T.S.  
PAGE: 27 OF 32

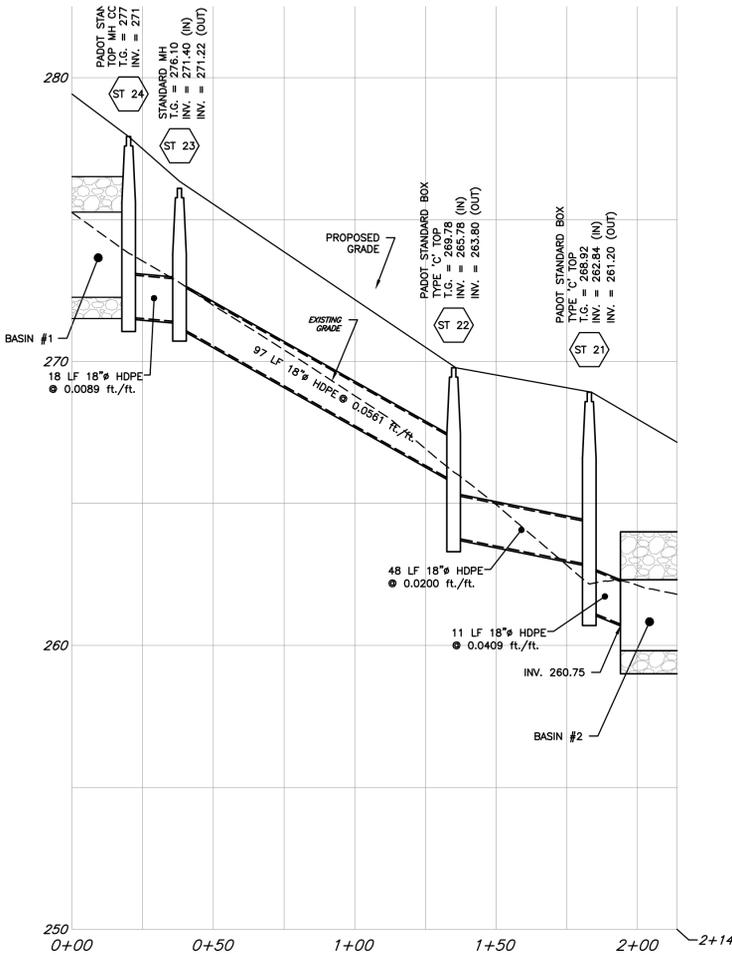




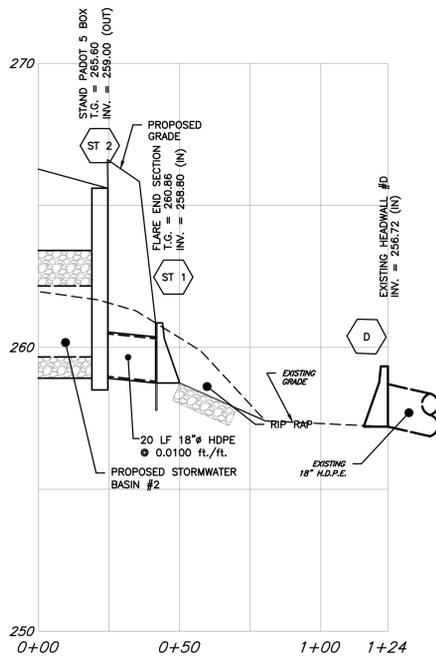
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SCALE: (H) 1" = 30' | (V) 1" = 3'



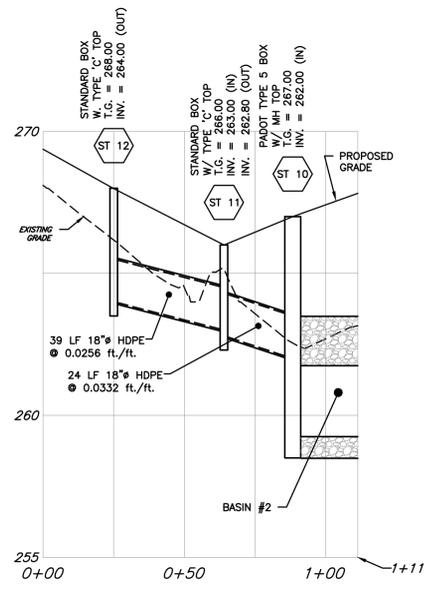
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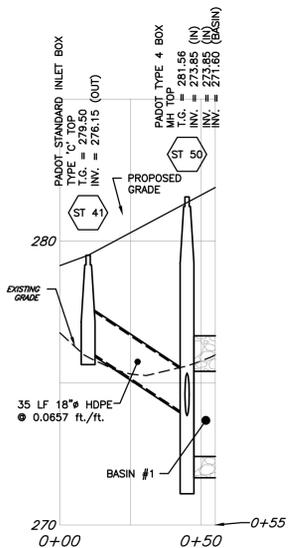
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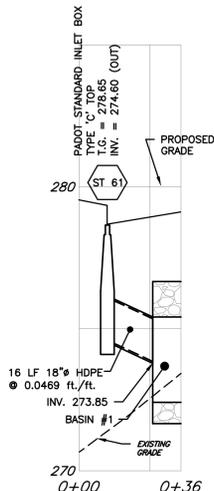
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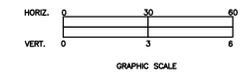
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STORM PROFILE: (ST41 to ST50)  
SCALE: 1" = 20'



STORM PROFILE: (ST61 to BASIN 1)  
SCALE: (H) 1" = 30' | (V) 1" = 3'



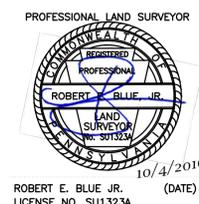
NO.	REVISIONS
1.	

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**ROYAL FARMS #195**  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
PENNSYLVANIA  
PREPARED FOR  
**ROYAL FARMS**  
3611 ROLAND AVENUE  
BALTIMORE, MD 21211



ROBERT E. BLUE, JR. (DATE) 10/4/2016  
LICENSE NO. 26169-E

ROBERT E. BLUE, JR. (DATE) 10/4/2016  
LICENSE NO. SU1323A

DRAWN BY: RBC CHECKED BY: RBC SCALE: 1"=30'  
DATE: 9/9/2016 JOB NUMBER: 2012-2E 29 of 32

**811**  
PENNSYLVANIA ONE CALL  
DIAL 8-1-1 or 1-800-242-1776  
BEFORE YOU DIG  
CONTRACTORS ARE REQUIRED TO CONTACT UTILITY USERS NOT LESS THAN 3 DAYS NOR MORE THAN 10 DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK. INFORMATION ON THESE PLANS CONCERNING UTILITIES IS NOT INTENDED FOR CONSTRUCTION PURPOSES.  
DATE: SEPTEMBER 4, 2015

REGULATORY NOTES:

- 1. THIS EROSION AND SEDIMENT CONTROL PLAN AND ASSOCIATED REPORT WERE PREPARED BY THE STAFF OF ROBERT E. BLUE CONSULTING ENGINEERS, P.C. (REBC) UNDER THE DIRECTION OF ROBERT E. BLUE JR., P.E. THE MEASURES SHOWN HAVE BEEN DESIGNED IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE COUNTY CONSERVATION DISTRICT. REBC DOES NOT TAKE RESPONSIBILITY IN OBSERVING AND/OR CERTIFYING THE CONSTRUCTION OF THESE FACILITIES UNLESS REQUESTED SPECIFICALLY BY THE OWNER AND/OR CONTRACTOR. THEREFORE, REBC DOES NOT ACCEPT ANY RESPONSIBILITY FOR DAMAGES AS A RESULT OF IMPROPER CONSTRUCTION AND/OR MAINTENANCE OF FACILITIES DURING CONSTRUCTION.
2. THE OPERATOR/RESPONSIBLE PARTY (O/RP) SHALL BE DEFINED AS FOLLOWS:
2.1. THE CONTRACTOR FOR THE TIME PERIOD OF INITIAL SITE DISTURBANCE UP TO THE POINT THE SITE ACHIEVES FINAL STABILIZATION AS DEFINED HEREIN.
2.2. ALL OTHER TIMES: THE PERMITTEE/COPERMITEE (PERMITEE) SHALL BE THOSE INDIVIDUALS OR ORGANIZATIONS AS DEFINED ON THE APPROVED EROSION CONTROL PERMIT APPLICATION, THE APPROVED NPDES PERMIT APPLICATION AND/OR THE PROPERTY OWNER.
3. THE CONTRACTOR 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 II, WATER RESOURCES, CHAPTER 102 EROSION CONTROL.
4. RESPONSIBILITIES FOR FILL MATERIAL:
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 LANDOWNER.

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 SEPARATE FROM OTHER WASTE AND 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: 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 A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE SUBMITTED TO TESTING 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 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.PA.CODE.PA.GOV.

AT LEAST TEN DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR/RESPONSIBLE PARTY (O/RP) SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LAND OWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PREPARER, AND THE COUNTY CONSERVATION DISTRICT TO AN ON-SITE MEETING. AT LEAST THREE DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INC. AT 1800-242-1776 (OR 811) FOR BURIED UTILITY LOCATIONS.

PERMITEES REQUESTING A RENEWAL OF COVERAGE UNDER A NPDES PERMIT MUST SUBMIT TO THE COUNTY CONSERVATION DISTRICT AN ADMINISTRATIVELY COMPLETE AND ACCEPTABLE NOTICE OF INTENT FOR AT LEAST 90 DAYS FOR A GENERAL PERMIT (180 DAYS FOR AN INDIVIDUAL PERMIT) PRIOR TO EXPIRATION DATE OF COVERAGE.

NOTICE OF TERMINATION: WHERE ALL STORMWATER DISCHARGE ASSOCIATE WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THE NPDES PERMIT ARE ELIMINATED, AND BMP'S IDENTIFIED IN THE POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) PLAN HAVE BEEN INSTALLED, THE PERMITEE OF THE FACILITY MUST SUBMIT A NOTICE OF TERMINATION (N.O.T.) FORM THAT IS SIGNED IN ACCORDANCE WITH PART B.1.C (SIGNATORY REQUIREMENTS) OF THIS PERMIT TO THE COUNTY CONSERVATION DISTRICT. UNTIL THE PERMITEE HAS RECEIVED WRITTEN ACKNOWLEDGEMENT OF THE N.O.T., THE PERMITEE WILL REMAIN RESPONSIBLE FOR OPERATING AND MAINTAINING ALL E&S BMP'S AND PCSM BMP'S ON THE PROJECT SITE AND WILL BE RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

GENERAL NOTES:

- 1. A COPY OF THE APPROVED EROSION & SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
2. THE O/RP SHALL ASSURE THAT THE APPROVED EROSION CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
3. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION CONTROL PLANS OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE O/RP MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE MUNICIPALITY AND THE COUNTY CONSERVATION DISTRICT.
4. THE O/RP SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLANS HAS BEEN PREPARED, APPROVED BY THE APPROPRIATE CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS. THE O/RP MUST DEVELOP AND HAVE APPROVED BY THE COUNTY CONSERVATION DISTRICT, A SEPARATE EROSION CONTROL PLAN FOR EACH BORROW, SPOIL OR OTHER WORK AREA NOT DETAILED IN THE PERMITTED PLAN, WHETHER LOCATED WITHIN OR OUTSIDE THE CONSTRUCTION LIMITS.
5. UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE O/RP SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BMP FACILITIES; AND MAINTAIN AND MAKE AVAILABLE TO THE CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS, ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, RESEEDING AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
6. EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S. ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO THE SITE FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE BMP'S.
7. WHERE E&S BMP'S ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING INSPECTION, OR ANY OTHER TIME, THE PERMITEE SHALL IMMEDIATELY CONTACT THE CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN FIVE DAYS OF INITIAL CONTACT.
8. UPON REDUCTION, LOSS OR FAILURE OF BMP'S, THE PERMITEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMP'S OR PROVIDE AN ALTERNATE METHOD OF TREATMENT.
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE O/RP SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
10. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE O/RP SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES DURING NON-GERMINATING PERIODS. MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
11. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION CONTROL BMP'S MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL MUST BE STABILIZED IMMEDIATELY.
12. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.

CONSTRUCTION NOTES:

- 1. VEHICLES AND EQUIPMENT MUST NEITHER ENTER DIRECTLY, NOR EXIT DIRECTLY FROM THE SITE ONTO ROADWAYS WITHOUT PASSING OVER THE CONSTRUCTION ENTRANCE AND REMOVING MUD AND SILT FROM TIRES. 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 COUNTY CONSERVATION DISTRICT OR THE MUNICIPALITY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER OR SURFACE WATER.
2. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER. STOCKPILE TOPSOIL WHERE INDICATED ON THE PLAN FOR USE WITH FINAL GRADING, INSTALL PERIMETER SILT PROTECTION AND IMMEDIATELY APPLY TEMPORARY SEEDING AND MULCHING.
3. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORKDAY, OR AS NEEDED, OR DIRECTED BY THE CONSERVATION DISTRICT OR THE MUNICIPALITY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEEP INTO ANY ROAD SIDE DITCH, STORM SEWER, OR SURFACE WATER.
4. 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.
5. ALL SEDIMENT SHALL BE FLUSHED FROM THE ADJACENT STATE, TOWNSHIP AND COUNTY STORM SEWERS AT THE COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL NOT FLUSH SEDIMENT INTO WATERWAYS. TO FLUSH STORMSEWERS, CONTRACTOR SHALL BLOCK THE LOWEST INVERT OF THE SYSTEM AND PUMP SEDIMENT LADEN WATER THROUGH A FILTERBAG OR OTHER DEVICE AND DISCHARGE IN AN APPROPRIATE MANNER (I.E. TO STABILIZED GRADE, OR TANKER TRUCK AND DISPOSED OF PROPERLY)
6. 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.
7. AREAS WHICH ARE TO BE TOP-SOILED 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 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING, I.E. YARDS.
8. 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. (PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES)
9. ALL SOILS RELATED WORK (COMPACTION, INSPECTION, ETC.) SHOULD BE PERFORMED UNDER THE SUPERVISION OF, AND CERTIFIED BY, A QUALIFIED GEOTECHNICAL ENGINEER.
10. TOPSOIL (MINIMUM 6 INCHES) SHALL BE PLACED OVER THE FILL AND SEEDING, LIMING, FERTILIZING AND MULCHING DONE IN ACCORDANCE WITH THE SEEDING SPECIFICATIONS OR APPROVED EQUIVAL.
11. UTILITY LINE TRENCH EXCAVATION NOTES
11.1. LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
11.2. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
11.3. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
11.4. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
11.5. 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 PUMPED THROUGH A FILTRATION DEVICE.
11.6. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED.
11.7. SOILS EXCAVATED FROM EXISTING SURFACE LAYER SHOULD BE STOCKPILED SEPARATELY AND RETURNED AS FINAL SURFACE LAYER FOLLOWING TRENCH BACKFILLING.
12. SEEDING (TEMPORARY AND PERMANENT)
12.1. TEMPORARY SEEDING AS APPROVED BY THE MUNICIPALITY AND THE CONSERVATION DISTRICT SHALL BE PERFORMED ON ALL DISTURBED SOIL AREAS THAT ARE AT FINISHED GRADE, AND ALL DISTURBED SOIL AREAS THAT WILL NOT BE DISTURBED WITHIN ONE YEAR. MINIMUM SPECIFICATIONS ARE AS FOLLOWS:
\* SPRING AND SUMMER SEEDING: 100% ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) [98% PURITY, 90% GERMINATION, APPLIED AT 48 LBS/ACRE]
\* FALL SEEDING: WINTER RYE (TETRA PETKUS) [98% PURITY, 90% GERMINATION, APPLIED AT 168 LBS/ACRE]
12.2. PERMANENT SEEDING AS APPROVED BY THE MUNICIPALITY AND THE COUNTY CONSERVATION DISTRICT SHALL BE PERFORMED ON ALL DISTURBED AREAS THAT ARE AT FINISHED GRADE, AND ALL DISTURBED SOIL AREAS THAT WILL NOT BE DISTURBED WITHIN ONE YEAR. MINIMUM SPECIFICATIONS ARE AS FOLLOWS (OR APPROVED EQUIVALENT):
\* 20% ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) [A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL, 98% PURITY, 90% GERMINATION, APPLIED AT 20 LBS/ACRE]
\* 30% PENNLAWN RED FESCUE [98% PURITY, 85% GERMINATION, APPLIED AT 30 LBS/ACRE]
\* 50% KENTUCKY BLUEGRASS MIXTURE (POA PRATENSIS) [A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 25% OF THE TOTAL, 98% PURITY, 80% GERMINATION, APPLIED AT 55 LBS/ACRE]
12.3. BASIN AREAS: ERNST CONSERVATION SEEDS RETENTION BASIN FLOOR SEEDING FOR WILDLIFE AND PLANT DIVERSITY MIX (ERNMX-127) [98% PURITY, 85% GERMINATION, APPLIED AT 35-40 LBS/ACRE OR 1 LB/1000SF]
12.4. PRIOR TO PERMANENT SEEDING, SOILS TESTING SHALL BE PERFORMED TO DETERMINE THE APPROPRIATE FERTILIZER AND LIMESTONE APPLICATIONS. FERTILIZER AND LIMESTONE SHALL BE APPLIED PER THE RECOMMENDATIONS OF A LICENSED LANDSCAPE PROFESSIONAL. PERMANENT VEGETATION SHOULD BE ESTABLISHED AT THE EARLIEST PRACTICAL DATE. EARLY MOWING AND FERTILIZING PROGRAMS SHALL BE CONTINUED UNTIL VEGETATIVE COVER IS ADEQUATELY ESTABLISHED.
13. TEMPORARY / PERMANENT STABILIZATION
13.1. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
13.2. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 OR STEEPER.
13.3. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
13.4. AN E&S PLAN SHALL BE SUBMITTED TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT AND IMPLEMENTED FOR ALL SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATION.
13.5. THE EROSION AND SEDIMENT CONTROL PLAN FOR THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (E&S MANUAL), COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION (TECHNICAL GUIDANCE NUMBER 363-2134-008) LAST REVISED MARCH 2012. EROSION AND SEDIMENT CONTROL BMP'S SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED AND PCSM BMP'S ARE OPERATIONAL.
14. EMBANKMENTS
14.1. THE FILL MATERIAL SHALL BE TAKEN FROM SELECT BORROW AREAS. IT SHALL BE FREE OF ROOTS, STONES, WOODY VEGETATION, BOULDERS, AND OTHER EXTRANEOUS MATERIAL AREAS ON WHICH FILL IS TO BE PLACED SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, THE SOIL IS TOO WET FOR COMPACTION.
14.2. FILL MATERIAL SHALL BE PLACED IN 6 TO 8 INCH LAYERS AND SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF FILL.
14.3. COMPACTION SHALL BE OBTAINED BY ROUTING THE EQUIPMENT OVER THE FILL SO THAT THE ENTIRE SURFACE OF THE FILL IS TRAVERSED BY AT LEAST ONE TREAD TRACT OF THE EQUIPMENT, OR COMPACTION SHALL BE ACHIEVED BY A COMPACTOR.
14.4. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 10% HIGHER THAN THE DESIGN HEIGHT IF COMPACTION IS OBTAINED WITH HAULING EQUIPMENT. IF COMPACTORS ARE USED, THE OVERBUILD MAY BE REDUCED BY 5%.
14.5. EMBANKMENT SHALL BE COMPACTIONED TO NO LESS THAN 98% OF THE DETERMINED DRY WEIGHT DENSITY (STANDARD PROCTOR). SEE SOIL SPECIFICATIONS FOR IMPERVIOUS CLAY CORE MATERIAL.
14.6. RECOMMENDED REPLACEMENT BACKFILL FOR THE SEDIMENT BASIN BERM FILL MATERIAL SPECIFICATION IS AS FOLLOWS:
\* IT IS RECOMMENDED THAT A CLAY SOIL, CAPABLE OF MAINTAINING A MAXIMUM COEFFICIENT OF PERMEABILITY OF 1.0 X 10-6 CENTIMETERS PER SECOND WHEN COMPACTED TO 98 PERCENT OF STANDARD PROCTOR DENSITY TO BE USED IN THE BERM. SUITABLE MATERIAL WOULD BE A CL SOIL AS CLASSIFIED IN THE UNIFIED SYSTEM. THIS SOIL WOULD HAVE A MINIMUM OF 50 PERCENT BY WEIGHT PASSING THE NUMBER 200 SIEVE WITH A PLASTICITY INDEX BETWEEN 6 AND 15.
\* THIS SOIL WOULD BE SUITABLE FOR PERMEABILITY REQUIREMENTS. A GRANULAR SOIL MAY ALSO BE REQUIRED TO OBTAIN PROPER EMBANKMENT STABILITY.
\* THE EMBANKMENT MATERIAL SHOULD BE PLACED IN MAXIMUM LIFTS OF 8 INCHES LOOSE THICKNESS AND COMPACTED TO 98 PERCENT (MINIMUM) OF THE LABORATORY DETERMINED MAXIMUM DRY DENSITY.
\* ALL SOILS-RELATED WORK (COMPACTION, INSPECTION, ETC.) SHOULD BE PERFORMED UNDER THE SUPERVISION OF, AND CERTIFIED BY, A QUALIFIED GEOTECHNICAL ENGINEER.
\* ASTM D6959 STANDARD PROCTOR TEST, AS MOST RECENTLY REVISED AND UPDATED.

SODDING SPECIFICATIONS

SOIL PREPARATION

- 1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHALL BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.
2. SOIL TESTS SHOULD BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR LIME AND FERTILIZER. SOIL TEST MAY BE CONDUCTED BY THE STATE LABORATORY OR A REPUTABLE COMMERCIAL LABORATORY. INFORMATION ON FREE STATE SOIL TESTS IS AVAILABLE FROM COUNTY OR AGRICULTURAL EXTENSION AGENT.
3. PRIOR TO LAYING SOD, THE SOIL SURFACE SHALL BE CLEAR OF TRASH, DEBRIS, ROOTS, BRANCHES, STONES AND CLOS IN EXCESS OF 2 INCHES IN LENGTH OR DIAMETER. SOD SHALL NOT BE APPLIED TO GRAVEL OR OTHER NON-SOIL SURFACES.
4. ANY IRREGULARITIES IN THE SOIL SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE FILLED OR LEVELED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
5. AREAS TO BE TOPSOILED AND TOPSOIL USED SHALL FULFILL THE REQUIREMENTS OF STANDARD SOIL TAHONAMID CLASSIFICATION OF THE AP OR A HORIZON. NO SOD SHALL BE SPREAD ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS UNTIL ENOUGH TIME HAS ELAPSED TO PERMIT DISSIPATION OF TOXIC MATERIALS.

CHOOSING APPROPRIATE TYPES OF SOD

THE TYPE OF SOD USED MUST BE COMPOSED OF PLANTS ADAPTED TO THE LOCALITY.

QUALITY OF SOD

- 1. SOD USED SHALL BE STATE CERTIFIED OR STATE APPROVED. CERTIFIED TURFGRASS SOD IS GROWN FROM CERTIFIED SEED, INSPECTED AND CERTIFIED. THIS INSURES GENETIC PURITY, HIGH QUALITY, FREEDOM FROM NOXIOUS WEEDS AND EXCESSIVE INSECT OR DISEASE PROBLEMS. THE SOD MUST MEET PUBLISHED STATE STANDARDS AND BEAR AN OFFICIAL LABEL ON THE BILL OF LADING.
2. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. THIS THICKNESS SHALL EXCLUDE SHOOT GROWTH AND THATCH.
3. PIECES OF SOD SHALL BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5 PERCENT. TORN OR UNEVEN PADS WILL NOT BE ACCEPTABLE.
4. STANDARD SIZE SPECIFICATIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.
5. SOD SHALL NOT BE CUT OR LAD IN EXCESSIVELY WET OR DRY WEATHER.
6. SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SOD INSTALLATION

- 1. SOD SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.
2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.
3. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHALL BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS.
4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHALL BE LAID WITH STAGGERED JOINTS AND SECURED BY PEGGING OR OTHER APPROVED METHODS. SOD SHALL BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON THE CONTOUR).
5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHALL BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.
6. AFTER ROLLING, SOD SHALL BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.
7. DURING THE FIRST WEEK, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.
8. THE FIRST MOWING SHALL NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2 - 3 WEEKS. NOT MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED AT ANY ONE CUTTING.

MAINTENANCE OF ESTABLISHED SOD

- 1. AFTER THE FIRST WEEK, SOD SHALL BE WATERED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE IN THE ROOT ZONE AND PREVENT DORMANCY OF SOD.
2. NO MORE THAN 1/3 OF THE SHOOT (GRASS LEAF) SHOULD BE REMOVED IN ANY MOWING. GRASS HEIGHT SHOULD BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED.
3. AFTER THE FIRST GROWING SEASON, ESTABLISHED SOD WILL REQUIRE FERTILIZATION AND MAY REQUIRE LIME. FOLLOW SOIL TEST RECOMMENDATIONS WHEN POSSIBLE.

E&S PLAN AND PCSM PLAN CONSISTENCY

THE EROSION & SEDIMENT CONTROL PLAN AND THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN HAVE BEEN PROVIDED SEPARATELY; HOWEVER, THEY HAVE BEEN PLANNED, DESIGNED AND IMPLEMENTED TO BE CONSISTENT WITH ONE ANOTHER. THE EROSION & SEDIMENT CONTROL PLAN IS PROVIDED AS PART OF THIS REPORT, AND THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN HAS BEEN PROVIDED AS PART OF A SEPARATE REPORT.

PERMITEE OVERSIGHT NOTE

THE PERMITEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMP'S. ADDITIONAL SOIL TESTING MAY BE REQUIRED PRIOR TO THE INSTALLATION OF INFILTRATION BASINS TO ENSURE PROPER LOCATION AND FUNCTION. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMP'S, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

CHAPTER 93 RECEIVING WATERCOURSE NOTE:

THE SITE DRAINS TO LANGFORD RUN, IT IS CLASSIFIED AS WARM WATER FISHERY (WWF), MIGRATORY FISHERY (MF).

INFILTRATION BASIN CONSTRUCTION NOTE:

THE CONTRACTOR SHALL MINIMIZE CONSTRUCTION TRAFFIC TO THE EXTENT PRACTICAL OVER THE INFILTRATION BASIN AREAS IN ORDER TO PROTECT THE INFILTRATION BASIN BOTTOMS FROM COMPACTION. THIS INCLUDES MINIMIZING CONSTRUCTION TRUCK TRAFFIC AND HEAVY EQUIPMENT OVER THE INFILTRATION AREAS AND THE AVOIDANCE OF MATERIAL LAYDOWN DURING CONSTRUCTION.

THERMAL IMPACTS NOTE:

RUNOFF FROM THE PROJECT DURING CONSTRUCTION WILL BE FILTERED THROUGH COMPOST SOCKS AND/OR A SEDIMENT TRAP, FOLLOWING THE ABOVE DEVICES, RUNOFF WILL SHEET FLOW OVER VEGETATE AREAS REDUCING ANY THERMAL INCREASE.

CONSTRUCTION WASTES:

BUILDING DEBRIS, ASPHALT AND CONCRETE ARE THE PRIMARY WASTES ANTICIPATED DURING CONSTRUCTION.

PROJECT DESIGN NOTE:

IN THE PREPARATION OF THE FOLLOWING PLANS FOR PROCUREMENT OF THE PADEP NPDES PERMIT BY THE IMPLEMENTATION OF THESE PLANS AND THE ASSOCIATED PCSM PLANS, THE PROJECT HAS BEEN DESIGNED TO:

- 1. MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE
2. MAXIMIZE THE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION
3. MINIMIZE SOIL COMPACTION
4. UTILIZE AND IMPLEMENT MEASURES AND CONTROLS TO PREVENT AND MINIMIZE THE GENERATION OF INCREASED STORMWATER RUNOFF.

SITE MAINTENANCE

- 1. THE PERMITEE IS TO PROVIDE PROOF BY THE DESIGN ENGINEER OR ON-SITE INSPECTOR THAT MAJOR DRAINAGE STRUCTURES AND CONTROLS HAVE BEEN CONSTRUCTED AS DESIGNED.
2. THE PERMITEE IS ULTIMATELY RESPONSIBLE FOR ALL EROSION AND SEDIMENTATION POLLUTION CONTROL AND SITE STABILIZATION. THE PERMITEE MAY DELEGATE AUTHORITY FOR IMPLEMENTING AND MAINTAINING THE CONTROLS TO INDIVIDUAL LANDOWNERS OR CONTRACTORS. THE ULTIMATE RESPONSIBILITY FOR PROPER INSTALLATION AND MAINTENANCE IS THE PERMITEES.
3. VEGETATION SHALL BE MOWED WHENEVER NECESSARY TO MAINTAIN A PLEASING APPEARANCE AND DISCOURAGE WEED GROWTH. ALL LOCAL REGULATIONS WILL BE COMPLIED WITH.
4. 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 STRIP 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 TIGHT JOINTS AND PEGGING.
5. SEEDED AREAS THAT HAVE WASHED AWAY SHALL BE FILLED AND GRADED AS NECESSARY AND THEN RESEEDED. A BURLAP OR STRAW COVER WILL BE APPLIED AT A RATE OF 3 TONS/ACRE TO RETAIN THE SEED UNTIL IT HAS A CHANCE TO ROOT PROPERLY.
6. THE ABOVE PROCEDURE SHALL BE REPEATED AFTER EACH SIZEABLE STORM UNTIL NO MORE SIGNS OF EROSION ARE EVIDENT. AT WEEKLY INTERVALS THEREAFTER, INSPECTOR AND NECESSARY CLEANING WILL BE DONE. PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE DONE IMMEDIATELY.
7. TRASH THAT IS REMOVED FROM ANY OF THE CONTROL DEVICES SHALL BE DISPOSED OF AT A PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED DISPOSAL AREA. THERE WILL BE NO BURNING OR BURNING OF WASTE ON THE SITE. SILT THAT HAS ACCUMULATED SHALL BE REMOVED AND USED AS FILL WHENEVER REQUIRED ON THE SITE.
8. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AT COMPLETION OF THE PROJECT AFTER ALL EXPOSED SOIL SURFACES ARE FINISH-GRADED AND STABILIZED.

MONITORING, INSPECTION, AND REPORTING REQUIREMENTS

VISUAL INSPECTIONS

THE PERMITEE AND CO-PERMITEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS 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 E&S BMP'S AND PCSM BMP'S ARE PROPERLY CONSTRUCTED AND MAINTAINED TO EFFECTIVELY MINIMIZE POLLUTION TO THE WATERS OF THE COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE AT A MINIMUM:

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

NONCOMPLIANCE REPORTING

WHERE E&S, PCSM OR PPC BMP'S ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITEE AND CO-PERMITEE(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 THREATEN POLLUTION;
(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 RECURRENCE 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 PERMITEE AND CO-PERMITEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMP'S OR PROVIDE AN ALTERNATE METHOD OF TREATMENT. SUCH RESTORED BMP'S OR ALTERNATIVE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMP'S.

COMPLETION CERTIFICATE AND FINAL PLANS

WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE N.O.T., IF SOONER, THE PERMITEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS.

Table with 7 columns: MAP SYMBOL, SOIL NAME, SLOPES, HYDROLOGIC GROUP, SEASONAL HIGH WATER TABLE, DRAINAGE CHARACTERISTICS, SOIL ERODIBILITY. Rows include ME, GwC, GwC2.

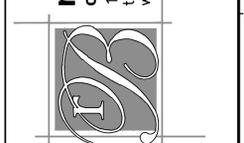
SOIL LIMITATION RESOLUTIONS:

- 1. SHOULD SOIL LIMITATIONS BE ENCOUNTERED, A QUALIFIED GEOTECHNICAL ENGINEER WILL BE CONSULTED PRIOR TO PROCEEDING WITH CONSTRUCTION IN THE AREA WITH THE LIMITATIONS. APPROPRIATE EARTHWORK CONSTRUCTION TECHNIQUES, INCLUDING IMPORTING SUITABLE SOILS AND UTILIZING LOCAL SHUPS AND PUMPS (TO APPROVED SEDIMENT REMOVAL FACILITIES) TO KEEP EXCAVATIONS DRY, AS RECOMMENDED BY A QUALIFIED GEOTECHNICAL ENGINEER, SHOULD BE IMPLEMENTED IF SOIL LIMITATIONS ARE ENCOUNTERED.
2. WETNESS: PUMP EXCESS WATER TO APPROVED SEDIMENT REMOVAL FACILITIES. CAP/PLUS ANY PERENNIAL SPRINGS OR CONSISTENT SOURCES ENCOUNTERED.
3. FROST/ROCK: IF ROCK IS NOT RIPPLEABLE, BLASTING MAY BE REQUIRED. IF ROCK IS ENCOUNTERED IN BASIN AREAS, BASIN BOTTOM(S) MUST BE CAPPED.
4. FROST ACTION: ALL BUILDING FOUNDATIONS WILL BE SET WITH FOOTINGS BELOW FROST ACTION LEVEL. OTHER FACILITIES SHALL BE DESIGNED UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER, IF NECESSARY.
5. SLOPE: APPROPRIATE EROSION AND SEDIMENTATION CONTROL TECHNIQUES WILL BE IMPLEMENTED TO AVOID EROSION OF STEEP SLOPE AREAS PER THE APPROVED EROSION & SEDIMENTATION CONTROL PLAN.

REVISIONS table with columns for revision number and description.

ALL DRAWINGS, SPECIFICATIONS, REQUIREMENTS, DIMENSIONS AND ASSOCIATED NOTES SHALL BE THE PROPERTY OF ROBERT E. BLUE CONSULTING ENGINEERS, P.C. ANY REVISIONS TO THESE DRAWINGS SHALL BE MADE BY THE ORIGINAL DESIGNER OR AN AUTHORIZED REPRESENTATIVE OF ROBERT E. BLUE CONSULTING ENGINEERS, P.C. ANY UNAUTHORIZED REVISIONS SHALL BE THE RESPONSIBILITY OF THE USER.

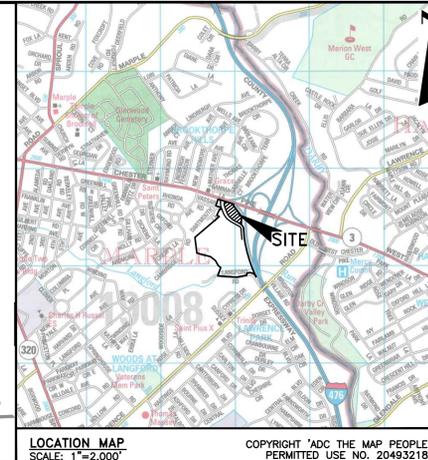
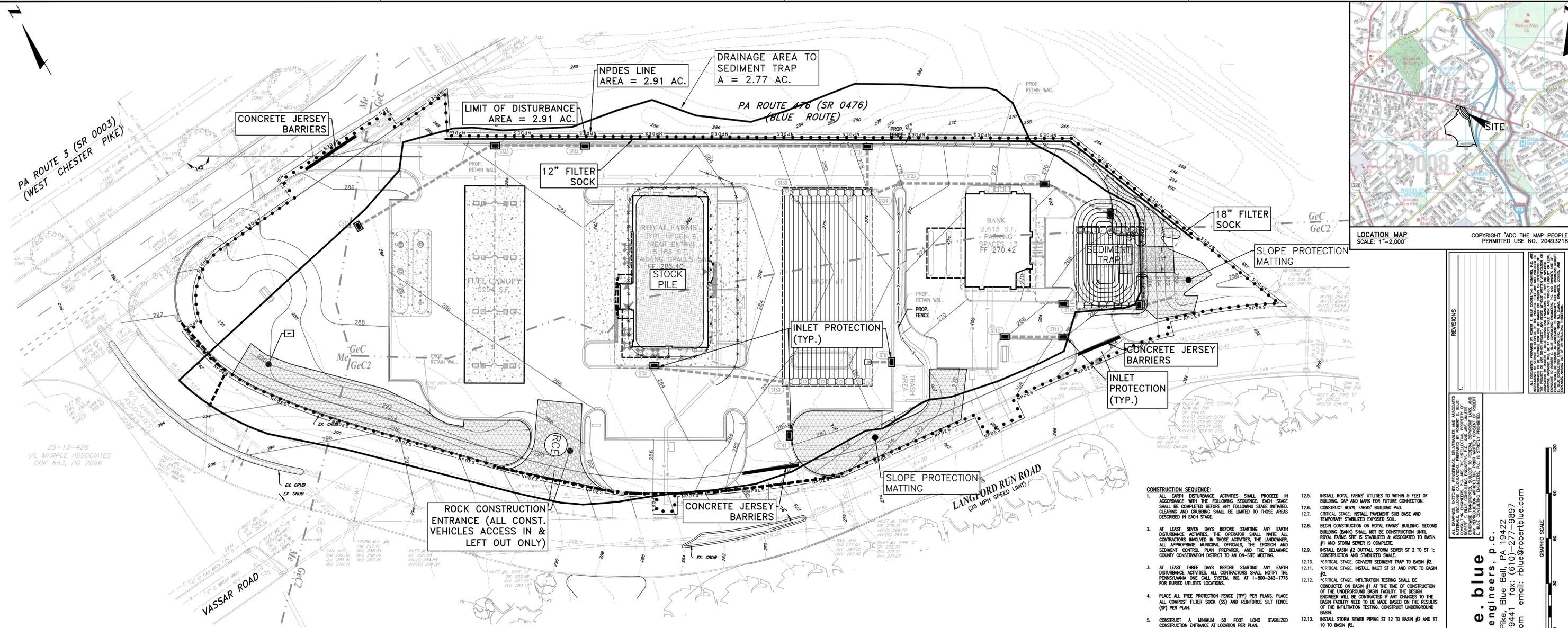
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EROSION CONTROL NOTES, ROYAL FARMS #195 MARPLE TOWNSHIP DELAWARE COUNTY PENNSYLVANIA, PREPARED FOR ROYAL FARMS 3611 ROLAND AVENUE BALTIMORE, MD 21211

Professional Engineer and Professional Land Surveyor seal for Robert E. Blue, Jr. License No. 26169-E and License No. SU1323A. Date: 10/4/2016.

Table with 3 columns: DRAWN BY (RBC), CHECKED BY (REB), SCALE (N.T.S.). DATE: 9/9/2016, JOB NUMBER: 2012-2E, SHEET: 30 OF 32.



REVISIONS

NO.	DESCRIPTION
1.	

- CONSTRUCTION SEQUENCE:**
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE INITIATED. CLEANING AND GRUBBING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE.
  - AT LEAST SEVEN DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL NOTIFY ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE DELAWARE COUNTY CONSERVATION DISTRICT TO AN ON-SITE MEETING.
  - AT LEAST THREE DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM, INC. AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.
  - PLACE ALL TREE PROTECTION FENCE (TPF) PER PLANS. PLACE ALL COMPOST FILTER SOCK (SS) AND REINFORCE SILT FENCE (SF) PER PLAN.
  - CONSTRUCT A MINIMUM 50 FOOT LONG STABILIZED CONSTRUCTION ENTRANCE AT LOCATION PER PLAN.
  - EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS.
  - THE PERMITTEE MUST INFORM THE COUNTY CONSERVATION DISTRICT THAT THE APPLICABLE EROSION AND SEDIMENTATION CONTROL FACILITIES AS SET FORTH IN THE CONSTRUCTION SEQUENCE HAVE BEEN CONSTRUCTED, STABILIZED, AND ARE FUNCTIONAL BEFORE EARTH DISTURBANCE IN ANY AREA. EACH STEP OF THE SEQUENCE MUST BE COMPLETED PRIOR TO ADVANCING TO THE NEXT STEP.
  - REMOVE EXISTING SITE FEATURES AND REMOVE EXISTING TREES PER DEMOLITION PLAN; AND CLEAR AND GRUB WITHIN THE LIMIT OF DISTURBANCE.
  - \*CRITICAL STAGE, BUILD SEDIMENT TRAP
  - DUE TO THE EXISTING SITE COVER, MINIMAL TOPSOIL EXISTS, AS SUCH NO STOCKPILE IS NECESSARY.
  - CONSTRUCT RETAIN WALLS AND ROUGH GRADE THE SITE WITH DRIVEWAYS.
  - CONCURRENTLY, CONTRACTOR CAN:
    - CONSTRUCTION OUTFALL STORM SEWER PIPE FROM ST 24 TO ST 21, BUT NOT TO INSTALL INLET #ST21.
    - \*CRITICAL STAGE, CONSTRUCT BASIN #1
    - \*CRITICAL STAGE, INFILTRATION TESTING SHALL BE CONDUCTED ON BASIN #1 AT THE TIME OF CONSTRUCTION OF THE UNDERGROUND BASIN FACILITY. THE DESIGN ENGINEER WILL BE CONTACTED IF ANY CHANGES TO THE BASIN FACILITY NEED TO BE MADE BASED ON THE RESULTS OF THE INFILTRATION TESTING. CONSTRUCT UNDERGROUND BASIN.
  - INSTALL STORM SEWER PIPING: ST 34 TO BASIN #1, ST 51 TO ST 60, ST 41 TO ST 60, AND ST 61 TO BASIN #1.
  - INSTALL ROYAL FARMS UTILITIES TO WITHIN 5 FEET OF BUILDING CAP AND MARK FOR FUTURE CONNECTION.
  - CONSTRUCT ROYAL FARMS BUILDING PAD.
  - CRITICAL STAGE, INSTALL PAVEMENT SUB BASE AND TEMPORARY STABILIZED EXPOSED SOIL.
  - BEGIN CONSTRUCTION ON ROYAL FARMS BUILDING. SECOND ROYAL FARMS SITE IS STABILIZED & ASSOCIATED TO BASIN #1 AND STORM SEWER IS COMPLETE.
  - INSTALL BASIN #2 OUTFALL STORM SEWER ST 2 TO ST 1; CONSTRUCTION AND STABILIZED SWALE.
  - \*CRITICAL STAGE, CONCRETE SEDIMENT TRAP TO BASIN #2.
  - \*CRITICAL STAGE, INFILTRATION TESTING SHALL BE CONDUCTED ON BASIN #1 AT THE TIME OF CONSTRUCTION OF THE UNDERGROUND BASIN FACILITY. THE DESIGN ENGINEER WILL BE CONTACTED IF ANY CHANGES TO THE BASIN FACILITY NEED TO BE MADE BASED ON THE RESULTS OF THE INFILTRATION TESTING. CONSTRUCT UNDERGROUND BASIN.
  - INSTALL STORM SEWER PIPING ST 12 TO BASIN #2 AND ST 10 TO BASIN #2.
  - INSTALL BANK'S UTILITIES TO WITHIN 5 FEET OF BUILDING PAD. CAP AND MARK FOR FUTURE CONNECTION.
  - CONSTRUCT BANK'S BUILDING PAD.
  - \*CRITICAL STAGE, FINISH PAVEMENT SUB BASE AND TEMPORARY STABILIZED EXPOSED SOIL.
  - BEGIN CONSTRUCTION BANK'S BUILDING.
  - INSTALL PAVING TO BASE COURSE AND ALL CONCRETE WALKWAYS AND PAV WITHIN THE PROJECT PROPERTY.
  - CONSTRUCT PROPOSED SITE ACCESSORY STRUCTURES.
  - INSTALL PARKING AREA WEARING COURSE.
  - SEED ALL REMAINING VEGETATED AREAS AND INSTALL SITE LANDSCAPING.
  - MAINTENANCE OF SEEDED OR SOODED AREAS TO BE SUCH THAT AREAS WHICH WASH OUT OR ERODE ARE REPAIRED OR REPAIRED UNTIL SOD IS ESTABLISHED. 70% OF EACH SQUARE YARD OF DISTURBED SOIL ON SITE WILL BE COVERED EVENLY WITH VEGETATION.
  - AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED (70% UNIFORM STABILIZATION OF DISTURBED SOIL ON SITE WILL BE COVERED WITH VEGETATION), TEMPORARY EROSION CONTROLS, INCLUDING SILT FENCE MUST BE REMOVED. SHOULD ANY AREAS BECOME DISTURBED DURING REMOVAL OF THE CONTROLS, THEY MUST BE IMMEDIATELY STABILIZED IMMEDIATELY.

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ROYAL FARMS #195  
 MARPLE TOWNSHIP  
 DELAWARE COUNTY  
 PENNSYLVANIA  
 PREPARED FOR  
 ROYAL FARMS  
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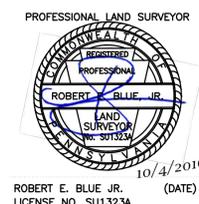
EROSION & SEDIMENT CONTROL PLAN

DRAWN BY: RBC CHECKED BY: REB SCALE: 1"=30'

DATE: 9/9/2016 JOB NUMBER: 2012-2E 31 of 32

**PERMITTEE OVERSIGHT NOTE**  
 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.

IMPROVEMENTS SHOWN WITHIN LANGFORD RUN ROAD RIGHT-OF-WAY AND WEST CHESTER PIKE (SR 0003) RIGHT-OF-WAY ARE SCHEMATIC FOR INFORMATIONAL PURPOSES ONLY. PROPOSED IMPROVEMENTS, EXCLUDING CURB RETURNS, ARE NOT A PART OF THIS DEVELOPMENT PROJECT. THE INFORMATION SHOWN IS TAKEN FROM PLANS PREPARED BY CHESTER VALLEY ENGINEERS, INC.



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CONTRACTORS ARE REQUIRED TO CONTACT UTILITY USERS NOT LESS THAN 3 DAYS NOR MORE THAN 10 DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION WORK. INFORMATION ON THESE PLANS CONCERNING UTILITIES IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

SERIAL #: 20152472496 DATE: SEPTEMBER 4, 2015

**DEWATERING WORK AREAS** - Wherever water is pumped from a disturbed area, it must be treated for sediment removal prior to discharging to a surface water unless it can be shown that the quality of the water being pumped already meets discharge standards. If a properly functioning sediment basin or sediment trap is available, the pump discharge may be routed through the trap or basin. While pumping, the maximum water level in the trap or basin should not exceed the cleanout elevation. Water pumped from disturbed areas may not be discharged directly to detention ponds, since they are not designed to be efficient sediment removal structures. Straw bale structures and filter fabric structures are not acceptable for filtering pumped water due to their history of multivociveness. Filter bags, as shown in Standard Construction Detail #3-16, and Sump Pits, as shown in Standard Construction Detail #3-17, may be used to filter pumped water as described in the following section. Other devices for filtering water pumped from excavations will be reviewed on a case-by-case basis.

The topography and conditions of the ground cover between the discharge point and the receiving surface water should be evaluated for potential erosion. Appropriate stabilization measures should be incorporated where needed to prevent erosion.

No filtering device is required for water pumped directly from a stream channel as part of a pump-around bypass system.

**PUMPED WATER FILTER BAG** - Sediment Removal Efficiency: LOW. This device is not an ABACT for special protection watersheds unless surrounded by a compost sock ring or operated in conjunction with a sump pit. Filter bags may be used to filter water pumped from disturbed areas prior to discharging to surface waters. They may also be used to filter water pumped from the sediment storage areas of sediment basins and sediment traps.



Washington County Conservation District

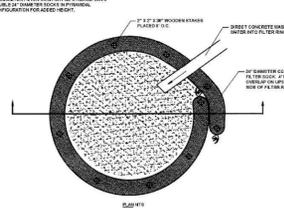
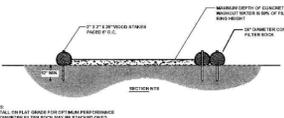
The maximum pumping rate for any bag in use or proposed for use on a site should be available at the site at all times during pumping operations. Pumping rates will vary depending on the size of the filter bag, and the type and amount of sediment discharged to the bag.

Filter bags should be installed according to the details shown in Standard Construction Detail #3-16.

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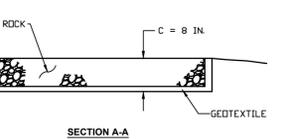
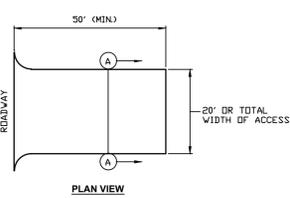
FIGURE 3.18  
Typical Compost Sock Washout Installation



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

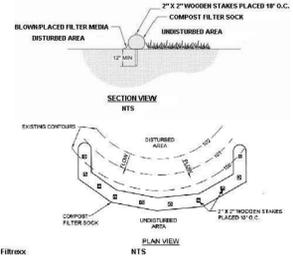
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STANDARD CONSTRUCTION DETAIL #16  
Rock Construction Entrance



**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. At the end of each construction day, all sediment deposited on paved roadways shall be removed and returned to the construction site.

STANDARD CONSTRUCTION DETAIL #4-1  
COMPOST FILTER SOCK



Sock fabric shall meet standards of Table 4.1. Compost shall meet the standards of Table 4.2. Compost filter sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 9 feet up slope at 45 degrees to the main sock alignment (Figure 4.1). Maximum slope length above any sock shall not exceed that shown on Figure 4.2. Stakes may be installed immediately downslope of the sock if so specified by the manufacturer.

Traffic shall not be permitted to cross filter socks.

Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the manner described elsewhere in the plan.

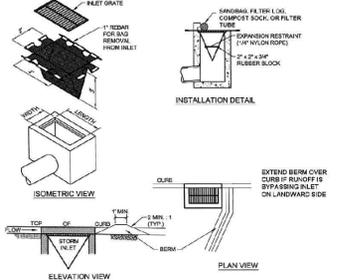
Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable 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.

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STANDARD CONSTRUCTION DETAIL #4-15  
Filter Bag Inlet Protection - Type C Inlet



Adapted from PennDOT RC-70, 2008 Edition

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.

Roller earthen berm shall be maintained until roadway is stoned. Road subbase berm shall be maintained until roadway is paved. Six inch minimum height asphalt berms shall be maintained until roadway surface receives final coat.

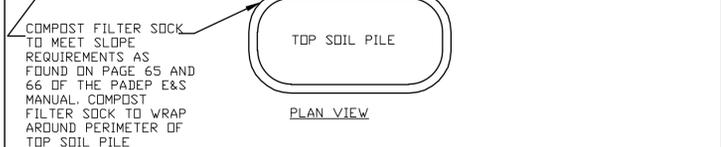
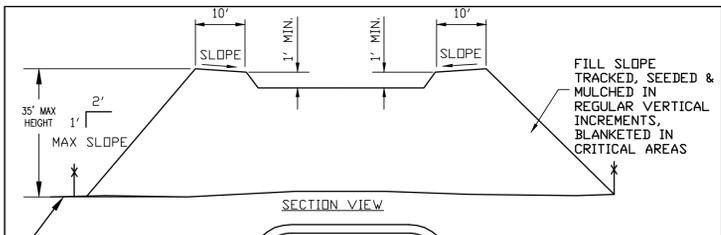
At a minimum, the fabric shall have a minimum grab tensile strength of 120 lbs, a minimum burst strength of 200 psi, and a minimum trapezoidal tear strength of 50 lbs. Filter bags shall be capable of trapping all particles not passing a No. 40 Sieve.

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 so 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 of 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.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

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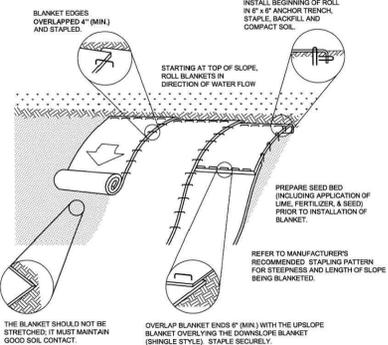


TEMPORARY BERMS TO BE PLACED, MAINTAINED, AND ADJUSTED CONTINUOUSLY UNTIL 90% VEGETATIVE GROWTH IS ESTABLISHED ON THE EXTERIOR SLOPES WITH PERMANENT STORM DRAINAGE FACILITIES FUNCTIONING.

BERMS MUST OUTLET TO TEMPORARY SLOPE PIPES, PERMANENT SLOPE PIPES, TEMPORARY CHANNELS, OR PERMANENT CHANNELS.

TOP SOIL PILE DETAIL  
W/ Top-of-Slope Berms

STANDARD CONSTRUCTION DETAIL #4-14  
Erosion Control Blanket Installation



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.

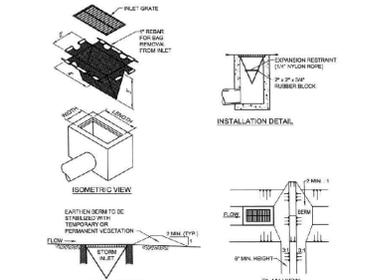
Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

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.

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STANDARD CONSTRUCTION DETAIL #4-16  
Filter Bag Inlet Protection - Type M Inlet



Adapted from PennDOT RC-70, 2008 Edition

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.

Roller earthen berm shall be maintained until roadway is stoned. Road subbase berm shall be maintained until roadway is paved. Earth berm in channel shall be maintained until permanent stabilization is completed or remain permanent.

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 so 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.

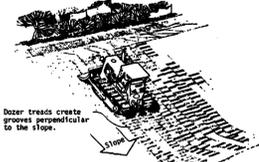
DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

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Tracking slopes, as shown in Figure 11.3, is done by running tracked machinery up and down the slope, leaving tread marks parallel to the contour. Note: If a bulldozer is used, the blade should be up.

FIGURE 11.3  
Tracking a Fill Slope



Deter tracks create grooves perpendicular to the slope.

Michigan Soil Erosion and Sedimentation Control Guidebook

**VEGETATIVE STABILIZATION**

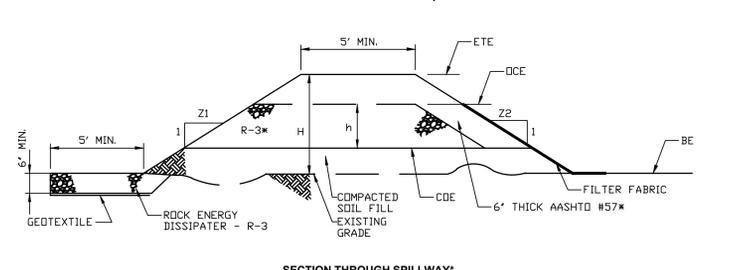
All disturbed areas that have not otherwise been stabilized and have significant potential for erosion should be stabilized with vegetation. This includes graded areas where it is anticipated that future earthmoving will take place within the coming year. Areas that will be subject to earthmoving within 12 months may be stabilized with temporary seed mixtures, predominantly annual grasses. All others should be stabilized with permanent seed mixtures — predominantly perennial grasses. When final grade is achieved during non-germinating months, the area should be mulched until the beginning of the next planting season. However, the area will not be considered stabilized until a minimum of 70% vegetative cover of erosion resistant perennial species has been achieved. Critical areas — erodible soils, within 50 feet of a surface water, etc. — should be blanketed. Temporary erosion control BMPs that were installed for the earthmoving phase of the project must remain in place and be maintained in working order until permanent stabilization is achieved. NOTE: Areas that do not receive sufficient sunlight to support vegetation (e.g. under bridge decks) should be stabilized by some means other than vegetation.

As disturbed areas within a project approach final grade, preparations should be made for seeding and mulching to begin (i.e. anticipate the completion date and schedule the seeding). In no case should an area exceeding 15,000 square feet, which is to be stabilized by vegetation, reach final grade without being seeded and mulched. Waiting until earthmoving is completed before making preparations for seeding and mulching is not acceptable. This requirement should be clearly stated in the seeding and mulching specifications contained on the plan drawings.

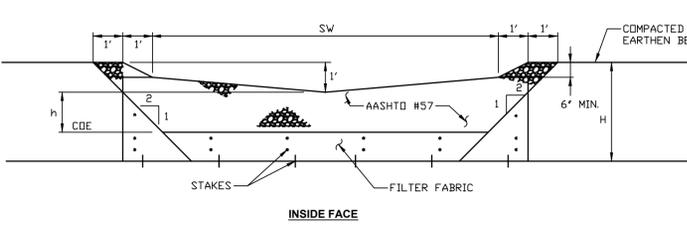
Before the seeding begins, topsoil should be applied and any required soil amendments worked into the soil to a depth of 4 to 6 inches. If compost is to be added to the topsoil, it should be worked into the soil with the other soil amendments unless it is being applied as an erosion control BMP.

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STANDARD CONSTRUCTION DETAIL #11  
Embankment Sediment Traps



SECTION THROUGH SPILLWAY\*



INSIDE FACE

TRAP NO.	Z1 (FT)	H (FT)	h (FT)	Z2 (FT)	EMBANK. TOP ELEV. ETE (FT)	OUTLET CREST ELEV. OCE (FT)	CLEAN OUT ELEV. COE (FT)	BOTTOM ELEV. BE (FT)	OUTLET WIDTH SW (FT)
1	3	5.28	2.04	3	288.29	285.29	283.25	281.00	17

\* EMBANKMENT OUTLET COMPOSED ENTIRELY OF ROCK, MAIN BODY R-3 OR LARGER, INSIDE FACE ASHTO #57 STONE OR SMALLER.

CLEAN OUT STAKE SHALL BE PLACED NEAR CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES THE CLEAN OUT ELEVATION MARKED ON THE STAKE.

FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPLETED IN LAYERED LIFTS OF NOT MORE THAN 9". THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 6".

UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS.

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

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

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

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

**TOPSOIL APPLICATION**

Graded areas should be scarified or otherwise loosened 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 outcrops. Spreading should be done in such a manner that sodding 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 POCM plan.

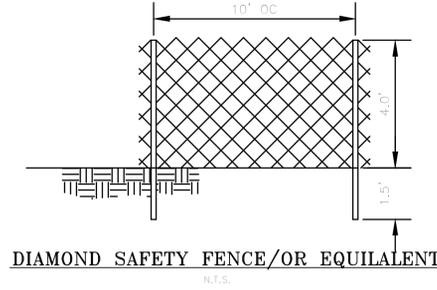
Topsoil should not be placed while the topsoil or subsoil is in a frozen or rapidly condition, when the subsoil is excessively wet, or in a condition that may otherwise be detrimental to proper grading and seedbed preparation. Compacted soils should be scarified 8 to 12 inches along contour wherever possible prior to seeding.

**TABLE 11.1**  
Cubic Yards of Topsoil Required for Application to Various Depths

Depth (in)	Per 1,000 Square Feet	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806
7	21.7	940
8	24.8	1,074

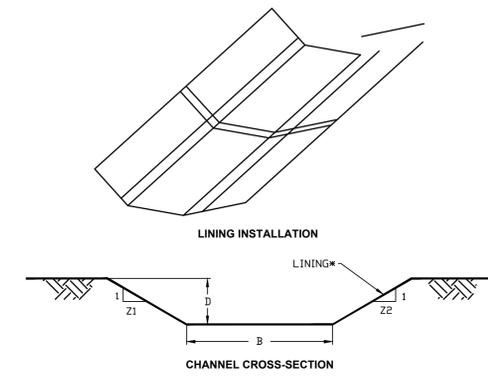
Adapted from VA DSWC

**SEEDING** - Seed mixtures appropriate for site conditions (e.g. soil pH and fertility, slope, available sunlight, anticipated use, etc.) should be specified. Tables 11.3, 11.4 and 11.5, adapted from the Penn State Erosion Control and Conservation Plantings on Noncropland Manual should be used for selection of species, seed specifications, mixtures, timing and fertilizing. Time of seeding, and seeding methods. Specifications for these items may also be obtained from PennDOT's Publication # 408, Section 504 or from the local conservation district. Other sources can be approved on a case-by-case basis. Upon selection of a reference, that reference should be used to provide all specifications for seeding, mulching, and soil amendments unless otherwise approved. Indicate the reference being used in the plan submittal. Seed mixtures that contain potentially invasive species or species that may be harmful to native plant communities should be avoided. Standard E&S Worksheet #21 should be used to provide seeding, mulching and soil amendment specifications in the E&S plan. This information should be placed on one of the plan drawings.



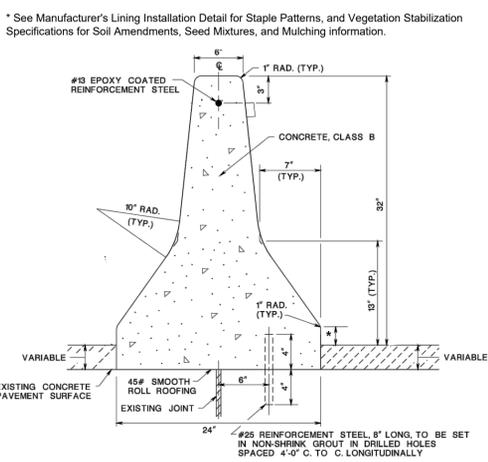
DIAMOND SAFETY FENCE/OR EQUIVALENT  
N.T.S.

STANDARD CONSTRUCTION DETAIL #1  
Vegetated Channels



CHANNEL NO.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	Z1 (FT)	Z2 (FT)	LINING*
1 - TEMP.	62 LF	2.00'	1.50'	3	3	MAGS150BN
1 - PERMAN.	62 LF	2.00'	1.50'	3	3	GRASS LEGUME

\* See Manufacturer's Lining Installation Detail for Staple Patterns, and Vegetation Stabilization Specifications for Soil Amendments, Seed Mixtures, and Mulching information.



CONSTRUCTION CONCRETE BARRIER

REGISTERED PROFESSIONAL ENGINEER  
ROBERT E. BLUE, JR.  
LICENSE NO. 26169-E

PROFESSIONAL LAND SURVEYOR  
ROBERT E. BLUE, JR.  
LICENSE NO. SU1323A

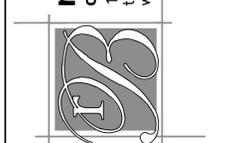
DATE: 9/9/2016  
JOB NUMBER: 2012-2E  
SCALE: N.T.S.  
SHEET: 32 OF 32

**REVISIONS**

NO.	DESCRIPTION
1.	

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**ROYAL FARMS #195**  
MARPLE TOWNSHIP  
DELAWARE COUNTY  
PENNSYLVANIA

PREPARED FOR  
**ROYAL FARMS**  
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**EROSION CONTROL DETAILS**