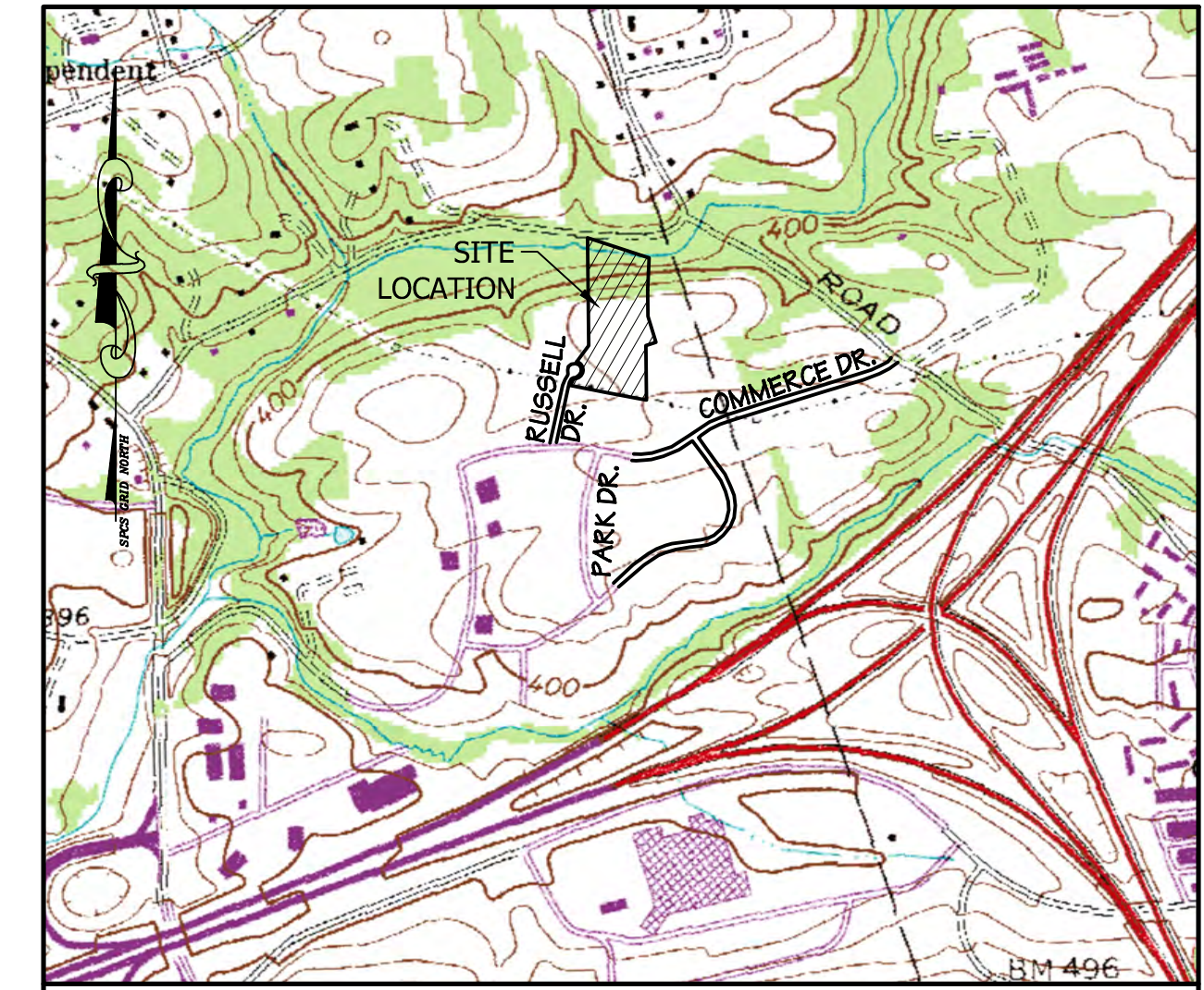




VICINITY MAP: 1" = 600'

PRELIMINARY / FINAL LAND DEVELOPMENT PLAN FOR RUSSEL DRIVE LOT 2 LOCATED IN SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA



LOCATION MAP: 1" = 1000'

PLAN PURPOSE STATEMENT:

THE PURPOSE OF THIS PLAN IS TO DEVELOP EXISTING LOT #2 WITH 2 APARTMENT BUILDINGS (78 UNITS) AND ASSOCIATED INFRASTRUCTURES. THIS PLAN IS A REVISION TO APPROVED LAND DEVELOPMENT PLANS INSTRUMENT #2008006082 AND #20160024317.

GENERAL NOTES:

- THE NPDES PERMIT NUMBER FOR THIS SITE IS PAC220012 WHICH IS CURRENT THROUGH DECEMBER 7, 2024. AS THERE IS A REDUCTION IN IMPERVIOUS AREA FROM BOTH THE APPROVED LAND DEVELOPMENT PLAN AND THE NPDES PERMIT RENEWAL REVISED RATE AND VOLUME CALCULATIONS ARE NOT NECESSARY. NO REVISIONS TO THE APPROVED PCSM BMPS ARE BEING PROPOSED. A SUPPLEMENTAL PCSM REPORT HAS BEEN PROVIDED WITH COLLECTION AND CONVEYANCE CALCULATIONS FOR THE PARKING LOT STORMWATER.
- ZONE A FEMA MAPPED FLOODPLAIN EXISTS ON THIS SITE, AS SHOWN BY FEMA'S NATIONAL FLOOD HAZARD LAYER FIRMETTE, AREA 42043C03300, EFFECTIVE 8/2/2012.
- NO EXISTING COVENANTS RUN WITH THIS LAND, EXCEPT FOR THE EXISTING EASEMENTS OF RECORD. PROPOSED RESTRICTIONS ARE NOTED ON THESE PLANS.
- TOPOGRAPHIC BENCHMARK IS A MAGNETIC NAIL IN THE CURB ON THE WESTERN SIDE OF RUSSEL DRIVE SOUTH OF THE CUL-DE-SAC (NORTHING 357815.9500 / EASTING 2221712.7900), HORIZONTAL DATUM NAD83 (OPUS), VERTICAL DATUM NAVD83 (OPUS), ELEVATION 434.82'.
- ANY PROPOSED WATER LINES ON THIS PLAN IS SCHEMATIC ONLY AND FINAL DESIGN WILL BE SUPPLIED BY SUEZ WATER. CONCRETE MONUMENTS TO BE SET AS SHOWN, ALL OTHER CORNERS SHALL BE MARKED WITH 5/8" REBAR.
- ALL CONSTRUCTION SHALL CONFORM TO PENNDOT PUBLICATIONS 408 AND 72 STANDARDS AND THE SUSQUEHANNA TOWNSHIP ORDINANCES.
- PRIOR TO THE CONSTRUCTION OF ANY FACILITIES SHOWN ON THESE PLANS, THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS AND NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES.
- TOWNSHIP STAFF SHALL HAVE PERMISSION TO ACCESS DRAINAGE EASEMENTS FROM THE NEAREST PRIVATE PARKING AREA.
- INLET BOX CORNERS SHALL NOT BE KNOCKED OUT FOR PIPE CONNECTION.
- IMPLEMENTATION OF THE EROSION CONTROL PLAN IS THE RESPONSIBILITY OF THE LOT OWNER, AND/OR THE PERSON(S) AUTHORIZED BY COVERGE UNDER THE NPDES PERMIT FOR DISCHARGE OF STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY.
- THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A MINIMUM OF 48 HOURS NOTICE AND TO COORDINATE WITH THE TOWNSHIP AND THE TOWNSHIP ENGINEER IN REGARDS TO ALL MUNICIPAL INSPECTION WORK REQUIRED ON THE PROJECT SITE.
- NOTHING SHALL BE PLANTED OR PLACED WITHIN AN EASEMENT WHICH WOULD ADVERSELY AFFECT THE FUNCTION OF THE EASEMENT, OR CONFLICT WITH ANY CONDITIONS ASSOCIATED WITH SUCH EASEMENT.
- STORMWATER MANAGEMENT FACILITIES WILL BE MAINTAINED BY THE LOT OWNER. MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED TO ENSURE THAT THEY ARE PERMANENT AND CONTINUOUSLY FUNCTIONING AS ORIGINALLY DESIGNED.
- THE OPERATION AND MAINTENANCE AGREEMENT IS PART OF THE STORMWATER MANAGEMENT PLAN.
- ALL STORMWATER CONVEYANCE PIPING SHALL HAVE WATERTIGHT JOINTS
- SIDEWALKS SHALL BE INSPECTED BY THE MUNICIPAL ENGINEER OR HIS DESIGNATED AGENT AFTER THE FORMS HAVE BEEN PLACED, JUST PRIOR TO THE POURING OF CONCRETE AND AFTER THE COMPLETION OF ALL WORK.
- ALL ELECTRIC AND TELEPHONE LINES SHALL BE UNDERGROUND.
- RECORD DRAWINGS WILL BE PROVIDED FOR ALL STORMWATER MANAGEMENT FACILITIES PRIOR TO OCCUPANCY, OR THE RELEASE OF FINANCIAL SECURITY.

SITE DATA:

RECORD OWNER:
RUSSEL DRIVE LLC
5351 JAYCEE AVENUE
HARRISBURG, PA 17112
PHONE: 717-920-8942
SITE IS TAX PARCEL NUMBERS: 62-021-422
TOTAL TRACT AREA: 6.639 ACRES
EXISTING USE: VACANT LOT
PROPOSED USE: MULTIPLE FAMILY APARTMENT BUILDINGS
EXISTING NUMBER OF LOTS: 1
PROPOSED NUMBER OF DWELLING UNITS: 78
EXISTING IMPERVIOUS AREA: 0.0 ACRES
PROPOSED IMPERVIOUS AREA: 2.28 ACRES
EXISTING WATER SUPPLY: NONE
EXISTING SEWAGE DISPOSAL: NONE
PROPOSED WATER SUPPLY: PUBLIC
PROPOSED SEWAGE DISPOSAL: PUBLIC

PARKING DATA:

REQUIRED PARKING, APARTMENTS: 156 SPACES
(2 SPACES PER APARTMENT UNIT X 78 UNITS)
TOTAL PARKING PROPOSED: 158 SPACES

ZONING DATA:

EXISTING ZONE: BOR (BUSINESS-OFFICE-RESIDENTIAL)

	REQUIRED / PERMITTED	PROPOSED
MINIMUM TRACT AREA	40,000 S.F.	289,174 S.F.
MAXIMUM DWELLING UNITS / ACRE	12.00	11.45
MAXIMUM HEIGHT	42 FEET	42 FEET
MAXIMUM BUILDING COVERAGE	20%	11% 30,933 SF
MAXIMUM IMPERVIOUS COVERAGE	45%	34% 97,003.01 SF
MINIMUM VEGETATIVE COVERAGE	55%	55%
MINIMUM BUILDING SEPARATION, FRONT TO SIDE	50 FEET	50 FEET
MINIMUM YARD SETBACK, FRONT	25 FEET	25 FEET
MINIMUM YARD SETBACK, SIDE	20 FEET	20 FEET
MINIMUM YARD SETBACK, REAR	25 FEET	25 FEET

DRAWING INDEX:

Sheet Number	Sheet Title
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	EXISTING DEVELOPMENT PLAN
4	LAND DEVELOPMENT PLAN
5	GRADING PLAN
6	E&S POLLUTION CONTROL PLAN
7	PROFILE PLAN
8	PROFILE PLAN
9	SITE PLAN DETAILS
10	PCSM DETAILS
11	SANITARY SEWER DETAILS
12	E&S DETAILS
13	E&S DETAILS

PLAN APPROVAL BLOCKS:

DAUPHIN COUNTY PLANNING COMMISSION REVIEW

THIS PLAN REVIEWED BY THE DAUPHIN COUNTY PLANNING COMMISSION THIS ____ DAY OF ____ 20__.

CHAIRMAN _____
SECRETARY _____

TOWNSHIP ENGINEER REVIEW

THIS PLAN REVIEWED BY THE SUSQUEHANNA TOWNSHIP ENGINEER THIS ____ DAY OF ____ 20__.

TOWNSHIP ENGINEER _____

SUSQUEHANNA TOWNSHIP PLANNING COMMISSION REVIEW

THIS PLAN RECOMMENDED FOR APPROVAL BY THE SUSQUEHANNA TOWNSHIP PLANNING COMMISSION THIS ____ DAY OF ____ 20__.

CHAIRMAN _____
SECRETARY _____

FINAL PLAN APPROVAL

THIS PLAN APPROVED BY THE SUSQUEHANNA TOWNSHIP BOARD OF COMMISSIONERS, AND ALL CONDITIONS IMPOSED WITH RESPECT TO SUCH APPROVAL WERE COMPLETED ON

THIS ____ DAY OF ____ 20__.

CHAIRMAN _____
SECRETARY _____

RECORDING:

THIS PLAN RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR

DAUPHIN COUNTY THIS ____ DAY OF ____ 20__.

PLAN BOOK _____, PAGE _____.

INSTRUMENT NUMBER _____.

WETLAND CERTIFICATION

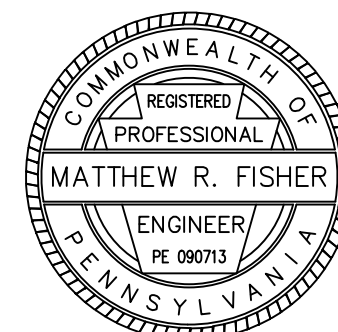
I HEREBY CERTIFY THAT I HAVE CONDUCTED A WETLANDS DELINEATION STUDY IN ACCORDANCE WITH THE REQUIREMENTS OF THIS ORDINANCE AND HAVE DETERMINE THAT REGULATORY WETLANDS EXIST ON THE SUBJECT SITE AND THIS PLAN ACCURATELY DEPICTS THE EXTENT OF ALL WETLANDS.

BRADLY J. GOCHNAUER, VORTEX DATE _____

SURVEYOR / ENGINEER CERTIFICATIONS:

I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE SURVEY AND PLAN SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE SUSQUEHANNA TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.

I HEREBY CERTIFY THIS PLAN TO BE CORRECT AS SHOWN.



MATTHEW R. FISHER, P.L.S., P.E. DATE _____

PA UTILITY ONE - CALL:



PENNSYLVANIA ACT 287 OF 1974, AS AMENDED BY ACT 50 OF 2017, REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH. SERIAL NO. 20220552019 COMPLETED ON FEBRUARY 24, 2022

LIST OF UTILITIES

SUEZ WATER PENNSYLVANIA INC
6110 ALLENTOWN BLVD
HARRISBURG, PA 17112
CONTACT: EVO ANDREATTI
EVO.ANDREATTI@SUEZ.COM

FRONTIER COMMUNICATIONS OF PA INC
306 LARO STYLVES BASE, PA 15702
CONTACT: MICHAEL HAVICH
MICHAEL.HAVICH@FTL.COM

VERIZON PENNSYLVANIA LLC
1026 HAY STPITTSBURGH, PA 15221
CONTACT: GEBORAH BANAH
GEBORAH.D.DEL@VERIZON.COM

CENTURY LINK
1025 ELDRADO BLVD
BROOKFIELD, CO 80501
CONTACT: CENTURY LINK OPERATOR PERSONNEL
RELOCATION@SLINK.COM

LOWER MERION TOWNSHIP AUTHORITY
5993 LOCUST LN
HARRISBURG, PA 17109
CONTACT: JAMES WETZEL
JWETZEL@LOWERMERION-PA.GOV

VERIZON BUSINESS FORMERLY VCI
400 INTERSTATE TOWNSHIP PARKWAY
RICHARDSON, TX 75081
CONTACT: DEAN BOWERS
INVESTIGATIONS@VERIZON.COM

ZAYO BANDWIDTH FORMERLY PPL TELCOM LLC
1802 29TH STREET, SUITE 2050
BOULDER, CO 80301
CONTACT: GEORGE HUSS
GEORGE.HUSS@ZAYO.COM

PPL ELECTRIC UTILITIES CORPORATION
434 SUSQUEHANNA TRL
NORTH HARRISBURG, PA 17857
DOUG.HAUPT@PPLHAUPPT@PPLWEB.COM

COMCAST
4601 SMITH STREET
HARRISBURG, PA 17109
CONTACT: MICHAEL SWEGARD
MKE_SWEGARD@CABLE.COMCAST.COM

SUSQUEHANNA TOWNSHIP AUTHORITY/
SUSQUEHANNA TOWNSHIP
1900 LINGLESTOWN RD
HARRISBURG, PA 17110
CONTACT: TRAVIS MEASE
TRAVIS@SUSQUEHANNA.TWP.PA.GOV

USG UTILITIES INC
1301 APR DR
MIDDLETOWN, PA 17057
CONTACT: STEVEN BAKEMAN
SBATEMAN@USGI.COM

SUSQUEHANNA TOWNSHIP AUTHORITY/
SUSQUEHANNA TOWNSHIP
1900 LINGLESTOWN RD
HARRISBURG, PA 17110

ACKNOWLEDGMENT OF PLAN, STATEMENT OF OWNERSHIP AND OFFER OF DEDICATION:

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF _____

ON THIS THE ____ DAY OF ____ 20__, BEFORE ME THE UNDERSIGNED PERSONALLY APPEARED.

OWNER _____
MARK X. DISANTO, RUSSEL DRIVE LLC

WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY THAT THEY ARE THE OWNERS OF THE PROPERTY SHOWN ON THIS PLAN AND THAT THEY ACKNOWLEDGE THE SAME TO BE THEIR ACT AND DEED AND DESIRE THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

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

NOTARY PUBLIC _____

MY COMMISSION EXPIRES _____

IT IS HEREBY CERTIFIED THAT THE UNDERSIGNED ARE THE OWNERS OF THE PROPERTY SHOWN ON THIS PLAN.

ALL STORMWATER BMPS ARE FIXTURES THAT CANNOT BE ALTERED OR REMOVED WITHOUT PRIOR APPROVAL BY SUSQUEHANNA TOWNSHIP.

OWNER _____
MARK X. DISANTO, RUSSEL DRIVE LLC

NO.	REVISION	DATE
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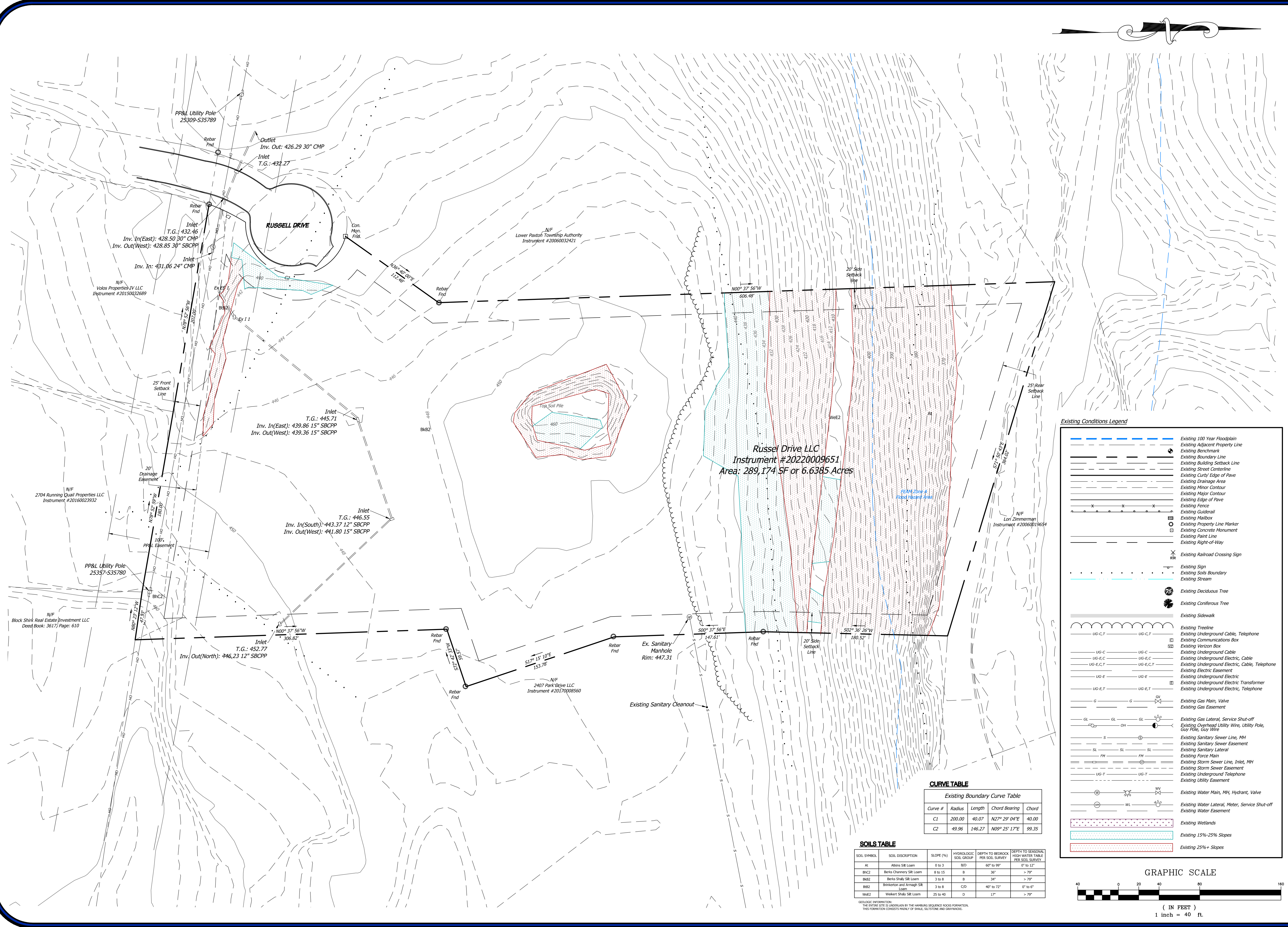
R. J. FISHER & ASSOCIATES, INC.
SITE PLANNING & CIVIL ENGINEERING & LAND SURVEYS
1546 BRIDGE STREET, NEW CUMBERLAND, PA 17070
PHONE: (717) 774-7534 & FAX: (717) 774-7190
RJFISHERENGINEERING.COM



COVER SHEET FOR
RUSSEL DRIVE LOT 2
LOCATED IN
SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA

DRAWING ID:	222012-COV
PROJECT:	222012
DATE:	4/8/2022
SHEET:	1 OF 13

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Russel Drive LLC
Instrument #2022009651
Area: 289,174 SF or 6.6385 Acres

Existing Conditions Legend

	Existing 100 Year Floodplain
	Existing Adjacent Property Line
	Existing Benchmark
	Existing Boundary Line
	Existing Building Setback Line
	Existing Street Centerline
	Existing Curly Edge of Pavement
	Existing Drainage Area
	Existing Minor Contour
	Existing Major Contour
	Existing Edge of Pavement
	Existing Fence
	Existing Guideline
	Existing Hubbox
	Existing Property Line Marker
	Existing Concrete Monument
	Existing Paint Line
	Existing Right-of-Way
	Existing Railroad Crossing Sign
	Existing Sign
	Existing Soils Boundary
	Existing Stream
	Existing Deciduous Tree
	Existing Coniferous Tree
	Existing Sidewalk
	Existing Trenchline
	Existing Underground Cable, Telephone
	Existing Communications Box
	Existing Verizon Box
	Existing Underground Cable
	Existing Underground Electric, Cable
	Existing Underground Electric, Telephone
	Existing Electric Easement
	Existing Underground Electric
	Existing Underground Electric Transformer
	Existing Underground Electric, Telephone
	Existing Gas Main, Valve
	Existing Gas Easement
	Existing Gas Lateral, Service Shut-off
	Existing Overhead Utility Wire, Utility Pole, Guy Wire, Guy Wire
	Existing Sanitary Sewer Line, MH
	Existing Sanitary Sewer Easement
	Existing Sanitary Lateral
	Existing Force Main
	Existing Storm Sewer Line, Inlet, MH
	Existing Storm Sewer Easement
	Existing Underground Telephone
	Existing Utility Easement
	Existing Water Main, MH, Hydrant, Valve
	Existing Water Lateral, Meter, Service Shut-off
	Existing Water Easement
	Existing Wetlands
	Existing 15%-25% Slopes
	Existing 25%+ Slopes

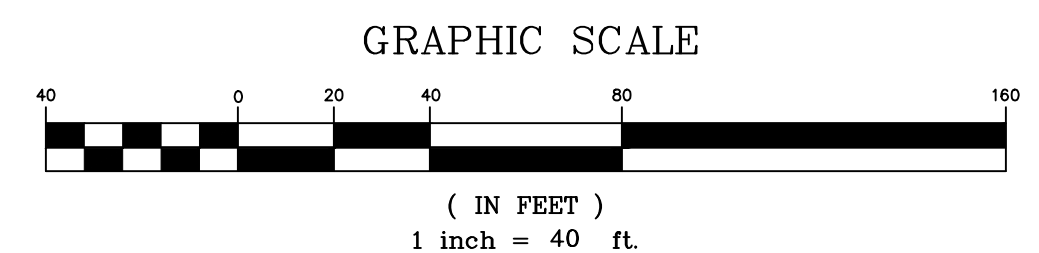
CURVE TABLE

Existing Boundary Curve Table

Curve #	Radius	Length	Chord Bearing	Chord
C1	200.00	40.07	N27° 29' 04"E	40.00
C2	49.96	146.27	N09° 25' 17"E	99.35

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	HYDROLOGIC SOIL GROUP	DEPTH TO BEDROCK PER SOIL SURVEY	DEPTH TO SEASONAL HIGH WATER TABLE PER SOIL SURVEY
AL	Atkins Silty Loam	0 to 3	B/D	60" to 99"	0' to 12"
BNC2	Berks Channery Silty Loam	8 to 15	B	36"	> 79"
BB2	Berks Shaly Silty Loam	3 to 8	B	34"	> 79"
BB2	Brimkerton and Armagh Silty Loam	3 to 8	C/D	40" to 72"	0' to 6"
WE2	Wicket Shaly Silty Loam	25 to 40	D	17"	> 79"



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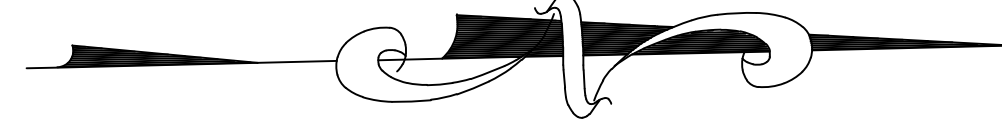
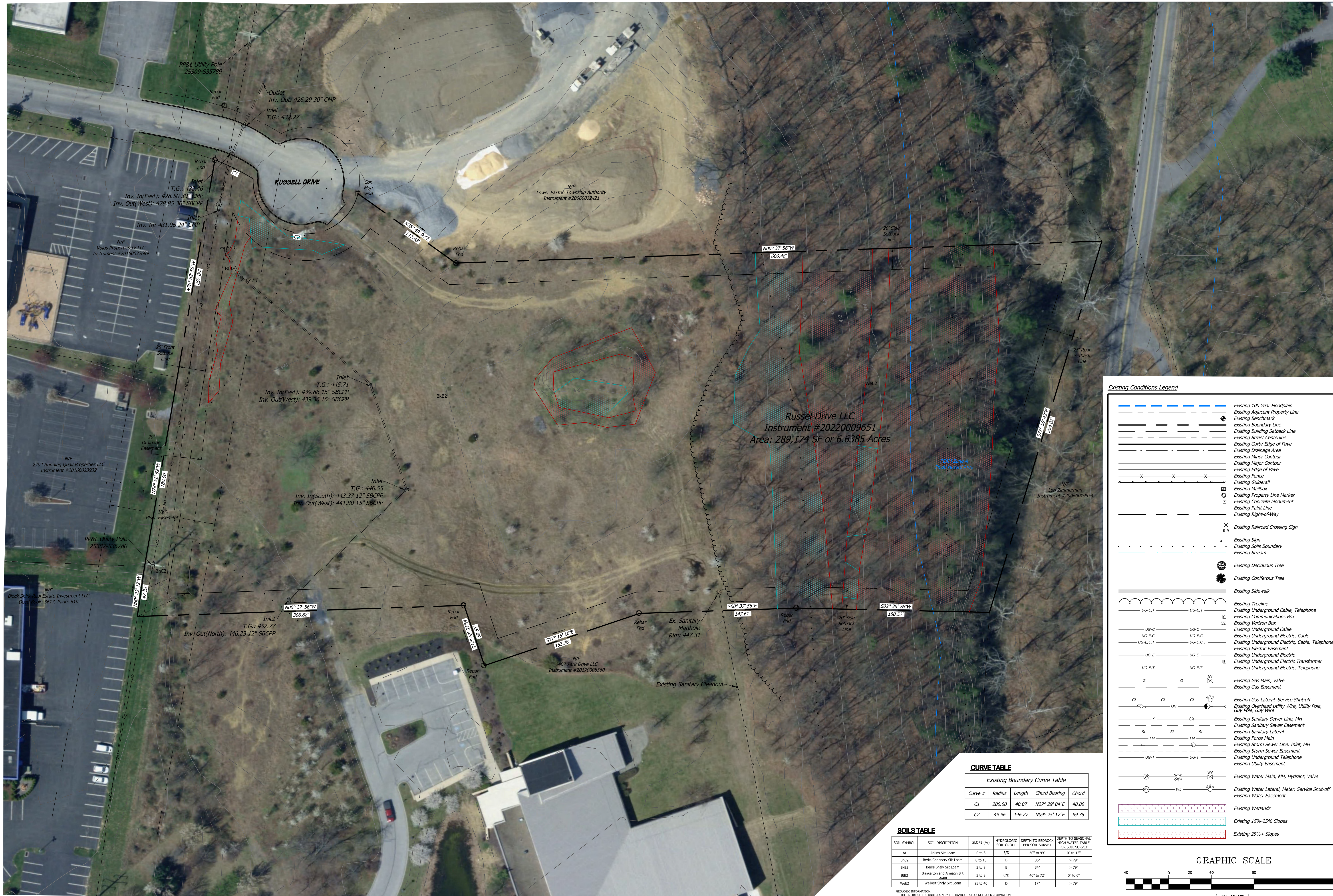
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 RJFISHERENGINEERING.COM



EXISTING CONDITIONS PLAN
 FOR
RUSSEL DRIVE LOT 2
 LOCATED IN
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA

DRAWING ID: 222012-EXC
 PROJECT: 222012
 DATE: 4/8/2022
 SHEET: 2 OF 13

DATE PLOTTED: 4/8/2022 10:45:41 AM
 USER: JFISHER
 PLOTTER: HP DesignJet 2530C



Existing Conditions Legend

- Existing 100 Year Floodplain
- Existing Adjacent Property Line
- Existing Benchmark
- Existing Boundary Line
- Existing Building Setback Line
- Existing Street Centerline
- Existing Curby Edge of Pavement
- Existing Drainage Area
- Existing Minor Contour
- Existing Major Contour
- Existing Edge of Pavement
- Existing Fence
- Existing Guideline
- Existing Mailbox
- Existing Property Line Marker
- Existing Concrete Monument
- Existing Paint Line
- Existing Right-of-Way
- Existing Railroad Crossing Sign
- Existing Sign
- Existing Soils Boundary
- Existing Stream
- Existing Deciduous Tree
- Existing Coniferous Tree
- Existing Sidewalk
- Existing Treeline
- Existing Underground Cable, Telephone
- Existing Communications Box
- Existing Vertical Box
- Existing Underground Cable
- Existing Underground Electric, Cable, Telephone
- Existing Electric Easement
- Existing Underground Electric
- Existing Underground Electric Transformer
- Existing Gas Main, Valve
- Existing Gas Easement
- Existing Gas Lateral, Service Shut-off
- Existing Overhead Utility Wire, Utility Pole, Guy Wire, Guy Wire
- Existing Sanitary Sewer Line, MH
- Existing Sanitary Sewer Easement
- Existing Sanitary Lateral
- Existing Force Main
- Existing Storm Sewer Line, Inlet, MH
- Existing Storm Sewer Easement
- Existing Underground Telephone
- Existing Utility Easement
- Existing Water Main, MH, Hydrant, Valve
- Existing Water Lateral, Meter, Service Shut-off
- Existing Water Easement
- Existing Wetlands
- Existing 15%-25% Slopes
- Existing 25%+ Slopes

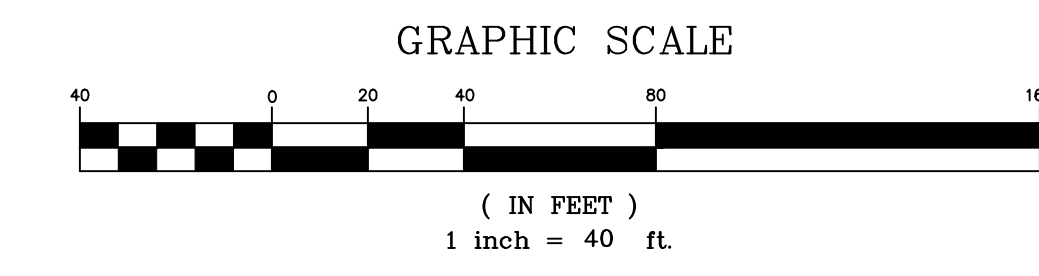
CURVE TABLE

Existing Boundary Curve Table

Curve #	Radius	Length	Chord Bearing	Chord
C1	200.00	40.07	N27° 29' 04"E	40.00
C2	49.96	146.27	N09° 25' 17"E	99.35

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	HYDROLOGIC SOIL GROUP	DEPTH TO BEDROCK PER SOIL SURVEY	DEPTH TO SEASONAL HIGH WATER TABLE PER SOIL SURVEY
AL	Atkins Silty Loam	0 to 3	B/D	60" to 99"	0' to 12"
BNC2	Berks Channery Silty Loam	8 to 15	B	36"	> 79"
BB2	Berks Shaly Silty Loam	3 to 8	B	36"	> 79"
BB2	Brimkerton and Armagh Silty Loam	3 to 8	C/D	40" to 72"	0' to 6"
WB2	Wickett Shaly Silty Loam	25 to 40	D	17"	> 79"



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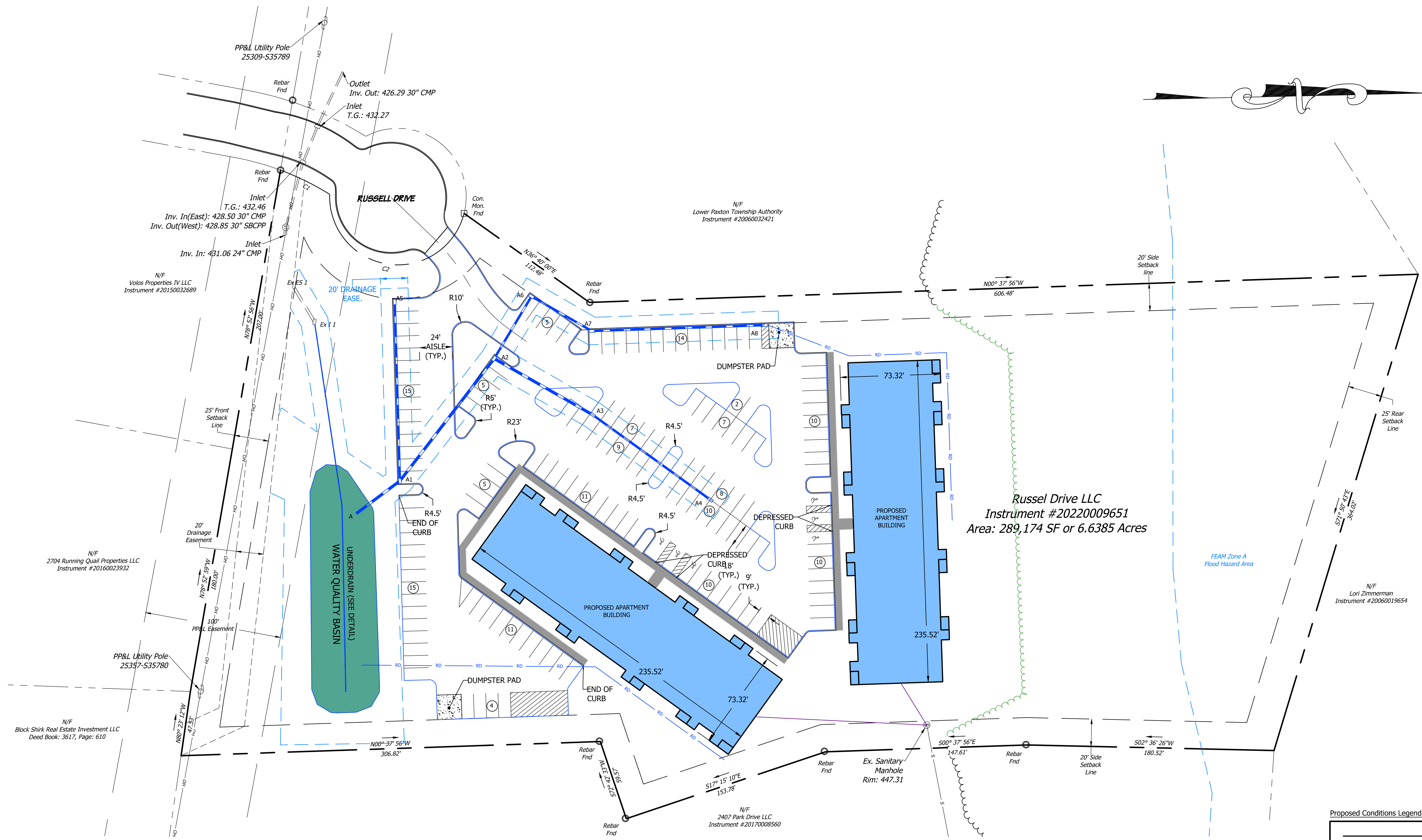
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EXISTING CONDITIONS PLAN
 FOR
RUSSEL DRIVE LOT 2
 LOCATED IN
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA

DRAWING ID: 222012-EXC
 PROJECT: 222012
 DATE: 4/8/2022
 SHEET: 3 OF 13

DATE PLOTTED: 4/8/2022 10:45:10 AM
 PLOTTER: HP DesignJet T1100e
 PLOT SCALE: 1"=40'



Russel Drive LLC
Instrument #20220009651
Area: 289,174 SF or 6.6385 Acres

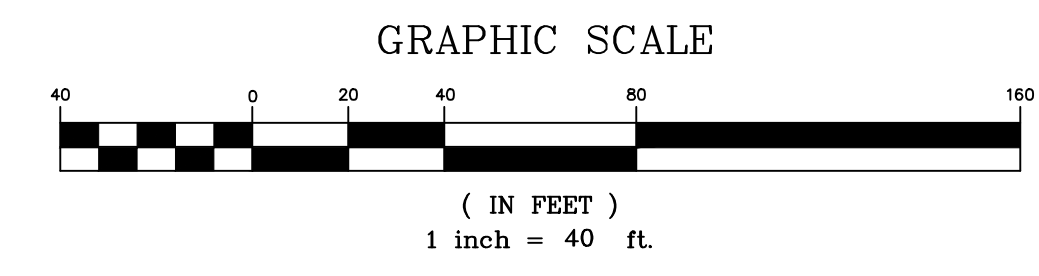
Proposed Conditions Legend

	Proposed Property Line
	Proposed Right-of-Way
	Proposed Edge of Pave
	Proposed Curb
	Proposed Paint
	Proposed Sidewalk
	Proposed Building Setback Line
	Proposed Street Centerline
	Proposed Wall
	Proposed Sanitary Sewer Line, MH
	Proposed Storm Sewer Line, Inlet, MH
	Proposed Roof Drain
	Proposed Water Line, Hydrant
	Proposed Sign
	Proposed Light
	Proposed Pedestrian Ramp Location (See Detail)

CURVE TABLE

Existing Boundary Curve Table

Curve #	Radius	Length	Chord Bearing	Chord
C1	200.00	40.07	N27° 29' 04"E	40.00
C2	49.96	146.27	N09° 25' 17"E	99.35



NO.	REVISION	DATE
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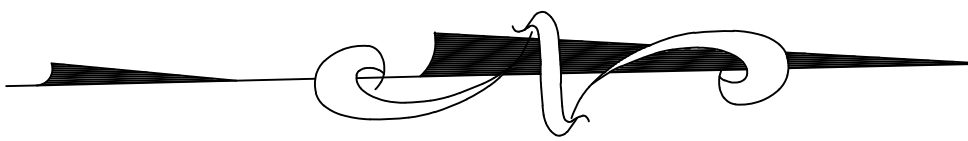
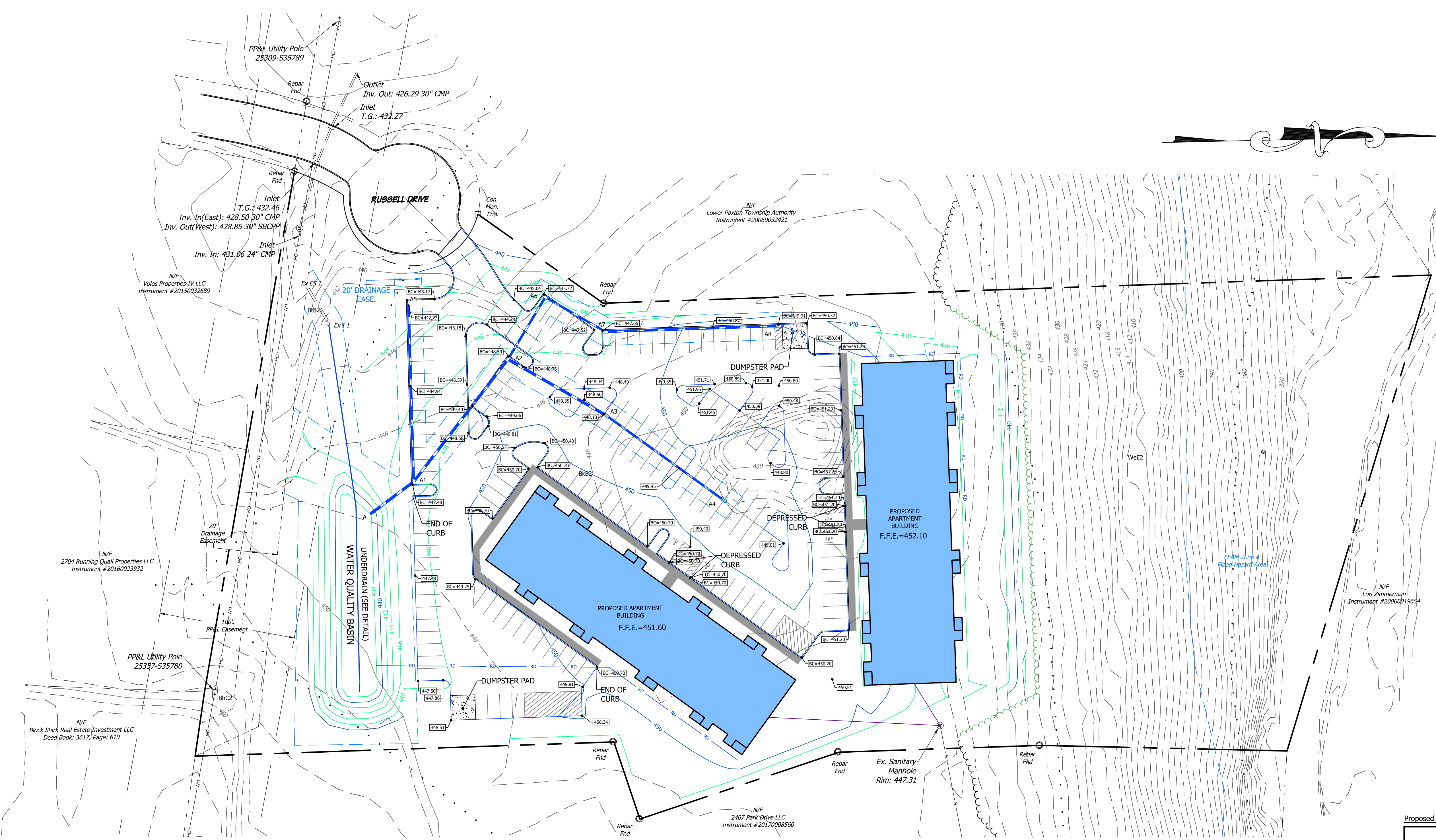
R. J. FISHER & ASSOCIATES, INC.
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PHONE: (717) 774-7534 & FAX: (717) 774-7190
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LAND DEVELOPMENT PLAN
FOR
RUSSEL DRIVE LOT 2
LOCATED IN
SUSQUEHANN TOWNSHIP, DAUPHIN COUNTY, PA

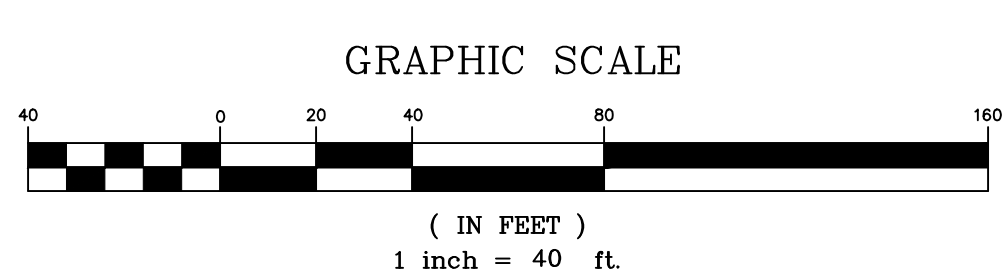
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PROJECT: 222012
DATE: 4/8/2022
SHEET: 4 OF 13

P:\Projects\222012-LDP\Drawings\222012-LDP.dwg
 DATE: 4/8/2022 10:48:43 AM
 USER: RJS



Proposed Conditions Legend

	Proposed Right-of-Way
	Proposed Edge of Pavement
	Proposed Curb
	Proposed Sidewalk
	Proposed Retaining Wall
	Proposed Sanitary Sewer Line, MH
	Proposed Storm Sewer Line, Inlet, MH
	Proposed Water Line, Hydrant
	Proposed Minor Contour
	Proposed Major Contour
	Limit of Disturbance/PPDES Boundary
	NPDES Boundary
	Proposed Roof Drain
	Proposed Sign
	Proposed Light
	Proposed Pedestrian Ramp Location (See Detail)
	Proposed Rip-Rap Apron (See Detail)
	Proposed Spot Elevation



NO.	REVISION	DATE
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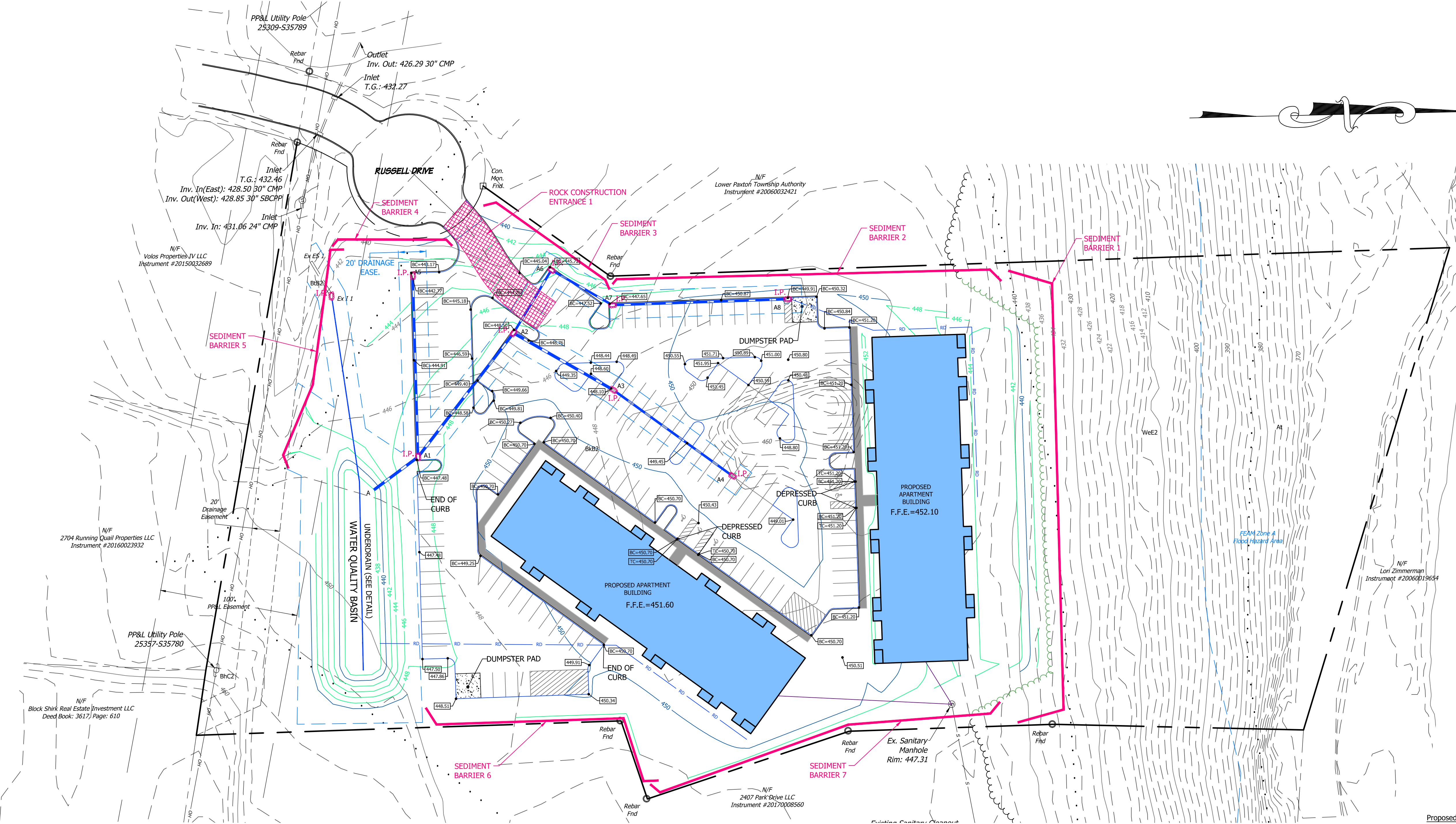
R. J. FISHER & ASSOCIATES, INC.
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 PHONE: (717) 774-7534 & FAX: (717) 774-7190
 RJFISHERENGINEERING.COM



GRADING PLAN
 FOR
RUSSEL DRIVE LOT 2
 LOCATED IN
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA

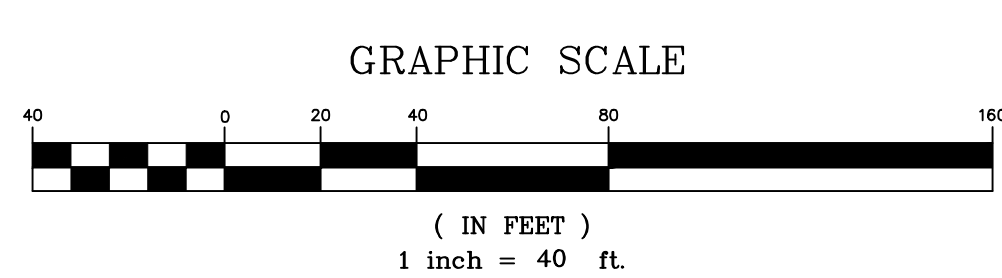
DRAWING ID: 222012-GRD-PCSM
 PROJECT: 222012
 DATE: 4/8/2022
 SHEET: 5 OF 13

5-GRD & PCSM



Proposed Conditions Legend

	Proposed Property Line
	Proposed Right-of-Way
	Proposed Edge of Pave
	Proposed Curb
	Proposed Sidewalk
	Proposed Retaining Wall
	Proposed Sanitary Sower Line, MH
	Proposed Storm Sower Line, Inlet, MH
	Proposed Roof Drain
	Proposed Water Line, Hydrant
	Proposed Minor Contour
	Proposed Major Contour
	Limit of Disturbance/NPDES Boundary
	Drainage Area
	Proposed Inlet Protection, Waterbar, Inlet I.D.
	Proposed Sign
	Proposed Light
	Proposed Spot Elevation



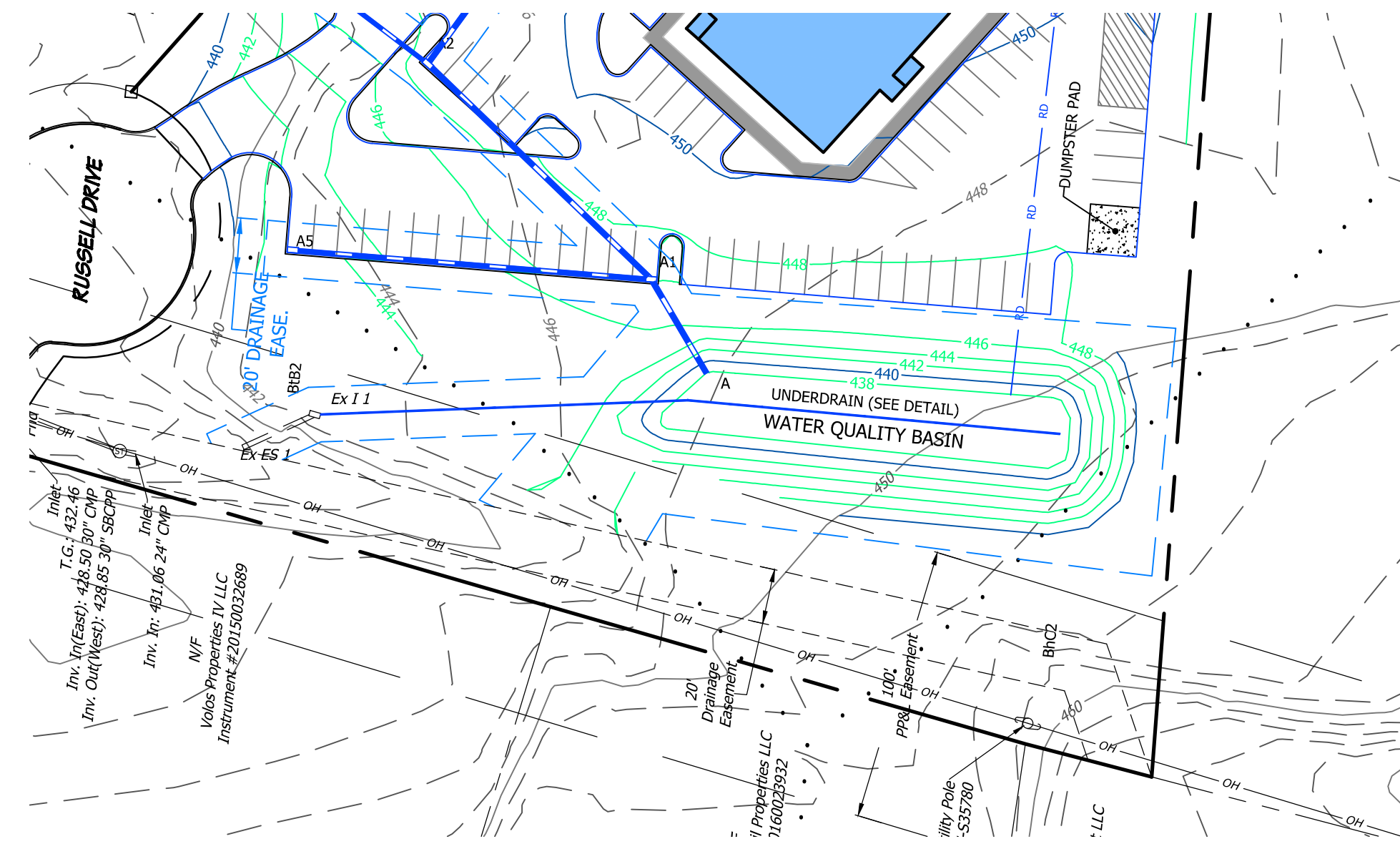
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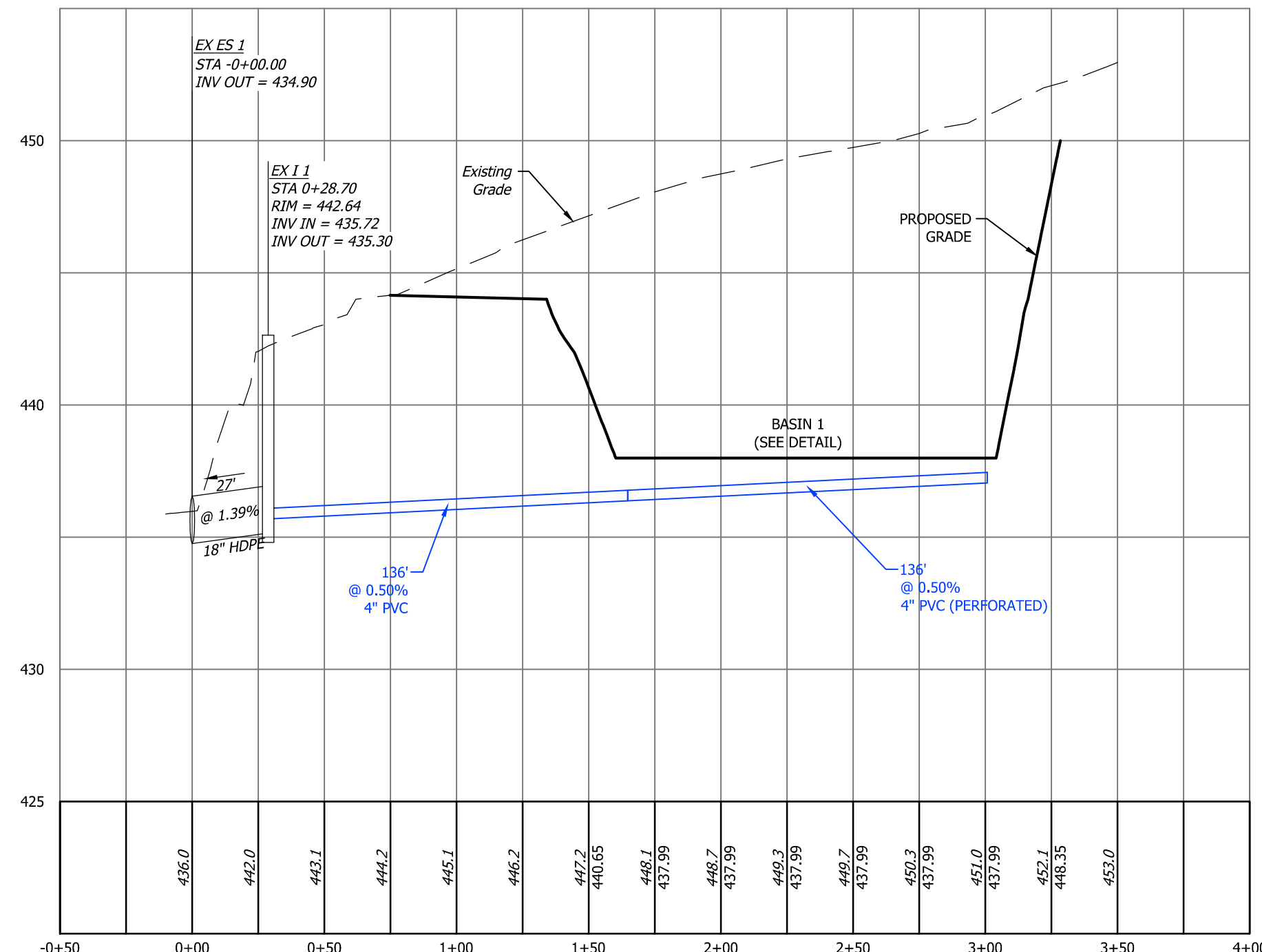


E&S POLLUTION CONTROL PLAN
 FOR
RUSSEL DRIVE LOT 2
 LOCATED IN
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA

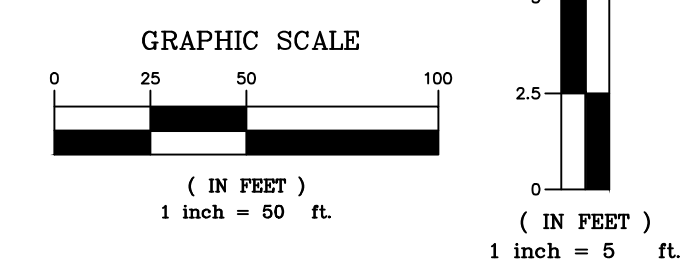
DRAWING ID: 222012-EnS
 PROJECT: 222012
 DATE: 4/8/2022
 SHEET: 6 OF 13



Plan View Of Basin 1
Scale: 1"=50'



Profile View Of Water Quality Basin Sta: -0+50.00 - 4+00.00
Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 5'



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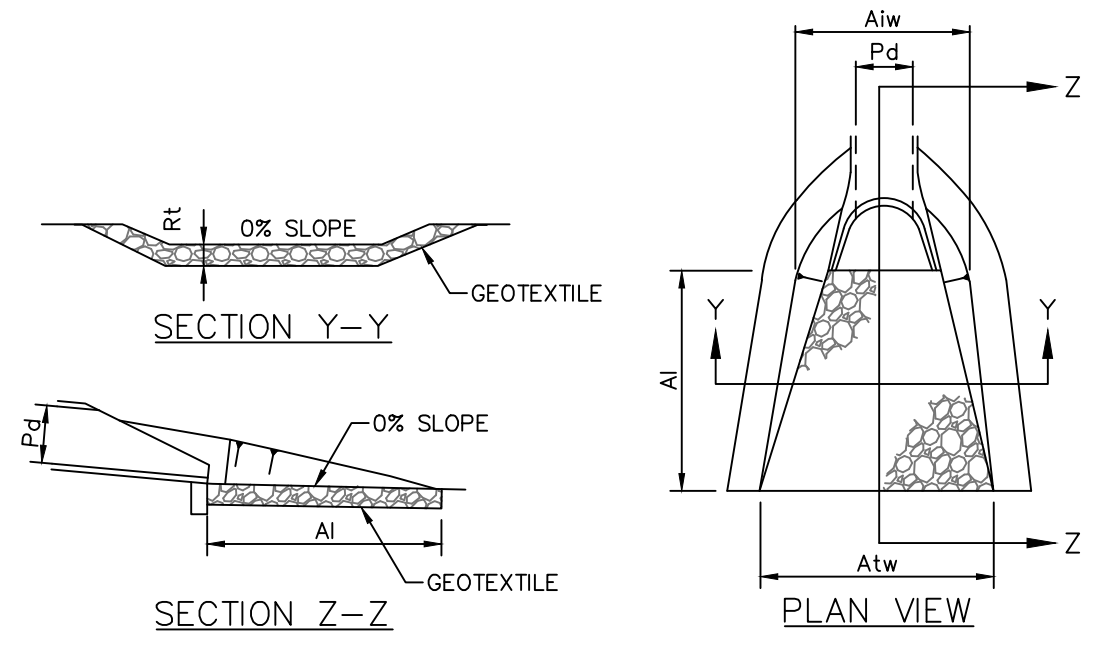
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PROFILE PLAN
 FOR
RUSSEL DRIVE LOT 2
 LOCATED IN
 SUSQUEHANN TOWNSHIP, DAUPHIN COUNTY, PA

DRAWING ID:	222012-PRO
PROJECT:	222012
DATE:	4/8/2022
SHEET:	8 OF 13

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 DATE: 4/8/2022 10:14:43 AM
 PLOT: 4/8/2022 10:14:43 AM
 PLOTTED BY: R. FISHER

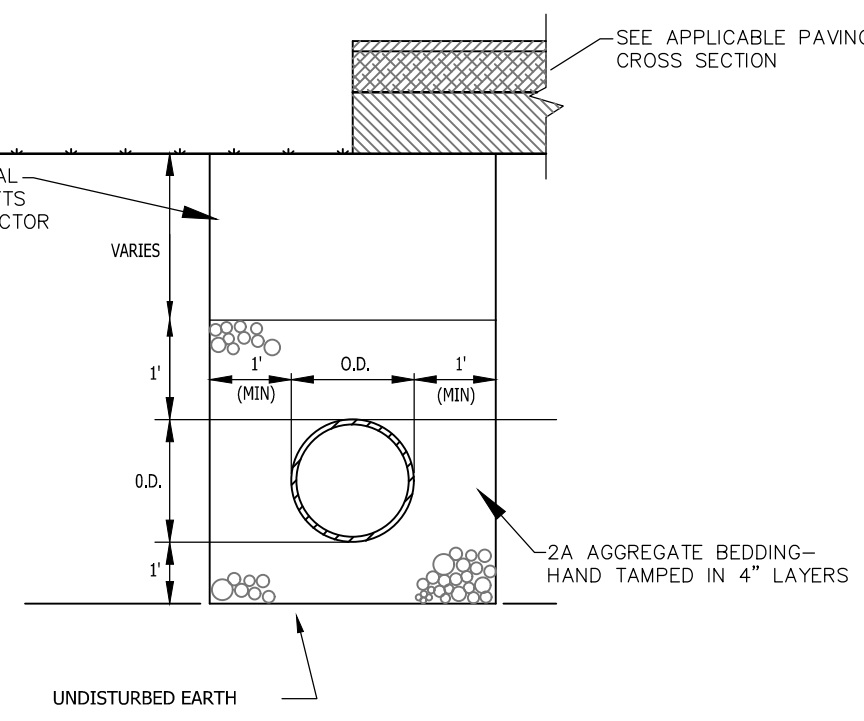


OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP SIZE R-	THICK. Rt (IN)	LENGTH At (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
A	18	R-4	18	10	4.5	14.5

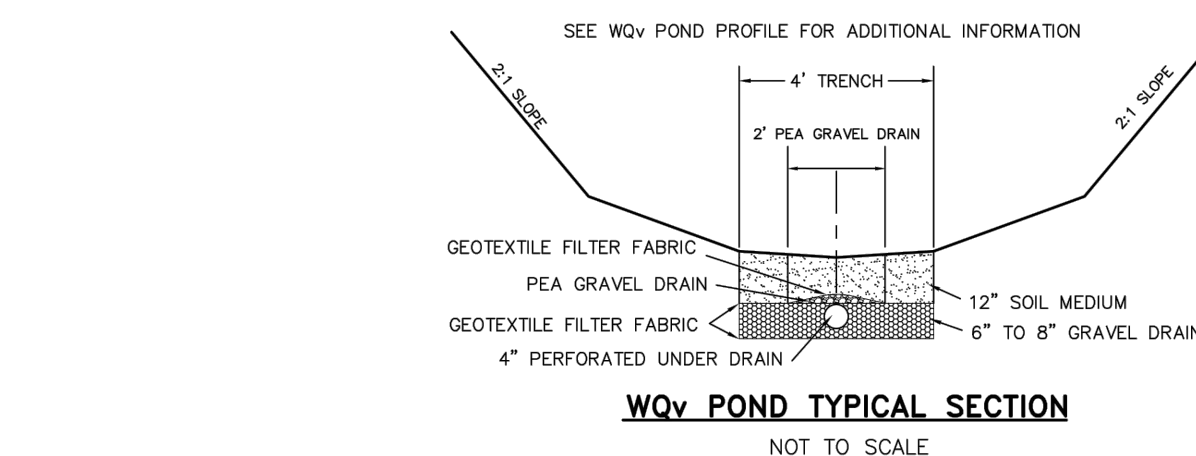
NOTES:
 ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.
 ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL
 NOT TO SCALE

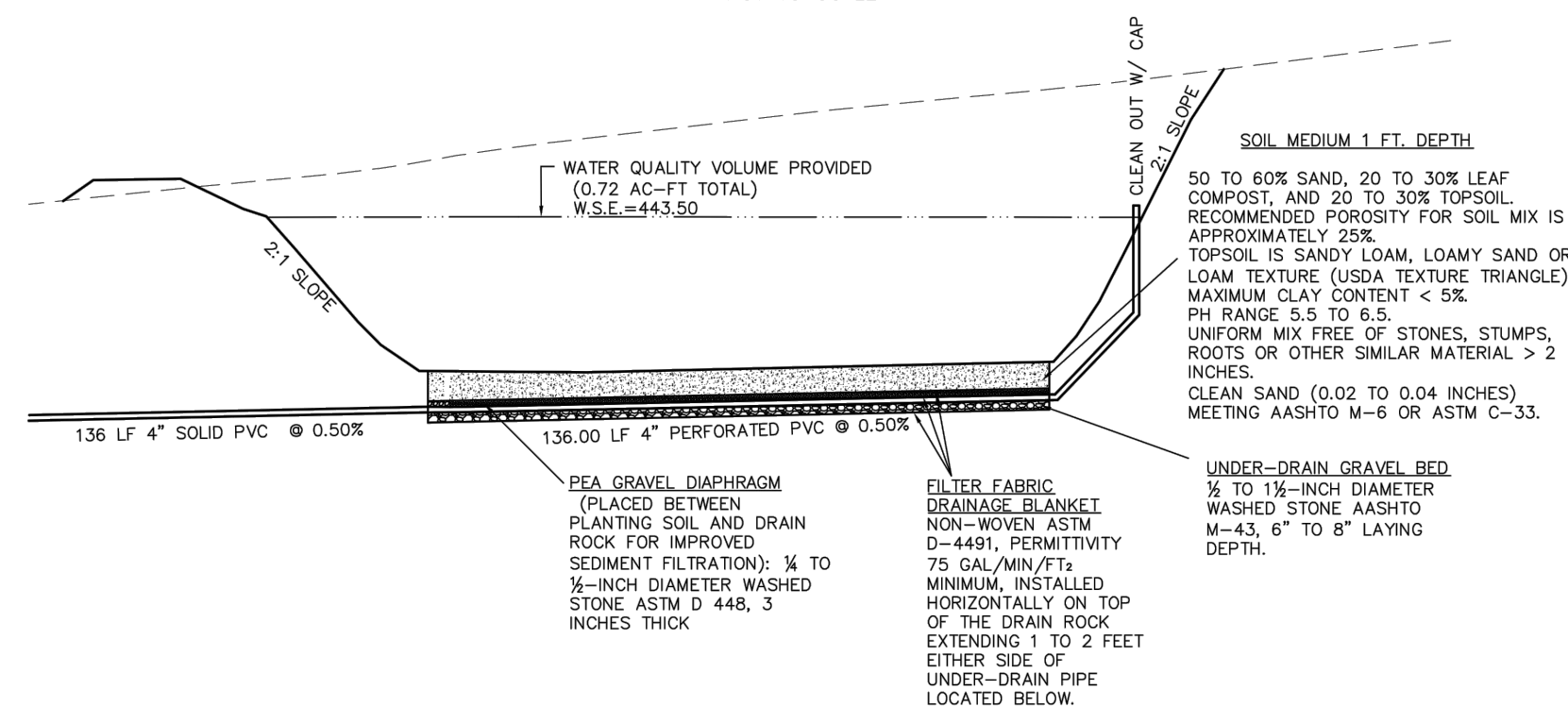
SUITABLE FILL MATERIAL COMPACTED IN 12" LIFTS TO 95% MODIFIED PROCTOR STANDARDS



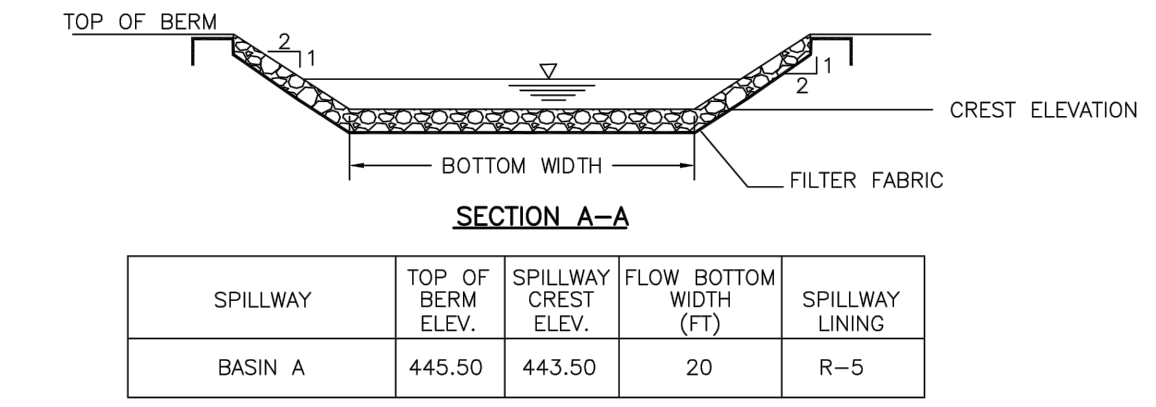
STORM SEWER TRENCH IN STREET
 N.T.S.



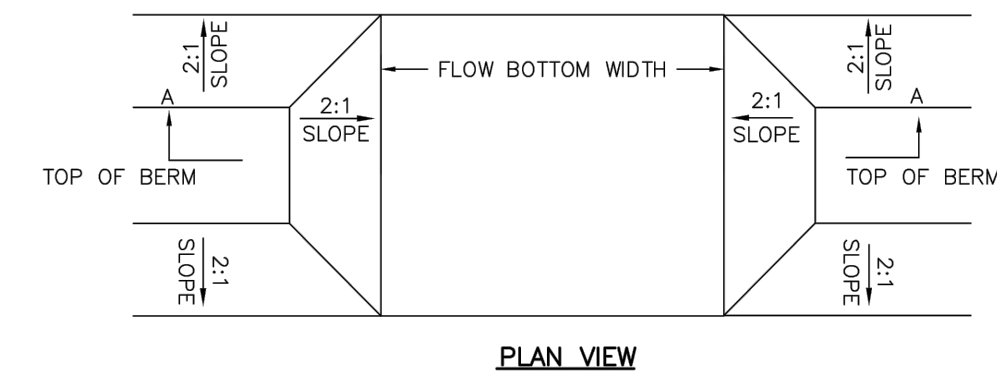
WQv POND TYPICAL SECTION
 NOT TO SCALE



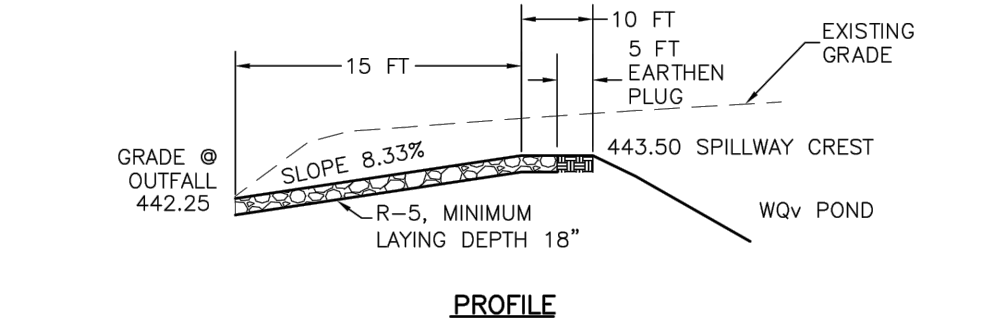
WQv POND PROFILE
 NOT TO SCALE



SPILLWAY	TOP OF BERM ELEV.	SPILLWAY CREST ELEV.	FLOW BOTTOM WIDTH (FT)	SPILLWAY LINING
BASIN A	445.50	443.50	20	R-5

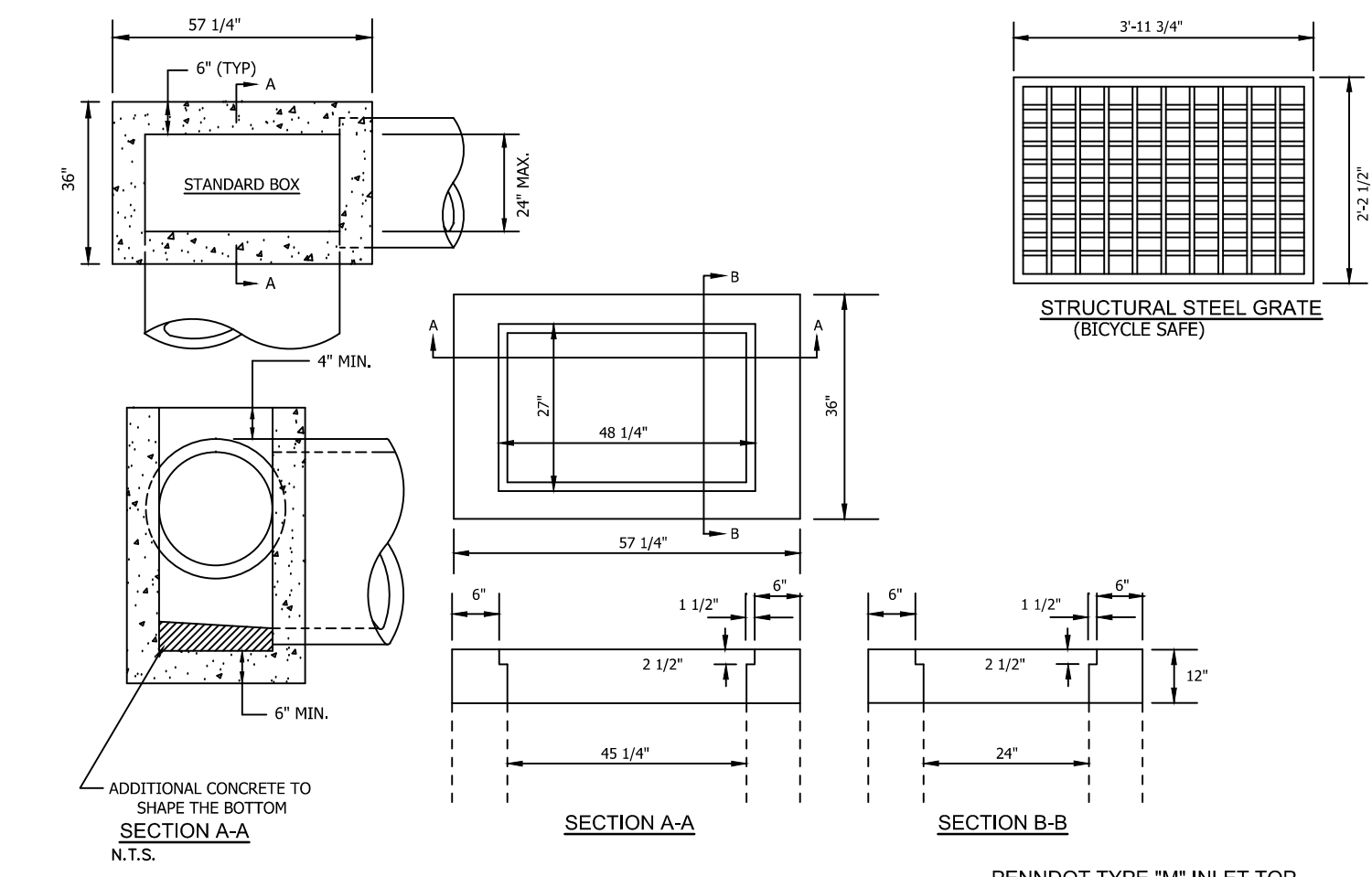


PLAN VIEW

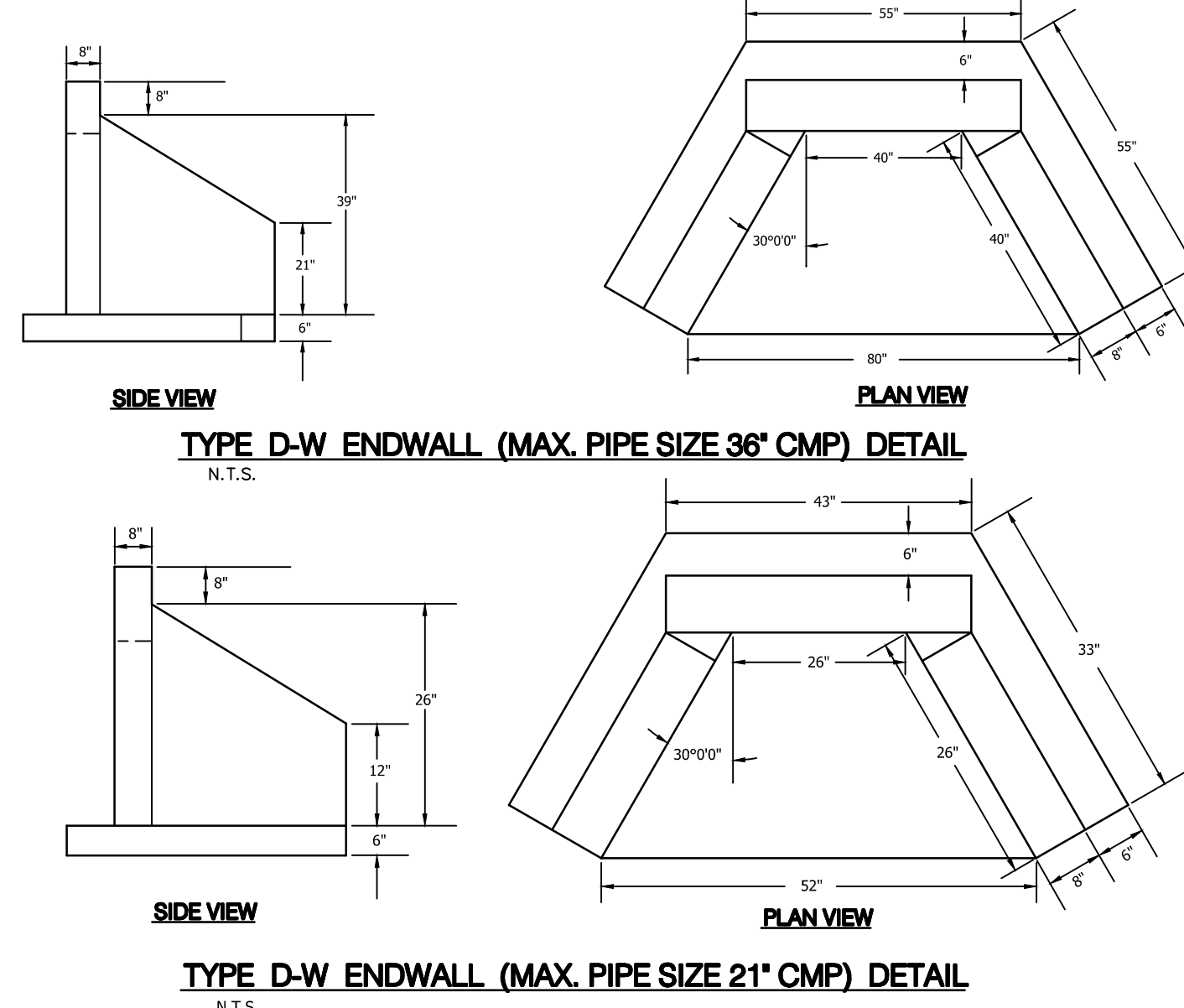
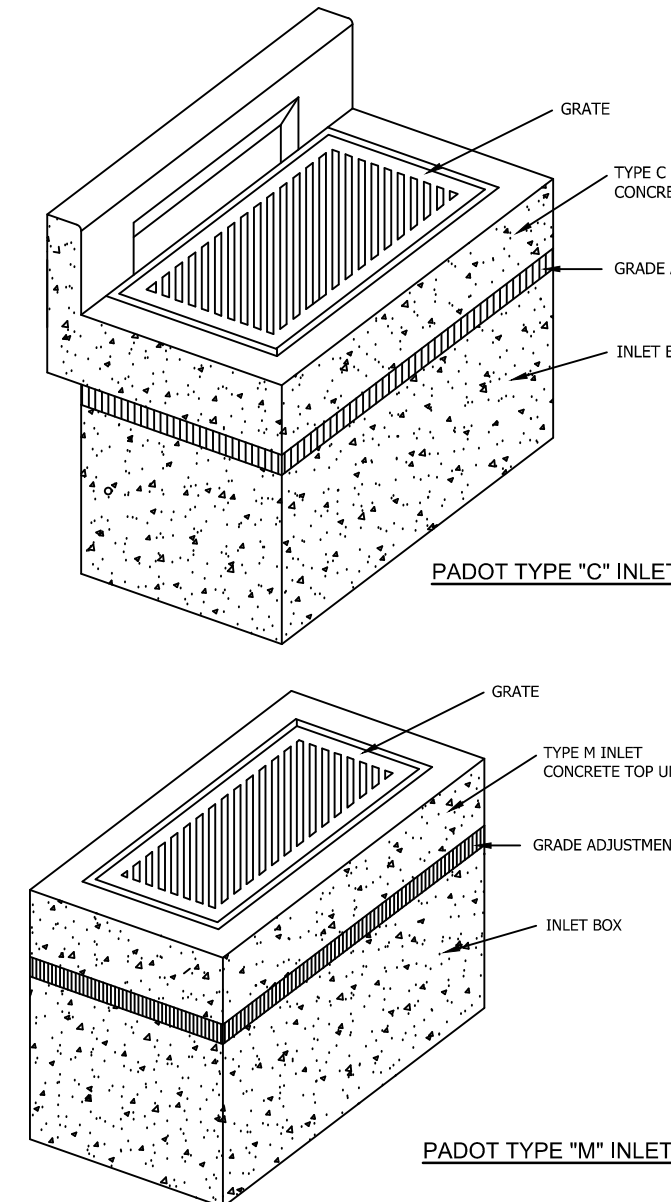


PROFILE

WQv POND EMERGENCY SPILLWAY DETAIL
 NO SCALE



STORM INLET
 N.T.S.
 NOTE: CONSTRUCTION OF STORMWATER INLETS SHALL CONFORM TO AND BE IN ACCORDANCE WITH ALL APPLICABLE RC STANDARDS, PENNDOT PUBLICATION 72M AND ALL AMENDMENTS.



TYPE D-W ENDWALL (MAX. PIPE SIZE 36" CMP) DETAIL
 N.T.S.

TYPE D-W ENDWALL (MAX. PIPE SIZE 21" CMP) DETAIL
 N.T.S.

CRITICAL STAGE DURING CONSTRUCTION

THE FOLLOWING STAGES REQUIRE INSPECTION BY THE ENGINEER OF RECORD OR DESIGNATED REPRESENTATIVE.

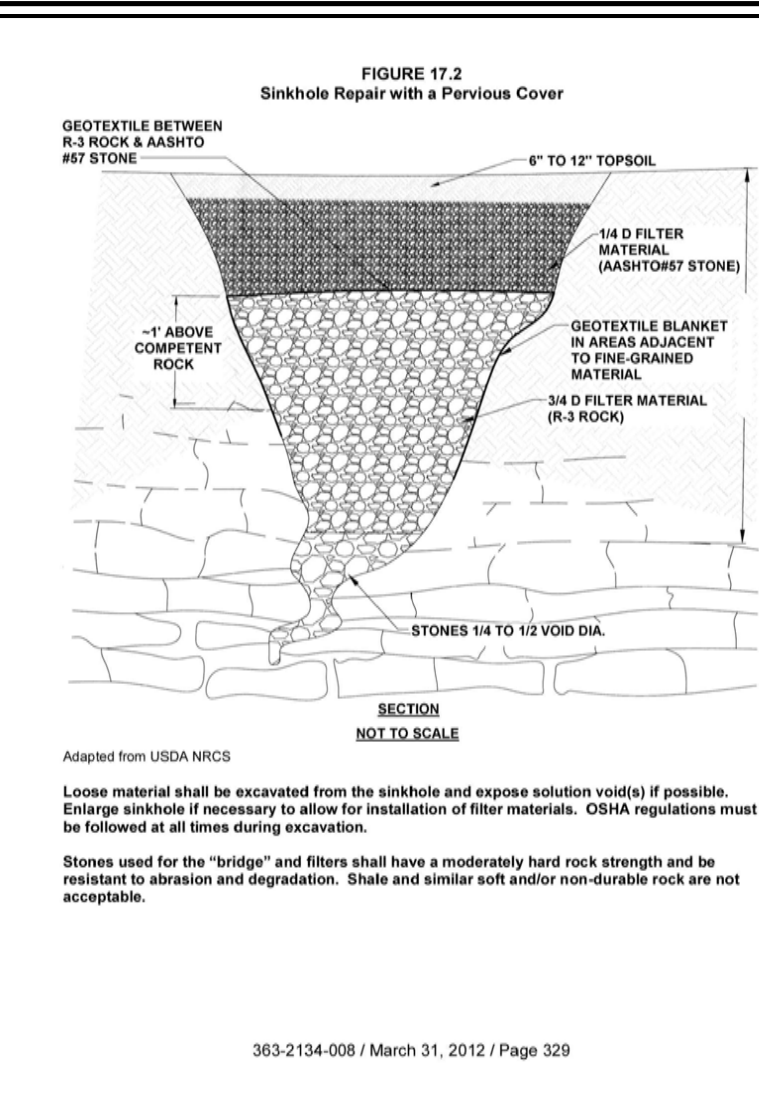
1. INSTALLATION OF WATER QUALITY BASIN UNDERDRAIN SYSTEM PRIOR TO BACKFILL.
2. PLACEMENT OF SOIL MIX. CERTIFICATION OF SOIL MIXES AND/OR AMENDMENTS INDICATING THE SPECIFICATION HAS BEEN MET SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER PRIOR TO ACCEPTANCE.
3. AS-BUILTS PROVIDED TO THE ENGINEER AFTER FINAL GRADING HAS BEEN COMPLETED TO VERIFY VOLUME. THIS STEP TO BE COMPLETED PRIOR TO SEEDING AND FINAL STABILIZATION. THE ENGINEER MAY REQUEST MODIFICATION OF THE BASIN GRADES IF TOTAL STORAGE VOLUME HAS NOT BEEN ACHIEVED.

PCSM NOTES:

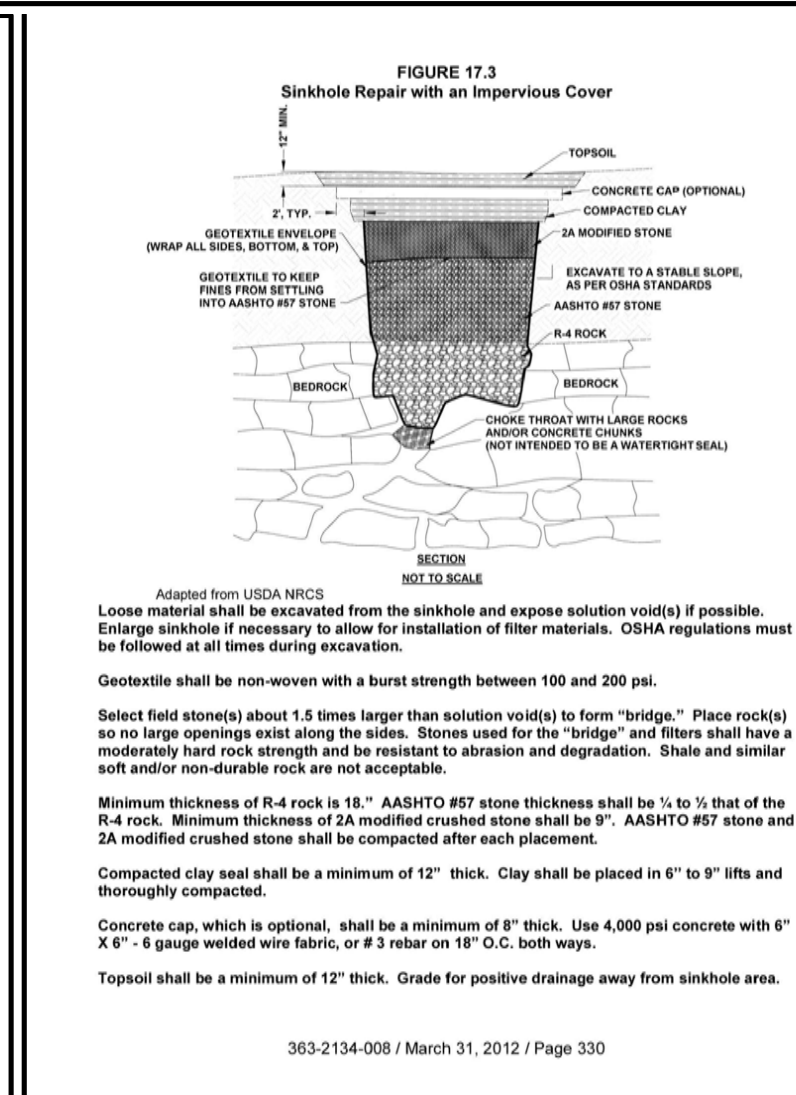
1. OPERATIONS AND MAINTENANCE OF ALL ON-SITE POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, COMMERCE DRIVE DAUPHIN, LP, OR ITS SUCCESSORS.
2. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
3. BLEND ANY EXCESS MATERIAL INTO THE SITE WHERE FEASIBLE. IF ANY REMAINING EXCESS MATERIAL IS TO BE REMOVED FROM THE SITE, THE CONTRACTOR MUST FIRST OBTAIN APPROVAL BY THE DCO, AND THE OFF-SITE DISPOSAL AREA MUST HAVE AN APPROVED E&S CONTROL PLAN.
4. WASTES THAT MAY BE GENERATED INCLUDE EXCESS SOIL OR ROCK FROM EARTH-MOVING AND BUILDING AND CONSTRUCTION WASTES.

OPERATION AND MAINTENANCE NOTES:

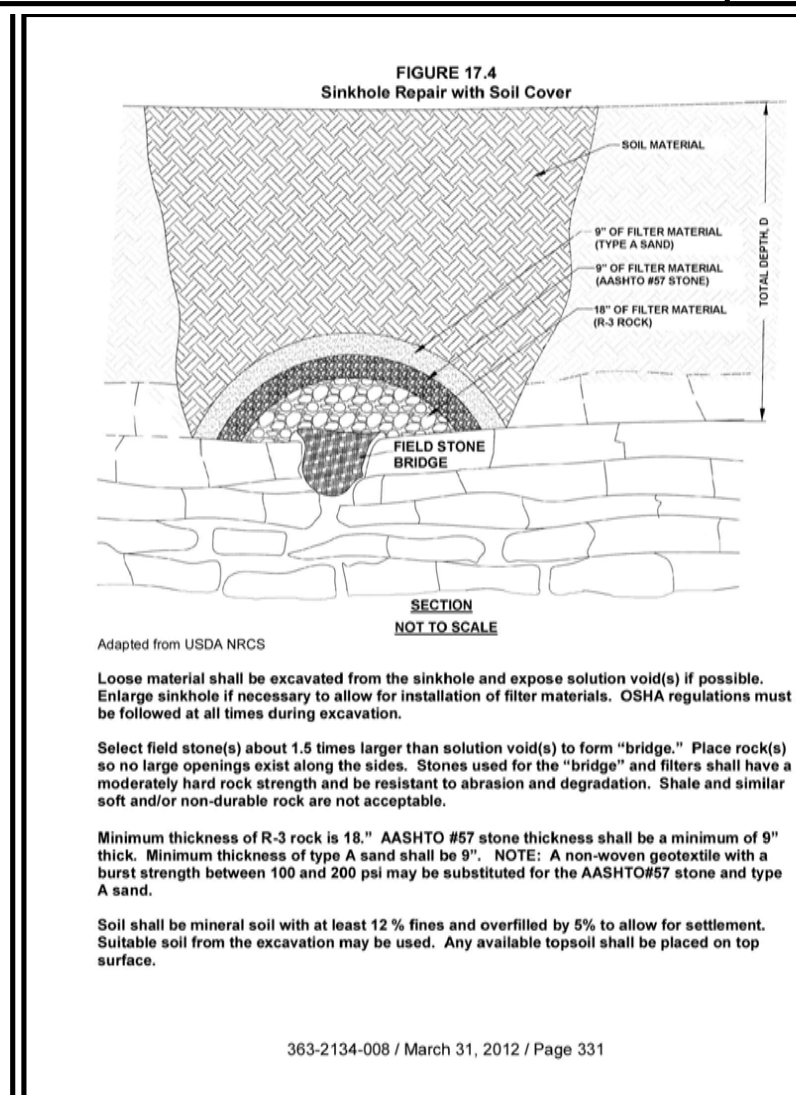
1. THE OWNER WILL PERIODICALLY REMOVE ANY ACCUMULATED DEBRIS FROM THE WATER QUALITY POND AND ITS INLET AND OUT STRUCTURES, AND DISPOSE IN A MANNER ACCEPTABLE TO THE TOWNSHIP.
2. THE OWNER WILL REPAIR ANY AREAS OF RIPRAP OR SLOPES THAT SHOW SIGNS OF SCOUR OR EROSION.
3. EMBANKMENTS SHALL BE KEPT FREE OF TREES AND OTHER WOODY VEGETATION.
4. THE OWNER WILL INSPECT THE EMBANKMENTS EVERY THREE YEARS AND AFTER MAJOR RAINFALL EVENTS.
5. THE OWNER WILL MOW THE GRASS AS NEEDED TO MAINTAIN A SUITABLE COVER.
6. THE OWNER WILL MAKE ANY NECESSARY REPAIRS TO THE EMBANKMENT IF LEAKAGE IS DETECTED AT THE DOWNSTREAM TOE. LEAKAGE COULD BE INDICATED BY THE PRESENCE OF EMERGING WETLAND PLANTS.
7. THE OWNER WILL MAKE REPAIRS TO THE EMERGENCY SPILLWAY IF ANY RUTS OR RILLS ARE EVIDENT.
8. THE OWNER WILL MAKE A VISUAL INSPECTION OF THE EMERGENCY SPILLWAY AFTER ANY 10-YEAR FREQUENCY OR GREATER STORMS.



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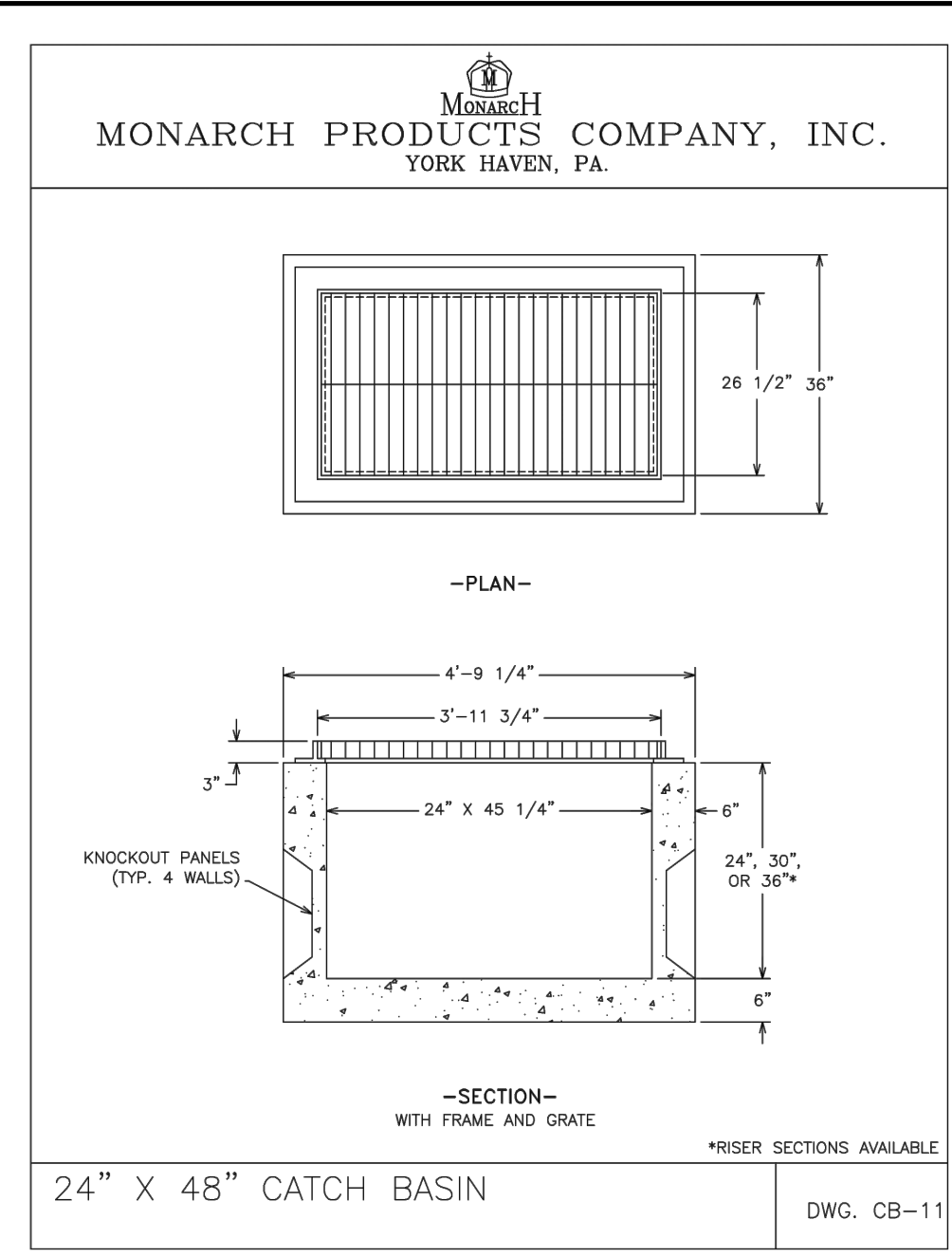
363-2134-009 / March 31, 2012 / Page 330



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- GENERAL SINKHOLE REPAIR POLICIES:**
1. THE AREA OF THE SINKHOLE SHOULD BE EXCAVATED UNTIL THE "THROAT" OF THE SINKHOLE IS DISCOVERED.
 2. ALL LOOSE SOIL OR MATERIAL SHOULD BE REMOVED.
 3. THE THROAT OF THE SINKHOLE SHOULD BE EVALUATED FOR STABILITY AND/OR THE PRESENCE OF ADDITIONAL FRACTURES.
 4. THE SINKHOLE SHOULD THEN BE BACKFILLED USING A GEOTEXTILE FILTER FABRIC FIRST, NOT GEOTEXTILE CLASS 1 TYPE B, THEN USE R-5 STONE UP TO ABOUT 36" FROM FINISHED GRADE.
 5. FOLD THE GEOTEXTILE FILTER FABRIC OVER ITSELF TO CREATE A "BAG".
 6. ADD ABOUT 24" OF 2A MODIFIED STONE TO AROUND A FOOT BELOW FINAL GRADE DEPENDING ON WHERE THE SINKHOLE IS AND WHAT MATERIAL IS NEEDED TO FINISH BACKFILLING.

SINKHOLE AND SINKHOLE AREA TREATMENT
 N.T.S.



24" X 48" CATCH BASIN
 DWG. CB-11

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PCSM DETAILS
 FOR
RUSSEL DRIVE LOT 2
 LOCATED IN
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA

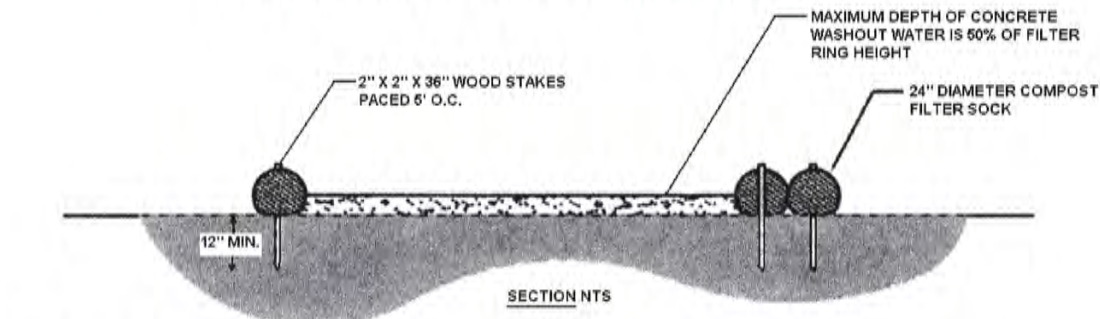
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 PROJECT: 220021
 DATE: 4/8/2022
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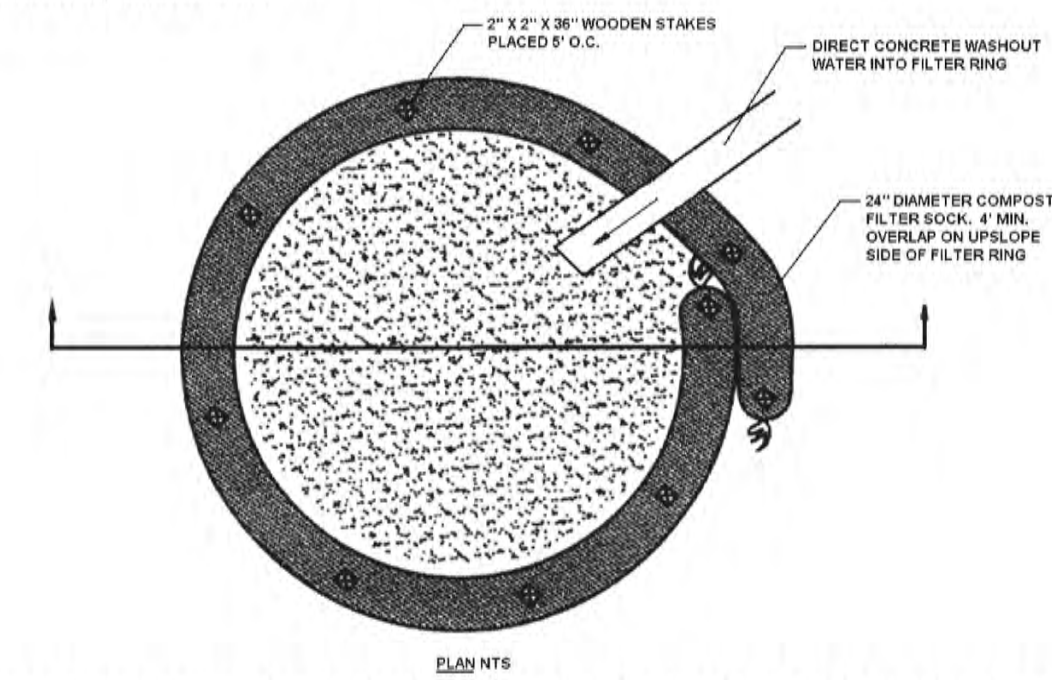
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FIGURE 3.18
Typical Compost Sock Washout Installation

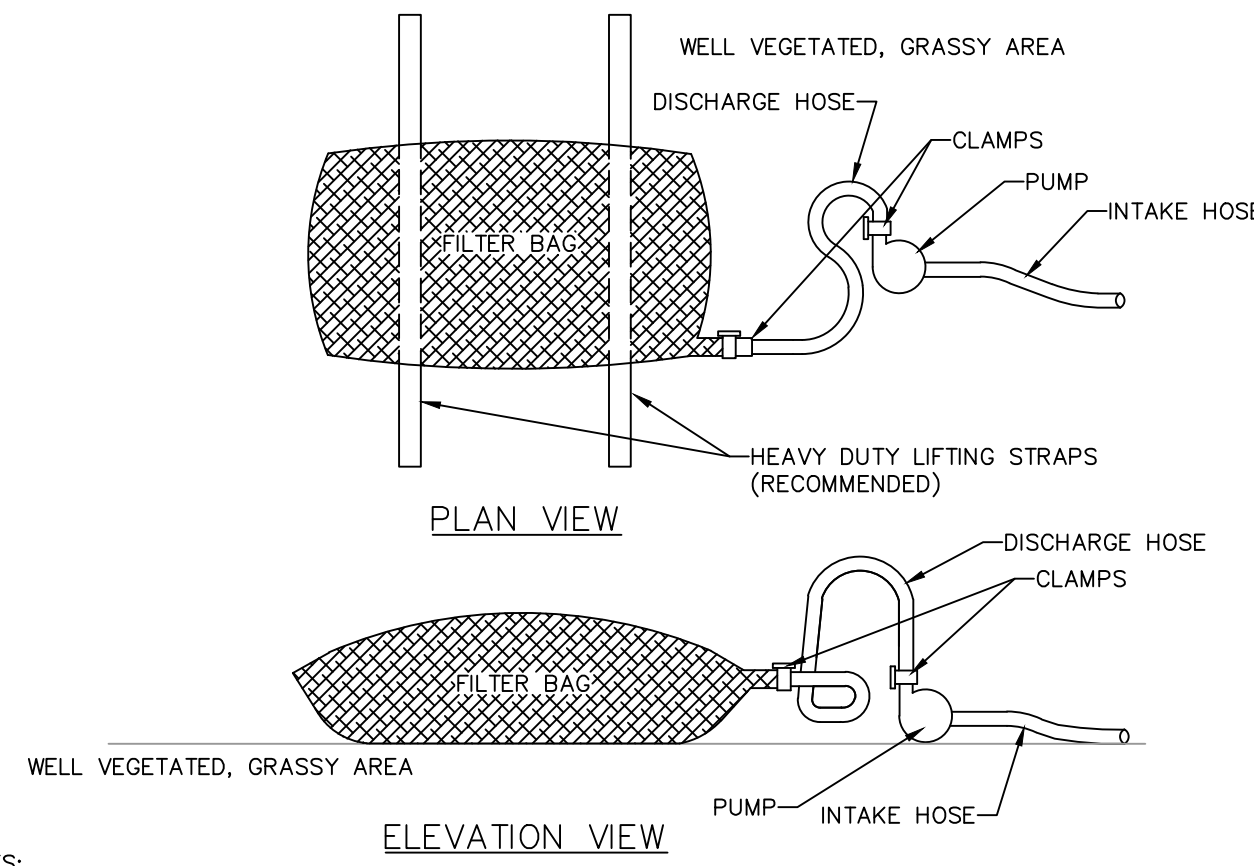


NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. 24" DIAMETER FILTER SOCKS MAY BE STACKED ON TOP OF EACH OTHER FOR ADDED HEIGHT.



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

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

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

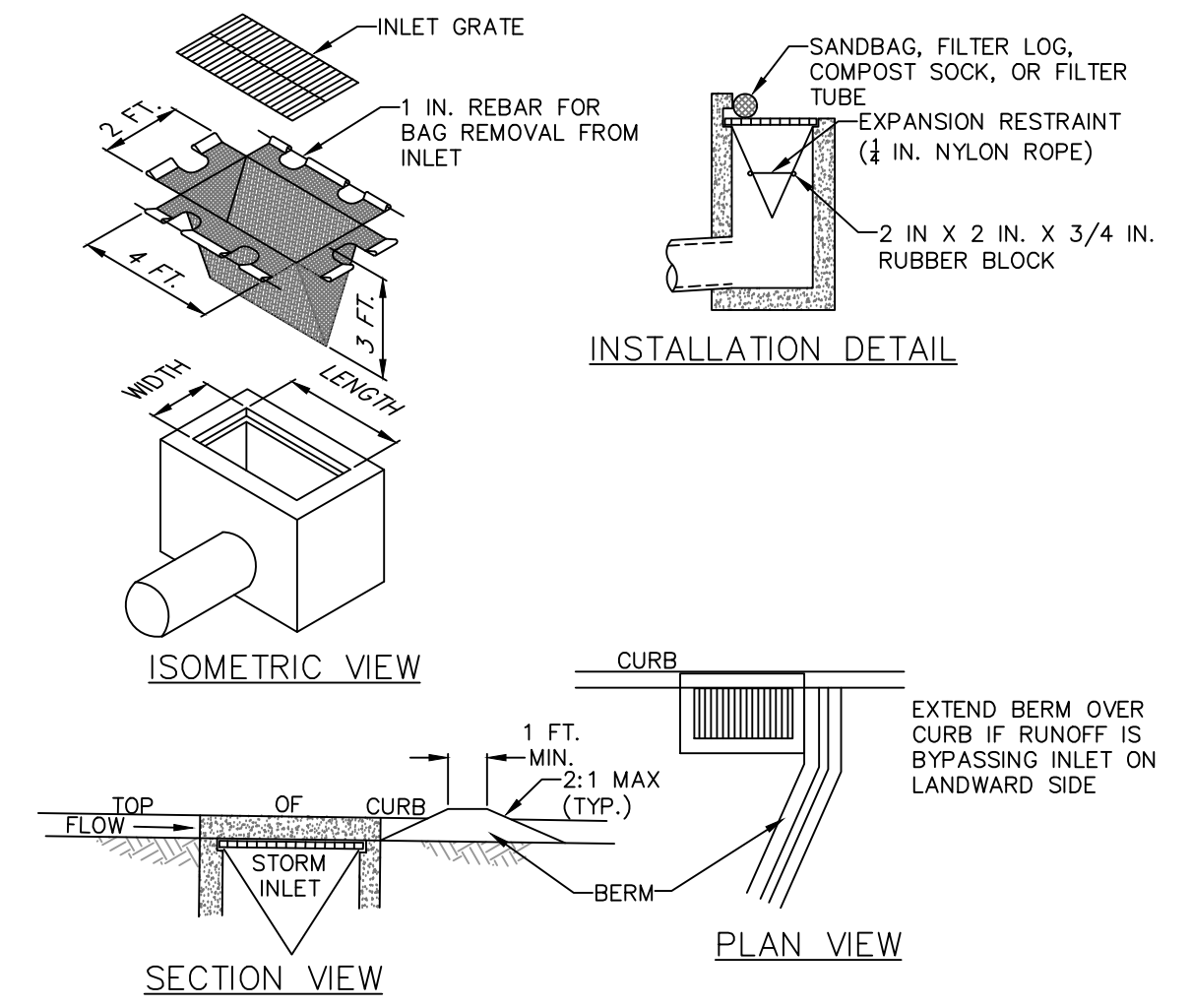
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

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

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

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG

N.T.S.



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM 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.

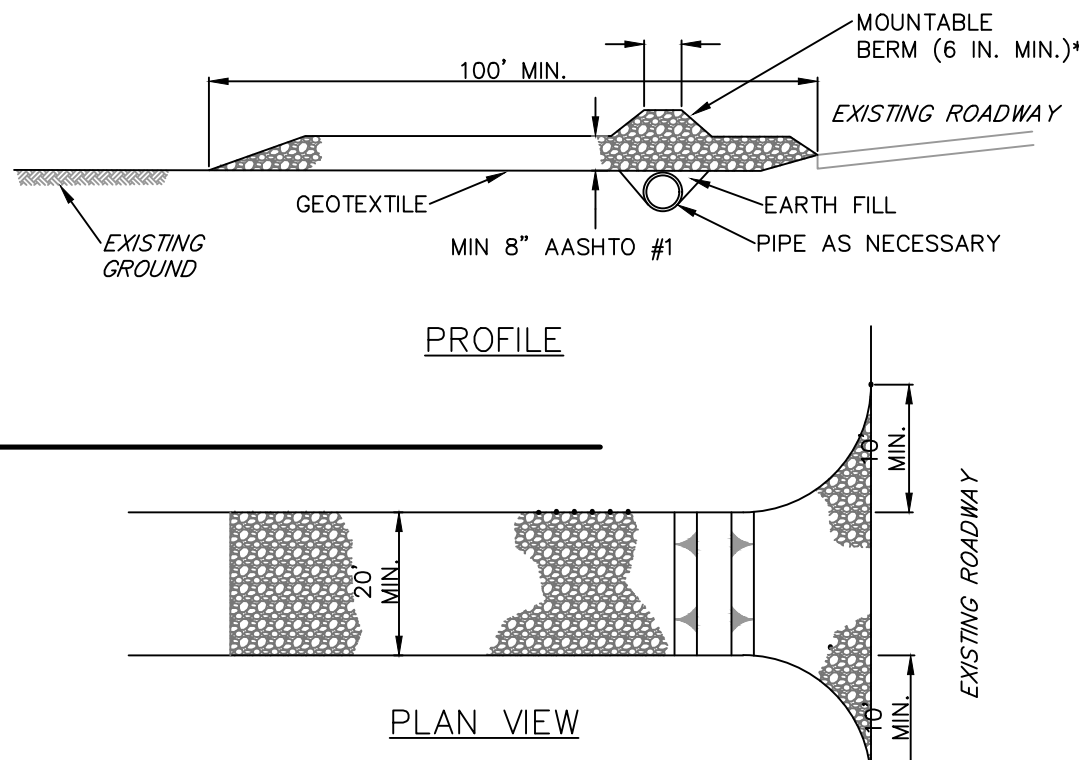
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED 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.

STANDARD CONSTRUCTION DETAIL #4-15
FILTER BAG INLET PROTECTION - TYPE C INLET

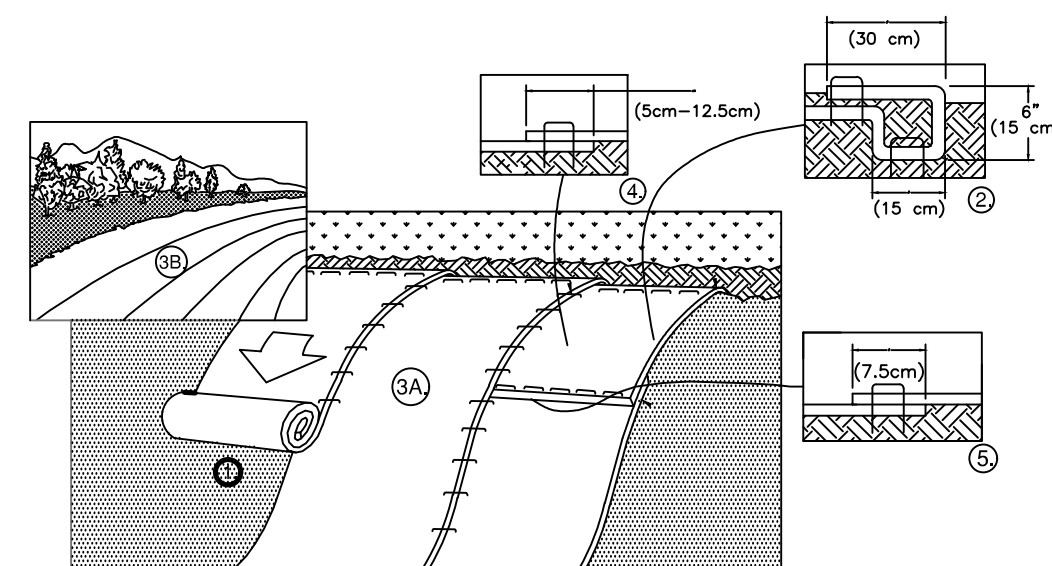
N.T.S.

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



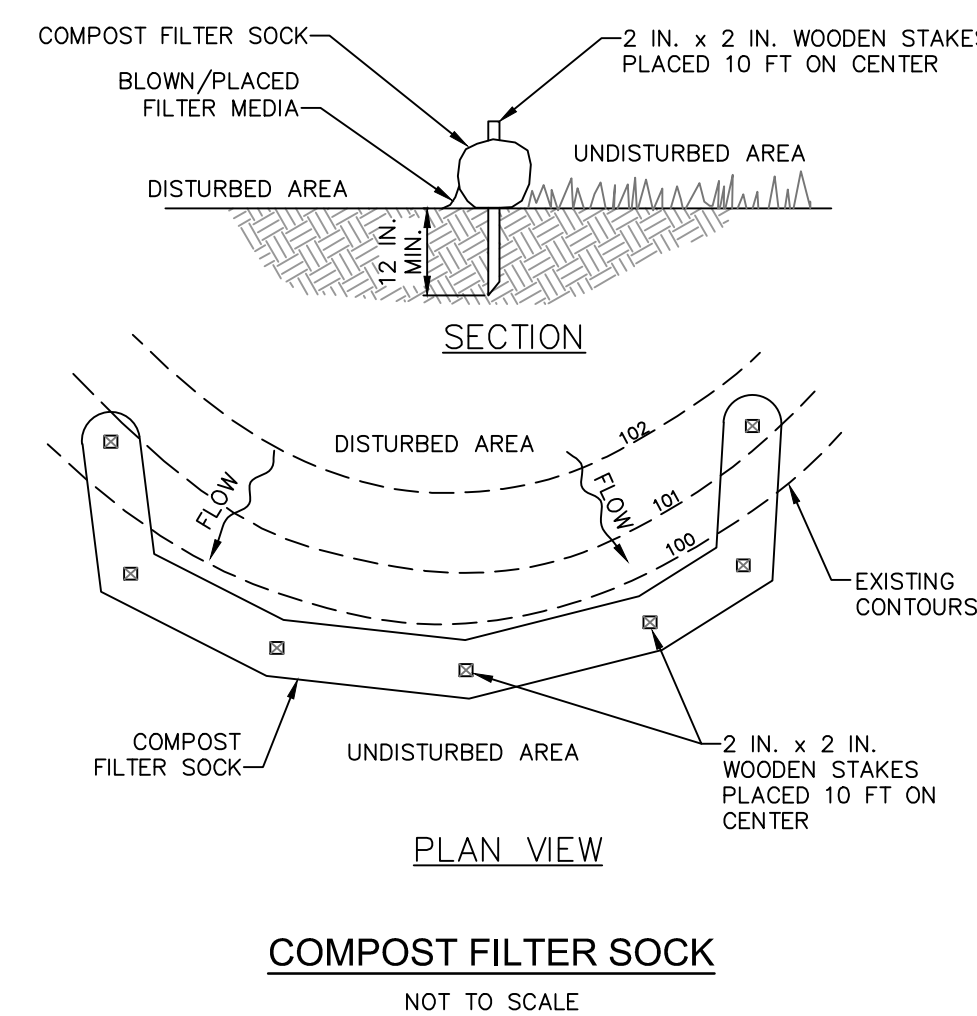
ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE



NOTE: EROSION CONTROL MATTING SHALL BE NORTH AMERICAN GREEN S75, OR APPROVED EQUAL.
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL-OR-SEED DO NOT SEED PREPARED AREA. CELL-OR-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND TOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING ORIGINAL "DOT SYSTEM" STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.
NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL MATTING ON SLOPE
N.T.S.



COMPOST FILTER SOCK
NOT TO SCALE

NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

COMPOST FILTER SOCK TABLE			
SOCK NO.	DIA. (IN)	LOCATION	SLOPE LENGTH ABOVE BARRIER (FT)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

E&S DETAILS
FOR

RUSSEL DRIVE LOT 2

LOCATED IN
SUSQUEHANN TOWNSHIP, DAUPHIN COUNTY, PA

DRAWING ID:

220212-DET

PROJECT: 220021

DATE: 4/8/2022

SHEET:

12 OF 13

R. J. FISHER & ASSOCIATES, INC.

SITE PLANNING & CIVIL ENGINEERING & LAND SURVEYS

1546 BRIDGE STREET, NEW CUMBERLAND, PA. 17070

PHONE: (717) 774-7534 & FAX: (717) 774-7190

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5	HOP REVISIONS	1/24/22

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EROSION CONTROL PLAN

GENERAL NOTES

- 1. The site contractor and their designees shall familiarize themselves with this Erosion Control Plan.
2. The site contractor shall be responsible for implementation of this Erosion Control Plan.
3. The site contractor shall ensure that earth disturbance activities are planned and implemented to the extent practicable in accordance with the following:
a. Minimize the extent and duration of the earth disturbance.
b. Maximize protection of existing drainage features and vegetation.
c. Minimize soil compaction.
d. Utilize other measures or controls that prevent or minimize the generation of increased stormwater runoff.
4. Erosion and sedimentation controls must be constructed, stabilized, and functional before site disturbance begins...
5. A copy of the approved Erosion and Sediment Control Plan / Drawings (stamped, signed and dated by the reviewing agency) must be available at the project site at all times.
6. Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence.
7. At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps.
8. Topsoil stockpile heights shall not exceed 35 feet.
9. Solids, trash and other pollutants shall be disposed in accordance with federal and state regulations in order to prevent any pollutant in such materials from adversely affecting the environment.
10. All off-site waste and borrow areas must have an E & S Plan approved by the Conservation District or DEP, and fully implemented prior to being activated.
11. The contractor will be responsible for the removal of any excess material and make sure the site(s) receiving the excess has an approved and fully implemented erosion and sediment control plan that meets the conditions of Chapter 102 and/or other State or Federal regulations.
12. The contractor is responsible for ensuring that any material brought onto the site is Clean Fill.
13. Areas which are to be topsoiled shall be scarified to a minimum depth of 4 inches prior to placement of topsoil.
14. All graded areas shall be permanently stabilized immediately upon reaching finished grade.
15. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
16. All E & S BMPs must remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by the Conservation District or PA DEP.
17. After final site stabilization has been achieved, temporary E & S BMPs must be removed or converted to permanent post construction stormwater management BMPs.
18. Failure to correctly install E & S BMPs, failure to prevent sediment-laden runoff from leaving the construction site, or failure to take immediate corrective action to resolve failure of E & S BMPs may result in administrative, civil, and/or criminal penalties being instituted by the Pennsylvania Department of Environmental Protection as defined in Section 602 of the Pennsylvania Clean Streams Law.
19. Only limited disturbance will be permitted to initially access and acquire borrow to construct control facilities, before general site alteration begins.
20. If fuel or other dangerous chemicals are stored on site, then a Preparedness, Prevention and Contingency (PPC) Plan must be developed and kept on site.
21. Underground utilities cutting through any active channel shall be immediately backfilled and the channel restored to its original cross-section and protective lining.
22. All channels must be kept free of obstructions such as fill ground, fallen leaves & woody debris, accumulated construction materials/wastes.
23. Vegetated channels shall be constructed free of rocks, tree roots, stumps or other projections that will impede normal channel flow and/or prevent good lining to soil contact.
24. Sediment basins/traps shall be kept free of all trash, concrete wash water and other debris that pose the potential for clogging the basin/trap outlet structures and/or pose the potential for pollution to waters of the Commonwealth.
25. All building materials and wastes shall be removed from the site and recycled or disposed in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1, and 287.1 et seq.
26. Fill Materials:
a. The NPDES Permit covers the "moving, depositing, stockpiling, or storing of soil rock or earth materials."
b. Applicants and/or operators must use environmental due diligence to ensure that the fill material associated with this project qualifies as Clean Fill.
c. Clean Fill is defined as: Uncontaminated, non-water soluble, non-decomposable, inert, solid material.
d. Clean Fill affected by a spill or release of a regulated substance:
e. Environmental due diligence:
f. Fill material that does not qualify as clean fill is regulated fill.
27. The potential for thermal impacts exists in the temporary condition as the existing vegetation on the site is disturbed, and un-shaded water will sit in the sediment traps.

SOIL LIMITATIONS & RESOLUTIONS

The soils on this site tend to be easily erodible, and may be susceptible to piping. A solution to this limitation is to grade the site at acceptable slopes (2:1 cut, 3:1 fill), and to stabilize the slopes as soon as they've been graded. The soils on this site are also corrosive to concrete, which the use of plastic pipes will help to alleviate. As are most soils in PA, the soils on this site can lead to cut banks that may cave. Proper stabilization will be utilized when digging pipe trenches and foundations. The soils on this site also have issues with slow percolation. Test pits and infiltration tests were performed in the area of the basins and underground infiltration beds to ensure that these limitations were analyzed for this site. These tests also allowed us to analyze the amount of topsoil present, which may be a limitation on the site.

SITE PRESERVATION ANALYSIS

There is a stream channel located on the north side of this site. In order to preserve, maintain and protect it, grading will be minimized at the location of the stream and silt socks will be placed along the stream's border to ensure that sediment laden runoff does not pollute the stream. Soil compaction will be kept to a minimum around the stream. Due to the nature of the development, which includes homes and surrounding streets, it was not possible to minimize the impervious areas on the site. There are no significant drainage features and vegetation to protect on this site. Most of the site area will have to be cleared and graded in order to construct the proposed improvements. The soil will experience some compaction in all of the areas where grading will occur, however compaction will be kept to a minimum in the areas of the proposed basins. The increase in the stormwater runoff volume in the 2-year storm will be infiltrated.

STABILIZATION SPECIFICATIONS

- 1. Upon temporary cessation of an earth disturbance activity or any stage or phase of an activity where a cessation of earth disturbance activities will exceed 4 days, the site shall be immediately seeded, mulched, or otherwise protected from accelerated erosion and sedimentation pending future earth disturbance activities.
2. Permanent stabilization is defined as a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.
3. Topsoil required for the establishment of vegetation shall be stockpiled at the location(s) shown on the plan drawings in the amount necessary to complete the finish grading of all exposed areas that are to be stabilized by vegetation.
4. Areas which are to be topsoiled shall be scarified to a minimum depth of 3 to 5 inches (6 to 12 inches on compacted soils) prior to placement of topsoil.
5. Topsoil should not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet, or in a condition that may otherwise be detrimental to proper grading and seeded preparation.
6. An erosion control blanket will be installed on all disturbed slopes 3:1 or steeper, all areas of concentrated flows, and disturbed areas within 50' of a surface water.

TEMPORARY SEEDING SCHEDULE

The contractor shall immediately temporarily stabilize any rough graded area, topsoil stockpile or unseed excavated fill material that will be left idle for less than 1 year. The grass will provide interim protection against the impact of precipitation, running water and wind. Permanently seeded area that will be idle for more than 1 year.
Temporary seeding schedule is as follows:
Species: annual rye grass
% Live Seed: 98%
Application rate: 10 lbs./1,000 sq. yds.
Fertilizer type: general purpose granular, 10-20-20
Fertilizer application rate: 11 lbs./1,000 sq. yds.
Powdered Liming rate: per soil test; minimum of 4 tons per acre.
Strawbale mulch rate: 1,200 lbs./1,000 sq. yds.
Seeding dates: no seeding between 11/1 and 3/15
Mud anchoring: Asphalt, either emulsified or cut-back, containing no solvents or other diluting agents toxic to plant or animal life, uniformly applied at the rate of 31 gallons per 1,000 square yards. Synthetic binders (chemical binders) may be used per manufacturer's recommendation provided they are non-toxic to plant and animal species.

When seeding is not possible due to the time of year or other limitations, disturbed area shall be mulched with strawbale at the rate above. An erosion control blanket must be installed on all disturbed slopes steeper than 3:1, and all areas with concentrated flows. Matting can be North American Green 'S75' or approved equal.

PERMANENT SEEDING SCHEDULE--

All disturbed soil not to be covered with impervious surfaces, riprap or landscaping mulch shall be permanently seeded to provide protection against the impact of precipitation, running water and wind.
Permanent seeding schedule for the general project area is as follows:
Species: 30% Kentucky bluegrass, 20% Pennlawn Creeping Red Fescue, 20% Norfolk Perennial ryegrass, 10% annual ryegrass
% Pure live seed: 98%
Application rate: 6 lbs./1,000 sq. ft.
Fertilizer type: general purpose granular, 10-20-20
Fertilizer application rate: 11 lbs./1,000 sq. yds.
Powdered Liming rate: per soil test; minimum of 6 tons per acre
Seeding dates: between 4/1 and 10/15
Strawbale mulching rate: 3 tons per acre
Mud anchoring: Asphalt, either emulsified or cut-back, containing no solvents or other diluting agents toxic to plant or animal life, uniformly applied at the rate of 31 gallons per 1,000 square yards. Synthetic binders (chemical binders) may be used per manufacturer's recommendation provided they are non-toxic to plant and animal species.

An erosion control blanket must be installed on all disturbed slopes steeper than 3:1, and all areas with concentrated flows. Matting can be North American Green 'S75' or approved equivalent.

A minimum of 6" of topsoil shall be placed prior to seeding.

MAINTENANCE PLAN

- 1. Until the site is stabilized, all erosion and sediment control BMPs must be maintained properly. Responsibility for implementing and maintaining erosion and sedimentation control measures shall be designated to a minimum of one individual who will be present at the project site each working day.
2. A log showing dates that E & S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection.
3. Any sediment removed from BMPs during construction shall be returned to upland areas within the project area, and incorporated into the site grading, or in the manner described on the plan drawings.
4. See the construction details and seeding specifications for maintenance procedures for the various control measures.
5. Mud must be removed from vehicle tires before they exit the site. Sediment tracked onto any public roadway or sidewalk shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan.
6. The potential for thermal impacts exists in the temporary condition as the existing vegetation on the site is disturbed, and un-shaded water will sit in the sediment traps.

STAGING OF EARTH MOVING ACTIVITIES

- 1. At least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call system incorporated at 1-800-242-1776 for the location of existing underground utilities.
2. All earth disturbance activities shall proceed in accordance with the following specific sequencing. Each stage shall be completed and immediately stabilized before any following stage is initiated.
3. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to eliminate the potential for accelerated erosion and/or sediment pollution.
4. At least 7 days before starting any earth disturbance activities, the owner and/or operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials, and a representative of the County Conservation District to an on-site pre-construction meeting.
5. Immediately after earth disturbance activities cease, the operator shall stabilize the disturbed areas. During non-germinating periods, mulch must be applied at the specified rates.
6. All pumping of sediment laden water shall be through a sediment control BMP, such as a pumped water filter bag or equivalent sediment removal facility, over undisturbed vegetated areas.
7. The permanent stormwater retention areas shown on the drawings shall be delineated by the land surveyor prior to beginning of earthmoving activities, and this area shall be fenced off during construction so that it is not disturbed until it is time for permanent final grading and seeding, at which time it can be shaped per the grading plan. No vehicles should be driven over the retention area except as necessary for final shaping and seeding.

SPECIFIC STAGING OF EARTHMOVING ACTIVITIES FOR MASS GRADING AND INSTALLATION OF COMMON IMPROVEMENTS

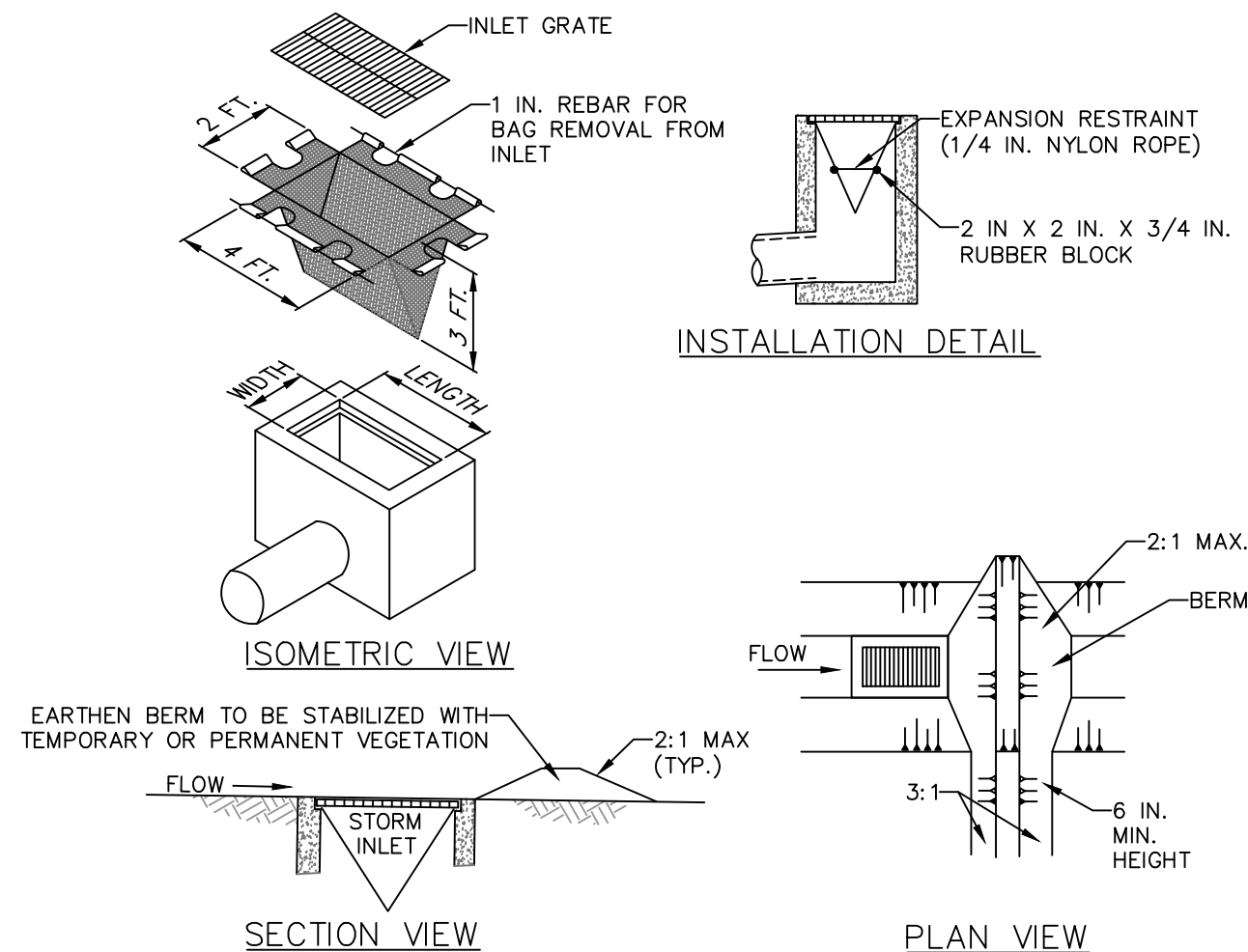
- 1. No earth disturbance should be started until the E&S BMP's treating the disturbed area are installed and functioning.
2. Clearly field mark the limits of disturbance. Install the rock construction entrances. The rock construction entrances shall be continually maintained to the specified dimensions.
3. Install all Sediment Barriers at the locations shown on the E&S Plan. Disturbance shall be restricted to that which is only necessary to access and install the designated sediment barriers.
4. Strip the topsoil in the area of Sediment Trap. Clear and grub as necessary. Construct Sediment Trap 1. Minimize compaction within the sediment trap during construction.
5. Strip the topsoil within the remaining area that will be graded. Clear and grub as necessary.
6. Complete the mass grading. Minimize soil compaction within the undisturbed areas.
7. Install sanitary sewer system. Backfill pipe trenches as soon as possible.
8. Install storm sewer system. Backfill pipe trenches as soon as possible.
9. Construct apartment buildings.
10. Stabilize soil immediately and install temporary seeding as soon as possible.

CONVERSION TO PCSM

- 1. Temporary control measures can only be removed when the watershed draining to the measure is permanently stabilized and removal is authorized by the County Conservation District.
2. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operators shall contact the County Conservation District for an inspection prior to the removal of the E&S BMP's.
3. Upon approval from the County Conservation District, all silt barriers shall be properly removed.
4. Any areas disturbed during the removal of the temporary BMPs shall be immediately repaired and permanently stabilized.
5. Before the Sediment Trap is converted, the County Conservation District shall be notified in order to determine if an inspection of the BMP is necessary before conversion.
6. Upon completion of all earth disturbance activities, removal of all temporary BMPs, the owner/operators shall contact the County Conservation District for a final inspection.
7. The Contractor shall contact the Township Engineer at 24 hours prior to the start of any basin conversion to facilitate construction observation.

RECYCLING OR DISPOSAL OF MATERIALS.

Disposal of removed material is dependent on the nature of the drainage area and the intent and function of the BMP. BMPs that primarily catch sediment and debris from areas such as lawns may reuse the waste on the site. Pollutants such as man made trash and other non-reusable materials must be removed and deposited in an approved recycling facility or landfill.



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED 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.

STANDARD CONSTRUCTION DETAIL #4-16 FILTER BAG INLET PROTECTION - TYPE M INLET N.T.S.

Table with columns: NO., REVISION, DATE. Contains revision history for the drawing.

R. J. FISHER & ASSOCIATES, INC. SITE PLANNING & CIVIL ENGINEERING & LAND SURVEYS. 1546 BRIDGE STREET, NEW CUMBERLAND, PA. 17070. PHONE: (717) 774-7534 & FAX: (717) 774-7190. R.J.FISHERENGINEERING.COM



E&S DETAILS FOR RUSSEL DRIVE LOT 2 LOCATED IN DAUPHIN COUNTY, PA. SUSQUEHANN TOWNSHIP.

Table with drawing information: DRAWING ID: 222012-DET, PROJECT: 220021, DATE: 4/8/2022, SHEET: 13 OF 13.