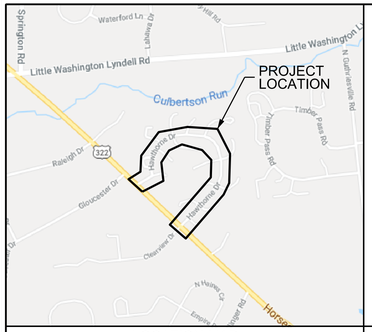
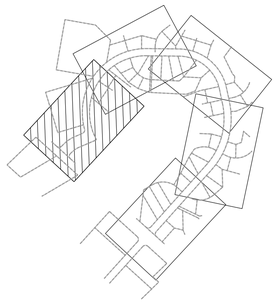


LOCATION MAP
SCALE = 1" = 1000'

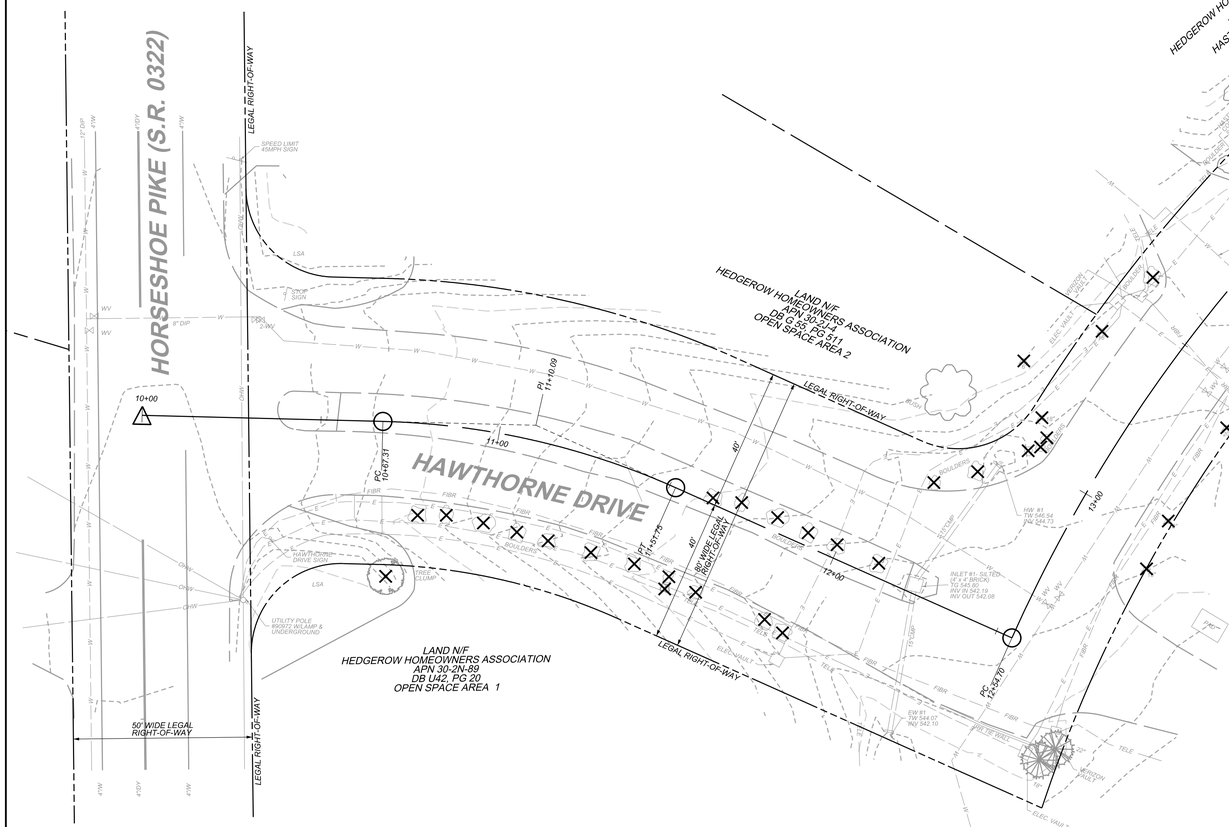


KEY MAP
SCALE = NTS

LEGEND:

- PROPERTY LINES
- LEGAL RIGHT-OF-WAY
- BASELINE
- EXISTING CONTOURS
- EXISTING FIBER OPTIC LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD ELECTRIC
- EXISTING UTILITY POLE
- EXISTING WATER LINE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING CABLE LINE
- EXISTING TELEPHONE LINE
- EXISTING STORM PIPE
- EXISTING SANITARY SEWER PIPE
- EXISTING TREE
- EXISTING BOULDER
- EXISTING SIGN
- EXISTING LANDSCAPED AREA
- EXISTING STUMP
- TREE / BOULDERS / STUMPS TO BE REMOVED
- DEMOLITION AREA

SHEET INDEX:



PA ONE CALL RESPONSES:

UTILITY PROVIDE	RESPONSE
SERIAL #20183342431	
BUCKEYE PIPE LINE COMPANY LP	CLEAR - NO FACILITIES

SCALE:
0 20 40

SERIAL# 20190352544
DESIGN STAGE
Underground Service Alert
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GENERAL NOTES:

1. EXISTING TOPOGRAPHY AND OTHER SURFACE INFORMATION TAKEN FROM A FIELD SURVEY PERFORMED BY ASH ASSOCIATES IN SEPTEMBER 2015 FOR CEDARVILLE ENGINEERING GROUP, LLC. AND WAS LIMITED TO SHOWING FEATURES OF INTEREST ONLY.
2. A SUPPLEMENTAL SURVEY FOR LOCATING ADDITIONAL UTILITIES AND SITE FEATURE VERIFICATION WAS CONDUCTED BY CEDARVILLE ENGINEERING GROUP, LLC, IN APRIL 2017 AND A SITE VISIT IN FEBRUARY 2019 RESPECTIVELY.
3. THE EXISTING WATERLINE WAS TAKEN FROM AS-BUILT PLANS PROVIDED BY AQUA PENNSYLVANIA, INC. IN SEPTEMBER 2018.
4. GROUND SURVEY CONTROL WAS PERFORMED BY ASH ASSOCIATES. ELEVATIONS SHOWN ARE EXPRESSED IN US SURVEY FEET AND ARE BASED ON NAVD 88 AND HORIZONTAL LOCATIONS ARE BASED ON PENNSYLVANIA NAD83, SOUTH ZONE (US SURVEY FEET).

   BENCHMARK #1: METAL SPIKE
   ELEVATION: 537.81
   BENCHMARK #2: METAL SPIKE
   ELEVATION: 522.45
5. THIS IS NOT A BOUNDARY SURVEY. A COMPLETE BOUNDARY SURVEY WOULD BE REQUIRED TO SHOW ADDITIONAL DETAILS.
6. RIGHT-OF-WAY WIDTHS SHOWN ARE PER DEED OF RECORD AND REFERENCE PLANS
7. THIS PLAN WAS MADE AS PER INSTRUCTIONS OF APPLICANT AND WITHOUT THE BENEFIT OF A TITLE REPORT. OTHER RIGHTS TO PROPERTY MAY EXIST.
8. THIS PLAN DOES NOT SHOW ENVIRONMENTAL HAZARDS, OR ARCHEOLOGICAL SITES.
9. LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD AND THE MAPS LISTED IN THE REFERENCE PLANS AVAILABLE AT THE TIME OF SURVEY. AVAILABLE AS-BUILT PLANS AND STRUCTURES, BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERFIED TO THEIR LOCATION, SIZE AND TYPE BY THE PROPERY UTILITY COMPANIES.
10. AS PER FEMA FLOOD INSURANCE RATE MAPS (FIRM) OF CHESTER COUNTY, MAP #42029C0140G (PANEL 140 OF 380) REVISED SEPTEMBER 29, 2017, THERE ARE NO FLOOD PLAINS PRESENT.

REFERENCE PLANS:

1. "EXISTING FEATURES SURVEY"PREPARED BY ASH ASSOCIATES, INC., PREPARED FOR CEDARVILLE ENGINEERING GROUP, LLC, DATED OCTOBER 5, 2015.
2. "MAIN REPLACMENT FOR: HAWTHORNE DRIVE PROJECT" PREPARED BY AQUA PENNSYLVANIA, INC. DATED DECEMBER 21, 2017, LAST REVISED SEPTEMBER 5, 2018

DEMOLITION NOTES

1. LOCATIONS OF EXISTING UTILITIES AS SHOWN HEREIN HAVE BEEN DEVELOPED FROM EXISTING UTILITY RECORDS AND/OR ABOVE GROUND EXAMINATION OF THE SITE. THE COMPLETENESS OR ACCURACY OF THE LOCATIONS ARE NOT GUARENTEED, THE CONTRACTOR MUST FIELD VERIFY LOCATIONS AND DEPTHS OF ALL UTILITIES PRIOR TO START OF WORK.
2. PRIOR TO STARTING CONSTRUCTION, ALL UTILITIES IN THE WORK AREAS ARE TO BE LOCATED, THE USER NOTIFIED, AND MEASURES TAKEN TO PROTECT ALL APPLICABLE UTILITY LINES.
3. ALL SCALED DIMENSIONS FROM THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION WITHOUT WRITTEN CONFIRMATION FROM CEDARVILLE ENGINEERING GROUP, LLC.
4. WHERE IMPROVEMENTS ARE PROPOSED TO TIE INTO EXISTING FEATURES, THE EXISTING FEATURES SHALL BE FIELD VERIFIED FOR ELEVATION AND LOCATIONS. IF FIELD LOCATED DATA IS DIFFERENT THAN THE DATA CONTAINED IN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL NOTIFY CEDARVILLE ENGINEERING GROUP, LLC PRIOR TO MAKING ANY DESIGN CHANGES.
5. SITE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE DISCONNNECTION, ABANDONMENT, RELOCATION, AND/OR REMOVAL OF ALL APPLICABLE ON-SITE UTILITIES IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
6. ALL DEMOLITION SHALL BE CONDUCTED BY A QUALIFIED, LICENSED CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
7. THIS PLAN IS NOT INTENDED TO DEPICT FACETS AND ITEMS TO BE ADDRESSED IN THE COURSE OF DEMOLITION ACTIVITIES. THIS PLAN IS INTENDED TO REPRESENT ONLY THE READILY VIABLE, EXISTING IMPROVEMENTS ON-SITE. THE CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH THE SITE CONDITIONS PRIOR TO FINALIZING HIS/HER BID AND PROVIDE ALL NECESSARY DEMOLITION SERVICES REQUIRED TO COMPLETE THE SCOPE OF WORK OUTLINED IN THESE DRAWINGS, UPON INITIATION OF DEMOLITION, CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD IMMEDIATELY, SHOULD CONFLICTS ARISE IN THE FIELD.
8. ALL UTILITIES AND STRUCTURES WITHIN THE PUBLIC RIGHT-OF-WAY SHALL REMAIN UNLESS OTHERWISE NOTED.
9. ANY UTILITIES TO REMAIN, DAMAGED DURING THE DEMOLTION AND/OR CONSTRUCTION SHALL BE REPAIRED OR REPLACED IN KIND BY THE CONTRACTOR AT HIS/HER OWN EXPENSE.
10. CONTRACTOR SHALL ADHERE TO ALL SAFETY REGULATIONS AS REQUIRED BY "OSHA", THE PROPERTY OWNER, OR ANY LOCAL, STATE, ETC, FEDERAL AUTHORITY.
11. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT & ELEVATIONS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. ANY DISCREPANCIES THAT MAY AFFECT PUBLIC SAFETY AND/OR PROJECT COST MUST BE IDENTIFIED IMMEDIATELY TO THE ENGINEER OF RECORD IN WRITING. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
12. CONSTRUCTION OF PROPOSED UTILITIES SHALL COMMENCE AT THE LOWEST INVERT (POINT OF CONNECTION) AND CONTINUE UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND INSTALLATIONS SHALL FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
13. IN CASE OF DISCREPANCIES BETWEEN PLANS AND THE SITE, THE PLANS WILL SUPERSEDE IN ALL CASES. NOTIFY ENGINEER OF RECORD.
14. ALL EXCAVATED UNSUITABLE MATERIAL MUST BE TRANSPORTED TO AN APPROVED DISPOSAL LOCATION.
15. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHORING SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT "OSHA" STANDARDS.
16. THE ENGINEER OF RECORD SHALL BE NOTIFIED IMMEDIATELY OF ANY EXISTING DRAINAGE AND SANITARY STRUCTURES AND OTEHR UTILITIES THAT ARE NOT IDENTIFIED ON THE PLAN THAT ARE DISCOVERED DURING CONSTRUCTION.

MARK	COMMENT	REVISIONS	DATE

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SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

EXISTING FEATURES & DEMOLITION PLAN

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

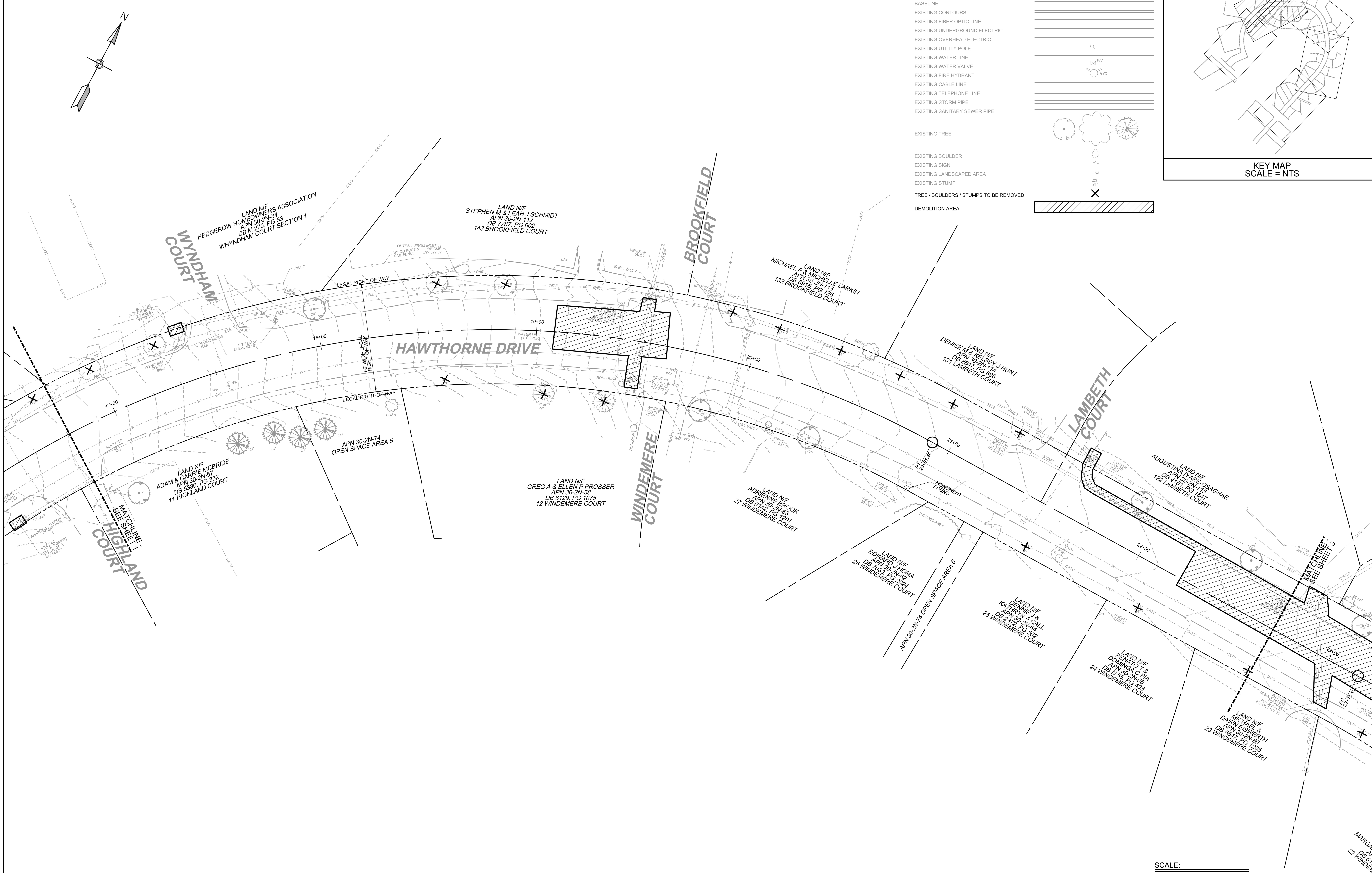
PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'

SHEET 1 OF 18

C-1

P:_Design\EBT-15-066 Culbertson Run Drainage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn



N
HAWTHORNE DRIVE
WYNDHAM COURT
BROOKFIELD COURT
LAMBETH COURT
WINDEMERE COURT
HIGHLAND COURT
LEGAL RIGHT-OF-WAY
60' WIDE LEGAL RIGHT-OF-WAY
17+00
18+00
19+00
20+00
21+00
22+00
23+00
MATCHLINE SEE SHEET 1
MATCHLINE SEE SHEET 3
LAND N/F HEDGEROW HOMEOWNERS ASSOCIATION APN 30-2N-34 DB M 270, PG 53 WYNDHAM COURT SECTION 1
LAND N/F STEPHEN M & LEAH J SCHMIDT APN 30-2N-112 DB 7787, PG 602 143 BROOKFIELD COURT
LAND N/F MICHAEL F & MICHELLE LARKIN APN 30-2N-113 DB 6916, PG 126 132 BROOKFIELD COURT
LAND N/F DENISE M & KELSEY J HUNT APN 30-2N-114 DB 8647, PG 886 131 LAMBETH COURT
LAND N/F AUGUSTINA IYARE-OSAGHAE APN 30-2N-115 DB 4151, PG 1547 127 LAMBETH COURT
LAND N/F ADAM & CARRIE MCBRIDE APN 30-2N-57 DB 5386, PG 332 11 HIGHLAND COURT
APN 30-2N-74 OPEN SPACE AREA 5
LAND N/F GREG A & ELLEN P PROSSER APN 30-2N-58 DB 8129, PG 1075 12 WINDEMERE COURT
LAND N/F ADRIENNE BROOK APN 30-2N-61 DB 6142, PG 1201 27 WINDEMERE COURT
LAND N/F EDWARD J HOMA APN 30-2N-62 DB 7083, PG 2024 26 WINDEMERE COURT
APN 30-2N-74 OPEN SPACE AREA 5
LAND N/F DENNIS J & KATHRYN A CALL APN 30-2N-64 DB 2372, PG 882 25 WINDEMERE COURT
LAND N/F RENATO T & DOMINGA C PIA APN 30-2N-65 DB N 55, PG 433 24 WINDEMERE COURT
LAND N/F MICHAEL & DAWN EISWERTH APN 30-2N-66 DB 6541, PG 1205 23 WINDEMERE COURT
MONUMENT FOUND

LEGEND:

- PROPERTY LINES
- LEGAL RIGHT-OF-WAY
- BASELINE
- EXISTING CONTOURS
- EXISTING FIBER OPTIC LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD ELECTRIC
- EXISTING UTILITY POLE
- EXISTING WATER LINE
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- EXISTING CABLE LINE
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- EXISTING TREE
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- EXISTING LANDSCAPED AREA
- EXISTING STUMP
- TREE / BOULDERS / STUMPS TO BE REMOVED
- DEMOLITION AREA

KEY MAP
SCALE = NTS

SCALE: 0 20 40

SERIAL# 20190352544
DESIGN STAGE
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MARK	COMMENT	DATE
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EXISTING FEATURES & DEMOLITION PLAN

PREPARED FOR: EAST BRANDYWINE TOWNSHIP

PROJECT NAME: CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
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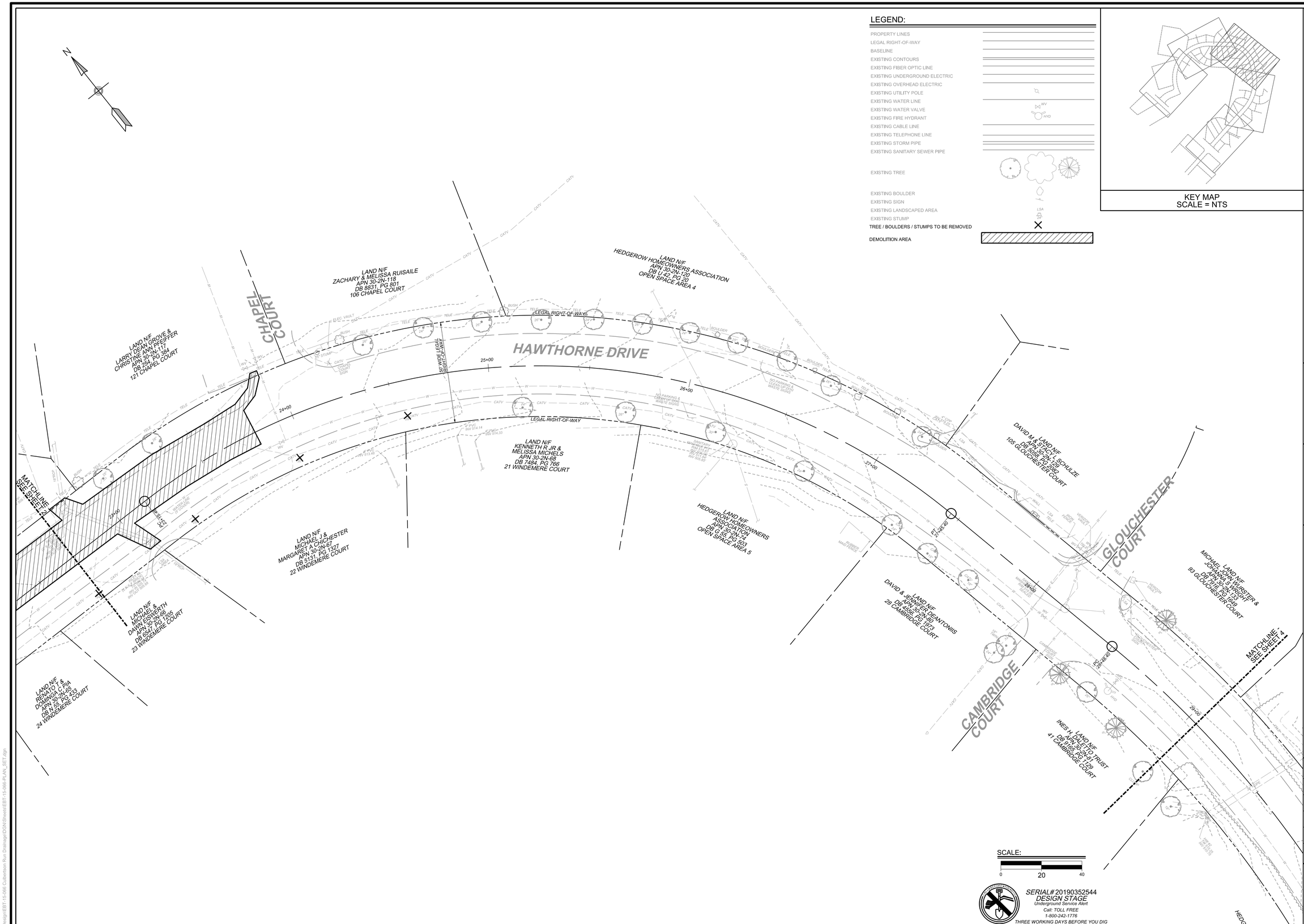
PROJECT NO:	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'

SHEET 2 OF 18

C-2



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DATE:	02/06/2019
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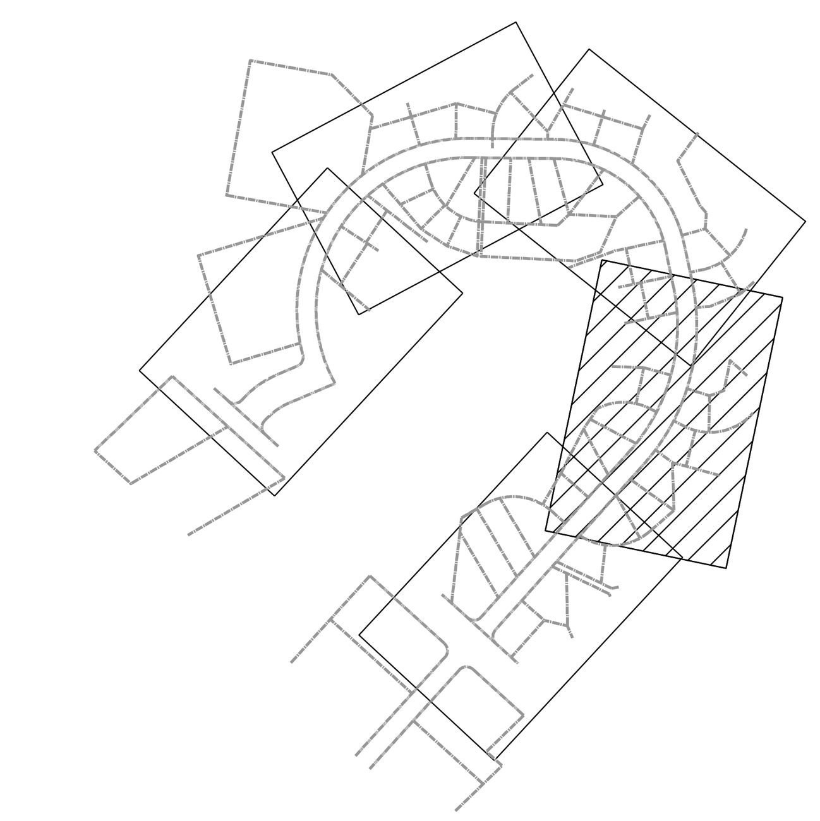
SHEET 3 OF 18

C-3

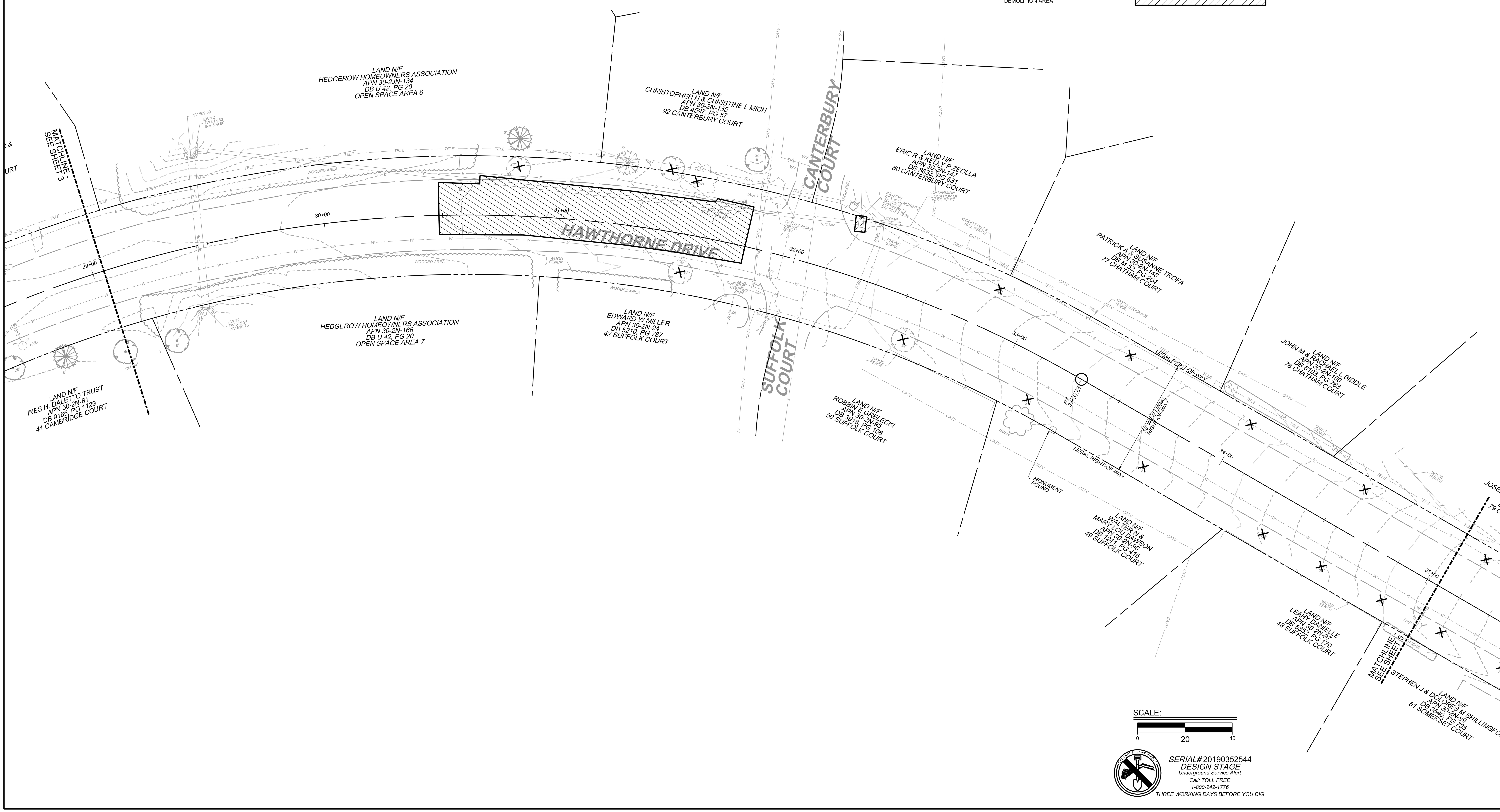
P:\...Design\EBT-15-066 Culbertson Run Drainage\DGN\Sheet\EBT-15-066-PLAN_SET.dgn

LEGEND:

PROPERTY LINES	
LEGAL RIGHT-OF-WAY	
BASELINE	
EXISTING CONTOURS	
EXISTING FIBER OPTIC LINE	
EXISTING UNDERGROUND ELECTRIC	
EXISTING OVERHEAD ELECTRIC	
EXISTING UTILITY POLE	
EXISTING WATER LINE	
EXISTING WATER VALVE	WV
EXISTING FIRE HYDRANT	HYD
EXISTING CABLE LINE	
EXISTING TELEPHONE LINE	
EXISTING STORM PIPE	
EXISTING SANITARY SEWER PIPE	
EXISTING TREE	
EXISTING BOULDER	
EXISTING SIGN	
EXISTING LANDSCAPED AREA	LSA
EXISTING STUMP	
TREE / BOULDERS / STUMPS TO BE REMOVED	X
DEMOLITION AREA	



KEY MAP
SCALE = NTS



N
LAND N/F
HEDGEROW HOMEOWNERS ASSOCIATION
APN 30-2JN-134
DB U 42, PG 20
OPEN SPACE AREA 6
LAND N/F
CHRISTOPHER H & CHRISTINE L MICH
APN 30-2N-135
DB 4597, PG 57
92 CANTERBURY COURT
CANTERBURY COURT
LAND N/F
ERIC R & KELLY P ZEOLLA
APN 30-2N-147
DB 8833, PG 631
80 CANTERBURY COURT
MATCHLINE SEE SHEET 3
HAWTHORNE DRIVE
30+00
31+00
32+00
33+00
34+00
35+00
29+00
LAND N/F
PATRICK J & SUSANNE TROFA
APN 30-2N-148
DB M 52, PG 504
77 CHATHAM COURT
LAND N/F
HEDGEROW HOMEOWNERS ASSOCIATION
APN 30-2N-166
DB U 42, PG 20
OPEN SPACE AREA 7
LAND N/F
EDWARD W MILLER
APN 30-2N-94
DB 5210, PG 787
42 SUFFOLK COURT
SUFFOLK COURT
LAND N/F
JOHN M & RACHAEL L BIDDLE
APN 30-2N-150
DB 6103, PG 763
78 CHATHAM COURT
LAND N/F
INES H. DALETTO TRUST
APN 30-2N-81
DB 9165, PG 1129
41 CAMBRIDGE COURT
LAND N/F
ROBBIN E GRELECKI
APN 30-2N-95
DB 3918, PG 106
50 SUFFOLK COURT
LEGAL RIGHT-OF-WAY
MONUMENT FOUND
LAND N/F
WALTER N & MARY LOU DAWSON
APN 30-2N-96
DB 1241, PG 416
49 SUFFOLK COURT
LAND N/F
LEAHY DANIELLE
APN 30-2N-97
DB 5352, PG 179
48 SUFFOLK COURT
MATCHLINE SEE SHEET 5
LAND N/F
STEPHEN J & DOLORES M SHILLINGFORD
APN 30-2N-99
DB 3540, PG 35
51 SOMERSET COURT
WOODED AREA
WOOD FENCE
TELE
CATV

SCALE:

0 20 40

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EXISTING FEATURES & DEMOLITION PLAN

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
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CHECKED BY:	REF
PROJECT NO:	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'

LEGEND:

PROPERTY LINES	
LEGAL RIGHT-OF-WAY	
BASELINE	
EXISTING CONTOURS	
EXISTING FIBER OPTIC LINE	
EXISTING UNDERGROUND ELECTRIC	
EXISTING OVERHEAD ELECTRIC	
EXISTING UTILITY POLE	
EXISTING WATER LINE	
EXISTING WATER VALVE	WV
EXISTING FIRE HYDRANT	HYD
EXISTING CABLE LINE	
EXISTING TELEPHONE LINE	
EXISTING STORM PIPE	
EXISTING SANITARY SEWER PIPE	
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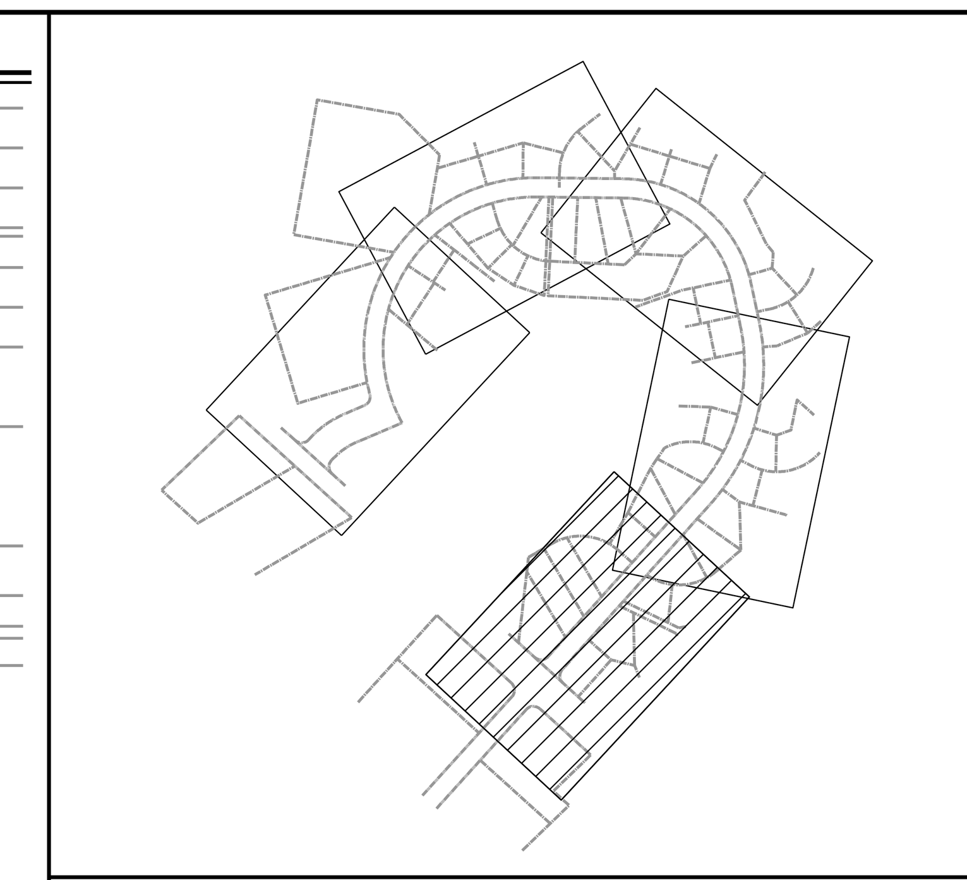
EXISTING BOULDER	
EXISTING SIGN	
EXISTING LANDSCAPED AREA	LSA
EXISTING STUMP	
TREE / BOULDERS / STUMPS TO BE REMOVED	X
DEMOLITION AREA	



KEY MAP
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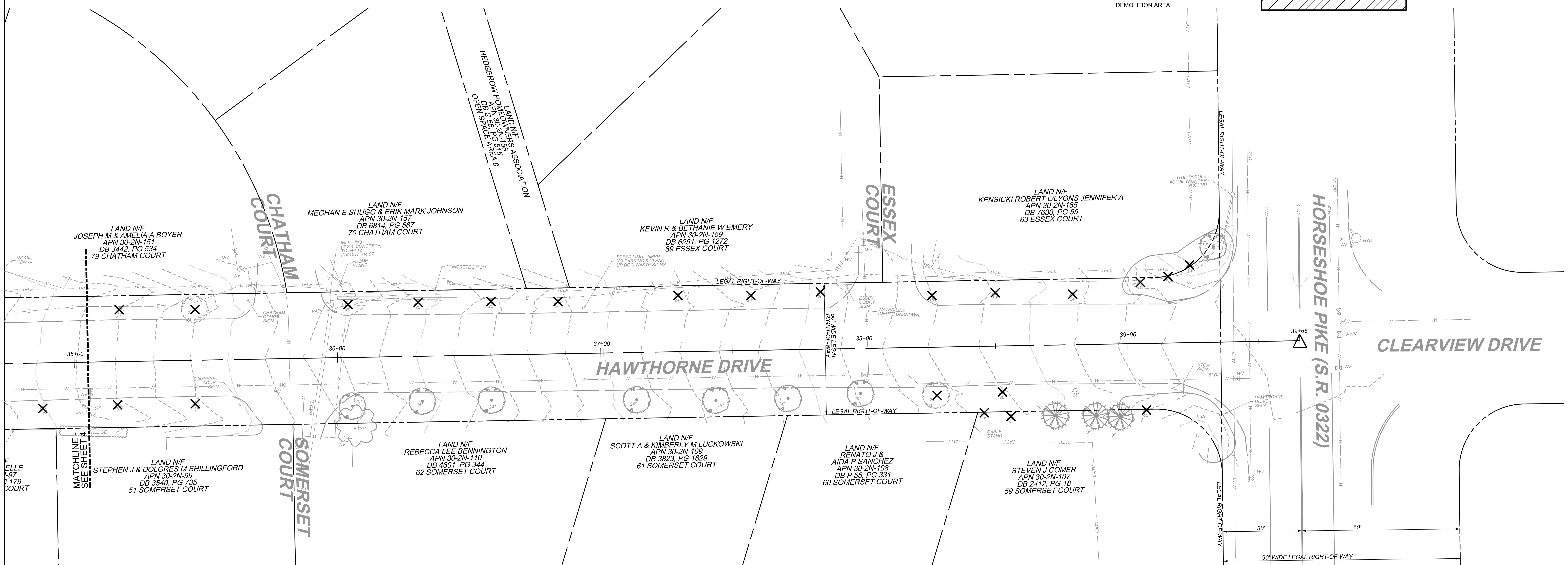

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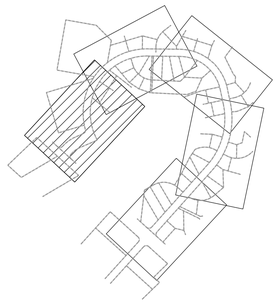
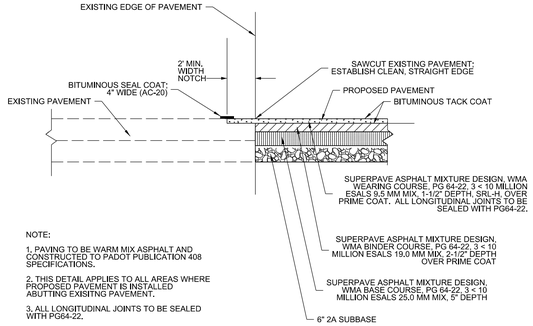


KEY MAP
SCALE = NTS

LEGEND:

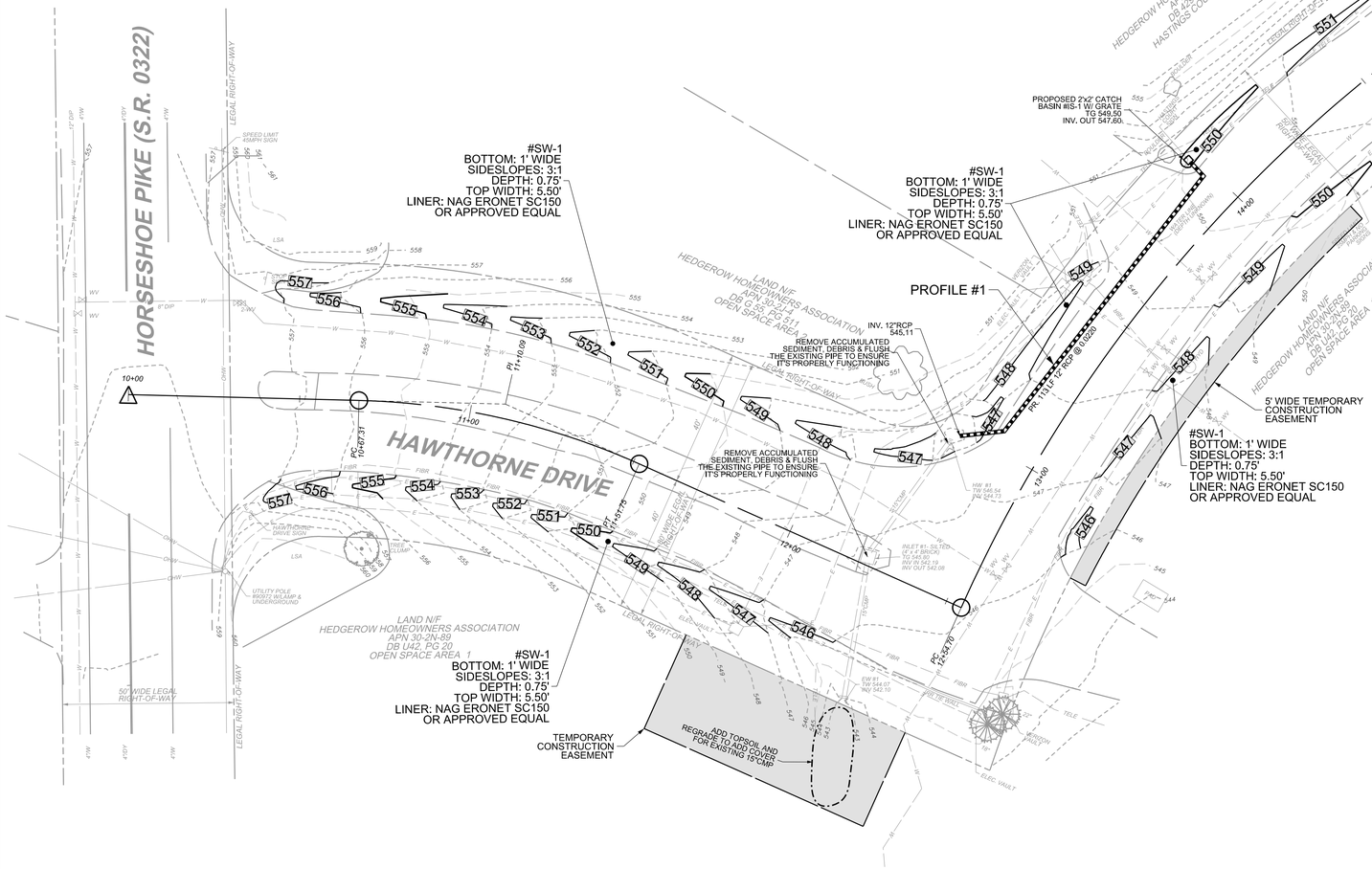
- PROPERTY LINES
- LEGAL RIGHT-OF-WAY
- BASELINE
- *EXISTING CONTOUR*
- *EXISTING FIBER OPTIC LINE* (FIBR)
- *EXISTING UNDERGROUND ELECTRIC* (E)
- *EXISTING OVERHEAD ELECTRIC* (OHW)
- *EXISTING UTILITY POLE*
- *EXISTING WATER LINE* (W)
- *EXISTING WATER VALVE* (WV)
- *EXISTING FIRE HYDRANT* (HYD)
- *EXISTING CABLE LINE* (CATV)
- *EXISTING TELEPHONE LINE* (TELE)
- *EXISTING STORM PIPE*
- *EXISTING SANITARY SEWER PIPE* (S)
- *EXISTING TREE*
- *EXISTING BOULDER*
- *EXISTING SIGN*
- *EXISTING LANDSCAPED AREA* (LSA)
- PROPOSED STORM INLET
- PROPOSED STORM PIPE
- PROPOSED CONTOURS
- TEMPORARY CONSTRUCTION EASEMENT



NOTE:

1. PAVING TO BE WARM MIX ASPHALT AND CONSTRUCTED TO PADOT PUBLICATION 408 SPECIFICATIONS.
2. THIS DETAIL APPLIES TO ALL AREAS WHERE PROPOSED PAVEMENT IS INSTALLED ABUTTING EXISTING PAVEMENT.
3. ALL LONGITUDINAL JOINTS TO BE SEALED WITH PG64-22.

SAWCUT, PAVEMENT JOINT AND SECTION DETAIL
NOT TO SCALE



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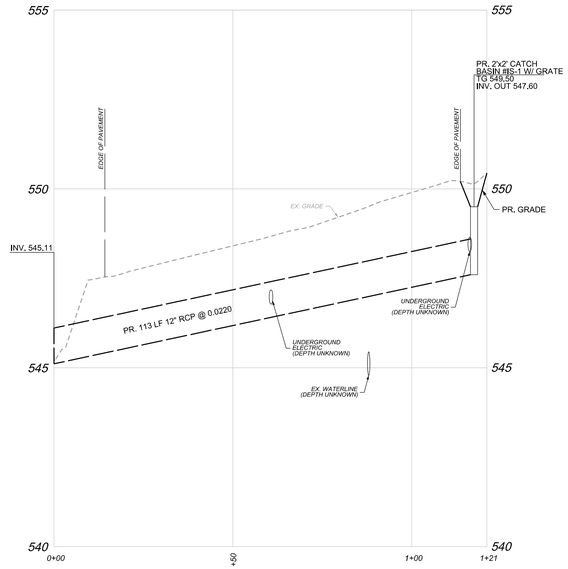
4. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHORING SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT "OSHA" STANDARDS.
5. THE ENGINEER OF RECORD SHALL BE NOTIFIED IMMEDIATELY OF ANY EXISTING DRAINAGE AND SANITARY STRUCTURES AND OTHER UTILITIES THAT ARE NOT IDENTIFIED ON THE PLAN THAT ARE DISCOVERED DURING CONSTRUCTION.



PROPOSED STORM SEWER PROFILE VIEW #1
SCALE : 1" = 20' (HORZ.)
1" = 2' (VERT.)

SCALE:
0 20 40

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SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

SITE, GRADING & PCSM PLAN

PREPARED FOR:
EAST BRANDYWINE TOWNSHIP

PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY: CAS/AP
DRAWN BY: CAS
CHECKED BY: REF
PROJECT NO. EBT-15-066
DATE: 02/06/2019
SCALE: 1"=20'

SHEET 6 OF 18

C-6

P:\...Develop\EBT-15-066 Culbertson Run Drainage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn

INFILTRATION / DETENTION FACILITY BMP MAINTENANCE SCHEDULE:

EAST BRANDYWINE TOWNSHIP SHALL BE RESPONSIBLE FOR ALL ROUTINE AND NON -ROUTINE MAINTENANCE AS DESCRIBED BELOW.

ROUTINE MAINTENANCE:

1. DURING CONSTRUCTION, PERFORM IMMEDIATE INSPECTIONS OF EACH INSTALLED INFILTRATION BED FOLLOWING EVERY STORM EVENT TO ENSURE NO SEDIMENT LADEN WATER IS ENTERING ANY INFILTRATION BED SYSTEM. IF SUCH A SITUATION OCCURS, IMMEDIATE MEASURES SHALL TAKE PLACE TO REMEDY THE SITUATION. POST- CONSTRUCTION, EACH INFILTRATION BED SHALL BE INSPECTED AFTER EVERY LARGE STORM EVENT OR MONTHLY, WHICHEVER OCCURS FIRST.
2. INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES (I.E. CLEARING THE SOIL/SEDIMENT FROM THE FABRIC, STONE BED ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
3. REMOVE ACCUMULATED DEBRIS AND LITTER FROM ANY INLET ENTERING A SEEPAGE BED. (PERFORM AS NECESSARY)
4. IMMEDIATELY STABILIZE/REVEGETATE CONTRIBUTING AREAS TO REDUCE INCOMING SEDIMENTS. (PERFORM AS NEEDED)
5. ALL INLETS SHOULD BE INSPECTED AND CLEANED AT LEAST 2 TIMES PER YEAR.
6. THE OVERLYING VEGETATION OF SUBSURFACE INFILTRATION FEATURES SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED AS SOON AS POSSIBLE.

NON -ROUTINE MAINTENANCE:

NON -ROUTINE MAINTENANCE OF ANY SWALE IS REQUIRED WHEN ANY OF THE FOLLOWING CONDITIONS ARE PRESENT:

- STANDING WATER IS VISIBLE IN OBSERVATION WELLS AFTER 72 HOURS.
- SEDIMENT ACCUMULATES WITHIN ANY BED SO THAT IT NO LONGER FUNCTIONS PROPERLY.

1. REMOVE CONTAMINATED STONE, RE-SCARIFY BED BOTTOM, AND RECONSTRUCT BED WITH NEW FILTER FABRIC WRAPPING AROUND ENTIRE BED, AND CLEAN, WASHED STONE.

MAINTENANCE ACTIVITIES TO BE DONE AS NEEDED:

1. PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT.
2. RESEED BARE AREAS; INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED OR EROSION CHANNELS ARE FORMING.
3. ROTOTILL AND REPLANT SWALE IF DRAW DOWN TIME IS MORE THAN 48 HOURS.
4. INSPECT AND CORRECT CHECK DAMS WHEN SIGNS OF ALTERED WATER FLOW (CHANNELIZATION, OBSTRUCTIONS, EROSION ETC.) ARE IDENTIFIED.
5. WATER DURING DRY PERIODS. FERTILIZE AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY NECESSARY.
6. INSPECT SWALE IMMEDIATELY AFTER THE SPRING MELT. REMOVE RESIDUALS (E.G. SAND) AND REPLACE DAMAGED VEGETATION WITHOUT DISTURBING REMAINING VEGETATION.
7. IF ROADSIDE OR PARKING LOT RUNOFF IS DIRECTED TO SWALE, MULCHING AND/OR SOIL AERATION / MANIPULATION MAY BE REQUIRED IN SPRING TO RESTORE SOIL STRUCTURE AND MOISTURE CAPACITY AND TO REDUCE THE IMPACTS OF DEICING AGENTS.
8. USE NONTOXIC, ORGANIC DEICING AGENTS. APPLIED EITHER AS BLENDED, MAGNESIUM CHLORIDE-BASED LIQUID PRODUCTS OR AS PRETREATED SALT.
9. USE SALT-TOLERANT VEGETATION IN SWALES.

PCSM LONG TERM OPERATIONS & MAINTENANCE:

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

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

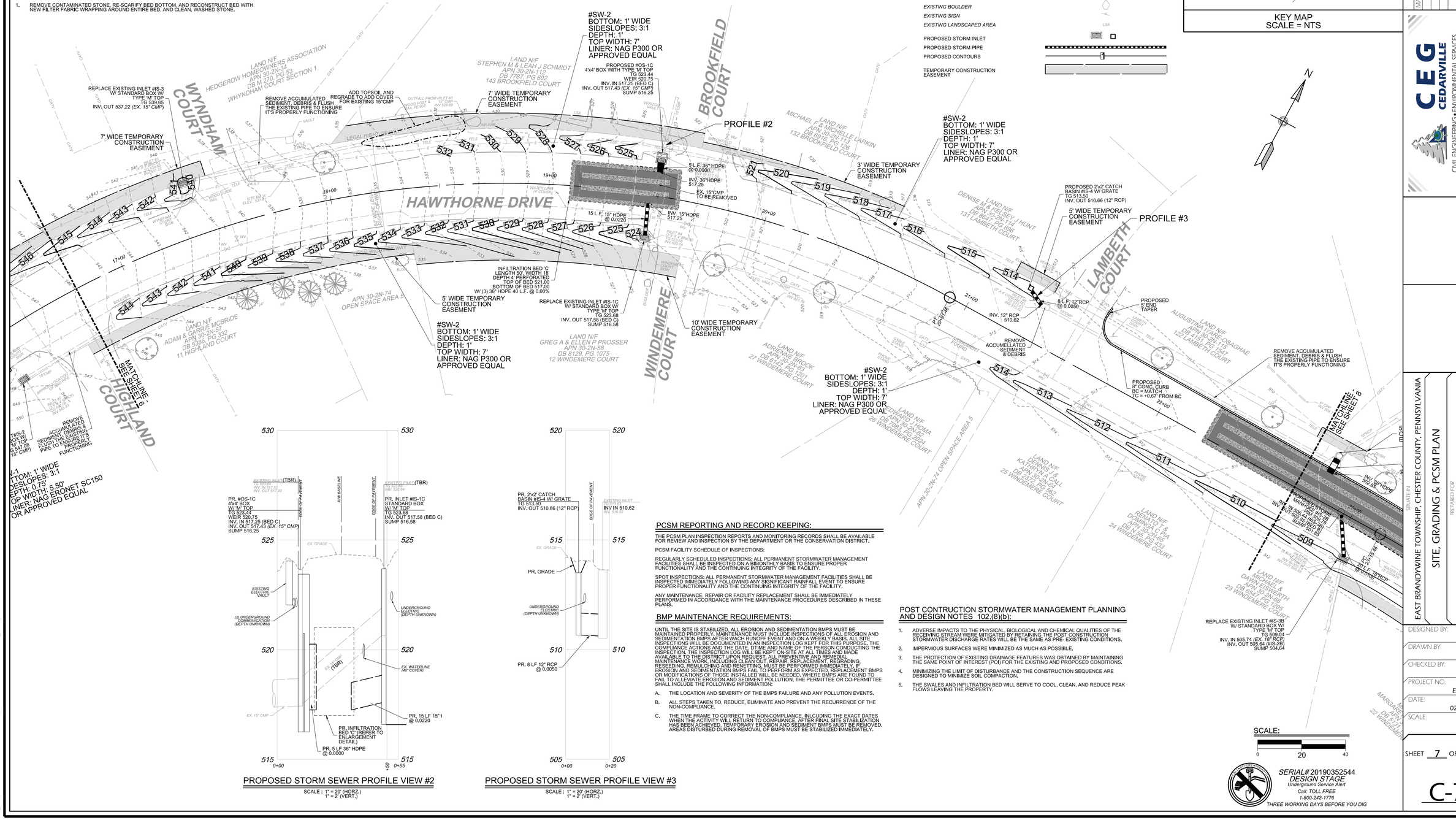
FOR ANY PROPERTY CONTAINING A PCSM BMPS, THE PERMITTEE OR CO- PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMPS & RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE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

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

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

LEGEND:

PROPERTY LINES
LEGAL RIGHT-OF-WAY
BASELINE
EXISTING CONTOUR
EXISTING FIBER OPTIC LINE
EXISTING UNDERGROUND ELECTRIC
EXISTING OVERHEAD ELECTRIC
EXISTING UTILITY POLE
EXISTING WATER LINE
EXISTING WATER VALVE
EXISTING FIRE HYDRANT
EXISTING CABLE LINE
EXISTING TELEPHONE LINE
EXISTING STORM PIPE
EXISTING SANITARY SEWER PIPE
EXISTING TREE
EXISTING BOULDER
EXISTING SIGN
EXISTING LANDSCAPED AREA
PROPOSED STORM INLET
PROPOSED STORM PIPE
PROPOSED CONTOURS
TEMPORARY CONSTRUCTION EASEMENT



PCSM REPORTING AND RECORD KEEPING:

THE PCSM PLAN INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

PCSM FACILITY SCHEDULE OF INSPECTIONS:

REGULARLY SCHEDULED INSPECTIONS: ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSPECTED ON A BIMONTHLY BASIS TO ENSURE PROPER FUNCTIONALITY AND THE CONTINUING INTEGRITY OF THE FACILITY.

SPOT INSPECTIONS: ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSPECTED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL EVENT TO ENSURE PROPER FUNCTIONALITY AND THE CONTINUING INTEGRITY OF THE FACILITY.

ANY MAINTENANCE, REPAIR OR FACILITY REPLACEMENT SHALL BE IMMEDIATELY PERFORMED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES DESCRIBED IN THESE PLANS.

BMP MAINTENANCE REQUIREMENTS:

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMPS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMPS AFTER WACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, DTIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG WILL BE KEPT ON-SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED, WHERE BMPS ARE FOUND TO FAIL TO ALLEVIATE EROSION AND SEDIMENT POLLUTION, THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:

A. THE LOCATION AND SEVERITY OF THE BMPS FAILURE AND ANY POLLUTION EVENTS.

B. ALL STEPS TAKEN TO, REDUCE, ELIMINATE AND PREVENT THE RECURRENCE OF THE NON-COMPLIANCE.

C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INLCUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE, AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF BMPS MUST BE STABILIZED IMMEDIATELY.

POST CONTRUCTION STORMWATER MANAGEMENT PLANNING AND DESIGN NOTES 102.(8)(b):

1. ADVERSE IMPACTS TO THE PHYSICAL, BIOLOGICAL AND CHEMICAL QUALITIES OF THE RECEIVING STREAM WERE MITIGATED BY RETAINING THE POST CONSTRUCTION STORMWATER DISCHARGE RATES WILL BE THE SAME AS PRE- EXISTING CONDITIONS.
2. IMPERVIOUS SURFACES WERE MINIMIZED AS MUCH AS POSSIBLE.
3. THE PROTECTION OF EXISTING DRAINAGE FEATURES WAS OBTAINED BY MAINTAINING THE SAME POINT OF INTEREST (POI) FOR THE EXISTING AND PROPOSED CONDITIONS.
4. MINIMIZING THE LIMIT OF DISTURBANCE AND THE CONSTRUCTION SEQUENCE ARE DESIGNED TO MINIMIZE SOIL COMPACTION.
5. THE SWALES AND INFILTRATION BED WILL SERVE TO COOL, CLEAN, AND REDUCE PEAK FLOWS LEAVING THE PROPERTY.

SCALE:
0 20 40

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SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

SITE, GRADING & PCSM PLAN

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

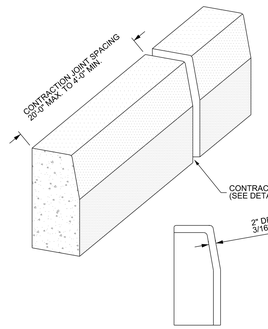
PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'

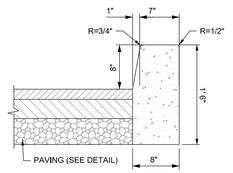
SHEET 7 OF 18

C-7

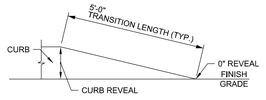
P:\...Division\EBT-15-066 Culbertson Run Drainage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn



DETAIL A



CURB ADJACENT TO PAVING



CURB TAPER

NOTES:

1. CONCRETE SHALL BE PENNDOT CLASS A.
2. 3/4" PREMOLDED EXPANSION JOINTS SHALL BE PLACED AT STRUCTURES AND AT THE END OF THE WORK DAY.
3. FLEXIBLE FORMS SHALL BE REQUIRED FOR ALL CURB RADII WITH A RADIUS OF LESS THAN 150 FEET.
4. WHERE THE SUBGRADE IS SOFT OR SPONGY, AS DETERMINED BY THE MUNICIPAL ENGINEER, A LAYER OF CRUSHED STONE NOT LESS THAN 4" THICKNESS SHALL BE PLACED UNDER THE CURB.

CURB (CONCRETE)

NOT TO SCALE

INFILTRATION BMP NOTES:

1. EXISTING SUBGRADE UNDER THE INFILTRATION BED SHALL NOT BE COMPACTED OF SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO THE PLACEMENT OF GEOTEXTILE AND STONE BED.

2. PRIOR TO CONSTRUCTION, INFILTRATION/DETENTION AREAS SHALL BE MARKED OFF IN THE FIELD, THE AREAS SHALL BE DELINEATED WITH CONSTRUCTION FENCING OR TAPED OFF AS TO PREVENT THE PARKING OR REPEATED MOVEMENT OF CONSTRUCTION EQUIPMENT ACROSS THE INFILTRATION AREAS.

3. ALL BED BOTTOMS SHOULD BE LEVEL AFTER FINAL GRADING.

4. PRIOR TO INFILTRATION/DETENTION BED GRADING AND PLACEMENT OF GEOTEXTILE, UPGRADIENT AREAS SHALL BE SUFFICIENTLY STABILIZED TO PREVENT THE WASHING OF SEDIMENT INTO THE RECHARGE/DETENTION AREAS, ALTERNATIVELY, THE CONTRACTOR MAY INSTALL SILT FENCE IN ACCORDANCE WITH THE APPROVED PLANS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT THE DEPOSITION OF SEDIMENT OR SEDIMENT-LADEN WATERS INTO THE INFILTRATION/DETENTION STRUCTURES AFTER FINAL GRADING.

5. UPON APPROVAL OF FINAL SUBGRADE PREPARATION, GEOTEXTILE AND INFILTRATION/DETENTION BED AGGREGATE SHALL BE PLACED IMMEDIATELY. ANY ACCUMULATION OF DEBRIS OR SEDIMENT WHICH HAS TAKEN PLACE AFTER APPROVAL OF SUBGRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF GEOTEXTILE AT NO EXTRA COST TO THE OWNER. WHERE EROSION HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHALL BE REMOVED WITH LIGHT EQUIPMENT & UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE AND LIGHT TRACTOR.

6. IF BEDROCK IS ENCOUNTERED AT ANY TIME DURING EXCAVATION OF THE INFILTRATION/DETENTION BEDS, EXCAVATION IS TO BE DISCONTINUED IN THE AFFECTED AREA(S) AND THE OWNER AND ENGINEER NOTIFIED AT ONCE.

7. PLACE GEOTEXTILE IN ACCORDANCE WITH THE MANUFACTURER'S STANDARDS AND RECOMMENDATIONS. ADJACENT STRIPS OF GEOTEXTILE SHALL OVERLAP A MINIMUM OF TWELVE (12) INCHES, SECURE FABRIC AT LEAST FOUR (4) FEET OUTSIDE OF BED AND TAKE STEPS NECESSARY TO PREVENT ANY SEDIMENT FROM ENTERING TRENCH.

8. AGGREGATE SHALL BE CLEAN WITH A WASH LOSS OF NO MORE THAN 0.50 PERCENT. INSTALLATION OF THE STONE SHOULD BE CHECKED THE DESIGN OR SITE ENGINEER PRIOR TO INSTALLATION INTO THE INFILTRATION/DETENTION BMP TO ENSURE THAT IT IS CLEAN WASHED STONE. AGGREGATE THAT DOES NOT MEET THIS CRITERIA WILL BE REMOVED AT NO EXTRA COST TO THE OWNER AND THE BEDS RESTORED TO THE OWNER'S SATISFACTION.

9. FOLLOWING PLACEMENT OF THE BED AGGREGATE, THE GEOTEXTILE SHALL BE FOLDED OVER TOP OF THE BED, WITH APPROPRIATE FABRIC OVERLAP TO PROTECT FROM SEDIMENT WHASOUT ALONG BED EDGES. TOPSOIL (OR APPROPRIATE MATERIAL SPECIFIED BY PARTICULAR DESIGN) WILL BE USED TO FILL ABOVE THE BED TO THE SPECIFIED HEIGHT.

POST-CONSTRUCTION STORMWATER MANAGEMENT DESIGN:

THE SITE WILL UTILIZE SEVERAL PRIMARY STORMWATER MANAGEMENT FACILITIES, TWO (2) INFILTRATION BEDS AND ONE (1) DETENTION BED ARE BEING PROPOSED TO CONTROL THE POST-DEVELOPMENT PEAK RATES OF STORMWATER RUNOFF FOR THE PROPOSED ROADWAY AND INFRASTRUCTURE IMPROVEMENTS. STORMWATER VOLUME CONTROL WILL BE PROVIDED BY TWO (2) INFILTRATION BEDS AND ONE (1) DETENTION BED DESIGNED IN ACCORDANCE WITH PADEP BMP GUIDELINES. THESE FACILITIES, CONSTRUCTED AND MAINTAINED TO THE SPECIFICATIONS DESCRIBED IN THESE PLANS, WILL ACCOMPLISH THE FOLLOWING:

PRESERVATION OF THE INTEGRITY OF STREAM CHANNELS AND MAINTENANCE AND PROTECTION OF THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM THROUGH REDUCTION OF POST-DEVELOPMENT PEAK RATES AND VOLUMES OF STORMWATER RUNOFF AND THE MITIGATION OF THERMAL IMPACTS.

PREVENT AN INCREASE IN THE RATE OF STORMWATER RUNOFF THROUGH DETENTION AND CALCULATED ROUTING OF INTERCEPTED OVERLAND RUNOFF.

MINIMIZE THE INCREASE IN STORMWATER RUNOFF VOLUME THROUGH PROPOSED INFILTRATION BEDS THAT WILL PROVIDE INFILTRATION OF THE INCREASE IN STORMWATER RUNOFF VOLUME FROM PRE-DEVELOPMENT TO POST-DEVELOPMENT CONDITIONS FOR THE 2-YEAR STORM EVENT.

IN ADDITION, THE FOLLOWING NON-STRUCTURAL PRACTICES ARE PROMOTED TO REDUCE THE STRUCTURAL POST-CONSTRUCTION STORMWATER MANAGEMENT REQUIREMENTS:

MINIMIZE IMPERVIOUS AREAS BY PROPOSING ONLY THE MINIMUM IMPERVIOUS COVER NECESSARY FOR THE VIABILITY OF THE PROPOSED USE.

MINIMIZE SOIL COMPACTION BY STRICTLY DELINEATING LIMITS OF PROPOSED EARTH DISTURBANCE AND BY PROVIDING A SEQUENCE OF CONSTRUCTION THAT REQUIRES SENSIBLE AND EFFICIENT PROJECT STAGING AND IMMEDIATE STABILIZATION OF DISTURBANCE.

UTILIZE OTHER STRUCTURAL AND NON-STRUCTURAL BMP'S THAT WILL PREVENT AND/OR MINIMIZE CHANGES IN STORMWATER RUNOFF VIA INFILTRATION, DETENTION, VEGETATIVE FILTRATION AND RESTRICTED RELEASE OF OVERLAND RUNOFF, AND PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION.

WATER QUALITY BMP NOTE:

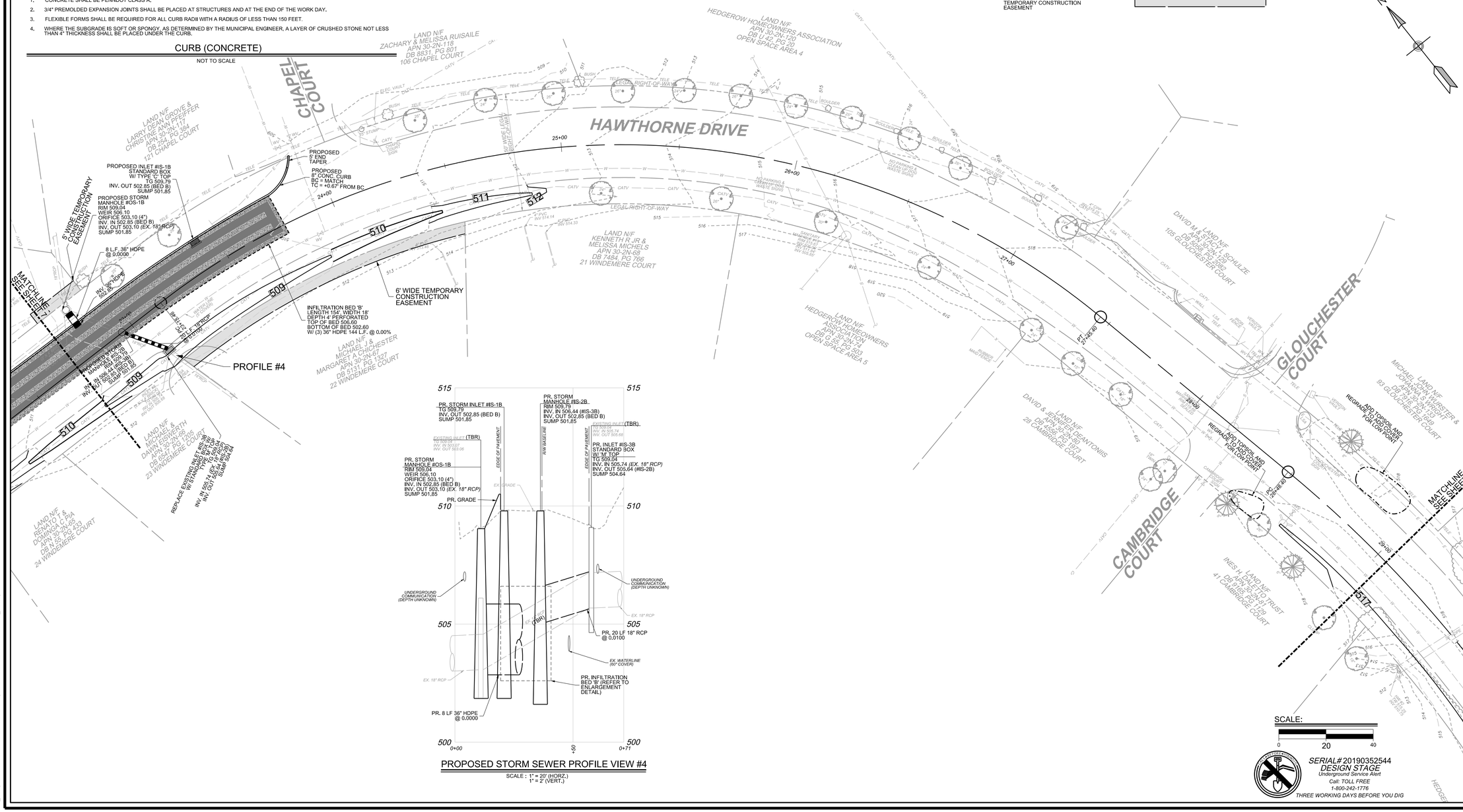
NON-STRUCTURAL BMP 5.6.1 MINIMIZE TOTAL DISTURBED AREA, THE AREA OUTSIDE THE LIMIT OF DISTURBANCE (LOD) IS PROTECTED DURING CONSTRUCTION BY FENCING, TO INHIBIT ANY DISTURBANCE.

NON-STRUCTURAL BMP 5.6.3 RE -VEGETATE/RE- FOREST DISTURBED AREAS (NATIVE SPECIES). AREAS OF EXISTING VEGETATION IS BEING PRESERVED AND AREAS THAT ARE BEING RE-VEGETATED.

LEGEND:

- PROPERTY LINES
- LEGAL RIGHT-OF-WAY
- BASELINE
- *EXISTING CONTOUR*
- *EXISTING FIBER OPTIC LINE*
- *EXISTING UNDERGROUND ELECTRIC*
- *EXISTING OVERHEAD ELECTRIC*
- *EXISTING UTILITY POLE*
- *EXISTING WATER LINE*
- *EXISTING WATER VALVE*
- *EXISTING FIRE HYDRANT*
- *EXISTING CABLE LINE*
- *EXISTING TELEPHONE LINE*
- *EXISTING STORM PIPE*
- *EXISTING SANITARY SEWER PIPE*
- *EXISTING TREE*
- *EXISTING BOULDER*
- *EXISTING SIGN*
- *EXISTING LANDSCAPED AREA*
- PROPOSED STORM INLET
- PROPOSED STORM PIPE
- PROPOSED CONTOURS
- TEMPORARY CONSTRUCTION EASEMENT

KEY MAP
SCALE = NTS



PROPOSED STORM SEWER PROFILE VIEW #4

SCALE : 1" = 20' (HORZ.)
1" = 2' (VERT.)

SERIAL# 20190352544
DESIGN STAGE
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MARK	COMMENT	REVISIONS	DATE

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SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

SITE, GRADING & PCSM PLAN

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

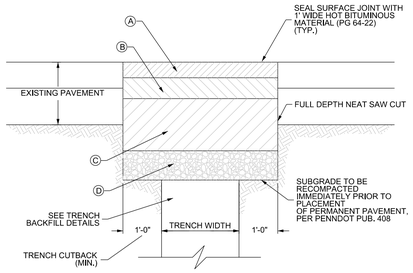
PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'

SHEET 8 OF 18

C-8

P:_Design\EBT-15-066 Culbertson Run Drainage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn

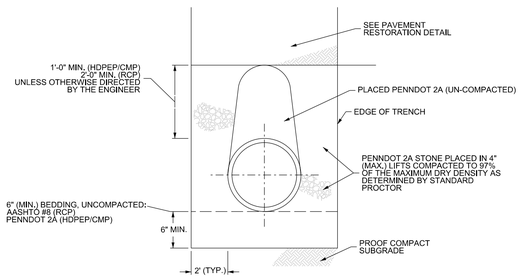


NOTES:

1. EXPOSED VERTICAL AND HORIZONTAL SURFACES SHALL BE PREPARED AS STATED IN PENNDOT PUB. 408, SECT. 401.3(f).
2. TACK COAT MATERIAL SHALL BE APPLIED TO THE ENTIRE SURFACE PRIOR TO APPLICATION OF THE WEARING SURFACE UNLESS WAIVED BY PENNDOT.
3. ALL MATERIAL AND CONSTRUCTION METHODS SHALL COMPLY WITH PENNDOT SPECIFICATIONS, PUBLICATION 408, LATEST REVISION.
4. IF WORK IS COMPLETED WITHIN PENNDOT RIGHT OF WAY, SPECIAL CONDITIONS OF THE HIGHWAY OCCUPANCY PERMIT SHALL SUPERCEDE THIS DETAIL.
5. REFER TO PAVEMENT LEGEND FOR DESCRIPTIONS OF A,B,C AND D.

PAVEMENT RESTORATION (BITUMINOUS)

NOT TO SCALE



NOTES:

1. IF TRENCH IS EXTREMELY WET DUE TO HIGH GROUNDWATER, USE AASHTO #57 STONE UP TO THE HAUNCHES OF
2. FOLLOW 'PIPE INSTALLATION PROCEDURES' PER PENNDOT PUBLICATION 72M - RC-30M.

PIPE BEDDING (STORM SEWER)

NOT TO SCALE

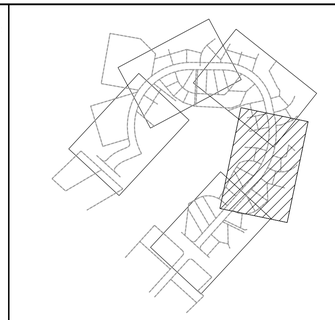
INFILTRATION/DETENTION BED SEQUENCE OF CONSTRUCTION:

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING & GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. FOLLOW ALL GUIDELINES AND PROCEDURES AS STATED IN "STANDARD EROSION AND SEDIMENTATION CONTROL NOTES"DURING THE ENTIRE CONSTRUCTION PROCEDURE.

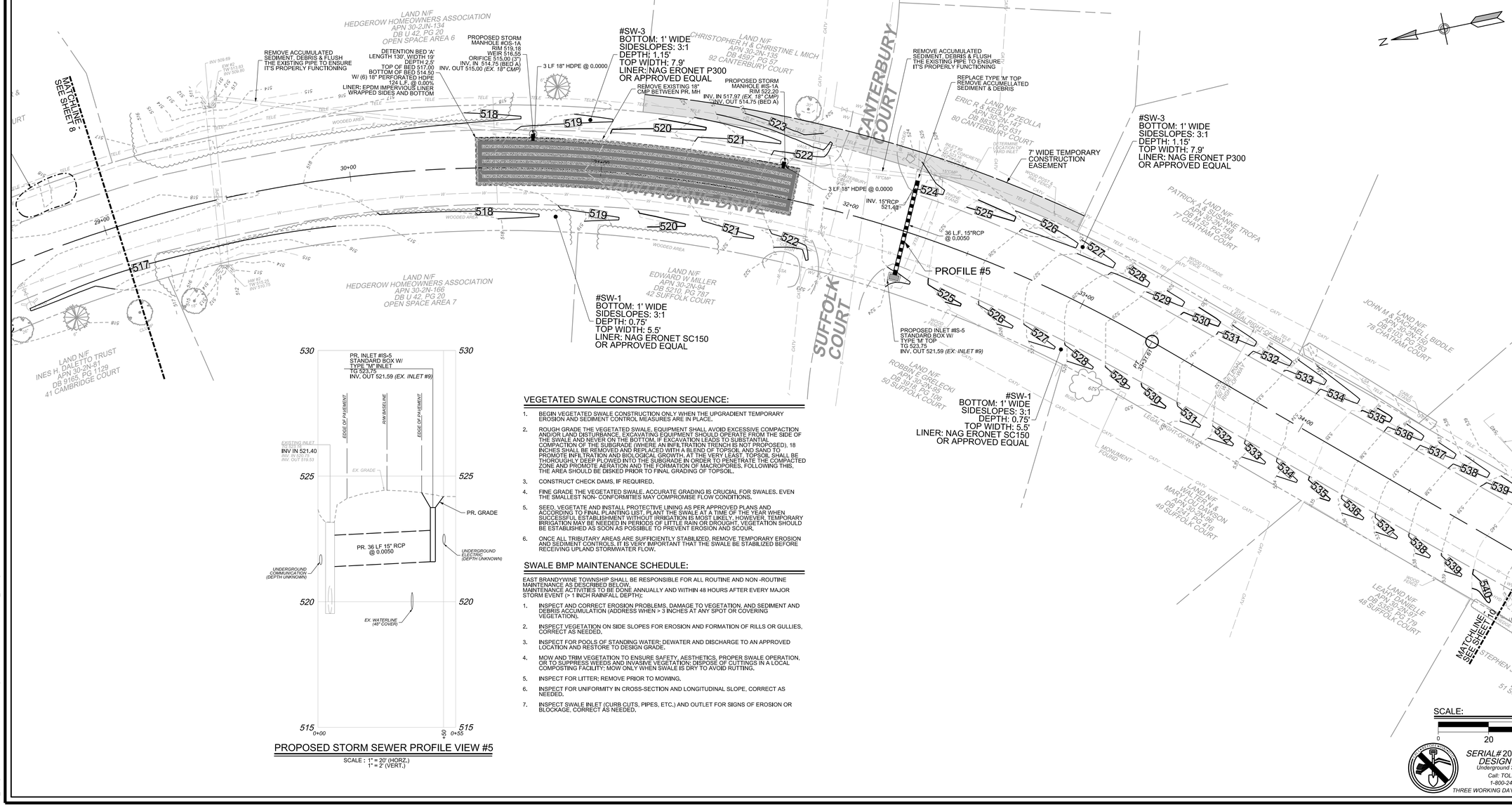
1. CLEAR, GRUB AND/OR SAW CUT AREA OF THE PROPOSED BED AND STOCKPILE WASTE MATERIAL PER TOPSOIL DETAILS.
2. PROTECT INFILTRATION/DETENTION BED(S) FROM COMPACTION PRIOR TO INSTALLATION. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO SUBGRADE DURING CONSTRUCTION.
3. INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
4. EXCAVATE BED FROM BED PERIMETER TO MINIMIZE COMPACTION. PRIOR TO PLACEMENT OF STONE; EXCAVATE A TEST PIT WITHIN THE BED TO A DEPTH OF THREE (3) FEET BELOW THE BOTTOM-OF-BED ELEVATION INDICATED ON THE PLANS & CONSTRUCTION DETAIL. A QUALIFIED PROFESSIONAL SHALL INSPECT THE TEST PIT AND VERIFY THAT THE SOIL AT THE PROPOSED BOTTOM-OF-BED IS CONSISTENT WITH THE SOIL AT THE ELEVATION OF THE TEST PIT. IF THE SOIL AT THE BOTTOM OF THE PROPOSED INFILTRATION BED IS NOT CONSISTENT WITH THE SOIL AT THE ELEVATION OF THE DESIGN TEST PIT THEN ADDITIONAL INFILTRATION TESTING SHALL BE DONE TO VERIFY THE INFILTRATION RATE USED FOR BED DESIGN. SHOULD THE BED REQUIRE REDESIGN DUE TO INADEQUATE SOILS OR INFILTRATION RATES, THE DEVELOPER SHALL CONTACT A DESIGN PROFESSIONAL FOR AN ENGINEERED REDESIGN.
5. SHOULD SOILS PROVE ADEQUATE, BACK FILL TEST PIT (DO NOT COMPACT) AND SCARIFY BOTTOM OF BED TO A DEPTH OF 6 INCHES. PLACE NON- WOVEN GEOTEXTILE ALONG BOTTOM AND SIDES OF BED(S). NON-WOVEN GEOTEXTILE ROLLS SHOULD OVERLAP BY A MINIMUM OF 24 INCHES WITHIN THE BED(S). FOLD BACK AND SECURE EXCESS GEOTEXTILE DURING STONE PLACEMENT. INSTALL CLEAN STONE TO INVERT OF THE BED PERFORATED DISTRIBUTION PIPES. INSTALL THE PERFORATED DISTRIBUTION PIPE SYSTEM AND PLACE MARINE GRADE PLYWOOD IN ALL INLETS AT ALL INFLOW POINTS TO THE BED.
6. INSTALL UPSTREAM AND DOWNSTREAM CONTROL STRUCTURES, CLEANOUTS, ETC. COMPLETE ALL PIPE CONNECTIONS AND BACK FILL THE REMAINDER OF THE BED WITH CLEAN STONE. WRAPPING THE BED WITH GEOTEXTILE PER DETAILS. COMPLETE STONE BACK FILLING TO TOP-OF-BED ELEVATION AND WRAP THE REMAINDER OF BED IN GEOTEXTILE. FOLD AND SECURE NON-WOVEN GEOTEXTILE OVER BED(S). WITH MINIMUM OVERLAP OF 12-INCHES.
7. RECONSTRUCT/REGRADE ANY INLET SUMP AREAS AND IMMEDIATELY STABILIZE WITH TEMPORARY EROSION CONTROL GEOTEXTILE (AS SPECIFIED IN EROSION & SEDIMENT CONTROL PLAN). THE PERMANENT SEED MIXTURE, MULCH AT 3 TONS/ACRE, AND LIME AND FERTILIZER AS PRESCRIBED, INSTALL TEMPORARY GEOTEXTILE FABRIC (AS SPECIFIED IN EROSION & SEDIMENT CONTROL PLAN) AS WARRANTED.
8. BACK FILL OVER WRAPPED BED WITH CLEAN FILL AND APPLY TOPSOIL (SEE SITE AND GRADING PLAN, SHEET 6 OF 18). ALL FILL, IF REQUIRED FOR SUBSURFACE BED(S) CONSTRUCTION, SHALL BE AASHTO #57 OR APPROVED EQUAL, UNIFORMLY GRADED STONE COMPACTED AS DIRECTED.
9. STABILIZE ANY DORMANT DISTURBED AREAS WITH THE PERMANENT SEED MIXTURE, MULCH AT 3 TONS/ACRE, AND LIME AND FERTILIZER AS PRESCRIBED. ENSURE FULL FLOW CONDITIONS TO BED.
10. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.
11. ANY SEDIMENT WHICH ENTERS INLETS DURING CONSTRUCTION IS TO BE REMOVED WITHIN 24 HOURS.

LEGEND:

- PROPERTY LINES
- LEGAL RIGHT-OF-WAY
- BASELINE
- *EXISTING CONTOUR*
- *EXISTING FIBER OPTIC LINE* (FIBR)
- *EXISTING UNDERGROUND ELECTRIC* (E)
- *EXISTING OVERHEAD ELECTRIC* (OHV)
- *EXISTING UTILITY POLE*
- *EXISTING WATER LINE* (W)
- *EXISTING WATER VALVE* (WV)
- *EXISTING FIRE HYDRANT* (HYD)
- *EXISTING CABLE LINE* (CATV)
- *EXISTING TELEPHONE LINE* (TELE)
- *EXISTING STORM PIPE*
- *EXISTING SANITARY SEWER PIPE* (S)
- *EXISTING TREE*
- *EXISTING BOULDER*
- *EXISTING SIGN*
- *EXISTING LANDSCAPED AREA* (LSA)
- PROPOSED STORM INLET
- PROPOSED STORM PIPE
- PROPOSED CONTOURS
- TEMPORARY CONSTRUCTION EASEMENT



KEY MAP
SCALE = NTS



PROPOSED STORM SEWER PROFILE VIEW #5

SCALE : 1" = 20' (HORZ.)
1" = 2' (VERT.)

VEGETATED SWALE CONSTRUCTION SEQUENCE:

1. BEGIN VEGETATED SWALE CONSTRUCTION ONLY WHEN THE UPGRADIENT TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE.
2. ROUGH GRADE THE VEGETATED SWALE. EQUIPMENT SHALL AVOID EXCESSIVE COMPACTION AND/OR LAND DISTURBANCE. EXCAVATING EQUIPMENT SHOULD OPERATE FROM THE SIDE OF THE SWALE AND NEVER ON THE BOTTOM. IF EXCAVATION LEADS TO SUBSTANTIAL COMPACTION OF THE SUBGRADE (WHERE AN INFILTRATION TRENCH IS NOT PROPOSED), 18 INCHES SHALL BE REMOVED AND REPLACED WITH A BLEND OF TOPSOIL AND SAND TO PROMOTE INFILTRATION AND BIOLOGICAL GROWTH. AT THE VERY LEAST, TOPSOIL SHALL BE THOROUGHLY DEEP PLOWED INTO THE SUBGRADE IN ORDER TO PENETRATE THE COMPACTED ZONE AND PROMOTE AERATION AND THE FORMATION OF MACROPORES. FOLLOWING THIS, THE AREA SHOULD BE DISKED PRIOR TO FINAL GRADING OF TOPSOIL.
3. CONSTRUCT CHECK DAMS, IF REQUIRED.
4. FINE GRADE THE VEGETATED SWALE. ACCURATE GRADING IS CRUCIAL FOR SWALES. EVEN THE SMALLEST NON- CONFORMITIES MAY COMPROMISE FLOW CONDITIONS.
5. SEED, VEGETATE AND INSTALL PROTECTIVE LINING AS PER APPROVED PLANS AND ACCORDING TO FINAL PLANTING LIST. PLANT THE SWALE AT A TIME OF THE YEAR WHEN SUCCESSFUL ESTABLISHMENT WITHOUT IRRIGATION IS MOST LIKELY. HOWEVER, TEMPORARY IRRIGATION MAY BE NEEDED IN PERIODS OF LITTLE RAIN OR DROUGHT. VEGETATION SHOULD BE ESTABLISHED AS SOON AS POSSIBLE TO PREVENT EROSION AND SCOUR.
6. ONCE ALL TRIBUTARY AREAS ARE SUFFICIENTLY STABILIZED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS. IT IS VERY IMPORTANT THAT THE SWALE BE STABILIZED BEFORE RECEIVING UPLAND STORMWATER FLOW.

SWALE BMP MAINTENANCE SCHEDULE:

EAST BRANDYWINE TOWNSHIP SHALL BE RESPONSIBLE FOR ALL ROUTINE AND NON -ROUTINE MAINTENANCE AS DESCRIBED BELOW.
MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT (> 1 INCH RAINFALL DEPTH):

1. INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION (ADDRESS WHEN > 3 INCHES AT ANY SPOT OR COVERING VEGETATION).
2. INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES. CORRECT AS NEEDED.
3. INSPECT FOR POOLS OF STANDING WATER; DEWATER AND DISCHARGE TO AN APPROVED LOCATION AND RESTORE TO DESIGN GRADE.
4. MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER SWALE OPERATION, OR TO SUPPRESS WEEDS AND INVASIVE VEGETATION; DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY; MOW ONLY WHEN SWALE IS DRY TO AVOID RUTTING.
5. INSPECT FOR LITTER; REMOVE PRIOR TO MOWING.
6. INSPECT FOR UNIFORMITY IN CROSS-SECTION AND LONGITUDINAL SLOPE. CORRECT AS NEEDED.
7. INSPECT SWALE INLET (CURB CUTS, PIPES, ETC.) AND OUTLET FOR SIGNS OF EROSION OR BLOCKAGE. CORRECT AS NEEDED.

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SITUATE IN: EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

SITE, GRADING & PCSM PLAN

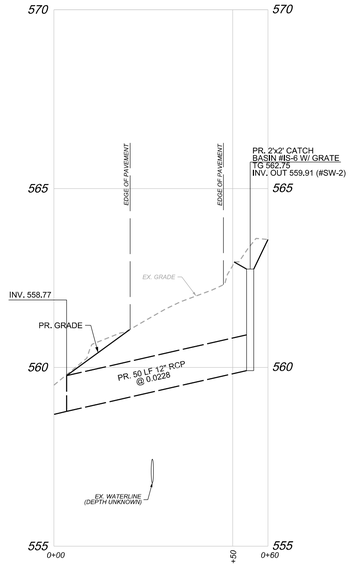
PREPARED FOR: EAST BRANDYWINE TOWNSHIP

PROJECT NAME: CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'
SHEET	9 OF 18

C-9

P:\...Design\EBT-15-066 Culbertson Run Drainage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn



PROPOSED STORM SEWER PROFILE VIEW #6

SCALE : 1" = 20' (HORZ.)
1" = 2' (VERT.)

LEGEND:

- PROPERTY LINES
- LEGAL RIGHT-OF-WAY
- BASELINE
- *EXISTING CONTOUR*
- *EXISTING FIBER OPTIC LINE*
- *EXISTING UNDERGROUND ELECTRIC*
- *EXISTING OVERHEAD ELECTRIC*
- *EXISTING UTILITY POLE*
- *EXISTING WATER LINE*
- *EXISTING WATER VALVE*
- *EXISTING FIRE HYDRANT*
- *EXISTING CABLE LINE*
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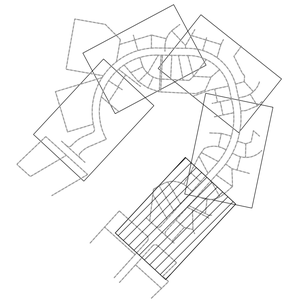
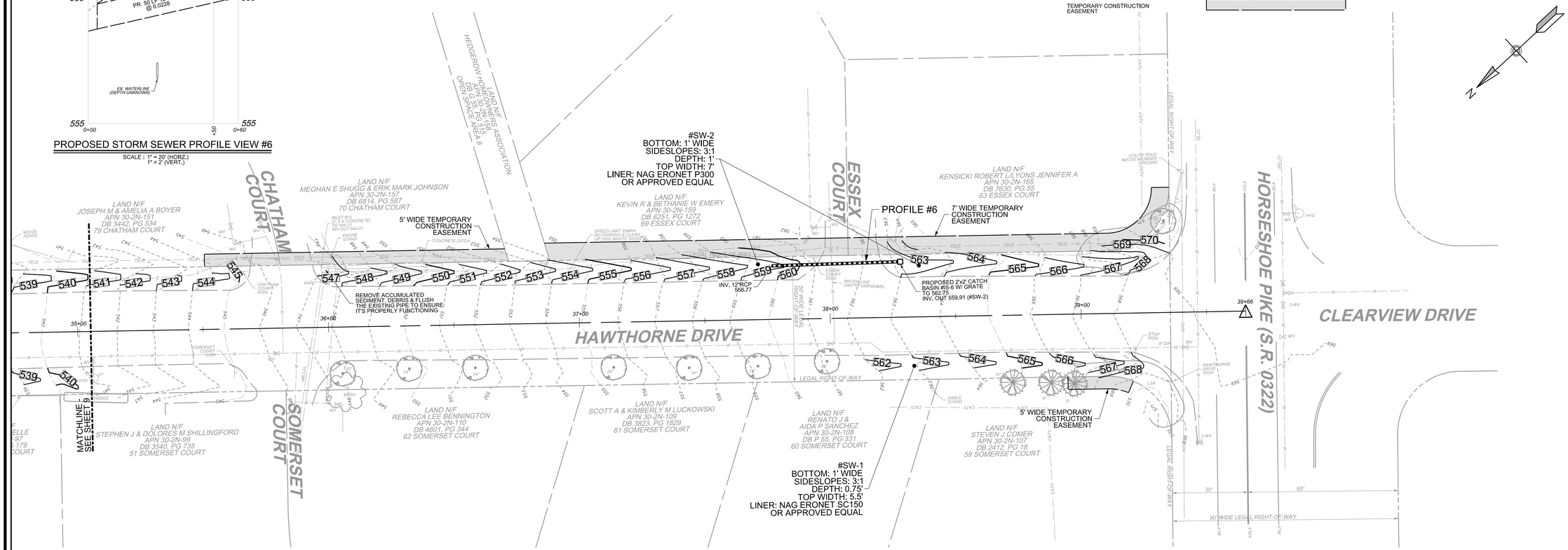
- *EXISTING STORM PIPE*
- *EXISTING SANITARY SEWER PIPE*
- *EXISTING TREE*
- *EXISTING BOULDER*
- *EXISTING SIGN*
- *EXISTING LANDSCAPED AREA*
- PROPOSED STORM INLET
- PROPOSED STORM PIPE
- PROPOSED CONTOURS
- TEMPORARY CONSTRUCTION EASEMENT



KEY MAP
SCALE = NTS



SITE STABILIZATION STANDARDS:

AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER AND/OR ANY OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER SUBSURFACE MOVEMENTS.

IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES, DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES, DISTURBED AREAS, WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE (1) YEAR, MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS, DISTURBED AREAS, WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN ONE (1) YEAR, MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

PROTECTED WATERSHED STABILIZATION REQUIREMENTS:

BECAUSE THIS PROJECT IS IN A SPECIALLY PROTECTED HIGH- QUALITY WATERSHED, UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES, THE PROJECT SITE MUST BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

TEMPORARY SITE STABILIZATION REQUIREMENTS:

UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED FOUR (4) DAYS OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLAN NOTES AND THE CONSTRUCTION SEQUENCE SHOULD REFLECT THIS REQUIREMENT. THE CONSTRUCTION SEQUENCE SHOULD INCORPORATE THE IMMEDIATE STABILIZATION REQUIREMENT INTO ANY APPLICABLE AREAS. (PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES), HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

FINAL SITE STABILIZATION REQUIREMENTS:

AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER AND/OR ANY OTHER PERMANENT, NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER SUBSURFACE MOVEMENTS.

IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES, DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES, DISTURBED AREAS, WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE (1) YEAR, MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS, DISTURBED AREAS, WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN ONE (1) YEAR, MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

GEOTEXTILE EROSION CONTROL CHANNEL LINING AND SLOPE PROTECTION SHALL BE INSTALLED WHERE INDICATED AND PER THE MANUFACTURER'S SPECIFICATIONS IMMEDIATELY UPON THE COMPLETION OF GRADING ACTIVITIES.

SCALE:
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SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

SITE, GRADING & PCSM PLAN

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

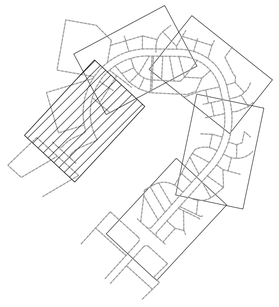
PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'

SHEET 10 OF 18

C-10

P:\...Design\EBT-15-066 Culbertson Run Drainage\D2\NS\sheets\EBT-15-066-PLAN_SET.dgn



KEY MAP
SCALE = NTS

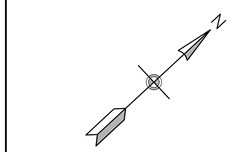
LEGEND:

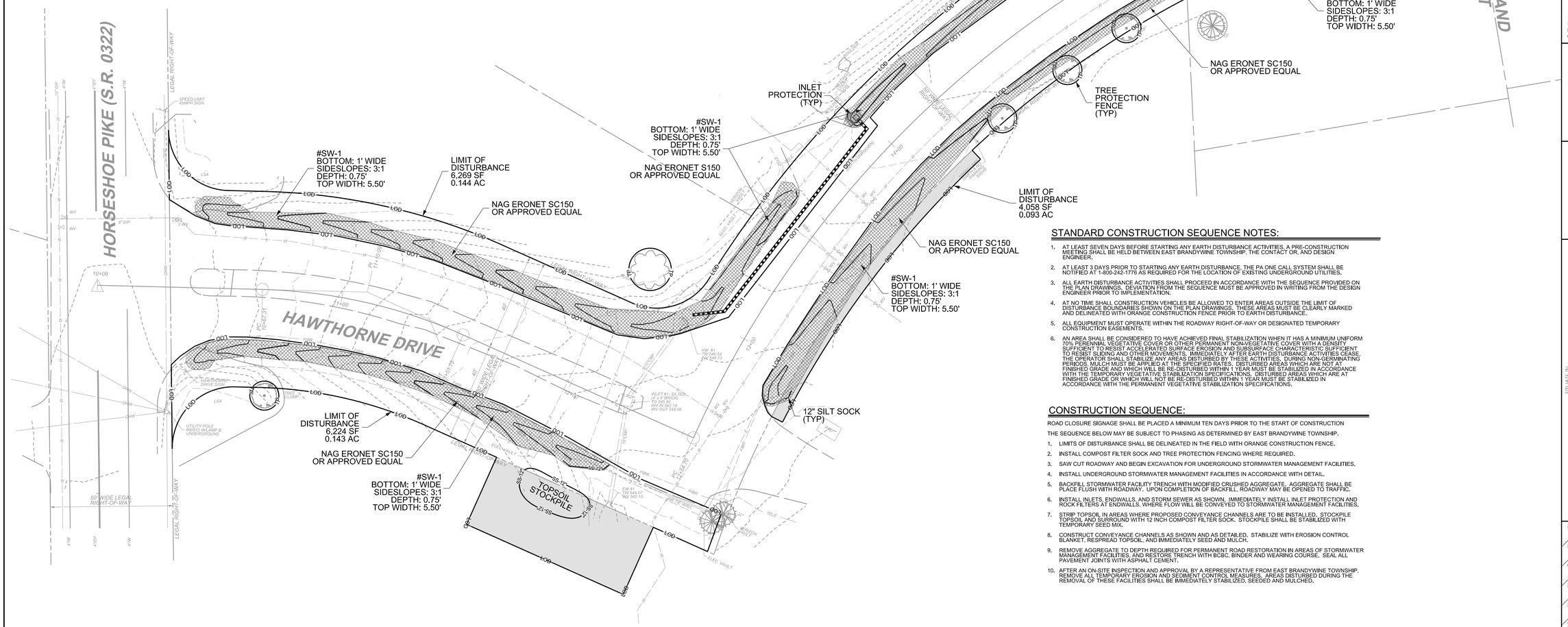
- PROPERTY LINES
- LEGAL RIGHT-OF-WAY
- BASELINE
- *EXISTING CONTOURS*
- *EXISTING FIBER OPTIC LINE* (FIBR)
- *EXISTING UNDERGROUND ELECTRIC* (E)
- *EXISTING OVERHEAD ELECTRIC* (OHW)
- *EXISTING UTILITY POLE*
- *EXISTING WATER LINE* (W)
- *EXISTING WATER VALVE* (WV)
- *EXISTING FIRE HYDRANT* (HYD)
- *EXISTING CABLE LINE* (CATV)
- *EXISTING TELEPHONE LINE* (TELE)
- *EXISTING STORM PIPE*
- *EXISTING SANITARY SEWER PIPE*
- *EXISTING TREE*
- *EXISTING BOULDER*
- *EXISTING SIGN*
- *EXISTING LANDSCAPED AREA* (LSA)
- LIMIT OF DISTURBANCE (LOD)
- TREE PROTECTION FENCE (TP)
- INLET PROTECTION
- SILT SOCK (SS-12)

- EROSION CONTROL BLANKET

STANDARD EROSION AND SEDIMENTATION CONTROL NOTES:

1. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
2. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
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 MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
4. 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.
5. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
6. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
7. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
8. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND REAETTING MUST BE PERFORMED IMMEDIATELY, IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
9. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
10. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
11. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTES.
12. CHANNELS HAVING RIPRAP, RENO MATTRESS, OR GABION LININGS MUST BE SUFFICIENTLY OVER-EXCAVATED SO THAT THE DESIGN DIMENSIONS WILL BE PROVIDED AFTER PLACEMENT OF THE PROTECTIVE LINING.
13. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.
14. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
15. 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. FILL OUT-SLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
16. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
17. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
18. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
19. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
20. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
21. UPON THE COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.
22. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS, AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY, IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
23. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
24. 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 DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.





STANDARD CONSTRUCTION SEQUENCE NOTES:

1. AT LEAST SEVEN DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, A PRE-CONSTRUCTION MEETING SHALL BE HELD BETWEEN EAST BRANDYWINE TOWNSHIP, THE CONTACT OR, AND DESIGN ENGINEER.
2. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE, THE PA ONE CALL SYSTEM SHALL BE NOTIFIED AT 1-800-242-1776 AS REQUIRED FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
3. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THE SEQUENCE MUST BE APPROVED IN WRITING FROM THE DESIGN ENGINEER PRIOR TO IMPLEMENTATION.
4. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN DRAWINGS. THESE AREAS MUST BE CLEARLY MARKED AND DELINEATED WITH ORANGE CONSTRUCTION FENCE PRIOR TO EARTH DISTURBANCE.
5. ALL EQUIPMENT MUST OPERATE WITHIN THE ROADWAY RIGHT-OF-WAY OR DESIGNATED TEMPORARY CONSTRUCTION EASEMENTS.
6. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTIC SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THESE 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 RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

CONSTRUCTION SEQUENCE:

ROAD CLOSURE SIGNAGE SHALL BE PLACED A MINIMUM TEN DAYS PRIOR TO THE START OF CONSTRUCTION

THE SEQUENCE BELOW MAY BE SUBJECT TO PHASING AS DETERMINED BY EAST BRANDYWINE TOWNSHIP.

1. LIMITS OF DISTURBANCE SHALL BE DELINEATED IN THE FIELD WITH ORANGE CONSTRUCTION FENCE.
2. INSTALL COMPOST FILTER SOCK AND TREE PROTECTION FENCING WHERE REQUIRED.
3. SAW CUT ROADWAY AND BEGIN EXCAVATION FOR UNDERGROUND STORMWATER MANAGEMENT FACILITIES.
4. INSTALL UNDERGROUND STORMWATER MANAGEMENT FACILITIES IN ACCORDANCE WITH DETAIL.
5. BACKFILL STORMWATER FACILITY TRENCH WITH MODIFIED CRUSHED AGGREGATE. AGGREGATE SHALL BE PLACE FLUSH WITH ROADWAY. UPON COMPLETION OF BACKFILL, ROADWAY MAY BE OPENED TO TRAFFIC.
6. INSTALL INLETS, ENDWALLS, AND STORM SEWER AS SHOWN. IMMEDIATELY INSTALL INLET PROTECTION AND ROCK FILTERS AT ENDWALLS, WHERE FLOW WILL BE CONVEYED TO STORMWATER MANAGEMENT FACILITIES.
7. STRIP TOPSOIL IN AREAS WHERE PROPOSED CONVEYANCE CHANNELS ARE TO BE INSTALLED. STOCKPILE TOPSOIL AND SURROUND WITH 12 INCH COMPOST FILTER SOCK. STOCKPILE SHALL BE STABILIZED WITH TEMPORARY SEED MIX.
8. CONSTRUCT CONVEYANCE CHANNELS AS SHOWN AND AS DETAILED. STABILIZE WITH EROSION CONTROL BLANKET, RESPREAD TOPSOIL, AND IMMEDIATELY SEED AND MULCH.
9. REMOVE AGGREGATE TO DEPTH REQUIRED FOR PERMANENT ROAD RESTORATION IN AREAS OF STORMWATER MANAGEMENT FACILITIES, AND RESTORE TRENCH WITH BCBC, BINDER AND WEARING COURSE. SEAL ALL PAVEMENT JOINTS WITH ASPHALT CEMENT.
10. AFTER AN ON-SITE INSPECTION AND APPROVAL BY A REPRESENTATIVE FROM EAST BRANDYWINE TOWNSHIP, REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES. AREAS DISTURBED DURING THE REMOVAL OF THESE FACILITIES SHALL BE IMMEDIATELY STABILIZED, SEEDED AND MULCHED.

SCALE:
0 20 40

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SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

EROSION & SEDIMENT CONTROL PLAN

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

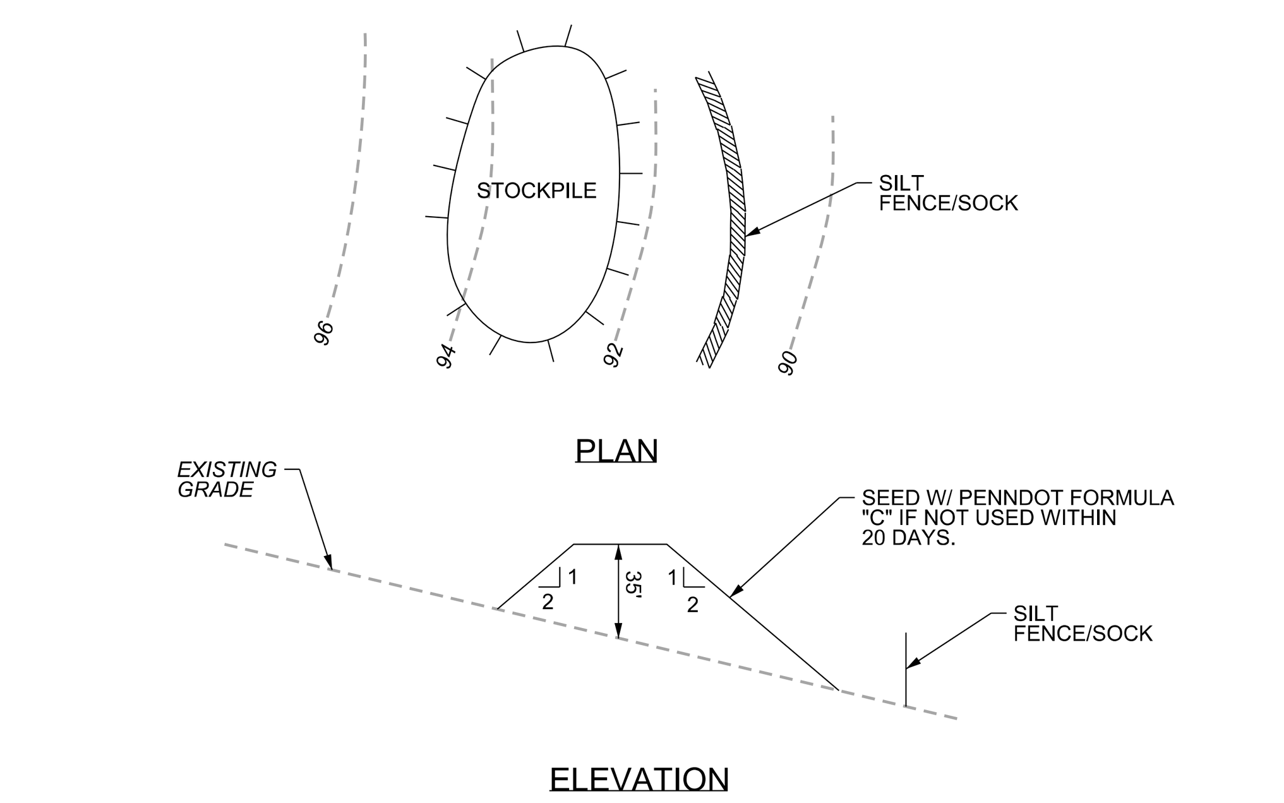
PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY: CAS/AP
DRAWN BY: CAS
CHECKED BY: REF
PROJECT NO. EBT-15-066
DATE: 02/06/2019
SCALE: 1"=20'

SHEET 11 OF 18

C-11

P:\...Design\EBT-15-066 Culbertson Run Dralnage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn



NOTES:

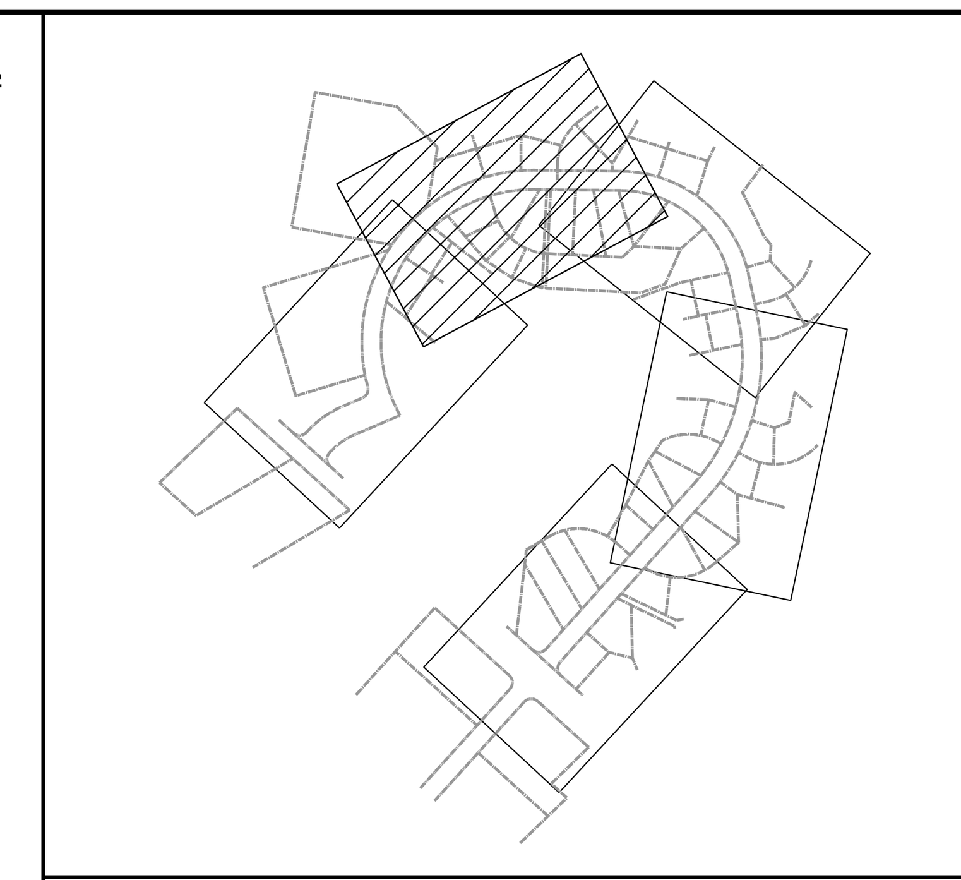
1. INSTALL SILT FENCE DOWNSLOPE OF AREA OF STOCKPILE.
2. PLACE STOCKPILE IN AREAS SHOWN ON EROSION CONTROL PLAN WITHOUT BLOCKING NATURAL DRAINAGE PATTERNS.
3. FOLLOW DIMENSIONS SHOWN ABOVE. HEIGHT SHOULD NOT EXCEED 35 FT. SIDE SLOPES SHOULD NOT BE STEEPER THAN 2(H):1(V).
4. SEED IMMEDIATELY WITH PENNDOT SEEDING FORMULA "C" IF MATERIAL IS NOT TO BE USED WITHIN 20 DAYS. FOLLOW "SEEDING, FERTILIZATION SCHEDULE & SPECIFICATIONS."

TOPSOIL STOCKPILE AND MAINTENANCE

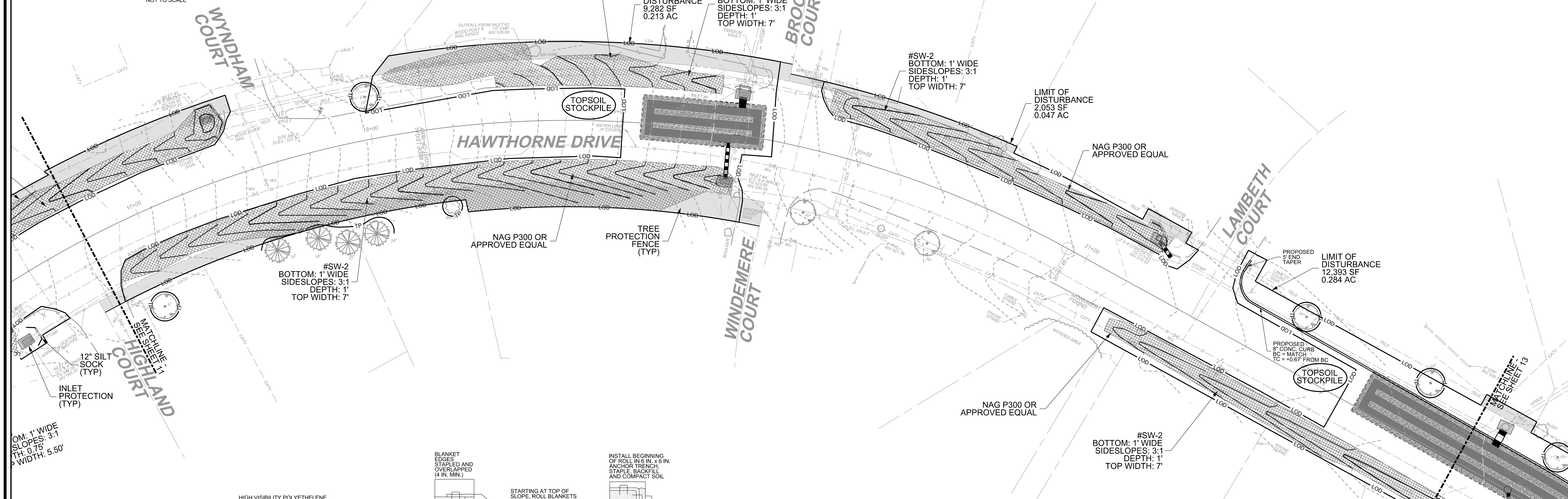
NOT TO SCALE

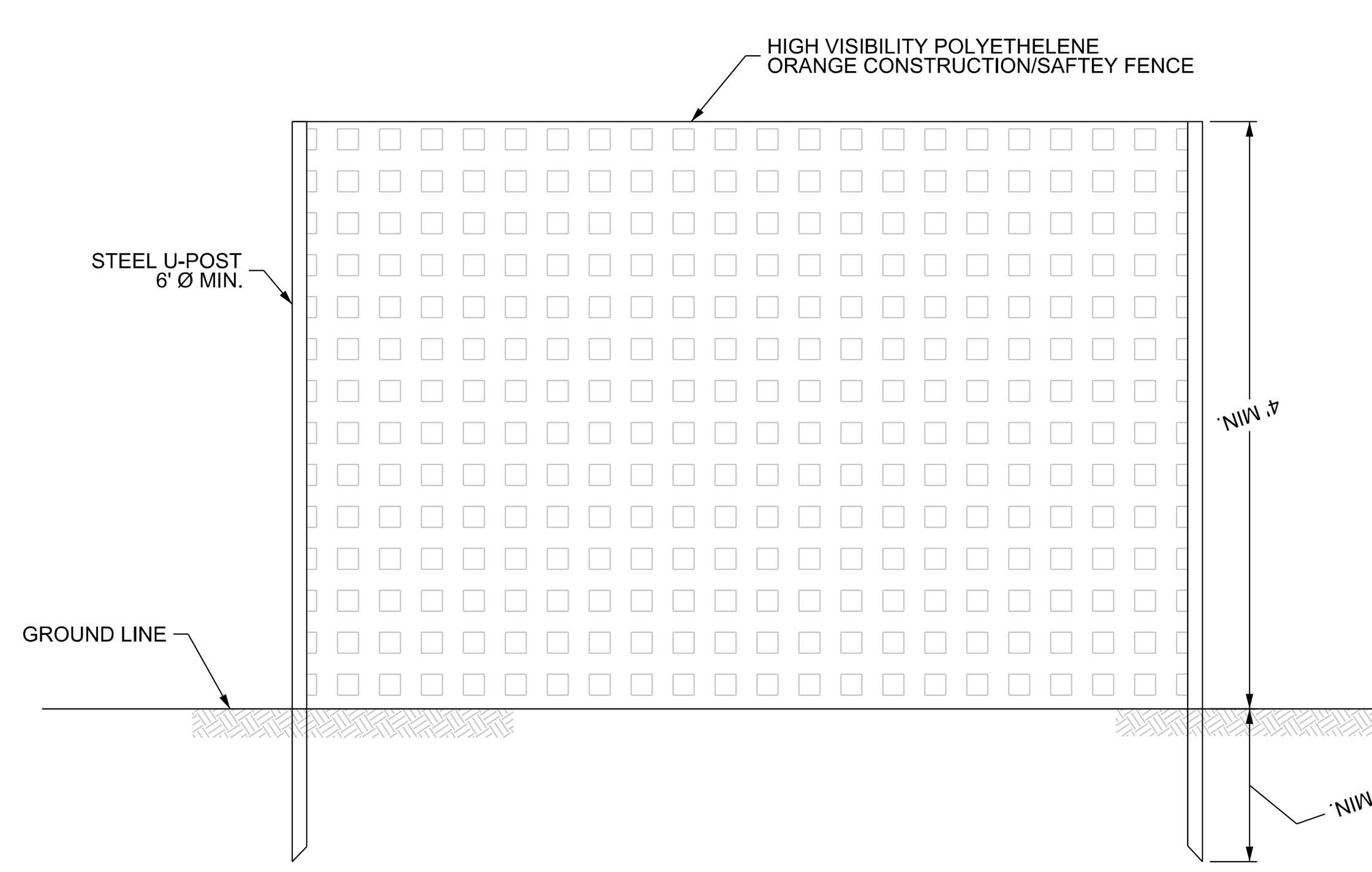
LEGEND:

- PROPERTY LINES
- LEGAL RIGHT-OF-WAY
- BASELINE
- EXISTING CONTOURS
- EXISTING FIBER OPTIC LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD ELECTRIC
- EXISTING UTILITY POLE
- EXISTING WATER LINE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING CABLE LINE
- EXISTING TELEPHONE LINE
- EXISTING STORM PIPE
- EXISTING SANITARY SEWER PIPE
- EXISTING TREE
- EXISTING BOULDER
- EXISTING SIGN
- EXISTING LANDSCAPED AREA
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- INLET PROTECTION
- SILT SOCK
- EROSION CONTROL BLANKET



KEY MAP
SCALE = NTS



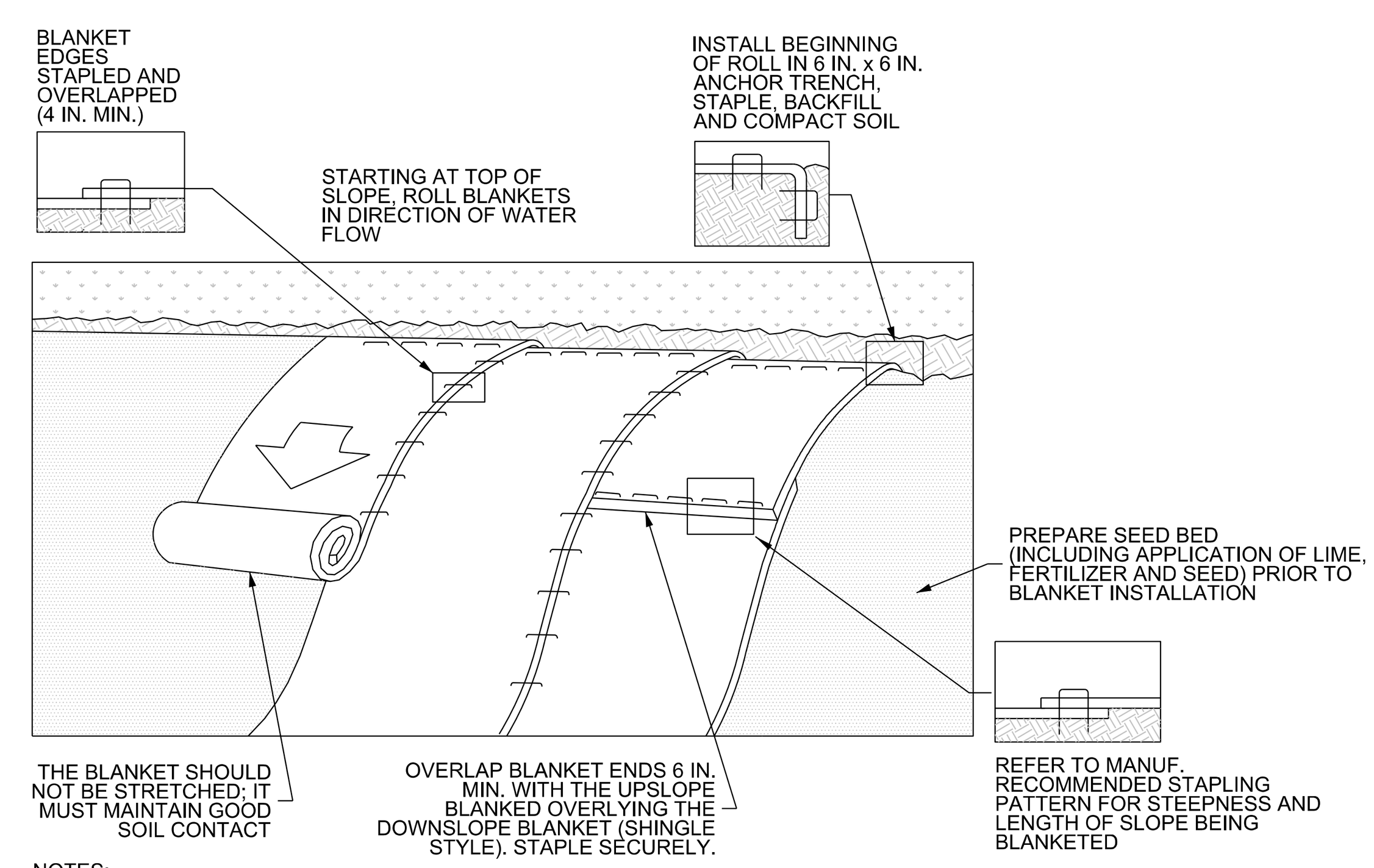


NOTES:

1. CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCE ALONG LIMIT OF DISTURBANCE BOUNDARY PRIOR TO THE START OF ANY EARTHMOVING.
2. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN FENCE THOUGHOUT THE ENTIRE DURATION OF THE PROJECT.

ORANGE CONSTRUCTION FENCE

NOT TO SCALE



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE

TEMPORARY SEEDING

TYPE OF COVER AND SPECIES OR MISXTURES	AMOUNT PER ACRE
50% ANNUAL RYE	5.0 LB
50% WINTER RYE	5.0 LB
TOTAL	10 LB

PERMANENT SEEDING

TYPE OF COVER AND SPECIES OR MIXTURES	AMOUNT PER ACRE
PERENNIAL RYEGRASS	20.0 LB
KENTUCKY BLUEGRASS	30.0 LB
RED TOP	3.0 LB
TOTAL	53.0 LB

RECOMMENDED FERTILIZATION RATE

LIME	1 TON PER ACRE
FERTILIZER	150 LBS 10-10-10 PER ACRE
MULCH	3 TONS PER ACRE

RECOMMENDED FERTILIZATION RATE

LIME	4 TONS PER ACRE
FERTILIZER	500 LBS 10-20-20 PER ACRE
MULCH	3 TONS PER ACRE

NOTES:

1. SEED SHALL BE A MINIMUM 90% PURITY AND 85% GERMINATION.
2. LIME SHALL BE AGRICULTURAL LIMESTONE AT 90% MINIMUM OF CARBONATES.
3. ALL SEEDING, MULCHING AND SODDING SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE CHESTER COUNTY CONSERVATION DISTRICT. ALL SLOPES STEEPER THAN 5H:1V SHALL BE STABILIZED WITH EITHER SOD OR PERMANENT SEEDING AND MULCH AND ANCHORED IN PLACE WITH JUTE NETTING. NO SLOPES SHALL BE STEEPER THAN 2H:1V. TEMPORARY AND PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH THE PENN STATE AGRONOMY GUIDE OR AS RECOMMENDED BELDS DURING NON-GERMINATING PERIODS APPLY MULCH AT THE RATES RECOMMENDED BELOW. IF THE SITE IS TO REMAIN INACTIVE FOR OVER 6 MONTHS OR AT THE COMPLETION OF FINAL GRADING APPLY PERMANENT SEED AND MULCH AS RECOMMENDED BELOW. SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT/DOWN GRADIENT PROPERTIES AS A RESULT OF INCREASED SEDIMENT DISPLACEMENT. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE AND/OR OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.

SEEDING SPECIFICATIONS

NOT TO SCALE

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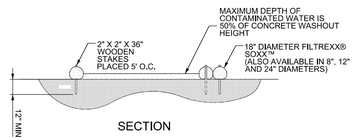
SITUATE IN: EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

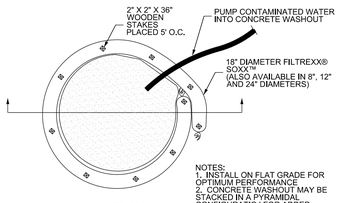
EROSION & SEDIMENT CONTROL PLAN

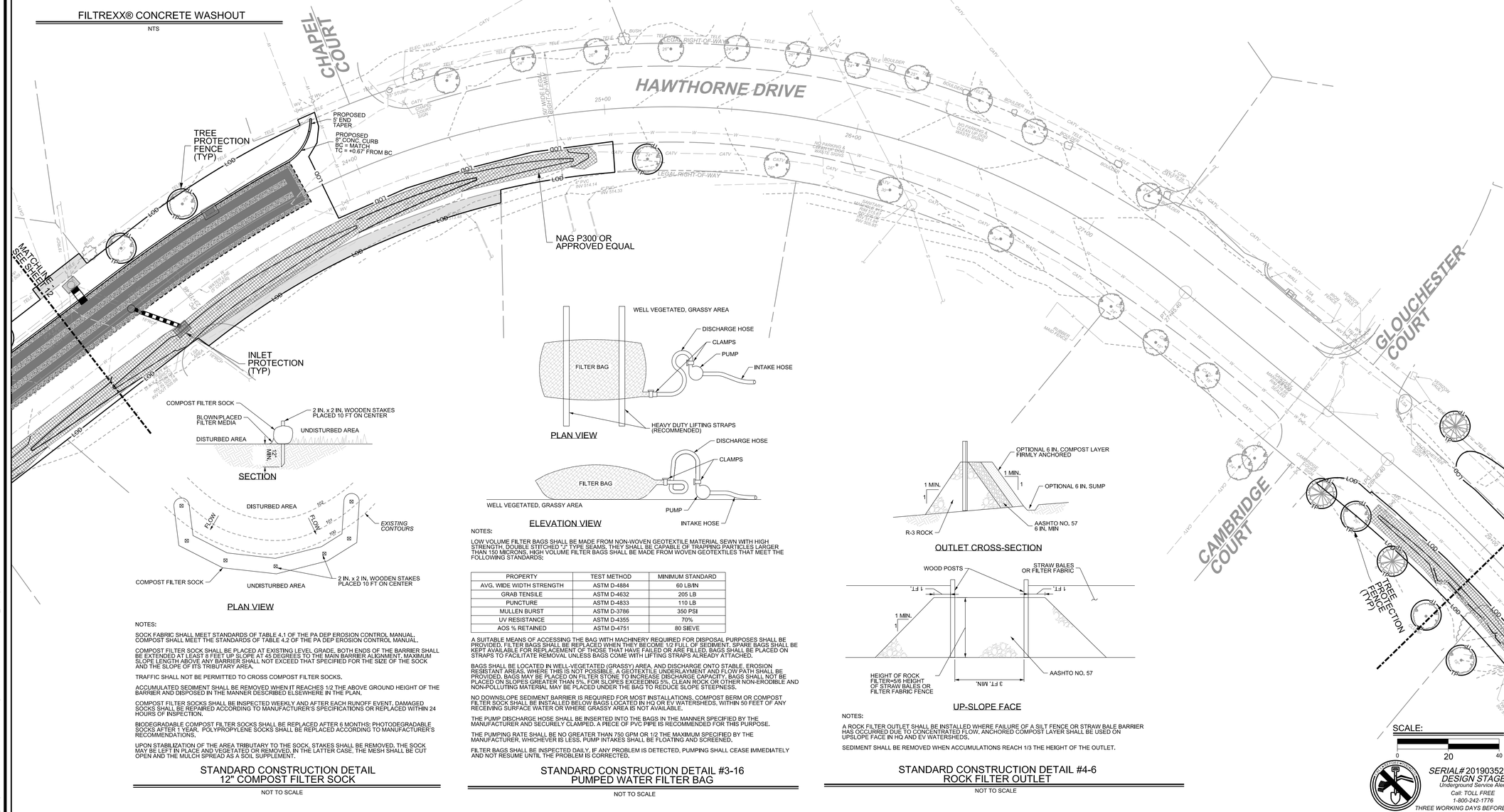
PREPARED FOR: EAST BRANDYWINE TOWNSHIP

PROJECT NAME: CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'







NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. CONCRETE WASHOUT MAY BE STACKED IN A PYRAMIDAL CONFIGURATIOJ FOR ADDED HEIGHT AND STABILITY
3. CONCRETE WASHOUT MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION

FILTREXX® CONCRETE WASHOUT

NTS

LEGEND:

PROPERTY LINES	——— — — ———
LEGAL RIGHT-OF-WAY	——— - - - ———
BASELINE	—— — ——
EXISTING CONTOURS	═ ═ ═ ═
EXISTING FIBER OPTIC LINE	— — FIBR — — FIBR —
EXISTING UNDERGROUND ELECTRIC	— E — E — E —
EXISTING OVERHEAD ELECTRIC	— — — OHW —
EXISTING UTILITY POLE	⊘
EXISTING WATER LINE	— W — W — W —
EXISTING WATER VALVE	⋈ WV
EXISTING FIRE HYDRANT	○ HYD
EXISTING CABLE LINE	— — CATV — — CATV —
EXISTING TELEPHONE LINE	— — TELE — — TELE —
EXISTING STORM PIPE	═ ═ ═
EXISTING SANITARY SEWER PIPE	— S — S —
EXISTING TREE	○ ✿ ✳
EXISTING BOULDER	○
EXISTING SIGN	⊸
EXISTING LANDSCAPED AREA	LSA
LIMIT OF DISTURBANCE	——— LOD ———
TREE PROTECTION FENCE	—— TP —— TP ——
INLET PROTECTION	▭
SILT SOCK	—SS-12"—SS-12"—SS-12"—SS-12"—
EROSION CONTROL BLANKET	▨

KEY MAP
SCALE = NTS

PLAN VIEW

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.

STANDARD CONSTRUCTION DETAIL
12" COMPOST FILTER SOCK

NOT TO SCALE

PLAN VIEW

ELEVATION VIEW

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

NOT TO SCALE

OUTLET CROSS-SECTION

UP-SLOPE FACE

NOTES:

A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

STANDARD CONSTRUCTION DETAIL #4-6
ROCK FILTER OUTLET

NOT TO SCALE

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SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

EROSION & SEDIMENT CONTROL PLAN

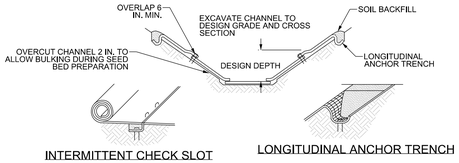
PREPARED FOR
EAST BRANDYWINE TOWNSHIP

PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY: CAS/AP
DRAWN BY: CAS
CHECKED BY: REF
PROJECT NO. EBT-15-066
DATE: 02/06/2019
SCALE: 1"=20'

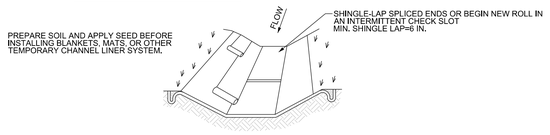
SHEET 13 OF 18

C-13

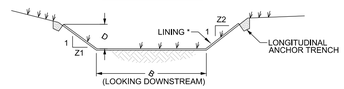


INTERMITTENT CHECK SLOT

LONGITUDINAL ANCHOR TRENCH



ISOMETRIC VIEW



CHANNEL CROSS-SECTION

* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

NOTES:

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

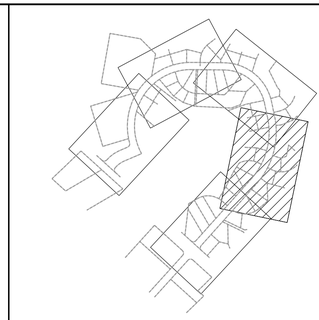
CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED, CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

CHANNEL NO.	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING *
SW-1	1	0.75	5.50	3.00	3.00	NAG SC150
SW-2	1	1.00	7.00	3.00	3.00	NAG P300
SW-3	1	1.15	7.90	3.00	3.00	NAG P300

LEGEND:

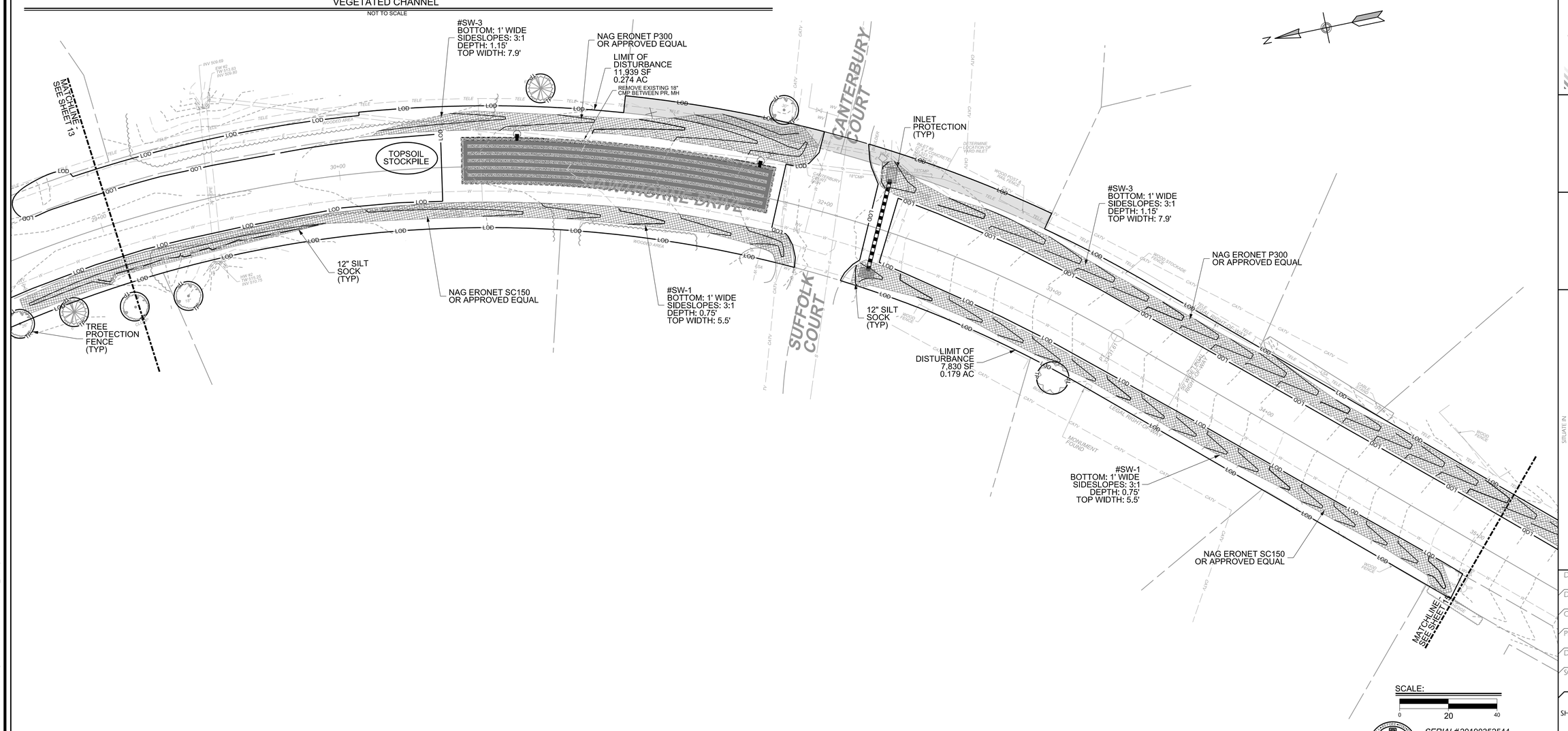
- PROPERTY LINES
- LEGAL RIGHT-OF-WAY BASELINE
- *EXISTING CONTOURS*
- *EXISTING FIBER OPTIC LINE* (FIBR)
- *EXISTING UNDERGROUND ELECTRIC* (E)
- *EXISTING OVERHEAD ELECTRIC* (OHW)
- *EXISTING UTILITY POLE*
- *EXISTING WATER LINE* (W)
- *EXISTING WATER VALVE* (WV)
- *EXISTING FIRE HYDRANT* (HYD)
- *EXISTING CABLE LINE* (CATV)
- *EXISTING TELEPHONE LINE* (TELE)
- *EXISTING STORM PIPE*
- *EXISTING SANITARY SEWER PIPE* (S)
- *EXISTING TREE*
- *EXISTING BOULDER*
- *EXISTING SIGN*
- *EXISTING LANDSCAPED AREA* (LSA)
- LIMIT OF DISTURBANCE (LOD)
- TREE PROTECTION FENCE (TP)
- INLET PROTECTION
- SILT SOCK (SS)
- EROSION CONTROL BLANKET



KEY MAP
SCALE = NTS

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL

NOT TO SCALE



MARK	COMMENT	REVISIONS	DATE

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SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

EROSION & SEDIMENT CONTROL PLAN

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

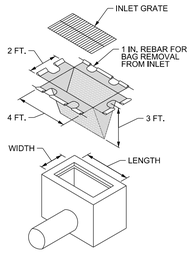
PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'

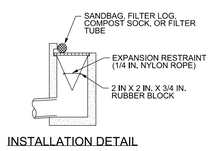
SHEET 14 OF 18

C-14

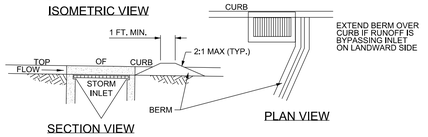
P:_Design\EBT-15-066 Culbertson Run Drainage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn



ISOMETRIC VIEW



INSTALLATION DETAIL



SECTION VIEW

PLAN VIEW

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.

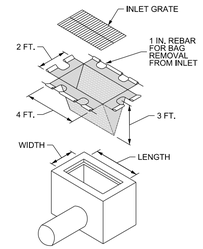
ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED, ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED, SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 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.

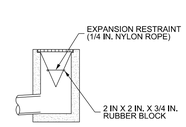
DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

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

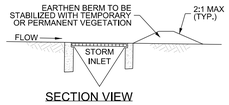
NOT TO SCALE



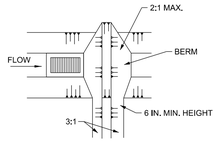
ISOMETRIC VIEW



INSTALLATION DETAIL



SECTION VIEW



PLAN VIEW

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.

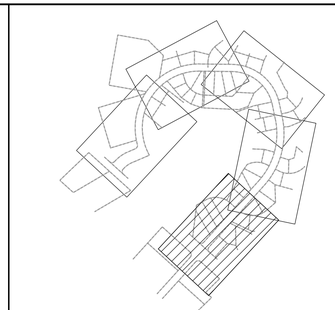
DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

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

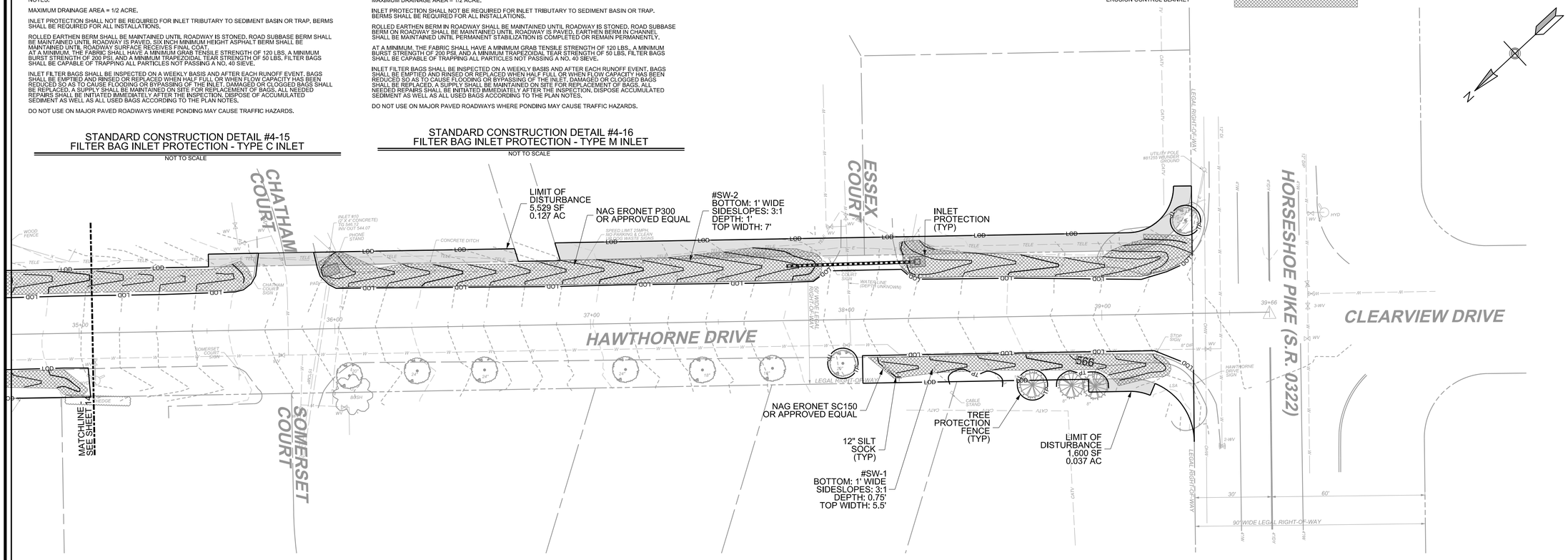
NOT TO SCALE

LEGEND:

PROPERTY LINES	
LEGAL RIGHT-OF-WAY	
BASELINE	
EXISTING CONTOURS	
EXISTING FIBER OPTIC LINE	FIBR
EXISTING UNDERGROUND ELECTRIC	E
EXISTING OVERHEAD ELECTRIC	OHW
EXISTING UTILITY POLE	
EXISTING WATER LINE	W
EXISTING WATER VALVE	WV
EXISTING FIRE HYDRANT	HYD
EXISTING CABLE LINE	CATV
EXISTING TELEPHONE LINE	TELE
EXISTING STORM PIPE	
EXISTING SANITARY SEWER PIPE	S
EXISTING TREE	
EXISTING BOULDER	
EXISTING SIGN	
EXISTING LANDSCAPED AREA	LSA
LIMIT OF DISTURBANCE	LOD
TREE PROTECTION FENCE	TP
INLET PROTECTION	
SILT SOCK	SS-12"
EROSION CONTROL BLANKET	



KEY MAP
SCALE = NTS



SCALE:
0 20 40

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MARK	COMMENT	REVISIONS	DATE

SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

EROSION & SEDIMENT CONTROL PLAN

PREPARED FOR:
EAST BRANDYWINE TOWNSHIP

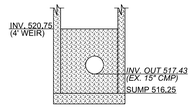
PROJECT NAME:
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=20'

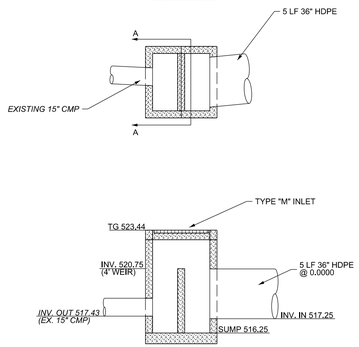
SHEET 15 OF 18

C-15

P:\...Division\EBT-15-066 Culbertson Run Drainage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn

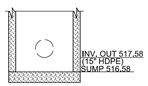


SECTION A-A
WEIR WALL

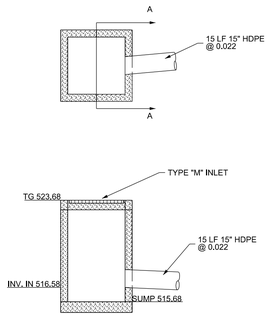


SUBSURFACE INFILTRATION BASIN 'C'
OUTLET CONTROL STRUCTURE #OS-1C
(4'x4' BOX)

N.T.S.

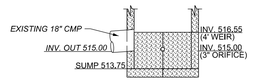


SECTION A-A
IS-1C

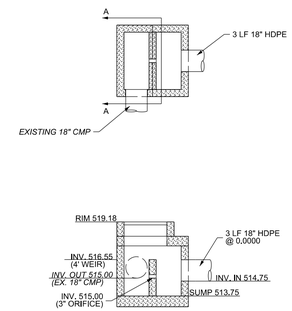


SUBSURFACE INFILTRATION BASIN 'C'
INLET STRUCTURE #IS-1C
(4'x4' BOX)

N.T.S.

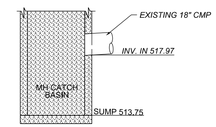


SECTION A-A
WEIR WALL

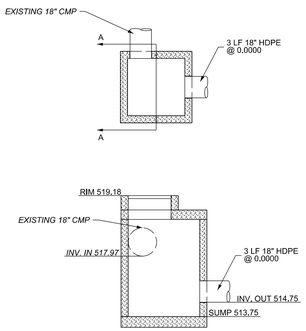


SUBSURFACE DETENTION BASIN 'A'
OUTLET CONTROL STRUCTURE
MANHOLE #OS-1A
(4'x4' BOX)

N.T.S.

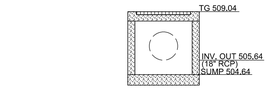


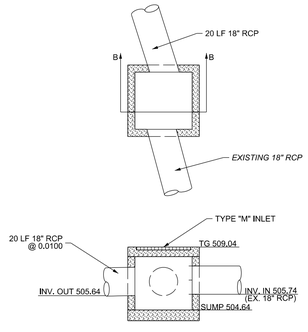
SECTION A-A
MH CATCH BASIN



SUBSURFACE DETENTION BASIN 'A'
INLET STRUCTURE
MANHOLE #IS-1A
(4'x4' BOX)

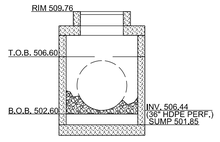
N.T.S.



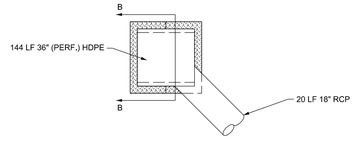


SUBSURFACE INFILTRATION BASIN 'B'
INLET STRUCTURE
MANHOLE #IS-3B
(4'x4' BOX)

N.T.S.

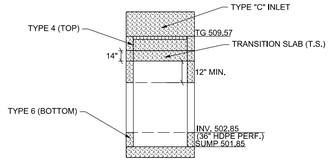


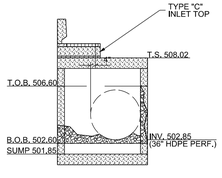
SECTION B-B
MH CATCH BASIN



SUBSURFACE INFILTRATION BASIN 'B'
INLET STRUCTURE
MANHOLE #IS-2B
(4'x4' BOX)

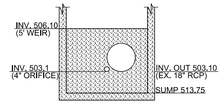
N.T.S.



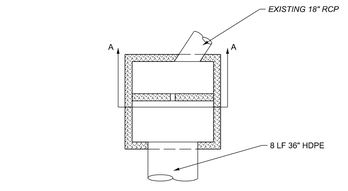


SUBSURFACE INFILTRATION BASIN 'B'
INLET STRUCTURE
MANHOLE #IS-1B

N.T.S.



SECTION A-A
WEIR WALL



SUBSURFACE INFILTRATION BASIN 'B'
OUTLET CONTROL STRUCTURE
MANHOLE #OS-1B

N.T.S.

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REVISIONS
MARK | COMMENT | DATE

SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

CONSTRUCTION DETAILS

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

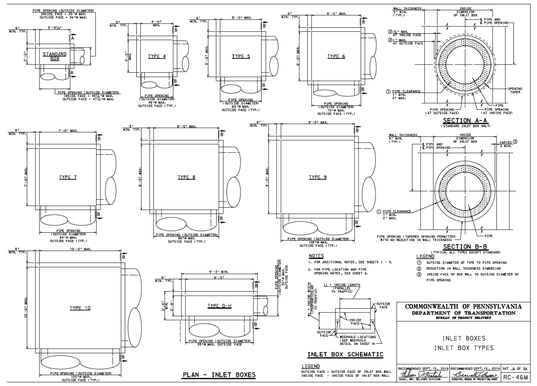
PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

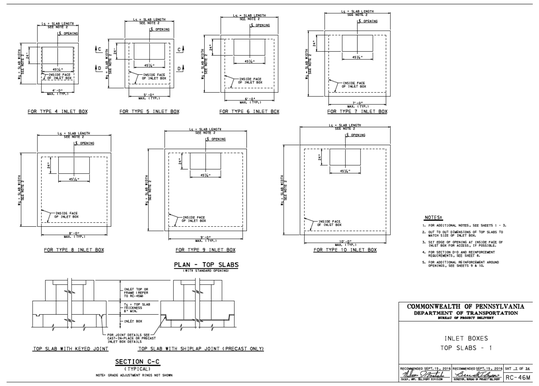
DESIGNED BY: CAS/AP
DRAWN BY: CAS
CHECKED BY: REF
PROJECT NO. EBT-15-066
DATE: 02/06/2019
SCALE: N.T.S.

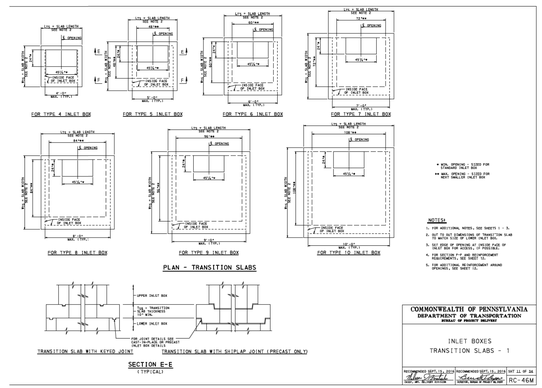
SHEET 16 OF 18

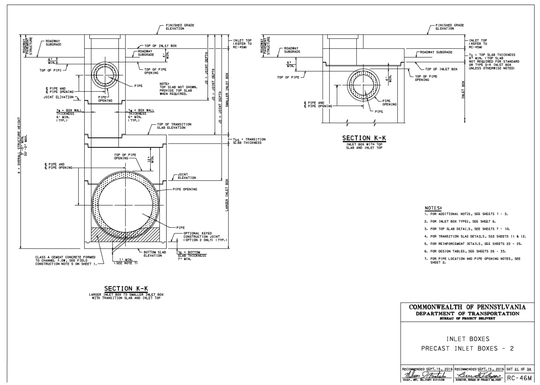
C-16

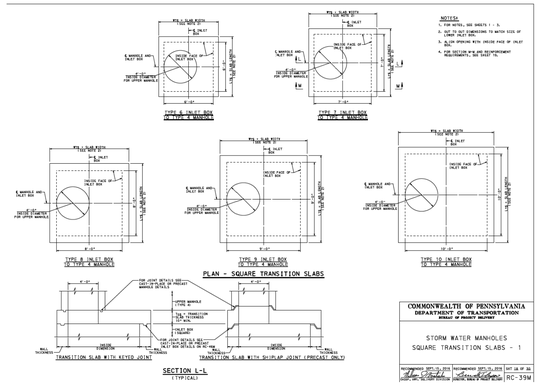
P:\...Design\EBT-15-066 Culbertson Run Drainage\CD\NS\sheets\EBT-15-066-PLAN_SET.dgn

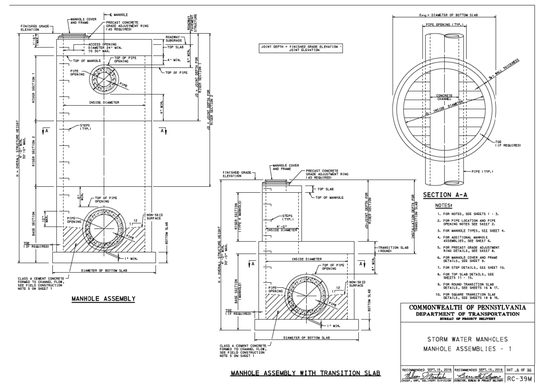


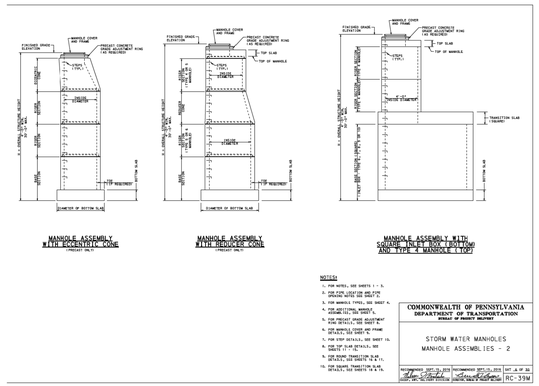


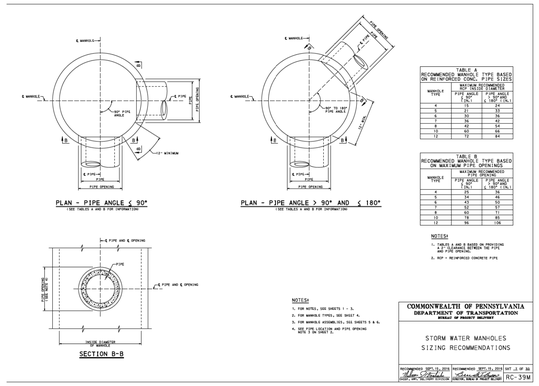


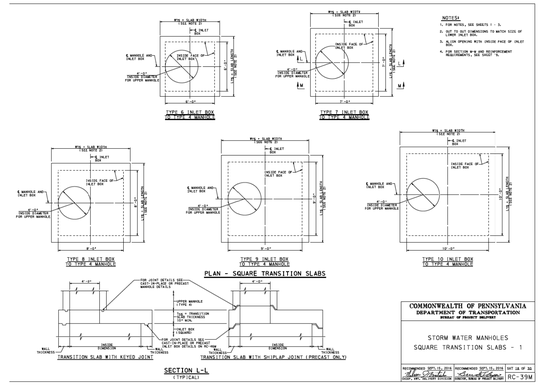


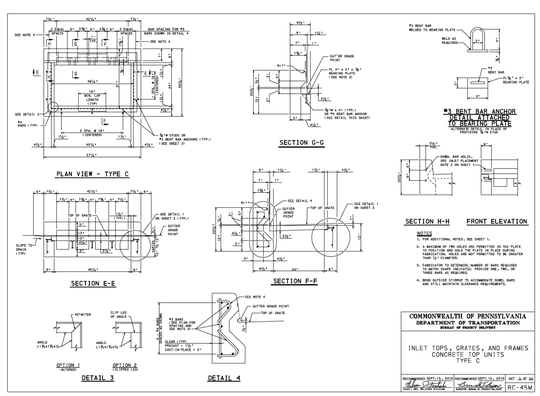


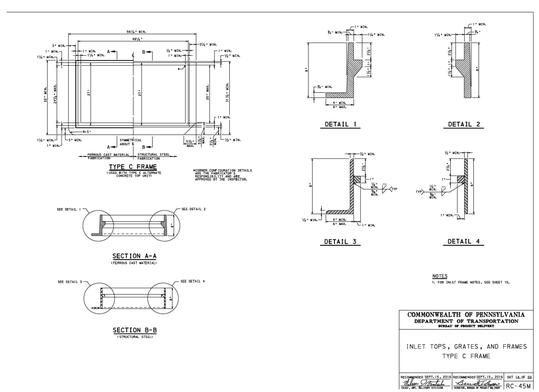


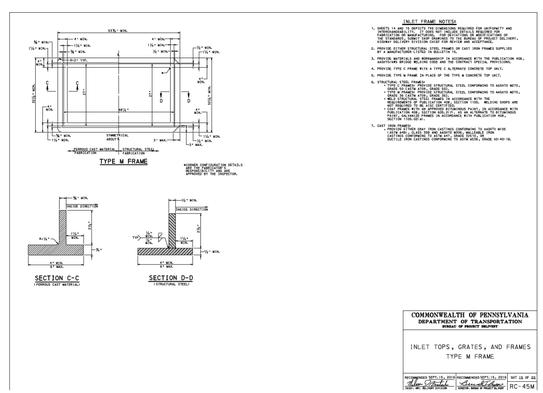












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MARK	COMMENT	REVISIONS	DATE

SITUATE IN
EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

CONSTRUCTION DETAILS

PREPARED FOR
EAST BRANDYWINE TOWNSHIP

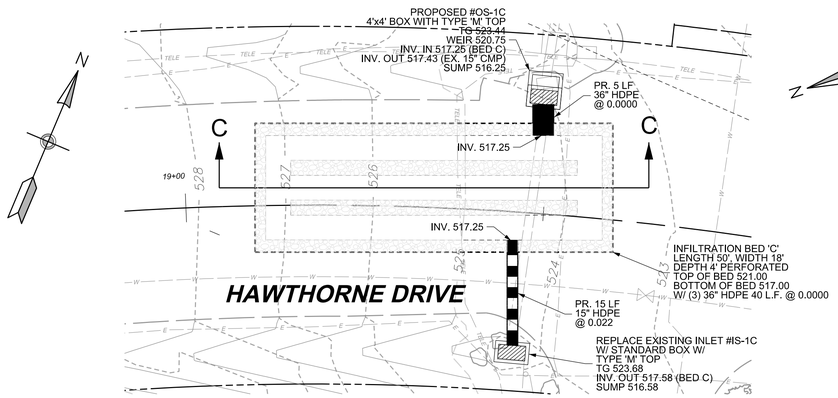
PROJECT NAME
CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	N.T.S.

SHEET 17 OF 18

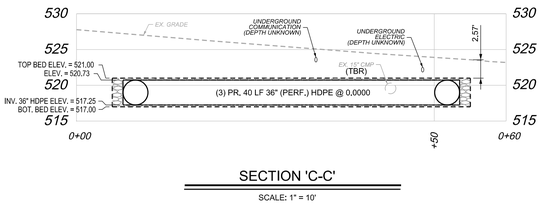
C-17

P:_Design\EBT-15-066 Culbertson Run Drainage\DGN\Sheet\EBT-15-066-PLAN_SET.dgn



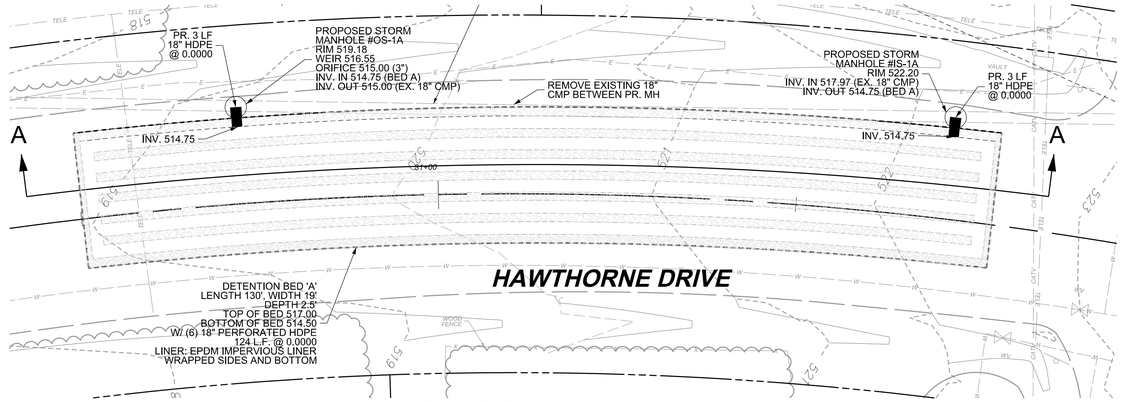
INFILTRATION BED 'C' - DETAIL

SCALE: 1" = 10'



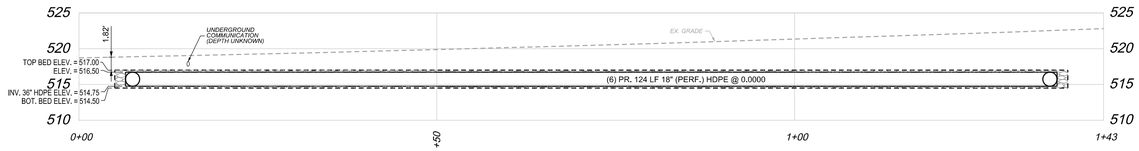
SECTION 'C-C'

SCALE: 1" = 10'



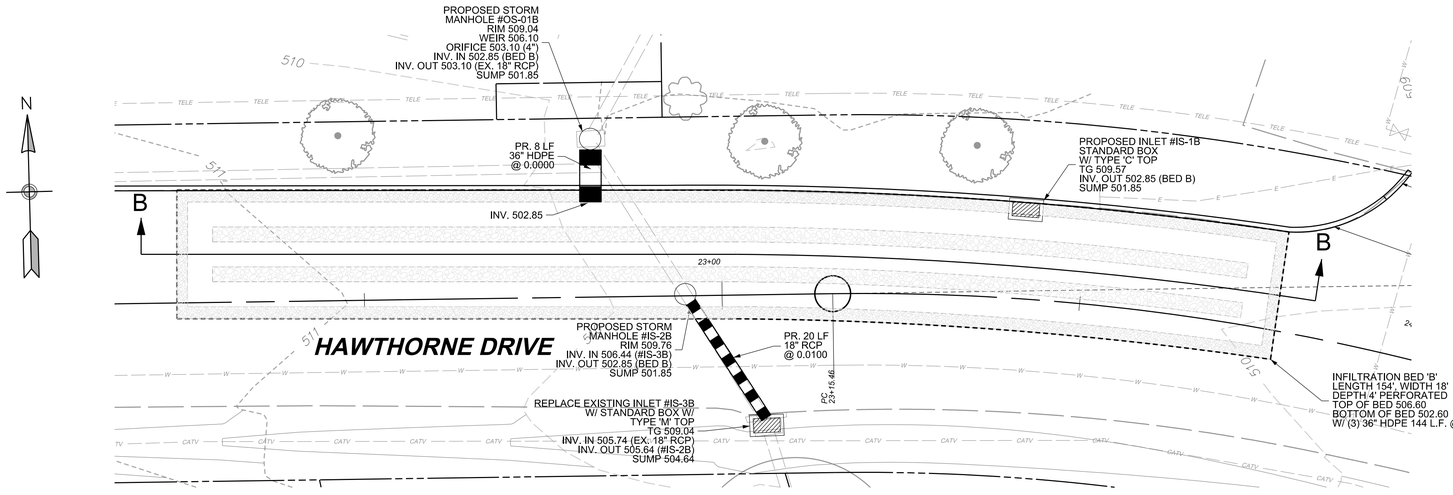
DETENTION BED 'A' - DETAIL

SCALE: 1" = 10'



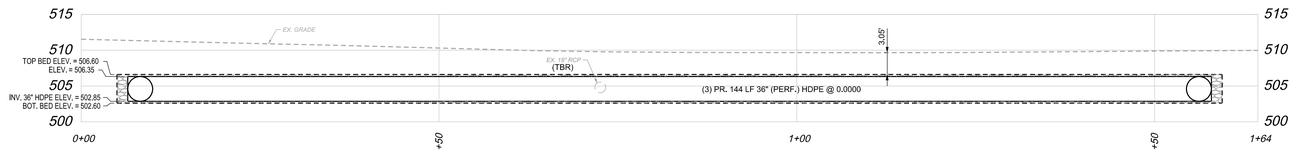
SECTION 'A-A'

SCALE: 1" = 10'



INFILTRATION BED 'B' DETAIL

SCALE: 1" = 10'



SECTION 'B-B'

SCALE: 1" = 10'

SCALE: 1" = 10'

0 10 20

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SITUATE IN: EAST BRANDYWINE TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

INFILTRATION BED ENLARGEMENT PLAN

PREPARED FOR: EAST BRANDYWINE TOWNSHIP

PROJECT NAME: CULBERTSON RUN STORMWATER IMPROVEMENTS

DESIGNED BY:	CAS/AP
DRAWN BY:	CAS
CHECKED BY:	REF
PROJECT NO.	EBT-15-066
DATE:	02/06/2019
SCALE:	1"=10'

SHEET 18 OF 18

C-18

P:\...Division\EBT-15-066 Culbertson Run Drainage\DGN\Sheets\EBT-15-066-PLAN_SET.dgn