PRELIMINARY | FINAL LAND DEVELOPMENT PLANS

_____ FOR _____

REYNOLDS ACQUISITIONS, L.P.

PROPOSED

PROPOSED RESIDENTIAL DEVELOPMENT

'ASHFORD PRESERVE'

WEST STATE STREET

COOPERSBURG BOROUGH

LEHIGH COUNTY, PA

UPI # 642327128420-1

UPI # 642317988919-1

PREPARED BY

BOHLER//

LIST OF WAIVERS GRANTED BY THE COOPERSBURG BOROUGH COUNCIL ON 9/20/22:

- a. A WAIVER FROM STORMWATER MANAGEMENT ORDINANCE SECTION 187-15E. TO ALLOW WATER QUALITY VOLUME TO BE TREATED BY A SINGLE MANAGED RELEASE CONCEPT (MRC) BIORETENTION BASIN IN LIEU OF 2 SEPARATE BMPS.
- b. A WAIVER FROM STORMWATER MANAGEMENT ORDINANCE SECTION 187-15I.(2) TO ALLOW THE DEPTH TO SEASONAL HIGH WATER TABLE BELOW THE INVERT OF A BMP TO BE LESS THAN 3 FEET.
- 2. A WAIVER FROM STORMWATER MANAGEMENT ORDINANCE SECTION 187-21B.(5) AND SECTION 187-21B.(15) WHICH REQUIRES THE DRAINAGE PLAN TO SHOW THE LOCATIONS OF ALL EXISTING UTILITIES, SANITARY SEWERS, AND WATERLINES WITHIN 50 FEET OF PROPERTY LINES OF THE PROJECT SITE, ALL PUBLIC WATER SUPPLY WELLS WITHIN 400 FEET OF THE PROJECT, AND
- ALL PRIVATE WATER SUPPLY WELLS WITHIN 100 FEET OF THE PROJECT.

 3. A WAIVER FROM SALDO SECTIONS 195-7 AND 195-9. TO ALLOW FOR CONCURRENT PRELIMINARY/FINAL PLAN APPROVAL.
- 4. A WAIVER FROM SALDO SECTION 195-13A. TO ALLOW PRELIMINARY/FINAL LAND DEVELOPMENT PLANS TO BE DRAWN AT A
- SCALE OF ONE INCH EQUALS 30 FEET.

INTERSECTION OF THE DRIVEWAY WITH THE CARTWAY (FOR LOTS #1-11, 14-16, AND 18).

(FOR THE SIDE LOT LINE BETWEEN LOTS #12 AND 13).

b. A WAIVER FROM SALDO SECTION 195-17F.(5)(B) WHICH REQUIRES A 5% LEVEL LANDING AREA EXTENDING FROM THE

a. A WAIVER FROM SALDO SECTION 195-17E.(2) TO ALLOW A SIDE LOT LINE TO NOT BE RADIAL TO A CURVED STREET LINE

- c. A WAIVER FROM SALDO SECTION 195-17F.(8)(A) TO ALLOW CLEAR SIGHT TRIANGLE DISTANCES ALONG THE CENTER LINE OF THE ROAD TO BE LESS THAN 200 FEET LONG (FOR LOTS #1, 2, 11, 12, 20, AND 21).
- 6. SECTION 195-18
 a. A PARTIAL WAIVER FROM SALDO SECTION 195-18B.(1) TO ALLOW A LOCAL STREET RIGHT-OF-WAY WIDTH OF LESS THAN
- b. A WAIVER FROM SALDO SECTION 195-18B.(1) TO ALLOW A LOCAL STREET PAVEMENT WIDTH OF LESS THAN 34 FEET (28-FOOT PAVEMENT WIDTH FROM STATION 0+37.13 TO 2+61.05, AND 30-FOOT PAVEMENT WIDTH FROM STATION 2+61.05
- c. A WAIVER FROM SALDO SECTION 195-18C.(3) TO ALLOW A MINIMUM TANGENT OF LESS THAN 100 FEET BETWEEN REVERSE CURVES ON A STREET AND BETWEEN A CURVE AND A STREET INTERSECTION.
- d. A WAIVER FROM SALDO SECTION 195-18F.(4)(B) TO ALLOW CURB RADIUS AT AN INTERSECTION INVOLVING A COLLECTOR
- e. A WAIVER FROM SALDO SECTION 195-18G.(3) TO ALLOW A CUL-DE-SAC STREET LENGTH OF 1,183 FEET IN LIEU OF THE
- 7. A WAIVER FROM SALDO SECTION 195-24B.(4)(B) TO ALLOW FINISHED SLOPES OF CUTS AND FILLS TO EXCEED 33% (50% PROPOSED)

OWNER'S STATEMENT OF ACKNOWLEDGEMENT (REYNOLDS ACQUISITIONS, L.P.)

REYNOLDS ACQUISITIONS, L.P. THE OWNER OF THIS PLAT OF LAND BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY IT IS THE SOLE OWNER OF THIS PROPERTY IN PEACEFUL POSSESSION OF IT AND THERE ARE NO SUITS PENDING AFFECTING TITLE OF SAME.

PROSPECT ACQUISITIONS, L.P.

PROSPECT ACQUISITIONS DEVELOPMENT CORP., ITS SOLE GENERAL PARTNER

BY:______CHRISTOPHER R. CANAVAN

MY COMMISSION EXPIRES:

APPLICANT'S AUTHORIZATION STATEMENT

THE APPLICANT, REYNOLDS ACQUISITIONS, L.P., HEREBY AUTHORIZES THE BOROUGH STAFF TO ENTER UPON AND INSPECT THE SITE FOR THE PURPOSES OF CONDUCTING A REVIEW AND DETERMINING CONSISTENCY WITH THE REQUIREMENTS OF THE COOPERSBURG BOROUGH SALDO DURING THE PENDENCY OF THE APPLICATION BEFORE

PROSPECT ACQUISITIONS, L.P.
PROSPECT ACQUISITIONS DEVELOPMENT CORP., ITS SOLE GENERAL PARTNER

CHRISTOPHER R. CANAVAN SR. VICE PRESIDENT

MEGAN R. VANINGEN

OWNER'S STATEMENT OF ACKNOWLEDGEMENT (KRATZ)

I, THE OWNER OF THIS PLAT OF LAND BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY I AM THE SOLE OWNER OF THIS PROPERTY IN PEACEFUL POSSESSION OF IT AND THERE ARE NO SUITS PENDING AFFECTING TITLE

JERRY D. KRATZ IRREVOCABLE TRUST

NOTARY PUBLIC

MY COMMISSION EXPIRES:

OWNER'S STATEMENT OF ACKNOWLEDGEMENT (VANINGEN)

WE, THE OWNERS OF THIS PLAT OF LAND BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY WE ARE THE

SOLE OWNERS OF THIS PROPERTY IN PEACEFUL POSSESSION OF IT AND THERE ARE NO SUITS PENDING AFFECTING

ROBERT S. VANINGEN

NOTARY PUBLIC

MY COMMISSION EXPIRES:

DEVELOPER'S STATEMENT OF ACKNOWLEDGEMENT

I/WE, THE UNDERSIGNED, BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY THAT I AM THE SOLE OWNER/OWNERS, EQUITABLE OWNER/OWNERS OR AM/ARE DULY AUTHORIZED BY THE OWNER/OWNERS, TO MAKE APPLICATION FOR THE SUBDIVISION/LAND DEVELOPMENT OF THE TRACT SHOWN HEREON.

DEVELOPER

SWORN AND SUBSCRIBED BEFORE THIS _____ THE DAY OF ______. 20_____.

NOTARY PUBLIC

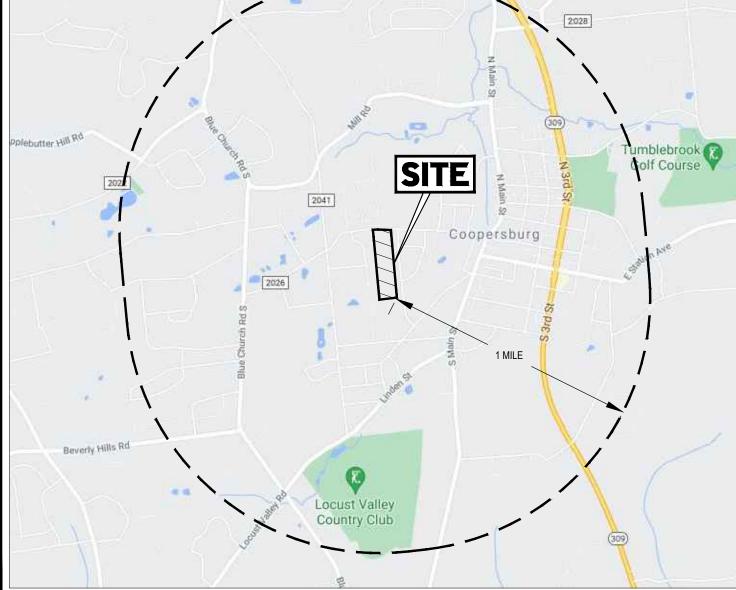
MY COMMISSION EXPIRES:

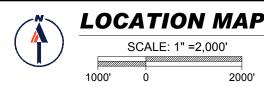
THE STORMWATER BMP'S ARE FIXTURES THAT CANNOT BE ALTERED OR REMOVED WITHOUT APPROVAL BY THE MUNICIPALITY.

REYNOLDS ACQUISITIONS, L.P.

KNIGHTLAND PROPERTIES DEVELOPMENT CORP., IT'S SOLE GENERAL PARTNER

Y:_____ CHRISTOPHER R. CANAVAN SR. VICE PRESIDENT





PROFESSIONAL ENGINEER'S STATEMENT

ENGINEER'S SEAL

THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT IS CORRECT.

PROFESSIONAL LAND SURVEYOR'S STATEMENT

I, JAMES C. WEED, A REGISTERED PROFESSIONAL LAND SURVEYOR OF THE COMMONWEALTH OF PENNSYLVANIA, DO HEREBY CERTIFY THAT THE PLAN, PREPARED FROM FIELD SURVEY, CORRECTLY REPRESENTS THE PROPOSED LOTS AS SURVEYED BY ME FOR THE OWNERS AND THAT THE REQUIREMENTS OF THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF COOPERSBURG BOROUGH HAVE BEEN FULLY COMPLIED WITH.

SURVEYOR'S SEAL

JAMES C. WEED, P.L.S.
LICENSE No. SU075250

JAMES C. WEED, P.L.S.
LICENSE NO. SU075250

CONTROL POINT ASSOCIATES, INC.
NEW BRITAIN CORPORATE CENTER
1600 MANOR DRIVE, SUITE 120
CHALFONT, PA 18914
215.712.9800 - 215.712.9802 FAX
SURVEYOR'S ADDRESS

RONALD E. KLOS, JR., P.E. LICENSE No. PE045479E BOHLER ENGINEERING, PA LLC 1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 (215) 996-9100 - (215) 996-9102 FAX ENGINEER'S ADDRESS

HEREBY CERTIFY THAT THIS PLAN HAS BEEN COMPLETED FROM A SURVEY ACTUALLY MADE ON THE GROUND, AND

DRAWING SHEET INDEX

SHEET TITLE

SHEET TITLE	SHEET NUMBER
*COVER SHEET	1
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*TABLES SHEET	3
*LOT LINE ADJUSTMENT PLAN	4
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EXISTING CONDITIONS/DEMOLITION PLAN - (A), (B)	6, 7
*OVERALL SITE PLAN	8
*SITE PLAN - (A), (B)	9, 10
OVERALL GRADING PLAN	11
GRADING PLAN - (A), (B)	12, 13
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**PCSWM POST-DEVELOPMENT DRAINAGE AREA PLAN	15
INLET DRAINAGE AREA PLAN	16
OVERALL UTILITY PLAN	17
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OVERALL EXISTING CONDITIONS SOIL EROSION & SEDIMENT POLLUTION CONTROL PLAN	20
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**OVERALL POST CONSTRUCTION STORMWATER MANAGEMENT PLAN	30
**POST CONSTRUCTION STORMWATER MANAGEMENT PLAN - (A), (B)	31, 32
**POST CONSTRUCTION STORMWATER MANAGEMENT NOTES & DETAILS	33, 34, 35
**OVERALL PCSWM LANDSCAPE AND LIGHTING PLAN	36
**PCSWM LANDSCAPE AND LIGHTING PLAN - (A), (B)	37, 38
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SANITARY AND WATERLINE PROFILES	41
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AERIAL PLAN	43
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NOTE * CUE

* SHEETS 1, 2, 3, 4, 8, 9 & 10 OF THIS PLAN SET WILL BE CONSIDERED A COMPLETE RECORD PLAN SET FOR FILING PURPOSES IN THE LEHIGH COUNTY RECORDER OF DEEDS OFFICE.

** SHEETS 15, 30, 31, 32, 33, 34, 35, 36, 37, 38 & 39 OF THIS PLAN SET ARE TO BE RECORDED WITH THE POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) INSTRUMENT FILING NOTICE

_THE COOPERSBURG BOROUGH COUNCIL ADOPTED

APPROVED: COOPERSBURG BOROUGH COUNCIL

RESOLUTION NO	_ TO APPROVE THE WITHIN FINAL LAND DEVELOPMENT PLAN
BOROUGH SECRETARY	DATE
PRESIDENT	DATE
MAYOR	DATE

REVIEWED: LEHIGH VALLEY PLANNING COMMISSION

REVIEWER	DATE

RECORDED BY THE LEHIGH COUNTY RECORDER OF DEEDS

PLAN RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF LEHIGH COUNTY, PENNSYLVANIA, IN MAP BOOK VOLUME ______, PAGE ______, ON THE ______
DAY OF _______, ________, ________[YEAR].

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV DATE

SHEET NUMBER

COMMENT

1	06/07/2022	REV. PER BURUUGH	AIVII
'	06/07/2022	COMMENTS	REK
2	08/18/2022	REV. PER LCCD	EN/MS
_	00/10/2022	COMMENTS	JP
3	01/06/2023	REV. PER LCCD	BG/EN
3	01/00/2023	COMMENTS	JP
4	01/27/2023	REV. PER BOROUGH	SR
4	01/2//2023	COMMENTS	JP
5	03/16/2023	REV. PER LCCD	EAN
5	03/10/2023	COMMENTS	JP
6	10/06/2023	REV. PER CLIENT	BG / LB
0	10/06/2023	COMMENTS	JP
7	01/19/2024	REV. PER BOROUGH /	EAN
′	01/19/2024	CLIENT COMMENTS	JRP



20191704041 & 20191704042

 PROJECT No.:
 PC19116i

 DRAWN BY:
 AM

 CHECKED BY:
 REI

 DATE:
 08/06/202

 CAD I.D.:
 PC191160-CND-I

PROJECT:

PRELIMINARY | FINAL LAND DEVELOPMENT

PLANS

REYNOLDS ACQUISITIONS, L.P.

PROPOSED RESIDENTIAL
DEVELOPMENT
'ASHFORD PRESERVE'

WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY PENNSYLVANIA

BOHLER

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

R.E. KLOS, JR.

PROFESSIONAL ENGINEER.
PENNSYLVANIA LICENSE No. PE045479E
NEW JERSEY LICENSE No. 24GE04507900

***.

COVER

SUEET NUMBED:

T 1 OF 48

- THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING, PENNSYLVANIA, LLC (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE ENGINEER OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY BOHLER, IN WRITING, IF ANY ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.
- THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS/REPORTS CONTAINED HEREIN, THE CONTRACTOR MUST ENSURE THAT ALL SURCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS. THESE NOTES, AND THE REQUIREMENTS ARTICULATED IN THE NOTES CONTAINED IN ALL THE OTHER DRAWINGS THAT COMPRISE THE PLAN SET OF DRAWINGS ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLANS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF TH DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE, PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION.
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST CONFIRM WITH THE ENGINEER OF RECORD AND BOHLER THAT THE LATEST EDITION OF THE DOCUMENTS AND/OR REPORTS REFERENCED WITHIN THE PLAN REFERENCES ARE BEING USED FOR CONSTRUCTION. THIS
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED, NO CONSTRUCTION OR FABRICATION IS TO BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE CONDITIONS OF APPROVAL TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING ALTHORITIES AND HAS ALSO CONFIRMED THAT ALL NECESSARY AND REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES
- THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS SPECIFICATIONS/REPORTS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT, AND ALL PROVISIONS IN AND CONDITIONS OF THE CONSTRUCTION CONTRACT WITH THE OWNER/DEVELOPER INCLUDING ALL EXHIBITS, ATTACHMENTS AND ADDENDA TO SAME.
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFULLY REVIEWING THE MOST CURRENT ARCHITECTURAL CIVIL AND STRUCTURAL CONSTRUCTION DOCUMENTS (INCLUDING BUT NOT LIMITED TO MECHANICAL ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE), THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND ENGINEER OF RECORD AND BOHLER. IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST BETWEEN THESE PLANS AND ANY OTHER PLANS THAT COMPRISE THE CONSTRUCTION DOCUMENTS.
- CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL/BUILDING PLANS OF RECORD FOR EXACT

LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.

- THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS SHOWN ON THESE PLANS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY NOTIFY ENGINEER OF RECORD AND BOHLER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE RE-DONE OR REPAIRED DUE TO DIMENSIONS. MEASUREMENTS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO BOTH (A) THE CONTRACTOR GIVING ENGINEER OF RECORD AND BOHLER WRITTEN NOTIFICATION OF SAME AND (B) ENGINEER OF RECORD AND BOHLER, THEREAFTER, PROVIDING THE CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH
- THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MEASUREMENTS INCLUDED ON DESIGN DOCUMENTS HEREIN AND MUST NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE CHECKED AND CONFIRMED BY THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS. FABRICATION/ORDERING OF PARTS AND MATERIALS AND COMMENCEMENT OF SITE WORK SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS, DIMENSIONS SUPERSEDE GRAPHICAL REPRESENTATIONS, THE CONTRACTOR MUST MAKE CONTRACTOR'S OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS
- THE OWNER AND CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS, THE GEOTECHNICAL REPORT, SPECIFICATIONS AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN: (A) THE PLANS: AND (B) THE GEOTECHNICAL REPORT AND RECOMMENDATIONS, MUST TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD AND BOHLER. IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS, PRIOR TO PROCEEDING WITH ANY FURTHER WORK IF A GEOTECHNICAL REPORT WAS NOT CREATED. THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS OF ANY AND ALL MUNICIPAL. COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE SPECIFICATIONS WHICH HAVE JURISDICTION OVER THIS PROJECT.
- . ENGINEER OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.
- THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN AND WHERE SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED. DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPÉRTIES. ALL OF THIS WORK IS TO BE PERFORMED AT CONTRACTOR'S SOLE COST AND EXPENSE
- THE CONTRACTOR MUST EXERCISE EXTREME CAUTION WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT. STRUCTURES, ETC WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.
- 5. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE, ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR
- 16. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
- THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY FOLIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME, THE REPAIR OF ANY SLICH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES. LAWS. RULES. REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES, THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME, THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
- THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY JOB SITE SUPERVISION OR ANYTHING RELATED TO SAME THE ENGINEER OF RECORD AND BOHLER HAVE NOT BEEN RETAINED TO RFORM OR TO BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER OF RECORD'S AND BOHLER SERVICES. RELATED TO THE PROJECT. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES OR ANY JOB SITE CONDITIONS, AT ANY TIME.
- THE CONTRACTOR MUST IMMEDIATELY IDENTIFY IN WRITING. TO THE ENGINEER OF RECORD AND BOHLER, ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF THE CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER WRITTEN NOTIFICATION AS DESCRIBED ABOVE. IT WILL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, THE CONTRACTOR MUST INDEMNIFY, DEFEND AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER FOR ANY AND ALL DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM OR ARE IN ANY WAY RELATED TO SAME INCLUDING, BUT NOT LIMITED TO, ANY THIRD PARTY AND FIRST PARTY CLAIMS
- THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM THE CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS AND CURRENT CODES RULES STATUTES AND THE LIKE IF THE CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, RULES, STATUTES, CODES AND THI LIKE, THE CONTRACTOR AND/OR OWNER AGREE TO AND MUST JOINTLY, INDEPENDENTLY, SEPARATELY, AND SEVERALLY INDEMNIFY AND HOLD THI ENGINEER OF RECORD AND BOHLER HARMLESS FOR AND FROM ALL INJURIES, CLAIMS AND DAMAGES THAT ENGINEER AND BOHLER SUFFER AND ANY AND ALL COSTS THAT ENGINEER AND BOHLER INCUR AS RELATED TO SAME.

ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT OF THE SPECIFIED AND COMMERCIALLY REASONABLE STATUTORY WORKER'S

- COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND COMMERCIAL GENERAL LIABILITY INSURANCE (CGL) INCLUDING ALSO ALL UMBRELLA COVERAGES. ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER, AND ITS PAST, PRESENT AND FUTURE OWNERS OFFICERS DIRECTORS PARTNERS SHAREHOLDERS MEMBERS PRINCIPALS COMMISSIONERS AGENTS SERVANTS EMPLOYEES AFEILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE (DEFEND, IF APPLICABLE) AND HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED AND AGREED TO BY THE CONTRACTOR HEREIN. ALL CONTRACTORS MUST FURNISH BOHLER WITH CERTIFICATIONS OF INSURANCE OR CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE COVERAGES PRIOR TO COMMENCING ANY WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR TWO YEARS AFTER THE COMPLETION OF CONSTRUCTION AND AFTER ALL PERMITS ARE ISSUED. WHICHEVER DATE IS LATER IN ADDITION, ALL CONTRACTORS AGREE THAT THEY WILL TO THE FULLEST EXTENT. PERMITTED UNDER THE LAW. INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES,
- AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT. INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTOR(S), ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. THE CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION. SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
- THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS AND FOR ANY CONFLICTS IN SCOPE AND REVISIONS THAT RESULT FROM SAME THE CONTRACTOR IS FULLY AND SOLELY
- NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER, NOR THE PRESENCE OF BOHLER AND/OR ITS PAST, PRESENT AND FUTURE OWNERS OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE (HEREIN "BOHLER PARTIES"), RELIEVES OR WILL RELIEVE THE CONTRACTOR OF AND FROM CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING. OVERSEEING. SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ALL HEALTH AND SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH

RESPONSIBLE FOR DETERMINING THE MEANS AND METHODS FOR COMPLETION OF THE WORK, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

- JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER PARTIES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER (OR ANY RESPONSIBILITY FOR) ANY CONSTRUCTION, THE CONTRACTOR OR ITS EMPLOYEES RELATING TO THEIR WORK AND ANY AND ALL HEALTH AND SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR MUST INDEMNIFY, DEFEND. PROTECT AND HOLD HARMLESS BOHLER PARTIES FOR AND FROM ANY LIABILITY TO BOHLER PARTIES RESULTING FROM THE CONTRACTOR'S WORK, SERVICES AND/OR VIOLATIONS OF THIS NOTE, THESE NOTES OR ANY NOTES IN THE PLAN SET AND, FURTHER, THE CONTRACTOR MUST NAME BOHLER AS AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE
- WHEN IT IS CLEARLY AND SPECIFICALLY WITHIN BOHLER'S SCOPE OF SERVICES CONTRACT WITH THE OWNER/DEVELOPER. BOHLER WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS. SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA. WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT. BUT ONLY FOR THE LIMITED PURPOSE OF EVALUATING CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME. BOHLER WILL PERFORM ITS SHOP DRAWING REVIEW WITH REASONABLE PROMPTNESS, AS CONDITIONS PERMIT. ANY DOCUMENT, DOCUMENTING BOHLER'S REVIEW OF A SPECIFIC ITEM OR LIMITED SCOPE. MUST NOT INDICATE THAT BOHLER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR MUST, IN WRITING, PROMPTLY AND IMMEDIATELY BRING ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS TO BOHLER'S ATTENTION. BOHLER IS NOT REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
- IF THE CONTRACTOR DEVIATES FROM THESE PLANS AND/OR SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD AND BOHLER FOR ALL DEVIATIONS WITHIN ENGINEER'S SCOPE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK PERFORMED WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING HEREFROM AND, FURTHER, MUST DEFEND, INDEMNIFY, PROTECT, AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER PARTIES TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, CLAIMS, INJURIES PENALTIES AND THE LIKE RELATED TO SAME.
- THE CONTRACTOR IS RESPONSIBLE FOR A MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL STATE AND LOCAL REQUIREMENTS FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL FITHER IN THE RIGHT OF WAY OR ON SITE THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE AND IS THE CONTRACTOR'S SOLE RESPONSIBILIT'
- OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN: AND. FURTHER, THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS. OWNER AGREES TO INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER PARTIES, HARMLESS FOR ALL INJURIES, DAMAGES AND COSTS THAT ENGINEER OF RECORD
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL RULES AND REGULATIONS, LAWS, ORDINANCES, AND CODES, AND ALL APPLICABLE REQUIREMENTS OF

THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.) AS AMENDED, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS

AND BOHLER INCUR AS A RESULT OF SAID FAILURE OR FAILURE TO PRESERVE

- 29. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST AND CURRENT OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY GENERAL WITH JURISDICTION OVER EXCAVATION AND TRENCHING PROCEDURES. ENGINEER OF RECORD AND BOHLER HAS NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES AND WORK
- 30. THE CONTRACTOR AND THE OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF THE CONTRACTOR AND/OR OWNER FAIL TO DO SO THEY AGREE TO JOINTLY INDEPENDENTLY SEPARATELY COLLECTIVELY AND SEVERALLY INDEMNIEY DEFEND PROTECT AND HOLD ENGINEER OF RECORD AND BOHLER PARTIES HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
- 31. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WHERE ONE (1) ACRE OR MORE IS DISTURBED BY CONSTRUCTION ACTIVITIES (UNLESS THE LOCAL JURISDICTION REQUIRES A DIFFERENT THRESHOLD). THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES. INCLUDING THOSE OF ALL SUBCONTRACTORS. ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED. TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES. AS APPROPRIATE AND FURTHER. THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR FAILING TO DO $m \acute{S}O$.
- 32. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS PREPARED BY THE ENGINEER OF RECORD AND BOHLER. THE USE OF THE WORDS 'CERTIFY' OR 'CERTIFICATION' CONSTITUTE(S) AN EXPRESSION ONLY OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE ENGINEER OF RECORD'S AND BOHLER KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON AND ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY NATURE OR TYPE, EITHER EXPRESSED OR IMPLIED, UNDER ANY CIRCUMSTANCES.
- 33. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE SUBMITTALS PREPARED FOR ANY CONSTRUCTION DETAILED ITEMS AND TO COORDINATE THE SUBMITTALS WITH THE RESPECTIVE GOVERNING AGENCIES OR SERVICE PROVIDERS, WHO SHALL HAVE THE FINAL AUTHORITY IN APPROVING THE

DEMOLITION NOTES

- 1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS'
- THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES IN SUCH A MANNER AS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND ALL OTHER ADJACENT FACILITIES. THE CONTRACTOR MUST OBTAIN ALL APPLICABLE PERMITS FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY(IES) PRIOR TO THE COMMENCEMENT OF ANY ROAD OPENING OR DEMOLITION ACTIVITIES IN OR
- 3. WHEN DEMOLITION-RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY RIGHT-OF-WAY. THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS.
- THE CONTRACTOR MUST PROVIDE ALL "METHODS AND MEANS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR, AT THE CONTRACTOR'S SOLE COST, MUST REPAIR ALL DAMAGE TO ALL ITEMS AND FEATURES THAT ARE TO REMAIN CONTRACTOR MUST USE NEW MATERIAL FOR ALL REPAIRS. CONTRACTOR'S REPAIRS MUST INCLUDE THE RESTORATION OF ALL ITEMS AND FEATURES REPAIRED TO THEIR PRE-DEMOLITION CONDITION. OF BETTER. CONTRACTOR MUST PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.
- 6. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. THE CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, COMPLYING WITH ALL OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY AND SAFETY TO ALL PROPERTY ON THE SITE OR ADJACENT OR NEAR TO THE SAME.
- THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY, WHICH MUST INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING, OTHER APPROPRIATE AND/OR NECESSARY SAFETY FEATURES AND ITEMS NECESSARY TO PROTECT THE PUBLIC FROM AREAS

 14. STORM AND SANITARY PIPE LENGTHS INDICATED IN THE PLANS ARE NOMINAL AND ARE MEASURED FROM THE CENTERS OF INLETS AND MANHOLES. OF CONSTRUCTION AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF ALL UNAUTHORIZED PERSONS AT ANY TIME, TO OR NEAR THE DEMOLITION AREA.
- 8. PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY, THE CONTRACTOR MUST, IN WRITING, RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS AND/OR SPECIFICATIONS, ALL CONCERNS OR QUESTIONS REGARDING THE APPLICABLE SAFETY STANDARDS, AND/OR THE SAFETY OF THE CONTRACTOR AND/OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT. ANY SUCH CONCERNS MUST BE CONVEYED TO THE ENGINEER OF RECORD AND BOHLER, IN WRITING AND MUST ADDRESS ALL ISSUES AND ITEMS RESPONDED TO, BY THE ENGINEER OF RECORD AND BY BOHLER, IN WRITING, ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES AND CODES
- 9. THE CONTRACTOR MUST BECOME FAMILIAR WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AND/OR DISCONNECTION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING LITH LITES AND SERVICES HAVE BEEN TERMINATED. REMOVED AND/OR ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND LITHLITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS. RULES STATUTES, LAWS, ORDINANCES AND CODES,
- 10. PRIOR TO COMMENCING ANY DEMOLITION, THE CONTRACTOR MUST:

ADJACENT TO THE RIGHT-OF-WAY

- A. OBTAIN ALL REQUIRED PERMITS AND MAINTAIN THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND ALL PUBLIC AGENCIES WITH JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT. SITE WORK, AND DEMOLITION WORK B. NOTIFY, AT A MINIMUM, THE MUNICIPAL ENGINEER, DESIGN ENGINEER, AND LOCAL SOIL CONSERVATION JURISDICTION. AT LEAST 72 BUSINESS HOURS PRIOR TO THE COMMENCEMENT OF WORK.
- INSTALL THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE, AND MAINTAIN SAID CONTROLS IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR MUST CALL THE STATE ONE-CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARK OUT, IN ADVANCE OF ANY EXCAVATION
- E. LOCATE AND PROTECT ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL UNDERGROUND UTILITIES.

PROTECT AND MAINTAIN IN OPERATION, ALL ACTIVE UTILITIES AND SYSTEMS THAT ARE NOT BEING REMOVED DURING ANY DEMOLITION

- G ARRANGE FOR AND COORDINATE WITH THE APPLICABLE LITHLITY SERVICE PROVIDER(S) FOR THE TEMPORARY OR PERMANENT TERMINATION OF SERVICE REQUIRED BY THE PROJECT PLANS AND SPECIFICATIONS REGARDING THE METHODS AND MEANS TO CONSTRUCT SAME. THESE ARE NOT THE ENGINEER OF RECORD'S RESPONSIBILITY IN THE EVENT OF ABANDONMENT. THE CONTRACTOR MUST PROVIDE THE UTILITY ENGINEER. AND OWNER WITH IMMEDIATE WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTIONAL AND UTILITY COMPANY REQUIREMENTS
- ARRANGE FOR AND COORDINATE WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS NECESSARY OR AS REQUIRED TO MINIMIZE THE IMPACT ON, OF, AND TO THE AFFECTED PARTIES. WORK REQUIRED TO BE PERFORMED "OFF-PEAK" IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER IN THE EVENT THE CONTRACTOR DISCOVERS ANY HAZARDOUS MATERIAL. THE REMOVAL OF WHICH IS NOT ADDRESSED IN THE PROJECT PLANS.
- AND SPECIFICATIONS OR THE CONTRACT WITH THE OWNER/DEVELOPER, THE CONTRACTOR MUST IMMEDIATELY CEASE ALL WORK IN THE AREA OF DISCOVERY, AND IMMEDIATELY NOTIFY, IN WRITING AND VERBALLY, THE OWNER AND ENGINEER OF RECORD AND BOHLER, THE DISCOVERY OF SUCH MATERIALS TO PURSUE PROPER AND COMPLIANT REMOVAL OF SAME.

THE CONTRACTOR MUST NOT PERFORM ANY EARTH MOVEMENT ACTIVITIES DEMOLITION OR REMOVAL OF FOLINDATION WALLS FOOTINGS OR

- OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE. UNLESS SAME IS IN STRICT ACCORDANCE AND CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, OR PURSUANT TO THE WRITTEN DIRECTION OF THE OWNER'S STRUCTURAL OR GEOTECHNICAL ENGINEER.
- 12. DEMOLITION ACTIVITIES AND EQUIPMENT MUST NOT USE OR INCLUDE AREAS OUTSIDE THE DEFINED PROJECT LIMIT LINE. WITHOUT SPECIFIC WRITTEN PERMISSION AND AUTHORITY OF AND FROM THE OWNER AND ALL GOVERNMENTAL AGENCIES WITH JURISDICTION.
- THE CONTRACTOR MUST BACKFILL ALL EXCAVATION RESULTING FROM, OR INCIDENTAL TO, DEMOLITION ACTIVITIES. BACKFILL MUST BE ACCOMPLISHED WITH APPROVED BACKFILL MATERIALS AND MUST BE SUFFICIENTLY COMPACTED TO SUPPORT ALL NEW IMPROVEMENTS AND MUST BE PERFORMED IN COMPLIANCE WITH THE RECOMMENDATIONS AND GUIDANCE ARTICULATED IN THE GEOTECHNICAL REPORT. BACKFILLING MUST OCCUR IMMEDIATELY AFTER DEMOLITION ACTIVITIES AND MUST BE PERFORMED SO AS TO PREVENT WATER ENTERING THE EXCAVATION. FINISHED SURFACES MUST BE GRADED TO PROMOTE POSITIVE DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR COMPACTION TESTING AND MUST SUBMIT SUCH REPORTS AND RESULTS TO THE ENGINEER OF RECORD AND THE OWNER.
- 14. EXPLOSIVES MUST NOT BE USED WITHOUT PRIOR WRITTEN CONSENT FROM BOTH THE OWNER AND ALL APPLICABLE. NECESSARY AND REQUIRED SOVERNMENTAL AUTHORITIES. PRIOR TO COMMENCING ANY EXPLOSIVE PROGRAM AND/OR ANY DEMOLITION ACTIVITIES, THE CONTRACTOR MUST ENSURE AND OVERSEE THE INSTALLATION OF ALL OF THE REQUIRED PERMIT AND EXPLOSIVE CONTROL MEASURES THAT THE FEDERAL, STATE, AND LOCAL GOVERNMENTS REQUIRE. THE CONTRACTOR IS ALSO RESPONSIBLE TO CONDUCT AND PERFORM ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES AND THE LIKE.
- DUST AND DIRT RISING AND SCATTERING IN THE AIR. AFTER THE DEMOLITION IS COMPLETE, THE CONTRACTOR MUST CLEAN ALL ADJACENT STRUCTURES AND IMPROVEMENTS TO REMOVE ALL DUST AND DEBRIS WHICH THE DEMOLITION OPERATIONS CAUSE. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION AT CONTRACTOR'S SOLE COST. 16. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF

15. IN ACCORDANCE WITH FEDERAL, STATE, AND/OR LOCAL STANDARDS, THE CONTRACTOR MUST USE DUST CONTROL MEASURES TO LIMIT AIRBORNE

- EXCAVATION. STOCKPILING OF DEBRIS OUTSIDE OF APPROVED AREAS WILL NOT BE PERMITTED, INCLUDING BUT NOT LIMITED TO, THE PUBLIC THE CONTRACTOR MUST MAINTAIN A RECORD SET OF PLANS WHICH INDICATES THE LOCATION OF EXISTING LITHLITIES THAT ARE CAPPED ABANDONED IN PLACE, OR RELOCATED DUE TO DEMOLITION ACTIVITIES. THIS RECORD DOCUMENT MUST BE PREPARED IN A NEAT AND
- 18. THE CONTRACTOR MUST EMPTY OF EAN AND REMOVE FROM THE SITE ALL LINDERGROUND STORAGE TANKS, IF ENCOUNTERED, IN ACCORDANCE WITH FEDERAL. STATE, COUNTY AND LOCAL REQUIREMENTS, PRIOR TO CONTINUING CONSTRUCTION IN THE AREA AROUND THE TANK WHICH EMPTYING, CLEANING AND REMOVAL ARE AT THE CONTRACTOR'S SOLE COST.

(Rev. 1/2020)

ACCESSIBILITY DESIGN GUIDELINES

- 1 ALL ACCESSIBLE (A K.A. ADA) COMPONENTS AND ACCESSIBLE ROLITES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF (A) THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 ET SEQ. AND 42 U.S.C. § 4151 ET SEQ.); AND (B) ANY APPLICABLE LOCAL AND STATE GUIDELINES. AND ANY AND ALL AMENDMENTS TO BOTH. WHICH ARE IN EFFECT WHEN THESE PLANS WERE
- 2. THE CONTRACTOR MUST REVIEW ALL DOCUMENTS REFERENCED IN THESE NOTES FOR ACCURACY, COMPLIANCE AND CONSISTENCY WITH INDUSTRY GUIDELINES.
- THE CONTRACTOR MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ACCESSIBLE (ADA) COMPONENTS AND ACCESSIBLE ROUTES FOR THE SITE. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL MUST COMPLY WITH THE ACCESSIBLE GUIDELINES AND REQUIREMENTS WHICH INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING
 - A PATH OF TRAVEL ALONG ACCESSIBLE ROUTE MUST PROVIDE A 36-INCHES MINIMUM WIDTH (48-INCHES PREFERRED). OR AS SPECIFIED BY THE GOVERNING AGENCY. UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS) MUST NOT REDUCE THIS MINIMUM WIDTH. THE SLOPE MUST NOT EXCEED 1:20 (5.0%) IN THE DIRECTION OF TRAVEL AND MUST NOT EXCEED 1:50 (2.0%) IN CROSS SLOPE. WHERE ACCESSIBLE PATH OF TRAVEL IS GREATER THAN 1:20 (5.0%). AN ACCESSIBLE RAMP MUST BE PROVIDED. ALONG THE ACCESSIBLE PATH OF TRAVEL OPENINGS MUST NOT EXCEED 1/2-INCH IN WIDTH. VERTICAL CHANGES OF UP TO 1/2-INCH ARE PERMITTED ONLY IF THEY INCLUDES A 1/4-INCH BEVEL AT A SLOPE NOT STEEPER THAN 1:2. NO VERTICAL CHANGES OVER 1/4-INCH ARE PERMITTED.
- B. ACCESSIBLE CURB RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%). WHERE FLARED SIDES ARE PROVIDED, THEY MUST NOT EXCEED 1:10 (10%) SLOPE. LEVEL LANDING MUST BE PROVIDED AT RAMPS TOP AT A MINIMUM OF 36-INCHES LONG (48-INCHES PREFERRED). IN ALTERATIONS, WHEN THERE IS NO LANDING AT THE TOP, <u>FLARE SIDES</u> SLOPES MUST NOT EXCEED A SLOPE OF 1:12 (8.3%).
-). THE CONTRACTOR MUST VERIFY ALL OF THE SLOPES OF THE CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-CONFORMANCE EXISTS OR IS ORSERVED OR DISCOVERED. THE CONTRACTOR MUST IMMEDIATELY NOTICY THE ENGINEER OF RECORD. IN WRITING, PRIOR TO POURING CONCRETE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND/OR REPLACE NON-CONFORMING CONCRETE AND/OR PAVEMENT SURFACES.
- 4. IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION TO ENSURE SAME IS CONSISTENT WITH THE LOCAL BUILDING CODE PRIOR TO COMMENCING CONSTRUCTION.

DRAINAGE AND UTILITY NOTES

THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN. AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES. IN THEIR

LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE. AND THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM THOSE LOCATIONS AND SERVICES WITH LOCAL LITILITY COMPANIES PRIOR TO COMMENCING ANY CONSTRUCTION OR EXCAVATION. THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM ALL SANITARY CONNECTION POINTS AND ALL OTHER UTILITY SERVICE CONNECTION POINTS IN THE FIELD, PRIOR TO COMMENCING ANY CONSTRUCTION. THE CONTRACTOR MUST REPORT ALL DISCREPANCIES, ERRORS AND

ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS'

- THE CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC. SANITARY AND STORM, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE. WHICHEVER IS GREATER. THE CONTRACTOR MUST USE. REFER TO. AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL OF THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY XISTING UTILITIES WHICH OCCUR DURING CONSTRUCTION, AT NO COST TO THE OWNER AND AT CONTRACTOR'S SOLE COST AND EXPENSE. THE
- CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES WHICH OCCURS DURING CONSTRUCTION THE CONTRACTOR MUST FIELD VERIFY THE PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES BY USING A TEST
- PIT TO CONFIRM EXACT DEPTH. PRIOR TO COMMENCEMENT OF CONSTRUCTION. 5. STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON ARCHITECTURAL PLANS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING SITE PLAN DOCUMENTS AND ARCHITECTURAL PLANS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS: GREASE TRAP REQUIREMENTS: AND DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITY SERVICES WITH THE INDIVIDUAL COMPANIES TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REQUIREMENTS OF THE APPLICABLE JURISDICTION AND REGULATORY AGENCIES AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE DOCUMENTS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY
- ALL FILL. COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE EXACTLY AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND THE CONTRACTOR MUST COORDINATE SAME WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS. FILL AND COMPACTION MUST COMPLY WITH APPLICABLE REQUIREMENTS AND SPECIFICATIONS. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR DESIGN OF TRENCH BACKELL R FOR COMPACTION REQUIREMENTS
- DURING THE INSTALLATION OF SANITARY, STORM, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE IN ANY RESPECT, FROM THE INFORMATION CONTAINED IN THESE PLANS. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THE APPROPRIATE PLAN(S). WHICH THE CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER IMMEDIATELY
- 12. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED FINISHED GRADES WITH NO TRIPPING OR SAFETY HAZARD IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

- THE LOCATION OF ALL OF THE ABOVE ON A CLEAN COPY OF A PLAN. WHICH THE CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER UPON
- 15. UNLESS OTHERWISE NOTED, ALL NEW UTILITIES/SERVICES, INCLUDING BUT NOT LIMITED TO ELECTRIC, TELEPHONE, TELECOM, GAS, ETC. MUST BE
- THE CONTRACTOR MUST ENSURE THAT ALL LITILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS, MUST BE REPAIRED IN ACCORDANCE WITH THE REFERENCED MUNICIPAL, COUNTY, AND/OR DOT DETAILS AS APPLICABLE. CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY(IES) HAVING JURISDICTION.
- 17. VARIOUS ASPECTS OF THE UTILITY DESIGNS DEPICTED ON THE PLANS ARE SCHEMATIC IN ORDER TO PROVIDE PLAN CLARITY OR TO CONVEY A STATE AND LOCAL SERVICE PROVIDER OR MANUFACTURER REQUIREMENTS IN ORDER TO ACHIEVE PROPER SITING, OPERATION, CONNECTIONS SEPARATIONS, AND ACCESSES. THE CONTRACTOR SHALL REVIEW THE PLAN SPECIFICATIONS AND PREPARE STRUCTURE DESIGNS THAT INCORPORATE ANY AND ALL INTEGRAL COMPONENTS, SUCH AS TRASH RACKS, GATES, VALVES, INTERNAL OR EXTERNAL LININGS, WATER QUALITY DEVICES SUMPS RESTRAINTS STEPS FRAMES AND GRATES PIPE/CONDUIT CONNECTIONS MATERIALS FTC. SHOULD DISCREPANCIES OR
- THE CONTRACTOR MUST NOTIFY. IN WRITING, THE MUNICIPAL AUTHORITY OF THE UPPER SAUCON TOWNSHIP SEWER AUTHORITY AT LEAST THREE 3) BUSINESS DAYS PRIOR TO INSTALLATION OF THE SANITARY COMPONENTS. FAILURE TO HAVE SANITARY INSTALLATION AND TESTING OBSERVED BY THE UPPER SAUCON TOWNSHIP SEWER AUTHORITY MAY REQUIRE RE-EXCAVATION OF THE SANITARY LINE(S). AND RE-TESTING, WHICH WILL BE
- TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN AND ADJACENT TO THE LIMITS OF PROJECT ACTIVITIES. THE CONTRACTOR MUST USE AND

 20. SANITARY SEWERS CROSSING STREAMS SHALL BE CONFIGURED TO BE NEARLY PERPENDICULAR TO THE STREAM AND SHALL BE PROVIDED WITH A ENCASEMENT. IN OTHER WET AREAS, SUCH AS WETLANDS, FLOODPLAINS, OR ALLUVIAL AREAS, ADDITIONAL MEASURES MAY BE REQUIRED, SUCH AS CONCRETE ENCASEMENTS OR ANTI-SEEP COLLARS AS SPECIFIED ON THE PLANS OR AS REQUIRED BY THE MUNICIPAL AUTHORITY OF THE BOROUGH OF COOPERSBURG.
 - . UNLESS OTHERWISE NOTED, SANITARY MAINS SHALL BE SDR 26 PVC FOR NORMAL DEPTHS AND DUCTILE IRON PIPE (DIP) WHERE ANY PORTION OF A SEWER SEGMENT IS 15' IN DEPTH OR GREATER. SANITARY LATERALS SHALL BE SDR 26 PVC UNLESS INDICATED IN WRITING OTHERWISE
 - 22. ALL SEWER MAINS AND LATERALS SHALL HAVE A MINIMUM COVER OF FOUR FEET (4'), AS MEASURED FROM THE TOP OF THE PIPE TO THE PROPOSED
 - FOUR INCHES (4") SHALL NOT NEED TO BE LARGER THAN FOUR INCHES (4")
 - MAINS BY A DISTANCE OF AT LEAST TEN FEET (10') HORIZONTALLY. IF SUCH HORIZONTAL SEPARATION IS NOT POSSIBLE, THE PIPES MUST BE IN SEPARATE TRENCHES WITH AT LEAST 18" BELOW THE BOTTOM OF THE WATER MAIN, OR SUCH OTHER SEPARATION AS APPROVED BY THI GOVERNING AGENCY WITH JURISDICTION OVER SAME. WHERE APPROPRIATE SEPARATION IS NOT POSSIBLE. THE SEWER MUST BE ENCASED IN CONCRETE OR CONSTRUCTED OF DIP USING MECHANICAL OR SUP-ON JOINTS FOR A DISTANCE OF AT LEAST TEN FEET (10') ON FITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER MUST BE PROVIDED.
 - 25. NO PLANTINGS SHALL BE LOCATED WITHIN TEN FEET (10') OF SANITARY SEWER MAINS OR LATERALS.

 - 27. A MINIMUM OF FOUR FEET (4') OF HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN STORM STRUCTURES AND OTHER UTILITIES. A MINIMUM OF 18" OF VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN WATER MAIN AND STORM SEWER.
 - 28. UNLESS SPECIFIC MUNICIPAL DETAILS DICTATE OTHERWISE, ALL STORM STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT REVISION OF PENNDOT PUBLICATION 408 - "SPECIFICATIONS", PUBLICATION 72M - "STANDARDS FOR ROADWAY CONSTRUCTION"
 - THE CONTRACTOR SHALL HAVE SHOP DRAWINGS PREPARED FOR ALL STORM STRUCTURES. IN THE CASE WHERE CONFLICTS EXIST BETWEEN THE PLANS AND THE SHOP DRAWINGS, THE CONTRACTOR SHALL NOTIFY BOHLER IMMEDIATELY IN WRITING.
 - 30. ALL INLETS SHALL BE PROVIDED WITH BICYCLE SAFE GRATES.

HE ENTITY WITH JURISDICTION OVER THE PROJECT

- 2. WATER SERVICE SHALL BE PROVIDED BY THE THE MUNICIPAL AUTHORITY OF THE BOROUGH OF COOPERSBURG AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPAL AUTHORITY OF THE BOROUGH OF COOPERSBURG'S STANDARD SPECIFICATIONS.
- WORKMAN-LIKE MANNER AND TURNED OVER TO THE OWNER/DEVELOPER UPON COMPLETION OF THE WORK, ALL OF WHICH IS AT THE
 - 34. ALL WATER MAINS AND SERVICE LINES SHALL HAVE A MINIMUM COVER OF FOUR FEET (4'), AS MEASURED FROM THE TOP OF THE PIPE TO THE PROPOSED SURFACE ELEVATION.
 - 18" OF VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN WATER MAIN AND STORM SEWER.
 - 36. WATER JOINTS SHALL BE MECHANICAL JOINTS WITH THRUST BLOCKING AT ALL CHANGES IN DIRECTION, AND/OR AS DEFINED IN THE SPECIFICATIONS/DETAILS

SITE LAYOUT NOTES

- SPECIFIC NOTES. PRIOR TO THE COMMENCEMENT OF GENERAL CONSTRUCTION. THE CONTRACTOR MUST INSTALL SOIL EROSION CONTROL AND ANY STORMWATER
- POLITION PREVENTION PLAN (SWPPP) MEASURES NECESSARY AS INDICATED ON THE APPROVED SOIL FROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH APPLICABLE AND/OR APPROPRIATE AGENCIES' GUIDELINES TO PREVENT SEDIMENT AND/OR LOOSE DEBRIS FROM WASHING ONTO ADJACENT PROPERTIES OR THE RIGHT OF WAY.
- THE LOCATIONS OF PROPOSED UTILITY POLES AND TRAFFIC SIGNS SHOWN ON THE PLANS ARE SCHEMATIC AND PRELIMINARY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD-VERIFYING THEIR LOCATION. THE CONTRACTOR MUST COORDINATE THE RELOCATION OF TRAFFIC SIGNS WITH
- ALL DIMENSIONS SHOWN ARE TO BOTTOM FACE OF CURB EDGE OF PAVEMENT OR EDGE OF BUILDING EXCEPT WHEN DIMENSION IS TO A PROPERTY LINE, STAKE OUT OF LOCATIONS OF INLETS, LIGHT POLES, ETC. MUST BE PERFORMED IN STRICT ACCORDANCE WITH THE DETAILS, UNLESS NOTED CLEARLY OTHERWISE

GRADING NOTES

AMENDMENTS OR REVISIONS THERETO.

NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES. IN THEIR ENTIRETY, TH CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.

- SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AS REFERENCED IN THIS PLAN SET. IF NO GEOTECHNICAL REPORT HAS BEEN REFERENCED, THE CONTRACTOR MUST HAVE A GEOTECHNICAL ENGINEER PROVIDE WRITTEN SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO THE CONTRACTOR COMMENCING THE GRADING WORK THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS OF ALL MUNICIPAL. COUNTY. STATE. AND FEDERAL LAWS. WHICH HAVE JURISDICTION OVER THIS
- THE CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. THE CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO THE ENGINEER OF RECORD AND THE OWNER PRIOR TO THE CONTRACTOR COMMENCING ANY WORK
- THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. SHOULD DISCREPANCIES BETWEEN THE PLANS AND INFORMATION OBTAINED THROUGH FIELD VERIFICATIONS BE
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. THE CONTRACTOR MUST COMPACT ALL EXCAVATED OR FILLED AREAS IN STRICT ACCORDANCE WITH THE GEOTECHNICA REPORT'S GUIDANCE. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED. THIS REPORT MUST VERIFY THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS. RULES. STATUTES LAWS ORDINANCES AND CODES WHICH ARE IN FEFECT AND WHICH ARE APPLICABLE TO THE PROJECT. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER. OF OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE MUST BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL, COMPACTED AS THE GEOTECHNICAL REPORT DIRECTS. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY
- IN THE EVENT OF A DISCREPANCY(IES) AND/OR A CONFLICT(S) BETWEEN PLANS, OR RELATIVE TO OTHER PLANS, THE GRADING PLAN TAKES PRECEDENCE AND CONTROLS. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCY(IES) AND/OR CONFLICT(S)
- THE CONTRACTOR IS RESPONSIBLE TO IMPORT FILL OR EXPORT EXCESS MATERIAL AS NECESSARY TO CONFORM TO THE PROPOSED GRADING. AND T BACKFILL EXCAVATIONS FOR THE INSTALLATION OF UNDERGROUND IMPROVEMENTS

SITE SPECIFIC PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 8" ABOVE PAVEMENT GRADE UNLESS OTHERWISE NOTED.

IDENTIFIED OR EXIST, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING.

- THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE IS PROVIDED IN BOTH PAVED AND LAWN AREAS AFTER CONSTRUCTION. THE MINIMUM SLOPES FOR IMPROVEMENTS ARE 1% ON ALL CONCRETE SURFACES, 1.5% MINIMUM IN ASPHALT (EXCEPT WHERE ADA LIMITS SLOPE), AND 2% IN LAWN AREAS. ANY LOCALIZED DEPRESSIONS MUST BE ELIMINATED.
- SCHEMATIC DUE TO A GENERIC BUILDING FOOTPRINT. THE GRADES MUST BE ADJUSTED BASED ON FINAL ARCHITECTURAL PLANS TO PROVIDE THE MINIMUM REVEAL AS REQUIRED BY THE ARCHITECT AND TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING. ALL GRADING AND MINIMUM SLOPES AND SEPARATIONS MUST COMPLY WITH THE LATEST LOCAL AND STATE BUILDING CODES AND ALL OTHER APPLICABLE REQUIREMENTS. RULES. STATUTES
- PROVIDED. ALL DISCHARGES MUST BE CONNECTED TO THE STORM SEWER OR OTHERWISE PROTECTED FROM CAUSING SURFACE RUNOFF EROSION.

13. ALL SLOPES 3:1 OR GREATER SHALL BE STABILIZED IN ACCORDANCE WITH THE PLANS OR GEOTECHNICAL SPECIFICATIONS.

- THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A GEOTECHNICAL ENGINEER AND IMPLEMENT RECOMMENDED STABILIZATION MEASURES FOR ANY CUT SLOPES IN EXCESS OF 2:1 AND/OR FILL SLOPES IN EXCESS OF 3:1.
- THE TOP AND BOTTOM OF WALL ELEVATIONS (TW & BW) REPRESENT THE PROPOSED FINISHED GRADE AT THE FACE OF THE WALL AND DO NOT REPRESENT THE ELEVATION OF THE PROPOSED WALL, WHICH MAY INCLUDE CAP UNITS AND FOOTINGS. WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR BASED ON FINAL STRUCTURE DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE THAT THE WALLS SHOWN

HEREON MUST BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER AND THAT SIGNED AND SEALED SHOP DRAWINGS ARE APPROVED BY TH

MUNICIPALITY PRIOR TO THEIR CONSTRUCTION. ADDITIONALLY, THE CONTRACTOR SHALL ENSURE THAT FENCING, GUIDERAIL, UTILITIES, AND OTHER SITE

ALL DISTURBED TOPSOIL ON THE SITE IS TO BE REDISTRIBUTED ON SITE IN AREAS NOT COVERED BY IMPERVIOUS SURFACES. REMOVAL OF TOPSOIL IS NOT ALLOWED, UNLESS OTHERWISE SPECIFIED BY THE SITE GEOTECHNICAL ENGINEER DUE TO THE SOIL'S UNSUITABILITY FOR PLACEMEN'

FEATURES IN THE VICINITY OF THE WALL(S). SHALL BE CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGNS (BY OTHERS).

16. INDIVIDUAL LOT GRADING SHALL BE REVIEWED AND APPROVED PRIOR TO ISSUING BUILDING PERMITS

SITE SPECIFIC NOTES

- EXISTING PROPERTY INFORMATION UPI #642327128420-1 AND UPI#642317988919-1 WEST STATE STREET
- COOPERSBURG BOROUGH LEHIGH COUNTY, PA ZONED R-1
- 2 OWNERS: UPI #624327128420-1 JERRY D. KRATZ IRREVOCABLE TRUST
- 1030 W STATE STREET, COOPERSBURG, PA 18036 UPI #642317988919-1
- ROBERT S. AND MEGAN R. VANINGEN 1050 W STATE STREET, COOPERSBURG, PA 18036 APPLICANT / DEVELOPER:
- REYNOLDS ACQUISITIONS, L.P. TOWN PIKE, NORTH WALES, PA 19454
- HORIZONTAL DATUM IS BASED ON PENNSYLVANIA STATE PLANE SOUTH COORDINATES, NAD 83, VERTICAL DATUM IS NAVD 1988, BENCHMARKS
- TBM-A: MAG NAIL SET IN ASPHALT: ELEVATION = 536.34 TBM-B: MAG NAIL SET IN CONCRETE CURB; ELEVATION = 512.01
- TBM-C: MAG NAIL SET IN CONCRETE WALK; ELEVATION = 509.20
- THE WETLANDS DELINEATION LINES WERE PLACED IN THE FIELD BY OTHERS AND FIELD LOCATED BY CONTROL POINT ASSOCIATES, INC. ON 7-24-2019. BY GRAPHIC PLOTTING ONLY, THE PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE FLOOD INSURANCE RATE MAP (FIRM) NUMBER 42077C0269F, EFFECTIVE 7-16-2004.
- 7. ALL PROPOSED PINS AND MONUMENTS SHALL BE PLACED AND CERTIFIED BY A LICENSED PENNSYLVANIA PROFESSIONAL SURVEYOR.
- THE AREA BETWEEN THE RIGHT-OF-WAY LINES OF ASHFORD DRIVE SHALL BE OFFERED FOR DEDICATION TO COOPERSBURG BOROUGH. THE AREA BETWEEN THE TITLE LINE AND ULTIMATE RIGHT-OF-WAY LINE OF STATE STREET SHALL BE OFFERED FOR DEDICATION TO THE AGENCY HAVING
- 10. THE HOMEOWNER'S ASSOCIATION SHALL HAVE THE RESPONSIBILITY FOR THE PERPETUAL MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT FACILITIES. NO CHANGES SHALL BE MADE TO THE STORM SEWER AND STORMWATER MANAGEMENT FACILITIES OR FINISH GRADING WITHOUT PRIOR WRITTEN APPROVAL FROM THE ROROUGH. A REANKET FASEMENT IS HERERY GRANTED GIVING COOPERSRURG ROROUGH THE RIGHT. RUT NOT THE OBLIGATION TO ENTER THE PROPERTY TO PERFORM ANY REQUIRED MAINTENANCE WHICH HAS NOT BEEN PROPERLY PERFORMED IN A TIME! MANNER. THE HOMEOWNERS SHALL BE RESPONSIBLE FOR THE COST OF ANY MAINTENANCE WHICH IS PERFORMED BY BOROUGH. THE BOROUGH SHALL LIEN THE PROPERTY FOR SAID COSTS UNTIL THE BOROUGH HAS BEEN REIMBURSED IN FULL. THE MUNICIPALITY SHALL BE GRANTED RIGHT-OF-ENTRY THA SHALL EXTEND TO DULY AUTHORIZE EMPLOYEES OR REPRESENTATIVES OF THE MUNICIPALITY AND OTHER GOVERNMENTAL AGENCIES. THE PURPOSE OF
- ASSOCIATION 11. EASEMENTS AS INDICATED ON THE SITE PLANS SHALL BE GRANTED TO COOPERSBURG BOROUGH FOR ACCESS, MAINTENANCE, REPAIR AND REPLACEMENT OR CONSTRUCTION OF THE SANITARY SEWER MAINS AND STRUCTURES.
- 12. EASEMENTS AS INDICATED ON THE SITE PLANS SHALL BE GRANTED TO COOPERSBURG MUNICIPAL AUTHORITY FOR ACCESS, MAINTENANCE, REPAIR AND REPLACEMENT OR CONSTRUCTION OF THE WATER APPURTENANCES. MAINS AND STRUCTURES.

THE RIGHT-OF-ENTRY SHALL BE TO INSPECT, INVESTIGATE, OR ASCERTAIN WHETHER MAINTENANCE IS BEING PROPERLY PROVIDED BY THE HOMEOWNER'S

- ALL OPEN SPACE SHALL BE OFFERED FOR DEDICATION TO COOPERSBURG BOROUGH. IF THE BOROUGH DOES NOT ACCEPT, THE HOMEOWNER'S ASSOCIATION SHALL HAVE THE RESPONSIBILITY FOR THE MAINTENANCE OF OPEN SPACE AREAS & COMMON AREAS, PER THE HOMEOWNER'S ASSOCIATION
- 14. COMMON OPEN SPACE SHALL NOT BE SEPARATELY SOLD AND SHALL NOT BE DEVELOPED OR SUBDIVIDED
- 15. LOT 22 TO BE DEEDED TO ROBERT S. AND MEGAN R. VANINGEN. 16. AN EASEMENT ENCOMPASSING NON-BUILDING LOT 24 SHALL BE GRANTED TO COOPERSBURG BOROUGH FOR THE MAINTENANCE OF THE LOT.

17. AN EASEMENT ENCOMPASSING THE EMERGENCY ACCESS TRAIL FOR ACCESS RIGHTS SHALL BE GRANTED TO COOPERSBURG BOROUGH.

- NO PERSON SHALL INSTALL, CREATE, MODIFY, REMOVE, FILL, LANDSCAPE OR OTHERWISE ALTER OR PLACE AND STRUCTURE OR VEGETATION IN ANY STORMWATER BMP OR WITHIN A DRAINAGE EASEMENT WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.
- 19. LOT 23 IS A NON-BUILDING LOT. THIS LOT WILL BE FENCED IN AND REMAIN IN CURRENT CONDITION. THE APPLICANT IS NOT PURCHASING LOT 23. TI CURRENT PROPERTY OWNER WILL RETAIN OWNERSHIP OF LOT 23.
- 20. THE DRAINAGE EASEMENTS SHOWN ON THE SITE PLAN ARE IN ACCORDANCE WITH SALDO SECTION 195-21B.(9). 21. INDIVIDUAL LOT GRADING PLANS SHALL BE REVIEWED AND APPROVED BY COOPERSBURG BOROUGH PRIOR TO THE ISSUANCE OF BUILDING PERMITS.
- 22. THE OWNER OF LOT 22 SHALL HAVE ACCESS TO MAINTAIN THEIR WELL/WELL CAP WITHIN THE PUBLIC SIDEWALK AREA. THE WELL AND WELL CAP SHALL BE PROTECTED IN ACCORDANCE WITH PADEP REQUIREMENTS. 23. THE APPLICANT AND HIS CONTRACTOR ARE REQUIRED TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE BOROUGH ENGINEER AND THE BOROUGH OF COOPERSBURG PRIOR TO COMMENCEMENT OF WORK. THE APPLICANT AND HIS CONTRACTOR ARE RESPONSIBLE FOR PROVIDING A MINIMUM OF 3

AND REPLACED, AT NO COST TO THE BOROUGH OF COOPERSBURG, UNDER THE CONSTRUCTION OBSERVATION OF THE BOROUGH ENGINEER

REFERENCES AND CONTACT INFORMATION

BUSINESS DAYS-NOTICE TO THE BOROUGH ENGINEER OFFICE AT 610.373.8001 TO SCHEDULE INSPECTIONS OF ALL ESCROWED ITEMS. IF ESCROWED ITEMS.

ARE INSTALLED. PLACED OR CONSTRUCTED WITHOUT THE REQUIRED NOTICE AND INSPECTION. THEN THE ITEMS WILL NEED TO BE REMOVED IN TOTALITY

PLANS BY CONTROL POINT ASSOCIATES, INC. 1600 MANOR DRIVE, SUITE 100, CHALFONT, PA 18914 ENTITLED: "ALTA/NSPS LAND TITLE SURVEY REYNOLDS ACQUISITIONS, L.P." FILE NO: 02-190222-00

DATED: 7/10/19, LAST REVISED 2/28/22

PROJECT: PC191160

DATED: 08/06/2021

- SHEETS 1-2 OF 2 SWM REPORT A REPORT BY BOHLER ENGINEERING 1600 MANOR DRIVE, SUITE 200, CHALFONT, PA 18914 ENTITLED: "GENERAL PROJECT DESCRIPTION AND STORMWATER MANAGEMENT CALCULATIONS'
- THE ABOVE REFERENCED DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THESE PLANS, HOWEVER, BOHLER ENGINEERING DOES NOT CERTIFY THE ACCURACY OF THE WORK

(Rev. 2/2021)

(Rev. 1/2020)

REVISIONS

REV	DATE	COMMENT	DRAWN BY	
KEV	DATE	COMINENT	CHECKED BY	
1	06/07/2022	REV. PER BOROUGH	AMT	
!	00/01/2022	COMMENTS	REK	
2	08/18/2022	REV. PER LCCD	EN/MS	
4	00/10/2022	COMMENTS	JP	
3	01/06/2023	REV. PER LCCD	BG/EN	
3		01/00/2023	COMMENTS	JP
4	01/27/2023	REV. PER BOROUGH	SR	
4	01/2//2023	COMMENTS	JP	
5	03/16/2023	03/16/2023	REV. PER LCCD	EAN
,	03/10/2023	COMMENTS	JP	
6	10/06/2023	REV. PER CLIENT	BG / LB	
0	10/00/2023	COMMENTS	JP	
7	01/19/2024	REV. PER BOROUGH /	EAN	
	01/13/2024	CLIENT COMMENTS	JRP	



PROJECT No. DRAWN BY: 08/06/20 CAD I.D.: PC191160-CND

PRELIMINARY | FINAL

PROJECT:

PLANS FOR ——

LAND DEVELOPMENT

REYNOLDS

PENNSYLVANIA

18036

ACQUISITIONS, L.P. PROPOSED RESIDENTIAL DEVELOPMENT

'ASHFORD PRESERVE' **WEST STATE STREET** COOPERSBURG BOROUGH LEHIGH COUNTY

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100

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:PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE0454796

NEW JERSEY LICENSE No. 24GE04507900

NOTES

SHEET TITLE:

SHEET NUMBER

REVISION 7 - 01/19/2024

UPON THE COMPLETION OF WORK THE DEMOLITION (AND/OR REMOVALS) PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION AND TO IDENTIFY ONLY CONDITIONS REGARDING THE CONTRACTOR MUST ENSURE POSITIVE DRAINAGE AWAY FROM STRUCTURES. WHERE THE GRADING ALONG AND ADJACENT TO A BUILDING ARE ITEMS TO BE DEMOLISHED, REMOVED, AND/OR TO REMAIN. 9. THE CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SANITARY, WATER AND STORM SYSTEMS, ARE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND OR STATE DOT DETAILS AS APPLICABLE. THE CONTRACTOR A. THE CONTRACTOR MUST ALSO REVIEW ALL CONSTRUCTION DOCUMENTS AND INCLUDE WITHIN THE DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS. MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAME OF FINAL LOCATIONS OF PROPOSED UTILITY POLES, AND/ OR POLES TO BE RELOCATED ARE AT THE SOLE DISCRETION OF THE RESPECTIVE UTILITY B. THIS PLAN IS NOT INTENDED TO AND DOES NOT PROVIDE DIRECTION REGARDING THE MEANS, METHODS, SEQUENCING, TECHNIQUES AND LAWS, ORDINANCES, AND CODES. PROCEDURES TO BE EMPLOYED TO ACCOMPLISH THE WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE USED MUST BE IN STRICT ACCORDANCE AND CONFORMANCE WITH ALL STATE FEDERAL LOCAL AND JURISDICTIONAL REQUIREMENTS. THE WHERE SUBGRADE BUILDING AREAS ARE PROVIDED. THE CONTRACTOR MUST DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE . WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY, THE CONTRACTOR CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE FOR THE PROPOSED SUBGRADE BUILDING AREA. WHERE GROUNDWATER IS ENCOUNTERED AT THE ELEVATION OF THE SUBGRADE BUILDING AREA, APPROPRIATE MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION. CONSTRUCTION METHODS SHALL BE EMPLOYED TO PREVENT GROUNDWATER FROM ENTERING THE STRUCTURE(S). IF AND WHERE SUMP PUMPS ARE

NOTIFY THE ENGINEER OF RECORD, IN WRITING, AND PRIOR TO CONSTRUCTION, MUST RESOLVE SAME.

OMISSIONS IN WRITING. TO THE ENGINEER OF RECORD.

SAME BASED UPON FINAL ARCHITECTURAL PLANS

THESE PLANS INVOLVE BUILDINGS THAT MAY BE BUILT AT A LATER DATE. THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING, BUT NOT LIMITED TO STORM, SANITARY, TELECOM, GAS, AND ELECTRIC, AND IRRIGATION LINES TO A POINT AT LEAST FIVE FEET (5') BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR MUST CAP ENDS AS APPROPRIATE, MARK LOCATIONS WITH A STAKE, AND MUST NOTE

INSTALLED UNDERGROUND. ALL NEW UTILITY SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY SERVICE PROVIDERS'

DESIGN INTENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY CONFIGURE ALL STRUCTURES IN ACCORDANCE WITH ALL APPLICABLE CONFLICTS ARISE UPON THE DESIGN OF THESE STRUCTURES OR INCORPORATION OF THE VARIOUS ELEMENTS, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD OR BOHLER IN WRITING.

SANITARY SEWER SERVICE SHALL BE PROVIDED BY THE MUNICIPAL AUTHORITY OF THE UPPER SAUCON TOWNSHIP AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPAL AUTHORITY OF THE UPPER SAUCON TOWNSHIP'S STANDARD SPECIFICATIONS

DONE AT THE SOLE EXPENSE OF THE CONTRACTOR.

CLEANOUTS SHALL BE PROVIDED FOR ALL LATERALS LONGER THAN 75' AND REGARDLESS OF LENGTH. SHALL BE PROVIDED AT ALL CHANGES OF DIRECTION. CLEANOUTS SHALL BE THE SAME SIZE AS THE PIPING SERVED BY CLEANOUT, EXCEPT THAT CLEANOUTS FOR PIPING LARGER THAN 24. SEWERS CONVEYING SANITARY FLOW. COMBINED SANITARY AND STORMWATER FLOW. OR INDUSTRIAL FLOW MUST BE SEPARATED FROM WATER

S LINIESS INDICATED OTHERWISE STORM MAINS MUST BE REINFORCED CONCRETE PIPE (RCP.) CLASS III WITH SOIL TIGHT JOINTS. WHEN HIGH DENSITY POLYETHYLENE PIPE (HDPE) IS SPECIFIED. IT MUST CONFORM TO AASHTO M252 FOR PIPES 4" TO 10" AND TO AASHTO M294 FOR PIPES 12" TO 60" AND BE TYPE S (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR SOIL TIGHT JOINTS. PIPE FOR ROOF DRAINS SHALL BE HDPE, SDR 35 PVC, OR PVC SCHEDULE 40 UNLESS INDICATED OTHERWISE. HDPE PIPE JOINT GASKETS SHALL BE PROVIDED AND CONFORM TO

31. ALL STORM PIPE CONNECTIONS TO STRUCTURES SHALL BE MADE WATER TIGHT

33. THE WATER MAIN PIPING MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL WATER AUTHORITY ABSENT SPECIFIC REQUIREMENTS, WATER MAIN PIPING SHALL BE CEMENT LINED DUCTILE IRON PIPE (DIP) WITH A MINIMUM THICKNESS CLASS 52 ALL PIPE AND APPURTENANCES SHALL COMPLY WITH THE APPLICABLE AWWA STANDARDS IN EFFECT AT THE TIME OF APPLICATION.

35. WATER MAINS AND LATERALS SHALL BE HORIZONTALLY SEPARATED FROM STORM STRUCTURES BY A MINIMUM OF FOUR FEET (4'). A MINIMUM OF

THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS'

ALL DIRECTIONAL/TRAFFIC SIGNING AND PAVEMENT STRIPING MUST CONFORM TO THE LATEST STANDARDS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY APPLICABLE STATE OR LOCALLY APPROVED SUPPLEMENTS, GUIDELINES, RULES, REGULATIONS, STANDARDS

	LOT AREA TABLE								
LOT#	GROSS AREA	LOT WIDTH *	BUILDING COVERAGE	BUILDING COVERAGE %	IMPERVIOUS (AS SHOWN ON LD PLANS)	ADDITIONAL AVAILABLE IMPERVIOUS	TOTAL IMPERVIOUS	TOTAL IMPERVIOUS %	
LOT 1	17,390 SF (0.399 Ac.)	80.0 LF	2,367 SF	13.61 %	3,197 SF	2,178 SF	5,375 SF	30.91 %	
LOT 2	25,833 SF (0.593 Ac.)	80.0 LF	2,367 SF	9.16 %	3,197 SF	2,178 SF	5,375 SF	20.81 %	
LOT 3	12,461 SF (0.286 Ac.)	83.0 LF	2,367 SF	19.00 %	3,414 SF	1,570 SF	4,984 SF	40.00 %	
LOT 4	12,899 SF (0.296 Ac.)	80.0 LF	2,367 SF	18.35 %	3,160 SF	1,995 SF	5,155 SF	39.96 %	
LOT 5	12,863 SF (0.295 Ac.)	80.0 LF	2,367 SF	18.40 %	3,160 SF	1,985 SF	5,145 SF	40.00 %	
LOT 6	12,828 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.45 %	3,160 SF	1,970 SF	5,130 SF	39.99 %	
LOT 7	12,792 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.50 %	3,160 SF	1,950 SF	5,110 SF	39.95 %	
LOT 8	12,757 SF (0.293 Ac.)	80.0 LF	2,367 SF	18.55 %	3,160 SF	1,940 SF	5,100 SF	39.98 %	
LOT 9	12,721 SF (0.292 Ac.)	80.0 LF	2,367 SF	18.61 %	3,160 SF	1,925 SF	5,085 SF	39.97 %	
LOT 10	13,077 SF (0.300 Ac.)	142.2 LF	2,014 SF	15.40 %	2,785 SF	1,900 SF	4,685 SF	35.83 %	
LOT 11	14,335 SF (0.329 Ac.)	104 LF	2,367 SF	16.51 %	3,128 SF	144 SF	3,272 SF	22.83 %	
LOT 12	12,086 SF (0.277 Ac.)	102.0LF	2,367 SF	19.61 %	3,261 SF	1,570 SF	4,831 SF	39.98 %	
LOT 13	12,392 SF (0.284 Ac.)	94.0LF	2,367 SF	19.10 %	3,718 SF	1,230 SF	4,948 SF	39.93 %	
LOT 14	12,800 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.49 %	3,160 SF	1,815 SF	4,975 SF	38.87 %	
LOT 15	12,800 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.49 %	3,160 SF	1,815 SF	4,975 SF	38.87 %	
LOT 16	12,800 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.49 %	3,160 SF	1,815 SF	4,975 SF	38.87 %	
LOT 17	12,800 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.49 %	3,160 SF	1,815 SF	4,975 SF	38.87 %	
LOT 18	12,800 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.49 %	3,160 SF	1,960 SF	5,120 SF	40.00 %	
LOT 19	12,800 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.49 %	3,160 SF	1,960 SF	5,120 SF	40.00 %	
LOT 20	12,800 SF (0.294 Ac.)	80.0 LF	2,367 SF	18.49 %	3,160 SF	1,960 SF	5,120 SF	40.00 %	
LOT 21	14,192 SF (0.326 Ac.)	90.0 LF, 160.0 LF	2,367 SF	16.68 %	3,160 SF	2,178 SF	5,338 SF	37.61 %	
LOT 22	16,985 SF (0.390 Ac.)	87.0 LF, 183.0 LF	1,207 SF	7.41 %	2,599 SF	-	2,599 SF	15.96 %	
LOT 23	48,854 SF (1.122 Ac.)	86.0 LF	-	-	-	-	-	-	

*LOT WIDTH IS MEASURED AT FRONT YARD BUILDING SETBACK LINE.

*FUTURE CONSTRUCTION OF ANY POOLS, SHEDS, PATIOS, ETC. WILL CONTRIBUTE TO THE OVERALL IMPERVIOUS AREA.

*IMPERVIOUS (AS SHOWN ON LD PLANS) INCLUDES DECKS AT THE REAR OF HOUSES.

	PARCEL CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA		
C14	58.00'	25.12'	S79°17'15"W	24.93'	024° 49' 08"		
C21	58.00'	55.90'	N85°52'08"E	53.76'	055° 13' 29"		
C23	58.00'	40.01'	S08°28'07"W	39.22'	039° 31' 29"		
C24	17.00'	10.80'	S10°01'24"W	10.62'	036° 24' 54"		
C28	58.00'	89.13'	N44°16'46"W	80.61'	088° 02' 49"		
C29	58.00'	46.66'	N22°47'24"E	45.41'	046° 05' 31"		
C30	22.00'	20.74'	N18°49'33"E	19.98'	054° 01' 13"		
C31	15.00'	23.56'	N53°11'03"W	21.21'	090° 00' 00"		

DRAI	NAGE EAS	EMENT TABLE
Line #	Length	Direction/Delta
L42	14.39	N49° 15' 29"E
L43	3.48	S68° 36' 55"E
L44	33.68	S88° 49' 16"E
L45	33.22	S84° 42' 38"E
L46	4.97	S08° 07' 31"E
L47	28.90	N84° 05' 17"W
L48	35.73	S87° 07' 01"W
L49	17.17	S87° 53' 28"W
L115	59.65	S08° 11' 16"E
L116	48.93	S67° 02' 24"W
L117	34.45	N71° 03' 50"W
L118	39.63	S84° 17' 55"W
L119	30.33	S69° 42' 29"W
L120	14.79	S79° 57' 39"W
L121	10.40	S89° 04' 58"W
L122	27.34	S77° 37' 15"W
L123	25.12	S88° 15' 33"W
L124	33.06	S62° 58' 20"W
L125	40.22	S54° 23' 16"W
L126	30.72	S50° 09' 34"W
L127	37.93	S36° 06' 30"W
L128	24.02	N72° 46' 41"W
L129	113.25	N07° 51' 58"W
L130	365.33	N80° 30' 26"E

	LOT 24 TABLE								
LINE # / CURVE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	CHORD				
C19	35.11'	003°54'14"	515.34'	N06°13'56"W	35.11'				
C41	24.06'	056°39'30"	24.33'	S33°34'09"E	23.09'				
L66	141.30'	N08° 11' 03"W							
L67	50.83'	N05° 13' 23"W							
L101	0.58'	N84° 46' 39"E							
L103	248.04'	N08° 11' 03"W							
L104	6.66'	S81° 48' 57"W							

LANSBERG	G LOT - TEMPORA	RY GRADING EASEMENT TABLE
LINE#	LENGTH	BEARING / DELTA
L135	148.60'	N08° 11' 03"W
L136	22.74'	S82° 04' 02"W
L137	20.49'	N07° 15' 38"W
L131	37.04'	N82° 44' 22"E
L132	0.38'	N84° 13' 56"E
L133	168.64'	S08° 11' 02"E
L134	15.00'	S82° 04' 46"W

	LANSBERG LOT - ACCESS EASEMENT TABLE					
LINE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	CHORD	
C44	0.87'	000° 05' 50"	515.34	S04° 19' 44"E	0.87'	
L139	8.43'	N79° 10' 29"E				
L140	11.77'	N08° 11' 03"W				
L141	7.80'	S79° 19' 58"W				
L143	10.96'	S05° 13' 23"E				

CENTERLINE TABLE							
LINE # / CURVE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	CHORD		
C2	62.05'	090° 00' 00"	39.50'	S53°11'03"E	55.86'		
С3	34.17'	003° 54' 57"	500.00'	S06°13'34"E	34.16'		
C4	62.83'	090° 00' 00"	40.00'	S53°11'03"E	56.57'		
L1	88.80'	S05° 13' 22"E					
L2	76.84'	S08° 11' 03"E					
L3	84.17'	N81° 48' 57"E					
L4	773.69'	S08° 11' 03"E					

LINE # / CURVE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	СНО
C7	10.80'	036° 24' 54"	17.00'	N63°36'30"E	10.6
C9	24.50'	090° 00' 00"	15.60'	S53°11'03"E	22.0
C12	24.77'	002° 57' 41"	479.33'	S06°42'12"E	24.7
C13	57.86'	094° 43' 10"	35.00'	S42°08'13"W	51.4
C14	25.12'	024° 49' 08"	58.00'	S79°17'15"W	24.9
C19	35.11'	003° 54' 14"	515.34'	N06°13'56"W	35.1
C23	40.01'	039° 31' 29"	58.00'	S08°28'07"W	39.2
C24	10.80'	036° 24' 54"	17.00'	S10°01'24"W	10.6
C24	89.13'	088° 02' 49"	58.00'	N44°16'46"W	80.6
				N22°47'24"E	
C29	46.66'	046° 05' 31"	58.00'		45.4
C30	20.74'	054° 01' 13"	22.00'	N18°49'33"E	19.9
C31	23.56'	090° 00' 00"	15.00'	N53°11'03"W	21.2
C41	24.06'	056° 39' 30"	24.33'	S33°34'09"E	23.0
C48	20.74'	054° 01' 13"	22.00'	S35°11'39"E	19.9
C49	164.83'	162° 49' 48"	58.00'	S53°11'03"E	114.
C51	291.58'	288° 02' 25"	58.00'	S81°48'57"W	68.1
L11	30.98'	S08° 11' 03"E			
L54	64.52'	N81° 48' 57"E			
L55	74.40'	S08° 11' 03"E			
L56	43.24'	S05° 13' 22"E			
L57	138.34'	S81° 48' 57"W			
L64	8.45'	N07° 58' 00"W			
L65	49.99'	S89° 29' 49"W			
L66	141.30'	N08° 11' 03"W			
L67	50.83'	N05° 13' 23"W			
L105	49.76'	N84° 46' 39"E			
L106	34.54'	N89° 29' 49"E			
L154	638.07'	S08° 11' 03"E			
L155	660.95'	N08° 11' 03"W			

	EMERGENCY ACCESS TABLE					
LINE # / CURVE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	CHORD	
C34	29.43'	043° 13' 45"	39.00'	N48°07'09"W	28.73'	
C35	46.42'	060° 27' 07"	44.00'	N56°43'50"W	44.30'	
C36	18.06'	038° 19' 43"	27.00'	S67°47'32"E	17.73'	
C37	12.02'	011° 52' 32"	58.00'	N41°22'20"E	12.00'	
C38	10.03'	038° 19' 43"	15.00'	S67°47'32"E	9.85'	
C39	59.08'	060° 27' 07"	56.00'	S56°43'50"E	56.38'	
C40	13.40'	028° 26' 03"	27.00'	S40°43'18"E	13.26'	
L17	14.62'	S07° 51' 58"E				
L18	24.87'	S26° 30' 16"E				
L19	74.90'	N86° 57' 23"W				
L20	1.28'	N48° 37' 40"W				
L21	1.28'	S48° 37' 40"E				
L22	74.90'	S86° 57' 23"E				
L23	24.87'	N26° 30' 16"W				

SANITARY AND WATER TABLE						
LINE # / CURVE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	CHORD	
C1	18.52'	018° 17' 46"	58.00'	N37°12'25"E	18.44'	
L22	74.90'	S86° 57' 23"E				
L24	8.11'	N82° 08' 02"E				
L25	32.75'	S07° 51' 58"E				
L26	22.13'	S82° 18' 07"W				
L27	15.34'	N52° 56' 28"W				
L28	25.00'	N61° 56' 28"W				
L29	72.40'	S86° 57' 23"E				
L30	44.35'	S62° 26' 32"E				
L31	31.20'	S08° 11' 03"E				
L39	127.62'	N72° 47' 56"W				
L40	40.03'	N08° 11' 03"W				

LOT	LOT 1 SANITARY SEWER EASEMENT TABLE					
LINE # / CURVE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	CHORD	
C46	10.05'	009° 55' 41"	58.00'	N71°28'58"W	10.04'	
L35	24.42'	N89° 29' 49"E				
L36	16.96'	S34° 30' 54"W				
L60	97.36'	S08° 11' 03"E				
L63	63.19'	S23° 28' 53"W				
L147	118.55'	N08° 11' 03"W				
L148	10.76'	N34° 30' 54"E				
L150	42.17'	N23° 28' 53"E				

LOT 2 SANITARY SEWER EASEMENT TABLE						
LINE # / CURVE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	CHORD	
C45	10.05'	009° 13' 38"	62.38'	N61°43'51"W	10.04'	
L36	16.96'	S34° 30' 54"W				
L60	97.36'	S08° 11' 03"E				
L63	63.19'	S23° 28' 53"W				
L144	19.05'	S08° 11' 03"E				
L145	47.84'	S23° 28' 53"W				

LOT 11 SANITARY AND WATER EASEMENT TABLE						
LINE # / CURVE#	LENGTH	BEARING / DELTA	RADIUS	CHORD BEARING	CHORD	
C6	12.71'	012° 33' 09"	58.00'	N21°46'58"E	12.68'	
L28	25.00'	N61° 56' 28"W				
L38	91.99'	S72° 44' 52"E				
L41	8.25'	S08° 11' 03"E				
L50	37.65'	S72° 44' 52"E				
L51	41.86'	N62° 29' 36"W				
L52	70.60'	N86° 57' 23"W				



SITE CIVIL AND CONSULTING E
LAND SURVEYING
PROGRAM MANAGEM
LANDSCAPE ARCHITEC
SUSTAINABLE DESIC

REV	DATE	COMMENT	DRAWN BY	
KEV	DATE	COMMENT	CHECKED BY	
1	06/07/2022	REV. PER BOROUGH	AMT	
1	06/07/2022	COMMENTS	REK	
2	08/18/2022	REV. PER LCCD	EN/MS	
2	00/10/2022	COMMENTS	JP	
2	01/06/2023	REV. PER LCCD	BG/EN	
3	01/06/2023	COMMENTS	JP	
4 0	01/27/2023	04/07/0000	REV. PER BOROUGH	SR
		COMMENTS	JP	
5	03/16/2023	03/16/2023	REV. PER LCCD	EAN
5			COMMENTS	JP
6	10/06/2023	REV. PER CLIENT	BG / LB	
О	10/06/2023	COMMENTS	JP	
7	01/19/2024	REV. PER BOROUGH /	EAN	
1	01/19/2024	CLIENT COMMENTS	JRP	



 PROJECT No.:
 PC191160

 DRAWN BY:
 AMT

 CHECKED BY:
 REK

 DATE:
 08/06/2021

 CAD I.D.:
 PC191160-SPP-0

PROJECT:

PRELIMINARY | FINAL LAND DEVELOPMENT PLANS

REYNOLDS ACQUISITIONS, L.P.

PROPOSED RESIDENTIAL
DEVELOPMENT
'ASHFORD PRESERVE'

WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY PENNSYLVANIA 18036

BOHLER

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

R.E. KLOS, JR.

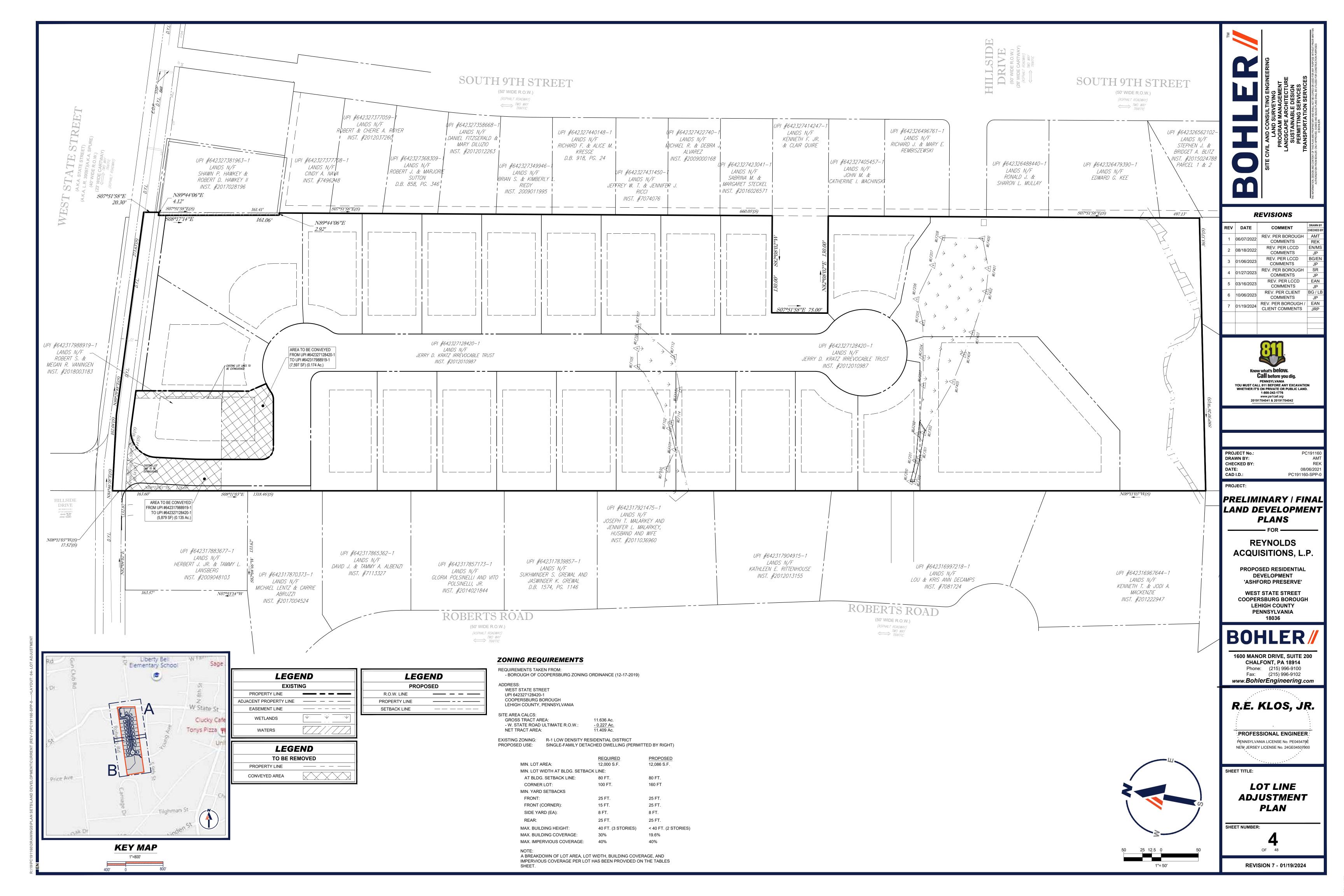
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. PE045479E
NEW JERSEY LICENSE No. 24GE04507900

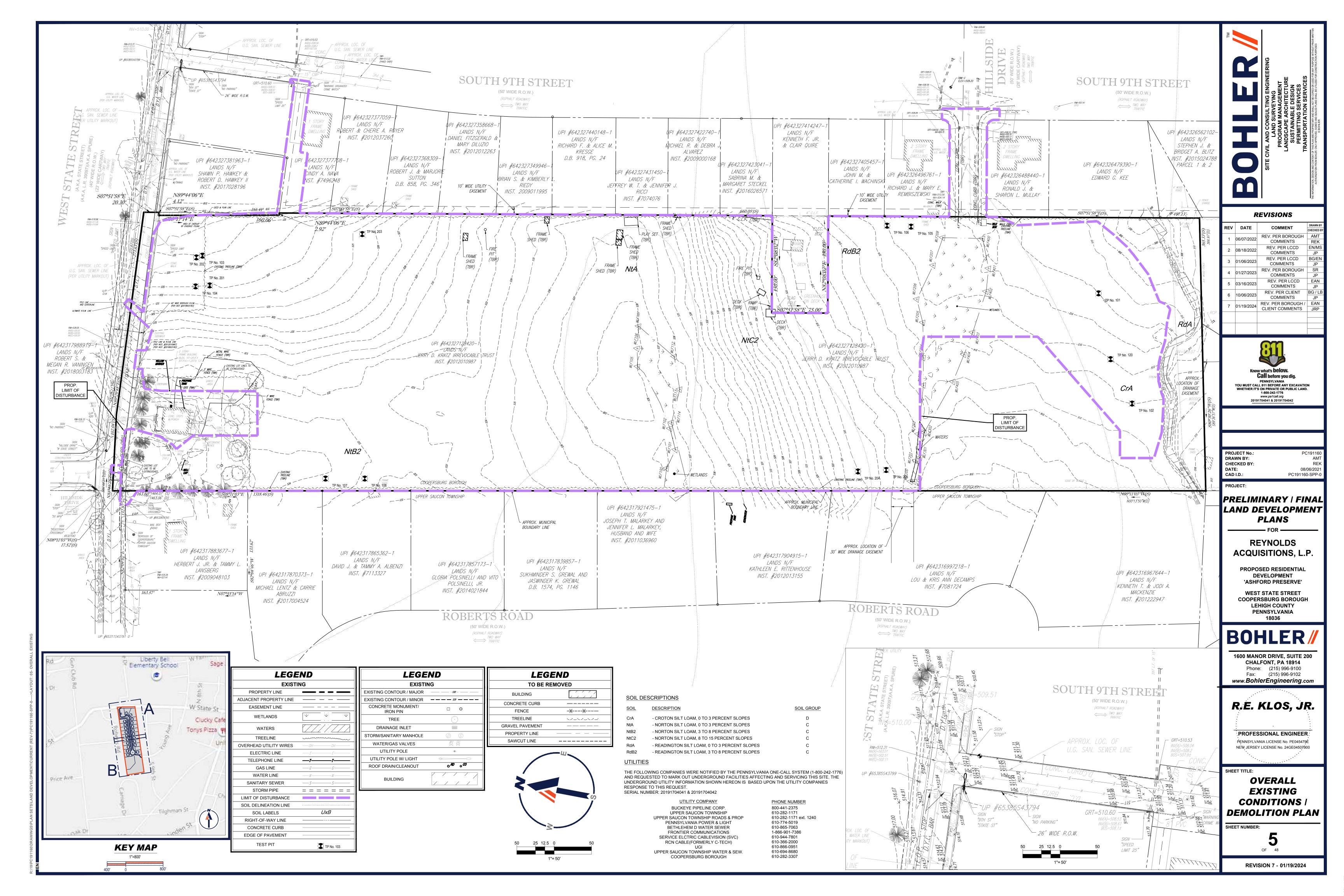
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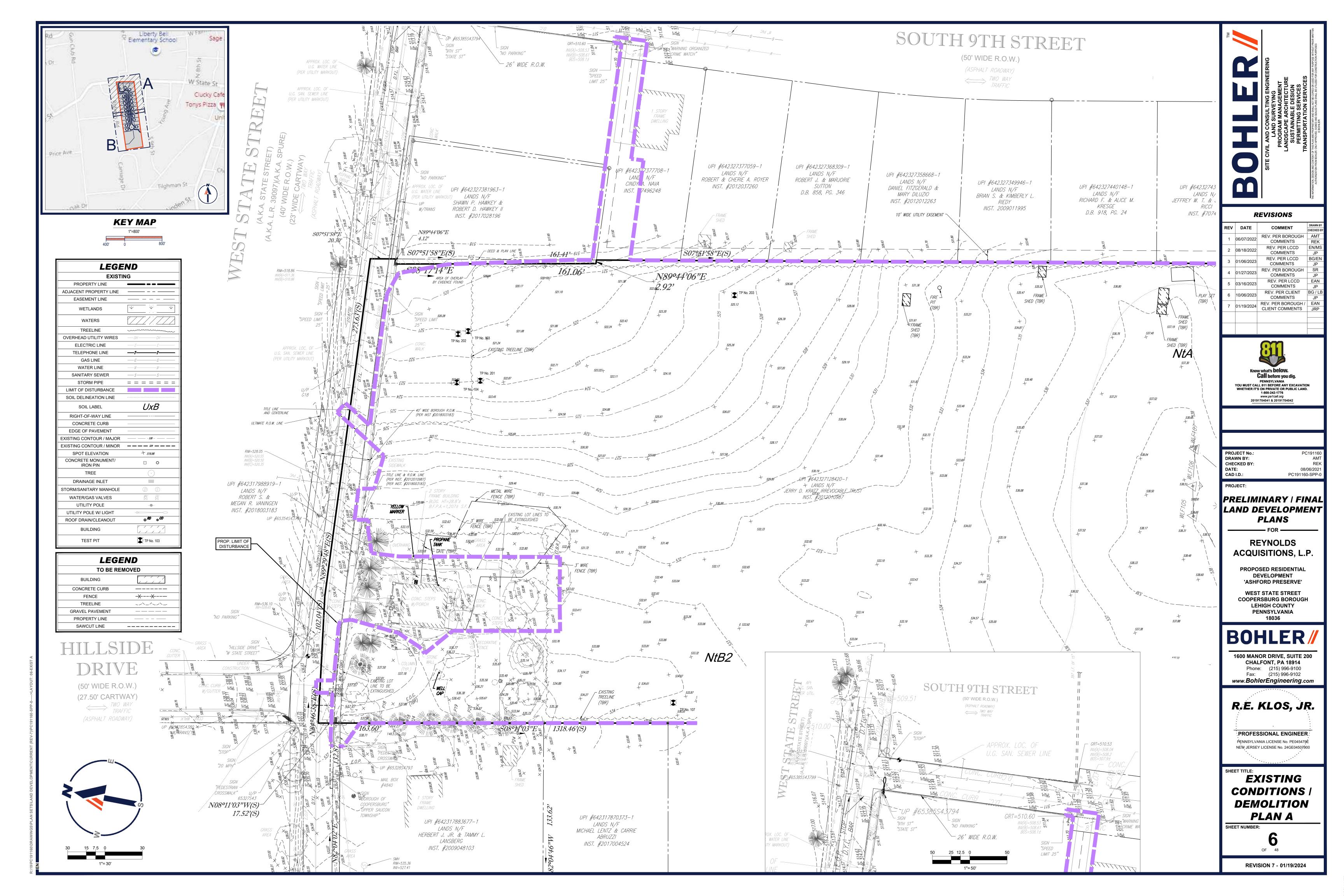
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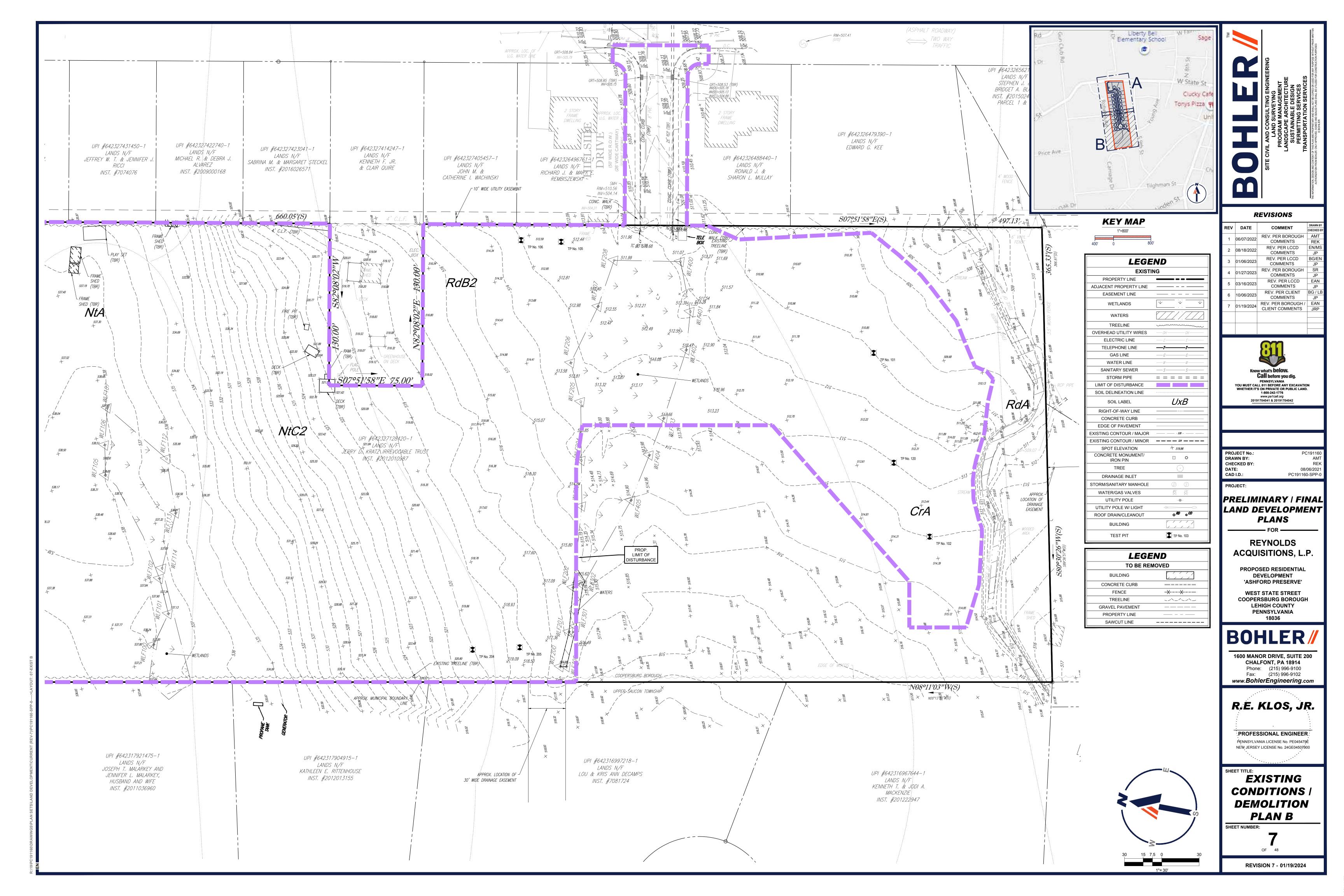
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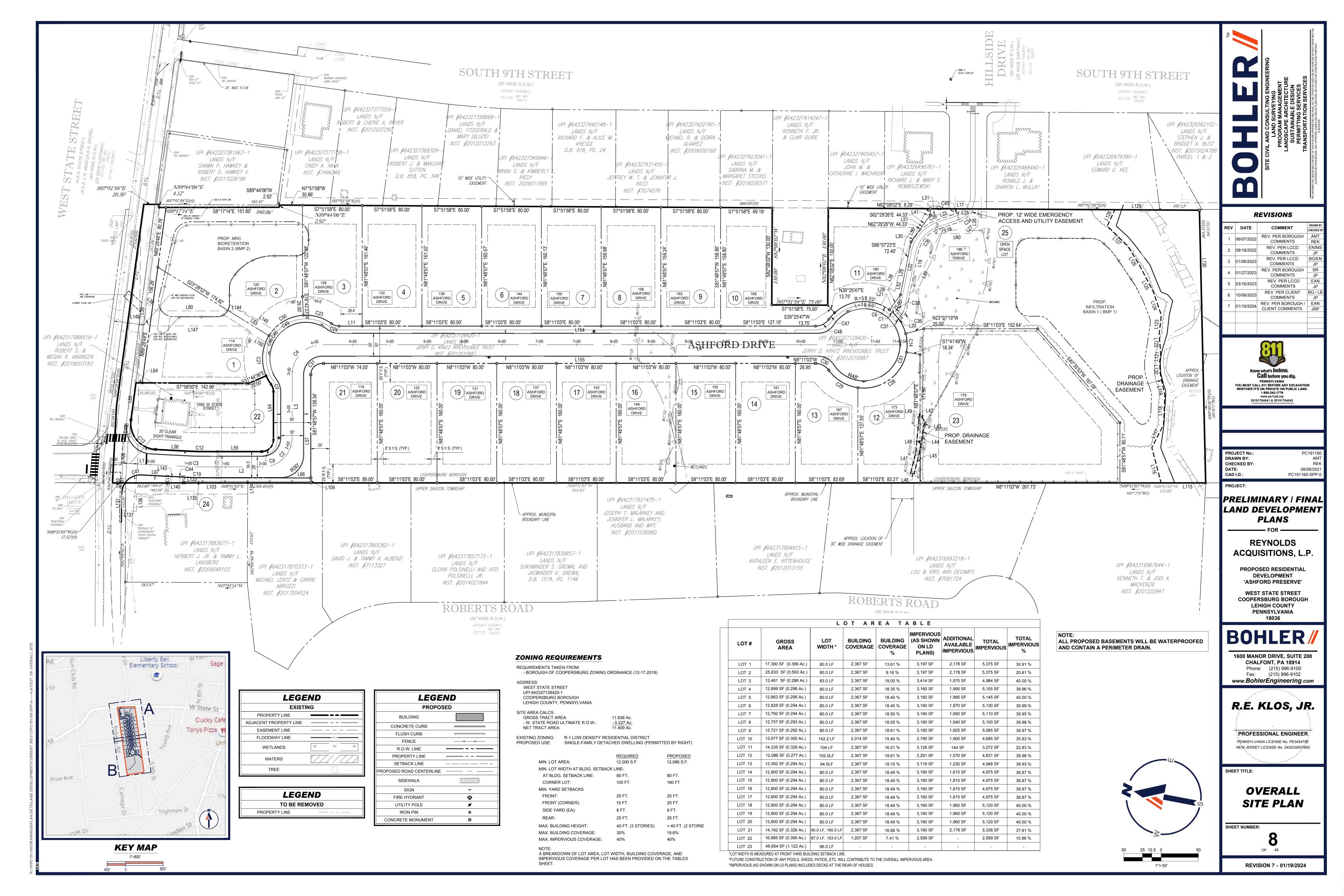
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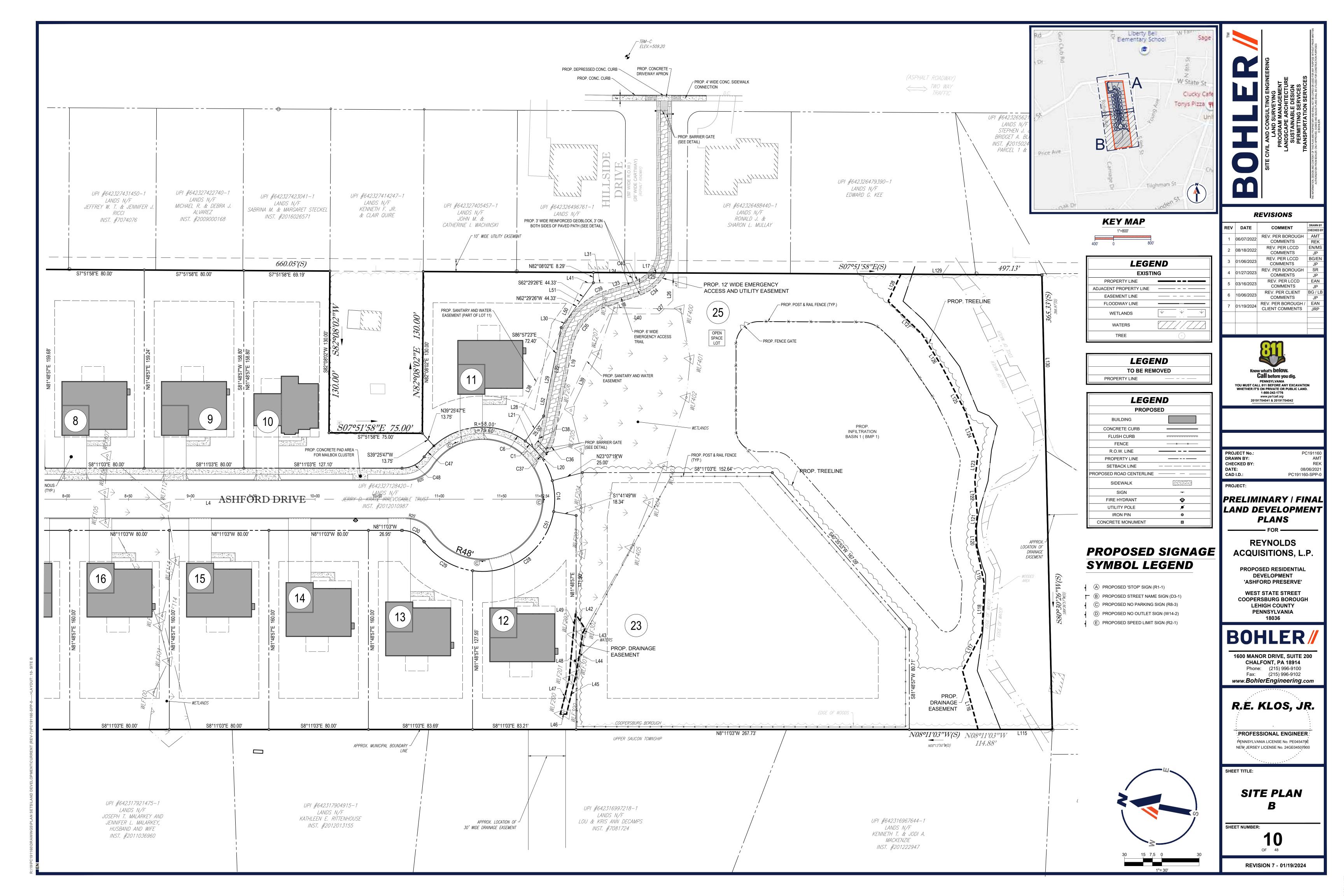


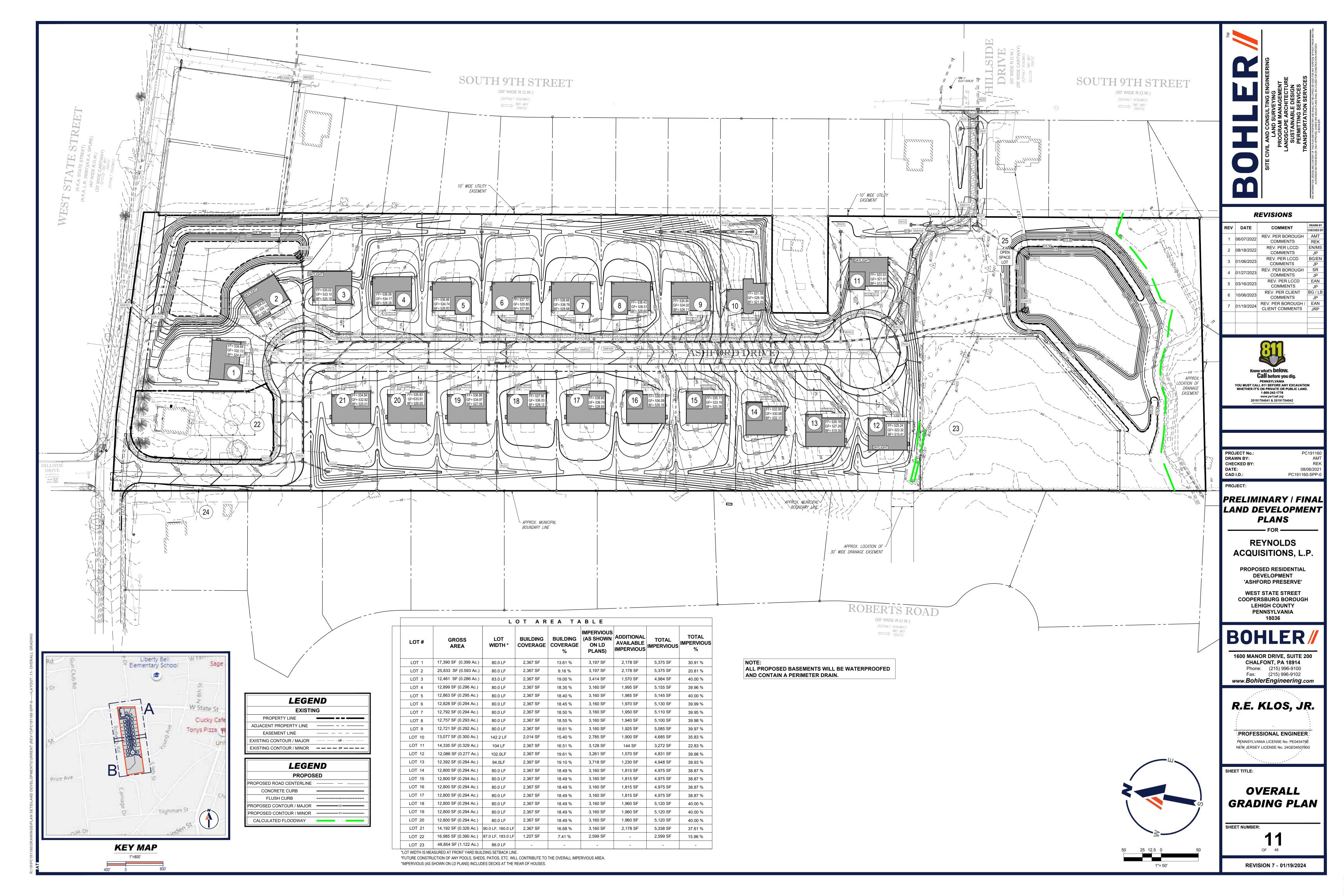


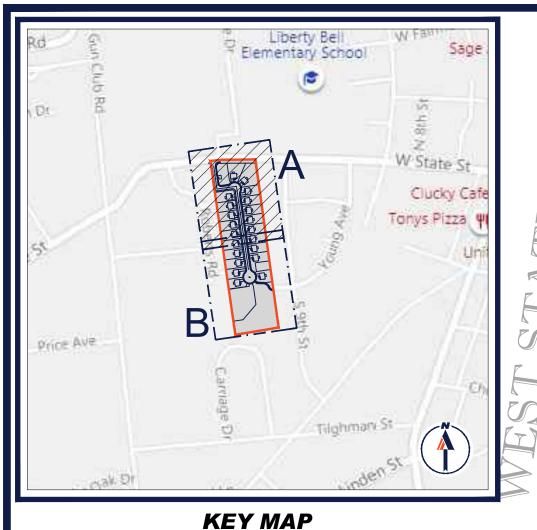












KEY MAP1"=800'

LEGE	ND
EXISTI	NG
PROPERTY LINE	
ADJACENT PROPERTY LINE	
EASEMENT LINE	
EXISTING CONTOUR / MAJOR	- 530
EXISTING CONTOUR / MINOR	529
LECE	MD

LEGEND					
PROPOS	SED				
PROPOSED ROAD CENTERLINE					
CONCRETE CURB					
FLUSH CURB					
PROPOSED CONTOUR / MAJOR	500				
PROPOSED CONTOUR / MINOR	501				
PROPOSED SPOT ELEVATION	527.00				
PROPOSED SLOPE	3.9%				
CALCULATED FLOODWAY					
SAWCUT LINE					

HILLSIDE

DRIVE

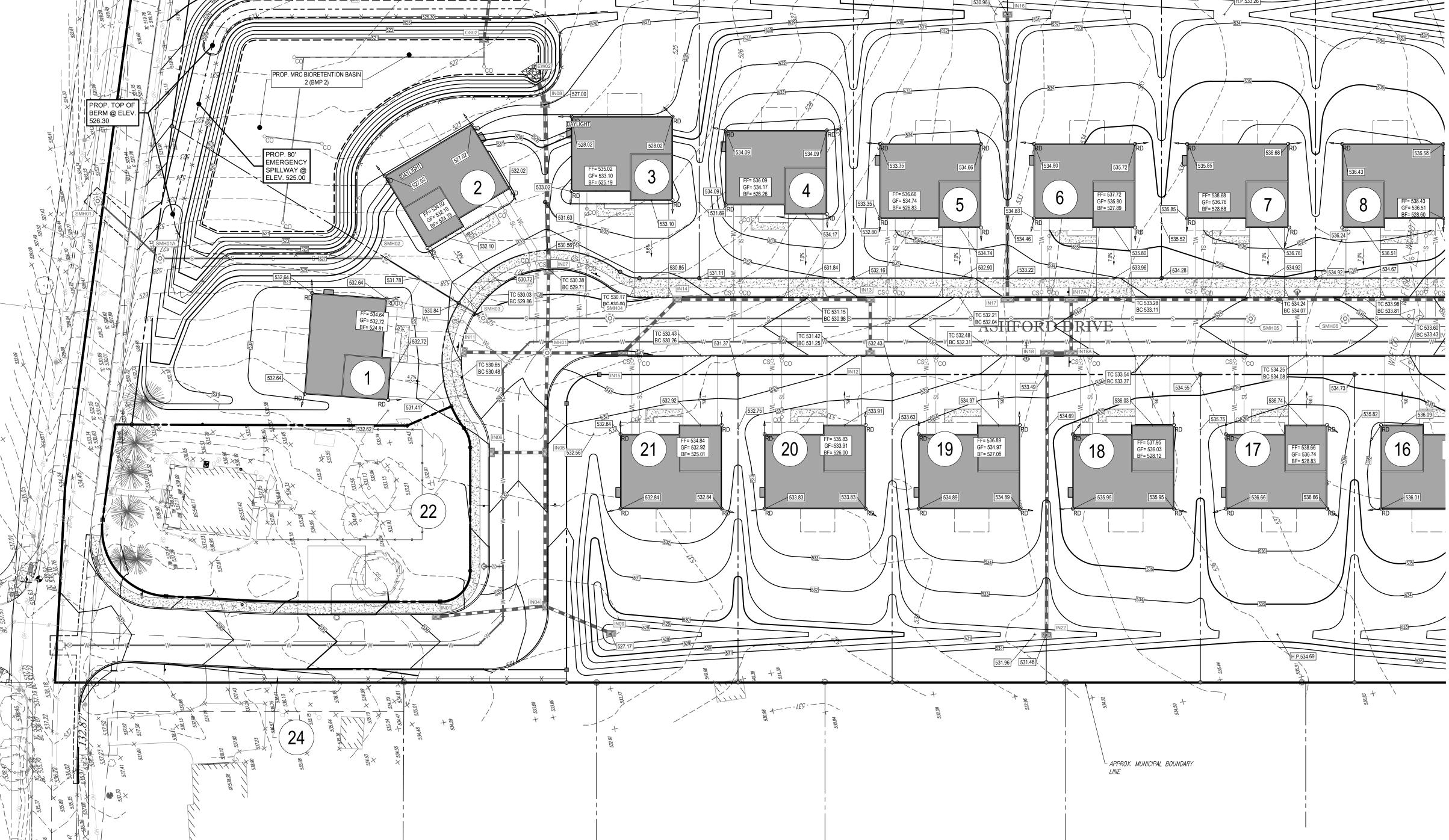
(50' WIDE R.O.W.)

TWO WAY

TRAFFIC

(27.50' CARTWAY)

FC 538-73 558.04 BC 538-73 BC 537-89



10' WIDE UTILITY EASEMENT 🥆



SITE CIVIL AND CONSULTING
LAND SURVEYIN
PROGRAM MANAGE
LANDSCAPE ARCHITE
SUSTAINABLE DE:
PERMITTING SERV
TRANSPORTATION SE

REVISIONS

REV	DATE	COMMENT	DRAWN BY		
1	06/07/2022	REV. PER BOROUGH	AMT		
	00/01/2022	COMMENTS	REK		
2	08/18/2022	REV. PER LCCD	EN/MS		
2	00/10/2022	00/10/2022	00/10/2022	COMMENTS	JP
3	01/06/2023	REV. PER LCCD	BG/EN		
3	01/00/2023	COMMENTS	JP		
	01/27/2023	REV. PER BOROUGH	SR		
4		01/21/2023	COMMENTS	JP	
5	03/16/2023	REV. PER LCCD	EAN		
5	03/10/2023	COMMENTS	JP		
6	10/06/2023	REV. PER CLIENT	BG / LB		
O	10/06/2023	COMMENTS	JP		
7	04/40/0004	REV. PER BOROUGH /	EAN		
1	01/19/2024	CLIENT COMMENTS	JRP		
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 PROJECT No.:
 PC191160

 DRAWN BY:
 AMT

 CHECKED BY:
 REK

 DATE:
 08/06/2021

 CAD I.D.:
 PC191160-SPP-0

PROJECT:

PRELIMINARY | FINAL
LAND DEVELOPMENT
PLANS

REYNOLDS ACQUISITIONS, L.P.

PROPOSED RESIDENTIAL
DEVELOPMENT
'ASHFORD PRESERVE'

WEST STATE STREET
COOPERSBURG BOROUGH
LEHIGH COUNTY
PENNSYLVANIA

BOHLER

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

R.E. KLOS, JR.

PENNSYLVANIA LICENSE No. PE045479E NEW JERSEY LICENSE No. 24GE04507900

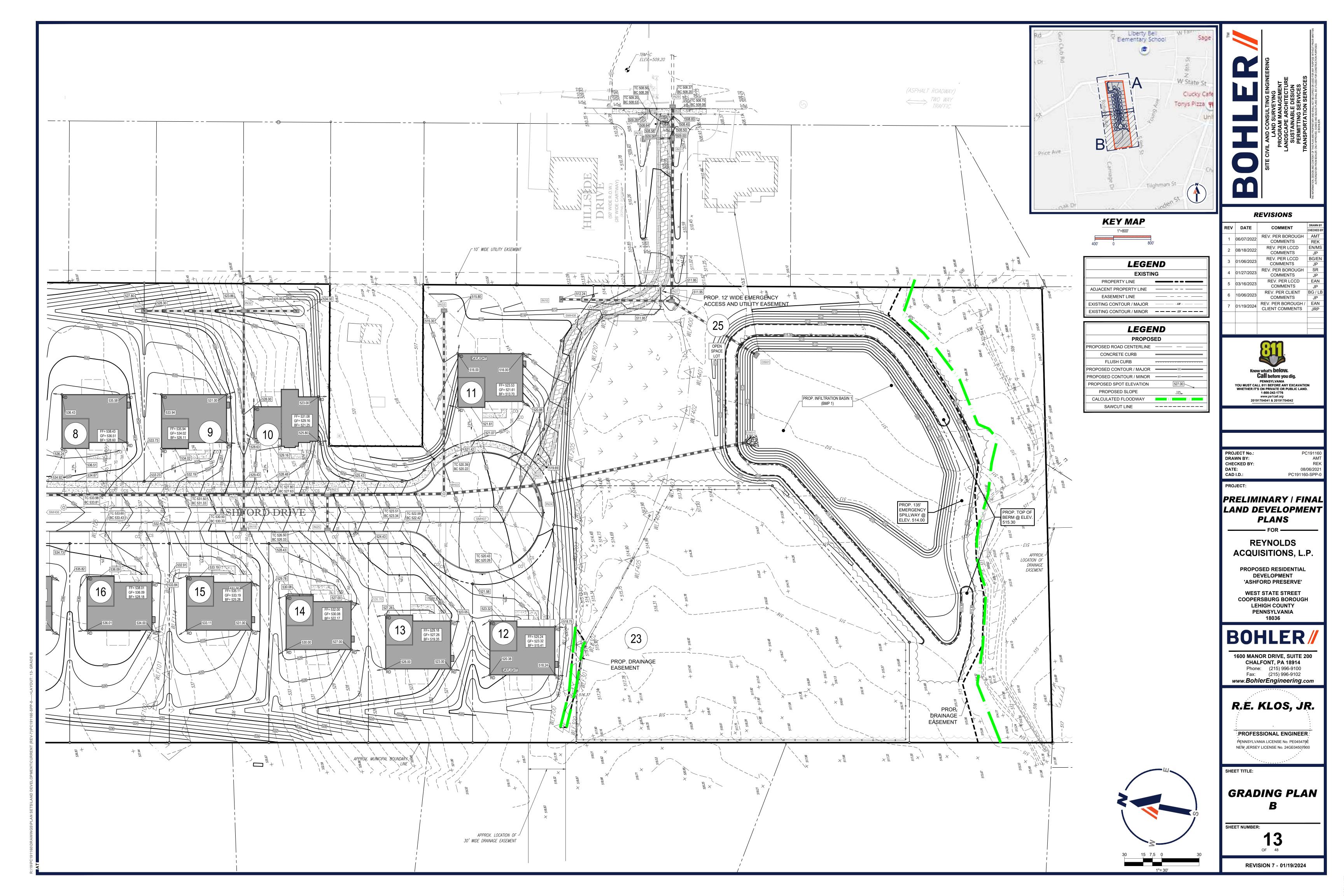
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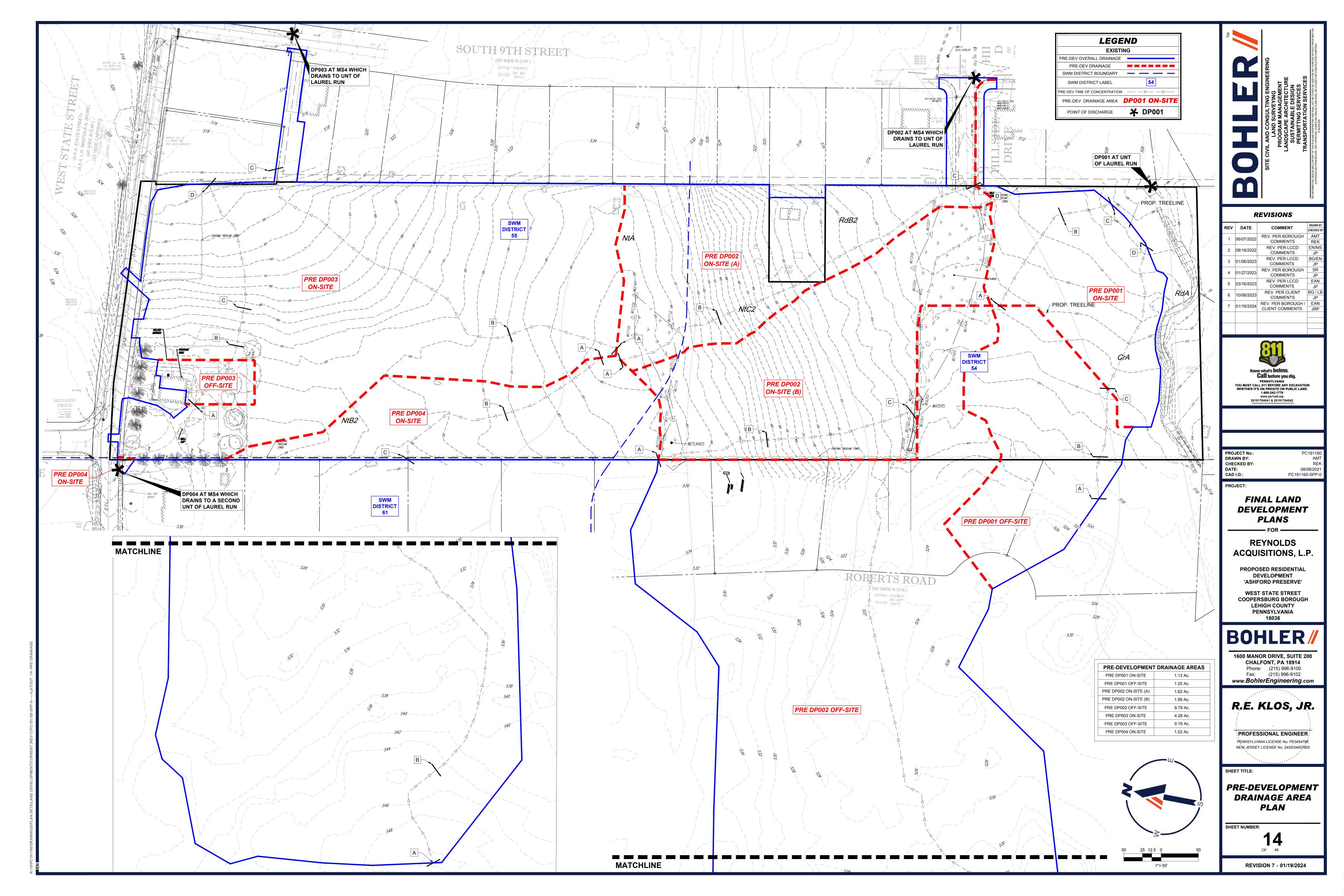
GRADING PLAN

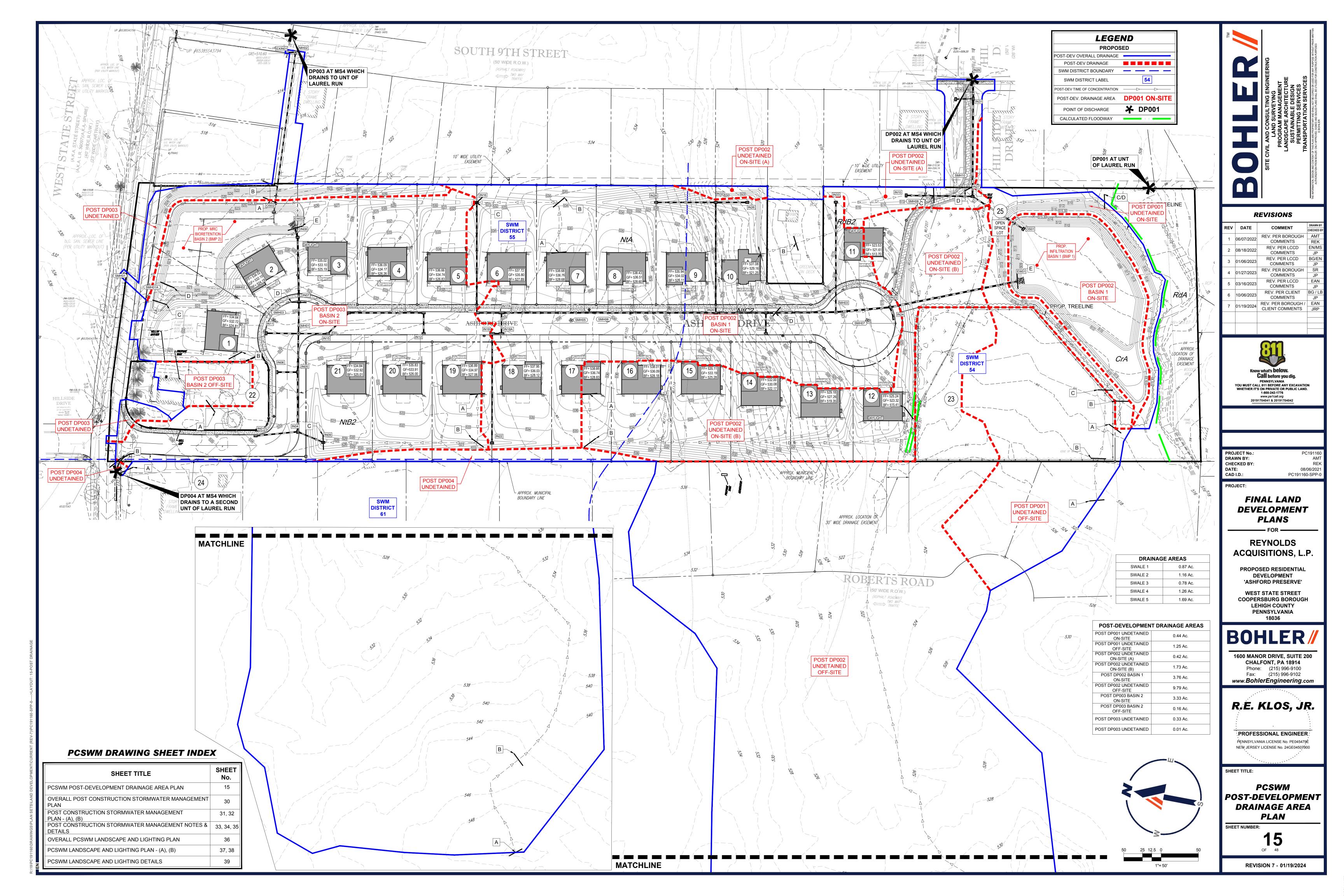
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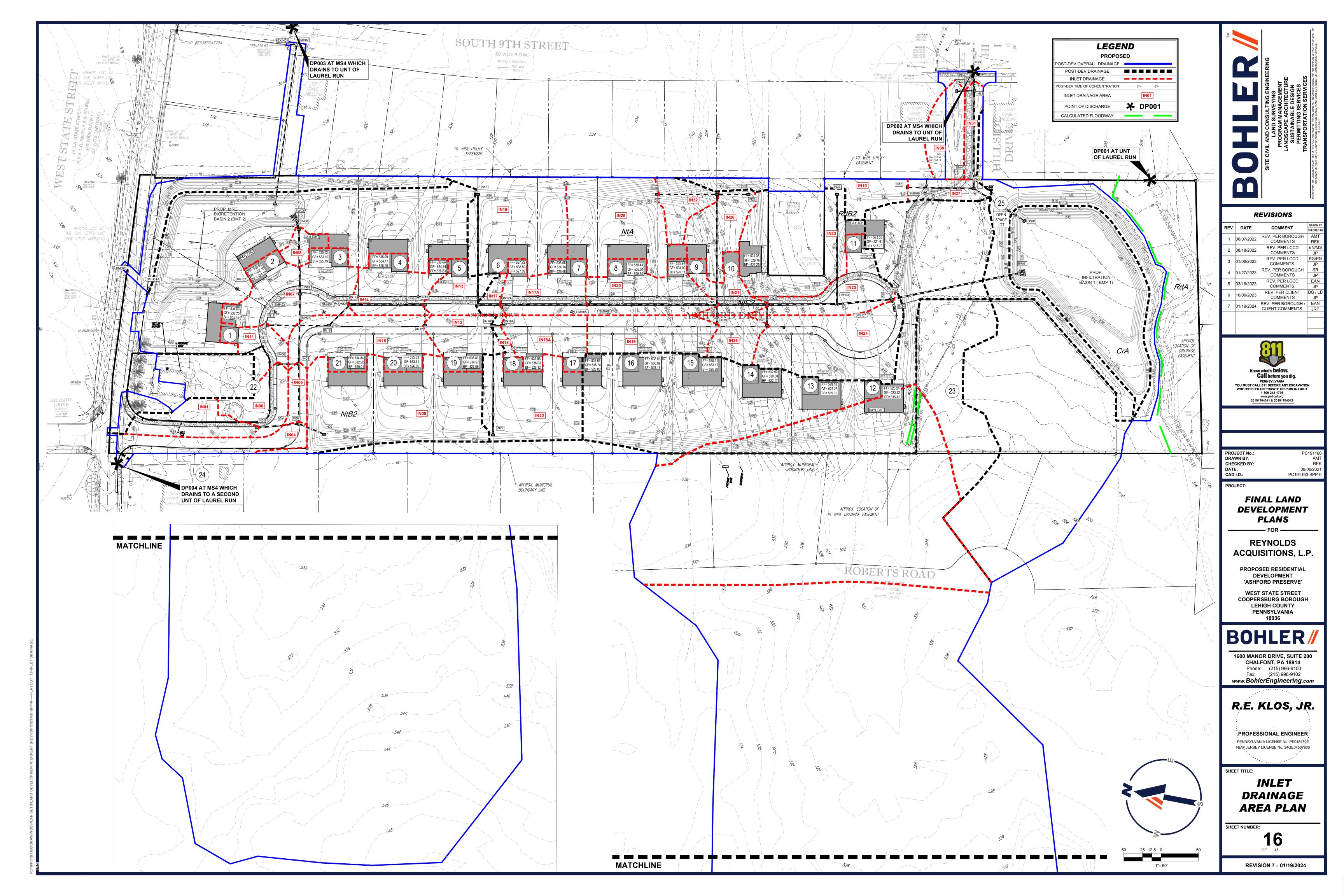
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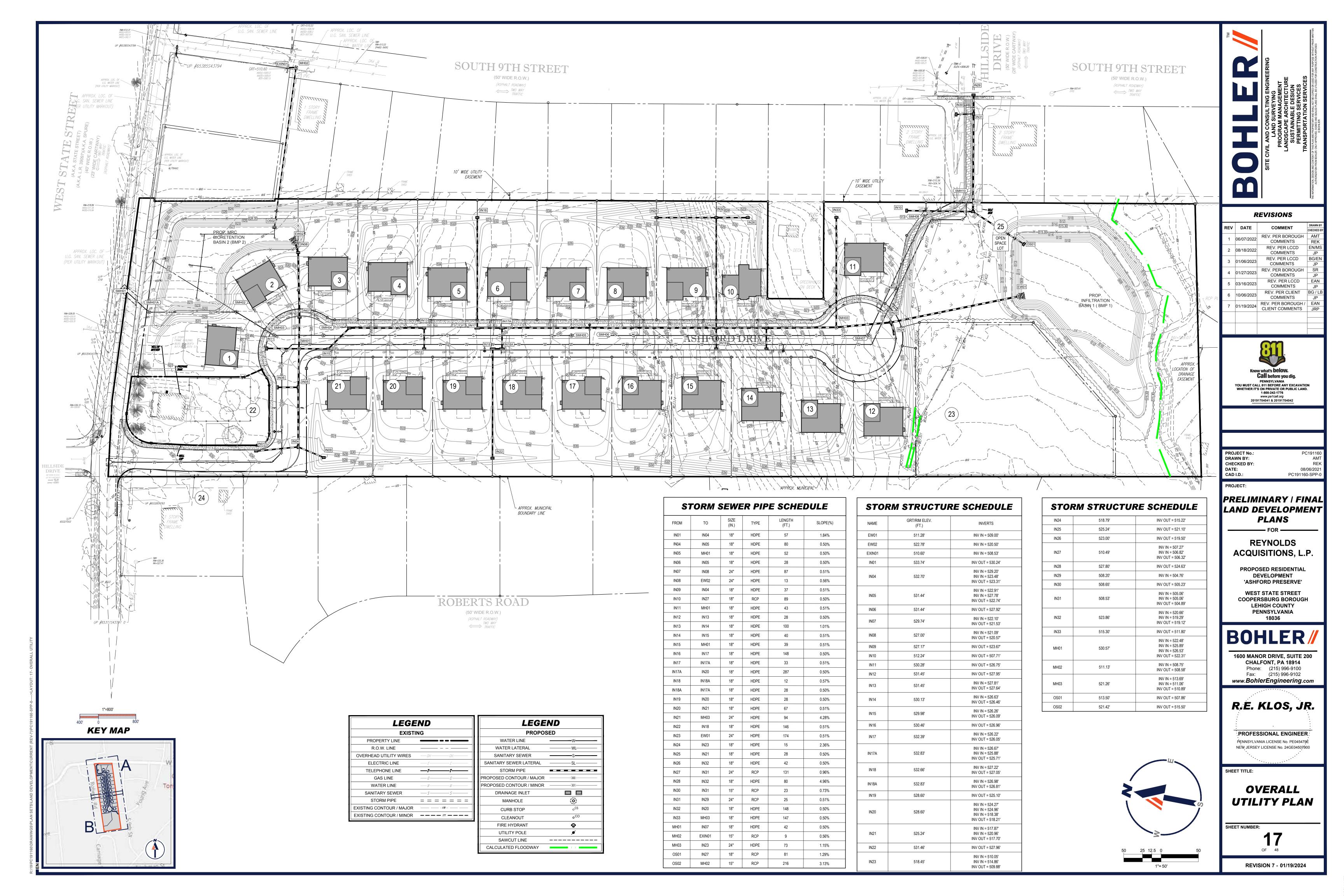
OF 48













REV	DATE	COMMENT	DRAWN BY
KEV	DATE	COMMENT	CHECKED BY
1	00/07/0000	REV. PER BOROUGH	AMT
1	06/07/2022	COMMENTS	REK
2	00/40/2022	REV. PER LCCD	EN/MS
2	08/18/2022	COMMENTS	JP
3 01/06/202	04/06/2022	REV. PER LCCD	BG/EN
	01/06/2023	1/06/2023	COMMENTS
	01/27/2023	REV. PER BOROUGH	SR
4		COMMENTS	JP
5	03/16/2023	REV. PER LCCD	EAN
5	03/10/2023	COMMENTS	JP
6	10/06/2023	REV. PER CLIENT	BG / LB
О		10/06/2023	COMMENTS
7	01/19/2024	REV. PER BOROUGH /	EAN
1	01/19/2024	CLIENT COMMENTS	JRP
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PRELIMINARY | FINAL LAND DEVELOPMENT

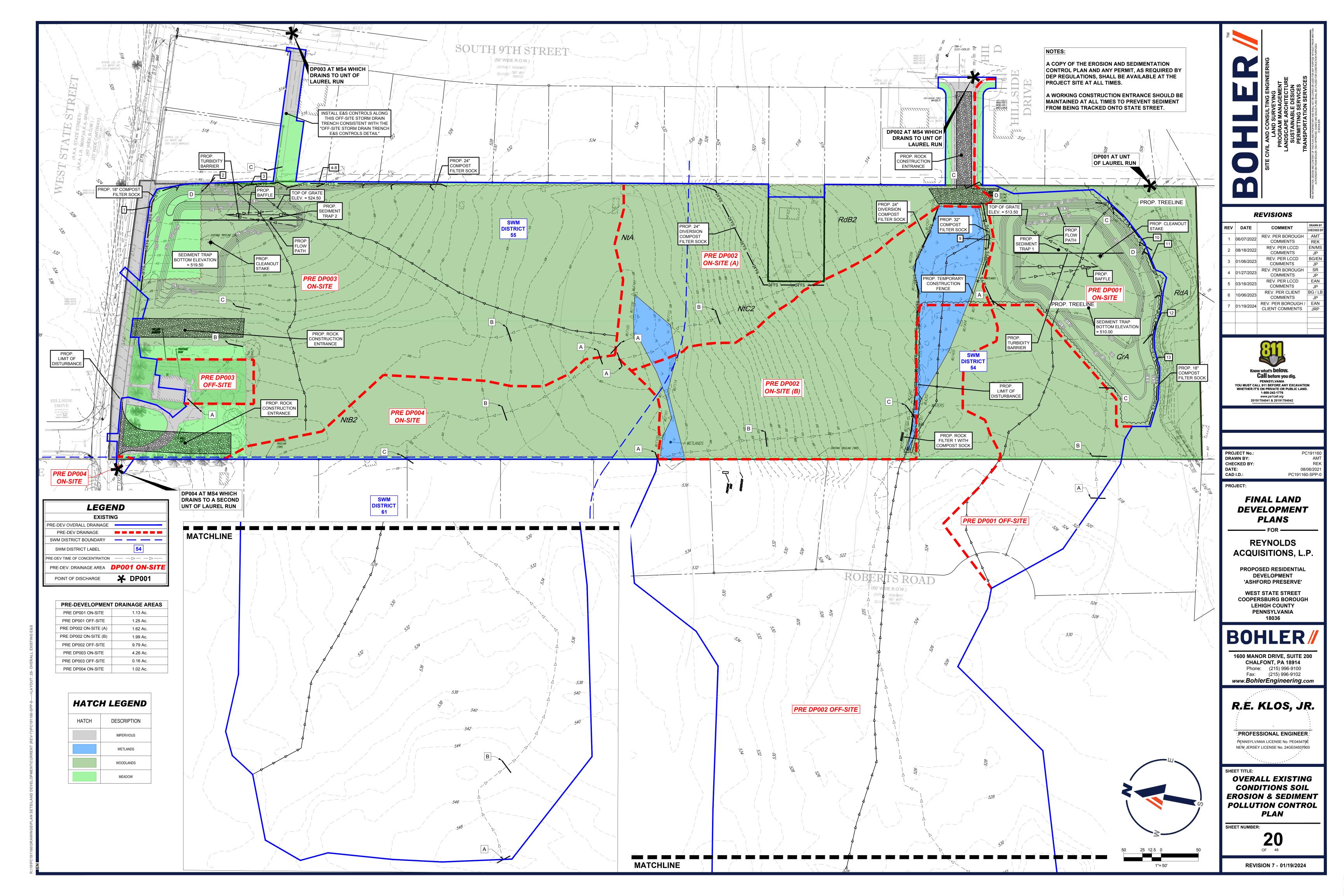
WEST STATE STREET **COOPERSBURG BOROUGH**

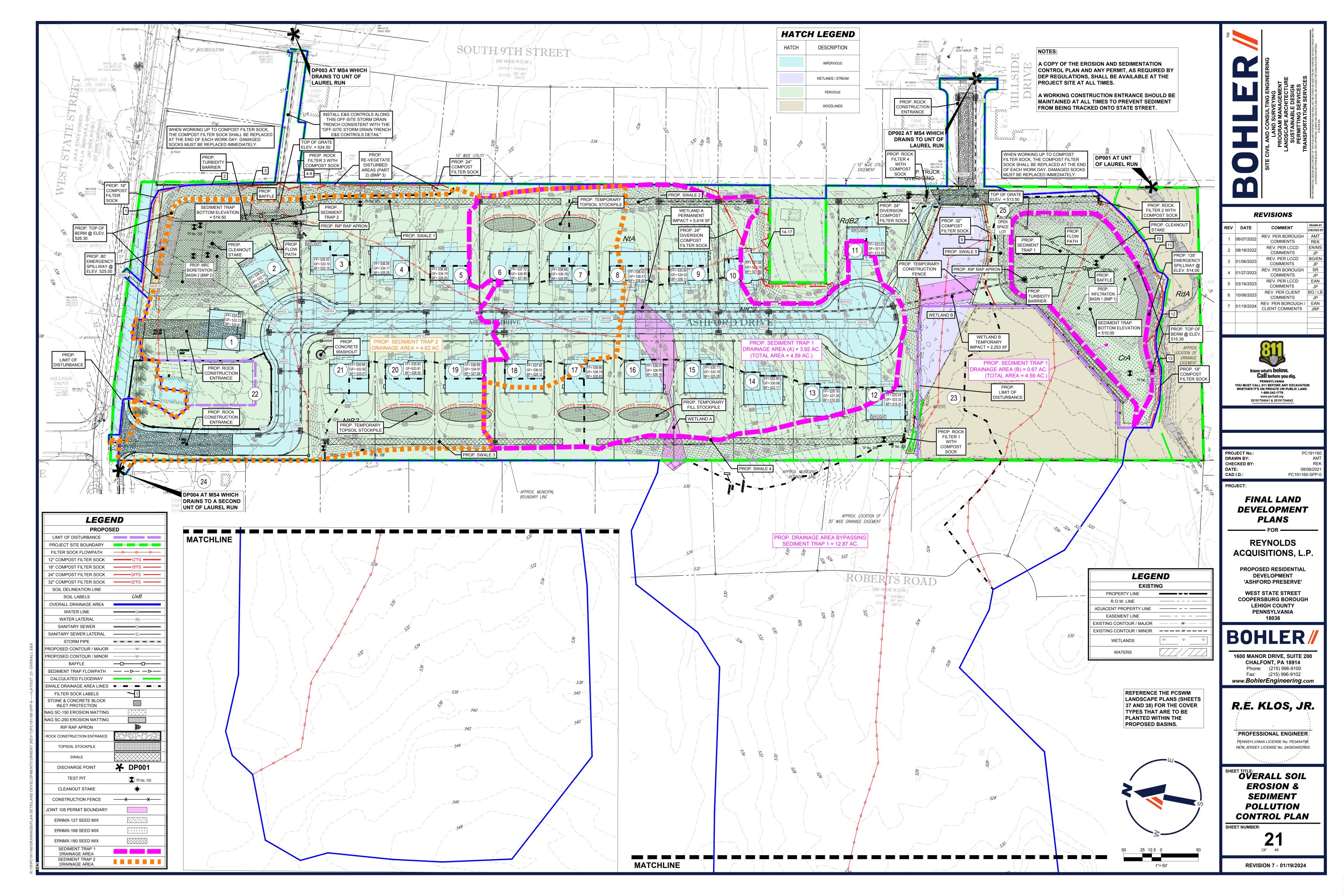
CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102

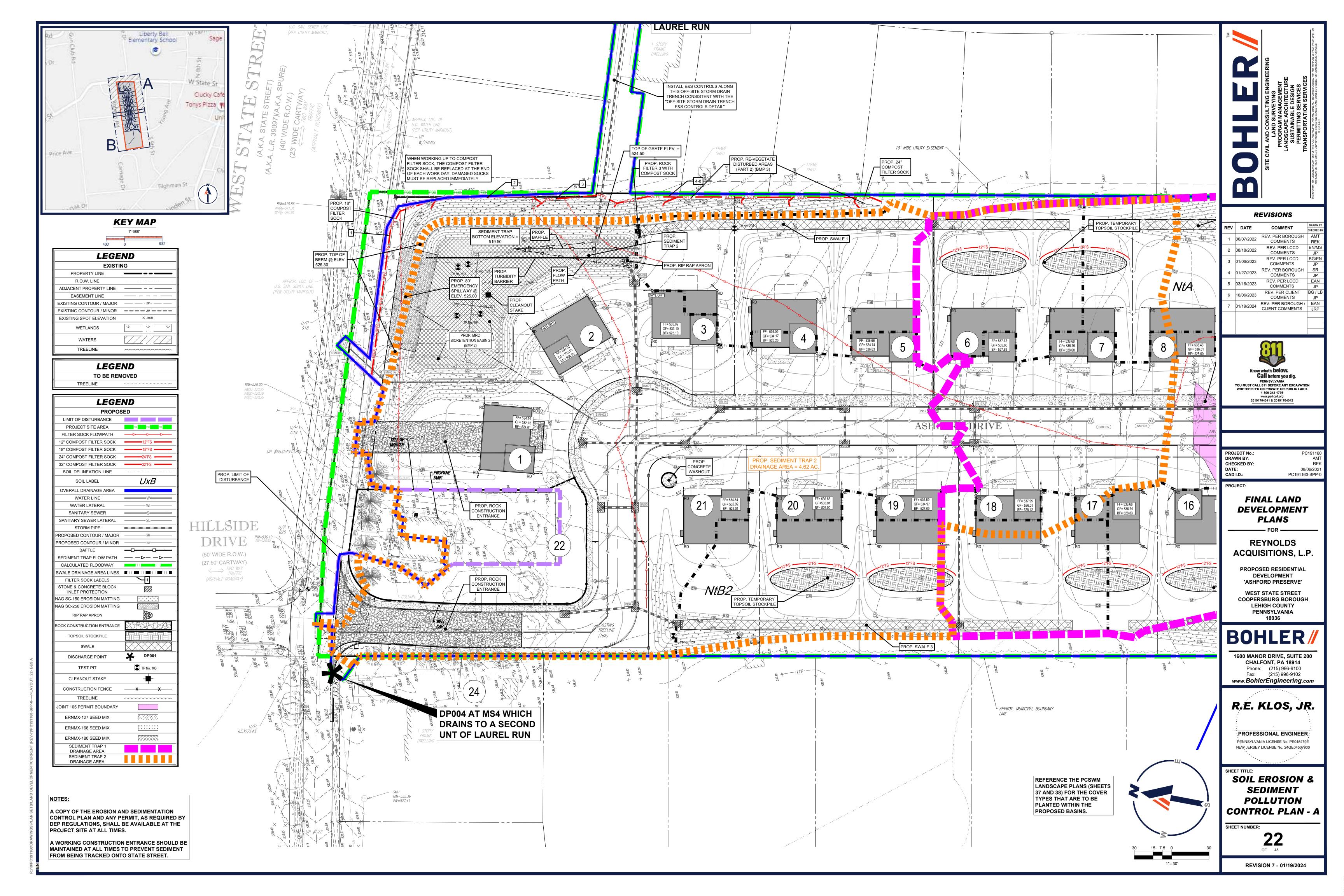
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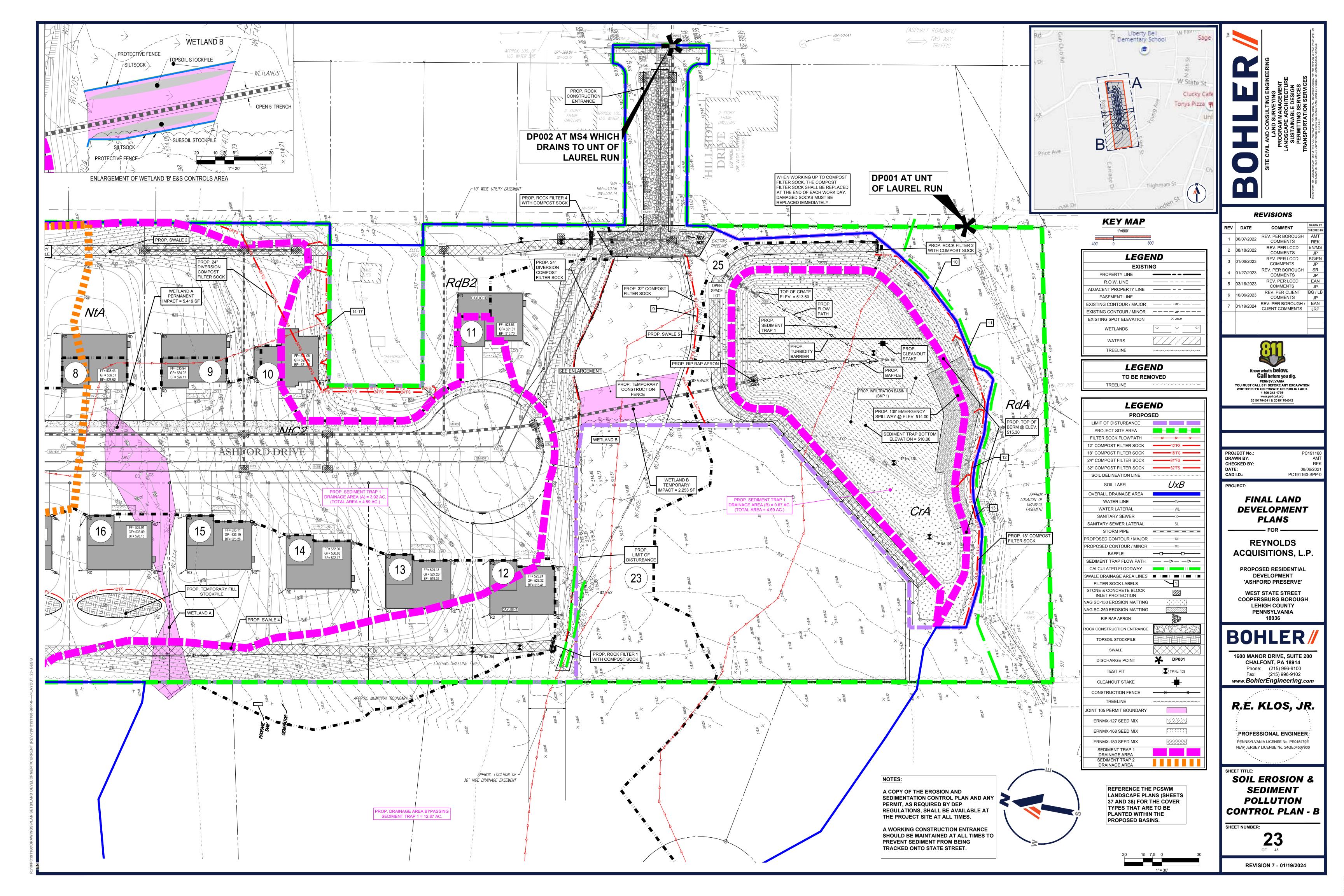
UTILITY PLAN

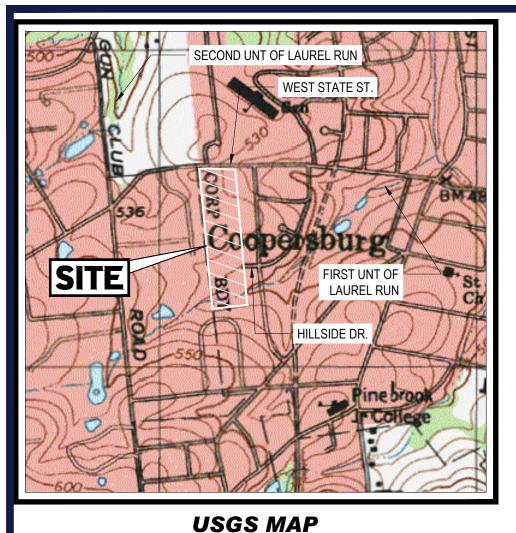


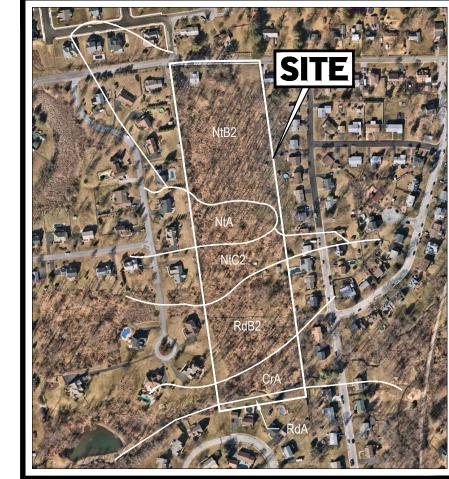






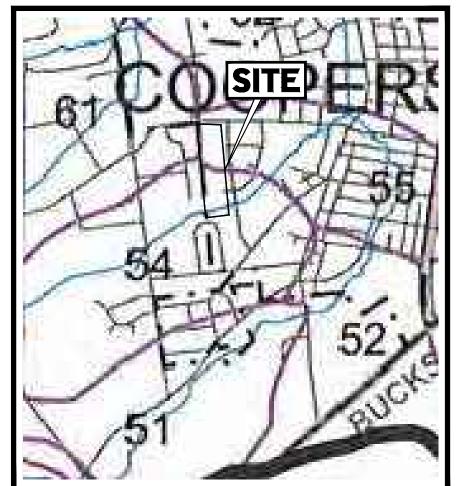






SOIL MAP

SCALE: 1" = 400'



SWM DISTRICT MAP

SCALE: 1" = 1,500'

LOCATION OF ALL SURFACE WATERS AND THEIR **CLASSIFICATION UNDER CHAPTER 93** §102.4(b)(5)(v)

SCALE: 1" = 1,000'

DP001, DP002, AND DP003 DRAIN TO AN UNNAMED TRIBUTARY OF LAUREL RUN, WHICH HAS A CWF (COLD WATER FISHES) AND MF (MIGRATORY FISHES) CHAPTER 93 CLASSIFICATION.

DP004 DRAINS TO A SECOND UNNAMED TRIBUTARY OF LAUREL RUN, WHICH HAS A CWF (COLD WATER FISHES) AND MF (MIGRATORY FISHES) CHAPTER 93 CLASSIFICATION.

RECYCLING OR DISPOSAL OF MATERIALS §102.4(b)(5)(xi)

THE FOLLOWING IS A LIST THAT INCLUDES, BUT THAT IS NOT LIMITED TO, THE POTENTIAL CONSTRUCTION WASTES THAT MAY EXIST ON-SITE: - CONCRETE CURB AND SIDEWALK

- E&S BMP - COMPOST FILTER SOCKS - E&S BMP - TEMPORARY RISER - E&S BMP - EROSION CONTROL MATTING - E&S BMP - INLET PROTECTION

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. BELOW IS A LIST OF METHODS FOR THE PROPER RECYCLING/DISPOSAL OF VARIOUS MATERIALS:

1.) DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE PURPOSE IS TO TRAP DUST AND MUD THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. WATER TRUCKS WILL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE LOCAL CONSERVATION DISTRICT. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED, WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.

2.) SOLID WASTE DISPOSAL - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORMWATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. THE CONTAINERS WILL BE EMPTIED AS NECESSARY BY A CONTRACT TRASH DISPOSAL SERVICE AND HAULED AWAY FROM THE SITE.

3.) SANITARY FACILITIES - ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES WILL BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND WILL BE SERVICED BY A LICENSED COMMERCIAL

4.) WATER SOURCE - NON-STORMWATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER USED FOR CONSTRUCTION WHICH DISCHARGES FROM THE SITE MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE STATE HEALTH DEPARTMENT. WATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE

5.) CONCRETE WASTE FROM CONCRETE READY-MIX TRUCKS - DISCHARGE OF EXCESS OR WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS WILL BE ALLOWED ON THE CONSTRUCTION SITE, BUT ONLY IN SPECIFICALLY DESIGNATED DIKED AREAS PREPARED TO PREVENT CONTACT BETWEEN THE CONCRETE AND/OR WASH WATER AND STORMWATER THAT WILL BE DISCHARGED FROM THE SITE.

GEOLOGIC FORMATIONS/SOIL CONDITIONS THAT MAY HAVE THE POTENTIAL TO CAUSE POLLUTION §102.4(b)(5)(xii)

THERE ARE NO GEOLOGIC FORMATIONS OR SOIL CONDITIONS THAT COULD CAUSE CONTAMINANT POLLUTION DURING EARTH DISTURBANCE ACTIVITIES.

POTENTIAL THERMAL IMPACTS TO SURFACE WATERS

§102.4(b)(5)(xiii)

A POTENTIAL FOR THERMAL IMPACTS UPON RECEIVING WATERS ARE BEING AVOIDED DURING THE E&S PHASE BY SEQUENCING CONSTRUCTION SO THAT ASPHALT PAVEMENT IS INSTALLED AFTER THE STORM SEWER SYSTEM AND SEDIMENT TRAPS HAVE BEEN CONSTRUCTED. THE SUBSURFACE STORMWATER CONVEYANCE SYSTEM WILL COOL THE RUNOFF. SIMILARLY, THE SEDIMENT TRAPS' DISCHARGES ARE CONVEYED THROUGH THE PIPES BELOW THE GROUND PRIOR TO DISCHARGE OFF-SITE, FINALLY, COMPOST FILTER SOCK WILL PROVIDE SOME THERMAL PROTECTION AS RUNOFF WILL FLOW THROUGH THE FILTER SOCK PRIOR TO DISCHARGING OFF-SITE

TYPES, DEPTH, SLOPE, LOCATIONS, AND LIMITATIONS OF THE SOILS

SOIL DESCRIPTIONS

SOIL	DESCRIPTION	SOIL GRO
CrA	- CROTON SILT LOAM, 0 TO 3 PERCENT SLOPES	D
NtA	- NORTON SILT LOAM, 0 TO 3 PERCENT SLOPES	С
NtB2	- NORTON SILT LOAM, 3 TO 8 PERCENT SLOPES	С
NtC2	- NORTON SILT LOAM, 8 TO 15 PERCENT SLOPES	С
RdA	- READINGTON SILT LOAM, 0 TO 3 PERCENT SLOPES	С
RdB2	- READINGTON SILT LOAM, 3 TO 8 PERCENT SLOPES	С

SOIL NAME	CUTBANKS CAVE	CORROSIVE TO CONCRETE/ STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE/ SEASONAL HIGH WATER TABLE	HYDRIC/ HYDRIC INCLUSIONS	LOW STRENGTH/ LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK- SWELL	POTENTIAL SINKHOLE	PONDING	WETNESS	
CROTON	Х	C/S		Х		Х	X	X	Х	х	X	Х			Х	Х	
READINGTON	Х	C/S		Х		Х	Х	Х	Х	Х	Х	Х				Х	

*NORTON SOIL IS NOT INCLUDED WITHIN THE SOIL LIMITATIONS CHART IN THE PADEP E&S MANUAL

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS PROVIDED

CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND RESOLUTIONS SPECIFIC TO

- CUTBANKS CAVE RESOLUTIONS: CUT SLOPES SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED AS SOON AS POSSIBL IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS FOUND ON THE E&S PLANS. FINISHED SLOPES WILL NOT EXCEED 2:1. EXCAVATIONS SHALL BE PROPERLY SUPPORTED TO PREVENT CAVES.
- CORROSIVE TO CONCRETE/STEEL RESOLUTIONS; MOST STORM DRAIN PIPES FOR THIS SITE WILL BE HDPE. RCP WILL BE USED IN OUTLET STRUCTURES IN THE BASINS AND FOR TIE-IN LOCATIONS TO EXISTING STORM SEWER.
- EASILY ERODIBLE RESOLUTIONS: STABILIZATION SHALL TAKE PLACE UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES THAT WILL EXCEED FOUR DAYS, OR ANY STAGE THEREOF, STABILIZATION SHALL BE IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS FOUND ON THE E&S PLANS. E&S CONTROLS LIKE COMPOST FILTER SOCKS AND INLET PROTECTION SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE
- DEPTH TO SATURATED ZONE/SEASONAL HIGH WATER TABLE RESOLUTIONS: ANY WATER DURING CONSTRUCTION SHALL BE DIRECTED TOWARDS AN E&S CONTROL BMP, SUCH AS A COMPOST FILTER SOCK OR A SEDIMENT TRAP, ALL STORM SEWER. PIPES AND INLETS SHALL BE INSTALLED WITH WATERTIGHT GASKETS.
- HYDRIC/HYDRIC INCLUSIONS RESOLUTIONS: WETLANDS WILL BE PROTECTED TO THE MAXIMUM EXTENT POSSIBLE.
- 6. LOW STRENGTH/LANDSLIDE PRONE RESOLUTIONS: FINISHED SLOPES WILL NOT EXCEED 2:1. PRECAUTIONS SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT SLOPE FAILURES.
- SLOW PERCOLATION RESOLUTIONS: PROVIDE DEWATERING DURING CONSTRUCTION ACTIVITIES. PUMPED WATER FILTER BAGS SHALL BE USED FOR PONDED WATER DURING CONSTRUCTION, PONDED WATER SHOULD BE DIRECTED TOWARDS AN E&S CONTROL BMP. SUCH AS A COMPOST FILTER SOCK OR A SEDIMENT TRAP, LANDSCAPING IS PROPOSED ON THE SITE TO ALLOW FOR INCREASED INFILTRATION AND EVAPO-TRANSPIRATION. INFILTRATION TESTING HAS BEEN DONE ON SITE AND INFILTRATION FACILITIES ARE PROVIDED WHERE SOIL CONDITIONS ALLOWED
- 8. PIPING RESOLUTIONS: PUMPED WATER FILTER BAGS SHALL BE USED FOR PONDED WATER DURING CONSTRUCTION. PONDED WATER SHOULD BE DIRECTED TOWARDS AN E&S CONTROL BMP, SUCH AS A COMPOST FILTER SOCK OR A SEDIMENT TRAP. CLAY CORES WILL BE INSTALLED WITHIN BASIN EMBANKMENTS, CONCRETE COLLARS AND ANTI-SEEP COLLARS WILL BE USED ON BASIN DISCHARGE PIPES. CLAY MAY NEED TO BE IMPORTED FROM OFF-SITE IF SOILS FOUND ON SITE ARE NOT SUITABLE. THE MAJORITY OF THE PIPES USED ON SITE ARE HDPE REDUCING THE AMOUNT OF GROUNDWATER THAT WILL
- POOR SOURCE OF TOPSOIL RESOLUTIONS: SOIL TESTING SHOULD BE PERFORMED TO DETERMINE SOIL SUITABILITY FOR TOPSOIL. IF SOIL IS DETERMINED TO BE UNSUITABLE THEN TOPSOIL SHALL BE IMPORTED AND DISTRIBUTED THROUGHOUT THE SITE AS REQUIRED. TOPSOIL SPECIFICATIONS CAN BE FOUND IN THE LANDSCAPE SPECIFICATION NOTE 2.B ON THE
- 10. FROST ACTION RESOLUTIONS: DUE TO GRADING LIMITATIONS OF SOILS DURING WINTER MONTHS, THE CONTRACTOR SHALL NOT GRADE THESE SOILS DURING FROSTING OR ICING CONDITIONS.
- 11. PONDING RESOLUTIONS: PUMPED WATER FILTER BAGS SHALL BE USED FOR PONDED WATER DURING CONSTRUCTION. PONDED WATER SHOULD BE DIRECTED TOWARDS AN E&S CONTROL BMP, SUCH AS A COMPOST FILTER SOCK OR A SEDIMENT TRAP
- 12. WETNESS RESOLUTIONS: PUMPED WATER FILTER BAGS SHALL BE USED FOR PONDED WATER DURING CONSTRUCTION. PONDED WATER SHOULD BE DIRECTED TOWARDS AN E&S CONTROL BMP. SUCH AS A COMPOST FILTER SOCK OR A SEDIMENT TRAP

Part 2 Revegetate and Reforest

months.

To receive credit for planting trees, the following criteria must be met:

- Trees must be native species (see Appendix), minimum 2" caliper. Minimum tree height
- is 6 feet. Trees shall be adequately protected during construction.
- Trees credited for stormwater management shall be clearly labeled on the construction
- drawings and recorded on Record Plan for project.
- Trees shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
- No more than 25% of the runoff volume can be mitigated through the use of trees.
- Escrow shall be provided for the replacement of any protected trees used for stormwater credit that die within 5 years of construction. Dead trees shall be replaced within 6
- Shall be located on the development project.
- May be applied for trees required under Street Tree or Landscaping requirements. May be applied for trees planted as part of Riparian Buffer improvement.
- Non-native species are not applicable.

SEQUENCE OF BMP INSTALLATION AND REMOVAL

- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED IN COMPLIANCE WITH CHAPTER 102 REGULATIONS BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. 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.
- REFERENCES TO 'CONSERVATION DISTRICT' USED THROUGHOUT THIS SEQUENCE ARE MEANT TO REFER TO THE LEHIGH COUNTY CONSERVATION
- AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS AND A REPRESENTATIVE OF THE CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. ALSO, AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INC. AT 1-800-242-1776 FOR BURIED UTILITIES LOCATION.
- BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN. THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
- THE TERM 'PERMANENT STABILIZATION' USED THROUGHOUT THIS SEQUENCE IS MEANT TO DESCRIBE THE PROPER PLACING, GRADING CONSTRUCTING, REINFORCING, LINING, AND COVERING OF SOIL, ROCK OR EARTH TO ENSURE THEIR PERMANENT RESISTANCE TO EROSION, SLIDING OR OTHER MOVEMENT, FOR AN EARTH DISTURBANCE TO BE PERMANENTLY STABILIZED, THE DISTURBED AREA SHALL BE COVERED WITH ONE OF THE FOLLOWING; A MINIMUM UNIFORM 70% PERENNIAL, VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION: OR AN ACCEPTABLE BMP THAT PERMANENTLY MINIMIZES ACCELERATED EROSION AND SEDIMENTATION
- FOR EACH OF THE 'CRITICAL STAGES' SPECIFIED BELOW, THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT. A LICENSED PROFESSIONAL OR DESIGNEE KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF SAID BMP, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE
- SEDIMENT CONTROL FACILITIES, SUCH AS BASINS AND TRAPS, MUST BE PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES. REFER ALSO TO THE MONITORING, INSPECTION AND REPORTING REQUIREMENTS PROVIDED HEREIN FOR ADDITIONAL REQUIREMENTS DURING CONSTRUCTION. AS SOON AS SLOPES, CHANNELS, DITCHES AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. AS DISTURBED AREAS WITHIN A PROJECT APPROACH FINAL GRADE, PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN (I.E. ANTICIPATE THE COMPLETION DATE AND SCHEDULE THE SEEDER). IN NO CASE SHOULD AN AREA EXCEEDING 15,000 SQUARE FEET, WHICH IS TO BE STABILIZED BY VEGETATION, REACH FINAL GRADE WITHOUT BEING SEEDED AND MULCHED. WAITING UNTIL EARTHMOVING IS COMPLETED BEFORE MAKING PREPARATIONS FOR SEEDING AND MULCHING IS NOT ACCEPTABLE. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE
- 1. STAKE OUT LIMIT OF DISTURBANCE.
- 2. INSTALL CONSTRUCTION ENTRANCE AS DESIGNATED ON THE PLANS. STAKE OUT WETLANDS AND INSTALL CONSTRUCTION FENCING AROUND PERIMETER OF EXISTING WETLANDS WITHIN THE LIMIT OF DISTURBANCE.
- 3. INSTALL ALL PERIMETER COMPOST FILTER SOCKS, DIVERSION FILTER SOCK, TREE PROTECTION FENCING, AND ROCK FILTERS WITH COMPOST SOCKS WITHIN THE DESIGNATED LIMIT OF DISTURBANCE AS INDICATED ON THE PLANS. INSTALL A 5' WIDE STRIP OF NAG SC-150 EROSION CONTROL MATTING UPSLOPE OF THE DIVERSION FILTER SOCK. ONLY LIMITED CLEARING AND GRUBBING NECESSARY TO INSTALL THE PERIMETER EROSION AND SEDIMENT POLLUTION CONTROLS IS PERMITTED. WHEN WORKING UP TO COMPOST FILTER SOCK, THE COMPOST FILTER SOCK SHALL BE REPLACED AT THE END OF EACH WORK DAY. DAMAGED SOCKS MUST BE REPLACED IMMEDIATELY.
- 4. STRIP TOPSOIL AND ADD STOCKPILE IN INDICATED AREAS ON E&S PLANS.

GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

- 5. SITE AREAS PROPOSED FOR INFILTRATION SHALL BE DELINEATED IN THE FIELD AND PROTECTED FROM DISTURBANCE AND COMPACTION EXCEPT AS NECESSARY FOR CONSTRUCTION OF SEDIMENT TRAP #1 TO BE CONVERTED TO INFILTRATION BASIN #1.
- 6. CRITICAL STAGE CONSTRUCT SEDIMENT TRAPS #1 AND 2 AND SWALE #5. LICENSED PROFESSIONAL OVERSIGHT IS REQUIRED DURING PERMANENT BERM AND OUTLET STRUCTURE INSTALLATION. ONLY LIMITED CLEARING AND GRUBBING IS PERMITTED FOR CONSTRUCTION OF ACCESS TO THE SEDIMENT TRAPS. CONSTRUCTION OF THE SEDIMENT TRAPS SHALL INCLUDE THE NECESSARY CLEARING AND GRUBBING, EARTHWORK, INSTALLATION OF THE PERMANENT BASIN OUTFALL SYSTEM, AND ALL OTHER SEDIMENT TRAP FEATURES AS SHOWN ON THE PLANS AND DETAILS, AND ANY NECESSARY TEMPORARY STABILIZATION OF ALL DISTURBED AREAS. REFERENCE THE SEDIMENT TRAP CONSTRUCTION NOTES BELOW:

UPON CONSTRUCTION OF EACH FACILITY, NOTE THE FOLLOWING:

- A. SITE AREAS PROPOSED FOR INFILTRATION SHALL BE DELINEATED IN THE FIELD AND PROTECTED FROM DISTURBANCE AND COMPACTION EXCEPT AS NECESSARY FOR CONSTRUCTION OF INFILTRATION BMPS
- B. CONSTRUCTION EQUIPMENT SHALL TRAVEL THROUGH THE AREA BETWEEN THE EASTERN EDGE OF THE EXISTING WETLANDS AND THE EASTERN PROPERTY LINE TO CONSTRUCT AND ACCESS SEDIMENT TRAP 1. CONSTRUCTION EQUIPMENT SHALL NEVER TRAVEL THROUGH THE EXISTING
- C. THESE WILL BE INFILTRATION FACILITIES IN THEIR PERMANENT CONDITIONS. REFER TO THE NOTES PERTAINING TO CONSTRUCTION WITHIN INFILTRATION FACILITIES
- D. DURING THE SEDIMENT CONTROL STAGE, THE FACILITY IS NOT TO BE EXCAVATED BELOW THE TEMPORARY BASIN BOTTOM ELEVATION.
- E. THE UNDERDRAIN PIPING IS NOT TO BE INSTALLED IN TRAP #2/BASIN #2 AT THIS STAGE.
- F. THE FACILITY IS TO BE STABILIZED AND FUNCTIONING PROPERLY PRIOR TO ANY FURTHER EARTH DISTURBANCE ACTIVITIES. STABILIZATION SHOULD BE IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS AND SEEDING SPECIFICATIONS ON THE E&S PLANS.
- G. UPON INSTALLATION OF THE SEDIMENT TRAP RISERS. AN IMMEDIATE INSPECTION OF THE RISERS SHALL BE CONDUCTED BY A QUALIFIED SITE REPRESENTATIVE AND A REPRESENTATIVE OF THE CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING THAT THE PROPER RISER IS INSTALLED AND SEALED, PER PLAN.
- H. AT THE END OF EACH WORK DAY, STANDING WATER SHALL BE DIRECTED INTO THE SEDIMENT TRAPS.

CONSTRUCTION OF THE SEDIMENT TRAPS SHALL INCLUDE THE FOLLOWING:

- THE NECESSARY CLEARING, GRUBBING, AND EARTHWORK NECESSARY TO CONSTRUCT THE FACILITY. WHEN WORKING UP TO COMPOST FILTER SOCK. THE COMPOST FILTER SOCK SHALL BE REPLACED AT THE END OF EACH WORK DAY. DAMAGED SOCKS MUST BE REPLACED IMMEDIATELY.
- THE INSTALLATION OF THE BASIN OUTFALL SYSTEMS (IN29 TO OS01 FOR TRAP #1, AND EXIN01 TO OS02 FOR TRAP #2) INCLUDING THE ANTI-SEEP COLLARS. THE OUTLET STRUCTURES, AND THE APPROPRIATE CONTROLS ON THE OUTLET STRUCTURES. SEE OFF-SITE STORM DRAIN TRENCH E&S CONTROLS DETAIL FOR REQUIRED E&S CONTROLS ALONG STORM DRAIN RUN FROM EXIN01 TO OS02.
- K. UPON INSTALLATION OF STORM DRAIN FEATURES, IMMEDIATELY INSTALL INLET PROTECTION AS INDICATED ON THE E&S PLANS. (STORM RUNS SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE / UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACKFILLED IN ONE WORKING DAY. NO MORE THAN 50 LINEAL FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE / UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORK DAY.) PLACEMENT OF EXCAVATED MATERIAL MUST BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH.
- TEMPORARY BAFFLES AND CLEANOUT STAKE.
- M. THE EMERGENCY SPILLWAY AND ASSOCIATED LINING.
- N. THE EMBANKMENT PER THE SPECIFICATIONS ON THE PLANS.
- 7. INSTALL STORM DRAIN RUNS FROM EW01 TO IN23. INSTALL DIVERSION SOCK ON LOW SIDE OF LOT 10 TO DIVERT WATER AROUND TO INLET IN23. POSITIVE DRAINAGE TOWARD IN27 AND IN23 MUST BE MAINTAINED THROUGHOUT CONSTRUCTION TO MAINTAIN DRAINAGE AREA TO SEDIMENT TRAP #1. UPON INSTALLATION OF STORM DRAIN FEATURES, IMMEDIATELY INSTALL INLET PROTECTION AS INDICATED ON THE E&S PLANS. (STORM RUNS SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE / UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACKFILLED IN ONE WORKING DAY NO MORE THAN 50 LINEAU FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE / UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORK DAY.) REFER TO JOINT PERMIT DETAIL FOR THE INSTALLATION OF STORM DRAIN RUN FROM EW01 TO IN23. PLACEMENT OF EXCAVATED MATERIAL MUST BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH.
- 8. INSTALL SWALES #1, 2, 3, AND 4.
- 9. INITIATE THE NECESSARY EARTHWORK TO REACH THE GRADES INDICATED ON THE PLANS. BUILDING CONSTRUCTION MAY COMMENCE WITH ON-SITE IMPROVEMENTS. NOTE THAT BUILDING CONSTRUCTION MAY COMMENCE UPON ACCEPTANCE OF BUILDING PAD BY OWNER.
- A. THE CONCRETE WASHOUT MUST BE INSTALLED BEFORE ANY CONCRETE CAN BE POURED ON-SITE
- B. THE CONTRACTOR MUST PERFORM BULK OF EARTHWORK TO BALANCE CUTS AND FILLS TO THE GREATEST EXTENT POSSIBLE.
- C. ALL AREAS DISTURBED DURING THE EARTHWORK PHASE OF CONSTRUCTION MUST BE TEMPORARILY SEEDED AND STABILIZED IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS AND SEEDING SPECIFICATIONS IF PERMANENT STABILIZATION CANNOT BE ACHIEVED
- 10.INSTALL SANITARY SEWER. PLACEMENT OF EXCAVATED MATERIAL MUST BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH.
- 11.INSTALL REMAINING STORM DRAIN. UPON INSTALLATION OF STORM DRAIN FEATURES, IMMEDIATELY INSTALL INLET PROTECTION AS INDICATED ON THE E&S
- PLANS. (STORM RUNS SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE / UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACKELLED IN ONE WORKING. DAY, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH, NO MORE THAN 50 LINEAL FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE / UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORK DAY. REFER TO JOINT PERMIT FOR INSTALLATION OF STORM DRAIN RUNS FROM IN18A TO IN19. PLACEMENT OF EXCAVATED MATERIAL MUST BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH. 12. CONTINUE WITH THE BALANCE OF EARTHWORK.
- 13. INSTALL ANY REMAINING STORM SEWER AND WATER LINE. DURING CONSTRUCTION OF WATER LINE WITHIN CONSTRUCTION ENTRANCE, MINIMUM INGRESS AND EGRESS LANES MUST BE MAINTAINED. UPON COMPLETION OF WATER LINE CONSTRUCTION, CONSTRUCTION ENTRANCE MUST BE RESTORED TO FULL
- WIDTH. PLACEMENT OF EXCAVATED MATERIAL MUST BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH. 14. INSTALL ALL CURBING AND STONE BASE COURSE FOR PAVING IN ROADWAY AND EMERGENCY ACCESS TRAIL.
- 15. INSTALL BITUMINOUS PAVING IN ROADWAY, EMERGENCY ACCESS, AND ALL CONCRETE INCLUDING SIDEWALK.
- 16. FINAL GRADE AND PLACE TOPSOIL IN ALL LANDSCAPE AREAS. TOPSOIL SHALL BE PLACED IN A UNIFORM APPLICATION OF 6 INCHES. 17. CRITICAL STAGE - CONVERT SEDIMENT TRAP #1 TO INFILTRATION BASIN #1 AND SEDIMENT TRAP #2 TO MRC BIORETENTION BASIN #2. THIS CRITICAL STAGE OF THE INFILTRATION BASIN #1 AND MRC BIORETENTION BASIN #2 WILL BE FROM SUBGRADE PREPARATION TO COMPLETION.
- A. FOLLOW INFILTRATION BASIN CONSTRUCTION SEQUENCE AND MRC BASIN CONSTRUCTION SEQUENCE. B. INSTALL POST & RAIL FENCES AROUND BASINS. SEE PLAN VIEW FOR EXACT LOCATION AND EXTENT OF FENCES. ALSO SEE THE POST & RAIL FENCE
- C. ANY AREAS DISTURBED DURING CONVERSION ARE TO BE STABILIZED IMMEDIATELY. D. CRITICAL STAGE - VERIFY TRIBUTARY DRAINAGE AREAS TO INFILTRATION BASIN #1 AND MRC BIORETENTION BASIN #2
- 18. INSTALL FINAL VEGETATION AND LANDSCAPING SPECIFIED ON THE LANDSCAPE PLAN.
- 19. UPON SITE STABILIZATION (UNIFORM COVERAGE OR DENSITY OF 70% ACROSS ALL DISTURBED AREAS) AND NOTIFICATION OF THE CONSERVATION DISTRICT, REMOVE ANY REMAINING EROSION AND SEDIMENT CONTROL FACILITIES. ANY AREA DISTURBED DURING THE REMOVAL OF EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE STABILIZED IMMEDIATELY.
- 20. CLEAR SITE OF DEBRIS AND ALL UNWANTED MATERIALS. OPERATOR SHALL REMOVE FROM SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY BUILDING MATERIAL OR WASTE AT THIS SITE. 21. DEMOBILIZE.
- 22, AS-BUILTS ARE TO BE SUBMITTED TO THE CONSERVATION DISTRICT FOR REVIEW PRIOR TO THE SUBMITTAL OF THE NOTICE OF TERMINATION.
- 23. A NOTICE OF TERMINATION FORM SHOULD BE SUBMITTED TO THE CONSERVATION DISTRICT.

MAINTENANCE PROGRAM

§102.4(b)(5)(x)

THE FOLLOWING MAINTENANCE PROGRAM HAS BEEN DEVELOPED TO PROVIDE FOR THE INSPECTION OF BMPs ON A WEEKLY BASIS AND AFTER EACH MEASURABLE RUNOFF EVENT, AND TO INCLUDE THE REPAIR OF THE BMPs TO ENSURE THEIR EFFECTIVE AND EFFICIENT OPERATION:

LINTIL THE SITE IS STABILIZED AND DURING CONSTRUCTION ACTIVITIES. ALL BMPs MUST BE MAINTAINED PROPERLY BY THI CONTRACTOR. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL 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 RENETTING MUST BE PERFORMED IMMEDIATELY AND IN ACCORDANCE WITH THESE PROCEDURES. PLANS AND DETAILS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED. IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS. ALL SITE INSPECTIONS MUST BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE INDICATING THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG MUST BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST

- COMPOST FILTER SOCK INSPECTIONS SHALL BE CONDUCTED ON A WEEKLY BASIS AND/OR AFTER EACH RUNOFF EVENT. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND SOCK. THE SEDIMENT SHALL BE DISPOSED OF ON SITE AND/OR IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER SIX (6) MONTHS; PHOTODEGRADABLE SOCKS AFTER ONE (1) YEAR. UPON STABILIZATION OF THE 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
- SEDIMENT TRAPS INSPECTIONS SHALL BE CONDUCTED ON A WEEKLY BASIS AND/OR AFTER EACH RUNOFF EVENT. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. WHEN SEDIMENT HAS ACCUMULATED TO THE CLEAN-OUT ELEVATION INDICATED ON THE STAKE. THE SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES, THE SEDIMENT SHALL BE DISPOSED OF ON SITE AND/OR IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR MAY BE REQUIRED TO TREAT OR DRAIN THE SEDIMENT BASINS AND TRAPS SEVEN (7) DAYS AFTER A STORM EVENT IF DIRECTED BY THE LOCAL COUNTY HEALTH DEPARTMENT IN DEALING WITH WEST NILE VIRUS.
- INLET PROTECTION INSPECTIONS SHALL BE CONDUCTED ON A WEEKLY BASIS AND/OR AFTER EACH RUNOFF EVENT. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. ROLLED FARTHEN BERMS IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLETS 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 COST. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. THE SEDIMENT SHALL BE DISPOSED OF ON SITE AND/OR IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
- SWALES SWALES SHALL BE INSPECTED FOR EROSION AND/OR SEDIMENT ACCUMULATION ON AN ANNUAL BASIS, AFTER A SIGNIFICANT RUNOFF EVENT OR AS DIRECTED BY THE CONSERVATION DISTRICT AND/OR BOROLIGH ENGINEER NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. AREAS OF EROSION SHALL BE REGRADED AND STABILIZED. AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. ANY REMOVED SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. ALL AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
- CONSTRUCTION ENTRANCES LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE MUST BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. A STABILIZED CONSTRUCTION EXIT SHALL BE CONSTRUCTED WHERE VEHICLES ENTER AND EXIT. EXITS SHALL BE MAINTAINED OR SUPPLEMENTED AS NECESSARY TO PREVENT THE RELEASE OF SEDIMENT FROM VEHICLES LEAVING THE SITE. ANY SEDIMENT DEPOSITED ON THE ROADWAY SHALL BE SWEPT AS NECESSARY THROUGHOUT THE DAY OR AT THE END OF EVERY DAY AND DISPOSED OF IN AN APPROPRIATE MANNER. SEDIMENT SHALL NOT BE WASHED INTO STORM SEWER SYSTEMS. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORKDAY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEPT INTO ANY ROAD SIDE DITCH, STORM SEWER OR SURFACE WATER.
- SEDIMENT BARRIERS AND TRAPS MUST BE INSPECTED AND THEY MUST BE CLEANED OUT AT SUCH TIME AS THEIR ORIGINAL CAPACITY HAS BEEN REDUCED BY 50 PERCENT. ALL MATERIAL EXCAVATED FROM BEHIND SEDIMENT BARRIERS OR IN BASINS AND TRAPS SHALL BE INCORPORATED INTO ON-SITE SOILS OR SPREAD OUT ON AN UPLAND PORTION OF THE SITE AND STABILIZED. ADDITIONAL SEDIMENT BARRIERS MUST BE CONSTRUCTED AS NEEDED.
- INSPECTIONS SHALL EVALUATE DISTURBED AREAS AND AREAS USED FOR STORING MATERIALS THAT ARE EXPOSED TO RAINFALL FOR EVIDENCE OF OR THE POTENTIAL FOR POLLUTANTS ENTERING THE DRAINAGE SYSTEM OR DISCHARGING FROM THE SITE. IF NECESSARY, THE MATERIALS MUST BE COVERED OR ORIGINAL COVERS MUST BE REPAIRED OR SUPPLEMENTED. ALL AREAS DISTURBED DURING THE EARTHWORK PHASE OF CONSTRUCTION MUST BE TEMPORARILY SEEDED AND STABILIZED WITH HYDRO-STRAW IF PERMANENT STABILIZATION CANNOT BE ACHIEVED WITHIN FOUR (4) DAYS. ALSO, PROTECTIVE BERMS MUST BE CONSTRUCTED, IF NEEDED, IN ORDER TO CONTAIN RUNOFF FROM MATERIAL STORAGE AREAS.
- GRASSED AREAS SHALL BE INSPECTED TO CONFIRM THAT A HEALTHY STAND OF GRASS IS MAINTAINED. THE SITE HAS ACHIEVED FINAL STABILIZATION ONCE ALL AREAS ARE COVERED WITH BUILDING FOUNDATION OR PAVEMENT, OR HAVE A STAND OF GRASS WITH AT LEAST 70 PERCENT DENSITY OR GREATER IN ACCORDANCE WITH PERMIT REQUIREMENTS THE VEGETATIVE DENSITY MUST BE MAINTAINED TO BE CONSIDERED STABILIZED. AREAS MUST BE WATERED, FERTILIZED. AND RESEEDED AS NEEDED TO ACHIEVE THIS REQUIREMENT
- ALL DISCHARGE POINTS MUST BE INSPECTED TO DETERMINE WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING DISCHARGE OF SEDIMENT FROM THE SITE OR IMPACTS TO RECEIVING WATERS.

E+S - MONITORING, INSPECTION AND REPORTING REQUIREMENTS

THE PERMITTEE AND CO-PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOT BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT AND CONDUCTED BY QUALIFIED PERSONNEL. TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL. TO ASCERTAIN THAT E&S BMPs AND PCSM BMPs ARE PROPERLY CONSTRUCTED AND MAINTAINED TO EFFECTIVELY MINIMIZE POLLUTION TO THE WATERS OF THIS COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE AT A

(1) A SUMMARY OF SITE CONDITIONS, E&S BMP AND PCSM BMP, IMPLEMENTATION AND MAINTENANCE AND COMPLIANCE

(2) THE DATE, TIME, NAME AND SIGNATURE OF THE PERSON CONDUCTING THE INSPECTION.

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

(1) ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR THREATEN POLLUTION:

(2) THE PERIOD OF NONCOMPLIANCE, INCLUDING EXACT DATES AND TIMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY (3) STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT RECURRENCE OF THE NONCOMPLIANCE: AND

(4) THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS. REDUCTION, LOSS, OR FAILURE OF THE BMPs UPON REDUCTION, LOSS, OR FAILURE OF THE BMPs, THE PERMITTEE AND CO PERMITTEE SHALL TAKE IMMEDIATE ACTION

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

TO RESTORE THE BMPs OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT. SUCH RESTORED BMPs OR ALTERNATIVE

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

CRITICAL STAGES

THE FOLLOWING ARE CRITICAL STAGES OF CONSTRUCTION:

TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMPs.

- CONSTRUCTION OF SEDIMENT TRAPS
- INSTALLATION OF MRC BIORETENTION BASIN (FROM SUBGRADE PREPARATION TO COMPLETION) INSTALLATION OF INFILTRATION BASIN (FROM SUBGRADE PREPARATION TO COMPLETION)

PROJECT SITE AND WILL BE RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

 VERIEY TRIBUTARY DRAINAGE AREAS TO INFILTRATION BASIN #1 AND MRC BIORETENTION BASIN #2 DURING CONVERSION OF SEDIMENT TRAP TO PERMANENT FACILITIES

REVISIONS

REV DATE COMMENT

	2,		CHECKED BY	
1	06/07/2022	REV. PER BOROUGH	AMT	
ı	00/07/2022	COMMENTS	REK	
2	08/18/2022	REV. PER LCCD	EN/MS	
	00/10/2022	COMMENTS	JP	
3	01/06/2023	REV. PER LCCD	BG/EN	
J	01/00/2023	COMMENTS	JP	
4	01/27/2023	REV. PER BOROUGH	SR	
-	01/21/2023	COMMENTS	JP	
5	03/16/2023	03/16/2023	REV. PER LCCD	EAN
3	03/10/2023	COMMENTS	JP	
6	10/06/2023	REV. PER CLIENT	BG / LB	
0	10/00/2023	COMMENTS	JP	
7	01/19/2024	REV. PER BOROUGH /	EAN	
1	01/19/2024	CLIENT COMMENTS	JRP	



PROJECT No.: DRAWN BY: **CHECKED BY:** 08/06/20

PC191160-CND

1-800-242-1776

20191704041 & 20191704042

CAD I.D.: PROJECT:

> FINAL LAND DEVELOPMENT **PLANS**

REYNOLDS **ACQUISITIONS, L.P.**

PROPOSED RESIDENTIAL DEVELOPMENT

'ASHFORD PRESERVE'

18036

WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY **PENNSYLVANIA**

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

R.E. KLOS, JR.

:PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE045479È NEW JERSEY LICENSE No. 24GE04507900

SHEET TITLE:

SOIL EROSION & SEDIMENT POLLUTION **CONTROL NOTES**

CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.

- 1) ALL EARTH DISTURBANCES. INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION
- 2) AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL
- 3) AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 4) ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
- 5) AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
- 6) CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
- 7) AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
- 8) TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(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
- 9) 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
- 10) 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 THIS SITE
- 11) 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
- 12) 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.
- 13) ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
- 14) VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM ANYWHERE EXCEPT THE ROCK CONSTRUCTION ENTRANCE.
- 15) 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. THE OPERATOR WILL MAINTAIN AND MAKE AVAILABLE TO LEHIGH COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- 16) A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION
- 17) 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.
- 18) ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
- 19) AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES 6 TO 12 INCHES ON COMPACTED SOILS PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
- 20) ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- 21) ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS
- 22) FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- 23) FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS
- 24) FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- 5) SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOF SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- 26) 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
- 27) 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, MULICH OR OTHER 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
- 28) 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 MOTHER MOVEMENTS.
- 29) EROSION AND SEDIMENT BMPS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPS. 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.
- 30) UPON 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
- 31) 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
- 32) UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
- 33) 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 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.
- 34) IN THE EVENT OF SINKHOLE DISCOVERY A PROFESSIONAL GEOLOGIST OR ENGINEER WILL BE CONTACTED CONCERNING MITIGATION. ADDITIONALLY, THE LEHIGH COUNTY CONSERVATION DISTRICT WILL BE MADE AWARE OF THE SINKHOLE DISCOVERY IMMEDIATELY.
- 35) THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- 36) THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64. EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER
- 37) THE E&S CONTROL PLAN MAPPING MUST DISPLAY A PA ONE CALL SYSTEM INCORPORATED SYMBOL INCLUDING THE SITE IDENTIFICATION NUMBER. (THIS IS A NUMBERED SYMBOL NOT A NOTE.)
- 38) AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOD DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.
- 39) ALL WETLANDS MUST BE DELINEATED AND PROTECTED WITH ORANGE SAFETY FENCE PRIOR TO ANY EARTHMOVING ACTIVITY.
- 40) STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN
- 41) 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.
- 42) SEDIMENT TRAPS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURES AND/OR POLLUTE THE SURFACE WATERS.
- 43) BAFFLES MUST BE INSTALLED TO ALLOW BASIN MAINTENANCE AND CLEAN OUT.
- 44) ANY DAMAGE THAT OCCURS IN WHOLE OR IN PART AS A RESULT OF A TRAP DISCHARGE SHALL BE IMMEDIATELY REPAIRED BY THE PERMITTEE IN A PERMANENT MANNER SATISFACTORY TO THE MUNICIPALITY, LOCAL CONSERVATION DISTRICT, AND THE OWNER OF THE DAMAGED PROPERTY.
- 45) UPON REQUEST, THE APPLICANT OR HIS CONTRACTOR SHALL PROVIDE AN AS-BUILT (RECORD DRAWING) FOR ANY SEDIMENT TRAP TO THE MUNICIPAL INSPECTOR, LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
- 46) 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.

- **GENERAL CONSERVATION NOTES AND SPECIFICATIONS**
- GENERAL INFORMATION
- THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE. B. NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT
- FIRST BEING PROPERLY FILTERED C. ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF
- D. DISTURBED AREAS ON WHICH EARTHMOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY, EITHER TEMPORARILY OR PERMANENTLY, INCLUDING THE RESTORATION OF DRIVEWAYS. STOCKPILES. OFF-SITE UNDERGROUND UTILITY
- LINES AND GRADED PERIMETER AREAS. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE ON PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION.
- AREAS THAT FAIL TO GERMINATE MUST BE RE-SEEDED OR MULCHED. WHERE DISTURBED AREAS ARE DIFFICULT TO STABILIZE NETTING SHOULD BE USED TO HOLD SEED AND MULCH IN PLACE: THIS IS ESPECIALLY IMPORTANT AROUND WATERCOURSES. IN SWALES AND AREAS OF CONCENTRATED FLOWS, STEEP SLOPES.
- G. UNTIL THE SITE IS STABILIZED. ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL AFTER EACH RUNOFF EVENT, AND ON A WEEKLY BASIS, ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING RE-MULCHING AND RE-NETTING MUST BE PERFORMED IMMEDIATELY. IF AT ANY TIME PRIOR TO SITE STABILIZATION ANY E&SP PROBLEMS OCCUR WHICH REQUIRE ADDITIONAL
- CONTROLS, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEMS. THE CONTRACTOR MUST DEVELOP AND COORDINATE WITH OWNER AND HAVE APPROVED BY THE COUNTY CONSERVATION DISTRICT. A SEPARATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN FOR EACH SPOIL. BORROW OR OTHER WORK AREA NOT DETAILED ON THE PERMITTED
- PLANS, WHETHER LOCATED WITHIN OR OUTSIDE OF THE LIMITS OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE COUNTY CONSERVATION DISTRICT OF DISPOSAL METHOD AND

K. ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST DO SO IN ACCORDANCE WITH ALL

LOCATION OF MATERIALS (IF ANY) TO BE REMOVED FROM SITE.

- APPLICABLE STATE AND LOCAL REGULATIONS. STOCKPILES TO BE HAULED OFF SITE MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AT THE DESTINATION LOCATION. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN SOIL STABILIZATION THROUGHOUT CONSTRUCTION ADDITIONAL MEASURES REQUIRED TO ENSURE ON-SITE AND OFF-SITE
- STABILIZATION IN AND ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT NO COST TO THE OWNER. IMMEDIATE NOTIFICATION SHALL BE GIVEN TO THE OWNER AND ENGINEER SHOULD ADDITION STABILIZATION MEASURES BE NECESSARY; IN ACCORDANCE WITH THE NPDES AND/OR SWPPP REQUIREMENTS FOR THE PROJECT.
- II. STANDARD FOR LAND GRADING
- A. DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLAN GRADES, WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND LAYOUT. PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES
- AND FULL SLOPES 2. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS. B. INSTALLATION REQUIREMENTS
 - 1. TIMBER, LOGS, BRUSH, RUBBISH, ROCKS, STUMPS AND VEGETABLE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OR FILL AREAS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH STANDARD FOR
 - **DISPOSAL OF MATERIALS** 2. FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE
 - 3. ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
 - 4. ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION
- III. STANDARD FOR UTILITY TRENCH EXCAVATION

(SEE I. D.)

- A. LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO
- TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY. B. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY. DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR A MAX. OF SIX DAYS FOR CERTAIN CASES REQUIRING TESTING OF THE INSTALLED PIPE.
- C. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING TO A FACILITY FOR REMOVAL OF SEDIMENT (SEDIMENT FILTER BAG, SEE DETAIL) BEFORE PIPE PLACEMENT AND/OR BACKELLING BEGINS
- D. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES / FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY
- E. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FORM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
- F. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
- IV. STANDARD FOR TEMPORARY STABILIZATION STANDARD FOR TEMPORARY STABILIZATION WITH FIBERMULCH 1. MULCHING IS MOST APPLICABLE TO THOSE AREAS SUBJECT TO PERIODIC DISTURBANCE AND REWORKING IN ADDITION. STABILIZATION WITH FIBER MULCH SHALL BE USED DURING
- **NON-GERMINATION PERIODS** PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE. GRADE AS NEED AND FEASIBLE. SEE STANDARD FOR LAND GRADING.
- PROTECTIVE MATERIALS TO BE USED:
- UNROTTED SMALL-GRAIN UN-CHOPPED STRAW OR HAY AT 3.0 TONS PER ACRE (4 TONS PER ACRE BETWEEN NOVEMBER 1 AND MARCH 1) SPREAD UNIFORMLY AND ANCHORED WITH LIQUID MULCH BINDER. BINDER PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE PRODUCT
- MANUFACTURER'S SPECIFICATIONS B. HYDROMULCHER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL. LIQUID MULCH BINDERS: APPLY IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. PRODUCTS TO BE INSTALLED AT A RATE OF 1 TON PER ACRE (MINIMUM) OR PER MANUFACTURER'S SPECIFICATIONS.
- B. STANDARD FOR TEMPORARY STABILIZATION WITH SEED DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN TWELVE (12) MONTHS MUST BE SEEDED AND MULCHED IMMEDIATELY WITH A TEMPORARY
- COVER 2. ALL AREAS TO BE PERMANENTLY SEEDED SHALL ALSO RECEIVE TEMPORARY SEEDING
- CONCURRENTLY. SEEDBED PREPARATION FOR TEMPORARY SEEDING
- PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE. APPLY AGRICULTURAL LIME AT A RATE OF 1 TONE PER ACRE
- APPLY 10-10-10 FERTILIZER A RATE OF 500 POUNDS PER ACRE WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR (4)
- INCHES.
- C. SEEDING: SEE SEEDING SPECIFICATIONS
- V. STANDARD FOR PERMANENT STABILIZATION
- A. SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER SITE PREPARATION
- GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE, B. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE. IF NEEDED. SHOULD BE
- APPLIED TO BRING SOIL PH TO BETWEEN 5.5 AND 7 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES. C. IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION. THE SURFACE SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5 INCHES TO PROVIDE A GOOD BOND WITH THE
- APPLYING TOPSOIL TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE
- ALL DISTURBED TOPSOIL ON-SITE IS TO BE REDISTRIBUTED ON-SITE IN AREAS NOT COVERED BY IMPERVIOUS SURFACES. NO REMOVAL OF TOPSOIL IS ALLOWED UNLESS APPROVED BY THE TOWNSHIP. UNIFORM APPLICATION SHALL BE PROVIDED TO A DEPTH OF 6-8 INCHES (UNSETTLED) AND PLEASE ALSO REFER TO STANDARD LEHIGH COUNTY CONSERVATION. DISTRICT NOTE #19. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE.
- 3. SEEDBED PREPARATION A. A SOIL TEST SHALL BE CONDUCTED TO ACCURATELY DETERMINE NECESSARY SOIL AMENDMENTS.

HYDROMULCHING) AS OUTLINED IN ITEM IV.A. HEREIN.

- B. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE. SOIL MODIFICATIONS:
- APPLY 10-10-20 RATED FERTILIZER AT A RATE OF 1000 POUNDS PER ACRE OR 25 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST.
- APPLY AGRICULTURAL LIME AT A RATE OF 6 TONS PER ACRE OR 240 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST.
- D. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED. E. REMOVE FROM THE SURFACE ALL STONES ONE INCH (1") OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE,
- CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL F. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RE-TILLED AND FIRMED AS ABOVE.
- 4. SEEDING: SEE SEEDING SPECIFICATIONS 5. SEED BED AREAS SHALL ALSO BE STABILIZED USING AN APPROVED METHOD (EG:

- B. STANDARD FOR PERMANENT STABILIZATION WITH SOD
- METHODS AND MATERIALS A. CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD," OR
 - OTHER HIGH QUALITY CUI TIVATED SOD B. SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDY GRASSES.
 - C. SOD SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 5/8 INCH, PLUS OR MINUS 1/4 INCH,
 - AT TIME OF CUTTING. (EXCLUDES TOP GROWTH). D. SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 0% OF THE STRIP.
 - BROKEN PADS OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE E. A SOD OF KENTUCKY 31 TALL FESCUE WITH BLUEGRASS, OR A FESCUE BLEND IS PREFERRED.
 - F. ONLY MOIST, FRESH UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DFI IVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

 - 2. SITE PREPARATIONS: SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER (ITEM V.A. ABOVE) 3. SOD PLACEMENT
 - A. SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH
 - TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD. B. PLACE SOD STRIPS WITH SNUG EVEN JOINTS THAT ARE STAGGERED. OPEN SPACES INVITE
 - C. ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY IN
 - ORDER TO PREVENT VOIDS. WHICH WOULD CAUSE DRYING OF THE ROOTS. D. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE
 - STAPLES OR A BIODEGRADABLE FASTENER. E. SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE. BUT A CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO
 - ANCHOR NETTING IN CHANNEL WORK. F. IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM
 - MOISTURE FOR AT I FAST TWO WEEKS 4. FOLLOW-UP INSPECTION: AFTER THE FIRST GROWING SEASON, THE SOD SHOULD BE INSPECTED TO DETERMINE IF ADDITIONAL FERTILIZATION OR LIMING IS NEEDED

SEEDING SPECIFICATIONS

- A. SEEDING SHALL OCCUR BETWEEN MARCH 1ST AND MAY 15TH OR BETWEEN AUGUST 15TH AND NO
- LATER THAN OCTOBER 15TH. B. IF SEEDING CANNOT BE CONDUCTED DURING THE TIMEFRAMES NOTED ABOVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL CONSERVATION DISTRICT AND ALL APPROPRIATE AGENCIES TO DETERMINE AN ACCEPTABLE MEANS IN WHICH TO STABILIZE THE SITE
- THROUGH THE NEXT GROWING SEASON 2. SEED MIXTURES: SEED MIXTURE TO BE USED ON THIS SITE SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE NOTED ON THE PLANS. RATES ARE IN THE FORM OF POUNDS PER ACRE (LB/A) PER PURE LIVE SEED (POUNDS / ACRE PLS). CONTRACTOR WILL NEED TO ADJUST ACCORDINGLY BASED ON THE SEED GERMINATION AND PURITY RATING (SEE ITEM #3 BELOW)
- A. TEMPORARY SEED MIXTURES: DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE DISTURBED AGAIN WITHIN TWELVE (12) MONTHS MUST BE SEEDED WITH A TEMPORARY SEED MIXTURE AS FOLLOWS: ANNUAL RYF (40 POUNDS / ACRE PLS)
- OR SPRING OATS (96 POUNDS / ACRE PLS) OR WINTER RYE (168 POUNDS / ACRE PLS)
- (REFERENCE: PENN STATE "EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND", TABLE 5)
- B. PERMANENT SEEDING SHALL CONSIST OF A NURSE CROP PLUS A PERMANENT SEED MIXTURE, AS NURSE CROP (SELECT ONE):

(REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION,

- ANNUAL RYE (10 POUNDS / ACRE PLS)
- OR SPRING OATS (64 POUNDS / ACRE PLS) OR WINTER RYE (56 POUNDS / ACRE PLS)

BY 100 ((%PLIRE X %GERMINATION) / 100)

- TABLE 11.4, SEED MIX #1) II PERMANENT SEED MIX: TALL FESCUES (64 POUNDS / ACRE PLS)
- OR FINE FESCUE (35 POUNDS / ACRE PLS) OR KENTUCKY BLUEGRASS (25 POUNDS / ACRE PLS) PLUS REDTOP (3 POUNDS / ACRE PLS) OR PERENNIAL RYEGRASS (15 POUNDS / ACRE PLS)
- (REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION, TABLE 11.4, SEED MIX #2) PURE LIVE SEED: A. SEED USED FOR THE PURPOSE OF PERMANENT STABILIZATION SHALL BE LABELED WITH
- GERMINATION AND PURITY PERCENTAGES. UNLABELED SEED WILL BE REJECTED. SEED SHALL NOT BE USED MORE THAN ONE (1) YEAR BEYOND THE LABEL DATE. B. DETERMINING THE PERCENT PURE LIVE SEED (PERCENT PLS) OF A LABELED SEED: MULTIPLY BY THE PERCENTAGE OF PURE SEED BY THE PERCENTAGE OF GERMINATION AND DIVIDE THE RESULT
- DETERMINING THE ACTUAL SEED RATE: SIMPLY DIVIDE THE PERCENT PLS RATING OF THE SEED INTO THE PLS REQUIRED. AS NOTED ABOVE. THE RESULT IS THE POUNDS OF SEED REQUIRED. FOR EXAMPLE: IF THE REQUIRED RATE IS 64 POUNDS PLS. AND THE SEED IS RATED AT 35% PLS. DIVIDE 64 BY 0.35 TO GET 182.9 POLINDS, WHICH IS THE AMOUNT OF THAT SEED REQUIRED PER ACRE
- 4. APPLICATION OF SEED: SEEDING SHALL BE APPLIED AND ESTABLISHED IN ACCORDANCE WITH THE "EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL" AS PUBLISHED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER QUALITY PROTECTION (MOST
- RECENT EDITION) A. SEED SHALL BE APPLIED IN A NON-COMPACTED, ROUGHENED TOPSOIL. REFERENCE THE STANDARD FOR PERMANENT STABILIZATION (SECTION V.A.2.B IN THE GENERAL CONSERVATION
- NOTES) FOR DEPTH OF TOPSOIL. B. SEED MAY BE APPLIED THROUGH ANY OF THE FOLLOWING MEANS AND METHODS, OR OTHER ACCEPTED INDUSTRY PRACTICES, UNLESS SPECIFICALLY NOTED OTHERWISE ON THESE PLANS: I. DRILL SEEDING
- II. BROADCAST SEEDING (TWO DIRECTIONS) III. HYDROSEEDING (TWO DIRECTIONS) C. ALL SEED SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED UNTIL A 70% PERENNIAL COVER
- IS ACHIEVED: I. TEMPORARY STABILIZATION WITH STRAW: 1. STRAW MULCH SHALL BE APPLIED ON TOP OF THE FRESHLY SEEDED AREAS AT A RATE OF 3 TONS PER ACRE (4 TONS PER ACRE BETWEEN NOVEMBER 1ST AND MARCH 1ST)
- 2. STRAW SHALL BE STABILIZED WITH A WOOD OR PAPER FIBER MULCH AND TACKIFIER SOLUTION IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S SPECIFICATIONS. II. TEMPORARY/PERMANENT STABILIZATION WITH EROSION CONTROL MATTING/BLANKETS (WHERE SPECIFIED):
- 1. MATTING/BLANKETS SHALL BE INSTALLED IN AREAS AS NOTED ON THE EROSION & SEDIMENT CONTROL PLAN OR WITHIN 50 FEET OF PONDS, STREAMS OR WETLANDS. THE PRODUCT SHALL BE INSTALLED AND STAPLED ON TOP OF THE SEEDING IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
- 2. AREAS WITH MATTING/BLANKETS SHALL NOT BE TRACKED (CATWALKED) AFTER INSTALLATION. 3. MATTING/BLANKETS SHALL BE VISUALLY INSPECTED DAILY TO ENSURE THAT THE PRODUCT IS FUNCTIONING PROPERLY, IS HELD FAST TO THE SOIL SURFACE AND IS IN GOOD
- CONDITION D. ONCE SEED HAS BEEN SET, VEHICULAR TRAFFIC OR OTHER SOURCES OF COMPACTION SHALL BE 5. IRRIGATION: NEW SEED APPLICATIONS SHOULD BE SUPPLIED WITH ADEQUATE WATER, A MINIMUM OF

PLANTING SHALL BE USED.

THEREAFTER EARLY IN SPRING ONLY

1/4" TWICE A DAY, UNTIL VEGETATION IS WELL ESTABLISHED (A MINIMUM OF 75% COVER). **ERNST SEED CO. RETENTION BASIN** WILDLIFE SEED MIX SPECIFICATIONS (ERNMX-127):

PANICUM CLANDESTINUM 'TIOGA'	DEERTONGUE, TIOGA	30%
CAREX VULPINOIDEA (PA ECOTYPE)	FOX SEDGE	29.5%
ELYMUS VIRGINICUS (PA ECOTYPE)	VIRGINIA WILD RYE	20%
CAREX LURIDA (PA ECOTYPE)	LURID SEDGE	7%
CAREX SCOPARIA (PA ECOTYPE)	BLUNT BROOM SEDGE	7%
VERBENA HASTATA (PA ECOTYPE)	BLUE VERVAIN	3%
JUNCUS EFFUSUS	SOFT RUSH	1.5%
AGROSTIS PERENNANS (NY ECOTYPE)	AUTUMN BENTGRASS, ALBANY PINE BUSH	0.5%
ASCLEPIAS INCARNATA (PA ECOTYPE)	SWAMP MILKWEED	0.5%
SCIRPUS CYPERINUS (PA ECOTYPE)	WOOL GRASS	0.3%
HELENIUM AUTUMNALE (PA ECOTYPE)	COMMON SNEEZEWEED	0.2%
ASTER NOVAE-ANGLIAE (PA ECOTYPE)	NEW ENGLAND ASTER	0.1%
ASTER PUNICEUS (PA ECOTYPE)	PURPLESTEM ASTER ASTER	0.1%
ASTER UMBELLATA (PA ECOTYPE)	FLAT TOPPED WHITE ASTER	0.1%
EUPATORIUM PERFOLIATUM (PA ECOTY	PE) BONESET	0.1%
LUFATORION FLIN OLIATON (FA LCOTT		0.1%

EMPORARY SEED SPECIFICATIONS APPROPRIATE FOR THE TIME OF YEAR: ANNUAL RYE (40 LBS PER ACRE) OR SPRING OATS (96 LBS PER ACRE OR WINTER RYE (168 LBS PER ACRE)

1.) THE FORMULATION NOTED ABOVE IS REPRESENTATIVE OF THE ERNST SEED SPECIFICATION THE MOST CURRENT FORMULATION AS SPECIFIED BY THE ERNST COMPANY AT THE TIME OF

COCONUT BLANKET (OR APPROVED EQUAL). THE BLANKET SHOULD BE INSTALLED ON TOP OF

2.) SEED SHOULD BE APPLIED USING DRILL SEEDING OR BROADCAST SEEDING METHODS ONLY. THE CONTRACTOR MUST ENSURE DIRECT SEED-TO-SOIL CONTACT. HYDROSEEDING IS NOT PERMITTED WITH THIS SEED MIX; IT WILL PROHIBIT GERMINATION. 3.) THE ENTIRE FACILITY SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN SC150 STRAW &

4.) THE SEED MIX WILL NEED DAILY SUPPLEMENTAL WATERING UNTIL IT HAS GERMINATED AND 5.) THE SEEDING AREA SHALL BE MOWED ONCE AFTER THE FIRST GROWING SEASON, EARLY IN THE SPRING, AND THEN SHALL BE MOWED NO MORE THAN ONCE EVERY THREE YEARS

THE SEED IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS

DEFINITION OF CLEAN FILL AND IMPORT/EXPORT MATERIAL NOTES

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

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

2.) CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

3.) ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE

4.) ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

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

E&S PLAN PLANNING & DESIGN

- THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE:
- ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE STAKE OUT LIMIT OF DISTURBANCE
- PROTECT EXISTING TREES WITH TREE PROTECTION FENCING • SEQUENCE CONSTRUCTION ACTIVITIES BY LIMITING DISTURBANCES TO A SPECIFIC TASK SUCH THAT EACH TASK IS COMPLETED BEFORE THE NEXT
- E&S CONTROLS (COMPOST FILTER SOCKS, SEDIMENT TRAPS, INLET PROTECTION) SHALL BE INSTALLED
- THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION:
- ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE PROTECT EXISTING TREES WITH TREE PROTECTION FENCING
- E&S CONTROLS (COMPOST FILTER SOCKS, SEDIMENT TRAPS, INLET PROTECTION) SHALL BE INSTALLED
- THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION: ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE • USE OF TREADED MACHINERY WHERE PRACTICAL DURING EARTHMOVING OPERATIONS
- THE FOLLOWING MEASURES ARE TAKEN TO PREVENT OR MINIMIZE GENERATION OF INCREASED STORM WATER RUNOFF: PROVIDE 1 INFILTRATION BASIN TO HELP REDUCE RUNOFF RATES AND VOLUME

PROVIDE 1 MRC BIORETENTION BASIN TO HELP REDUCE RUNOFF RATES AND VOLUME

E&S - GENERAL NOTES:

MEASURES.

GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS

1. THIS PLAN REPRESENTS THE MINIMUM LEVEL OF IMPLEMENTATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROL STRUCTURES. ADDITIONAL FACILITIES OR MEASURES SHALL BE INSTALLED WHERE NECESSARY OR WHERE DIRECTED BY EITHER THE BOROUGH OR THE COUNTY CONSERVATION DISTRICT AS CONSTRUCTION PROGRESSES.

2. THE OWNER/CONSTRUCTION MANAGER IS RESPONSIBLE FOR ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROLS AND SITE STABILIZATION. THE OWNER SHALL ASSIGN ONE INDIVIDUAL TO BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL FACILITIES AND

3. PROTECTION TO THE EXISTING TREES AND SHRUBS SHALL BE TAKEN BY THE CONTRACTOR TO ELIMINATE UNNECESSARY DAMAGE.

4. ANY DRY FILL HAULED OFFSITE MUST BE TAKEN TO A LOCATION WITH AN EROSION AND SEDIMENTATION CONTROL PLAN WHICH HAS BEEN REVIEWED BY THE COUNTY CONSERVATION DISTRICT FOR ADEQUACY

AREAS OF THOSE CONTROLS. 6. STOCKPILES MUST BE STABILIZED IMMEDIATELY.

7. NO CHANGES SHALL BE MADE IN THE CONTOUR OF THE LAND. NO GRADING, EXCAVATING, REMOVAL OR DESTRUCTION OF THE TOPSOIL, TREES OR OTHER VEGETATIVE COVER OF THE LAND SHALL BE COMMENCED WITHIN A PROPOSED SUBDIVISION OR LAND DEVELOPMENT TRACT UNTIL SUCH TIME THAT A PLAN FOR SEDIMENTATION CONTROL AND MINIMIZING EROSION HAS BEEN REVIEWED AND FOUND SATISFACTORY BY THE COUNTY CONSERVATION DISTRICT AND REVIEWED AND APPROVED BY THE BOROUGH, OR THERE HAS BEEN A DETERMINATION BY THE BOROUGH, UPON RECOMMENDATION BY THE COUNTY CONSERVATION DISTRICT, THAT SUCH PLANS ARE NOT NECESSAR

5. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN TRIBUTARY

8. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE COUNTY CONSERVATION DISTRICT

9. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.

SOLIDAGO JUNCEA (VA ECOTYPE)

ANNUAL RYE (40 LBS PER ACRE)

OR SPRING OATS (96 LBS PER ACRE)

OR WINTER RYE (168 LBS PER ACRE)

PYCNANTHEMUM TENUIFOLIUM

10. CONTRACTOR SHALL USE TREADED MACHINERY AND MINIMIZE SOIL COMPACTION WHEREVER POSSIBLE.

ERNST SEED CO. NORTHEAST ANNUAL & PERENNIAL WILDFLOWER MIX SEEDING **SPECIFICATIONS (ERNMX-168):**

ECHINACEA PURPUREA PURPLE CONEFLOWER LINUM GRANDIFLORUM RUBRUM SCARLET FLAX COREOPSIS LANCEOLATA LANCELEAF COREOPSIS DELPHINIUM AJACIS ROCKET LARKSPUR RUDBECKIA HIRTA (COASTAL PLAIN NC ECOTYPE) BLACK EYED SUSAN LUPINUS POLYPHYLLUS BIGLEAF LUPINE CALENDULA OFFICINALIS CALENDULA LAVATERA TRIMESTRIS TREE MALLOW LINUM PERENNE SSP. LEWISII PERENNIAL BLUE FLAX TRIFOLIUM INCARNATUM CRIMSON CLOVER ESCHSCHOLZIA CALIFORNICA CALIFORNIA ORANGE POPPY HELIOPSIS HELIANTHOIDES (PA ECOTYPE) OXEYE SUNFLOWER CHRYSANTHEMUM MAXIMUM SHASTA DAISY CHEIRANTHUS ALLIONII WALLFLOWER RED PRAIRIE CONEFLOWER RATIBIDA COLUMNARIS ACHILLEA MILLEFOLIUM COMMON YARROW LIATRIS SPICATA MARSH (DENSE) BLAZING STAR PYCNANTHEMUM TENUIFOLIUM NARROWLEAF MOUNTAINMIN OBULARIA MARITIMA SWEET ALYSSUM PENSTEMON DIGITALIS (PA ECOTYPE) TALL WHITE BEARDTONGUE TRADESCANTIA OHIENSIS (PA ECOTYPE OHIO SPIDERWORT MONARDA FISTULOSA (FORT INDIANTOWN GAP-PA ECOTYPE) WILD BERGAMOT PAPAVER RHOEAS (SHIRLEY MIX) CORN POPPY ASCLEPIAS TUBEROSA BUTTERFLY MILKWEED

SMOOTH BLUE ASTER

ZIGZAG ASTER

BAPTISIA AUSTRALIS (SOUTHERN WV ECOTYPE) BLUE FALSE INDIGO CLARKIA ELEGANS CLARKIA SILENE ARMERIA CATCHFLY SOLIDAGO NEMORALIS (PA ECOTYPE) GRAY GOLDENROD SOLIDAGO ODORA (PA ECOTYPE) LICORICE SCENTED GOLDENROD SEEDING RATE: 7-10 lb. PER ACRE OF THE ERNST MIX

ASTER LAEVIS (NY ECOTYPE

PROHIBIT GERMINATION.

ASTER PRENANTHOIDES (PA ECOTYPE)

SPECIFICATIONS APPROPRIATE FOR THE TIME OF YEAR:

ANNUAL RYE (10 LBS PER ACRE)

OR SPRING OATS (64 LBS PER ACRE

OR WINTER RYE (56 LBS PER ACRE .) THE FORMULATION NOTED ABOVE IS REPRESENTATIVE OF THE ERNST SEED SPECIFICATION. THE MOST CURRENT FORMULATION AS SPECIFIED BY THE ERNST COMPANY AT THE TIME OF PLANTING SHALL BE USED.

2.) SEED SHOULD BE APPLIED USING DRILL SEEDING OR BROADCAST SEEDING METHODS ONLY. THE CONTRACTOR

ST ENSURE DIRECT SEED-TO-SOIL CONTACT. HYDROSEEDING IS NOT PERMITTED WITH THIS SEED MIX; IT WILL

NURSE CROP: THE ERNST SEED MIX MUST BE ACCOMPANIED BY ONE OF THE FOLLOWING TEMPORARY SEED

BLANKET (OR APPROVED EQUAL). THE BLANKET SHOULD BE INSTALLED ON TOP OF THE SEED IN ACCORDANCE 4.) THE SEED MIX WILL NEED DAILY SUPPLEMENTAL WATERING UNTIL IT HAS GERMINATED AND REACHED AN AVERAGE HEIGHT OF AT 12-18".

THEN SHALL BE MOWED NO MORE THAN ONCE EVERY THREE YEARS THEREAFTER EARLY IN SPRING ONLY

5.) THE SEEDING AREA SHALL BE MOWED ONCE AFTER THE FIRST GROWING SEASON, EARLY IN THE SPRING, AND

3.) THE ENTIRE FACILITY SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN SC150 STRAW & COCONU

ERNST SEED CO. RAIN GARDEN MIX SEEDING SPECIFICATIONS (ERNMX-180):

EARLY GOLDENROD

SLENDER MOUNTAINMINT

CHASMANTHIUM LATIFOLIUM (PA/VA ECOTYPE BLEND) RIVER OATS ELYMUS VIRGINICUS (PA ECOTYPE VIRGINIA WILD RYE CAREX VULPINOIDEA (PA ECOTYPE) FOX SEDGE ECHINACEA PURPUREA PURPLE CONEFLOWER PENSTEMON DIGITALIS (PA ECOTYPE) TALL WHITE BEARDTONGUE RUDBECKIA HIRTA (COASTAL PLAIN NC ECOTYPE) BLACKEYED SUSAN COREOPSIS LANCEOLATA (COASTAL PLAIN NC ECOTYPE) LANCELEAF COREOPSIS TRADESCANTIA OHIENSIS (PA ECOTYPE) OHIO SPIDERWORT HELIOPSIS HELIANTHOIDES (PA ECOTYPE OXEYE SUNFLOWER AGROSTIS PERENNANS (PA ECOTYPE) AUTUMN BENTGRASS CHAMAECRISTA FASCICULATA (PA ECOTYPE PARTRIDGE PEA LIATRIS SPICATA (PA ECOTYPE) MARSH (DENSE) BLAZING STAR ASTER LAEVIS (NY ECOTYPE) SMOOTH BLUE ASTER SENNA HEBECARPA (VA & WV ECOTYPE) WILD SENNA ASTER NOVAE-ANGLIAE (PA ECOTYPE NEW ENGLAND ASTER ASCLEPIAS INCARNATA (PA ECOTYPE SWAMP MILKWEED JUNCUS TENUIS (PA ECOTYPE) PATH RUSH JUNCUS EFFUSUS SOFT RUSH MONARDA FISTULOSA (FORT INDIANTOWN GAP-PA ECOTYPE) WILD BERGAMOT EUPATORIUM COELESTINUM (VA ECOTYPE) MISTFLOWER BAPTISIA AUSTRALIS (SOUTHERN WV ECOTYPE) BLUE FALSE INDIGO

SEEDING RATE: 20 lb. PER ACRE OF THE ERNST MIX NURSE CROP: THE ERNST SEED MIX MUST BE ACCOMPANIED BY ONE OF THE FOLLOWING TEMPORARY SEED

1.) THE FORMULATION NOTED ABOVE IS REPRESENTATIVE OF THE ERNST SEED SPECIFICATION. THE MOST CURRENT FORMULATION AS SPECIFIED BY THE ERNST COMPANY AT THE TIME OF PLANTING SHALL BE USED 2.) SEED SHOULD BE APPLIED USING DRILL SEEDING OR BROADCAST SEEDING METHODS ONLY. THE CONTRACTOR MUST ENSURE DIRECT SEED-TO-SOIL CONTACT. HYDROSEEDING IS NOT PERMITTED WITH THIS SEED MIX; IT WILL PROHIBIT

3.) THE ENTIRE FACILITY SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN SC150 STRAW & COCONUT BLANKET (OR APPROVED EQUAL). THE BLANKET SHOULD BE INSTALLED ON TOP OF THE SEED IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. 4.) THE SEED MIX WILL NEED DAILY SUPPLEMENTAL WATERING UNTIL IT HAS GERMINATED AND REACHED AN AVERAGE

5.) THE SEEDING AREA SHALL BE MOWED ONCE AFTER THE FIRST GROWING SEASON, EARLY IN THE SPRING, AND THEN SHALL BE MOWED NO MORE THAN ONCE EVERY THREE YEARS THEREAFTER EARLY IN SPRING ONLY

CCA	3	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2.5" CAL.	B&B
co	10	CELTIS OCCIDENTALIS	COMMON HACKBERRY	2.5" CAL.	B&B
LSR	16	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	ROUND-LOBED SEEDLESS SWEET GUM	2.5" CAL.	B&B
NS	13	NYSSA SYLVATICA	SOUR GUM	2.5" CAL.	B&B
QBC	19	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	B&B
QPH	10	QUERCUS PHELLOS	WILLOW OAK	2.5" CAL.	B&B
TA	7	TILIA AMERICANA	AMERICAN LINDEN	2.5" CAL.	B&B
UV	11	ULMUS AMERICANA 'VALLEY FORGE'	AMERICAN ELM	2.5" CAL.	B&B
				•	•
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
PGL	46	PICEA GLAUCA	WHITE SPRUCE	6-8	B&B
PIAB	59	PICEA ABIES	NORWAY SPRUCE	6-8'	B&B
PO	25	PICEA OMORIKA	SERBIAN SPRUCE	6-8`	B&B
PP	43	PICEA PUNGENS	COLORADO SPRUCE	6-8'	B&B
TOG	8	THUJA OCCIDENTALIS 'GREEN GIANT'	GREEN GIANT ARBORVITAE	6-8'	B&B
ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
AC	3	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	8-10	B&B
MA	6	MALUS X 'ADIRONDACK'	ADIRONDACK CRABAPPLE	2.5" CAL.	B&B
MV	5	MAGNOLIA VIRGINIANA	SWEET BAY	8-10°	B&B
				•	•
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
SUKUBS				5-6`	B&B

10 ACER SACCHARUM 'GREEN MOUNTAIN' GREEN MOUNTAIN SUGAR MAPLE 2.5" CAL. B&B

REVISIONS

COMMENT REV DATE REV. PER BOROUGH 06/07/2022 COMMENTS REV. PER LCCD 08/18/2022 COMMENTS REV. PER LCCD 01/06/2023 COMMENTS RFV_PFR BOROUGH 4 01/27/2023 COMMENTS REV. PER LCCD 5 03/16/2023 COMMENTS REV. PER CLIENT 6 10/06/2023 COMMENTS REV. PER BOROUGH / 01/19/2024 CLIENT COMMENTS



PROJECT No.: DRAWN BY: **CHECKED BY:** 08/06/20 CAD I.D.: PC191160-CND

FINAL LAND

PROJECT:

PLANS

DEVELOPMENT

REYNOLDS

ACQUISITIONS. L.P.

WEST STATE STREET

COOPERSBURG BOROUGH

LEHIGH COUNTY

PROPOSED RESIDENTIAL DEVELOPMENT 'ASHFORD PRESERVE'

PENNSYLVANIA 18036

> 1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100

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SHEET TITLE: **SOIL EROSION &** SEDIMENT **POLLUTION**

CONTROL NOTES &

DETAILS

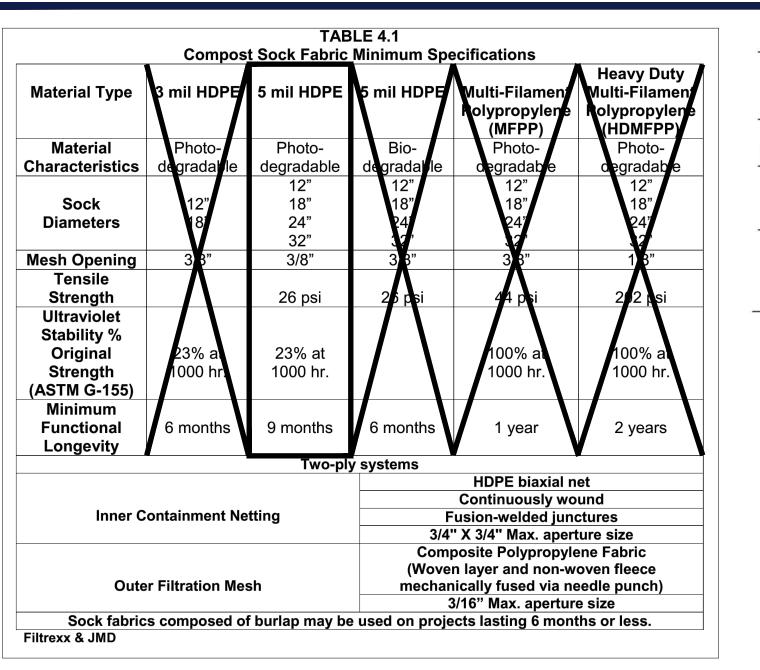


TABLE 4.2

Compost Standards

EARTHEN BERM

TRASH RACK (SEE-

TRASH RACK DETAIL)

FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE

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

A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT

ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE TRAP IN THE MANNER DESCRIBED

CHECK EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS INSIDE THE TRAP SHALL BE STABILIZED BEFORE CONVERSION TO STORMWATER MANAGEMENT

STANDARD CONSTRUCTION DETAIL #8-8

CONCRETE RISER WITH TEMPORARY DEWATERING HOLES

NOT TO SCALE

-24" DIAMETER FILTREXX® SOXX™

IMMEDIATELY RESTORED TO THE DESIGN SPECIFICATIONS. DISPLACED RIPRAP WITHIN THE OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.

-2" X 2" X 36" WOODEN

STAKES PLACED 10' O.C.

MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6 TO 9 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE

ELEV LENGTH C.

25% - 100% (dry weight basis)

Fibrous and elongated

5.5 - **8.5**

30% - 60%

30% - 50% pass through **3/8" sieve**

5.0 dS/m (mmhos/cm) Maximum

Db GEOTEXTILE

Organic Matter Content

Organic Portion

рΗ

Moisture Content Particle Size

Soluble Salt Concentration

ELEV. AT 1.5 CFS PER-

TRASH RACK AND

TRCE (2000 CF/AC)

(700 CF/AC) THEN_ ONE 1 IN. DIÁ. HOLE

PER VERT. FT.

PERF CREST

ELEV | WIDTH |

Etw

ELEV | ELEV | MAT'L | Db |

ELEV

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

ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES SHALL BE PROVIDED.

MAX. WATER LEVEL

-4" MINIMUM FREEBOARD

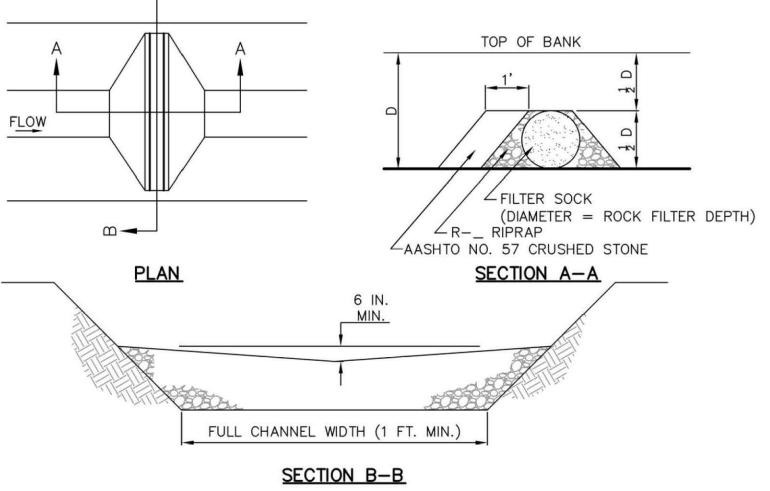
SINGLE INSTALLATION SECTION

2:1 MAX. SLOPE

BOTTOM HOLE AT COE

ANTI-VORTEX DEVICE

ACRE DISCHARGE

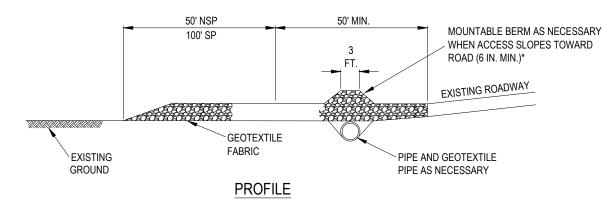


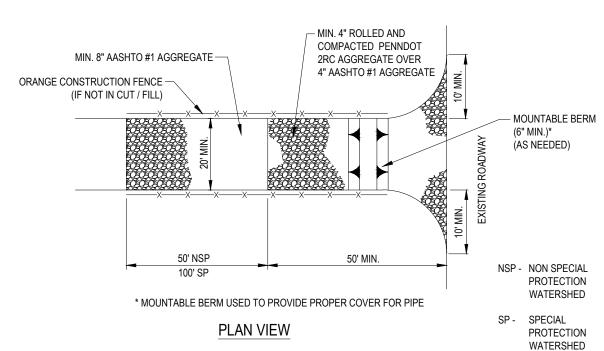
NOTES:

 \square

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS. IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

CONSTRUCTION DETAIL ROCK FILTER WITH COMPOST SOCK NOT TO SCALE





-1 IN. DIA HOLE AT TOP OF

SEDIMENT STORAGE ZONE

MATERIAL OR PLATE

WATERTIGHT

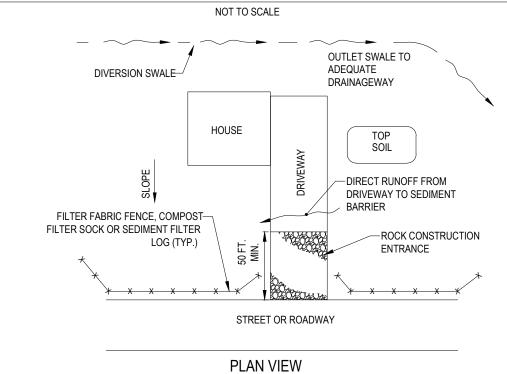
REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-1 (ABACT) ROCK CONSTRUCTION ENTRANCE



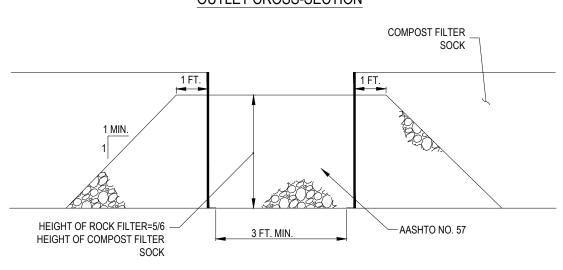
THE UPSLOPE DIVERSION CHANNEL SHOULD BE INSTALLED WHEREVER THE LOT EXTENDS MORE THAN 150 FEET ABOVE THE ROADWAY OR WHERE RUNOFF FORM AREAS ABOVE THE LOT IS NOT OTHERWISE DIVERTED AWAY FROM THE LOT. THE CHANNEL SHOULD BE PROPERLY SIZED AND PROVIDED WITH A SUITABLE PROTECTIVE LINING. THE DESIGNER AND/OR CONTRACTOR MUST EXERCISE CAUTION TO PROTECT ALL DOWNSTREAM PROPERTY OWNERS WHEN SELECTING A DISCHARGE POINT FOR THIS CHANNEL.

> STANDARD CONSTRUCTION DETAIL #10-1 TYPICAL ON-LOT BMPs FOR LOT ABOVE ROADWAY

TOP OF BERM (SEE CHART) EMERGENCY SPILLWAY CREST (SEE CHART PROPOSED NORTH AMERICAN-GREEN SC250 EROSION CONTROL BLANKET OR AN APPROVED EQUIVALEN[®] BOTTOM OF BASIN (SEE CHART) 1' DEEP EMBEDMENT--PROPOSED NAG SC250 EROSION CONTROL BLANKET OR AN APPROVED EQUIVALENT TOP OF BERM (SEE CHART MERGENCY SPILLWAY CREST (SEE CHART) BOTTOM OF BASIN (SEE CHART) TOE OF EMBANKMENT FRONT VIEW TEMP. E&S PERM. TOP OF SPILL WAY BASIN BASIN **SPILLWAY FACILITY** CREST BERM MATTING BOTTOM WIDTH BOTTOM MATTING ELEVATION ELEVATION NUMBER STAPLE ELEVATION | ELEVATION TYPE (FT) PATTERN (FT) E (SEE BASIN 1 515.30 509.00 NAG SC250 TRAP 1 DETAIL) E (SEE BASIN 2/ 519.50 520.50 525.00 526.30 NAG SC250 DETAIL) TRAP 2 **BASIN SPILLWAY LINING DETAIL X-9**

NOT TO SCALE

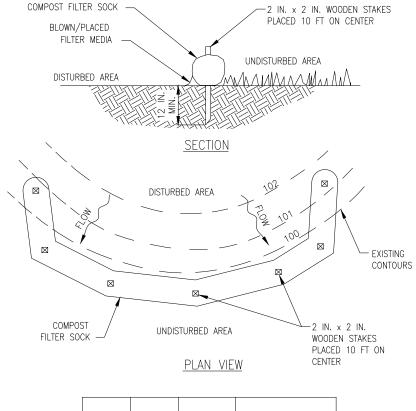
-COMPOST FILTER SOCK OPTIONAL 6 IN. COMPOST LAYER FIRMLY ANCHORED -OPTIONAL 6 IN. SUMP - AASHTO NO. 57 6 IN. MIN **OUTLET CROSS-SECTION** COMPOST FILTER



A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A COMPOST FILTER SOCK HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE INSTALLED 6" UPSLOPE ON BOTH SIDES OF COMPOST FILTER

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

STANDARD CONSTRUCTION DETAIL #4-6 ROCK FILTER OUTLET



_	_		TE 101	\	WITH FLARED END SECTION OR ENDWALL	
	·		,00	EXISTING CONTOURS	NOT TO SCALE	
7	UNDIS	STURBED AREA PLAN VIE	WOODE PLACEI	x 2 IN. IN STAKES D 10 FT ON R	TEMP. SOIL STOCKPILE WHERE APPLICABLE TEMP. 18" COMPOST FILTER SOCK (TO BE PLACED ON THE DOWN-SLOPE SIDE OF THE EXCAVATION)	
<	DIA (IN)	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)		TRENCH	
	18	6.67%	224		OFE SITE STODM DDAIN TRENCH E&S CONTROLS DETAIL	
- 1	40	4 4 0 0 /	202		- LIBB XIIB XIIIRWIIRWAN IRANNI RENNI H BXXXIINNI RIN XIIBI XII	

OFF-SITE STORM DRAIN TRENCH E&S CONTROLS DETAIL

PLAN VIEW

₹ ↓ 0% SLOPE

SECTION Y-Y

SECTION Z-Z

SIZE

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN.

DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

THICK. LENGTH

TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

STANDARD CONSTRUCTION DETAIL #9-1

RIPRAP APRON AT PIPE OUTLET

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

- GEOTEXTILE

INITIAL TERMINA

WIDTH WIDTH

(FT)

(FT)

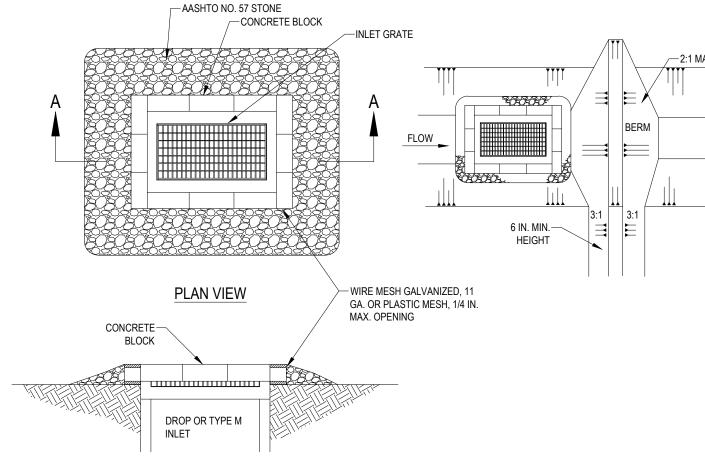
 SOCK MATERIAL SHALL MEET THE STANDARDS OF PA DEP EROSION CONTROL MANUAL TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF PA DEP EROSION CONTROL MANUAL TABLE 4.2 COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST EIGHT (8) FEET UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT (PA DEP EROSION CONTROL MANUAL FIGURE 4.1). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON PA DEP EROSION CONTROL MANUAL FIGURE 4.2. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

3.50%

2.20%

 SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT, DAMAGED SOCKS SHALL BE REPAIRED. ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER SIX (6) MONTHS, PHOTODEGRADABLE SOCKS AFTER ONE (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

> STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK



SECTION A-A

MAXIMUM DRAINAGE AREA =1 ACRE.

NOTES:

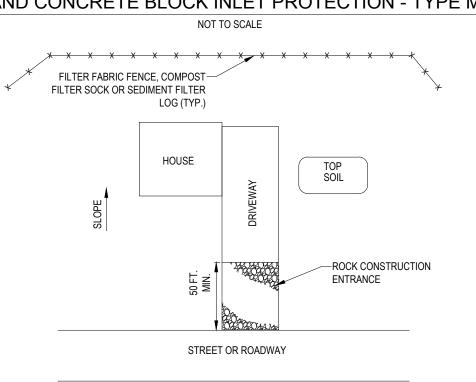
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET 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 TO REMAIN PERMANENTLY

TOP OF BLOCK SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

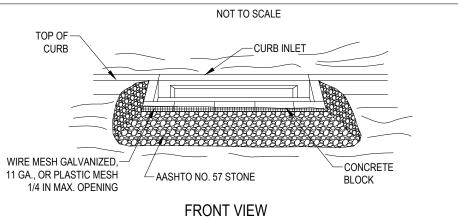
STANDARD CONSTRUCTION DETAIL #4-18 STONE AND CONCRETE BLOCK INLET PROTECTION - TYPE M INLET



PLAN VIEW

THE AREA DOWNSLOPE OF THE FILTER FENCE/COMPOST SOCK BARRIER/SEDIMENT FILTER LOG MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED.

STANDARD CONSTRUCTION DETAIL #10-2 TYPICAL ON-LOT BMPs FOR LOT BELOW ROADWAY



WIRE OR PLASTIC MESH -CURB INLET WOOD STUD SECTION VIEW PLAN VIEW

MAXIMUM DRAINAGE AREA = 1 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 PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET 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.

SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE.

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

STANDARD CONSTRUCTION DETAIL #4-17 STONE AND CONCRETE BLOCK INLET PROTECTION - TYPE C INLET

REVISIONS REV DATE COMMENT

1	06/07/2022	REV. PER BOROUGH	AMT
'	00/01/2022	COMMENTS	REK
2	08/18/2022	REV. PER LCCD	EN/MS
	00/10/2022	COMMENTS	JP
3	01/06/2023	REV. PER LCCD	BG/EN
3	01/00/2023	COMMENTS	JP
4	01/27/2023	REV. PER BOROUGH	SR
4	01/2//2023	COMMENTS	JP
5	03/16/2023	REV. PER LCCD	EAN
5	03/10/2023	COMMENTS	JP
6	10/06/2023	REV. PER CLIENT	BG / LB
О	10/06/2023	COMMENTS	JP
7	01/19/2024	REV. PER BOROUGH /	EAN
′	01/19/2024	CLIENT COMMENTS	



1-800-242-1776 20191704041 & 20191704042

PROJECT No.: DRAWN BY: **CHECKED BY:** PC191160-CND

PROJECT:

FINAL LAND **DEVELOPMENT PLANS**

REYNOLDS **ACQUISITIONS, L.P.**

PROPOSED RESIDENTIAL DEVELOPMENT 'ASHFORD PRESERVE'

WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY **PENNSYLVANIA**

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

R.E. KLOS, JR.

:PROFESSIONAL ENGINEER. PENNSYLVANIA LICENSE No. PE045479E NEW JERSEY LICENSE No. 24GE04507900

SHEET TITLE:

SOIL EROSION & SEDIMENT **POLLUTION CONTROL DETAILS**

REVISION 7 - 01/19/2024

FILTREXX RUNOFF DIVERSION SOCK

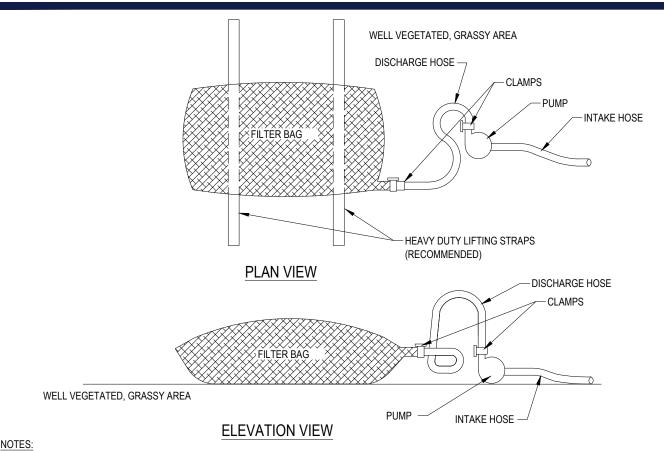
NOTE: DIVERSION FILTER SOCK FOR THIS PROJECT SHALL BE 24" DIAMETER

FILTREXX® RUNOFF DIVERSION

NOT TO SCALE

FILTREXX

NOT TO SCALE



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.

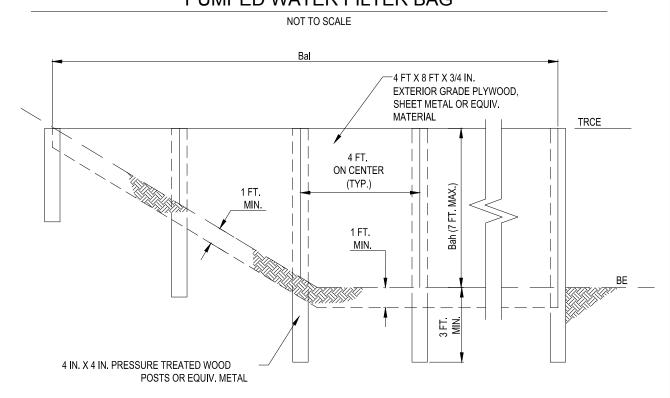
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS. WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

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



	DAE	-1.5	TEMPORARY	DOTTOM
BASIN	BAFF	-LE	RISER	BOTTOM
OR TRAP NO.	LENGTH Bal (FT)	HEIGHT Bah (FT)	CREST ELEV. TRCE (FT)	BOTTOM ELEV BE (FT)
1	110	3.50	513.50	510.00
2	98	5.00	524.50	519.50

SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION.

AN ACCEPTABLE ALTERNATIVE IS TO INSTALL A SUPER SILT FENCE AT THE BAFFLE LOCATION

IN POOLS WITH DEPTHS EXCEEDING 7', THE TOP OF THE PLYWOOD BAFFLE DOES NOT NEED TO EXTEND TO THE TEMPORARY RISER CREST. SUPER SILT FENCE BAFFLES NEED NOT EXTEND TO TRCE ELEVATION.

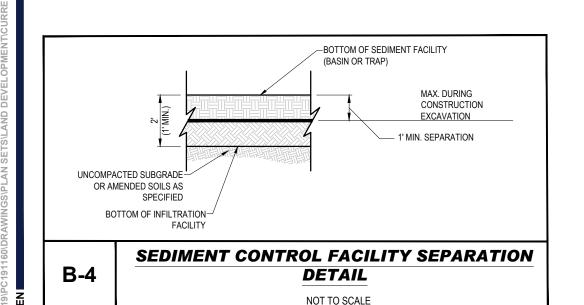
BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS. SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL

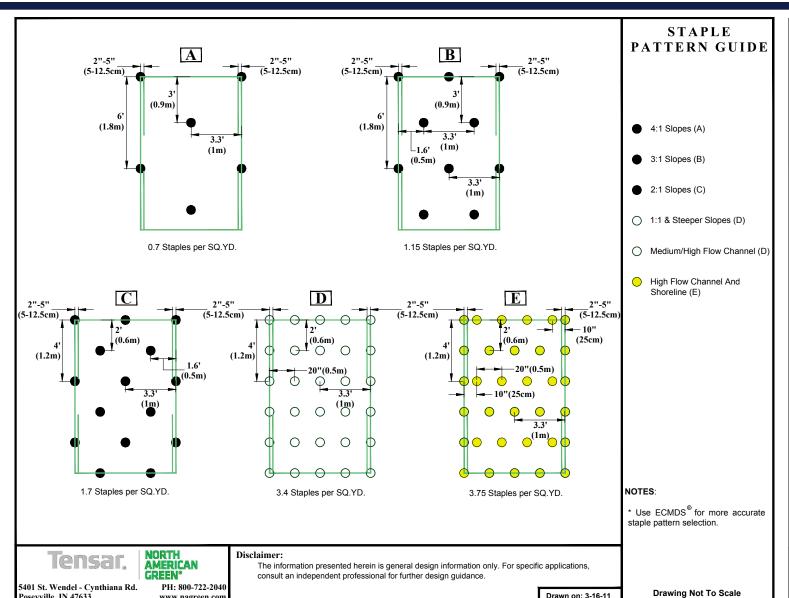
CONSERVATION DISTRICT BEFORE INSTALLATION.

DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION. BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS.

STANDARD CONSTRUCTION DETAIL #7-14

BAFFLE NOT TO SCALE





SEE GRADING PLAN FOR SLOPE OF EACH

RESPECTIVE BERM

TYPICAL EXISTING GRADE, REMOVE TOPSOIL.

EMBANKMENT: APPROVED ON-SITE MATERIALS CONSISTING OF SOIL

DESIGNATIONS: USCS: SP, SM, SC, ML AND CL COMPACTED TO 95% MAX.

DRY DENSITY (AS DETERMINED BY MODIFIED PROCTOR). TO CONFIRM PROPER COMPACTION IS ACHIEVED, DENSITY TESTS SHOULD BE

ASTM 0698. COMPACTION SHALL BE OBTAINED BY USING MECHANICAL SHEEP FOOT ROLLERS

6.) NO ROCK FILL AND/OR GRAVEL SHALL BE PLACED BELOW THE CLAY COR

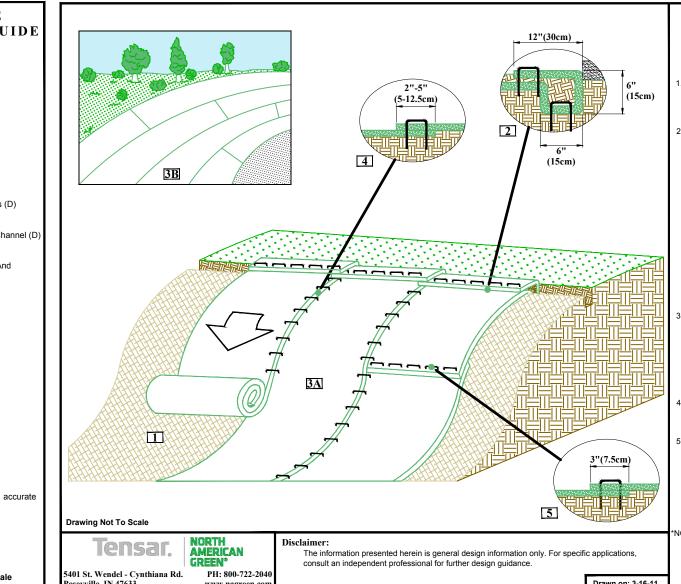
5.) THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 5% HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT

COMPLETED BY THE GEOTECHNICAL ENGINEER OF RECORD ON EACH

EXISTING GRADE

LOOSE OR FOREIGN MATERIALS, AND ALL

VEGETATION & ROOTS



—6" TOPSOIL & SEEDED

BASIN PLANTING SOIL

(AS SPECIFIED IN PLANS)

MBANKMENT: APPROVED ON-SITE MATERIALS CONSISTING OF

COMPACTED TO 95% MAX. DRY DENSITY (AS DETERMINED BY

MODIFIED PROCTOR). TO CONFIRM PROPER COMPACTION IS

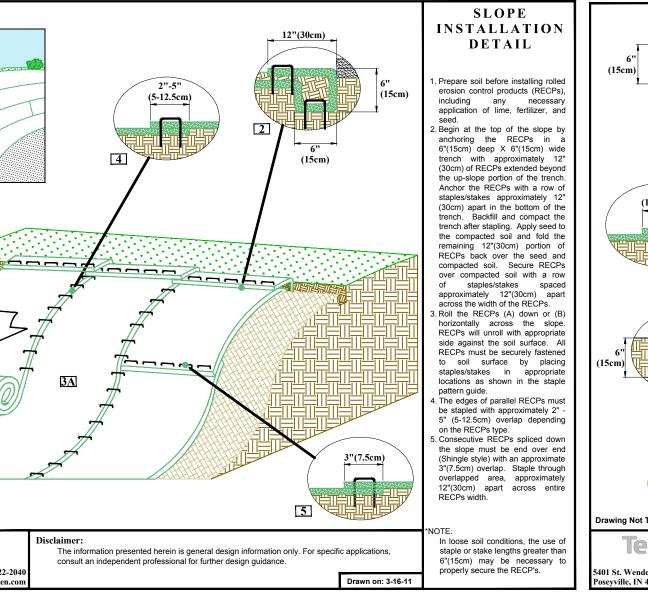
GEOTECHNICAL ENGINEER OF RECORD ON EACH LIFT OF FILL

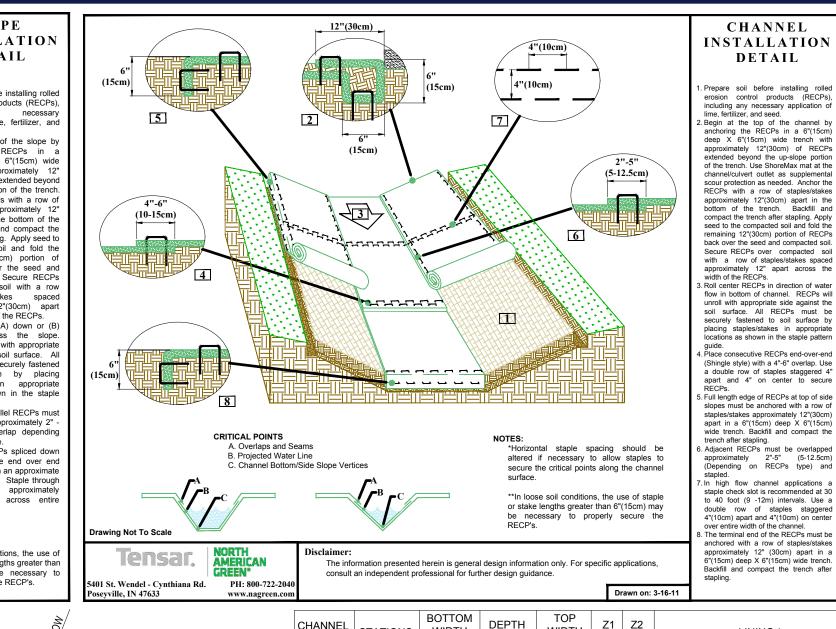
ACHIEVED, DENSITY TESTS SHOULD BE COMPLETED BY THE

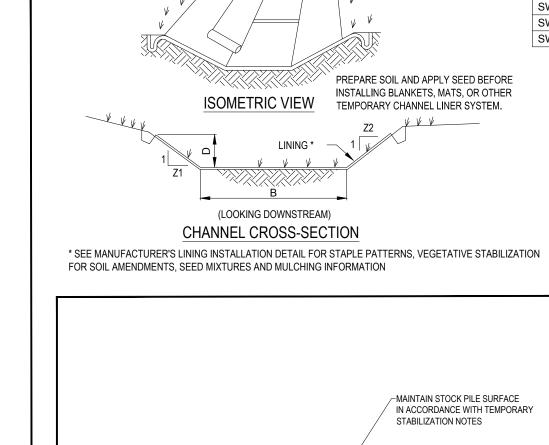
SOIL DESIGNATIONS: USCS: SP. SM. SC. ML AND CL.

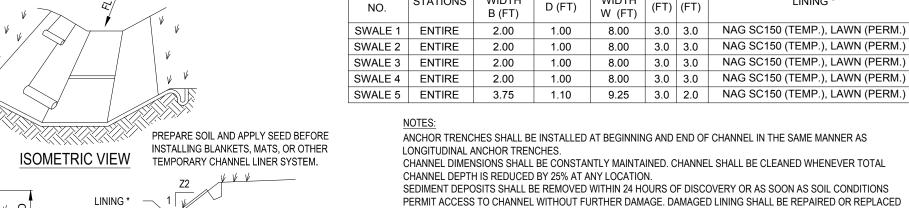
PRINCIPAL:

BASIN BOTTOM









STATIONS WIDTH

WITHIN 48 HOURS OF DISCOVERY.

BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY. STANDARD CONSTRUCTION DETAIL #6-1 **VEGETATED CHANNEL**

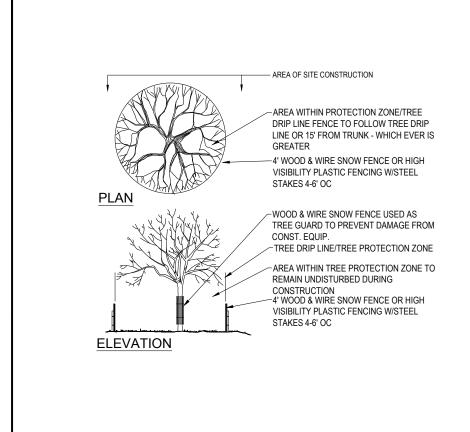
NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL

NOT TO SCALE

WIDTH

MAINTAIN STOCK PILE SURFACE IN ACCORDANCE WITH TEMPORARY STABILIZATION NOTES ∠2:1 MAX. SIDE SLOPES -INSTALL COMPOST FILTER SOCK ---AROUND DOWNHILL SIDE OF STOCKPILE

TEMPORARY SOIL STOCKPILE DETAIL



TREE PROTECTION DURING SITE CONSTRUCTION

OUTLET SWALE TO STABLE AREA OR ADEQUATE DRAINAGEWAY FILTER FABRIC FENCE, COMPOST-FILTER SOCK OR SEDIMENT FILTER LOG (TYP.) HOUSE -DIVERSION SWALE —ROCK CONSTRUCTION ENTRANCE STREET OR ROADWAY

THE AREA DOWNSLOPE OF THE FILTER FENCE/COMPOST SOCK BARRIER/SEDIMENT FILTER LOG MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED.

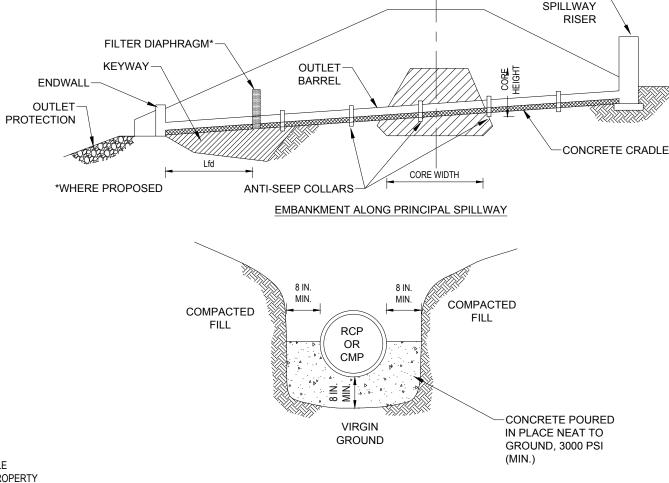
NOTES:

THE UPSLOPE DIVERSION CHANNEL SHOULD BE INSTALLED WHEREVER RUNOFF FROM AREAS ABOVE THE LOT ARE NOT OTHERWISE DIVERTED AWAY FROM THE LOT. THE CHANNEL SHOULD BE PROPERLY SIZED AND PROVIDED WITH A SUITABLE PROTECTIVE LINING. THE DESIGNER AND/OR CONTRACTOR MUST EXERCISE CAUTION TO PROTECT ALL DOWNSTREAM PROPERTY OWNERS WHEN SELECTING A DISCHARGE POINT FOR THIS CHANNEL.

PLAN VIEW

IN AREAS WHERE SLOPE IS AT AN OBLIQUE ANGLE TO THE ROADWAY, BMPS SHALL BE ADJUSTED ACCORDINGLY. DIVERSION CHANNEL MAY OUTLET TO ROADSIDE DITCH OR STORM SEWER SYSTEM, BUT NOT ONTO STREET OR ROADWAY

> STANDARD CONSTRUCTION DETAIL #10-3 TYPICAL ON-LOT BMPs FOR LOT ALONG ASCENDING OR DESCENDING ROADWAY NOT TO SCALE



CROSS-SECTION AT OUTLET BARREL

-CORE: CLAY AND/OR SILT SOIL-

(SOIL DESIGNATIONS: USCS: CL AND/OR ML)

10⁻⁶CM /SEC. COMPACTED TO 95% MAX. DRY

WITH A MAXIMUM PERMEABILITY OF

DENSITY (AS DETERMINED BY MODIFIED

PROCTOR) AND TO BE EXTENDED 4' MINIMUM UNDER BASIN BOTTOM

> NOTE: PLACE AND COMPACT MATERIAL IN 6" TO 8" MAX LIFTS

> > -NATURAL SOIL-

1.) PRIOR TO PLACEMENT OF FILL MATERIAL, THE EXISTING GROUND BENEATH THE EMBANKMENT SHALL BE CLEARED OF ALL TREE STUMPS, BRUSH, ROOTS, AND OTHER ORGANIC MATERIAL SUBJECT TO DECOMPOSITION, OVERSIZED STONES, AND ANY OTHER OBJECTIONABLE MATERIAL. FOLLOWING CLEARING, THE SURFACE ON OR AGAINST WHERE THE FILL IS TO BE PLACED SHALL BE SCARIFIED (BROKEN TO A DEPTH OF SIX (6) INCHES) PRIOR TO PLACEMENT OF FILL. THE CUT-OFF TRENCH SHALL BE EXCAVATED TO A DEPTH OF FOUR (4) FEET BELOW EXISTING GRADE. THE EXCAVATION SHALL BE DONE PARALLEL TO THE CENTERLINE

OF THE EMBANKMENT. THE MINIMUM BOTTOM WIDTH OF THE CUT-OFF TRENCH SHALL BE EIGHT (8) FEET BUT WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. THE TRENCH SHALL BE KEPT FREE OF STANDING WATER DURING THE BACKFILL

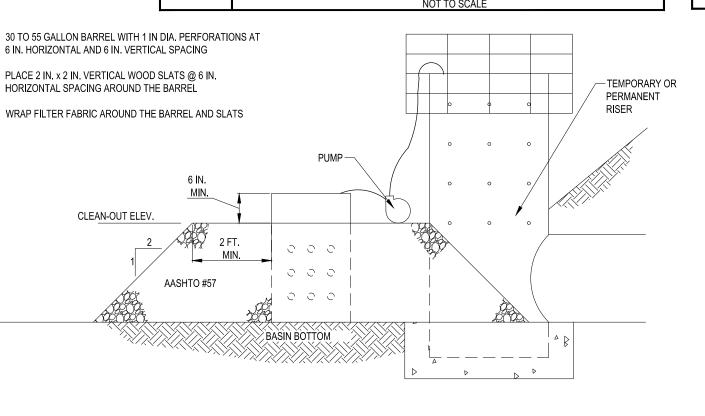
4.) FILL MATERIAL IN ALL EMBANKMENTS SHALL PLACED IN 6 TO 8 INCH LIFTS AND SHALL BE CONTINUOUS OVER THE ENTIRE LENGHT OF THE FILL. FILL MATERIAL SHALL BE BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DENSITY OBTAINED FROM THE COMPACTION TESTS PERFORMED BY THE APPROPRIATE METHOD IN

BERM AND CUTOFF TRENCH DETAIL (FOR BERMS IN FILL CONDITION)

2.) ALL FILL SHALL BE TAKEN FROM SELECT BORROW AREAS. IT SHALL BE FROM BRUSH, ROOTS, AND OTHER ORGANIC MATERIAL SUBJECT TO DECOMPOSITION, OVERSIZED STONES, AND ANY OTHER OBJECTIONABLE MATERIAL.

A CONCRETE CRADLE MAY BE USED IN CONJUNCTION WITH ANTI-SEEP COLLARS AND/OR FILTER ANTI-SEEP COLLAR NUMBER, SIZE AND SPACING SHALL BE AS SHOWN ELSEWHERE IN PLAN FILTER DIAPHRAGM LOCATION (Lfd) SHALL BE AS SHOWN IN FIGURE 7.8 OF THE PA DEP EROSION CONTROL MANUAL.

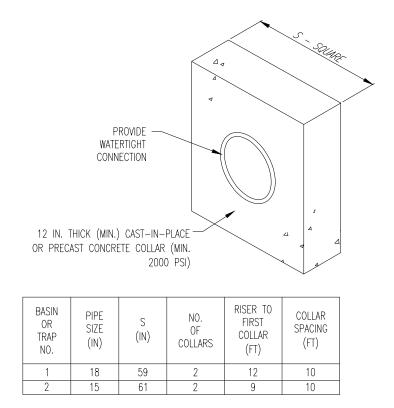
STANDARD CONSTRUCTION DETAIL #7-17 CONCRETE CRADLE FOR BASIN OR TRAP OUTLET BARREL NOT TO SCALE



DEWATERING FACILITY SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF BASIN/TRAP. PRIOR TO INITIATING OPERATION OF DEWATERING FACILITY, ALL ACCUMULATED SEDIMENT SHALL BE CLEANED FROM THE

DEWATERING FACILITY SHALL BE CONTINUOUSLY MONITORED DURING OPERATION. IF FOR ANY REASON THE DEWATERING FACILITY CEASES TO FUNCTION PROPERLY, IT SHALL BE IMMEDIATELY SHUT DOWN AND NOT RESTARTED UNTIL THE PROBLEM HAS BEEN CORRECTED.

> STANDARD CONSTRUCTION DETAIL #7-18 SEDIMENT BASIN OR SEDIMENT TRAP SEDIMENT STORAGE DEWATERING FACILITY NOT TO SCALE



ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT. COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

STANDARD CONSTRUCTION DETAIL #7-16 CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS NOT TO SCALE

DETAIL

LINING *

REVISIONS

COMMENT

REV DATE

	2,	30111112111	CHECKED BY	
1	06/07/2022	REV. PER BOROUGH	AMT	
!	00/07/2022	COMMENTS	REK	
2	08/18/2022	REV. PER LCCD	EN/MS	
	00/10/2022	COMMENTS	JP	
3	01/06/2023	REV. PER LCCD	BG/EN	
	0 1/00/2023	COMMENTS	JP	
4	01/27/2023	REV. PER BOROUGH	SR	
		01/21/2020	01/21/2020	COMMENTS
5	03/16/2023	REV. PER LCCD	EAN	
		COMMENTS	JP	
6	10/06/2023	REV. PER CLIENT	BG / LB	
0		COMMENTS	JP	
7	01/19/2024	REV. PER BOROUGH /	EAN	
'	01/13/2024	CLIENT COMMENTS		



YOU MUST CALL 811 BEFORE ANY EXCAVATION 1-800-242-1776 20191704041 & 20191704042

PROJECT No.: DRAWN BY: **CHECKED BY:** CAD I.D.: PC191160-CND

PROJECT:

FINAL LAND **DEVELOPMENT PLANS**

REYNOLDS

ACQUISITIONS, L.P.

PROPOSED RESIDENTIAL DEVELOPMENT 'ASHFORD PRESERVE'

WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY **PENNSYLVANIA** 18036

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102

R.E. KLOS, JR.

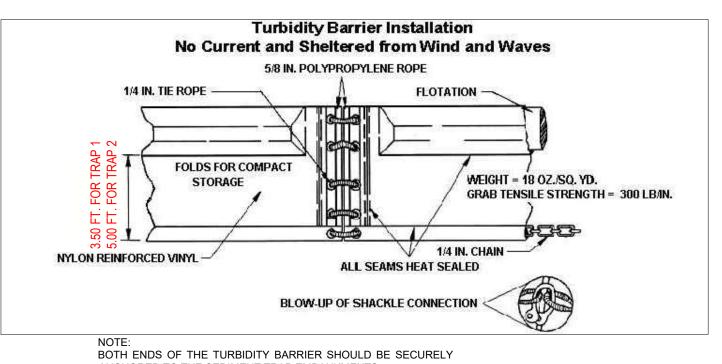
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:PROFESSIONAL ENGINEER. PENNSYLVANIA LICENSE No. PE045479E NEW JERSEY LICENSE No. 24GE04507900

SHEET TITLE:

SOIL EROSION & SEDIMENT POLLUTION

CONTROL DETAILS



ANCHORED TO THE SEDIMENT TRAP EMBANKMENTS. TURBIDITY BARRIER DETAIL SCALE: N.T.S.

- 2"X2"X36" WOODEN

STAKES PLACED 5' O.C.

- DIRECT CONCRETE

WASHOUT WATER INTO

24" DIAMETER COMPOST

OVERLAP ON UPSLOPE SIDE

FILTER SOCK 4' MIN

OF FILTER RING

	SWALE DRAINA			<u>IUM</u>		INLET E&S DRAINAGE	
	NAME OF FAC		MAX DRAINA AREA TO E&S			NAME OF FACILITY	MAX DRAINAGE AREA TO E&S BMP
	SWALE 1		0.87			IN01	0.13
	SWALE 2		1.16			IN04	0.14
	SWALE 3		0.78			IN05	0.05
	SWALE 4		1.26			IN06	0.12
	SWALE 5		1.69			IN07	0.31
						IN08	0.04
T	DIMENT	тр	AP F&S			IN09	0.57
	XIMUM			AREA	۱S	IN10	0.09
_			111 111013			IN11	0.09
M	E OF FACILITY		X DRAINAGE A TO E&S BMP			IN12	0.13
		71112	(10 200 51111			IN13	0.10
	TD.10.4		4.50			IN14	0.18
	TRAP 1		4.59			IN15	0.29
	TRAP 2		4.62			IN16	0.34
						IN17	0.03

SEDIMENT TRAP STAGE STORAGE SUMMARY TABLE

FACILITY NAME	ELEVATION (FT)	SURFACE AREA (SQFT)	TOTAL STORAGE (CUFT)
TRAP 1	510.00	16,269	0
-	511.00	17,341	16,805
-	512.00	18,437	34,694
-	513.00	22.467	55,146
-	514.00	24,126	78,443
-	515.00	25,518	103,265
TRAP 2	519.50	7,563	0
-	520.00	8,048	3,903
-	521.00	9,039	12,447
-	522.00	10,092	22,012
-	523.00	11,176	32,646
-	524.00	12,304	44,386
-	525.00	13,490	57,283
-	526.00	14,710	71,383

1141774	****
IN18	0.03
IN18A	0.16
IN19	0.19
IN20	0.23
IN21	0.10
IN22	0.31
IN23	0.19
IN24	0.38
IN25	0.09
IN26	0.15
IN27	11.55
IN28	0.36
IN30	0.13
IN31	0.06
IN32	0.10
IN33	0.24
·	· · · · · · · · · · · · · · · · · · ·

IN17A

HDPE 0.56% IN04 18" HDPE 37 0.51% IN10 IN27 18" RCP 89 0.50% 18" HDPE 43 0.51% HDPE 28 0.50% IN13 IN14 18" HDPE 100 1.01% IN14 IN15 18" HDPE 40 0.51% IN15 HDPE 0.51% IN16 HDPE 0.50% 18" 148 HDPE 0.51% IN17A HDPE 0.50% IN20 18" 287 HDPE 0.57% IN18A 18" HDPE 0.50% 28 HDPE 0.50% IN20 HDPE 0.51% IN21 18" 67 HDPE 4.28% MH03 18" HDPE 0.51% IN18 146 HDPE 0.51% IN24 HDPE 2.36% IN23 18" 15 HDPE 18" 28 0.50% IN26 HDPE 0.50% RCP 0.96% IN28 HDPE IN32 18" 80 4.96% IN30 IN31 RCP 0.73% 23 IN29 24" RCP 25 0.51% 18" HDPE 148 0.50% IN33 0.50% MH03 18" HDPE 147 HDPE 0.50% IN07 18" 42 RCP 0.56% HDPE 1.15% IN23 24" IN27 18" RCP 1.29% OS02 MH02 15" RCP 3.13% 216

STORM SEWER PIPE SCHEDULE

TYPE

HDPE

HDPE

HDPE

HDPE

HDPE

57

28

1.84%

0.50%

0.50%

0.51%

18"

18"

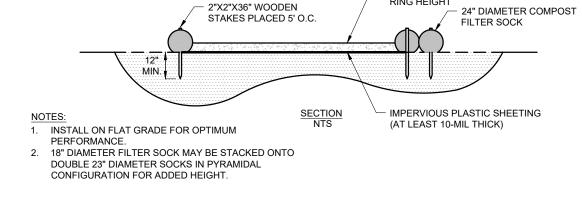
IN01

IN05

IN07

MH01

- MAXIMUM DEPTH OF CONCRETE WASHOUT WATER IS 50% OF FILTER -MARK CLEANOUT FI EVATION WITH SPRAY PAINT CLEANOUT ELEVATIONS: 4"x4" TREATED WOOD POST TRAP #1 - 511.00



RING HEIGHT

TYPICAL COMPOST SOCK WASHOUT INSTALLATION SCALE: N.T.S.

A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT

-UNDER NO CIRCUMSTANCES MAY WASH WATER FROM THESE VEHICLES BE ALLOWED TO ENTER ANY

-WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES OR

-SHOULD BE A MINIMUM OF 10 FEET WIDE AND PROVIDE AT LEAST 12 INCHES OF FREEBOARD ABOVE

THE PIT SHOULD BE LINED WITH PLASTIC SHEETING OF AT LEAST 10-MIL THICKNESS (WITH NO HOLES

-ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING

THE LIQUID AND SOLID WASTE ANTICIPATED BETWEEN CLEANOUT INTERVALS.

WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.

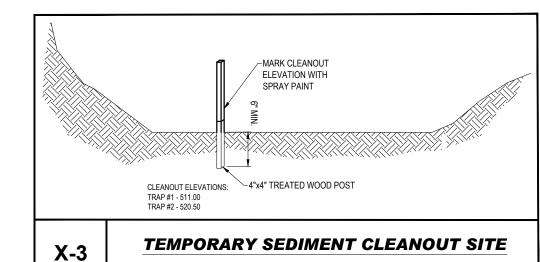
-ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.

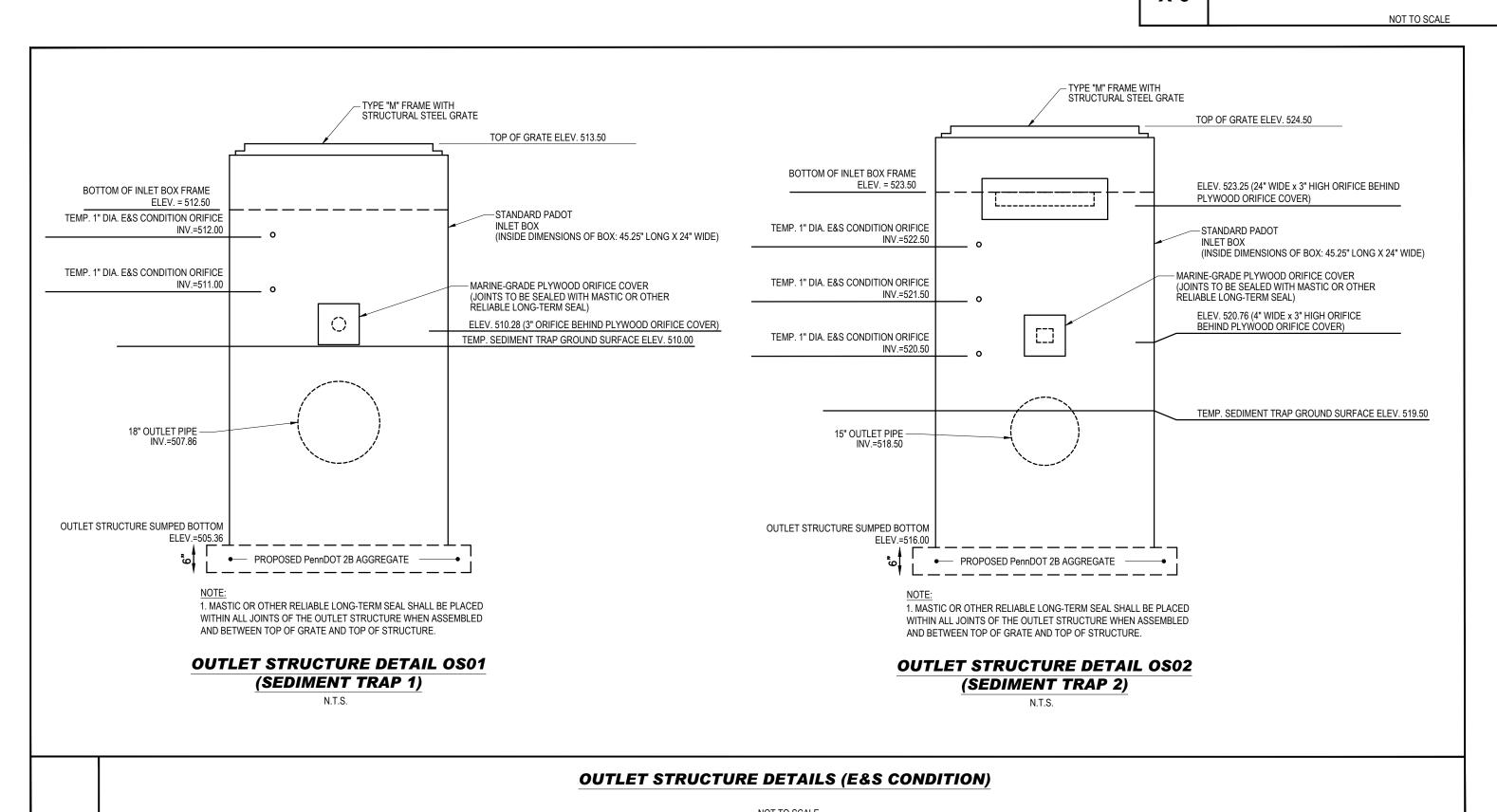
-PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

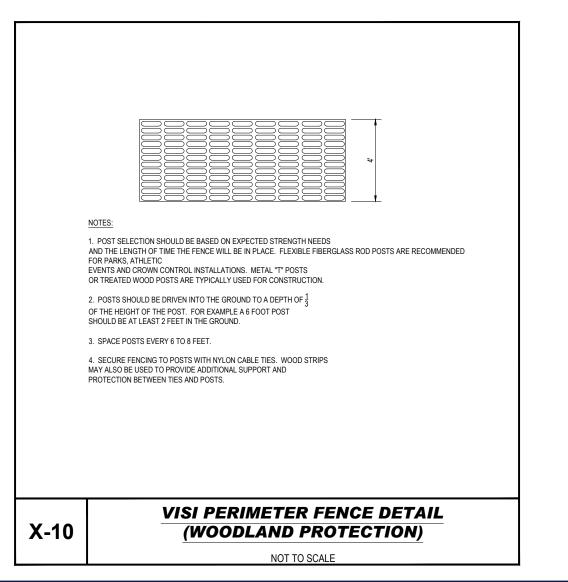
OR TEARS) TO PREVENT LEACHING OF LIQUIDS INTO THE GROUND.

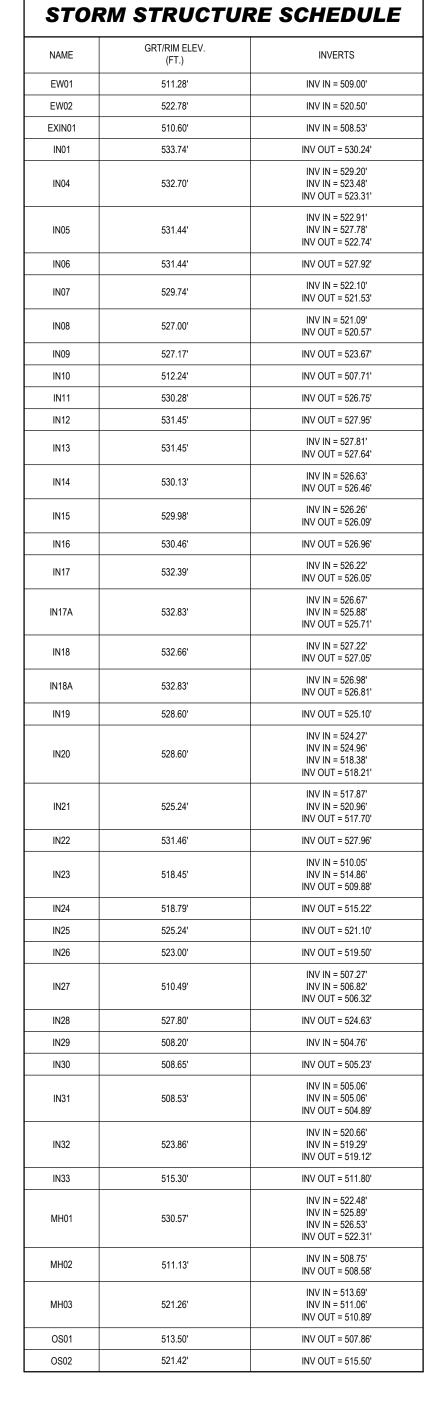
PRIOR TO INSTALLING THE SOCKS.

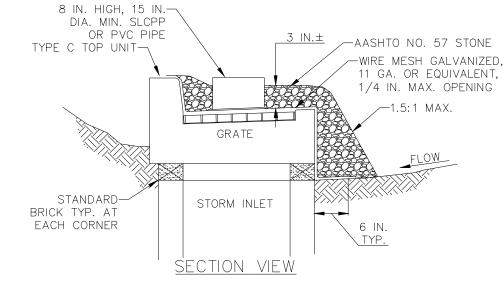
CONCRETE WASHOUT NOTES:

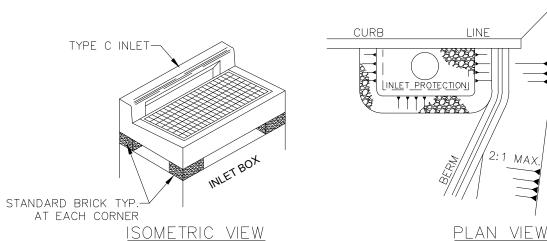












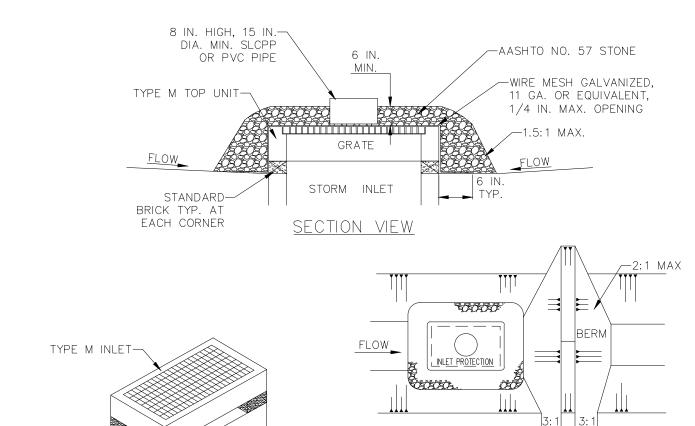
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLETS TRIBUTARY TO SEDIMENT BASINS OR SEDIMENT TRAPS. ALTERNATE TYPE C INLET PROTECTION CAN BE USED ON ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN. OVERFLOW PIPE AND 4 IN. HEAD.

BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT LOW POINTS. EARTHEN BERMS SHALL BE STABILIZED WITH VEGETATION AND MAINTAINED UNTIL ROADWAY IS STONED OR TRIBUTARY AREA IS PERMANENTLY VEGETATED. ROAD SUBBASE BERMS SHALL BE MAINTAINED UNTIL ROADWAY IS

INLETS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION.

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL

STANDARD CONSTRUCTION DETAIL #4-22 ALTERNATE TYPE C INLET PROTECTION - NOT AT GRADE NOT TO SCALE



ISOMETRIC VIEW

STANDARD BRICK TYP.

AT EACH CORNER

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLETS TRIBUTARY TO SEDIMENT BASINS OR SEDIMENT TRAPS. ALTERNATE TYPE C INLET PROTECTION CAN BE USED ON ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN. OVERFLOW PIPE AND 4 IN. HEAD.

HEIGHT

<u>Plan view</u>

€ ROAD

BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT LOW POINTS. EARTHEN BERMS SHALL BE STABILIZED WITH VEGETATION AND MAINTAINED UNTIL ROADWAY IS STONED OR TRIBUTARY AREA IS PERMANENTLY VEGETATED. ROAD SUBBASE BERMS SHALL BE MAINTAINED UNTIL ROADWAY IS

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FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #4-23 ALTERNATE TYPE M INLET PROTECTION - NOT AT GRADE NOT TO SCALE

REVISIONS

BERM

REV	DATE	COMMENT	DRAWN I
1	06/07/2022	REV. PER BOROUGH	AMT
'	00/01/2022	COMMENTS	REK
2	08/18/2022	REV. PER LCCD	EN/M
~	00/10/2022	COMMENTS	JP
3	01/06/2023	REV. PER LCCD	
3	01/00/2023	COMMENTS	JP
4	01/27/2023	REV. PER BOROUGH	SR
4	01/21/2023	COMMENTS	
5	03/16/2023	REV. PER LCCD	EAN
J	03/10/2023	COMMENTS	JP
6	10/06/2023	REV. PER CLIENT	BG/L
O	10/00/2023	COMMENTS	JP
7	01/19/2024	REV. PER BOROUGH /	EAN
′	01/19/2024	CLIENT COMMENTS	JRP



20191704041 & 20191704042

PROJECT No.: DRAWN BY: 08/06/202 CAD I.D.: PC191160-CND-

PROJECT:

FINAL LAND **DEVELOPMENT PLANS**

REYNOLDS ACQUISITIONS, L.P.

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WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY PENNSYLVANIA

18036

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102

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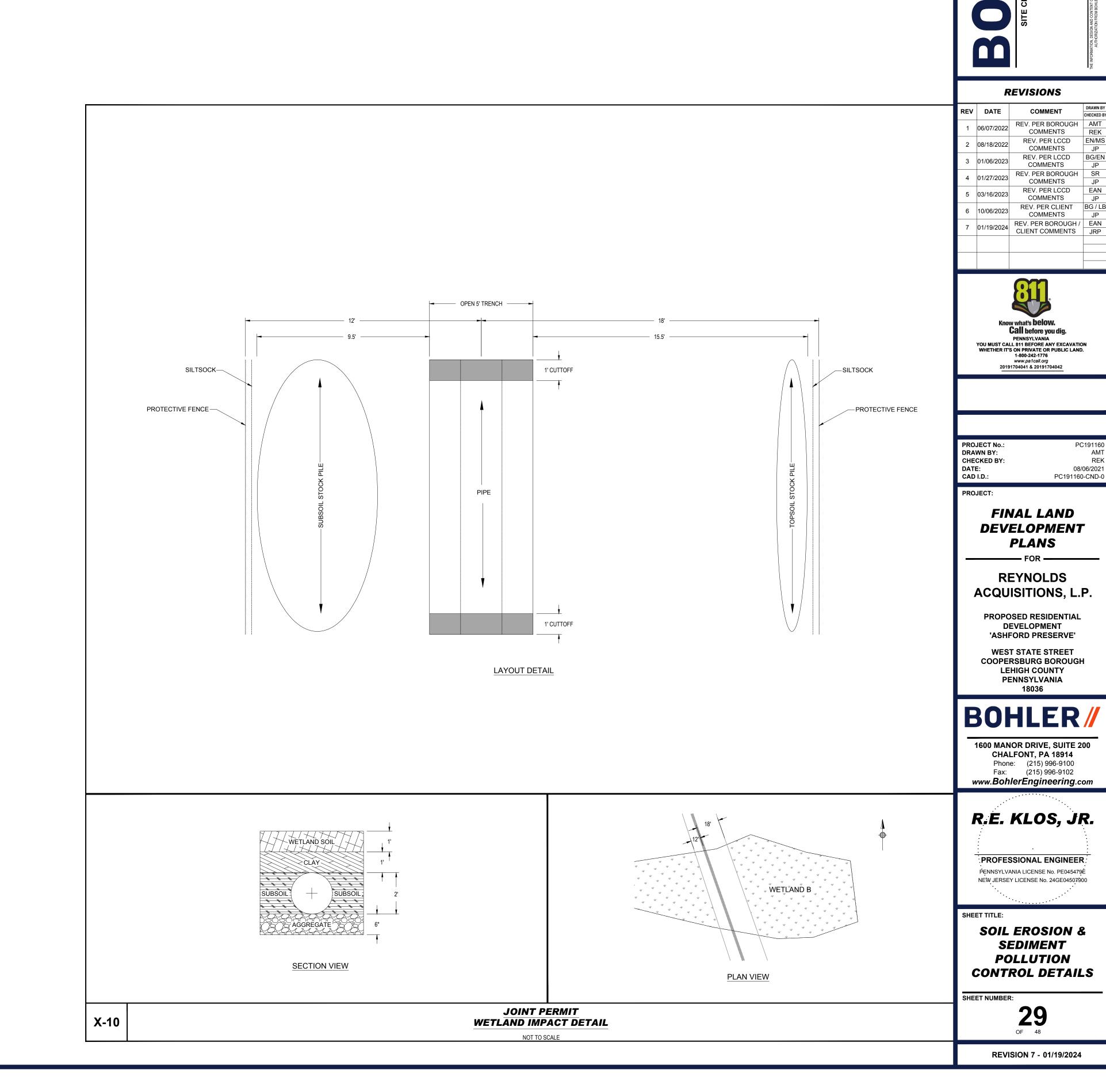
R.E. KLOS, JR.

:PROFESSIONAL ENGINEER: PENNSYLVANIA LICENSE No. PE045479E NEW JERSEY LICENSE No. 24GE04507900

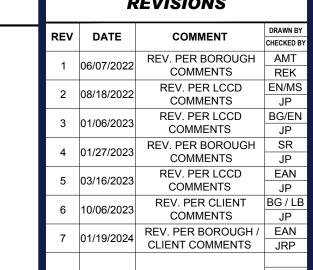
SOIL EROSION & SEDIMENT POLLUTION CONTROL DETAILS

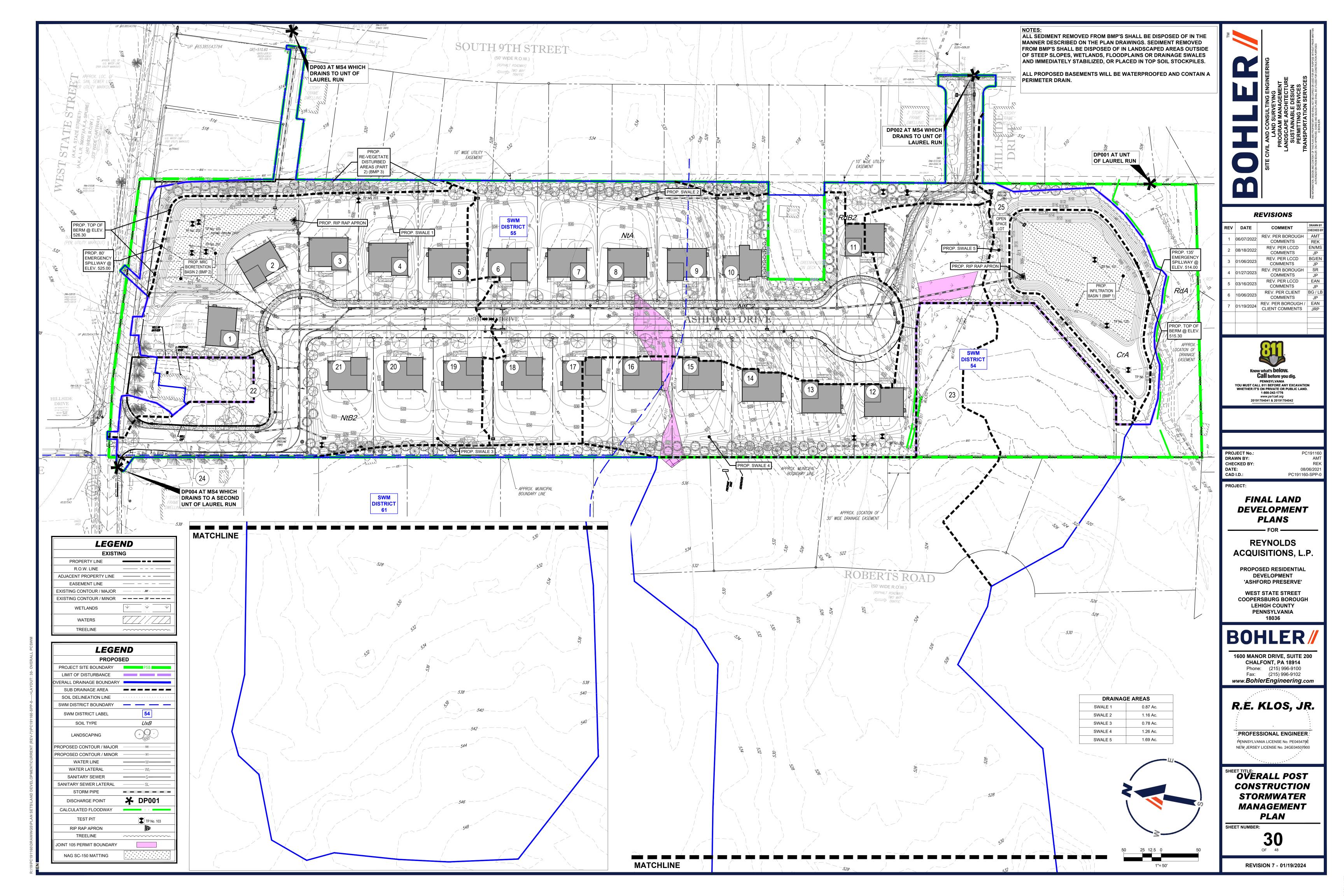
SHEET NUMBER:

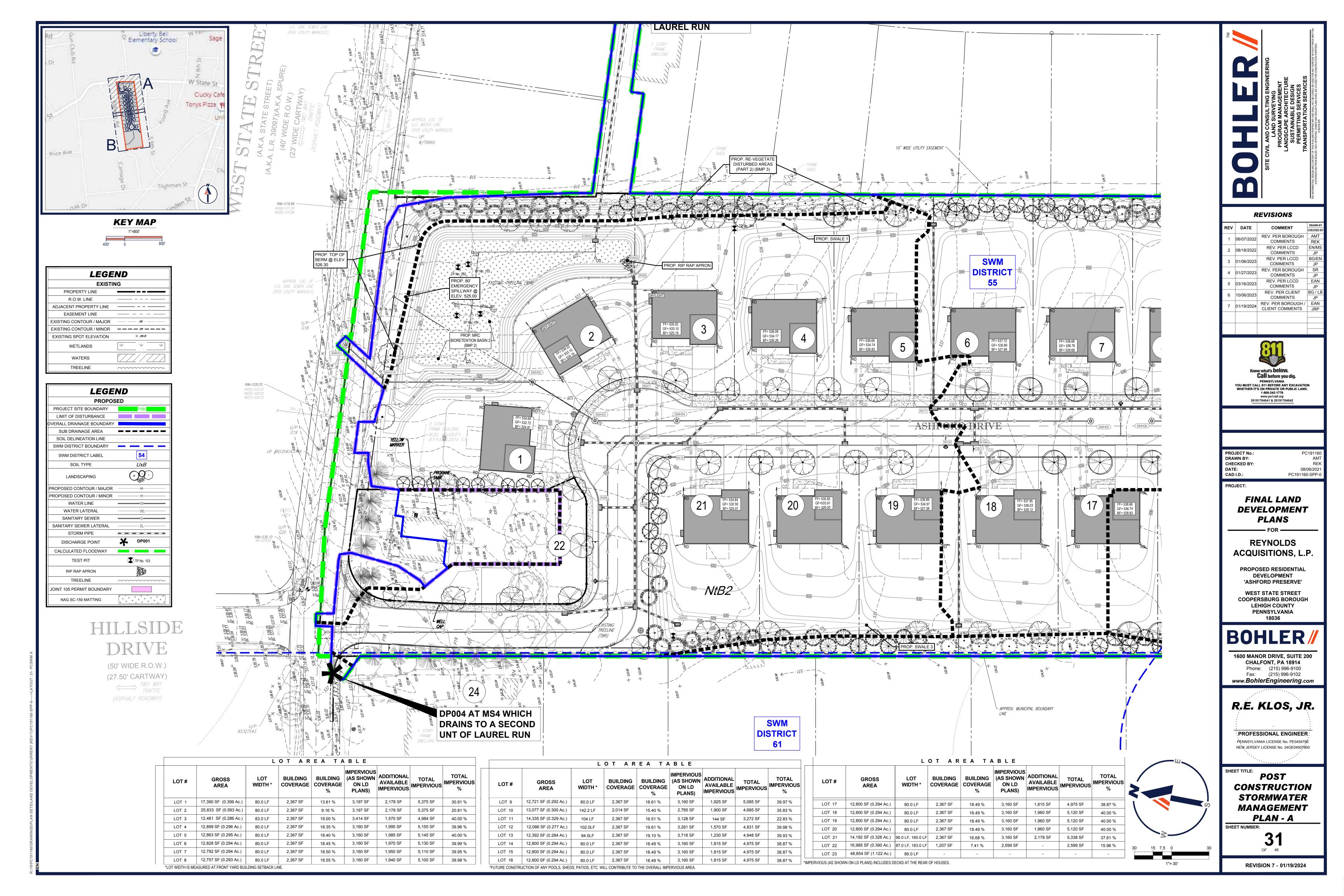
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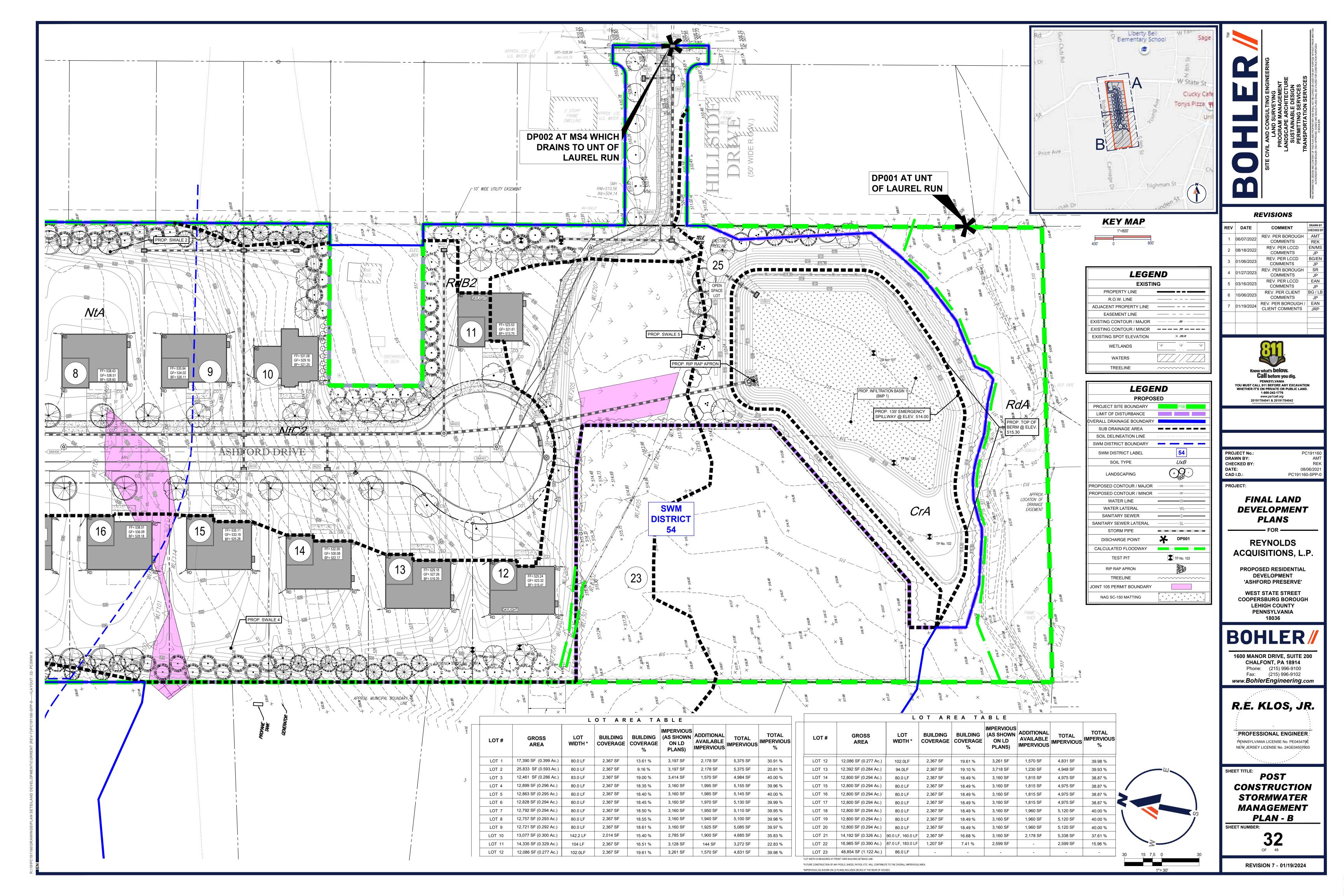












DEFINITION OF CLEAN FILL AND IMPORT/EXPORT MATERIAL NOTES

TO COMPLY WITH SECTION C.3 OF NOI

SEEDING SPECIFICATIONS

SEED MIXTURE AS FOLLOWS:

NONCROPLAND". TABLE 5)

I. NURSE CROP (SELECT ONE):

TABLE 11.4. SEED MIX #1)

TABLE 11.4. SEED MIX #2)

NOTES) FOR DEPTH OF TOPSOIL

II. BROADCAST SEEDING (TWO DIRECTIONS)

I. TEMPORARY STABILIZATION WITH STRAW:

III. HYDROSEEDING (TWO DIRECTIONS)

II. PERMANENT SEED MIX:

3 PURF LIVE SEED.

RECENT EDITION)

I. DRILL SEEDING

SPECIFIED):

IS ACHIEVED:

THROUGH THE NEXT GROWING SEASON

SEED GERMINATION AND PURITY RATING (SEE ITEM #3 BELOW).

ANNUAL RYE (40 POUNDS / ACRE PLS)

ANNUAL RYE (10 POUNDS / ACRE PLS)

OR SPRING OATS (64 POUNDS / ACRE PLS)

OR WINTER RYE (56 POUNDS / ACRE PLS)

TALL FESCUES (64 POUNDS / ACRE PLS)

BY 100 ((%PURE X %GERMINATION) / 100)

OR FINE FESCUE (35 POUNDS / ACRE PLS)

OR PERENNIAL RYEGRASS (15 POUNDS / ACRE PLS)

BE USED MORE THAN ONE (1) YEAR BEYOND THE LABEL DATE.

OR SPRING OATS (96 POUNDS / ACRE PLS)

OR WINTER RYE (168 POUNDS / ACRE PLS)

SEEDING DATES

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

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

2.) CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

3.) ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.

4.) ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

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

A. SEEDING SHALL OCCUR BETWEEN MARCH 1ST AND MAY 15TH OR BETWEEN AUGUST 15TH AND NO

B. IF SEEDING CANNOT BE CONDUCTED DURING THE TIMEFRAMES NOTED ABOVE, THE CONTRACTOR

SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL CONSERVATION DISTRICT AND ALL

APPROPRIATE AGENCIES TO DETERMINE AN ACCEPTABLE MEANS IN WHICH TO STABILIZE THE SITE

TEMPORARY SEED MIXTURES: DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH

PERMANENT SEEDING SHALL CONSIST OF A NURSE CROP PLUS A PERMANENT SEED MIXTURE, AS

(REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION,

OR KENTUCKY BLUEGRASS (25 POUNDS / ACRE PLS) PLUS REDTOP (3 POUNDS / ACRE PLS)

A. SEED USED FOR THE PURPOSE OF PERMANENT STABILIZATION SHALL BE LABELED WITH

(REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION,

GERMINATION AND PURITY PERCENTAGES. UNLABELED SEED WILL BE REJECTED. SEED SHALL NOT

THE PERCENTAGE OF PURE SEED BY THE PERCENTAGE OF GERMINATION AND DIVIDE THE RESULT

INTO THE PLS REQUIRED, AS NOTED ABOVE. THE RESULT IS THE POUNDS OF SEED REQUIRED. FOR

EXAMPLE: IF THE REQUIRED RATE IS 64 POUNDS PLS, AND THE SEED IS RATED AT 35% PLS, DIVIDE

64 BY 0.35 TO GET 182.9 POUNDS, WHICH IS THE AMOUNT OF THAT SEED REQUIRED PER ACRE.

. ALL SEED SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED UNTIL A 70% PERENNIAL COVER

TONS PER ACRE (4 TONS PER ACRE BETWEEN NOVEMBER 1ST AND MARCH 1ST).

2. STRAW SHALL BE STABILIZED WITH A WOOD OR PAPER FIBER MULCH AND TACKIFIER

1. STRAW MULCH SHALL BE APPLIED ON TOP OF THE FRESHLY SEEDED AREAS AT A RATE OF 3

APPLICATION OF SEED: SEEDING SHALL BE APPLIED AND ESTABLISHED IN ACCORDANCE WITH THE

DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER QUALITY PROTECTION (MOST

"EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL" AS PUBLISHED BY THE

A. SEED SHALL BE APPLIED IN A NON-COMPACTED, ROUGHENED TOPSOIL. REFERENCE THE

B. DETERMINING THE PERCENT PURE LIVE SEED (PERCENT PLS) OF A LABELED SEED: MULTIPLY BY

C. DETERMINING THE ACTUAL SEED RATE: SIMPLY DIVIDE THE PERCENT PLS RATING OF THE SEED

WILL BE DISTURBED AGAIN WITHIN TWELVE (12) MONTHS MUST BE SEEDED WITH A TEMPORARY

SEED MIXTURES: SEED MIXTURE TO BE USED ON THIS SITE SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE NOTED ON THE PLANS. RATES ARE IN THE FORM OF POUNDS PER ACRE (LB/A) PER PURE

LIVE SEED (POUNDS / ACRE PLS). CONTRACTOR WILL NEED TO ADJUST ACCORDINGLY BASED ON THE

(REFERENCE: PENN STATE "EROSION CONTROL & CONSERVATION PLANTINGS ON

THERE ARE NO GEOLOGIC FORMATIONS OR SOIL CONDITIONS THAT COULD CAUSE CONTAMINANT POLLUTION DURING EARTH DISTURBANCE ACTIVITIES.

RECYCLING OR DISPOSAL OF MATERIALS

GEOLOGIC FORMATIONS OR SOIL CONDITIONS

THE FOLLOWING IS A LIST THAT INCLUDES, BUT THAT IS NOT LIMITED TO, THE POTENTIAL POST-CONSTRUCTION WASTES THAT MAY EXIST ON-SITE: - L FAVES - TRASH

- SEDIMENT

- ASPHALT CINDERS

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.

RECEIVING SURFACE WATERS

§102.8(f)(5)

1. DP001, DP002, AND DP003 DRAIN TO AN UNNAMED TRIBUTARY OF LAUREL RUN, WHICH HAS A CWF (COLD WATER FISHES) AND MF (MIGRATORY FISHES) CHAPTER 93 CLASSIFICATION

DP004 DRAINS TO A SECOND UNNAMED TRIBUTARY OF LAUREL RUN, WHICH HAS A CWF (COLD WATER FISHES) AND MF (MIGRATORY FISHES) CHAPTER 93 CLASSIFICATION.

2. THE DEVELOPMENT IS IN NEITHER AN HQ NOR AN EV WATERSHED AND THEREFORE, NO BOUNDARIES

3. WETLANDS ARE SHOWN ON THE PCSWM PLAN.

CRITICAL STAGES

THE FOLLOWING ARE CRITICAL STAGES OF CONSTRUCTION:

- CONSTRUCTION OF SEDIMENT TRAPS
- INSTALLATION OF MRC BIORETENTION BASIN (FROM SUBGRADE PREPARATION TO COMPLETION)
- INSTALLATION OF INFILTRATION BASIN (FROM SUBGRADE PREPARATION TO COMPLETION)

VERIFY TRIBUTARY DRAINAGE AREAS TO INFILTRATION BASIN #1 AND MRC BIORETENTION BASIN #2 DURING CONVERSION OF SEDIMENT TRAP TO PERMANENT FACILITIES

GENERAL PCSM PLANNING AND DESIGN

THE FOLLOWING MEASURES WERE TAKEN TO PRESERVE THE INTEGRITY OF STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM:

 DIRECT RUNOFF FROM IMPERVIOUS SURFACES TO BMPS • THE USE OF NATIVE SPECIES REQUIRES LESS FERTILIZATION AND CHEMICAL APPLICATION THAN NONNATIVE SPECIES.

THE FOLLOWING MEASURES WERE TAKEN TO PREVENT AN INCREASE IN THE RATE OF STORMWATER RUNOFF: PROVIDE INFILTRATION BASIN AND MRC BIORETENTION BASIN TO HELP REDUCE RUNOFF RATE

MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL

THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE ANY INCREASE IN STORMWATER RUNOFF VOLUME: PROVIDE INFILTRATION BASIN AND MRC BIORETENTION BASIN TO HELP REDUCE RUNOFF VOLUME

MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL

THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE IMPERVIOUS AREAS: • THE PROPOSED SITE LAYOUT PRODUCES LESS IMPERVIOUS AREA THAN THE TOTAL ALLOWED IMPERVIOUS AREAS AS

THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION: • THE GRASS AREAS WITHIN THE LIMIT OF DISTURBANCE WILL BE PERMANENTLY STABILIZED UPON COMPLETION OF

CONSTRUCTION PEAK RATES AND VOLUMES ARE BEING REDUCED FOR ALL DISCHARGE POINTS FOR THE SITE.

THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE LAND CLEARING AND GRADING:

GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS

THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:

• USE OF TREADED MACHINERY WHERE PRACTICAL DURING EARTHMOVING OPERATIONS

 GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS HEAVY MACHINERY WILL NOT DRIVE OVER THE GRASS AREAS ONCE CONSTRUCTION ACTIVITIES HAVE CEASED.

THE FOLLOWING MEASURES WERE TAKEN TO UTILIZE OTHER STRUCTURAL OR NONSTRUCTURAL BMPS THAT PREVENT OR

MINIMIZE CHANGES IN STORMWATER RUNOFF • PROVIDE INFILTRATION BASIN AND MRC BIORETENTION BASIN TO HELP REDUCE RUNOFF RATES AND VOLUME

MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL

POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) STANDARD NOTES:

PERMIT TERMINATION

UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER § 102.22(A)(2) (RELATING TO PERMANENT STANDARD FOR PERMANENT STABILIZATION (SECTION V.A.2.B IN THE GENERAL CONSERVATION STABILIZATION). AND INSTALLATION OF BMPS IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH §§ 102.4 AND 102.8 (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS; AND PCSM B. SEED MAY BE APPLIED THROUGH ANY OF THE FOLLOWING MEANS AND METHODS, OR OTHER REQUIREMENTS), THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR ACCEPTED INDUSTRY PRACTICES, UNLESS SPECIFICALLY NOTED OTHERWISE ON THESE PLANS:

> THE NOTICE OF TERMINATION MUST INCLUDE: (1) THE FACILITY NAME, ADDRESS AND LOCATION.

THE OPERATOR NAME AND ADDRESS.

THE PERMIT NUMBER.

THE REASON FOR PERMIT TERMINATION IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION

AND MAINTENANCE OF THE PCSM BMPS IN ACCORDANCE WITH § 102.8(M) AND PROOF OF COMPLIANCE WITH § 102.8(M)(2).

SOLUTION IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S SPECIFICATIONS. II TEMPORARY/PERMANENT STABILIZATION WITH EROSION CONTROL MATTING/BLANKETS (WHERE

1. MATTING/BLANKETS SHALL BE INSTALLED IN AREAS AS NOTED ON THE EROSION & SEDIMENT CONTROL PLAN OR WITHIN 50 FEET OF PONDS, STREAMS OR WETLANDS. THE PRODUCT SHALL BE INSTALLED AND STAPLED ON TOP OF THE SEEDING IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS

2. AREAS WITH MATTING/BLANKETS SHALL NOT BE TRACKED (CATWALKED) AFTER

3. MATTING/BLANKETS SHALL BE VISUALLY INSPECTED DAILY TO ENSURE THAT THE PRODUCT IS FUNCTIONING PROPERLY, IS HELD FAST TO THE SOIL SURFACE AND IS IN GOOD

ONCE SEED HAS BEEN SET, VEHICULAR TRAFFIC OR OTHER SOURCES OF COMPACTION SHALL BE IRRIGATION: NEW SEED APPLICATIONS SHOULD BE SUPPLIED WITH ADEQUATE WATER, A MINIMUM OF

1/4" TWICE A DAY, UNTIL VEGETATION IS WELL ESTABLISHED (A MINIMUM OF 75% COVER).

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

LICENSED PROFESSIONAL OVERSIGHT OF CRITICAL STAGES. A LICENSED PROFESSIONAL OR A DESIGNEE SHALL BE PRESENT ONSITE AND BE RESPONSIBLE DURING CRITICAL STAGES OF IMPLEMENTATION OF THE APPROVED PCSM PLAN. THE CRITICAL STAGES MAY INCLUDE THE INSTALLATION OF UNDERGROUND TREATMENT OR STORAGE BMPS. STRUCTURALLY ENGINEERED BMPS, OR OTHER BMPS AS DEEMED APPROPRIATE BY THE DEPARTMENT OR THE CONSERVATION DISTRICT

FINAL CERTIFICATION. THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS: "I (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA.C.S.A. § 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION

(1) THE PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN. THE PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS.

PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPS ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. THE DEPARTMENT OR CONSERVATION DISTRICT WILL CONDUCT A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION WITHIN 30 DAYS

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

FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPS AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER § 102.7(B)(5) (RELATING TO PERMIT TERMINATION

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

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMF 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.

TYPES, DEPTH, SLOPE, LOCATIONS, AND LIMITATIONS OF THE SOILS

SECOND UNT OF LAUREL RUI

USGS MAP

SCALE: 1" = 1,000"

FIRST UNT OF

LAUREL RUN

SOIL DESCRIPTIONS

SOIL	DESCRIPTION	SOIL GROUP
CrA	- CROTON SILT LOAM, 0 TO 3 PERCENT SLOPES	D
NtA	- NORTON SILT LOAM, 0 TO 3 PERCENT SLOPES	С
NtB2	- NORTON SILT LOAM, 3 TO 8 PERCENT SLOPES	С
NtC2	- NORTON SILT LOAM, 8 TO 15 PERCENT SLOPES	С
RdA	- READINGTON SILT LOAM, 0 TO 3 PERCENT SLOPES	С
RdB2	- READINGTON SILT LOAM, 3 TO 8 PERCENT SLOPES	С

SOIL NAME	CUTBANKS	CORROSIVE TO CONCRETE/ STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE/ SEASONAL HIGH WATER TABLE	HYDRIC/ HYDRIC INCLUSIONS	LOW STRENGTH/ LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK- SWELL	POTENTIAL SINKHOLE	PONDING	WETNESS
CROTON	Х	C/S		Х		Х	X	Х	Х	Х	Х	Х			Х	Х
READINGTON	Х	C/S		Х		Х	Х	Х	Х	Х	Х	Х				Х

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS PROVIDED

CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND RESOLUTIONS SPECIFIC TO

1. CUTBANKS CAVE RESOLUTIONS: CUT SLOPES SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED AS SOON AS POSSIBLE IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS FOUND ON THE E&S PLANS. FINISHED

CORROSIVE TO CONCRETE/STEEL RESOLUTIONS: MOST STORM DRAIN PIPES FOR THIS SITE WILL BE HDPE. RCP WILL BE USED IN OUTLET STRUCTURES IN THE BASINS AND FOR TIE-IN LOCATIONS TO EXISTING STORM SEWER.

SLOPES WILL NOT EXCEED 2:1. EXCAVATIONS SHALL BE PROPERLY SUPPORTED TO PREVENT CAVES

EASILY ERODIBLE RESOLUTIONS: STABILIZATION SHALL TAKE PLACE UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES THAT WILL EXCEED FOUR DAYS, OR ANY STAGE THEREOF. STABILIZATION SHALL BE IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS FOUND ON THE E&S PLANS. E&S CONTROLS LIKE COMPOST FILTER SOCKS AND INLET PROTECTION SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE

4. DEPTH TO SATURATED ZONE/SEASONAL HIGH WATER TABLE RESOLUTIONS: ANY WATER DURING CONSTRUCTION SHALL BE DIRECTED TOWARDS AN E&S CONTROL BMP, SUCH AS A COMPOST FILTER SOCK OR A SEDIMENT TRAP. ALL STORM SEWER PIPES AND INLETS SHALL BE INSTALLED WITH WATERTIGHT GASKETS.

5. HYDRIC/HYDRIC INCLUSIONS RESOLUTIONS: WETLANDS WILL BE PROTECTED TO THE MAXIMUM EXTENT POSSIBLE.

6. LOW STRENGTH/LANDSLIDE PRONE RESOLUTIONS: FINISHED SLOPES WILL NOT EXCEED 2:1. PRECAUTIONS SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT SLOPE FAILURES.

SLOW PERCOLATION RESOLUTIONS: PROVIDE DEWATERING DURING CONSTRUCTION ACTIVITIES. PUMPED WATER FILTER BAGS SHALL BE USED FOR PONDED WATER DURING CONSTRUCTION. PONDED WATER SHOULD BE DIRECTED TOWARDS AN E&S CONTROL BMP, SUCH AS A COMPOST FILTER SOCK OR A SEDIMENT TRAP. LANDSCAPING IS PROPOSED ON THE SITE TO ALLOW FOR INCREASED INFILTRATION AND EVAPO-TRANSPIRATION. INFILTRATION TESTING HAS BEEN DONE ON SITE AND INFILTRATION FACILITIES ARE PROVIDED WHERE SOIL CONDITIONS ALLOWED.

PIPING RESOLUTIONS: PUMPED WATER FILTER BAGS SHALL BE USED FOR PONDED WATER DURING CONSTRUCTION. PONDED WATER SHOULD BE DIRECTED TOWARDS AN E&S CONTROL BMP, SUCH AS A COMPOST FILTER SOCK OR A SEDIMENT TRAP. CLAY CORES WILL BE INSTALLED WITHIN BASIN EMBANKMENTS. CONCRETE COLLARS AND ANTI-SEEP COLLARS WILL BE USED ON BASIN DISCHARGE PIPES. CLAY MAY NEED TO BE IMPORTED FROM OFF-SITE IF SOILS FOUND ON SITE ARE NOT SUITABLE. THE MAJORITY OF THE PIPES USED ON SITE ARE HDPE REDUCING THE AMOUNT OF GROUNDWATER THAT WILL

9. POOR SOURCE OF TOPSOIL RESOLUTIONS: SOIL TESTING SHOULD BE PERFORMED TO DETERMINE SOIL SUITABILITY FOR TOPSOIL. IF SOIL IS DETERMINED TO BE UNSUITABLE THEN TOPSOIL SHALL BE IMPORTED AND DISTRIBUTED THROUGHOUT THE SITE AS REQUIRED. TOPSOIL SPECIFICATIONS CAN BE FOUND IN THE LANDSCAPE SPECIFICATION NOTE 2.B ON THE

10. FROST ACTION RESOLUTIONS: DUE TO GRADING LIMITATIONS OF SOILS DURING WINTER MONTHS, THE CONTRACTOR SHALL NOT GRADE THESE SOILS DURING FROSTING OR ICING CONDITIONS.

11. PONDING RESOLUTIONS: PUMPED WATER FILTER BAGS SHALL BE USED FOR PONDED WATER DURING CONSTRUCTION. PONDED WATER SHOULD BE DIRECTED TOWARDS AN E&S CONTROL BMP. SUCH AS A COMPOST FILTER SOCK OR A

12. WETNESS RESOLUTIONS: PUMPED WATER FILTER BAGS SHALL BE USED FOR PONDED WATER DURING CONSTRUCTION. PONDED WATER SHOULD BE DIRECTED TOWARDS AN E&S CONTROL BMP, SUCH AS A COMPOST FILTER SOCK OR A

INFILTRATION TESTING SUMMARY TABLE

	EXISTING	ROCK EVIDENCE OF SEASONAL HIGH WATER TABLE		LIMITING	INFILTRATION TESTING				DESIGN		
TEST PIT NUMBER	GROUND ELEVATION (FT)	DEPTH (FT)	ELEVATION (FT)	DEPTH (FT)	ELEVATION (FT)	ZONE ELEV.	DEPTH (FT)	ELEVATION (FT)	RATE (IN/HR)	FACTOR OF SAFETY	RATE (IN/HR)
TP-101	511.00	4.50	506.50	4.00	507.00	507.00	2.00	509.00	10.10	3.00	3.37
TP-102	514.00	-	-	3.25	510.75	510.75	1.25	512.75	8.00	3.00	2.67
TP-103	521.00	5.25	515.75	-	-	515.75	4.92	516.08	0.36	3.00	0.12
TP-104	523.00	6.50	516.50	5.50	517.50	517.50	5.17	517.83	0.55	3.00	0.18
TP-105	512.50	5.83	506.67	5.42	507.08	507.08	3.08	509.42	0.00	3.00	0.00
TP-106	513.00	4.75	508.25	5.00	508.00	508.25	2.75	510.25	0.00	3.00	0.00
TP-107	533.75	3.17	530.58	3.17	530.58	530.58	1.17	532.58	2.17	3.00	0.72
TP-108	532.75	2.67	530.08	2.67	530.08	530.08	0.67	532.08	0.00	3.00	0.00
TP-201	523.00	-	-	5.83	517.17	517.17	3.83	519.17	0.00	3.00	0.00
TP-202	521.00	-	-	5.50	515.50	515.50	3.50	517.50	0.00	3.00	0.00
TP-203	524.00	-	-	-	-	-	3.33	520.67	0.00	3.00	0.00
TP-204	520.00	-	-	4.00	516.00	516.00	2.00	518.00	0.95	3.00	0.00
TP-205	518.00	-	-	4.17	513.83	513.83	2.17	515.83	0.00	3.00	0.00
TP-120	513.00	-	-	-	-	-	4.08	508.92	8.93	3.00	2.98

TESTING WAS PERFORMED BY PENN'S TRAIL ENVIRONMENTAL, LLC. ON 11/04/2020, 09/24/2021, AND 11/29/2021 THE MINIMUM FACTOR OF SAFETY RECOMMENDED BY THE PA BMP MANUAL IS 3.0.



SOIL MAP

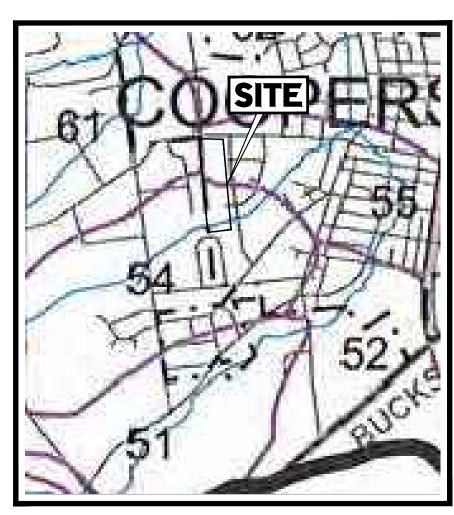
STORM SEWER PIPE SCHEDULE

SCALE: 1" = 400'

		<i>)</i>	-12 1 11	L GOIIL	DULL
FROM	ТО	SIZE (IN.)	TYPE	LENGTH (FT.)	SLOPE(%)
IN01	IN04	18"	HDPE	57	1.84%
IN04	IN05	18"	HDPE	80	0.50%
IN05	MH01	18"	HDPE	52	0.50%
IN06	IN05	18"	HDPE	28	0.50%
IN07	IN08	24"	HDPE	87	0.51%
IN08	EW02	24"	HDPE	13	0.56%
IN09	IN04	18"	HDPE	37	0.51%
IN10	IN27	18"	RCP	89	0.50%
IN11	MH01	18"	HDPE	43	0.51%
IN12	IN13	18"	HDPE	28	0.50%
IN13	IN14	18"	HDPE	100	1.01%
IN14	IN15	18"	HDPE	40	0.51%
IN15	MH01	18"	HDPE	39	0.51%
IN16	IN17	18"	HDPE	148	0.50%
IN17	IN17A	18"	HDPE	33	0.51%
IN17A	IN20	18"	HDPE	287	0.50%
IN18	IN18A	18"	HDPE	12	0.57%
IN18A	IN17A	18"	HDPE	28	0.50%
IN19	IN20	18"	HDPE	28	0.50%
IN20	IN21	18"	HDPE	67	0.51%
IN21	MH03	24"	HDPE	94	4.28%
IN22	IN18	18"	HDPE	146	0.51%
IN23	EW01	24"	HDPE	174	0.51%
IN24	IN23	18"	HDPE	15	2.36%
IN25	IN21	18"	HDPE	28	0.50%
IN26	IN32	18"	HDPE	42	0.50%
IN27	IN31	24"	RCP	131	0.96%
IN28	IN32	18"	HDPE	80	4.96%
IN30	IN31	15"	RCP	23	0.73%
IN31	IN29	24"	RCP	25	0.51%
IN32	IN20	18"	HDPE	148	0.50%
IN33	MH03	18"	HDPE	147	0.50%
MH01	IN07	18"	HDPE	42	0.50%
MH02	EXIN01	15"	RCP	9	0.56%
MH03	IN23	24"	HDPE	73	1.15%
OS01	IN27	18"	RCP	81	1.29%
OS02	MH02	15"	RCP	216	3.13%

STAGE STORAGE SUMMARY TABLE

FACILITY NAME	ELEVATION (FT)	SURFACE AREA (SQFT)	TOTAL STORAGE (CUFT)
BASIN 1	509.00	15,223	0
-	510.00	16,269	15,743
-	511.00	17,341	32,545
-	512.00	18,437	50,431
-	513.00	22.467	70,850
-	514.00	24,126	94,142
-	515.00	25,518	118,961
BASIN 2	520.50	8,552	3,848
-	521.00	9,039	8,246
-	522.00	10,092	17,806
-	523.00	11,176	28,436
-	524.00	12,304	40,171
-	525.00	13,490	53,064
-	526.00	14,710	67,159



SWM DISTRICT MAP

SCALE: 1" = 1,500'

	M STRUCTUR	
NAME	GRT/RIM ELEV. (FT.)	INVERTS
EW01	511.28'	INV IN = 509.0
EW02	522.78'	INV IN = 520.5
EXIN01	510.60'	INV IN = 508.5
IN01	533.74'	INV OUT = 530.
IN04	532.70'	INV IN = 529.2 INV IN = 523.4 INV OUT = 523.
IN05	531.44'	INV IN = 522.9 INV IN = 527.7 INV OUT = 522.
IN06	531.44'	INV OUT = 527
IN07	529.74'	INV IN = 522.1 INV OUT = 521.
IN08	527.00'	INV IN = 521.0 INV OUT = 520
IN09	527.17'	INV OUT = 523
IN10	512.24'	INV OUT = 507
IN11	530.28'	INV OUT = 526
IN12	531.45'	INV OUT = 527
IN13	531.45'	INV IN = 527.8 INV OUT = 527
IN14	530.13'	INV IN = 526.6 INV OUT = 526.
IN15	529.98'	INV IN = 526.2 INV OUT = 526
IN16	530.46'	INV OUT = 526
IN17	532.39'	INV IN = 526.2 INV OUT = 526.
IN17A	532.83'	INV IN = 526.6 INV IN = 525.8 INV OUT = 525
IN18	532.66'	INV IN = 527.2 INV OUT = 527
IN18A	532.83'	INV IN = 526.9 INV OUT = 526
IN19	528.60'	INV OUT = 525
IN20	528.60'	INV IN = 524.2 INV IN = 524.9 INV IN = 518.3 INV OUT = 518
IN21	525.24'	INV IN = 517.8 INV IN = 520.9 INV OUT = 517
IN22	531.46'	INV OUT = 527
IN23	518.45'	INV IN = 510.0 INV IN = 514.8 INV OUT = 509
IN24	518.79'	INV OUT = 515.
IN25	525.24'	INV OUT = 521.
INI26	523 00'	INIV OUT - 510

523.00'

510.49'

527.80'

508.20'

508.65'

508.53'

523.86'

515.30'

530.57'

511.13'

521.26'

513.50'

521.42'

INV OUT = 519.50'

INV IN = 507.27

INV IN = 506.82'

INV OUT = 506.32'

INV OUT = 524.63'

INV IN = 504.76'

INV OUT = 505.23'

INV IN = 505.06'

INV IN = 505.06'

INV OUT = 504.89'

INV IN = 520.66'

INV IN = 519.29'

INV OUT = 519.12

INV OUT = 511.80'

INV IN = 522.48'

INV IN = 525.89'

INV IN = 526.53'

INV OUT = 522.31

INV IN = 508.75'

INV OUT = 508.58

INV IN = 513.69'

INV IN = 511.06'

INV OUT = 510.89'

INV OUT = 507.86'

INV OUT = 515.50'

IN26

IN28

IN29

IN30

IN32

MH01

MH02

MH03

OS01

OS02

REVISIONS

REV	DATE	COMMENT			
IVE	DAIL	COMMENT	CHECKED		
1	06/07/2022	REV. PER BOROUGH	AMT		
'	00/07/2022	COMMENTS	REK		
2	08/18/2022	REV. PER LCCD	EN/M		
	00/10/2022	COMMENTS	JP		
3	01/06/2023	REV. PER LCCD	BG/EI		
3	01/00/2023	COMMENTS	JP		
4	01/27/2023	REV. PER BOROUGH	SR		
4	01/21/2023	COMMENTS	JP		
5	03/16/2023	REV. PER LCCD	EAN		
5	03/10/2023	COMMENTS	JP		
6	10/06/2023	REV. PER CLIENT	BG/L		
0	10/00/2023	COMMENTS	JP		
7	01/19/2024	REV. PER BOROUGH /	EAN		
′	01/19/2024	CLIENT COMMENTS	JRP		



PROJECT No.:	PC19116
DRAWN BY:	AM ⁻
CHECKED BY:	REI
DATE:	08/06/202
CAD I.D.:	PC191160-CND-

PROJECT:

FINAL LAND DEVELOPMENT **PLANS**

REYNOLDS ACQUISITIONS, L.P.

PROPOSED RESIDENTIAL DEVELOPMENT 'ASHFORD PRESERVE' **WEST STATE STREET COOPERSBURG BOROUGH** LEHIGH COUNTY

PENNSYLVANIA

18036

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

R.E. KLOS, JR.

:PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE045479E NEW JERSEY LICENSE No. 24GE04507900

SHEET TITLE: POST CONSTRUCTION STORMWATER **MANAGEMENT**

NOTES & DETAILS SHEET NUMBER

LONG-TERM OPERATION AND MAINTENANCE SCHEDULE

TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

- 1. UNTIL THE SITE IS STABILIZED AND DURING THE CONSTRUCTION ACTIVITIES, ALL BMPs MUST BE MAINTAINED PROPERLY BY CONTRACTOR. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL BMPs AS SPECIFIED. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN-OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-SEEDING, RE-MULCHING AND RE-NETTING MUST BE PERFORMED IMMEDIATELY AND IN ACCORDANCE WITH THESE PROCEDURES, PLANS, AND DETAILS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
- 2. ALL SITE INSPECTIONS MUST BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE INDICATING THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG MUST BE KEPT ON SITE AT ALL
- 3. SHOULD ON-SITE EROSION OCCUR FROM THE LANDSCAPED AREAS, THE SOURCE OF EROSION SHALL BE IMMEDIATELY STABILIZED AND THE INLETS AND STORMWATER PIPING SHALL BE CHECKED FOR ACCUMULATION AND CLEARED IF ACCUMULATION OF SEDIMENT EXISTS.
- 4. HEAVY CONSTRUCTION VEHICLES SHALL NOT BE PARKED ON OR DRIVEN OVER BMP FACILITIES AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY EQUIPMENT, INCLUDING MOWERS.
- 5. INSPECT INFILTRATION FACILITIES AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS. INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SIGNS
- 6. REMOVE ACCUMULATED SEDIMENT FROM THE FACILITIES AS REQUIRED. RESTORE ORIGINAL CROSS-SECTION IF NECESSARY. PROPERLY DISPOSE OF SEDIMENT AS SPECIFIED. FOR ABOVE-GROUND INFILTRATION FACILITIES, REMOVE AND REPLACE SAND/STONE LAYER AS NECESSARY IF FACILITY DEWATERING TIME EXCEEDS 72 HOURS.
- 7. THE VALVE FOR THE UNDERDRAIN PIPE SHALL BE CLOSED AT ALL TIMES EXCEPT DURING ROUTINE MAINTENANCE OF THE INFILTRATION BMP AND IF THE INFILTRATION BMP IS NOT INFILTRATING AS DESIGNED. IF THE INFILTRATION BMP IS NOT INFILT THEN THE INFILTRATION BMP SHALL BE RECONSTRUCTED TO FUNCTION AS DESIGNED AND THE VALVE CLOSED.

THE HOMEOWNER'S ASSOCIATION IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT BMPS AS DESCRIBED HEREIN. THE HOMEOWNER'S ASSOCIATION WILL BE ESTABLISHED PRIOR TO CONVERSION OF THE BMPS TO PERMANENT CONDITIONS.

BMP NO.	DESCRIPTION	SCHEDULE	INSPECTION TASK	MAINTENANCE	FAILURE INDICATORS
STORM DRAINAGE SYSTEM	INLETS, MANHOLES, AND STORMWATER PIPING.	EVERY 3 MONTHS	INSPECT INLETS, MANHOLES, AND STORMWATER PIPING	CLEAR SEDIMENT AND DEBRIS FROM ALL ON-SITE INLETS, MANHOLES, AND STORMWATER PIPING	EXCESSIVE PONDING AROUND THE INLET GRATES COULD INDICATE THAT THERE MAY BE SEDIMENT/DEBRIS BUILDUP.
	(EXCLUDING: STORM RUNS OS02 TO IN33, IN33 TO EXIN01, IN27 TO IN31, IN30 TO IN31, AND IN31 TO IN29)				
BMP 6.4.2 NFILTRATION BASIN	AN INFILTRATION BASIN IS A SHALLOW IMPOUNDMENT THAT STORES AND INFILTRATES RUNOFF OVER A LEVEL, UNCOMPACTED,		INSPECT THE BASIN AFTER RUNOFF EVENTS AND MAKE SURE THAT THE RUNOFF DRAINS DOWN WITHIN 72 HOURS	ACCUMULATED DEBRIS AND SEDIMENT IN INLETS OR YARD DRAINS SHOULD BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON THE INFILTRATION BASIN.	IF ANY INFILTRATION BASIN IS OBSERVED TO FAIL TO DEWATER WITHIN THE ALLOWABLE 72 HOURS THE OWNER SHALL NOTIFY THE ENGINEER OF RECORD OR QUALIFIED GEOTECHNICAL ENGINEER TO DEVELOP A PLAN TO ADDRESS THE DEFICIENCY.
	(PREFERABLY UNDISTURBED AREA) WITH RELATIVELY PERMEABLE SOILS.	AT LEAST 2 TIMES PER YEAR & AFTER RUNOFF EVENTS MAINTENANCE	CATCH BASINS AND INLETS (UPGRADIENT OF INFILTRATION BASIN) SHOULD BE INSPECTED AND CLEANED THE VEGETATION ALONG THE SURFACE OF THE	AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS. MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES. REMOVED ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION	TO DEVELOP A PLAN TO ADDRESS THE DEFICIENCY.
		ACTIVITIES TO BE DONE AS NEEDED:	INFILTRATION BASIN SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED AS SOON AS POSSIBLE • VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON AN INFILTRATION BASIN, AND CARE SHOULD BE TAKEN TO AVOID EXCESS COMPACTION BY MOWERS • ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS • MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES	RATE. PROPERLY DISPOSE OF SEDIMENT.	
			REMOVE ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE. PROPERLY DISPOSE OF SEDIMENT		
		2:1 SLOPE MAINTENANCE:	AS NOTED IN THE SEED MIX'S SPECIFICATIONS, THE MIX IS INTENDED ONLY TO BE MOWED ONCE AFTER THE FIRST GROWING SEASON, AND THEN ONLY ONCE EVERY THREE YEARS THEREAFTER EARLY IN SPRING. THE ONLY REASON TO MOW IS TO CONTROL INVASIVE SPECIES, AND WOODY PLANTS AND TREES		
MRC BIORETENTION BASIN	AN MRC BIORETENTION BASIN IS AN EXCAVATED SHALLOW SURFACE DEPRESSION PLANTED WITH SPECIALLY SELECTED NATIVE VEGETATION TO TREAT AND CAPTURE RUNOFF.	2 TIMES PER YEAR	REMOVE DETRITUS, CUT BACK DORMANT PERENNIAL PLANTS INSPECT FOR INVASIVE PLANT SPECIES INSPECT MULCH LEVEL AND REPLENISH AS NECESSARY REMOVE LEAF LITTER INSPECT AND CLEAN UP GRADIENT CATCH BASINS AND INLETS	NEEDED MAINTENANCE SHOULD BE CONDUCTED IMMEDIATELY AFTER EACH INSPECTION. THE LITTER AND SEDIMENT SHALL BE REMOVED TO RESTORE DESIGN CAPACITIES AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. UPGRADIENT CATCH BASINS AND INLETS SHOULD BE INSPECTED AND CLEANED ANNUALLY. REMOVE ACCUMULATED SEDIMENT AS REQUIRED TO MAINTAIN INFILTRATION THROUGH THE MRCS SOIL MEDIA AND TO MAINTAIN WATER QUALITY FUNCTIONALITY. RESTORE	FAILURE INDICATORS INCLUDE IF THE RAINGARDEN DOES NOT DEWATER WITHIN 72 HOURS OR IF AN ABUNDANCE OF WETLAND PLANTS ARE FOUND WITHIN THE RAINGARDEN. UPON OBSERVING A FAILURE INDICATOR A QUALIFIED INDIVIDUAL SUCH AS AN ENGINEER OR SOIL SCIENTIST/ENGINEER SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF FAILURE. UPON FURTHER INVESTIGATION PERFORMED BY THE QUALIFIED INDIVIDUAL A REMEDIATION PLAN SHALL BE IMPLEMENTED TO RESTORE THE
		4 TIMES PER YEAR (MIN.)	AFTER RUNOFF EVENTS GREATER THAN 0.8 INCH, MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS AFTER A STORM INSPECT FOR DAMAGE TO OUTLET STRUCTURES, EROSION, SIGNS OF WATER CONTAMINATION/SPILLS, AND INSTABILITY INSPECT FOR ACCUMULATION OF SEDIMENT	ORIGINAL CROSS SECTION. PROPERLY DISPOSE OF SEDIMENT.	RAINGARDEN TO ITS ORIGINAL DESIGN CAPACITIES, THIS INCLUDES PERFORMING ADDITIONAL INFILTRATION TESTING TO DETERMINE WHETHER THE FACILITY HAS BEEN BROUGHT BACK TO ITS ORIGINAL DESIGN CAPACITIES.
		AS NEEDED:	THE VEGETATION (FOR THE MRC BMP AND CONTRIBUTING DRAINAGE AREA) SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS. MOW ONLY AS APPROPRIATE FOR VEGETATIVE SPECIES REMOVE ACCUMULATED SEDIMENT AS REQUIRED TO MAINTAIN INFILTRATION THROUGH THE MRC'S SOIL MEDIA AND TO MAINTAIN WATER QUALITY FUNCTIONALITY. RESTORE ORIGINAL CROSS SECTION. PROPERLY DISPOSE OF SEDIMENT		
		2:1 SLOPE MAINTENANCE:	AS NOTED IN THE SEED MIX'S SPECIFICATIONS, THE MIX IS INTENDED ONLY TO BE MOWED ONCE AFTER THE FIRST GROWING SEASON, AND THEN ONLY ONCE EVERY THREE YEARS THEREAFTER EARLY IN SPRING. THE ONLY REASON TO MOW IS TO CONTROL INVASIVE SPECIES, AND WOODY PLANTS AND TREES		
BMP 5.6.3 RE-VEGETATE DISTURBED AREAS (PART 2)	SELECTION AND USE OF VEGETATION THAT DOES NOT REQUIRE SIGNIFICANT CHEMICAL MAINTENANCE BY FERTILIZERS, HERBICIDES AND PESTICIDES.	ANNUALLY	INSPECT FOR DYING/DEAD PLANT MATERIAL INSPECT FOR INVASIVE SPECIES	LANDSCAPING THAT IS POOR CONDITION SHALL BE REPLACED AS SOON AS POSSIBLE. TREES THAT ARE NOT TO BE REMOVED UNLESS ONE IS PROPOSED TO REPLACE IT SOMEWHERE ELSE WITHIN THE DRAINAGE AREA. PRUNING IS ALLOWED HOWEVER, EXCESSIVE BRANCH REMOVAL SHOULD BE AVOIDED. DEAD TREES NEED TO BE REPLACED WITHIN 6 MONTHS.	FAILURE INDICATORS INCLUDE PLANT MATERIALS THAT FAILS TO ESTABLISH OR DIES OFF OR EXCESSIVE QUANTITY OF INVASIVE SPECIES. UPON OBSERVING A FAILURE CONDITION A QUALIFIED INDIVIDUAL SUCH AS A LANDSCAPE ARCHITECT SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF FAILURE. REMEDIATION SHALL BE IN ACCORDANCE WITH THE QUALIFIED INDIVIDUALS RECOMMENDATIONS BASED ON THEIR INVESTIGATION.
BMP 6.4.8 VEGETATED SWALE	A VEGETATED SWALE IS A BROAD, SHALLOW, TRAPEZOIDAL OR PARABOLIC CHANNEL, PLANTED WITH GRASSES.	ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT (>1" RAINFALL DEPTH)	INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION (ADDRESS WHEN >3" AT ANY SPOT OR COVERING VEGETATION) INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES, CORRECT AS NEEDED INSPECT FOR POOLS OF STANDING WATER; DEWATER AND DISCHARGE TO AN APPROVED LOCATION AND RESTORE TO DESIGN GRADE MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER SWALE OPERATION, OR TO	NEEDED MAINTENANCE SHOULD BE CONDUCTED IMMEDIATELY AFTER EACH INSPECTION. THE LITTER AND SEDIMENT SHALL BE REMOVED TO RESTORE DESIGN CAPACITIES AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. AREAS OF EROSION SHALL BE REGRADED AND STABILIZED AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPABILITIES.	FAILURE INDICATORS OF GRASS SWALES INCLUDE THE CHANNEL ERODING OR VEGETATION FAILS TO ESTABLISH OR DIES OFF. UPON OBSERVING A FAILURE INDICATOR A QUALIFIED INDIVIDUAL SUCH AS A LANDSCAPE ARCHITECT/ARBORIST OR SOIL SCIENTIST/ENGINEER SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF FAILURE. UPON FURTHER INVESTIGATION PERFORMED BY THE QUALIFIED INDIVIDUAL A REMEDIATION PLAN SHALL BE IMPLEMENTED TO RESTORE THE GRASS SWALE TO ITS ORIGINAL DESIGN.

AESTHETICS, PROPER SWALE OPERATION, OR TO

DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY; MOW ONLY WHEN SWALE IS DRY TO

INSPECT FOR LITTER; REMOVE PRIOR TO MOWING

AND LONGITUDINAL SLOPE, CORRECT AS NEEDED

EROSION CONTROL MEASURES WHEN NATIVE SOIL

INSPECT SWALE INLET AND OUTLET FOR SIGNS OF EROSION AND BLOCKAGE, CORRECT AS NEEDED

INSPECT FOR UNIFORMITY IN CROSS-SECTION

PLANT ALTERNATIVE GRASS SPECIES IN THE

EVENT OF UNSUCCESSFUL ESTABLISHMENT

RESEED BARE AREAS; INSTALL APPROPRIATE

IS EXPOSED OR EROSION CHANNELS ARE

WATER DURING DRY PERIODS, FERTILIZE, AND

APPLY PESTICIDE ONLY WHEN ABSOLUTELY

INSPECT SWALE IMMEDIATELY AFTER THE SPRING

MELT, REMOVE RESIDUALS (E.G. SAND) AND

REPLACE DAMAGED VEGETATION WITHOUT

APPLIED EITHER AS BLENDED, MAGNESIUM

CHLORIDE-BASED LIQUID PRODUCTS OR AS

USE SALT-TOLERANT VEGETATION IN SWALES

ENSURE ROCK HAS NOT BEEN DISLOCATED

NEEDED MAINTENANCE SHOULD BE CONDUCTED IMMEDIATELY

AND FEDERAL REGULATIONS. STONE SHALL BE REPLACED WITH THE

AFTER EACH INSPECTION. SEDIMENT AND LITTER SHALL BE

SIZE AND TO THE DEPTH NOTED ON THE PLANS AS NEEDED.

FAILURE INDICATORS OF RIP-RAP APRONS INCLUDE STONE

REMOVED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, SEDIMENT/LITTER BUILD UP IS PRESENT ON THE APRON ITSELF.

DISLOCATED FROM THE REST OF THE RIP-RAP APRON OR THE

DISTURBING REMAINING VEGETATION

PRETREATED SALT

ACCUMULATION

2 TIMES PER YEAR | • INSPECT FOR SEDIMENT/LITTER

FROM THE APRON AREA.

• USE NONTOXIC, ORGANIC DEICING AGENTS,

SUPPRESS WEEDS AND INVASIVE VEGETATION;

AVOID RUTTING

ACTIVITIES TO BE

DONE AS NEEDED:

CONDITIONS ALSO

CONCERNS, WHICH

NECESSITATE

MAINTENANCE

INCLUDE THE

FOLLOWING:

A RIP-RAP APRON IS AN APRON OF AFTER EACH

ROCK THAT DISSIPATES ENERGY | STORM >3"

FROM THE CONCENTRATE FLOW

EXITING THE PIPE.

ADDITIONAL

PCSM - GENERAL BMP NOTES

3/4"Ø EPOXY COATED STEEL

COVER GRID W/ GALV. #10 GAUGE-

WIRE (1-1/2" x 1-1/2" MAX.

OPENINGS)

ANCHOR BOLT-

(SEE DETAIL)

ORIFICE

3" ORIFICE

3" HIGH X 4" WIDE ORIFICE

3" HIGH X 24" WIDE ORIFICE

W (Ft) H (Ft)

0.75 0.75

0.83 0.75

2.50 0.75

TRASH RACK-SAFETY GRATE FOR

OUTLET STRUCTURE WEIR

6" x 6" GRID (MAX)-

STRUCTURE

OS01

OS02

OS02

1. A SITE INSPECTION AND APPROVAL BY THE COUNTY CONSERVATION DISTRICT IS REQUIRED PRIOR TO THE REMOVAL OR CONVERSION OF SEDIMENT BASINS AND TRAPS.

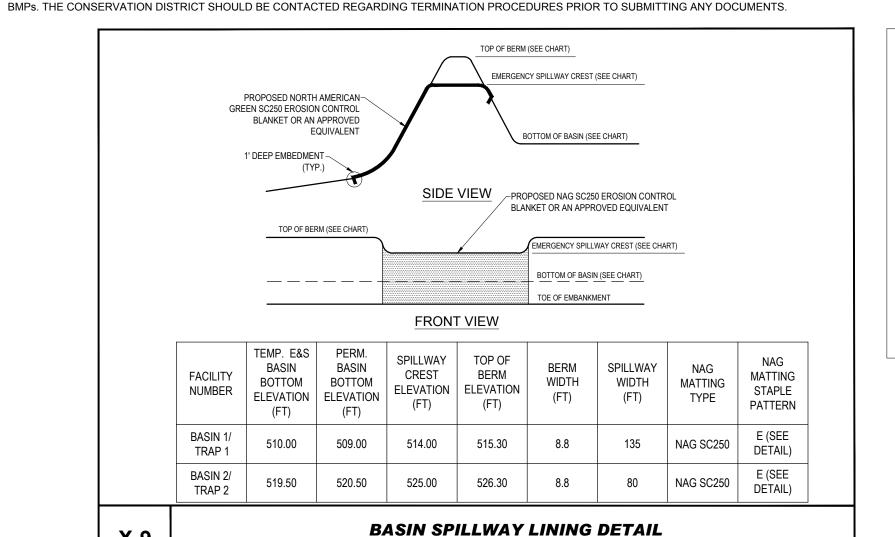
2. BOHLER ENGINEERING SHALL BE NOTIFIED OF PRE-CONSTRUCTION MEETING DATE AND BMP CONSTRUCTION SCHEDULE.

4. REFER TO THE BMP CONSTRUCTION DETAILS FOR THE CONSTRUCTION OF ALL PROPOSED STORMWATER MANAGEMENT BMPs.

- 3. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO LIMIT THE COMPACTION IN THE PROPOSED BMP BOTTOMS.
- 5. REFER TO THE PCSWM PLAN AND DETAILS FOR SPECIFIC BMP CONSTRUCTION GUIDELINES.

SHALL BE SIGNED AND SEALED BY A PA REGISTERED PROFESSIONAL SURVEYOR.

- 6. AS-BUILT PLANS OF THE STORMWATER BMPs FOR EACH PROJECT PHASE SHALL BE PROVIDED WITHIN SIX MONTHS FOLLOWING THE COMPLETION OF EACH PHASE. THE AS-BUILT PLANS
- 7. A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY ADEQUATE INSTALLATION AND FUNCTION OF STORMWATER



-1/4" x 2" EPOXY COATED

NOT TO SCALE

Part 2 Revegetate and Reforest

- To receive credit for planting trees, the following criteria must be met:
- Trees must be native species (see Appendix), minimum 2" caliper. Minimum tree height is 6 feet.
- ▼ Trees shall be adequately protected during construction.
- ▼ Trees credited for stormwater management shall be clearly labeled on the construction drawings and recorded on Record Plan for project.
- Trees shall be maintained and protected for the life of the project (50 years) or until redevelopment occurs.
- ☑ No more than 25% of the runoff volume can be mitigated through the use of trees.
- ☑ Escrow shall be provided for the replacement of any protected trees used for stormwater credit that die within 5 years of construction. Dead trees shall be replaced within 6
- Shall be located on the development project.

May be applied for trees planted as part of Riparian Buffer improvement.

- May be applied for trees required under Street Tree or Landscaping requirements.
- Non-native species are not applicable.

-1/4" x 2" STEEL FLAT STOCK

-PAINT SURFACE OF FLAT STOCK IN CONTACT w/ A HEAVY COAT OF

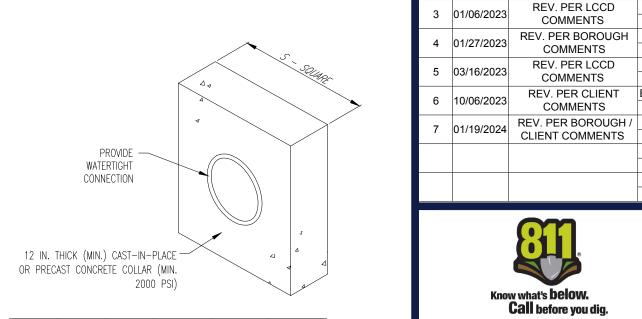
-PROVIDE 3/4"Ø ANCHOR BOLTS RAMSET TRUBOLT WEDGE ANCHOR No. 734514 or

APPROVED EQUIVALENT INSTALL AS PER

MANUFACTURERS SPECIFICATIONS.

—CONCRETE STRUCTURE

ANCHOR BOLT FOR TRASH RACKS



COLLAR FIRST COLLAR SPACING COLLARS NOTES:

ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT. COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

STANDARD CONSTRUCTION DETAIL #7-16 CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS NOT TO SCALE

PROJECT:

CAD I.D.:

PROJECT No.:

DRAWN BY:

CHECKED BY:

FINAL LAND **DEVELOPMENT PLANS**

08/06/202

PC191160-CND-

REVISIONS

COMMENT

REV. PER BOROUGH

REV. PER LCCD

REV. PER LCCD

COMMENTS

REV PER BOROUGH

COMMENTS REV. PER LCCD

COMMENTS

REV. PER CLIENT

COMMENTS

YOU MUST CALL 811 BEFORE ANY EXCAVATION

1-800-242-1776

20191704041 & 20191704042

COMMENTS

COMMENTS

REV DATE

06/07/2022

08/18/2022

REYNOLDS ACQUISITIONS, L.P.

PROPOSED RESIDENTIAL DEVELOPMENT 'ASHFORD PRESERVE'

WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY PENNSYLVANIA

18036

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

R.E. KLOS, JR.

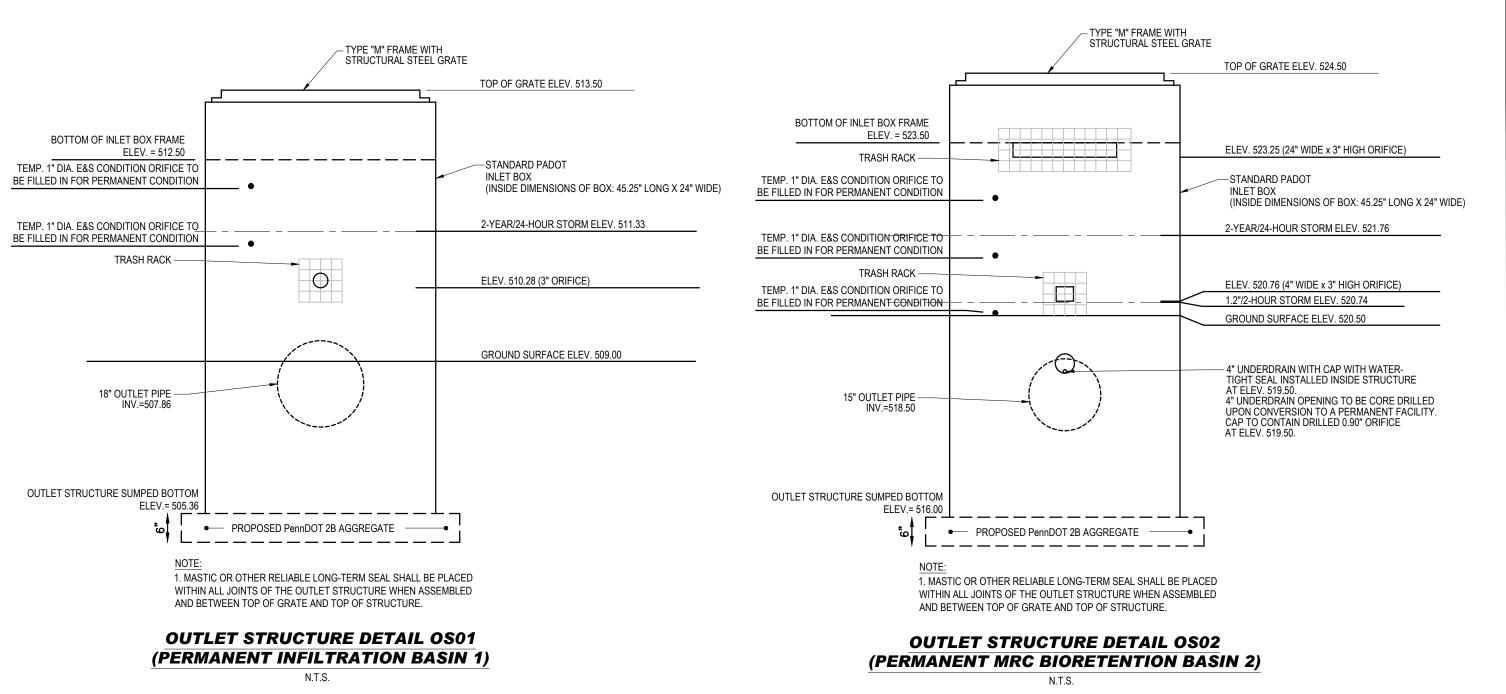
:PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE045479E NEW JERSEY LICENSE No. 24GE04507900

SHEET TITLE: POST CONSTRUCTION **STORMWATER**

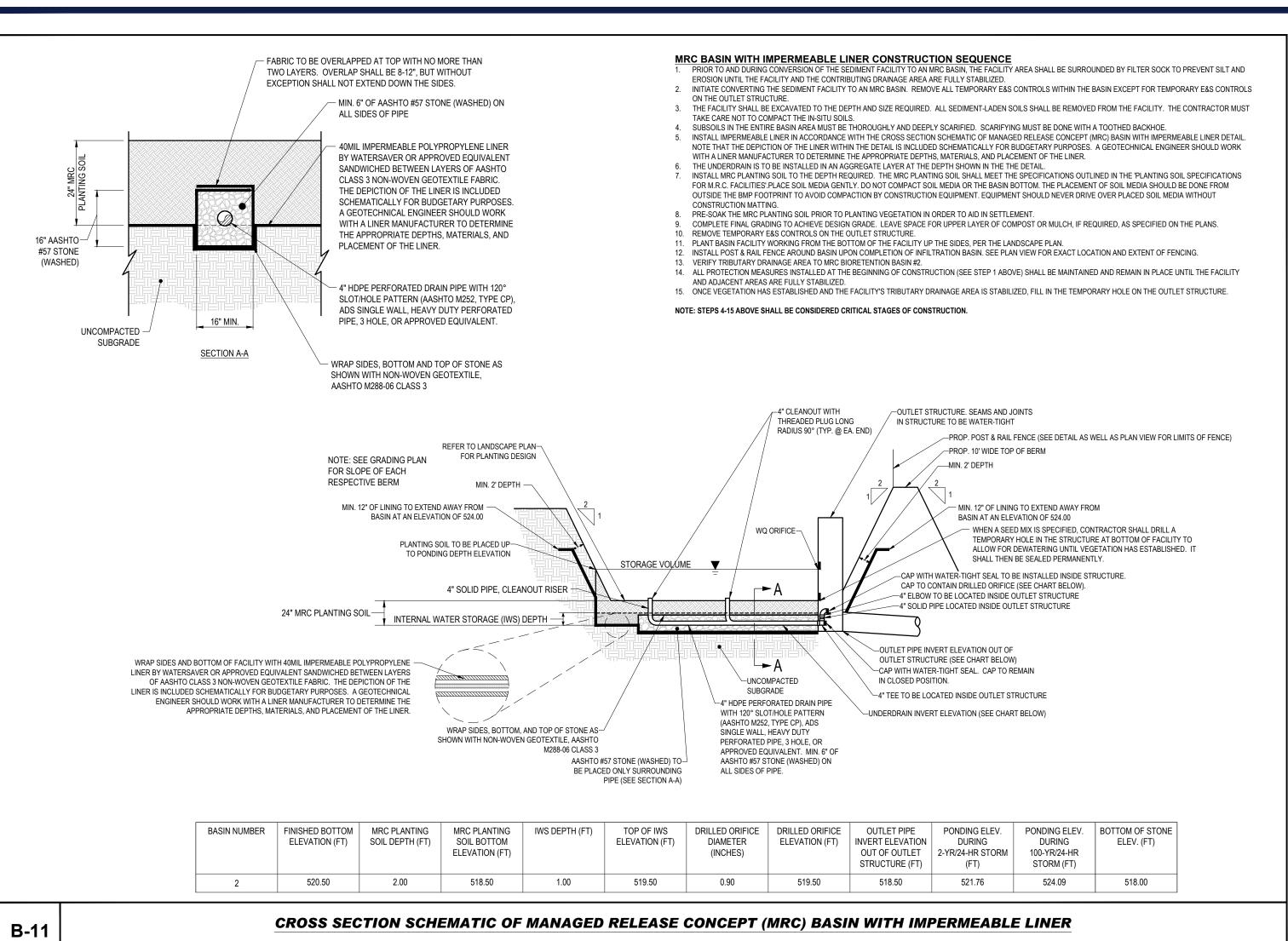
MANAGEMENT NOTES & DETAILS

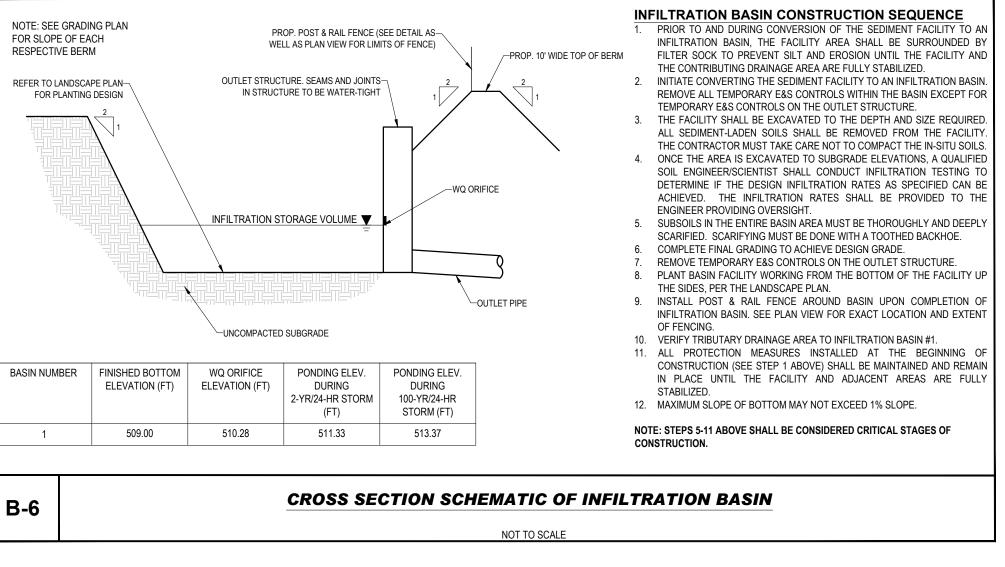
SHEET NUMBER: OF 48

REVISION 7 - 01/19/2024



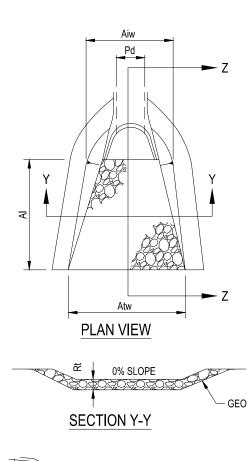
OUTLET STRUCTURE DETAILS (PERMANENT CONDITION)

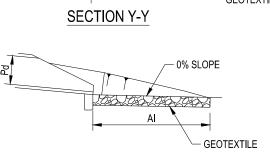




RE-VEGETATE DISTURBED AREAS (PART 2) CONSTRUCTION SEQUENCE

- 1.) THE FOLLOWING CONSTRUCTION SEQUENCE HAS BEEN PROVIDED TO ADDRESS POST CONSTRUCTION STORMWATER MANAGEMENT REQUIREMENTS ONLY AND DOES NOT RELIEVE THE CONTRACTOR FROM FOLLOWING THE SPECIFICATIONS ON THE APPROVED LANDSCAPE PLANS.
- 2.) BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.
- 3.) CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.
- 4.) INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.
- 5.) PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION
- 6.) ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.
- 7.) POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING
- 8.) PLANTING PITS SHALL BE DUG WITH LEVEL OR CONVEX BOTTOMS, WITH THE WIDTH THREE TIMES THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS
- 9.) FILL SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.
- 10.) ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.
- 11.) ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED ON THE LANDSCAPE PLANS AND FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE
- 12.) ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.





OUTLET DIA SIZE Rt AI AIW WIDTH AIW (IN) (FT) (FT)	1
("Y) ("Y) (FT)	Atw (FT)
01 24 3 9.0 9.0 6.0	9.6
02 24 3 9.0 9.0 6.0	9.6

HHHHH

I

The information presented herein is general design information only. For specific applications,

DEPTH

1.00 8.00

D (FT)

consult an independent professional for further design guidance

B (FT)

STATIONS | WIDTH

*Horizontal staple spacing should be

secure the critical points along the channel

**In loose soil conditions, the use of staple

be necessary to properly secure the

or stake lengths greater than 6"(15cm) may

WIDTH Z1 Z2

| W (FT) | (FT) | (FT) |

 SWALE 4
 ENTIRE
 2.00
 1.00
 8.00
 3.0
 3.0
 NAG SC150 (TEMP.), LAWN (PERM.)

Drawn on: 3-16-1

2.00 1.00 8.00 3.0 3.0 NAG SC150 (TEMP.), LAWN (PERM.)

2.00 | 1.00 | 8.00 | 3.0 | NAG SC150 (TEMP.), LAWN (PERM.)

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

> STANDARD CONSTRUCTION DETAIL #9-1 RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL NOT TO SCALE

Call before you dir YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND. 1-800-242-1776 20191704041 & 2019170404

REVISIONS

REV DATE

06/07/2022

08/18/2022

01/06/2023

4 01/27/2023

03/16/2023

6 10/06/2023

01/19/2024

COMMENT

COMMENTS REV. PER LCCD

COMMENTS

REV. PER LCCD

REV. PER BOROUGH

COMMENTS

REV. PER LCCD

COMMENTS

COMMENTS

REV. PER BOROUGH /

CLIENT COMMENTS

COMMENTS

DRAWN BY: 08/06/20 CAD I.D.: PC191160-CND-

PROJECT:

CHANNEL

INSTALLATION

DETAIL

Prepare soil before installing roll

1. Prepare soil before installing rolleterosion control products (RECPs) including any necessary application o lime, fertilizer, and seed.

 2. Begin at the top of the channel by anchoring the RECPs in a 6"(15cm deep X 6"(15cm) wide trench with the control of the channel by anchoring the RECPs in a 6"(15cm).

approximately 12"(30cm) of RECP: extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplement scour protection as needed. Anchor the RECPs with a row of staples/stake

approximately 12"(30cm) apart in the pottom of the trench. Backfill and

compact the trench after stapling. Appl seed to the compacted soil and fold the remaining 12"(30cm) portion of RECP-back over the seed and compacted soil Secure RECPs over compacted so settled.

Secure RECPs over compacted so with a row of staples/stakes spacer approximately 12" apart across the width of the RECPs.

3. Roll center RECPs in direction of wate flow in bottom of channel. RECPs with unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface.

securely fastened to soil surface b placing staples/stakes in appropr locations as shown in the staple pat

guide.
Place consecutive RECPs end-over-end
(Shingle style) with a 4"-6" overlap. Use
a double row of staples staggered 4

apart and 4" on center to secu

i. Full length edge of RECPs at top of side slopes must be anchored with a row o

wide trench. Backfill and compact t

trench after stapling.
Adjacent RECPs must be overlapp

approximately 2"-5" (5-12.5cm Depending on RECPs type) are stanled

n high flow channel applications

staple check slot is recommended at 30 to 40 foot (9 -12m) intervals. Use a

double row of staples staggered 4"(10cm) apart and 4"(10cm) on cente over entire width of the channel.

The terminal end of the RECPs must be

approximately 12" (30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench

Backfill and compact the trench afte

anchored with a row of staples/s

3.0 3.0 NAG SC150 (TEMP.), LAWN (PERM.)

FINAL LAND DEVELOPMENT **PLANS**

REYNOLDS

ACQUISITIONS. L.P.

PROPOSED RESIDENTIAL DEVELOPMENT 'ASHFORD PRESERVE'

WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY **PENNSYLVANIA** 18036

1600 MANOR DRIVE, SUITE 200 CHALFONT, PA 18914 Phone: (215) 996-9100 Fax: (215) 996-9102

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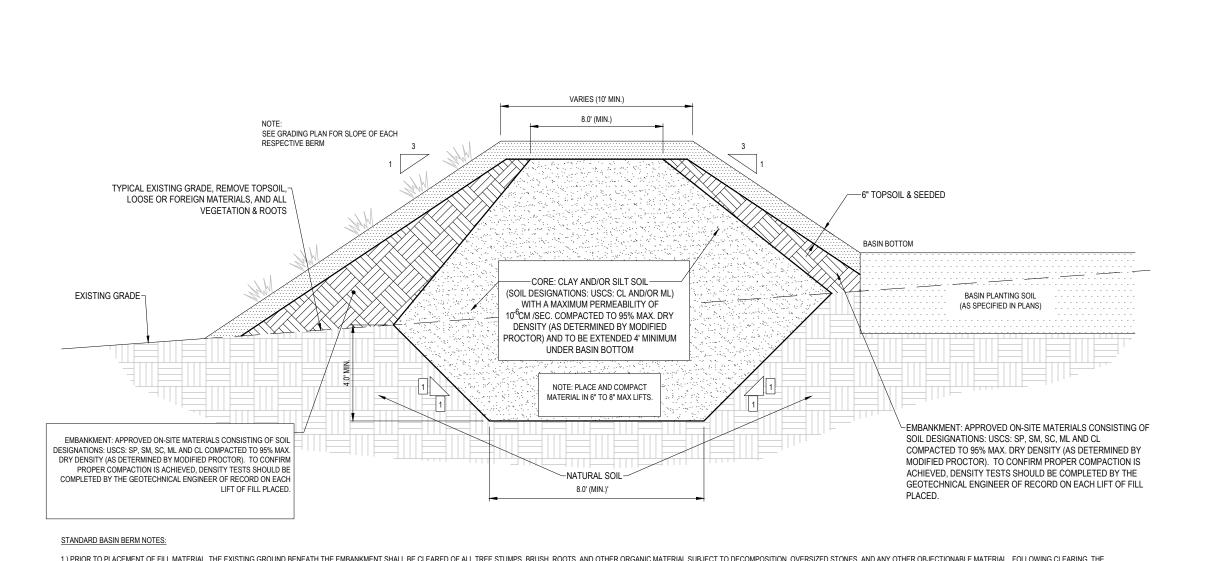
:PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE045479È NEW JERSEY LICENSE No. 24GE04507900

SHEET TITLE: POST

CONSTRUCTION **STORMWATER MANAGEMENT NOTES & DETAILS**

SHEET NUMBER:

REVISION 7 - 01/19/2024



SURFACE ON OR AGAINST WHERE THE FILL IS TO BE PLACED SHALL BE SCARIFIED (BROKEN TO A DEPTH OF SIX (6) INCHES) PRIOR TO PLACEMENT OF FILL. THE CUT-OFF TRENCH SHALL BE EXCAVATED TO A DEPTH OF FOUR (4) FEET BELOW EXISTING GRADE. THE EXCAVATION SHALL BE DONE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT. THE MINIMUM BOTTOM WIDTH OF THE CUT-OFF TRENCH SHALL BE EIGHT (8) FEET BUT WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. THE TRENCH SHALL BE KEPT FREE OF STANDING WATER DURING THE BACKFILL

2.) ALL FILL SHALL BE TAKEN FROM SELECT BORROW AREAS. IT SHALL BE FROM BRUSH, ROOTS, AND OTHER ORGANIC MATERIAL SUBJECT TO DECOMPOSITION, OVERSIZED STONES, AND ANY OTHER OBJECTIONABLE MATERIAL. 4.) FILL MATERIAL IN ALL EMBANKMENTS SHALL PLACED IN 6 TO 8 INCH LIFTS AND SHALL BE CONTINUOUS OVER THE ENTIRE LENGHT OF THE FILL. FILL MATERIAL BE BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DENSITY OBTAINED FROM THE COMPACTION TESTS PERFORMED BY THE APPROPRIATE METHOD IN ASTM 0698. COMPACTION SHALL BE OBTAINED BY USING MECHANICAL SHEEP FOOT ROLLERS 5.) THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 5% HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT.

6.) NO ROCK FILL AND/OR GRAVEL SHALL BE PLACED BELOW THE CLAY CORE.

BERM AND CUTOFF TRENCH DETAIL (FOR BERMS IN FILL CONDITION)

GUIDANCE FOR BLENDING OF PLANTING SOIL A PRE-BLENDED IMPORT SOIL IS PREFERRED. HOWEVER, THE CONTRACTOR MAY USE AVAILABLE ON-SITE SOILS IN THE MIX PROVIDED THAT THEY ARE TESTED AND MEET THE PENNSYLVANIA EPA'S CLEAN FILL REQUIREMENTS, AND THAT THE PHYSICAL TEST RESULTS CLASSIFY THE SOIL AS A LOAM, SANDY LOAM OR CLAY LOAM. THE FOLLOWING IS INTENDED ONLY AS A STARTER MIX. THE

CONTRACTOR WILL BE EXPECTED TO SUPPLEMENT AS NECESSARY TO ACHIEVE THE TARGET RANGES LISTED UNDER THE SECTION TITI FD "TEST RESULTS OF FINISHED PLANTING SOIL" ABOVE:

• 20-35% TOPSOIL BASE (LOAM, SANDY LOAM OR CLAY LOAM) BY VOLUME • 30-70% COURSE SAND (ASTM C-33 CONCRETE SAND) BY VOLUME • 20-30% COMPOST (USCC STA CERTIFIED) BY VOLUME (NO MORE THAN 30% BY VOLUME)

• A USCC STA CERTIFICATE SHALL BE PROVIDED FOR THE COMPOST SUPPLIER.

PLANTING SOIL SPECIFICATIONS FOR M.R.C. FACILITIES

RESPONSIBLE TO SUPPLEMENT THE ABOVE STARTER BLEND AS NECESSARY TO ACHIEVE THIS GOAL:

• SOLUBLE SALT CONTENT (ELECTRICAL CONDUCTIVITY 1 SOIL : 2 WATER) MAXIMUM 3 mmho/cm

(USCC) SEAL OF TESTING ASSURANCE (STA) PROGRAM. COMPOST MUST COMPLY WITH THE FOLLOWING:

• CHEMICAL CONTAMINANTS: MEETS OR EXCEEDS US EPA CLASS A STANDARD, 40 CFR \$503.13, TABLE 3

MUSHROOM COMPOST WHICH SHALL BE PERMITTED A MAXIMUM OF 10 MMHO/CM.

• HYDRAULIC CONDUCTIVITY (ASTM F1815) AT 75% PROCTOR (ASTM D698): 2-6 IN/HR

PROJECT ENGINEER PRIOR TO INSTALLATION.

SAND: 60-80% BY WEIGHT

MINIMUM OF 80%

40 CFR §503.32.(A)

 SILT: 25% MAXIMUM BY WEIGHT CLAY: 10% MAXIMUM BY WEIGHT

TARGET TEST RESULTS OF COMPLETED PLANTING SOIL:

ORGANIC MATTER: 5-7% (DRY WEIGHT BASIS)

TARGET TEST RESULTS OF COMPOST USED IN COMPLETED SOIL:

• ORGANIC MATTER CONTENT: 30-65% (DRY WEIGHT BASIS)

• PHYSICAL CONTAMINANTS (INERTS): < 0.5% (DRY WEIGHT BASIS)

MOISTURE CONTENT: 30-60% (WET WEIGHT BASIS)

• PARTICI E SIZE: 98% PASSES THROUGH 5" SCREEN

PACKAGE CONTAINING THE FOLLOWING, AT A MINIMUM:

SPECIFICATIONS NOTED HEREIN

MARKED AND OFF-LIMITS TO MACHINERY.

IF ON-SITE SOILS ARE TO BE USED IN THE FINISHED BLEND:

FOR MOST M.R.C. FACILITIES, PLANTING SOIL SHALL BE A MANUFACTURED SOIL COMPRISED OF A CLEAN TOPSOIL SUPPLEMENTED

WITH ORGANIC MATERIAL AND COURSE SAND. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A PLANTING SOIL THAT

MEETS THE "TARGET TEST RESULTS OF COMPLETED PLANTING SOIL", INCLUDING THE USE OF COMPOST THAT ALSO MEETS THE

INDEPENDENT REQUIREMENTS NOTED HEREIN. THE CONTRACTOR SHALL PROVIDE ALL SUBMITTALS OUTLINED BELOW TO THE

THE COMPLETED PLANTING SOIL SHALL MEET, AT A MINIMUM, THE FOLLOWING SPECIFICATIONS. THE CONTRACTOR SHALL BE

COMPOST USED IN THE COMPLETED SOIL MUST BE SOURCED FROM A FACILITY PARTICIPATING IN THE US COMPOSTING COUNCIL'S

• SOLUBLE SALT CONTENT (ELECTRICAL CONDUCTIVITY 1 SOIL : 2 WATER) MAXIMUM 5 MMHO/CM, EXCEPT FOR RE-PROCESSED

• MATURITY (BIOASSAY): SEED EMERGENCE AND SEEDING VIGOR, PERCENT RELATIVE TO POSITIVE CONTROL, SHALL BOTH BE A

• BIOLOGICAL CONTAMINANTS, FECAL COLIFORM BACTERIA OR SALMONELLA: MEETS OR EXCEEDS US EPA CLASS A STANDARD,

LAB TESTS MUST BE DATED WITHIN 6 MONTHS PRIOR TO DELIVERY TO THE WORK SITE. SUBMITTALS SHALL BE PROVIDED 3 MONTHS

•1. A REPRESENTATIVE SAMPLE SHALL BE COLLECTED FROM BORROW SOILS AND SHALL BE TESTED FOR SUITABILITY AS A

PENNSYLVANIA EPA'S CLEAN FILL REQUIREMENTS AND THAT THE TEXTURE IS A LOAM, SANDY LOAM OR CLAY LOAM

AND CONFIRMATION OF FEASIBILITY TO MEET THE COMPLETED PLANTING SOIL REQUIREMENTS NOTED ABOVE. THE

•2. A MOCK-UP BLENDED SAMPLE MUST BE CREATED USING THE TESTED ON-SITE SOILS FOR THE PURPOSE OF TESTING

MOCK-UP MUST BE APPROVED BY THE PROJECT ENGINEER PRIOR TO FINAL BLENDING AND INSTALLATION.

SPECIFICATIONS NOTED HEREIN (SEE SPECIFICATIONS OUTLINED IN "TEST RESULTS OF COMPLETED PLANTING SOIL"

• SOIL TEST RESULTS OF THE COMPLETED SOIL BY AN INDEPENDENT SOIL TESTING LABORATORY MEETING OR EXCEEDING

WHERE FEASIBLE, IT IS PREFERABLE THAT THE PLANTING SOIL IS INSTALLED USING EQUIPMENT THAT CAN PLACE THE MATERIAL

INSTALLED IN 12-18" LIFTS AND COMPACTED TO 65-75% PROCTOR (ABOUT 75-250 psi). WITHOUT EXCEPTION, SOIL SHOULD NOT BE

COMPACTED HIGHER THAN 75% PROCTOR (250 psi). ONCE THE SOILS HAVE BEEN FULLY PLACED, THE ENTIRE AREA SHALL BE

WITHOUT ENTERING THE LIMITS OF THE BMP FACILITY. HOWEVER, IF IT IS NECESSARY TO ENTER THE FACILITY, ALL EQUIPMENT UTILIZED TO INSTALL OR GRADE SOILS SHALL BE WIDE-TRACK OR BALLOON TIRES RATED WITH AN AVERAGE GROUND PRESSURE LESS THAN 10 psi. THE SUBSOIL SHALL BE SCARIFIED 3-6" IN DEPTH PRIOR TO PLACEMENT OF PLANTING SOIL. SOIL SHALL BE

• COMPOST TEST RESULTS PREPARED BY AN INDEPENDENT SOIL TESTING LABORATORY MEETING OR EXCEEDING

TOPSOIL BASE PRIOR TO USING IN THE COMPLETED BLEND. TEST RESULTS SHOULD DEMONSTRATE COMPLIANCE WITH

PRIOR TO INSTALLATION TO PREVENT DELAYS IN CONSTRUCTION. IN SUMMARY, THE CONTRACTOR MUST PROVIDE A SUBMITTAL

BEFORE TESTING AND AMENDING TO ACHIEVE THE TARGET TEST RESULTS OF THE FINISHED PLANTING SOIL. THIS SOIL SHOULD BE SCREENED AND BLENDED THOROUGHLY. NOTE THAT THESE ARE BY-VOLUME MEASUREMENTS TO ASSIST WITH IN-FIELD BLENDING, WHEREAS THE TARGET TEST RESULTS ARE GENERALLY BY-WEIGHT MEASUREMENTS.

A PRE-BLENDED IMPORT SOIL IS PREFERRED. HOWEVER, THE CONTRACTOR MAY USE AVAILABLE ON-SITE SOILS IN THE MIX PROVIDED THAT THEY ARE TESTED AND MEET THE PENNSYLVANIA EPA'S CLEAN FILL REQUIREMENTS, AND THAT THE PHYSICAL TEST RESULTS CLASSIFY THE SOIL AS A LOAM, SANDY LOAM OR CLAY LOAM.

NOT TO SCALE

PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS, OR OTHER TEMPORARY CHANNEL LINER SYSTEM (LOOKING DOWNSTREAM)

rawing Not To Scale

iensar.

5401 St. Wendel - Cynthiana Rd. PH: 800-722-204 Poseyville, IN 47633 PH: 800-722-204 www.nagreen.com

CHANNEL CROSS-SECTION * SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS. SEED MIXTURES AND MULICHING INFORMATION.

SWALE 5 ENTIRE 3.75 1.10 9.25 3.0 2.0 NAG SC150 (TEMP.), LAWN (PERM.) 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.

SWALE 2 ENTIRE

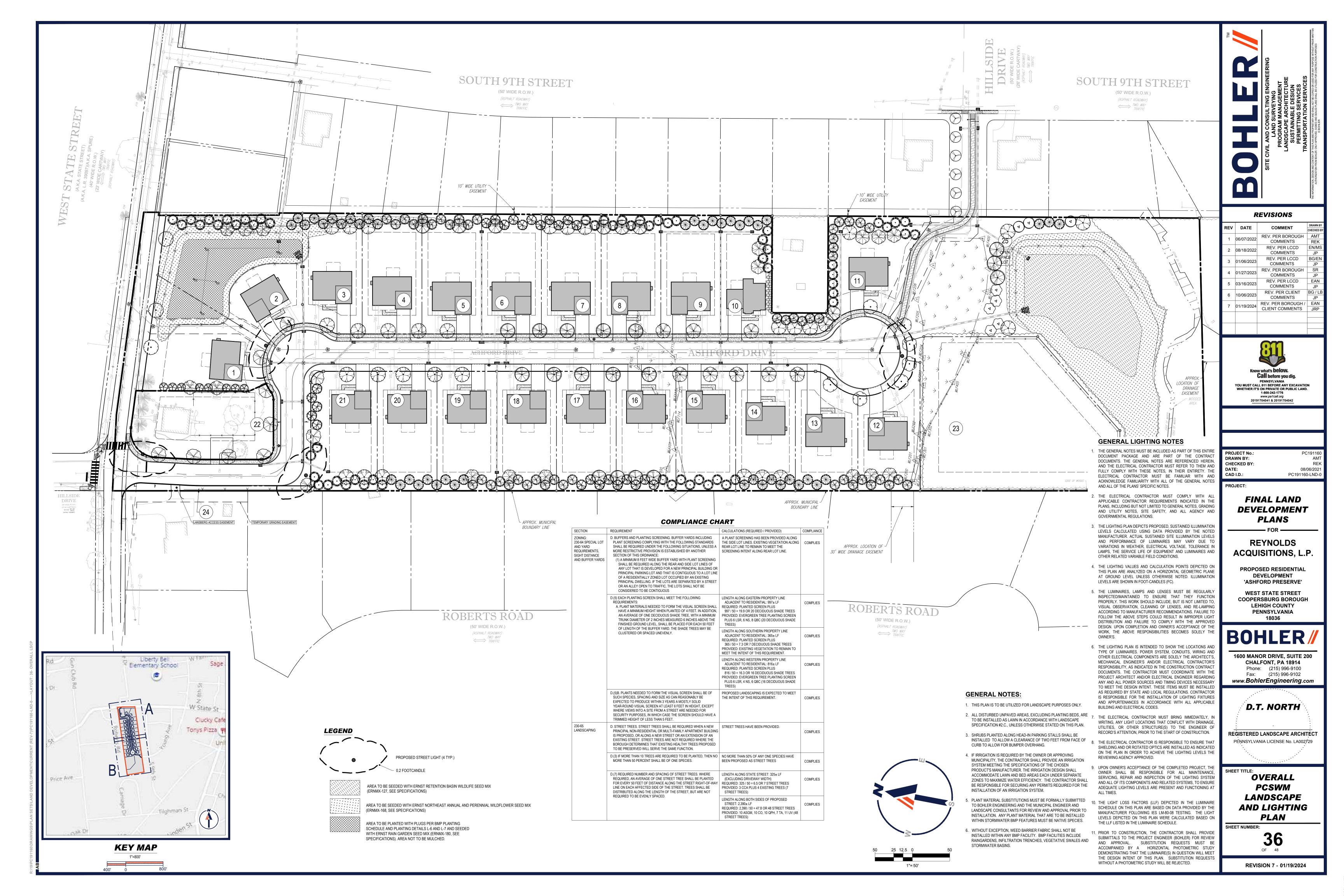
SWALE 3 ENTIRE

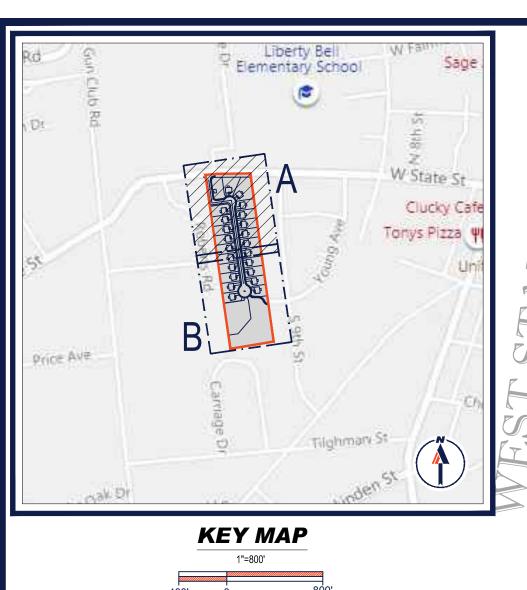
CRITICAL POINTS

B. Projected Water Line

STANDARD CONSTRUCTION DETAIL #6-1 VEGETATED CHANNEL

NOT TO SCALE





GENERAL NOTES:

- 1. THIS PLAN IS TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY. 2. ALL DISTURBED UNPAVED AREAS, EXCLUDING PLANTING BEDS, ARE TO BE INSTALLED AS LAWN IN ACCORDANCE WITH LANDSCAPE
- . SHRUBS PLANTED ALONG HEAD-IN PARKING STALLS SHALL BE INSTALLED TO ALLOW A CLEARANCE OF TWO FEET FROM FACE OF CURB TO ALLOW FOR BUMPER OVERHANG.

SPECIFICATION #2.C., UNLESS OTHERWISE STATED ON THIS PLAN.

- 4. IF IRRIGATION IS REQUIRED BY THE OWNER OR APPROVING MUNICIPALITY, THE CONTRACTOR SHALL PROVIDE AN IRRIGATION SYSTEM MEETING THE SPECIFICATIONS OF THE CHOSEN PRODUCT'S MANUFACTURER. THE IRRIGATION DESIGN SHALL ACCOMMODATE LAWN AND BED AREAS EACH UNDER SEPARATE ZONES TO MAXIMIZE WATER EFFICIENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ANY PERMITS REQUIRED FOR THE INSTALLATION OF AN IRRIGATION SYSTEM.
- 5. PLANT MATERIAL SUBSTITUTIONS MUST BE FORMALLY SUBMITTED TO BOHLER ENGINEERING AND THE MUNICIPAL ENGINEER AND LANDSCAPE CONSULTANTS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ANY PLANT MATERIAL THAT ARE TO BE INSTALLED WITHIN STORMWATER BMP FEATURES MUST BE NATIVE SPECIES.
- 6. WITHOUT EXCEPTION, WEED BARRIER FABRIC SHALL NOT BE INSTALLED WITHIN ANY BMP FACILITY. BMP FACILITIES INCLUDE RAINGARDENS, INFILTRATION TRENCHES, VEGETATIVE SWALES AND STORMWATER BASINS.

GENERAL LIGHTING NOTES

THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE ELECTRICAL CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE ELECTRICAL CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.

- 2. THE ELECTRICAL CONTRACTOR MUST COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE PLANS, INCLUDING BUT NOT LIMITED TO GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL AGENCY AND GOVERNMENTAL REGULATIONS.
- 3. THE LIGHTING PLAN DEPICTS PROPOSED, SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER. ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
- 4. THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT GROUND LEVEL UNLESS OTHERWISE NOTED. ILLUMINATION LEVELS ARE SHOWN IN FOOT-CANDLES (FC).
- 5. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT IS NOT LIMITED TO, VISUAL OBSERVATION, CLEANING OF LENSES, AND RE-LAMPING ACCORDING TO MANUFACTURER RECOMMENDATIONS. FAILURE TO FOLLOW THE ABOVE STEPS COULD RESULT IN IMPROPER LIGHT DISTRIBUTION AND FAILURE TO COMPLY WITH THE APPROVED DESIGN. UPON COMPLETION AND OWNER'S ACCEPTANCE OF THE WORK, THE ABOVE RESPONSIBILITIES BECOMES SOLELY THE
- 6. THE LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES. POWER SYSTEM, CONDUITS, WIRING AND OTHER ELECTRICAL COMPONENTS ARE SOLELY THE ARCHITECT'S, MECHANICAL ENGINEER'S AND/OR ELECTRICAL CONTRACTOR'S RESPONSIBILITY, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THE CONTRACTOR MUST COORDINATE WITH THE PROJECT ARCHITECT AND/OR ELECTRICAL ENGINEER REGARDING ANY AND ALL POWER SOURCES AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES.
- 7. THE ELECTRICAL CONTRACTOR MUST BRING IMMEDIATELY, IN WRITING, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURE(S) TO THE ENGINEER OF RECORD'S ATTENTION, PRIOR TO THE START OF CONSTRUCTION.
- 8. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO ENSURE THAT SHIELDING AND OR ROTATED OPTICS ARE INSTALLED AS INDICATED ON THE PLAN IN ORDER TO ACHIEVE THE LIGHTING LEVELS THE REVIEWING AGENCY APPROVED.
- 9. UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT
- 10. THE LIGHT LOSS FACTORS (LLF) DEPICTED IN THE LUMINAIRE SCHEDULE ON THIS PLAN ARE BASED ON DATA PROVIDED BY THE MANUFACTURER FOLLOWING IES LM-80-08 TESTING. THE LIGHT LEVELS DEPICTED ON THIS PLAN WERE CALCULATED BASED ON THE LLF LISTED IN THE LUMINAIRE SCHEDULE.

DETAILS L-6 AND L-7 AND

SPECIFICATIONS). AREA

SWAMP MII KWEED

BLUE WILD INDIGO

VIRGINIA WILD RYE

BLACK-EYED SUSAN

FOX SEDGE

EUPATORIUM COELESTINUM BLUE MISTFLOWER

NEW ENGLAND ASTER 4"

PURPLE CONEFLOWER 4"

PLUG

PLUG

PLUG

PLUG

PLUG

13% @ 18" o.c.

12% @ 18" o.c.

12% @ 18" o.c.

12% @ 18" o.c.

13% @ 18" o.c.

12% @ 18" o.c.

13% @ 18" o.c.

13% @ 18" o.c.

GARDEN SEED

MIX(ERNMX-180, SEE

NOT TO BE MULCHED.

ASCLEPIAS INCARNATA

BAPTISIA AUSTRALIS

CAREX VULPINOIDEA

ELYMUS VIRGINICUS

RUDBECKIA HIRTA

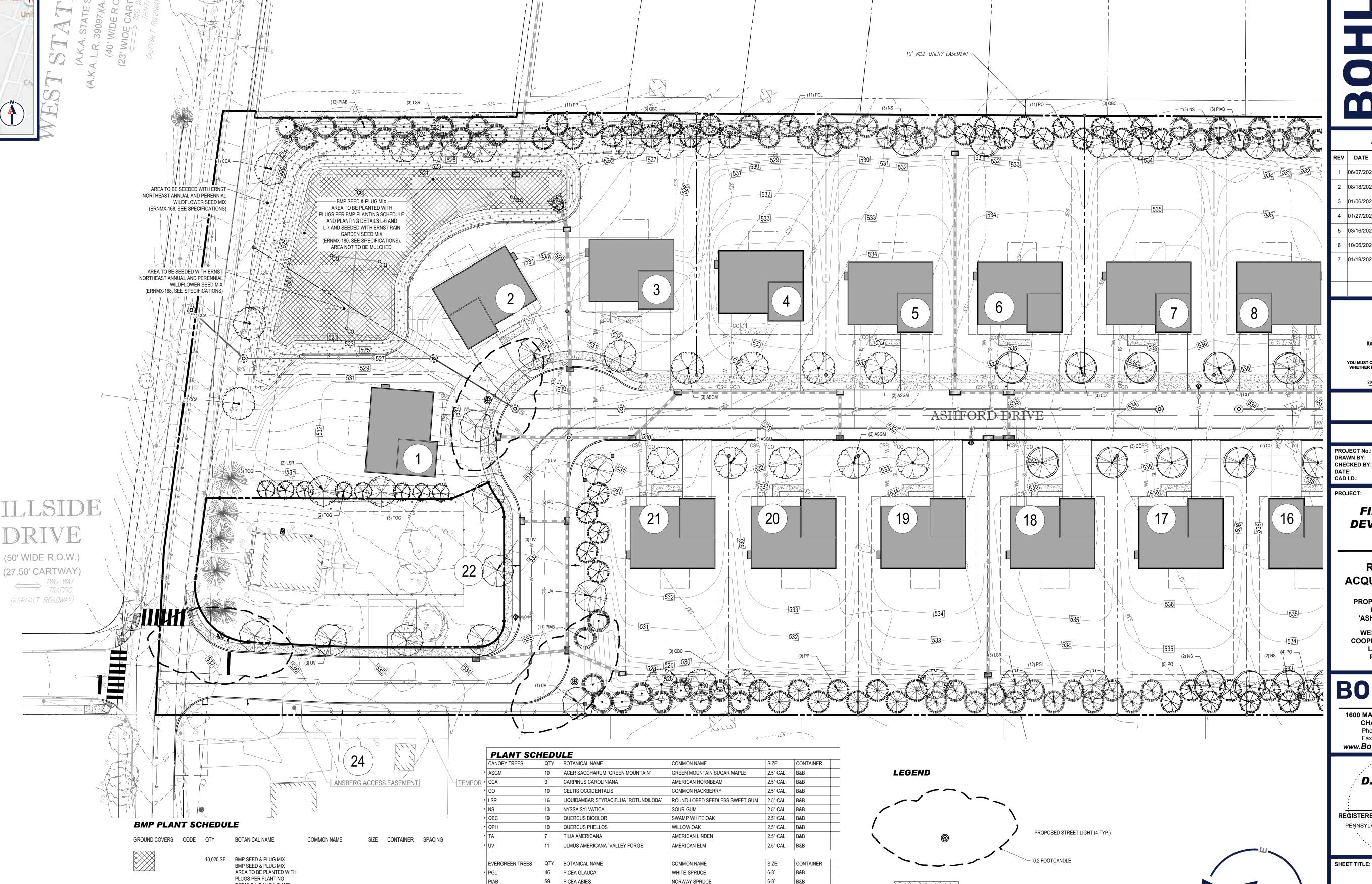
556

FCHINACEA PURPUREA

ASTER NOVAE-ANGLIAE

SEEDED WITH ERNST RAIN

11. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE PROJECT ENGINEER (BOHLER) FOR REVIEW AND APPROVAL. SUBSTITUTION REQUESTS MUST BE ACCOMPANIED BY A HORIZONTAL PHOTOMETRIC STUDY DEMONSTRATING THAT THE LUMINAIRE(S) IN QUESTION WILL MEET THE DESIGN INTENT OF THIS PLAN. SUBSTITUTION REQUESTS WITHOUT A PHOTOMETRIC STUDY WILL BE REJECTED.



25 PICEA OMORIKA

43 PICEA PUNGENS

QTY BOTANICAL NAME

ORNAMENTAL TREES | QTY | BOTANICAL NAME

THUJA OCCIDENTALIS 'GREEN GIANT'

AMELANCHIER CANADENSIS

MALUS X 'ADIRONDACK'

MAGNOLIA VIRGINIANA

17 THUJA OCCIDENTALIS 'EMERALD'

* TREES INDICATED AS NATIVE ABOVE SHALL BE COUNTED TOWARDS THE RE-VEGETATE DISTURBED AREAS BMP VOLUME CREDIT

6-8`

6-8`

6-8`

8-10`

5-6`

B&B

B&B

B&B

SIZE CONTAINER

SIZE CONTAINER

B&B

8-10` B&B

2.5" CAL. B&B

AREA TO BE SEEDED WITH ERNST RETENTION BASIN WILDLIFE SEED MIX

AREA TO BE SEEDED WITH ERNST NORTHEAST ANNUAL AND PERENNIAL WILDFLOWER SEED MIX

AREA TO BE PLANTED WITH PLUGS PER BMP PLANTING SCHEDULE AND PLANTING DETAILS L-6 AND

L-7 AND SEEDED WITH ERNST RAIN GARDEN SEED MIX (ERNMX-180, SEE SPECIFICATIONS). AREA NOT

(ERNMX-127, SEE SPECIFICATIONS)

(ERNMX-168, SEE SPECIFICATIONS)

TO BE MULCHED.

SERBIAN SPRUCE

COMMON NAME

SWEET BAY

COMMON NAME

EMERALD ARBORVITAE

COLORADO SPRUCE

GREEN GIANT ARBORVITAE

SHADBLOW SERVICEBERRY

ADIRONDACK CRABAPPLE

REVISIONS

REV	DATE	COMMENT	DRAWN BY
1	06/07/2022	REV. PER BOROUGH	AMT
	00/01/2022	COMMENTS	REK
2	08/18/2022	REV. PER LCCD	EN/MS
_	00/10/2022	COMMENTS	JP
3	01/06/2023	REV. PER LCCD	BG/EN
S	01/06/2023	COMMENTS	JP
	04/07/0000	REV. PER BOROUGH	SR
4	01/27/2023	COMMENTS	JP
5	03/16/2023	REV. PER LCCD	EAN
5	03/16/2023	COMMENTS	JP
6	10/06/2022	REV. PER CLIENT	BG / LB
О	10/06/2023	COMMENTS	JP
7	04/40/2024	REV. PER BOROUGH /	EAN
1	01/19/2024	CLIENT COMMENTS	JRP



20191704041 & 20191704042

CAD I.D.:

PROJECT:

FINAL LAND **DEVELOPMENT PLANS**

PC191160-LND-

REYNOLDS ACQUISITIONS, L.P.

PROPOSED RESIDENTIAL DEVELOPMENT 'ASHFORD PRESERVE'

WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY **PENNSYLVANIA** 18036

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D.T. NORTH

REGISTERED LANDSCAPE ARCHITECT PENNSYLVANIA LICENSE No. LA002729

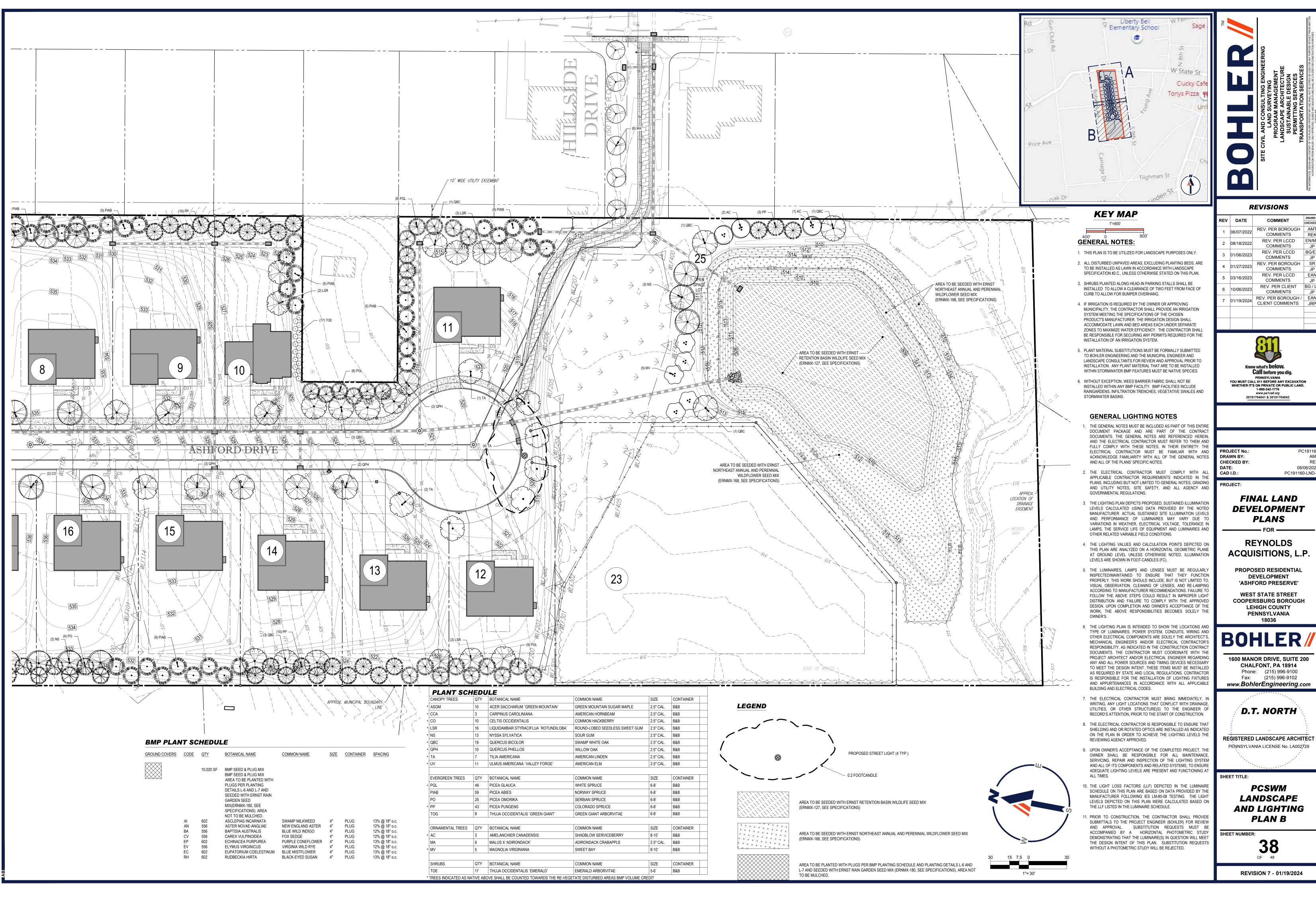
SHEET TITLE:

PCSWM LANDSCAPE AND LIGHTING PLAN A

SHEET NUMBER:

1"= 30'

OF 48



		_	CHECKED BY
1	06/07/2022	REV. PER BOROUGH	AMT
ı	00/07/2022	COMMENTS	REK
2	08/18/2022	REV. PER LCCD	EN/MS
	00/10/2022	COMMENTS	JP
3	01/06/2023	REV. PER LCCD	BG/EN
<u> </u>	01/00/2023	COMMENTS	JP
4	01/27/2023	REV. PER BOROUGH	SR
4	01/21/2023	COMMENTS	JP
5	03/16/2023	REV. PER LCCD	EAN
5	03/10/2023	COMMENTS	JP
6	10/06/2023	REV. PER CLIENT	BG / LB
O	10/00/2023	COMMENTS	JP
7	01/19/2024	REV. PER BOROUGH /	EAN
,	01/19/2024	CLIENT COMMENTS	JRP



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D.T. NORTH

REGISTERED LANDSCAPE ARCHITECT PENNSYLVANIA LICENSE No. LA002729

LANDSCAPE AND LIGHTING



LUMINAIRE: FIXTURE SIZE:

Acorn, black or green 2,600 lumen (36 watt) or 3,800 lumen (53 watt)

11 or 13 foot black or green fiberglass, boulevard style, mounted on concrete foundation

Light-Emitting Diode (LED)

ALTERNATE POLE: 14 foot round black steel or spun aluminum

ELECTRIC SUPPLY: Underground

PPL "ACORN" STREET LIGHT

Low-mount underground, Rate Schedule SLE Light-Emitting Diode (LED)

Want to know more about the PPL Electric Utilities Outdoor Lighting Program? Call your PPL Electric Utilities representative or PPL Electric Utilities Customer Service Business Accounts 1-888-220-9991, option 4 on IVR during business hours 8 a.m. to 5 p.m.

SROUND LUG WITH 3/16" STOVE BOLT INSIDE POL

TO POLE BODY, OR HANDHOLE REINFORCIN

6" STRANDED BARE COPPER WIRE.

COPPER GROUND CLAMP ATTACHED TO CONDU

WHEN POLES ARE EQUIPPED W/ BASE PLATE-

LOADS, SITE SPECIFIC SOIL PARAMETERS.

DETERMINED BY A STRUCTURAL ENGINEER.

ANCHOR BOLTS PER POLE MANUFACTURES

RIGID CONDUIT (SIZED AS NECESSARY)

COVER, THE COVERS TO HAVE FINISH

TO MATCH POLE

1. THIS DETAIL IS FOR BID AND BUDGETARY PURPOSES ONLY. CONTRACTOR SHALL ENSURE DESIGN IS PREPARED BY

A. SOME SITE LOCATIONS AND/OR CONDITIONS MAY REQUIRE VIBRATION DAMPENING MEASURES AS

2. ALL REBAR SHALL HAVE A YIELD STRENGTH OF 60ksi, AND MAINTAIN A 3" MIN. CLEARANCE FROM SURFACES.

A QUALIFIED STRUCTURAL ENGINEER CONSIDERING LIGHTING MANUFACTURER REQUIREMENTS, LOCAL WIND

B. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF THE INTENT TO MOUNT ANYTHING ASIDE FROM THE LIGHT FIXTURE INCLUDING (BUT NOT LIMITED TO) CAMERAS, BANNERS, FLAGS, SIGNAGE, ETC. AS IT WILL IMPACT

6" FOUNDATION DETAIL

ERNST SEED CO. RETENTION BASIN WILDLIFE SEED MIX SPECIFICATIONS (ERNMX-127):

29.5%

0.1%

0.1%

PANICUM CLANDESTINUM 'TIOGA' DEERTONGUE, TIOGA FOX SEDGE ELYMUS VIRGINICUS (PA ECOTYPE) VIRGINIA WILD RYE CAREX LURIDA (PA ECOTYPE) LURID SEDGE CAREX SCOPARIA (PA ECOTYPE) BLUNT BROOM SEDGE VERBENA HASTATA (PA ECOTYPE) BLUE VERVAIN JUNCUS EFFUSUS SOFT RUSH AGROSTIS PERENNANS (NY ECOTYPE) AUTUMN BENTGRASS, ALBANY PINE BUSH ASCLEPIAS INCARNATA (PA ECOTYPE) SWAMP MILKWEED SCIRPUS CYPERINUS (PA ECOTYPE) WOOL GRASS HELENIUM AUTUMNALE (PA ECOTYPE) COMMON SNEEZEWEED ASTER NOVAE-ANGLIAE (PA ECOTYPE) NEW ENGLAND ASTER ASTER PUNICEUS (PA ECOTYPE) PURPLESTEM ASTER ASTER ASTER UMBELLATA (PA ECOTYPE) FLAT TOPPED WHITE ASTER EUPATORIUM PERFOLIATUM (PA ECOTYPE) BONESET LOBELIA SIPHILITICA (PA ECOTYPE) GREAT BLUE LOBELIA

SEEDING RATE: 20 LBS PER ACRE OF THE ERNST MIX NURSE CROP: THE ERNST SEED MIX MUST BE ACCOMPANIED BY ONE OF THE FOLLOWING TEMPORARY SEED SPECIFICATIONS APPROPRIATE FOR THE TIME OF YEAR: ANNUAL RYE (40 LBS PER ACRE) OR SPRING OATS (96 LBS PER ACRE) OR WINTER RYE (168 LBS PER ACRE)

1.) THE FORMULATION NOTED ABOVE IS REPRESENTATIVE OF THE ERNST SEED SPECIFICATION THE MOST CURRENT FORMULATION AS SPECIFIED BY THE ERNST COMPANY AT THE TIME OF PLANTING SHALL BE USED. 2.) SEED SHOULD BE APPLIED USING DRILL SEEDING OR BROADCAST SEEDING METHODS ONLY.

THE CONTRACTOR MUST ENSURE DIRECT SEED-TO-SOIL CONTACT. HYDROSEEDING IS NOT PERMITTED WITH THIS SEED MIX; IT WILL PROHIBIT GERMINATION. 3.) THE ENTIRE FACILITY SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN SC150 STRAW & COCONUT BLANKET (OR APPROVED EQUAL). THE BLANKET SHOULD BE INSTALLED ON TOP OF THE SEED IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. 4.) THE SEED MIX WILL NEED DAILY SUPPLEMENTAL WATERING UNTIL IT HAS GERMINATED AND

RÉACHED AN AVERAGE HEIGHT OF AT 12-18". 5.) THE SEEDING AREA SHALL BE MOWED ONCE AFTER THE FIRST GROWING SEASON, EARLY IN THE SPRING, AND THEN SHALL BE MOWED NO MORE THAN ONCE EVERY THREE YEARS. THEREAFTER EARLY IN SPRING ONLY.

ERNST SEED CO. NORTHEAST ANNUAL & PERENNIAL WILDFLOWER MIX SEEDING **SPECIFICATIONS (ERNMX-168):**

COSMOS BIPINNATUS CENTAUREA CYANUS CORNFLOWER ECHINACEA PURPUREA PURPLE CONEFLOWER LINUM GRANDIFLORUM RUBRUM SCARLET FLAX COREOPSIS LANCEOLATA LANCELEAF COREOPSIS DELPHINIUM AJACIS RUDBECKIA HIRTA (COASTAL PLAIN NC ECOTYPE BLACK EYED SUSAN LUPINUS POLYPHYLLUS BIGLEAF LUPINE CALENDULA OFFICINALIS CALENDULA LAVATERA TRIMESTRIS TREE MALLOW LINUM PERENNE SSP. LEWISI PERENNIAL BLUE FLAX TRIFOLIUM INCARNATUM CRIMSON CLOVER ESCHSCHOLZIA CALIFORNICA CALIFORNIA ORANGE POPE HELIOPSIS HELIANTHOIDES (PA ECOTYPE OXEYE SUNFLOWER CHRYSANTHEMUM MAXIMUM SHASTA DAISY CHEIRANTHUS ALLIONII WALLFLOWER RATIBIDA COLUMNARIS RED PRAIRIE CONEFLOWER ACHILLEA MILLEFOLIUM COMMON YARROW LIATRIS SPICATA MARSH (DENSE) BLAZING STAF PYCNANTHEMUM TENUIFOLIUM NARROWLEAF MOUNTAINMIN LOBULARIA MARITIMA SWEET ALYSSUM PENSTEMON DIGITALIS (PA ECOTYPE) TALL WHITE BEARDTONGUE TRADESCANTIA OHIENSIS (PA ECOTYPE OHIO SPIDERWORT MONARDA FISTULOSA (FORT INDIANTOWN GAP-PA ECOTYPE) WILD BERGAMOT PAPAVER RHOEAS (SHIRLEY MIX) CORN POPPY ASCLEPIAS TUBEROSA BUTTERFLY MILKWEED ASTER LAEVIS (NY ECOTYPE) SMOOTH BLUE ASTER ASTER PRENANTHOIDES (PA ECOTYPE) ZIGZAG ASTER BAPTISIA AUSTRALIS (SOUTHERN WV ECOTYPE) BLUE FALSE INDIGO CATCHFLY

SILENE ARMERIA SOLIDAGO NEMORALIS (PA ECOTYPE) GRAY GOLDENROD SOLIDAGO ODORA (PA ECOTYPE) LICORICE SCENTED GOLDENROD SEEDING RATE: 7-10 lb. PER ACRE OF THE ERNST MIX NURSE CROP: THE ERNST SEED MIX MUST BE ACCOMPANIED BY ONE OF THE FOLLOWING TEMPORARY SEED SPECIFICATIONS APPROPRIATE FOR THE TIME OF YEAR:

ANNUAL RYE (10 LBS PER ACRE)

AVERAGE HEIGHT OF AT 12-18".

1.) NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT

3.) PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.

SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND

REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.

DO NOT STAKE OR WRAP TRUNK

BEFORE PLANTING -

THE LANDSCAPE

SPECIFICATIONS

PLANTING SOIL TO BE

AMENDED AS SPECIFIED IN

UNDISTURBED ----

HOLE WITH TAMPED

TAMP SOIL SOLIDLY-

AROUND BASE OF ROOT

2.) REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD OR CUT BURLAP BACK FROM TOP 1/3 OF ROOT BALL.

1.) THOUROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL

5.) THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE SCARIFIED TO AVOID

6.) THE MINIMUM DIAMETER OF THE TREE PIT SHALL BE 3 TIMES THE DIAMETER OF

OR SPRING OATS (64 LBS PER ACRE

OR WINTER RYE (56 LBS PER ACRE

1.) THE FORMULATION NOTED AROVE IS REPRESENTATIVE OF THE ERNST SEED SPECIFICATION. THE MOST CURRENT FORMULATION AS SPECIFIED BY THE ERNST COMPANY AT THE TIME OF PLANTING SHALL BE USED. 2.) SEED SHOULD BE APPLIED USING DRILL SEEDING OR BROADCAST SEEDING METHODS ONLY. THE CONTRACTOR MÚST ENSURE DIRECT SEED-TO-SOIL CONTACT. HYDROSEEDING IS NOT PERMITTED WITH THIS SEED MIX: IT WILL

3.) THE ENTIRE FACILITY SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN SC150 STRAW & COCONUT BLANKET (OR APPROVED EQUAL). THE BLANKET SHOULD BE INSTALLED ON TOP OF THE SEED IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS. 4.) THE SEED MIX WILL NEED DAILY SUPPLEMENTAL WATERING UNTIL IT HAS GERMINATED AND REACHED AN

5.) THE SEEDING AREA SHALL BE MOWED ONCE AFTER THE FIRST GROWING SEASON, EARLY IN THE SPRING, AND

-AVOID PURCHASING TREES WITH TWO LEADE

OR REMOVE ONE AT PLANTING: OTHERWISE, D

NOT PRUNE TREE AT PLANTING EXCEPT FOR

FOLD BURLAP AWAY FROM

-SET ROOT BALL FLUSH TO GRADE OR

EVERAL INCHES HIGHER IN POORLY

MULCH IN CONTACT WITH TREE TRUNK)

SPECIFIC STRUCTURAL CORRECTIONS.

TOP OF ROOT BALL

—4" BUILT-UP EARTH SAUCER

DRAINING SOILS.

-SET ROOT BALL ON UNDISTURBED

SOIL IN BOTTOM OF HOLE

ERNST SEED CO. RAIN GARDEN MIX SEEDING SPECIFICATIONS (ERNMX-180):

CHASMANTHIUM LATIFOLIUM (PA/VA ECOTYPE BLEND ELYMUS VIRGINICUS (PA ECOTYPE) VIRGINIA WILD RYE CAREX VULPINOIDEA (PA ECOTYPE FOX SEDGE ECHINACEA PURPUREA PURPLE CONFELOWER PENSTEMON DIGITALIS (PA ECOTYPE) TALL WHITE BEARDTONGUE RUDBECKIA HIRTA (COASTAL PLAIN NC ECOTYPE BLACKEYED SUSAN COREOPSIS LANCEOLATA (COASTAL PLAIN NC ECOTYPE) LANCELEAF COREOPSIS TRADESCANTIA OHIENSIS (PA ECOTYPE OHIO SPIDERWORT HELIOPSIS HELIANTHOIDES (PA ECOTYPE) OXEYE SUNFLOWER AGROSTIS PERENNANS (PA ECOTYPE) AUTUMN BENTGRASS CHAMAECRISTA FASCICULATA (PA ECOTYPE PARTRIDGE PEA LIATRIS SPICATA (PA ECOTYPE) MARSH (DENSE) BLAZING STAR ASTER LAEVIS (NY ECOTYPE) SMOOTH BLUE ASTER SENNA HEBECARPA (VA & WV ECOTYPI WILD SENNA ASTER NOVAE-ANGLIAE (PA ECOTYPE) NEW ENGLAND ASTER ASCLEPIAS INCARNATA (PA ECOTYPE SWAMP MILKWEED JUNCUS TENUIS (PA ECOTYPE) PATH RUSH SOFT RUSH JUNCUS EFFUSUS MONARDA FISTULOSA (FORT INDIANTOWN GAP-PA ECOTYPE WILD BERGAMOT EUPATORIUM COELESTINUM (VA ECOTYPE) MISTFLOWER BAPTISIA AUSTRALIS (SOUTHERN WV ECOTYPE) BLUE FALSE INDIGO SOLIDAGO JUNCEA (VA ECOTYPE) EARLY GOLDENROD PYCNANTHEMUM TENUIFOLIUM SLENDER MOUNTAINMINT

NURSE CROP: THE ERNST SEED MIX MUST BE ACCOMPANIED BY ONE OF THE FOLLOWING TEMPORARY SEED

SEEDING RATE: 20 lb. PER ACRE OF THE ERNST MIX

SPECIFICATIONS APPROPRIATE FOR THE TIME OF YEAR: ANNUAL RYE (40 LBS PER ACRE) OR SPRING OATS (96 LBS PER ACRE OR WINTER RYE (168 LBS PER ACR

1.) THE FORMULATION NOTED ABOVE IS REPRESENTATIVE OF THE ERNST SEED SPECIFICATION. THE MOST CURREN FORMULATION AS SPECIFIED BY THE ERNST COMPANY AT THE TIME OF PLANTING SHALL BE USED. 2.) SEED SHOULD BE APPLIED USING DRILL SEEDING OR BROADCAST SEEDING METHODS ONLY. THE CONTRACTOR MUST ENSURE DIRECT SEED-TO-SOIL CONTACT. HYDROSEEDING IS NOT PERMITTED WITH THIS SEED MIX; IT WILL PROHIBIT 3.) THE ENTIRE FACILITY SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN SC150 STRAW & COCONUT BLANKET (OR

4.) THE SEED MIX WILL NEED DAILY SUPPLEMENTAL WATERING UNTIL IT HAS GERMINATED AND REACHED AN AVERAGE

-AVOID PURCHASING TREES WITH TWO LEADERS

NOT PRUNE TREE AT PLANTING EXCEPT FOR

FOLD BURLAP AWAY FROM TOP OF

-SET ROOT BALL FLUSH TO GRADE OF

SEVERAL INCHES HIGHER IN POORLY

-MULCH AS NECESSARY (DO NOT PLAC

MULCH IN CONTACT WITH TREE TRUNK)

SPECIFIC STRUCTURAL CORRECTIONS.

DRAINING SOILS.

-4" BUILT-UP EARTH SAUCER

SET ROOT BALL ON UNDISTURBED SOIL IN BOTTOM

EVERGREEN TREE PLANTING DETAIL

5.) THE SEEDING AREA SHALL BE MOWED ONCE AFTER THE FIRST GROWING SEASON, EARLY IN THE SPRING, AND THEN SHALL BE MOWED NO MORE THAN ONCE EVERY THREE YEARS THEREAFTER EARLY IN SPRING ONLY.

APPROVED EQUAL). THE BLANKET SHOULD BE INSTALLED ON TOP OF THE SEED IN ACCORDANCE WITH THE

2.) REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD BURLAP

1.) THOUROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE

FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5.) THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE SCARIFIED TO AVOID MATTING OF SOIL.

6.) THE MINIMUM DIAMETER OF THE TREE PIT SHALL BE 3 TIMES THE DIAMETER OF THE ROOT BAL

1.) NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.

) PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY

BACK 1/3 FROM ROOT BALL.

BEFORE PLANTING, PLANTING-

TAMP SOIL SOLIDLY AROUND

SOIL TO BE AMENDED AS

DIG WIDE, SHALLOW HOLE-

D. ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM

SCOPE OF WORK.

HE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE

2. MATERIALS A. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS. B. TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE

BETWEEN 5.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE C. LAWN - LAWN AREAS SHALL BE SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED WITHIN THE SOIL EROSION AND SEDIMENT CONTROL NOTES. FOR SOIL BED PREPARATIONS

HOLD SOD IN PLACE. D. MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN.

I. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT II. FOR THE PURPOSE OF BIDDING. ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.

II SOD SHALL BE STRONGLY ROOTED. WEED AND DISEASE/PEST FREE WITH A LINIFORM

IICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO

. LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.

REFER TO ITEM 8 BELOW.

I. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY AMERICAN HORT (FORMERLY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION) II. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.

III. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION. /. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 11/4", WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. V. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH: WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT

I. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.
VII. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH. VIII. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL

SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.

GENERAL WORK PROCEDURES
CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS

B. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS

SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE. 4. SITE PREPARATIONS

A. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN. B. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE

SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL

BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO

SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT

PREVENT SHOCK OR DECLINE. C. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR O INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

TREE PROTECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR 15 FEET FROM THE TRUNK OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.

B. A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY 'VISI-FENCE', OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL C. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE CONTRACTOR AND MAINTAINED UNTIL ALL

CONSTRUCTION ACTIVITY HAS BEEN COMPLETED D. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT

SOIL MODIFICATIONS
CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY. B. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH

OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE CONTRACTOR DEPENDING ON SITE CONDITIONS. C. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS

TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS. THOROUGHLY TI ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULC OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH

II. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE HAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE. III. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

UNLESS OTHERWISE CONTRACTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE B. CONTRACTOR SHALL VERIEV THAT SLIRGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"±). C. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS. UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITEC

D. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

3. TOPSUILING A. CONTRACTOR SHALL PROVIDE A SIX INCH (6") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AND LAWN AREAS. TOPSOIL SHOULD BE SPREAD OVER A B. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION. C. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SIT TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED HROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS

LANDSCAPE SPECIFICATIONS:

EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURE SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BID PURPOSES ONLY [SEE SPECIFICATION 6.A.]): I. 20 POUNDS 'GRO-POWER' OR APPROVED EQUAL SOIL CONDITIONER/FERTILIZER II. 20 POUNDS 'NITRO-FORM' (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER

E. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS. . INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVEN THAT THIS IS NOT POSSIBLE, CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL, PLANTS SHALL NO

REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE. R PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN

/EATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION. C. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.

D. ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT S DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING. E. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL

OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED. F. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY. THE PROPOSED LANDSCAPE. AS SHOWN ON TH APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THAT APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. TH PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING I. PLANTS: MARCH 15TH TO DECEMBER 15TH

II. LAWN AND SEED MIXES: MARCH 1ST TO MAY 15TH OR BETWEEN AUGUST 15TH AND OCTOBER 15TH PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATI SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.

G. FURTHERMORE. THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH G. FURTHERMORE, THE POLLOWING TREE VARIETIES ARE DINUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREAT INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

PLATANUS X ACERIFOLIA S POPULUS VARIETIES ACER RUBRUM BETULA VARIETIES CARPINUS VARIETIES
CRATAEGUS VARIETIES
PRUNUS VARIETIES
PYRUS VARIETIES
PYRUS VARIETIES

KOELREUTERIA QUERCUS VARIETIES LIRIODENDRON TULIPIFERA ZELKOVA VARIETIES

H. PLANTING PITS SHALL BE DUG WITH LEVEL OR CONVEX BOTTOMS, WITH THE WIDTH THREE TIMES THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY I. 1 PART PEAT MOSS

II. 1 PART COMPOSTED COW MANURE BY VOLUME III. 3 PARTS TOPSOIL BY VOLUME III. 3 PARTS 107 SIE DI VOLCHIE IV. 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS: A) 2 TABLETS PER 1 GALLON PLANT B) 3 TABLETS PER 5 GALLON PLANT

D) LARGER PLANTS: 2 TABLETS PER 1/2" CALIPER OF TRUNK I. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND

J. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL. THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF

K. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED

MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE. NO PRUNING SHALL BE CONDUCTED WITHIN THE FIRST .. GROUND COVER AREAS SHALL RECEIVE A $\frac{1}{4}$ " LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION

M. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM N. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.

O. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED)
A. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT. (SEE

B. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND. C. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10TH AND JUNE 30TH.

D. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE. E. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN. F. IF TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.

B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE IN SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDE FOR ALL NEWLY PLANTED TREES.

MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH. 12. GUARANTEE

A. THE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM APPROVAL OF

C. IE AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE. IT SHALL BE LISED TO WATER PROPOSED PLANT

LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BI ELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE. B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD.

REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION. A PLANT SHALL BE CONSIDERED "DEAD OR DYIN IF MORE THAN 30% OF ITS BRANCHES ARE DEAD.

TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND UNTIL TURNOVER TO THE OWNER/OPERATOR. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BI PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE AWNS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND UNTIL TURNOVER TO THE OWNER/OPERATOR THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN

FREE OF ERODED OR BARE AREAS.

A. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED B. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER



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FINAL LAND

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> PROPOSED RESIDENTIAL DEVELOPMENT 'ASHFORD PRESERVE'

> > **PENNSYLVANIA**

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D.T. NORTH

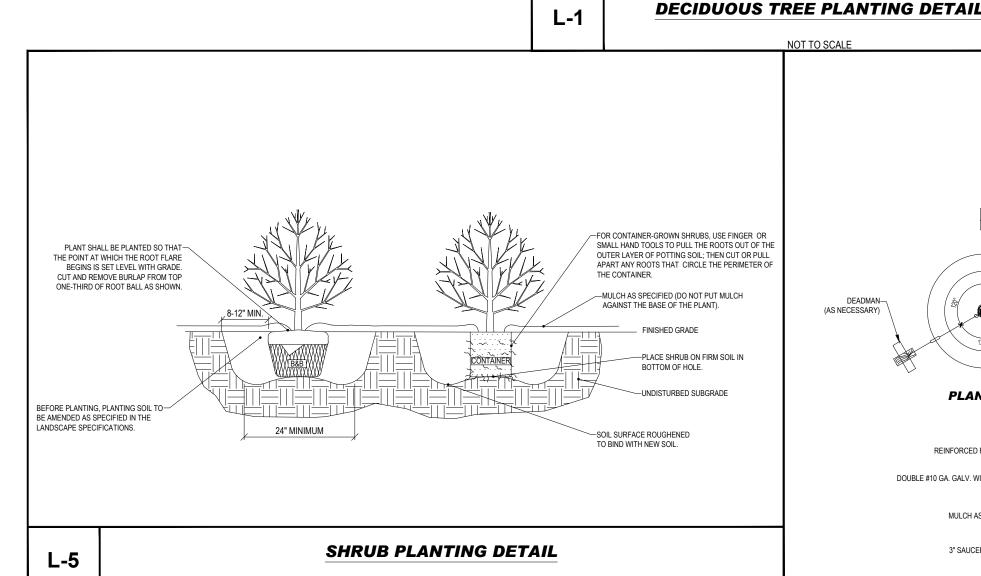
REGISTERED LANDSCAPE ARCHITECT PENNSYLVANIA LICENSE No. LA002729

SHEET TITLE:

PCSWM LANDSCAPE AND LIGHTING **DETAILS**

SHEET NUMBER

REVISION 7 - 01/19/2024



PLANT MATERIAL SPACED AS-SPACING PLANTING BEDS TO BE AMENDED AS SPECIFIED IN-6" O.C. 5 20" MANAGEMENT DETAILS AND SPECIFICATIONS 8" O.C. 10" O.C. BMP TO BE SEEDED PER LANDSCAPE PLAN 12" O.C. 15" O.C 18" O.C. 10.40" 13.00" 15.60" 24" O.C. 20.80" 30" O.C. 26.00" 36" O.C. 30.00" PLUG PLANTING DETAIL FOR PLUG PLANTING DETAIL L-7 **STORMWATER BMP'S**

-VERTICAL OR SHORT STAKE REINFORCED RUBBER HOS DOUBLE #10 GA. GALV. WIRE GUYS TWISTER GALVANIZED TURNBUCKLE 9/16" DI -ORIGINAL SLOPE MULCH AS SPECIFIED-2" x 4" x 48" WOOD STAKE (USE-RDWOOD DEADMAN ANCHOR - ON-UPSIDE FOR ALL TREES UP TO 3 1/2" CAL. 3'-6" DEEP, USE FOR TREES OF 3 1/2" CAL BACKFILL WITH 1 PART HUMUS, 3 -UNDISTURBED SUBGRADE

-SEE DECIDUOUS OR EVERGREEN TREE PROX. LOCATION-OF SIDEWALK DETAIL FOR PLANTING PURPOSES AND/OR NEARBY UNDERGROUND UTILITY OR PIPI -PREPARED SOIL FOR TREES (SEE PLANTING BARRIER FABRIC OF PROVED EQUAL TO BE OF THE ROOT BALL OR 1 WHICHEVER IS GREATER 1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS AND/OR NEARBY FABRIC AS SHOWN.

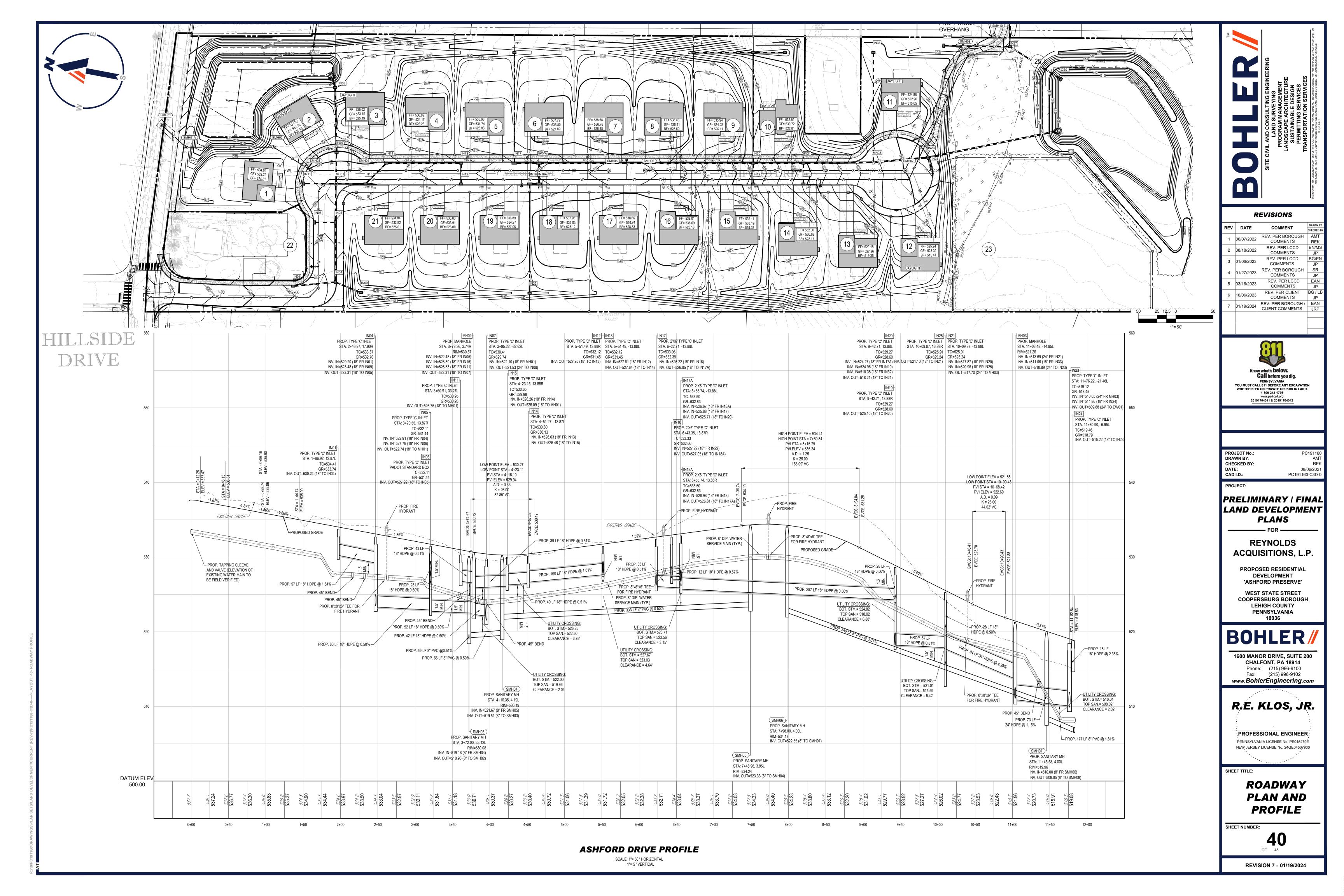
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.

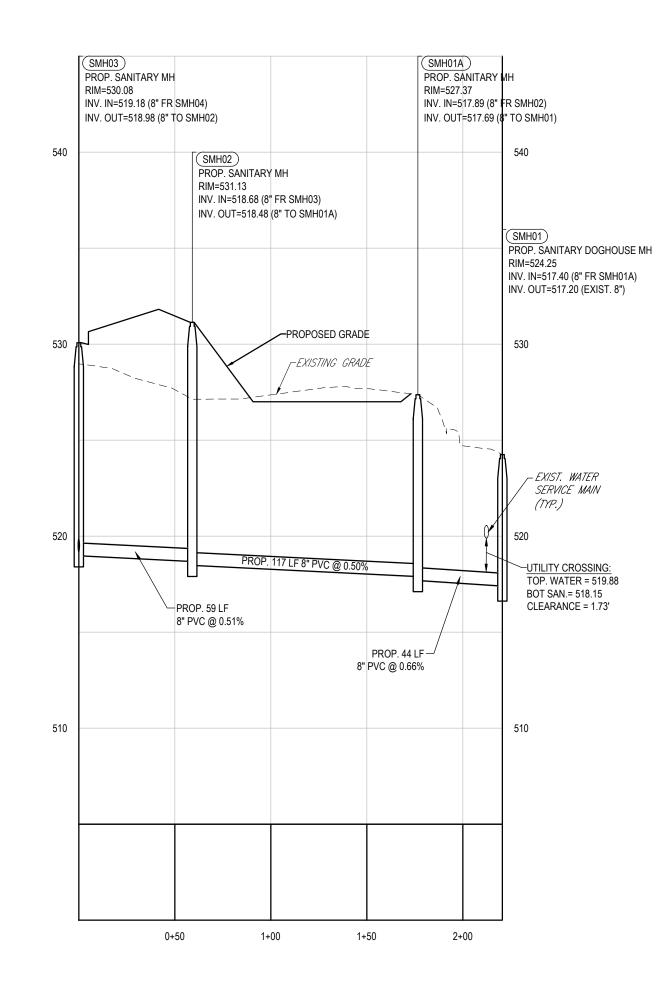
BIOBARRIER ROOT BARRIER DETAIL

SLOPE TREE PLANTING DETAIL

L-12

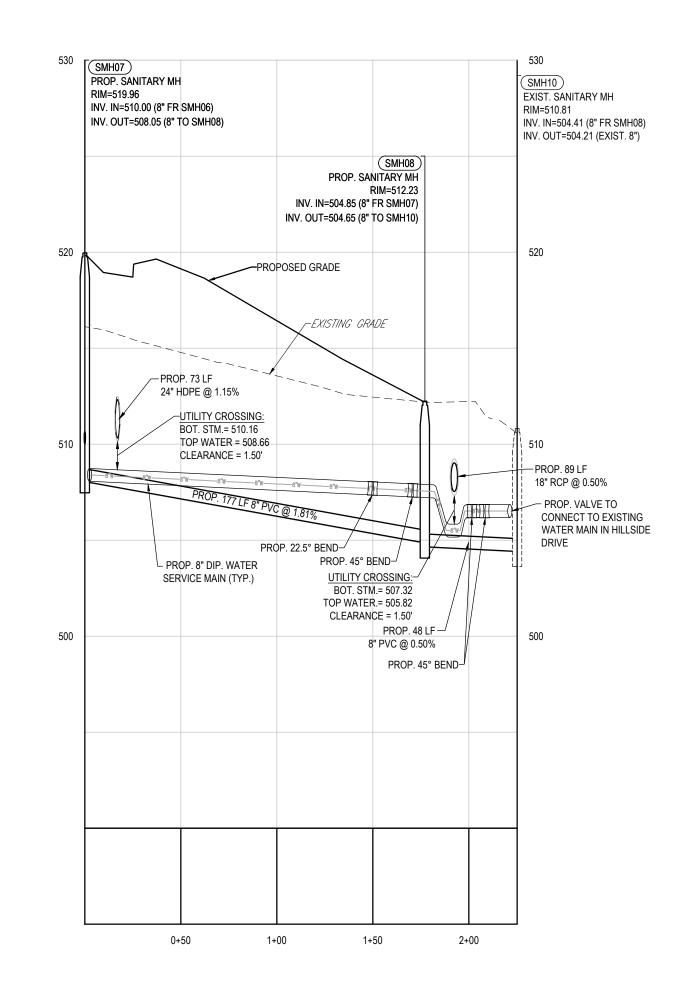
SECTION ABOVE.





SAN. SMH03 TO SMH01

SCALE: 1"= 50 ' HORIZONTAL 1"= 5 ' VERTICAL



PIPE EXTENSIONS TO HILLSIDE DRIVE

SCALE: 1"= 50 ' HORIZONTAL 1"= 5 ' VERTICAL



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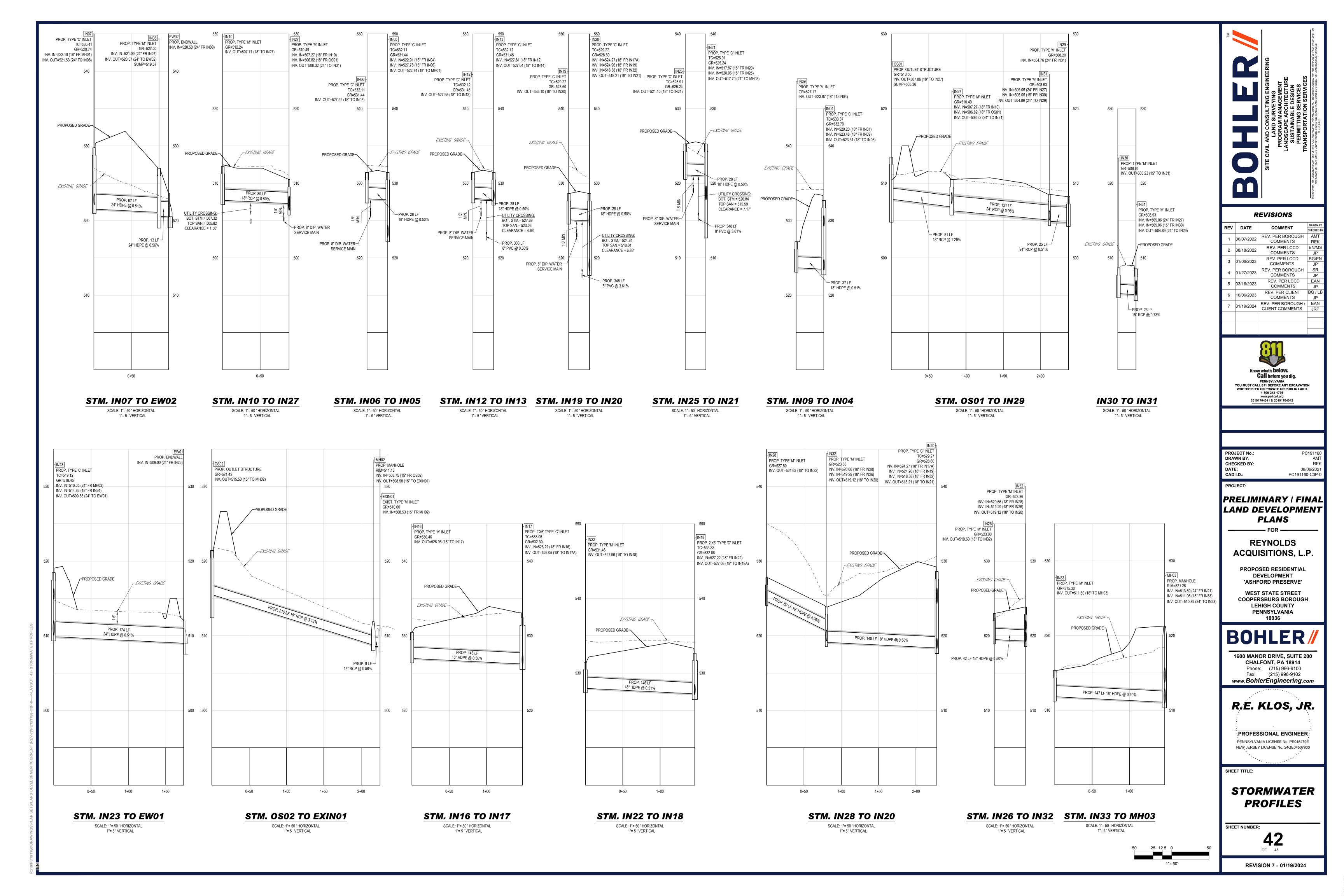
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NEW JERSEY LICENSE No. 24GE04507900

SHEET TITLE:

SANITARY AND WATERLINE PROFILES

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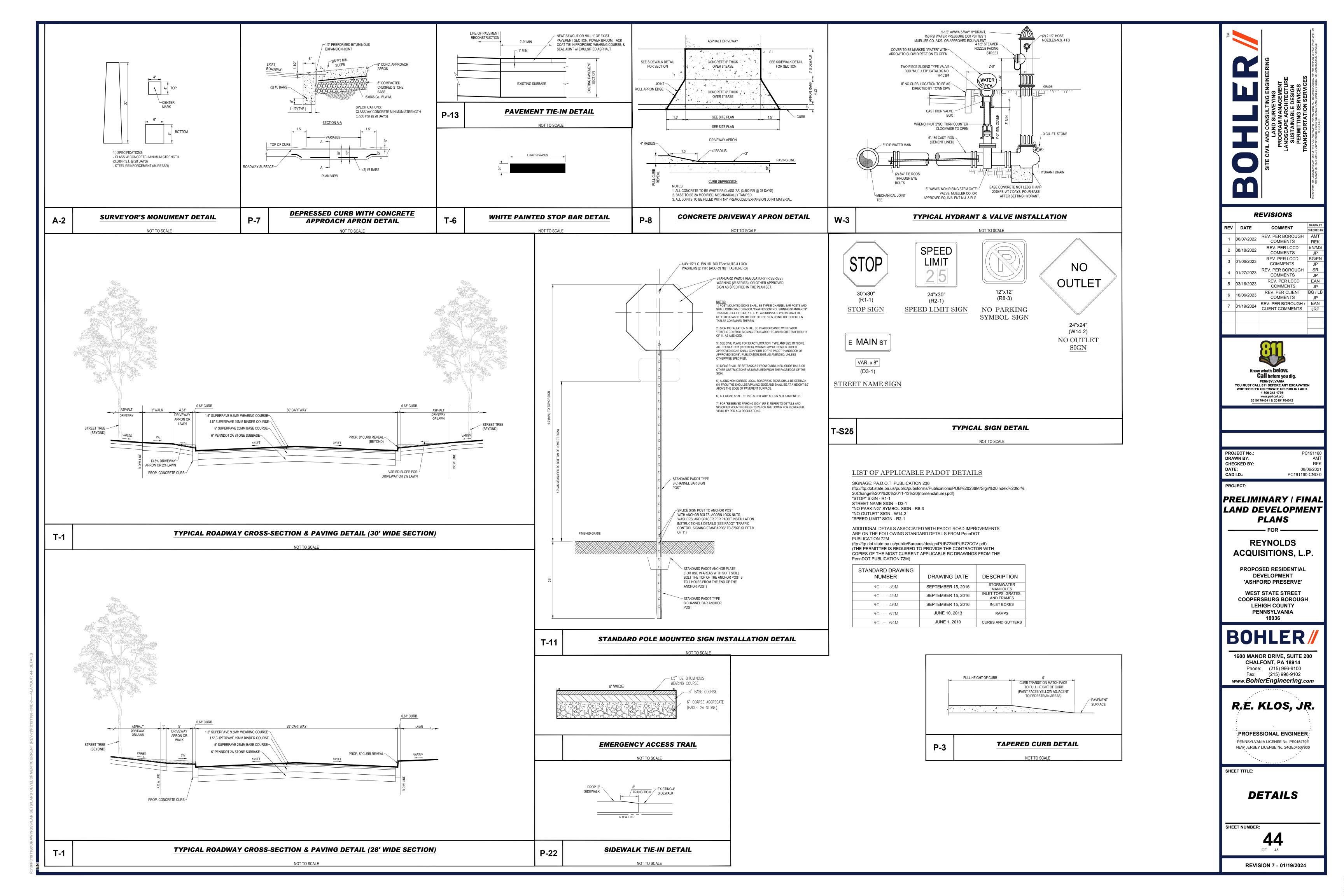
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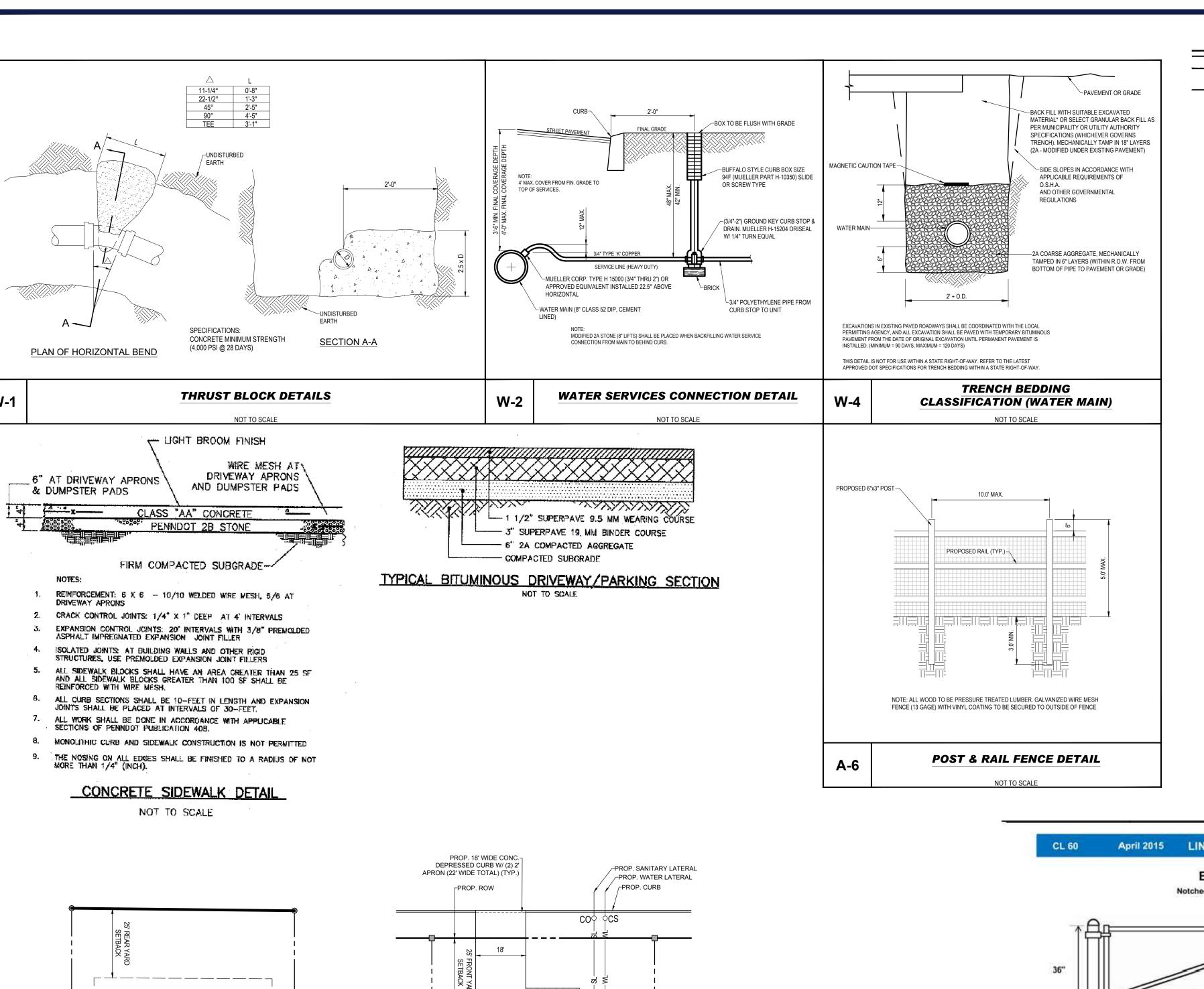
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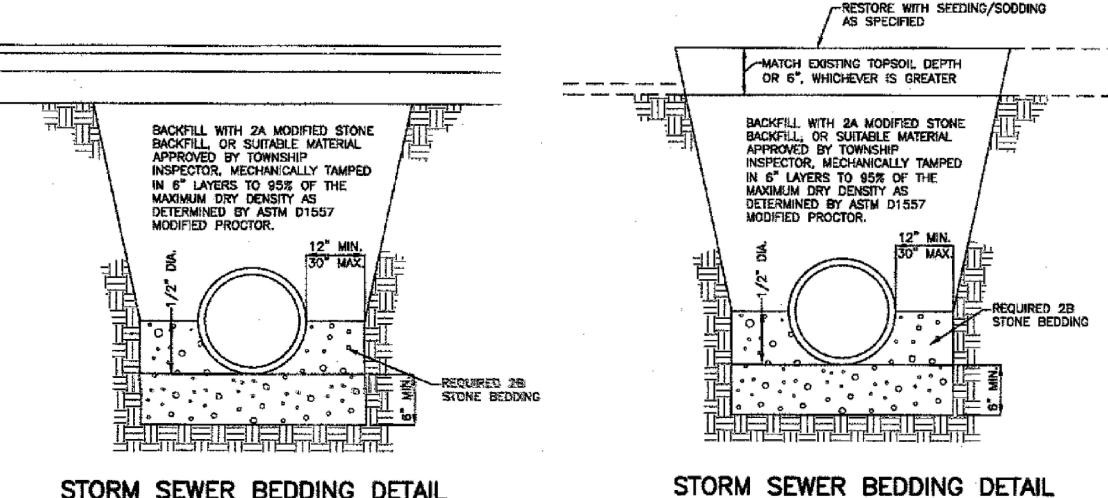
AERIAL PLAN





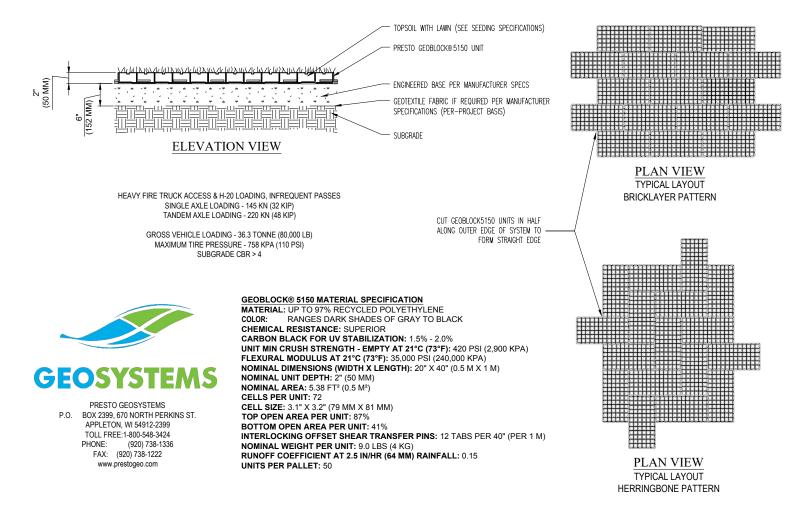
(WITHOUT SIDEWALK)

NOT TO SCALE



STORM SEWER BEDDING DETAIL (WITHIN PAVED AREAS) (NOT TO SCALE)

(EARTHEN AREA) (NOT TO SCALE)



DESIGN GUIDELINES - BASE DEPTH		
LOAD DESCRIPTION	CBR 2 - 4%	CBR > 4%
HEAVY FIRE TRUCK ACCESS & HIHS-20 LOADING. TYPICAL 110 PSI (758 KPA) TIRE PRESSURE. SINGLE AXLE LOADINGS OF 32 KIPS (145 KN), TANDEM AXLE LOADINGS OF 48 KIPS (220 KN). GROSS VEHICLE WEIGHT OF 80,000 LBS (36.3 MT). INFREQUENT PASSES.	DESIGN 1 - 6" BASE	DESIGN 2 - 4" BASE
LIGHT FIRE TRUCK ACCESS & H/HS-15 LOADING. TYPICAL 85 PSI (586 KPA) TIRE PRESSURE. SINGLE AXLE LOADINGS OF 24 KIPS (110 KN). GROSS VEHICLE LOADS OF 60,000 LBS (27.2 MT). INFREQUENT PASSES.	DESIGN 2 - 4" BASE	DESIGN 3 - 2" BASE
UTILITY & DELIVERY TRUCK ACCESS & H/HS-10 LOADING. TYPICAL 60 PSI (414 KPA) TIRE PRESSURE. SINGLE AXLE LOADINGS OF 16 KIPS (75 KN). GROSS VEHICLE LOADS OF 40,000 LBS (18.1 MT). INFREQUENT PASSES.	DESIGN 3 - 2" BASE	DESIGN 3 - 2" BASE
CARS & PICK-UP TRUCK ACCESS. TYPICAL 45 PSI (310 KPA) TIRE PRESSURE. SINGLE AXLE LOADINGS OF 4 KIPS (18 KN). GROSS VEHICLE LOADS OF 8,000 LBS (3.6 MT). INFREQUENT PASSES.	DESIGN 4 - NO BASE	DESIGN 4 - NO BASE
TRAIL USE. LOADING FOR PEDESTRIAN, WHEELCHAIR, EQUESTRIAN, BICYCLE,	DESIGN 4 -	DESIGN 4 -

2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS
FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED FEERIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY
THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
6. CONTRACTOR'S NOTE FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER
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GEOBLOCK 5150 POROUS PAVEMENT SYSTEM FOR EMERGENCY ACCESS SCALE: N.T.S.

MOTORCYCLE AND ATV TRAFFIC. NO BASE NO BASE

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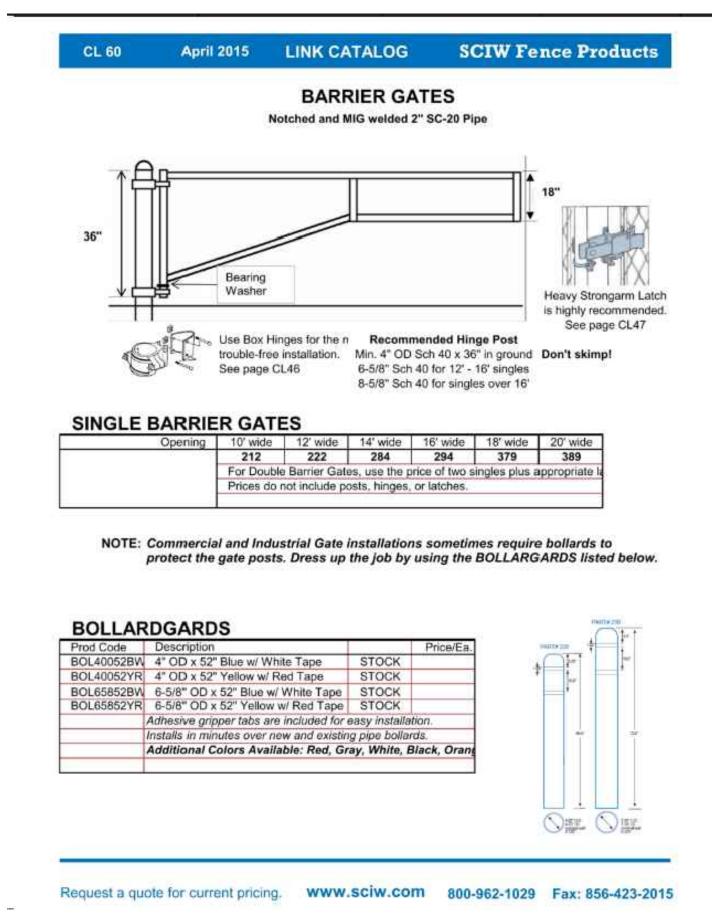
PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE045479E NEW JERSEY LICENSE No. 24GE04507900

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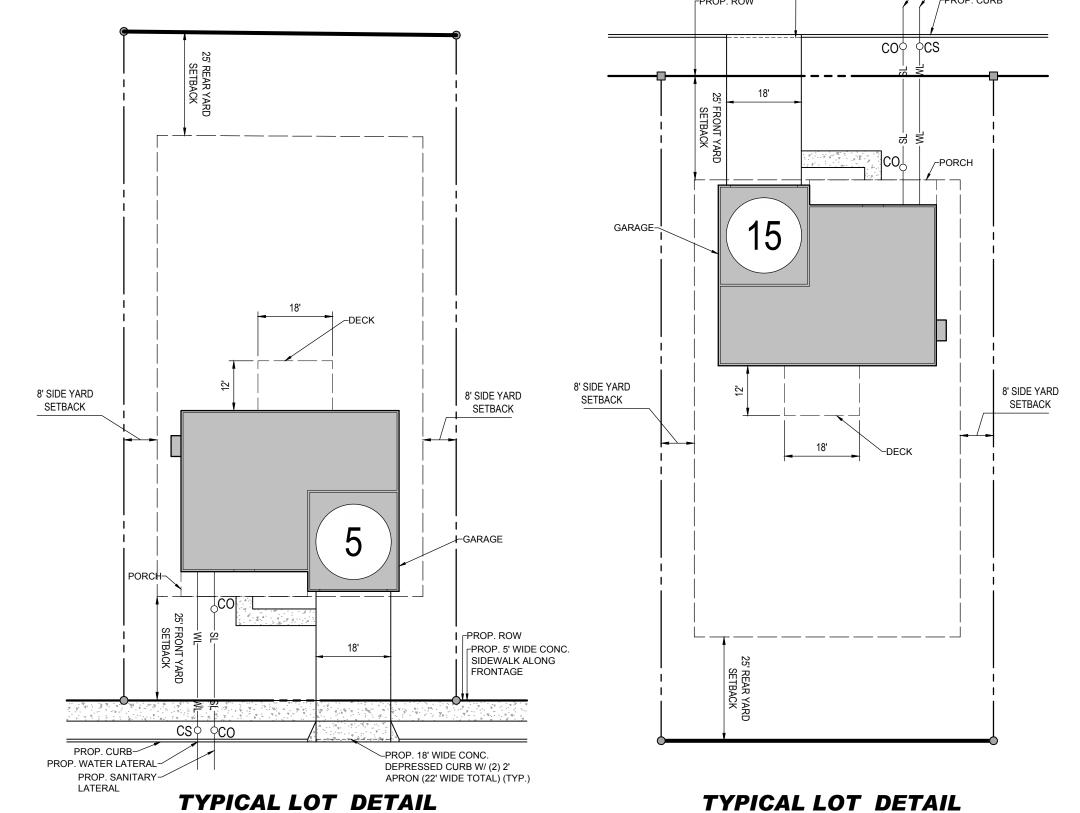
OF 48

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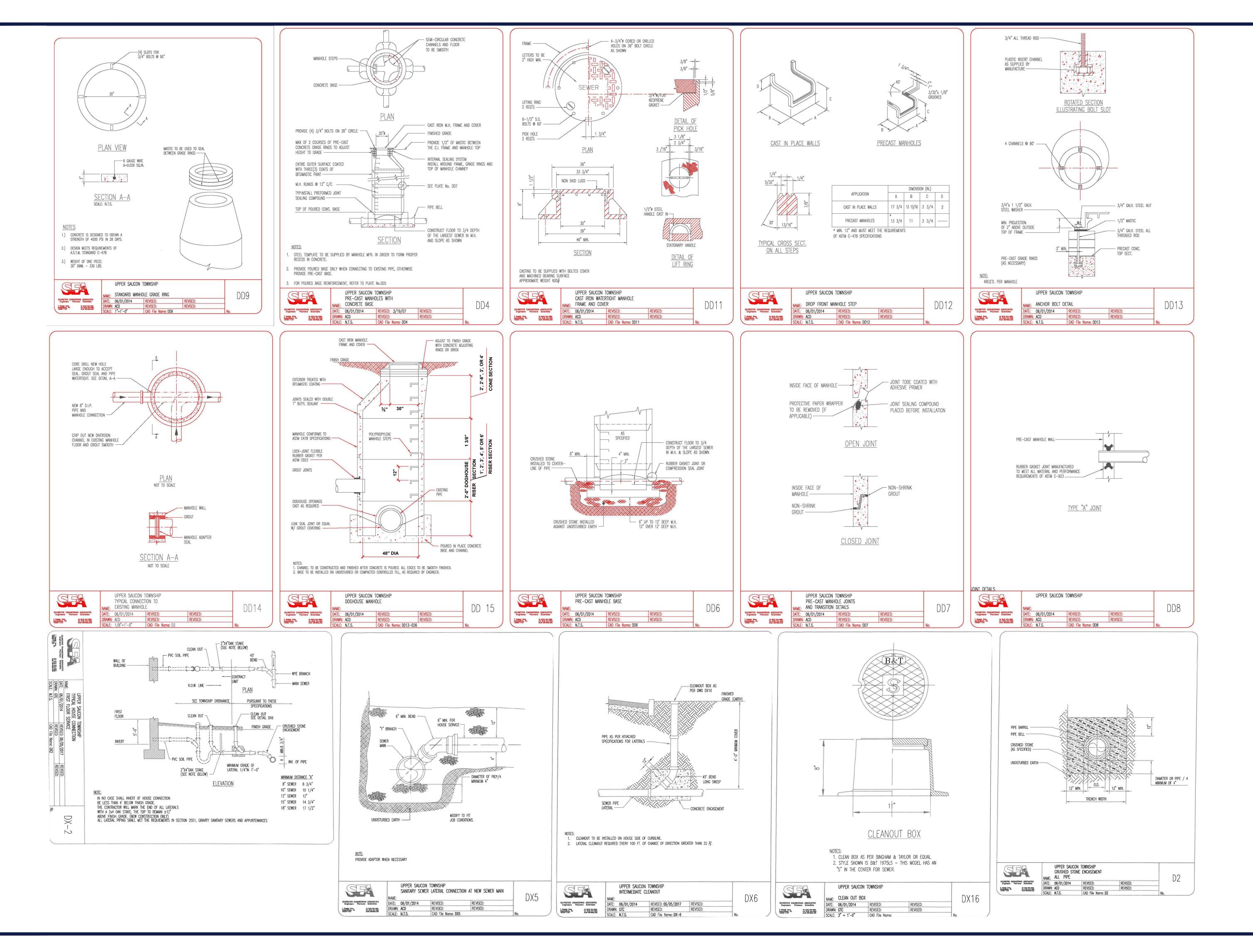
BARRIER GATE

NOT TO SCALE



(WITH SIDEWALK)

NOT TO SCALE



VIL AND CONSULTING ENGINEERING
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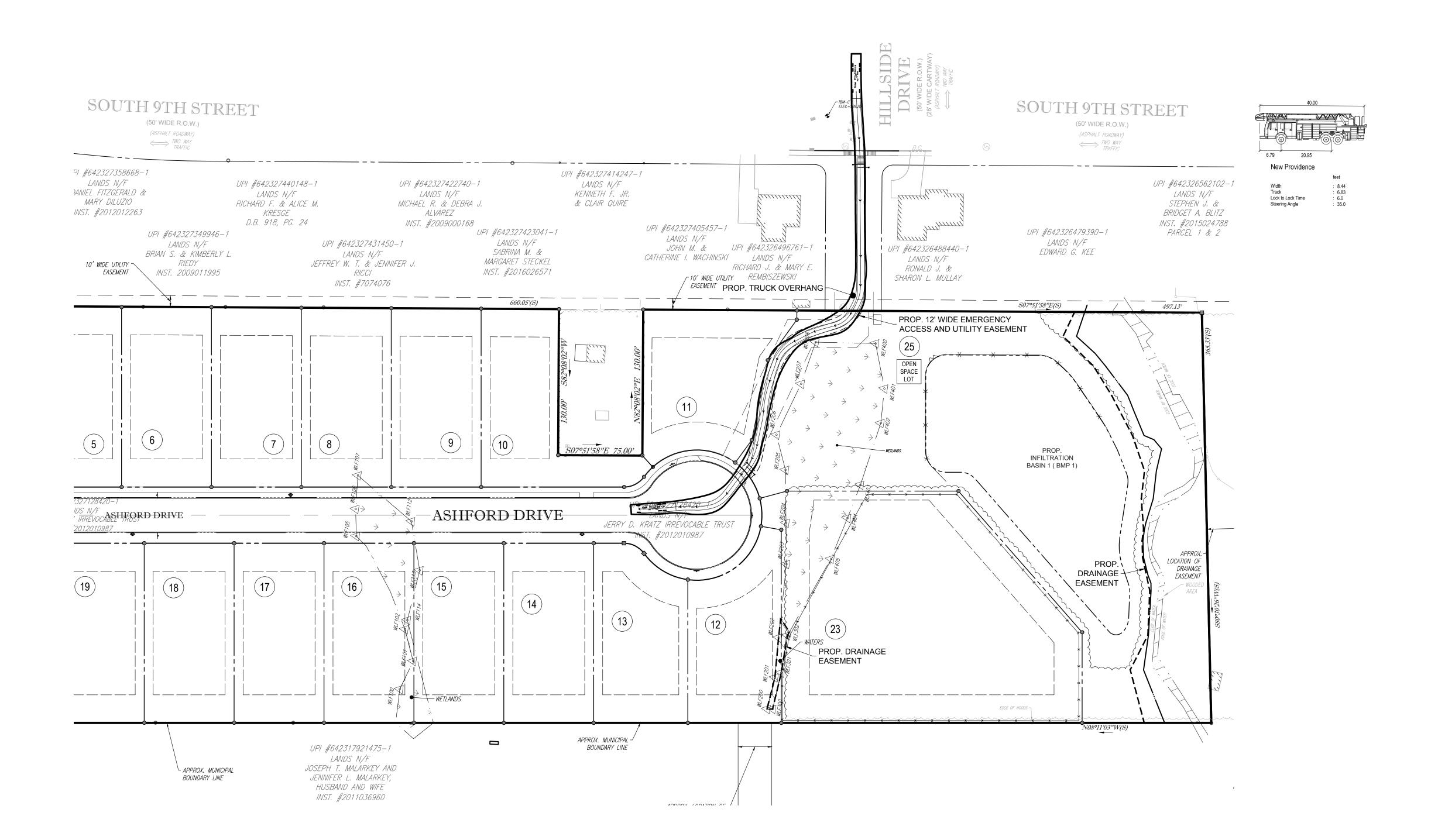
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DETAILS

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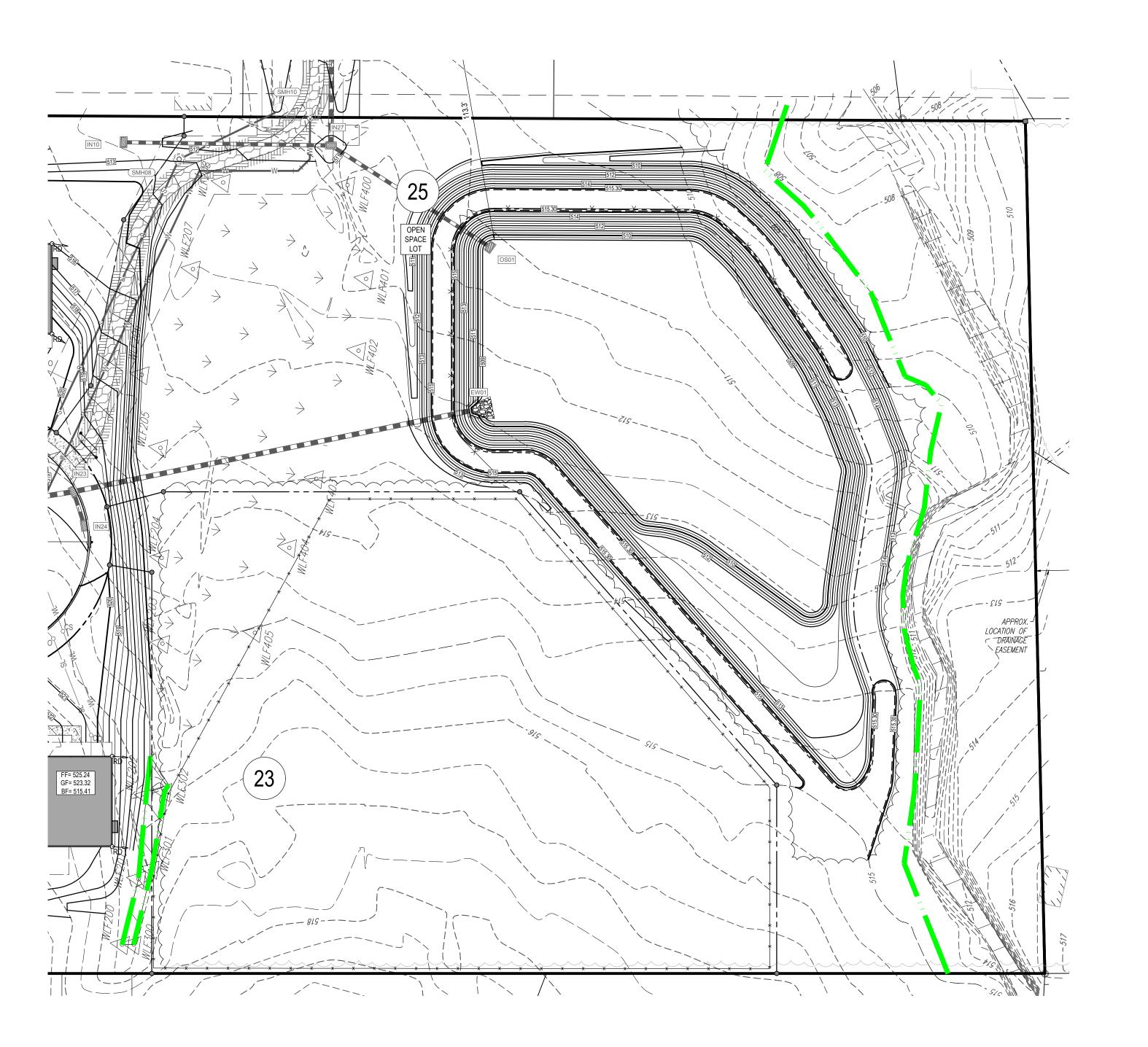
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WEST STATE STREET COOPERSBURG BOROUGH LEHIGH COUNTY PENNSYLVANIA 18036

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ADDITIONAL GRADING PLAN

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