PROPOSED WAWA FOOD MARKET LAND DEVELOPMENT PLANS

OWNER/EQUITABLE OWNER'S INTENT	PRELIMINARY LAND DEVELOPMEN
I, GARABET KARAKELIAN, PRESIDENT OF WAYNE PROPERTY ACQUISITION INC., ACKNOWLEDGE THAT WAYNE PROPERTY ACQUISITION INC., IS THE REGISTERED OWNER OR EQUITABLE OWNER OF THE LANDS TO BE DEVELOPED AND THAT WE ADOPT THIS PLAN AND DESIRE THAT IT BE RECORDED ONCE APPROVED. BY GARABET KARAKELIAN PART OWNER OF FOLIO #36-03-01682-00; PRESIDENT OF WAYNE PROPERTY ACQUISITION, INC., OWNER OF FOLIO #36-03-01683-00 & EQUITABLE OWNER OF FOLIO #36-03-01682-00.	FOLIO #36-03-01682-00 & #36-03-01683-00 SITUATED IN:
CERTIFICATE OF OWNERSHIP & ACKNOWLEDGEMENT OF SUBDIVISION AND LAND DEVELOPMENT PLANS: COMMONWEALTH OF PENNSYLVANIA: SS. COUNTY OF DELAWARE:	RADNOR TOWNSHIP DELAWARE COUNTY, PENNSYLVANIA
ON THIS, THE DAY OF, 2019, BEFORE ME, THE UNDERSIGNED, PERSONALLY APPEARED GARABET KARAKELIAN, PRESIDENT OF WAYNE PROPERTY ACQUISITION INC., WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT WAYNE PROPERTY ACQUISITION INC., IS THE OWNER AND/OR EQUITABLE OWNER OF THE PROPERTY SHOWN ON THESE PLANS, AND THAT THESE PLANS WERE MADE AT THE DIRECTION OF WAYNE PROPERTY ACQUISITION INC., AND WAYNE PROPERTY ACQUISITION INC. ACKNOWLEDGES THE SAME TO BE ITS ACT AND DESIRES THE SAME BE RECORDED AS SUCH ACCORDING TO LAW FOLLOWING FINAL LAND DEVELOPMENT APPROVAL.	DEVELOPED BY: WAYNE PROPERTY ACQUISITION INC.
WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN. WAYNE PROPERTY ACQUISITION INC.	

PART OWNER OF FOLIO #36-03-01682-00; PRESIDENT OF WAYNE PROPERTY ACQUISITION, INC.,

REVIEWED BY THE RADNOR TOWNSHIP DIRECTOR OF PUBLIC WORKS THIS _

APPROVAL OF TOWNSHIP ZONING OFFICER:

REVIEWED BY THE RADNOR TOWNSHIP ZONING OFFICER THIS _____ DAY OF_____

DIRECTOR OF RADNOR TOWNSHIP PUBLIC WORKS

RANDOR TOWNSHIP ZONING OFFICER

RADNOR TOWNSHIP ENGINEER

PRESIDENT

SECRETARY

DCPC NO.:

(DIRECTOR)

APPROVAL OF TOWNSHIP ENGINEER:

REVIEWED BY THE RADNOR TOWNSHIP ENGINEER THIS _____DAY OF____

APPROVAL OF TOWNSHIP BOARD OF COMMISSIONERS:

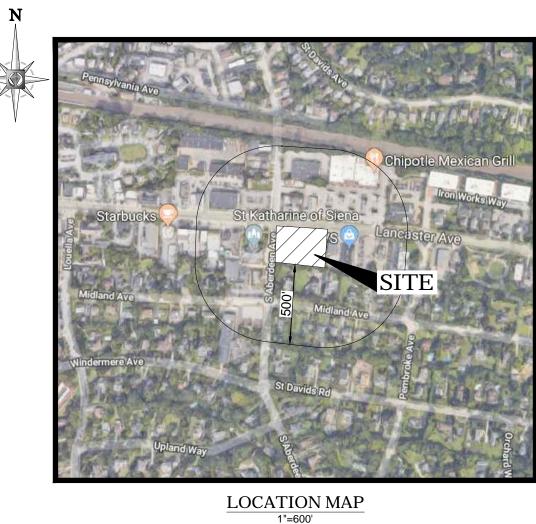
REVIEWED BY THE DELAWARE COUNTY PLANNING COMMISSION

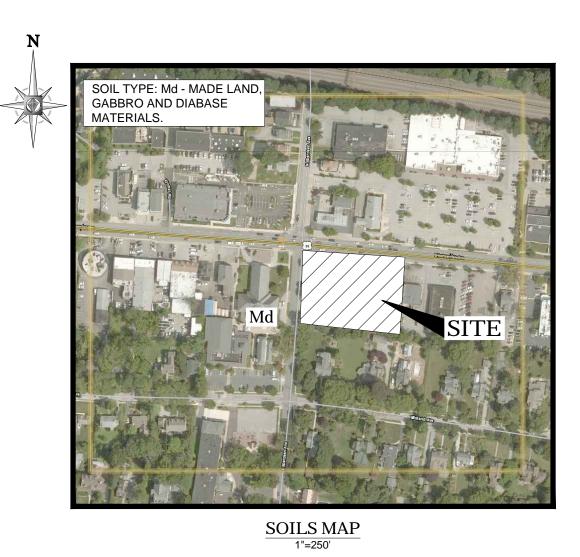
APPROVED BY RADNOR TOWNSHIP BOARD OF COMMISSIONERS THE _____DAY OF ______ 2019, AND EXECUTED THIS _____ DAY OF ______, 2019.

NOTARY PUBLIC

LICENSE NO. SU-075250

R-2: RESIDENCE DISTRICT R-3: RESIDENCE DISTRICT R-4: RESIDENCE DISTRICT PLU: PUBLIC LAND USE DISTRICT **ZONING MAP** 1"=500







1600 MANOR DRIVE, SUITE 200 **CHALFONT, PENNSYLVANIA 18914**

Phone: (215) 996-9100 (215) 996-9102 PA@BohlerEng.com

	SHEET INDEX	
	SHEET TITLE	SHEET#
*	COVER	1
*	NOTES	2
*	SITE PLAN	3
	EXISTING CONDITIONS/DEMOLITION PLAN	4
	GRADING PLAN	5
	UTILITY PLAN	6
	STORMWATER AND SANITARY PROFILES	7
	LANDSCAPE PLAN	8
	LANDSCAPE & LIGHTING DETAILS	9
	LIGHTING PLAN	10
	EROSION & SEDIMENTATION CONTROL PLAN	11
	EROSION & SEDIMENTATION CONTROL NOTES	12
	EROSION & SEDIMENTATION CONTROL DETAILS	13
*	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN	14
*	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES	15
*	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS	16
	DETAILS	17, 18 & 19

* RECORD PLAN NOTE: SHEETS 1-3 & 14-16 OF THIS PLAN SET ARE TO BE CONSIDERED A COMPLETE RECORD PLAN

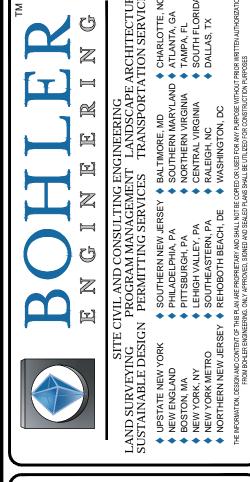
PLAN SET AS SET FORTH BY THE PADEP NPDES PERMIT REQUIREMENTS.

SET FOR FILING PURPOSES IN THE DELAWARE COUNTY RECORDER OF DEEDS OFFICE.

TRUCK TURNING PLAN

AERIAL

PCSM DRAINAGE MAPS 1 OF 3 THRU 3 OF 3 LOCATED IN REF 1.d ARE PART OF THE RECORD



	REVISIONS							
REV	DATE	COMMENT	BY					
1	08/31/2018	PER DOT COMMENTS	мсм					
2	02/28/2019	PER TWP COMMENTS	мсм					
-								

CALL BEFORE YOU DIG

NOT APPROVED FOR

2018.07.13 AS NOTED CAD I.D.: PC181016 DETAILS-2

20

PRELIMINARY LAND DEVELOPMENT PLANS

WAYNE PROPERTY

ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP DELAWARE COUNTY, PA

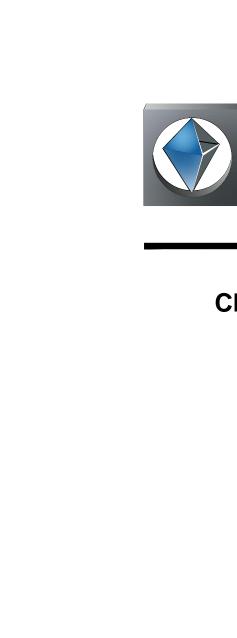


1600 MANOR DRIVE, SUITE 200 **CHALFONT, PENNSYLVANIA 18914** Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

COVER

SHEET NUMBER: OF 21



GENERAL NOTES

- CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE NOTES AND SPECIFICATIONS CONTAINED HEREIN. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS.
- THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN:
- CONTROL POINT ASSOCIATES, INC. b.) TRAFFIC PLANNING AND DESIGN, INC 1600 MANOR DRIVE, SUITE 100 2500 EAST HIGH STREET. SUITE 650 POTTSTOWN, PA 1946 PREPARED FOR: WAWA, INC PROJECT NO.: 2018-08-09 CAD FILE.DWG PROJECT NO.: 02-180015-00 DATED: 8-10-2018 DATED: 02-22-2018 LAST REVISED: 07-12-2018
- REPORT OF GEOTECHNICAL INVESTIGATION BY WHITESTONE ASSOCIATES, INC.

CHESTER SPRINGS, PA 19125

POST CONSTRUCTION STORMWATER MANAGEMENT REPORT BY BOHLER ENGINEERING PA LLC. PREPARED FOR WAYNE PROPERTY ACQUISITION INC., DATED JULY 13, 2018. LAST REVISED FEBRUARY 28, 2019

EQUITABLE OWNER/APPLICANT: WAYNE PROPERTY ACQUISITIONS INC. 1747 SPRINGHOUSE ROAD

AND CONTIGUOUS STRUCTURES AND PROPERTIES.

PREPARED FOR THE AUTOWASH GROUP, DATED JULY 25, 2017.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST VERIFY THAT HE/SHE HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE. THIS IS

- ALL ACCESSIBLE ADA PARKING SPACES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF 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.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT IS TO BE CONSTRUCTED, AND ANY AND ALL AMENDMENTS TO BOTH WHICH ARE IN EFFECT WHEN THESE PLANS ARE COMPLETED.
- PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE COMMENTS TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED. CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
- THE OWNER/CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY
- ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS., SPECIFICATIONS 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. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN 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 THE PLANS AND THE GEOTECHNICAL REPORT AND

RECOMMENDATIONS SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER. IN WRITING

OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY

- THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN. OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES
- ALL DIMENSIONS SHOWN ON THE PLANS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR MUST NOTIFY ENGINEER, 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 REDONE OR REPAIRED DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO CONTRACTOR GIVING ENGINEER WRITTEN NOTIFICATION OF SAME AND ENGINEER. THEREAFTER. PROVIDING CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.
- CONTRACTOR MUST REFER TO THE ARCHITECTURAL/BUILDING PLANS "OF RECORD" FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS. AND EXACT BUILDING UTILITY LOCATIONS.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE LATEST CIVIL PLANS AND THE LATEST ARCHITECTURAL PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLAN, WHERE APPLICABLE). CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND BOHLER ENGINEERING, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST
- DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL GOVERNMENTAL AUTHORITIES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER CONTRACTOR

PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT NEARBY

- THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE
- THE CONTRACTOR IS TO EXERCISE EXTREME CARE 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. 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.
- THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO DRAINAGE LITILITIES PAVEMENT STRIPING CURB ETC. AND SHALL 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 SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR AL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH 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. CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND TO NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
- ALL CONCRETE MUST BE AIR ENTRAINED AND HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT
- THE ENGINEER IS 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/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF
- THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HAS NOT BEEN RETAINED TO PERFORM OR BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER'S SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD IS NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES. AT ANY TIME
- 18. ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER ENGINEERING, AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SURSIDIARIES AND RELATED ENTITIES AND ITS SURCONTRACTORS AND SURCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THIS HOLD HARMLESS AND INDEMNITY ORLIGATIONS ASSUMED BY THE CONTRACTORS ALL CONTRACTORS MUST FURNISH BOHLER ENGINEERING WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR ONE YEAR AFTER THE COMPLETION OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW. INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER ENGINEERING 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 CONTRACTORS. ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. CONTRACTOR MUST NOTIFY ENGINEER. IN WRITING. AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION. SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
- BOHLER ENGINEERING 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 CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND/OR 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 HEREUNDER. BOHLER ENGINEERING'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM MUST NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT PROMPTLY AND IMMEDIATELY BROUGHT TO ITS ATTENTION. IN WRITING, BY THE CONTRACTOR. BOHLER ENGINEERING WILL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
- . NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING 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. SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS. DUTIES AND RESPONSIBILITIES INCLUDING. BUT NOT LIMITED TO. CONSTRUCTION MEANS. METHODS. SEQUENCE. TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND MUST BE NAMED AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE FOR JOB SITE SAFETY.
- . IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH THESE NOTES HEREIN, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO
- CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE.
- 3. ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.
- 4. ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS
- 25. 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 ENGINEER IS 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 ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

- 26. ALL DIMENSIONS MUST BE TO FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, UNLESS NOTED OTHERWISE
- 27. ALL CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, ORDINANCES, RULES AND CODES. AND ALL APPLICABLE OSHA REQUIREMENTS
- 28. CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INTURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
- 29 AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED APPLICATION DOCUMENTS PREPARED BY THE SIGNATORY PROFESSIONAL ENGINEER. THE LISE OF THE WORDS CERTIFY OR CERTIFICATION CONSTITUTES AN EXPRESSION OF "PROFESSIONAL OPINION" REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE UNDERSIGNED PROFESSIONAL KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.
- 30. A WB-50 VEHICLE IS THE LARGEST VEHICLE ANTICIPATED TO ACCESS THIS DEVELOPMENT FOR DELIVERIES.
- 31. WAWA WILL RESTRICT LARGE TRUCKS (WB-50) STORE DELIVERIES (LOADING AREA) DURING THE 7-9AM AND 4-6PM PEAK HOURS.

GENERAL DEMOLITION NOTES

THIS PLAN REFERENCES DOCUMENTS AND INFORMATION BY: a.) CONTROL POINT ASSOCIATES, INC.

1600 MANOR DRIVE, SUITE 100 CHALFONT. PA 18914 PREPARED FOR: WAWA, INC PROJECT NO.: 02-180015-00 DATED: 02-22-2018 LAST REVISED: 07-12-2018

- 2. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 et seg.), AS AMENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
- ANYTHING RELATED TO SAME.
- THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION, ONLY, REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
- CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNS REGARDING THE APPLICABLE SAFETY STANDARDS, OR THE SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. 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.
- 6. PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR/TO:
- A. OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES HAVING JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK AND DEMOLITION WORK.
- ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND REFERENCED DOCUMENTS AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS SHALL BE IDENTIFIED BY THE CONTRACTOR TO THE ENGINEER IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF ACTIVITY.
- 8. PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS RESPONSIBLE FOR/TO:
- A. ENSURE COPIES OF ALL PERMITS AND APPROVALS ARE ON SITE FOR REVIEW.
- B. THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO SITE DISTURBANCE.
- C. ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, FTC. WITHIN THE LIMITS OF DISTURBANCE, SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL
- D. PROTECT AND MAINTAIN IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.
- E. FAMILIARIZE THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENT AND IS RESPONSIBLE FOR ALL 11. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE AS PER THE COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS
- F. COORDINATION WITH UTILITY COMPANIES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE AFFECTED PARTIES.
- G. A COMPLETE INSPECTION FOR CONTAMINANTS, BY A LICENSED ENVIRONMENTAL TESTING AGENCY, OF ALL BUILDINGS AND/OR STRUCTURES TO BE REMOVED SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL ENVIRONMENTAL REGULATIONS. ALL CONTAMINANTS SHALL BE REMOVED AND DISPOSED OF BY A FEDERALLY LICENSED CONTRACTOR IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. ALL ENVIRONMENTAL WORK INCLUDING HAZARDOUS MATERIAL, SOILS, ASBESTOS, OR OTHER REFERENCED OR IMPLIED HEREIN IS SOLELY THE RESPONSIBILITY OF THE OWNER'S ENVIRONMENTAL CONSULTANT.
- THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE.
- 10. IN THE ABSENCE OF SPECIFIC REQUIREMENTS, THE CONTRACTOR SHALL PERFORM EARTH MOVEMENT ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS, FOOTINGS, AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE IN ACCORDANCE WITH DIRECTION BY OWNER'S GEOTECHNICAL ENGINEER.
- 11. EXPLOSIVES SHALL NOT BE USED WITHOUT PRIOR WRITTEN CONSENT OF BOTH THE OWNER AND APPLICABLE GOVERNMENTAL AUTHORITIES. ALL THE REQUIRED PERMITS AND EXPLOSIVE CONTROL MEASURES THAT ARE REQUIRED BY THE FEDERAL. STATE. AND LOCAL GOVERNMENTS SHALL BE IN PLACE PRIOR TO STARTING AN EXPLOSIVE PROGRAM. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES.
- CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH: "PENNDOT PUBLICATION 213, TEMPORARY TRAFFIC CONTROL GUIDELINES, THE MANUAL ON UNIFORM TRAFFIC CONTROL", AS WELL AS FEDERAL STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHTS-OF-WAY.
- THE CONTRACTOR SHALL CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY WHERE REQUIRED.
- 14. DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINES, WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.
- 15. USE DUST CONTROL MEASURES TO LIMIT THE AMOUNT OF AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR TO WITHIN FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.
- 16. THE CONTRACTOR IS RESPONSIBLE TO SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE UNAUTHORIZED ENTRY OF PERSONS AT ANY TIME.
- 17. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED 18. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.
- 18. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.
- DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES. THE CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF HAZARDOUS/UNSUITABLE MATERIAL OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND LAWS.

GENERAL GRADING & UTILITY NOTES

- LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION, SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES MUST IMMEDIATELY BE REPORTED, IN WRITING, TO THE ENGINEER. CONSTRUCTION MUST COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- . CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL EXISTING UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, 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 THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION, AT NO COST TO THE OWNER. CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION.
- 3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING. BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT AND/OR DISCREPANCY BETWEEN THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE OR APPLICABLE CODES. REGULATIONS. LAWS. RULES. STATUTES AND/OR ORDINANCES. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD, IN WRITING, OF SAID CONFLICT AND/OR DISCREPANCY PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR'S FAILURE TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE CONTRACTOR'S FULL AND COMPLETE ACCEPTANCE OF ALL RESPONSIBILITY TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, STATUTES, ORDINANCES AND CODES AND, FURTHER, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SAME.
- 4. THE CONTRACTOR MUST LOCATE AND CLEARLY AND UNAMBIGUOUSLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE AND INACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE
- 5. THE CONTRACTOR MUST FAMILIARIZE ITSELF WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
- 6. THE CONTRACTOR MUST INSTALL ALL STORM SEWER AND SANITARY SEWER COMPONENTS WHICH FUNCTION BY GRAVITY PRIOR TO THE INSTALLATION OF ALL OTHER UTILITIES.
- 3. BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR 7. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITIES/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 WITH JURISDICTION AND/OR CONTROL OF THE SITE. AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE LITHITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING LITHITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE PLANS AND THE ARCHITECTURAL PLANS. OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, AND PRIOR TO CONSTRUCTION, RESOLVE SAME.
 - WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE MUST INCLUDE ALL FEES, COSTS, TESTING AND APPURTENANCES REQUIRED BY THE UTILITY COMPANY TO PROVIDE FULL AND COMPLETE WORKING SERVICE. CONTRACTOR MUST CONTACT THE APPLICABLE UTILITY COMPANY TO CONFIRM THE SIZE AND TYPE OF WATER METER AND/OR VAULT, PRIOR TO COMMENCING CONSTRUCTION.
 - 9. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY/SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.
 - 10. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT, ALL EXCAVATED OR FILLED AREAS MUST BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT, 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, VERIFYING 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, SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER. OR OWNER/DEVELOPER'S REPRESENTATIVE. SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED AS DIRECTED BY THE GEOTECHNICAL REPORT. 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,
 - RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND MUST BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS. FILL AND SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR OR AS RELATED TO FILL, COMPACTION AND BACKFILL.
 - 12 THE CONTRACTOR MUST COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS AND REGULATIONS AND/OR ANY OTHER AGENCY WITH JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES AND CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.
 - 13. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES, AND EXCEPT FOR EDGE OF BUTT JOINTS, MUST EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.
 - 14. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, UTILITY VALVES, AND SANITARY CLEANOUTS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
 - 15. DURING THE INSTALLATION OF SANITARY SEWER, STORM SEWER, 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 FROM THE INFORMATION CONTAINED IN THE UTILITY PLAN. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THESE PLANS. WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER AT THE COMPLETION OF WORK.
 - 16. WHEN THE SITE IMPROVEMENT PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING BUT NOT LIMITED TO STORM SEWER, SANITARY SEWER, UTILITIES, AND IRRIGATION LINE. TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR MUST CAP ENDS AS APPROPRIATE, MARK LOCATIONS WITH A 2X4 STAKE, AND MUST NOTE THE LOCATION OF ALL OF THE ABOVE ON A CLEAN COPY OF THESE PLANS, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER UPON COMPLETION OF THE WORK.
 - 17. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. CONTRACTOR MUST CONFIRM AND ENSURE 0.75% MINIMUM SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT (EXCEPT WHERE ADA REQUIREMENTS LIMIT GRADES), TO PREVENT PONDING. CONTRACTOR MUST IMMEDIATELY IDENTIFY, IN WRITING TO THE ENGINEER, ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER NOTIFICATION, THIS SHALL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS THE DESIGN ENGINEER FOR ANY DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH
 - NOTED. IT IS CONTRACTOR'S OBLIGATION TO ENSURE THAT DESIGN ENGINEER APPROVES FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION OF SAME

19. REFER TO SITE PLAN FOR ADDITIONAL NOTES.

- 20. IN THE EVENT OF DISCREPANCIES AND/OR CONFLICTS BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE AND CONTROL. CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER, IN WRITING, OF ANY DISCREPANCIES AND/OR CONFLICTS.
- 21. CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO ENGINEER AND OWNER PRIOR TO INITIATING ANY WORK.
- 22. TOP AND BOTTOM OF WALL ELEVATIONS (TW & BW) REPRESENT THE PROPOSED FINISHED GRADE AT THE FACE OF WALL AND DO NOT REPRESENT THE ELEVATION OF THE PROPOSED WALL (INCLUDING THE CAP UNIT OR FOOTING). WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR BASED ON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE ALL WALLS SHOWN HEREON MUST BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER AND THAT SIGNED AND SEALED SHOP DRAWINGS ARE APPROVED BY THE MUNICIPALITY PRIOR TO THEIR CONSTRUCTION. FURTHER THE CONTRACTOR SHALL ENSURE THAT FENCING, GUIDERAIL, UTILITIES, AND OTHER SITE AMENITIES IN THE VICINITY OF THE RETAINING WALL(S), PROPOSED SCHEMATICALLY IN THESE PLANS, SHALL BE CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGN (BY OTHERS).

23. STORM DRAINAGE PIPE:

UNLESS INDICATED OTHERWISE, ALL STORM SEWER PIPE MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH JOINTS. WHEN HIGH-DENSITY POLYETHYLENE PIPE (HDPE) IS CALLED FOR ON THE PLANS, IT MUST CONFORM TO AASHTO M294 AND TYPE S (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR WATERTIGHT JOINT. PVC PIPE FOR ROOF DRAIN CONNECTION MUST BE SDR 26 OR SCHEDULE 40 UNLESS INDICATED OTHERWISE.

1. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE INDEPENDENTLY CONFIRMED WITH 24. SANITARY SEWER MAIN MUST BE POLYVINYL CHLORIDE (PVC) SDR 35 EXCEPT WHERE INDICATED OTHERWISE. SANITARY LATERALS MUST BE PVC SCHEDULE 40 OR PVC SDR 26 UNLESS INDICATED, IN WRITING, OTHERWISE.

25. STORM AND SANITARY SEWER PIPE LENGTHS INDICATED ARE NOMINAL.

26. SEWERS CONVEYING SANITARY FLOW, COMBINED SANITARY, AND STORMWATER FLOW OR INDUSTRIAL FLOW MUST BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. IF SUCH LATERAL SEPARATION IS NOT POSSIBLE. THE PIPES MUST BE IN SEPARATE TRENCHES WITH THE SEWER AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN, OR SUCH OTHER SEPARATION AS APPROVED BY THE GOVERNMENT AGENCY WITH JURISDICTION OVER

27. WHERE APPROPRIATE SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER MUST BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER 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.

- 28. WATER MAIN PIPING MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL WATER AUTHORITY ABSENCE OF SUCH REQUIREMENTS, WATER MAIN PIPING MUST BE CEMENT}LINED DUCTILE IRON (DIP) MINIMUM CLASS 52 THICKNESS. ALL PIPE AND APPURTENANCES MUST COMPLY WITH THE APPLICABLE AWWA STANDARDS IN EFFECT AT THE TIME OF APPLICATION.
- 29. CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SEWER, WATER AND STORM SYSTEMS, MUST BE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND/OR DOT DETAILS AS APPLICABLE. CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAME.

30. LOCATION OF PROPOSED UTILITY POLE RELOCATION IS AT THE SOLE DISCRETION OF UTILITY COMPANY

31. CONSULTANT IS NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, SHALL HAVE NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.

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REVISIONS COMMENT 08/31/2018 PER DOT COMMENTS 02/28/2019 PER TWP COMMENTS CALL BEFORE YOU DIG

> STAGE - STOP CALL POCS SERIAL NUMBER 1-800-242-1776

3 WORKING DAYS NOTICE FOR

CONSTRUCTION PHASE AND 10

WORKING DAYS IN DESIGN

NOT APPROVED FOR CONSTRUCTION

DRAWN BY: MCM 2018.07.13 AS NOTED PC181016 DFTAILS-2

PRELIMINARY LAND DEVELOPMENT

WAYNE PROPERTY

ACQUISITION INC.

PLANS

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP DELAWARE COUNTY, PA



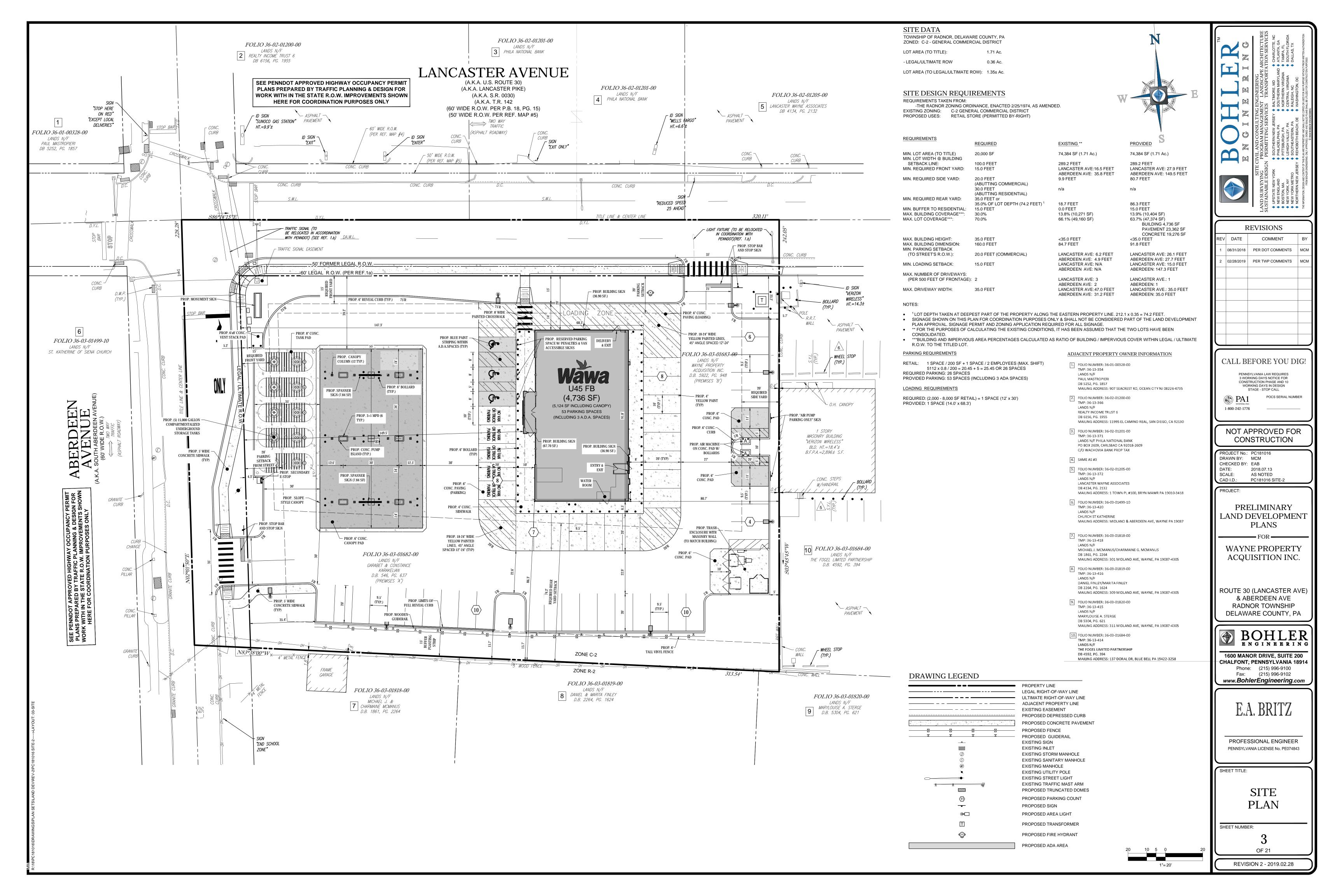
1600 MANOR DRIVE, SUITE 200 **CHALFONT, PENNSYLVANIA 18914** Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

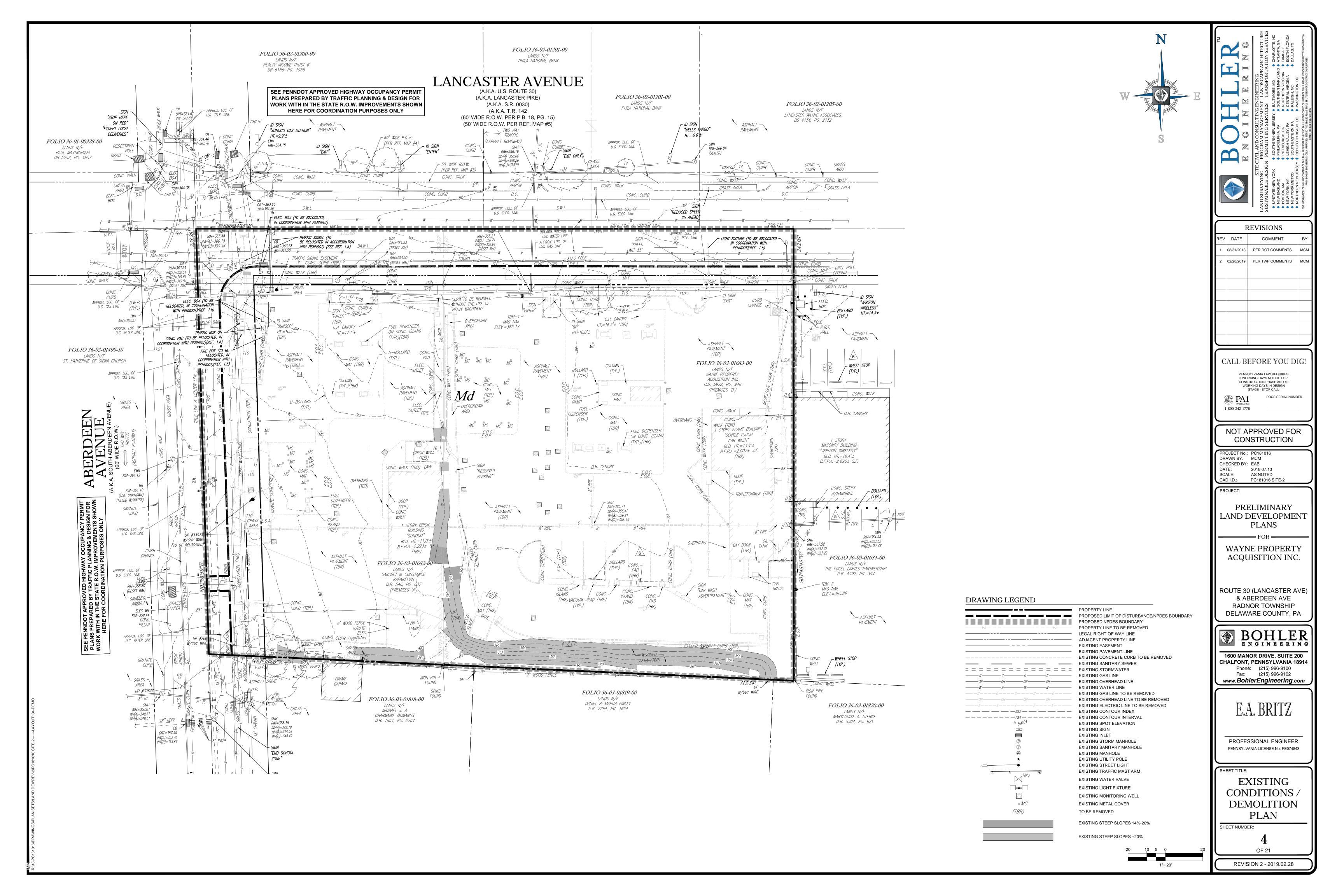
PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

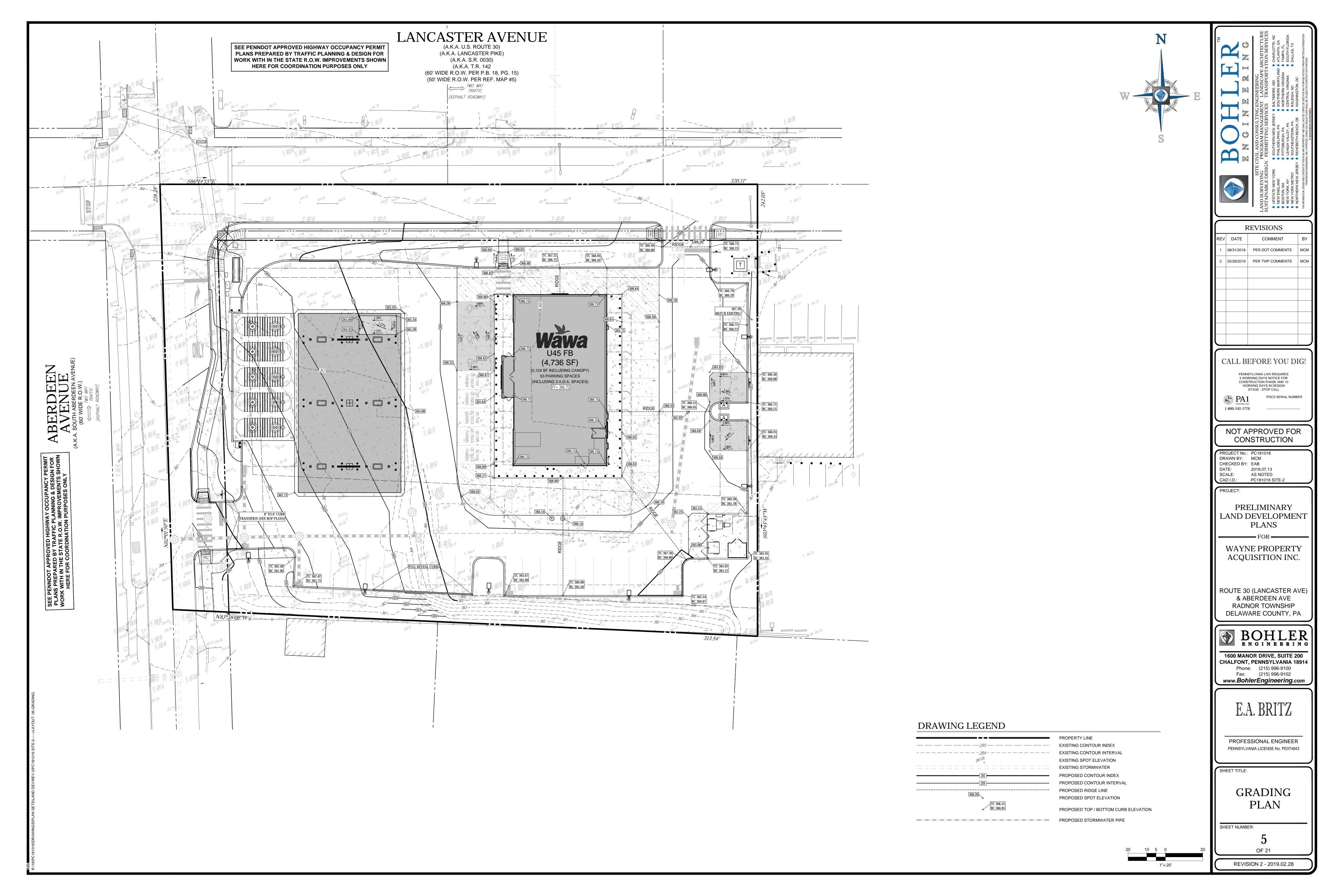
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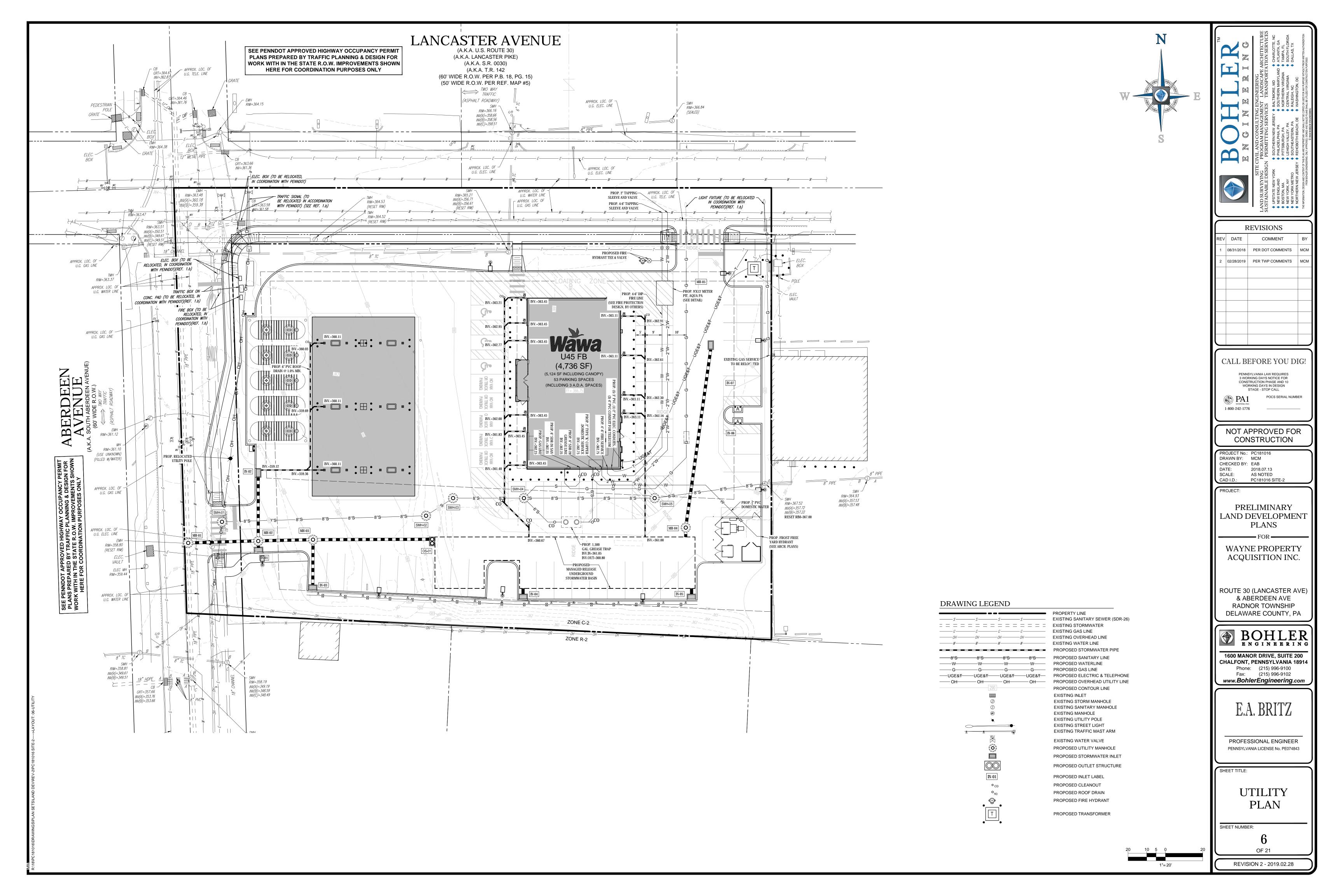
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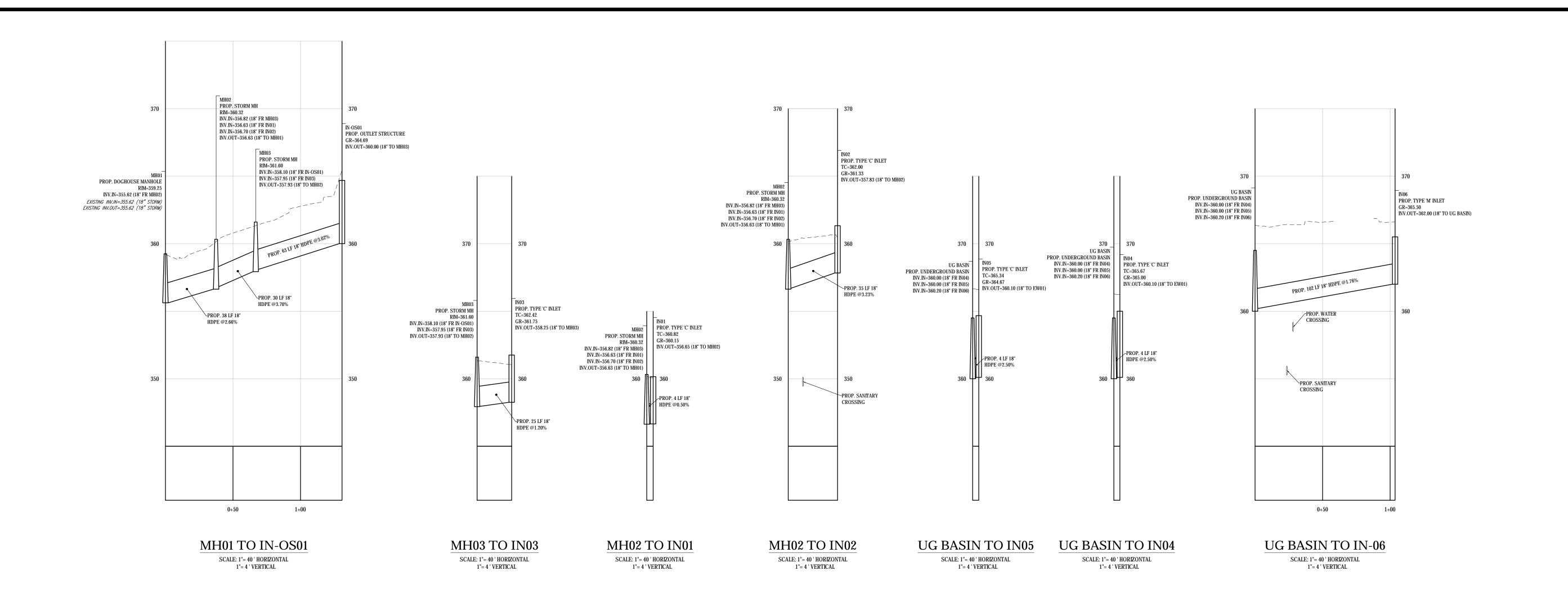
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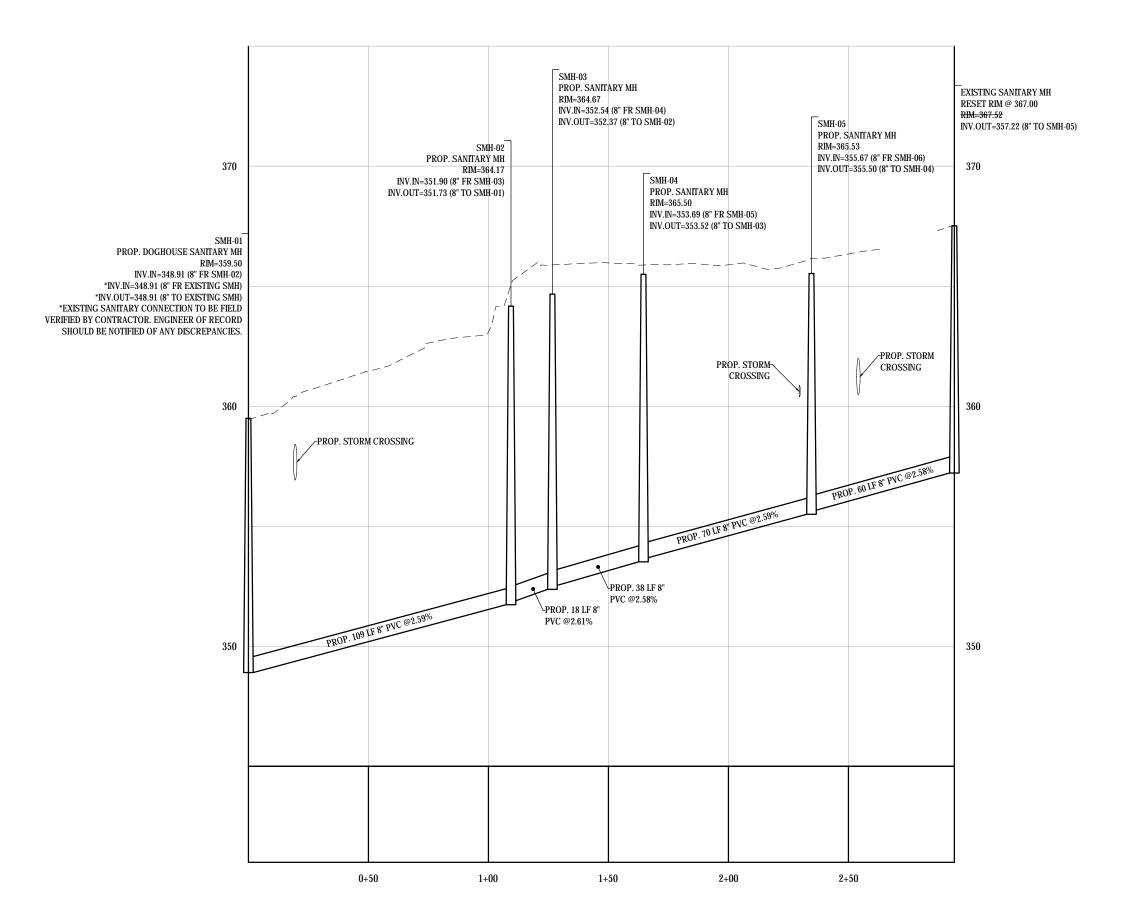












SMH-01 TO EXISTING SMH

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL

TAMESTER NOT THE TOTAL TOTAL AND CONSULTING ENGINEERING

LAND SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECTURE SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES

* UPSTATE NEW YORK * SOUTHERN NEW JERSEY * BALTIMORE, MD * CHARLOTTE, NC * NEW ENGLAND * PHILADELPHIA, PA * SOUTHERN MARYLAND * ATLANTA, GA * BOSTON, MA * PHITSBURGH, PA * NORTHERN WIRGINIA * TAMPA, FL * NEW YORK, NY * LEHIGH VALLEY, PA * CENTRAL VIRGINIA * SOUTH FLORIDA * NORTHERN NEW JERSEY * REHOBOTH BEACH, DE * WASHINGTON, DC

REVISIONS

REV DATE COMMENT BY

1 08/31/2018 PER DOT COMMENTS MCM

2 02/28/2019 PER TWP COMMENTS MCM

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

NOT APPROVED FOR CONSTRUCTION

PROJECT No.: PC181016
DRAWN BY: MCM
CHECKED BY: EAB
DATE: 2018.07.13
SCALE: AS NOTED
CAD I.D.: PC181016 PROFILES-2

PRO JECT:

PRELIMINARY LAND DEVELOPMENT PLANS

WAYNE PROPERTY

WAYNE PROPERTY ACQUISITION INC.

ROUTE 30 (LANCASTER AVE)

& ABERDEEN AVE

RADNOR TOWNSHIP

DELAWARE COUNTY, PA

BOHLER BNGINBERING

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

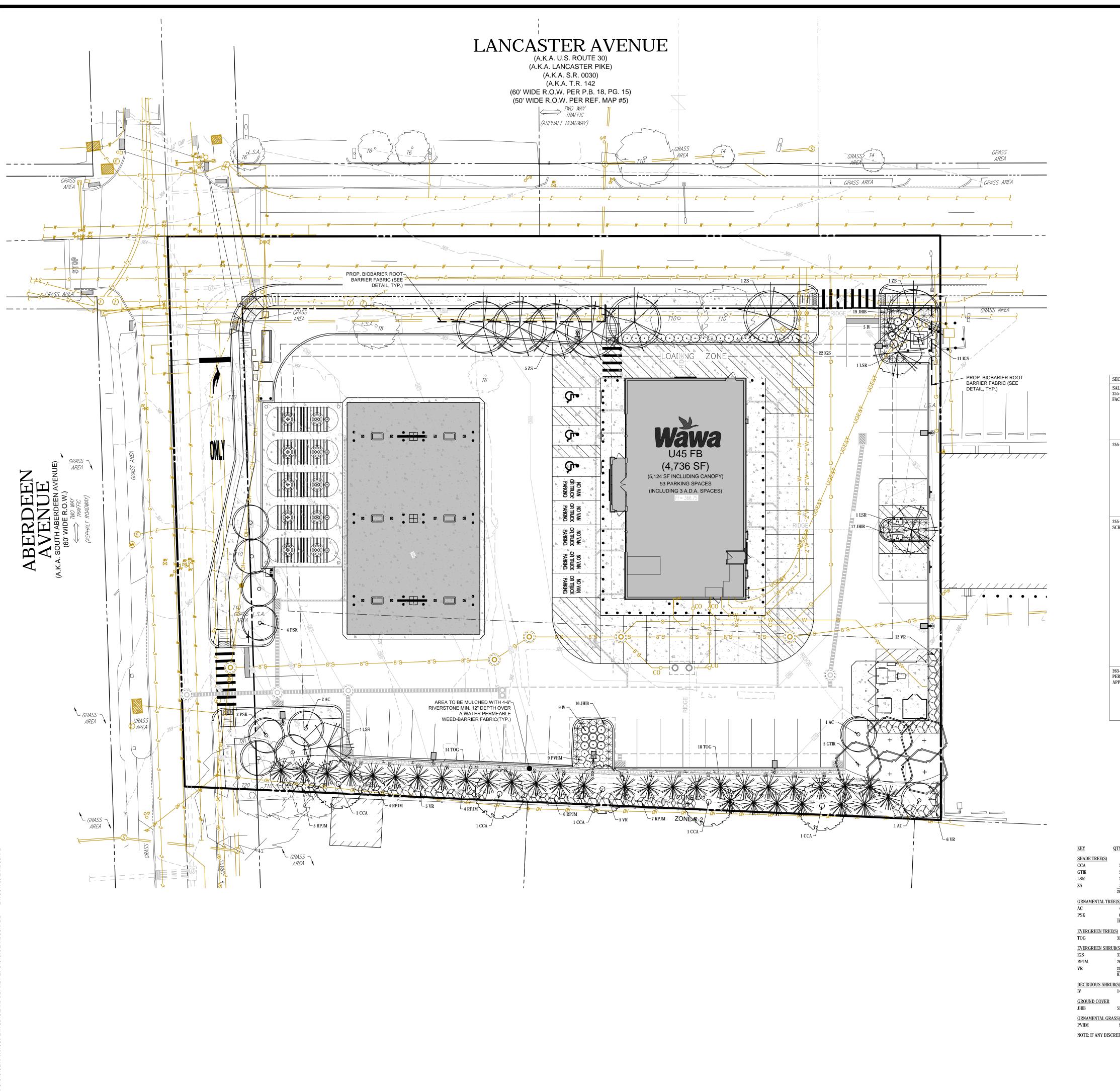
E.A. BRITZ

PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

SHEET TITLE:
STORMWATER
&
SANITARY
PROFILES

SHEET NUMBER:

7 OF 21



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 SODDED LAWN IN ACCORDANCE WITH LANDSCAPE SPECIFICATION #2.C., UNLESS OTHERWISE STATED ON THIS PLAN.

3. CONTRACTOR TO PROVIDE AN IRRIGATION DESIGN FOR BOTH LAWN AND BED AREAS. DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR IS ALSO RESPONSIBLE FOR ANY PRESSURE REDUCING DEVICES REQUIRED TO MEET MAXIMUM PRESSURE REQUIREMENT.

4. ALL LANDSCAPE BEDS ARE TO BE INSTALLED WITH WEED BARRIER FABRIC (SEE DETAIL).

5. SHRUBS PLANTED ALONG HEAD-IN PARKING STALLS SHALL BE INSTALLED TO ALLOW A CLEARANCE OF FIVE FEET FROM FACE OF CURB TO ALLOW FOR BUMPER OVERHANG.

6. WHEN APPLICABLE, CENTER OF PROPOSED ORNAMENTAL OR EVERGREEN TREE SHALL BE OFFSET 6' FROM THE BACK OF RETAINING WALLS (11' FOR SHADE TREES) TO PREVENT WALL FAILURE. FINAL PLANTING LOCATIONS SHALL BE COORDINATED WITH THE WALL

7. WITHOUT EXCEPTION, WEED BARRIER FABRIC SHALL NOT BE USED AT THE BOTTOM OR SIDE SLOPES OF STORMWATER BMP FACILITIES.

COMPLIANCE CHART

SECTION	REQUIREMENT	CALCULATIONS (REQUIRED / PROVIDED)	COMPLIANCE
SALDO: 255-29 PARKING FACILITIES	B.1. ALL PARKING AREAS SHALL HAVE AT LEAST ONE TREE 2 1/2 INCHES MINIMUM IN CALIPER FOR EVERY FIVE PARKING SPACES IN SINGLE BAYS AND ONE TREE 2 1/2 INCHES MINIMUM IN CALIPER FOR EVERY 10 PARKING SPACES IN DOUBLE BAYS. TREES SHALL BE PLANTED IN SUCH A MANNER TO AFFORD MAXIMUM PROTECTION FROM THE SUN FOR	PARKING SPACES PROVIDED: 53 REQUIRED: 53 / 5 = 10.6 OR 11 SHADE TREES PROVIDED: 5 CCA, 3 GTIK, 3 LSR (11 SHADE TREES)	COMPLIES
	PARKED VEHICLES. A MINIMUM OF 10% OF ANY PARKING LOT FACILITY OVER 2,000 SQUARE FEET IN GROSS AREA SHALL BE DEVOTED TO LANDSCAPING, INCLUSIVE OF REQUIRED TREES.	TOTAL PARKING AREA: 27,724± SQ FT REQUIRED (10%): 2,772.4 SQ FT LANDSCAPE AREA PROVIDED (12.3%): 3,428± SQ FT LANDSCAPE AREA	COMPLIES
255-38 SHADE TREES	B. STREET TREES 2 1/2 INCHES DBH AT INTERVALS OF NOT MORE THAN 30 FEET ALONG BOTH SIDES OF NEW STREETS AND ALONG ONE OR BOTH SIDES OF AN EXISTING STREET WITHIN THE PROPOSED SUBDIVISION OR LAND DEVELOPMENT. AN EQUIVALENT NUMBER MAY BE PLANTED IN AN INFORMAL ARRANGEMENT, SUBJECT TO THE APPROVAL OF THE BOARD OF COMMISSIONERS.	TOTAL LENGTH ALONG LANCASTER AVE.: 289± LF REQUIRED: 289 / 30 = 9.6 OR 10 STREET TREES PROVIDED: 3 EXISTING TREES PLUS 7 ZS (10 STREET TREES)	COMPLIES
		TOTAL LENGTH ALONG ABERDEEN AVE.: 199± LF REQUIRED: 199 / 30 = 6.6 OR 7 STREET TREES PROVIDED: 1 EXISTING TREE PLUS 6 PSK (7 STREET TREES)	COMPLIES
255-42 BUFFER SCREENS	A. BUFFER SCREENS ARE REQUIRED BETWEEN SUBDIVISIONS AND LAND DEVELOPMENTS AND ALONG EXISTING STREETS TO SOFTEN VISUAL IMPACT, TO SCREEN GLARE AND TO CREATE A VISUAL BARRIER BETWEEN CONFLICTING LAND USES. THE EXTENT OF SCREENING	NORTH BOUNDARY BUFFER YARD CLASS: * REQUIRED: STREET TREES AS REQUIRED BY 255-38. PROVIDED: SEE SECTION 255-38 ABOVE.	COMPLIES
	REQUIRED SHALL BE DETERMINED BY THE TYPE OF USE PROPOSED AND THE ADJACENT USES OR STREETS SURROUNDING THE PROPOSED DEVELOPMENT. THE IMPACT OF THE PROPOSED USE ON ADJOINING PROPERTIES IS THE BASIS FOR ESTABLISHING BUFFER SCREEN	EAST BOUNDARY BUFFER YARD CLASS: REQUIRED: NONE PROVIDED: NONE	COMPLIES
	STANDARDS. 255 ATTACHMENT 2 TABLE 1: DETERMINATION OF BUFFER YARD CLASS PROPOSED LAND USE RETAIL AND CONSUMER SERVICE ADJACENT LAND USE: SINGLE FAMILY DETACHED B	SOUTH BOUNDARY BUFFER YARD CLASS: B PROPERTY LINE LENGTH: 283± LF REQUIRED: 283 / 15 = 18.9 OR 19 EVERGREENS 283 / 8 = 35.4 OR 36 EVERGREEN SHRUBS PROVIDED: 31 TOG (31 EVERGREENS), 26 RPJM, 16 VR (42 EVERGREEN SHRUBS)	COMPLIES
	RETAIL AND CONSUMER SERVICE ADJACENT STREET CLASSIFICATION: ARTERIAL MINOR COLLECTOR *	WEST BOUNDARY BUFFER YARD CLASS: *	
	*STREET TREES AS REQUIRED BY 255-38	REQUIRED: STREET TREES AS REQUIRED BY 255-38. PROVIDED: SEE SECTION 255-38 ABOVE.	COMPLIES
	CLASS B OPTION (PER LINEAR FOOT OF PROPERTY LINE): 1 EVERGREEN PER 15 FEET (INFORMALLY ARRANGED), PLUS 1 EVERGREEN SHRUB PER 8 FEET (INFORMALLY ARRANGED)		
263-8 REVIEW OF PERMIT APPLICATIONS	D. (2)A PLAN SHALL BE SUBMITTED ILLUSTRATING THE SIZE, SPECIES AND LOCATION OF THE TREE THAT IS PROPOSED TO BE REMOVED, AND THE SIZE, SPECIES AND LOCATION OF NEW TREES TO BE PLANTED IN COMPLIANCE WITH THE TREE REPLACEMENT FORMULA.	TREES 6-18" DBH TO BE REMOVED: 7 REQUIRED: 7 x 1 = 7 TREES PROVIDED: 4 AC, 2 GTIK, 1 TOG (7 TREES)	COMPLIES
	263-4 TREE REPLACEMENT FORMULA 6 TO 18 INCH DBH REMOVED = 1 REPLACEMENT TREE		

LANDSCAPE SCHEDULE

<u>KEY</u>	$\underline{\text{QTY}}$	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SHADE TREE(<u>(S)</u>				
CCA	5	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2 1/2-3" CAL.	B+B
GTIK	5	GLEDITSIA TRIACANTHOS INTERMIS 'SKYCOLE'	SKYLINE THORNLESS HONEYLOCUST	2 1/2-3" CAL.	B+B
LSR	3	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	SEEDLESS SWEETGUM	2 1/2-3" CAL.	B+B
ZS	7	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE ZELKOVA	2 1/2-3" CAL.	B+B
	$\overline{20}$				
ORNAMENTAI	L TREE(S)				
AC	4	AMELANCHIER CANADENSIS	SINGLE STEM SHADBLOW SERVICEBERRY	2-2 1/2" CAL.	B+B
PSK	$\frac{6}{10}$	PRUNUS SERRULATA 'KWANZAN'	KWANZAN CHERRY	2-2 1/2" CAL.	B+B
	$\overline{10}$				
EVERGREEN '	TREE(S)				
TOG	32	THUJA X 'GREEN GIANT'	GREEN GIANT ARBORVITAE	8' MIN	B+B
EVERGREEN	SHRUB(S)				
IGS	33	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	30-36" MIN	CONTAINER
RPJM	26	RHODODENDRON CAROLINIANA X PJM	PJM RHODODENDRON	30-36" MIN	B+B
VR	28	VIBURNUM X RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	3-4'	B+B
	$\frac{28}{87}$				
DECIDUOUS S	SHRUB(S)				
IV	14	ITEA VIRGINICA 'LITTLE HENRY'	LITTLE HENRY SWEETSPIRE	24-30"	CONTAINER
GROUND COV	/FD				
JHIB	52	JUNIPERUS HORIZONTALIS 'MONBER'	ICEE BLUE JUNIPER	15-18" SPRD	CONTAINER
JIIID	JŁ	JUNI ERUS HOREOWIAED MONDER	ICEE DECE JUNII EIV	13-10 SI KD	CONTAINER
ORNAMENTAL	L GRASS(ES)				
PVHM	9	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCH GRASS	1 GAL.	CONTAINER
NOTE: IF ANY	DISCREPENCIES	S OCCUR BETWEEN AMOUNTS SHOWN IN THE PLAN AND THE PLANT	LIST, THE PLAN SHALL DICTATE.		

20 10 5 0 1"= 20'

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* NORTHERN VIRGINIA

* SOUTH FLORIDA

* YORK METRO

* SOUTH FLORIDA

* SOUT

REVISIONS

REV DATE COMMENT BY

1 08/31/2018 PER DOT COMMENTS MCM

2 02/28/2019 PER TWP COMMENTS MCM

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

POCS SERIAL NUMBER
1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

PROJECT No.: PC181016
DRAWN BY: MCM
CHECKED BY: EAB
DATE: 2018.07.13
SCALE: AS NOTED
CAD I.D.: PC181016 LANDSCAPE-2

PRO IECT:

PRELIMINARY LAND DEVELOPMENT PLANS

WAYNE PROPERTY ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP DELAWARE COUNTY, PA

BOHLER BNGINBERING

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

D.T. NORTH

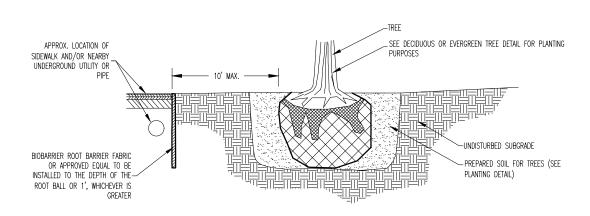
REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA LICENSE No. LA002729

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

8 OF 21

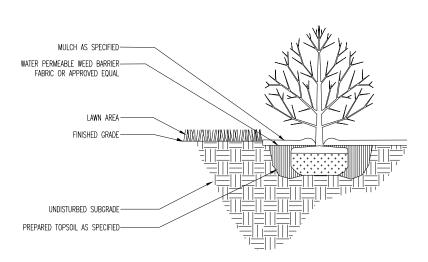


1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER

REV.: 2015.03.19

L BIOBARRIER ROOT BARRIER DETAIL REV.: 2015.03.19

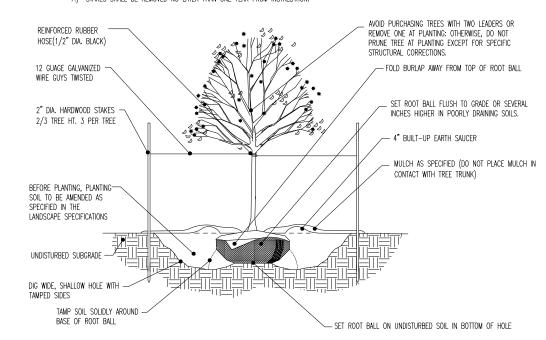
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.



\WEED BARRIER FABRIC DETAIL S13 SCALE: N.T.S.

NOTES: 1.) NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT. REMOVE ALL ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD OR CUT BURLAP BACK FROM TOP 1/3 OF ROOT BALL S.) PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY. 4.) THOROUGHLY 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.) THE MINIMUM DIAMETER OF THE TREE PIT SHALL BE 3 TIMES THE DIAMETER OF THE ROOT BALL. 7.) STAKES SHALL BE REMOVED NO LATER THAN ONE YEAR FROM INSTALLATION.



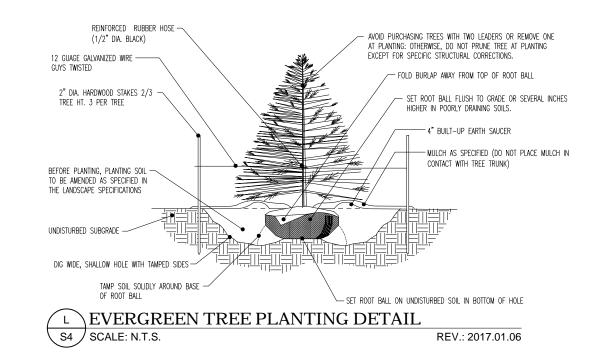
\DECIDUOUS TREE PLANTING DETAIL S3 / SCALE: N.T.S.

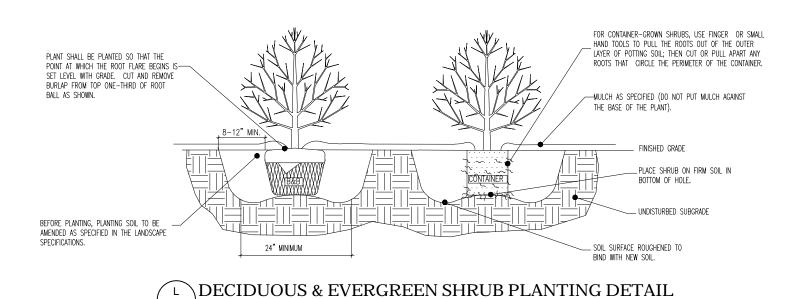
1.) NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT. 2.) REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD BURLAP BACK 1/3 FROM ROOT BALL.) PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY. t.) THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED 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.

7.) STAKES SHALL BE REMOVED NO LATER THAN ONE YEAR FROM INSTALLATION.

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





SUPPLEMENTAL LANDSCAPE NOTES:

1. ALL TOPSOIL SHALL BE A MINIMUM 4" IN ALL SOD AREAS AND 8" IN TREE, SHRUB AND GROUND COVER BEDS, INCLUDING PARKING LOT ISLAND BEDS. IT SHALL BE APPROVED BY A WAWA CONSTRUCTION REPRESENTATIVE. PRIOR TO INSTALLATION 2. PLANTING BEHIND PERPENDICULAR PARKING IS TO BE LOCATED A MINIMUM OF 5' BEHIND THE 3. ALL LANDSCAPE AND GRASS AREAS ARE TO BE HAND RAKED AND LEFT CLEAR OF ALL STONES, ROCK, CONSTRUCTION DEBRIS AND ANY UNSUITABLE MATERIALS 4. ALL LANDSCAPE AND GRASS AREAS ARE TO BE IRRIGATED BY AUTOMATIC SPRINKLER SYSTEM. (SEE IRRIGATION SPECIFICATION.) 5. LANDSCAPE CONTRACTOR WILL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION AND PLANTING INSTALLATION. 6. ALL AREAS TO BE LANDSCAPED OR COVERED WITH STONE MUST BE TREATED WITH A APPLICABLE FEDERAL, STATE REGULATIONS AND THE MANUFACTURER'S INSTRUCTIONS.

PRE-EMERGENCE HERBICIDE (SURFLAN, DACTAL OR APPROVED EQUAL) IN ACCORDANCE WITH 7. LANDSCAPE CONTRACTOR TO SUPPLY AND INSTALL A PERVIOUS WEED BARRIER (DEWITT, DUPONT OR APPROVED EQUAL) IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WITHIN ALL LANDSCAPES, INCLUDING STONE AND MULCH BEDS. ALL WEED BARRIER WILL BE OVERLAPPED A MINIMUM OF 6" AT ALL SEAMS. AT PLANT LOCATIONS, BARRIER SHOULD BE CUT IN AN "X" PATTERN SO TO ACCOMMODATE ROOT BALL AND REPLACED AFTER PLANT HAS BEEN INSTALLED. CALLED FOR ADJACENT TO CURB OR SIDEWALKS, IT SHALL BE FEATHERED DOWN TO CURB LEVEL FROM A DISTANCE 24' FROM THE CURB.

9. ALL PROPOSED LANDSCAPING TO BE NURSERY GROWN, TYPICAL OF THEIR SPECIES OR VARIETY. THEY ARE TO HAVE NORMAL VIGOROUS ROOT SYSTEMS, FREE FROM DEFECTS AND INFECTIONS AND IN ACCORDANCE WITH ANSI Z60.1 10. ALL PROPOSED PLANTINGS SHOULD BE INSTALLED PER STANDARDS OF THE "AMERICAN

NURSERY & LANDSCAPE ASSOCIATION" AND STATE NURSERY/ LANDSCAPE ASSOCIATIONS WITH REGARD TO PLANTING, PIT SIZE, BACKFILL MIXTURE, STAKING AND GUYING. II. ALL PLANTING CONTAINERS AND BASKETS SHALL BE REMOVED DURING PLANTING. ALL PLANTS
SHALL BE SET PLUMB AND POSITIONED SO THAT THE TOP OF THE ROOT COLLAR MATCHES, OR IS NO MORE THAN TWO (2") INCHES ABOVE, FINISHED GRADE. REPLACE AMENDED BACKFILL IN 6-INCH LAYERS AND COMPACT BACKFILL TO ELIMINATE VOIDS. CONTRACTOR SHALL PROVIDE A FOUR-INCH HIGH EARTHEN WATERING SAUCER ALONG THE PERIMETER OF EACH PLANTING PIT. CONTRACTOR SHALL WATER NEWLY PLANTED VEGETATION PRIOR TO MULCHING PLANTING PIT. ALL VOIDS SHAL BE FILLED AND SETTLING MITIGATED AS REQUIRED. 12. AFTER INITIAL WATERING AND PRIOR TO MULCHING, CONTRACTOR SHALL APPLY HERBICIDES AND PRE-EMERGENT HERBICIDES AS REQUIRED TO ELIMINATE ANY WEED SEEDS OR PLANTS PRESEN 13. ALL PLANTING BEDS AND PITS EXCEPT FOR LANDSCAPE ISLANDS ADJACENT TO THE BUILDING

HARDWOOD MULCH AT A MINIMUM DEPTH OF 3". LANDSCAPE ISLANDS ADJACENT TO DESIGNATED AREA AT FUEL STACKS SHALL BE MULCHED WITH 1"-3" "RIVER STONE" MULCH AND RETAINED WITH AN ALUMINUM LANDSCAPE EDGING (PERMALOCK OR APPROVED EQUAL). FOR LANDSCAPES ADJACENT TO BUILDING, CONTACT PROJECT ENGINEER. 14. SEEDBED PREPARATION A. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS OR FERTILIZER MAY BE APPLIED AT THE RATE OF 260 POUNDS PER ACRE OR 6 POUNDS PER 1000 SQUARE FEET USIN 10-20-10 OR EQUIVALENT. IN ADDITION, 300 POUNDS 4-1-2 PER ACRE OR EQUIVALENT OF SLOW RELEASE NITROGEN MAY BE USED IN LIEU OF TOPDRESSING.

AND DESIGNATED AREA AT THE FUEL VENT STACKS. SHALL BE MULCHED WITH DOUBLE GROUNI

B. WORK LIME AND FERTILIZER INTO THE SOIL AS PRACTICAL TO A DEPTH OF 4-INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD PARALLEL TO THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE. C. INSPECT SEEDBED JUST BEFORE SEEDING, IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS OUTLINED BELOW. D. GRASS SEEDING MIXTURE AND APPLICATION RATE:

PERCENTAGE OF APPLICATION MIN. GERMINATION TOTAL WEIGHT RATE SEED TYPE
60% 5-7 LBS/1000 S.F. "REBEL" TALL FESCUE "STREEKER" REDTOP

E. IN AREAS DESIGNATED AS SOD, FESCUE SOD IS TO BE INSTALLED ON MINIMUM 4" TOPSOIL AREAS TO BE SODDED ARE TO BE PREPARED AS NOTED ABOVE FOR SEEDED AREAS. 16. PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF SUBSTANTIA COMPLETENESS. THE CONTRACTOR SHALL REPLACE PLANTS, DEAD, UNHEALTHY, DYING OF DAMAGED THROUGH LOSS OF BRANCHES AND/OR FOLIAGE. LAWNS THAT ARE NOT IN GOOD CONDITION AT THE END OF THE GUARANTEE PERIOD SHALL BE REPAIRED UNTIL A GOOD LAWN RESULTS IT IS UNDERSTOOD THAT THE OWNER SHALL ASSUME RESPONSIBILITY FOR WATERING ALL PLANT MATERIAL AND LAWN AREA BEGINNING WITH THE DATE OF SUBSTANTIAL

IRRIGATION SYSTEMS SPECIFICATIONS:

- 1. ALL IRRIGATION SUPPLY, LATERAL WATER LINES AND SPRINKLER HEADS ARE TO BE LOCATED A MINIMUM OF 3" BEHIND CURB LINE.
- 2. MINIMUM BURIAL DEPTH FOR ALL SUPPLY AND LATERALS IS 18".
- 3. ALL LANDSCAPE AREA ADJACENT TO BUILDINGS AND PARKING AREAS AROUND BUILDINGS ARE TO BE IRRIGATED BY DRIP SYSTEMS.
- 4. LAWN AREAS OUTSIDE OF PERIMETER SIDEWALKS ARE TO BE DESIGN AND CONTROLLER PROGRAMMED TO IRRIGATE AT OFF-PEAK HOURS.
- 5.SPRINKLERS HEADS ARE TO BE THE FOLLOWING: RAIN BIRD 5000 SERIES RAIN BIRD 1804

RAIN BIRD 1812

- 6. DRIP SYSTEMS ARE TO BE NETAFIN DRIPLINE, 18"X 18" SPACING WITH .9 GPH EMITTERS.
- 7. IRRIGATION CONTROLLER IS TO BE RAIN BIRD. ESP-16LX. AUTOMATIC CONTROLLER, LOCATED IN MECHANICAL ROOM OF BUILDING
- 8. NO SUBSTITUTIONS OR DEVIATION FROM IRRIGATION PLAN WILL BE ALLOWED.
- 9. IRRIGATION SYSTEMS ARE TO BE WARRANTED BY INSTALLING CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF CERTIFICATE OF OCCUPANCY. IRRIGATION CONTRACTOR IS TO PROVIDE ALL MAINTENANCE, ADJUSTMENT, PROGRAMMING AND WINTERIZATION DURING THE FIRST WARRANTY YEAR.
- 10. SEPARATE WATER METER TO BE FURNISH FOR IRRIGATION SYSTEM. (SUBJECT TO APPROVAL BY TOWNSHIP OR COUNTY UTILITY AUTHORITY).

LANDSCAPE SPECIFICATIONS:

.. SCOPE OF WORK:
THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL.

THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL.

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

2. MATERIALS A. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE

B. TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS

C. LAWN - ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM FOUR INCH (4") THICK LAYER OF TOPSOIL. OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED WITHIN THE SOIL EROSION AND SEDIMENT CONTROL NOTES. L LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.

IL SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO

D. MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD

L FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL NOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.

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

F. PLANT MATERIAL
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 THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY THE AMERICAN ASSOCIATION OF NURSERYMEN) 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

THE FINAL INSPECTION.

REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING

IV. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 11/2" 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 THI BARK OR BREAK BRANCHES. BARK OK BREAR 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 SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE. VL 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.
VIL 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.

3. GENERAL WORK PROCEDURES A. 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, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.

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.

I. <u>SITE PREPARATIONS</u> 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 ARI SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL 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 BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.

C. 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.

REE 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 B. A PORT I FEBRIT INCH (46) I INCH WOUDEN SNOW FEBRIC ON ORANGE COLORED HIGH-PERSIT I VISIFENCE, 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

C WHEN THE TREE PROTECTION FENCING HAS REEN 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 RECULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND

D. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

FINISHED GRADING
UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE

B. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL

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 ARCHITECT.

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. ONTRACTOR SHALL PROVIDE A FOUR INCH (4") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE

LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS. 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-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS

D. ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF FOUR INCHES (4"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES 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.]) L 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.

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 B. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN

A. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT

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 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.

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 THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING

I. PLANTS: MARCH 15 TO DECEMBER 15 II. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1

PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR

G. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE, WITH TRANSPIANT SHOCK AND THE SEASONAL LACK OF NTROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATI INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON: ACER RUBRUM PLATANUS X ACERIFOLIA
BETULA VARIETIES POPULUS VARIETIES CARPINIIS VARIETIES PRIINIIS VARIETIE KOELREUTERIA QUERCUS VARIETIES LIRIODENDRON TULIPIFERA ZELKOVA VARIETIES

H. PLANTING PITS SHALL BE DUG WITH LEVEL OR CONVEX BOTTOMS, WITH THE WIDTH TWICE 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 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 ½" CALIPER OF TRUNK

L 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 TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE. NO PRUNING SHALL BE CONDUCTED WITHIN THE FIRST

I GROLIND COVER AREAS SHALL RECEIVE A 1/2" 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.

<u>). TRANSPLANTING (WHEN REQUIRED)</u> 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 10 AND JUNE 30.

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 ATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

10. WALERING.
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

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

C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE. IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

A. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM APPROVAL OF 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 BE ASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE

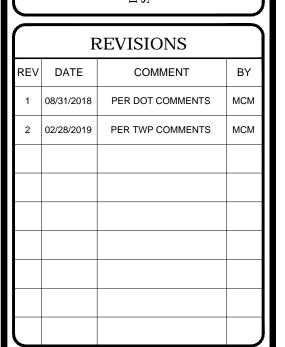
B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.

C. TREES AND SHRURS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.

D. LAWNS SHALL BE MAINTAINED 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





CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR

CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN

STAGE - STOP CALL POCS SERIAL NUMBER 1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

DRAWN BY: MCM CHECKED BY: EAB 2018.07.13 SCALE: AS NOTED

PC181016 LANDSCAPE-2 CAD LD:

PRELIMINARY LAND DEVELOPMENT PLANS

WAYNE PROPERTY

ACQUISITION INC.

ROUTE 30 (LANCASTER AVE)

& ABERDEEN AVE RADNOR TOWNSHIP DELAWARE COUNTY, PA



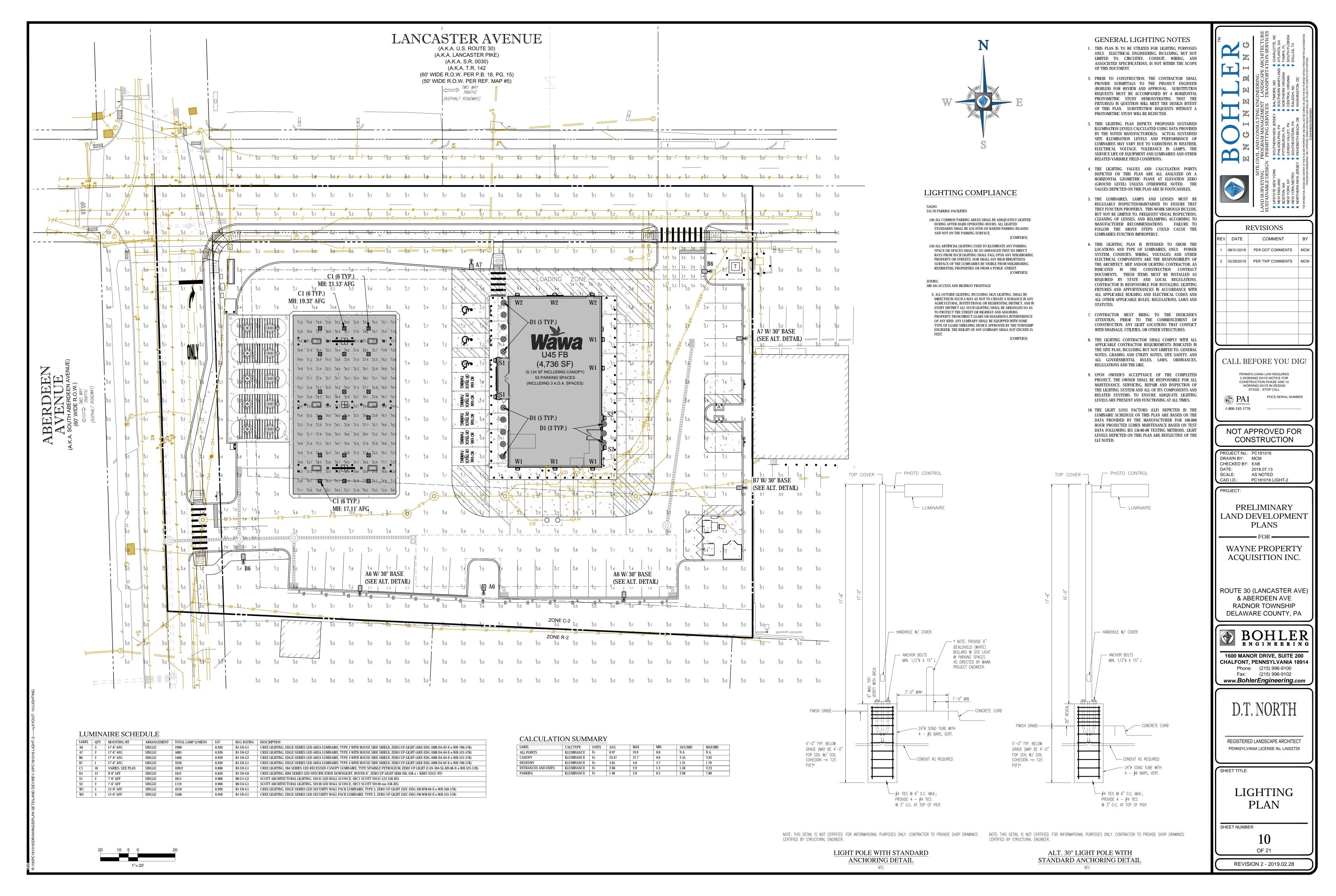
1600 MANOR DRIVE, SUITE 200 **CHALFONT, PENNSYLVANIA 18914** Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

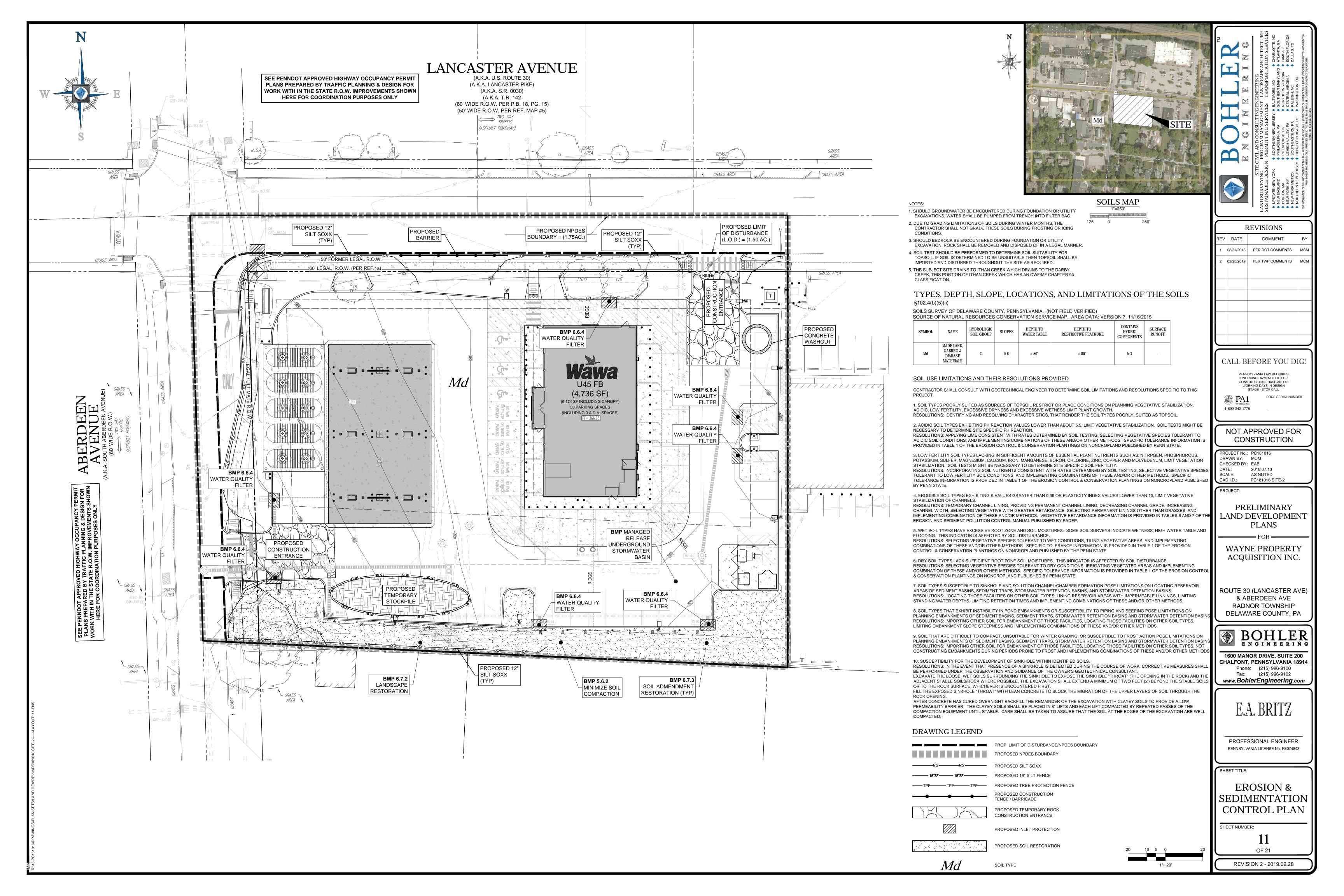
REGISTERED LANDSCAPE ARCHITECT PENNSYLVANIA LICENSE No. LA002729

LANDSCAPE **DETAILS**

SHEET NUMBER:

OF 21





GENERAL CONSERVATION NOTES AND SPECIFICATIONS

- I. GENERAL INFORMATION
- THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE. NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY
- ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY 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 LOCATION OF MATERIALS (IF
- ANY) TO BE REMOVED FROM SITE. K. STANDARD FOR DISPOSAL OF MATERIALS ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST DO SO IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS. STOCKPILES TO BE HAULED OFF SITE MUST
- 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 SHALI BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HALL 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

HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AT THE DESTINATION LOCATION.

- TOPOGRAPHIC SURVEY AND LAYOUT. 1. 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. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.
- 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 FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS
- 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 5. (SEE I. D.)

III. STANDARD FOR UTILITY TRENCH EXCAVATION

- 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.
- 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 BACKFILLING 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. WORK CREWS AND FOUIPMENT 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
- A STANDARD FOR TEMPORARY STABILIZATION WITH FIBERMULCH
- . 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 FAL 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.

MUST BE SEEDED AND MULCHED IMMEDIATELY WITH A TEMPORARY COVER.

- STANDARD FOR TEMPORARY STABILIZATION WITH SEED 1. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN TWELVE (12) MONTHS
- 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

TO BETWEEN 5.5 AND 7 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES. IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION. THE SURFACE SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO DEPTH OF 3-5 INCHES TO PROVIDE A GOOD BOND WITH THE TOPSOIL. APPLYING TOPSOIL

B. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE. IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH

- 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 RADNOR TOWNSHIP. UNIFORM APPLICATION TO A DEPTH OF 6-8 NCHES (UNSETTLED) IS RECOMMENDED. 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 SOIL TEST SHALL BE CONDUCTED TO ACCURATELY DETERMINE NECESSARY SOIL AMENDMENTS.
- PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.

SEEDING MULCH APPLICATION AND ANCHORING AND MAINTENANCE

- 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 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.
- SEEDING: SEE SEEDING SPECIFICATIONS 5. SEED BED AREAS SHALL ALSO BE STABILIZED USING AN APPROVED METHOD (EG: HYDROMULCHING) AS OUTLINED
- STANDARD FOR PERMANENT STABILIZATION WITH SOD

METHODS AND MATERIALS

- CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD," OR OTHER HIGH QUALITY
- SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDY GRASSES. 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
- A SOD OF KENTUCKY 31 TALL FESCUE WITH BLUEGRASS, OR A FESCUE BLEND IS PREFERRED. ONLY MOIST, FRESH UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS
- SITE PREPARATIONS: SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER (ITEM V 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. PLACE SOD STRIPS WITH SNUG EVEN JOINTS THAT ARE STAGGERED. OPEN SPACES INVITE EROSION. 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 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 CHANNEI
- 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 LEAST TWO WEEKS. . FOLLOW-UP INSPECTION: AFTER THE FIRST GROWING SEASON. THE SOD SHOULD BE INSPECTED TO DETERMINE II 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 TIMEERAMES 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. 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 RYE (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
- B. PERMANENT SEEDING SHALL CONSIST OF A NURSE CROP PLUS A PERMANENT SEED MIXTURE, AS FOLLOWS:
- I NURSE CROP (SELECT ONE): ANNUAL RYE (10 POUNDS / ACRE PLS) OR SPRING OATS (64 POUNDS / ACRE PLS)
- OR WINTER RYE (56 POUNDS / ACRE PLS) (REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION, TABLE 11.4. SEED MIX #1)
- IL 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 BY 100 ((%PURE X %GERMINATION) / 100) C. 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 POUNDS. WHICH IS THE AMOUNT OF THAT SEED REQUIRED PER ACRE. 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 (MOS RECENT EDITION A. SEED SHALL BE APPLIED IN A NON-COMPACTED, ROUGHENED 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 D. 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).

DELAWARE COUNTY SOIL CONSERVATION DISTRICT E&S NOTES 1.) STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.

2.) THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.

3.) UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY, MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE SEED MIXTURES: SEED MIXTURE TO BE USED ON THIS SITE SHALL CONSIST OF THE FOLLOWING UNLESS FACILITIES. THE OPERATOR SHALL MAINTAIN AND MAKE AVAILABLE TO LOCAL CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGARDING, AND RE-STABILIZATION SHALL BE

> 4.) 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 POLITION.

PERFORMED IMMEDIATELY.

STABILIZED IMMEDIATELY.

5.) 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 LOCAL CONSERVATION DISTRICT

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

7.) 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.

8.) THE OPERATOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.

9.) A COPY OF THE APPROVED EROSION AND SEDIMENT CON TROLL PLAN MUST BE AVAILABLE AT THE

10.) EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE

DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S 11.) AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE

12.) AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS. THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.

13.) ALL FARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

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

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

16.) SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF

17.) HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

18.) MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.

19.) STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

20.) UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPS AFTER FACH RUNOFF EVENT AND ON A WEEKLY BASIS ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RE-SEEDING, RE-MULCHING, AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

21.) 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.

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

23.) THE NPDES BOUNDARY IS EQUAL TO THE OUTER PERIMETER BOUNDARY OF THE SITE. AND ANY OFF-SITE AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL. OFF-SITE FACILITIES SUCH AS: UTILITIES AND ROADWAY IMPROVEMENTS.

31.) THE PROJECT'S RECEIVING WATERCOURSE IS ITHAN CREEK, AND THE CHAPTER 93 CLASSIFICATION

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.

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 DELAWARE COUNTY 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 DELAWARE COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST

MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

1. INSTALL CONSTRUCTION ENTRANCE AS DESIGNATED ON THE PLANS 2. INSTALL ALL PERIMETER COMPOST FILTER SOCKS, SILT FENCE, TREE PROTECTION FENCING, AND INLET PROTECTION WITHIN THE DESIGNATED LIMIT OF DISTURBANCE AS INDICATED ON THE PLANS. ONLY LIMITED CLEARING AND GRUBBING NECESSARY TO INSTALL THE PERIMETER EROSION AND SEDIMENT POLLUTION CONTROLS

3. DEMOLISH EXISTING SITE FEATURES AND UTILITIES PROPOSED TO BE REMOVED. DURING DEMOLITION OF UTILITIES ALL UTILITY SERVICES MUST BE MAINTAINED FOR NEIGHBORING PROPERTIES WHOSE UTILITIES CURRENTLY TRAVERSE THE SITE AND ARE PROPOSED TO BE REROUTED.

4. INITIATE THE NECESSARY EARTHWORK TO REACH THE GRADES INDICATED ON THE PLANS. BUILDING CONSTRUCTION MAY COMMENCE UPON ACCEPTANCE OF BUILDING PAD BY OWNER. THE CONCRETE WASHOUT MUST BE INSTALLED BEFORE ANY CONCRETE CAN BE POURED ON-SITE. CONTRACTOR MUST PERFORM BULK OF EARTHWORK TO BALANCE CUTS AND FILLS TO THE GREATEST EXTENT POSSIBLE. 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

5. CRITICAL STAGE: INSTALLATION OF BMP MANAGED RELEASE BASIN INITIATE STORM SEWER AND SUBSURFACE MANAGED RELEASE BASIN INSTALLATIONS FOR THE FEATURES SHOWN ON THE PLANS STARTING AT THE FURTHEST DOWNSTREAM STRUCTURE. DO NOT INSTALL THE OUTLET STRUCTURE FILTER MEDIA AT THIS STAGE OF CONSTRUCTION. INLETS DISCHARGING TO THE BASIN MUST BE BLOCKED IMMEDIATELY AFTER INSTALLATION AND REMAIN BLOCKED UNTIL SITE IS FULLY STABILIZED TO PREVENT SEDIMENT FROM ENTERING THE SUBSURFACE MANAGED RELEASE BASIN. NO CONSTRUCTION EQUIPMENT, SUCH AS CRANES DURING BUILDING CONSTRUCTION. SHALL BE PARKED ON TOP OF THE SLOW RELEASE BASINS TO AVOID DAMAGING THE BASIN OR OVER-COMPACTING THE SUBSURFACE SOILS. THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT FOR THE INSTALLATION OF CRITICAL STAGE AND POST CONSTRUCTION STORMWATER BMPS. A LICENSED PROFESSIONAL OR DESIGNEE KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF THE POST CONSTRUCTION BMPS SHALL CONDUCT THE OVERSIGHT AND SIGN OFF ON THE NOTICE OF TERMINATION.

6. CONTINUE WITH THE BALANCE OF EARTHWORK INCLUDING UTILITY INSTALLATION (SANITARY LATERALS, WATER

LATERALS, GAS, ELECTRIC, TELEPHONE, AND CABLE) WHERE APPLICABLE.

STABILIZATION CANNOT BE ACHIEVED WITHIN FOUR (4) DAYS.

7. INSTALL CURBING AND INSTALL STONE BASE COURSE IN THE DRIVEWAY AND PARKING AREAS 8. INITIATE FINAL GRADING AND PLACEMENT OF TOPSOIL IN ALL LANDSCAPE AREAS. AS SOON AS SLOPES, CHANNELS DITCHES AND OTHER DISTURBED AREAS REACH FINAL GRADE. THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND PERMANENT SEEDING OR PLACEMENT OF SOD MUST BE APPLIED. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES HAS BEEN ACHIEVED. AS DISTURBED AREAS WITHIN A PROJECT APPROACH FINAL GRADE, PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN. 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 GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

9. INSTALL BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALKS.

UPON STABILIZATION AND FINAL COMPLETION OF THIS PHASE OF THE PROJECT.

10. CRITICAL STAGE: INSTALATION OF BMP6.4.4 WATER QUALITY FILTERS. INSTALL WATER QUALITY FILTERS IN ALL INLETS ON SITE AS SHOWN ON THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AS REQUIRED BY MANUFACTURER SPECIFICATIONS TO REMAIN IN PLACE AFTER CONSTRUCTION IS COMPLETED.

11. CRITICAL STAGE: INSTALLATION OF BMP MANAGED RELEASE FILTER MEDIA IN UNDERGROUND BASIN OUTLET STRUCTURE. INSTALL UNDERDRAINS AND PROPOSED SOIL MEDIA TO DEPTHS DETAILED IN THE OUTLET STRUCTURE DETAIL. SURVEY AS-BUILT MANAGED RELEASE BASIN AND PROVIDE ENGINEER OF RECORD WITH AS-BUILT CONDITIONS TO CONFIRM VOLUMES HAVE BEEN CONSTRUCTED TO MEET THE PADEP REQUIREMENTS AND RADNOR TOWNSHIP

12. CRITICAL STAGE: INSTALLATION OF BMP 6.7.2 LANDSCAPE RESTORATION. INSTALL FINAL VEGETATION AND LANDSCAPING SPECIFIED ON THE LANDSCAPE PLAN.

UPON SITE STABILIZATION (UNIFORM COVERAGE OR DENSITY OF 70% ACROSS ALL DISTURBED AREAS) AND NOTIFICATION TO AND INSPECTION FROM DELAWARE COUNTY CONSERVATION DISTRICT, REMOVE REMAINING EROSION AND SEDIMENT CONTROL FACILITIES. ANY AREA DISTURBED DURING THE REMOVAL OF EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE STABILIZED IMMEDIATELY.

14. 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.

16. A NOTICE OF TERMINATION FORM SHOULD BE SUBMITTED TO THE DELAWARE COUNTY CONSERVATION DISTRICT

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

1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

CALL BEFORE YOU DIG!

REVISIONS

08/31/2018 PER DOT COMMENTS

02/28/2019 PER TWP COMMENTS

COMMENT

V DATE

DRAWN BY: MCM CHECKED BY: EAB 2018.07.13 SCALE: AS NOTED

PC181016 DETAILS-2 CAD LD:

PRELIMINARY LAND DEVELOPMENT

PLANS

WAYNE PROPERTY

ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP DELAWARE COUNTY, PA



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

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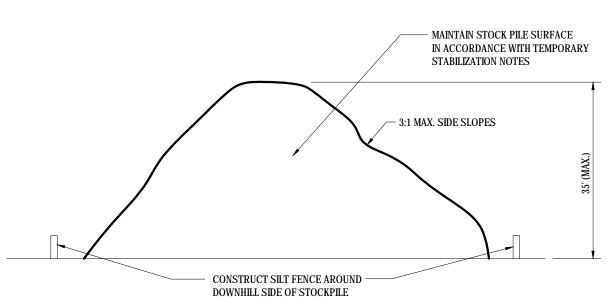
EROSION & SEDIMENTATION **CONTROL NOTES**

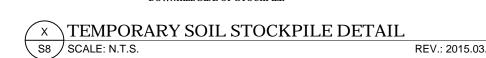
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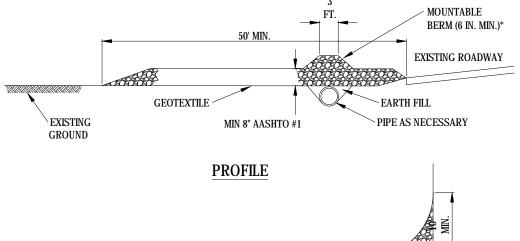
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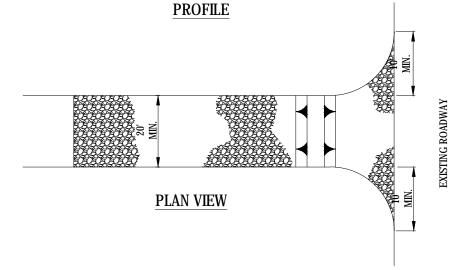
REVISION 2 - 2019.02.28

WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR (4) INCHES. C. SEEDING: SEE SEEDING SPECIFICATIONS STANDARD FOR PERMANENT STABILIZATION SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, **E&S SUPPLEMENTAL NOTES** E&S PLANNING AND DESIGN §102.4(B)(4) THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE: ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE PROTECT WOOD! ANDS/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 TASK IS INITIATED • MAINTAIN EXISTING GRADES ONE SITE WHERE PLAUSIBLE. THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION: ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE PROTECT WOODLANDS/EXISTING TREES WITH TREE PROTECTION FENCING • UTILIZE THE EXISTING CONVEYANCE SYSTEM WITHIN ABERDEEN AVENUE. MAINTAIN EXISTING FLOW PATHS TO POI#2 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: UTILIZE UNDERGROUND SLOW RELEASE BASIN TO HELP REDUCE RUNOFF RATES AND VOLUME. • UTILIZE PERIMETER CONTROLS SUCH AS SILT SOCK, SILT FENCE AND INLET PROTECTION WHILE NOT OVERLOADING ANY SPECIFIC BMP ENSURING LONGER SUSTAINABILITY OF THE EROSION AND SEDIMENT CONTROLS RECYCLING OR DISPOSAL OF MATERIALS §102.4(B)(5)(XI) ANTICIPATED CONSTRUCTION WASTES INCLUDE BUT ARE NOT LIMITED TO: TWO ONE-STORY BUILDINGS, SIDEWALK AND ASPHALT AREAS. ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR RECYCLED IN ACCORDANCE WITH DEP'S SOLID WASTE REGULATIONS (25 PA CODE 260.1 ET SEQ., 271.1 ET SE., AND 287.1 ET SEQ.,) AND/OR ANY ADDITIONAL LOCAL, STATE, OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WATER MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE. POTENTIAL THERMAL IMPACT TO SURFACE WATERS §102.4(B)(5)(XIII) THERMAL IMPACTS HAVE BEEN AVOIDED IN THE E&S CONDITION THROUGH THE USE OF INLET PROTECTION, SILT SOXX AND AN UNDERGROUND SLOW RELEASE BASIN TO ENSURE THAT RUNOFF FILTERS THROUGH A MEDIA. WHICH SHOULD REDUCE THE WATER TEMPERATURE OF STORMWATER FLOWS THAT WOULD OTHERWISE COME DIRECTLY FROM THE PAVEMENT. E&S PLAN DESIGNED AND IMPLEMENTED TO BE CONSISTENT WITH PCSM PLAN §102.4(B)(5)(XIV) 1.) THERE ARE NO EXISTING/PROPOSED RIPARIAN BUFFERS OUTSIDE THE LIMIT OF DISTURBANCE 2.) THERE ARE NO PROPOSED INFILTRATION BMP'S OUTSIDE OF THE PROPOSED GRADING AREAS. EXISITING/PROPOSED RIPARIAN FOREST BUFFERS §102.4(B)(5)(XV) 1.) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS SHOWN ON THE PLAN MAPS. 2.) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS OUTSIDE THE LIMIT OF DISTURBANCE. 3.) THERE ARE NO DELINEATED WETLANDS WITHIN THE RIPARIAN FOREST BUFFER ON THIS SITE. ANTIDEGRADATION ANALYSIS EVALUATIONS OF NON-DISCHARGE ALTERNATIVE ONLY PERTAIN TO HQ OR EV WATERS PER THE PADEP & WATER QUALITY ANTIDEGRADATION DOCUMENT DATED NOV. 29, 2003. THE SUBJECT SITE IS LOCATED WITHIN THE DARBY CREEK SUB-BASIN IN THE DELAWARE RIVER MAJOR RIVER BASIN. THE CLOSEST RECEIVING WATER IS ITHAN CREEK WHICH HAS A CWF AND MF CHAPTER 93 CLASSIFICATION.









* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

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

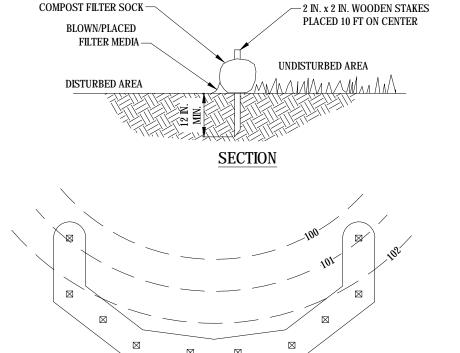
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

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 ROADWA DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE

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

NOT TO SCALE

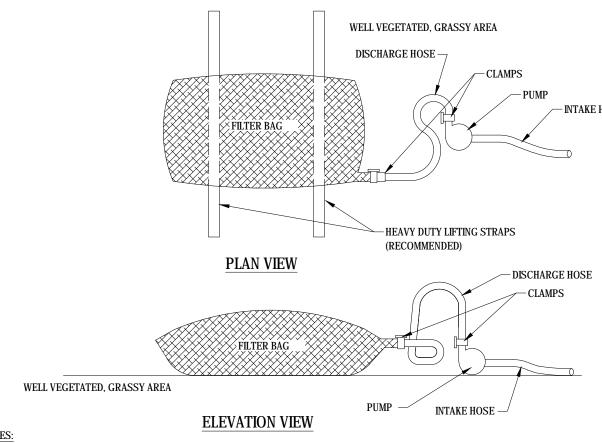


FILTREXX

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 IMEEDIATELY 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. SOCKS SHALL BE INSTPEDTED 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



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

PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

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

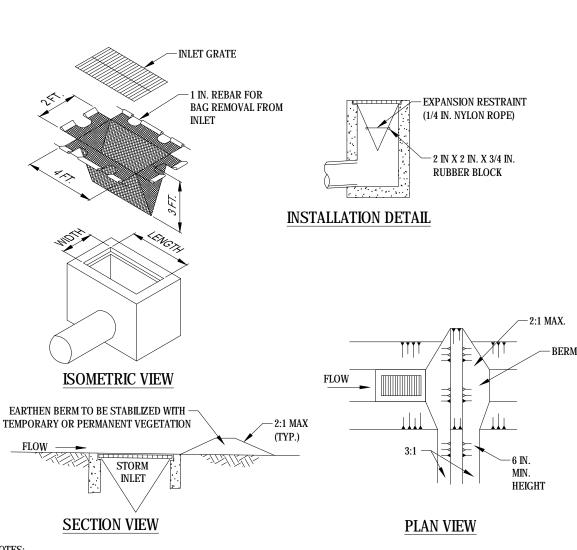
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A

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

STANDARD CONSTRUCTION DETAIL #3-16 PUMPED WATER FILTER BAG

NOT TO SCALE



MAXIMUM DRAINAGE AREA = 1/2 ACRE. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED

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

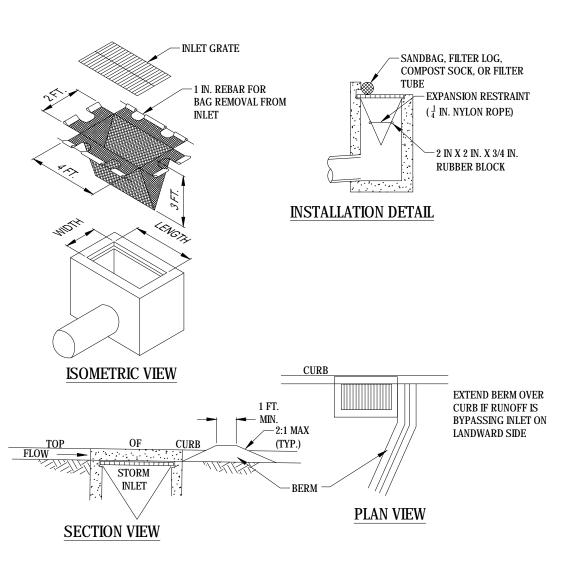
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

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

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

NOT TO SCALE



MAXIMUM DRAINAGE AREA = 1/2 ACRE.

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

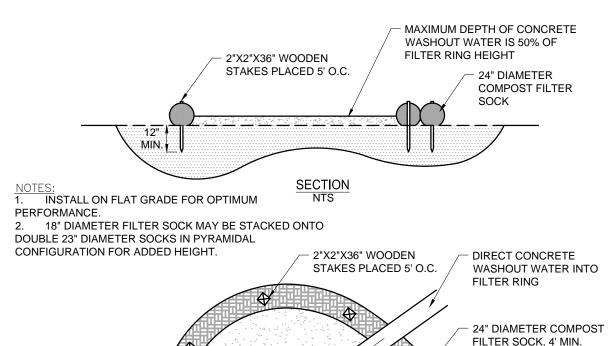
ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

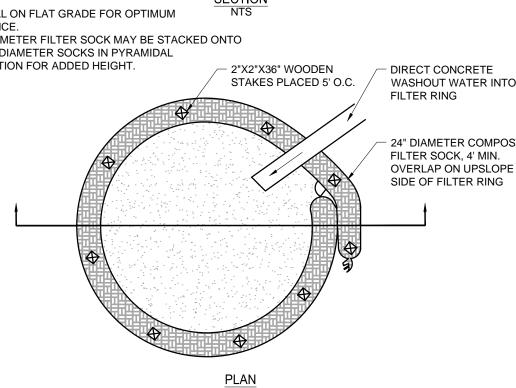
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

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

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

NOT TO SCALE





A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.

CONCRETE WASHOUT NOTES:

CLEANOUT INTERVALS.

-UNDER NO CIRCUMSTANCES MAY WASH WATER FROM THESE VEHICLES BE

ALLOWED TO ENTER ANY SURFACE WATERS. -WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM

DRAINS, OPEN DITCHES OR SURFACE WATERS. -SHOULD BE A MINIMUM OF 10 FEET WIDE AND PROVIDE AT LEAST 12 INCHES OF FREEBOARD ABOVE THE LIQUID AND SOLID WASTE ANTICIPATED BETWEEN

-THE PIT SHOULD BE LINED WITH PLASTIC SHEETING OF AT LEAST 10-MIL THICKNESS (WITH NO HOLES OR TEARS) TO PREVENT LEACHING OF LIQUIDS INTO THE GROUND.

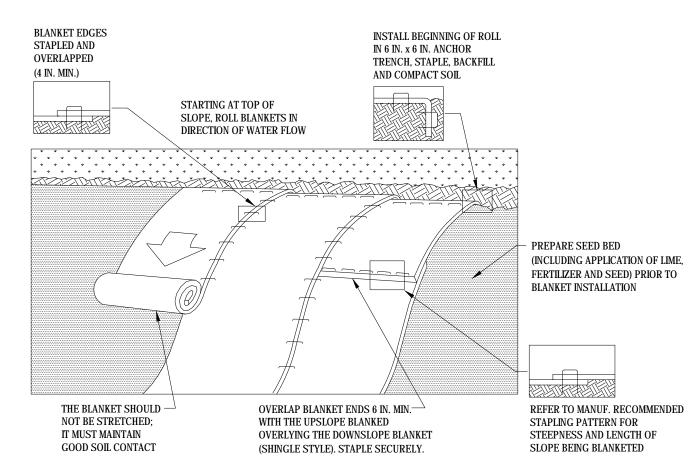
-ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.

-ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75%

WASHOUT FACILITY.

-PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE

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



SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

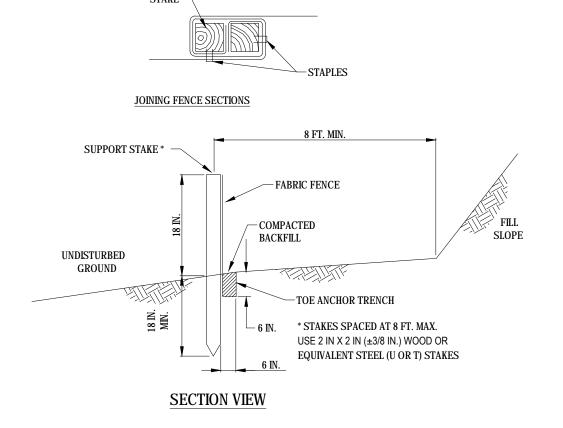
SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

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

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

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

STANDARD CONSTRUCTION DETAIL #11-1 **EROSION CONTROL BLANKET INSTALLATION** NOT TO SCALE



FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL. FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.

SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

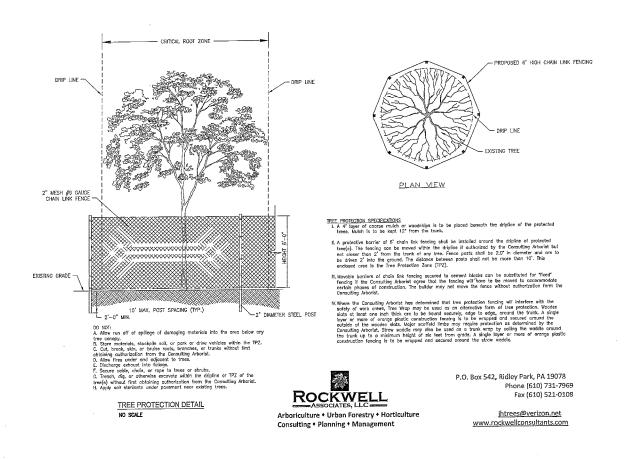
SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL # 4-6).

FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

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

NOT TO SCALE



\RADNOR TOWNSHIP TREE PROTECTION DETAIL DURING SITE CONSTRUCTION



REVISIONS V DATE COMMENT 08/31/2018 PER DOT COMMENTS 02/28/2019 PER TWP COMMENTS

CALL BEFORE YOU DIG PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL POCS SERIAL NUMBER 1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

DRAWN BY: MCM CHECKED BY: EAB 2018.07.13 AS NOTED PC181016 DETAILS-2

PRELIMINARY LAND DEVELOPMENT PLANS

WAYNE PROPERTY ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP

ENGINEERIN

DELAWARE COUNTY, PA

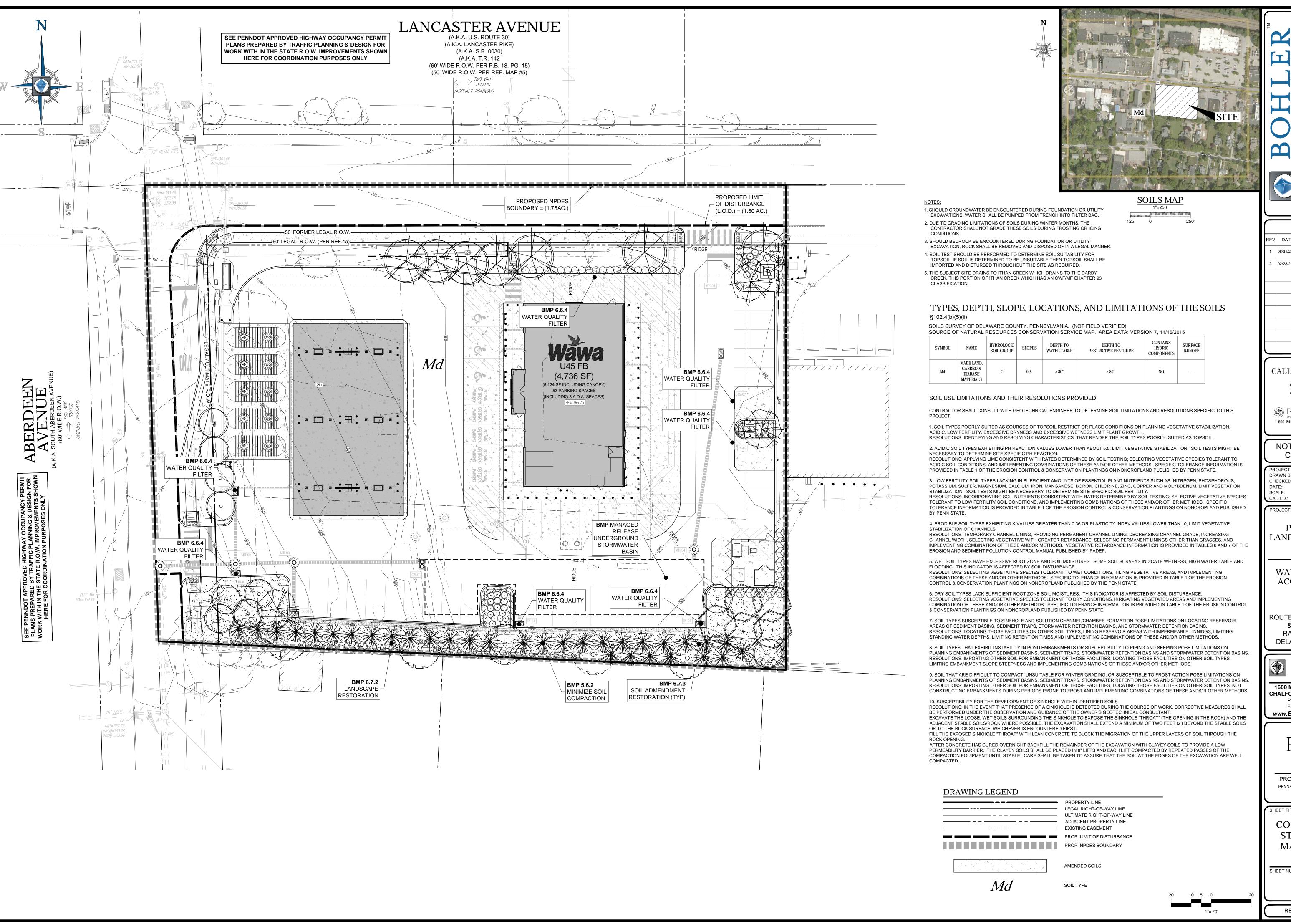
1600 MANOR DRIVE, SUITE 200 **CHALFONT, PENNSYLVANIA 18914** Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

EROSION & SEDIMENTATION CONTROL

DETAILS SHEET NUMBER:

OF 21



REVISIONS COMMENT 08/31/2018 PER DOT COMMENTS 02/28/2019 PER TWP COMMENTS

CALL BEFORE YOU DIG!

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PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

SHEET TITLE: POST CONSTRUCTION STORMWATER **MANAGEMENT**

PLAN

SHEET NUMBER:

P.C.S.W.M. B.M.P. INSPECTION AND MAINTENANCE NOTES

1.) UNTIL THE SITE IS STABILIZED AND DURING THE CONSTRUCTION ACTIVITIES, ALL BMPS MUST BE MAINTAINED PROPERLY BY CONTRACTOR, ALL PERMANENT MAINTENANCE PROCEDURES SHALL BE PERFORMED BY THE DESIGNATED HOME OWNERS ASSOCIATION. 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.

2.) STORM WATER MANAGEMENT BASINS - BASINS SHALL BE INSPECTED FOR LITTER AND SEDIMENT ACCUMULATION ON AN ANNUAL BASIS OR AS DIRECTED BY THE TOWNSHIP ENGINEER, NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. THE LITTER AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. THE LITTER AND SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

3.) WATER QUALITY (WQ) INLETS - WATER QUALITY INLETS SHALL BE INSPECTED FOR LITTER AND SEDIMENT ACCUMULATION ON AN ANNUAL BASIS OR AS DIRECTED BY THE TOWNSHIP ENGINEER. NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. THE LITTER AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES AND FILTERING CAPABILITIES. THE LITTER AND SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. SEE MANUFACTURERS SPECIFICATIONS FOR OTHER PERTINENT RECOMMENDATIONS PROVIDED BY THE MANUFACTURER REGARDING MAINTENANCE OF THE DEVICES

4.) 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 TOWNSHIP 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 STATE REGULATIONS. ALL AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

5.) STORM DRAINAGE SYSTEMS - THE STORM WATER MANAGEMENT FACILITIES INCLUDING THE INLETS, STORM WATER PIPING, SWALES, AND BASINS ON THIS SITE SHALL BE MAINTAINED IN PROPER WORKING ORDER IN ACCORDANCE WITH THESE PLANS AND PER THE RECOMMENDATION OF THE STRUCTURE(S) MANUFACTURER(S). MAINTENANCE OF THESE STORM WATER MANAGEMENT FACILITIES, AS NOTED BELOW, SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER(S) UPON WHOSE PROPERTY THE FACILITIES ARE LOCATED

6.) ALL ON-SITE INLETS, MANHOLES, AND STORM WATER PIPING SHALL BE CLEARED OF DEBRIS EVERY THREE (3) MONTHS OR WHEN ACCUMULATION HINDERS OPERATION OF THE FACILITY.

7.) ALL SEDIMENT/DEBRIS/OIL REMOVED FROM THE STORM WATER MANAGEMENT SYSTEM SHALL BE DISPOSED PER LOCAL, STATE, AND FEDERAL STANDARDS.

8.) SHOULD ON-SITE EROSION OCCUR FROM THE LANDSCAPED AREAS, SOURCE OF EROSION SHALL BE IMMEDIATELY STABILIZED AND THE INLETS, MANHOLES, AND STORM WATER PIPING SHALL BE CHECKED FOR ACCUMULATION AND CLEARED IF ACCUMULATION OF SEDIMENT EXISTS.

GENERAL SEQUENCING NOTES FOR P.C.S.W.M. B.M.P.s

HAVE NOT BEEN COMPROMISED DURING CONSTRUCTION.

INFILTRATION/WATER QUALITY BMP'S.

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

2.) BOHLER ENGINEERING PA, LLC SHALL BE NOTIFIED OF PRE-CONSTRUCTION MEETING DATE AND BMP CONSTRUCTION

3.) THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO LIMIT THE COMPACTION IN THE PROPOSED B.M.P. BOTTOMS. 4.) INFILTRATION TESTING SHALL BE CONDUCTED UPON SEDIMENT BASIN CONVERSION TO ENSURE THE INFILTRATION RATES

5.) REFER TO THE BMP CONSTRUCTION DETAILS FOR THE CONSTRUCTION OF ALL PROPOSED STORMWATER MANAGEMENT

6.) REFER TO THE PCSWM PLAN AND DETAILS FOR SPECIFIC BMP CONSTRUCTION GUIDELINES.

7.) AS-BUILT PLANS OF THE STORMWATER BMPs FOR EACH PROJECT PHASE SHALL BE PROVIDED WITHIN SIX MONTHS FÓLLOWING THE COMPLETION OF EACH PHASE. THE AS-BUILT PLANS SHALL BE SIGNED AND SEALED BY A PA REGISTERED PROFESSIONAL ENGINEER.

8.) 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 BMPs.

MANAGED RELEASE SYSTEM INSPECTION AND MAINTENANCE NOTES

MANAGED RELEASE SYSTEM - MANAGED RELEASE SYSTEMS SHALL BE INSPECTED FOR EROSION AND/OR SEDIMENT ACCUMULATION ON AN ANNUAL BASIS. AFTER A SIGNIFICANT RUNOFF EVENT OR AS DIRECTED BY THE TOWNSHIP ENGINEER. NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. AREAS OF EROSION SHALL BE 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 STATE REGULATIONS. ALL AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

CRITICAL STAGES

LISTED BELOW ARE THE CRITICAL STAGES OF CONSTRUCTION AN IMMEDIATE INSPECTION SHALL BE CONDUCTED BY A QUALIFIED SITE REPRESENTATIVE. WHERE UPON THE BUCKS COUNTY CONSERVATION DISTRICT SHALL BE NOTIFIED IN

- CONSTRUCTION MANAGED RELEASE BASIN
- INSTALLATION ON WATER QUALITY FILTERS. INSTALLATION OF MANAGED RELEASE FILTER MEDIA IN UNDERGROUND BASIN OUTLET STRUCTURES
- INSTALLATION OF NATIVE AND ADAPTIVE SPECIES FOR LANDSCAPE RESTORATION BMP

P.C.S.W.M. SUPPLEMENTAL NOTES

GENERAL PCSM PLANNING AND DESIGN §102.8(B)

1. THE FOLLOWING MEASURES WERE TAKEN TO PRESERVE THE INTEGRITY OF STREAM CHANNELS AND TO MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM: DIRECT RUNOFF FROM IMPERVIOUS SURFACES INCLUDING ROADWAYS TO BMPS.

- USE NATIVE SPECIES, WHICH REQUIRE LESS FERTILIZATION AND CHEMICAL APPLICATION THAN NON-NATIVE SPECIES.
- MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
- PERFORM SOIL AMENDMENTS, WHICH RESTORE SOIL POROSITY THROUGH TILLING AND COMPOSTING TO IMPROVE THE SOIL'S CAPACITY FOR INFILTRATION AND POLLUTANT REMOVAL.
- 2. THE FOLLOWING MEASURES WERE TAKEN TO PREVENT AN INCREASE IN THE RATE OF STORM WATER RUNOFF:
- UTILIZE UNDERGROUND MANAGED RELEASE BASIN TO HELP REDUCE RUNOFF RATES.
- MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.
- 3. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE ANY INCREASE IN STORM WATER RUNOFF VOLUME:
- UTILIZE UNDERGROUND MANAGED RELEASE BASIN TO HELP REDUCE RUNOFF VOLUME. PROVIDE LANDSCAPE RESTORATION TO HELP REDUCE RUNOFF VOLUME.
- MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.
- MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
- PROVIDE AMENDED SOILS THROUGHOUT THE SITE TO HELP REDUCE RUNOFF VOLUME

MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION

- 4. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE IMPERVIOUS AREAS:
- INCREASE IN PERVIOUS AREA WITHIN LIMIT OF DISTURBANCE BY APPROXIMATELY 7% ONLY PROVIDE SIDEWALK WHERE REQUIRED BY CODE
- MAXIMIZE THE NUMBER OF LANDSCAPED ISLAND WITHIN THE SITE.
- 5. THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION:
- ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.
- PROTECT WOODLANDS/EXISTING TREES WITH TREE PROTECTION FENCING.
- UTILIZING THE EXISTING CONVEYANCE SYSTEM WITHIN ABERDEEN AVENUE MAINTAIN EXISTING FLOW PATH TO POI#2
- 6. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE LAND CLEARING AND GRADING:
- PROTECT WOODLANDS/EXISTING TREES WITH TREE PROTECTION FENCING.
- ADJUST ROAD SLOPE AND SITE GRADING SO THERE ARE NO DRASTIC PROPOSED CUTS OR FILLS TO EXISTING GRADES.
- MAINTAIN EXISTING GRADES WITHIN THE SITE WHERE PLAUSIBLE.
- 7. THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:
- ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.
- AS SPECIFIED IN THE CONSTRUCTION SEQUENCE, USE TREADED MACHINERY WHERE PRACTICAL DURING EARTHMOVING
- GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS.
- 8. THE FOLLOWING MEASURES WERE TAKEN TO UTILIZE OTHER STRUCTURAL OR NONSTRUCTURAL BMPS THAT PREVENT OR MINIMIZE CHANGES IN STORM WATER RUNOFF:
- UTILIZE MANAGED SLOW RELEASE BASIN TO HELP REDUCE RUNOFF VOLUME AND CONTROL RUNOFF RATES.
- PROVIDE LANDSCAPE RESTORATION TO HELP REDUCE RUNOFF VOLUME.
- MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.

TYPES, DEPTH, SLOPE, LOCATIONS AND LIMITATION OF THE SOILS AND GEOLOGICAL FORMATIONS §102.8(F)(1)

1.) EXISTING SITE COVERAGE INCLUDES BUT IS NOT LIMITED TO ONE-STORY/MASONRY BUILDINGS, GAS CANOPIES WITH FUEL DISPENSERS, ASPHALT DRIVES, SIDEWALK, PARKING AREAS AND AREAS OF SPARSE VEGETATION.

RECEIVING SURFACE WATERS §102.8(F)(5)

- 1.) THERE ARE NO HQ OR EV WATERSHEDS WITHIN THE SITE.
- THERE ARE NO EXISTING WETLANDS ON SITE. 3.) EXISTING & DESIGNATED USES FOR THE ITHAN CREEK ARE CWF & MF.

RECYCLING OR DISPOSAL OF MATERIALS §102.8(F)(11)

1.) ANTICIPATED CONSTRUCTION WASTES INCLUDE BUT ARE NOT LIMITED TO: TWO ONE-STORY BUILDINGS, SIDEWALK AND ASPHALT AREAS

2.) ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR RECYCLED IN ACCORDANCE WITH DEP'S SOLID WASTE REGULATIONS (25 PA CODE 260.1 ET SEQ., 271.1 ET SE., AND 287.1 ET SEQ.,) AND/OR ANY ADDITIONAL BURIED, DUMPED, OR DISCHARGED AT THE SITE.

GEOLOGIC FORMATIONS OR SOIL CONDITIONS §102.8(F)(12) 1.) THERE ARE NO KNOWN GEOLOGICAL FORMATIONS/SOIL CONDITION ISSUES THAT HAVE THE POTENTIAL TO CAUSE POLLUTION.

POTENTIAL THERMAL IMPACT TO SURFACE WATERS §102.8(F)(13)

A POTENTIAL FOR THERMAL IMPACTS EXISTS IN INSTANCES WHERE SURFACE RUNOFF IS DIRECTLY CONVEYED TO A RECEIVING STREAM WITHOUT ADEQUATE ATTENUATION OR COOLING. TO AVOID THERMAL IMPACTS, THE FOLLOWING HAS BEEN EMPLOYED: UNDERGROUND MANAGED RELEASE, AMENDED SOILS, AND LANDSCAPE RESTORATION. ALL OF THESE MEASURES WILL HELP TO CONTROL RUNOFF VOLUME AND RATE AND THEREBY PROVIDE ADDITIONAL COOLING TIME, THEREBY MINIMIZING THERMAL IMPACTS TO THE RECEIVING STREAM.

RIPARIAN FOREST BUFFER MANAGEMENT PLAN §102.8(F)(14)

- 1.) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS SHOWN ON THE PLAN MAPS.
- 2.) THE FOLLOWING IMPAIRMENTS ARE LISTED FOR THIS PORTION OF THE ITHAN CREEK:
- a. WATER/FLOW VARIABILITY
- b. SILTATION
- c. HABITAT MODIFICATION
- d. PATHOGENS

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.

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 DELAWARE COUNTY 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 DELAWARE COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY LIPON 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.

- 1. INSTALL CONSTRUCTION ENTRANCE AS DESIGNATED ON THE PLANS.
- 2. INSTALL ALL PERIMETER COMPOST FILTER SOCKS, SILT FENCE, TREE PROTECTION FENCING, AND INLET PROTECTION WITHIN THE DESIGNATED LIMIT OF DISTURBANCE AS INDICATED ON THE PLANS. ONLY LIMITED CLEARING AND GRUBBING NECESSARY TO INSTALL THE PERIMETER EROSION AND SEDIMENT POLLUTION CONTROLS IS PERMITTED.
- 3. DEMOLISH EXISTING SITE FEATURES AND UTILITIES PROPOSED TO BE REMOVED. DURING DEMOLITION OF UTILITIES ALL UTILITY SERVICES MUST BE MAINTAINED FOR NEIGHBORING PROPERTIES WHOSE UTILITIES CURRENTLY TRAVERSE THE SITE AND ARE PROPOSED TO BE REROUTED.
- 4. INITIATE THE NECESSARY EARTHWORK TO REACH THE GRADES INDICATED ON THE PLANS. BUILDING CONSTRUCTION MAY COMMENCE UPON ACCEPTANCE OF BUILDING PAD BY OWNER. THE CONCRETE WASHOUT MUST BE INSTALLED BEFORE ANY CONCRETE CAN BE POURED ON-SITE. CONTRACTOR MUST PERFORM BULK OF EARTHWORK TO BALANCE CUTS AND FILLS TO THE GREATEST EXTENT POSSIBLE. ALL AREAS DISTURBED DURING THE EARTHWORK PHASE OF CONSTRUCTION MUST BE TEMPORARILY SEEDED AND STARILIZED IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS AND SEEDING SPECIFICATIONS IF PERMANENT STABILIZATION CANNOT BE ACHIEVED WITHIN FOUR (4) DAYS
- 5. CRITICAL STAGE: INSTALLATION OF BMP MANAGED RELEASE BASIN INITIATE STORM SEWER AND SUBSURFACE MANAGED RELEASE BASIN INSTALLATIONS FOR THE FEATURES SHOWN ON THE PLANS STARTING AT THE FURTHEST DOWNSTREAM STRUCTURE, DO NOT INSTALL THE OUTLET STRUCTURE FILTER MEDIA AT THIS STAGE OF CONSTRUCTION. INLETS DISCHARGING TO THE BASIN MUST BE BLOCKED IMMEDIATELY AFTER INSTALLATION AND REMAIN BLOCKED UNTIL SITE IS FULLY STABILIZED TO PREVENT SEDIMENT FROM ENTERING THE SUBSURFACE MANAGED RELEASE BASIN. NO CONSTRUCTION EQUIPMENT, SUCH AS CRANES DURING BUILDING CONSTRUCTION, SHALL BE PARKED ON TOP OF THE SLOW RELEASE BASINS TO AVOID DAMAGING THE BASIN OR OVER-COMPACTING THE SUBSURFACE SOILS. THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT FOR THE INSTALLATION OF CRITICAL STAGE AND POST CONSTRUCTION STORMWATER BMPS. A LICENSED PROFESSIONAL OR DESIGNEE KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF THE POST CONSTRUCTION BMPS SHALL CONDUCT THE OVERSIGHT AND SIGN OFF ON THE NOTICE OF TERMINATION
- 6. CONTINUE WITH THE BALANCE OF EARTHWORK INCLUDING UTILITY INSTALLATION (SANITARY LATERALS, WATER LATERALS, GAS, ELECTRIC, TELEPHONE, AND CABLE) WHERE APPLICABLE.
- 7. INSTALL CURBING AND INSTALL STONE BASE COURSE IN THE DRIVEWAY AND PARKING AREAS.
- 8. INITIATE FINAL GRADING AND PLACEMENT OF TOPSOIL IN ALL LANDSCAPE AREAS. AS SOON AS SLOPES, CHANNELS, DITCHES AND OTHER DISTURBED AREAS REACH FINAL GRADE. THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND PERMANENT SEEDING OR PLACEMENT OF SOD MUST BE APPLIED. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES HAS BEEN ACHIEVED. AS DISTURBED AREAS WITHIN A PROJECT APPROACH FINAL GRADE, PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN. 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 GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

9. INSTALL BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALKS.

STABILIZATION AND FINAL COMPLETION OF THIS PHASE OF THE PROJECT.

10. CRITICAL STAGE: INSTALATION OF BMP6.4.4 WATER QUALITY FILTERS. INSTALL WATER QUALITY FILTERS IN ALL INLETS ON SITE AS SHOWN ON THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AS REQUIRED BY MANUFACTURER SPECIFICATIONS TO REMAIN IN PLACE AFTER CONSTRUCTION IS COMPLETED.

11. CRITICAL STAGE: INSTALLATION OF BMP MANAGED RELEASE FILTER MEDIA IN UNDERGROUND BASIN OUTLET STRUCTURE. INSTALL UNDERDRAINS AND PROPOSED SOIL MEDIA TO DEPTHS DETAILED IN THE OUTLET STRUCTURE DETAIL. SURVEY AS-BUILT MANAGED RELEASE BASIN AND PROVIDE ENGINEER OF RECORD WITH AS-BUILT CONDITIONS TO CONFIRM VOLUMES HAVE BEEN CONSTRUCTED TO MEET THE PADEP REQUIREMENTS AND RADNOR TOWNSHIP ORDINANCES.

12. CRITICAL STAGE: INSTALLATION OF BMP 6.7.2 LANDSCAPE RESTORATION. INSTALL FINAL VEGETATION AND LANDSCAPING SPECIFIED ON THE LANDSCAPE PLAN.

- 13. UPON SITE STABILIZATION (UNIFORM COVERAGE OR DENSITY OF 70% ACROSS ALL DISTURBED AREAS) AND NOTIFICATION TO AND INSPECTION FROM DELAWARE COUNTY CONSERVATION DISTRICT, REMOVE REMAINING EROSION AND SEDIMENT CONTROL FACILITIES. ANY AREA DISTURBED DURING THE REMOVAL OF EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE STABILIZED IMMEDIATELY.
- 14. CLEAR SITE OF DEBRIS AND ALL UNWANTED MATERIALS. OPERATOR SHALL REMOVE FROM SITE, RECYCLE OR DISPOSE OF ALL BLIII DING 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.

16. A NOTICE OF TERMINATION FORM SHOULD BE SUBMITTED TO THE DELAWARE COUNTY CONSERVATION DISTRICT UPON

SCHEDULE **INSPECTION TASK MAINTENANCE** FAILURE INDICATORS NEEDED MAINTENANCE SHOULD BE CONDUCTED IMMEDIATELY AFTER EACH. FAILURE INDICATORS OF THE UNDERGROUND STORMWATER BMP SUBSURFACE MANAGED AFTER EACH STORM >1' - INSPECT STRUCTURES - CONFIRM OUTLET STRUCTURE IS FREE OF DEBRIS INSPECTION. ACCUMULATED LITTER AND SEDIMENT MUST BE REMOVED TO BASINS INCLUDE WHEN THE BASIN DOES NOT DEWATER OR RELEASE/DETENTION BASIN CONFIRM OUTLET STRUCTURE ORIFICE IS NOT CLOGGED RESTORE DESIGN CAPACITIES. THE SEDIMENT AND LITTER SHALL BE SURCHARGING OF INLETS UPSTREAM OF THE BASIN OCCURS. DISPOSED OF IN ACCORDANCE WITH LOCAL. STATE AND FEDERAL QUALIFIED INDIVIDUAL SUCH AS THE BASIN MANUFACTURER SHALL REGULATIONS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE PERFORM AN INVESTIGATION IN ORDER TO DETERMINE THE CAUSE 4 TIMES PER YEAR INSPECT STRUCTURES STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL OF FAILURE. REMEDIATION SHALL BE IN ACCORDANCE WITH THE CONSERVATION NOTES AND SPECIFICATIONS. THE QUALIFIED INDIVIDUAL'S RECOMMENDATIONS BASED ON THEIR INSPECT FOR SEDIMENT ACCUMULATION INVESTIGATION. BMP 6.6.4 WATER QUALITY FILTERS 4 TIMES PER YEAR - INSPECT OPERATION OF DEVICE NEEDED MAINTENANCE SHALL BE PERFORMED IMMEDIATELY AFTER THE SIGNS OF FAILURE INCLUDE SEDIMENT/DEBRIS LADEN RUNOFF - INSPECT FOR ACCUMULATION OF COLLECTED MATERIALS INSPECTION. ACCUMULATION OF SEDIMENT/DEBRIS SHALL BE REMOVED IN FLOWING OUT OF THE FILTER OR STANDING WATER IN THE FILTER ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE SHALL BE PERFORMED IMMEDIATELY IN DIRECTIONS/RECOMMENDATIONS. THE SEDIMENT/DEBRIS SHALL BE ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND REMOVED, RECYCLED OR DISPOSED OF IN ACCORDANCE WITH ALL RECOMMENDATIONS. APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. FAILURE INDICATORS INCLUDE AN EXCESSIVE GROWTH OF INVASIVE BMP 6.7.2 LANDSCAPE RESTORATION ANNUALLY - INSPECT FOR DYING/DEAD PLANT MATERIAL REMOVE INVASIVE SPECIES AND DISCARD IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. ANY PLANT THAT IS FOUND TO BE DEAD SPECIES AND VEGETATION THAT FAILS TO ESTABLISH OR DIES OFF INSPECT FOR INVASIVE SPECIES UPON OBSERVING A FAILURE INDICATOR A QUALIFIED INDIVIDUAL OR IS DYING AND CANNOT BE SAVED SHALL BE REPLACED IN KIND. SUCH AS A LANDSCAPE ARCHITECT OR SOIL SCIENTIST/ENGINEER SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF THE FAILURE REMEDIATION SHALL BE IN ACCORDANCE WITH THE QUALIFIED INDIVIDUALS RECOMMENDATIONS BASED ON THEIR INVESTIGATION.

DEMOBILIZE.

REVISIONS										
REV	DATE	COMMENT	BY							
1	08/31/2018	PER DOT COMMENTS	MCM							
2	02/28/2019	PER TWP COMMENTS	МСМ							

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR

CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN

STAGE - STOP CALL

POCS SERIAL NUMBER 1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

DRAWN BY: MCM CHECKED BY: EAB 2018.07.13 AS NOTED SCALE: PC181016 DETAILS-2 CAD LD:

PRELIMINARY

PLANS

WAYNE PROPERTY

ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP

LAND DEVELOPMENT



ENGINEERIN

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

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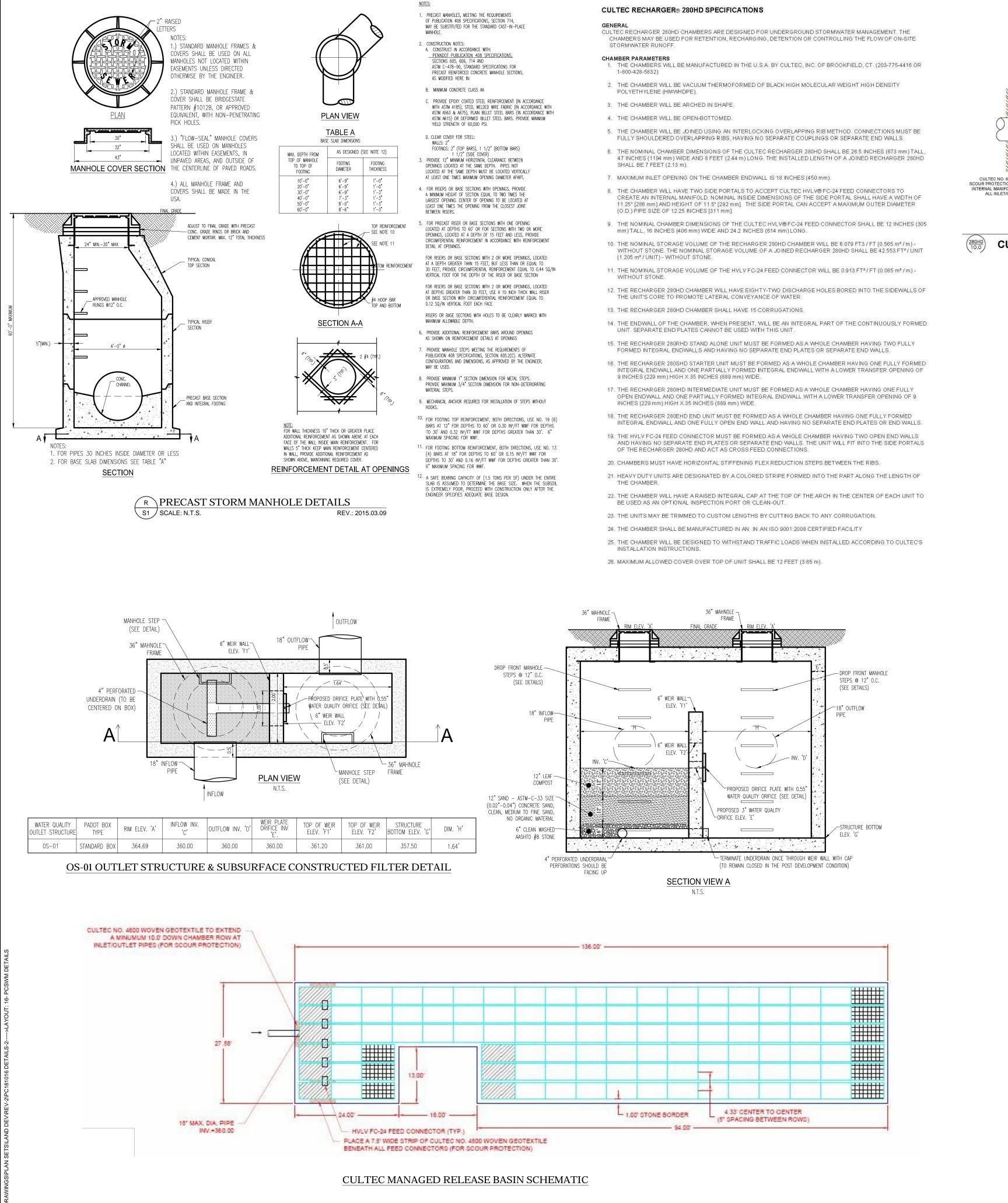
PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

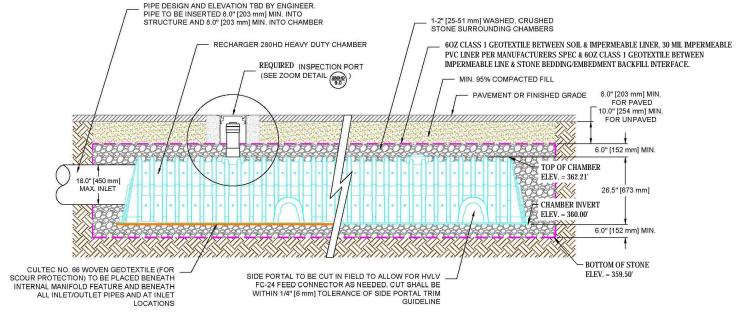
SHEET TITLE: POST CONSTRUCTION **STORMWATER MANAGEMENT**

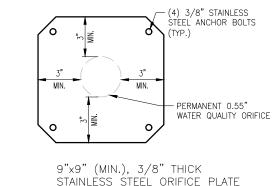
SHEET NUMBER

OF 21

NOTES



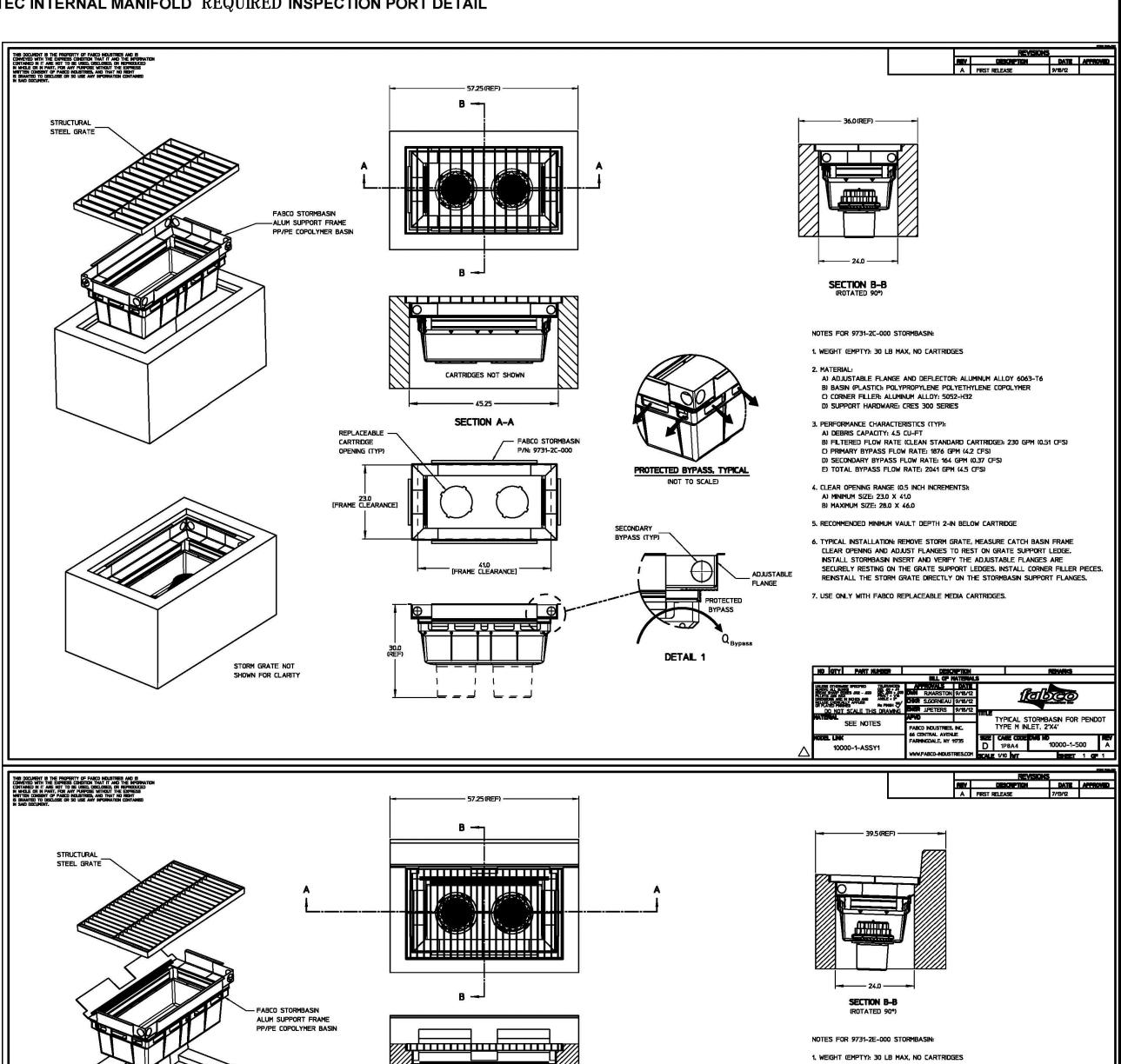




(NEOPRENE GASKET TO BE UTILIZED) NOTE: NON-SHRINK GROUT SHALL BE PROVIDED ALONG ALL

EDGES OF THE ORIFICE PLATE ORIFICE PLATE DETAIL

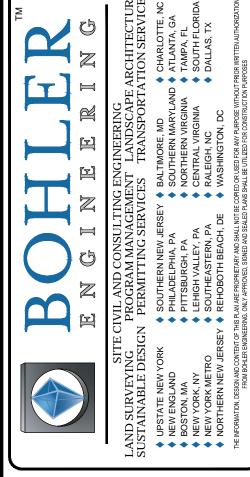
CULTEC INTERNAL MANIFOLD REQUIRED INSPECTION PORT DETAIL

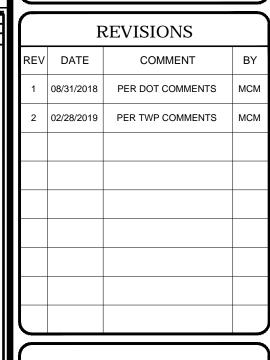


REPLACEABLE

(TYP 2 PL)

STORM GRATE NOT





CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN

STAGE - STOP CALL POCS SERIAL NUMBER 1-800-242-1776

> NOT APPROVED FOR CONSTRUCTION

DRAWN BY: MCM CHECKED BY: EAB 2018.07.13 AS NOTED PC181016 DETAILS-2

PRELIMINARY LAND DEVELOPMENT **PLANS**

WAYNE PROPERTY

ACQUISITION INC. ROUTE 30 (LANCASTER AVE)

& ABERDEEN AVE

RADNOR TOWNSHIP

DELAWARE COUNTY, PA

BOHLER

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

A) ADJUSTABLE FLANGE AND DEFLECTOR: ALUMINUM ALLOY 6063-T6 B) SPLASH GUARD: NEOPRENE RUBBER, 80 DUROMETER

C) BASIN (PLASTIC): POLYPROPYLENE POLYETHYLENE COPOLYMER

B) FILTERED FLOW RATE (CLEAN STANDARD CARTRIDGE): 230 GPM (0.51 CFS)

6. TYPICAL INSTALLATION: REMOVE STORM GRATE, MEASURE CATCH BASIN FRAME CLEAR OPENING AND ADJUST FLANGES TO REST ON GRATE SUPPORT LEDGE.

INSTALL STORMBASIN INSERT WITH RUBBER SPLASH GUARD EXTENDING INTO THE CURB-BOX AND VERIFY THE ADJUSTABLE FLANGES ARE SECURELY RESTING ON THE GRATE SUPPORT LEDGES. INSTALL CORNER FILLER PIECES. REINSTALL THE

D) CORNER FILLER: ALUMINUM ALLOY: 5052-H32
E) SUPPORT HARDWARE: CRES 300 SERIES

4. CLEAR OPENING RANGE (0.5 INCH INCREMENTS):

A) MINIMUM SIZE: 23.0 X 41.0

B) MAXIMUM SIZE: 28.0 X 46.0

PROTECTED BYPASS, TYPICAL

P/N: 9731-2E-000

= BMP 6.6.4 WATER QUALITY FILTER **=**

C) PRIMARY BYPASS FLOW RATE: 1876 GPM (4.2 CFS) D) SECONDARY BYPASS FLOW RATE: 164 GPM (0.37 CFS) E) TOTAL BYPASS FLOW RATE: 2041 GPM (4.5 CFS)

5. RECOMMENDED MINIMUM VAULT DEPTH 2-IN BELOW CARTRIDGE

STORM GRATE DIRECTLY ON THE STORMBASIN SUPPORT FLANGES.

7. USE ONLY WITH FABCO REPLACEABLE MEDIA CARTRIDGES.

3. PERFORMANCE CHARACTERISTICS (TYP): A) DEBRIS CAPACITY: 4.5 CU-FT

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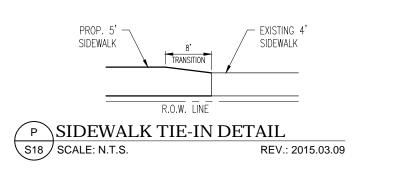
PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

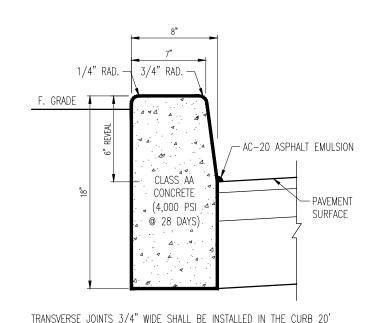
SHEET TITLE: POST

CONSTRUCTION STORMWATER MANAGEMENT **DETAILS**

SHEET NUMBER

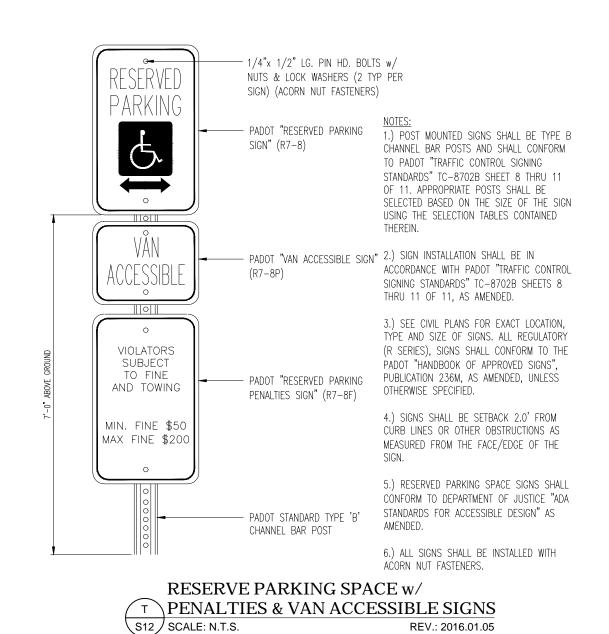
OF 21

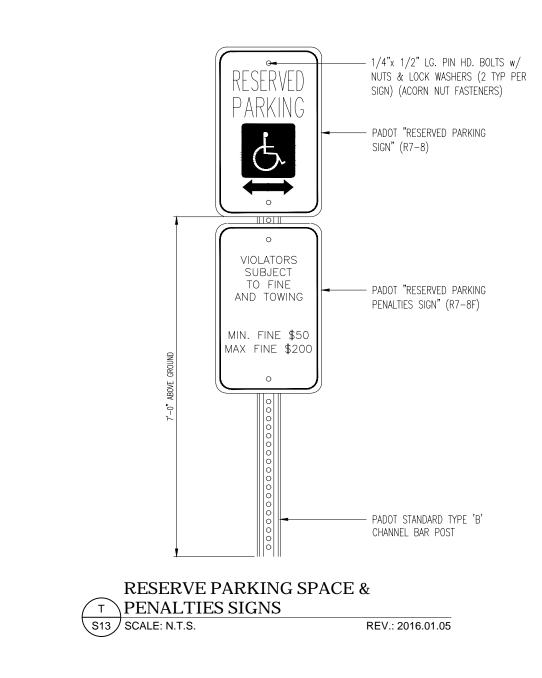




SPECIFIED RECESSED 1/4" IN FROM FRONT FACE AND TOP OF CURB. P TYPICAL CONCRETE CURB DETAIL S5 SCALE: N.T.S. REV.: 2017.08.02

APART AND SHALL BE FILLED WITH CELLULAR COMPRESSION MATERIAL AS





LIST OF APPLICABLE PADOT DETAILS

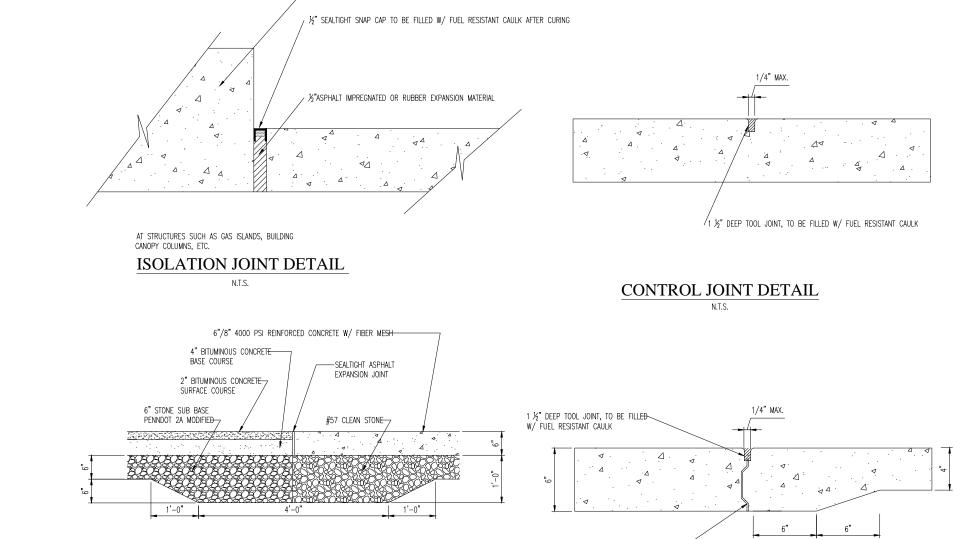
REFER TO PADOT STANDARD DETAILS AS FOLLOWS SIGNAGE DETAILS PER PA.D.O.T. PUBLICATION 238 (LATEST EDITION) DETAILS ARE ASSOCIATED WITH THE FOLLOWING PROPOSED SITE IMPROVEMENTS FROM PENNDOT PUBLICATION 72M

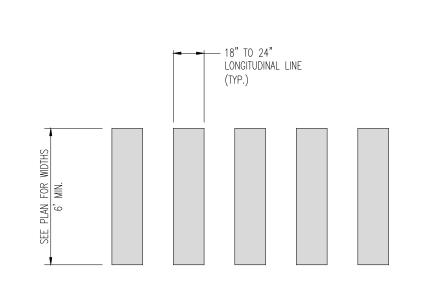
/ STRUCTURE

CONCRETE TO ASPHALT TRANSITION DETAIL

N.T.S.

STANDARD DRAWING NUMBER	DESCRIPTION	DRAWING DATE
RC - 39M	MANHOLES	SEPTEMBER 15, 2016
RC - 45M	INLET TOPS & GRATES	SEPTEMBER 15, 2016
RC - 46M	INLET BOXES	SEPTEMBER 15, 2016
RC - 64M	CURBS & GUTTERS	JUNE 1, 2010
RC - 67M	CURB RAMPS	JUNE 10, 2013

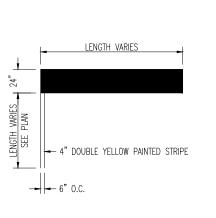




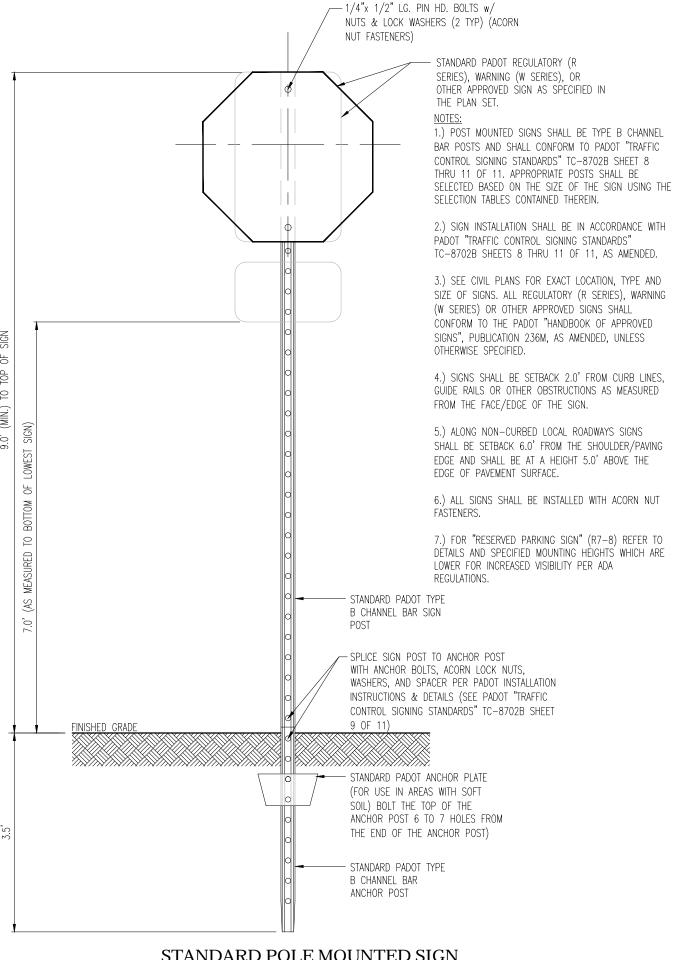
1.) THIS TYPE OF MARKING SHOULD BE USED AT LOCATIONS WHERE SUBSTANTIAL NUMBERS OF PEDESTRIANS CROSS WITHOUT ANY OTHER TRAFFIC CONTROL DEVICE, AT LOCATIONS WHERE PHYSICAL CONDITIONS ARE SUCH THAT ADDED VISIBILITY OF THE CROSSWALK IS NECESSARY, OR AT PLACES WHERE PEDESTRIANS MIGHT NOT BE EXPECTED. 2.) ALL CROSSWALKS SHALL COMPLY WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AS AMENDED. 3.) LONGITUDINAL LINES SHALL BE PERPEDICULAR TO TRAVELLED WAY THE EXTEND ACROSS THE FULL WIDTH OF PAVEMENT OR TO THE EDGE OF THE INTERSECTING CROSSWALK TO DISCOURAGE DIAGONAL WALKING BETWEEN CROSSWALKS. 4.) ALL CROSSWALK LONGITUDINAL LINES SHALL BE WHITE THERMOPLAST. ALL LINES AND NEUTRAL AREAS SHALL BE OF EQUAL WIDTHS. 5.) WARNING SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH MUTCD, AS AMENDED.

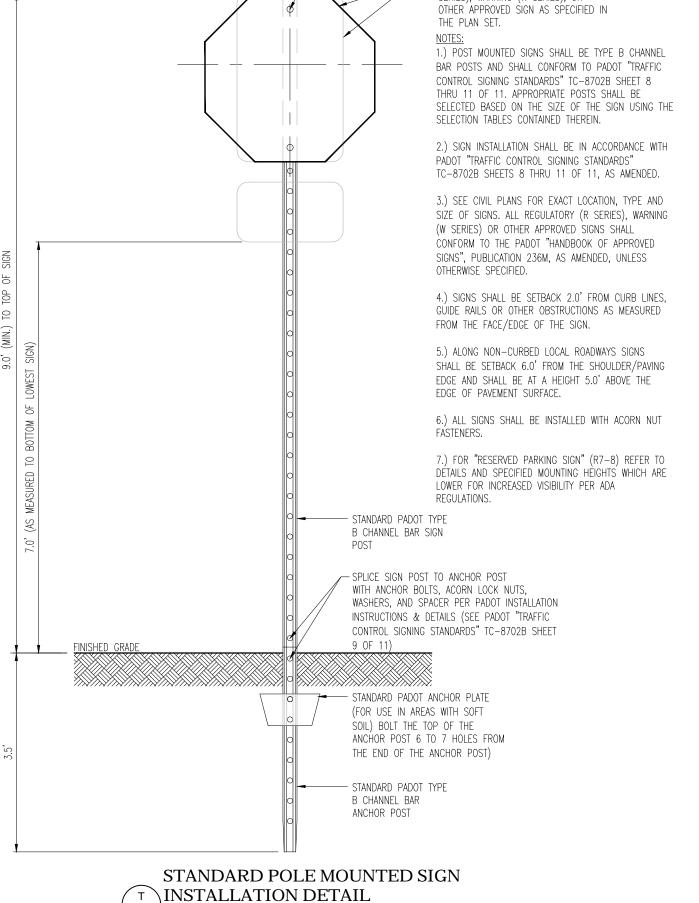
HIGH VISIBILITY CROSSWALK DETAIL (PERPENDICULAR TO INTERSECTION) S20 SCALE: N.T.S. REV.: 2015.03.09

6.) THE SPACING OF THE LINES SHALL BE SELECTED TO AVOID THE WHEEL PATH.



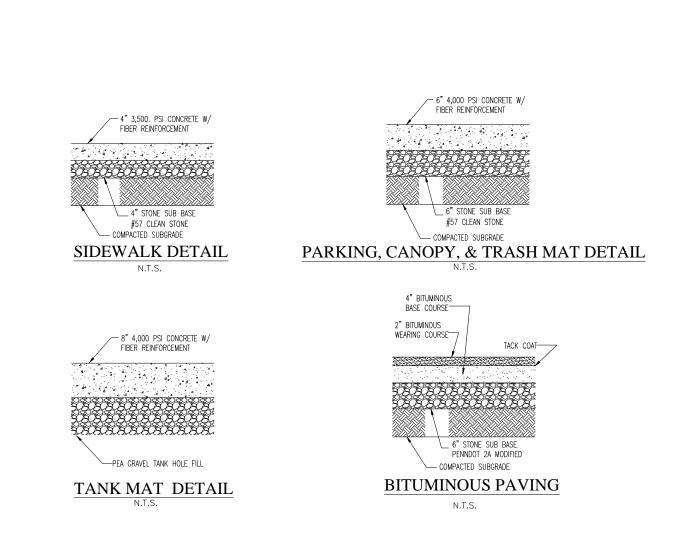
WHITE PAINTED STOP BAR T DETAIL S4 SCALE: N.T.S. REV.: 2016.09.29

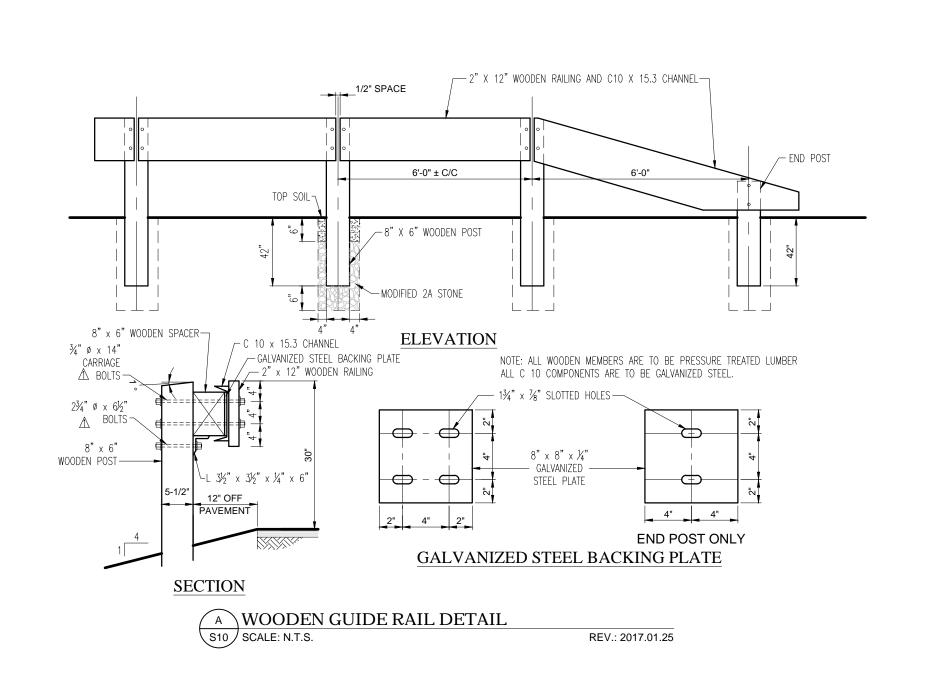




REV.: 2015.03.09

S9 SCALE: N.T.S.





CONSTRUCTION JOINT DETAIL



CALL BEFORE YOU DIG!

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

NOT APPROVED FOR CONSTRUCTION

DRAWN BY: MCM CHECKED BY: EAB 2018.07.13 SCALE: AS NOTED CAD I.D.: PC181016 DETAILS-2

1-800-242-1776

PRELIMINARY LAND DEVELOPMENT PLANS

WAYNE PROPERTY

ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP DELAWARE COUNTY, PA



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

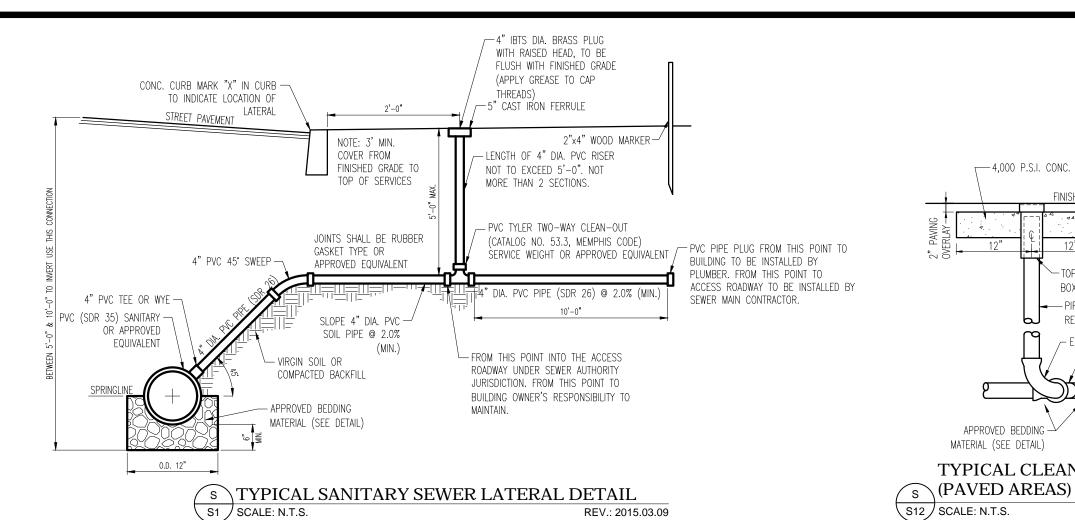
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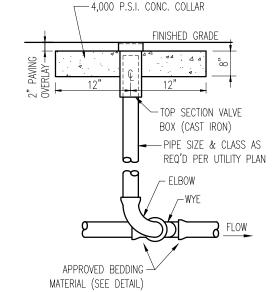
SHEET TITLE:

DETAILS

SHEET NUMBER:

OF 21

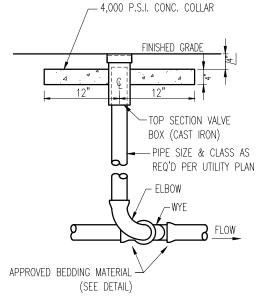




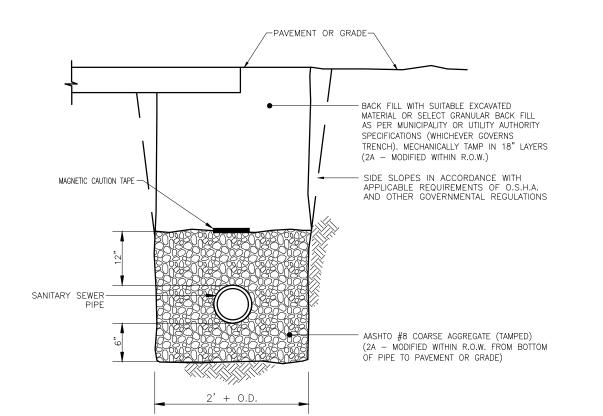
TYPICAL CLEANOUT DETAIL

S3 / SCALE: N.T.S.

REV.: 2015.03.09



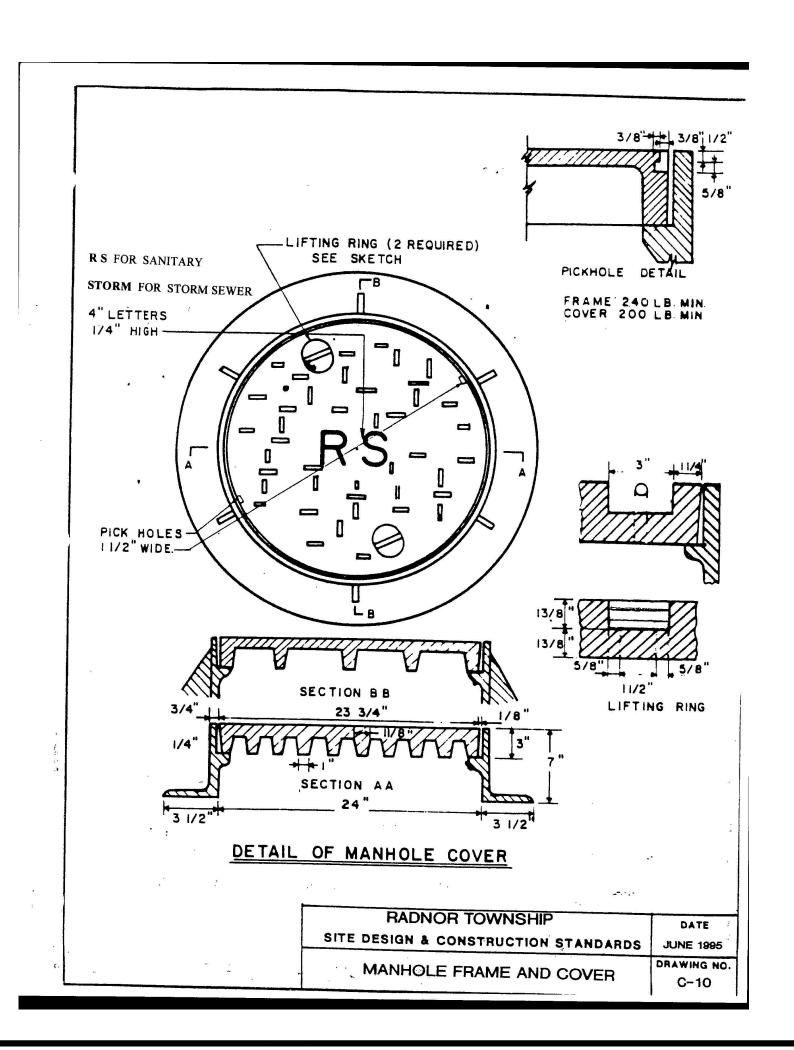
TYPICAL CLEANOUT DETAIL (LANDSCAPED AREAS) S13 SCALE: N.T.S. REV.: 2015.03.09

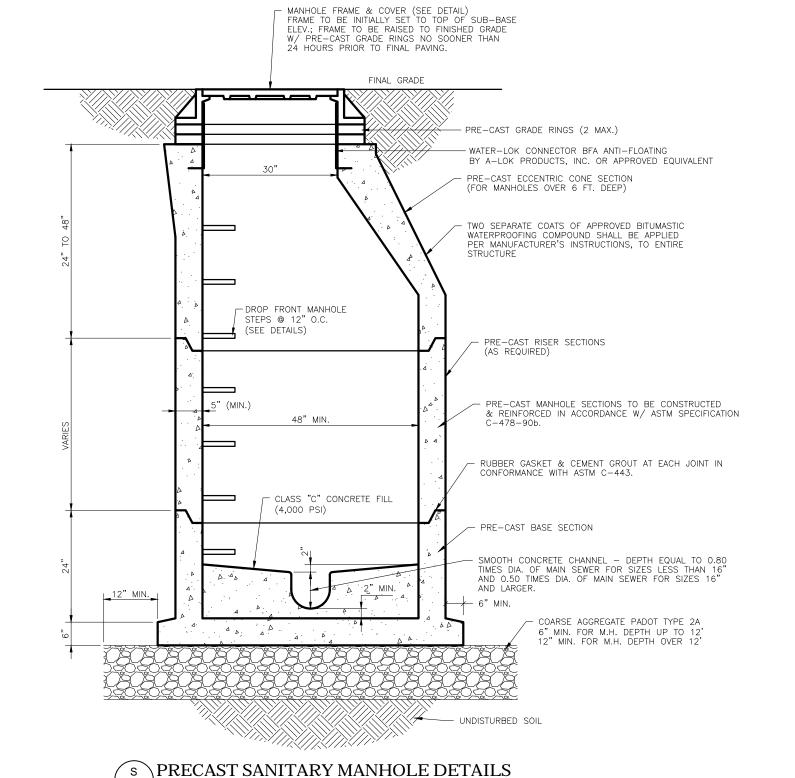


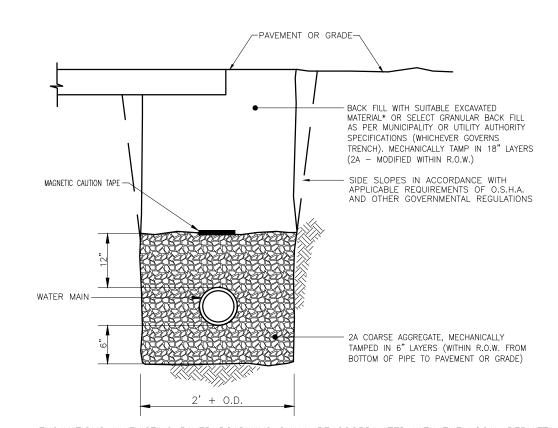
EXCAVATIONS IN EXISTING PAVED ROADWAYS SHALL BE COORDINATED WITH THE LOCAL PERMITTING AGENCY, AND ALL EXCAVATION SHALL BE PAVED WITH TEMPORARY BITUMINOUS PAVEMENT FROM THE DATE OF ORIGINAL EXCAVATION UNTIL PERMANENT PAVEMENT IS INSTALLED. (MINIMUM = 90 DAYS, MAXIMUM = 120 DAYS)

THIS DETAIL IS NOT FOR USE WITHIN A STATE RIGHT-OF-WAY. REFER TO THE LATEST APPROVED DOT SPECIFICATIONS FOR TRENCH BEDDING WITHIN A STATE RIGHT-OF-WAY.

TRENCH BEDDING CLASSIFICATION (SANITARY MAIN) S8 / SCALE: N.T.S.





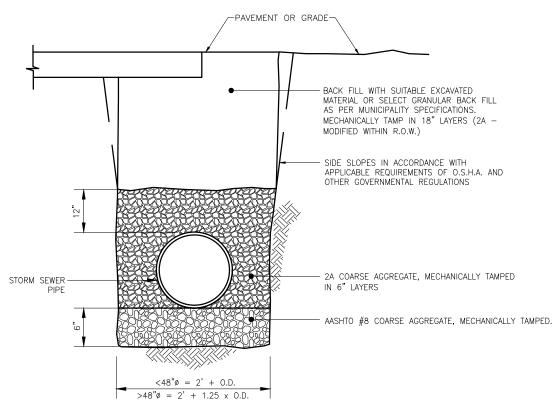


REV.: 2015.03.09

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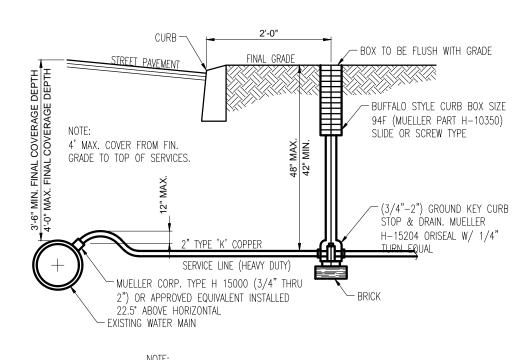
W TRENCH BEDDING CLASSIFICATION (WATER MAIN) S4 SCALE: N.T.S. REV.: 2015.03.09



EXCAVATIONS IN EXISTING PAVED ROADWAYS SHALL BE COORDINATED WITH THE LOCAL PERMITTING AGENCY, AND ALL EXCAVATION SHALL BE PAVED WITH TEMPORARY BITUMINOUS PAVEMENT FROM THE DATE OF ORIGINAL EXCAVATION UNTIL PERMANENT PAVEMENT IS INSTALLED. (MINIMUM = 90 DAYS, MAXIMUM = 120 DAYS)

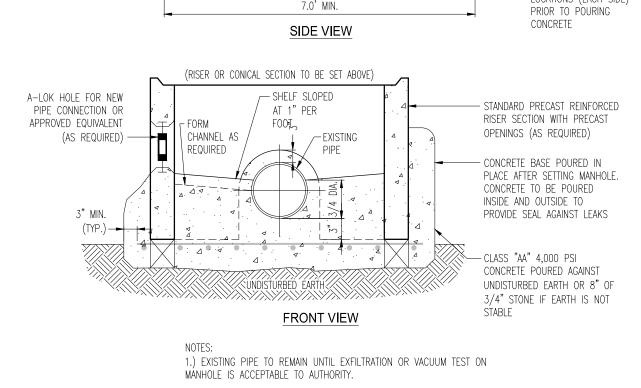
THIS DETAIL IS NOT FOR USE WITHIN A STATE RIGHT-OF-WAY. REFER TO THE LATEST APPROVED DOT SPECIFICATIONS FOR TRENCH BEDDING WITHIN A STATE RIGHT-OF-WAY.

R TRENCH BEDDING CLASSIFICATION (STORM) S8 SCALE: N.T.S. REV.: 2015.03.09



MODIFIED 2A STONE (8" LIFTS) SHALL BE PLACED WHEN BACKFILLING WATER SERVICE CONNECTION FROM MAIN TO BEHIND CURB. W WATER SERVICE CONNECTION DETAIL

S2 SCALE: N.T.S.



(RISER OR CONICAL SECTION TO BE SET ABOVE)

4.0'ø MIN.

REMOVE CROWN OF PIPE AFTER

EXISTING PIPE ----

SUNDISTURBED EARTH

a A

MANHOLE IS SET

3/4 DIAMETER OF

OPENING BETWEEN

WITH CONCRETE

EXISTING PIPE CUTOUT

(TYP.) TO BE FILLED

— #5 BARS @ 12" OC

BOTH WAYS, PLACED IMMEDIATELY BELOW

EXTENDING BEYOND OUTSIDE PERIMETER AS

MANHOLE RISER RESTING

ON CINDER BLOCKS OR

LOCATIONS (EACH SIDE)

8" HIGH CONCRETE BLOCKS AT THREE (3)

EVENLY SPACED

MANHOLE AND

SHOWN

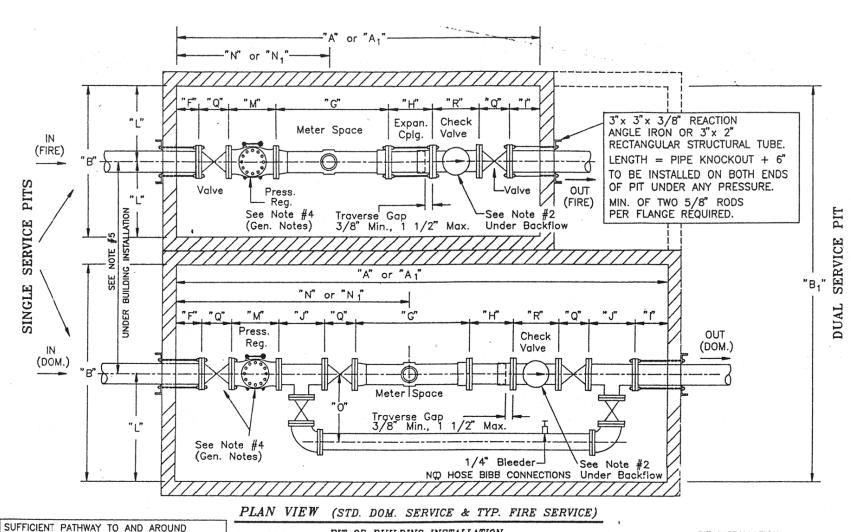
STANDARD PRECAST

(AS REQUIRED) —

REINFORCED RISER SECTION

WITH PRECAST OPENINGS

2.) REMOVE CROWN OF EXISTING PIPE FLUSH WITH CONCRETE SHELF. R DOGHOUSE MANHOLE DETAIL S2 / SCALE: N.T.S. REV.: 2015.03.09



METER SPACE MUST BE PROVIDED AND MAINTAINED, AT ALL TIMES, FOR INSTALLATION AND MAINTENANCE OF METER.		PIT	OR BU	ILDING II	NSTALLA	TION					For deta	NSTALLAT iils and n Plan C-	otes, refe	er to	pleas of d 2. On (prot
		SI	NGLE -	SERVIO	CE PIT	DIMENS	IONS (MINIM	UM)						met 3
			- 4.5		FIRE			L		D	OMESTIC (STANDARD)		
DESCRIPTION	CODE	1 1/2"	2"	4"	6"	8"	10"	1	1/2"	2"	3"	4"	6"	8"	
LENGTH (HIGH PRESSURE)	"A"	*-6'0"	* 6'-0"	9'-2"	11'1"	12'-0"	15'-1"	6	'-0"	7'-4"	11'-5"	12'-0"	13'-1"	16'-9"	
LENGTH (LOW PRESSURE)	"A ₁ "	*6'-0"	* 6'-0"	8'-0"	9'-7"	10'-0"	12'-7"	* 6	·-0"	* 6'-0"	9'-8"	10'-0"	10'-0"	13'-0"	
WIDTH	" B"	4'-0"	4'-0"	4'-0"	4'-0"	5'-0"	6'-0"	4	'-0"	4'-0"	5'-2"	5'-2"	5'-4"	5'-7"	
ACCESS DOOR	"C"	3' x 3'	3' x 3'	3' x 3'	3' x 3'	3' × 3'	4' x 4'	3'	x 3'	3' x 3'	3' × 3'	3' x 3'	3' x 3'	3' x 3'	
MAX. LENGTH OFF WALL (INLET)	"F"	6"	6"	9"	9"	9"	9"		6"	6"	9"	9"	9"	9"	
LAYING LENGTH OF METER (SEE GENERAL NOTE #6)	" G"	13"	17"	35 1/4"	45"	53"	68"		13"	17"	33"	33 1/4"	36 1/2"	53"	
EXPANSION COUPLING	"H"	6"	6"	15"	15"	15"	15"		6"	6"	15"	15"	15"	15"	
MIN. LENGTH OFF WALL (OUTLET)	" ["	. 6"	6"	9"	9"	9"	9"		6"	8"	9"	9"	9"	9"	
BY-PASS TEE	. "J"	-						1 1,	/2"(4°)	2"×2"(4")	3"x2"(11")	4"x3"(13")	6"x4"(16")	8"x8"(18")	
€ PIPE TO FLOOR	" K"	1'-8"	1'-8"	1'-8"	1'-8"	1'-8"	1'-8"		'-8"	1'-8"	1'-8"	1'-8"	1'-8"	1'-8"	
€ PIPE TO SIDE WALL	"L"	16"	,16 "	2'-0"	2'-0"	2'-6"	3'-0"	2	'-0"	2'-0"	3'-2"	3'-2"	3'-3"	3'-4"	
AVG. LAYING LENGTH OF PRESSURE REGULATOR	" M"	6 1/2"	7"	13"	18"	24 1/2"		-	1/2"	7"	12"	13"	18"	24 1/2"	
EMETER TO FRONT WALL (HIGH PRESS.)	"N"	2'-6"	2'-6"	4'-0"	5'-0"	6'-0"	7'-0"		'-6"	, 3'-0"	5'-6"	6'-0"	7'-0"	8'-0"	
E METER TO FRONT WALL (LOW PRESS.)	"N ₁ "	2'-6"	2'-6"	3'-0"	3'-6"	4'-0"	5'-0"	2	'-0"	2'-0"	4'-0"	4'-0"	4'-6"	5'-0"	
AVG. LAYING LENGTH OF VALVE	" Q"	4"	4"	9"	10 1/2"				4"	4"	9"	9"		11 1/2"	
AVG. LAYING LENGTH OF CHECK VALVE	"R"	6"	6"	13"	16 1/2"	19 1/2"	24 1/2"		6"	6"	10"	13"		19 1/2"	
€ PIPE TO € BY-PASS	"0"		*************	doment		-		9"	MIN.	9" MIN.	2' MIN.	2' MIN.	2' MIN.	2' MIN.	

* SEE NOTE #8 UNDER GENERAL NOTES

GENERAL NOTES FOR ALL INSTALLATIONS: All meters and strainers to be supplied, maintained, owned and installed by PSW Co.
 For all domestic and fire service lines 3" and larger, a minimum. of two Clow F-1608 adjustable pipe supports, or equal, shall be installed by owner. They shall be placed under the inlet & outlet flanges of the meter space, prior to the meter being set. Add't supports may be needed.

3. All meters must be set level in a horizontal plane. 4. On fire service lines 2" and smaller, and domestic service lines, when pressure may exceed 100 psi, a pressure regulator and an

add'I valve on the inlet side of the PRV are req'd. On fire service lines over 2", when pressure may exceed 150 psi, a pressure regulator is req'd. By-pass around regulator not allowed. 5. On domestic service lines, 1 1/2" and larger, a by-pass is required. P.S.W. Co. will determine the exceptions. 6. Where domestic meter size is smaller than service size, the meter opening "G" dim. shall be the "G" dim. of the meter size plus the laying length of the reducers. Avg. laying length of reducers: $8^{\circ} \times 6^{\circ}$ (11"), $6^{\circ} \times 4^{\circ}$ (9"), $4^{\circ} \times 3^{\circ}$ (7"). '. Expansion couplings are req'd for pit installations. On expansion cplg's 3" and larger, a Smith Blair #912 adaptor w/flg'd tail pce. or a Ford flanged coupling adaptor style FFCA w/flanged tail pce. or equal, shall be used.(tail piece must abut meter) On 2" and smaller, a Ford Lock—Pac cpl'g, or equal, is req'd, except when using a "Special" Custom Setter or equal.

8. For 1 1/2" and 2" meters (low pressure), a 36" dia. pit made of Rigid PVC Pipe (Ribbed Const.) may be used, along with a Ford "Special" Custom Setter. See PSW Co. plan No. G—18119.

9. Butterfly valves are NOT permitted in meter arrangement. 10. Victaulic flanges and joints are NOT acceptable in the meter arrangement or in meter pits. BUILDING INSTALLATION: Expansion coupling not req'd. for meters set inside buildings.
 When the dom. meter is installed in the building, the by-pass line must be installed either on the wall side and parallel with the meter, or above the meter.

3. The meter location shall NOT be within a closet crawl space, garage, unheated area or any enclosure not approved by PSW CO.

4. In buildings, concrete blocking under bends are to be poured AFTER meter is set.

5. The distance between the domestic and fire lines (when laid parallel) shall be twice the "L" dimension of the fire line. BACKFLOW PREVENTERS: 1. If a backflow prevention device is required, as indicated on the

water service application form, and/or service approval letter, please contact PSW Co. Cross—Connection Dept. for type of device, location and installation information. all service lines, if a backflow prevention device is required cting the entire service line) then the check valve by the Backflow preventers are to be installed downstream of the

meter and before any outlet or branch connections. NOTE: IF BUILDER SELECTS TO USE A DUAL-SERVICE PIT, THEN DIM. "A" OR "A₁" OF THE DUAL-SERVICE PIT SHOULD BE THE LARGER OF THE SINGLE-SERVICE PIT "A" OR "A1" DIM. FOR FIRE AND DOMESTIC LINE. DUAL-SERVICE PIT - "B₁" DIM. (MINIMUM)

	SIZE			FI	RE		
	SERV.	1 1/2"	2"	4"	6"	.8"	10"
)	1 1/2"	6'-0"	6'-0"	7'-0"	7'-0"	8'-0"	8'-0"
	2"	6'-0"	6'-0"	7'-0"	7'-0"	8'-0"	8'-0"
	3"	7'-0"	7'-0"	8'-0"	8'0"	9'-0"	10'-0'
	4"	7'-0"	7'-0"	8'-0"	8'-0"	9'-0"	10'-0"
	6"	8'0"	8'-0"	8'-0"	8'-0"	10'-0"	10'-0"
	8*	8'-0"	8'-0"	9'-0"	9'-0"	10'-0"	10'-0"

\subseteq		N N							
REVISIONS									
REV	DATE	COMMENT	BY						
1	08/31/2018	PER DOT COMMENTS	МСМ						
2	02/28/2019	PER TWP COMMENTS	МСМ						
\geq									

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

POCS SERIAL NUMBER 1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

DRAWN BY: MCM CHECKED BY: EAB 2018.07.13 SCALE: AS NOTED PC181016 DETAILS-2 CAD LD:

> **PRELIMINARY** LAND DEVELOPMENT

> > **PLANS**

WAYNE PROPERTY

ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE

RADNOR TOWNSHIP

DELAWARE COUNTY, PA

BUTLLE BNGINBERING

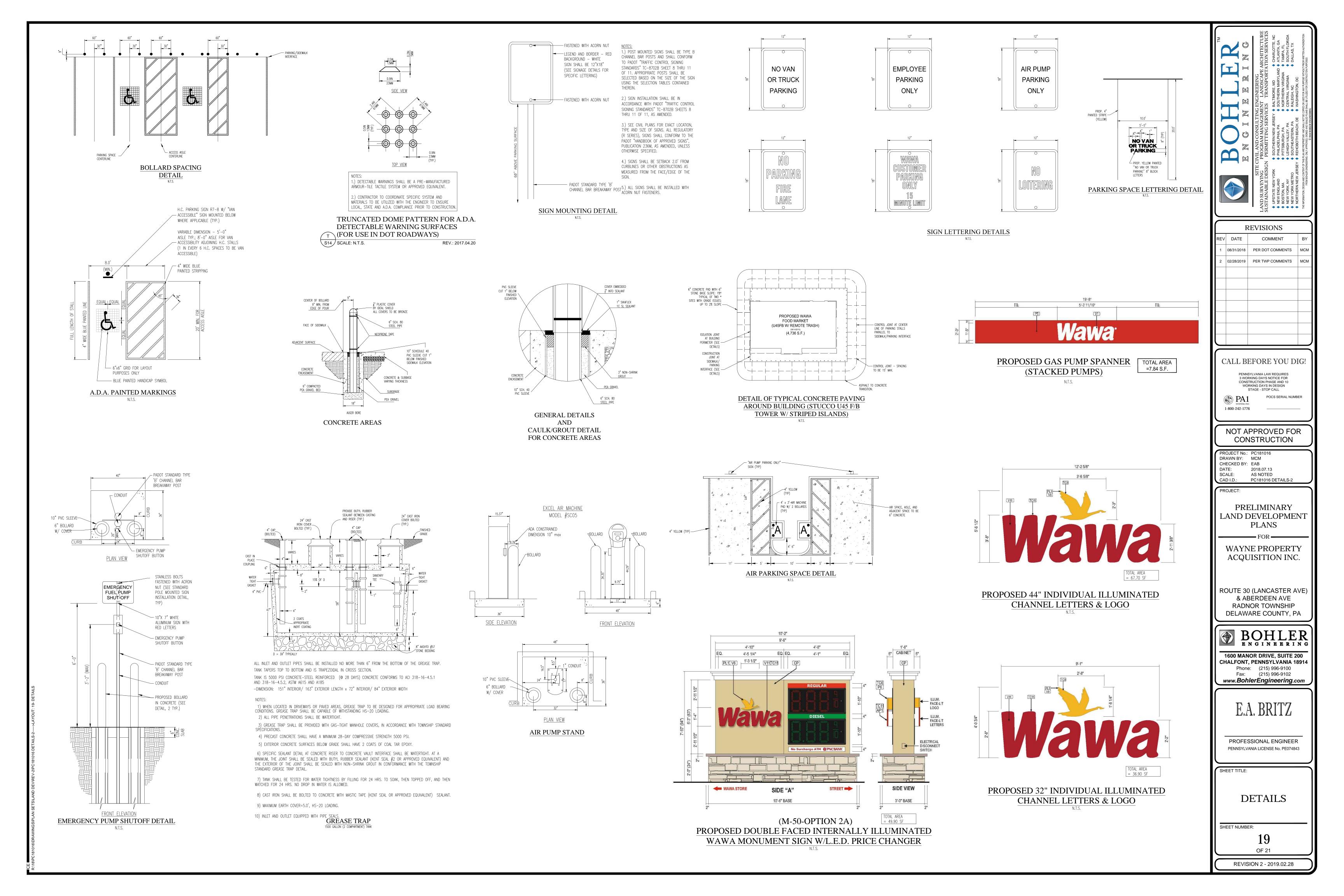
1600 MANOR DRIVE, SUITE 200 **CHALFONT, PENNSYLVANIA 18914** Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

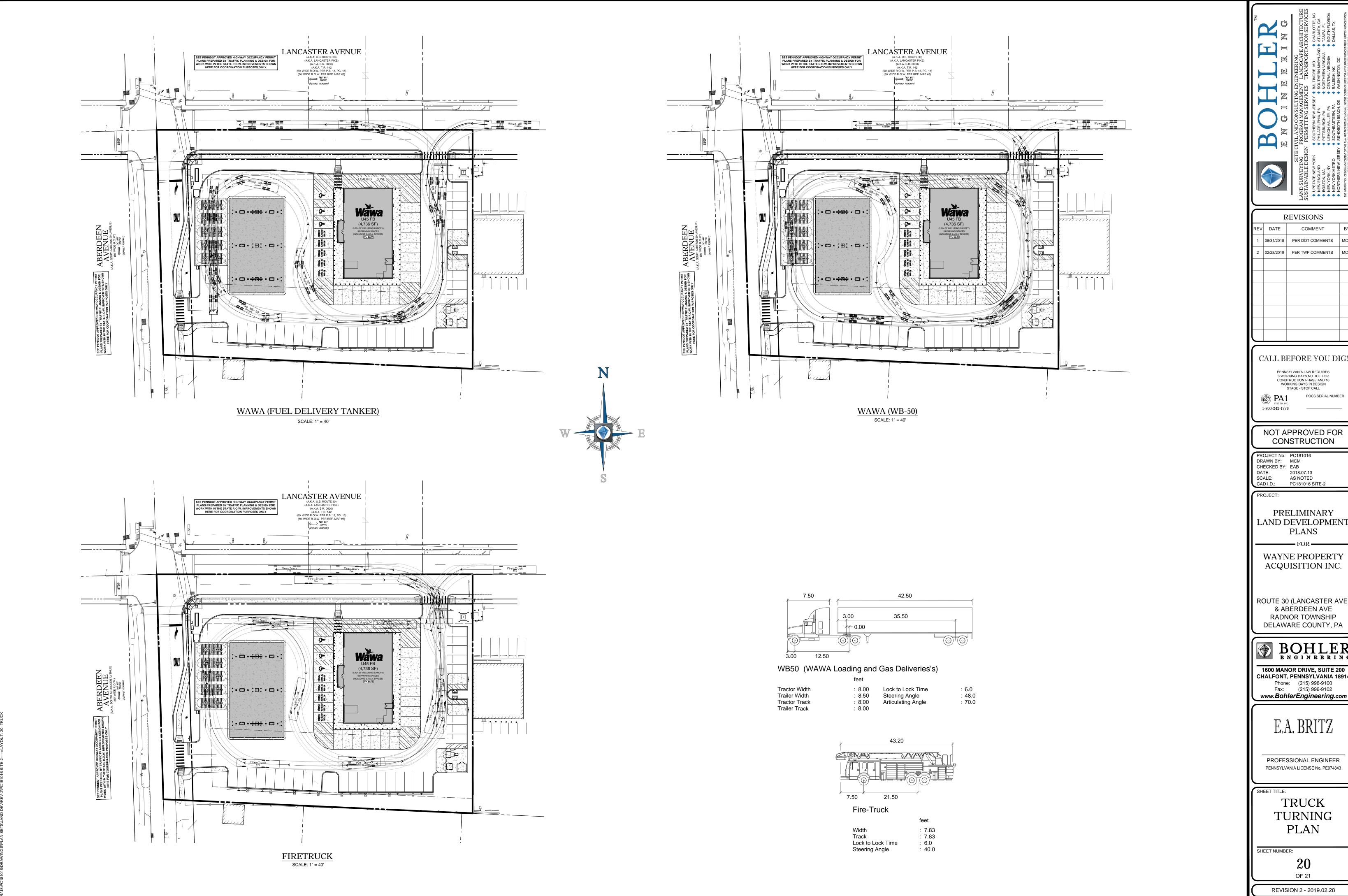
PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

DETAILS

SHEET NUMBER:

OF 21 REVISION 2 - 2019.02.28





REVISIONS EV DATE COMMENT 08/31/2018 PER DOT COMMENTS

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

NOT APPROVED FOR CONSTRUCTION

DRAWN BY: MCM DATE: 2018.07.13 SCALE: AS NOTED CAD I.D.: PC181016 SITE-2

> **PRELIMINARY** LAND DEVELOPMENT **PLANS**

WAYNE PROPERTY ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP DELAWARE COUNTY, PA

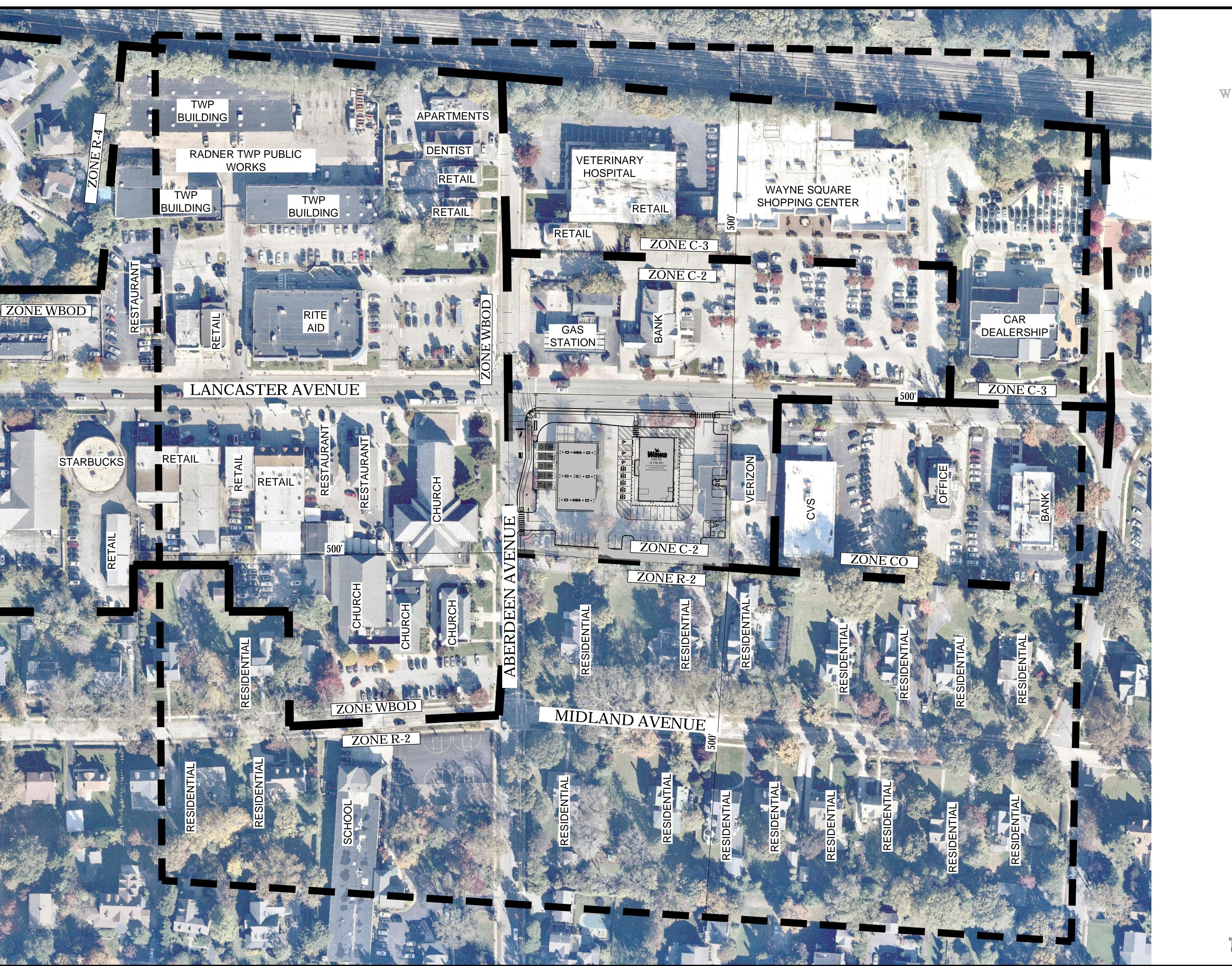
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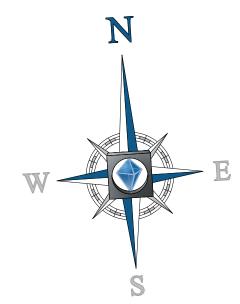
1600 MANOR DRIVE, SUITE 200 **CHALFONT, PENNSYLVANIA 18914** Phone: (215) 996-9100 Fax: (215) 996-9102 www.BohlerEngineering.com

PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE No. PE074843

TRUCK TURNING PLAN

OF 21





SITE CIVIL AND CONSULTING ENGINEERING
SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECT
AINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERV
STATE NEW YORK * SOUTHERN NEW JERSEY * BALTMORE, MD * CHARLOTTE, WE STON, MA * PHILADELPHIA, PA * SOUTHERN WRGINIA * TAMPA, FL
STON, MA * LEHIGH VALLEY, PA * CENTRAL VIRGINIA * SOUTH FLOR WYORK, NY * LEHIGH VALLEY, PA * CENTRAL VIRGINIA * SOUTH FLOR WYORK, NY * REHOBOTH BEACH, DE * WASHINGTON, DC

			_					
REVISIONS								
REV	DATE	COMMENT	BY					
1	08/31/2018	PER DOT COMMENTS	MCM					
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_								

CALL BEFORE YOU DIG!

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

PA1 SYSTEM, INC. 1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

PROJECT No.: PC181016
DRAWN BY: MCM
CHECKED BY: EAB
DATE: 2018.07.13
SCALE: AS NOTED
CAD I.D.: PC181016 AERIAL -2

PRO IECT:

PRELIMINARY LAND DEVELOPMENT PLANS

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WAYNE PROPERTY ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE RADNOR TOWNSHIP DELAWARE COUNTY, PA

BOHLER BNGINBERING

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

E.A. BRITZ

PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. PE074843

SHEET TITLE:

AERIAL

SHEET NUMBER:

21 OF 21