

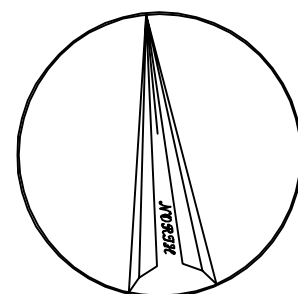
517 DEER DRIVE

SUBDIVISION & LAND DEVELOPMENT PLANS

MIDDLETOWN TOWNSHIP, BUCKS COUNTY, PENNSYLVANIA



LOCATION MAP
SCALE : 1"= 100'



INDEX OF DRAWINGS	
No.	DESCRIPTION
1	COVER SHEET
2	RECORD PLAN
3	EXISTING FEATURES PLAN
4	EROSION & SEDIMENT CONTROL PLAN
5	EROSION & SEDIMENT CONTROL DETAILS
6	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
7	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
8	LANDSCAPE PLAN
9	LANDSCAPE NOTES & DETAILS
10	CONSTRUCTION DETAILS

SERIAL No. 2022-320-1390
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CONSTRUCTION PHASE AND 10 WORKING
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HEATH ALAN DUMACK
REGISTERED
SURVEYOR
PA P.E. LICENSE No. PE-054500-E

THIS PROJECT HAS BEEN PREPARED FOR MUNICIPAL PURPOSES.
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND
ADDITIONAL INFORMATION MAY BE REQUIRED FOR CONSTRUCTION.
PROCEEDING WITH THE WORK.
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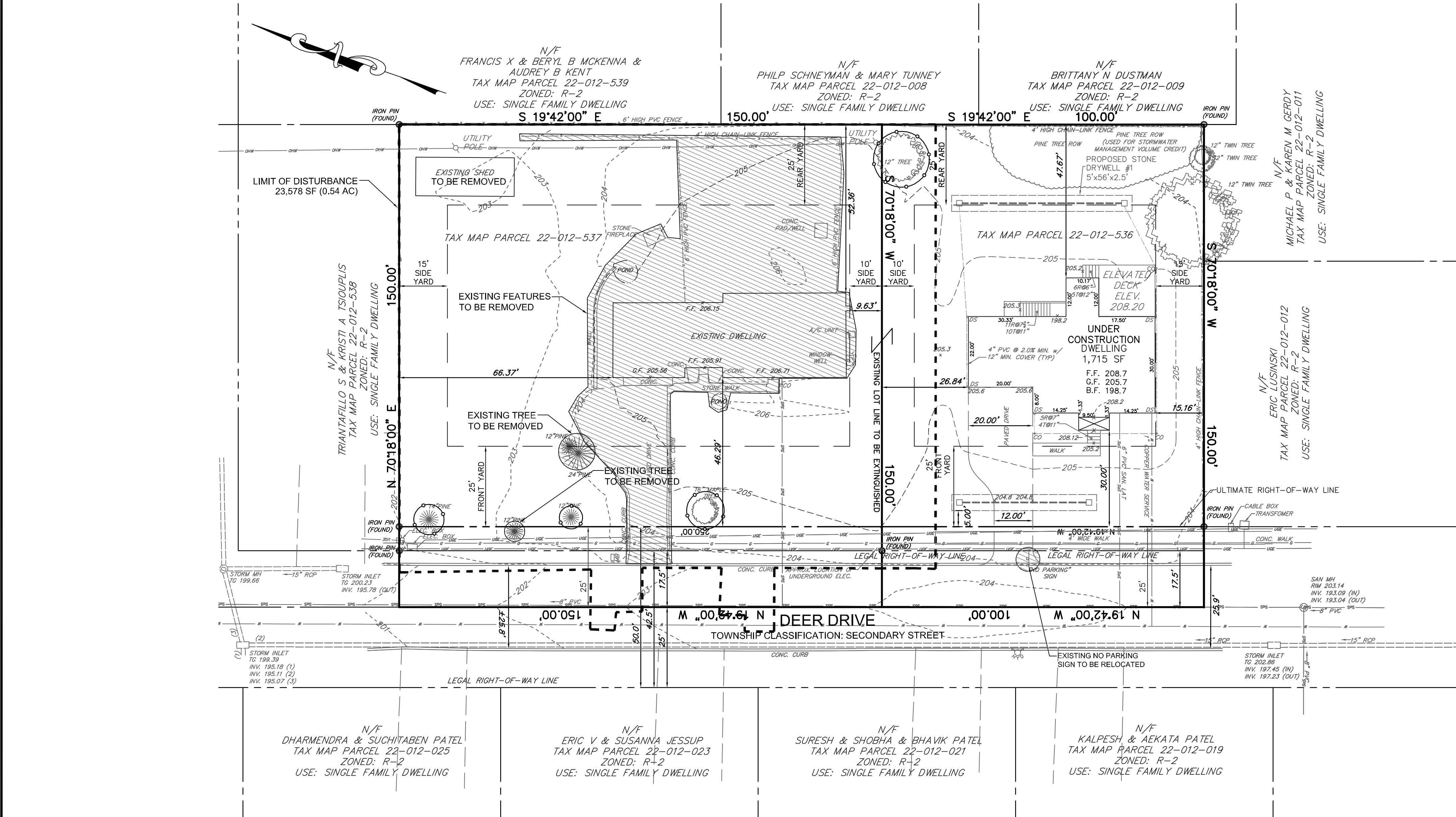
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EXISTING PARCEL INFO:
T.M.P. No. 22-012-536 & 537
DEED BOOK: 1148 PAGE No. 0097 & 0101
CURRENT ZONING: R-2
OWNER of RECORD:
THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERVILLE, PA 19053
APPLICANT:
THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERVILLE, PA 19053

20 0 10 20
GRAPHIC SCALE

COVER SHEET
517 DEER DRIVE
MIDDLETOWN TOWNSHIP
BUCKS COUNTY, PA

DRAWN BY: HAD	CHECKED BY:
SCALE: 1"=20'	PROJECT No: 7782
PLAN DATE: JULY 6, 2023	SHEET No: 1 of 10



GENERAL NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES CONTAINED ON THESE PLANS HAVE BEEN OBTAINED BY FIELD SURVEY. COMPLETENESS OR ACCURACY OF THE LOCATION OF UTILITIES CANNOT BE GUARANTEED. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS, SURFACE AND SUBSURFACE, AND SHALL NOTIFY THE ENGINEER IN THE EVENT OF DISCREPANCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UNDERGROUND UTILITY USERS FOR COMPLIANCE WITH PENNSYLVANIA ACT 2008-121.
2. NO PORTION OF THE SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN BOUNDARY AS IDENTIFIED ON FEMA MAP 42017C04374, EFFECTIVE DATE MARCH 16, 2015.
3. TOPOGRAPHY AND ELEVATIONS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY AND ALL RIGHTS-OF-WAY, EASEMENTS AND COVENANTS OF RECORD.
5. DURING CONSTRUCTION, THE PROPERTY OWNER SHALL BE RESPONSIBLE TO RESTORE ANY PAVING, CURBING, ETC... THAT IS DISTURBED DURING REPAIR AND/OR MAINTENANCE OF ANY UTILITIES.
6. ENTIRE SITE IS LOCATED WITHIN THE UKB - URBAN LAND-CHESTER COMPLEX SOIL BOUNDARY.

NATURAL RESOURCE CALCULATION TABLE:

NATURAL RESOURCE	% OF RESOURCE TO BE PROTECTED	% OF RESOURCE PERMITTED TO BE DISTURBED	TOTAL AREA OF NATURAL RESOURCE (AC.)	TOTAL AREA OF REQUIRED RESOURCE PROTECTION (AC.)	ACTUAL AREA OF RESOURCE PROTECTED (AC.)	ACTUAL AREA OF RESOURCE PROTECTED (%)	ACTUAL AREA OF RESOURCE DISTURBED (%)	ACTUAL AREA OF RESOURCE DISTURBED (%)
FLOODPLAINS	100%	0%	0.000	0.000	0.000	0%	0.000	0%
FLOODPLAIN SOILS	100%	0%	0.000	0.000	0.000	0%	0.000	0%
LAKES AND PONDS	100%	0%	0.000	0.000	0.000	0%	0.000	0%
LAKES AND POND SHORELINES	80%	20%	0.000	0.000	0.000	0%	0.000	0%
WETLANDS	100%	0%	0.000	0.000	0.000	0%	0.000	0%
WETLAND MARGIN	80%	20%	0.000	0.000	0.000	0%	0.000	0%
STEEP SLOPES:								
8%-15%	50%	50%	0.000	0.000	0.000	0%	0.000	0%
15%-25%	70%	30%	0.000	0.000	0.000	0%	0.000	0%
25% OR MORE	85%	15%	0.000	0.000	0.000	0%	0.000	0%
WOODLANDS:								
ENVIRONMENTALLY SENSITIVE	80%	20%	0.000	0.000	0.000	0%	0.000	0%
ALL OTHERS	50%	50%	0.000	0.000	0.000	0%	0.000	0%
WATERCOURSES	100%	0%	0.000	0.000	0.000	0%	0.000	0%

SOIL SYMBOLS/ SERIES	DEPTH TO THE TOP SEASONAL WATER TABLE	DEPTH TO RESTRICTIVE FEASURE	BUILDINGS WITHOUT BASEMENTS	BUILDINGS WITH BASEMENTS	SMALL COMMERCIAL BUILDINGS	LAND CAPABILITY	PRIME FARMLAND	HYDROLOGY CODE
UKB URBAN LAND - CHESTER COMPLEX 0 TO 8% SLOPES	--	10 TO 99 inches (LITHIC BEDROCK)	NOT RATED	NOT RATED	NOT RATED	8s/2e	NOT PRIME FARMLAND	--

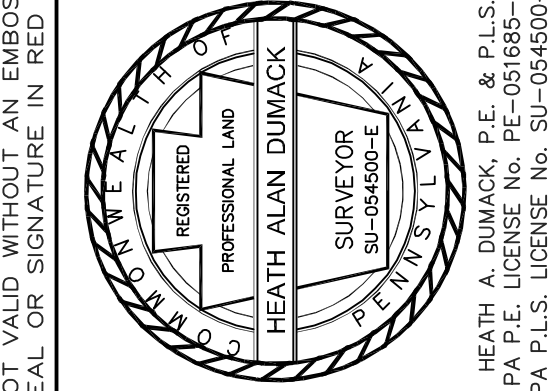
Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. SITE ACCESSED ON NOVEMBER 7, 2022.

Legend

- Tract Boundary Line
Legal Right-of-Way Line
Ultimate Right-of-Way Line
Existing Contour
Existing Index Contour
Existing Water Main
Existing Storm Sewer
Existing Tree
Existing Treeline
Existing Treeline to Remain
Soil Boundary Line
Building Setback Line
Existing Sanitary Sewer
Existing Gas Main
Limit of Disturbance Line
Tree Protection Fence

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EXISTING PARCEL INFO:
T.M.P. No. 22-012-536 & 537
DEED BOOK: 1148 PAGE No. 0097 & 0101

CURRENT ZONING: R-2

OWNER OF RECORD:
THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERVILLE, PA 19053

APPLICANT:
THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERVILLE, PA 19053

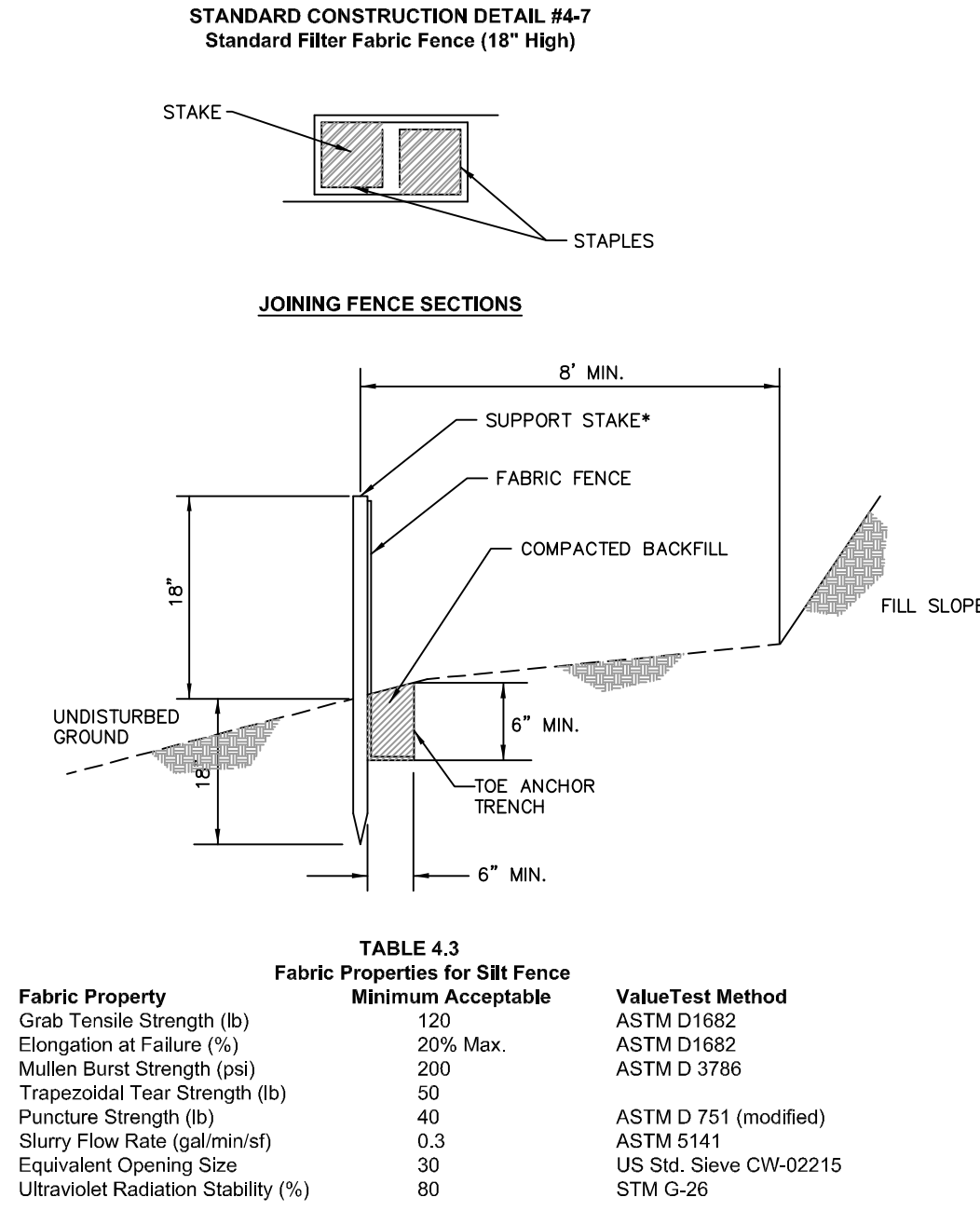
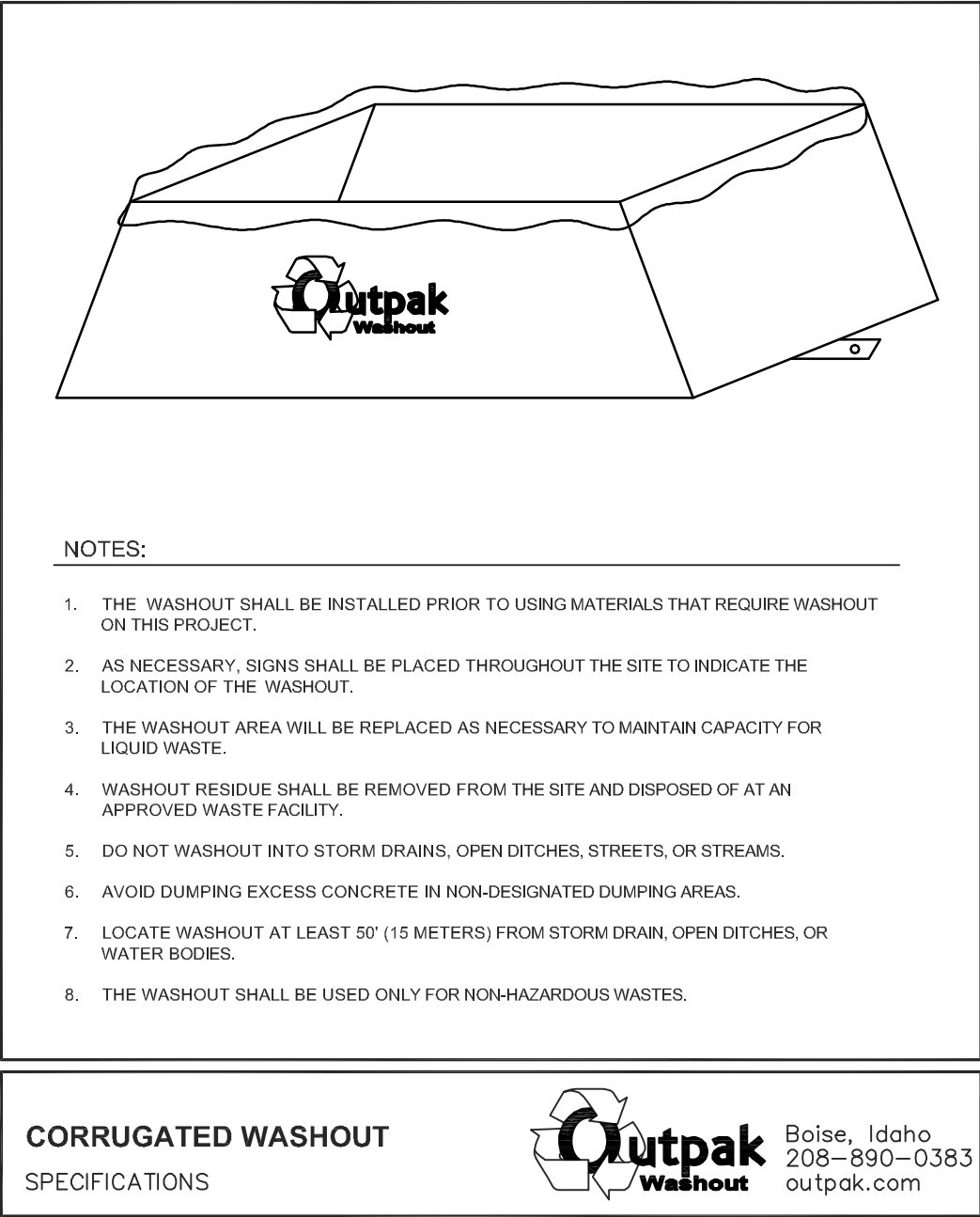
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GRAPHIC SCALE

EXISTING FEATURES PLAN
517 DEER DRIVE

MIDDLETOWN TOWNSHIP
BUCKS COUNTY, PA

DRAWN BY: HAD
SCALE: 1"=20'
PLAN DATE: JULY 6, 2023
PROJECT No: 7782
SHEET No: 3 of 10

PLAN DATE:
JULY 6, 2007



* Stakes spaced @ 8' maximum. Use 2" x 2" (x 3/4") wood or equivalent steel (U or T) stakes.

Fabric shall have the minimum properties shown in Table 4.3.

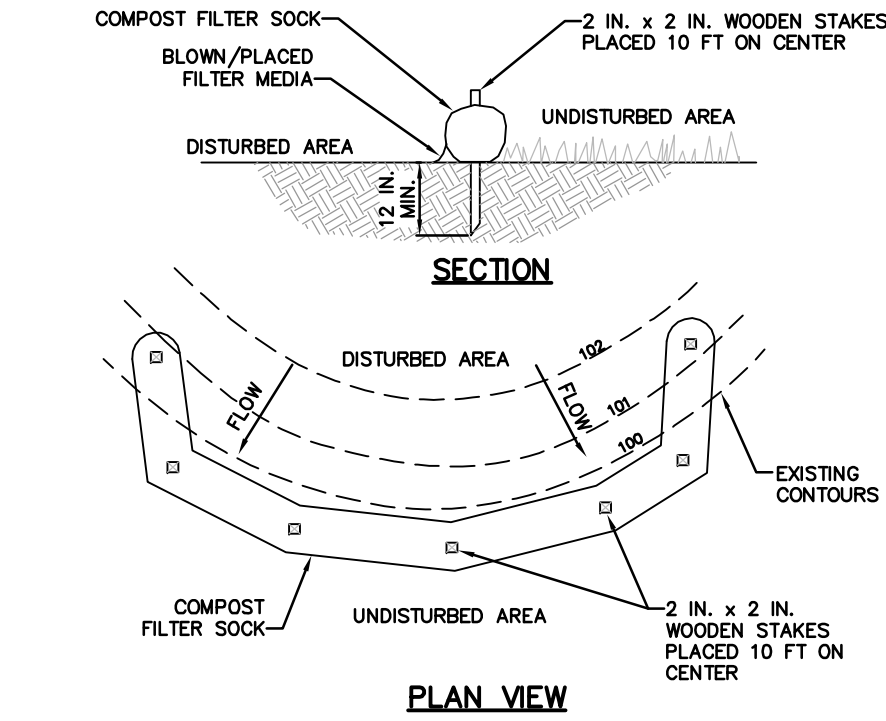
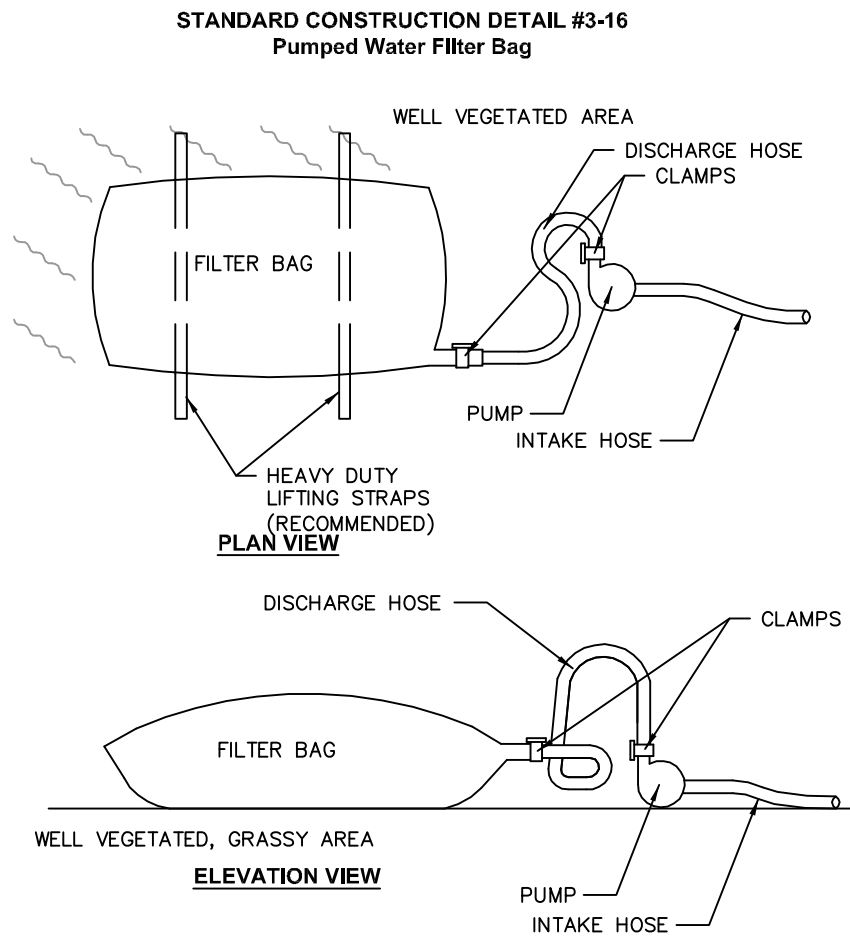
Fabric width shall be 30" minimum. Stakes shall be hardwood or equivalent steel (U or T).

Silt fence must be placed at level existing grade. Both ends of the barrier must be extended at least 8 feet up slope at 45 degrees to the main barrier alignment.

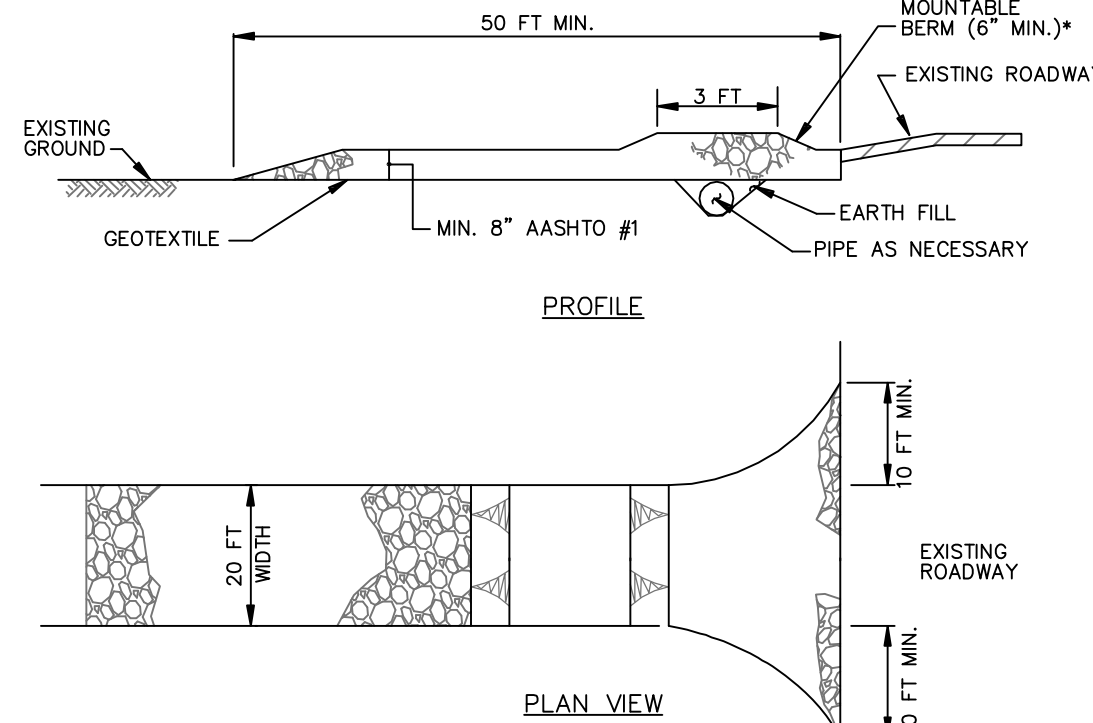
Sediment must be removed when accumulations reach half the above ground height of the fence.

Any section of silt fence which has been undermined or topped must be immediately replaced with a rock filter outlet (See Standard Construction Detail #4-6).

Fence shall be removed and properly disposed of when tributary area is permanently stabilized.



STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK
NOT TO SCALE



Remove topsoil prior to installation of rock construction entrance. Extend rock over full width of entrance.

Runoff shall be diverted from roadway to a suitable sediment removal BMP prior to entering rock construction entrance.

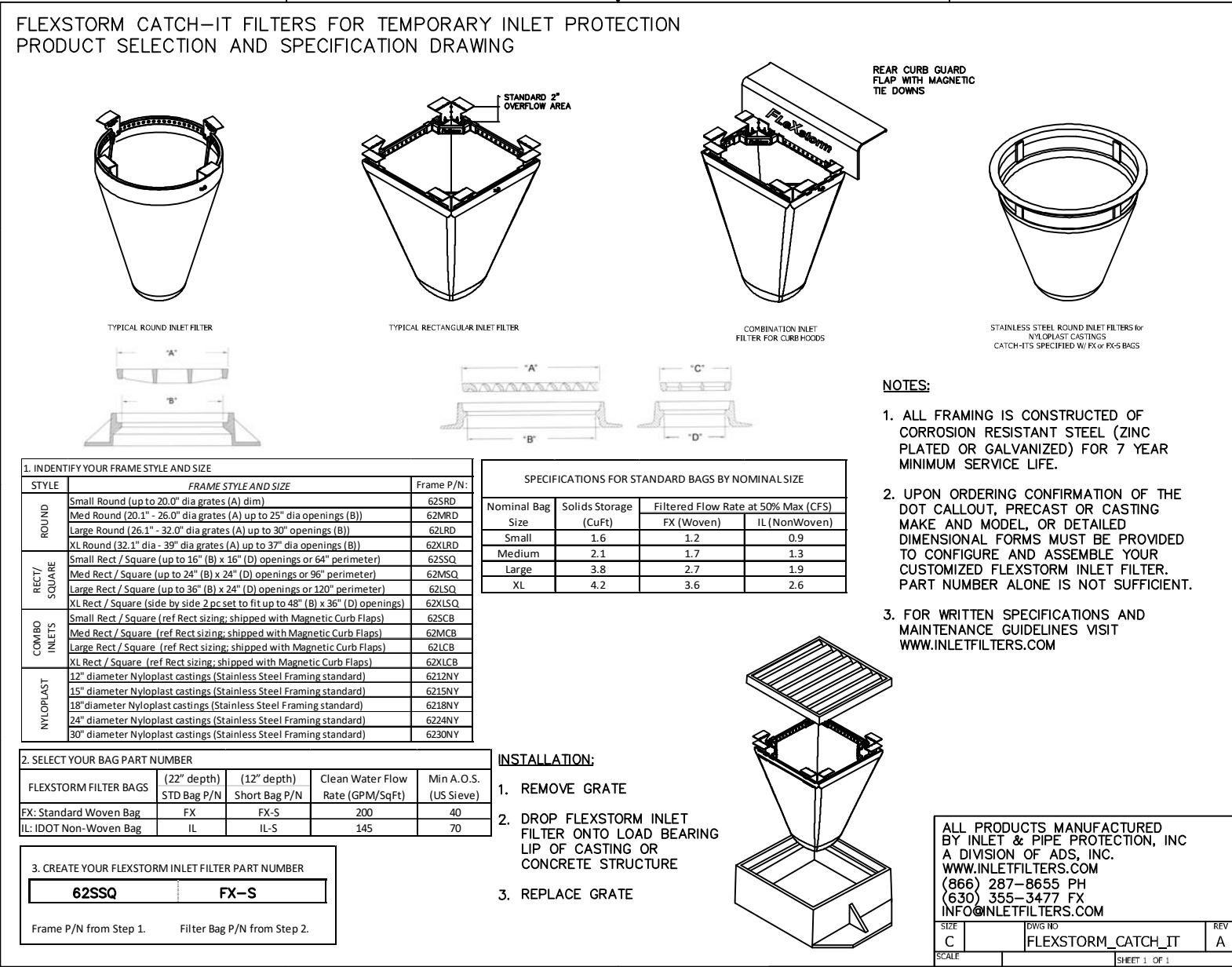
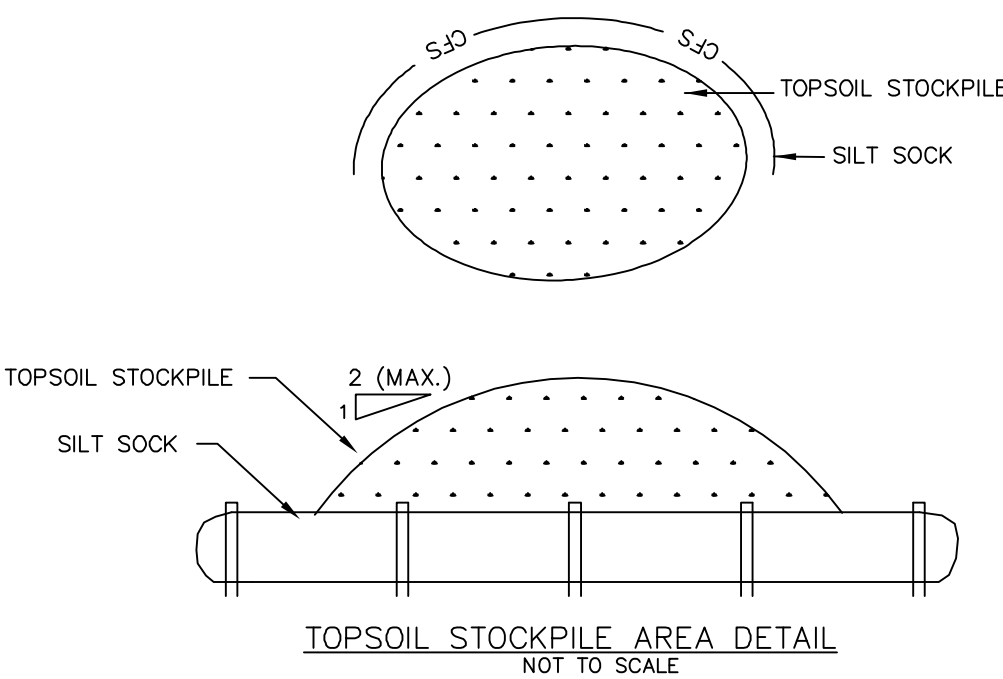
Mountable berm shall be installed wherever optional culvert pipe is used and proper pipe cover as specified by manufacturer is not otherwise provided. Pipe shall be sized appropriately for size of ditch being crossed.

MAINTENANCE: Rock Construction Entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on roadway, extend length of rock construction entrance by 50 foot increments until condition is alleviated or install wash rack. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

NOTE:

- 1.) Erect Tree Protection Fence at the Dripline of the Tree or at least Fifteen (15) Feet from the trunk of the tree
- 2.) Attach Tree Protection Fence to wooden posts spaced eight (8) Feet, on center.
- 3.) Any damage to the Tree Protection Fencing shall be replaced or repaired before further construction.

Standard Tree Protection Detail
No Scale



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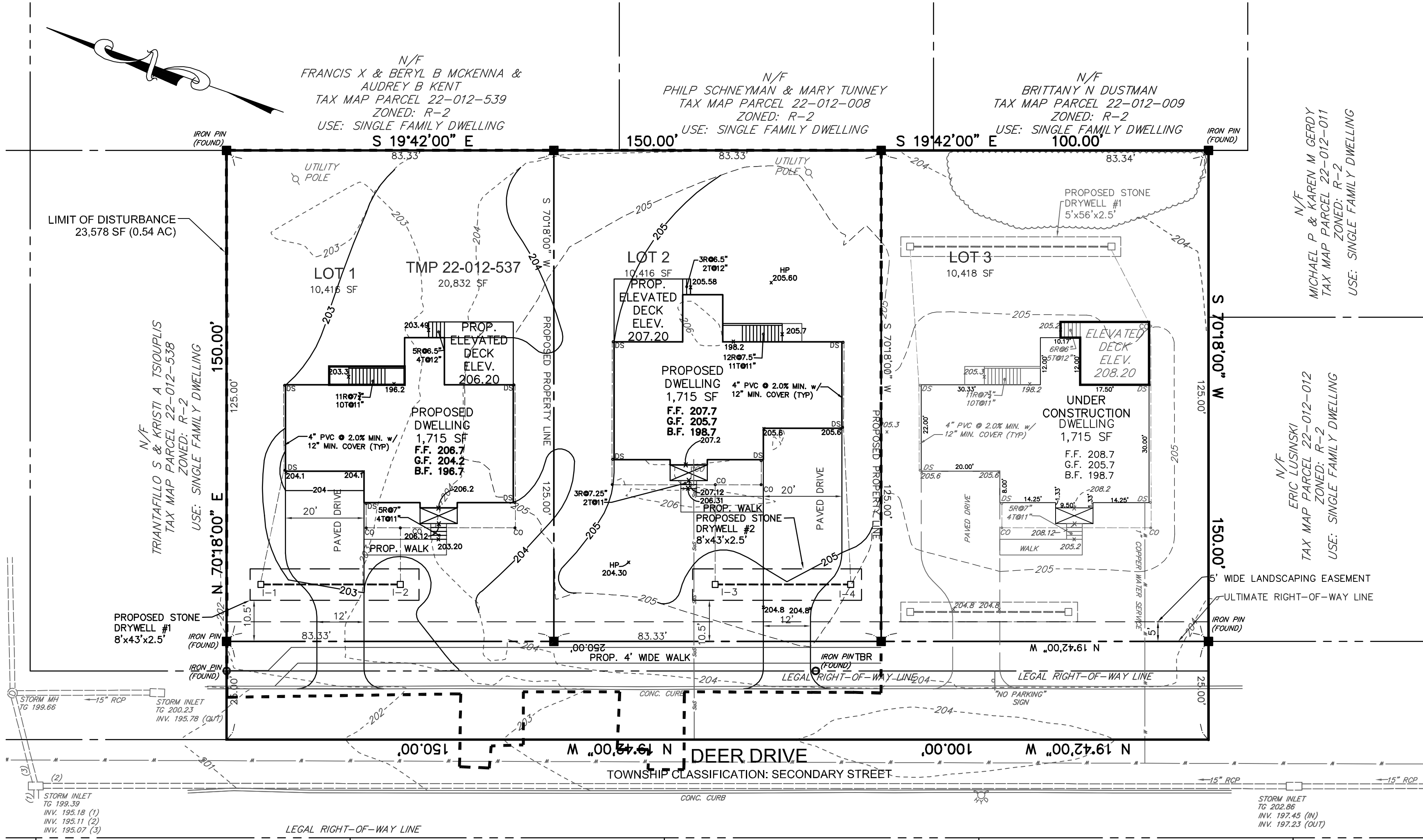
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FEASTERVILLE, PA 19053

APPLICANT:
THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERVILLE, PA 19053

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GRAPHIC SCALE

EROSION AND SEDIMENT CONTROL DETAILS
517 DEER DRIVE
MIDDLETOWN TOWNSHIP
BUCKS COUNTY, PA

DRAWN BY: HAD
SCALE: 1"=20'
PROJECT No: 7782
PLAN DATE: JULY 6, 2023
SHEET No: 5 of 10



N/F DHARMENDRA & SUCHITABEN PATEL TAX MAP PARCEL 22-012-025 ZONED: R-2 USE: SINGLE FAMILY DWELLING		N/F ERIC V & SUSANNA JESSUP TAX MAP PARCEL 22-012-023 ZONED: R-2 USE: SINGLE FAMILY DWELLING		N/F SURESH & SHOBHA & BHAVIK PATEL TAX MAP PARCEL 22-012-021 ZONED: R-2 USE: SINGLE FAMILY DWELLING		N/F KALPESH & AEKATA PATEL TAX MAP PARCEL 22-012-019 ZONED: R-2 USE: SINGLE FAMILY DWELLING	
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SOIL SYMBOLS/ SERIES	DEPTH TO THE TOP SEASONAL WATER TABLE	DEPTH TO RESTRICTIVE FEASURE	BUILDINGS WITHOUT BASEMENTS	BUILDINGS WITH BASEMENTS	SMALL COMMERCIAL BUILDINGS	LAND CAPABILITY	PRIME FARMLAND	HYDROLOGY CODE
UkB URBAN LAND - CHESTER COMPLEX 0 TO 8% SLOPES	--	10 TO 99 Inches (LITHIC BEDROCK)	NOT RATED	NOT RATED	NOT RATED	8s/2e	NOT PRIME FARMLAND	--

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. SITE ACCESSED ON NOVEMBER 7, 2022.

STORMWATER MANAGEMENT CALCULATIONS
APPENDIX I: SMALL PROJECT STORMWATER MANAGEMENT SITE PLAN
MAXIMUM ALLOWABLE IMPERVIOUS SURFACE = 5,000 S.F.
EXISTING IMPERVIOUS SURFACE = 2136 S.F.
PROPOSED IMPERVIOUS SURFACE = 6,231 S.F.
PROPOSED FUTURE IMPERVIOUS = 800 S.F.

LOT 1:
EXISTING IMPERVIOUS SURFACE = 1,068 S.F.
PROPOSED IMPERVIOUS SURFACE = 2,695 S.F.
PROPOSED FUTURE IMPERVIOUS = 429 S.F.
THEREFORE DESIGN CONTROLS FOR 2,056 S.F.
REQUIRED STORAGE VOLUME

CAPTURE VOLUME (C.F.)=IMPERVIOUS SURFACE (S.F.)²/2 C.F./12 S.F.
=2,056 S.F. * 2 C.F. / 12 S.F. = 343 C.F. STORAGE REQUIRED

PROPOSED DRYWELL #1: 8' x 43' x 2.5'
DRYWELL STORAGE: 8' x 43' x 2.5' x 0.4 = 344 C.F.
* ASSUMED 40% VOID RATIO

LOT 2:
EXISTING IMPERVIOUS SURFACE = 1,068 S.F.
PROPOSED IMPERVIOUS SURFACE = 2,915 S.F.
PROPOSED FUTURE IMPERVIOUS = 209 S.F.
THEREFORE DESIGN CONTROLS FOR 2,056 S.F.
REQUIRED STORAGE VOLUME

CAPTURE VOLUME (C.F.)=IMPERVIOUS SURFACE (S.F.)²/2 C.F./12 S.F.
=2,056 S.F. * 2 C.F. / 12 S.F. = 343 C.F. STORAGE REQUIRED

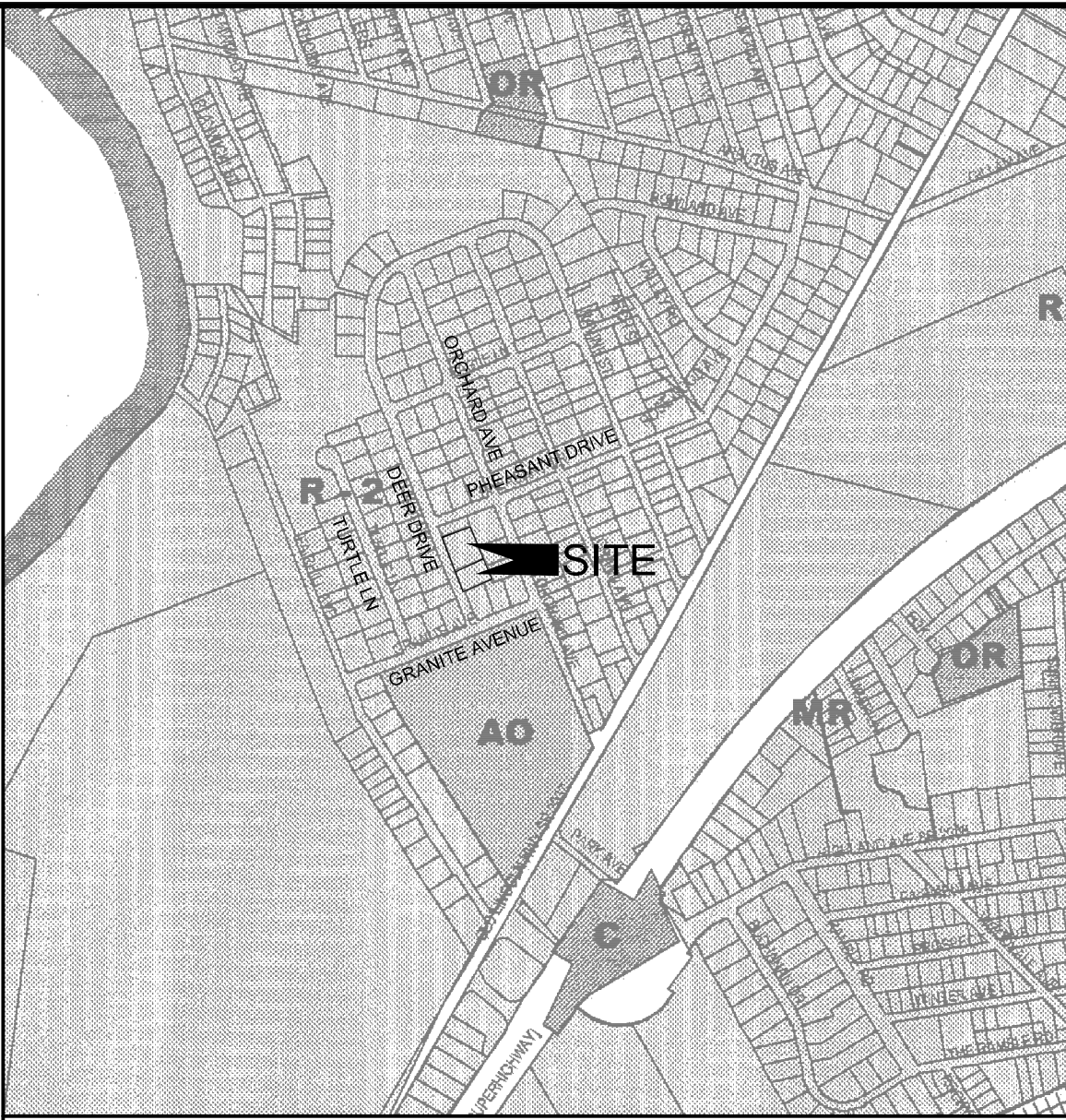
PROPOSED DRYWELL #1: 8' x 43' x 2.5'
DRYWELL STORAGE: 8' x 43' x 2.5' x 0.4 = 344 C.F.
* ASSUMED 40% VOID RATIO

TOTAL PROVIDED VOLUME = 343 C.F. + 343 C.F. = 686 > 688 C.F.

SUBSURFACE DETENTION BASIN INSPECTION AND MAINTENANCE SCHEDULE

- INSPECTION, MAINTENANCE AND REPAIR OF THE UNDERGROUND STORMWATER MANAGEMENT SYSTEMS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
- 100 PERCENT VEGETATIVE COVER BY HERBACEOUS SPECIES SHALL BE MAINTAINED THROUGHOUT ALL EMBANKMENTS AND LAWN AREAS WITH DIRECT DISCHARGE TO THE UNDERGROUND FACILITY. ANY AREA BECOMING VOID OF VEGETATION SHALL BE IMMEDIATELY CORRECTED BY REPLANTING OR OTHER ADEQUATE MEASURES NECESSARY TO PREVENT EROSION THAT MAY JEOPARDIZE THE POROSITY OF THE SYSTEM. AT NO TIME SHALL MULCH BE USED ON SLOPES OF DIRECT DRAINAGE TO THE UNDERGROUND FACILITY.
- GRASS CLIPPINGS SHALL BE COLLECTED AND REMOVED TO PREVENT CLOGGING OF THE FACILITY. FALL LEAVES SHALL BE COLLECTED AND REMOVED FROM THE SITE A MINIMUM OF ONE (1) TIME PER WEEK DURING THE FALL SEASON. ROOF DRAINS AND DEBRIS TRAPS SHALL BE CHECKED FOR LEAF LITTER AND OTHER DEBRIS, WHICH MAY CLOG PERFORATED PIPES AND/OR STONE BEDS.
- INSPECT UNDERGROUND STORMWATER MANAGEMENT FACILITY AT LEAST FOUR TIMES A YEAR, AS WELL AS AFTER EVERY STORM EXCEEDING 1 INCH. REMOVE CLEANOUT CAPS AND INSPECT FOR DEBRIS. REMOVE ACCUMULATED LEAVES, TWIGS, SEDIMENT AND OTHER DEBRIS AS REQUIRED TO KEEP THE ROOF DRAINAGE SYSTEM CLEAN. IF AFTER INSPECTION IT IS DETERMINED THAT SEDIMENT NEEDS TO BE REMOVED FROM THE SIEPAGE BED, INJECT SYSTEM WITH WATER, SUSPEND SILT AND PUMP CHAMBER.
- EVALUATE THE DRAIN-DOWN TIME OF THE FACILITY TO INSURE THE MAXIMUM TIME OF 72 HOURS IS NOT BEING EXCEEDED. IF DRAIN-DOWN TIMES ARE EXCEEDING THE MAXIMUM, DRAIN THE FACILITY BY PUMPING AND CLEANING OUT PERFORATED PIPE.
- THE PROPERTY OWNER SHALL SUBMIT AN ANNUAL REPORT TO THE TOWNSHIP DETAILING THE MAINTENANCE WORK, INCLUDING REPAIRS, IF ANY, THAT ARE CARRIED OUT DURING A GIVEN CALENDAR YEAR. SUCH REPORTS SHALL BE DUE ON OR ABOUT THE FIRST DAY OF MARCH OF THE FOLLOWING YEAR.

THE TOWNSHIP AND/OR ITS AGENTS RESERVES THE RIGHT AND PRIVILEGE TO ENTER UPON SUCH LANDS FROM TIME TO TIME FOR THE PURPOSE OF INSPECTION OF SAID UNDERGROUND STORMWATER MANAGEMENT FACILITY IN ORDER TO ENSURE THAT THE STRUCTURAL AND DESIGN INTEGRITY AND MAINTENANCE REQUIREMENTS ARE BEING MAINTAINED BY THE OWNERS.



LOCATION MAP
SCALE: 1"=800'

GENERAL NOTES:

- THE LOCATION OF EXISTING UNDERGROUND UTILITIES CONTAINED ON THESE PLANS HAVE BEEN OBTAINED BY FIELD SURVEY. COMPLETENESS OR ACCURACY OF THE LOCATION OF UTILITIES CANNOT BE GUARANTEED. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS, SURFACE AND SUBSURFACE, AND SHALL NOTIFY THE ENGINEER IN THE EVENT OF DISCREPANCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UNDERGROUND UTILITY USERS FOR COMPLIANCE WITH PENNSYLVANIA ACT 2008-121.
- NO PORTION OF THE SITE IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN BOUNDARY AS IDENTIFIED ON FEMA MAP 42017C04374, EFFECTIVE DATE MARCH 18, 2015.
- TOPOGRAPHY AND ELEVATIONS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY AND ALL RIGHTS-OF-WAY, EASEMENTS AND COVENANTS OF RECORD.
- DURING CONSTRUCTION, THE PROPERTY OWNER SHALL BE RESPONSIBLE TO RESTORE ANY PAVING, CURBING, ETC... THAT IS DISTURBED DURING REPAIR AND/OR MAINTENANCE OF ANY UTILITIES.
- ALL PROPOSED UTILITIES SHALL BE PLACED UNDERGROUND.
- MONUMENTS SHALL BE PLACED IN THE GROUND AT A TIME SPECIFIED BY THE TOWNSHIP ENGINEER AFTER FINAL GRADING IS COMPLETED.
- ALL CONTRACTORS WORKING ON THIS PROJECT SHALL BE RESPONSIBLE FOR INSURING THAT ALL CONSTRUCTION ACTIVITIES RELATED TO THIS PROJECT ARE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION) STANDARDS.
- NO EXISTING OR PROPOSED STRUCTURES OR PLANTINGS, HIGHEST POINT OF WHICH IS 2 FEET ABOVE THE CENTERLINE OF THE ROADWAY, SHALL BE PERMITTED WITHIN THE CLEAR SIGHT TRIANGLES.
- THE AREA BETWEEN THE EXISTING LEGAL RIGHT-OF-WAY AND THE ULTIMATE RIGHT-OF-WAY IS OFFERED FOR DEDICATION TO MIDDLETOWN TOWNSHIP.
- THIS PROJECT SHALL BE SERVED BY PUBLIC SEWER AND PUBLIC WATER.
- A BLANKET EASEMENT OVER THE LOT IN FAVOR OF THE TOWNSHIP IS CREATED IN ORDER TO ALLOW THE TOWNSHIP TO PERFORM INSPECTIONS AND EMERGENCY MAINTENANCE, IF NECESSARY, OF THE STORMWATER MANAGEMENT FACILITIES.
- NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE, OR ALTER ANY STORMWATER MANAGEMENT (SWM) BEST MANAGEMENT PRACTICES (BMPs), FACILITIES, AREA, OR STRUCTURE UNLESS IT IS A PART OF AN APPROVED MAINTENANCE PROGRAM AND WRITTEN APPROVAL OF THE MUNICIPALITY HAS BEEN OBTAINED.
- NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING, OR VEGETATION INTO A STORMWATER FACILITY OR BMP OR WITHIN A DRAINAGE EASEMENT WHICH WOULD LIMIT OR ALTER THE FUNCTIONING OF THE STORMWATER FACILITY OR BMP WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.

DRAINAGE PLAN CERTIFICATION:

I, HEATH DUMACK, P.E. ON THIS DATE _____, HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THE SWM SITE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE NESHAMINY CREEK WATERSHED DISTRICT STORMWATER MANAGEMENT ORDINANCE OR PLAN.

SIGNATURE _____ DATE _____

APPLICANT STORMWATER & EROSION CONTROL CERTIFICATION:

I HEREBY CERTIFY THAT ANY REVISION TO THE APPROVED DRAINAGE PLAN MUST BE APPROVED BY THE MUNICIPALITY AND THAT A REVISED E&S PLAN MUST BE SUBMITTED TO THE CONSERVATION DISTRICT FOR A DETERMINATION OF ADEQUACY.

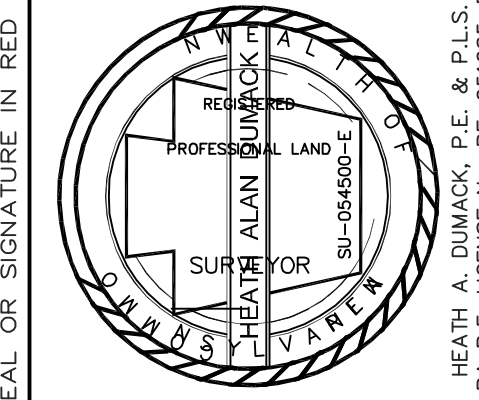
SIGNATURE _____ DATE _____

Legend

Tract Boundary Line	---
Existing Contour	---196---
Existing Sanitary Sewer	---
Existing Water Main	---
Existing Electric	---
Existing Utility Pole	---
Existing Edge of Roadway	---
Existing Tree	4" TREE
Limits of Disturbance	---
12" Compost Filter Sock	---
Proposed Cleanout	CO
Proposed Downspout	DS
Tree Protection Fencing	---
Existing Fencing	---
Proposed Contour	---196---

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PA P.E. LICENSE NO. PE-05685-E
PA P.L.S. LICENSE NO. SU-054500-E



DUMACK ENGINEERING
ESTABLISHED IN 1984
677 DURHAM ROAD
P.O. BOX 487
PENN PARK, PA 18943
PHONE: (215) 598-1230
FAX: (215) 598-1232
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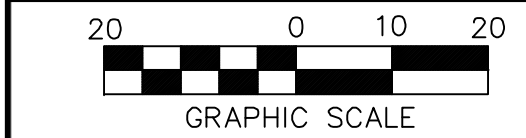
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T.M.P. No. 22-012-536 & 537
DEED BOOK: 1148 PAGE NO. 0097 & 0101

CURRENT ZONING: R-2

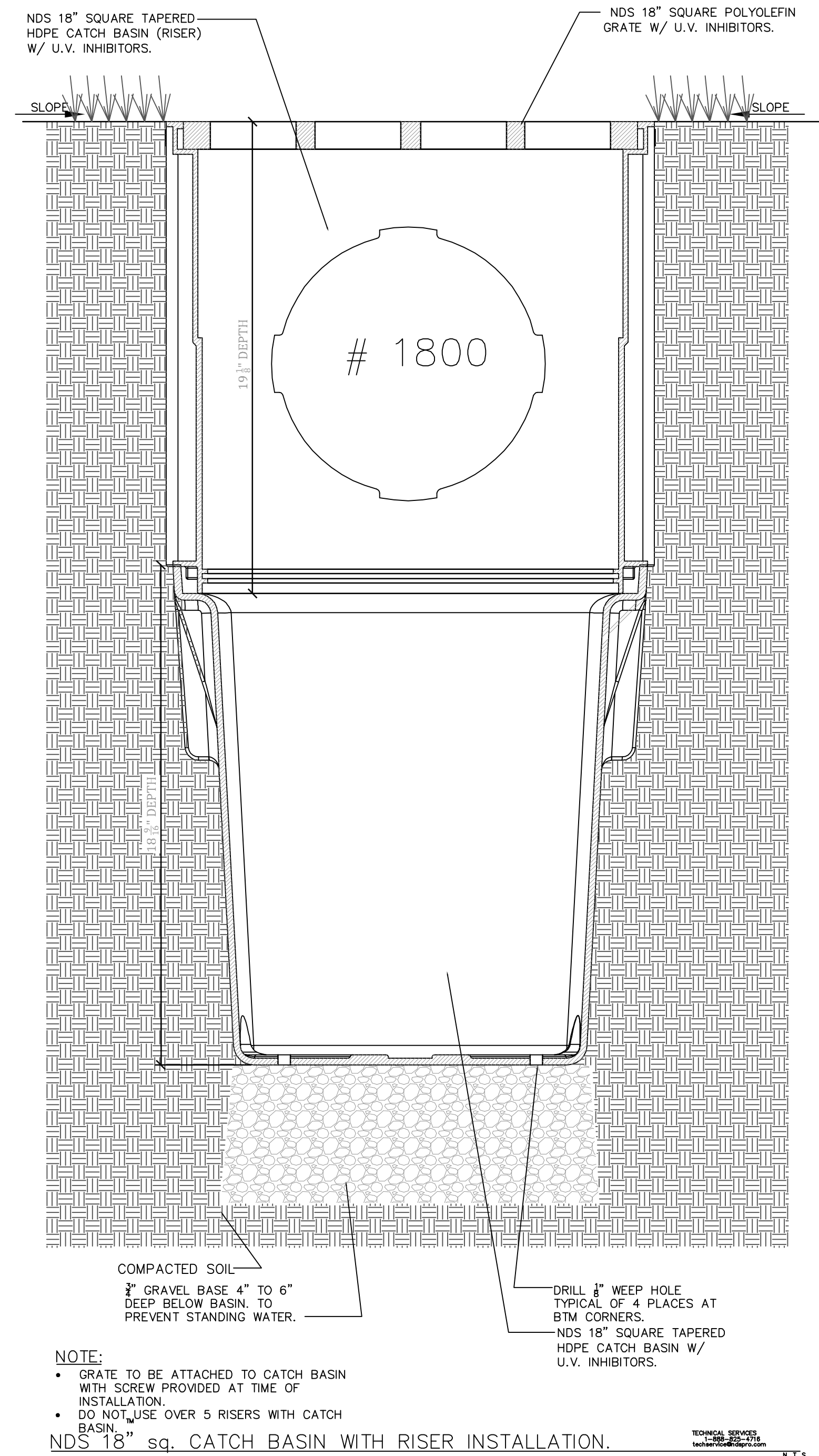
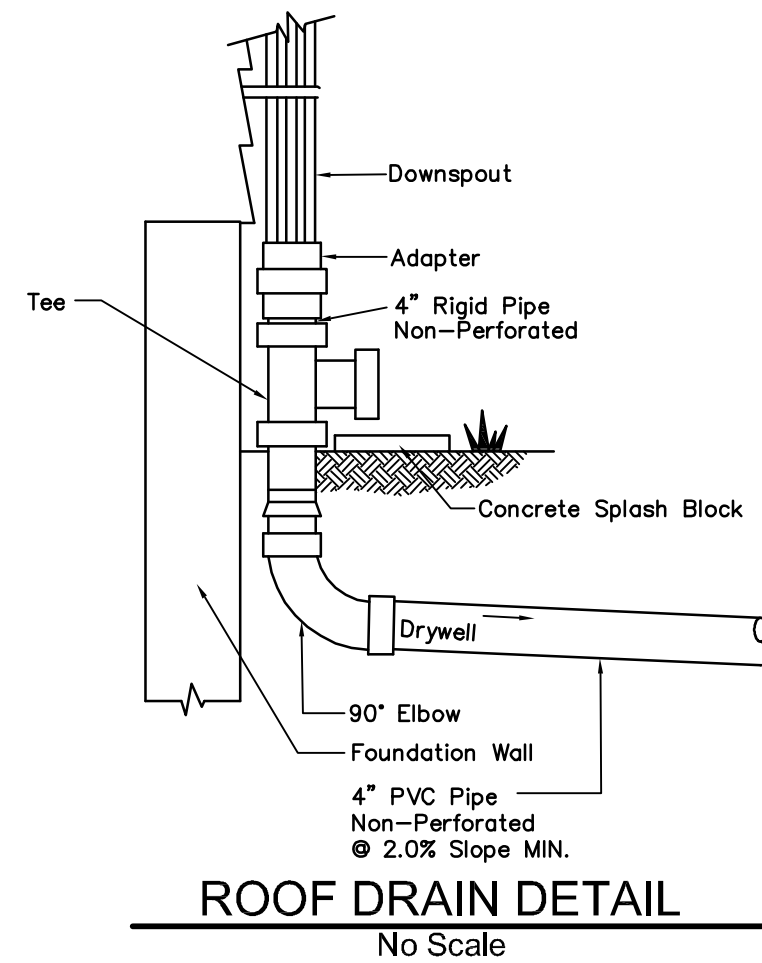
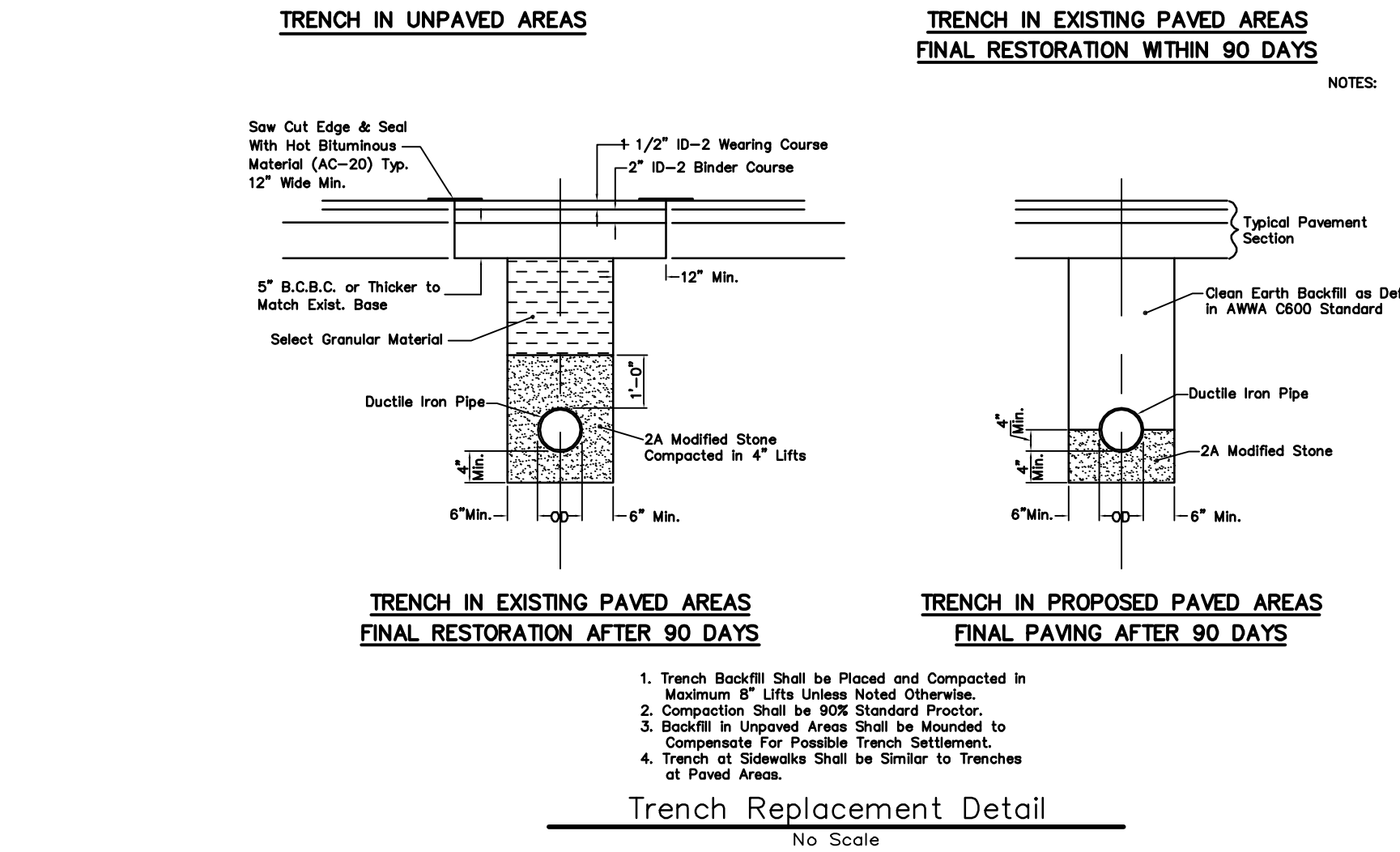
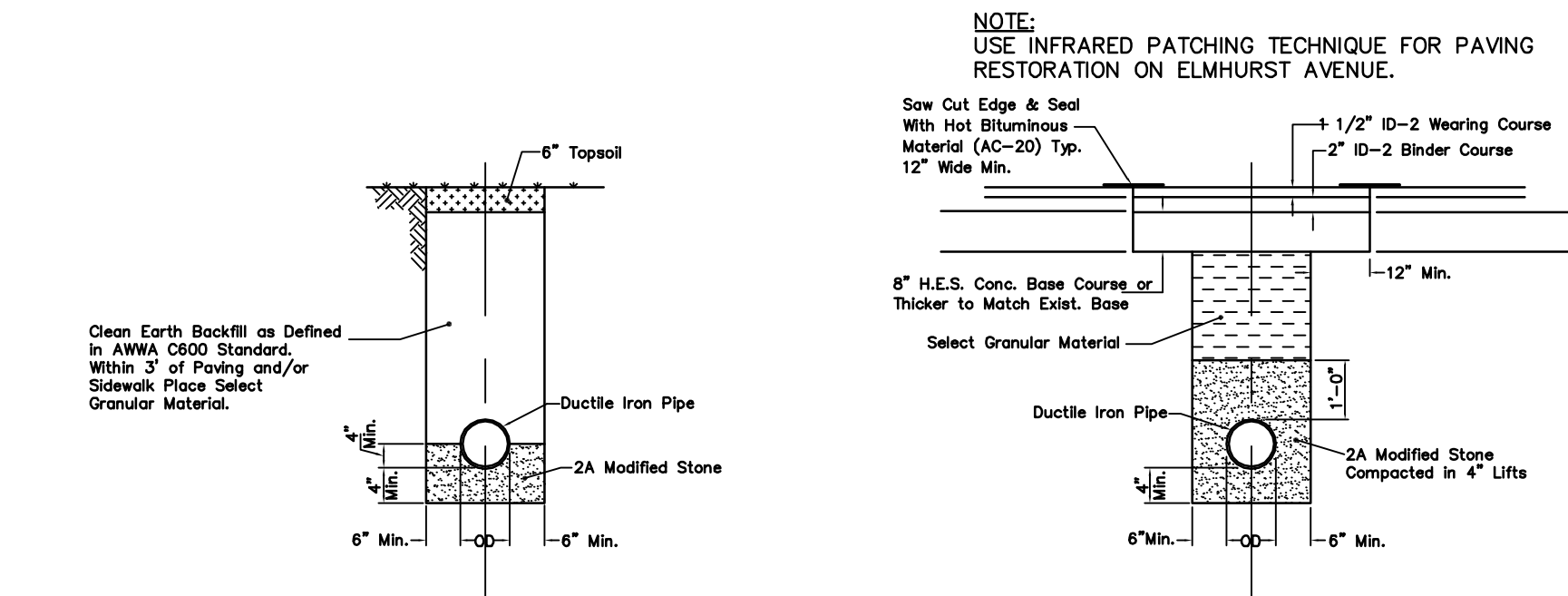
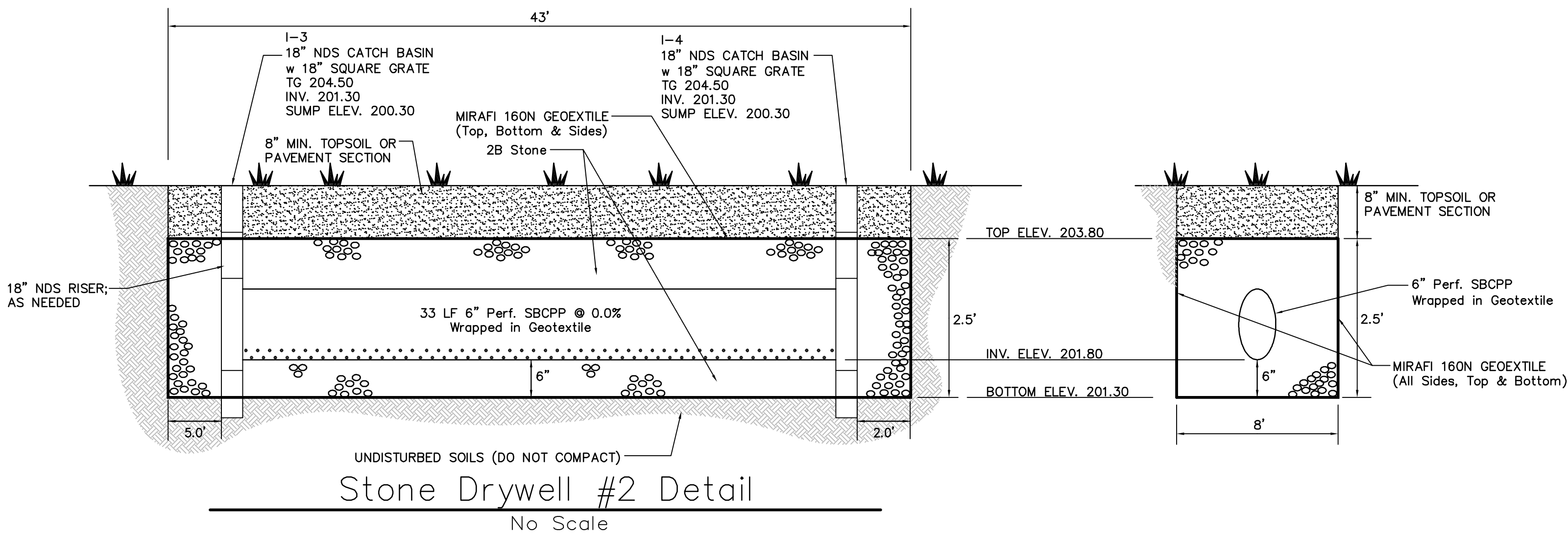
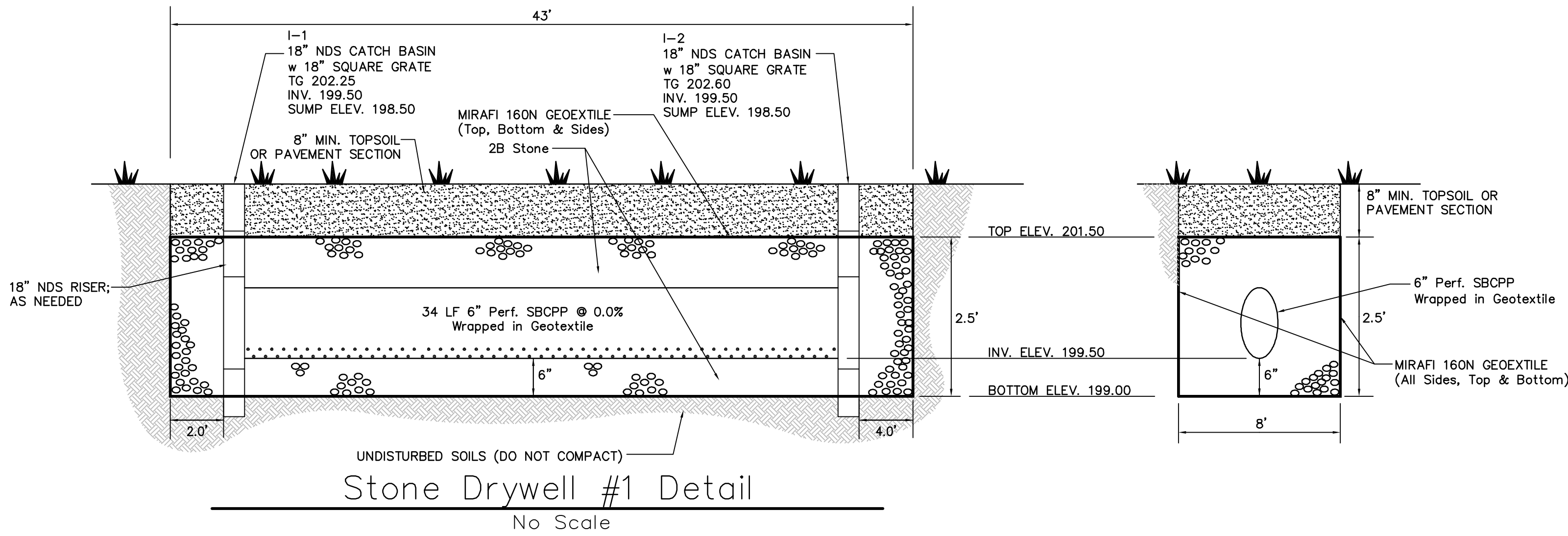
OWNER OF RECORD:
THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERTVILLE, PA 19053

APPLICANT:
THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERTVILLE, PA 19053



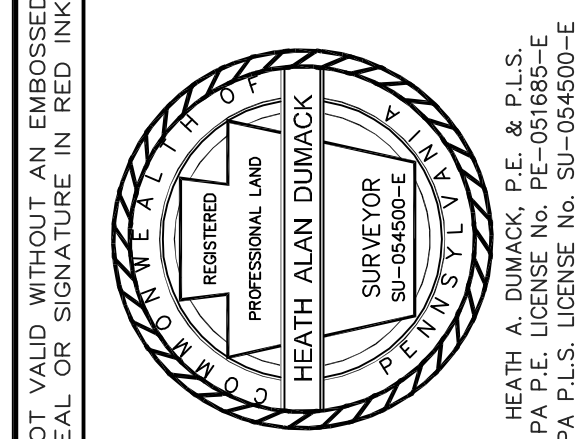
POST CONSTRUCTION
STORMWATER MANAGEMENT PLAN
517 DEER DRIVE
MIDDLETOWN TOWNSHIP
BUCKS COUNTY, PA

DRAWN BY: HAD
CHECKED BY: _____
SCALE: 1"=20'
PROJECT NO: 7782
PLAN DATE: JULY 6, 2023
SHEET NO: 6 OF 10



NOTE:
 • GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
 • DO NOT USE OVER 5 RISERS WITH CATCH BASIN.
 NDS 18" sq. CATCH BASIN WITH RISER INSTALLATION.

SERIAL No. 2022-320-1390
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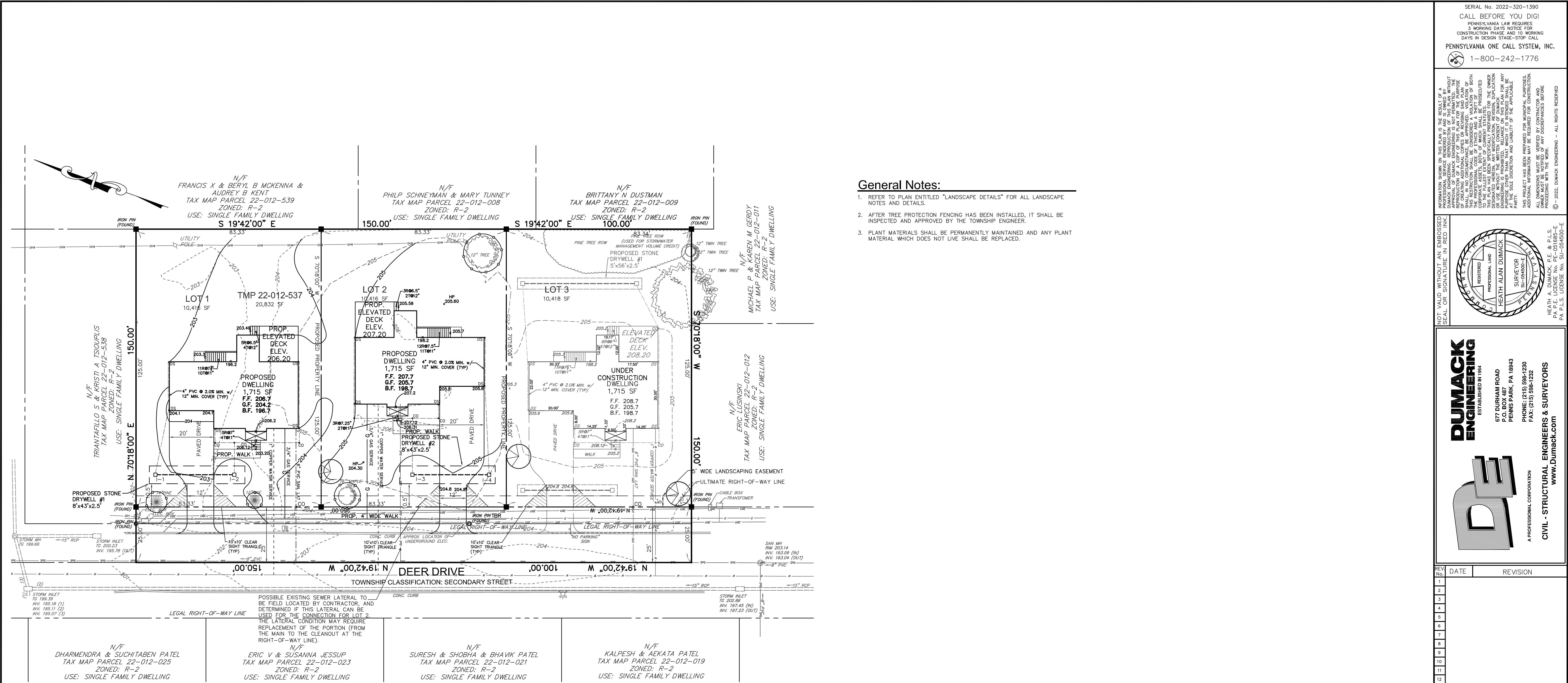


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 DEED BOOK: 1148 PAGE No. 0097 & 0101
 CURRENT ZONING: R-2
 OWNER of RECORD:
 THOMAS SNYDER
 130 ELMWOOD AVENUE
 FEASTERVILLE, PA 19053
 APPLICANT:
 THOMAS SNYDER
 130 ELMWOOD AVENUE
 FEASTERVILLE, PA 19053

POST CONSTRUCTION
 STORMWATER MANAGEMENT DETAILS
 517 DEER DRIVE
 MIDDLETOWN TOWNSHIP
 BUCKS COUNTY, PA
 DRAWN BY: HAD
 SCALE: 1"=20'
 PLAN DATE: JULY 6, 2023
 CHECKED BY:
 PROJECT No: 7782
 SHEET No: 7 of 10



Street Tree Calculation

Section 440-417.B.	
LARGE STREET TREES SHALL BE PLANTED AT INTERVALS OF NOT MORE THAN 40 FEET AND SMALL STREET TREES AT INTERVALS OF NOT MORE THAN 25 FEET.	250'/40' = 6.25 LARGE TREES 6 LARGE TREES REQUIRED
3 EXISTING TREES 3 PROPOSED TREES	
6 TREES PROVIDED	

STREET TREES LANDSCAPE SCHEDULE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
	3	ACER RUBRUM 'OCTOBER GLORY'	'OCTOBER GLORY' RED MAPLE	2.5-3" CAL.	B&B	MATCHED BRANCH @ 6" HT.

General Notes:

- REFER TO PLAN ENTITLED "LANDSCAPE DETAILS" FOR ALL LANDSCAPE NOTES AND DETAILS.
- AFTER TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED AND APPROVED BY THE TOWNSHIP ENGINEER.
- PLANT MATERIALS SHALL BE PERMANENTLY MAINTAINED AND ANY PLANT MATERIAL WHICH DOES NOT LIVE SHALL BE REPLACED.

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THIS PROJECT HAS BEEN PREPARED FOR MUNICIPAL PURPOSES. ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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HEATH ALAN DUMACK
REGISTERED PROFESSIONAL LAND SURVEYOR
SU-054500-E

HEATH A. DUMACK, P.E. & P.L.S.
PA P.E. LICENSE No. PE-05685-E
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FEASTERVILLE, PA 19053

GRAPHIC SCALE

LANDSCAPING PLAN
517 DEER DRIVE

MIDDLETOWN TOWNSHIP
BUCKS COUNTY, PA

DRAWN BY: HAD	CHECKED BY:
SCALE: 1"=20'	PROJECT No: 7782
PLAN DATE: JULY 6, 2023	SHEET No: 8 of 10

Landscape Materials, Planting - Seeding - Sodding Specifications

PART 1 - GENERAL

1. DESCRIPTION OF WORK

- A. Furnish, deliver and plant new plant material to the extent shown on drawings and in the plant list schedules. The term "plant material" shall mean trees, shrubs, ground cover, other growing plants, grass seeding, and sod.
- B. Maintain and guarantee survival of new plant material for 18 Months from the date all of the work is accepted.
- C. Provide care and treatment of existing plant material.
- D. Previous Work
- (1) Examine all substrates and other related areas to which the work of this section is to be incorporated. Do not proceed if any conditions will prevent the proper execution of this work.
- (2) Execution of the work of this section shall constitute acceptance of all existing and previously executed work and other conditions as being satisfactory in every respect.
- (3) Contractor shall protect all existing work from damage.

2. QUALITY CONTROL

- A. Name of plants shall agree with the nomenclature of "Standard Plant Names" as adopted by the American Joint Committee on Horticulture, 1942 Edition; size and grading standards shall conform to those specified by the American Association of Nurserymen in the latest edition of the "U.S.D.A. Standards of Nursery Stock".
- B. All plants shall be typical of their species or variety; they shall have normal, well developed branches and vigorous fibrous root systems. All plants shall be nursery-grown unless otherwise stated; they shall have been growing under the same climatic conditions as the Township for at least two (2) years prior to the site of planting. All plants which are found unsuitable in growth or condition or which are not true to name shall be removed and replaced with acceptable plants.
- C. Do not make substitutions: If specified landscape material is not obtainable, submit proof of non-availability and proposal for use of equivalent materials.
- D. Sizes: Plants shall be measured as the stand in their natural position. Stock furnished shall be a fair average of the minimum sizes specified or of the range given in the "U.S.D.A. Standards for Nursery Stock". Larger plants cut back to sizes specified shall not be accepted.
- E. Inspection: The Owner reserves the right to inspect trees and shrubs either at place of growth or at site before planting for compliance with requirements for name, variety, size and quality.

3. PRODUCTS

- A. Topsoil: Shall be a natural, friable, fertile, fine sandy loam possessing the characteristics of representative topsoil in the vicinity. The topsoil shall be free from subsoil, noxious weeds, stones larger than 2" in diameter, lime, cement, ashes, slag or other deleterious matter.
- B. Fertilizer: All fertilizer shall be granular packet or pellet with 35 - 80% of the total nitrogen in a slowly available form with a minimum analysis of 5-10-5.
- C. Mulch: Material shall be well aged (2 years min.) finely shredded hardwood bark, dark brown in color, or approved equal. Material shall be mixed grade, uniform in size and free of foreign matter and weed seeds.
- D. Lime: Natural limestone containing not less than 85% of total carbonates, ground so that not less than 90% passes a 10-mesh sieve and not less than 50% passes a 100-mesh sieve.
- E. Planting Mixture: A thorough mixture of minimum 50% water insoluble nitrogen content and a salt index below 50% is preferred.

4. SUBMITTALS

- A. Certification: Submit certificates of inspection as required by governmental authorities, and manufacturer's or vendors certified analysis for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements.
- (1) Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity, germination, and weed seed for each grass seed species.
- B. Planting Schedule: Submit planting schedule showing scheduled dates for each type of planting in each area of site.
- C. Maintenance Instructions: Submit typewritten instructions recommending procedures to be established by Owner for maintenance of landscape work for one full year. Submit prior to expiration of the 18 month maintenance & guarantee period.
5. DELIVERY, STORAGE AND HANDLING
- A. Plants shall be packed, transported and handled with the utmost care to insure adequate protection from injury. Each shipment shall be certified by State and Federal authorities to be free from disease and infestation.
- B. Package Materials: Deliver package materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.
- C. Sod: Time delivery so that sod will be placed within 24 hours after shipping. Protect sod against drying and breaking of rolled strip.
- D. Trees and Shrubs: provide freshly dug trees and shrubs. Do not prune prior to delivery. Do not bend or handle trees in such a manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery. Plant trees and shrubs upon delivery.

6. SITE CONDITIONS

- A. Utilities: Determine location of underground utilities and perform work in a manner which will avoid any damage. Hand excavate, as required. Maintain grass areas set by others until removal is mutually agreed upon by parties concerned.
- B. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Owner before planting. Plant excavation pit must be not less than 12 inches wider or any deeper than necessary to accommodate the ball of a tree (6 inches wide for shrub pits).
- C. Planting Time: Plant or install materials during normal planting seasons for each type of landscape work required. Continue planting with specified maintenance periods to provide maintenance from date of substantial completion. See Planting Procedures for planting seasons.
- D. Continuation with Lawns: Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to Owner. If planting of trees occurs after lawn work, provide temporary lawn areas and promptly repair damage to lawns resulting from planting operations.

7. GUARANTEE

- A. Guarantee lawns through 18 months maintenance and guarantee period and until final acceptance.
- B. All plant material shall be guaranteed for a period of 18 Months from date of acceptance, following written correspondence from the owner or his representative.
- C. Replacement will be made according to these same specifications and during the normal planting period. Replacements shall be subject to the same guarantee and replacement as the original material. The replacements shall be made within 60 days any plants found to be dead, dying, or diseased during that period shall be replaced at contractor's expense.
- D. In case of any questions regarding the conditions and satisfactory establishment of a related plant, the contractor may, if approved by the owner allow such a plant to remain through another growing season at which time the related plant is found to be dead, or in an unhealthy or badly impaired condition, shall be replaced.

PART 2 - PLANTING PROCEDURES

- A. The planting seasons shall be as follows:
- | Deciduous Materials | Evergreen Materials |
|---------------------|---------------------|
| March 21 - June 2 | April 1 - June 1 |
| Sept. 1 - Nov. 1 | |
- B. All planting materials and planting operations are subject to the requirements of Local Municipal Ordinances.
- C. No trees or shrubs may be planted on detention basin berms. Berms shall be maintained as grass lawn.
- D. Fertilizer - granular fertilizer shall be incorporated into the soil mix at recommended rates. Pelleted or packed fertilizer to be placed as shown in details.
- E. Trees and shrubs shall bear same relationship to finished grade as they did in the nursery row.
- F. Before placing trees in pits, lightly scarify the existing soil at the bottom of the pit, but not so much that the tree should require stabilization.
- G. All trees shall be placed directly on firm, stable soil.
- H. The plant pit shall be filled with planting mixture as specified and placed in 6" layers around the ball.

- I. Each layer shall be carefully tamped in place in a manner to avoid injury to the roots or ball or disturbing the position of the plant. When approximately two-thirds (2/3) of the plant has been backfilled, the pit shall be filled with water and the soil allowed to settle around the roots. If 4-6 plants are planted in the berms, wire baskets and burlap cut away or folded back from the top 1/3 of the ball and trunk before the water. After the water has been absorbed, the plant hole shall be filled with soil mix and tamped lightly to grade.
- J. All contaminated stock shall be removed from containers and the root mass should either be physically loosened or sliced to prevent strangulation.
- K. Failure to comply with planting procedures outlined above is basis for rejection of plant material by owner.
- L. Backfill: Material shall be a friable agricultural loam suitable for growing plant material free from sticks, stones and other foreign material.
- M. Landscape contractor is responsible for watering sufficiently at time of planting and until job is completed and turned over to owner.
- N. Plant material locations are approximate, when necessary, adjustments may be made in the field and approved by the owner prior to installation.
- O. At all intersections, trees shall be located no closer than thirty (30) feet from the intersection of the street right-of-way lines except when governing standards increase the distance for clear sight.
- P. Tree planting shall not take place within 10 feet of any utility line, underground or overhead.
- Q. Planting Ground Cover

Space plants as shown in plan or on plant schedule. Dig holes large enough to allow for spreading of roots and backfill with planting mixture. Work soil around roots to eliminate air pockets and water thoroughly. Water thoroughly around plants to hold water. Water thoroughly after planting; watering care not to cover crowns of plants with wet soil. Mulch areas between ground cover plants; place not less than 2" deep.

PART 7 - EXISTING TREE MAINTENANCE

- A. PRUNING METHODS. ALL FINAL CUTS SHALL BE MADE SUFFICIENTLY CLOSE TO THE TRUNK OR PARENT LIMB BUT WITHOUT CUTTING INTO THE BRANCH COLLAR OR LEAVING A PROTRUDING STUB, ACCORDING TO THE NATIONAL ARBORIST ASSOCIATION STANDARDS. ALL NECESSARY PRUNING CUTS MUST BE MADE TO PREVENT BARK FROM BEING TORN FROM THE TREE AND TO FACILITATE RAPID HEALING. FLUSH CUTS ARE UNACCEPTABLE.
- B. FERTILIZATION METHODS.
- (a) ALL TREES WHICH HAVE EXPERIENCED ANY DISTURBANCE OR HAVE HAD DAMAGE TO THE ROOTS OR BRANCHES SHALL BE FERTILIZED.
- (b) TREES SHALL BE FERTILIZED IN EARLY FALL (SEPTEMBER-OCTOBER) OR MID-SPRING (APRIL-MAY). FALL APPLICATIONS ARE PREFERRED.
- (c) FERTILIZER SHALL BE BROADCAST OVER THE SOIL SURFACE IN AN AREA TWICE THE SIZE OF THE TREE PROTECTION ZONE AT THE RATES GIVEN IN SUBSECTION (d) BELOW. A MINIMUM OF ONE THOUSAND (1,000) SQUARE FEET PER TREE WILL RECEIVE FERTILIZATION.
- (d) FERTILIZER GRADE SHALL HAVE APPROXIMATELY THREE (3) PARTS NITROGEN TO ONE (1) PART PHOSPHORUS TO ONE (1) PART POTASSIUM (3-1-1 RATIO).
- (e) FERTILIZER SHALL BE APPLIED AT A RATE EQUIVALENT TO ONE (1) POUND NITROGEN PER ONE THOUSAND (1,000) SQUARE FEET.

- V. MAINTENANCE
1. Begin maintenance immediately after planting.
 2. Maintain trees, shrubs and other plants until final acceptance by owner.
 3. Maintain trees, shrubs and other plants by pruning, cultivating and weeding as required for healthy growth. Restore planting saucers. Re-seat trees to proper grades or vertical position as required. Spray as required to keep trees and shrubs free of insects and disease. Water as needed.
 4. Maintain lawns by watering, fertilizing, weeding, mowing, liming, and other operations such as rolling, regrading and resurfacing as required to establish a smooth, acceptable lawn, free of eroded or bare areas.
 5. Maintain gravel beds free of weeds.

- W. CLEANUP AND PROTECTION
1. During landscape work, keep pavements clean and work area in an orderly condition.
 2. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed.

- X. INSPECTION AND ACCEPTANCE
1. When landscape work is completed, including maintenance, Owner will make an inspection to determine acceptability.
 2. Where inspected landscape work does not comply with requirements, replace rejected work and continue specified maintenance until inspected by Owner and found to be acceptable. Remove rejected plants and materials promptly from project site.

PART 3 - GUARANTEE AND MAINTENANCE

- A. All required plantings shall be guaranteed for a period of eighteen (18) months from the date of plantings and shall be certified to be alive and healthy as determined by a landscape architect at the end of the guarantee period. Should a disagreement arise as to whether the planting is alive and healthy, a landscape architect shall be retained by the Township at the expense of the developer to make a final determination.
- B. Maintenance crew with a trained foreman shall visit the site once weekly from spring (blooming of crocus) to fall (falling frost) and once monthly during the winter. A monthly work sheet shall be submitted to the Owner stating work performed during the month, or if none has been required, submit a notation to that effect.
- C. Where it is necessary to replace plant material or to repair the lawn the Owner shall inform the Contractor thereof before such replacement is made.
- D. Maintenance shall include, as determined by Owner, mowing, watering, cultivating, weeding, mulching, control of insects and diseases, pruning, and other horticultural operations for proper growth and appearance of plant materials and lawns, and fertilizing.
- E. The Contractor shall guarantee that plants shall be in a vigorous and thriving condition during and at the end of the guarantee period. Should any plants appear to be in poor health or lack normal growth habit, they shall be removed at once and replaced in a manner and time as herein before specified.
- F. During the Maintenance and Guarantee period, damage to planting not caused by the Contractor shall be excluded from the Guarantee. Such damage shall include damage by vehicles, theft, fire, or acts of vandalism.
- G. Where evidence of such damage excluded from guarantee exists, advise the Owner in writing describing the damage. The Owner, upon receipt of such notice, may order the Contractor to correct the damage at the Owner's expense, or exclude the damaged work from the Guarantee provisions and correct the damage by an arrangement deemed by the Owner to be in his best interest.

PART 4. FINAL INSPECTION FOR ACCEPTANCE

- A. The Contractor shall notify the Owner upon completion of guarantee and maintenance and request final inspection prior to acceptance of work.
- B. Should any portion of the work be unacceptable, the Contractor shall make all work acceptable and request a reinspection by the Owner.
- C. The Contractor will be notified by letter of acceptance within five days after inspection or five days after reinspection should the latter be necessary.
- D. Upon notice of final acceptance, the Owner will assume maintenance.

PART 5. SEEDING/SODDING SPECIFICATIONS

1. TOPSOIL

- A. Topsoil shall be stripped and stockpiled in areas on-site as directed by the Owner. Topsoil from wetland areas shall be separately stockpiled and related for re-use, as needed, in wetland mitigation areas.
- B. The surface of all earth areas shall be finished to a reasonable smooth compact surface. The surface of areas to be topsoiled shall be finished to a level of six (6) inches below finished grade as shown on the drawings and left with a smoothness suitable for application of topsoil.
- C. The subgrade shall be thoroughly loosened to a depth of at least three inches before topsoil is spread. Topsoil previously stockpiled shall be spread over the entire work area to a depth of at least six (6) inches after compaction to a smooth firm seedbed prior to seeding. Additional topsoil shall be provided where adjustments are necessary to attain final true even grades shown on the drawings. Topsoil may be spread during any season, except that no topsoil shall be spread in a frozen or muddy condition. The contractor shall be responsible to restore any damage or loss to the grade surface caused by erosion before planting takes place.

2. FERTILIZATION

- A. For permanent seeding: Limestone shall be applied according to soil tests, or applied at a rate of 2,000 lbs. per acre. If approved by the owner allow such a plant to remain through another growing season at which time the related plant is found to be dead, or in an unhealthy or badly impaired condition, shall be replaced.
- B. Initial limestone and fertilizer applications are to be blended into the top 2" of topsoil by raking, disking, harrowing or by other acceptable methods. The second fertilizer may be applied together with seeding operations. For temporary seeding, limestone shall be supplied at a rate of 2,000 lbs. per acre together with a commercial fertilizer of 10-20-20 (N-P-K) or equivalent dry formulation supplied at a rate of 1,000 lbs. per acre.

3. SEEDING

- A. Grass seed shall have a minimum purity of 85%, minimum germination (PLS) of 75% and weed content not exceeding a maximum of 12%. The seed mixture for the lawn areas (Seed Mix Type A) shall be Kentucky Bluegrass, creeping red fescue and perennial ryegrass with percent of weight being 70%, 20% and 10%, respectively and sown at a rate of 1 bu./1000 S.F. (175 lbs./acre). Seeding shall occur between the dates of April 1 and June 15 or August 25 and October 1 (November 1 for temporary seeding).
- B. Temporary seeding shall consist of Annual Ryegrass applied at 40 lbs. per acre with a minimum purity of 85% and germination (PLS) of 80%. Seeding shall occur between April 1 and November 1.
- C. Seed shall be spread uniformly, according to the Manufacturer's specified rates and application methods.

4. SODDING

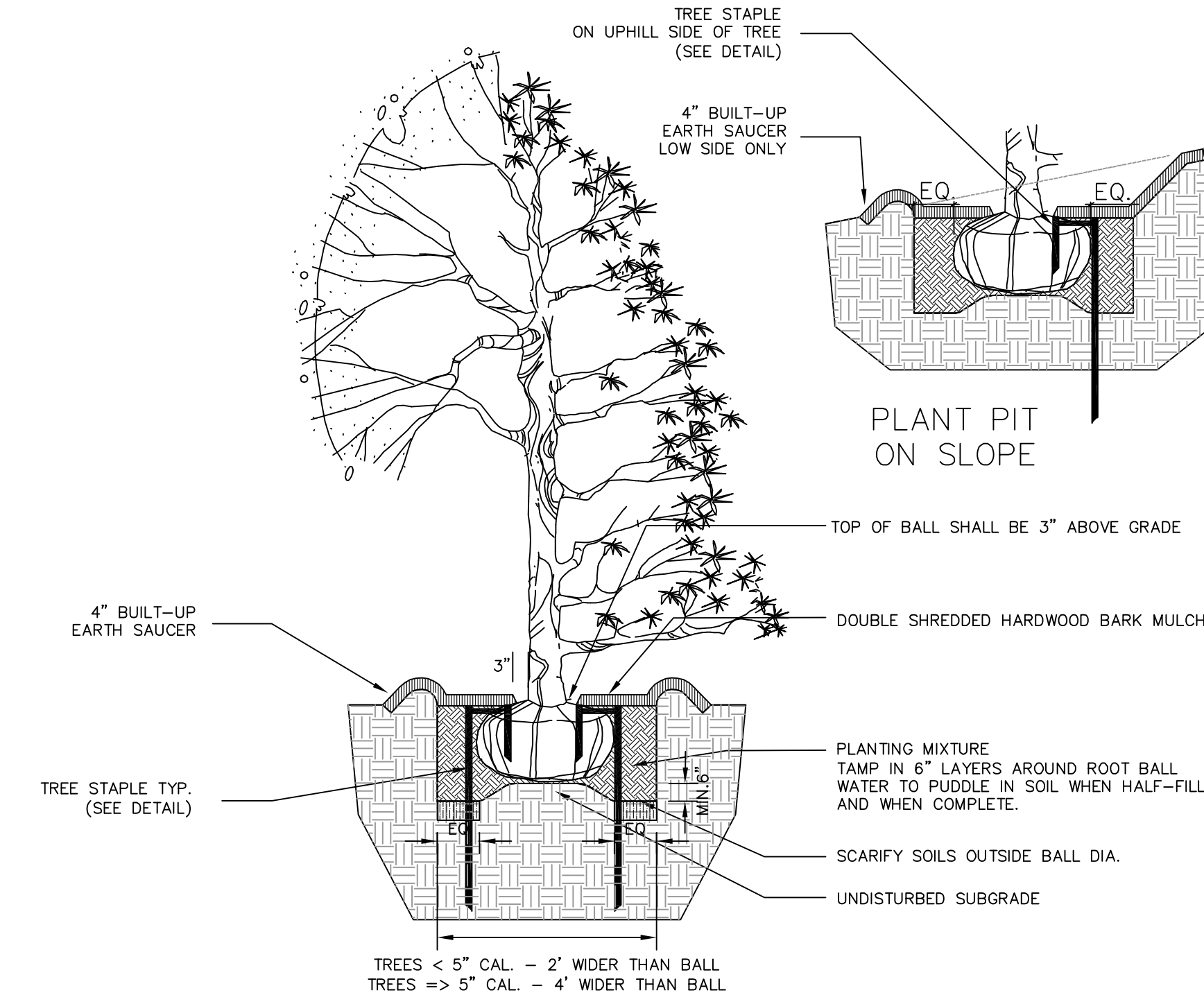
- A. Sod: Provide strongly rooted sod, not less than 2 years old and free of weeds and undesirable native grasses. Provide only sod capable of growth and development when planted (viable, not dormant). Provide sod composed primarily of the following: Kentucky Bluegrass, Melem Bluegrass.
- B. Lay sod within 24 hours from time of shipping. Do not plant dormant sod off ground in frozen.
- C. Lightly mix finished topsoil grade with water prior to laying sod. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Tamp and roll lightly to ensure contact with subgrade. Work offset soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent grass.
- D. Anchor sod on slopes with wood pegs to prevent slippage.
- E. Water sod thoroughly with a fine spray immediately after planting.

PART 6. SEED MIX BREAKDOWN:

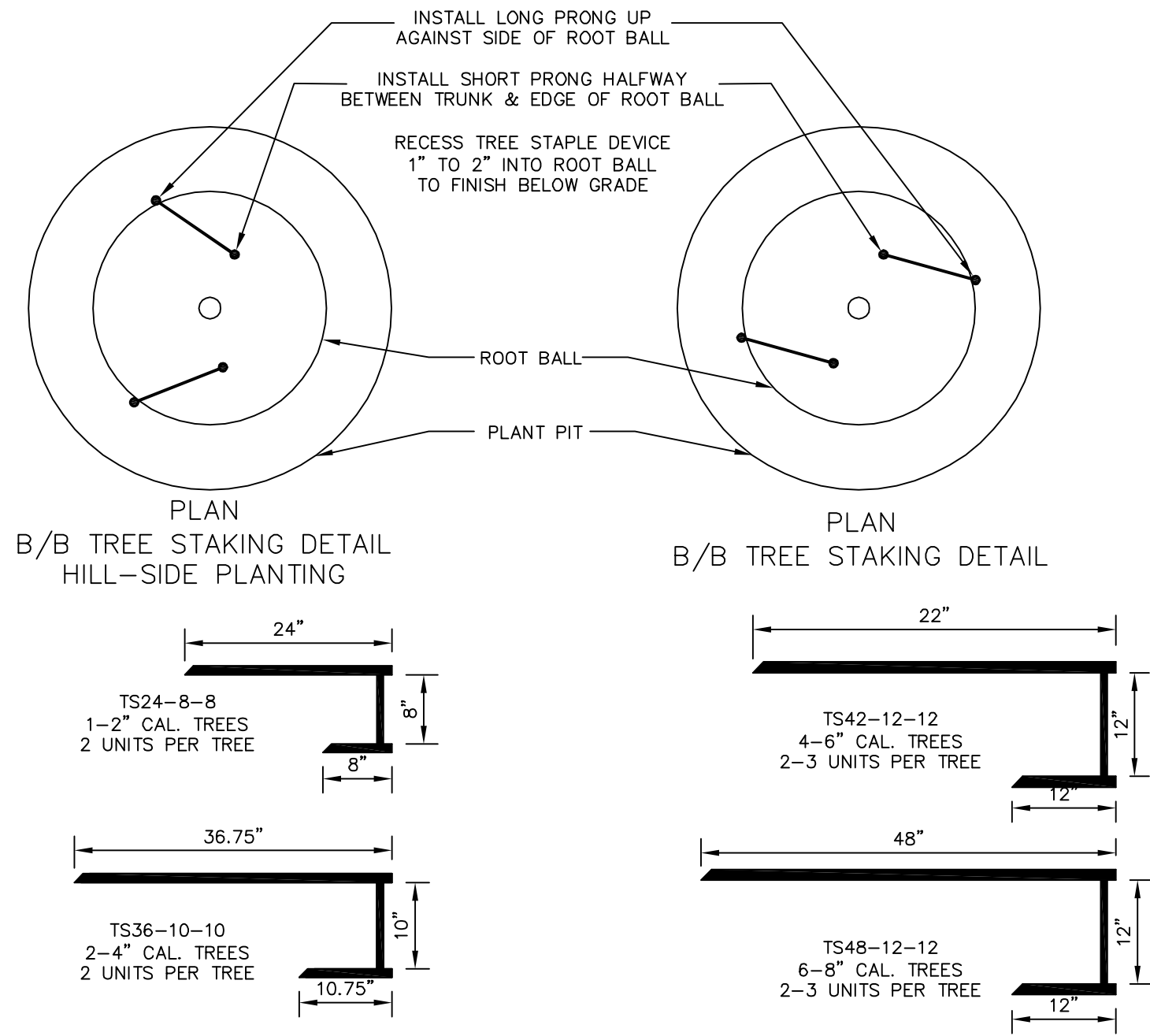
1. SEED MIX 'A'

- FINE LAWN PERMANENT SEED MIX:
- | POA PRATENSIS | KENTUCKY BLUEGRASS |
|----------------|-------------------------------|
| FESTUCA RUBRA | CREeping RED FESCUE |
| LOLIUM PERENNE | TURF-TYPE PERENNIAL RYE GRASS |

Seed rate: 4 pounds per 1,000 s.f. (175 lbs. per acre)

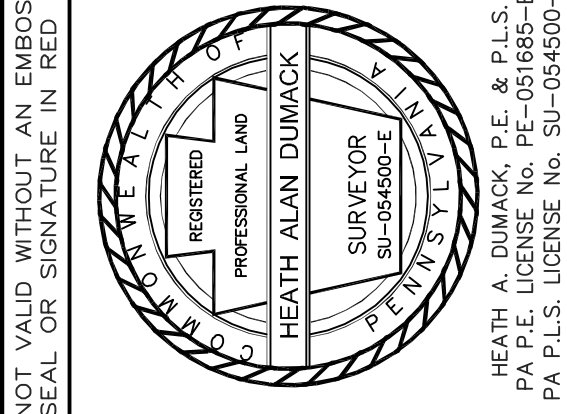


1 TREE PLANTING DETAIL NOT TO SCALE



SIZE AND QUANTITY SELECTION GUIDE

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677 DURHAM ROAD
P.O. BOX 487
PENN'S PARK, PA 18943
PHONE: (215) 598-1230
FAX: (215) 598-1232
A PROFESSIONAL CORPORATION
CIVIL - STRUCTURAL ENGINEERS & SURVEYORS
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REV	DATE	REVISION
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EXISTING PARCEL INFO:

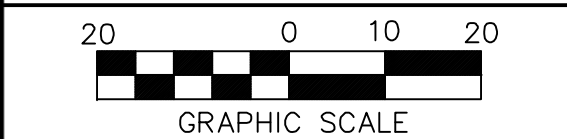
T.M.P. No. 22-012-536 & 537
DEED BOOK: 1148 PAGE No. 0097 & 0101
CURRENT ZONING: R-2

OWNER OF RECORD:

THOMAS SNYDER
130 ELWOOD AVENUE
FEASTERVILLE, PA 19053

APPLICANT:

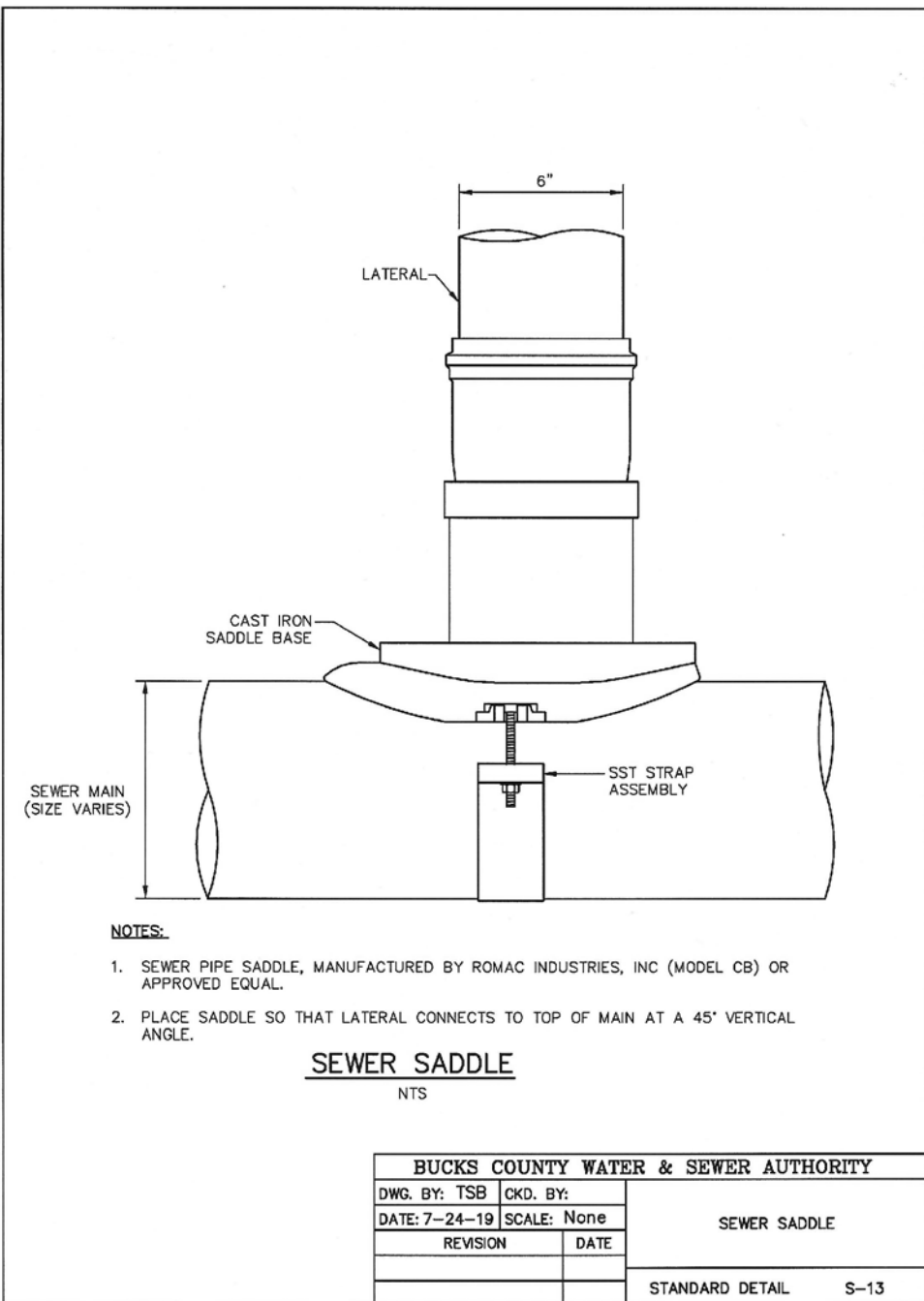
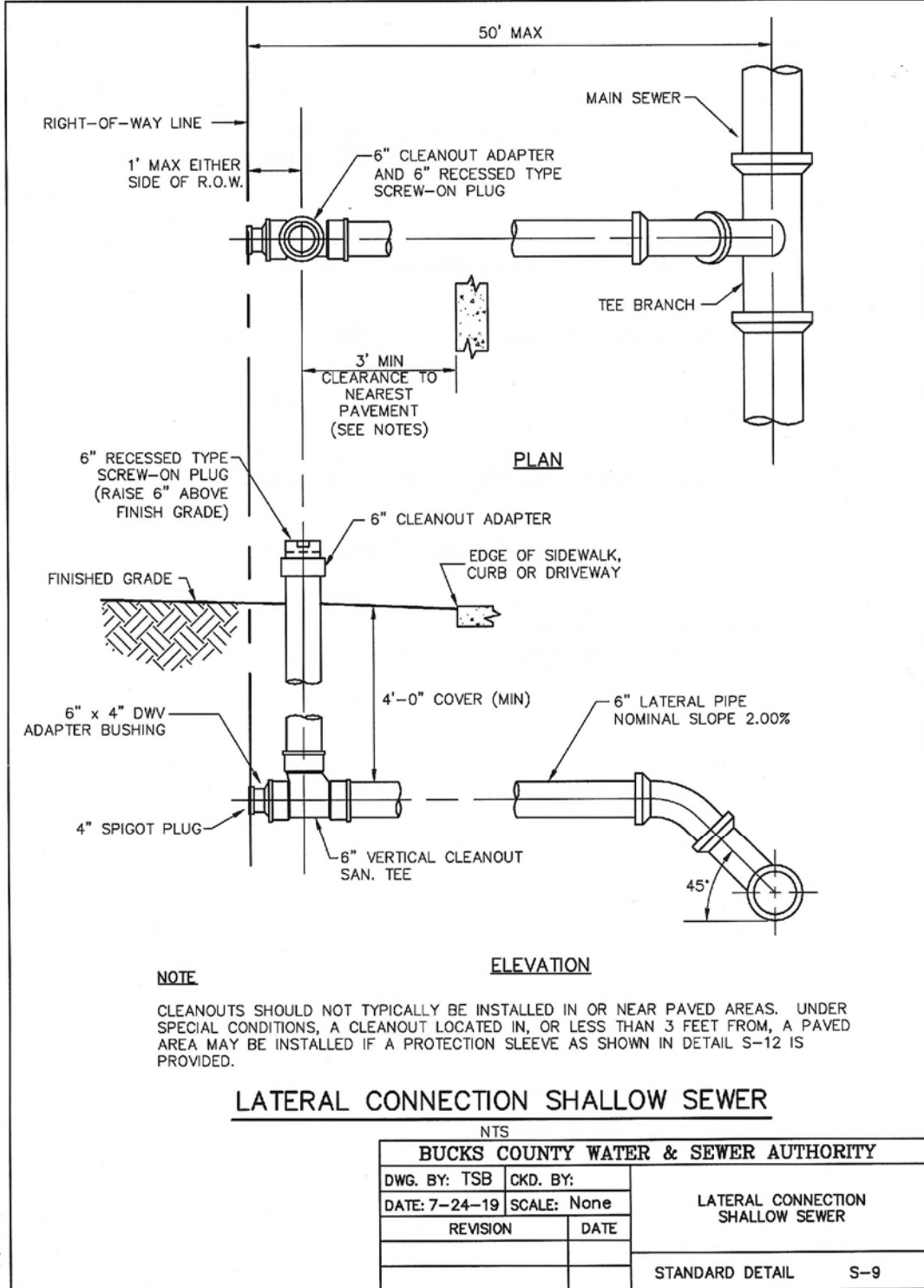
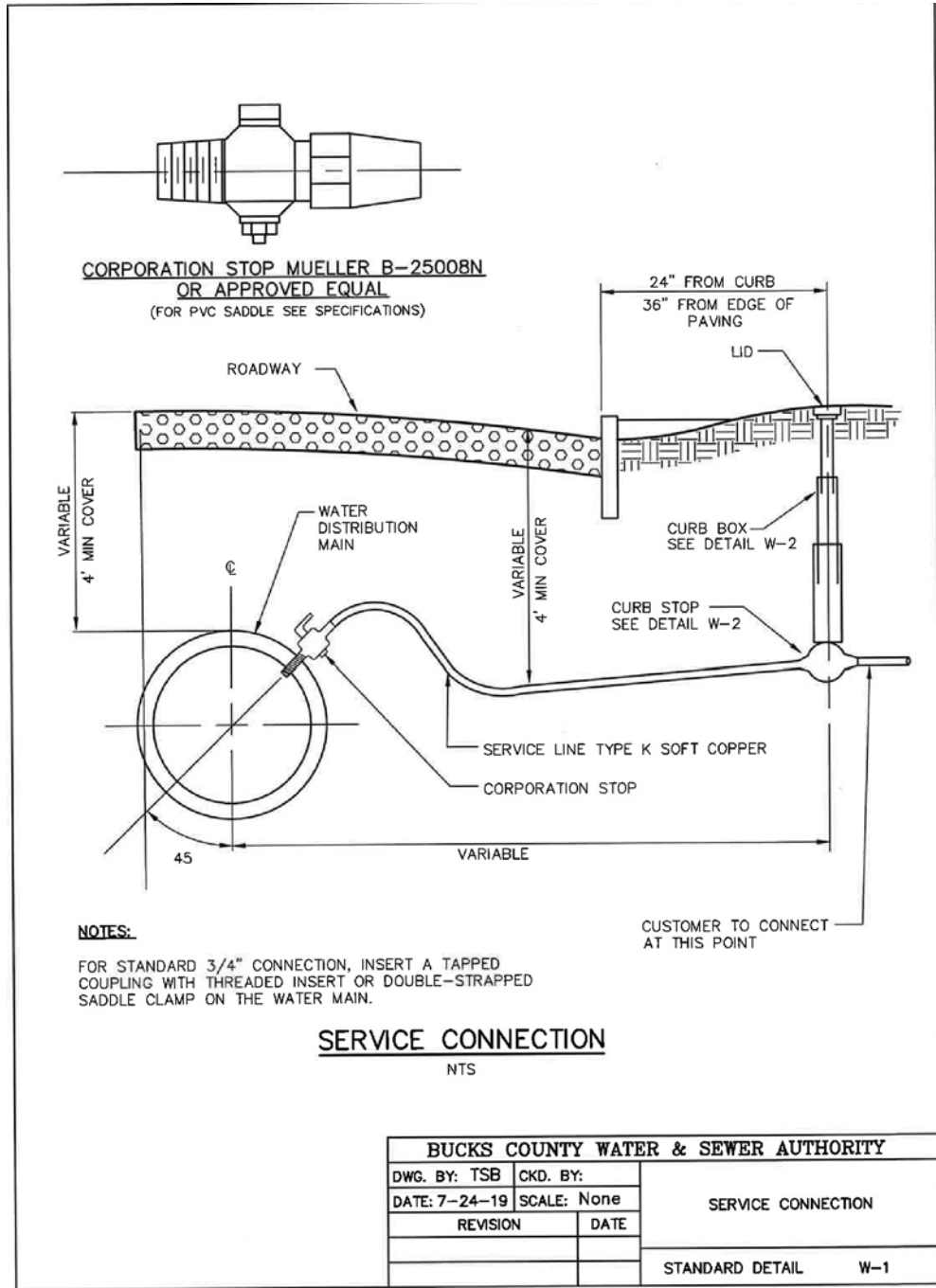
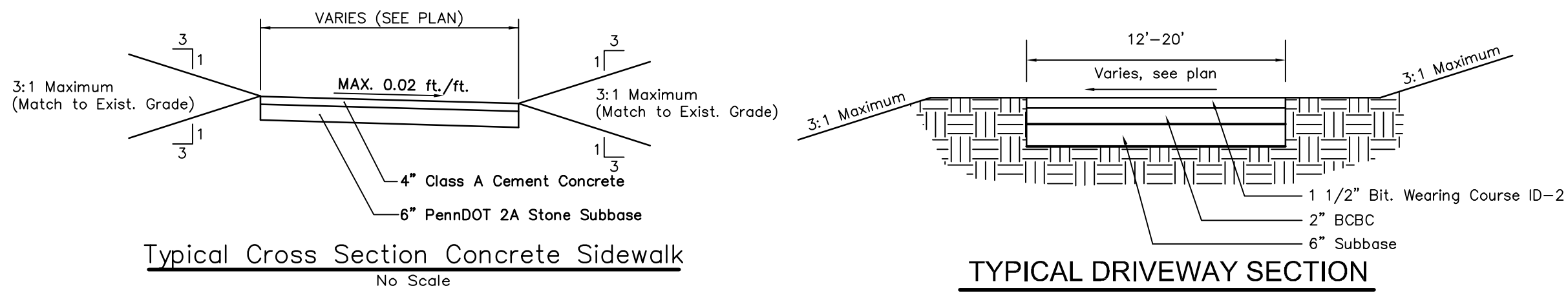
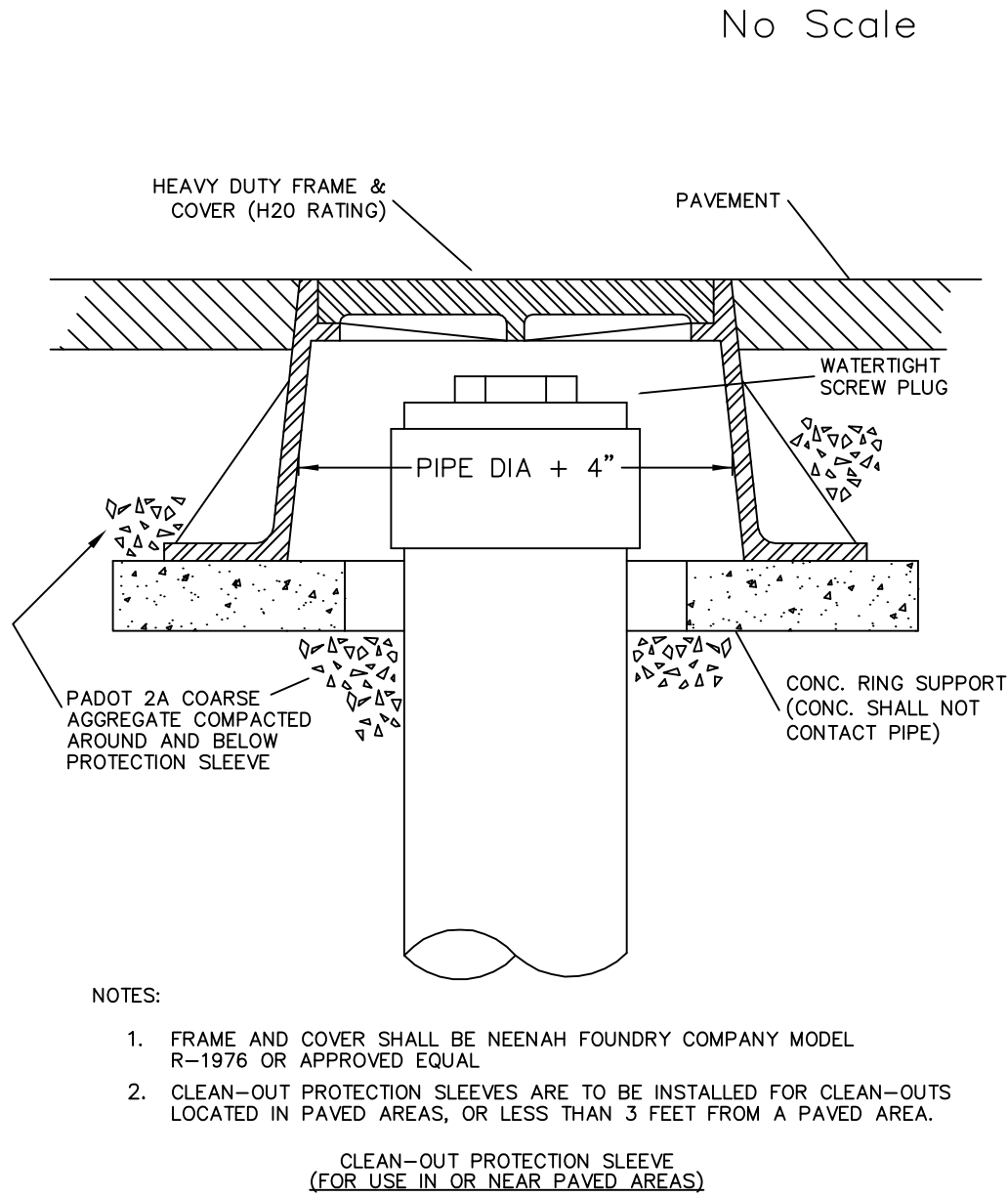
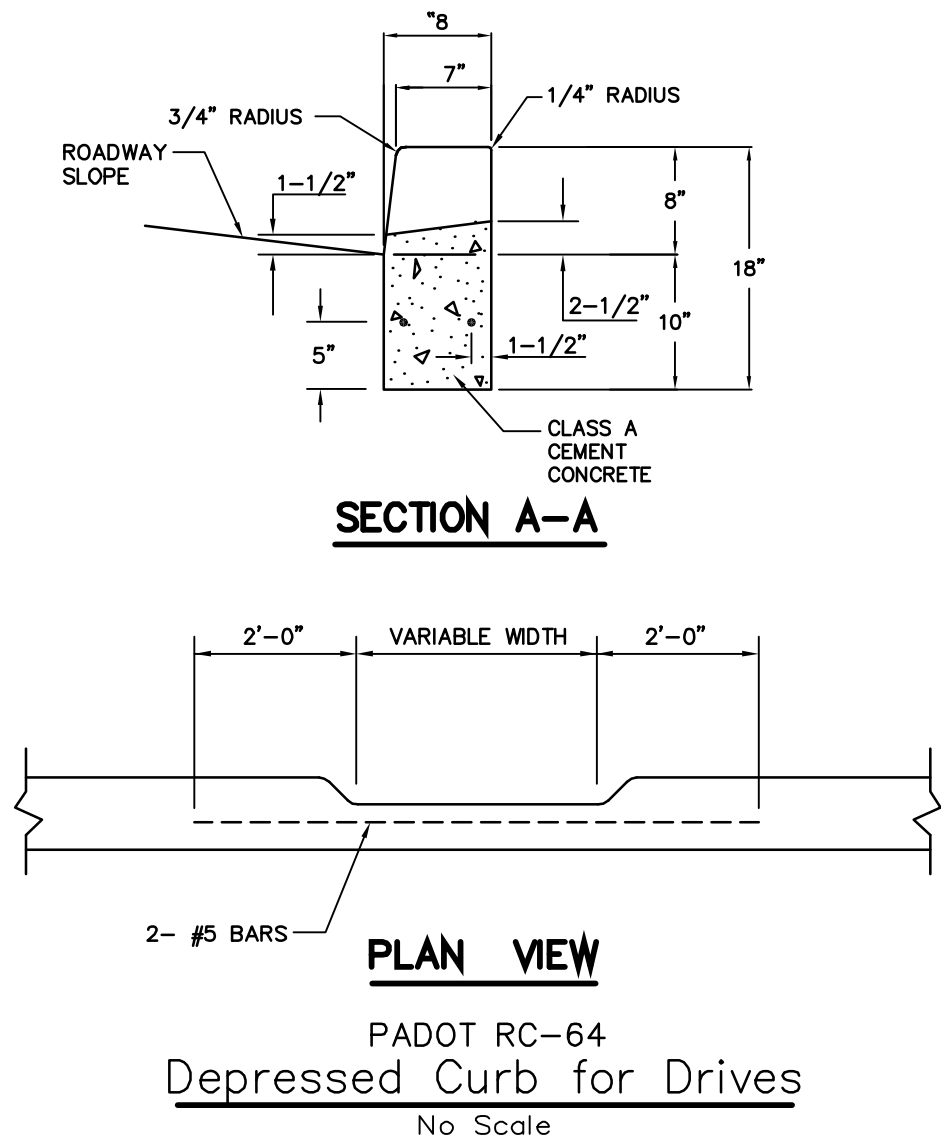
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LANDSCAPING DETAILS
517 DEER DRIVE

MIDDLETOWN TOWNSHIP
BUCKS COUNTY, PA

DRAWN BY:	HAD	CHECKED BY:	
SCALE:	1"=20'	PROJECT NO:	7782
PLAN DATE:	JULY 6, 2023	SHEET NO:	9 OF 10



SERIAL No. 2022-320-1390
CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING
DAYS IN DESIGN STAGE-STOP CALL
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PROFESSIONAL LAND
SURVEYOR
HEATH ALAN DUMACK
SU-054500-E
PA P.E. LICENSE No. FE-051685-E
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T.M.P. No. 22-012-536 & 537
DEED BOOK: 1148 PAGE No. 0097 & 0101

CURRENT ZONING: R-2

OWNER of RECORD:

THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERTVILLE, PA 19053

APPLICANT:

THOMAS SNYDER
130 ELMWOOD AVENUE
FEASTERTVILLE, PA 19053

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GRAPHIC SCALE

CONSTRUCTION DETAILS
517 DEER DRIVE

MIDDLETOWN TOWNSHIP
BUCKS COUNTY, PA

DRAWN BY: HAD
SCALE: 1"=20'
PLAN DATE: JULY 6, 2023

CHECKED BY:
PROJECT No: 7782
SHEET No: 10 of 10