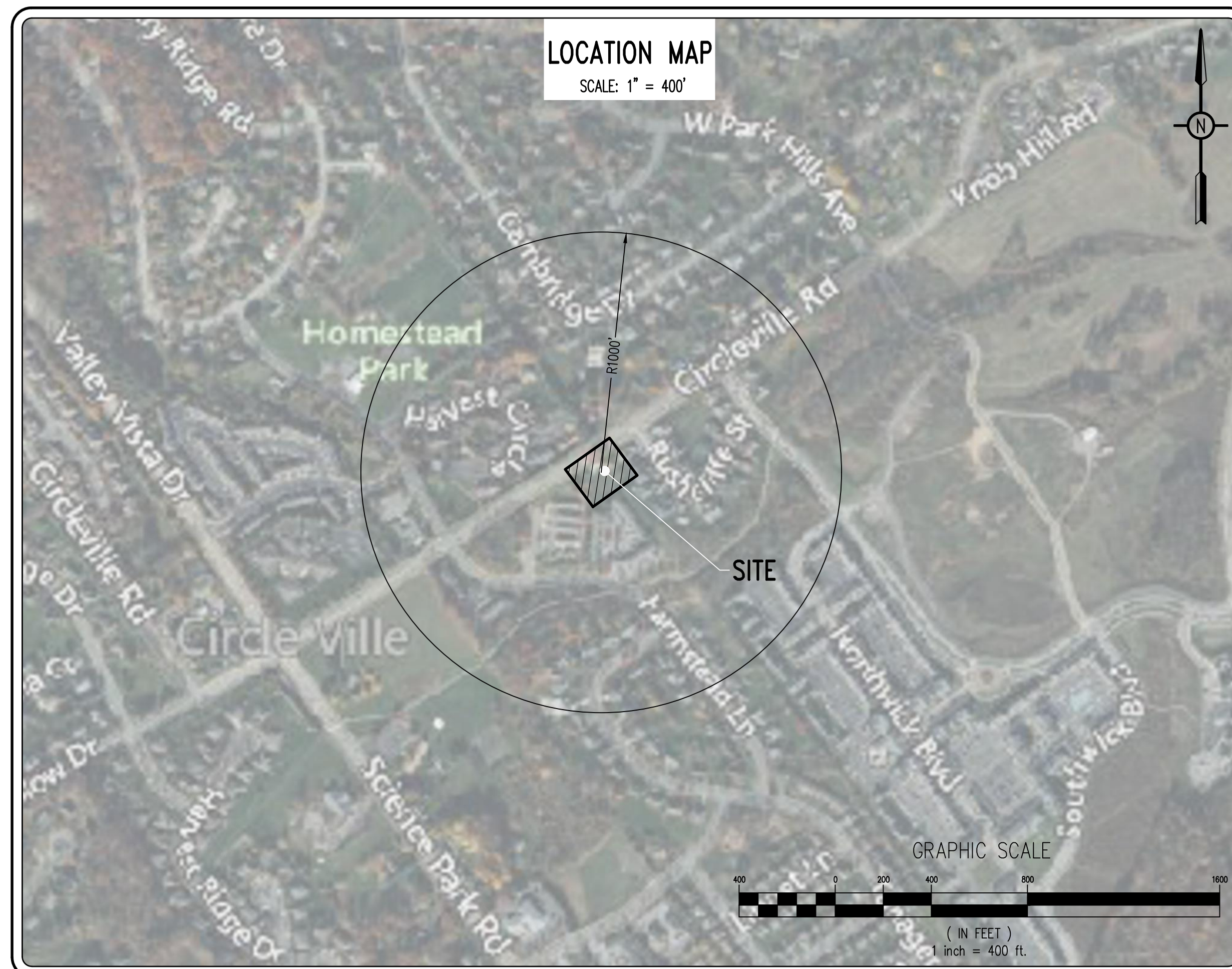


1900 CIRCLEVILLE ROAD

PRELIMINARY LAND DEVELOPMENT PLAN

FERGUSON TOWNSHIP * CENTRE COUNTY * PENNSYLVANIA

DECEMBER 28, 2022



PennTerra
ENGINEERING, INC.

CENTRAL PENNSYLVANIA REGION OFFICE:
3075 ENTERPRISE DRIVE
SUITE 100
STATE COLLEGE, PA 16801
PH: 814-231-8285
Fax: 814-237-2308

LANCASTER REGION OFFICE:
3904 B ABEL DRIVE
COLUMBIA, PA 17512
PH: 717-522-5031
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ACT 287 UTILITY INFORMATION
(SERIAL NUMBER: 20220392624)

SANITARY SEWER
UNIVERSITY AREA JOINT AUTHORITY
1576 SPRING VALLEY ROAD
STATE COLLEGE, PA 16801
PHONE: (814) 238-9662

PUBLIC WATER
STATE COLLEGE BOROUGH WATER AUTHORITY
1201 WEST BRANCH ROAD
STATE COLLEGE, PA 16801
PHONE: (814) 238-6766

NATURAL GAS
COLUMBIA GAS OF PENNSYLVANIA
2550 CAROLEAN INDUSTRIAL DRIVE
STATE COLLEGE, PA 16801
PHONE: (814) 238-6775

ELECTRIC
WEST PENN POWER COMPANY
2800 EAST COLLEGE AVENUE
STATE COLLEGE, PA 16801
PHONE: (814) 237-5721

TELEPHONE
VERIZON
224 SOUTH ALLEN STREET
STATE COLLEGE, PA 16801
PHONE: (814) 231-6511

CABLE TELEVISION
COMCAST
60 DECIBEL ROAD
STATE COLLEGE, PA 16801
PHONE: (800) 992-3515

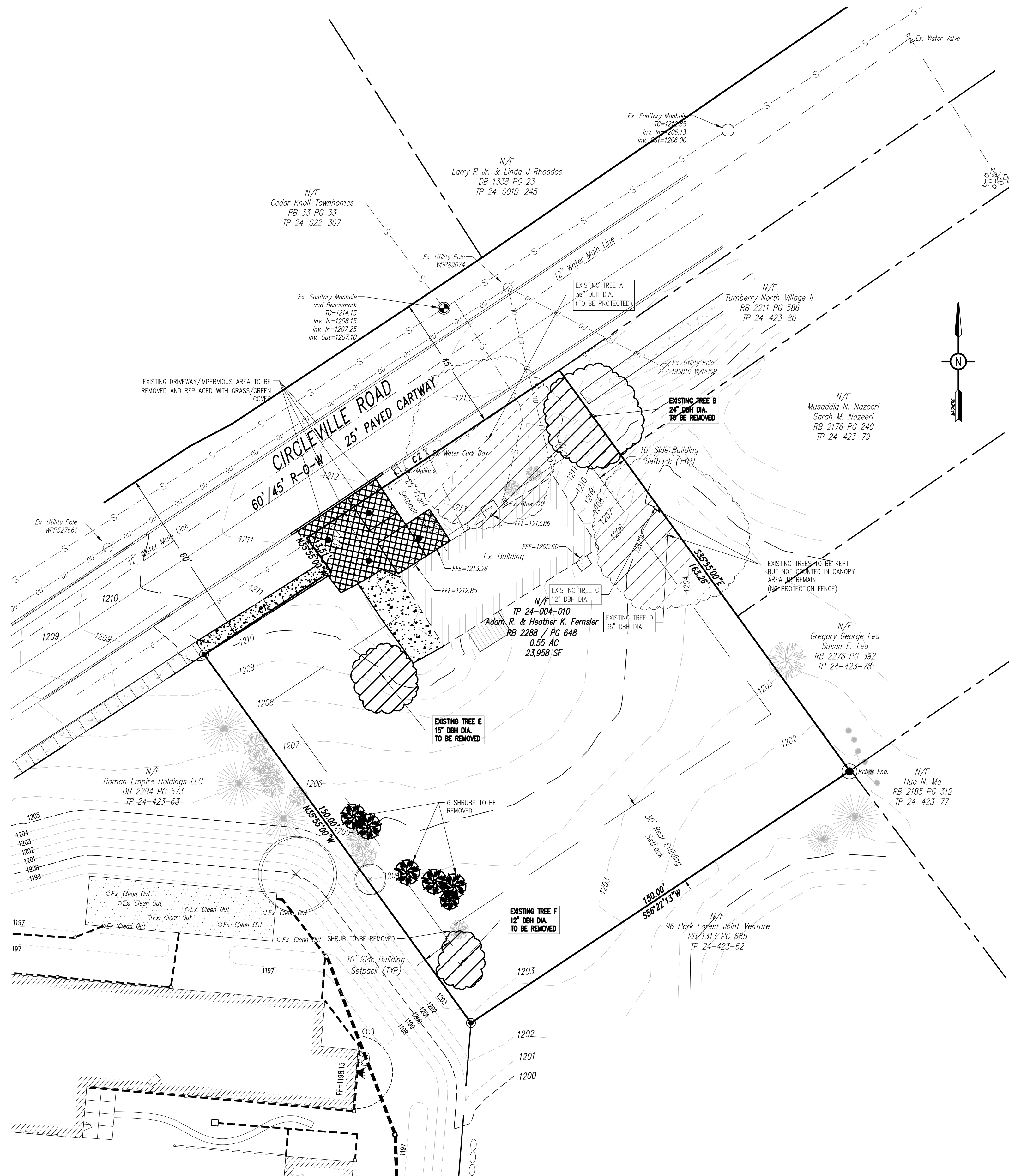
BEFORE YOU DIG ANYWHERE IN
PENNSYLVANIA 1 CALL 1-800-242-1776
NON-MEMBERS MUST BE CONTACTED DIRECTLY

GENERAL SITE DEMOLITION NOTES:

- The Contractor is responsible for obtaining all local and state permits required for demolition work unless other arrangements are coordinated with the owner.
- The Contractor shall indemnify and hold harmless the Owner and/or architect and engineer for any and all injuries and/or damages to personnel, equipment and/or existing facilities in the demolition and construction described in the plans and specifications.
- Existing conditions as depicted on these plans are general and illustrative in nature and do not include mechanical, electrical and miscellaneous structures. It is the responsibility of the Contractor to examine the site and be familiar with existing conditions prior to bidding on the demolition work for this project. If conditions encountered during examination are significantly different than those shown, the Contractor shall notify the architect and engineer immediately.
- All existing utilities not to be removed or abandoned are to remain operational at all times. Appropriate existing utilities shall remain in service until replacement/relocated utilities are operational.
- Existing above and below ground structures within the limits of new construction noted to be removed shall be razed unless noted otherwise in this construction set, architectural plans and/or project specifications. This includes foundation slabs, walls, and footings.
- Before excavation, all underground utilities shall be located in the field by the proper authorities. The Contractor shall notify PA One Call 1-800-242-1776. The location of all utilities and underground structures are approximate and may not all be shown. It is the responsibility of the Contractor to determine the existence and exact location of all utilities and underground structures.
- All demolition waste and construction debris shall be removed by the Contractor and disposed of in a state approved waste site and in accordance to all local and state codes and permit requirements.
- All utility removal, relocation, cutting, capping and/or abandonment shall be coordinated with the appropriate utility company.
- The burning of cleared material and debris shall not be allowed without approval from owner and appropriate governing agency.
- Erosion and sedimentation control measures around areas of demolition shall be installed prior to initiation of demolition activities. Refer to plan and details for site specific information including tree protection details, if necessary.
- Asbestos or hazardous materials, if found on site, shall be removed by a licensed hazardous materials Contractor. Contractor shall notify Owner immediately if hazardous materials are encountered.
- Contractor shall protect all corner pins, monuments, property corners, and benchmarks during demolition activities. If disturbed, Contractor shall have disturbed items reset by a licensed surveyor at no additional cost to the Owner.
- Contractor shall adhere to all local, state, federal, and OSHA regulations operating demolition equipment around utilities.
- Contractor shall provide and maintain traffic control measures in accordance with the PennDOT standards, and as required by local agencies working in and/or along streets, roads, highways, etc. It shall be the Contractor's responsibility to obtain approval and coordinate with local and/or state agencies regarding the need, extent, and limitations associated with installing and maintaining traffic control measures.
- Contractor shall protect at all times adjacent structures and items from damage due to demolition activities.
- Contractor shall coordinate existing facilities utility disconnects with the Owner prior to anticipated demolition of structures.
- Contractor shall refer to Construction Plans for other pertinent information where applicable.
- Contractor shall replace or repair to Owner's satisfaction all curb, utilities, sidewalks, landscaping, etc. damaged during construction that are not indicated to be removed.
- Contractor shall be responsible for all costs and work required to adjust existing and proposed utilities and appurtenances to finish grades within the limit of work.
- All paving to be removed shall be sawcut to provide a sharp clean edge. All sidewalks to be removed shall be sawcut at the nearest joint. Existing pavement shall be removed as required for new curb, walkway, or utility construction.
- Contractor shall verify the location of manholes, inlets valves, etc. Contractor shall test pit existing utilities as deemed necessary within the limits of construction to determine the exact location and depth as required. Report any discrepancies from that indicated on the plan to the architect and engineer. All existing utilities shall be retained unless marked otherwise, and appurtenances shall be adjusted to final grade. Damage to existing conditions and utilities to remain shall be repaired as required to the Owner's satisfaction at the expense of the Contractor.
- Contractor shall coordinate with utilities companies on installation, relocation or replacement of electrical, phone, gas and cable services.
- The Contractor shall contact PA One Call system @ 1-800-242-1776 at least three (3) days before construction activities.

TAX PARCEL 24-004-010 EXISTING TREE SURVEY

- EXISTING TREES:
 - A. 1 - SWEETGUM
 - B. 1 - WHITE FIR
 - C. 1 - DOGWOOD
 - D. 1 - BLACK POPLAR
 - E. 1 - WHITE PINE
 - F. 1 - DOUGLAS FIR
- TOTAL EXISTING TREE CANOPY AREA - 3,572 S.F.
- TOTAL REMAINING EXISTING TREE CANOPY AREA - 1,476 S.F. (41.32%)
- REFER TO LANDSCAPING AND TREE PRESERVATION PLAN - SHEET 7.



DEMOLITION FEATURES LEGEND

- To Be Removed Concrete Areas
- To Be Removed Pavement Areas
- To Be Removed Shrub

EXISTING FEATURES LEGEND

- Existing Building
- Existing Curbing & Edge of Pavement
- Existing Concrete Areas
- Existing Bituminous Areas
- Existing Contours w/ Elevation (1's & 2's)
- Existing Contours w/ Elevation (5's & 10's)
- Existing Sanitary Sewer w/ Manhole
- Existing Sanitary Sewer Lateral w/ Clean Out
- Existing Water Line w/ Valve
- Existing Water Service Lateral
- Existing Gas Line
- Existing Overhead Utility Line w/ Pole
- Existing Manhole
- Existing Utility Pole
- Existing Clean-Out
- Existing Mail Box
- Existing Soil Limit Line / Boundary
- Existing Soil Type
- Existing Deciduous Tree
- Existing Evergreen Tree
- Existing Shrub

SOILS LEGEND

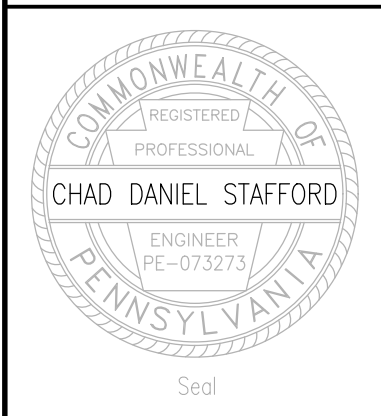
Soil cover on the site consists only of:
HaB - Hagerstown Silt Loam, 3% - 8% Slopes

EXISTING CURVE TABLE

| CURVE | LENGTH | RADIUS | TANGENT | CHORD DIRECTION | CHORD | DELTA |
|-------|---------|-----------|---------|-----------------|---------|------------|
| C1 | 50.01' | 15050.75' | 25.01' | N 56° 39' 14" E | 50.01' | 0° 11' 25" |
| C2 | 100.00' | 15037.25' | 50.00' | N 56° 22' 13" E | 100.00' | 0° 22' 52" |

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Designer(s) _____ C.J.W.
 Environmental _____ T.F.Z.
 Proj. Manager _____ C.D.S.
 Surveyor _____
 Perimeter Ck. _____
 Book _____ Pg. _____
 File _____ 21255-PRE-01-EX-CON & DEMO
 Layout _____ EX. CON & DEMO

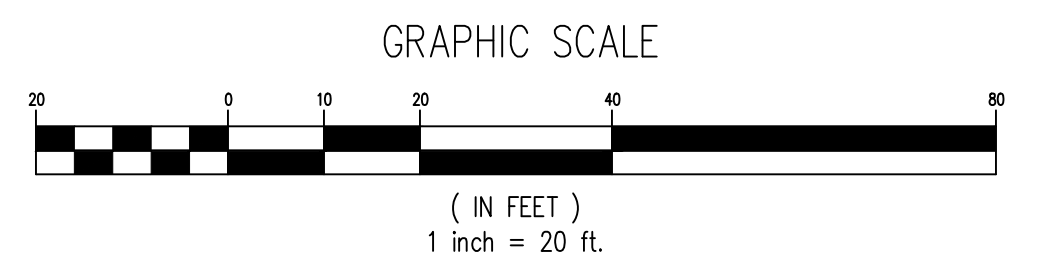
| Date | Description |
|------|-------------|
| | REVISIONS |

1900 CIRCLEVILLE ROAD
 FERGUSON TOWNSHIP
 CENTRE COUNTY
 PENNSYLVANIA

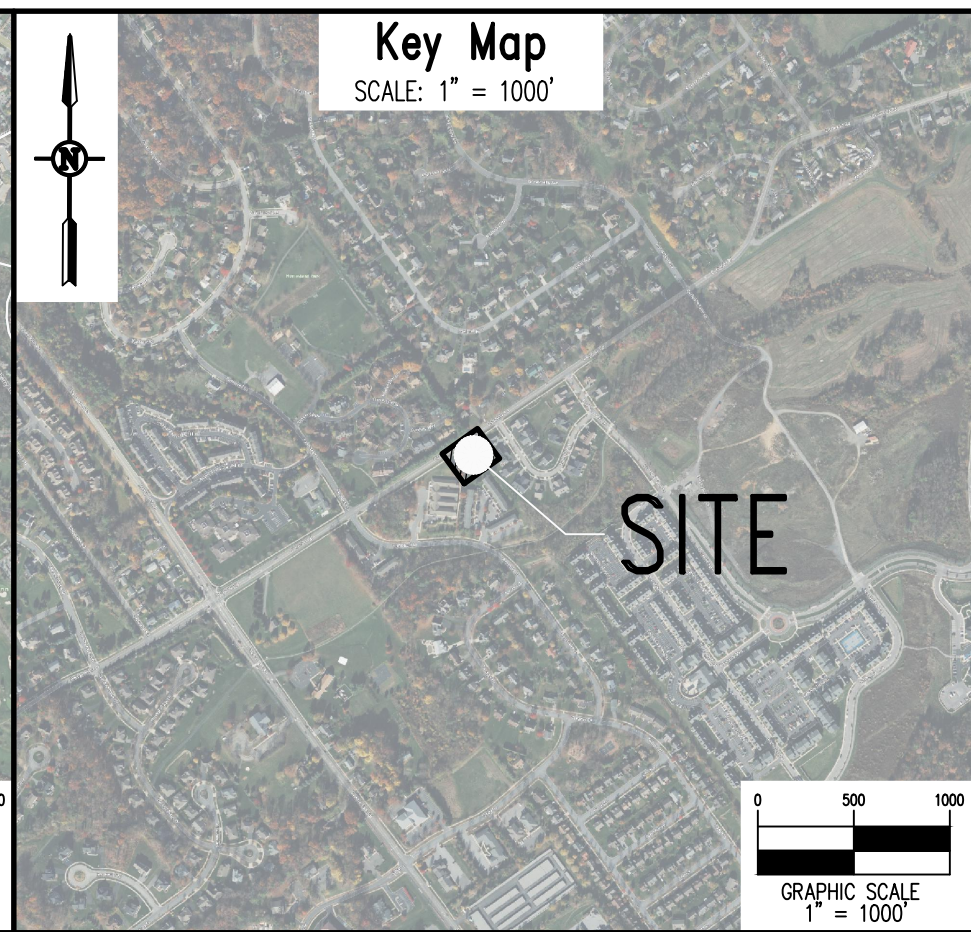
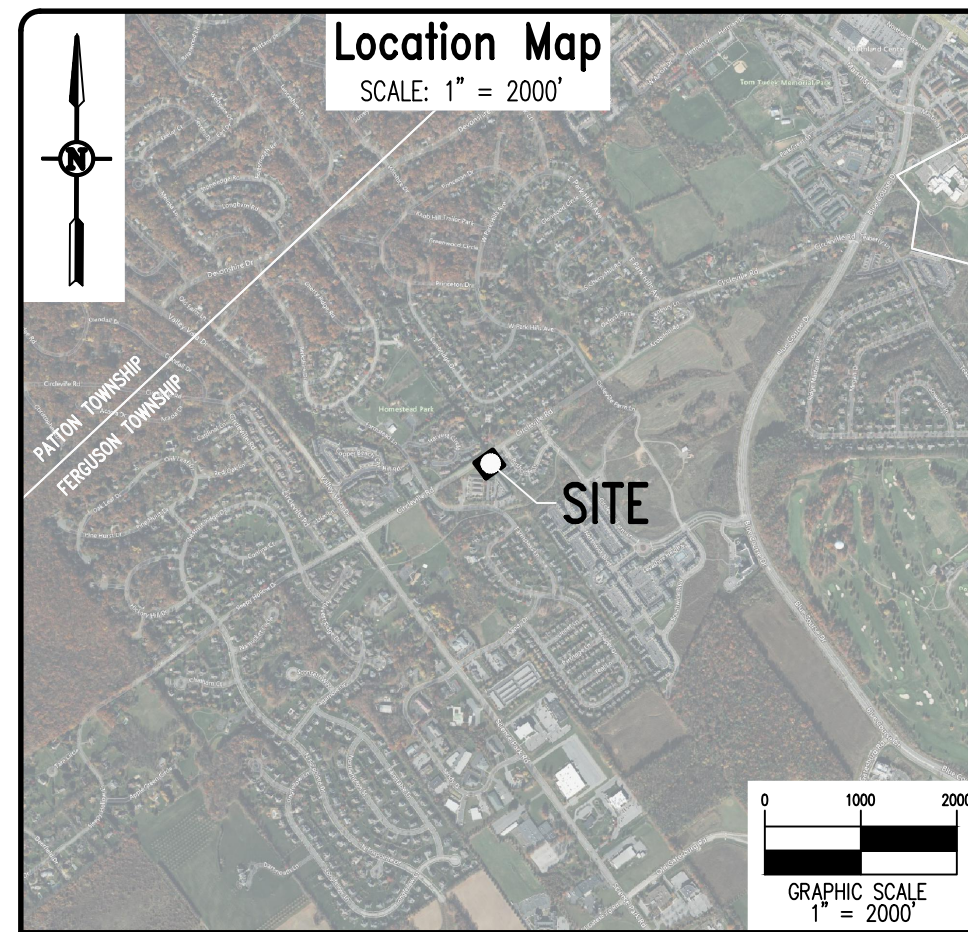
PRELIMINARY LAND DEVELOPMENT PLAN

EXISTING CONDITIONS, DEMOLITION & EXISTING TREE SURVEY PLAN

| | |
|-------------|-------------------|
| PROJECT NO. | 21255 |
| DATE | DECEMBER 28, 2022 |
| SCALE | 1"=20' |
| SHEET NO. | 2 |



p:\ddp\proj\2021\21255\design\plot files\prelim plans\21255-PRE-01-EX-CON & DEMO.dwg, 12/29/2022, 12:53:51 PM, 1:1



Owner's Certification

State of _____
County of _____

On this the _____ day of _____, 20____

personally appeared before me and certified that they were the owners of the properties shown on this plan and acknowledge the same to be their act and plan and designs, the same to be recorded as such, according to the law.

witness my hand and seal, this date _____

Notary Public Commission Expires _____

Offer of Dedication

State of _____
County of _____

On this the _____ day of _____, 20____

certifies that all proposed streets, right of ways, and easements not heretofore dedicated shown on this plan, are hereby offered for public use. He acknowledges responsibility for maintenance of lands and/or facilities until they are complete and accepted for dedication by the Municipality.

Owner _____

witness my hand and seal, this date _____

Notary Public Commission Expires _____

Township Engineer Certification

I, _____, have reviewed and hereby certify that the plan meets all engineering design standards and criteria of the Ferguson Township Code of Ordinances.

Chair _____ Date _____

Secretary _____ Date _____

Township Planning Commission

Ferguson Township Planning Commission Approved

Chair _____ Date _____

Secretary _____ Date _____

Township Supervisors

Ferguson Township Supervisors Approved

Chair _____ Date _____

Secretary _____ Date _____

Design Engineer Certification

I, _____, hereby certify that this plan meets all design requirements of the Subdivision and Land Development Ordinance, Zoning Ordinance and all other applicable Chapters of the Ferguson Township Code.

Ferguson Township Zoning Officer _____ Date _____

Ferguson Township Zoning Approval

I hereby certify that this plan meets or exceeds all Ferguson Township zoning requirements at the date of signing.

Ferguson Township Zoning Officer _____ Date _____

Professional Land Surveyor Certification

I, Nevin L. Grove, a Professional Land Surveyor in the Commonwealth of Pennsylvania, do hereby certify that this plan correctly represents the tracts of lands as shown.

Signature _____ Date _____

Fire Chief Certification

I have reviewed and hereby certify that the location of Fire Lanes and Fire Hydrants shown on this plan are adequate.

Fire Chief _____ Date _____

Recorder's Stamp Here

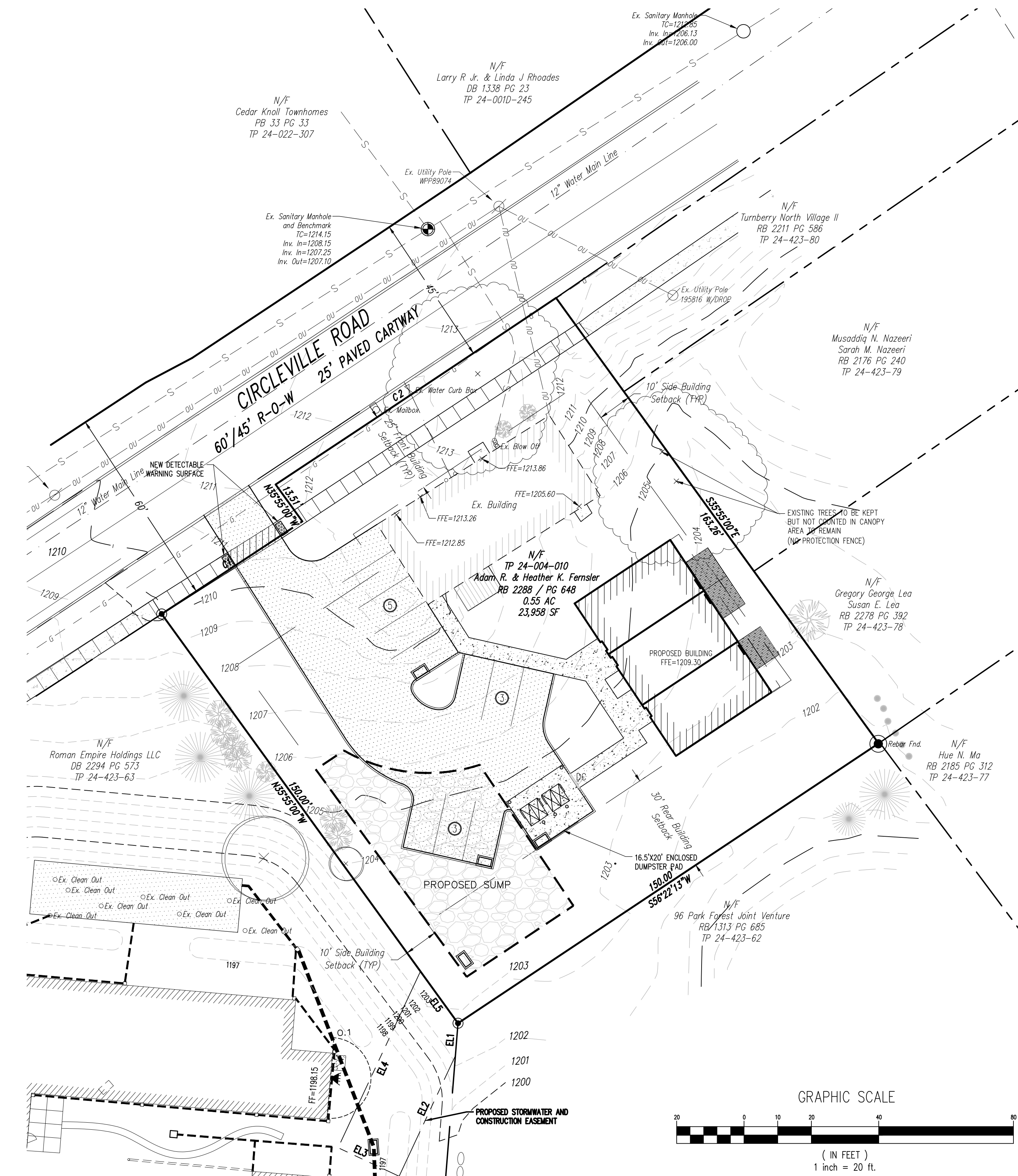
Project Notes:

- General Site Information:
 - Owner Information: Adam R. Fernler and Heather K. Fernler
C/O RT Contracting, Inc.
3430 PA-764
Duncansville, Pennsylvania 16635
24-004-010-0000-
Record Book 2288, Page 649
0.55 AC (23,958 SF)
Property Address: 1900 Circleville Road
State College, PA 16803
 - Tax Parcel Numbers: Ferguson Township
 - Deed Information: Township Residential District (R3)
 - Total Parcel Area: Residential
 - Proposed Site Use: Residential
 - Minimum Lot Size: 0.465 AC (20,250 SF)
 - Maximum Building Coverage: 30% (7,188 SF)
 - Proposed Building Coverage: 14% (3,412 SF)
 - Maximum Building Height: 40'
 - Proposed Building Height: 26'-2"
 - Proposed Impervious: Pavement - 0.10 AC (4,455 SF); Concrete - 0.03 AC (1,497 SF)
- Building Setbacks:
 - Zoning (R3): Area & Bulk Category 2 Area & Bulk Category 3
Front: 25' Front: 20'
Side: 10' Side: 10'
Rear: 30' Rear: 30'
- Act 287 Utility Information: (Serial Number: 20220392624)
All utility locations should be verified prior to any construction. Utility information and locations should be considered approximate. Contractor shall notify per one call prior to any excavation.
 - Water: State College Borough Water Authority (SCBWA)
1201 West Branch Road, State College, PA 16801; (814) 238-6766
 - Sanitary Sewer: University Area Joint Authority (UAJA)
1576 Spring Valley Road, State College, PA 16801; (814) 238-5361
 - Telephone: Verizon
224 South Allen Street, State College, PA 16801; (814) 231-6511
 - Electric: West Penn Power
2800 East College Avenue, State College, PA 16801; (814) 231-5355
 - Cable television: Comcast
1155 Benner Pike, State College, PA 16801; (814) 238-5050
 - Gas: Columbia Gas of Pennsylvania
2550 Coroleon Industrial Drive, State College, PA 16801; (814) 278-5840
 - Storm Sewer: Ferguson Township
3147 Research Drive, State College, PA 16801; (814) 238-4651
- Natural Site Features & Survey Information:
 - Soil limits and descriptions have been taken from the Natural Resources Conservation Service Web Soil Survey dated December 2022.
 - There are no wetlands on the site according to the National Wetland Inventory Mapping (U.S. Fish & Wildlife Service) for State College, PA last updated December 2022.
 - There are no portions of this site within Flood Plain according to the Federal Emergency Management Agency (FEMA) Map Number 4202700617F, effective date May 4, 2009.
 - Contours shown are taken from survey data collected in the field by PennTerra Engineering, Inc.
 - Horizontal Datum is Pennsylvania North Zone State Plane Coordinates, North American Datum of 1983 (PA NAD83) U.S. Feet.
 - Elevation Datum is the North American Vertical Datum of 1988 (NAVD 88).
 - The Project Benchmark is the top of casting of the sanitary manhole on the North side of Circleville Road. Elevation = 1214.15'.
- Easement Information:
 - All lots may be subject to future easements in favor of utility companies. Any future easements will be reflected in the deed for said lot.
- Property monuments and pins shall be set after lot development and landscaping is completed.
- For additional information, refer to:
 - 1900 Circleville Road "Stormwater Management Plan" prepared by PennTerra Engineering, Inc., dated December 23, 2022.
 - 1900 Circleville Road "Soil Erosion and Sedimentation Control Plan", prepared by PennTerra Engineering, Inc., dated December 23, 2022.

All stormwater management facilities on the 1900 Circleville site not contained in a Ferguson Township Right-of-Way shall be owned and maintained by 1900 Circleville. Ferguson Township shall have the uninterrupted right to access the property to inspect the stormwater facilities. The facilities that will require maintenance are the inlets, underground infiltration basin, and grate inlet skimmer boxes. All stormwater facilities should be inspected and maintained as follows:

| STORMWATER BMP MAINTENANCE ITEM | MAINTENANCE DUTY | OCCURRENCE INTERVAL |
|---------------------------------|---|---|
| STORM SEWER INLETS AND PIPES | STORM SEWER INLETS AND PIPES SHALL BE CLEANED OF ALL DEBRIS, LITER, AND OTHER DELETERIOUS MATERIAL. | MONTHLY OR AFTER EACH RAINFALL EVENT PRODUCING 1" OR MORE OF RAINFALL |
| UNDERGROUND INFILTRATION BASIN | THE OUTLET STRUCTURE SHALL BE KEPT CLEAN OF TRASH AND DEBRIS. THE ROOF DRAINS LEADING TO THE BASIN SHALL BE KEPT CLEAN OF TRASH AND DEBRIS. VEHICULAR TRAFFIC ON UNDERGROUND INFILTRATION BASIN SHALL BE LIMITED TO THE MAXIMUM EXTENT POSSIBLE. VISUAL INSPECTION (THROUGH THE OUTLET STRUCTURE) MUST BE CONDUCTED TO ENSURE THE UNDERGROUND INFILTRATION BASIN IS INFILTRATING AS DESIGNED. | QUARTERLY OR AFTER EACH RAINFALL EVENT PRODUCING 1" OR MORE OF RAINFALL |
| GRATE INLET SKIMMER BOXES | THE STORM ROOM SHALL BE REPLACED, WITH DEBRIS IN THE SKIMMER TRAY AND THE OLD STORM ROOM DISPOSED OF PROPERLY. DEBRIS IN THE FILTRATION BOX SHALL BE DUMPED INTO A PROPER DISPOSAL CONTAINER OR SUCTIONED OUT WITH A VACUUM. CLEAN THE SCREENS WITH A SPRAY WAND OR BRUSH. THE INLETS REQUIRING GRATE INLET SKIMMER BOX MAINTENANCE INCLUDE 1-1 AND 1-2. | QUARTERLY OR AFTER EACH RAINFALL EVENT PRODUCING 1" OR MORE OF RAINFALL |

*DOCUMENTATION OF INSPECTIONS MUST BE MAINTAINED BY THE OWNER AND SUBMITTED TO TOWNSHIP UPON REQUEST. MAINTENANCE INSPECTIONS MAY BE PERFORMED BY THE TOWNSHIP TO ENSURE PROPER FUNCTIONING OF ALL STORMWATER FACILITIES.



PennTerra ENGINEERING INC.
3075 ENTERPRISE DRIVE
SUITE 100
STATE COLLEGE, PA 16801
PH: 814-231-8285
www.PENNTERRA.com

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHAD DANIEL STAFFORD
No. 120600
Seal

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
NEVIN L. GROVE
No. 500111
Seal

PENNSYLVANIA ONE CALL SYSTEM INC.
1-800-487-1776
STOP - CALL BEFORE YOU DIG

Designer(s) _____ C.J.W.
Environmental _____ T.F.Z.
Proj. Manager _____ C.D.S.
Surveyor _____
Perimeter Ck. _____
Book _____ Pg. _____
File _____ 21255-PRE-03-REC000
Layout _____ RECORD

| Date | Description |
|------|-------------|
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1900 CIRCLEVILLE ROAD

FERGUSON TOWNSHIP
CENTRE COUNTY
PENNSYLVANIA

PRELIMINARY LAND DEVELOPMENT PLAN

RECORD PLAN

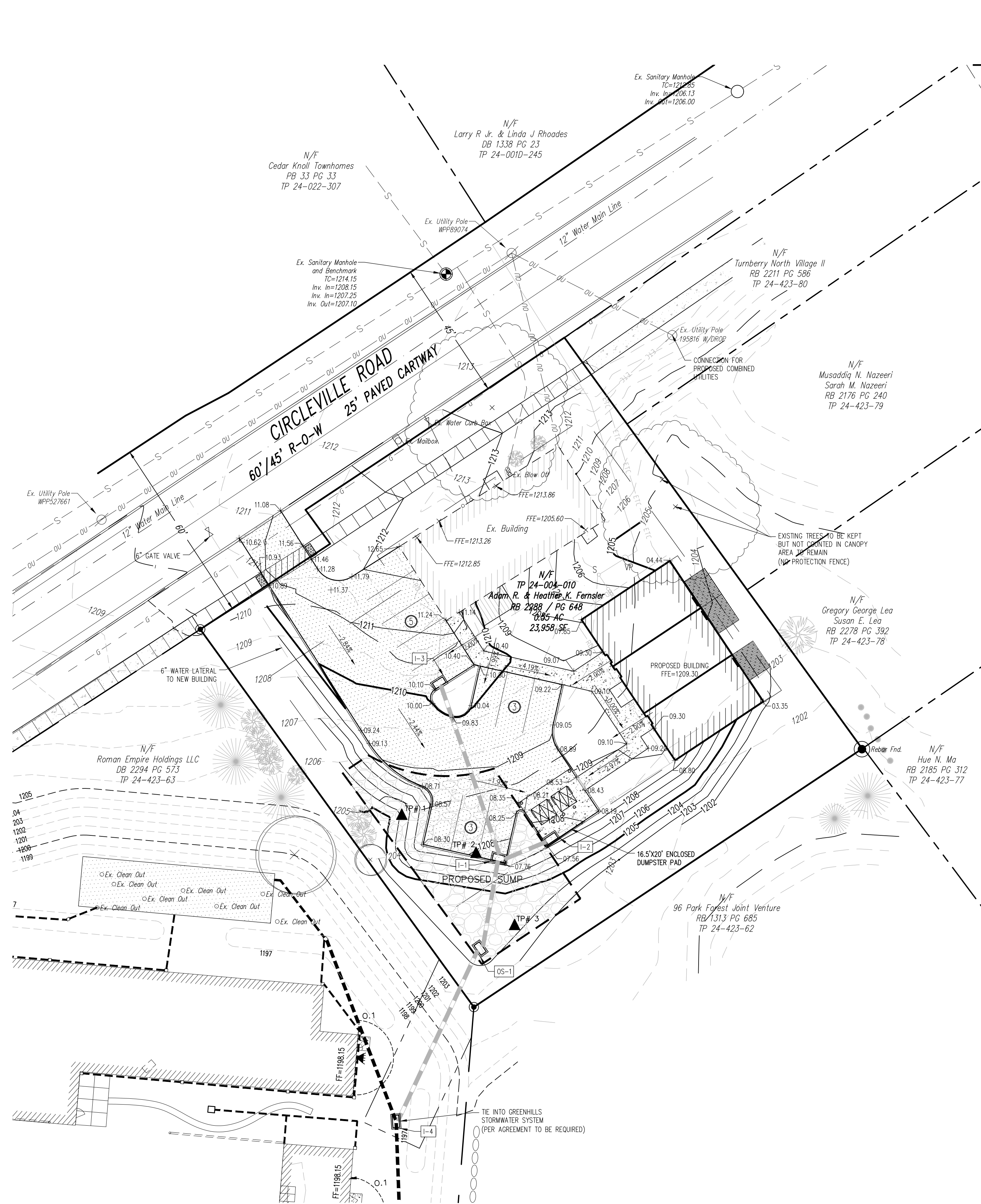
PROJECT NO.
21255
DATE
DECEMBER 28, 2022
SCALE SHEET NO.
1"=20' **3**

GRADING NOTES

- The project benchmark is the top of casting of the sanitary manhole, located on the North side of Circleville Road. Elev. = 1214.15.
- All existing trees, vegetation, pavements, concrete foundations, structures and organic topsoil shall be stripped and removed from new construction areas unless noted otherwise.
- All areas not paved shall be sodded, topsoiled, seeded, mulched or landscaped unless otherwise noted in the construction drawings, site specifications or instructed by the Owner.
- Contractor shall refer to the geotechnical report prior to initiation of any earthwork activity.
- The maximum slope for all on-site sidewalks shall be 4.90% with a maximum cross slope of 2.00% and curb ramps shall have a maximum slope of 8.30%.
- Proposed spot elevation are to bottom of curb (as applicable).
- The Contractor shall notify assigned inspection agency before any retaining wall construction. Retaining walls shall be constructed per the project specification approved building permit and certified by the assigned inspection agency.
- All fill material brought on to the job by the Contractor must comply with all applicable D.E.P. regulations regarding clean fill.
- The Contractor shall notify Owner's testing agency before any placement and compaction of fills on the site. Fill areas shall be prepared and compacted per the project specifications and certified by the Owner's testing agency. Contractor shall be responsible for removal, retesting, and replacement of fills not meeting the specifications. The Contractor is also responsible for all expenses associated with replacement of fills not meeting the specifications.

STORMWATER MANAGEMENT NOTES

- All site work shall be done in accordance with the plans prepared by PennTerra Engineering, Inc., the current requirements of the governing municipality, the applicable sections of the PennDOT standard specifications for roadway construction, and all other pertinent federal and state laws.
- The Contractor shall be responsible for examining the areas and conditions under which the project is to be constructed prior to the submission of a bid. Submission of a bid to be constructed prior to the submission of a bid. Submission of a bid to be constructed prior to the submission of a bid.
- All storm pipe shall be as noted. All joints shall be watertight.
- Contractor shall assume full responsibility for any fines or other measures assessed by regulatory agencies due to improper or deficient installation and / or maintenance of the temporary erosion and sedimentation control measures and post-construction stormwater measures installed.
- Notice of termination services: Contractor shall be responsible for all stormwater work/activities. This includes but is not limited to the following:
 - Have a licensed professional or designee on-site to observe the critical stages of construction noted in the post-construction stormwater management plan. The licensed professional or designee will be responsible for signing the required certification forms and certifying that the facilities have been built according to the approved plans, processing and recording any required forms and the as-built survey until the Engineer (PennTerra Engineering, Inc.), Municipality (Ferguson Township) & Centre County Conservation District approvals are received.
 - Prepare an as-built topographic survey sealed by a licensed surveyor from the commonwealth of Pennsylvania of the stormwater management facilities (infiltration basin, rain garden and outlet structures, outlet pipes, tops of berms and spillways).
 - Provide double-ring infiltrometer tests as outlined in the December 2006 PA D.E.P. Stormwater BMP manual of the produced basin bottom soil mix prior to installation to certify that the soil mix meets the infiltration requirements noted on the plans.
- Contractor shall have a licensed professional submit as-built drawings/documentation (including verification of infiltration testing) of the stormwater management facilities prepared in accordance with the governing municipality's code of ordinances and submitted to the governing municipality at the completion of construction as a prerequisite of issuance of occupancy permit or release of the surety bond. A narrative and photographic documentation for critical stages of construction and for the infiltration surface prior to placement of filter fabric/amended soils must also be submitted to the governing municipality.
- As-built infiltration testing in infiltration basins shall be performed at the top of the finished native soil layer prior to topsoil placement. This testing is in addition to the testing identified in Note 9.c. The number of infiltration tests performed shall be in accordance with the governing municipality's code of ordinances.



SURVEY FEATURES LEGEND

- Property Line, Lot Line or Right of Way Line
- Adjoining Property Line
- Building Setback Line
- Easement Line
- Property Corner Found
- Project Benchmark

EXISTING FEATURES LEGEND

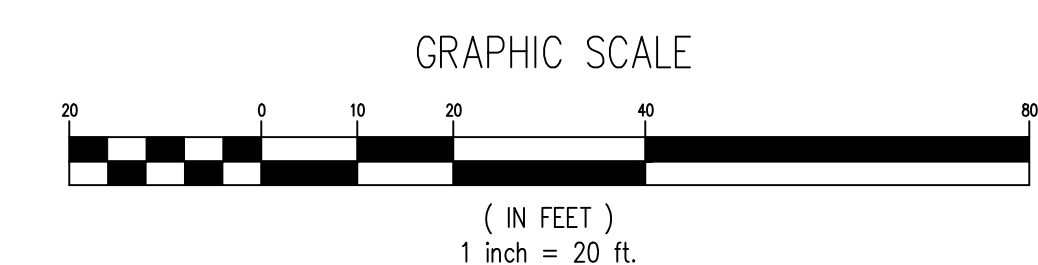
- Existing Building
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- Existing Contours w/ Elevation (1's & 2's)
- Existing Contours w/ Elevation (5's & 10's)
- Existing Sanitary Sewer w/ Manhole
- Existing Sanitary Sewer Lateral w/ Clean Out
- Existing Water Line w/ Valve
- Existing Water Service Lateral
- Existing Gas Line
- Existing Overhead Utility Line w/ Pole
- Existing Manhole
- Existing Utility Pole
- Existing Clean-Out
- Existing Mail Box
- Existing Soil Limit Line / Boundary
- Existing Soil Type
- Existing Deciduous Tree
- Existing Evergreen Tree
- Existing Shrub
- Infiltration Test Pit Locations

PROPOSED FEATURES LEGEND

- PROPOSED BUILDING
- PROPOSED CURBING & EDGE OF PAVEMENT
- PROPOSED CONCRETE AREAS
- PROPOSED BITUMINOUS PAVEMENT AREAS
- PROPOSED MINOR CONTOURS W/ ELEVATION (1's & 2's)
- PROPOSED MAJOR CONTOURS W/ ELEVATION (5's & 10's)
- PROPOSED STORM SEWER W/ TYPE C INLET
- PROPOSED 6" PVC SCH 35 ROOF DRAIN
- PROPOSED SPOT ELEVATION
- PROPOSED GRADE SLOPE
- PROPOSED STORM SEWER W/ TYPE C INLET
- PROPOSED STORM SEWER INLET - TYPE M
- PROPOSED SANITARY PUMP VAULT
- PROPOSED SANITARY VALVE PIT
- PROPOSED PAINTED SITE CROSSWALK (ACCESSIBLE ROUTE)
- PROPOSED SIGN W/ LABEL
- PROPOSED 6" STEEL BOLLARD FILLED W/ CONCRETE
- PROPOSED LIGHT FIXTURE (DUSK-TO-DAWN)
- PROPOSED LIGHT POLE
- PROPOSED DEPRESSED CURB W/ CURB TRANSITION
- PROPOSED HANDICAPPED RAMP

SOILS LEGEND

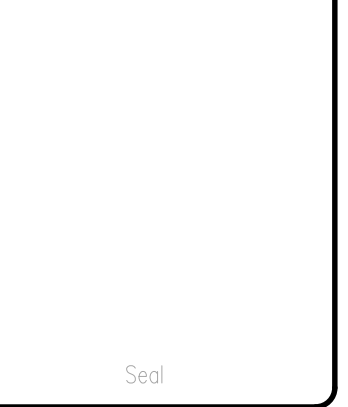
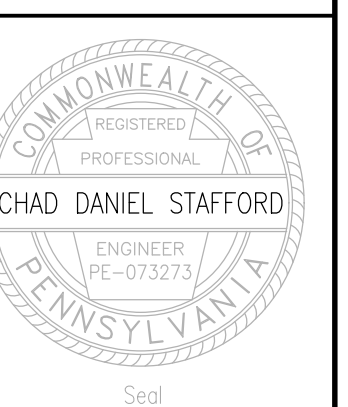
Soil cover on the site consists only of:
 HaB - Hagerstown Silt Loam, 3%-8% Slopes



3075 ENTERPRISE DRIVE
 SUITE 100
 STATE COLLEGE, PA 16801
 PH: 814-231-8285

www.PENNTERRA.com

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| | |
|---------------|----------------------|
| Designer(s) | CJW |
| Environmental | ZFZ |
| Proj. Manager | CDS |
| Surveyor | |
| Perimeter Ck. | |
| Book | Pg. |
| File | 21255-PRE-05-GRADING |
| Layout | GRADING |

| | |
|------|-------------|
| Date | Description |
| | REVISIONS |

1900 CIRCLEVILLE ROAD
 FERGUSON TOWNSHIP
 CENTRE COUNTY
 PENNSYLVANIA

PRELIMINARY LAND DEVELOPMENT PLAN

GRADING & STORMWATER MANAGEMENT PLAN

| | |
|-------------|-------------------|
| PROJECT NO. | 21255 |
| DATE | DECEMBER 28, 2022 |
| SCALE | 1"=20' |
| SHEET NO. | 5 |

UTILITY NOTES

- Before excavation, all underground utilities shall be located in the field by the proper authorities. The Contractor shall notify PA One call at 1-800-242-1776. The location of all utilities and underground structures are approximate and may not all be shown. It is the responsibility of the Contractor to determine the existence and exact location of all utilities and underground structures.
- It is the responsibility of the Contractor to bid and perform all utility work in compliance to all applicable local and state codes and regulations. The Contractor shall be responsible for all fees associated with the installation, testing and final acceptance of all proposed utilities construction unless other arrangements have been made with the owner.
- Contractor shall be responsible for all fees associated with the installation, inspection, testing and final acceptance of all proposed utility construction.
- Contractor shall coordinate with the appropriate utility company on the addition, removal and/or relocation of utilities and utility poles and the extension of all proposed utilities to the proposed facilities.
- All utilities shall be installed in accordance with the specifications of the respective utility company. It is the responsibility of the Contractor to ensure all utilities are installed correctly to meet project requirements whether performed by the Contractor or not.
- Contractor shall verify all utility service connections at the proposed building with the architectural/mechanical/plumbing/electrical plans.
- An as-built drawing of new utility services shall be prepared by the Contractor and submitted to the Owner upon completion of the project.
- All sanitary sewer & water lines shall have 48" minimum coverage.
- All public water main construction and all private water main & lateral service construction shall be in accordance with the water authority's standards and specifications.
- All sanitary sewer service laterals shall be in accordance with the sanitary sewer authority's standards and specifications. PVC pipe material shall be as shown on plan.
- An as-built drawing of new utility services must be prepared by the Contractor and submitted to the Owner upon completion of the project.
- The Contractor shall be responsible for all costs and work required to adjust existing and proposed utilities and appurtenances to finished grades within the limits of work.
- The Contractor shall be responsible for coordination with utility companies on location/removal and/or replacement of electrical, phone, gas, sanitary, water, and cable services.

STATE COLLEGE BOROUGH WATER AUTHORITY

All private water main & lateral service construction shall be in accordance with State College Borough Water Authority's (SCBWA) "material & installation specifications for "private" distribution lines, service lines & fire hydrants", latest edition

All water line pipes shall meet the State College Borough Water Authority's "public water main, service connections & fire hydrant specifications for Contractor installation" as well as "material & installation specifications for "private" distribution lines, service lines & fire hydrants", latest edition.

UNIVERSITY AREA JOINT AUTHORITY

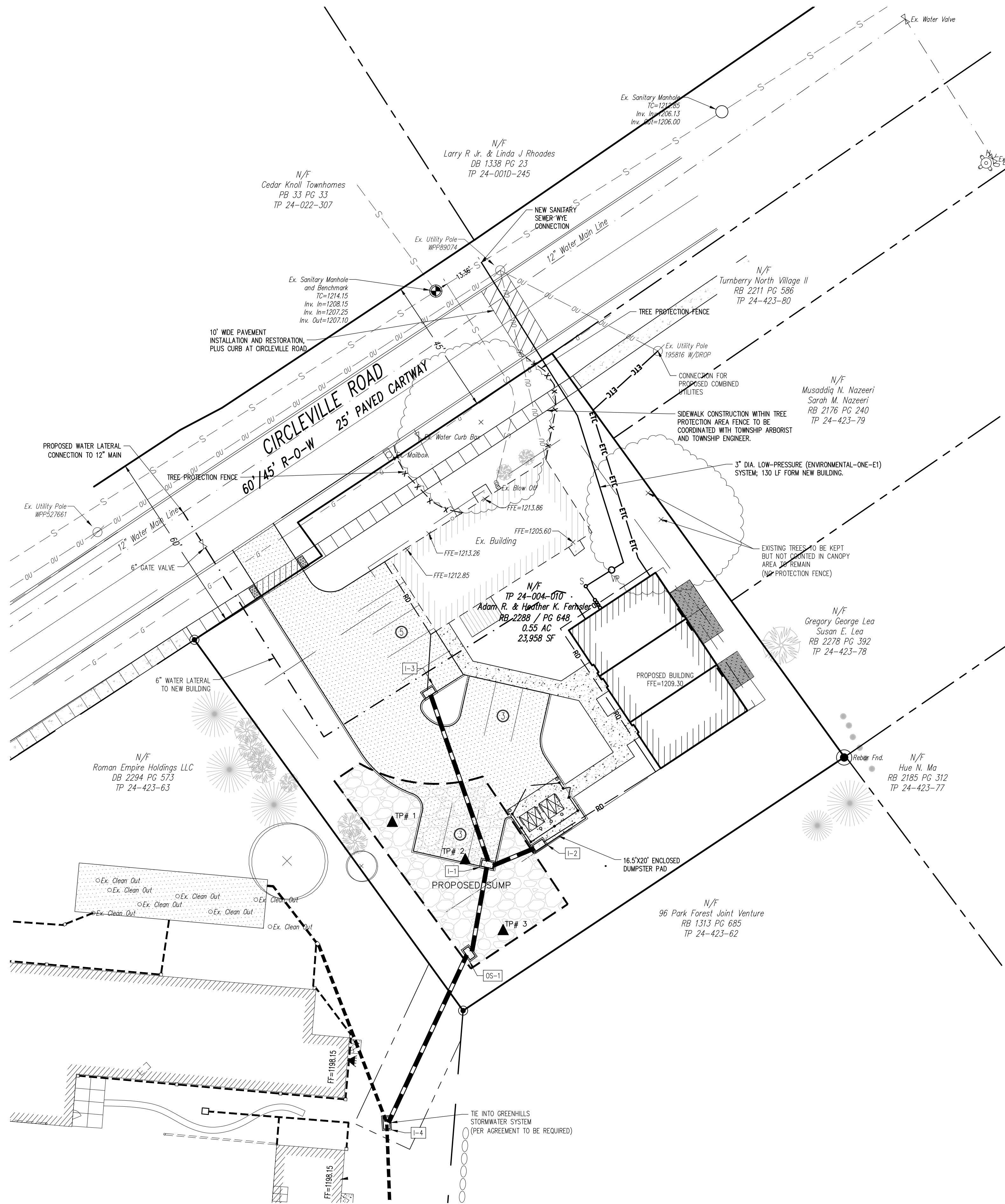
Sanitary sewer laterals & clean-outs beyond UAJA's utility easement shall be PVC schedule 40 in accordance with UAJA specifications. Sanitary sewer laterals within the utility easement shall be PVC SDR-35.

Contractor shall coordinate depths of non-gravity utility lines gravity line inverts & other non-gravity lines to obtain adequate depths, clearances, & coverage.

The Contractor shall refer to the architectural plans for the exact location of utility entrances, building dimensions, roof leaders exit doors, exit ramps, and porches. All site work shall be done in accordance with the plans prepared by PennTerra Engineering, the current regulations of the governing municipality, and all other pertinent federal, state & local laws. Any conflicts between the architectural plans and site plans shall be reported immediately to the Owner's representative

SANITARY SEWER NOTE

The sanitary sewage system shall be a sanitary sewage pressure system with each unit/structure including an Environmental - One individual grinder sewage-system into the new 3" SDR-21 pressure sewage system.



SURVEY FEATURES LEGEND

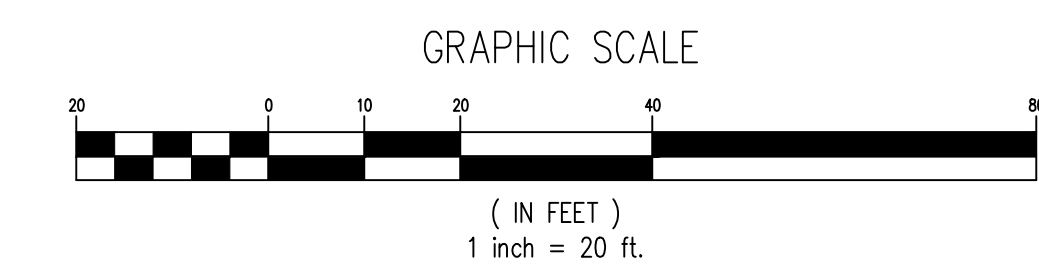
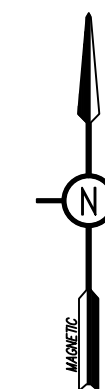
- Property Line, Lot Line or Right of Way Line
- Adjoining Property Line
- Building Setback Line
- Easement Line
- Property Corner Found
- Project Benchmark

EXISTING FEATURES LEGEND

- Existing Building
- Existing Curbing & Edge of Pavement
- Existing Concrete Areas
- Existing Bituminous Areas
- Existing Sanitary Sewer w/ Manhole
- Existing Sanitary Sewer Lateral w/ Clean Out
- Existing Water Line w/ Valve
- Existing Water Service Lateral
- Existing Gas Line
- Existing Overhead Utility Line w/ Pole
- Existing Manhole
- Existing Utility Pole
- Existing Clean-Out
- Existing Mail Box
- Existing Deciduous Tree
- Existing Evergreen Tree
- Existing Shrub

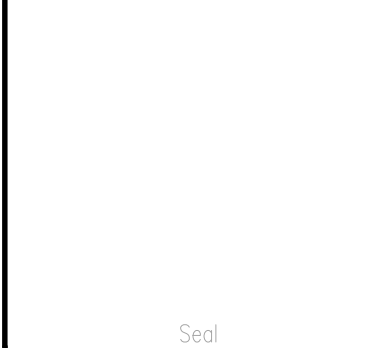
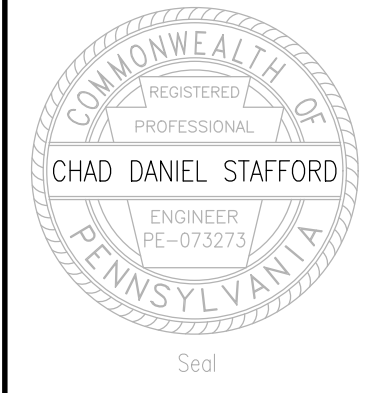
PROPOSED FEATURES LEGEND

- PROPOSED BUILDING
- PROPOSED CURBING & EDGE OF PAVEMENT
- PROPOSED CONCRETE AREAS
- PROPOSED BITUMINOUS PAVEMENT AREAS
- PROPOSED COMBINED UTILITY CONDUIT
- PROPOSED WATER LATERAL CURB BOX
- PROPOSED STORM SEWER W/ TYPE C INLET
- PROPOSED SANITARY PUMP VAULT
- PROPOSED SANITARY VALVE PIT
- PROPOSED STORM SEWER W/ TYPE C INLET
- PROPOSED STORM SEWER INLET - TYPE M
- PROPOSED PAINTED SITE CROSSWALK (ACCESSIBLE)
- PROPOSED SIGN W/ LABEL
- PROPOSED 6" STEEL BOLLARD FILLED W/ CONCRETE
- PROPOSED LIGHT FIXTURE (DUSK-TO-DAWN)
- PROPOSED LIGHT POLE
- PROPOSED DEPRESSED CURB W/ CURB TRANSITION
- PROPOSED HANDICAPPED RAMP



PennTerra ENGINEERING INC.
 3075 ENTERPRISE DRIVE
 SUITE 100
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|---------------|----------------------|
| Designer(s) | CJM |
| Environmental | ZFZ |
| Proj. Manager | CDS |
| Surveyor | |
| Perimeter Ck. | |
| Book | Pg. |
| File | 21255-PRE-06-UTILITY |
| Layout | UTILITY |

| Date | Description |
|------|-------------|
| | REVISIONS |
| | |
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1900 CIRCLEVILLE ROAD
 FERGUSON TOWNSHIP
 CENTRE COUNTY
 PENNSYLVANIA

PRELIMINARY LAND DEVELOPMENT PLAN

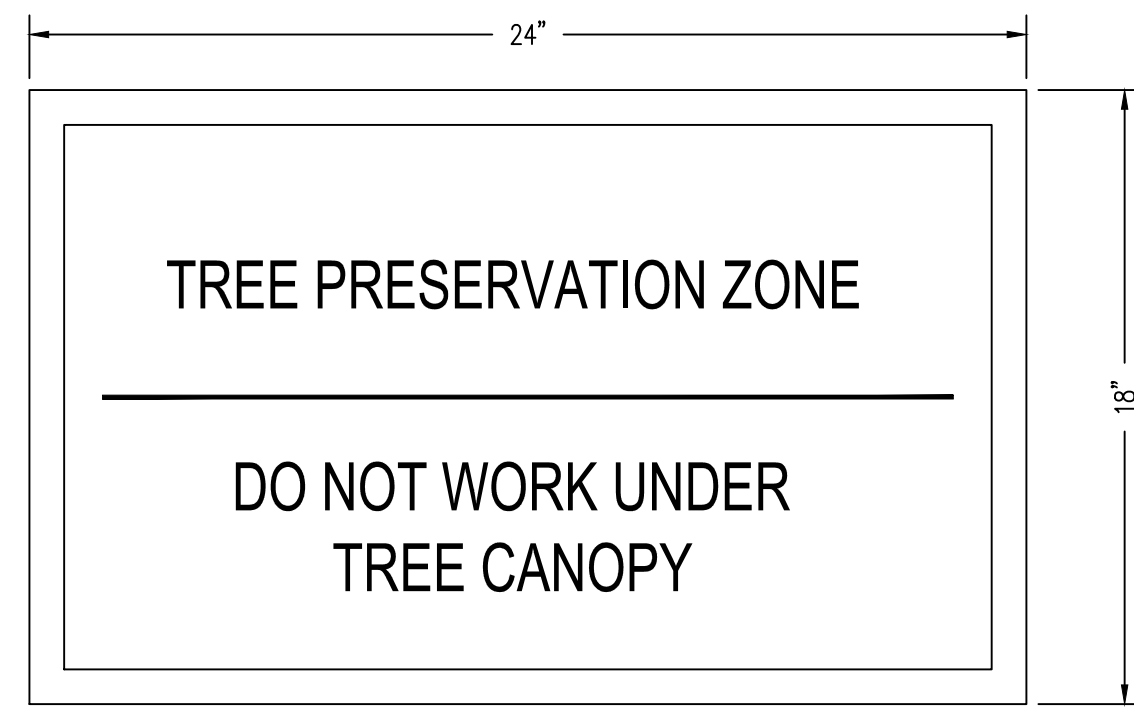
UTILITY PLAN

| | |
|-------------|-------------------|
| PROJECT NO. | 21255 |
| DATE | DECEMBER 28, 2022 |
| SCALE | 1"=20' |
| SHEET NO. | 6 |

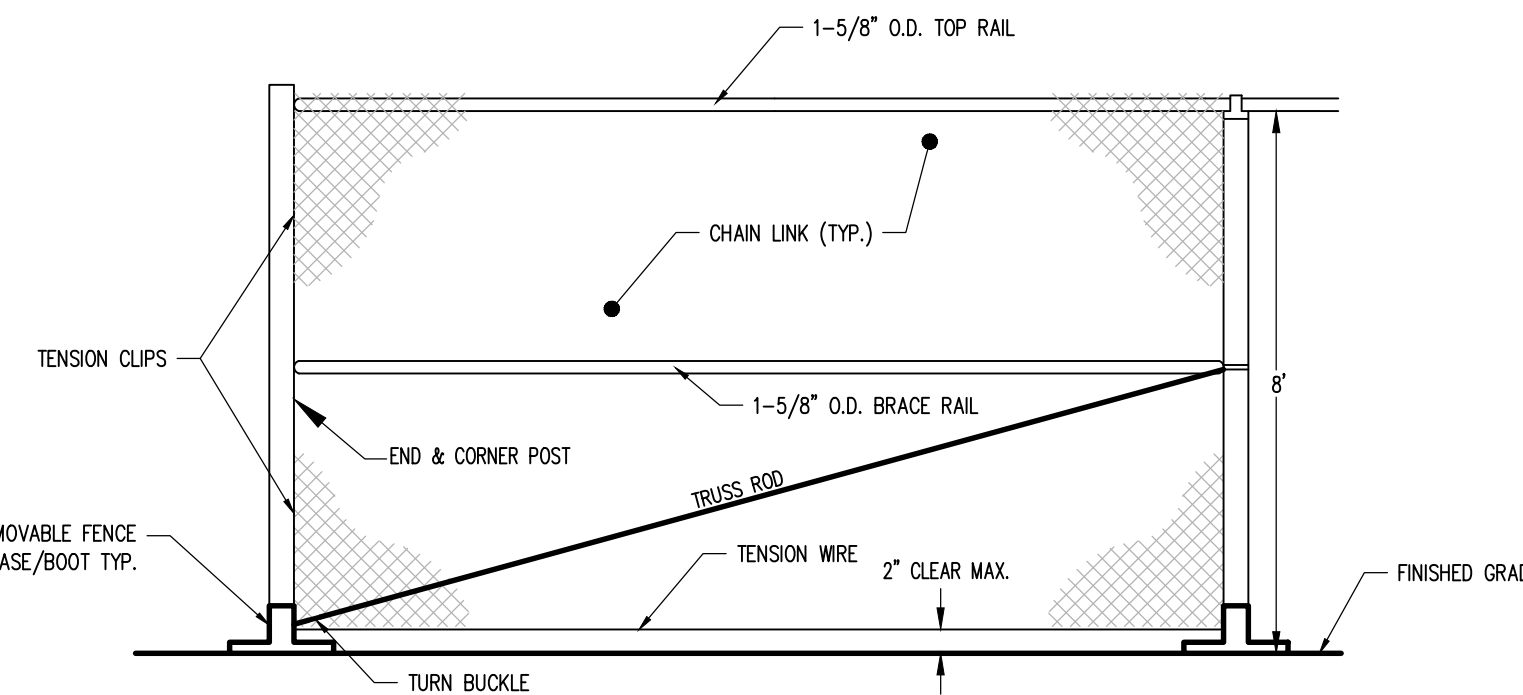
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LANDSCAPE NOTES

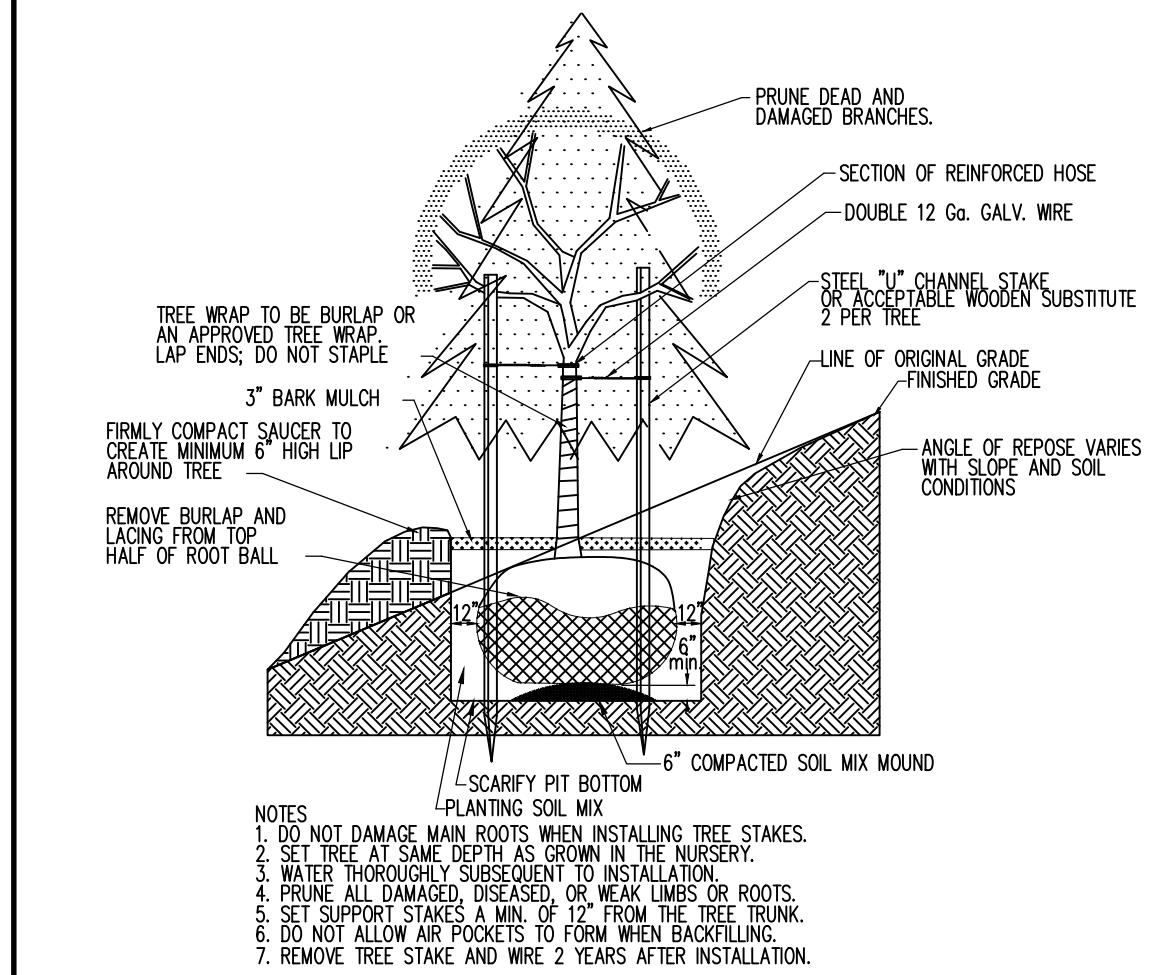
1. Trees are to be mulched individually in a 4' diameter circle.
2. The mulch is to be double shredded hardwood bark mulch, well-aged and dark in color. Apply the mulch 3-4" thick.
3. Plant material substitutions may only be permitted at the approval of the owner and approving municipality prior to planting.
4. Any plantings which do not survive for a period of one year from the date of planting are to be replaced by the landscape contractor at no additional cost to the Owner.
5. All new plant material is to be kept watered by the landscape contractor when working on site until acceptance of the completion of the landscape or end of the season (then resume next season until project is completed). The owner will be responsible for watering thereafter.
6. All disturbed areas not being planted in trees or shrubs are to be fine graded with 6" of topsoil and seeded with a hardy perennial grass seed mixture and mulched with straw.
7. Grass must be 2 inches high over 90% of the seeded areas prior to acceptance by the owner.
8. All caliper measurements for landscaping shall be measured at 6" above the root ball.
9. Quantities of plant material noted on the planting schedule are to be verified with quantities shown on the plan which will have priority.
10. See sheet _____ for lawn and basin bottom seed mixes.



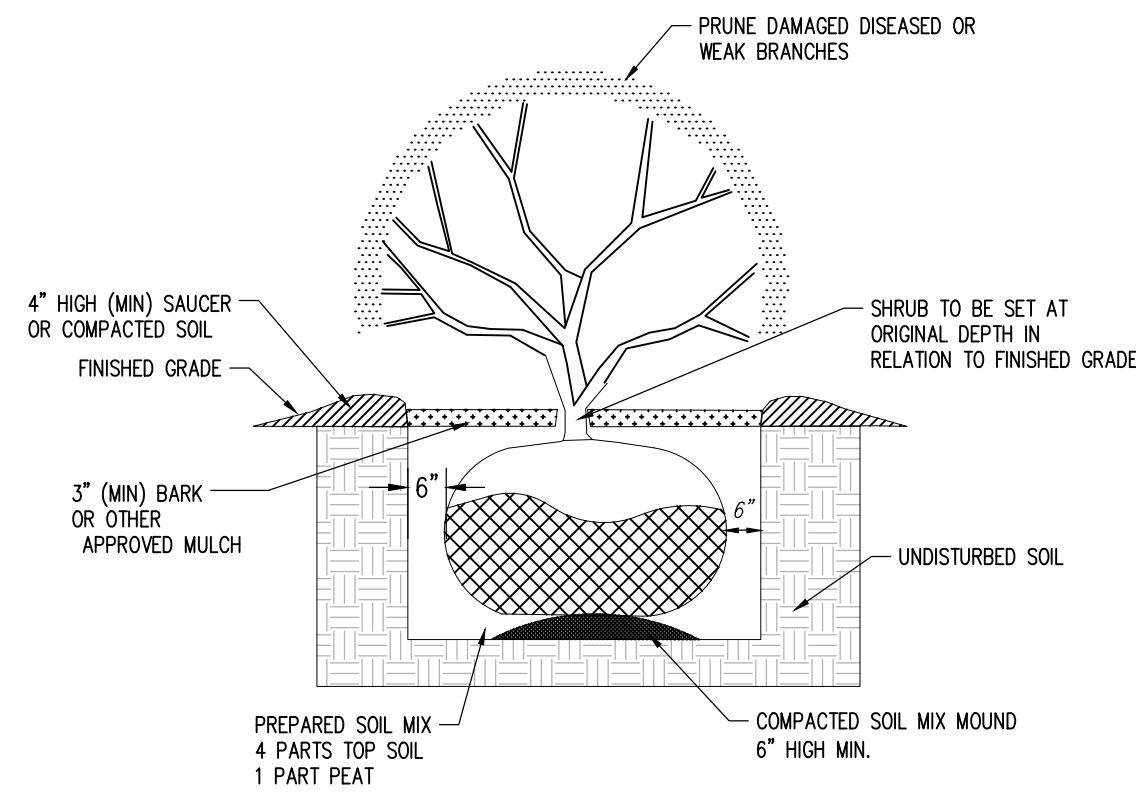
TREE PRESERVATION SIGN DETAIL
NOT TO SCALE



(TEMPORARY) PROTECTIVE CHAIN LINK FENCE DETAIL
NOT TO SCALE



TYPICAL TREE PLANTING (ON SLOPES)
NOT TO SCALE



TYPICAL SHRUB PLANTING DETAIL
NOT TO SCALE

PROPOSED PLANTING SCHEDULE

| SYMBOL | KEY | QTY | COMMON NAME | BOTANICAL NAME | SIZE |
|-------------------------------------|-----|-----|----------------------|----------------------|---------|
| CANOPY TREES | | | | | |
| | T-1 | 5 | American Linden | Tilia americana | 2" Cal. |
| UNDERSTORY / EVERGREEN TREES | | | | | |
| | E-1 | 19 | Eastern Redcedar | Juniperus virginiana | 6' Ht. |
| | E-2 | 18 | Northern White Cedar | Thuja occidentalis | 6' Ht. |
| | U-1 | 8 | Eastern Redbud | Cercis canadensis | 6' Ht. |

NOTE: ALL TREES AND SHRUBS SHALL BE PLANTED IN ACCORDANCE WITH THE "GUIDE TO PLANTING IN FERGUSON TOWNSHIP".

EXISTING PLANTINGS

| KEY | QTY | COMMON NAME | BOTANICAL NAME | SIZE |
|---------------------|-----|--------------|-------------------------|----------|
| CANOPY TREES | | | | |
| Ex.-1 | 1 | Sweetgum | Liquidambar styraciflua | 36" DIA. |
| Ex.-2 | 1 | Dogwood | Cornus florida | 12" DIA. |
| Ex.-3 | 1 | Black Poplar | Populus nigra | 36" DIA. |

SURVEY FEATURES LEGEND

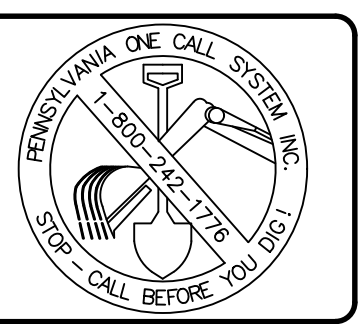
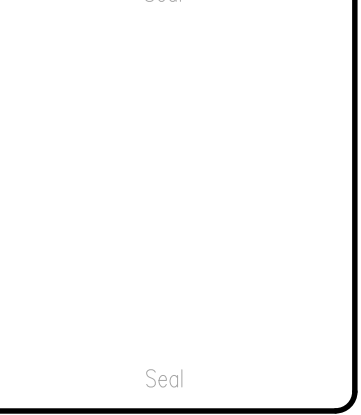
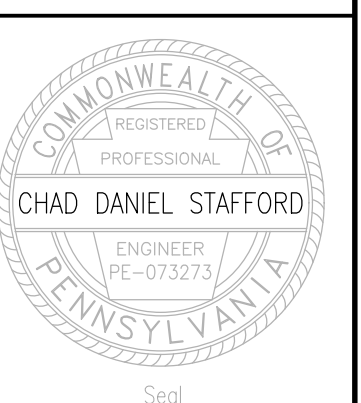
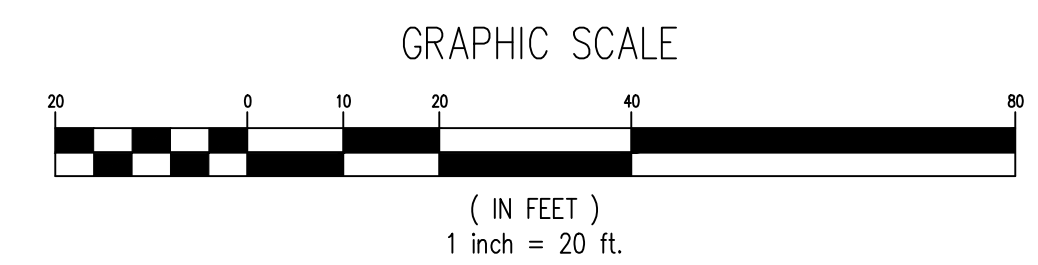
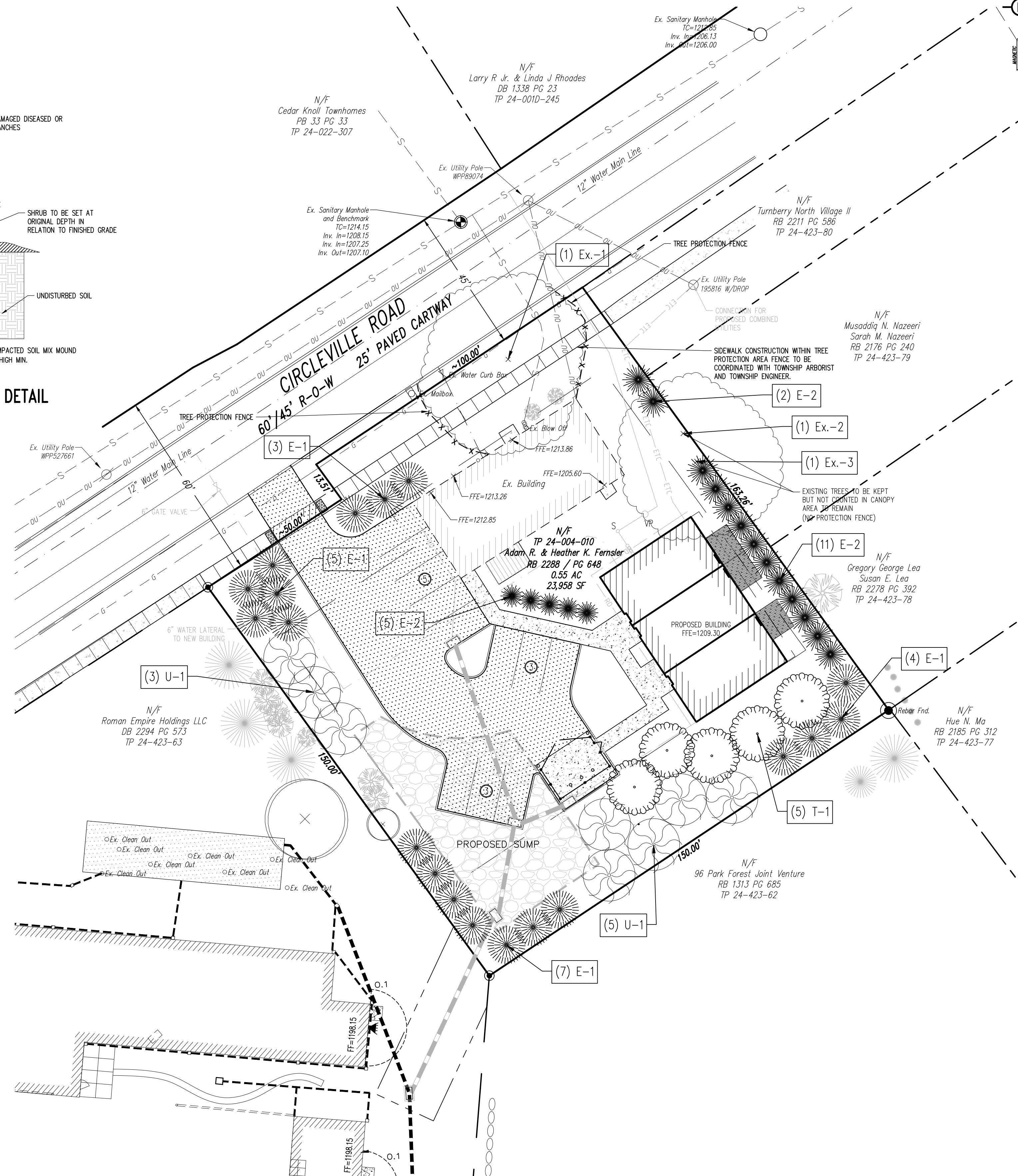
- Property Line, Lot Line or Right of Way Line
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- Existing Clean-Out
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- Existing Evergreen Tree
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- PROPOSED BITUMINOUS PAVEMENT AREAS
- PROPOSED STORM SEWER INLET - TYPE M
- PROPOSED STORM SEWER W/ TYPE C INLET
- PROPOSED SANITARY PUMP VAULT
- PROPOSED SANITARY VALVE PIT
- PROPOSED PAINTED SITE CROSSWALK (ACCESSIBLE ROUTE)
- PROPOSED SIGN W/ LABEL
- PROPOSED 6" STEEL BOLLARD FILLED W/ CONCRETE
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- PROPOSED DEPRESSED CURB W/ CURB TRANSITION
- PROPOSED HANDICAPPED RAMP



Designer(s) CJM
 Environmental ZFZ
 Proj. Manager CDS
 Surveyor _____
 Perimeter Ck. _____
 Book _____ Pg. _____
 File 21255-PRJ-28-LANDSCAPING
 Layout LANDSCAPING

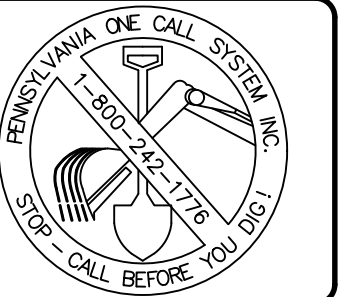
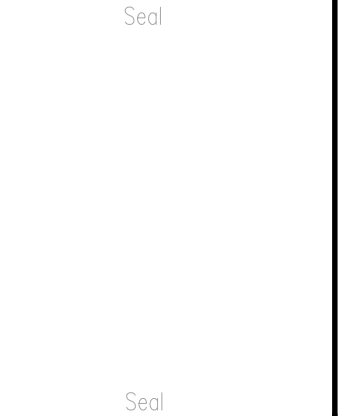
| Date | Description |
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| | REVISIONS |

1900 CIRCLEVILLE ROAD
FERGUSON TOWNSHIP
CENTRE COUNTY
PENNSYLVANIA

PRELIMINARY LAND DEVELOPMENT PLAN

LANDSCAPING & TREE PRESERVATION PLAN

| |
|----------------------------------|
| PROJECT NO. 21255 |
| DATE DECEMBER 28, 2022 |
| SCALE 1"=20' |
| SHEET NO. 7 |



Designer(s) _____ C.J.W.
Environmental _____ Z.F.Z.
Proj. Manager _____ C.D.S.
Surveyor _____
Perimeter Ck. _____
Book _____ Pg. _____
File _____ 21255-PRE-10-PROFILES
Layout _____ PROFILES

| Date | Description |
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**1900
CIRCLEVILLE
ROAD**

FERGUSON TOWNSHIP
CENTRE COUNTY
PENNSYLVANIA

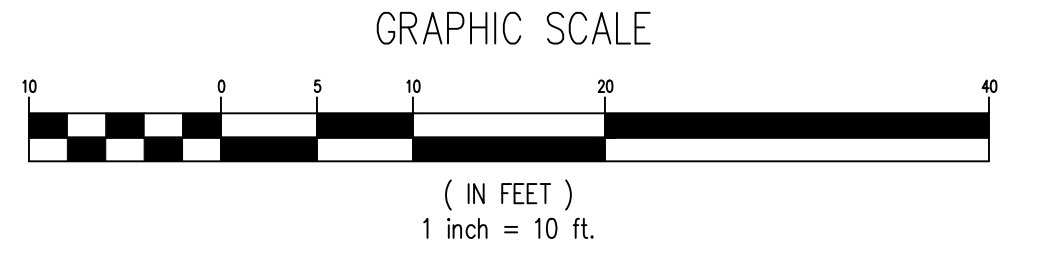
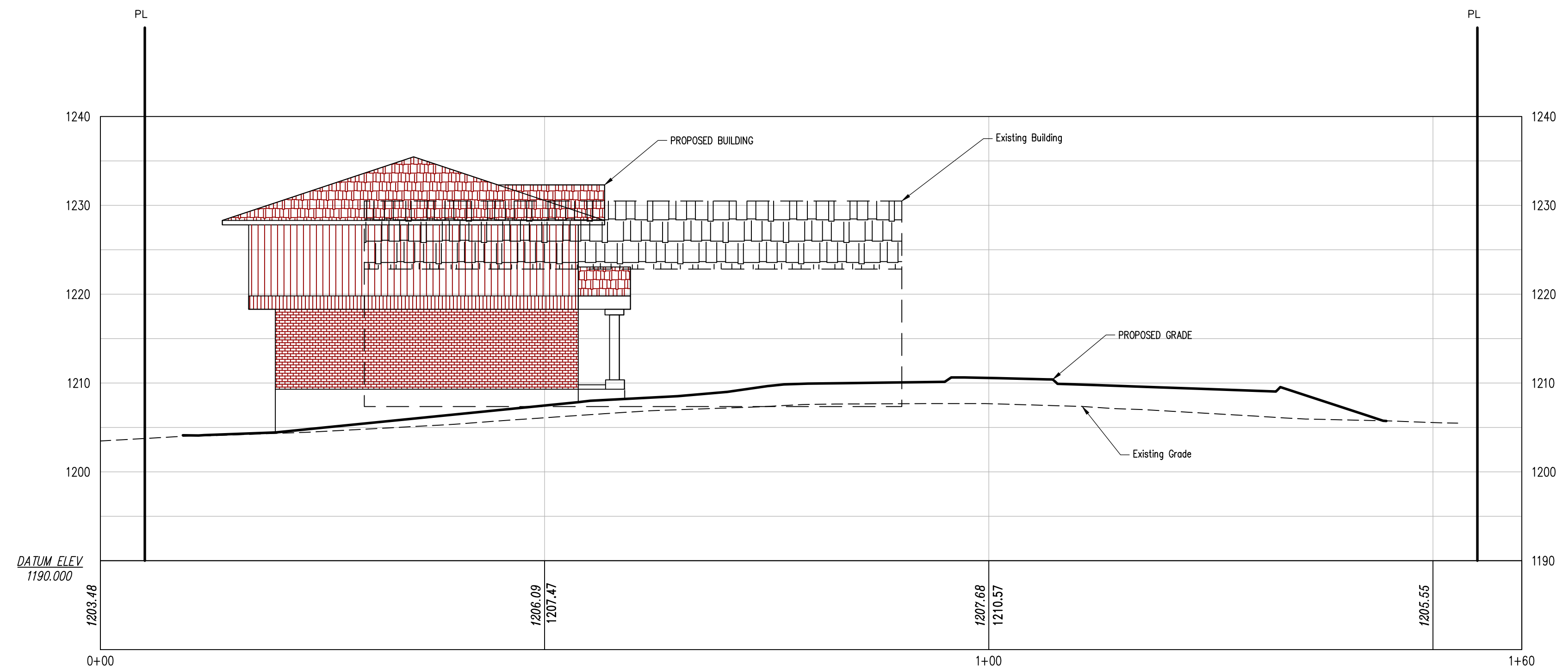
**PRELIMINARY LAND
DEVELOPMENT PLAN**

**SITE CROSS
SECTIONS &
PROFILES PLAN**

PROJECT NO.
21255

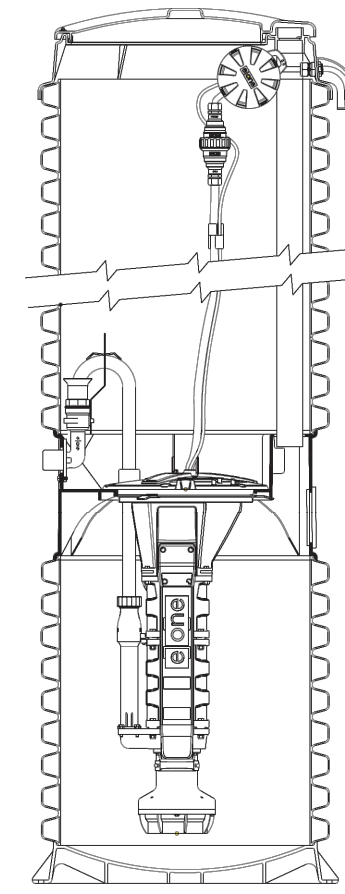
DATE
DECEMBER 28, 2022

SCALE SHEET NO.
1"=20' 8



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DH071/DR071



General Features

The model DH071 or DR071 grinder pump station is a complete unit that includes: the grinder pump, check valve, HDPE (high density polyethylene) tank, controls, and alarm panel. A single DH071 or DR071 is a popular choice for one, average single-family home and can also be used for up to two average single-family homes where codes allow and with consent of the factory.

- Rated for flows of 700 gpd (2650 lpd)
- 70 gallons (265 liters) of capacity
- Indoor or outdoor installation
- Standard outdoor heights range from 61 inches to 160 inches

The DH071 is the "hardwired," or "wired," model where a cable connects the motor controls to the level controls through watertight penetrations.

The DR071 is the "radio frequency identification" (RFID), or "wireless," model that uses wireless technology to communicate between the level controls and the motor controls.

Operational Information

Motor

1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase

Inlet Connections

4-inch inlet grommet standard for DWV pipe. Other inlet configurations available from the factory.

Discharge Connections

Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

Discharge

15 gpm at 0 psig (0.95 lps at 0 m)
11 gpm at 40 psig (0.69 lps at 28 m)
7.8 gpm at 80 psig (0.49 lps at 56 m)

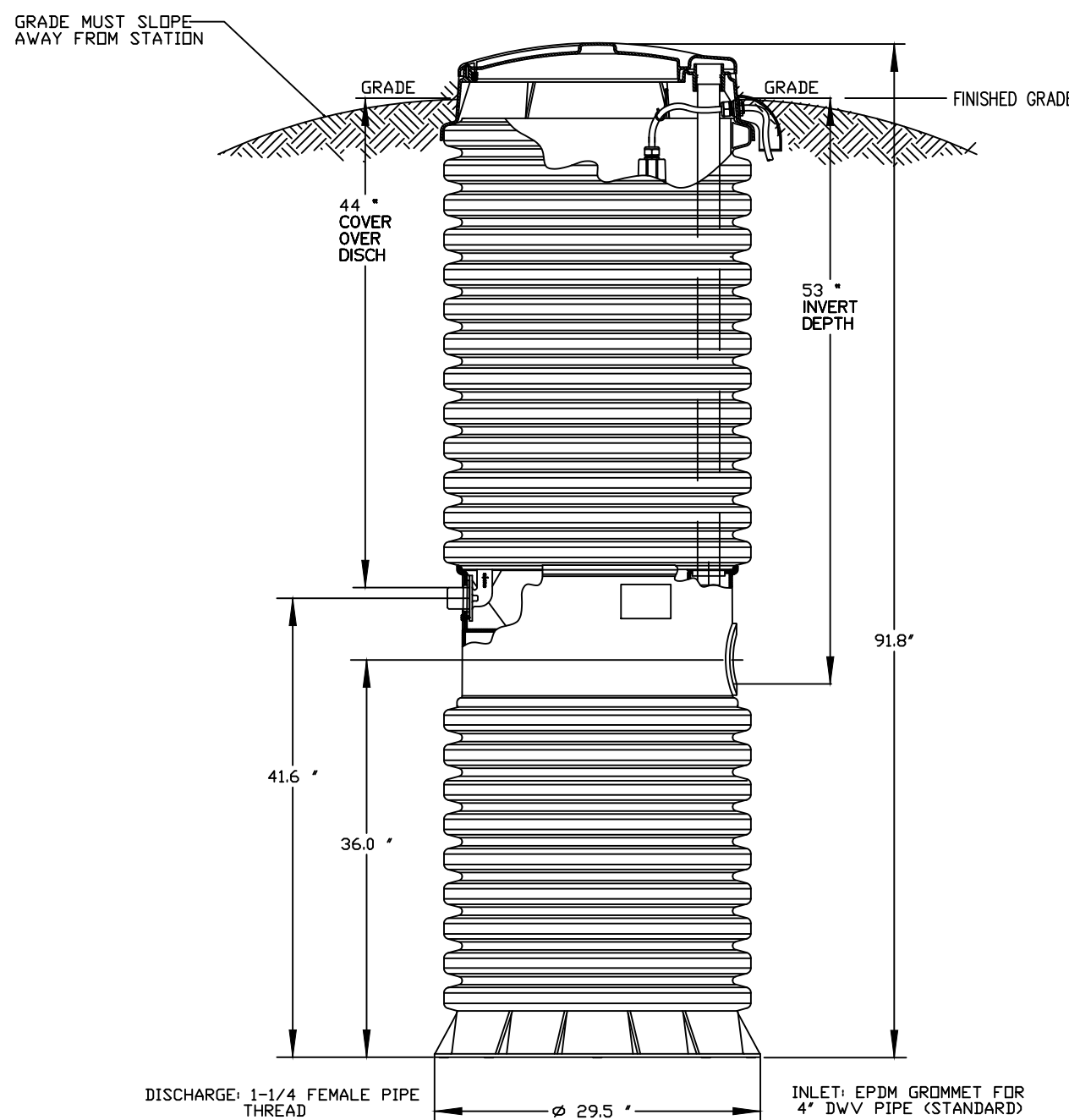
Accessories

E/One requires that the Uni-Lateral, E/One's own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.

Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.

The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.

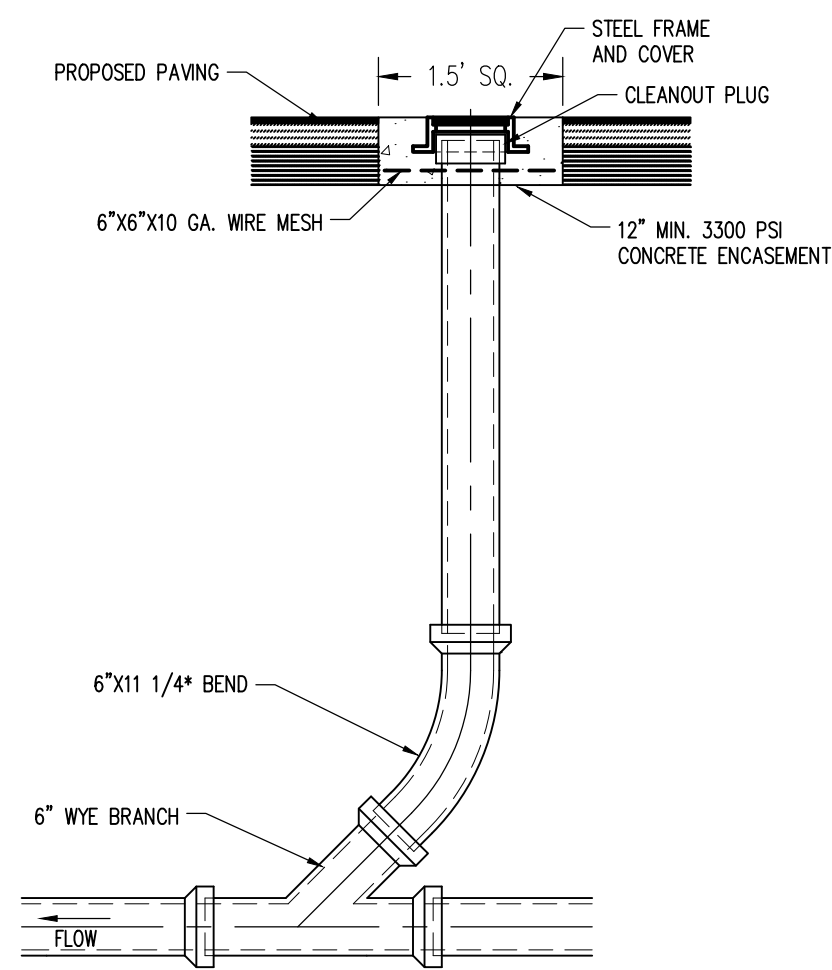
NA050P01 Rev D



TYPICAL GRINDER PUMP INSTALLATION SCHEMATIC EONE MODEL NO. DH071-93

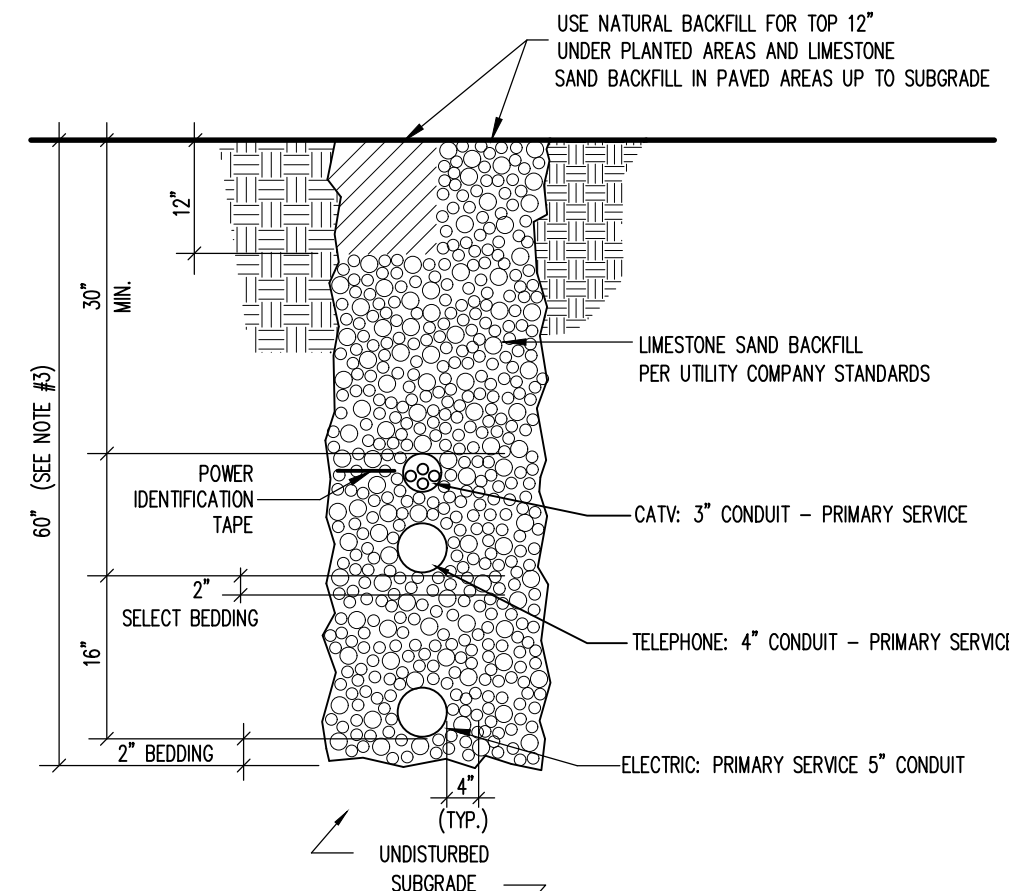
PROPERTY OWNER RESPONSIBLE FOR PROVIDING EVERYTHING EXCEPT THE SHUT-OFF (BALL VALVE) INCLUDING THE VALVE PIT.
NOT TO SCALE

NOTE: SCHEMATIC FOR GENERAL PURPOSES ONLY. GRAPHIC IS NOT CORRECT FOR ACTUAL ELEVATIONS IN THIS APPLICATION. THE SANITARY LATERAL IS BENEATH THE FLOOR SLAB.



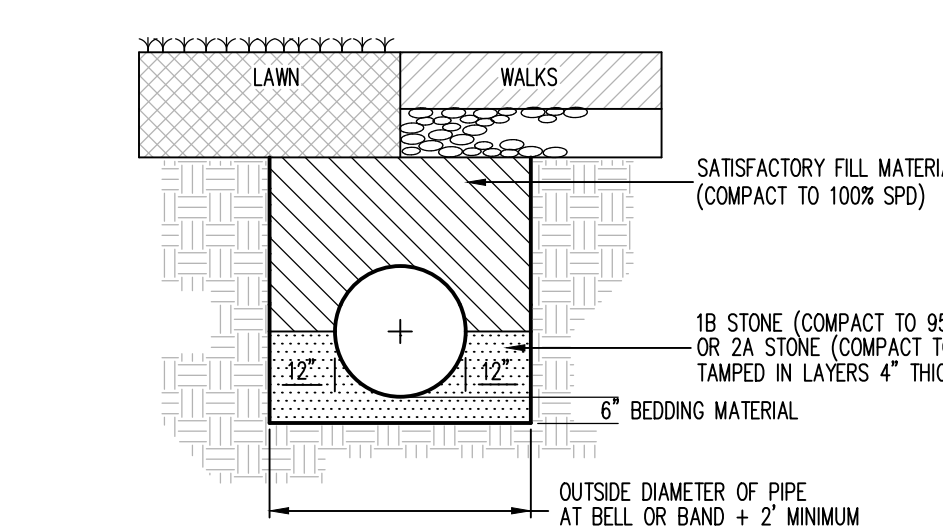
6" SANITARY SEWER CLEAN-OUT DETAIL

NOT TO SCALE



COMBINED UTILITY TRENCH DETAIL "E-T-C"

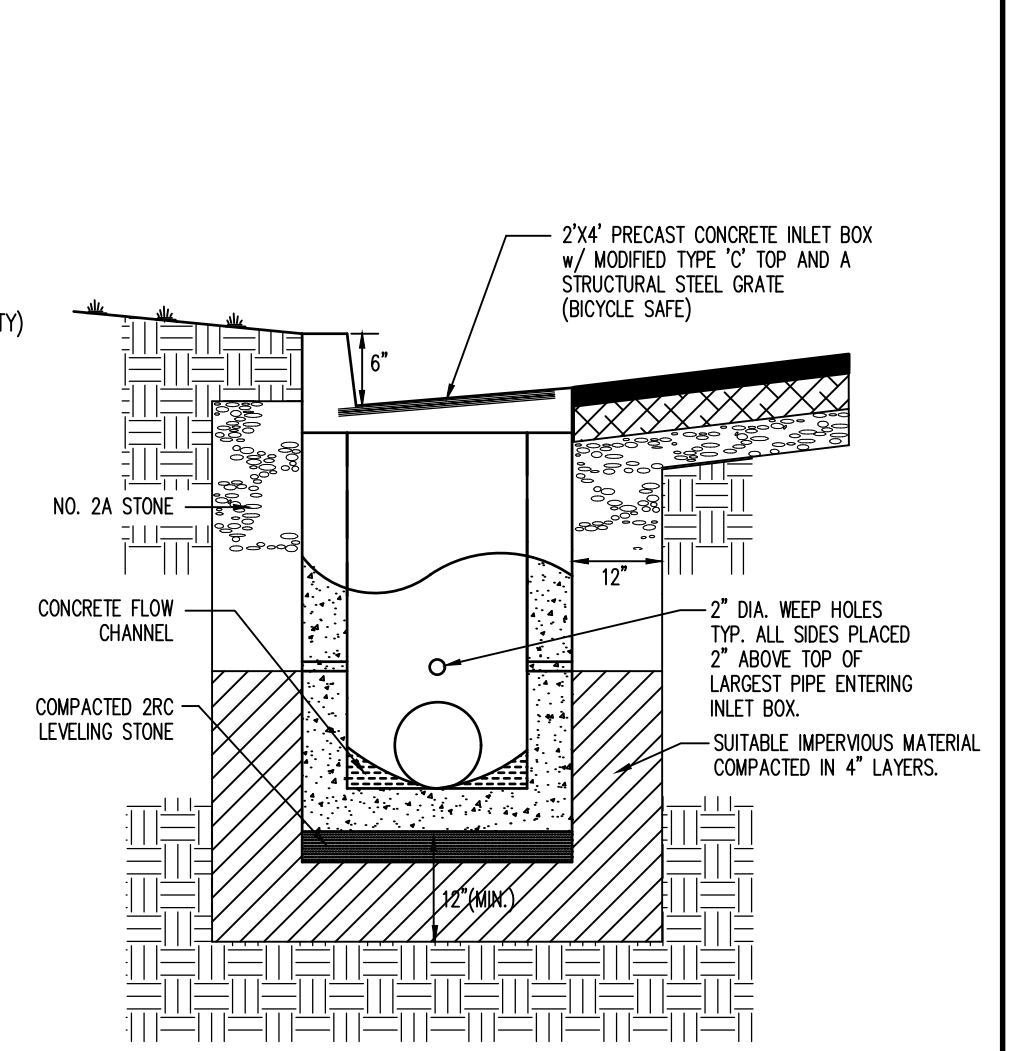
NOT TO SCALE



- NOTES:
1. EXCAVATE THE TRENCH TO THE WIDTH OF THE OUTSIDE DIAMETER OF THE PIPE + 2' AND CREATE AN APPROPRIATE BEDDING 6" DEEP.
 2. AT UNPAVED AREAS SUITABLE MATERIAL MAY BE UTILIZED THE ENTIRE DEPTH OF TRENCH (LESS 6" TOPSOIL), PLACEMENT AND COMPACTION TO BE AS NOTED FOR PAVED AREAS.
 3. ALL STORM SEWER PIPE IS TO BE HIGH-DENSITY POLYETHYLENE (HDPE) AND HAVE A SMOOTH LINED INTERIOR WITH WATER-TIGHT JOINTS.
 4. SATISFACTORY FILL MATERIAL: SOILS MEETING ASTM D2487 SOIL CLASSIFICATION GROUPS OK, GC, GM, SW, SC, SM, AND CL WITH LIQUID LIMIT NOT GREATER THAN 35, OR A COMBINATION OF THESE GROUPS; FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION; DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER, WITHIN 3% OF OPTIMUM MOISTURE CONTENT. (INCLUDES 2A)
 5. PLACE SATISFACTORY FILL MATERIAL IN LAYERS 8" THICK MAX. COMPACT TO 100% SPD.
 6. OWNER WILL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY ASSURANCE TESTING. NOTIFY TESTING AGENCY AT LEAST 48 HOURS PRIOR TO FILL PLACEMENT ACTIVITIES. ALLOW TESTING AGENCY TO INSPECT AND TEST SUBGRADES AND EACH FILL OR BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS.

STORMSEWER (HDPE) INSTALLATION

NOT TO SCALE



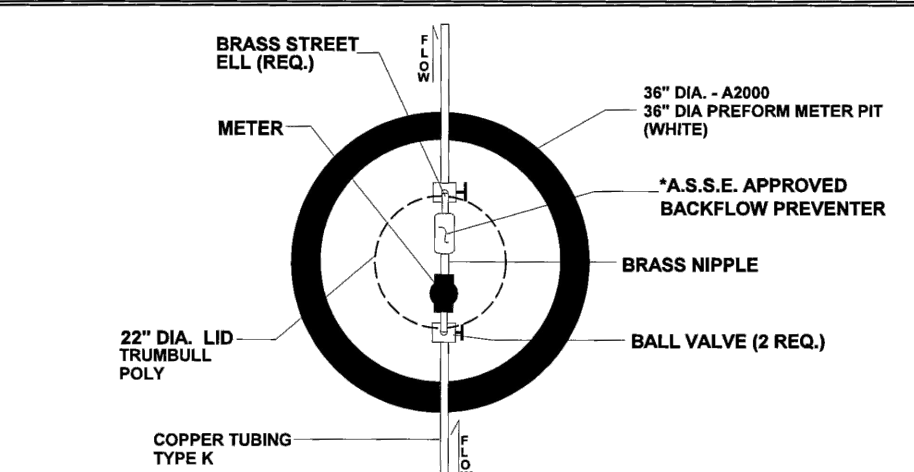
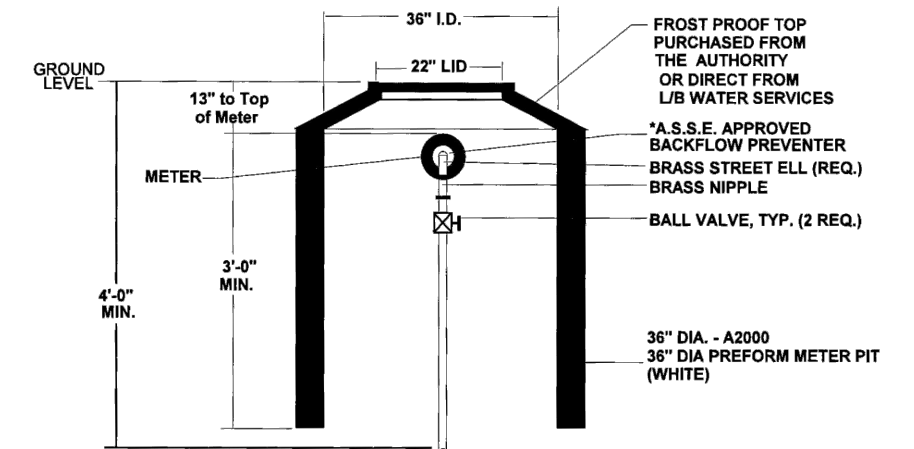
MODIFIED TYPE 'C' PRECAST CONCRETE INLET

NOT TO SCALE

NOTE: Any Type 'C' Inlet exceeding 4' in depth is required to have steps installed.

STATE COLLEGE BOROUGH WATER AUTHORITY

METER PIT SPECIFICATIONS for Installation of Meters (3/4" & 1")

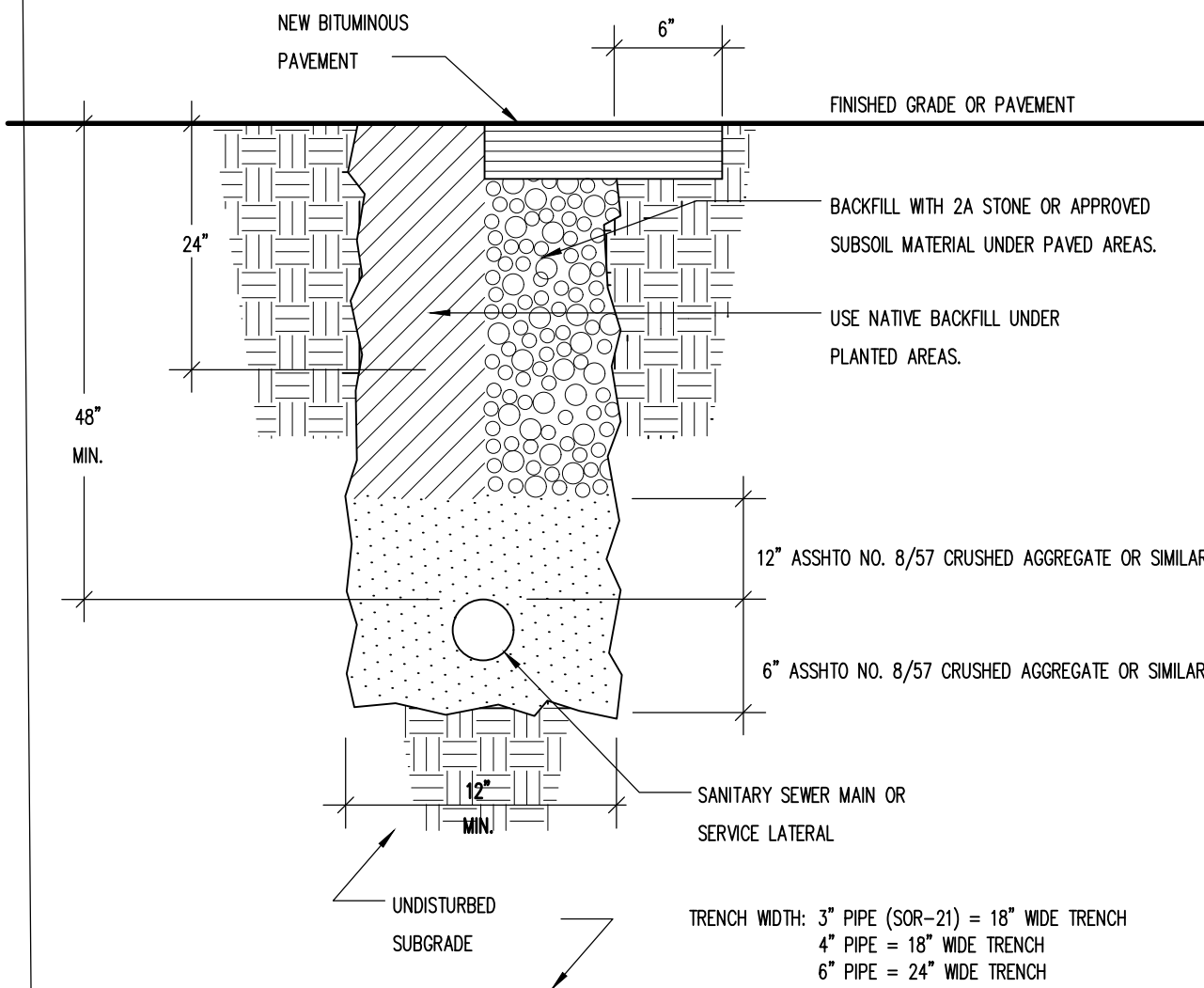


ALL MATERIALS MUST BE COPPER, BRASS OR DUCTILE IRON TO THE BALL VALVE LOCATED ON THE DOWNSTREAM SIDE OF THE PIT TO ADD STABILITY TO THE METER SETTING.

*Can not be a REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTER NO SOLDER JOINTS ALLOWED IN PIT OR UNDERGROUND

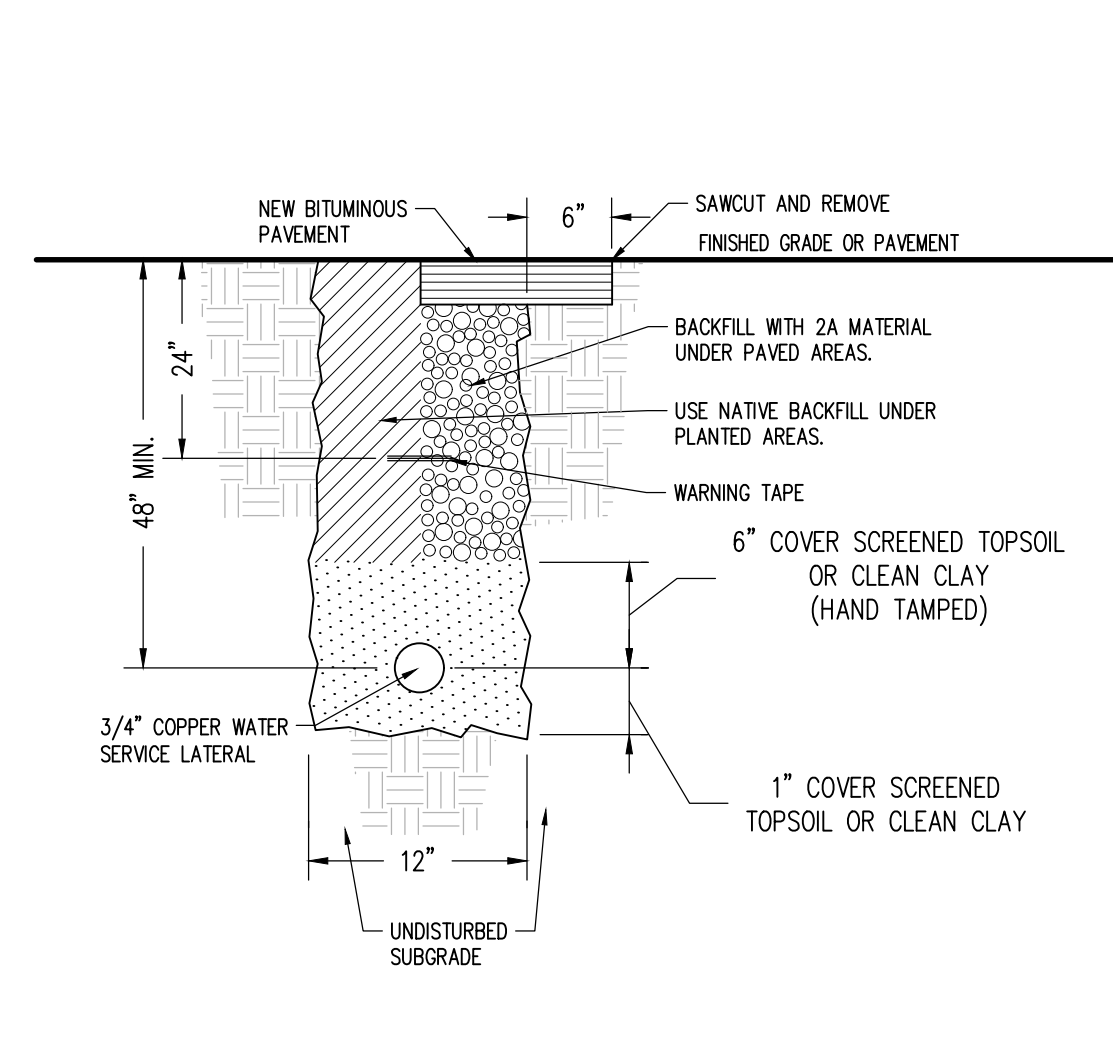
**A curb stop must be installed between the meter pit and the water main for isolation purposes if one is not provided by the Authority.

LMS1005MTRPIT-1-WPD



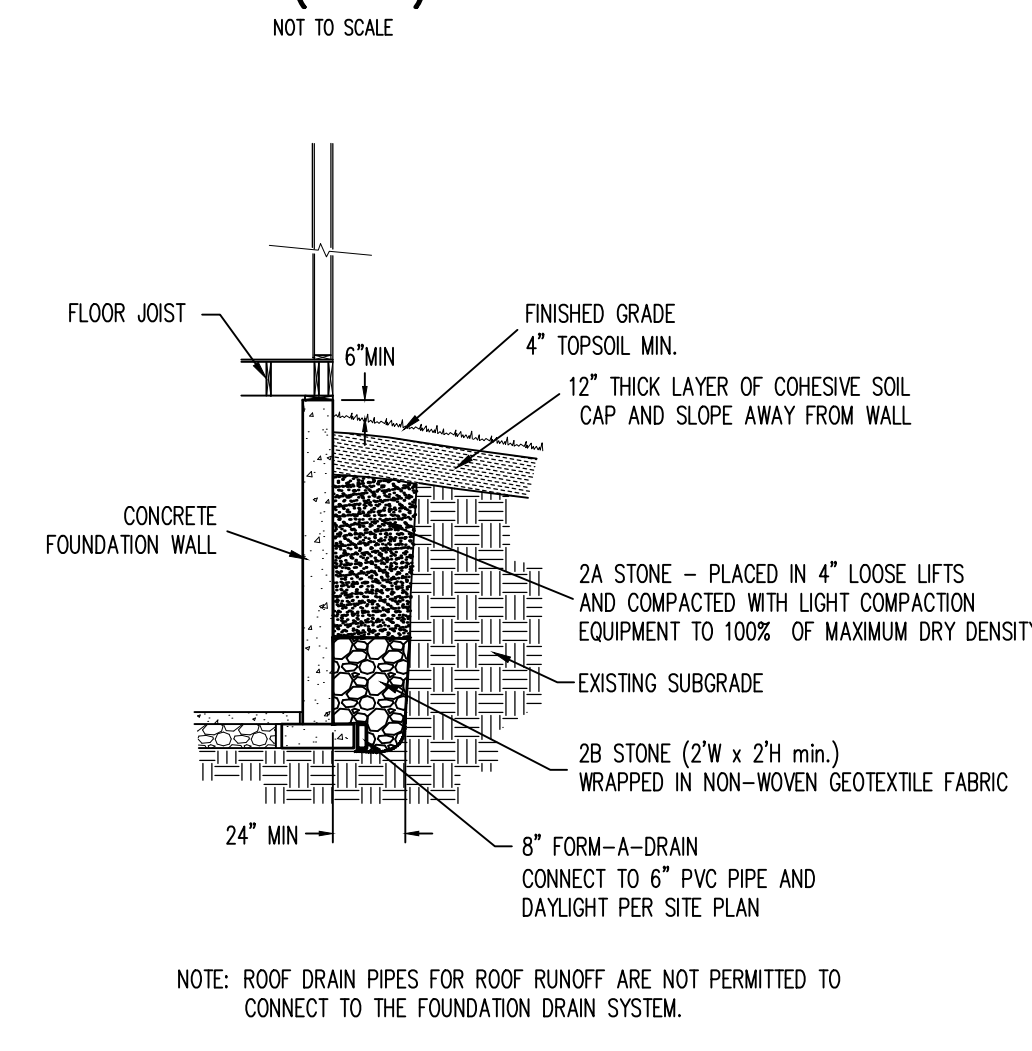
SANITARY LATERAL TRENCH DETAIL

NOT TO SCALE



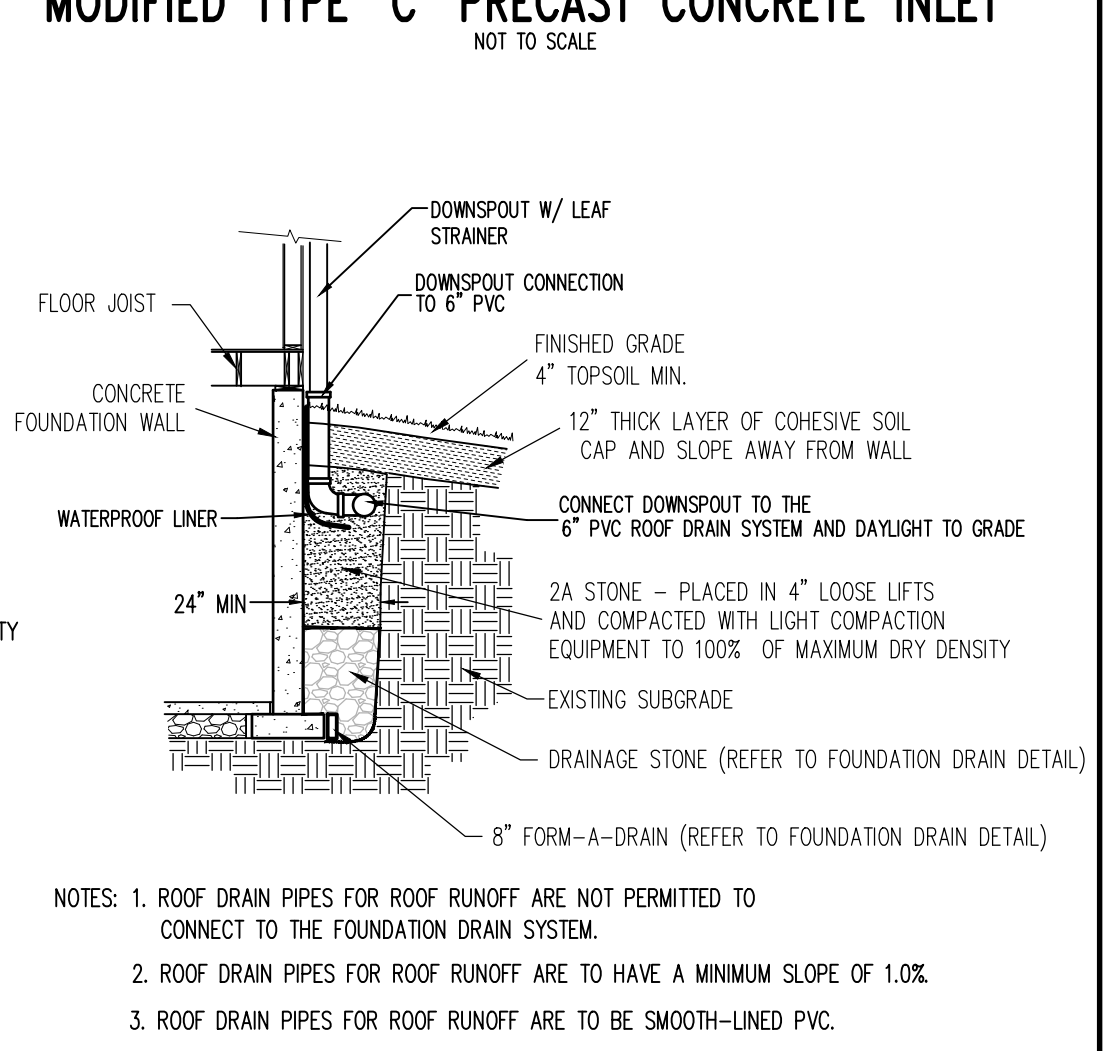
WATER LAT TRENCH DETAIL

NOT TO SCALE



FOUNDATION DRAIN DETAIL

NOT TO SCALE



ROOF DRAIN DETAIL

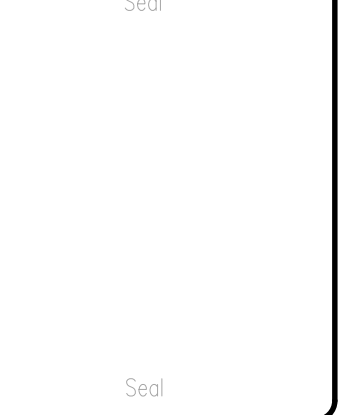
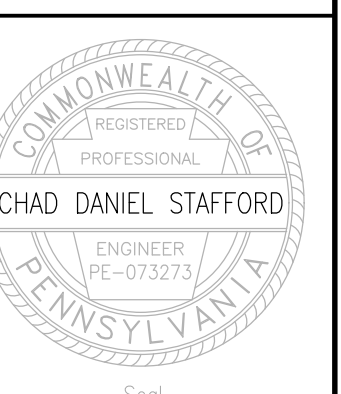
NOT TO SCALE

- NOTES:
1. ROOF DRAIN PIPES FOR ROOF RUNOFF ARE NOT PERMITTED TO CONNECT TO THE FOUNDATION DRAIN SYSTEM.
 2. ROOF DRAIN PIPES FOR ROOF RUNOFF ARE TO HAVE A MINIMUM SLOPE OF 1.0%.
 3. ROOF DRAIN PIPES FOR ROOF RUNOFF ARE TO BE SMOOTH-LINED PVC.

3075 ENTERPRISE DRIVE
SUITE 100
STATE COLLEGE, PA 16801
PH: 814-231-8285

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| | |
|---------------|----------------------|
| Designer(s) | CJW |
| Environmental | ZFZ |
| Proj. Manager | CDS |
| Surveyor | |
| Perimeter Ck. | |
| Book | Pg. |
| File | 21055-PRE-11-DETAILS |
| Layout | UTILITY DETAILS |

| | |
|------|-------------|
| Date | Description |
| | REVISIONS |

1900
CIRCLEVILLE
ROAD

FERGUSON TOWNSHIP
CENTRE COUNTY
PENNSYLVANIA

PRELIMINARY LAND
DEVELOPMENT PLAN

UTILITY DETAILS

| | |
|-------------|-------------------|
| PROJECT NO. | 21255 |
| DATE | DECEMBER 28, 2022 |
| SCALE | 1"=20' |
| SHEET NO. | 10 |



Designer(s) _____ C.J.W.
Environmental _____ Z.F.Z.
Proj. Manager _____ C.D.S.
Surveyor _____
Perimeter Ck. _____
Book _____ Pg. _____
File _____ 21255-PRE-11-DETAILS
Layout _____ BUILDING ELEVATIONS

| Date | Description | REVISIONS |
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**1900
CIRCLEVILLE
ROAD**
FERGUSON TOWNSHIP
CENTRE COUNTY
PENNSYLVANIA

**PRELIMINARY LAND
DEVELOPMENT PLAN**

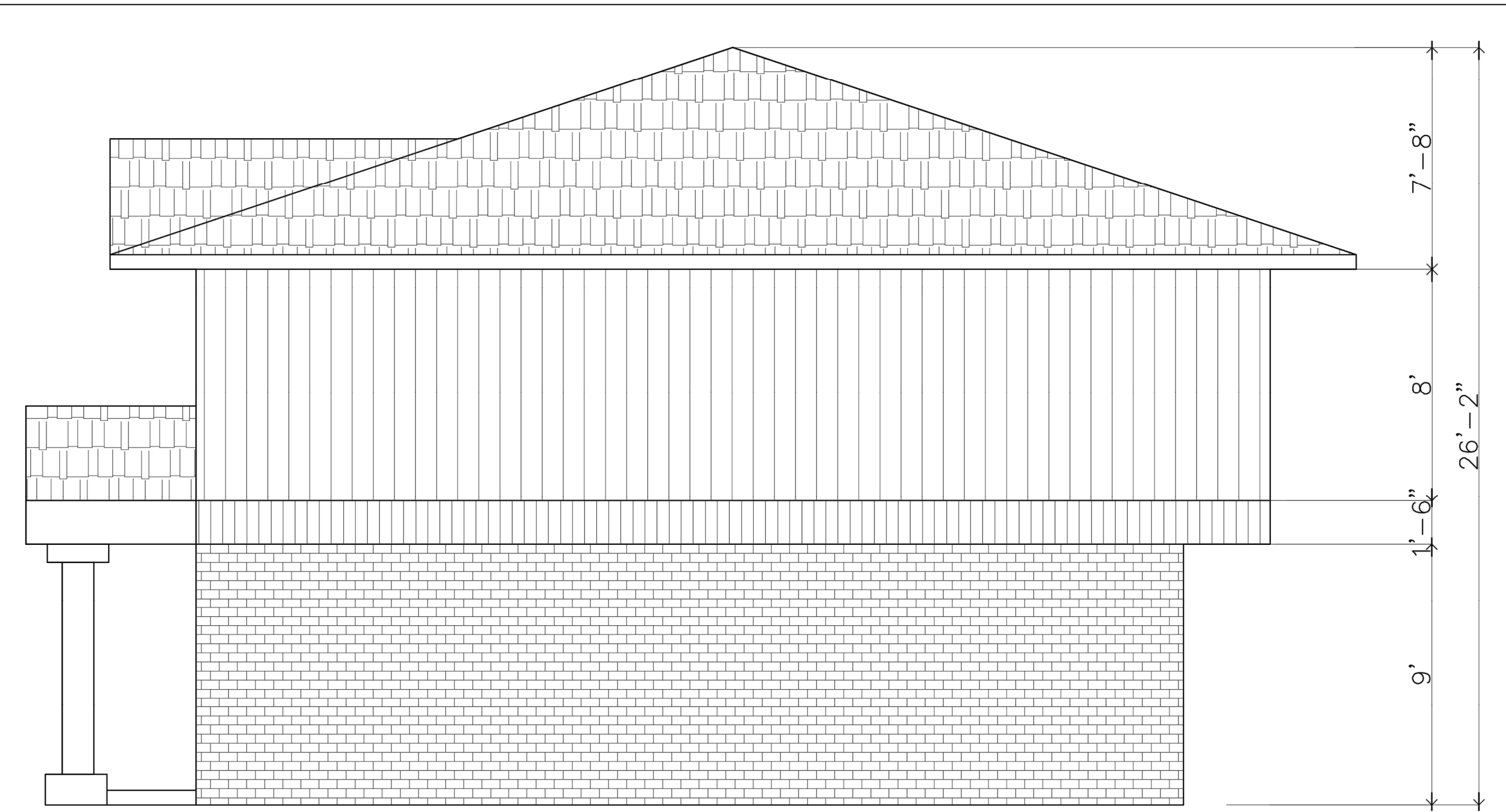
**BUILDING
ELEVATIONS**

PROJECT NO.
21255
DATE
DECEMBER 28, 2022
SCALE SHEET NO.
AS SHOWN 11



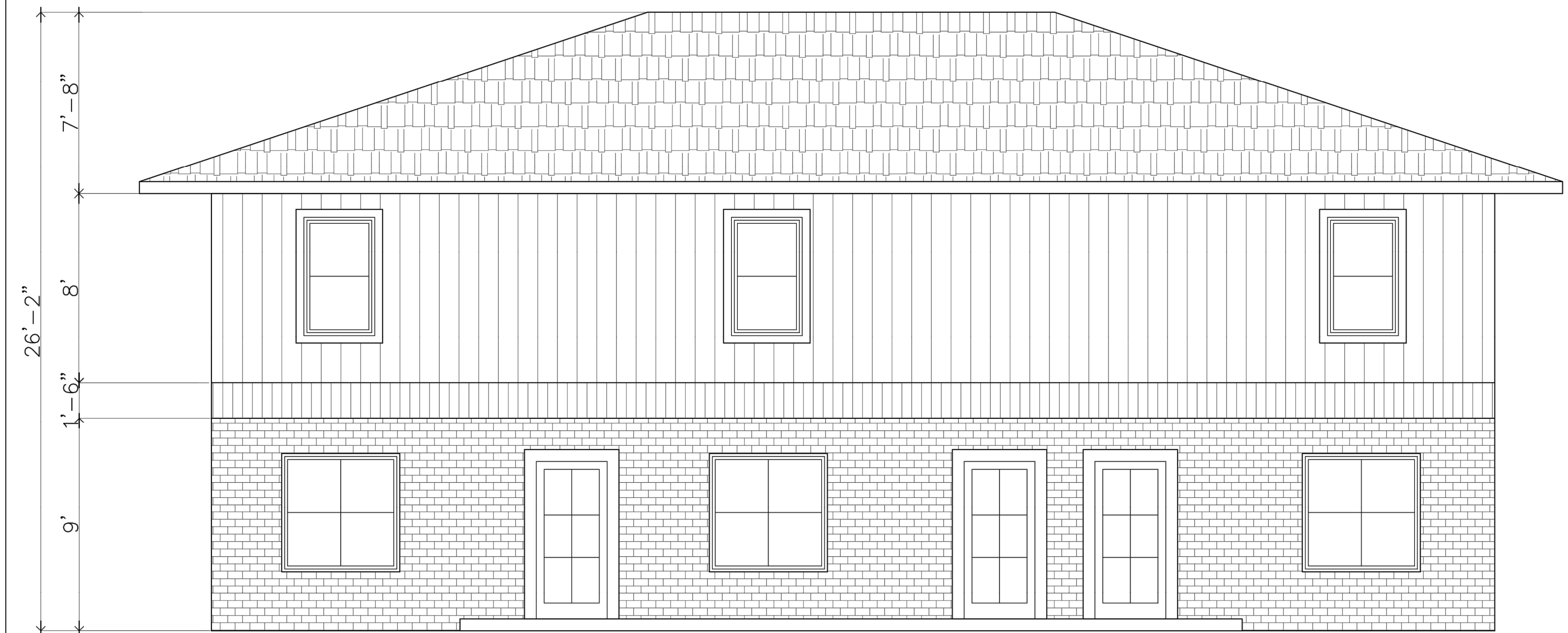
FRONT ELEVATION

SCALE: 1/4" = 1'0"
NOTE:
NOT FOR CONSTRUCTION USE



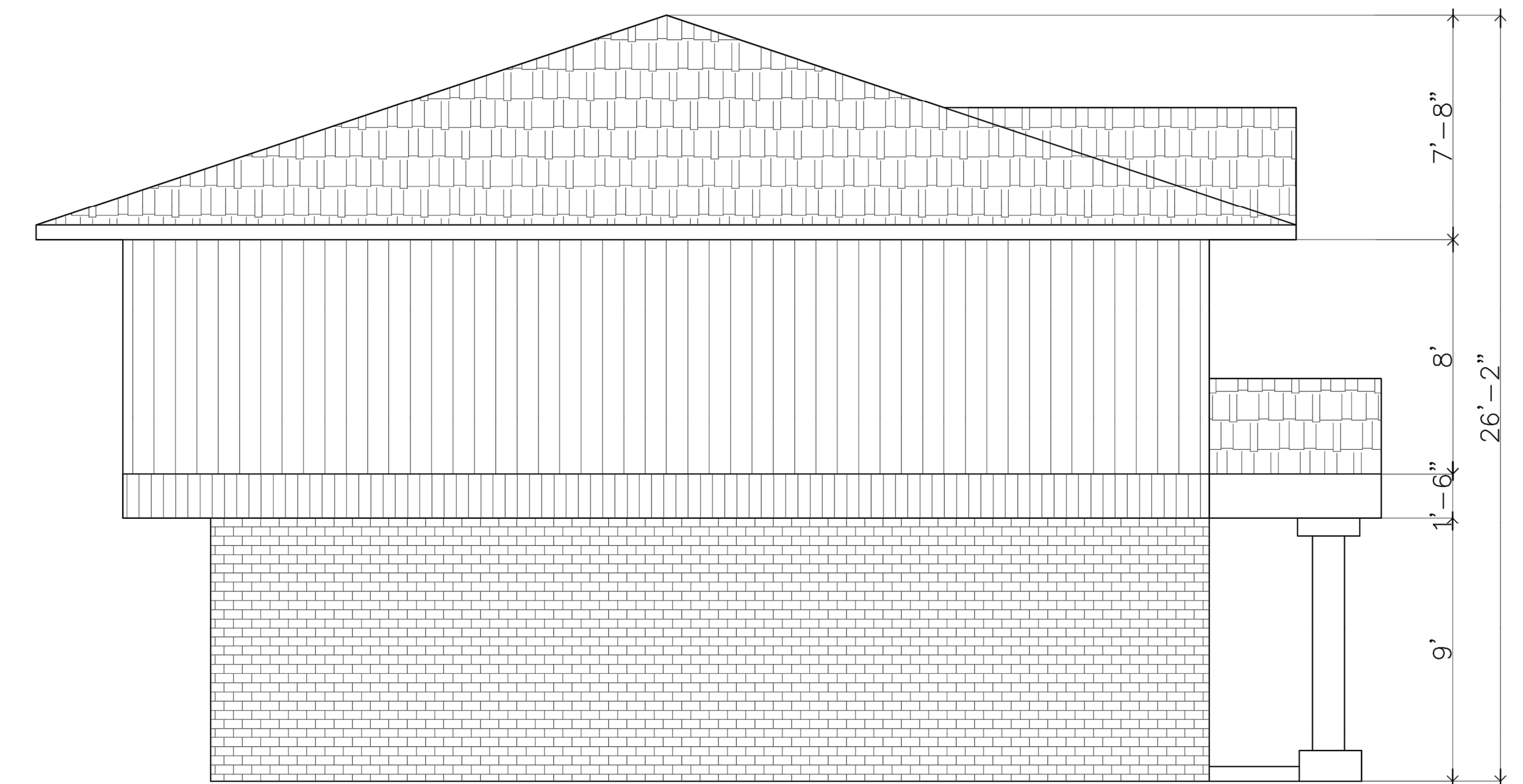
RIGHT SIDE ELEVATION

SCALE: 1/4" = 1'0"
NOTE:
NOT FOR CONSTRUCTION USE



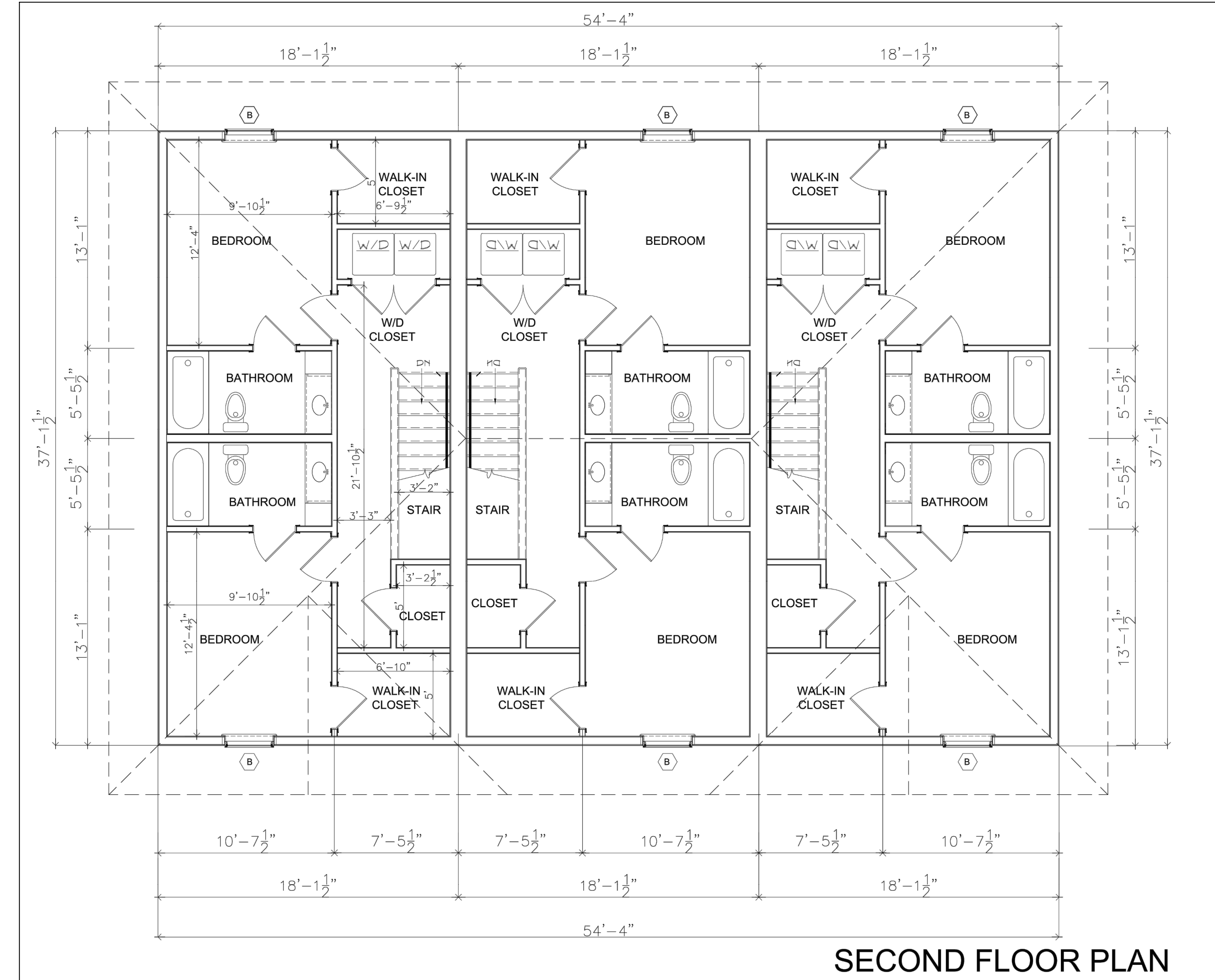
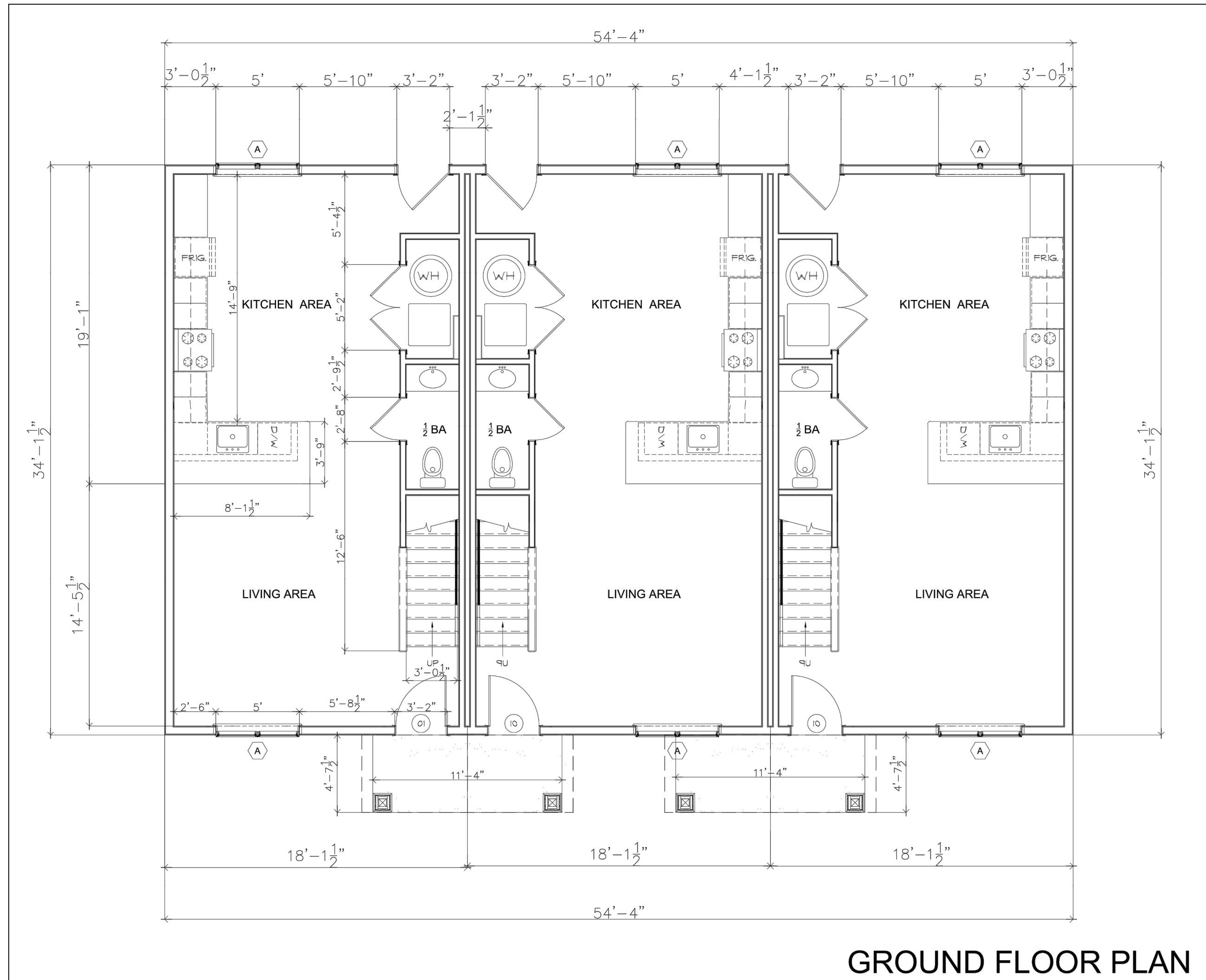
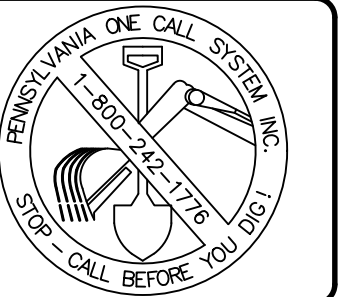
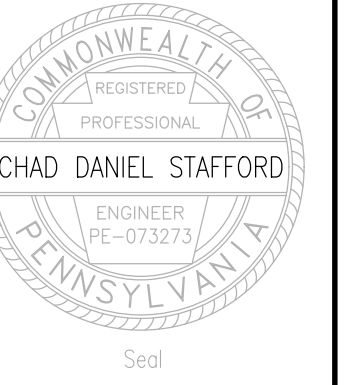
REAR ELEVATION

SCALE: 1/4" = 1'0"
NOTE:
NOT FOR CONSTRUCTION USE



LEFT SIDE ELEVATION

SCALE: 1/4" = 1'0"
NOTE:
NOT FOR CONSTRUCTION USE



| | |
|---------------|----------------------|
| Designer(s) | C.W. |
| Environmental | ZFZ |
| Proj. Manager | CDS |
| Surveyor | |
| Perimeter Ck. | |
| Book | Pg. |
| File | 21255-PRE-11-DETAILS |
| Layout | BUILDING FLOOR PLANS |

| Date | Description | REVISIONS |
|------|-------------|-----------|
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1900 CIRCLEVILLE ROAD
FERGUSON TOWNSHIP
CENTRE COUNTY
PENNSYLVANIA

PRELIMINARY LAND DEVELOPMENT PLAN

BUILDING FLOOR PLANS

| | |
|-------------|-------------------|
| PROJECT NO. | 21255 |
| DATE | DECEMBER 28, 2022 |
| SCALE | NONE |
| SHEET NO. | 12 |

STORMWATER MANAGEMENT NOTES

- All site work shall be done in accordance with the plans prepared by PennTerra Engineering, Inc., the current requirements of the governing municipality, the applicable sections of the PennDOT standard specifications for roadway construction, and all other pertinent federal and state laws.
- The Contractor shall comply at all times with applicable federal, state and local laws, provisions, and policies governing safety and health, including the federal construction safety act, as amended.
- The Contractor shall be responsible for examining the areas and conditions under which the project is to be constructed prior to the submission of a bid. Submission of a bid to be constructed to mean the Contractor has reviewed the site and is familiar with conditions and constraints of the site.
- Before excavation, all underground utilities shall be located in the field by the proper authorities. The Contractor shall notify pa one call 1-800-242-1776. The location of all utilities and underground structures are approximate and may not all be shown. It is the responsibility of the Contractor to determine the existence and exact location of all utilities and underground structures.
- An as-built drawing of new utility services shall be prepared by the Contractor and submitted to the Owner upon completion of the project.
- All storm pipe shall be as noted. All joints shall be watertight.
- Contractor shall refer to other plans within this construction set for other pertinent information.
- Contractor shall have a licensed professional submit as-built drawings/documentation (including verification of infiltration testing at the stone and native soil layer interface) of the stormwater management facilities prepared in accordance with chapter 26 of the governing municipality's code of ordinances. A Record Set (As-Built) Package, including all supporting documentation as required in accordance 26-402.3.D(4), shall be provided at the completion of the project. A narrative and photographic documentation for critical stages of construction and for the infiltration surface prior to placement of filter fabric/stone must also be submitted to the governing municipality.

AS-BUILT NOTES:

- Certification of the stormwater as-built plan by a licensed professional of the stormwater facilities specified under the section labeled "Critical Stages of Construction" is required.
- The licensed professional responsible for certifying the stormwater as-built plan shall be selected prior to starting earth disturbance activities on the project.
- The licensed professional responsible for certifying the stormwater as-built plan shall be present for all "Critical Stages of Construction."
- A pre-construction meeting between the contractor, township, owner, and licensed professional responsible for certifying the stormwater as-built plan is required to ensure all "Critical Stages of Construction" are reviewed, acknowledged and milestones established to ensure the licensed professional is present onsite during the "Critical Stages of Construction." The location of infiltration tests performed during construction shall be documented on the as-built plans. Any modifications to the approved plan must be submitted to the Township for review prior to construction. The developer must provide the township with the as-built package for all stormwater facilities prior to occupancy or the release of the surety bond.

CRITICAL STAGES OF CONSTRUCTION:

Critical Stages of Construction are parts of the construction sequence of the Land Development Plan which require certification and construction oversight of stormwater facilities by the licensed professional responsible for certification of the certified stormwater as-built plan.

At least two weeks in advance of construction, the contractor shall schedule a coordination meeting with the licensed professional to review the critical stages and establish a schedule for inspections/verifications of all critical stages. At the discretion of the licensed professional, the contractor may provide photo documentation of the installation of certain items in lieu of the licensed professional being present.

The critical stages for each Post Construction Stormwater Best Management Practice are as follows:

UNDERGROUND INFILTRATION BASIN

- In order to protect the underground infiltration basin bottom from compaction, equipment shall not be permitted to operate within the basin when the floor is less than 36" from subgrade elevation. A typical infiltration facility bottom excavation detail has been provided on the plans for construction. Alternatively, the contractor may develop their own plan and methods for bottom excavation. The contractor must review the proposed plan/methods with the licensed professional during the coordination meeting.
- As-built surveys are required prior to any backfill within the underground infiltration basin. The contractor must notify the licensed professional prior to backfilling in order verify elevations and geometry.
- The contractor must notify the licensed professional of the installation of the outlet structure, outfall pipe and anti-seep collars prior to backfill to ensure installation has been completed in accordance with the approved plan.

GRATE INLET SKIMMER BOXES

- Verification that the Grate Inlet Skimmer Boxes have been installed in the locations shown on the plan is required (proposed inlets 1-1 and 1-2).

NATURALLY OCCURRING GEOLOGIC FORMATIONS/SOIL CONDITIONS:

There are no known naturally occurring geologic formations or soil conditions that pose the potential for pollution during construction. If a sinkhole is encountered due to karst topography, the sinkhole shall be repaired as specified on the sinkhole repair detail and/or a geotechnical engineer must be contacted for proper repair procedures.

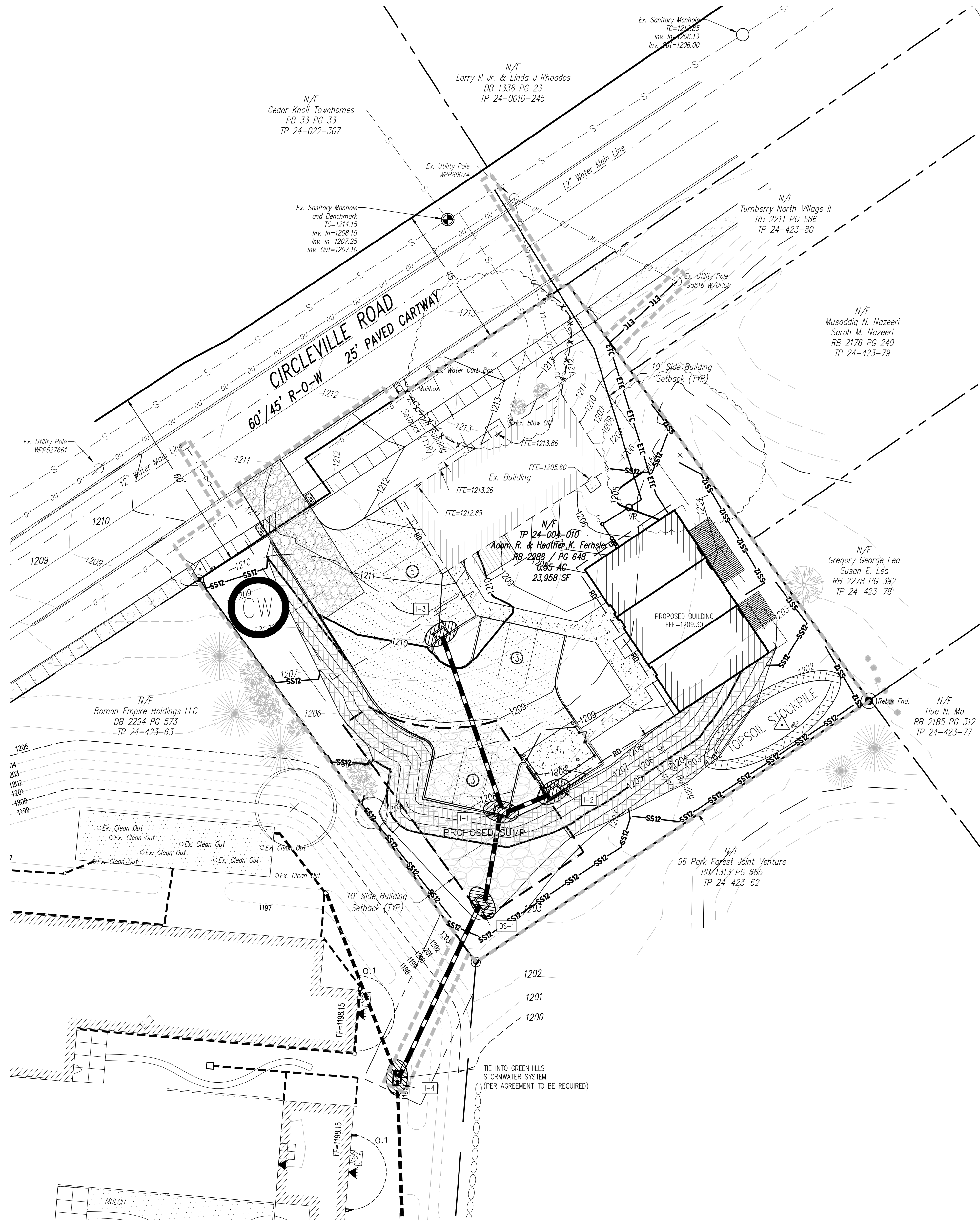
PERMANENT SEEDING

Permanent Seeding shall consist of the following:

| Item | Rate |
|--|-----------------|
| 1. Seed Mixture Consists of: 50% Poa pratensis (Kentucky Bluegrass) 30% Festuca rubra (Creeping Red Fescue) 20% Lolium perenne L. (Perennial Rye) | 102 lbs. / acre |
| 2. Mulch | 3 tons / acre |

GRADING NOTES

- The project benchmark is the top of casting of the sanitary manhole on the North side of Circleville Road. Elevation = 1214.15'.
- All existing trees, vegetation, pavements, concrete foundations, structures and organic topsoil shall be stripped and removed from new construction areas unless noted otherwise.
- All areas not paved shall be sodded, topsoiled, seeded, mulched or landscaped unless otherwise noted in the construction plans, site specifications or instructed by the Owner.
- Contractor shall refer to the geotechnical report prior to initiation of any earthwork activity. Refer to the Geotechnical Report "Preliminary Geologic Investigation - 1900 Circleville Road - CMT Laboratories File No. 2208300 by CMT Laboratories, Inc., August 15, 2022".
- The maximum slope within all the handicapped parking spaces shall be 2.00% in any direction.
- The maximum slope for all on-site sidewalks shall be 4.90% with a maximum cross slope of 2.00% and curb ramps shall have a maximum slope of 8.30%.
- Proposed spot elevation are to bottom of curb unless noted otherwise.
- The Contractor shall notify assigned inspection agency before any retaining wall construction. Retaining walls shall be constructed per the project specification approved building permit and certified by the assigned inspection agency.
- All fill material brought on to the job by the Contractor must comply with all applicable D.E.P. regulations regarding clean fill.
- All areas disturbed during construction, not designated to receive paving or mulch, shall be fine graded, topsoiled, & seeded unless otherwise noted in the construction drawings, site specifications or instructed by the Owner.
- The Contractor shall notify Owner's testing agency before any placement and compaction of fills on the site. Fill areas shall be prepared and compacted per the project specifications and certified by the Owner's testing agency. Contractor shall be responsible for removal, retesting, and replacement of fills not meeting the specifications. The Contractor is also responsible for all expenses associated with replacement of fills not meeting the specifications.
- The Contractor shall notify assigned inspection agency before any retaining wall construction. Retaining walls shall be constructed per the project specification approved building permit and certified by the assigned inspection agency.



SURVEY FEATURES LEGEND

- Property Line, Lot Line or Right of Way Line
- Adjoining Property Line
- Building Setback Line
- Easement Line
- Property Corner Found
- Project Benchmark

EXISTING FEATURES LEGEND

- Existing Building
- Existing Curbing & Edge of Pavement
- Existing Concrete Areas
- Existing Bituminous Areas
- Existing Contours w/ Elevation (1's & 2's)
- Existing Contours w/ Elevation (5's & 10's)
- Existing Sanitary Sewer w/ Manhole
- Existing Sanitary Sewer Lateral w/ Clean Out
- Existing Water Line w/ Valve
- Existing Water Service Lateral
- Existing Gas Line
- Existing Overhead Utility Line w/ Pole
- Existing Manhole
- Existing Utility Pole
- Existing Clean-Out
- Existing Mail Box
- Existing Soil Limit Line / Boundary
- Existing Soil Type
- Existing Deciduous Tree
- Existing Evergreen Tree
- Existing Shrub

PROPOSED FEATURES LEGEND

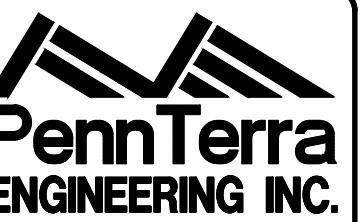
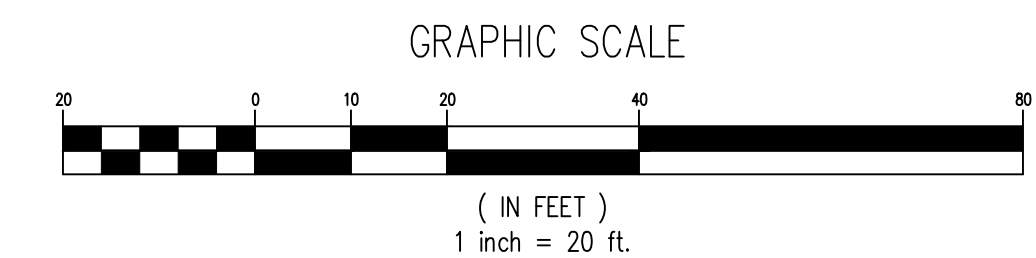
- PROPOSED BUILDING
- PROPOSED CURBING & EDGE OF PAVEMENT
- PROPOSED CONCRETE AREAS
- PROPOSED BITUMINOUS PAVEMENT AREAS
- PROPOSED MINOR CONTOURS W/ ELEVATION (1's & 2's)
- PROPOSED MAJOR CONTOURS W/ ELEVATION (5's & 10's)
- PROPOSED STORM SEWER W/ TYPE C INLET
- PROPOSED 6" PVC SCH 35 ROOF DRAIN
- PROPOSED SPOT ELEVATION
- PROPOSED GRADE SLOPE
- PROPOSED STORM SEWER W/ TYPE C INLET
- PROPOSED STORM SEWER INLET - TYPE M
- PROPOSED SANITARY PUMP VAULT
- PROPOSED SANITARY VALVE PIT
- PROPOSED PAINTED SITE CROSSWALK (ACCESSIBLE ROUTE)
- PROPOSED SIGN W/ LABEL
- PROPOSED 6" STEEL BOLLARD FILLED W/ CONCRETE
- PROPOSED LIGHT FIXTURE (DUSK-TO-DAWN)
- PROPOSED LIGHT POLE
- PROPOSED DEPRESSED CURB W/ CURB TRANSITION
- PROPOSED HANDICAPPED RAMP

EROSION & SEDIMENTATION CONTROL LEGEND

- LIMIT OF DISTURBANCE
- CONSTRUCTION ENTRANCE
- INLET PROTECTION
- TOPSOIL STOCKPILE
- 12" SILT SOCK
- CONCRETE WASHOUT AREA
- EROSION CONTROL LINING (CURLLEX I OR APPROVED EQUAL)

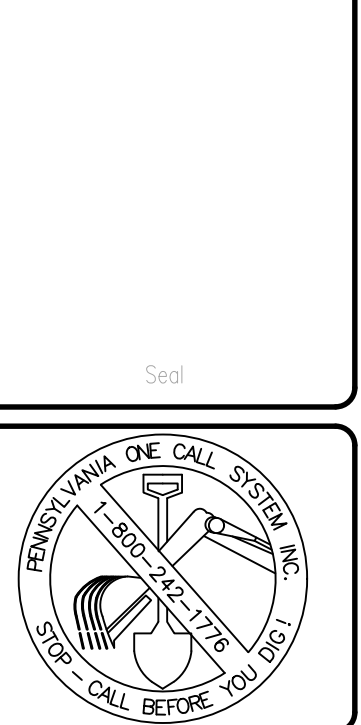
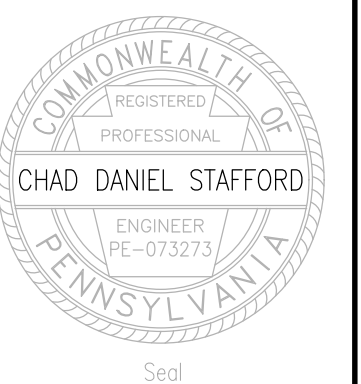
SOILS LEGEND

Soil cover on the site consists only of:
HaB - Hagerstown Silt Loam, 3%-8% Slopes



3075 ENTERPRISE DRIVE
SUITE 100
STATE COLLEGE, PA 16801
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| | |
|---------------|-----------------------|
| Designer(s) | C.W. |
| Environmental | Z.F.Z. |
| Proj. Manager | C.D.S. |
| Surveyor | |
| Perimeter Ck. | |
| Book | Pg. |
| File | 21255-PRE-EAS-01-PLAN |
| Layout | E&S-PLAN |

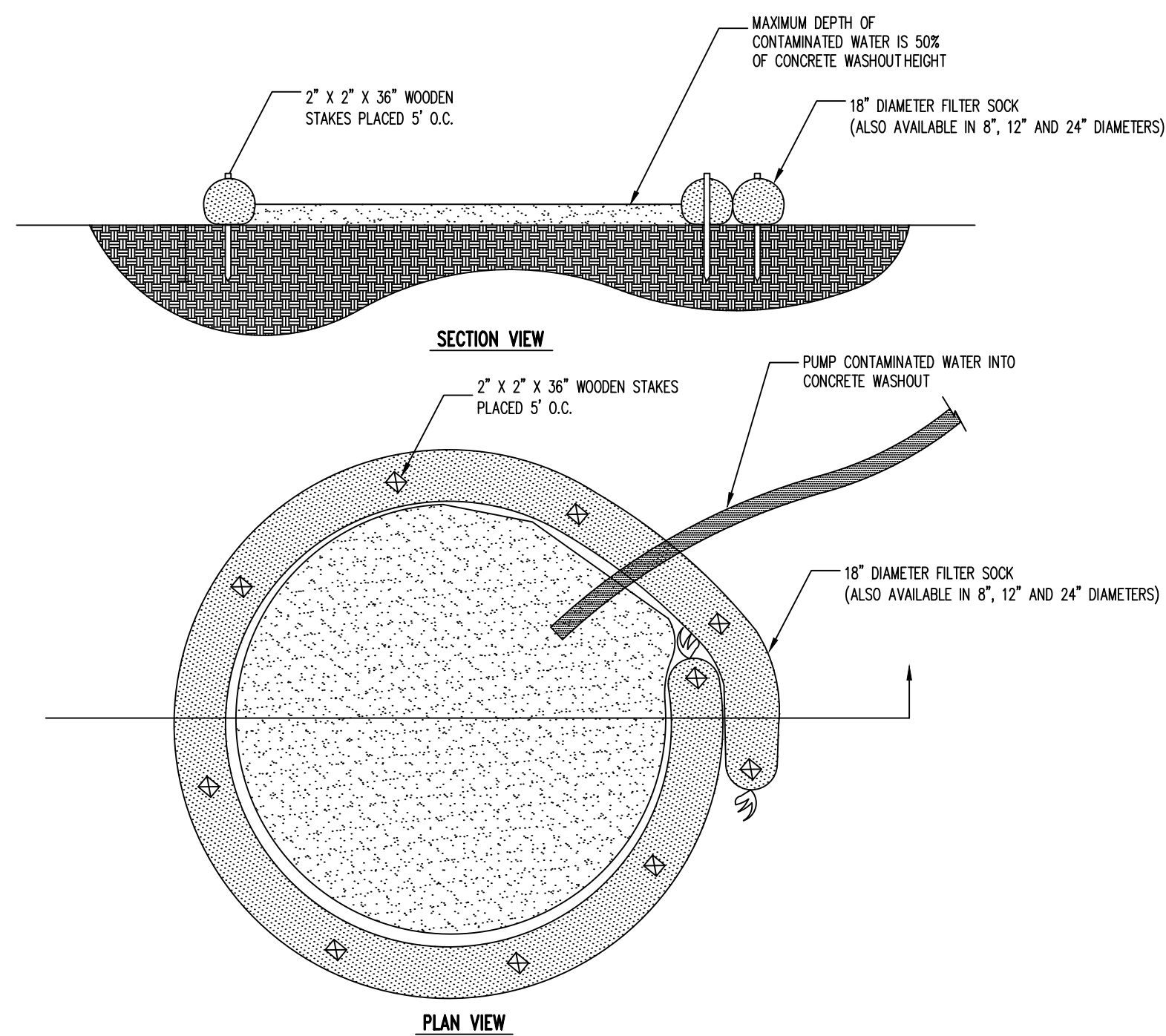
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| REVISIONS | |
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| Date | Description |
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1900 CIRCLEVILLE ROAD
FERGUSON TOWNSHIP
CENTRE COUNTY
PENNSYLVANIA

PRELIMINARY LAND DEVELOPMENT PLAN

EROSION & SEDIMENTATION CONTROL PLAN

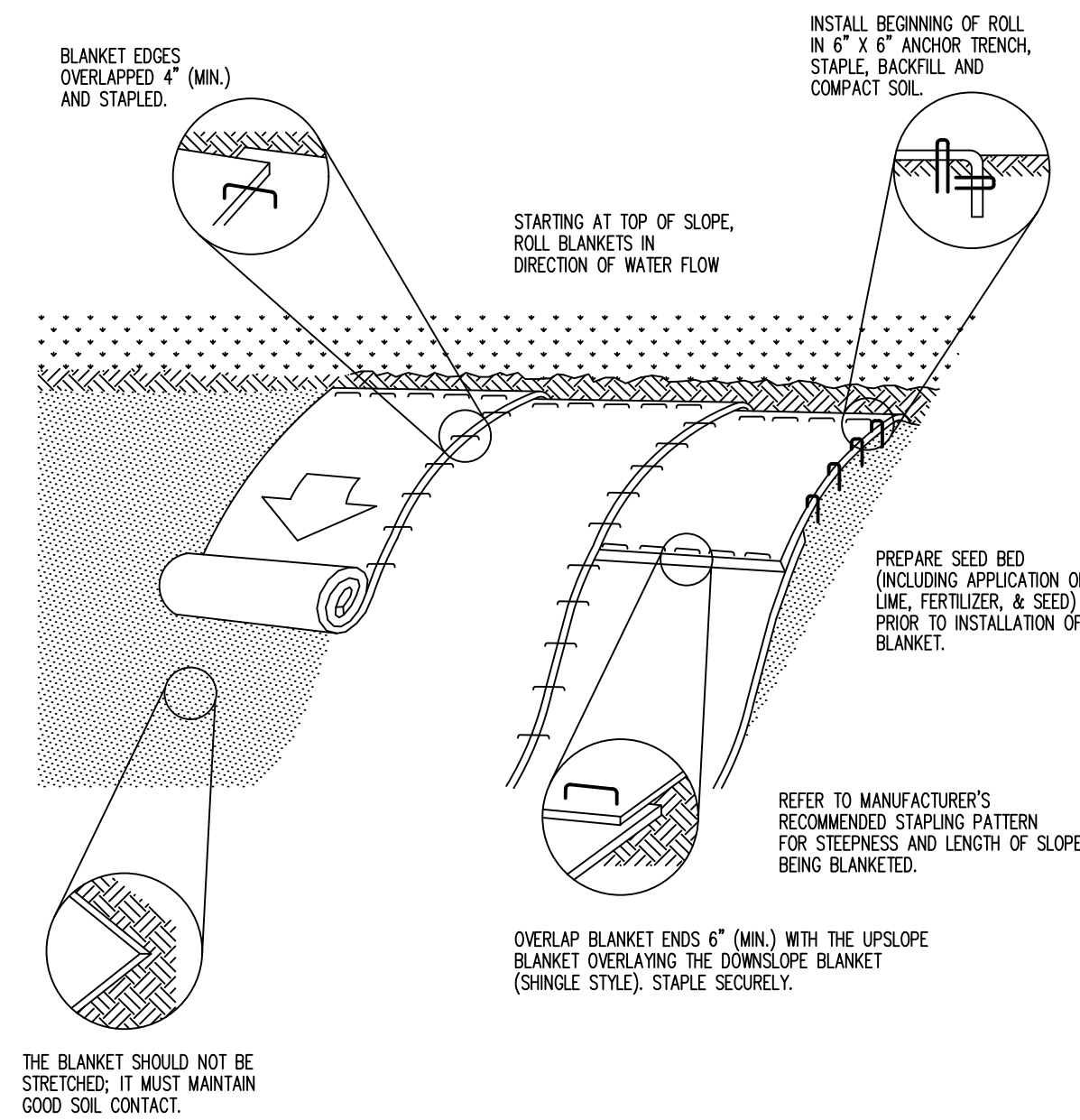
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|-------------|-------------------|
| PROJECT NO. | 21255 |
| DATE | DECEMBER 28, 2022 |
| SCALE | 1"=20' |
| SHEET NO. | ES1 |



- NOTES:
- INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
 - CONCRETE WASHOUT MAY BE STACKED IN A PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT AND STABILITY.
 - CONCRETE WASHOUT MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION.
 - A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE FILTER SOCKS.

CONCRETE WASHOUT AREA

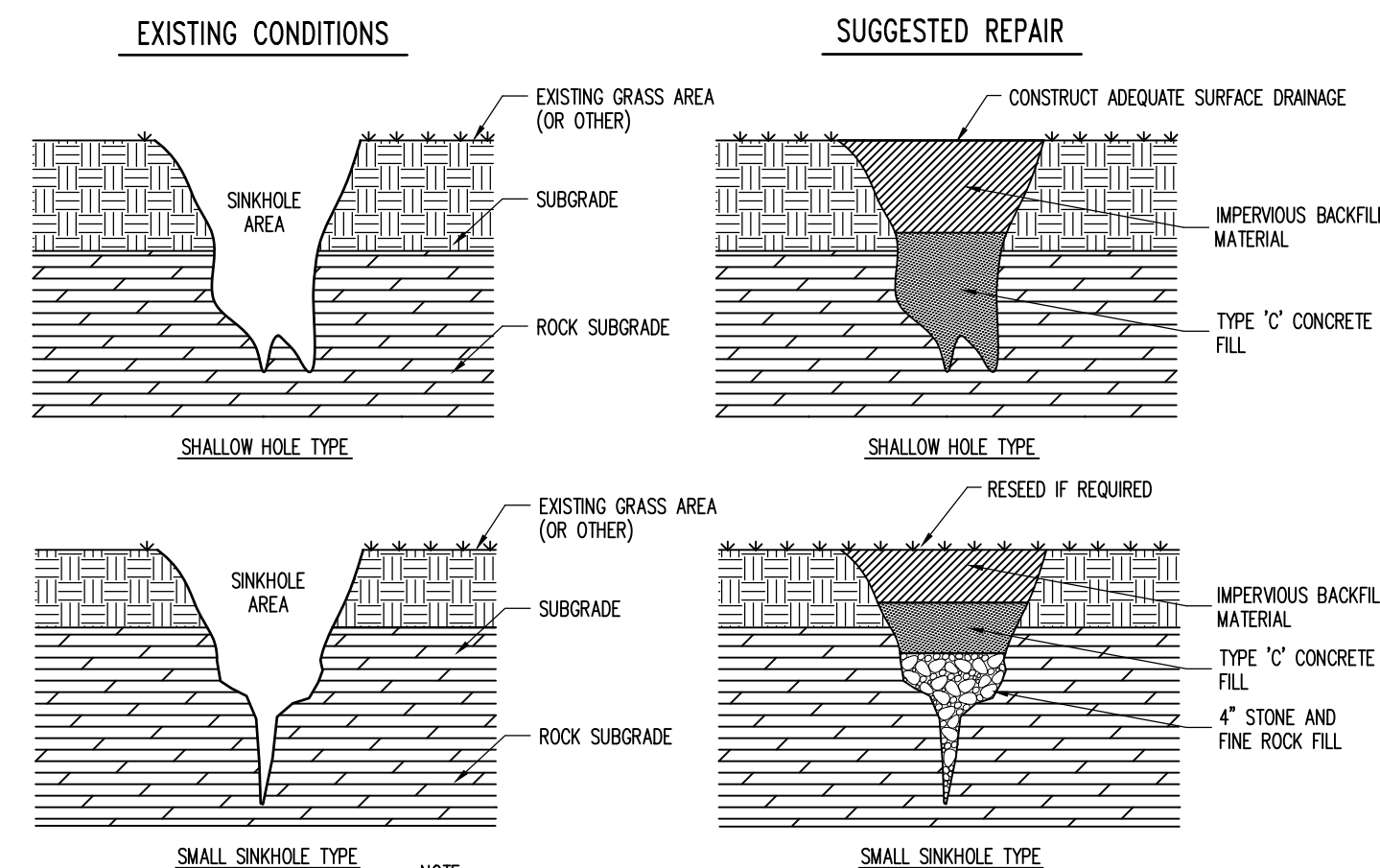
NOT TO SCALE



- NOTES:
- Seed and soil amendments shall be applied according to the rates in the plan drawings prior to installing the blanket.
 - Provide anchor trench at toe of slope in similar fashion as at top of slope.
 - Slope surface shall be free of rocks, clods, sticks, and grass.
 - Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.
 - The blanket shall be stapled in accordance with the manufacturer's recommendations.
 - Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

EROSION CONTROL BLANKET INSTALLATION

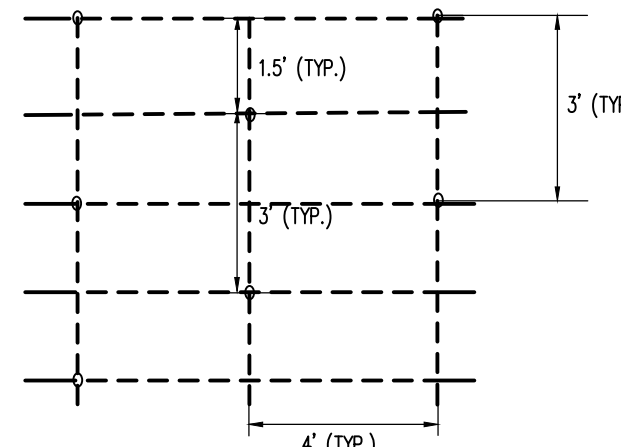
NOT TO SCALE



NOTE: THESE DETAILS REPRESENT TYPICAL SINKHOLE SHAPES AND REPAIR TECHNIQUES. SINKHOLES VARY IN SIZE AND TYPE. THEREFORE, THE OWNER'S GEOTECHNICAL ENGINEER SHALL BE CONTACTED PRIOR TO FIELD REPAIR OF ANY SINKHOLE (NOT INCLUDED IN UTILITY/EARTHWORK BASE BID)

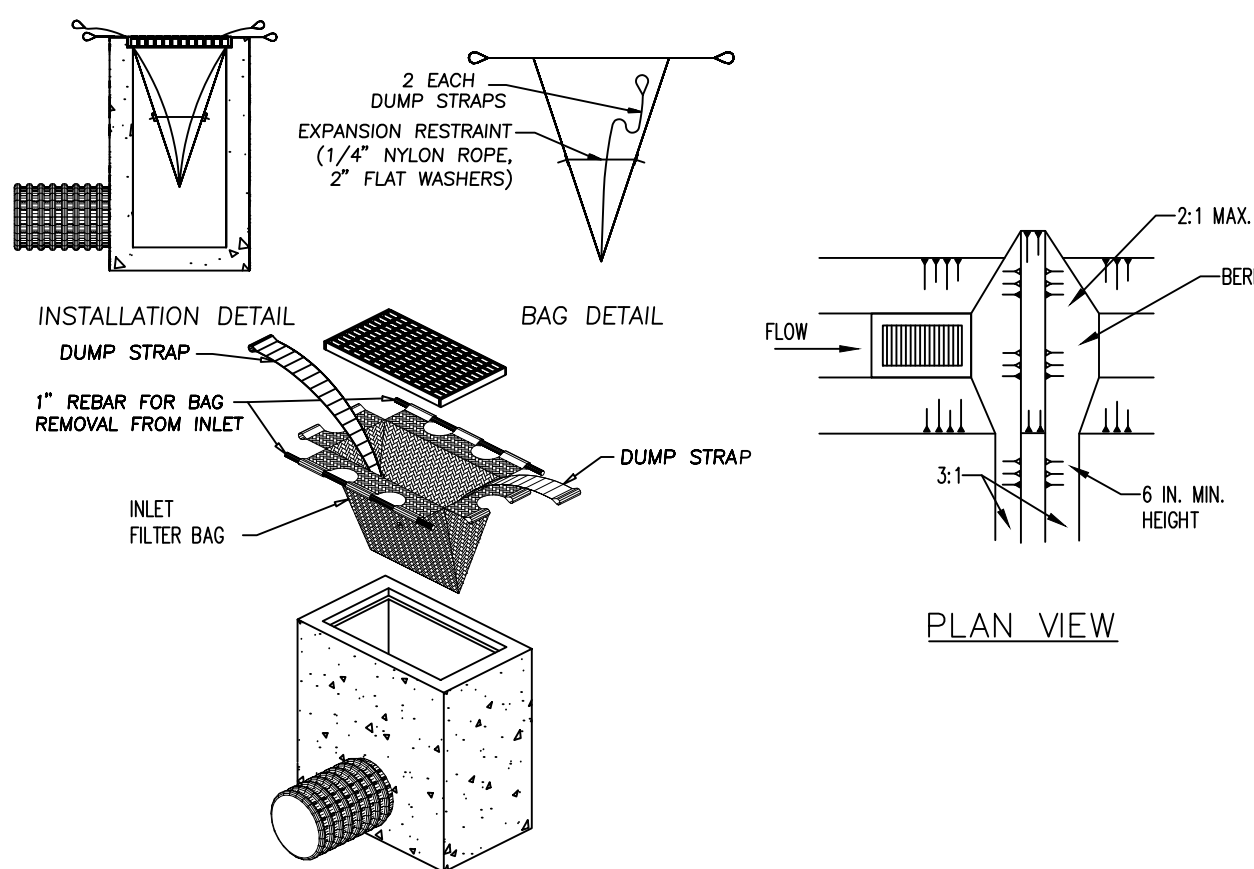
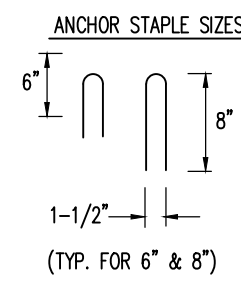
SINKHOLE REPAIR

NOT TO SCALE



NOTE: THE FOLLOWING STAPLE PATTERN SHALL BE USED FOR ALL EROSION CONTROL LINING INSTALLATION.

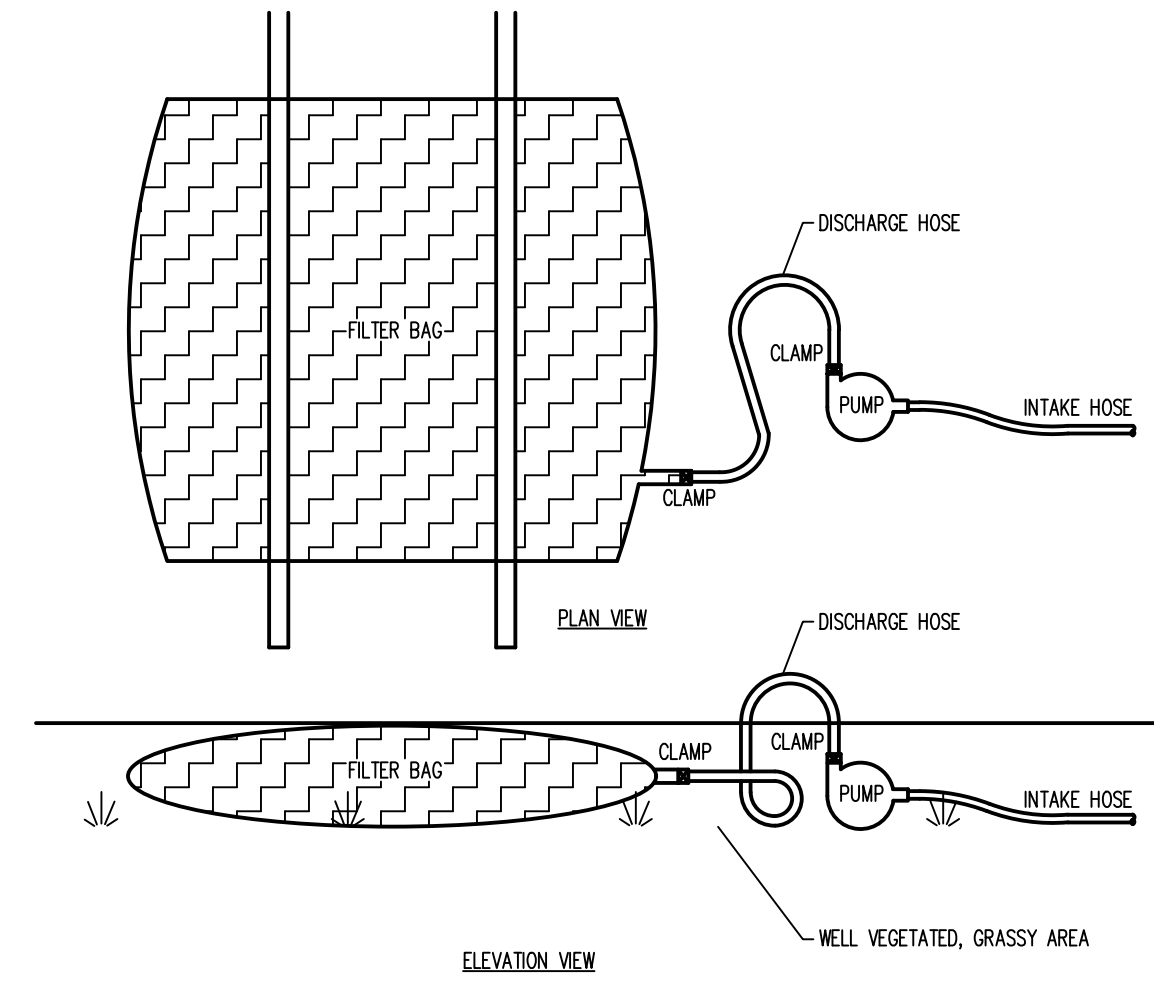
TYPICAL ANCHORING PATTERN (1.1 STAPLES/YD²)



INLET FILTER BAG (TYPE M)

NOT TO SCALE

INLET FILTER BAG NOTES:
 FILTER BAG SHOULD TRAP PARTICLES LARGER THAN 150 MICRONS.
 WHEREVER FILTER BAGS ARE USED THEY SHOULD BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 INLET FILTER BAGS SHOULD BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT.
 FILTER BAGS SHOULD BE CLEANED AND/OR REPLACED WHEN BAG IS 1/2 FULL.
 DAMAGED FILTER BAGS SHOULD BE REPLACED.
 NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION.



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/m |
| 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 |

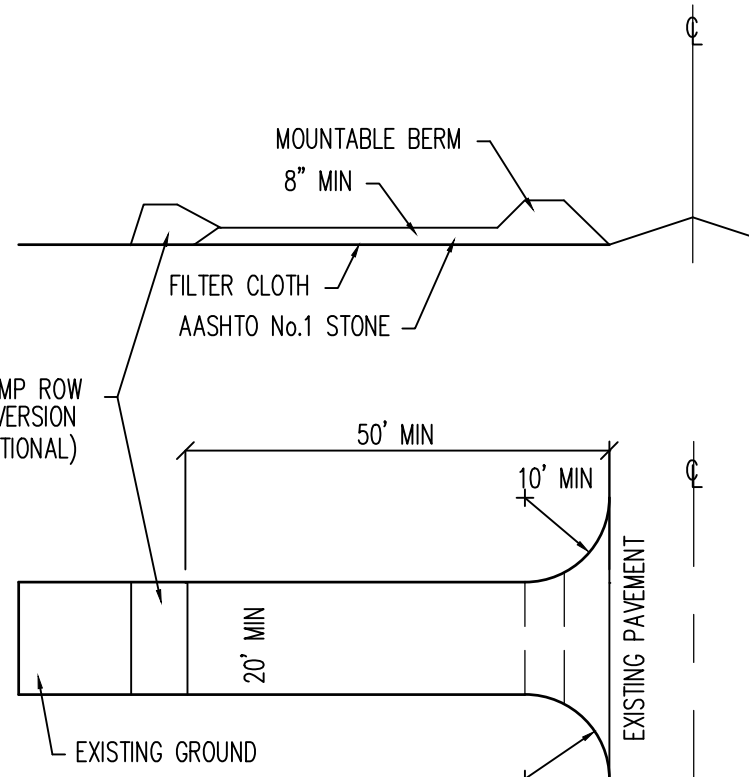
Notes:

- A suitable means of accessing the bag with machinery required for disposal purposes shall be provided. Filter bags shall be replaced when they become 2/3 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 HO or EV watersheds, within 50 feet of any receiving surface water or where grassy area is not available.

PUMPED WATER FILTER BAG DETAIL

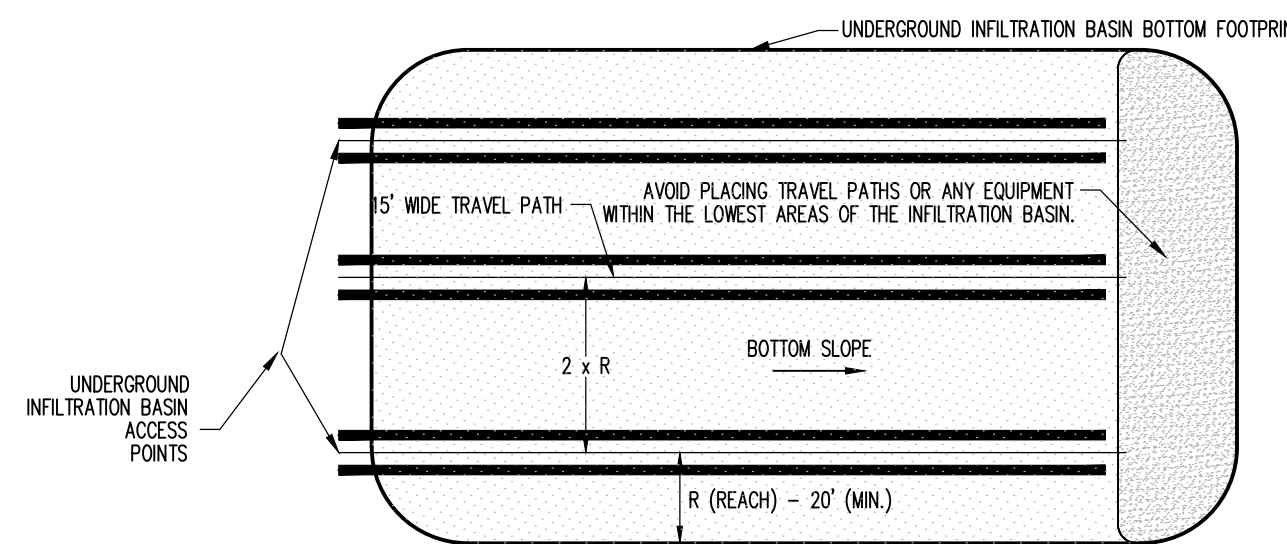
NOTE: THIS DETAIL SHALL BE USED FOR PUMPING OF WATER FROM THE SITE

NOT TO SCALE



CONSTRUCTION ENTRANCE

NOT TO SCALE



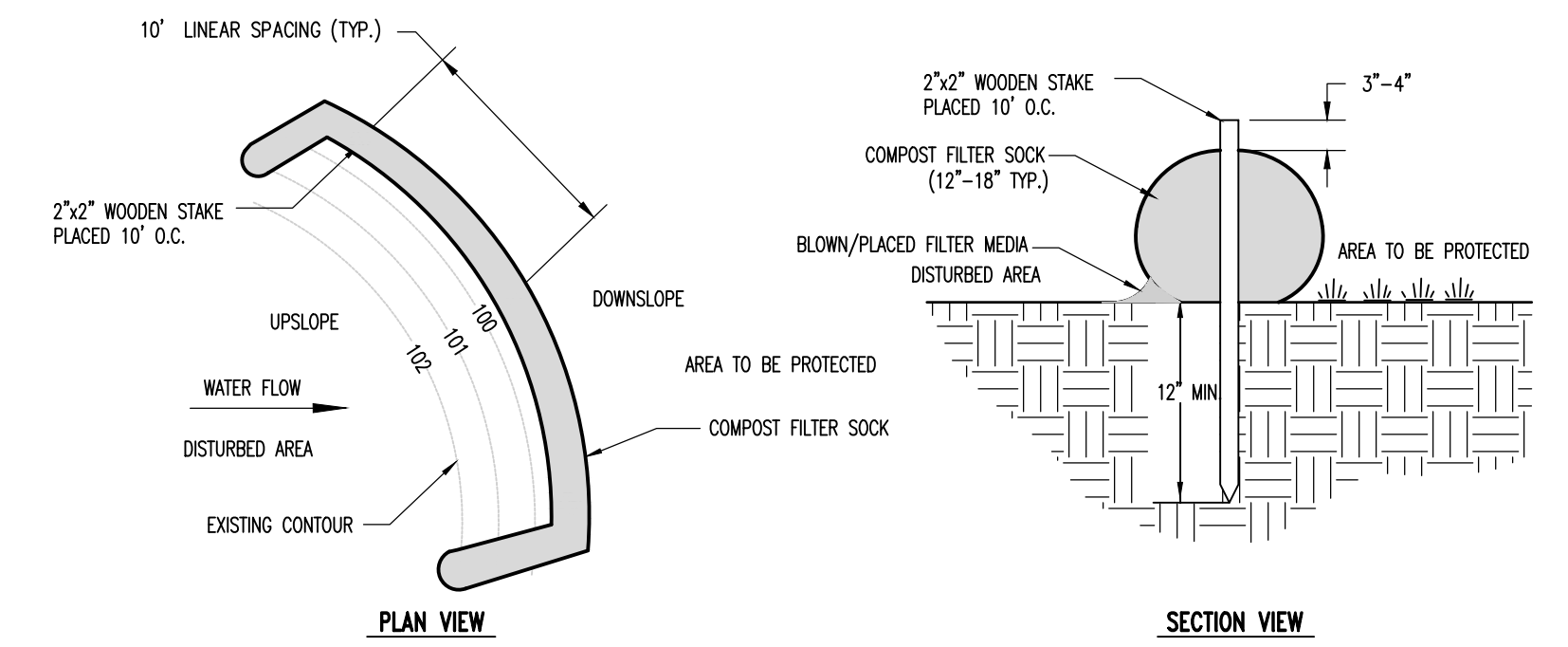
THIS DETAIL REPRESENTS A TYPICAL INFILTRATION BASIN BOTTOM EXCAVATION TECHNIQUE. EACH INFILTRATION BASIN VARIES WITH GEOMETRY AND OTHER VARIOUS PHYSICAL FEATURES. THE CONTRACTOR MUST DEVELOP A INFILTRATION BASIN BOTTOM EXCAVATION PLAN AND CONSULT WITH THE SITE ENGINEER PRIOR TO COMMENCING THE INFILTRATION BASIN BOTTOM EXCAVATION.

NOTES:

- ALL EQUIPMENT MOBILIZATION AND MANEUVERS MUST BE LIMITED TO THE TRAVEL PATH LOCATIONS. THE CONTRACTOR SHALL LOCATE AND CLEARLY POST ALL TRAVEL PATHS IN THE FIELD.
- TRAVEL PATH LOCATIONS SHALL BE SELECTED BASED UPON EQUIPMENT REACH CAPABILITY AND INFILTRATION BASIN GEOMETRY. TRAVEL PATH LOCATIONS SHOULD BE SELECTED SUCH THAT THEY PARALLEL THE LONGEST SIDE OF THE INFILTRATION BASIN.
- TRAVEL PATH SPACING SHALL VARY WITH EQUIPMENT REACH CAPABILITY. REACH CAPABILITY SHOULD BE A MINIMUM OF 20 FEET.
- MATERIAL SHALL BE REMOVED FROM THE TRAVEL PATH LOCATIONS WORKING TOWARD THE INFILTRATION BASIN ACCESS POINTS. ONCE MATERIAL IS REMOVED FROM EACH TRAVEL PATH LOCATION AND FINAL GRADE IS ACHIEVED, ALL EQUIPMENT SHALL BE PROHIBITED FROM THESE LOCATIONS.

TYPICAL UNDERGROUND INFILTRATION BASIN BOTTOM EXCAVATION

NOT TO SCALE



- NOTES:
- ALL MATERIAL TO MEET EPA COMPOST FILTER SOCK SPECIFICATIONS.
 - SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
 - SILT SOCKS DEPICTED ARE FOR USE ON MINIMAL SLOPES. GREATER SLOPES MAY REQUIRE LARGER SILT SOCKS PER THE ENGINEER.
 - COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

COMPOST FILTER SOCK DETAIL

NOT TO SCALE

TABLE 4.1
Compost Sock Fabric Minimum Specifications

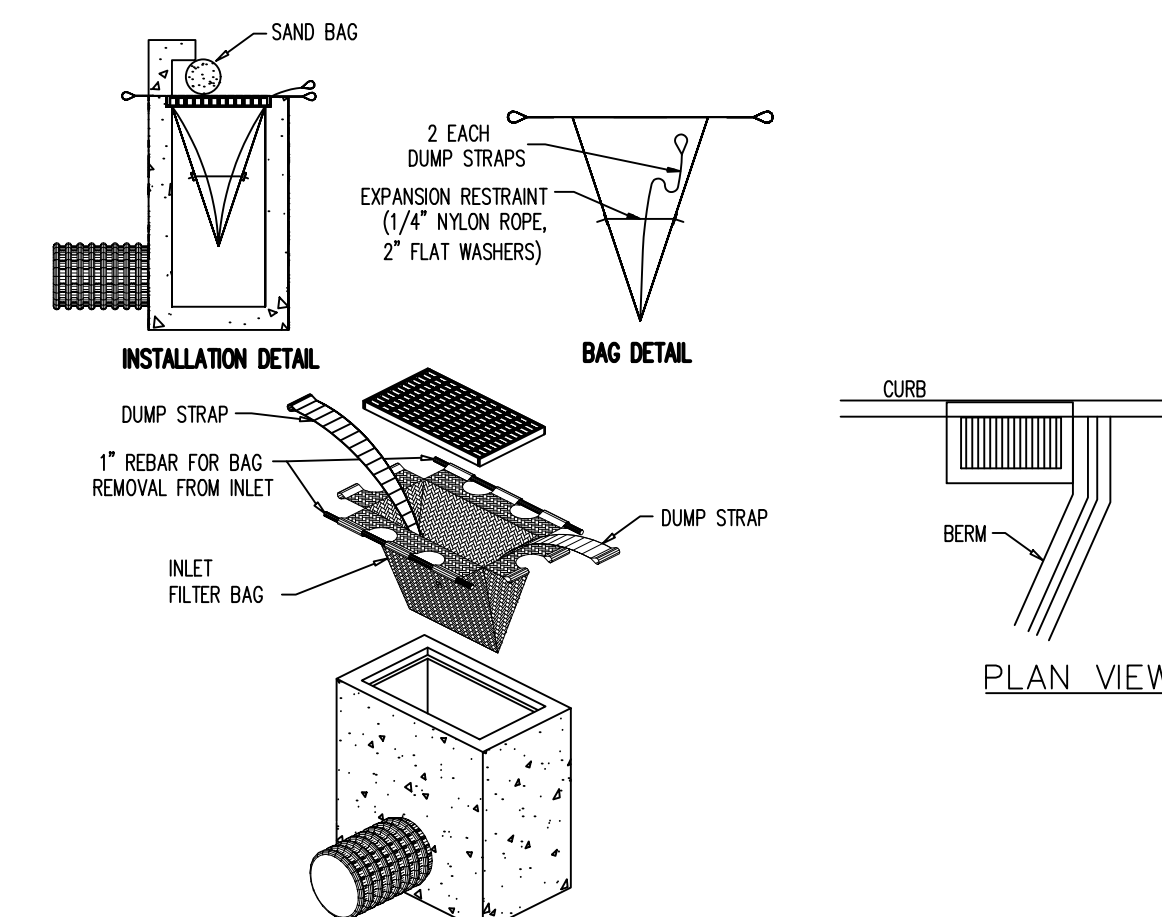
| Material Type | 3 mil HDPE | 5 mil HDPE | 5 mil HDPE | Multi-Filament Polypropylene (MPP) | Heavy Duty Multi-Filament Polypropylene (HDMFPP) |
|---|------------------------------|----------------------|--------------------------|------------------------------------|--|
| Material Characteristics | Photo-degradable | Photo-degradable | Bio-degradable | Photo-degradable | Photo-degradable |
| Sock Diameters | 12" 18" | 12" 18" 24"32" | 12" 18" 24" 32" | 12" 18" 24" 32" | 12" 18" 24" 32" |
| Mesh Opening | 3/8" | 3/8" | 3/8" | 3/8" | 1/8" |
| Tensile Strength | | 26 psi | 26 psi | 44 psi | 202 psi |
| Ultraviolet Stability % Original Strength (ASTM G-155) | 23% at 1000 hr. | 23% at 1000 hr. | | 100% at 1000 hr. | 100% at 1000 hr. |
| Minimum Functional Longevity | 6 months | 9 months | 6 months | 1 year | 2 years |
| Two-Ply Systems | | | | | |
| Inner Containment Netting | HDPE biaxial net | | | | |
| | Continuously wound | | | | |
| Outer Filtration Mesh | Fusion-welded junctures | | | | |
| | 3/4"x3/4" Max. aperture size | | | | |
| Composite Polypropylene Fabric (Woven layer and non-woven fleece mechanically fused via needle punch) | | | | | |
| 3/16" Max. aperture size | | | | | |
| Sock fabrics composed of burlap may be used on projects lasting 6 months or less. | | | | | |

TABLE 4.2
Compost Standards

| | |
|----------------------------|-----------------------------------|
| Organic Matter Content | 25%-100% (dry weight basis) |
| Organic Particle | Fibrous and elongated |
| pH | 5.5-8.5 |
| Moisture Content | 30%-60% |
| Particle Size | 30% - 50% pass through 3/8" sieve |
| Soluble Salt Concentration | 5.0 dS/m (mmhos/cm) Maximum |

COMPOST FILTER SOCK TABLE

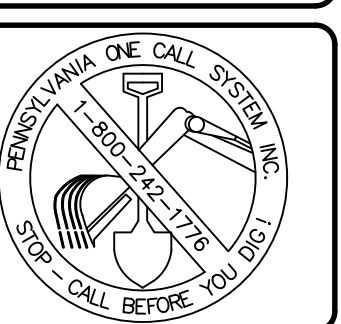
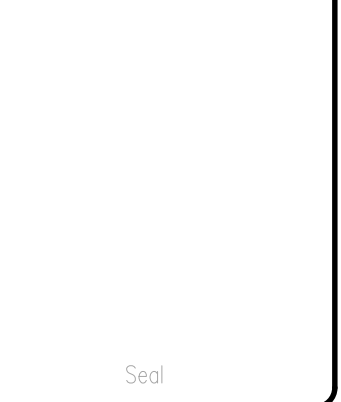
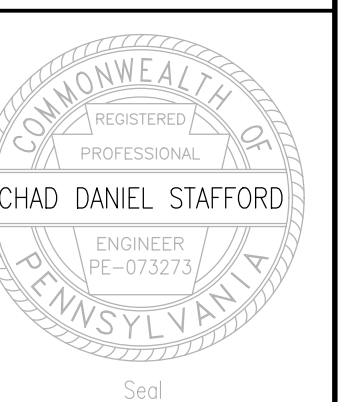
NOT TO SCALE



INLET FILTER BAG (TYPE C)

NOT TO SCALE

INLET FILTER BAG NOTES:
 FILTER BAG SHOULD TRAP PARTICLES LARGER THAN 150 MICRONS.
 WHEREVER FILTER BAGS ARE USED THEY SHOULD BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 INLET FILTER BAGS SHOULD BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT.
 FILTER BAGS SHOULD BE CLEANED AND/OR REPLACED WHEN BAG IS 1/2 FULL.
 DAMAGED FILTER BAGS SHOULD BE REPLACED.
 NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION.



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 Environmental 757
 Proj. Manager C.D.S.
 Surveyor
 Perimeter Ck.
 Book Pg.
 File 2205-PRE-E&S-02-DETAILS
 Layout E&S-DETAILS (1)

Date Description
 REVISIONS

1900 CIRCLEVILLE ROAD

FERGUSON TOWNSHIP
CENTRE COUNTY
PENNSYLVANIA

PRELIMINARY LAND DEVELOPMENT PLAN

EROSION & SEDIMENTATION CONTROL DETAILS

PROJECT NO.
21255
DATE
DECEMBER 28, 2022
SCALE SHEET NO.
1"=20' ES2

Standard Erosion and Sedimentation Control Plan Notes:

- All earth disturbances, including clearing and grubbing as well as cuts and fills shall be done in accordance with the approved E&S plan. A copy of the approved drawings (stamped, signed and dated by the Centre County Conservation District) must be available at the project site at all times. The Centre County Conservation District shall be notified of any changes to the approved plan prior to implementation of those changes. The Centre County Conservation District may require a written submittal of those changes for review and approval at its discretion.
- At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the Centre County Conservation District to an on-site preconstruction meeting.
- At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
- All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved in writing from the Centre County Conservation District or by the Department prior to implementation.
- Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.
- Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping must not commence in any stage or phase of the project until the E&S BMPs specified by the BMP sequence for that stage or phase have been installed and are functioning as described in this E&S plan.
- At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps. These areas must be clearly marked and fenced off before clearing and grubbing operations begin.
- Topsoil required for the establishment of vegetation shall be stockpiled at the location(s) shown on the plan map(s) in the amount necessary to complete the finish grading of all exposed areas that are to be stabilized by vegetation. Each stockpile shall be protected in the manner shown on the plan drawings. Stockpile heights shall not exceed 35 feet. Stockpile slopes shall be 2H:1V or flatter.
- Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to minimize the potential for erosion and sediment pollution and notify the Centre County Conservation District and/or the regional office of the Department.
- All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1, and 287.1 et seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.
- All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated.
- The contractor is responsible for ensuring that any material brought on site is clean fill. Form FP-001 must be retained by the property owner for any fill material affected by a spill or release of a regulated substance by qualifying as clean fill due to analytical testing.
- All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas.
- Vehicles and equipment may neither enter directly nor exit directly from lots tax parcel 24-004-010-000Q onto Circleville Road.
- Until the site is stabilized, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed immediately. If the E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.
- A log showing dates that E&S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection.
- Sediment tracked onto any public roadway or sidewalk shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.
- All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings.
- Areas which are to be topsoiled shall be scarified to a minimum depth of 3 to 5 inches – 6 to 12 inches on compacted soils – prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outcrops shall have a minimum of 2 inches of topsoil.
- All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc. shall be compacted in accordance with local requirements or codes.
- All earthen fills shall be placed in compacted layers not to exceed 9 inches in thickness.
- Fill materials shall be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills.
- Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.
- Fill shall not be placed on saturated or frozen surfaces.
- Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.
- All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.
- Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.
- Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
- E&S BMPs shall remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by the Centre County Conservation District or the Department.
- Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the Centre County Conservation District for an inspection prior to removal of the E&S BMPs.
- After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed. Areas disturbed during removal of the BMPs shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal are to be done only during the germinating season.
- Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the Centre County Conservation District to schedule a final inspection.
- Failure to correctly install E&S BMPs, failure to prevent sediment-laden runoff from leaving the construction site, or failure to take immediate corrective action to resolve failure of E&S BMPs may result in administrative, civil, and/or criminal penalties being instituted by the Department as defined in Section 602 of the Pennsylvania Clean Streams Law. The Clean Streams Law provides for up to \$10,000 per day in civil penalties, up to \$10,000 in summary criminal penalties, and up to \$25,000 in misdemeanor criminal penalties for each violation.
- Concrete wash water shall be handled in the manner described on the plan drawings. In no case shall it be allowed to enter any surface waters or groundwater systems.

General Construction Notes:

- All water pumped from the site must be pumped through a pumped water filter bag as specified on the Erosion and Sedimentation Control Details Sheet.
- All temporary seeding shall be done within 72 hours of the completion of disturbances for all areas requiring vegetative cover.
- Prior to exiting the site, all construction vehicles leaving the site must drive over the rock construction entrance.
- All utility installation shall be done at a rate of which all trenching excavated shall be backfilled within the same day. All utility installation shall begin at the very downslope and proceed upslope.
- The removal of temporary Erosion and Sedimentation Controls shall be coordinated with the Centre County Conservation District and the site Civil Engineer. Prior to removal of these controls the Centre County Conservation District and the sites Civil Engineer shall be notified.
- Silt Socks must be placed and maintained downslope of all topsoil stockpiles. Topsoil stockpiles must also be seeded with the temporary seeding mixture.
- In order to avoid compaction of the proposed underground infiltration basin bottom, special procedures shall be implemented for equipment operations during the excavation of the underground infiltration basin bottom. The excavation shall be completed utilizing equipment located outside the underground infiltration basin bottom (if excavation cannot fully be completed from outside the bottom, refer to the typical underground infiltration basin bottom excavation detail.)

Staging of Earthmoving Activities Construction Sequence

- All earth disturbance activities shall proceed in accordance with the following staging of earthmoving activities. Each stage shall be completed before a subsequent stage is initiated.
- Field mark/locate the limits of disturbance as shown on the Erosion and Sedimentation Control Plan (E&SCP).
 - Install the rock construction entrance for the site, as shown on the E&SCP.
 - Install all silt sock as shown on the E&SCP.
 - Strip the topsoil from the site construction area and place the topsoil at the location shown on the E&SCP. Seed the stockpile with the temporary seeding mixture after installing silt sock on the downslope side of the topsoil stockpile.
 - Install 1-4 by removing existing yard drain as shown per plan. Install proposed storm sewer pipe run OS-1 to 1-4 working from the very downslope end, working upslope. Place inlet protection on all newly installed inlets.
 - Begin rough grading the site.
 - The underground infiltration basin can be installed at this time in accordance with General Construction "Note 7" above to ensure the basin bottom is not compacted. Installation shall include interior conveyance pipes and inlets and stone backfill as shown on the stormwater details sheet.
 - Building construction can occur at this time.
 - Continue with site grading and stabilize all parking and roadway areas with stone, and install all site sidewalks.
 - Begin installing all remaining utilities in accordance with General Construction "Note 4" above, working from the very downslope of each line and proceeding upslope. The amount of utility installation shall coincide with the amount of trenching that can be excavated and backfilled daily. Should any open trench be left at the end of each day, the length shall not exceed fifty linear feet. Install inlet protection on all newly installed inlets as shown on the E&SCP.
 - Once all utilities are installed and all entrance ways are brought to sub grade, paving operations can begin, thus removing the rock construction entrance. Curbing installation can occur at this time. All proposed lawn areas shall be topsoiled and seeded with the permanent seeding mixture. Erosion control lining shall be installed in the locations shown on the E&SCP.
 - Once permanent stabilization has been achieved, all temporary erosion and sediment controls may be removed (see General Construction "Note 5"). These controls include silt socks, topsoil stockpiles and inlet protection. Stabilize any areas disturbed by the removal of these controls immediately with the permanent seeding mixture as specified in the "Permanent Seeding Mixtures" section. Install grate inlet skimmer boxes on inlets.

Temporary Control Measures

Temporary control measures will be implemented to ensure that erosion is minimized and that sediment is retained during construction. The rock construction entrance will be provided at the site entrance to prevent tracking of sediment from the site. Silt sock will be placed at the locations shown on the Erosion and Sedimentation Control Plan to provide proper filtration of the site runoff. Pumped water filter bags will be used when water is encountered within sumped areas within the construction site to filter all sediment out of the water being pumped off site. Inlet protection will be used to help prevent sedimentation of the storm sewer system. A topsoil stockpile will be provided to provide a convenient place to store the sites topsoil. Erosion control lining will be used to help to stabilize the steeper sloped areas.

Temporary seeding on all disturbed areas shall be done immediately after grading is finished and shall consist of the following:

| Item | Rate |
|---------------------------------|-----------------|
| 1. Agricultural grade limestone | 1 ton / acre |
| 2. Fertilizer 10-10-10 | 500 lbs. / acre |
| 3. Annual ryegrass | 40 lbs. / acre |
| 4. Mulch (straw) | 3 tons / acre |

Permanent Control Measures

Permanent control measures include the underground infiltration basin, grate inlet skimmer boxes, and seeding / landscaping. Seeding specifications are for graded or cleared areas where permanent vegetative cover is needed.

Soil Enhancements: It is recommended that site specific soil testing be performed. Lieu of soil test recommendations, use the following schedule:

- Acceptable – Apply 6 tons per acre Dolomitic Limestone (240 lbs/ 1000 s.f.) and 1000 lbs/acre 10-20-20 fertilizer (25 lbs/ 1000 s.f.) before seeding. Harrow or disc into upper three inches of soil.
- Topsoil Placement – Topsoil shall be placed at a minimum 4" in depth over disturbed vegetated areas.

Permanent Seeding shall consist of the following:

| Item | Rate |
|---|---------------|
| 1. Seed Mixture Consisting of 50% Poo pratensis (Kentucky Bluegrass) 30% Festuca rubra (Creeping Red Fescue) 20% Lolium perenne L. (Perennial Rye) | 102 lbs./acre |
| 2. *Mulch (straw) | 3 tons/ acre |

*Mulching: Apply mulch immediately after seeding and anchor properly with an anchoring tool following one of the methods listed below.

- Tracking: The process of cutting mulch into the soil via equipment that runs on tracks, is employed primarily on slopes 3:1 or steeper.
- Mulch Nettings: Staple lightweight biodegradable paper, plastic or cotton netting over the mulch according to the manufacturer's recommendations.
- Synthetic Binders: Synthetic binders such as acrylic DLR (AGRI-TAC), DCA-70, Petrosel or Terrastock may be used at rates recommended by the manufacturer to anchor mulch material.
- Wood Cellulose Fiber: The fiber binder shall be applied at a net dry weight of 750 lb/acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs of wood cellulose fiber per 100 gallons.
- Peg & Twine: Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stokes may be driven before or after applying mulch. Secure mulch to surface by stretching twine between pegs in a criss-cross within a square pattern. Secure twine around each peg with two or more turns.

Maintenance Program

During construction, the contractor will be responsible for maintenance and repair of all erosion and sedimentation control facilities. These facilities should be inspected daily and after every runoff event greater than 0.25". Any erosion control disturbed during construction, installation of utilities or found to be inadequate upon inspection shall be repaired or replaced within 24 hours after the disturbance or the discrepancy is discovered. Ensure logs are kept per #16 of the Standard Erosion and Sedimentation Control Plan Notes. The maintenance of the erosion control facilities will include the following:

Construction Entrance:

- The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measure used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately. Sediment removed from the structure shall be spread over an existing stockpile with controls already in place and be seeded with the temporary seeding mixture.

Topsoil Stockpile:

- The topsoil stockpile shall be seeded with the temporary seeding mixture to ensure proper stabilization. Any additional topsoil spread at these locations shall also be seeded with the temporary seeding mixture.

Permanent Seeding:

- If the vegetative cover is not established uniformly by the third mowing, the contractor shall reapply topsoil if necessary and seed and mulch as needed to provide adequate cover.

Inlet Protection:

- Inlet filter bags should be inspected on a weekly basis and after each runoff event. Needed repairs should be initiated immediately after the inspection.
- Filter bags should be cleaned and/or replaced when the bag is 1/2 full. Damaged bags should be replaced. Sediment removed from the inlet protection shall be spread over an existing stockpile with controls already in place and be seeded with the temporary seeding mixture.

Silt socks:

- The Contractor shall maintain the socks in a functional condition at all times and it shall be routinely inspected.
- Where the sock requires repair, it will be routinely repaired.
- The contractor shall remove sediment collected at the base of the sock when they reach 1/2 of the exposed height of the sock, or as directed by the Engineer. Sediment removed from the sock shall be spread over an existing stockpile with controls already in place and be seeded with the temporary seeding mixture. Alternatively, rather than create a soil disturbing activity, the engineer may call for additional sock to be added at areas of high sedimentation, placed immediately on top of the existing sediment laden sock. The sock will be dispersed on site when no longer required, as determined by the Engineer.

Pumped Water Filter Bag:

- The contractor shall maintain the filter bag in a functional condition at all times and routinely inspect and repair as required.
- Filter bags shall be replaced when they become 1/2 full and spare bags shall be kept available for replacement of failed or filled filter bags. Sediment removed from the pumped water filter bag shall be spread over an existing stockpile with controls already in place and be seeded with the temporary seeding mixture.
- The pumping rate shall be observed and be no greater than 750 GPM or 1/2 the maximum specified by the manufacturer, whichever is less.

Spoil Materials:

- All sediment removed from erosion and sedimentation pollution control facilities shall be spread over spoil areas with controls already in place. Stabilize the spoil material with the temporary seeding mixture.

Recycling and Disposal of Materials

The operator shall remove from the site, recycle, or dispose of all building materials and wastes in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1et seq., 271.1 et seq., and 287.1 et seq. The contractor shall not illegally bury, dump, or discharge any building material or wastes.

Wastes generated during the construction of this project shall be recycled if at all possible. Any materials that cannot be recycled or reused shall be disposed of at a Pennsylvania Department of Environmental Protection approved landfill. If soil and/or rock disposal areas are required, erosion and sedimentation controls shall be implemented at these areas. Any excess soil waste may only be disposed of at an approved E&S/NPDES permitted site.

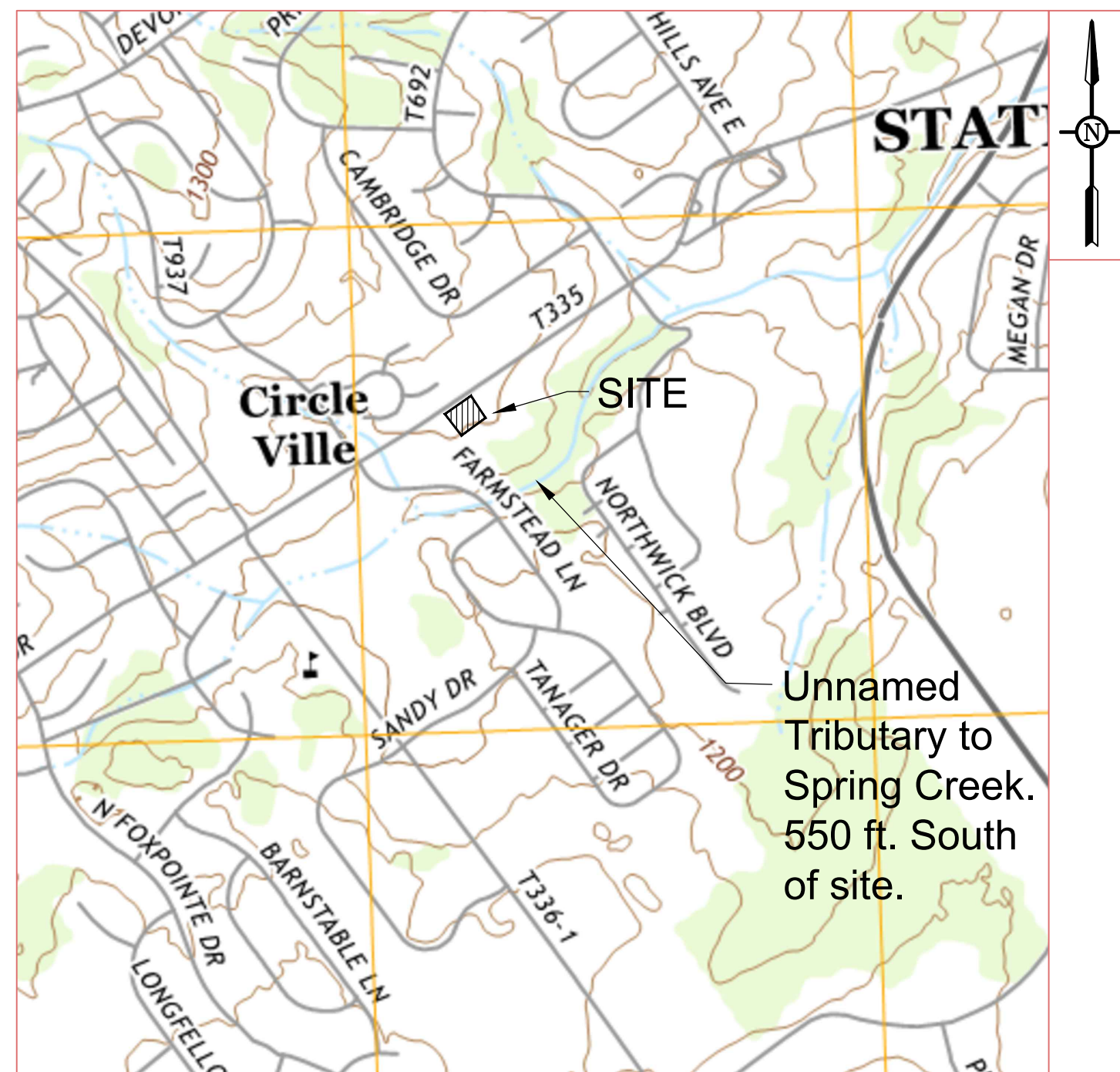
Responsibilities for Fill Materials

The contractor is responsible to use environmental due diligence to ensure any fill material required to be imported to or exported from the site qualifies as Clean Fill.

Clean Fill is defined as: Uncontaminated, non-water soluble, non-decomposable, inert, solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block or concrete from construction and demolition activities that is separate from other waste and is recognizable as such. The term does not include materials placed in or on the waters of the commonwealth unless otherwise authorized. (The term "used asphalt" does not include milled asphalt or asphalt that has been processed for re-use.)

Environmental due diligence: Investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits. Analytical testing is not a required part of due diligence unless visual inspection and/or review of the past land use of the property indicates that the fill may have been subjected to a spill or release of regulated substance. If the fill may have been affected by a spill or release of a regulated substance, it must be tested to determine if it qualifies as clean fill. Testing should be performed in accordance with Appendix A of the Department's policy "Management of Fill".

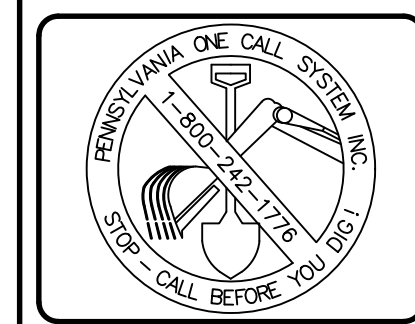
Fill material that does not qualify as clean fill is regulated fill. Regulated fill is waste and must be managed in accordance with the Department's municipal or residual waste regulations based on 25 Pa. Code Chapters 287 Residual Waste management or 271 Municipal Waste Management, whichever is applicable.



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 Permitter Ck. _____
 Book _____ Pg. _____
 File 21025-PRE-145-03-NARRATIVE
 Layout _____ E&S NARRATIVE

| Date | Description |
|------|-------------|
| | REVISIONS |

1900 CIRCLEVILLE ROAD

FERGUSON TOWNSHIP
 CENTRE COUNTY
 PENNSYLVANIA

PRELIMINARY LAND DEVELOPMENT PLAN

EROSION & SEDIMENTATION CONTROL NARRATIVE

PROJECT NO. 21255
 DATE
DECEMBER 28, 2022
 SCALE NONE SHEET NO. **ES3**