FINAL PLAT
FOR
AUTUMN CHASE PRD PHASE I
LOCATED IN
UPPER ALLEN TOWNSHIP, CUMBERLAND COUNTY, PA.

Tax Parcels associated with this plan

Tax Parcel No. 42-11-0272-001
Tax Parcel No. 42-11-0274-028

The below waivers and deferrals as listed were granted with the February 15, 2012 tentative approval of the Autumn Chase PRD.

Section	Waiver Requirement	Date of Waiver Approval
225-15.B(5)	Cul-de-sacs to not exceed 800 feet and not serve more than 20 dwelling units.	February 15, 2012

Section	Modification Requirement	Date of Modification Approval
220-18.B	Allowed the residential block to have a length of 1,652 feet instead of the required maximum length of 1,500 feet.	February 15, 2012
220-15.B(11)(a) & 220-15.F.(2)	To and the requirements of Section 220-15.F.(2) and allow the applicant to provide widening along Hertzler Road to 24 feet with a full width 1 ½ inch depth overlay pavement along the property frontage with the condition that the applicant also widen to 24 feet and provide full width 1 ½ inch depth overlay pavement Hertzler Road from the development west to the property line of the Winding Hill PRD. A note shall be added on the plan stating that in the opinion of the Township Engineer, should field conditions indicate insufficient structural integrity in areas of existing pavement to receive overlay, those areas shall receive full depth reconstruction (Section 220-15.G(1)).	February 15, 2012
220-16.A(3)	Permit slant curbing within development instead of vertical curbing.	February 15, 2012
220-16.B.(4)	Sidewalks to be installed along one side of proposed streets (Road J"/ Brittany Circle and Lot OS-7 only) instead of both sides of the street.	February 15, 2012
220-16.B(3)	Provide a six foot wide walking trail on the south side of Hertzler Road in lieu of sidewalks. The trail shall be shown on the final plan extending from the western property boundary line with the existing Allendale PRD to the Township Greenway property to the east.	February 15, 2012
220-16.A.(2)	To permit Hertzler Road improvements in lieu of curbs, to include widening and overlay of off-site portions of the road west approximately 650 feet toward the improvements completed by the Winding Hills PRD and east approximately 400 feet toward the intersection of Hertzler Road/ and Kinedinst Road. Improvements along the property frontage shall consist of widening of the cartway to twenty-four (24) feet and installing a 1 ½ inch wearing course overlay. A note shall be added on the plan stating that in the opinion of the Township Engineer, should field conditions indicate insufficient structural integrity in areas of existing pavement to receive overlay, those areas shall receive full depth reconstruction (Section 220-15.G(1)).	February 15, 2012

See below additional waivers requested with the Phase I Final Plan.

WAIVER SECTION	WAIVER REQUIREMENT	DATE OF WAIVER APPROVAL
220-9.C(2)(e)	Provide one foot contour interval	October 4, 2017
220-10.B(2)(b)	Provide street cross sections at 50' intervals	October 4, 2017
220-26	Landscaping	September 2, 2020

INTENT OF PLAN

The intent of this plan is to obtain Final Subdivision Plan approval for "AUTUMN CHASE PHASE I". AUTUMN CHASE is a Planned Residential Development (PRD). The Tentative Planned Residential Development Plan for Autumn Chase was approved by the Upper Allen Township Board of Commissioners as per a written decision dated –May 8, 2012. The Master Plan on plan sheet 2 provides a reference to the overall community. Autumn Chase Phase I consists of 39 single family detached dwelling lots. The project shall be implemented in accordance with the Decision Approving Application of Hertzler Road Associates, L.P. for Tentative Approval of Autumn Chase Planned Residential Development dated May 8, 2012. Certain waivers and modifications were granted as part of the Tentative Plan approval. See waivers and modifications tables in the upper right corner of this sheet which depict the waivers approved during the PRD Plan approval process and a separate table listing new waivers requested with this Phase I Plan. A Developer Agreement, between Hertzler Road Associates, L.P. and Upper Allen Township, dated April 26, 2012, provides for certain Hertzler Road improvements and recreation improvements to satisfy the recreation requirements for Autumn Chase. Hertzler Road shall be improved with the project in accordance with the approved Developers Agreement; Hertzler Road improvements associated with Phase I are shown on this plan; see separate Hertzler Road Improvements Plan for remainder of Hertzler Road improvements. Public water and sewer shall serve all proposed dwellings and the development shall be provided with fire protection via the installation of fire hydrants.

***See Sheet 2 for Master Development Plan and additional notes.**

SITE DATA

1. Applicant and Equitable Owner:
   Hertzler Road Associates, L.P.
   4400 Deer Path Road, Suite 201
   Harrisburg, PA 17110
   717-234-4000
2. The subject tract consists of two (2) parcels of Land; both tracts are owned by: Hertzler Road Associates, LP
   Total Gross Area of both Parcels: 6,209,731 sf or 142.55 ac
   Total Net Area of both Parcels: 6,134,676 sf or 140.83 ac
   Tax Parcel No. 42-11-0272-001
   Instrument #201124513
   Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
   Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
   Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.
   Tax Parcel No. 42-11-0274-028
   Instrument #201124513
   Total Gross/Net Area 831,426 sf or 19.087 acres
3. Subject Tract is located in the R-1 (Low Density Residential District) and RL (Rural Living)
   R-1 (Low Density Residential): 5,565,535 sf or 127.77 ac
   RL (Rural Living): 644,196 sf or 14.79 ac
4. Total number of existing dwellings: 0
5. Total number of proposed dwellings: 295 Total all Phases
   Phase I: 39 single family detached dwelling lots
   Entire Project including Phase I: 295 units with the following uses;
   - 161 Single-family dwelling lots (78 North and 83 south of Hertzler Road);
   - 60 Duplex Units;
   - 74 Townhouse Units (7-6plexes and 8-4plexes);
6. Existing Land Use: Agriculture use
7. Proposed Use: Residential "Planned Residential Development"
8. Proposed Density: 1.2 units per acre
9. Proposed Length of New Streets:
   Phase I: 2,939' or 0.567 miles
   Entire Project: 15,444' or 2.925 miles
10. Proposed Length of Hertzler Road Widening: 3,493' total including off site
11. Minimum Lot Size Proposed: 8,000 sf
12. Total Area of Open Space Lots 1 through 11 (see sheet 2):
    Phase I: 35,184 sf or 0.808 acres
    Entire Project: 2,892,855 sf or 66.411 ac

ZONING REQUIREMENTS

Below zoning critiera as approved with the Autumn Chase PRD

Building Setbacks
50' setback from tract perimeter apply's to all of the residential uses

Single Family Detached Lots:
Front = 25'
Side = 5'
Rear = 15'

No duplexes or townhouses are proposed with Phase I

GENERAL NOTES

1. The applicant shall comply with all Township regulations in effect at the time of the filing of this plan. All proposed improvements shall conform to Upper Allen Township construction standards. All work shall be in accordance with PennDOT Publication 408, Specifications and Publication 72, Roadway Construction Standards, unless otherwise noted. Work zone traffic control shall be in accordance with PennDOT Publication 213.
2. Autumn Chase Phase I consists of 39 Single-family dwelling lots and 1 Open Space lot (all lots are located on the north side of Hertzler Road.)
3. The recreation requirements for Autumn Chase are being satisfied in accordance with the Developer Agreement, dated April 26, 2012, between Hertzler Road Associates, L.P. and Upper Allen Township.
4. A Homeowners Association is proposed with the development. The Home Owners Association Documents shall be reviewed by the Township in conjunction with this plan. The association shall be responsible for maintenance and upkeep of the following:
   a. All Open Space Areas except for open space areas accepted by the township for recreation land dedication (See notes on Open Space below);
   b. All on-site stormwater management facilities located outside of a public right-of-way;
   c. All sidewalk located within Open Space areas and sidewalk within the public right-of-way that abuts open space areas. Individual property owners are responsible for sidewalk maintenance and snow removal of the sidewalk abutting their respective lot;
   d. Boulevard Landscape islands;
   The landscape and boulevard islands shall be maintained by the developer until such responsibility is transferred to the homeowners association established with the development. Upper Allen Township shall not be held responsible for damage to plantings within the islands for any reason, and the municipality may remove or trim the vegetation if necessary for public safety.
5. The boundary information is based on a field survey performed by CEDG, Inc. in April 2005 & August 2008 and verified by Lyons Surveying, LLC in November 2015. The horizontal datum is NAD 83. The bearing is based on state plane coordinates, Pennsylvania south zone. Site benchmark: Northeasterly corner of concrete headwall on the southerly side of Hertzler Road, approximately 300' east of railroad crossing. Elev.=445.75 (NAVD 88) Topographic information shown is based on photogrammetric mapping performed by air survey, flown April 6, 2005. The vertical datum is NAVD 1988.
6. All streets proposed with this project shall be constructed to township standards and shall be offered for dedication to the township upon completion of improvements. All proposed streets are classified as minor streets and shall be 34' wide curbed cartways (slant curb) with an associated 50' right-of-way except for the boulevard entrances which will be 20' cartways with a 10' landscaped boulevard island with an associated 60' right-of-way. Hertzler Road shall be improved along the subject tract's entire length of road frontage and certain off site areas as detailed in the Developer Agreement. The portions of Hertzler Road outside of the approximately 1,125 linear feet associated with Phase 1 (east to Kilnedinst Road and west approximately 650' to the western property line of 521 Hertzler Road) will be widened to approximately 24 feet (see Hertzler Road Design Plan) and improved via a cement based full depth reclamation to include 12" of cement treated base at 5% cement, 2.5" base paving course and 1.5" wearing course as outlined in the Kleinfelder Geotechnical Engineering Report dated May 27, 2021.
7. There is an unnamed stream tributary to the Yellow Breeches Creek (CWF) that parallels Hertzler Road through the site. There is a 0.25 acre wetland pocket located along the south side of Hertzler Road towards the eastern side of the site (no wetland impacts proposed). There are no significant rock outcrops or contaminated soils known to exist on the site. There are two (2) sink holes located along the southern property line on the south side of Hertzler Road; the sinkholes are proposed to be repaired with the future applicable phase.
8. Within clear sight triangles as shown on this plan, no structure or growing material shall exceed a height of 3' above the grade of the street, and no branch of a tree, or obstruction, shall be lower than 9' feet above the grade of the street, with the exception of traffic signs, public utility poles, and similar-type structures.
9. Nothing shall be planted, placed, or set within any easement that would affect the function of the easement or conflict with the easement agreement.
10. The applicant is responsible for paying for the installation of all street and traffic control signs required for this project as deemed necessary by Upper Allen Township. All traffic control signs and devices shall be installed prior to any certificate of occupancy being issued. Street signs shall conform to PennDOT Publication 236M, dated April 1997, as amended. In addition,a separate permit is required for development signs, and all signs shall conform to all applicable requirements within Chapter 245, Article XXIII of the Codified Ordinances of Upper Allen Township or such applicable ordinances that are in effect at the time of the application for the sign.
11. The proposed water lines shown on this plan are for conceptual purposes only. SUEZ Water (public supplier), per their standard procedures, shall provide the project's water design for the project after approval of the Final Plans.
12. A Geologic Evaluation and Infiltration Testing Report was prepared for the project by CMX, 910 Century Drive, Mechanicsburg, PA 17055; 717-458-0800. The site is partially underlain by limestone geology. Due to the geology, the site has an increased potential for sinkhole development. Because all sinkhole are unique and repair methods for each type may require a specific method for repair, it is recommended that the site contractor consult with a Geo-Technical Engineer prior to start of construction of each phase. The Geo-Technical Engineer should evaluate the site's features for vertical and horizontal extents and relation of features to the proposed improvements and then provide repair measures to the contractor for repair of each sinkhole. In addition, builders are recommended to consult with a Geo-Technical engineer for guidance pertaining to building construction in sinkhole prone areas.
13. All new utilities shall be placed under ground.
14. A Water Obstruction and Encroachment Permit was obtained for the stream impacts associated with Hertzer Road improvements (Permit No. E21-468, issued on April 28, 2020.) All stream impact work to be performed in accordance with permit conditions.
15. There is a FEMA delineated floodplain located on the property. The floodplain is located along the eastern property line where Hertzler Road and the existing unnamed stream pass under the railroad bridge. The floodplain is depicted per scaling overlay of Flood Insurance Rate Map (Community-Panel Number 42041C0287E, Zone A, dated March 16, 2009). The current study is a Zone A non-detailed study area with no base flood elevation information.
16. Street lighting is proposed throughout the development as shown on this plan. Street lights are proposed at all street intersections and at other locations indicated on the plan. In addition to the street lights, each lot shall install an outside electric dusk till dawn yard light. Each individual home owner shall be responsible for maintenance of their own yard light although the Home Owners Association shall be responsible for maintenance of the street lights; developer is responsible for street light maintenance until the HOA is formed.
17. All proposed property corners and existing unmarked property corners shall be marked with iron pins or concrete monuments prior to dedication of the streets. Concrete monuments will be set as shown, all other property corners to be marked with iron pins. All proposed marker materials and installation methods shall be in accordance with Township standards.
18. An NPDES Permit was obtained from the Cumberland County Soil Conservation District authorizing earth disturbance activities associated with the project (Permit No. PAC210094, expiration date 11-13-2020). The contractor shall implement erosion and sedimentation pollution control measures in accordance with PA State Code Chapter 102 requirements and associated NPDES Permit Conditions. Contractor must obtain a copy of the approved Erosion Control Plan and be a co-permittee on the NPDES Permit prior to start of construction.
19. All lot grading shall maintain positive drainage away from the dwelling. Lot owners are required to maintain lot grading and surface drainage patterns and characteristics consistent with the approved grading plan.
20. Individual Lot Owners shall be responsible for implementation and maintenance of erosion control measures for their respective lot.
21. Manhole covers for stormwater manholes shall be cast with the word "Storm" for identification purposes.
22. Any construction or work within the public street right-of-way related to storm drainage facilities requires inspection by Upper Allen Township. Provide a minimum of 48 hours notice to the Township before starting work.
23. Contractor shall schedule a pre-construction meeting with the Township Engineer at least 48 hours prior to starting site construction activities.
24. In compliance with Act 287 of 1974 as amended by Act 199 of 2004, all underground utilities shown on this plan are a compilation of actual field locations and data furnished from information supplied by others. The developer, surveyor and engineer assume no responsibility for the location of any underground utilities as depicted on this drawing. Any request for additional underground utility information should be directed to that respected utility company. See One Call table for Serial Numbers.
25. All known existing easements and rights-of-ways have been shown on the plan and all utilities have been notified per PA One Call requirements.
26. All lots shall be subject to restrictions and covenants as defined in the "Protective Covenants, Reservations and Easements". All property owners shall be provided with a copy of the covenants documents.
27. All single- family detached dwellings will have a two-vehicle garage and a driveway with additional space to equal at least three off-street parking spaces. Maximum driveway width at the street right-of-way line is 10' for a single car garage and 24' width for a 2 car garage. All driveways shall not connect with a public street within 50 feet of the right-of-way lines of any intersecting streets nor within five feet of a fire hydrant, in accordance with Section 220-17.A(3) of the Codified Ordinances of Upper Allen Township.
27. Box culvert shop drawings to be submitted for review and approval by the Township prior to construction.
28. As-built Mylar plans and electronic data files shall be provided to the Township. All drawings must be signed and sealed by a professional engineer or land surveyor attesting to the correctness of the facility information shown, in accordance with Section 220-13.C(2) of the Codified Ordinances of Upper Allen Township.
29. The Home Owners Association shall maintain the grass area around the Greenway Trail and associated easement areas.
30. Should a phased final plan propose fewer trees and/or shrubs than Ordinance requirements, the additional trees required to meet Ordinance requirements should be planted in the open space areas and/or adjacent to or along the Greenway Trail as directed by the Township.

DRAWING INDEX

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APPLICANT & OWNER
HERTZLER ROAD ASSOCIATES, L.P.
4400 DEER PATH ROAD, SUITE 201
HARRISBURG, PA 17110
(717) 234-4000

MELLOTT ENGINEERING, INC.
CIVIL ENGINEERING • LAND PLANNING & DESIGN • WATER RESOURCES
7500 DEVONSHIRE HEIGHTS ROAD • HUMMELSTOWN, PA 17036
mellotteng@comcast.net
(717)-566-6533

SANITARY SEWER CONSTRUCTION NOTES

1. All sanitary sewer construction materials and methods shall conform to the latest standards of Upper Allen Township, Cumberland County, Pennsylvania and shall be subject to the approval by the township's engineer. See Standard construction and material specifications for sanitary sewer system extensions, latest edition. Construction of all sanitary sewers shall conform to standards adopted by Upper Allen Township. Contractor shall obtain specifications and construction details directly from the Authority.
2. All sanitary sewers constructed in public streets shall be subject to backfill compaction testing at the discretion of the Township representative and at the expense of the developer.
3. All proposed sanitary sewer mains shall be offered for dedication to Upper Allen Township. Upon completion of the sanitary sewer extension and before release of installation financial security and before acceptance of maintenance financial security, developer must prepare a separate sanitary sewer deed of dedication and easement agreement for the sanitary sewer extension for Township review, followed by recording of same by the developer.
4. Upon acceptance of any sanitary sewer mains, laterals, manholes and other appurtenances by the Township located in public streets not yet dedicated to the Township, developer grants to Township a temporary sanitary sewer easement thirty (30) feet in width measured from the centerline of the sanitary sewer main for the purpose of emergency or other repairs to the sanitary sewer system, until such time that the streets and all utilities associated therein are dedicated to the Township.
5. On streets having grades 2% or greater, sanitary sewer manhole frames and covers shall be adjusted using tapered rubber riser rings per standard details.
6. Restoration of Hertzler Road to be in accordance with Township requirements.
7. A 30' wide right-of-way shall be provided around all proposed sewers that are not located within a public right-of-way.
8. Contractor shall seal pit all existing utility crossings prior to installing any sanitary sewer pipe to verify existing horizontal and vertical elevations to assure no conflict with new sewer.
9. When sewers are installed through Township's right-of-way, including planter islands, no house, structure, trees, shrubs, gardens, or obstruction on or over, or that will interfere with vehicular access for the construction, maintenance or operation of any sewer, shall be installed within limits of the easement, and no changes in the grade or contour over the sewer shall be permitted in accordance with the Township's standard deed of dedication.
10. Contractor shall field verify existing manhole elevations prior to construction.
11. All sanitary sewer pipe installed shall be inspected by a Upper Allen Township representative prior to backfilling.
12. A ten (10') foot minimum horizontal separation or an 18"vertical separation must be maintained wherever possible between water lines and sewer lines.
13. Sanitary sewer redesign may be required upon completion and approval of SUEZ Water Company's water system design for the area.

GENERAL CONSTRUCTION NOTES

1. The intent of this plan is to obtain subdivision / land development approval for the planned site development. Construction procedures have not been specified by Mellott Engineering, Inc. beyond what is required by the township and the standard methods as outlined in Pennsylvania Department of Transportation (PennDOT) Publication 408 for earth moving and installation of PennDOT structures.
2. No environmental studies, subsurface investigations or testing of soils were performed in the preparation of these plans beyond the Geologic Evaluation and Infiltration Testing Report prepared for the project by CMX. Mellott Engineering, Inc. recommends the owner and contractor consult a geotechnical engineer prior to construction to determine appropriate soil bearing capacity, fill placement procedures, compaction and building foundation requirements.
3. The project drawings are generally diagrammatic in indicating the presence of existing underground utilities. Information on existing utilities has been compiled from available information including utility company and municipal record maps and field survey and is not guaranteed correct or complete. Utilities are shown to alert the contractor to their presence and the contractor is solely responsible for determining actual locations and elevations of all utilities, including services. When the utilities are to be left in place, the contractor shall provide adequate means of support and protection during the excavation and backfilling operations.
4. Should any uncharted or incorrectly charted, existing piping or other utility be uncovered during excavation, consult the engineer immediately for directions before proceeding further with the work in this area.
5. Do not interrupt existing utilities servicing facilities occupied and used by the owner or others during occupied hours except when such interruptions have been authorized in writing by the owner, Township and applicable utility company. Interruptions shall only occur after acceptable temporary service has been provided.
6. The contractor shall restore any structure or areas disturbed during construction to their original condition or better if they are not indicated to be altered on the plans.
7. The contractor shall verify all site conditions in the field and contact the site engineer if there are any questions or conflicts regarding the construction documents and/or field conditions.
8. The contractor is responsible for ensuring all construction methods and procedures meet all regulatory requirements and developer requirements. The contractor is responsible for obtaining all necessary permits required by governmental agencies prior to construction. The contractor shall obtain all necessary permits from the municipality required to perform the work.
9. The fire hydrants shown on this plan must be reviewed by the township Fire Marshall. Fire Marshall will make the final determination of hydrant locations. Suez Water will provide a water main design after the plan is approved by the township.

PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!
Before You Dig Anywhere
In . . . PENNSYLVANIA
STOP! Call 1-800-242-1776 Toll Free
PA Law requires 3 working days before you excavate
PA One Call System, Inc.
One Call Serial #: -
PENNSYLVANIA ACT 199 (2004) AS AMENDED REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

COMPANY: PENNSYLVANIA AMERICAN WATER ADDRESS: 852 WESLEY DRIVE MECHANICSBURG, PA. 17055 CONTACT: JERRY BONANNO

COMPANY: FRONTIER COMMUNICATIONS CTTG LLC ADDRESS: 100 CTE DR DALLAS, PA. 18612 CONTACT: DAVID MORRIS

COMPANY: ELANTIC NETWORKS INC ADDRESS: 1450 E PARHAM RD RICHMOND, VA. 23228 CONTACT: CONI DUFF EMAIL: cduff@covtel.com

COMPANY: VERIZON PENNSYLVANIA INC ADDRESS: 201 STANWIX ST 4TH FLOOR PITTSBURGH, PA. 15222 CONTACT: OFFICE PERSONNEL

COMPANY: BUCKEYE PARTNERS ADDRESS: PO BOX 368 EMMAUS, PA. 180490368 CONTACT: DONALD SAMALA

COMPANY: SUEZ WATER ADDRESS: 317 NORTH MARKET STREET MECHANICSBURG, PA. 17055 CONTACT: KIM GENETTI EMAIL: Kim.Genetti@suez-na.com

COMPANY: FIRSTENERGY CORP ADDRESS: 76 S MAIN ST AKRON, OH. 443081890 CONTACT: OFFICE PERSONNEL

COMPANY: XO COMMUNICATIONS INC ADDRESS: C/O DE-TECH INC 120 N PEARL ST CRESTLINE, OH. 44827 CONTACT: ROBERT FREED E EMAIL: jessica.m.revelle@sprint.com

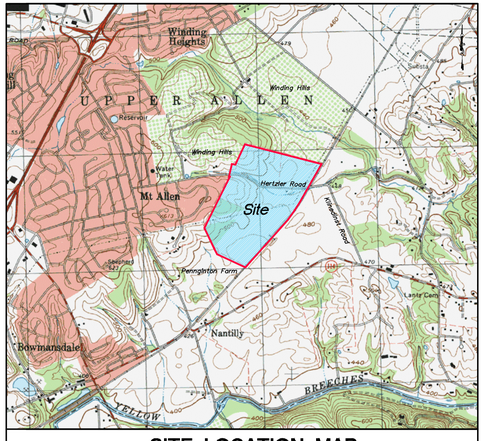
COMPANY: PPL ELECTRIC UTILITIES CORPORATION ADDRESS: 1801 BROADWOOD ST HARRISBURG, PA. 171042222 CONTACT: JEANETTE ANDERSON EMAIL: janderson@pplweb.com

COMPANY: COMCAST CABLE COMMUNICATIONS INC ADDRESS: 4601 SMITH ST HARRISBURG, PA. 17109 CONTACT: CONSTRUCTION COORDINATOR

COMPANY: UPPER ALLEN TOWNSHIP OF ADDRESS: 100 GETTYSBURG PIKE MECHANICSBURG, PA. 17055 CONTACT: KODI B. HOCKENBERRY EMAIL: khockenberry@ualtwp.org

COMPANY: UGI UTILITIES INC ADDRESS: 1500 PAXTON ST HARRISBURG, PA. 17104 CONTACT: TOM WITT EMAIL: twitt@ugi.com

COMPANY: SPRINT COMMUNICATIONS CO LP ADDRESS: 6550 SPRINT PARKWAY MS: KSOPHR0312 OVERLAND PARK, KS. 662516109 CONTACT: JESSICA REVELLE EMAIL: jessica.m.revelle@sprint.com



SITE LOCATION MAP
SCALE : 1" = 2,000'

Approved by the Board of Commissioners of Upper Allen Township, this 2nd day of September, 2020. The conditions of approval were satisfied this _____ day of _____, 2021.

Attest: _____ SECRETARY _____ CHAIRMAN

APPROVED BY THE PLANNING COMMISSION OF UPPER ALLEN TOWNSHIP, THIS 27th DAY OF July, 2020.

ATTEST: _____ SECRETARY _____ CHAIRMAN

REVIEWED THIS 27th DAY OF January, 2016, BY CUMBERLAND COUNTY PLANNING DEPARTMENT.

ATTEST: _____ DIRECTOR OF PLANNING

REVIEWED BY THE UPPER ALLEN TOWNSHIP ENGINEER

REVIEWED THIS ____ DAY OF _____, 20__

_____ ENGINEER

I, Timothy L. Mellott, P.E., hereby certify that I am a Pennsylvania registered professional engineer and that all elements of the plan are inconformity with the Township Code and applicable state regulations, as required by Section 220-15.N.(3) of the Codified Ordinances of Upper Allen Township.

I, Timothy L. Mellott, P.E., hereby certify the portions of this site are underlain by limestone bedrock based on geological maps, and upon a carbonate assesment report prepared by Pierre O. MaCoy, Geologist with CMX.

"I, Timothy L. Mellott, P.E., on this date _____, have reviewed and hereby certify that the SWM site plan meets all design standards and criteria of the Upper Allen Township Stormwater Management Ordinance."

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
TIMOTHY L. MELLOTT
ENGINEER
No. 056207-E

Timothy L. Mellott, P.E.
Mellott Engineering, Inc.
7500 Devonshire Heights Road
Hummelstown, PA 17036
PH: 717-566-6533
FAX: 717-427-2700

Todd A. Lyons
SURVEYOR
No.
Todd Lyons, P.L.S., 30 Wester Lou Drive, Dillsburg, PA 17019, 717-432-1105

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF
ON THIS THE ____ DAY OF _____, 20__
BEFORE ME, _____, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED WHO ACKNOWLEDGED HIMSELF TO BE THE PRESIDENT OR VICE PRESIDENT OF HERTZLER ROAD ASSOCIATED, L.P. A CORPORATION, AND THAT HE AS SUCH PRESIDENT OR VICE PRESIDENT, BEING AUTHORIZED TO DO SO, EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSE THEREIN CONTAINED BY SIGNING THE NAME OF THE CORPORATION BY HIMSELF AS PRESIDENT OR VICE PRESIDENT.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND OFFICIAL SEAL.

_____ NOTARY PUBLIC
MY COMMISSION EXPIRES _____ DATE

IT IS HEREBY CERTIFIED THAT THE UNDERSIGNED HAS LEGAL OR EQUITABLE TITLE TO THE LAND SHOWN AND THAT ALL ROADS, STREETS OR RIGHT-OF-WAY (OR EASEMENTS) SHOWN HEREON, IF NOT PREVIOUSLY DEDICATED, ARE HEREBY OFFERED FOR PUBLIC USE.

_____ OWNER

OWNER STORMWATER MANAGEMENT FACILITIES ACKOWLEDGEMENT

I Francis McNaughton, hereby acknowledge that the Stormwater Management Facilities and BMP's are to be permanent fixtures that can be altered or removed only after approval of a revised plan by the applicable municipality.

_____ OWNER

I, Todd A. Lyons, hereby certify that I am a registered Land Surveyor in compliance with the laws of the Commonwealth of Pennsylvania; that this plan correctly represents a survey originally completed by CDEG on April 2005 and reconfirmed by Lyons Surveying, LLC in November 2015; that all monuments shown thereon actually exist; and that their location, size, type and material are accurately shown.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
TODD ALLEN LYONS
LAND SURVEYOR
SU054342E

No.	REVISION	DATE
4	Addressing Review Comments	September 21, 2017
5	Addressing Review Comments	June 8, 2020
6	Addressing Review Comments	August 20, 2020
7	Addressing Review Comments	August 11, 2021

MELLOTT ENGINEERING, INC.
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DRAWING ID	201520 cov
DATE:	December 14, 2015
SHEET	1 of 25

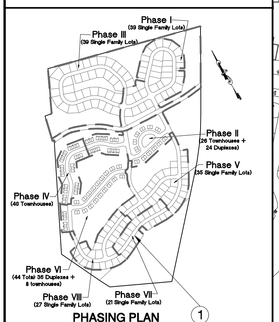
INTENT OF PLAN

The intent of this plan sheet is to provide an Master Development Plan for the overall Autumn Chase PRD. The Autumn Chase PRD was approved by the Upper Allen Township Board of Commissioners as per Written decision dated – May 8, 2012. The project shall be implemented in accordance with the Developer Agreement, dated April 26, 2012, between Hertzler Road Associates, L.P. and Upper Allen Township. See the below notes and plan references for general project information; see other plan sheets for detailed information pertaining to Phase I.

PLAN NOTES

(See circled # on plan for note association)

1. Autumn Chase is an approved Planned Residential Development consisting of a total of 295 residential units with the following uses (See Phasing Plan):
   - 161 Single–family dwelling lots (78 North and 83 south of Hertzler Road);
   - 60 Duplex Units;
   - 74 Townhouse Units;
   - Open Space Lots (>30% of gross tract)
2. A Homeowners Association is proposed with the development. The Home Owners Association Documents shall be reviewed by the Township in conjunction with this plan. The association shall be responsible for maintenance and upkeep of the following:
   a. All Open Space Areas;
   b. All on–site stormwater management facilities located outside of a public right–of–way including but not limited to: stormwater detention basins, water quality basins, infiltration facilities, piping, riprap aprons, swales, etc.;
   c. All sidewalk located within Open Space areas and sidewalk within the public right–of–way that abuts open space areas;
   d. Boulevard Landscape islands (landscape and boulevard islands shall be maintained by the developer until such responsibility is transferred to the homeowners association established with the development. Upper Allen Township shall not be held responsible for damage to plantings within the islands for any reason, and the municipality may remove or trim the vegetation if necessary for public safety);
3. Hertzler Road shall be improved along the subject tract's entire length of road frontage and off site in accordance with the Developers Agreement. The road will be widened to provide a full 24' paved cartway and the entire road will be overlaid with wearing course to provide a new road finish. This Phase I Plan details only the portion of the Hertzler Road improvements necessary for the construction of Phase I; see separate Hertzler Road Improvements Plan for complete design of all Hertzler Road Improvements.
4. DEP Permitting has been obtained for the stream impacts associated with the proposed Hertzler Road improvements. All work to be in accordance with the permit conditions.
5. All streets proposed with this project shall be constructed to township standards and shall be offered for dedication to the township upon completion of improvements. All proposed streets are classified as minor streets and shall be 34' wide curbed cartways (slant curb) with an associated 50' right–of–way except for the boulevard entrances which will be 20' cartways with a 10' landscaped boulevard island with an associated 60' right–of–way. All Landscape Boulevard Islands shall be maintained by the homeowners association.
6. Stormwater Best Management Practices were incorporated into the site design to manage stormwater runoff discharge rates, enhance water quality and promote groundwater recharge to the extent practical; see Post Construction Stormwater Management Plan.
7. There is a FEMA delineated floodplain located on the property. The floodplain is located along the eastern property line where Hertzler Road and the existing unnamed stream pass under the railroad bridge. The floodplain is depicted per scan overlay of Flood Insurance Rate Map (Community–Panel Number 42041C0287E, Zone A, dated March 16, 2009). The current study is a Zone A non–detailed study area with no base flood elevation information
8. Landscaping is proposed throughout the development to enhance the community and to provide other desired functions, such as:
   a. Tree buffer proposed along Hertzler Road frontage to provide for a visual vegetative buffer between Hertzler Road and units proposed in the development (no trees are permitted nor proposed under the PPL right–of–way);
   b. Tree plantings proposed along the existing stream (parallels Hertzler Road) to provide a vegetated riparian buffer along the stream;
   c. Tree plantings and landscaping proposed around some of the water quality facilities (plantings provide shade to cool runoff)
   d. Tree plantings and landscaping other than street trees shall be selected in accordance with Upper Allen Township Subdivision and Land Development Ordinance Section 220–26.B(2).
   e. Boulevard islands shall be landscaped to provide for shading and overall aesthetic enhancement to the community;
   f. Street trees shall be planted along both sides of all proposed streets at a rate of two (2) trees per every 100'; all proposed street trees shall be selected and installed in accordance with Upper Allen Township Subdivision and Land Development Ordinance Section 220–26.D(7)
   g. Should a phased final plan propose fewer trees and/or shrubs than Ordinance requirements, the additional trees required to meet Ordinance requirements should be planted in the open space areas and/or adjacent to or along the Greenway Trail as directed by the Township.
9. Street lighting is proposed throughout the development as shown on this plan. Street lights are proposed at all street intersections and at other locations depicted on the plan. In addition to the street lights, each lot shall install an outside electric dusk til dawn yard light.
10. A six foot wide off–street trail shall be constructed along the frontage of Hertzler Road as shown on this plan. Timing of the trail installation shall be installed in accordance the Developer Agreement, dated April 26, 2012, between Hertzler Road Associates, L.P. and Upper Allen Township.
11. Open Space is provided throughout the development (>30% of gross tract area). Total area of Open Space Lots 1–11 is 66.411 acres.
12. In accordance with the Developer Agreement, the Residual Area is not a part of and shall not be subject to the terms of the Autumn Chase PRD. A stormwater easement is hereby established over the residual area, in a location, size and designation to be later established, for the purposes of conveying and managing stormwater flows from the Autumn Chase PRD to the Southern Basin. This easement shall in no way restrict future use of the Residual Area."



PHASING PLAN

Scale: 1" = 1,000'

(1) Phasing Plan

Phasing Schedule: In accordance with Section 709(c) of the MPC, 53 P.S. § 10709(c), Developer's intended schedule for the phases of the Autumn Chase PRD (each a "Phase" and collectively the "Phases") is as follows (the "Phasing Schedule"):

Phase I: 39 Units (Plan filing Date: 2023)
Phase II: 50 Units (Plan filing Date: 2022)
Phase III: 30 Units (Plan filing Date: 2024)
Phase IV: 60 Units (Plan filing Date: 2026)
Phase V: 35 Units (Plan filing Date: 2028)
Phase VI: 44 Units (Plan filing Date: 2030)
Phase VII: 21 Units (Plan filing Date: 2032)
Phase VIII: 27 Units (Plan filing Date: 2034)

LANDSCAPE LEGNED

- Proposed Shade Tree
- Proposed Evergreen Tree
- Proposed shrub
- Conceptual Cluster of Ornamental Plantings
- Proposed Private Open Space
- Proposed Residual Area

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)

1 inch = 120 ft.

Existing Tract

Total Gross Area of both Parcels: 6,209,731 sf or 142.55 ac
Total Net Area of both Parcels: 6,134,676 sf or 140.83 ac
Tax Parcel No. 42–11–0272–001
Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.
Tax Parcel No. 42–11–0274–028
Total Gross/Net Area 831,426 sf or 19.087 acres

78 Single–Family Dwellings (North of Hertzler Road) (161 total)

74 Townhouse Units

24 Duplex Units (60 Total)

36 Duplex Units (60 Total)

83 Single–Family Dwellings (South of Hertzler Road) (153 total)

Residual Area

Future Drainage Easements (Concept Only)

Pennington Farm Development (under construction)

OS–1 23,089 Sq Ft 0.53 Ac.
OS–2 69,098 Sq Ft 1.586 Ac.
OS–3 75,023 Sq Ft 1.72 Ac.
OS–4 425,849 Sq Ft 9.775 Ac.
OS–5 125,345 Sq Ft 2.878 Ac.
OS–6 356,155 Sq Ft 8.176 Ac.
OS–7 23,089 Sq Ft 0.53 Ac.
OS–8 274,316 Sq Ft 6.30 Ac.
OS–9 426,209 Sq Ft 9.784 Ac.
OS–10 410,825 Sq Ft 9.43 Ac.
OS–11 24,045 Sq Ft 0.55 Ac.

(1) Phasing Plan
(2) Homeowners Association Proposed
(3) Hertzler Road Improvements
(4) Stream Permitting Required for road improvements
(5) Proposed Streets
(6) Stormwater Management
(7) FEMA Floodplain (Zone A)
(8) Landscaping
(9) Street Lights
(10) Hertzler Road Off–Street Trail
(11) Open Space
(12) Future Drainage Easements (Concept Only)

MASTER DEVELOPMENT PLAN

FOR

AUTUMN CHASE PRD – PHASE I

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Sheet No. 2 of 25

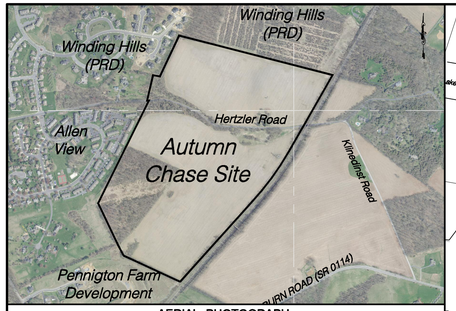
Project No. 201520

Date December 14, 2015

MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road • Hummelstown, PA 17036
mellotteng@comcast.net
717–566–6533

	REVISIONS	DATE
1.	Added Greenway Path Plan & Detail	12–29–2015
2.	Addressing Review Comments	4–3–2017
3.	Addressing Review Comments	6–1–2017
4.	Addressing Review Comments	7–19–2017
5.	Addressing Review Comments	9–22–2017
6.	Addressing Review Comments	6–8–2020
7.	Addressing Review Comments	8–20–2020
8.	Addressing Review Comments	7–30–2021
9.	Updated street name from N Autumn Oaks to N Autumn Chase Dr	8–11–2021

M:\Drawings\2015\201520 Autumn Chase PRD Section 1\201520_MP.dwg, 9/16/2021 10:24:52 AM, EDT



AERIAL PHOTOGRAPH
Scale: 1" = 1,000'

EXISTING FEATURES PLAN NOTES

1. Subject tract consists of two (2) parcels of Land; both tracts are owned by: Hertzler Road Associates, LP
   - Total Gross Area of both Parcels: 6,209,731 sf or 142.55 ac
   - Total Net Area of both Parcels: 6,134,676 sf or 140.83 ac
   - Tax Parcel No. 42–11–0272–001
   - Instrument #201124513
   - Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
   - Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
   - Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.
   - Tax Parcel No. 42–11–0274–028
   - Instrument #201124513
   - Total Gross/Net Area 831,426 sf or 19.087 acres
2. Subject Tract is located in the R–1 (Low Density Residential District) and RL (Rural Living)
   - R–1 (Low Density Residential): 5,565,535 sf or 127.77 ac
   - RL (Rural Living): 644,196 sf or 14.79 ac
3. There is an unnamed stream tributary to the Yellow Breeches Creek (CWF) that parallels Hertzler Road through the site. There is a 0.25 acre wetland pocket located along the south side of Hertzler Road towards the eastern side of the site (no wetland impacts proposed). There are no significant rock outcrops or contaminated soils known to exist on the site. There are two (2) sink holes located along the southern property line on the south side of Hertzler Road; the sinkholes are proposed to be repaired with this future applicable phase.
4. There is a FEMA delineated floodplain located on the property. The floodplain is located along the eastern property line where Hertzler Road and the existing unnamed stream pass under the railroad bridge. The floodplain is depicted per scan overlay of Flood Insurance Rate Map (Community–Panel Number 42041C0287E, Zone A, dated March 16, 2009). The current study is a Zone A non–detailed study area with no base flood elevation information.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	HYDROLOGIC GROUP	DEPTH TO WATER TABLE (FT)	SOIL REACTION (pH)	SUITABILITY FOR ROADFILL	SUITABILITY FOR TOPSOIL
BdB	Bedington Shaly Silt Loam	3 to 8%	B	5+	4.5–7.3	FAIR	POOR
BdC	Bedington Shaly Silt Loam	8 to 15%	B	5+	4.5–7.3	FAIR	POOR
BdD	Bedington Shaly Silt Loam	15 to 25%	B	5+	4.5–7.3	FAIR	POOR
BpB	Blairton silt loam	3 to 8%	C	½–3	4.5–5.5	POOR	POOR
BrB	Brinkerton silt loam	3 to 8%	D	0–½	4.5–5.5	POOR	POOR
DuB	Duffield silt loam	3 to 8%	B	5+	5.1–7.3	POOR	FAIR
EdB	Edom silt loam	3 to 8%	B	5+	5.1–7.8	POOR	POOR
EdC	Edom silt loam	8 to 15%	B	5+	5.1–7.8	POOR	POOR
HaA	Hagerstown shaly silt loam	0 to 3%	B	5+	4.5–7.3	POOR	POOR
HaB	Hagerstown shaly silt loam	3 to 8%	B	5+	4.5–7.3	POOR	POOR
Me	Melvin silt loam	0 to 2%	B/D	0–1	6.1–7.3	POOR	POOR
Pe	Penlaw silt loam	0 to 3%	C/D	½–1½	5.6–7.3	POOR	POOR

In general, the soils present should not pose any significant limitation to the type of development proposed. Reference the following recommendations pertaining to possible issues that may be encountered during construction.

- If unrippable rock is encountered during proposed grading, blasting or drilling may be required. Removed rock can be crushed if necessary and used for fill.
- If water table is encountered during excavation, dirty water shall be pumped out into a filter bag or sediment removal pond.
- The SCS Dauphin County Soil Survey indicates some of the soils have a poor rating for use as road fill. The contractor should use only what soils are suitable for road fill and shall place and compact fill in accordance with standard practice. All road fill must meet Penn DOT Pub. 408 standards.
- Trap/Basin Core material shall be unified class CH or CL soil compacted to 98% of max dry density. Homogeneous embankment material to be compacted in 8" layers to a minimum final density of not less than 98% of max. Dry density within 2% of optimum moisture content. (ASTM Method D1557).

Existing treeline to be removed (red) and proposed treeline

N/F
Hertzler Road Associates, LP
Tax Parcel No. 42–11–0274–028
Instrument #201124513
Total Gross/Net Area 831,426 sf or 19.087 acres

N/F
Hertzler Road Associates, LP
Tax Parcel No. 42–11–0272–001
Instrument #201124513
Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.

Existing Tract
Total Gross Area of both Parcels: 6,209,731 sf or 142.55 ac
Total Net Area of both Parcels: 6,134,676 sf or 140.83 ac
Tax Parcel No. 42–11–0272–001
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Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.
Tax Parcel No. 42–11–0274–028
Total Gross/Net Area 831,426 sf or 19.087 acres

DATE
12–23–2015
4–3–2017
6–1–2017
7–19–2017
9–22–2017
6–8–2020

REVISIONS
1. Added Greenway Section & Detail
2. Addressing Review Comments
3. Addressing Review Comments
4. Addressing Review Comments
5. Addressing Review Comments
6. Addressing Review Comments
7.
8.
9.

MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
mellotteng@comcast.net
717–566–6533

EXISTING RESOURCES AND SITE ANALYSIS PLAN

FOR

AUTUMN CHASE PRD – PHASE I

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.
3 of 25

Allenview Drive

Allen View

Allenview Home Owners Association
Deed Book 35, Volume X, Page 953
Plan Book 25, Page 7
Tax Parcel 42-29-2452-014

FED RAMED RESIDENTIAL DEVELOPMENT

R-1 LOW DENSITY RESIDENTIAL

N/F
Hertzler Road Associates, LP
Tax Parcel No. 42-11-0274-028
Instrument #201124513
Total Gross/Net Area 831,426 sf or 19.087 acres

N 25°27'37" E 642.50'

S 65°27'37" E 655.92'

S 36°05'15" W 90.18'

N 29°39'30" W 171.84'

N/F
Pennington Community Association, Inc.
Instr # 201023922, Tract No. 1
Plan: Instr # 200828177, Lot 0241
Tax Parcel 42-11-0274-008

N 65°31'1" W 670.36'
Pennington Farm Development
(under construction)

Hamburg Sequence
Rocks (Shale)

Hershey and Myerstown
Formation (Limestone)

Epler Formation (Limestone)

BdB
BdC
EdB
DuB
HaA
HaB
Pe

N/F
Hertzler Road Associates, LP
Tax Parcel No. 42-11-0272-001
Instrument #201124513
Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.

Ex 50' PA POWER & LIGHT CO RIGHT OF WAY (DB 282-PG 620)

Ex 100' PA POWER & LIGHT CO RIGHT OF WAY (DB 145-PG 475)

Ex 80' PA POWER & LIGHT CO RIGHT OF WAY (DB 282-PG 620)

Ex 200' PA POWER & LIGHT CO RIGHT OF WAY (DB 145-PG 389)

Ex 80' PA POWER & LIGHT CO RIGHT OF WAY (DB 282-PG 620)

OE

Hertzler Road

Stream (EMP)

Wetland
PEM/SS 1A
Wetland Buffer

Existing Farm Complex Home to be removed (Not Historic)

N/F
Hollinger Development II, LLC
Instr # 201101738
Tax Parcel 42-11-0272-140

N/F
Township of Upper Allen
Deed Book 20124512
Plan# 2010-26589
Tax Parcel 42-11-0272-145EX

Existing Tract

Total Gross Area of both Parcels: 6,209,731 sf or 142.55 ac
Total Net Area of both Parcels: 6,134,676 sf or 140.83 ac
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Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.
Tax Parcel No. 42-11-0274-028
Total Gross/Net Area 831,426 sf or 19.087 acres

L=878.28'
R=3927.53'
CH=876.45
DIR=N 36°13'4" E

L=111.03'
R=166.50'
CH=108.98'
DIR=S58°38'42"E

L=143.35'
CH=87.56'
DIR=S87°38'42"E

L=148.31'
R=1018.50'
CH=148.18'
DIR=N87°43'27"E

L=148.31'
R=1018.50'
CH=148.18'
DIR=N87°43'27"E

390.96'

R-1 LOW DENSITY RESIDENTIAL

NL RURAL LIVING

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

DATE	REVISIONS
12-29-2015	1. Added Greenway Connection & Detail
4-3-2017	2. Addressing Review Comments
6-1-2017	3. Addressing Review Comments
7-19-2017	4. Addressing Review Comments
9-22-2017	5. Addressing Review Comments
6-8-2020	6. Addressing Review Comments
--	7. --
--	8. --
--	9. --

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
717-566-6533

EXISTING RESOURCES AND SITE ANALYSIS PLAN

FOR

AUTUMN CHASE PRD - PHASE I

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.

4 of 25

STORM SEWER EASEMENT LINE TABLE		
Line	Length	Bearing
ST1	42.63	N 85°40'41" E
ST2	27.43	S 29°46'11" W
ST3	0.89	S 76°51'28" W
ST4	72.03	S 76°46'39" W
ST5	40.28	S 84°47'18" W
ST6	44.22	S 56°20'17" W
ST7	71.61	S 73°50'19" W
ST8	60.10	S 84°40'19" W
ST9	19.86	N 73°37'35" W
ST10	18.29	N 21°28'49" W
ST11	18.49	N 1°41'41" E
ST12	271.00	N 88°18'19" W
ST13	441.56	N 87°59'6" W
ST14	28.98	N 3°9'15" E
ST15	105.35	S 89°58'9" E
ST16	106.94	S 85°33'17" E
ST17	310.90	S 87°59'6" E
ST18	228.00	S 88°33'12" E
ST19	101.72	N 83°3'45" E
ST20	254.57	S 60°24'6" E
ST21	52.85	S 18°35'51" W
ST22	107.99	N 46°44'0" W
ST23	47.82	N 58°33'5" W
ST24	128.06	N 70°34'15" W
ST25	103.76	S 86°39'48" W
ST26	58.29	S 89°31'0" W
ST27	56.69	N 13°20'30" E
ST28	75.85	N 85°24'56" E
ST29	130.09	S 85°55'40" E
ST30	147.61	S 72°20'16" E
ST31	208.35	S 70°29'38" E
ST32	185.03	S 59°28'18" E
ST33	53.15	N 30°31'42" E
ST34	99.61	N 14°27'13" E
ST35	468.01	S 76°32'47" E
ST36	189.52	S 19°58'40" E
ST37	162.72	N 19°58'40" W
ST38	274.52	S 59°24'54" W
ST39	53.34	S 40°7'16" W
ST40	173.11	S 20°49'37" W
ST41	39.18	N 36°37'20" W
ST42	102.31	N 5°8'34" W
ST43	107.04	N 17°45'9" W
ST44	174.04	N 20°43'37" W
ST45	201.16	S 87°59'6" E
ST46	43.00	S 2°0'54" W
ST47	162.98	N 87°59'6" W
ST48	106.94	N 85°33'17" W
ST49	105.35	N 89°58'9" W
ST50	159.31	N 80°56'26" E
ST51	25.31	N 40°6'11" E
ST52	71.00	N 77°48'46" E
ST53	87.61	N 44°38'12" E
ST54	169.32	S 87°59'6" E
ST55	96.83	N 54°39'30" E
ST56	120.39	N 36°47'13" W
ST57	116.75	S 36°47'13" E
ST58	107.14	N 40°48'39" E
ST59	72.78	N 30°19'12" E
ST60	30.00	S 59°19'31" E
ST61	75.35	S 30°19'12" W
ST62	135.49	S 40°48'39" W
ST63	76.54	S 54°39'30" W
ST64	53.20	S 2°29'58" E
ST65	173.72	N 88°33'12" W
ST66	30.00	N 53°39'4" W
ST67	348.50	N 36°20'56" E
ST68	52.68	N 59°25'4" W
ST69	325.66	S 36°20'56" W
ST70	53.74	N 14°27'13" E
ST71	151.44	S 75°32'47" E
ST72	20.00	N 14°34'53" E
ST73	85.38	S 75°32'47" E
ST74	20.82	S 30°32'46" W
ST75	208.12	S 30°32'46" W
ST76	66.20	N 77°19'18" W
ST77	119.13	N 2°24'15" E
ST78	117.29	S 79°55'2" E
ST79	111.52	N 79°55'2" E
ST80	21.25	N 7°11'35" W
ST81	94.79	N 22°34'11" W
ST82	23.83	N 47°32'36" W
ST80	24.49	S 51°31'44" W
ST81	120.00	N 87°50'21" W
ST82	25.67	N 50°22'28" W

SANITARY SEWER EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
S1	160.36	S 75°16'17" E
S2	215.75	S 2°0'54" W
S3	30.00	N 87°59'6" W
S4	191.77	N 2°0'54" E
S5	115.60	N 75°16'17" W
S6	23.30	N 67°59'0" W
S7	12.04	N 14°43'43" E
S8	125.98	S 36°47'13" E
S9	117.37	S 2°43'36" E
S11	109.75	N 2°43'36" W
S12	117.65	N 36°47'13" W
S13	40.00	N 28°13'57" E
S14	343.55	N 79°24'32" E
S15	401.42	N 52°9'44" E
S16	87.19	N 89°26'2" E
S17	6.68	S 45°40'10" W
S18	26.10	S 89°26'2" W
S19	398.58	S 52°9'44" W
S20	336.45	S 79°24'32" W
S21	4.87	S 28°13'57" W
S22	36.49	S 83°32'32" W

SANITARY SEWER EASEMENT CURVE TABLE				
CURVE	LENGTH	RADIUS	Chord Dir	Chord Len
SC1	15.18	275.00	N 23°35'54" E	15.18
SC2	30.04	1,170.00	S 84°16'56" W	30.04
SC3	30.05	175.00	N 54°51'23" E	30.01
SC4	52.74	291.50	S 60°37'29" W	52.67

PPL Right of Way Line Table		
LINE	LENGTH	BEARING
E1	399.26	S 29°46'11" W
E2	829.68	S 29°46'11" W
E3	221.19	S 75°32'47" E
E4	227.26	N 26°21'38" E
E5	59.92	N 25°22'37" W
E6	194.44	N 77°19'57" E
E7	1252.68	N 77°19'57" E
E8	1373.00	N 30°32'46" E
E9	116.63	N 30°32'46" E
E10	2379.72	N 77°19'57" E
E11	1,589.78	N 30°32'46" E
E12	1547.21	N 77°19'57" E
E13	80.26	N 58°47'50" E
E14	994.69	N 77°19'57" E
E15	1317.67	N 30°32'46" E
E16	1378.39	N 77°19'57" E
E17	76.68	S 58°47'50" W
E18	4.32	S 65°24'52" E
E19	1101.27	N 77°19'57" E

PPL Right of Way Curve Table				
CURVE	LENGTH	RADIUS	Chord Dir	Chord Len
EC1	198.35	3927.57	N 31°15'50" E	198.33

STORM SEWER EASEMENT CURVE TABLE				
Curve	Length	Radius	Chord Dir	Chord Len
STC1	55.23	330.00	S 85°10'28" E	55.17
STC2	20.80	270.00	N 87°45'43" W	20.80
STC3	14.00	330.00	S 86°46'11" E	14.00
STC4	179.99	1230.00	N 87°15'17" E	179.83
STC5	21.46	470.00	S 84°22'13" W	21.45
STC6	34.29	380.00	S 21°10'58" W	34.28
STC7	47.16	27.00	N 68°37'58" E	41.39
STC8	68.79	270.00	S 54°1'57" E	68.61
STC9	68.07	330.00	N 52°38'32" W	67.95
STC10	216.07	1030.00	N 64°33'40" W	215.68
STC11	180.79	455.00	N 81°57'13" W	179.60
STC12	11.26	270.00	N 87°51'29" E	11.26
STC13	30.03	185.00	S 70°1'20" W	30.00
STC14	5.12	27.00	N 7°26'42" E	5.11
STC15	37.29	27.00	N 52°26'42" E	34.40
STC16	11.45	270.00	S 86°46'11" E	11.45
STC17	25.43	330.00	N 87°45'43" W	25.42
STC18	6.85	270.00	S 89°14'34" E	6.85
STC19	30.05	175.00	N 51°34'11" E	30.01
STC20	103.34	1170.00	N 88°54'59" E	103.30
STC21	85.69	135.00	N 41°37'52" W	84.26
STC22	30.03	185.00	N 10°4'58" W	30.00

ACCESS EASEMENT LINE TABLE		
Line	Length	Bearing
A1	113.28	N 41°59'18" E
A2	61.00	S 63°47'23" W
A3	61.00	S 20°11'13" W
A4	74.17	N 21°53'30" E
A5	60.02	N 5°29'19" E
A6	52.96	N 52°25'5" E
A7	469.86	S 41°59'18" W
A8	61.00	N 20°11'13" E
A9	47.54	N 63°47'23" E
A10	298.92	N 41°59'18" E
A11	191.76	S 60°13'49" E
A12	20.00	S 29°46'11" W
A13	194.55	N 60°13'49" W
A14	128.41	N 44°19'55" W
A15	175.16'	N 88°33'19" W
A16	67.14'	S 72°39'6" W
A16a	67.30'	N 2°0'54" E
A17	20.00'	S 87°59'6" E
A17A	39.08'	S 2°0'54" W
A18	42.26	N 72°39'6" E
A19	186.59	S 88°18'19" E
A20	133.69	S 44°19'55" E
A21	42.80	N 54°7'52" E
A22	212.61	N 83°25'40" E
A23	110.84	N 85°40'41" E
A24	24.15	S 29°46'11" W
A25	96.91	S 85°40'41" W
A26	206.99	S 83°25'40" W
A27	8.53	S 54°7'52" W
A28	10.66	S 33°9'23" W
A29	20.21	N 65°3'1" W
A30	21.22	N 33°9'23" E
A31	52.45	N 75°8'47" E
A32	36.57	S 41°59'18" W
A33	14.17	S 75°8'47" W
A34	126.67	S 40°57'21" W
A35	21.19	S 29°46'11" W
A36	144.17	N 40°57'21" W
A37	25.15	N 14°27'13" E
A38	20.00	S 75°32'47" E
A39	14.65	S 14°27'13" W

A pedestrian easement of a minimum width of ten feet over the center of the public walkways that fall outside of the right-of-way are proposed with this plan (easement extends minimum 3' from sidewalk edge.)

ACCESS EASEMENT CURVE TABLE				
Curve	Length	Radius	Chord Dir	Chord Len
AC1	372.19	3912.53	N 39°3'58" E	372.05
AC2	481.98	3927.57	N 39°6'30" E	481.67
AC3	35.26	1170.00	N 88°41'19" E	35.26

Autumn Chase Phase I consists of 39 single family dwelling lots, 1 open space lot, proposed public streets and the consolidation of the residual parcels of land into a single residual parcel. Proposed streets and associated right of ways shall be offered for dedication to the township; additional street right of way dedication is also proposed along the entire length of the property's frontage on Hertzler Road (60' width). Concrete monuments shall be set as shown, iron pins shall be set at all other unmarked property corners. See other plan sheets for design information.

LEGEND

- PROPOSED BUILDING SETBACK LINE
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
- PROPOSED PUBLIC RIGHT-OF-WAY
- PROPOSED CONCRETE MONUMENT
- PROPOSED DRAINAGE/STREAM EASEMENT
- PROPOSED SANITARY EASEMENT
- PROPOSED CLEAR SIGHT TRIANGLE
- PROPOSED ACCESS EASEMENT
- N48°54'34"W 120.55' PROPOSED PROPERTY LINE DESCRIPTION
- N66°34'22"E 88.91' *Existing Property Line Descriptions*
- *Existing Property Line*
- *Existing Adjoining Property*
- *Existing Right-of-way*
- *Existing PPL Right of Way*
- *Existing Zoning District Boundary Line*
- *Existing 100 Year Floodplain*

60 0 30 60

1 inch = 60 ft.

S 75°32'47" E 2212.62' PRD PLANNED RESIDENTIAL DEVELOPMENT R-1 LOW DENSITY RESIDENTIAL

Winding Hills (PRD)

N/F Hertzler Road Associates, LP Tax Parcel No. 42-11-0272-001 Instrument #201124513 Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac. Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac. Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.

N/F Upper Allen Investment, LLC Deed Book 279, Page 1263, Parcel No. 2 Tax Parcel 42-10-0256-013

N/F Township of Upper Allen Deed Book 280, Page 3140 Plan Book 90, Page 92, Lot C Plan Book 85, Page 89, Lot C Tax Parcel 42-10-0256-144EX

Residual Lot 1,406,907 Sq Ft 32.298 Ac.

Residual Tract north side of Hertzler Road 1,406,907 Sq Ft 32.298 Ac.

Residual Tract south side of Hertzler Road 4,010,961 Sq Ft 92.068 Ac.

Residual Lot 1,406,349 Sq Ft 32.285 Ac.

OS-1 35,184 Sq Ft 0.808 Ac.

Lot 1 11,903 Sq Ft 0.27 Ac.
Lot 2 9,600 Sq Ft 0.22 Ac.
Lot 3 11,998 Sq Ft 0.28 Ac.
Lot 4 16,723 Sq Ft 0.38 Ac.
Lot 5 11,971 Sq Ft 0.27 Ac.
Lot 6 9,600 Sq Ft 0.22 Ac.
Lot 7 9,600 Sq Ft 0.22 Ac.
Lot 8 11,259 Sq Ft 0.26 Ac.
Lot 9 12,179 Sq Ft 0.28 Ac.
Lot 10 12,179 Sq Ft 0.28 Ac.
Lot 11 12,179 Sq Ft 0.28 Ac.
Lot 12 12,179 Sq Ft 0.28 Ac.
Lot 13 12,179 Sq Ft 0.28 Ac.
Lot 14 12,194 Sq Ft 0.28 Ac.
Lot 15 9,883 Sq Ft 0.23 Ac.
Lot 16 9,600 Sq Ft 0.22 Ac.
Lot 17 9,600 Sq Ft 0.22 Ac.
Lot 18 9,600 Sq Ft 0.22 Ac.
Lot 19 14,264 Sq Ft 0.33 Ac.
Lot 20 11,861 Sq Ft 0.27 Ac.
Lot 21 12,277 Sq Ft 0.28 Ac.
Lot 22 14,655 Sq Ft 0.34 Ac.
Lot 23 12,823 Sq Ft 0.29 Ac.
Lot 24 12,099 Sq Ft 0.28 Ac.
Lot 25 11,374 Sq Ft 0.26 Ac.
Lot 26 15,940 Sq Ft 0.37 Ac.
Lot 27 13,961 Sq Ft 0.32 Ac.
Lot 28 11,140 Sq Ft 0.26 Ac.
Lot 29 11,815 Sq Ft 0.27 Ac.
Lot 30 12,490 Sq Ft 0.29 Ac.
Lot 31 13,753 Sq Ft 0.32 Ac.
Lot 32 8,086 Sq Ft 0.19 Ac.
Lot 33 12,343 Sq Ft 0.28 Ac.
Lot 34 11,640 Sq Ft 0.27 Ac.
Lot 35 12,889 Sq Ft 0.30 Ac.
Lot 36 12,254 Sq Ft 0.28 Ac.
Lot 60 14,563 Sq Ft 0.33 Ac.
Lot 61 15,703 Sq Ft 0.36 Ac.
Lot 62 11,640 Sq Ft 0.27 Ac.

N. Autumn Chase Drive
N. Fall Harvest Drive
N. Ashwood Lane
Hertzler Road
Temporary Cul-de-sac (40' dia. pave, 50' R/W)
Snow Removal Easement (20'x10')
Access Easement (5' of sidewalk at intersections)
Access Easement (Min. 3' off edge of sidewalk)
Concrete Monument to be set (Typ)
Clear Sight Triangle (75' minor, 150' along Hertzler)
Proposed Hertzler Road rightofway dedication
Nature Trail Easement
Site Benchmark (elv. 445.75)
Proposed Sewer Easement
FEMA 100 Year Floodplain
Stream Easement
Drainage Easement
Sanitary Easement
Residual Lot 1,406,907 Sq Ft 32.298 Ac.
Township of Upper Allen Deed Book 20124512 Plan# 2010-26589 Tax Parcel 42-11-0272-145EX
N/F Hollinger Development II, LLC Instr # 201101738 Tax Parcel 42-11-0272-140
N/F Norfolk Southern
Ex 85' PA POWER & LIGHT CO RIGHT OF WAY (DB 280-PG 600)
Ex 100' PA POWER & LIGHT CO RIGHT OF WAY (DB 149-PG 535)
Ex 50' PA POWER & LIGHT CO RIGHT OF WAY (DB 280-PG 600)
S 29°46'11" W (Total 1228.94')
829.68'
403.91'

DATE
12-14-2015
4-3-2017
6-1-2017
7-19-2017
9-22-2017
6-26-2020
8-5-2020
7-30-2021
8-11-2021

REVISIONS

1. Added Greenway Connection & Detail
2. Addressing Review Comments
3. Addressing Review Comments
4. Addressing Review Comments
5. Addressing Review Comments
6. Addressing Review Comments
7. Addressing Review Comments
8. Addressing Review Comments
9. Updated street name from N Autumn Oaks to N Autumn Chase Dr

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
mellotteng@comcast.net
717-566-6533

FINAL SUBDIVISION PLAN

FOR

AUTUMN CHASE PRD - PHASE I

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.

5 of 25

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

N

Lake Drive

Autumn Court

Winding Hills (PRD)

N/F
Robert L., Jr. and Laura S. Sterling
Instr # 201411910
Plan Instr # 201329650, Lot No. 205
Plan Instr # 201238106, Lot No. 205
Tax Parcel 42-10-0256-411

N/F
Upper Allen Partners, L.P.
Deed Book 279, Page 1255, Parcel No. 3
Plan Book 93, Page 141, Lot OSL-7
Tax Parcel 42-10-0256-267

N/F
Mohan R. and Lauren J. Rengen
Instr # 201329720
Plan Instr # 201329650, Lot No. 204
Plan Instr # 201238106, Lot No. 204
Tax Parcel 42-10-0256-412

N/F
Upper Allen Partners, L.P.
Instr # 201238696, Tract No. 2
Plan Instr # 201329650, Lot No. 199
Plan Instr # 201238106, Lot No. 199
Tax Parcel 42-10-0256-417

N/F
Jeremy W. and Jessica L. Metz
Instr # 201509218
Plan Instr # 201329650, Lot No. 203
Plan Instr # 201238106, Lot No. 203
Tax Parcel 42-10-0256-413

N/F
Upper Allen Partners, L.P.
Instr # 201238696, Tract No. 2
Plan Instr # 201329650, Lot No. 200
Plan Instr # 201238106, Lot No. 200
Tax Parcel 42-10-0256-416

N/F
Landmark Builders, Inc.
Instr # 201429541
Plan Instr # 201329650, Lot No. 202
Plan Instr # 201238106, Lot No. 202
Tax Parcel 42-10-0256-414

N/F
Upper Allen Partners, L.P.
Instr # 201238696, Tract No. 2
Plan Instr # 201329650, Lot No. 201
Plan Instr # 201238106, Lot No. 201
Tax Parcel 42-10-0256-415

N/F
Upper Allen Partners, L.P.
Deed Book 279, Page 1255, Parcel No. 3
Plan Book 93, Page 141, Lot OSL-7
Tax Parcel 42-10-0256-267

N/F
John F. and Kristin H. Maladv
Deed Book 260, Page 548
Tax Parcel 42-11-0274-002

N/F
Allenview Home Owners Association
Deed Book 35, Volume X, Page 953
Plan Book 42, Page 69
Tax Parcel 42-28-2423-268

N/F
Upper Allen Investment, LLC
Deed Book 279, Page 1263, Parcel No. 2
Tax Parcel 42-10-0256-013

N/F
Hertzler Road Associates, LP
Tax Parcel No. 42-11-0272-001
Instrument #201124513
Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.

Residual Tract north side of Hertzler Road
1,406,907 Sq Ft
32.298 Ac.

Residual Tract south side of Hertzler Road
4,010,961 Sq Ft
92.068 Ac.

Residual Lot
1,406,907 Sq Ft
32.298 Ac.

OS-1
35,184 Sq Ft
0.808 Ac.

Lot 15 9,883 Sq Ft 0.23 Ac.
Lot 16 9,600 Sq Ft 0.22 Ac.
Lot 17 9,600 Sq Ft 0.22 Ac.
Lot 18 9,600 Sq Ft 0.22 Ac.
Lot 19 14,264 Sq Ft 0.33 Ac.
Lot 20 11,861 Sq Ft 0.27 Ac.
Lot 21 12,277 Sq Ft 0.28 Ac.
Lot 22 14,655 Sq Ft 0.34 Ac.
Lot 23 12,823 Sq Ft 0.29 Ac.
Lot 60 14,563 Sq Ft 0.33 Ac.
Lot 61 15,703 Sq Ft 0.36 Ac.
Lot 62 11,640 Sq Ft 0.27 Ac.
Lot 32 8,086 Sq Ft 0.19 Ac.
Lot 33 12,343 Sq Ft 0.28 Ac.
Lot 34 11,640 Sq Ft 0.27 Ac.
Lot 35 12,889 Sq Ft 0.30 Ac.
Lot 36 12,254 Sq Ft 0.28 Ac.
Lot 1 11,903 Sq Ft 0.27 Ac.
Lot 2 9,600 Sq Ft 0.22 Ac.

Ashwood Lane
N. Autumn Chase Drive
N. Fall Harvest Drive
Hertzler Road

N 1320'30" E (Total 365.39')
348.48'
S 79°47'52" E (Total 96.50')
N 26°21'58" E (Total 708.71')
690.59'
S 89°14'24" W
26.45'
16.91'
18.12'

Drainage Easement
Stream Easement
Sanitary Easement
50' Building Setback from Wire Fence
Snow Removal Easement (20'x10')
Access Easement (5' of sidewalk at intersections)
Access Easement (Min 3' off edge of sidewalk)
Temporary Cul-de-sac (40' dia. pave, 50' R/W)
Concrete Monument to be set (Typ)
Clear Sight Triangle (75' minor, 150' along Hertzler)
Proposed Hertzler Road rightofway dedication

PRD PLANNED RESIDENTIAL DEV
R-1 LOW DENSITY RESIDEN

DATE
12-29-2015
4-3-2017
6-1-2017
7-19-2017
9-22-2017
6-26-2020
8-5-2020
7-30-2021
8-11-2021

REVISIONS

1. Added Greenway Section & Detail
2. Addressing Review Comments
3. Addressing Review Comments
4. Addressing Review Comments
5. Addressing Review Comments
6. Addressing Review Comments
7. Addressing Review Comments
8. Addressing Review Comments
9. Updated street name from N Autumn Oaks to N Autumn Chase Dr

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
mellotteng@comcast.net
717-566-6533

FINAL SUBDIVISION PLAN
FOR
AUTUMN CHASE PRD - PHASE I
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.
6 of 25

Tax Parcel No. 42-11-0274-028 to be consolidated/combined with residual lands of Tax Parcel No. 42-11-0272-001
Total Combined Lot Area: 5,417,868 sf or 124.377 ac
North Side of Hertzler R/W: 1,406,907 sf or 32.298 ac
South Side of Hertzler R/W: 4,010,961 sf or 92.079 ac

Existing Property lines to be eliminated with this plan

Residual Tract south side of Hertzler Road
4,010,961 Sq Ft
92.068 Ac.

Residual Lot
5,417,868 Sq Ft
124.377 Ac.

Residual Tract south side of Hertzler Road
4,010,961 Sq Ft
92.068 Ac.

Existing Tract

Total Gross Area of both Parcels: 6,209,731 sf or 142.55 ac
Total Net Area of both Parcels: 6,134,676 sf or 140.83 ac
Tax Parcel No. 42-11-0272-001
Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.
Tax Parcel No. 42-11-0274-028
Total Gross/Net Area 831,426 sf or 19.087 acres

N/F Hertzler Road Associates, LP Tax Parcel No. 42-11-0274-028 Instrument #201124513 Total Gross/Net Area 831,426 sf or 19.087 acres

N/F Hertzler Road Associates, LP Tax Parcel No. 42-11-0272-001 Instrument #201124513 Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac. Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac. Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.

N/F Allenview Home Owners Association Deed Book 35, Volume X, Page 953 Tax Parcel 42-28-2423-366

N/F Allenview Home Owners Association Deed Book 35, Volume X, Page 953 Plan Book 47, Page 43 Tax Parcel 42-28-2423-368

N/F Allenview Home Owners Association Deed Book 35, Volume X, Page 953 Plan Book 28, Page 73 Tax Parcel 42-28-2452-014

N/F Pennington Community Association, Inc. Instr # 201012709 Plan Book 289, Page 179 Lot 2041 Tax Parcel 42-11-0274-008

N/F Hollinger Development II, LLC Instr # 201101738 Tax Parcel 42-11-0272-140

N/F Township of Upper Allen Deed Book 20124512 Plan# 2010-26589 Tax Parcel 42-11-0272-145EX

N/F Township of Upper Allen Deed Book 20124512 Plan# 2010-26589 Tax Parcel 42-11-0272-145EX

Pennington Farm Development (under construction)

Hertzler Road

Allen View

Nature Trail Easement

Proposed Hertzler Road Highway dedication

Proposed Driveway Entrance to be set (Typ)

Concrete Monument to be set (Typ)

Clear Sight Triangle (10' offset, 150' along Hertzler)

Drainage Easement (Typ)

Existing 100 Year Floodplain

R-1 LOW DENSITY RESIDENTIAL
RL RURAL LAND

PRO PLANNED RESIDENTIAL DEVELOPMENT
R-LOW DENSITY RESIDENTIAL

Easement Tie to SE Property Corner N 41°53'16" E 753.98'

Easement Tie to SW Property Corner N 41°53'16" E 180.00' to A3 180.00' to A4

PPL Right of Way Line Table

LINE	LENGTH	BEARING
E1	399.26	S 29°46'11" W
E2	829.68	S 29°46'11" W
E3	221.19	S 75°13'47" E
E4	227.26	N 26°21'38" E
E5	59.92	N 25°22'37" W
E6	194.44	N 77°19'57" E
E7	1252.68	N 77°19'57" E
E8	1373.00	N 30°32'46" E
E9	116.43	N 30°32'46" E
E10	2379.72	N 77°19'57" E
E11	1589.78	N 30°32'46" E
E12	1547.21	N 77°19'57" E
E13	80.26	N 58°47'50" E
E14	994.69	N 77°19'57" E
E15	1317.67	N 30°32'46" E
E16	1378.39	N 77°19'57" E
E17	76.06	S 58°47'50" W
E18	4.32	S 65°24'52" E
E19	1101.27	N 77°19'57" E

PPL Right of Way Curve Table

CURVE	LENGTH	RADIUS	Chord Dir	Chord Len
EC1	198.35	3927.57	N 31°15'30" E	198.33

LEGEND

- PROPOSED BUILDING SETBACK LINE
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
- PROPOSED PUBLIC RIGHT-OF-WAY
- PROPOSED CONCRETE MONUMENT
- PROPOSED DRAINAGE/STREAM EASEMENT
- PROPOSED SANITARY EASEMENT
- PROPOSED CLEAR SIGHT TRIANGLE
- PROPOSED ACCESS EASEMENT
- N48°54'34"W 120.55' PROPOSED PROPERTY LINE DESCRIPTION
- N66°34'22"E 88.91' *Existing Property Line Descriptions*
- *Existing Property Line*
- *Existing Adjoining Property*
- *Existing Right-of-way*
- *Existing PPL Right of Way*
- *Existing Zoning District Boundary Line*
- *Existing 100 Year Floodplain*

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

	DATE
1. Added Greenway Dedication & Detail	12-2-2015
2. Addressing Review Comments	4-3-2017
3. Addressing Review Comments	6-1-2017
4. Addressing Review Comments	7-19-2017
5. Addressing Review Comments	9-22-2017
6. Addressing Review Comments	6-26-2020
7. Addressing Review Comments	8-5-2020
8. Addressing Review Comments	7-30-2021
9. Updated street name from N Autumn Oaks to N Autumn Chase Dr	8-11-2021

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
717-566-6533

FINAL SUBDIVISION PLAN
FOR
AUTUMN CHASE PRD - PHASE I
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.
7 of 25

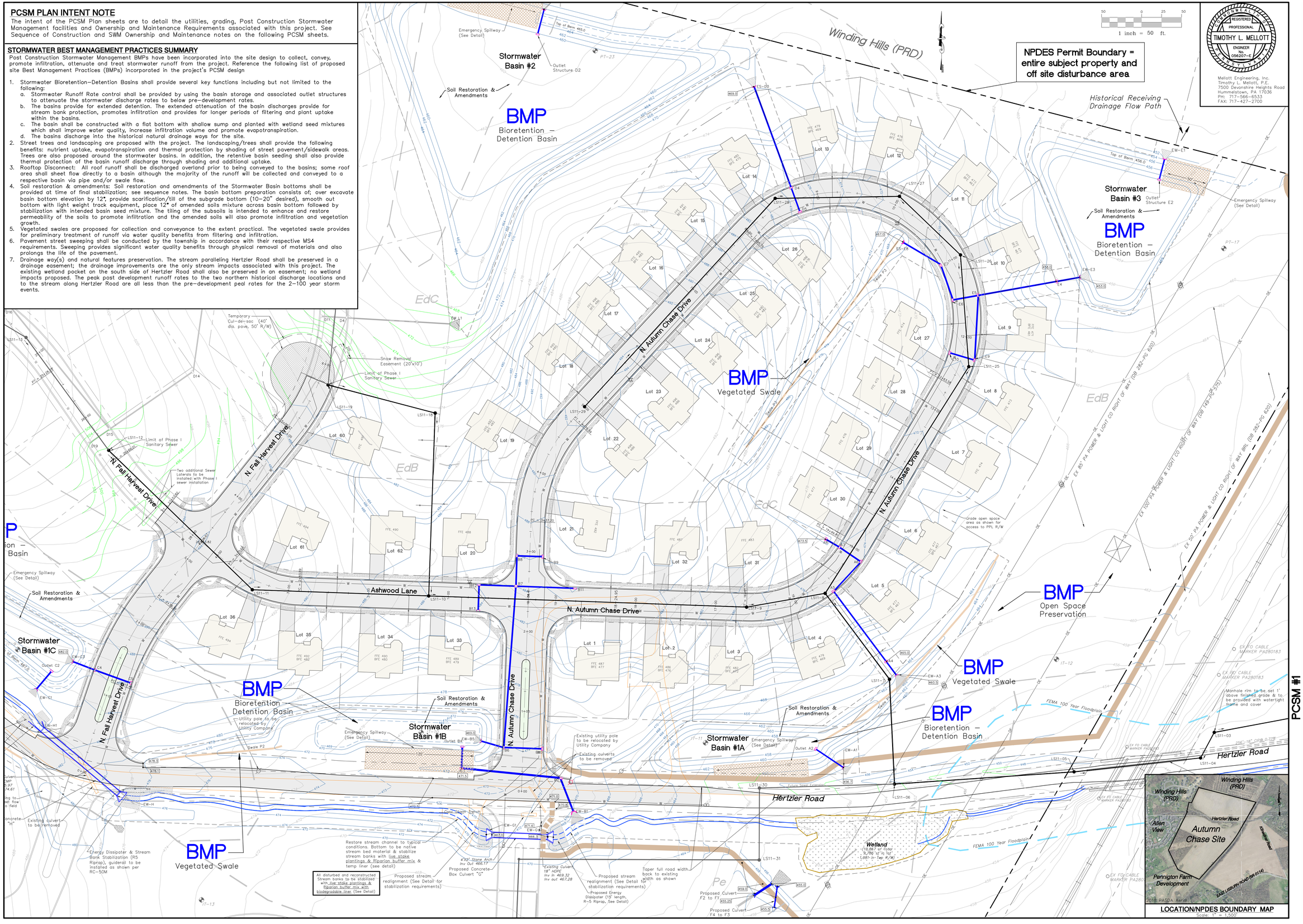
PCSM PLAN INTENT NOTE

The intent of the PCSM Plan sheets are to detail the utilities, grading, Post Construction Stormwater Management facilities and Ownership and Maintenance Requirements associated with this project. See Sequence of Construction and SWM Ownership and Maintenance notes on the following PCSM sheets.

STORMWATER BEST MANAGEMENT PRACTICES SUMMARY

Post Construction Stormwater Management BMPs have been incorporated into the site design to collect, convey, promote infiltration, attenuate and treat stormwater runoff from the project. Reference the following list of proposed site Best Management Practices (BMPs) incorporated in the project's PCSM design

1. Stormwater Bioretention–Detention Basins shall provide several key functions including but not limited to the following:
   a. Stormwater Runoff Rate control shall be provided by using the basin storage and associated outlet structures to attenuate the stormwater discharge rates to below pre–development rates.
   b. The basins provide for extended detention. The extended attenuation of the basin discharges provide for stream bank protection, promotes infiltration and provides for longer periods of filtering and plant uptake within the basins.
   c. The basin shall be constructed with a flat bottom with shallow sump and planted with wetland seed mixtures which shall improve water quality, increase infiltration volume and promote evapotranspiration.
   d. The basins discharge into the historical natural drainage ways for the site.
2. Street trees and landscaping are proposed with the project. The landscaping/trees shall provide the following benefits: nutrient uptake, evapotranspiration and thermal protection by shading of street pavement/sidewalk areas. Trees are also proposed around the stormwater basins. In addition, the retentive basin seeding shall also provide thermal protection of the basin runoff discharge through shading and additional uptake.
3. Rooftop Disconnect: All roof runoff shall be discharged overland prior to being conveyed to the basins; some roof area shall sheet flow directly to a basin although the majority of the runoff will be collected and conveyed to a respective basin via pipe and/or swale flow.
4. Soil restoration & amendments: Soil restoration and amendments of the Stormwater Basin bottoms shall be provided at time of final stabilization; see sequence notes. The basin bottom preparation consists of; over excavate basin bottom elevation by 12", provide scarification/till of the subgrade bottom (10–20" desired), smooth out bottom with light weight track equipment, place 12" of amended soils mixture across basin bottom followed by stabilization with intended basin seed mixture. The tiling of the subsoils is intended to enhance and restore permeability of the soils to promote infiltration and the amended soils will also promote infiltration and vegetation growth.
5. Vegetated swales are proposed for collection and conveyance to the extent practical. The vegetated swale provides for preliminary treatment of runoff via water quality benefits from filtering and infiltration.
6. Pavement street sweeping shall be conducted by the township in accordance with their respective MS4 requirements. Sweeping provides significant water quality benefits through physical removal of materials and also prolongs the life of the pavement.
7. Drainage way(s) and natural features preservation. The stream paralleling Hertzler Road shall be preserved in a drainage easement; the drainage improvements are the only stream impacts associated with this project. The existing wetland pocket on the south side of Hertzler Road shall also be preserved in an easement; no wetland impacts proposed. The peak post development runoff rates to the two northern historical discharge locations and to the stream along Hertzler Road are all less than the pre–development peal rates for the 2–100 year storm events.



COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL TIMOTHY L. MELLOTT ENGINEER No. 056207–E

Mellott Engineering, Inc.
Timothy L. Mellott, P.E.
7500 Devonshire Heights Road
Hummelstown, PA 17036
PH: 717–566–6533
FAX: 717–427–2700

	DATE	REVISIONS
1.	12–30–2015	Added Greenway Section & Detail
2.	4–3–2017	Addressing Review Comments
3.	6–1–2017	Addressing Review Comments
4.	7–19–2017	Addressing Review Comments
5.	9–22–2017	Addressing Review Comments
6.	6–8–2020	Addressing Review Comments
7.	8–5–2020	Addressing Review Comments
8.	7–30–2021	Addressing Review Comments
9.	8–11–2021	Updated street name from N Autumn Oaks to N Autumn Chase Dr

M:\Drawings\201520\201520 Autumn Chase PRD Section 1\201520 PCSM.dwg 8/11/2021 6:52:21 PM EDT

MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road • Hummelstown, PA 17036
mellotteng@comcast.net
717–566–6533

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

AUTUMN CHASE PRD – PHASE I

FOR

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

PCSM #1

Project No. 201520
Date December 14, 2015

Sheet No. PCSM #1
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SEQUENCE OF CONSTRUCTION

The following Sequence of Construction includes references to the proposed temporary erosion control measures and permanent stormwater BMPs; see the Erosion & Sediment Control Plan sheets for the temporary control measures.

- At least 7 days before starting any earth disturbance activities, the owner and/or operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials (Township), the erosion and sediment control plan preparer, and a representative of the County Conservation District to an on–site pre–construction meeting.
- At least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call System Incorporated at 811 for the location of existing underground utilities.
- All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately stabilized before any following stage is initiated. Clearing, grubbing and topsoil stripping shall be limited only to those areas described in each stage.
- Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices (BMPs) to eliminate the potential for accelerated erosion and/or sediment pollution.
- If any fill material must be brought to the site, it must come from a site with an approved Erosion Control Plan and the contractor or developer must notify the County Conservation District and provide the appropriate information pertaining to the borrow site prior to start of hauling operations.
- All pumping of sediment laden water shall be through a sediment control BMP, such as a pumped water filter bag or equivalent sediment removal facility, over undisturbed vegetated areas.

1. Contractor and/or owner to coordinate with the Township regarding complete closure of Hertzler Road to accommodate the Hertzler Road drainage improvements. Initial access to the site shall be via the existing gravel driveway off Hertzler. Install construction fencing around the stormwater basin bottom areas to prevent compaction from construction equipment. Install stabilized rock construction entrance #1 at the existing driveway location (RCE #2 & #3 require drainage improvements prior to installation). Ingress and egress to the site will be restricted to the construction entrances only.
2. Install compost filter sock barriers #1 through #7. Remaining silt sock barriers are associated with the offsite utility extensions and shall be installed later in the sequence.
3. Culvert G & Storm Sewer B4 to EW–G Installation: Install sand bag cofferdam directly upstream of Culvert G (upstream of existing concrete trench) and initiate clean water bypass pumping with discharge point downstream of Culvert G. Install sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Remove the existing concrete trench and arch culvert from the stream channel and the 18" culvert under Hertzler Road. Install water main casing pipe and telecommunication conduits under stream crossing. Install Culvert G and storm sewer B4 to EW–G. Immediately install inlet protection in inlets B2 & B3 (B4 is future trap outlet structure). All stream channel disturbance directly up and down stream of the culvert shall be stabilized with natural stream strata. Remove bypass pumping/sandbags.
4. Install Rock Construction Entrance #2 (N. Autumn Oaks Drive). Ingress and egress to the site will be restricted to the construction entrances.
5. Culvert H Installation: Install sand bag cofferdam directly upstream of Culvert H and initiate clean water bypass pumping with discharge point downstream of Culvert G. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Remove existing CMP culvert under Hertzler Road. Install water main casing pipe and telecommunication conduits under stream crossing. Install Culvert H with endwalls and associated riprap stream bank stabilization. All stream channel disturbance directly up and down stream of the culvert shall be stabilized with natural stream strata. Remove bypass pumping/sandbags.
6. Install Rock Construction Entrance #3 (N. Fall Harvest Drive). Ingress and egress to the site will be restricted to the construction entrances.
7. Install Sediment Traps (1A, 1B & 1C) located along the north side of Hertzler Road including outlet structure, barrel, riprap apron, baffles and cleanout stakes (See Details). To minimize soil compaction of the subsoils below the basin bottom, no heavy equipment shall be used for basin excavation after the design grades are within 2' of finished grade. The remaining basin excavation shall be performed from the sides of the basin to the extent possible. Any grading that can not be performed from the sides of the basin(s) shall be performed with wide track equipment (no rubber tire equipment to be used in basin bottom areas due to concentrated loads that occur under the tires). See end of sequence notes for basin conversion and soil restoration/amendment notes. Critical Stage of Construction: Basin Embankments shall be inspected by licensed professional. Install Swale P5 into Basin 2; immediately stabilize swale (see detail).
8. Install collection swale P1 into Sediment Trap 1A, swale P2 into Sediment Trap IB and Swale P4 into Trap 1C; immediately stabilize swales (see detail).
9. Install Sediment Basins 2 & 3 including permanent outlet structure, temporary riser attachment, barrel, riprap apron, baffles and cleanout stakes (See Details). To minimize soil compaction of the subsoils below the basin bottom, no heavy equipment shall be used for basin excavation after the design grades are within 2' of finished grade. Basin excavation shall be performed from the sides of the basin to the extent possible. Any grading that can not be performed from the sides of the basin(s) shall be performed with wide track equipment (no rubber tire equipment to be used in basin bottom areas due to concentrated loads that occur under the tires). See end of sequence notes for basin conversion and soil restoration/amendment notes. Critical Stage of Construction: Basin Embankments shall be inspected by licensed professional. Install Swale P5 into Basin 2; immediately stabilize swale (see detail).
10. The above installed control measures address the site work proposed on the north side of Hertzler Road. After the above described perimeter erosion control measures are installed strip and stockpile topsoil as needed for areas to be regraded; stockpiles shall not exceed a maximum height of 35 feet and shall be no steeper than 2:1. Stockpiles to be stabilized accordingly. Perform bulk grading. Grading shall be such as to maintain sediment laden runoff to the intended receiving sediment control BMP(s).
11. Begin on site utility installation followed by curb installation. Install stone subbase on streets as soon as possible to shield soil from erosion. Install Swale P3; immediately stabilize swale per detail.
12. Replace topsoil and permanently seed and mulch all non–paved areas where grading is complete. As disturbed areas within a project approach final grade, preparations should be made for seeding and mulching to begin (i.e. anticipate the completion date and schedule the seeder). In no case should an area exceeding 15,000 square feet, which is to be stabilized by vegetation, reach final grade without being seeded and mulched.
13. Hertzler Road embankment grading along south side of Hertzler Road west of intersection with N. Fall Harvest Drive: Install stone embankment Sediment Trap T1 on the south side of Hertzler Road (Trap T1 shall treat sediment laden runoff associated with a portion of the proposed embankment grading & Hertzler Road reconstruction). Install Swale P6, see detail.
14. Install temporary 12" compost filter sock at the entrance of the existing culvert at the up stream end of swale P6; the filter sock shall serve as temporary filter for swale P7 discharge. Perform minimum grading needed to install Swale P7 and the proposed Compost Sock #11 directly above/paralleling swale P7 (some grading required to install sock). Perform embankment grading upslope of sock #11/Swale P7 & swale P6, immediately stabilize slope with topsoil, seeding and S75 matting.
15. Culvert "I" installation. Remove existing 15" storm pipe and install new culvert, end walls and downstream riprap apron. Compost sock at upstream end wall can be removed after Swale P7 and upslope area becomes fully stabilized (sock could cause ponding along the edge of roadway and as such should be removed as soon as possible).
16. Off site utility extensions. Install remaining section of filter sock associated with the offsite water main extension to the west and the off site sanitary sewer extension to the east. The earth disturbance associated with the off site water and sewer main extensions shall be limited to amount of pipe installation that can be installed and stabilized within the same day (road restoration to be in accordance with township standards). All earth disturbance within 50' of the intermittent stream and within 50' of the wetland pocket to be stabilized with permanent seeding and S75 matting.
17. The stream bank along Hertzler Road east/down stream of the railroad bridge is severely eroded. The stream bank shall be stabilized with geotextile and R–5 riprap. Install sand bag cofferdam in the concrete flume under the railroad bridge and establish clean water bypass pumping with discharge point downstream of proposed stabilization measures. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Place geotextile fabric and R5 riprap along stream bank as shown. Remove bypass pumping/sand bags.
18. Begin building construction. Home builders shall implement Typical Individual On–Lot Erosion Controls to limit sediment from entering streets or abutting developed lots although no additional on lot measures are needed for disturbance areas that drain directly to a Sediment trap and/or basin.
19. The erosion control measures may not be removed until the entire upslope drainage area has a permanent stabilization. This occurs with a minimum uniform 70% perennial vegetative cover or other permanent non–vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements. All paved areas must be paved or have a compacted stone base in place. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operators shall contact the County Conservation District for an inspection prior to the removal of the erosion control BMP's.
20. After the Conservation District representative has inspected the site and agrees the site is stabilized the BMP's can be removed as follows:
    a. Critical Stage of Construction (Basin Conversions): After all upslope contributing areas are permanently stabilized and after receiving authorization from a CCCD representative Stormwater Basins 1A, 1B, 1C, 2 and 3 shall be converted to permanent stormwater basins. Install 12" compost sock around outlet structure to provide for filtering during final stabilization process. Soil restoration and amendments of the Stormwater Basin bottoms shall be provided at time of conversion. The basin bottom preparation consists of over excavating the basin bottoms to 12" below finished grade, scarification/till the subgrade bottom (10" depth desired), smooth out bottom with light weight track equipment and place 12" of the amended soils mixture across basin bottom followed by stabilization with intended basin seed mixture and mulch. The scarification/tiling of the subsoils is intended to enhance permeability of the subsoils and the amended soils will also promote infiltration and enhance vegetation growth.
    b. Silt barries can be removed.
    c. Remove all inlet protection.
    d. BMPs, trees, debris and any other materials not proposed to permanently remain on–site are to be recycled or disposed of in accordance with Department of Environmental Protection regulations. All building materials and wastes must be removed from the site and recycled or disposed in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. No building material or wastes or unused building materials shall be buried, dumped, or discharged at the site.

GENERAL PCSM NOTES

1. Water obstruction and encroachment permittings shall be required for the Hertzler Road drainage improvements; permit shall be processed with DEP accordingly.
2. An NPDES Permit related to construction activities is required for the project; permit shall be coordinated with CCCD accordingly.
3. The entire project site is located within the Yellow Breeches Creek watershed (CWF).
4. Wetlands shown on this plan are per field delineation performed by Vortex Environmental, Inc.. No wetland impacts are proposed with this project.
5. BMPs, trees, debris and any other materials not proposed to permanently remain on–site are to be recycled or disposed of in accordance with Department of Environmental Protection regulations. All building materials and wastes must be removed from the site and recycled or disposed in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. No building material, wastes or unused building materials shall be buried, dumped, or discharged at the site.

CRITICAL STAGES OF PLAN IMPLEMENTATION

This plan identifies the Post Construction Stormwater Management BMPs for the project. In accordance with NPDES permitting requirements, critical stages of implementation of the plan shall have a licensed professional or designee on site. The critical stages of construction associated with this project would be construction of the Bioretention–Detention Basin embankments and outlet structures, soil restoration/amendments of basin bottoms and verification of appropriate basin seeding. All other BMPs can be inspected after construction to verify consistency with the intended design.

SOIL PROBE/PERCOLATION TEST

A Geologic Evaluation and Infiltration Testing Report was prepared by CMX which detailed soils, geology and infiltration/soil testing information. The underlying geology is shale with some limestone (majority of site is in shale although eastern portion of site along Hertzler Road is in Limestone Geology). Soil probes and percolation tests where conducted at each of the stormwater basin locations. All of soil test locations yielded suitable probes and infiltration rates. If any sinkholes are encountered during construction contractor and/or owner should immediately consult with a Geotechnical Engineer for guidance on proper sinkhole(s) repair. See above referenced report for probe descriptions and infiltration test rates.

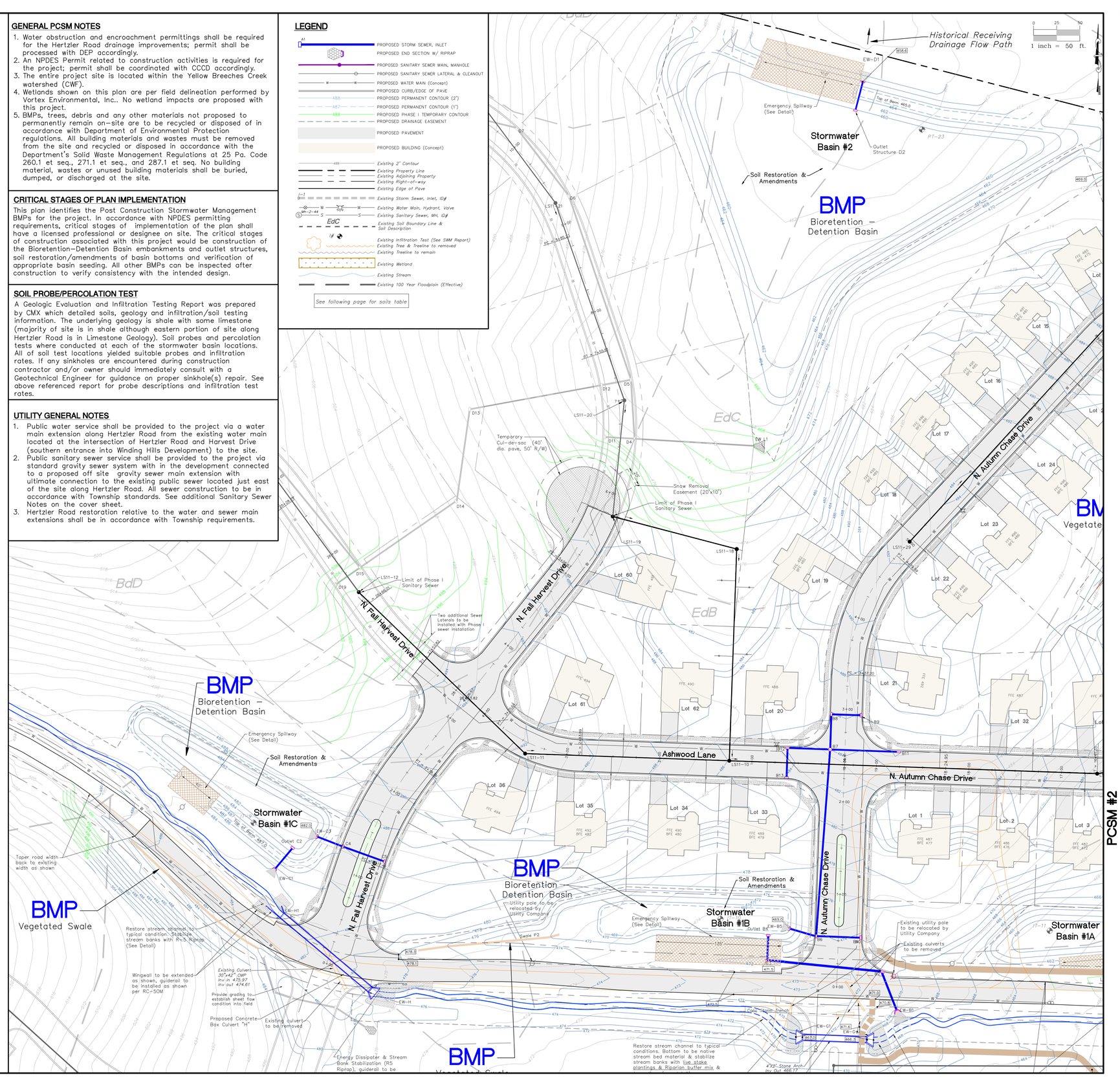
UTILITY GENERAL NOTES

1. Public water service shall be provided to the project via a water main extension along Hertzler Road from the existing water main located at the intersection of Hertzler Road and Harvest Drive (southern entrance into Winding Hills Development) to the site.
2. Public sanitary sewer service shall be provided to the project via standard gravity sewer system with in the development connected to a proposed off site gravity sewer main extension with ultimate connection to the existing public sewer located just east of the site along Hertzler Road. All sewer construction to be in accordance with Township standards. See additional Sanitary Sewer Notes on the cover sheet.
3. Hertzler Road restoration relative to the water and sewer main extensions shall be in accordance with Township requirements.

LEGEND

- PROPOSED STORM SEWER, INLET
- PROPOSED END SECTION W/ RIPRAP
- PROPOSED SANITARY SEWER MAIN, MANHOLE
- PROPOSED SANITARY SEWER LATERAL & CLEANOUT
- PROPOSED WATER MAIN (Concept)
- PROPOSED CURB/EDGE OF PAVE
- PROPOSED PERMANENT CONTOUR (2')
- PROPOSED PERMANENT CONTOUR (1')
- PROPOSED PHASE I TEMPORARY CONTOUR
- PROPOSED DRAINAGE EASEMENT
- PROPOSED PAVEMENT
- PROPOSED BUILDING (Concept)
- *Existing 2' Contour*
- *Existing Property Line*
- *Existing Adjoining Property*
- *Existing Right–of–way*
- *Existing Edge of Pave*
- *Existing Storm Sewer, Inlet, ID#*
- *Existing Water Main, Hydrant, Valve*
- *Existing Sanitary Sewer, MH, ID#*
- *Existing Soil Boundary Line & Soil Description*
- *Existing Infiltration Test (See SWM Report)*
- *Existing Tree & Treeline to removed*
- *Existing Treeline to remain*
- *Existing Wetland*
- *Existing Stream*
- *Existing 100 Year Floodplain (Effective)*

See following page for soils table



	DATE
Added Greenway Dedication & Detail	12–2–2015
Addressing Review Comments	4–3–2017
Addressing Review Comments	6–1–2017
Addressing Review Comments	7–19–2017
Addressing Review Comments	9–22–2017
Addressing Review Comments	6–26–2020
Addressing Review Comments	8–5–2020
Addressing Review Comments	7–30–2021
Updated street name from N Autumn Oaks to N Autumn Chase Dr	8–11–2021

REVISIONS

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road • Hummelstown, PA 17036
mellottengr@comcast.net
717–566–6533

PCSM #2

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

AUTUMN CHASE PRD – PHASE I

Land Developer: Hertzler Road Associates, L.P.

FOR

CUMBERLAND COUNTY PENNSYLVANIA

UPPER ALLEN TOWNSHIP

Project No. 201520
Date December 14, 2015

Sheet No. PCSM #2
9 of 25

OPERATION AND MAINTENANCE NOTES

BMPs Inspection and Maintenance Requirements

The property owner on which the stormwater facilities are located shall be responsible for operation and maintenance of the on-lot SWM BMP facilities consistent with the Operation and Maintenance Plan for the project and in accordance with the "Operation & Maintenance Agreement Stormwater Management Best Management Practices". The Home Owners Association shall be responsible for the Operation and Maintenance of all stormwater facilities located outside of a public right of way excluding individual on lot infiltration beds and/or rain gardens which shall be owned and maintained by the respective property owner (only roof area not draining to a Basin requires an infiltration bed and/or rain garden, see plan for applicable lots).

Description of Operation and Maintenance Requirements

The following inspection and maintenance activities shall be performed on a regular basis; bi-monthly during mowing months, monthly on non mowing months and within 48 hours after a major storm event: (> 1 inch rainfall depth). In addition to the following see the Township Inspection Reporting requirements following the below list:

Bioretention-Detention Basins

1. Basin outlet structures shall be routinely inspected to verify the orifices and/or grate top are not clogged. Remove any accumulated debris from the outlet structure.
2. Emergency Spillways shall be routinely inspected for erosion. Bare soil shall be stabilized with topsoil, seeding and permanent liner as detailed.
3. All trash and debris should be regularly removed from basins and upslope areas.
4. Reseed bare areas; install appropriate erosion control measures when native soil is exposed.
5. Mow or trim vegetation to maintain vegetation lengths as required by Township. Stormwater Management Basin bottoms are planted with a wetland-type basin seed mix to aid in filtering and treatment of stormwater runoff. The basin bottoms may be trimmed for aesthetics and to remove debris and inspect for damage; however, the bottom areas shall not be mowed.
6. Basins shall be inspected at time of mowing for invasive weeds, large shrubs and trees (no mowing of basin bottom, see above note). Remove such undesirable invasive vegetation as necessary.
7. Basin Embankment and surrounding areas shall be free of burrowing animals in order to protect the structural integrity of the stormwater facility.
8. All piping inlet and outlet structures shall be free of holes, cracks, seepage, leakage or other defects.
9. Inspect of Basin dewatering times: All basins are to fully dewater within 72 hours of the completion of a rain event. If standing water remains in a basin after maximum allowable 72 hours dewatering time the Home Owners Associated shall contact the site engineer for an inspection. The following remediation measures should be implemented if it is believed the upper topsoil/amendment mixture (12" layer) is the limiting factor: chisel plow the top surface layer to maximum depth practical, smooth out surface followed by stabilization with intended retentive basin seed mixture. The following remediation measures should be implemented if it is believed the subsoils (soil horizon below topsoil/amendments layer) is the limiting factor: remove and stockpile top soil/amendment layer (12" layer), chisel plow the subsoils to maximum depth practical, place the topsoil/amendment mixture over the remediated subsoils, smooth out surface followed by stabilization with intended retentive basin seed mixture.

Vegetated Swales

1. Swales shall be inspected for erosion. Any erosion shall be immediately stabilized with topsoil, seeding and liner accordingly.
2. All trash and debris should be regularly removed from swales and upslope areas.
3. Mow and trim vegetation to ensure safety, aesthetics, proper swale operation, or to suppress weeds and invasive vegetation; mow only when swale is dry to avoid rutting.

Storm Sewer System & Riprap Aprons (Located outside of public right of ways)

1. All inlets and the surrounding areas shall be free of all obstructions, spent liquids such as oils, fuels, petroleum products, antifreeze, sediment, grease, trash and debris.
2. All riprap aprons shall be inspected and reestablished if needed.

Street Sweeping (public streets)

1. Street sweeping shall be performed by the township in accordance with their respective MS4 requirements.

PROPERTY OWNERSHIP O&M & TOWNSHIP RIGHT OF ENTRY NOTE

The property owner on which the stormwater facilities are located shall be responsible for operation and maintenance of the on-lot facilities consistent with the Operation and Maintenance Plan associated with the project. In the event that the responsible person or entity fails to do so, the owner hereby grants to West Hanover Township the right but not the duty to enter upon the premises to repair or restore said facilities, to charge and assess the costs thereof to the owner, and to enforce said charges and assessments by lien upon the property. In addition, the deed for the applicable lots shall contain a covenant binding the grantee and all successors' title and interest designating the responsibility for operation and maintenance of the on-lot facilities.

The Owner shall agree that no action will be taken to block or impede the passage of water through said stormwater management facilities and will place no structure, building, or fence, nor plant any trees or shrubs which would impede the use of said facilities for its intended purposes, without prior approval from the Township.

Current Property Owner/Responsible Party

The current owner (Hertzler Road Associates, L.P.), or any succeeding owner or any succeeding owner(s), has a legal duty to maintain the stormwater and drainage facilities as detailed above and in accordance with the associated Stormwater O&M Agreement.

PERMANENT SEEDING

A. All disturbed soil not to be covered with impervious surfaces, riprap or landscaping mulch shall be permanently seeded to provide protection against the impact of precipitation, running water and wind.
B. Mulching shall be used to protect seeding and help in preventing runoff. Clean straw mulch shall be required in all disturbed areas and applied at a rate of 3 tons/acre (equivalent to 0.75" to 1" deep). Clean straw mulch should not be finely chopped nor broken during application.

Maintenance procedure:

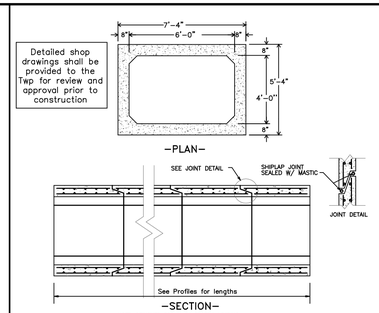
1) Maintain a minimum 70% soil surface coverage with grass and/or mulch.
2) If a washout, slope failure or similar disturbance occurs, correct drainage problem if necessary, then reapply soil to the proper grade, reapply soil amendments, seed and mulch.

Permanent seeding schedule is as follows:

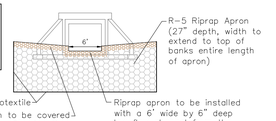
For gentle lawn areas
Species: 40% Kentucky Bluegrass
40% Pennlawn Creeping Red Fescue
20% Norlea Perennial Ryegrass

For Swales, steep slopes and wet areas: 100% Tall Fescue, varieties such as K-31, Altra,
or other recently released dwarf variety
% Pure live seed: 98%
Application rate: 6 lbs./1000 sq. ft.
Fertilizer type: general purpose granular, 10-20-20
Fertilizer application rate: 1000 lbs per acre
Liming rate: Four (4) tons per acre of agricultural grade lime
Strawbale mulch rate: three (3) tons per acre
Seeding dates: Between 4/1 and 10/15

Detailed shop drawings shall be provided to the Twp for review and approval prior to construction



See Erosion Control Plan Details for Stream Bank Stabilization requirements

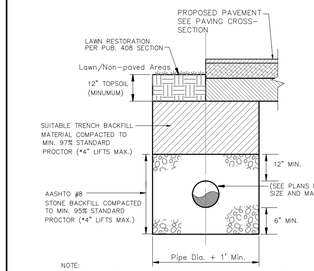


RIPRAP APRON LOW FLOW CHANNEL DETAIL

NOTES:
1. ALL IMPACTS TO THE EXISTING STREAM CHANNEL AND BANKS, INCLUDING CULVERTS G & H, SHALL BE PERFORMED IN ACCORDANCE WITH THE EROSION CONTROL PLAN DETAILING AND THE WATER OBSTRUCTION AND ENCROACHMENT PERMIT CONDITIONS.
2. SEE CULVERT PROFILES FOR LENGTHS AND INVERTS.
3. FINAL DESIGN OF CULVERT STRUCTURES INCLUDING THE EXTENDED WINGWALL SHOWN ON THE PLAN VIEW SHALL BE PERFORMED BY MONARCH PRODUCTS INC. PRIOR TO CONSTRUCTION.
4. GUIDERAILL SHALL BE INSTALLED ALONG THE CULVERT (NOT ON) AS SHOWN ON PLANS.

BOX CULVERT CONCEPTUAL DETAIL

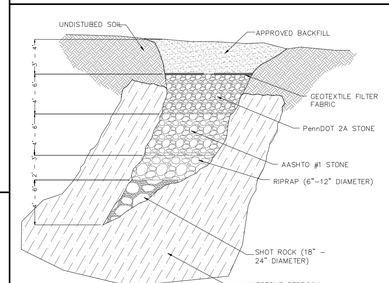
N.T.S.



NOTE:
1. USE THIS DETAIL FOR TRENCH RESTORATION OUTSIDE OF EXISTING PAVED AREAS.
2. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO PENN DOT PUBLICATION 408, MOST RECENT AMENDMENT.
*3. BACKFILL MAY COMPACTED IN 8" LIFTS IF VIBRATORY EQUIPMENT IS USED.

STORM SEWER DETAIL FOR TRENCHES IN GRASSED AREAS OR NEW PAVEMENT

NTS



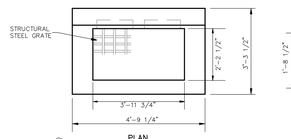
NOTES:

1. THIS DETAIL IS A GENERAL REPAIR MEASURE FOR SINKHOLES, ALL ROCK SIZES AND DEPTHS ARE SUBJECT TO THE SIZE AND CONDITIONS OF THE SPECIFIC SINKHOLE. AS SUCH THE EXACT REPAIR FOR EACH SINKOLE ENCOUNTERED SHALL BE PER THE RECOMMENDATION OF A GEOTECHNICAL ENGINEER. CONTRACTOR MUST COORDINATE WITH A GEOTECHNICAL ENGINEER FOR TO OBTAIN INSTRUCTIONS ON PROPER REPAIR MEASURES TO IMPLEMENT.
2. REASONABLE EFFORTS SHOULD BE MADE TO EXCAVATE ALL LOOSE AND UNSTABLE SOILS FROM THE BASE OF THE SINKHOLE (I.E. THROAT)
3. FLOWABLE FILL,IF USED,SHOULD BE ALLOWED TO CURE FOR A MINIMUM OF 24 HOURS PRIOR TO THE PLACEMENT OF THE FOLLOWING LAYERS WITHIN THE INVERTED FILTER.
4. THE FINAL LAYER OF STRUCTURAL FILL SHOULD BE PLACED IN LOOSE 12" LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE SOIL'S MAXIMUM MODIFIED DRY DENSITY.
5. INSTALLATION OF THE INVERTED FILTER SHOULD BE COMPLETED UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER..

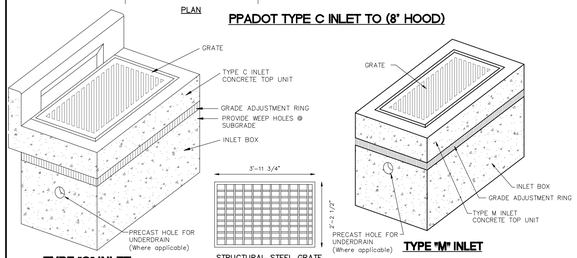
The repairs outlined above are general guidelines and each sinkhole occurrence should thoroughly be reviewed by the Geotechnical Engineer of Record for an appropriate remediation plan.

INVERTED FILTER SINKHOLE REPAIR DETAIL

NO SCALE



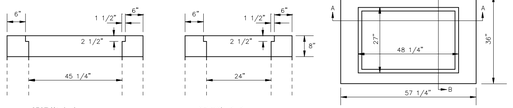
PPADOT TYPE C INLET TO (8" HOOD)



TYPE "C" INLET

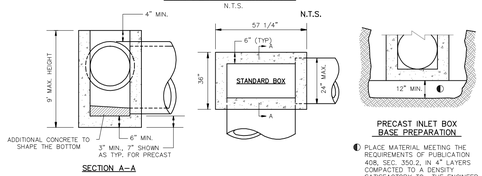
STRUCTURAL STEEL GRATE

TYPE "M" INLET



PPADOT TYPE M INLET

N.T.S.

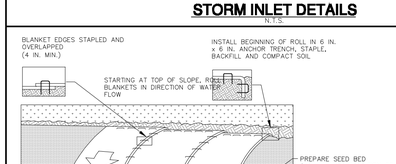


◐ PLACE MATERIAL MEETING THE REQUIREMENTS OF PUBLICATION 408, SEC. 350.2, IN 4" LAYERS COMPACTED TO A DENSITY SATISFACTORY TO THE ENGINEER.

NOTES:
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PENN DOT PUBLICATION 408, SECTION 714 AND STANDARDS FOR ROADWAY CONSTRUCTION, RC-34. CONTRACTOR SHALL VERIFY INLET BOX SIZING BASED ON PIPE SIZES AND ALIGNMENT PRIOR TO ORDERING PRECAST STRUCTURES. STRUCTURE SHALL BE CERTIFIED FOR H20 LOADING.
2. ALL DRAINAGE STRUCTURES SHALL HAVE POURED-IN-PLACE CONCRETE CHANNEL BOTTOMS.
3. ALL INLETS TO HAVE PENN DOT TYPE BICYCLE SAFE GRATES.
4. PROVIDE WEEP HOLES IN ALL INLET BOXES @ SUBGRADE TO ALLOW FOR DRAINAGE DURING CONSTRUCTION.
5. OPENINGS SHALL BE PROVIDED WHERE NECESSARY FOR PAVEMENT BASE/DRAIN TIE-IN.
6. INLETS SHALL NOT HAVE A SUMP CONDITION IN THE BOTTOM. PIPES SHALL BE FLUSH WITH THE BOTTOM OF THE BOX OR CONCRETE CHANNELS SHALL BE POURED. SUMPED INLETS MAY BE PERMITTED WHERE SPECIFICALLY UTILIZED FOR WATER QUALITY PURPOSE.
7. INLETS MUST BE SIZED TO ACCEPT THE SPECIFIED PIPE SIZES WITHOUT KNOCKING OUT ANY INLET CORNERS.
8. ANY INLETS OR JUNCTION BOXES OVER FIVE FEET IN DEPTH SHALL BE EQUIPPED WITH LADDER RIGS.

STORM INLET DETAILS

N.T.S.



STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION

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.

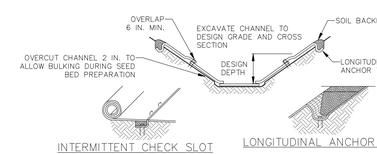
BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

SOILS TABLE

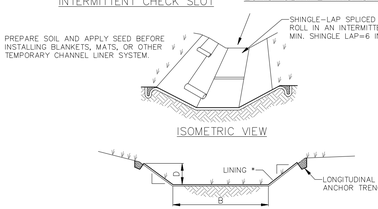
SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	HYDROLOGIC GROUP	DEPTH TO WATER TABLE (FT)	SOIL REACTION (pH)	SUITABILITY FOR ROADFILL	SUITABILITY FOR TOPSOIL
BdB	Bedington Shaly Silt Loam	3 to 8%	B	5+	4.5-7.3	FAIR	POOR
BdC	Bedington Shaly Silt Loam	8 to 15%	B	5+	4.5-7.3	FAIR	POOR
BdD	Bedington Shaly Silt Loam	15 to 25%	B	5+	4.5-7.3	FAIR	POOR
BpB	Blairton silt loam	3 to 8%	C	½-3	4.5-5.5	POOR	POOR
BrB	Brinkerton silt loam	3 to 8%	D	0-½	4.5-5.5	POOR	POOR
DuB	Duffield silt loam	3 to 8%	B	5+	5.1-7.3	POOR	FAIR
EdB	Edom silt loam	3 to 8%	B	5+	5.1-7.8	POOR	POOR
EdC	Edom silt loam	8 to 15%	B	5+	5.1-7.8	POOR	POOR
HaA	Hagerstown shaly silt loam	0 to 3%	B	5+	4.5-7.3	POOR	POOR
HaB	Hagerstown shaly silt loam	3 to 8%	B	5+	4.5-7.3	POOR	POOR
Me	Melvin silt loam	0 to 2%	B/D	0-1	6.1-7.3	POOR	POOR
Pe	Penlaw silt loam	0 to 3%	C/D	½-1½	5.6-7.3	POOR	POOR

In general, the soils present should not pose any significant limitation to the type of development proposed. Reference the following recommendation pertaining to possible issues that may be encountered during construction.

- If unrippable rock is encountered during proposed grading, blasting or drilling may be required. Removed rock can be crushed if necessary and used for fill.
- If water table is encountered during excavation, dirty water shall be pumped out into a filter bag or sediment removal pond.
- The NRCS Soil Survey indicates some of the soils have a poor rating for use as road fill. The contractor should use only what soils are suitable for road fill and shall place and compact fill in accordance with standard practice. All road fill must meet Penn DOT Pub. 408 standards.
- Trap/Basin Core material shall be unified class CH or CL soil compacted to 98% of max dry density. Homogeneous embankment material to be compacted in 8" layers to a minimum final density of not less than 98% of max. Dry density within 2% of optimum moisture content. (ASTM Method D1557).
- If sinkhole is encountered during construction contractor and/or owner should immediately consult with a Geotechnical Engineer for guidance on proper sinkhole repair.



PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS, OR OTHER TEMPORARY CHANNEL LINER SYSTEM.



CHANNEL CROSS-SECTION

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

SWALE DESIGNATION	CHANNEL SLOPE (%)	Z1	Z2	BW (FT.)	D (MIN.) (FT.)	TW (MIN.) (FT.)	TEMPORARY LINING	PERMANENT LINING
P1	1.7	3	3	2.0	1.3	9.8	N.A.G. SC250	N.A.G. SC250/CLASS D VEG.
P2	4.0	3	3	2.0	1.5	11.0	N.A.G. SC250	N.A.G. SC250/CLASS D VEG.
P3	5.0	3	3	2.0	1.5	11.0	N.A.G. SC250	N.A.G. SC250/CLASS D VEG.

NOTES:

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

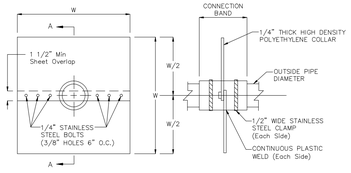
CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.
SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL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

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

STANDARD CONSTRUCTION DETAIL #6-1 VEGETATED CHANNEL

INSTALLATION INSTRUCTIONS:
APPLY TAR OR MASTIC TO COLLAR AND LAY PIPE ON COLLAR. APPLY MASTIC TO TOP HALF OF COLLAR AND SET IN PLACE LINING UP RED STRIPES AND BOLT TWO HALVES TOGETHER. INSTALL METAL BANDS ON SPLIT HALVES OF COLLAR. TIGHTEN BOLTS AND BANDS. APPLY MASTIC AS NEEDED TO INSURE GOOD WATERTIGHT SEAL. BACKFILL AND TAMP ACCORDINGLY. ABOVE PRODUCT CAN BE PURCHASED FROM SCHEIB PRODUCTS (660-446-2343); EQUIVALENT PRODUCT CAN BE USED.

BASIN OUTLET	# COLLARS	W (ft)
1A	1	5
1B	2	4
1C	2	4
2	2	5
3	1	5



GENERAL NOTES
1. INSTALL COLLARS ON BOTH SIDES OF EMBANKMENT CORE.
2. ANTI-SEEP COLLAR AND CONNECTION TO THE PIPE (BARREL) MUST BE WATERTIGHT.
3. COLLARS SHOULD NOT BE LOCATED CLOSER THAN 2 FEET TO A PIPE JOINT.

ANTI-SEEP COLLAR DETAIL

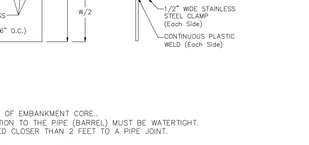
N.T.S.

BIO-RETENTION BASIN SEEDING

In an effort to improve water quality of surface water runoff and increase infiltration the following special seed mix is proposed for all Basins (Bioretention-Detention Basins).
Retention Basin Floor Seeding - Low Maintenance
(ERNMX-126 by Ernst Conservation Seeds 1-800-873-3321)

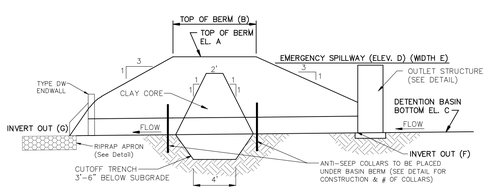
Percent Composition	Common Name	Scientific Name
20%	Redtop	Agrostis Alba (A. gigantea)
20%	Virginia Wild Rye, PA Ecotype	Elymus virginicus, PA Ecotype
20%	Nuttall's Alkaligrass	Puccinellias nuttaliana
15%	Fox Sedge, PA Ecotype	Carex vulpinoidea, PA Ecotype
10%	Creeping Bentgrass	Agrostis stolonifera
10%	Fowl Bluegrass	Poa palustris
2%	Autumn Bentgrass, APB	Agrostis perennans, APB
2%	Ticklegrass (Rough Bentgrass), PA Ecotype	Agrostis scabra, PA Ecotype
1%	Path Rush, PA Ecotype	Juncus tenius, PA Ecotype

Recommended seeding rate: 20-40 lbs/acre



EMERGENCY SPILLWAY DETAIL

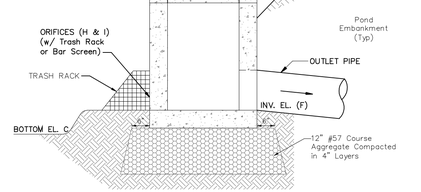
N.T.S.



NOTES
1. CORE MATERIAL SHALL BE UNIFIED CLASS CH OR CL SOIL COMPACTED TO 95% OF MAX.
2. HOMOGENEOUS EMBANKMENT MATERIAL TO BE COMPACTED IN 8" LAYERS TO A MINIMUM FINAL DENSITY OF NOT LESS THAN 95% OF MAX. DRY DENSITY WITHIN 2% ± OPTIMUM MOISTURE CONTENT. (ASTM METHOD D698).

BASIN SECTION AT OUTLET

N.T.S.



NOTES:
1. CONSTRUCT OUTLET STRUCTURE IN ACCORDANCE WITH PENN DOT STANDARDS, RC-34 FOR PRECAST CONCRETE INLETS.
2. BOTTOM ORIFICE SHALL BE PROTECTED BY LOW FLOW ORIFICE TRASH RACK AND ALL HIGHER ORIFICES (IF APPLICABLE) SHALL BE PROVIDED WITH BAR RACKS (SEE DETAILS).

STORMWATER BASIN OUTLET STRUCTURE DETAIL

N.T.S.

BASIN ID	TOP OF BERM A	TOP OF BERM B	BOTTOM C	EMERGENCY SPILLWAY D	EMERGENCY SPILLWAY E	EMERGENCY SPILLWAY LINING	DISCHARGE F	DISCHARGE PIPE	DISCHARGE G	ORIFICE(s) SIZE (H)	ORIFICE(s) ELEV. (H)	ORIFICE(s) SIZE (I)	ORIFICE(s) ELEV. (I)	OUTLET STRUCTURE GRATE (J)
1A	462.0	5'	457.5	460.8	110'	* SC250	457.5	40'-18" HDPE@2.00%	456.7	3" Dia.	457.9	18"w x 8"h	458.5	460.2
1B	474.5	5'	469.0	473.1	135'	* SC250	468.75	25'-24" HDPE@1.00%	468.5	3" Dia.	469.4	18"w x 8"h	471.0	472.8
1C	487.0	5'	482.0	485.5	40'	* SC250	482.0	30'-18" HDPE@1.00%	481.7	3" Dia.	482.4	24"w x 8"h	483.5	485.0
2	465.0	8'	460.0	463.2	100'	* SC250	459.2	30'-24" HDPE@2.00%	458.6	3" Dia.	460.4	46"w x 13.6"h	461.20	463.0
3	456.0	8'	452.0	454.5	50'	* SC250	451.4	25'-18" HDPE@1.60%	451.0	3" Dia.	452.4	18"w x 5.2"h	452.9	454.0

* SC250 Liner - as manufactured by North American Green, Inc.

STORMWATER BASIN DETAIL

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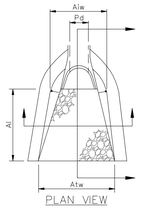


OUTLET NO.	PIPE DIA Pd (IN)	TAILWATER (Min or Max)	RIPRAP SIZE (R-__)	RIPRAP THICK. Rt (IN)	APRON LENGTH Al (FT)	APRON INITIAL WIDTH Aiw (FT)	APRON TERMINAL WIDTH Atw (FT)
EW-A1 (Basin 1A Outfall)	18	Min	R-4	18	8	4.5	12.5
EW-A3 (Into Basin 1A)	18	Min	R-4	18	13	4.5	17.5
EW-B5 (Into Basin 1B)	18	Min	R-4	18	13	4.5	17.5
EW-C1 (Basin 1C Outfall)	18	Min	R-4	18	11	4.5	15.5
EW-C3 (Into Basin 1C)	18	Min	R-4	18	8	4.5	12.5
EW-D1 (Basin 2 Outfall)	24	Min	R-5	18	12	6.0	18.0
EW-D3 (Into Basin 2)	18	Min	R-4	18	8	4.5	12.5
EW-E1 (Basin 3 Outfall)	18	Min	R-4	18	8	4.5	12.5
EW-E3 (Into Basin 3)	18	Min	R-4	18	8	4.5	12.5
EW-F1 (Nature Trail)	36	Min	R-5	27	20	9	29.0
EW-I1 (culvert replace)	18	Min	R-4	18	8	4.5	12.5
EW-J1 (Nature Trail)	30	Min	R-5	27	16	7.5	23.5

EW = Concrete End Wall (RC-31M)
ES = Plastic End Section (RC-33M)

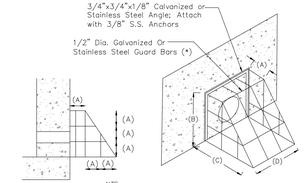
NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #9-1 RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

TRASH RACK TABLE				
REFERENCE	*(A)	(B)	(C)	(D)
REFERENCE	1 1/2"	9"	6"	12"



LOW FLOW ORIFICE SCREEN DETAIL

REVISIONS	DATE
Added Greenway Protection & Detail	12-28-2015
Addressing Review Comments	4-3-2017
Addressing Review Comments	6-1-2017
Addressing Review Comments	7-19-2017
Addressing Review Comments	9-22-2017
Addressing Review Comments	6-8-2020
1.	- -
2.	- -
3.	- -
4.	- -
5.	- -
6.	- -
7.	- -
8.	- -
9.	- -

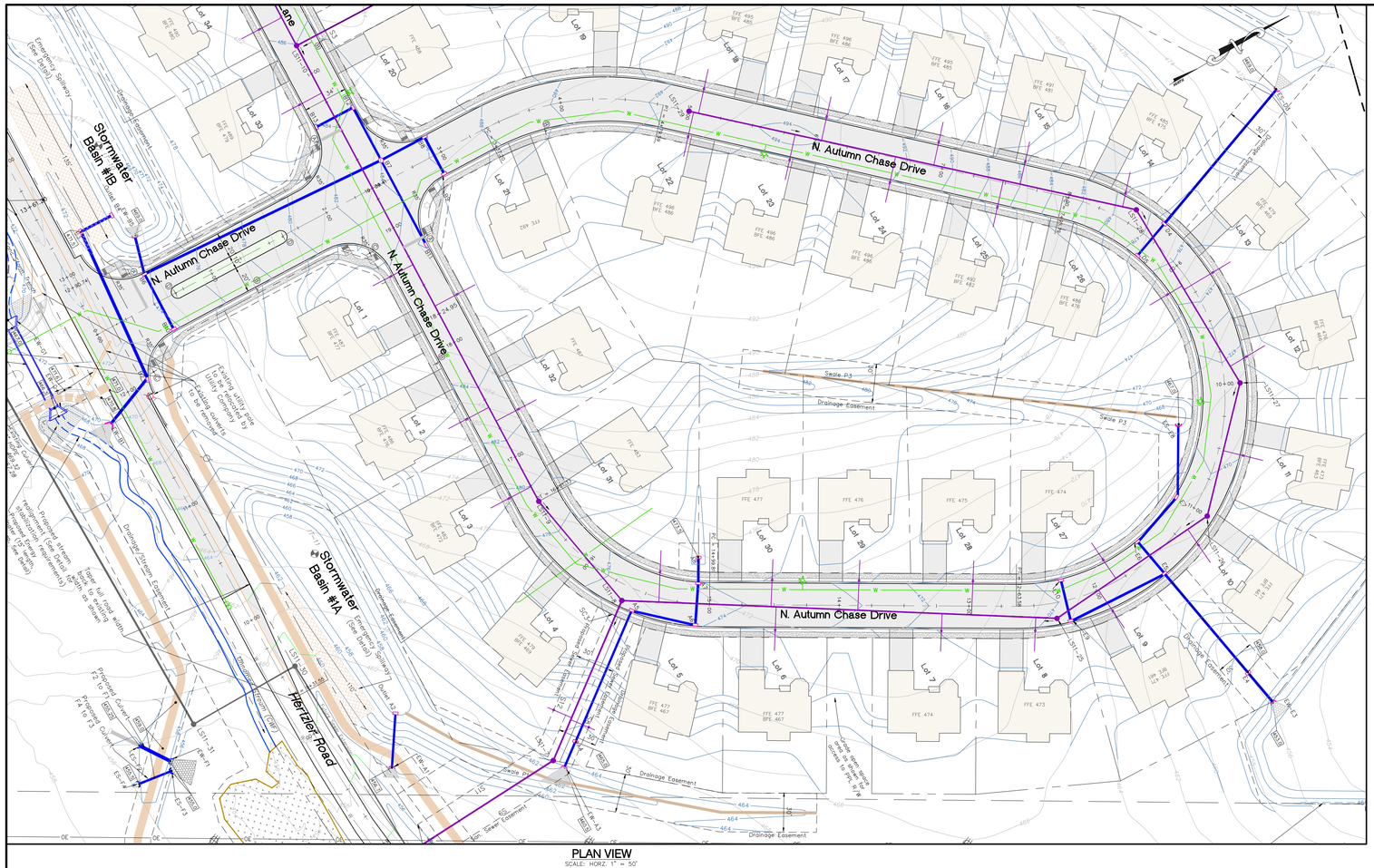
M:\Shrawtags\2015\201520 Autumn Chase PRD Section 1\201520_PCSM.dwg, 6/10/2020 11:59:19 AM, EST

MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
717-566-6533
mellottengr@comcast.net

PCSM #3
POST CONSTRUCTION STORMWATER MANAGEMENT
CONSTRUCTION DETAILS
FOR
AUTUMN CHASE PRD - PHASE I
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No. PCSM #3
10 of 25


N. Autumn Chase Drive
Stormwater Basin #1B
Stormwater Basin #1A
Hertzler Road
Emergency Spillway (See Detail)
Drainage Easement
Proposed Culvert T4 to P3
Proposed Culvert T3 to P2
Existing utilities to be relocated by Utility Company to new location by Developer
Existing 24" RCP to remain
Proposed stream restoration (see detail)
Trees to be saved within 10' as shown
Swale P-3
Swale P-2
Swale P-1
Sewer Easement
Temporary Sewer Easement
Proposed 8" SDR 35 PVC Sanitary Sewer
Proposed 4" SDR 35 PVC Sanitary Sewer
Lower with sewer service to 18" HDPE
Lot 1
Lot 2
Lot 3
Lot 4
Lot 5
Lot 6
Lot 7
Lot 8
Lot 9
Lot 10
Lot 11
Lot 12
Lot 13
Lot 14
Lot 15
Lot 16
Lot 17
Lot 18
Lot 19
Lot 20
Lot

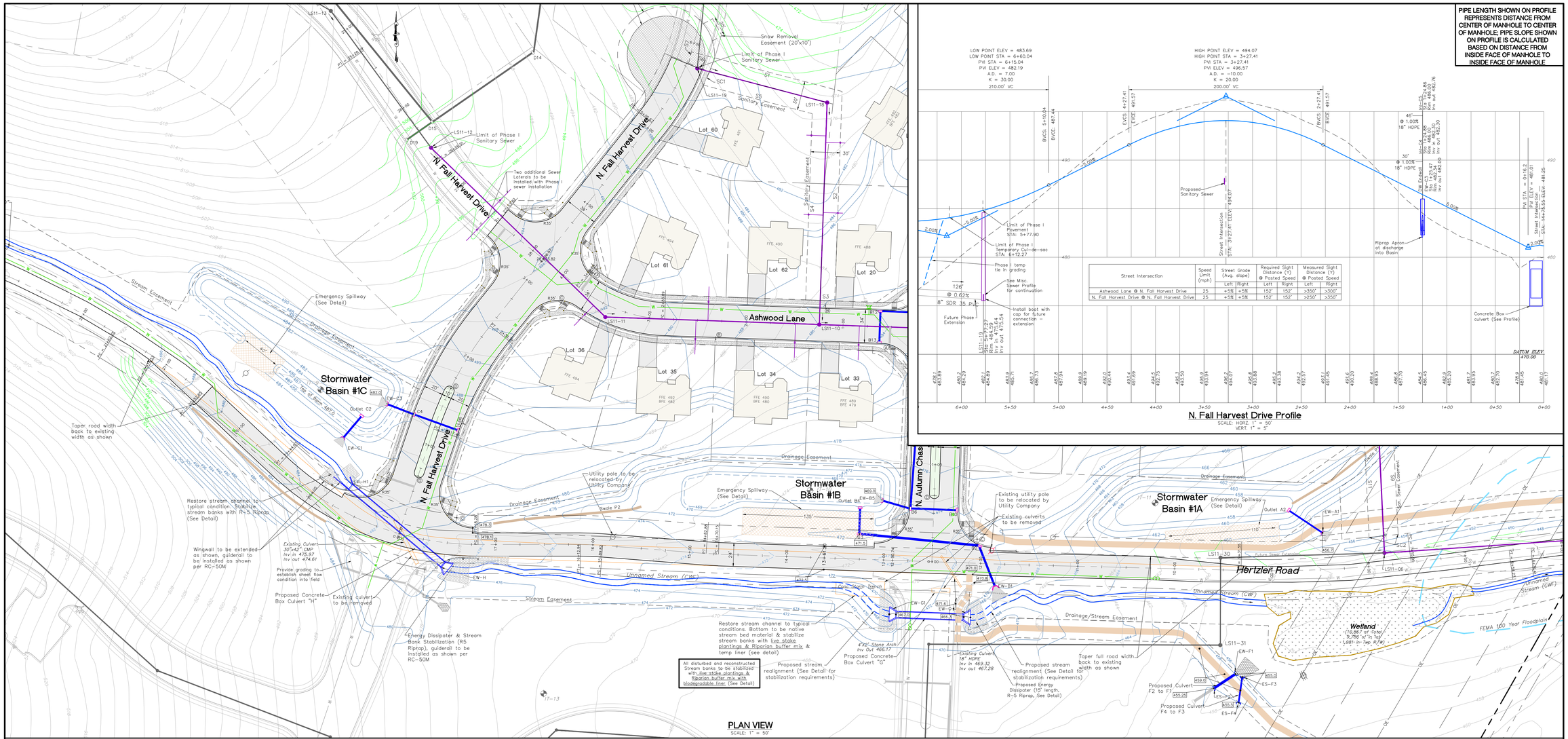
PIPE LENGTH SHOWN ON PROFILE REPRESENTS DISTANCE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE; PIPE SLOPE SHOWN ON PROFILE IS CALCULATED BASED ON DISTANCE FROM INSIDE FACE OF MANHOLE TO INSIDE FACE OF MANHOLE

LOW POINT ELEV = 483.69
LOW POINT STA = 6+60.04
PVI STA = 6+15.04
PVI ELEV = 482.19
A.D. = 7.00
K = 30.00
210.00' VC

HIGH POINT ELEV = 494.07
HIGH POINT STA = 3+27.41
PVI STA = 3+27.41
PVI ELEV = 496.57
A.D. = -10.00
K = 20.00
200.00' VC

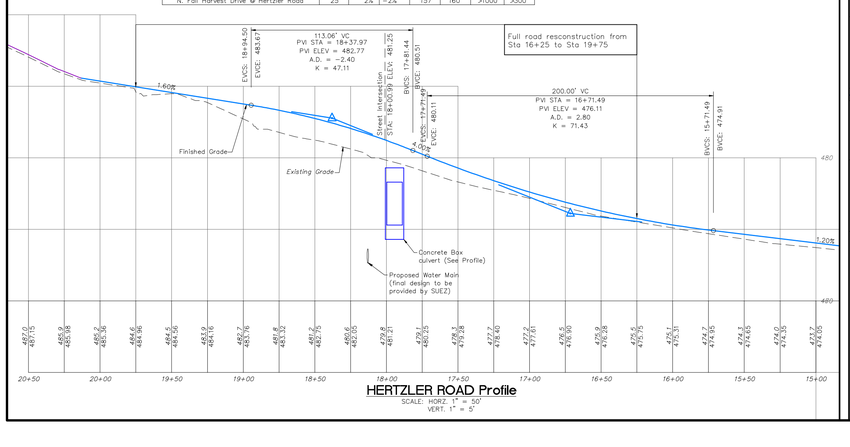
Street Intersection	Speed Limit (mph)	Street Grade (Avg. slope)		Required Sight Distance (Y) @ Posted Speed		Measured Sight Distance (Y) @ Posted Speed	
		Left	Right	Left	Right	Left	Right
Ashwood Lane @ N. Fall Harvest Drive	25	+5%	+5%	152'	152'	>350'	>305'
N. Fall Harvest Drive @ N. Fall Harvest Drive	25	+5%	+5%	152'	152'	>250'	>350'

N. Fall Harvest Drive Profile
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



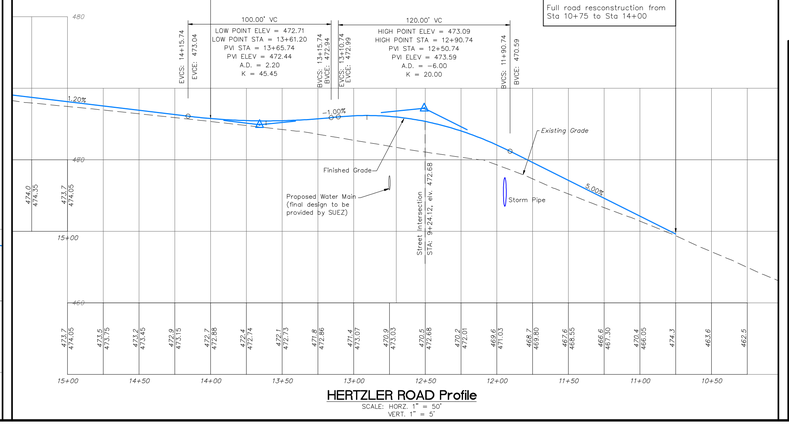
PLAN VIEW
SCALE: 1" = 50'

Street Intersection	Speed Limit (mph)	Street Grade (Avg. slope)		Required Sight Distance (Y) @ Posted Speed		Measured Sight Distance (Y) @ Posted Speed	
		Left	Right	Left	Right	Left	Right
Future S. Fall Harvest Drive @ Hertzler Road	25	-2%	2%	166'	157'	>470'	>1000'
N. Fall Harvest Drive @ Hertzler Road	25	2%	-2%	157'	160'	>1000'	>300'

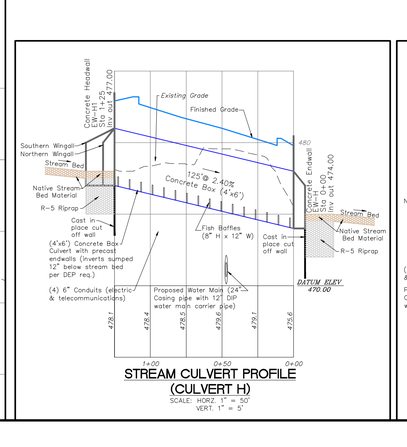


HERTZLER ROAD Profile
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'

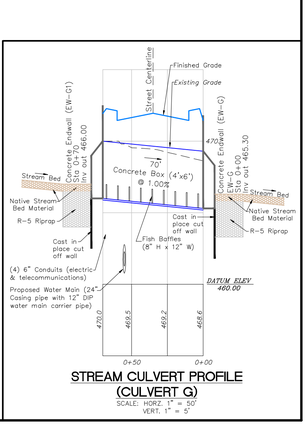
Street Intersection	Speed Limit (mph)	Street Grade (Avg. slope)		Required Sight Distance (Y) @ Posted Speed		Measured Sight Distance (Y) @ Posted Speed	
		Left	Right	Left	Right	Left	Right
S. Autumn Chase Drive @ Hertzler Road	25	-1%	4%	164'	153'	>620'	>750'
N. Autumn Chase Drive @ Hertzler Road	25	4%	-1%	153'	164'	>550'	>600'



HERTZLER ROAD Profile
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



STREAM CULVERT PROFILE (CULVERT H)
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



STREAM CULVERT PROFILE (CULVERT G)
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'

DATE
12-29-2015
4-3-2017
6-1-2017
7-19-2017
9-22-2017
6-8-2020
8-11-2020
7-30-2021
8-11-2021

REVISIONS
1. Added Greenway Section & Detail
2. Addressing Review Comments
3. Addressing Review Comments
4. Addressing Review Comments
5. Addressing Review Comments
6. Addressing Review Comments
7. Addressing Review Comments
8. Addressing Review Comments
9. Updated street name from N Autumn Oaks to N Autumn Chase Dr

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
mellotteng@comcast.net
717-566-6533

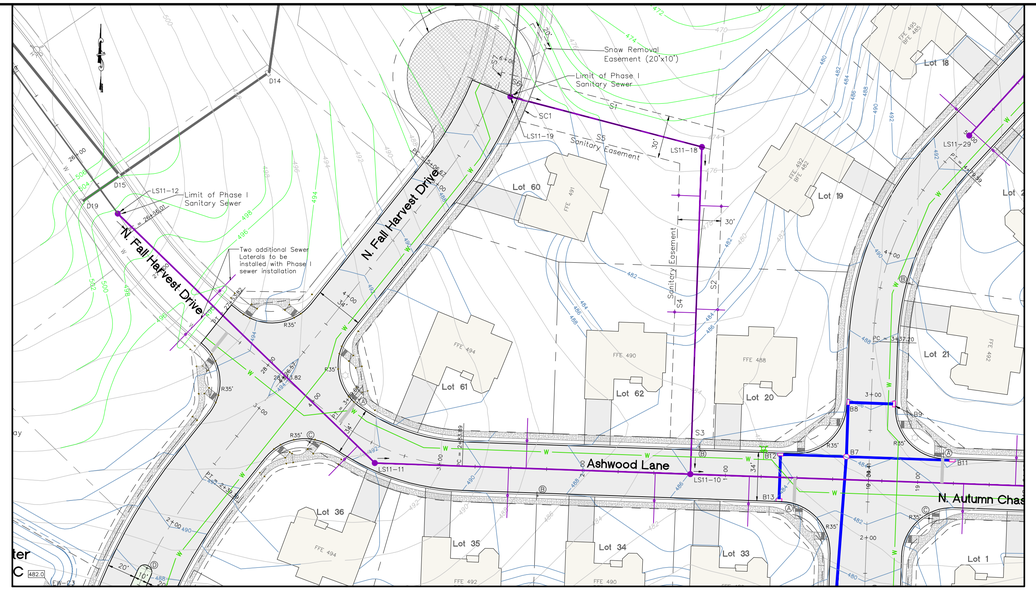
PLANS AND PROFILES
FOR
AUTUMN CHASE PRD - PHASE I
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

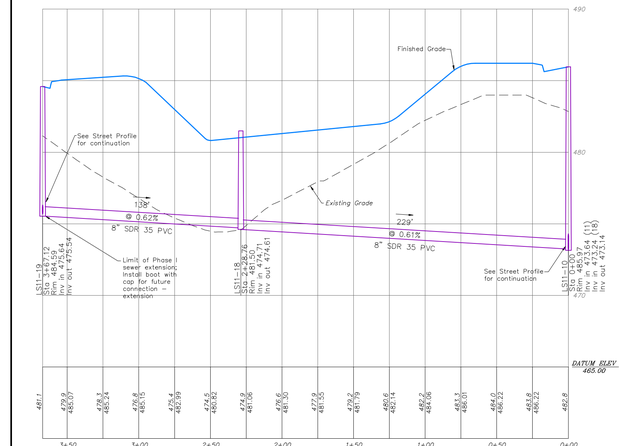
Sheet No.
12 of 25

See Construction Detail sheet for Sanitary Sewer Index Map and Manhole location coordinates

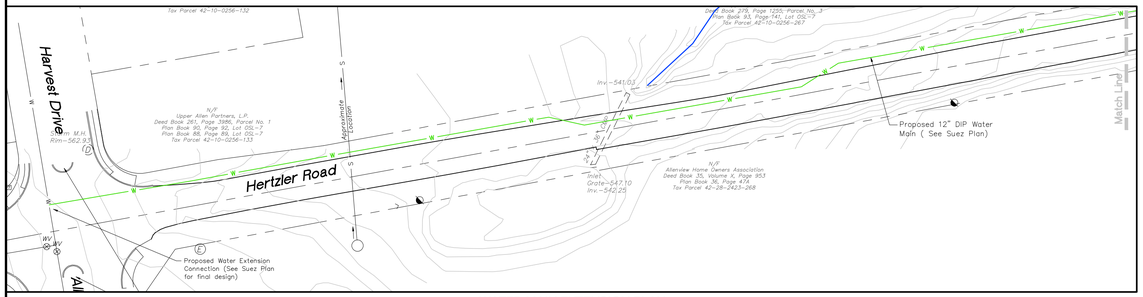
PIPE LENGTH SHOWN ON PROFILE REPRESENTS DISTANCE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE; PIPE SLOPE SHOWN ON PROFILE IS CALCULATED BASED ON DISTANCE FROM INSIDE FACE OF MANHOLE TO INSIDE FACE OF MANHOLE



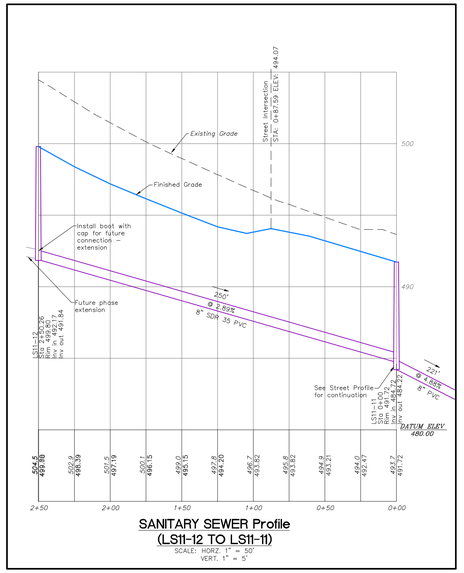
PLAN VIEW
SCALE: HORZ. 1" = 50'



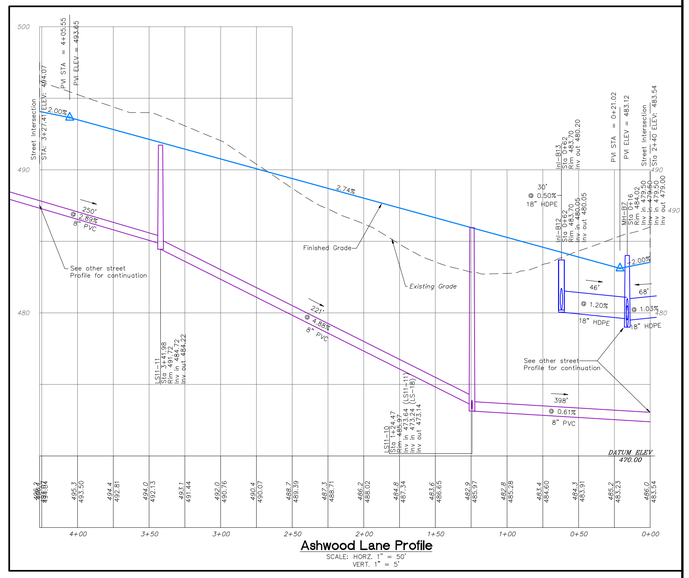
SANITARY SEWER Profile
(LS11-19 to LS11-10)
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



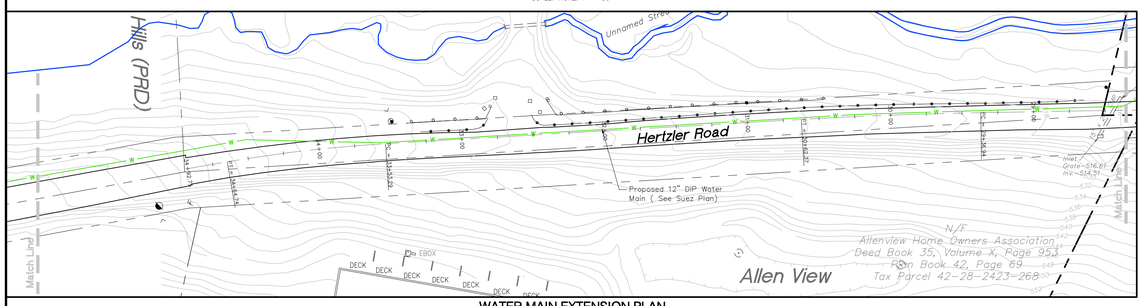
WATER MAIN EXTENSION PLAN
SCALE: HORZ. 1" = 50'



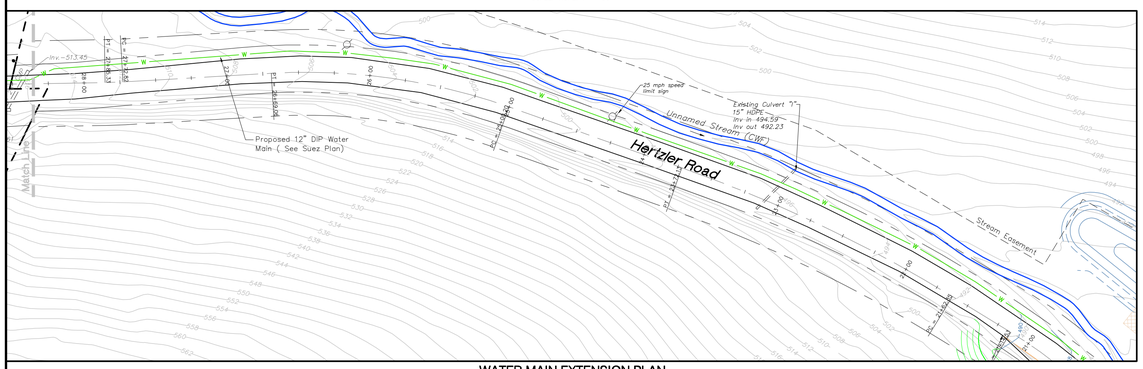
SANITARY SEWER Profile
(LS11-12 TO LS11-11)
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



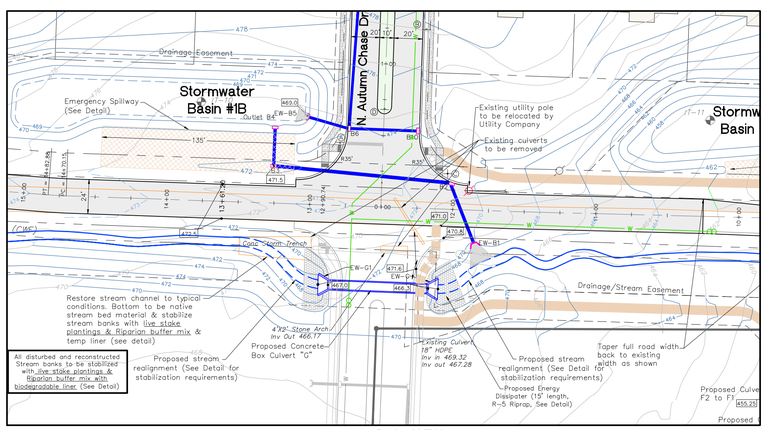
Ashwood Lane Profile
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



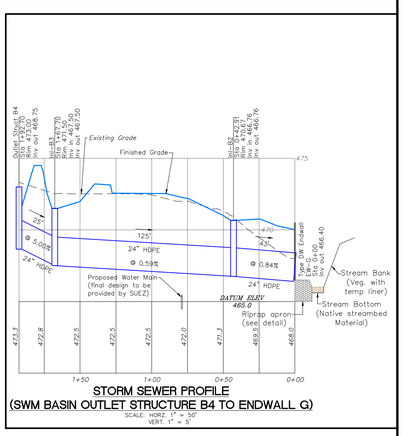
WATER MAIN EXTENSION PLAN
SCALE: HORZ. 1" = 50'



WATER MAIN EXTENSION PLAN
SCALE: HORZ. 1" = 50'



PLAN VIEW
SCALE: HORZ. 1" = 50'



STORM SEWER PROFILE
(SWM BASIN OUTLET STRUCTURE B4 TO ENDWALL G)
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'

REVISIONS

	DATE	
1.	12-29-2015	Added Greenway Section & Detail
2.	4-3-2017	Addressing Review Comments
3.	6-1-2017	Addressing Review Comments
4.	7-19-2017	Addressing Review Comments
5.	9-22-2017	Addressing Review Comments
6.	6-8-2020	Addressing Review Comments
7.	8-5-2020	Addressing Review Comments
8.	7-30-2021	Addressing Review Comments
9.	8-11-2021	Updated street name from N Autumn Oaks to N Autumn Chase Dr

M:\Drawings\2015\201520 Autumn Chase PRD Section 1\201520 PP.dwg, 8/31/2021, 6:55:57 PM, EST

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PLANS AND PROFILES
FOR
AUTUMN CHASE PRD - PHASE I
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

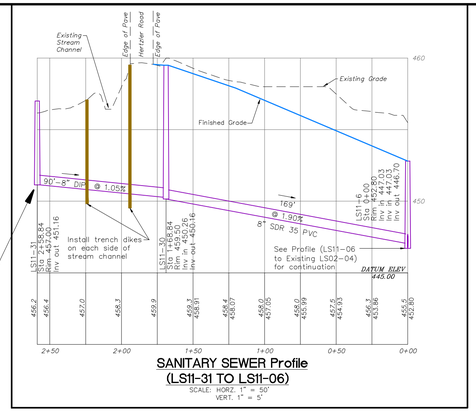
Project No. 201520
Date December 14, 2015

Sheet No.
13 of 25

See Construction Detail sheet for Sanitary Sewer Index Map and Manhole location coordinates

PIPE LENGTH SHOWN ON PROFILE REPRESENTS DISTANCE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE; PIPE SLOPE SHOWN ON PROFILE IS CALCULATED BASED ON DISTANCE FROM INSIDE FACE OF MANHOLE TO INSIDE FACE OF MANHOLE

Sewer Run LS11-31 to LS11-6 is shown for reference only; not to be constructed until future phase (intent is to provide the profile to provide verification future phases on south side of Hertzler Road can be served by the gravity connection)



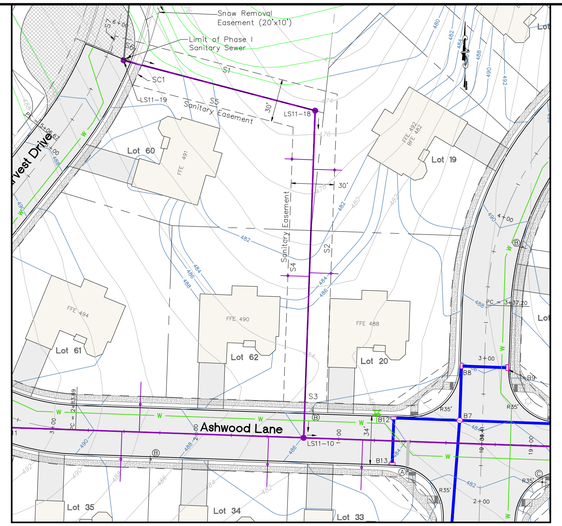
SANITARY SEWER Profile
(LS11-31 TO LS11-06)
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'

SANITARY SEWER EASEMENT LINE TABLE

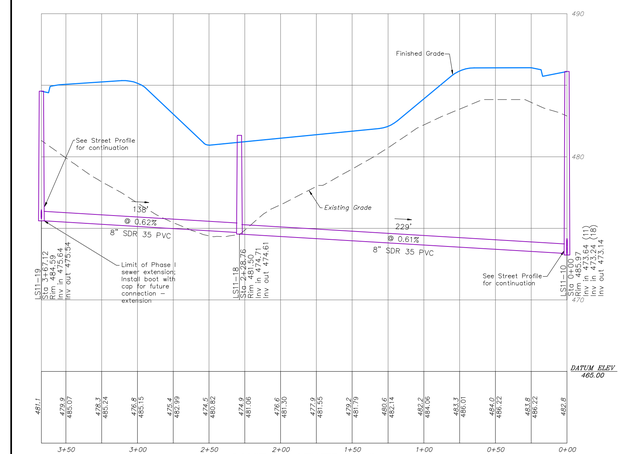
LINE	LENGTH	BEARING
S1	160.36	S 75°16'17" E
S2	215.75	S 2°0'54" W
S3	30.00	N 87°9'6" W
S4	191.77	N 2°0'54" E
S5	115.60	N 75°16'17" W
S6	21.50	N 67°9'0" W
S7	12.04	N 14°43'43" E
S8	125.98	S 36°47'13" E
S9	117.37	S 2°43'36" E
S11	109.75	N 2°43'36" W
S12	117.65	N 36°47'13" W
S13	40.00	N 28°13'57" E
S14	343.55	N 79°24'32" E
S15	401.42	N 52°9'44" E
S16	87.19	N 89°26'2" E
S17	6.68	S 45°40'10" W
S18	26.10	S 89°26'2" W
S19	398.58	S 52°9'44" W
S20	336.45	S 79°24'32" W
S21	4.87	S 28°13'57" W
S22	36.49	S 83°32'32" W

SANITARY SEWER EASEMENT CURVE TABLE

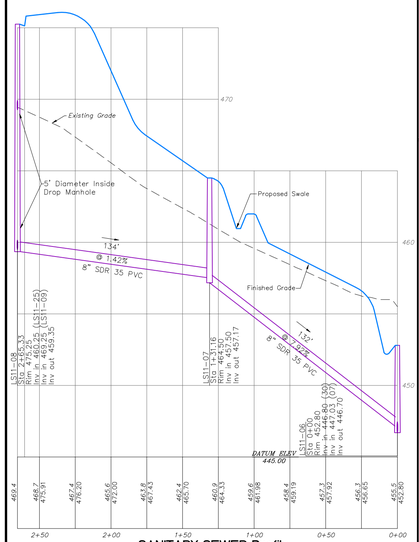
CURVE	LENGTH	RADIUS	Chord Dir	Chord Len
SC1	15.18	275.00	N 23°35'54" E	15.18
SC2	30.04	1,170.00	S 84°16'56" W	30.04
SC3	30.05	175.00	N 54°51'23" E	30.01
SC4	52.74	291.50	S 60°37'29" W	52.67



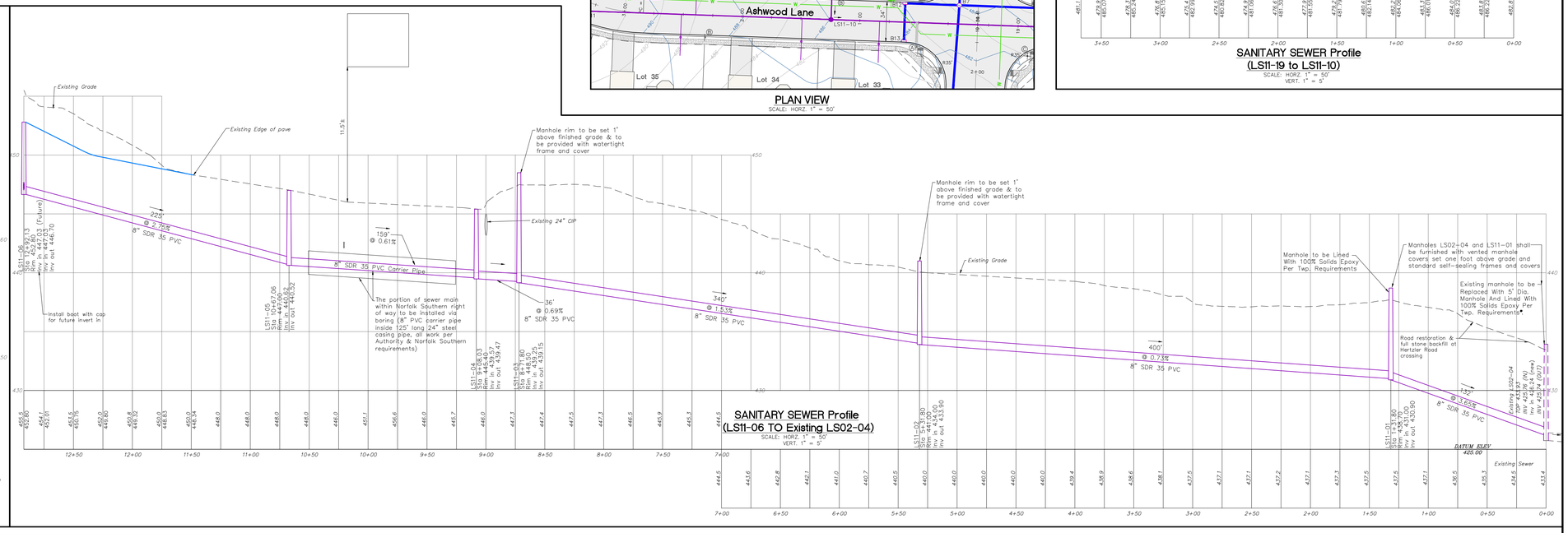
PLAN VIEW
SCALE: HORZ. 1" = 50'



SANITARY SEWER Profile
(LS11-19 to LS11-10)
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



SANITARY SEWER Profile
(LS11-08 TO LS11-06)
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'


Existing Grade
Existing Edge of pave
11.5'±
225'
@ 2.76%
8" SDR 35 PVC
Install boot with cap for future invert in
LS11-06 Sta 0+00.00 Rim 452.80 (future) Inv in 447.03 Inv out 446.70
LS11-05 Sta 10+67.06 Rim 446.60 Inv in 440.60 Inv out 440.52
8" SDR 35 PVC Carrier Pipe
The portion of sewer main within Norfolk Southern right of way to be installed via boring (8" PVC carrier pipe inside 125' long 24" steel casing pipe, all work per Authority & Norfolk Southern requirements)
159'
@ 0.61%
Existing 24" CIP
Manhole rim to be set 1" above finished grade & to be provided with watertight frame and cover
36'
@ 0.69%
8" SDR 35 PVC
LS11-04 Sta 12+68.03 Rim 446.50 Inv in 439.97 Inv out 439.47
LS11-03 Sta 12+31.80 Rim 446.50 Inv in 439.55 Inv out 439.15
340'
@ 1.53%
8" SDR 35 PVC
Manhole rim to be set 1" above finished grade & to be provided with watertight frame and cover
Existing Grade
400'
@ 0.73%
8" SDR 35 PVC
Manhole to be Lined With 100% Solids Epoxy Per Twp. Requirements
Manholes LS02-04 and LS11-01 shall be furnished with vented manhole covers set one foot above grade and standard self-sealing frames and covers
Existing manhole to be Replaced With 5' Dia. Manhole And Lined With 100% Solids Epoxy Per Twp. Requirements
Road restoration & full stone backfill at Hertzler Road crossing
132'
@ 3.65%
8" SDR 35 PVC
LS11-01 Sta 1+43.80 Rim 435.00 Inv in 430.90 Inv out 430.90
Existing LS02-04 TOP 433.93 Inv in 426.24' (new) INV 425.74' (OUT)
DATUM ELEV 425.00
Existing Sewer
456.6 453.81 453.5 450.75 450.8 449.32 450.0 448.83 450.0 448.14 448.0 448.0 448.0 448.0 448.0 448.0 451.1 456.6 446.0 446.0 446.7 446.0 447.3 447.4 447.5 447.3 446.5 445.9 446.1 444.5 444.6 444.6 444.8 445.1 445.0 446.0 445.0 446.0 445.0 446.0

Landscaping shall be provided with Autumn Chase PRD Phase I as indicated on this plan. Landscaping associated with this plan consists of the following:

Required Landscape Area	Buffer Type	Buffer Area (lf)			
					# of Trees Required
Hertzler Road	2	1629	Deciduous (per 40')	Evergreen (per 30')	Shrub (per 20')
			41	54	81
					# of Trees Proposed
			Deciduous	Evergreen	Shrub
			28	47	133
		Difference	-13	-7	52
					# of Trees Required
SWM Area # 1A	3	195	Deciduous (per 30')	Evergreen (per 10')	Shrub (per 10')
			7	20	20
					# of Trees Proposed
			Deciduous	Evergreen	Shrub
			0	14	0
		Difference	-7	-6	-20
					# of Trees Required
SWM Area # 1B	3	250	Deciduous (per 30')	Evergreen (per 10')	Shrub (per 10')
			8	25	25
					# of Trees Proposed
			Deciduous	Evergreen	Shrub
			0	14	0
		Difference	-8	-11	-25
					# of Trees Required
SWM Area # 1C	3	250	Deciduous (per 30')	Evergreen (per 10')	Shrub (per 10')
			8	25	25
					# of Trees Proposed
			Deciduous	Evergreen	Shrub
			0	14	0
		Difference	-8	-11	-25

Summary Required Landscape Screening			
	Required	Proposed	Difference
Deciduous	64	28	-36
Evergreen	124	89	-35
Shrub	151	133	-18
Total Screening	339	250	-89
Street Trees			
LF of ROW	Required (per 50')	Proposed	Difference
5350	107	99	-8
Additional Proposed Plantings			
	Required	Proposed	Difference
SWM 2			
Deciduous	0	18	18
Evergreen	0	18	18
SWM 3			
Evergreen	0	27	27
Northern Property Line			
Evergreen	0	7	7
Entrances			
Shrubs	0	32	32
Total Additional Plantings	0	102	102
Total Landscaping Summary			
	Required	Proposed	Difference
Deciduous	64	46	-18
Evergreen	124	141	17
Shrub	151	165	14
Street Trees	107	99	-8
Total	**446**	**451**	**5**

LANDSCAPE NOTES

The Owner/Developer has the option to modify/change the landscaping and planting list, provided the landscaping proposed is reviewed and approved by Township.

Street trees are proposed which upon maturing will create a canopy effect.

All disturbed areas shall be stabilized. Refer to Erosion and Sediment Pollution Control Plan for temporary and permanent topsoil and seeding requirements, stabilization techniques and specifications.

Street trees shall be planted as not to interfere with utilities, roadways, clear sight triangles, sanitary sewer and storm water facilities.

SHORT TERM LANDSCAPE MAINTENANCE PLAN

1. The landscape contractor and/or developer/lot owners shall be responsible for watering landscaping material during and after installation.
2. Lawn areas shall be watered once weekly during dry periods of the first growing season to establish healthy grass. Watering should occur during the early part of the day to an even saturation depth of one inch.
3. Newly planted trees shall be watered regularly during the dry periods to completely saturate the root ball during the first growing season.
4. Disease, insect and weed control and prevention should be performed in accordance with manufacturer's recommendations.
5. Newly installed plantings shall be selectively pruned if necessary to provide a neat, uniform appearance. Any dead or broken branches shall be removed. All noticeably diseased or damaged plant material shall be removed and replaced prior to final acceptance.
6. All guying and staking shall be maintained regularly to assure plant stabilization and straight, uniform growth for at least the first year following the date of planting.
7. All plant material shall be true to species and variety and shall conform to measurements and minimum standards as set forth in the plant schedule.
8. All plant materials and lawn areas are to be guaranteed by the contractor for a period of one year from date of installation.

LONG TERM LANDSCAPE MAINTENANCE PLAN

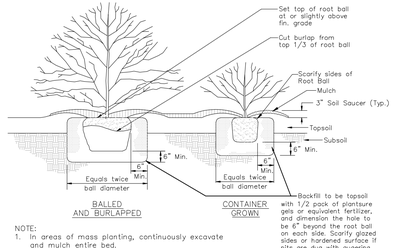
1. Maintenance of trees, shrubs and grass on individual lots shall be the responsibility of the lot owner.
2. Maintenance of street trees located within a public right-of way or easement shall be the responsibility of the property owner whose property directly fronts that portion of right-of-way or easement.
3. Maintenance of all landscaping located in an Open Space Area and within the public right-of-way shall be the responsibility of the Homeowners Association.
4. The lot owner shall be responsible for regular mowing, clean-up, and grooming of all lawn and planted areas.

LEGEND

Deciduous Tree

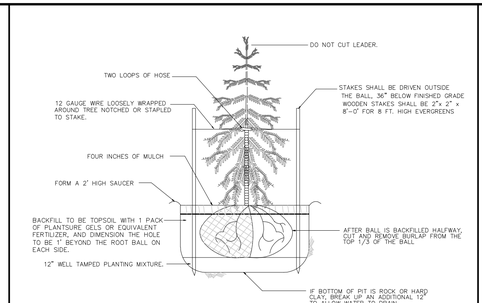
Evergreen Tree

Shrubs



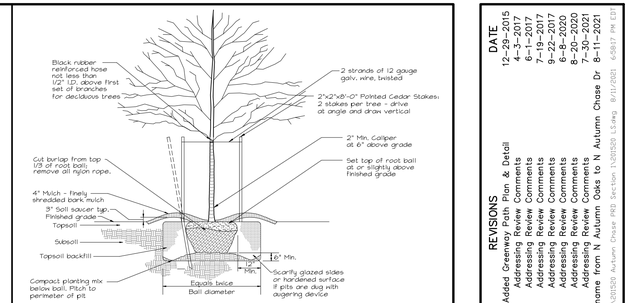
NOTE:
1. In areas of mass planting, continuously excavate and mulch entire bed.

SHRUB PLANTING
N.T.S.



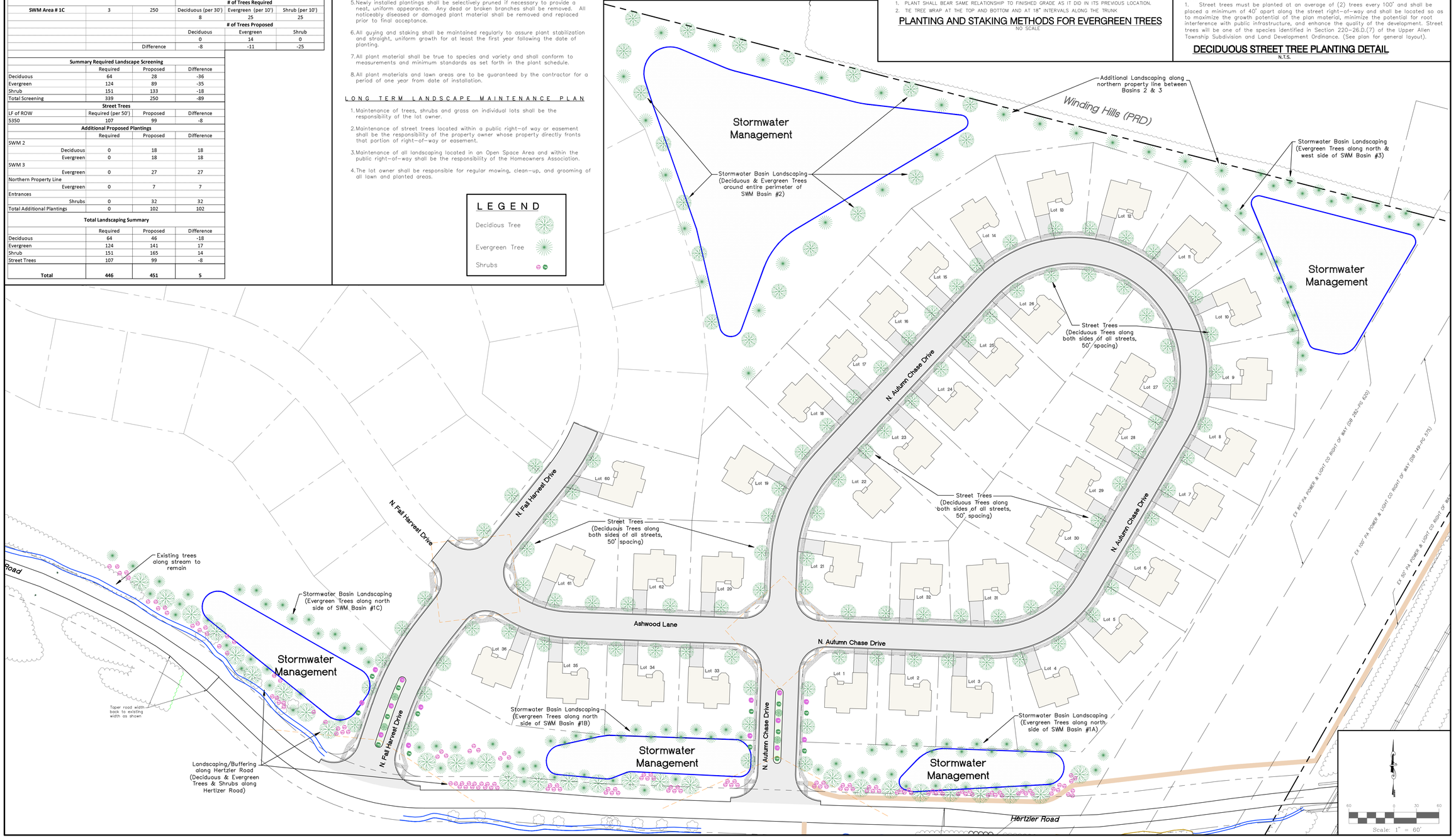
NOTE:
1. PLANT SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS IT DID IN ITS PREVIOUS LOCATION.
2. TIE TREE WRAP AT THE TOP AND BOTTOM AND AT 18" INTERVALS ALONG THE TRUNK

PLANTING AND STAKING METHODS FOR EVERGREEN TREES
NO SCALE



Note:
1. Street trees must be planted at an average of (2) trees every 100' and shall be placed a minimum of 40' apart along the street right-of-way and shall be located so as to maximize the growth potential of the plan material, minimize the potential for root interference with public infrastructure, and enhance the quality of the development. Street trees will be one of the species identified in Section 220-26.D.(7) of the Upper Allen Township Subdivision and Land Development Ordinance. (See plan for general layout).

DECIDUOUS STREET TREE PLANTING DETAIL
N.T.S.



REVISIONS	DATE
1. Added Greenway Section & Detail	12-23-2015
2. Addressing Review Comments	4-3-2017
3. Addressing Review Comments	6-1-2017
4. Addressing Review Comments	7-19-2017
5. Addressing Review Comments	9-22-2017
6. Addressing Review Comments	6-26-2020
7. Addressing Review Comments	8-25-2020
8. Addressing Review Comments	7-30-2021
9. Updated street name from N Autumn Oaks to N Autumn Chase Dr	8-11-2021

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
mellottengr@comcast.net
717-566-6533

LANDSCAPE PLAN

FOR

AUTUMN CHASE PRD - PHASE I

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.

15 of 25

STREET LIGHT GENERAL NOTES

1. Street lighting is proposed throughout Phase I as shown on this plan. Street lights are proposed at all street intersections and along intermediate points along North Autumn Oaks Drive. The proposed street lighting is not intended to over light areas but to alert vehicular traffic of intersections. In addition to the street lights, each lot shall install an outside electric dusk till dawn yard light.
2. Street lights shall be standard PPL fixtures and poles as conceptually shown on this plan.

PROGRESS LIGHTING

DATE: TYPE:
NAME:
PROJECT:

Compact fluorescent

P5434-31EB

Westport CFL

Add a touch of rustic appeal with beaded detailing in the Westport CFL collection. Etched seeded glass complements the durable powder coat finish in die-cast aluminum frames. Energy efficient. Bulb included. Overlight CFL post lantern.

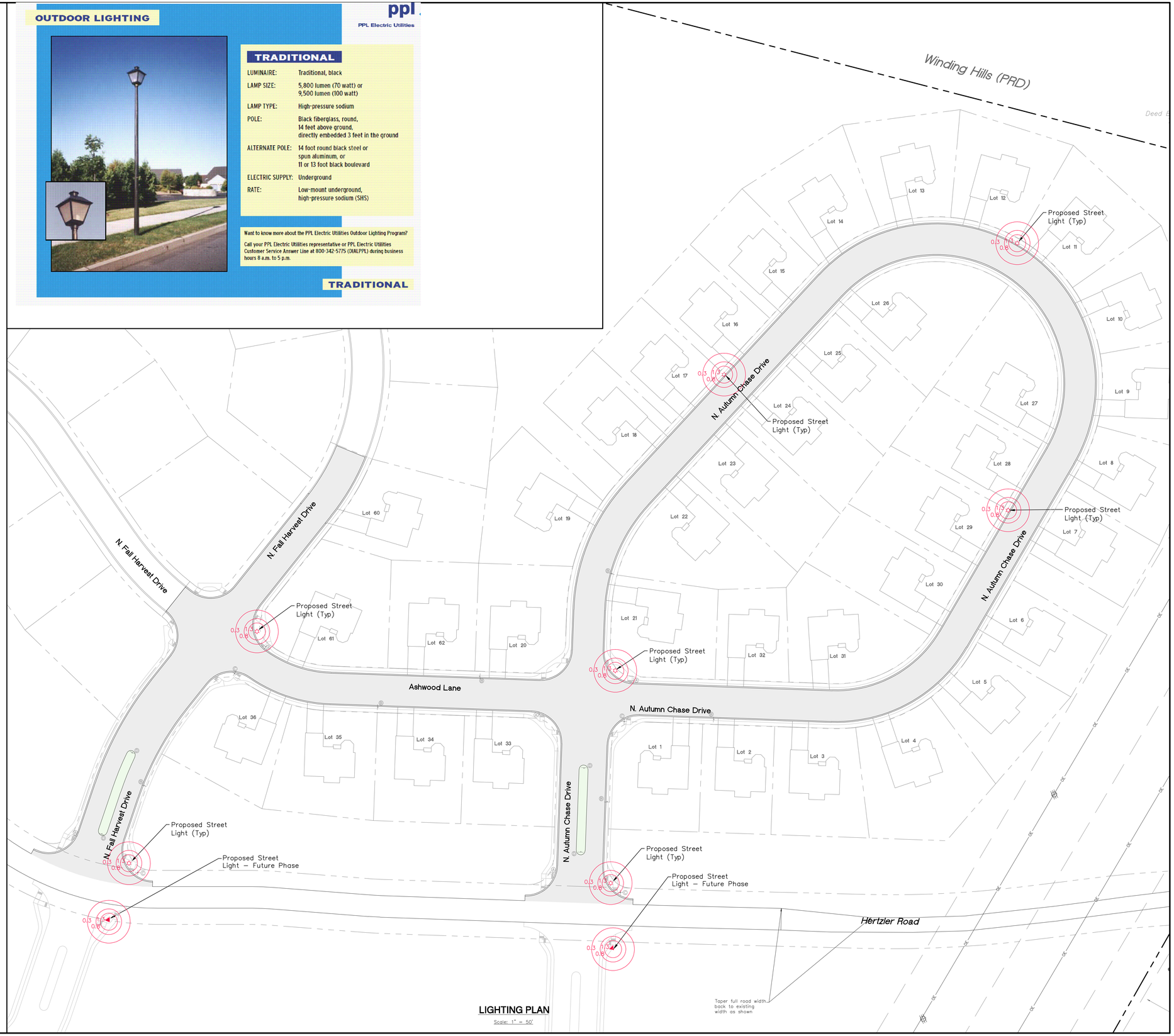
Category: Outdoor
Finish: Black (powdercoat)
Construction: Die-cast aluminum construction
Glass: Etched seeded glass

Diameter: 11"
Height: 19"
Slew: 8-1/2"
Height: 3"

MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Post top - fitter for 3" post or pedestal mounted	Pre-wired 120V	Quantity: 1 18W GU-24 GU24 plastic socket	1 year warranty Companion fixtures are available

In addition to the street lighting, a minimum of one outdoor post light shall be installed for each lot in accordance with the above detail or approved equal.

INDIVIDUAL LOT POST LIGHT DETAIL



LIGHTING PLAN

Scale: 1" = 50'

DATE	REVISIONS
12-28-2015	1. Added Greenway Section & Detail
4-3-2017	2. Addressing Review Comments
6-1-2017	3. Addressing Review Comments
7-19-2017	4. Addressing Review Comments
9-22-2017	5. Addressing Review Comments
6-8-2020	6. Addressing Review Comments
8-25-2020	7. Addressing Review Comments
7-30-2021	8. Addressing Review Comments
8-11-2021	9. Updated street name from N Autumn Oaks to N Autumn Chase Dr

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road • Hummelstown, PA 17036
mellotteng@comcast.net
717-566-6533

LIGHTING PLAN

FOR

AUTUMN CHASE PRD – PHASE I

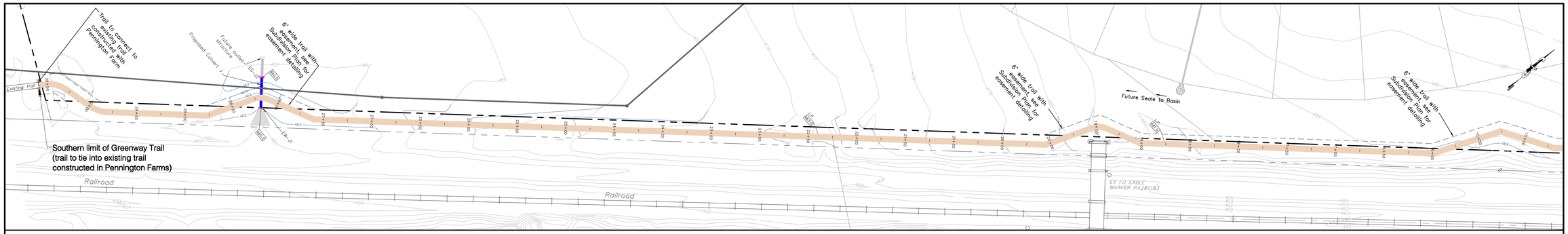
Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

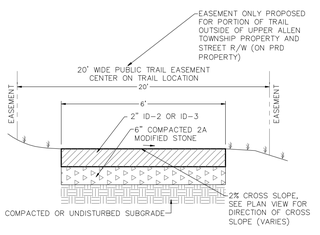
Sheet No.

16 of 25



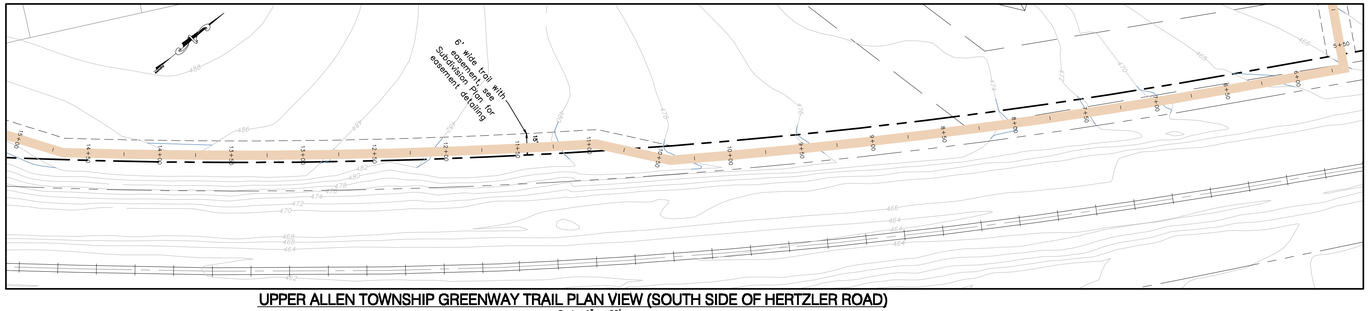
UPPER ALLEN TOWNSHIP GREENWAY TRAIL PLAN VIEW (SOUTH SIDE OF HERTZLER ROAD)

Scale: 1" = 50'



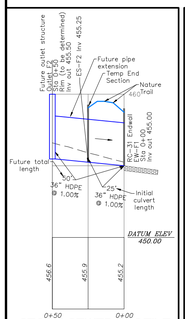
UPPER ALLEN TOWNSHIP GREENWAY TRAIL

NTS



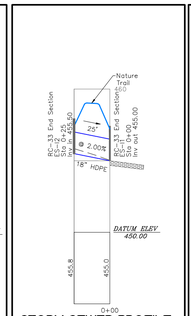
UPPER ALLEN TOWNSHIP GREENWAY TRAIL PLAN VIEW (SOUTH SIDE OF HERTZLER ROAD)

Scale: 1" = 50'



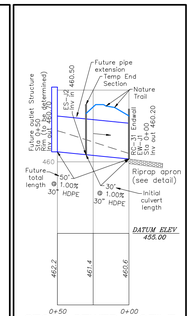
STORM SEWER PROFILE (CULVERT F)

SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM SEWER PROFILE (CULVERT I)

SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM SEWER PROFILE (CULVERT J)

SCALE: HORZ. 1" = 50' VERT. 1" = 5'

UPPER ALLEN TOWNSHIP GREENWAY TRAIL NOTES

A 6' wide asphalt trail shall be constructed in and along the eastern boundary of the Autumn Chase PRD Project, see Master Development Plan sheet for overview of entire trail. The path shall be constructed within the Upper Allen Township Greenway property to the extent practical although portions of the trail shall be constructed within the Autumn Chase property in order to provide for proper grading, draiange and safety. An access easement shall be defined for the portions of the trail located within the Autumn Chase property (see Subdivision Plan for detailed easement descriptions). The trail shall be constructed with a 2% cross slope and shall follow existing grade to the extent practical although some grade changes are proposed in some areas to provide for proper trail slopes and to accommodate existing and future drainage; see below notes for reference to intended cross slope directions. Three storm culverts are proposed on the south side of Hertzler Road in order to collect and convey runoff under the trail. Culverts F & J provide for proper drainage collection for the initial trail installation and shall be extended to serve as basin(s) outfall piping with future phase construction; culvert I shall provide for drainage conveyance under the trail for upslope area that will not drain into the future basin.

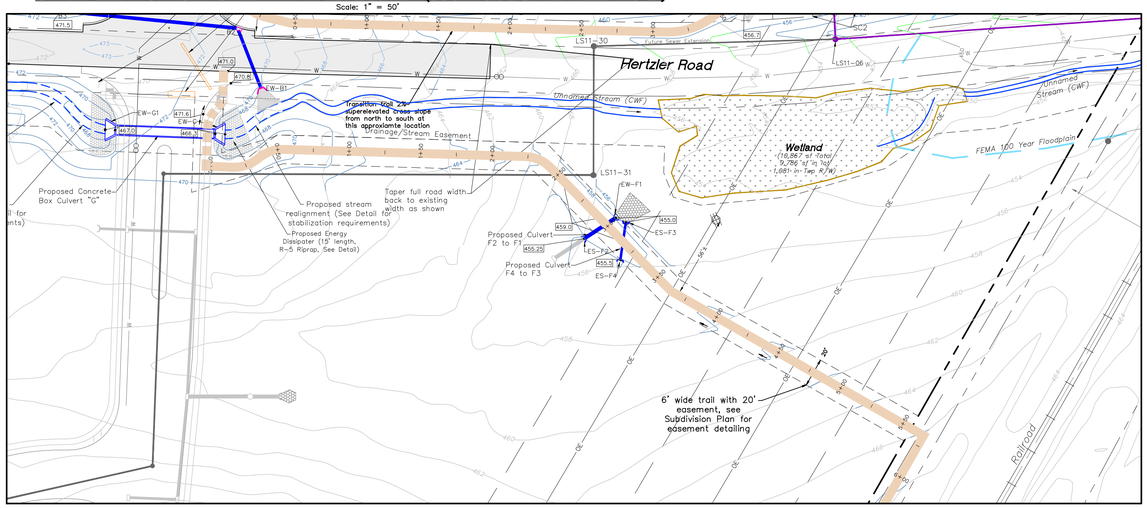
The below notes provide design intent information correlated to the trail centerline stationing provided on the plan (cross slope notes are referenced looking in direction from lower station to higher station).

Greenway Trail south of Hertzler Road (starting at trail intersection with Hertzler Road and end at tie into Penington Farm trail, see stationing on plan for reference)

- Station 0+00 to 5+75: Grade trail as shown on the plan and provide 2% cross slope to the left. Drainage upslope of the trail from station 0+00 to station 4+25 shall drain to proposed Culverts F & J and the small runoff area draining to the trail from station 4+25 to 5+75 shall sheet flow across the trail. See ADA Ramp detailing on the Construction Detail sheet for reference to specific spot elevations for the temporary trail extension to the Hertzler Road (trail will ultimately be tied into the future sidewalk system when the south side of Hertzler Road is developed).
- Station 5+75 to 11+75: Grade trail with a cross slope to the right; minor upslope runoff area shall sheet flow across the trail.
- Station 11+75 to 30+59: Grade the remaining length of the trail with a cross slope to the left. Minor upslope runoff areas shall sheet flow across the trail as depicted with the grading; majority of runoff west of the trail will drain to proposed Culvert J.

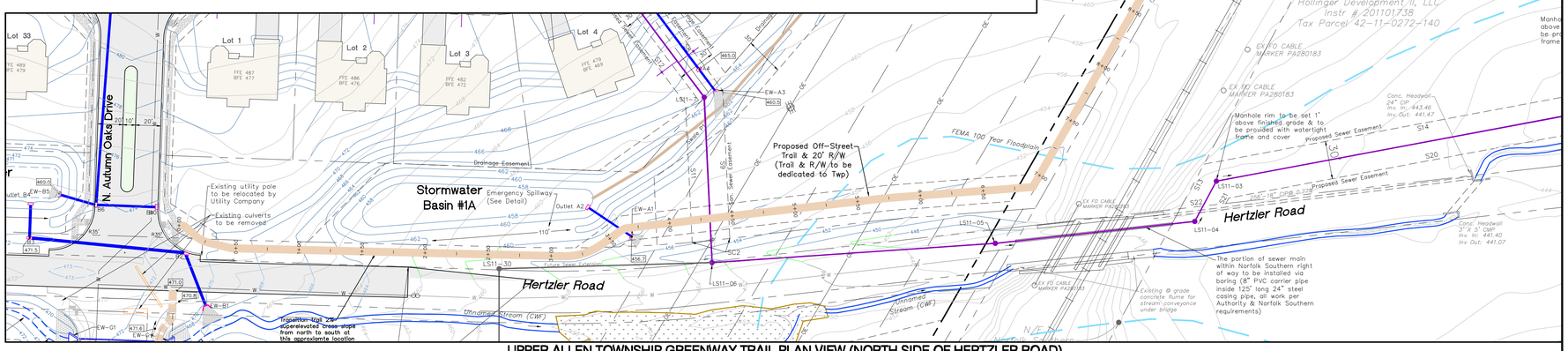
Greenway Trail north of Hertzler Road (Trail on north side of Hertzler Road starts at the proposed sidewalk landing (ADA accessible) and ends at tie into Winding Hills Trail, see Construction Detail sheet for ADA Ramp detailing and see plan for stationing references)

- Station 0+00 to 1+75: Grade trail as shown on the plan and provide 2% cross slope to the left to allow for runoff to drain into the proposed SWM Basin.
- Station 1+75 to 10+00: Grade trail with a cross slope to the right; upslope runoff area shall sheet flow across the trail.
- Station 10+00 to 15+09: Grade the remaining length of the trail with a cross slope to the left. Minor upslope runoff areas shall sheet flow across the trail as depicted with the grading.



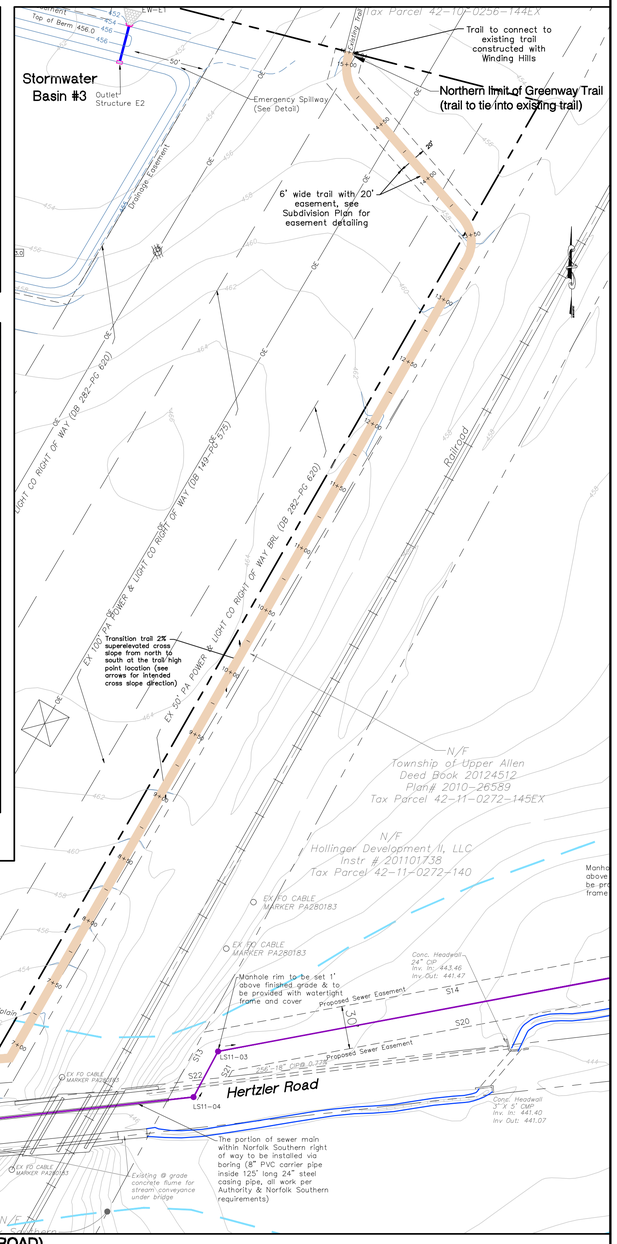
UPPER ALLEN TOWNSHIP GREENWAY TRAIL PLAN VIEW (SOUTH SIDE OF HERTZLER ROAD)

Scale: 1" = 50'



UPPER ALLEN TOWNSHIP GREENWAY TRAIL PLAN VIEW (NORTH SIDE OF HERTZLER ROAD)

Scale: 1" = 50'



No.	Revisions	Date
1.	Added Greenway Trail Section & Detail	12-29-2015
2.	Addressing Review Comments	4-3-2017
3.	Addressing Review Comments	6-1-2017
4.	Addressing Review Comments	7-19-2017
5.	Addressing Review Comments	9-22-2017
6.	Addressing Review Comments	6-8-2020
7.	Addressing Review Comments	8-26-2020
8.	—	—
9.	—	—

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7500 Devonshire Heights Road Hummelstown, PA 17036
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GREENWAY TRAIL PLAN

FOR

AUTUMN CHASE PRD - PHASE I

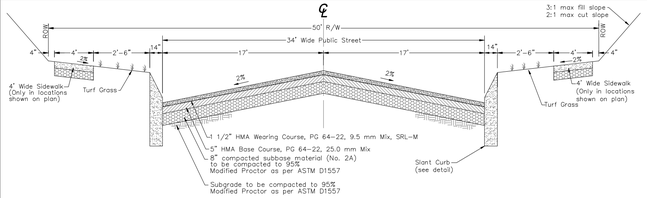
Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

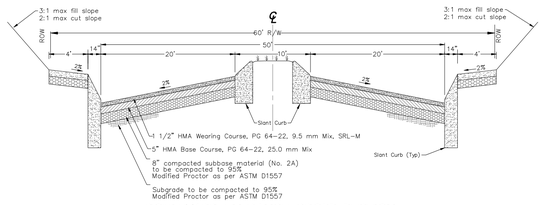
Sheet No.

17 of 25



PUBLIC MINOR STREET CROSS SECTION

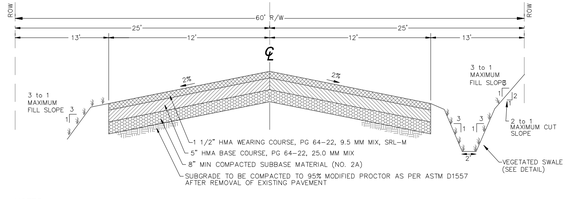
NTS



BOULEVARD ENTRANCE CROSS SECTION

NTS

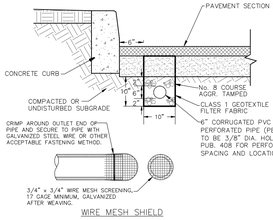
NOTES:
1. The above cross sections apply to all proposed streets (see plan view for boulevard entrance locations).
2. All construction methods and materials shall be in conformance with Township and Penn DOT Specifications for Roadway Construction, Pub. 408 (inlucding RC–, TC–, & TS– Standard Drawings).
3. No road construction activity shall be permitted in the Township of Upper Allen until and unless the contractor shall notify the Township at least one week in advance of commencing work. The contractor shall at all times during the progress of work have a competent superintendent or foreman on the job site. Inspection of road work shall be done by the Township or its designee.
4. Roadway subgrade shall be free of sod, vegetative matter, boulders, spongy soil or other unsuitable material. Where poor subsurface drainage conditions exist, adequate drainage facilities shall be installed.
5. The subgrade shall not be prepared during freezing weather or when frozen or when it is unstable due to excessive moisture.
6. All utility lines, under drains, sewer lines, including laterals and service lines, being placed in the roadway shall be installed prior to the commencement of road construction at the following minimum depths:
   1. Gravity sewer lines: six feet.
   2. Force main sewer: four feet below finish grade.
   3. Waterlines: four feet.
   4. Gas lines: 2 1/2 feet.
   5. Telephone, electrical and television cable: two feet; not to be located within paved cartway.
   6. Sewer and water lines shall have a minimum separation distance of 10 feet.
   7. PA DEP and private utility regulations and procedures will prevail where applicable.
7. All backfill for utilities under existing roadways shall be 2A stone compacted to within 3% of the optimum material moisture content and placed in not greater than eight–inch lifts. The Township may require flowable fill or other alternate backfill material where conditions may warrant such measures.
8. All backfill for utilities under new roadways shall be suitable backfill material with no stones over four inches and no organic material, compacted to within 3% of the optimum material moisture content and placed in not greater than eight–inch lifts.
9. Preparation of road subgrade.
   (a) The subgrade shall be compacted and fine graded to not more than 0.2 foot below the grade as shown on the plan.
   (b) All soft, plastic (as determined by proof roll) or rock areas in the subgrade shall be undercut to a depth of at least 12 inches or more if deemed necessary by the Township Engineer and shall be refilled with approved materials and/or underdrained and/or reinforced with geotextile, as determined by the Township Engineer.
   (c) The subgrade shall conform to the same crown as the paved surface.
   (d) Prior to the placement of subbase or base course, the subgrade shall be proof–rolled with a fully loaded tandem axle dump truck. The proof rolling shall be observed by the Township Engineer. An acceptable proof roll shall be non–movement of the subgrade.
10. Preparation of road base.
    (a) The base course material shall consist of compacted PennDOT No. 2A subbase meeting the specifications of Pennsylvania Department of Transportation Publication 408, as amended, and shall be laid in the manner prescribed therein to the following thickness: 8" eight inches.
    (b) Pipe underdrain shall be provided in wet areas, in areas of roadway sag conditions, or any other areas as required by the Township Engineer.
11. Preparation of road surface. Roads shall be constructed from multiple courses of pavement materials, including a base course and a wearing course of hot–mixed, hot–laid asphaltic concrete. An additional binder course may be required on collector roads and industrial or commercial areas.
    (a) The base course shall consist of a minimum of five inches of compacted HMA Superpave base, P664–22, 37.5 mm mix, meeting the specifications of the Pennsylvania Department of Transportation Publication 408, as amended, and shall be laid in the manner prescribed therein. The base course shall be repaired if defects occurred prior to placement of wearing course. Where cracking or any other type of failure has occurred in the base course, the contractor shall completely remove the base course, stabilize the subgrade if necessary and construct new base course. Where the deficiency involves depressions or raveling in the surface of the base course, the repair may be made by skin patching with a suitable bituminous material.
    (b) The wearing course shall consist of a minimum of 1 1/2 inches of compacted HMA Superpave wearing course, P664–22, 9.5 mm mix, meeting the requirements of the Pennsylvania Department of Transportation Publication 408, as amended, and shall be laid in the manner prescribed therein. Where a wearing course is placed on an existing street, a minimum one–half–inch scratch course of compacted HMA Superpave wearing course, P664–22, 9.5 mm mix, shall be placed prior to the wearing course. The Township Engineer may require that the existing pavement be milled prior to placement of the scratch course.
    (c) The wearing course shall only be placed after sufficient time has passed to ensure that no further settling will take place. The wearing course shall only be placed after an inspection has determined no sags, low spots or depressions exist which could adversely affect the integrity of the wearing course. Any defects found shall be repaired prior to the placement of the wearing course. In the event of any deficiency in the wearing course such as raveling, depressions, cracking etc., such deficiencies shall be repaired by removing the wearing course and replacing with new material. Subject to said inspection, the wearing course shall be placed no later than the time when 90% of the lots have been issued a certificate of occupancy by the Township. A tack coat meeting the requirements of the Pennsylvania Department of Transportation Publication 408, as amended, shall be placed prior to paving with the wearing course.
    (d) Where required, the binder course shall consist of a minimum of 2.5 inches of HMA Superpave binder course, P664–22, 19.0 mm mix, meeting the requirements of the Pennsylvania Department of Transportation Publication 408, as amended, and shall be laid in the manner prescribed therein.
12. Note 12 has been removed.



NOTES:
1. Hertzler Road shall be totally reconstructed in areas that finished grade is to be raised (see profile). The road shall be reconstructed by removing existing pavement and placing suitable material compacted in 8" lifts to bottom of proposed subbase. See Road Construction Notes above for construction requirements.
2. All construction methods and materials shall be in conformance with township standards.
3. Line striping shall be provided as required by the Township.
4. Roadside swale construction varies from north to south side of hertzler road. See plan for locations of swales.

HERTZLER ROAD RECONSTRUCTION DETAIL

NTS



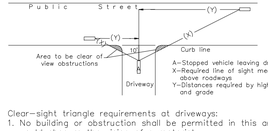
WIRE MESH SHIELD

Note:
1. Install underdrains where shown on the plan, where field conditions warrant and as directed in the field by the Township.
2. The road subgrade and stone subbase are to be established prior to the placement of the underdrain.

PAVEMENT UNDERDRAIN DETAIL

NTS

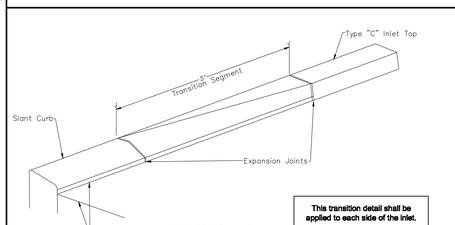
See Street Profiles for intersection sight distances



Clear–sight triangle requirements at driveways:
1. No building or obstruction shall be permitted in this area that would obscure the vision of a motorist.
2. Grading and / or plantings (existing through mature growth) less than three (3) feet above the street grade are permitted in the clear–sight triangle.

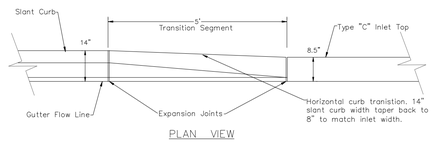
DRIVEWAY CLEAR SIGHT TRIANGLE DETAIL

N.T.S.

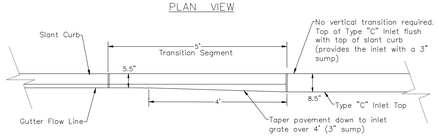


ISOMETRIC VIEW

This transition detail shall be applied to each side of the inlet.



PLAN VIEW

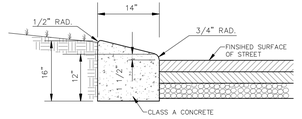


FRONT ELEVATION

Slant curb shall be installed for all proposed streets. Standard Type "C" Stormwater Inlets with an 8" hood (See Detail) shall be installed for all curbside street drainage collection. Use the above detail for the necessary curb transition to stormwater inlet boxs. The top of the curb and inlet hood shall be flush and will not require a vertical transition (provides a 3" sump at inlet, see pavement slope transistion above for pavement transition to sumped inlet).

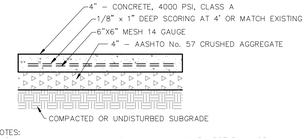
VERTICAL TO SLANT CURB TRANSITION DETAIL

NTS



SLANT CURB DETAIL

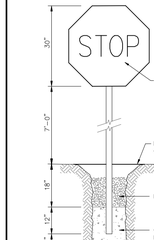
NTS



NOTES:
1. Sidewalks to be constructed in accordance with PA DOT Pub. 408.
2. Slabs to be poured in separate 30' lengths and shall be completely separated by 4" expansion joints.
3. Surface to be provided with broom finish.

CONCRETE SIDEWALK DETAIL

NTS



NOTE:
CONSTRUCT SIGN IN ACCORDANCE WITH PENN DOT SPECIFICATIONS

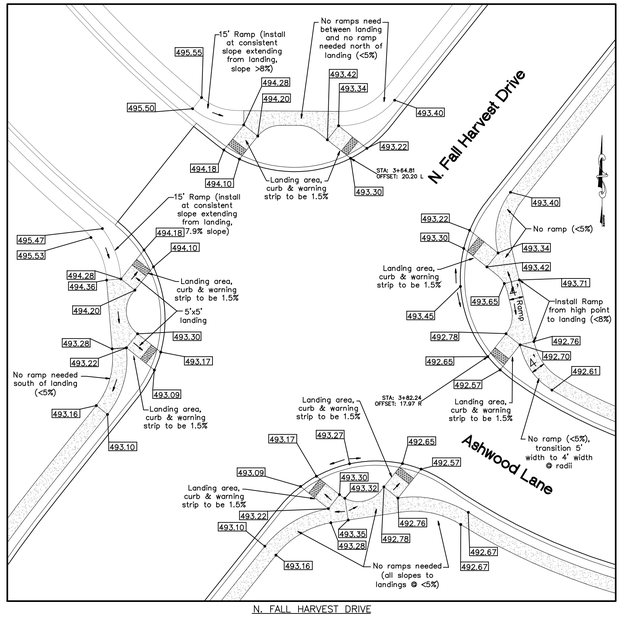
STOP SIGN DETAIL

NTS

SIGN LEGEND

NO.	DOT NO.	LEGEND	QTY.
A	R1–1	STOP 30"	5
B	R2–1	SPEED LIMIT 25	6
C	No Ref.	STREET NAME	4
D	R4–7		4

Note:
1. Signs shall be installed at locations shown on the plan unless alternative locations are approved by the township.



NOTES:
1. Driveways shall be constructed in accordance with Township Subdivision and Land Development Ordinance Section 220–17 and Zoning Ordinance Section 245–259.B. requriements.
2. Sidewalks to be constructed in accordance with PA DOT Pub. 408. All concrete sidewalks shall have a minimum thickness of 4", except at driveways, where the sidewalks shall have a minimum thickness of 6" and shall be reinforced with welded wire fabric.
3. Driveways shall be constructed with a concrete apron from the depressed curb to the proposed sidewalk. Driveway shall be bituminous pavement or concrete from the sidewalk to the unit/dwelling.

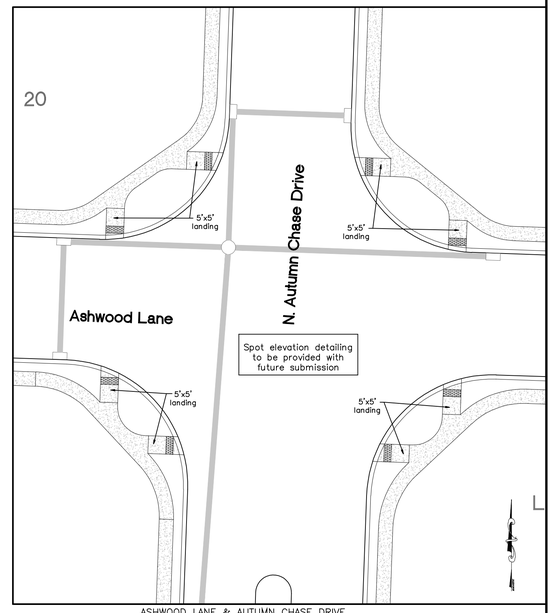
DRIVEWAY APRON DETAIL

NTS

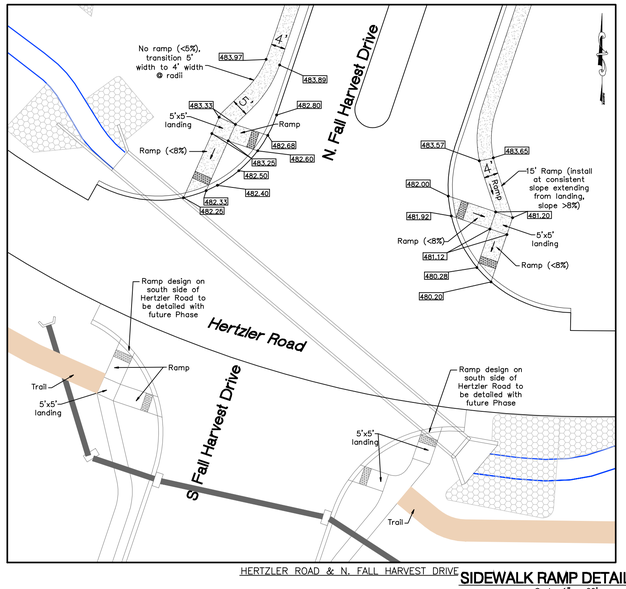
SIDEWALK RAMP NOTES

1. Sidewalk Curb Ramps shall be installed at all sidewalk intersections with a street. Construction to comply with Penn DOT RC–67M standards.
2. A detectable warning strip shall be installed behind the curb line. Slope of detectable warning strip not to exceed 2% slope in any direction.
3. A 5' x 5' wide landing area shall be provided for each ramp as shown. Slope of landing not to exceed 2% slope in any direction (landing slopes shown on the plan are based on 1.5% slopes to provide for more construction tolerance).
4. Ramp widths extending off the street curb line to and including the landing shall be 5' width. Ramp length not to exceed 15'; ramp length to be 15' when <8% slope can not be provided within less than 15' in which case a constant slope shall be provided over the 15' length to tie into sidewalk elevation based on road grade.
5. The Greenway Trails on both the north and south side of Hertzler Road shall tie into a sidewalk ramp landing as shown although the Greenway trail southern connection to Hertzler Road shall temporarily tie directly into the edge of pavement until future development of the southern portion of the tract at which time the trail shall connect to the obutting sidewalk landing accordingly. A detectable warning strip shall be installed at the temporary southern connection.
6. Access easements along the street right of way is provided for the portions of sidewalk located outside of the street right of way; see Subdivision Plan for reference to easement.

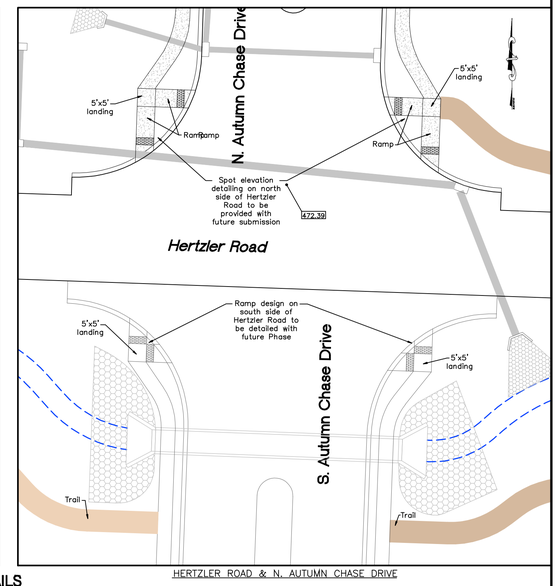
N. FALL HARVEST DRIVE



ASHWOOD LANE & AUTUMN CHASE DRIVE



HERTZLER ROAD & N. FALL HARVEST DRIVE



HERTZLER ROAD & N. AUTUMN CHASE DRIVE

SIDEWALK RAMP DETAILS

Scale: 1" = 20'

	DATE
Added Greenway Trail Section & Detail	12–29–2015
Addressing Review Comments	4–3–2017
Addressing Review Comments	6–1–2017
Addressing Review Comments	7–19–2017
Addressing Review Comments	9–22–2017
Addressing Review Comments	6–26–2020
Addressing Review Comments	8–5–2020
Addressing Review Comments	7–30–2021
Updated street name from N Autumn Oaks to N Autumn Chase Dr	8–11–2021

1. 2. 3. 4. 5. 6. 7. 8. 9.

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
717–566–6533
mellotteng@comcast.net

CONSTRUCTION DETAILS

FOR

AUTUMN CHASE PRD – PHASE I

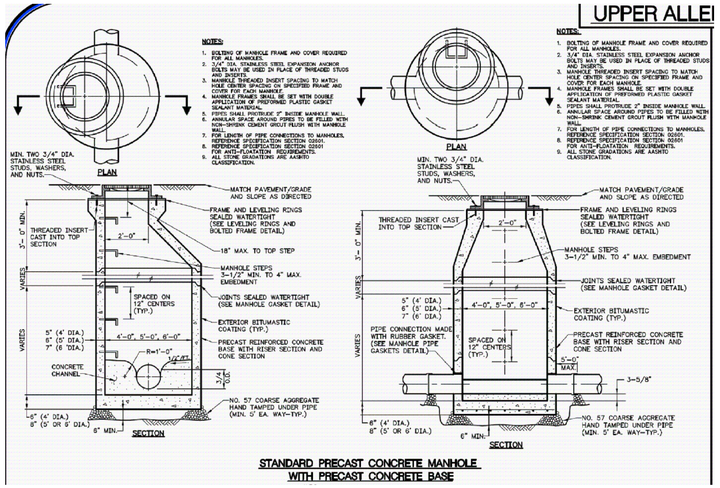
Land Developer: Hertzler Road Associates, L.P.

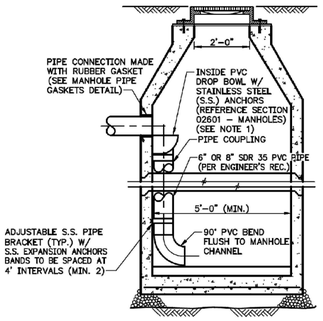
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.

18 of 25

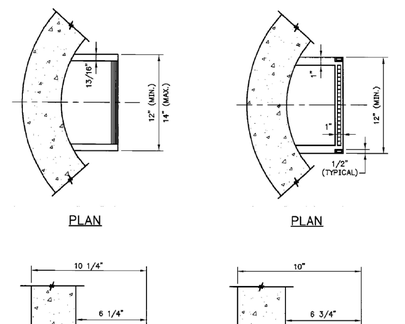




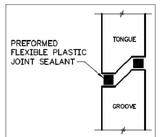
NOTES:

1. PVC DROP BOWL SHALL BE AS MANUFACTURED BY RELINER/DURAN, INC. OR APPROVED EQUAL.
2. REFERENCE PRECAST CONCRETE MANHOLE AND MANHOLE COVER AND CASTING DETAILS.

INSIDE MANHOLE DROP CONNECTION DETAIL



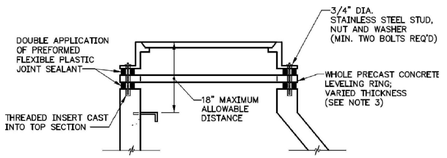
MANHOLE STEPS DETAIL



STANDARD DETAILS
MANHOLE SECTION JOINT SEAL
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
SCALE: NO SCALE	DWG. NO.: MH-14

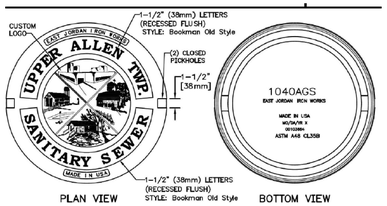
FILE NAME: MH-14-SEAL.DWG

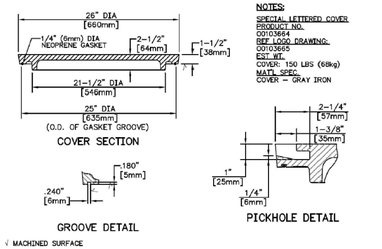


NOTES:

1. NO CEMENT GROUTING BETWEEN MANHOLE, LEVELING RINGS AND FRAME, OR ON INSIDE OR OUTSIDE OF MANHOLE PERMITTED. SEALING WITH APPLICATION OF HIGH BUILD EPOXY COATING PERMITTED (SIKA GUARD 62 OR APPROVED EQUAL).
2. RUBBER ADJUSTMENT RISERS PERMITTED FOR PAVED AREAS AND MAY BE TAPERED FOR STREET GRADE ADJUSTMENT.
3. 3/4" DIA. STAINLESS STEEL EXPANSION ANCHOR BOLTS MAY BE USED IN PLACE OF THREADED STUDS AND INSERTS.

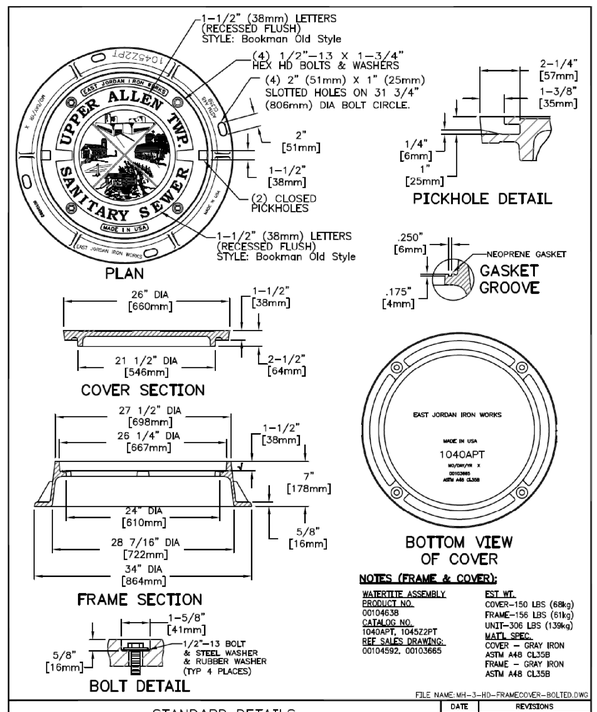
LEVELING RINGS AND BOLTED FRAME DETAILS
N.T.S.





NOTES:
SPECIAL LETTERED COVER
PRODUCT NO.: 00103661
REF. LOGO DRAWING: 00103665
EST. WT.
COVER: 150 LBS (68kg)
MATL. SPEC.
COVER - GRAY IRON

HEAVY DUTY MANHOLE SELF-SEALING COVER
N.T.S.

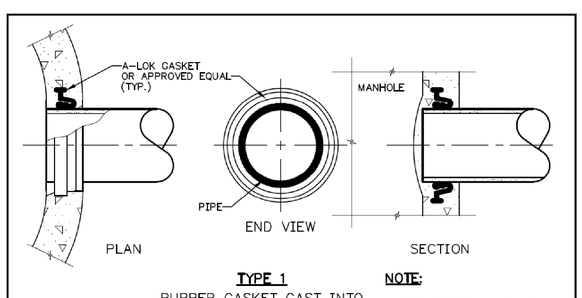


NOTES (FRAME & COVER):
WATERTITE ASSEMBLY
PRODUCT NO.: 00104638
CATALOG NO.: 1040APT, 104522PT
REF. SALES DRAWING: 00104592, 00103665
EST. WT.
COVER-150 LBS (68kg)
FRAME-156 LBS (61kg)
UNIT-306 LBS (139kg)
MATL. SPEC.
COVER - GRAY IRON ASTM A48 CL35B
FRAME - GRAY IRON ASTM A48 CL35B

STANDARD DETAILS
HEAVY DUTY MANHOLE WATERTIGHT FRAME AND COVER
UPPER ALLEN TOWNSHIP

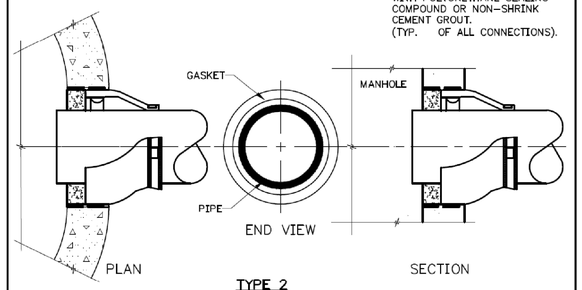
DATE	REVISIONS
3/08	DWG. CREATED
SCALE: NO SCALE	DWG. NO.: MH-3

FILE NAME: MH-3-HD-FRAMECOVER-BOLTED.DWG



TYPE 1
RUBBER GASKET CAST INTO PRECAST PIPE OPENINGS

NOTE:
AFTER PIPE-TO-MANHOLE INSTALLATION, SEAL ANNULAR SPACE AROUND PIPE, INSIDE AND OUTSIDE OF MANHOLE WITH POLYURETHANE SEALING COMPOUND OR NON-SHRINK CEMENT GROUT. (TYP. OF ALL CONNECTIONS).

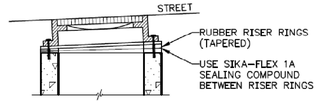


TYPE 2
RUBBER GASKET COMPRESSION RING
INSERT FOR PRECAST OR CORED PIPE OPENINGS (KOR-N-SEAL)

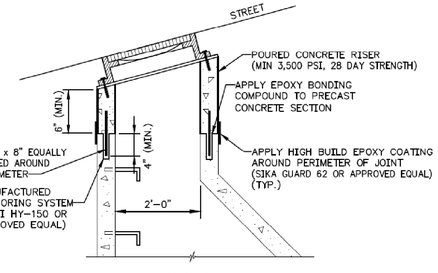
STANDARD DETAILS
MANHOLE PIPE GASKETS
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
12/13	DWG. UPDATED
SCALE: NO SCALE	DWG. NO.: MH-13

FILE NAME: MH-13-PIPE-GASKETS.dwg



RUBBER RISER RING ADJUSTMENT

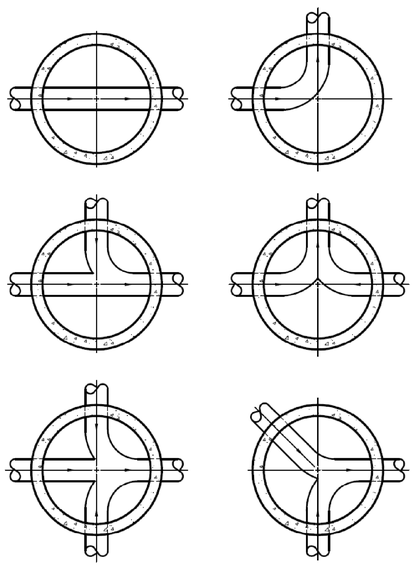


POURED CONCRETE ADJUSTMENT RISER

STANDARD DETAILS
MANHOLE ADJUSTMENT RISERS FOR STREET GRADES OF 2% OR GREATER
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
11/08	RUBBER RISER REVISION
SCALE: NO SCALE	DWG. NO.: MH-11

FILE NAME: MH-11-RISER-STEEP-SLOPE.DWG



STANDARD DETAILS
TYPICAL PLAN OF MANHOLE CHANNELS
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
SCALE: NO SCALE	DWG. NO.: MH-15

FILE NAME: MH-15-CHANNELS.DWG

DATE	REVISIONS
12-29-2015	1. Added Greenway Section & Detail
4-3-2017	2. Addressing Review Comments
6-1-2017	3. Addressing Review Comments
7-19-2017	4. Addressing Review Comments
9-22-2017	5. Addressing Review Comments
6-8-2020	6. Addressing Review Comments
	7. -
	8. -
	9. -

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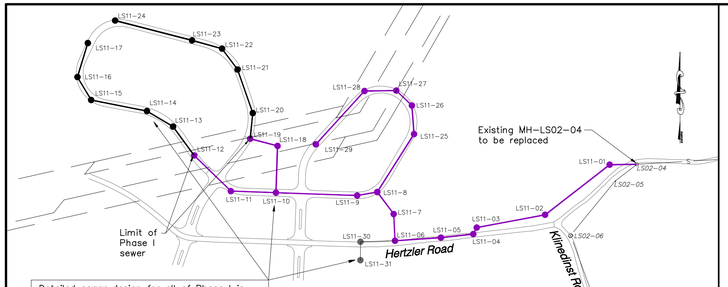
MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
717-566-6533

SANITARY SEWER CONSTRUCTION DETAILS
FOR
AUTUMN CHASE PRD - PHASE I
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.
19 of 25



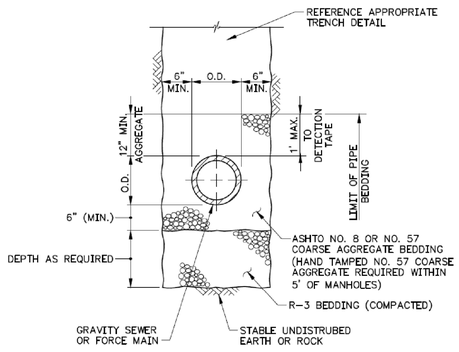
Detailed sewer design for all of Phase I is provided with this plan set; design for future phases shall be provided with future processing accordingly. The portion of the development on the south side of Hertzler Road shall be served by a single gravity sewer main extension under Hertzler Road as well as gravity sewer extension out of the southern most corner of the property to the offsite Pennington Pumping Station No. 4

SEWER INDEX MAP (Phase I)

Scale: 1" = 350'

Autumn Chase Phase I Sanitary Sewer Table

Manhole ID	Northing	Easting	Manhole ID	Northing	Easting
LS11–31	309671.2855	2189747.0931	LS11–15	310454.4677	2188430.5288
LS11–30	309761.2851	2189747.3679	LS11–14	310400.5381	2188703.2339
LS11–29	310237.9865	2189528.8256	LS11–13	310324.4619	2188830.6998
LS11–28	310498.4435	2189767.0394	LS11–12	310183.4472	2188933.9678
LS11–27	310500.9512	2189922.4286	LS11–11	310009.1336	2189113.5309
LS11–26	310427.7006	2189998.7128	LS11–10	310001.3764	2189333.9994
LS11–25	310288.0259	2190009.0481	LS11–09	309987.3969	2189731.3118
LS11–24	310843.2791	2188547.6443	LS11–08	310004.6310	2189829.5479
LS11–23	310746.3736	2188923.5014	LS11–07	309897.1731	2189909.8983
LS11–22	310705.7149	2189070.3850	LS11–06	309766.1648	2189916.1379
LS11–21	310603.7094	2189146.3821	LS11–05	309781.4463	2190140.6930
LS11–20	310390.5693	2189220.6744	LS11–04	309798.8039	2190298.7632
LS11–19	310265.1728	2189208.2267	LS11–03	309830.7293	2190315.9047
LS11–18	310229.9955	2189342.0434	LS11–02	309893.2210	2190650.1124
LS11–17	310733.3898	2188414.1357	LS11–01	310138.5917	2190966.0131
LS11–16	310566.9996	2188363.2161	LS02–04	310139.8939	2191097.8051



NOTES:

1. IF STABLE UNDISTURBED EARTH OR ROCK UNATTAINABLE, STABILIZATION METHOD TO BE DETERMINED BY ENGINEER.
2. DETECTION TAPE REQUIRED; REFERENCE APPROPRIATE TRENCH DETAIL.

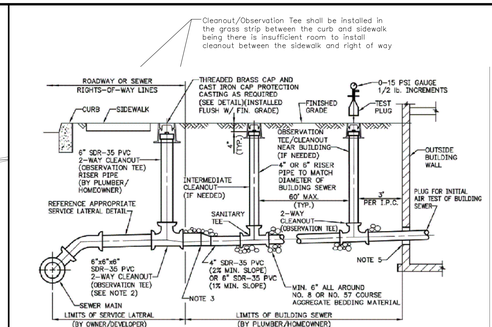
FILE NAME: TRENCH-3-UMF.DWG

STANDARD DETAILS

UNSUITABLE MATERIAL EXCAVATION

UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
12/13	DWG. UPDATED
SCALE: NO SCALE	DWG. NO.: TR-3



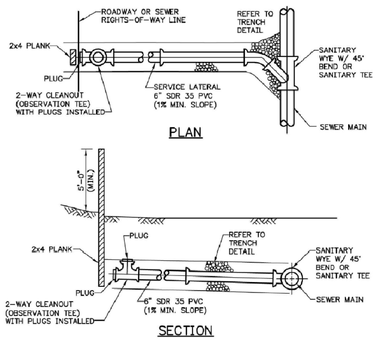
ELEVATION

NOTES:

1. PIPE SIZES AND MATERIALS TO BE IN ACCORDANCE WITH TOWNSHIP REQUIREMENTS.
2. 2-WAY CLEANOUT (OBSERVATION TEE) TO BE LOCATED WITHIN TOWNSHIP R/W AND LOCATION TO BE SITE SPECIFIC WITH RESPECT TO CURB AND SIDEWALK.
3. FOR 4" BUILDING SEWER, USE ECCENTRIC 6"x4" ADAPTER FITTING FOR TRANSITION TO 2-WAY CLEANOUT (6"x6" FLEXIBLE COUPLING NOT ALLOWED).
4. CLEANOUT/TEST TEE SPACING IS 60' MAXIMUM.
5. WALL SLEEVE TO BE 2" GREATER THAN DIAMETER OF BUILDING SEWER PIPE AND SEALED WATER TIGHT.
6. ANY PIPE LESS THAN 3 FEET OF COVER SHALL BE APPROVED BY TOWNSHIP.
7. THERE SHALL BE A 10 FOOT HORIZONTAL SEPARATION BETWEEN WATER SERVICE AND SERVICE LATERAL/BUILDING SEWER, OR WATER SERVICE SHALL BE ENCASED IN A WATERTIGHT PVC CONDUIT SEALED AT BOTH ENDS WITH APPROPRIATE FERNCO ADAPTER.
8. INSTALL TEST PLUGS AS REQUIRED FOR ACCEPTANCE AIR TESTING.
9. PROTECTION CASTING REQUIRED IN PAVED AREAS ONLY.
10. DETECTION TAPE REQUIRED IN PIPE TRENCH AT A DEPTH FO 12-INCHES BELOW SURFACE GRADE OR PAVEMENT SUBGRADE.

BUILDING SEWER DETAIL

N.T.S.



PLAN

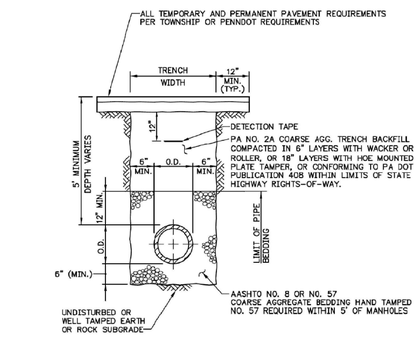
SECTION

NOTES:

1. 2-WAY CLEANOUT (OBSERVATION TEE) NOT TO BE LOCATED IN SIDEWALK OR BENEATH OTHER CURB LINE UTILITIES.
2. THERE SHALL BE A 10 FOOT HORIZONTAL SEPARATION BETWEEN THE WATER SERVICE AND THE SERVICE LATERAL/BUILDING SEWER.
3. 2-WAY CLEANOUT (OBSERVATION TEE) TO BE LOCATED WITHIN TOWNSHIP R/W AND LOCATION TO BE SITE SPECIFIC WITH RESPECT TO CURB AND SIDEWALK.
4. WHERE OBSERVATION TEE IS NOT REQUIRED, SERVICE CONNECTION SHALL BE EXTENDED TO THE RIGHTS-OF-WAY LINE AND PLUGGED.
5. DETECTION TAPE REQUIRED IN PIPE TRENCH AT A DEPTH FO 12-INCHES BELOW SURFACE GRADE OR PAVEMENT SUBGRADE.

SERVICE LATERAL DETAIL SHALLOW SEWER

N.T.S.

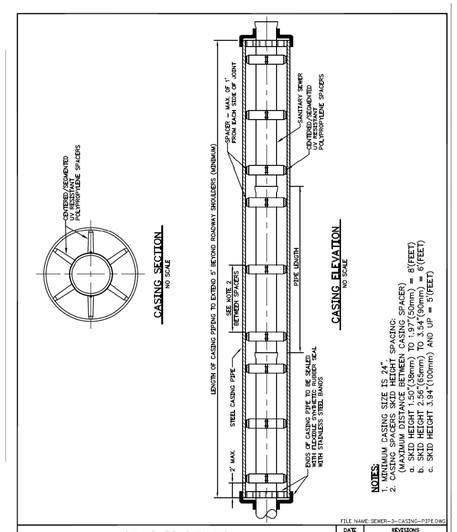


NOTE:

1. BACKFILL AND COMPACTION REQUIREMENT APPLIES TO PAVED ROADWAYS AND SHOULDERS OF PROPOSED AND EXISTING STREETS (OTHER THAN STATE HIGHWAYS), PAVED DRIVEWAYS, AND SIDEWALKS.

TRENCH BACKFILL DETAIL IN PAVED AREAS

N.T.S.



NOTES:

1. MINIMUM CASING SIZE IS 24".
2. CASING SPACERS SHALL BE EQUALLY SPACED. MAXIMUM DISTANCE BETWEEN CASING SPACER)
   a. SKID HEIGHT 1.50"(38mm) TO 1.97"(50mm) = 8'(FEET)
   b. SKID HEIGHT 2.00"(51mm) TO 3.46"(88mm) = 5'(FEET)
   c. SKID HEIGHT 3.94"(100mm) AND UP = 5'(FEET)

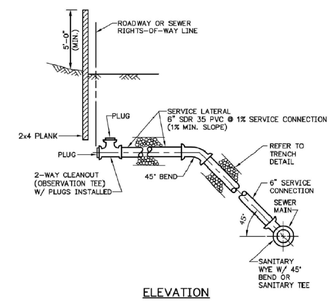
FILE NAME: SEWER-3-CASING-PIPE.DWG

STANDARD DETAILS

CASING DETAILS FOR PIPE BORINGS/TUNNELS

UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
SCALE: NO SCALE	DWG. NO.: SEW-3



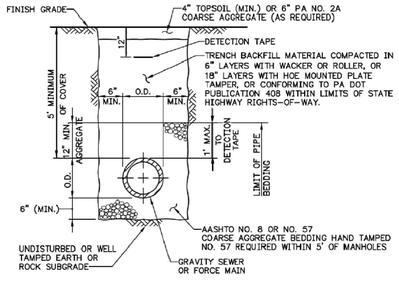
ELEVATION

NOTES:

1. 2-WAY CLEANOUT (OBSERVATION TEE) NOT TO BE LOCATED IN SIDEWALK OR BENEATH OTHER CURB LINE UTILITIES.
2. THERE SHALL BE A 10 FOOT HORIZONTAL SEPARATION BETWEEN THE WATER SERVICE AND THE SERVICE LATERAL/BUILDING SEWER.
3. 2-WAY CLEANOUT (OBSERVATION TEE) TO BE LOCATED WITHIN TOWNSHIP R/W AND LOCATION TO BE SITE SPECIFIC WITH RESPECT TO CURB AND SIDEWALK.
4. WHERE OBSERVATION TEE IS NOT REQUIRED, SERVICE CONNECTION SHALL BE EXTENDED TO THE RIGHTS-OF-WAY LINE AND PLUGGED.
5. DETECTION TAPE REQUIRED IN PIPE TRENCH AT A DEPTH FO 12-INCHES BELOW SURFACE GRADE OR PAVEMENT SUBGRADE.

SERVICE LATERAL DETAIL DEEP SEWER

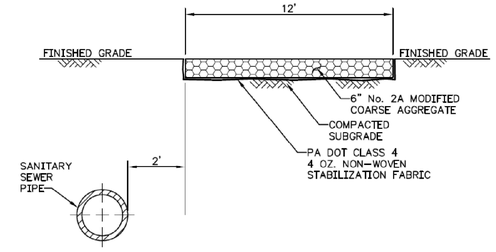
N.T.S.



BACKFILLING REQUIREMENTS:

1. UNPAVED AREAS OUTSIDE ROADWAYS – SUITABLE ON-SITE BACKFILL COMPACTED AS INDICATED ABOVE TO BOTTOM OF TOPSOIL. REPLACE TOPSOIL TO APPROXIMATE DEPTH OF EXISTING OR MIN. 4".
2. UNPAVED AREAS WITHIN R/W LIMITS OF STATE HIGHWAYS – CONFORMING TO REQUIREMENTS OF PA DOT PUBLICATION 408.
3. UNPAVED SHOULDERS OF PROPOSED AND EXISTING STREETS OTHER THAN STATE HIGHWAYS – AGGREGATE BACKFILL COMPACTED AS INDICATED ABOVE.
4. STONE DRIVEWAYS AND PARKING AREAS – SUITABLE ON-SITE BACKFILL COMPACTED AS INDICATED ABOVE.
5. UNIMPROVED STREETS – AGGREGATE BACKFILL COMPACTED AS INDICATED ABOVE.

TRENCH BACKFILL DETAIL IN UNPAVED AREAS



SECTIONAL ELEVATION

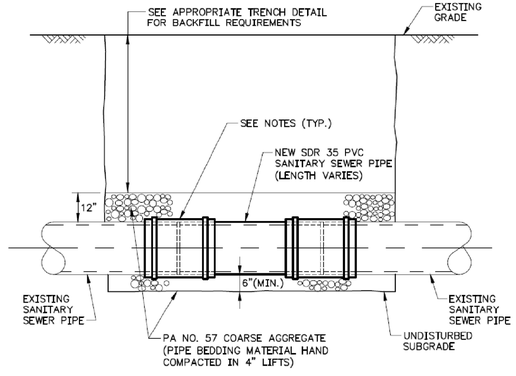
FILE NAME: TRENCH-11-SURFACE-STABILIZATION.DWG

STANDARD DETAILS

SURFACE STABILIZATION FOR SANITARY SEWERS LOCATED IN UNPAVED AREAS

UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
SCALE: NO SCALE	DWG. NO.: TR-11



NOTES:

1. SLEEVES, ADAPTERS AND COUPLINGS.
   A. PVC TO PVC CONNECTION USE; PVC REPAIR SLEEVE.
   B. PVC TO TCP/VCP CONNECTION; USE FERNCO STAINLESS STEEL ANTI-SHEAR COLLAR RUBBER ADAPTER, OR APPROVED EQUAL.
   C. PVC TO DIP/CIP CONNECTION; USE MECHANICAL JOINT COUPLING.
   D. PVC/DIP TO ACP CONNECTION; USE MECHANICAL JOINT COUPLING OR STAINLESS STEEL ANTI-SHEAR COLLAR RUBBER ADAPTER.
   E. DIP/CIP TO DIP/CIP CONNECTION; USE MECHANICAL JOINT COUPLING.
2. MECHANICAL JOINT COUPLINGS TO BE SMITH-BLAIR, DRESSER, OR APPROVED EQUAL.
3. RECONNECTIONS TO BE AIR TESTED IN ACCORDANCE WITH SPECIFICATIONS OR AS DIRECTED.

FILE NAME: SEWER-2-PIPE-RECONNECTION.DWG

STANDARD DETAILS

PIPE REPAIR/RECONNECTION DETAIL

UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
12/09	GENERAL REVISIONS
12/13	DWG. UPDATED
SCALE: NO SCALE	DWG. NO.: SEW-2

REVISIONS	DATE
1. Added Greenway Protection & Detail	12-22-2015
2. Addressing Review Comments	4-3-2017
3. Addressing Review Comments	6-1-2017
4. Addressing Review Comments	7-19-2017
5. Addressing Review Comments	9-22-2017
6. Addressing Review Comments	6-8-2020
7. - -	- -
8. - -	- -
9. - -	- -

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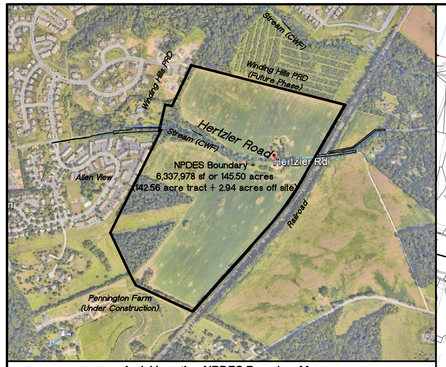
MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
717-566-6533
mellotteng@comcast.net

SANITARY SEWER CONSTRUCTION DETAILS
FOR
AUTUMN CHASE PRD – PHASE I
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No.
20 of 25



Aerial Location-NPDES Boundary Map

Scale: 1" = 1,000'

EROSION CONTROL PLAN INTENT NOTE

This Plan shall address erosion control measures to be implemented with the Autumn Chase Project. The project consists of the construction of 78 single family dwelling lots and associated road/utility infrastructure, off site utility extensions and improvements to Hertzler Road. The Hertzler Road improvements include drainage improvements that will require a Water Obstruction & Encroachment Permit from DEP; all work shall be conducted in accordance with this plan, NPDES permit conditions and the DEP Water Obstruction & Encroachment Permit conditions.

The E&S control BMPs proposed with this plan consists of two sediment basins, three sediment traps, two rock construction entrances, water bars, vegetated swales, riprap aprons, silt barriers and stabilization requirements. See below general description of each proposed E&S BMP:

Stabilized Rock Construction Entrances:
A rock construction entrance shall be installed at each of the proposed street connections to Hertzler Road (two locations). All ingress & egress to the site shall be through the two defined RCE locations.

Sediment Basins:
Two Sediment Basins are proposed with this plan; both along the northern boundary of the site at the two existing historical drainage points. The basins shall provide treatment of sediment laden runoff prior to discharge.

Sediment Traps:
Four sediment traps are proposed with this plan; three traps are located along the north side of Hertzler Road right-of-way and one on the south side. The traps shall collect and treat sediment laden runoff prior to discharge. The three traps on the north side of Hertzler Road shall be constructed with permanent concrete risers with temporary holes configuration (future permanent basins) and the temporary sediment trap T1 on the south side of Hertzler Road shall be constructed as an embankment trap.

Water Bars:
Water bars are proposed to direct sediment laden runoff from the abutting street grading into the sediment traps. Water bars are only needed prior to storm sewer installation.

Vegetated Swales:
Vegetated swales are proposed for collection and conveyance to the proposed basins/traps.

Riprap Aprons:
Riprap aprons are proposed at all pipe discharges. Riprap aprons provide energy dissipation and returns runoff flow to a sheet flow condition.

Silt Barriers:
Silt barriers shall be installed down slope of all earth disturbances that do not drain to a sediment basin or trap. Silt barriers shall be compost filter socks or equivalent silt fence. Silt barriers shall filter sediment laden runoff.

Stabilization:
All pervious disturbed areas shall be permanently stabilized with vegetated cover in accordance with the stabilization measures specified on the plan.

See Sequence of Construction Notes on other E&S Plan sheet.

This Erosion Control Plan details all of Hertzler Road Improvements and all development construction north of Hertzler Road. See Grading-Utilities-Profiles Plans for extent of Phase I Improvements.

GENERAL EROSION CONTROL NOTES

1. Water obstruction and encroachment permittings shall be required for the Hertzler Road Improvements.
2. An NPDES Permit related to construction activities is required for the project; permit shall be coordinated with CCCD accordingly.
3. The entire project site is located within the Yellow Breeches Creek watershed (CWF).
4. Wetlands shown on this plan are per field delineation performed by Vortex Environmental, Inc.. No wetland impacts are proposed with this project.
5. BMPs, trees, debris and any other materials not proposed to permanently remain on-site are to be recycled or disposed of in accordance with Department of Environmental Protection regulations. All building materials and wastes must be removed from the site and recycled or disposed in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. No building material or wastes or unused building materials shall be buried, dumped, or discharged at the site.

LEGEND

- SS18 — 18" COMPOST FILTER SOCK
- SS12 — 12" COMPOST FILTER SOCK
- SS8 — 12" COMPOST FILTER SOCK
- LD — PROPOSED PH-III LIMIT OF DISTURBANCE
- RCE #1 — ROCK CONSTRUCTION ENTRANCE
- PROPOSED STORM SEWER, INLET
- PROPOSED END SECTION / ENDWALL W/ RIPRAP
- PROPOSED SANITARY SEWER, MANHOLE
- W — PROPOSED WATER LINE
- PROPOSED EDGE OF PAVE/CURB LINE
- PROPOSED PAVEMENT
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
- 475.0 — PROPOSED SPOT ELEVATION
- PROPOSED SWALE LINING
- 458 — PROPOSED 2' CONTOUR
- 398 — *Existing 2' Contour*
- *Existing Property Line*
- *Existing Adjoining Property*
- *Existing Right-of-way*
- *Existing Edge of Pave*
- *Existing Storm Sewer, Inlet, ID#*
- *Existing Electric Utility Pole*
- *Existing Telephone Utility Pole*
- BkB2 — SOIL TYPE AND BOUNDARY

Scale: 1" = 60'

Swale P5 · Silt Barrier #6 12" Compost Sock · Stormwater Basin #2 · Baffle · Cleanout Marker · Sediment Basin #2 · Topsoil or Fill Stockpile · Silt Barrier #7 12" Compost Sock · Baffle · Stormwater Basin #3 · Sediment Basin #3 · Cleanout Marker · Topsoil or Fill Stockpile · Phase I temporary cul-de-sac and tie in grading · N. Autumn Chase Drive · N. Fall Harvest Drive · Ashwood Lane · Swale P3 · Sediment Trap #1C · Cleanout Marker · Stormwater Basin #1C · Baffle · Waterbar #1 · Sediment Trap #1B · Topsoil or Fill Stockpile · Waterbar #2 · Stabilized Rock Construction Entrance #1 · Sediment Trap #1A · Swale P1 · Silt Barrier #5 12" Compost Sock · Silt Barrier #10 12" Compost Sock · Stabilized Rock Construction Entrance #3 · Swale P2 · Cleanout Marker · Stormwater Basin #1B · Baffle · Stormwater Basin #1A · Baffle · RCE #3 · RCE #2 · RCE #1 · Immediately stabilize cut slope with topsoil seeding & S75 matting · Sediment Trap #T1 · Cleanout Marker · Stone Embankment Spillway (See Details) · Immediately Stabilize grading with topsoil, seeding and S75 matting · Silt Barrier #4 12" Compost Sock · Silt Barrier #4 12" Compost Sock · Silt Barrier #3 12" Compost Sock · Inlet Protection · Silt Barrier #4 12" Compost Sock · Path installation earth disturbance shall be immediately stabilized with topsoil, seeding and matting · Silt Barrier #8 12" Compost Sock · Silt Barrier #8 12" Compost Sock · Immediately Stabilize road side drainage grading with permanent SC250 matting · Path installation earth disturbance shall be immediately stabilized with topsoil, seeding and matting · Hertzler Road · Limit of Disturbance · Wetland · FEMA 100 Year Floodplain · Tributary Stream (CWF) · Existing @ grade concrete flume for stream conveyance under bridge · Lot 1 · Lot 2 · Lot 3 · Lot 4 · Lot 5 · Lot 6 · Lot 7 · Lot 8 · Lot 9 · Lot 10 · Lot 11 · Lot 12 · Lot 13 · Lot 14 · Lot 15 · Lot 16 · Lot 17 · Lot 18 · Lot 19 · Lot 20 · Lot 21 · Lot 22 · Lot 23 · Lot 24 · Lot 25 · Lot 26 · Lot 27 · Lot 28 · Lot 29 · Lot 30 · Lot 31 · Lot 32 · Lot 33 · Lot 34 · Lot 35 · Lot 36 · Lot 60 · Lot 61 · Lot 62 · EdB · EdC · BaD · Me · Pe

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REVISIONS

	DATE	
1.	12-28-2015	Added Greenway Section & Detail
2.	4-3-2017	Addressing Review Comments
3.	6-1-2017	Addressing Review Comments
4.	7-19-2017	Addressing Review Comments
5.	9-22-2017	Addressing Review Comments
6.	6-26-2020	Addressing Review Comments
7.	8-5-2020	Addressing Review Comments
8.	7-30-2021	Addressing Review Comments
9.	8-11-2021	Updated street name from N Autumn Oaks to N Autumn Chase Dr

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MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road Hummelstown, PA 17036
mellotteng@comcast.net
717-566-6533

EROSION AND SEDIMENTATION CONTROL PLAN

FOR

AUTUMN CHASE PRD - PHASE I

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

Sheet No. ES1

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ES1

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	HYDROLOGIC GROUP	DEPTH TO WATER TABLE (FT)	SOIL REACTION (pH)	SUITABILITY FOR ROADFILL	SUITABILITY FOR TOPSOIL
BdB	Bedington Shaly Silt Loam	3 to 8%	B	5+	4.5–7.3	FAIR	POOR
BdC	Bedington Shaly Silt Loam	8 to 15%	B	5+	4.5–7.3	FAIR	POOR
BdD	Bedington Shaly Silt Loam	15 to 25%	B	5+	4.5–7.3	FAIR	POOR
BpB	Blairton silt loam	3 to 8%	C	½–3	4.5–5.5	POOR	POOR
BrB	Brinkerton silt loam	3 to 8%	D	0–½	4.5–5.5	POOR	POOR
DuB	Duffield silt loam	3 to 8%	B	5+	5.1–7.3	POOR	FAIR
EdB	Edom silt loam	3 to 8%	B	5+	5.1–7.8	POOR	POOR
EdC	Edom silt loam	8 to 15%	B	5+	5.1–7.8	POOR	POOR
HgA	Hagerstown shaly silt loam	0 to 3%	B	5+	4.5–7.3	POOR	POOR
HgB	Hagerstown shaly silt loam	3 to 8%	B	5+	4.5–7.3	POOR	POOR
Me	Melvin silt loam	0 to 2%	B/D	0–1	6.1–7.3	POOR	POOR
Pe	Penlaw silt loam	0 to 3%	C/D	½–1½	5.6–7.3	POOR	POOR

In general, the soils present should not pose any significant limitation to the type of development proposed.
Reference the following recommendation pertaining to possible issues that may be encountered during construction.

- If unrippable rock is encountered during proposed grading, blasting or drilling may be required. Removed rock can be crushed if necessary and used for fill.
- If water table is encountered during excavation, dirty water shall be pumped out into a filter bag or sediment removal pond.
- The NRCS Soil Survey indicates some of the soils have a poor rating for use as road fill. The contractor should use only what soils are suitable for road fill and shall place and compact fill in accordance with standard practice. All road fill must meet Penn DOT Pub. 408 standards.
- Trap/Basin Core material shall be unified class CH or CL soil compacted to 98% of max dry density. Homogeneous embankment material to be compacted in 8" layers to a minimum final density of not less than 98% of max. Dry density within 2% of optimum moisture content. (ASTM Method D1557).
- If sinkhole is encountered during construction contractor and/or owner should immediately consult with a Geotechnical Engineer for guidance on proper sinkhole repair.

This Erosion Control Plan details all of Hertzler Road Improvements and all development construction north of Hertzler Road. See Grading–Utilities–Profiles Plans for extent of Phase I Improvements.

STABILIZATION NOTES

1. Permanent stabilization is defined as a minimum uniform 70% perennial vegetative cover or other permanent non–vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.
2. Immediately after earth disturbance activities cease or temporary cessation preparations should be made for seeding and mulching to begin (i.e. anticipate the completion date and schedule the seeder). In no case should an area exceeding 15,000 square feet, which is to be stabilized by vegetation, reach final grade without being seeded and mulched. During non–germinating periods, mulch must be applied at the specified rates. Disturbed areas which are not at finished grade and which will be re–disturbed within 1 year must be stabilized in accordance with the temporary vegetative stabilization specifications. Disturbed areas which are at final grade or which will not be re–disturbed within 1 year must be stabilized in accordance with the intended permanent vegetative stabilization specifications.
3. An erosion control blanket will be installed on all disturbed slopes 3:1 or steeper, all areas of concentrated flows, all disturbance with 50' of Waters of the Commonwealth and all other areas specifically identified on the plans. N.A.G. S75 biodegradable matting shall be used for all general slope matting unless otherwise noted on the plans.
4. Soil restoration and amendments of the basin bottoms shall be provided at time of conversion to permanent stormwater basins. The basin bottom preparation consists of over excavating the basin bottoms to 12" below finished grade, scarification/till the subgrade bottom (10" depth desired), smooth out bottom with light weight track equipment and place 12" of the amended soils mixture across basin bottom followed by stabilization with intended basin seed mixture and mulch. The scarification/tiling of the subsoils is intended to enhance permeability of the subsoils and the amended soils will also promote infiltration and enhance vegetation growth
5. Replace all topsoil where construction is complete (4" to 8" depth). Prior to seeding, prepare surface by removal of rocks and unsuitable matter by hand raking or the use of a rock hound with light weight equipment. Stabilize with intended seed, straw and mulch per intended seeding specifications (See plan for type: grass, meadow, wetland mix and vegetated filter strip). Matting is required for all slopes 3:1 and steeper, see plan for locations).
6. Straw and hay mulch should be anchored immediately after application to prevent being windblown. A tractor–drawn implement may be used to "crimp" the straw or hay into the soil. This method is limited to slopes no steeper than 3:1. The machinery should be operated on the contour. (Note: Crimping of hay or straw by running over it with tracked machinery is not recommended.)
   A. Asphalt, either emulsified or cut–back, containing no solvents or other diluting agents toxic to plant or animal life, uniformly applied at the rate of 31 gallons per 1000 sy may be used to tack mulch.
   B. Synthetic Binders (chemical binders) may be used as recommended by the manufacturer to anchor mulch provided sufficient documentation is provided to show they are non–toxic to native plant and animal species.
   C. Wood mulch can be used over straw at a rate of 210 lb. per 1000 sy.
   D. Lightweight plastic, fiber, or paper nets may be stapled over the mulch to manufacturer's recommendations.
7. Tracking steep slopes (>25% or 4:1) may be utilized by running tracked machinery up and down the slope, leaving tread marks parallel to the contour. (Note: If a bulldozer is used, the blade shall be up.). Care should be exercised on soils having a clay content to avoid over–compaction. See notes above for permanent stabilization.

PERMANENT SEEDING

A. All disturbed soil not to be covered with impervious surfaces, riprap or landscaping mulch shall be permanently seeded to provide protection against the impact of precipitation, running water and wind.
B. Mulching shall be used to protect seeding and help in preventing runoff. Clean straw mulch shall be required in all disturbed areas and applied at a rate of 3 tons/acre (equivalent to 0.75" to 1" deep). Clean straw mulch should not be finely chopped nor broken during application.

Maintenance procedure:
1) Maintain a minimum 70% soil surface coverage with grass and/or mulch.
2) If a washout, slope failure or similar disturbance occurs, correct drainage problem if necessary, then reapply soil to the proper grade, reapply soil amendments, seed and mulch.

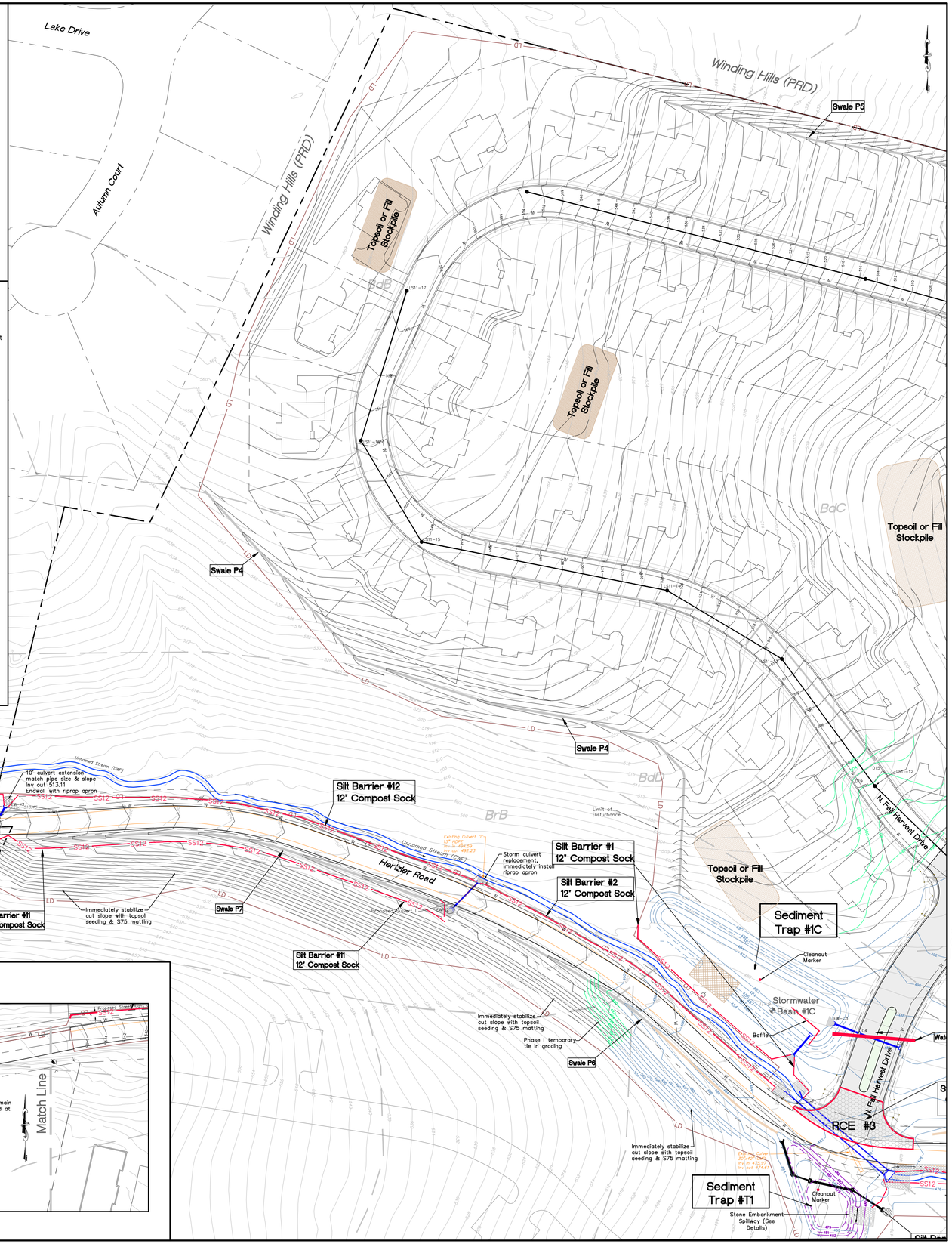
Permanent seeding schedule is as follows:
For gentle lawn areas
Species: 40% Kentucky Bluegrass
40% Pennlawn Creeping Red Fescue
20% Norlea Perennial Ryegrass

For Swales, steep slopes and wet areas: 100% Tall Fescue, varieties such as K–31, Altra,
or other recently released dwarf variety
% Pure live seed: 98%
Application rate: 6 lbs./1000 sq. ft.
Fertilizer type: general purpose granular, 10–20–20
Fertilizer application rate: 1000 lbs per acre
Liming rate: Four (4) tons per acre of agricultural grade lime
Strawbale mulch rate: three (3) tons per acre
Seeding dates: Between 4/1 and 10/15

TEMPORARY SEEDING

The contractor shall temporarily stabilize any rough graded area, topsoil stockpile or unused excavated fill material. The grass will provide interim protection against the impact of precipitation, running water and wind.
Temporary seeding schedule is as follows:

Species: annual rye grass
% Live Seed: 98%
Application rate: 1 lbs./1000 sq. ft.
Fertilizer type: general purpose granular, 5–5–5
Fertilizer application rate: 1000 lbs per acre
Liming rate: one (1) ton per acre of agricultural grade lime
Strawbale mulch rate: three (3) tons per acre
Seeding dates: no seeding between 1/1 and 3/15



WATER MAIN EXTENSION PLAN VIEW
Scale: 1" = 60'

WATER MAIN EXTENSION PLAN VIEW
Scale: 1" = 60'

	DATE
Added Greenway Section & Detail	12–2–2015
Addressing Review Comments	4–3–2017
Addressing Review Comments	6–1–2017
Addressing Review Comments	7–19–2017
Addressing Review Comments	9–22–2017
Addressing Review Comments	6–8–2020
Addressing Review Comments	8–20–2020
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REVISIONS

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717–566–6533

EROSION AND SEDIMENTATION CONTROL PLAN
FOR
AUTUMN CHASE PRD – PHASE I
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

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Topsoil or Fill Stockpile

Silt Barrier #9 12" Compost Sock

Silt Barrier #8 12" Compost Sock

Silt Barrier #10 12" Compost Sock

Silt Barrier #6 12" Compost Sock

Silt Barrier #5 12" Compost Sock

Swale P1

Waterbar #2

Stabilized Rock Construction Entrance #1

Stabilized Rock Construction Entrance #2

Sediment Trap #1A

Silt Barrier #4 12" Compost Sock

Silt Barrier # 12" Compost Sock

N. Autumn Chase Drive

Hertzler Road

Kinneshtel Road

Stormwater Basin #1A

Wetland (10,067 sf total 9,750 sf "in full" 1,681 in Two R/W)

Path installation/earth disturbance shall be immediately stabilized with topsoil, seeding and matting

Immediately Stabilize road side drainage grading with permanent SC250 matting

Existing @ grade concrete flume for stream conveyance under bridge

Path installation earth disturbance shall be immediately stabilized with topsoil, seeding and matting

Install riprap apron immediately upon pipe installation

Existing Historical flow path

Twp Greenway Path

Match Line

Railroad

FEMA 100 Year Floodplain

Unnamed Stream (CWF)

GREENWAY PATH & SANITARY SEWER EXTENSION PLAN VIEW
Scale: 1" = 60'

GREENWAY PATH PLAN VIEW
Scale: 1" = 60'

GREENWAY PATH PLAN VIEW
Scale: 1" = 60'

ES3

DATE	REVISIONS
12-28-2015	Added Greenway Section & Detail
4-3-2017	Addressing Review Comments
6-1-2017	Addressing Review Comments
7-19-2017	Addressing Review Comments
9-22-2017	Addressing Review Comments
6-26-2020	Addressing Review Comments
8-25-2020	Addressing Review Comments
7-30-2021	Addressing Review Comments
8-11-2021	Updated street name from N Autumn Oaks to N Autumn Chase Dr

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7500 Devonshire Heights Road Hummelstown, PA 17036
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EROSION AND SEDIMENTATION CONTROL PLAN

FOR

AUTUMN CHASE PRD - PHASE I

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 201520
Date December 14, 2015

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SEQUENCE OF CONSTRUCTION

The following Sequence of Construction includes references to the proposed temporary erosion control measures and permanent stormwater BMPs; see the PCSM Plan sheets for the permanent BMPs.

- At least 7 days before starting any earth disturbance activities, the owner and/or operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials (Township), the erosion and sediment control plan preparer, and a representative of the County Conservation District to an on-site pre-construction meeting.
- At least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call System Incorporated at 811 for the location of existing underground utilities.
- All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately stabilized before any following stage is initiated. Clearing, grubbing and topsoil stripping shall be limited only to those areas described in each stage.
- Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices (BMPs) to eliminate the potential for accelerated erosion and/or sediment pollution.
- If any fill material must be brought to the site, it must come from a site with an approved Erosion Control Plan and the contractor or developer must notify the County Conservation District and provide the appropriate information pertaining to the borrow site prior to start of hauling operations.
- All pumping of sediment laden water shall be through a sediment control BMP, such as a properly sized and sized and/or equivalent sediment removal facility, over undisturbed vegetated areas.

1. Contractor and/or owner to coordinate with the Township regarding complete closure of Hertzler Road to accommodate the Hertzler Road drainage improvements. Initial access to the site shall be via the existing gravel driveway off Hertzler. Install construction fencing around the stormwater basin bottom areas to prevent compaction from construction equipment. Install stabilized rock construction entrance #1 at the existing driveway location (RCE #2 & #3 require drainage improvements prior to installation). Ingress and egress to the site will be restricted to the construction entrances only.
2. Install compost filter sock barriers #1 through #7. Remaining silt sock barriers are associated with the offsite utility extensions and shall be installed later in the sequence.
3. Culvert G & Storm Sewer B4 to EW-G Installation: Install sand bag cofferdam directly upstream of Culvert G (upstream of existing concrete trench) and initiate clean water bypass pumping with discharge point downstream of Culvert G. Install sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Remove existing concrete trench and arch culvert from the stream channel and the 18" culvert under Hertzler Road. Install water main casing pipe and telecommunication conduits under stream crossing. Install Culvert G and storm sewer B4 to EW-G. Immediately install inlet protection in inlets B2 & B3 (B4 is future trap outlet structure). All stream channel disturbance directly up and down stream of the culvert shall be stabilized with natural stream strata. Remove bypass pumping/sandbags.
4. Install Rock Construction Entrance #2 (N. Autumn Oaks Drive). Ingress and egress to the site will be restricted to the construction entrances.
5. Culvert H Installation: Install sand bag cofferdam directly upstream of Culvert H and initiate clean water bypass pumping with discharge point downstream of Culvert H. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Remove existing CMP culvert under Hertzler Road. Install water main casing pipe and telecommunication conduits under stream crossing. Install Culvert H with endwalls and associated riprap stream bank stabilization. All stream channel disturbance directly up and down stream of the culvert shall be stabilized with natural stream strata. Remove bypass pumping/sandbags.
6. Install Rock Construction Entrance #3 (N. Fall Harvest Drive). Ingress and egress to the site will be restricted to the construction entrances.
7. Install Sediment Traps (1A, 1B & 1C) located along the north side of Hertzler Road including outlet structure, barrel, riprap apron, baffles and cleanout stakes (See Details). To minimize soil compaction of the subsoils below the basin bottom, no heavy equipment shall be used for basin excavation after the design grades are within 2' of finished grade. The remaining basin excavation shall be performed from the sides of the basin to the extent possible. Any grading that can not be performed from the sides of the basin(s) shall be performed with wide track equipment (no rubber tire equipment to be used in basin bottom areas due to concentrated loads that occur under the tires). See end of sequence notes for basin conversion and soil restoration/amendment notes. Install water bar #1 & #2 on upslope runoff to sediment traps 1A and 1B respectively. Rock Construction Entrance #1 can be removed during the construction of Trap 1C. Critical Stage of Construction: Basin Embankments shall be inspected by licensed professional.
8. Install collection swale P1 into Sediment Trap 1A, swale P2 into Sediment Trap 1B and Swale P4 into Trap 1C; immediately stabilize swales (see details).
9. Install Sediment Basins 2 & 3 including permanent outlet structure, temporary riser attachment, barrel, riprap apron, baffles and cleanout stakes (See Details). To minimize soil compaction of the subsoils below the basin bottom, no heavy equipment shall be used for basin excavation after the design grades are within 2' of finished grade. Basin excavation shall be performed from the sides of the basin to the extent possible. Any grading that can not be performed from the sides of the basin(s) shall be performed with wide track equipment (no rubber tire equipment to be used in basin bottom areas due to concentrated loads that occur under the tires). See end of sequence notes for basin conversion and soil restoration/amendment notes. Critical Stage of Construction: Basin Embankments shall be inspected by licensed professional. Install Swale P5 into Basin 2; immediately stabilize swale (see detail).
10. The above installed control measures address the site work proposed on the north side of Hertzler Road. After the above described perimeter erosion control measures are installed strip and stockpile topsoil as needed for areas to be regraded; stockpiles shall not exceed a maximum height of 35 feet and shall be no steeper than 2:1. Stockpiles to be stabilized accordingly. Perform bulk grading. Grading shall be such as to maintain sediment laden runoff to the intended receiving sediment control BMP(s).
11. Begin on site utility installation followed by curb installation. Install stone subbase on streets as soon as possible to shield soil from erosion. Install Swale P3; immediately stabilize swale per detail.
12. Replace topsoil and permanently seed and mulch all non-paved areas where grading is complete. As disturbed areas within a project approach final grade, preparations should be made for seeding and mulching to begin (i.e. anticipate the completion date and schedule the seeder). In no case should an area exceeding 15,000 square feet, which is to be stabilized by vegetation, reach final grade without being seeded and mulched.
13. Hertzler Road embankment grading south side of Hertzler Road west of intersection with N. Fall Harvest Drive: Install stone embankment Sediment Trap T1 on the south side of Hertzler Road (Trap T1 shall treat sediment laden runoff associated with a portion of the proposed embankment grading & Hertzler Road reconstruction). Install Swale P6, see detail.
14. Install temporary 12" compost filter sock at the entrance of the existing culvert at the up stream end of swale P6; the filter sock shall serve as temporary filter for swale P7 discharge. Perform minimum grading needed to install Swale P7 and the proposed Compost Sock #11 directly above/paralleling swale P7 (some grading required to install sock). Perform embankment grading upslope of sock #11/Swale P7 & swale P6, immediately stabilize slope with topsoil, seeding and S75 matting.
15. Culvert "I" installation. Remove existing 15" storm pipe and install new culvert, end walls and downstream riprap apron. Compost sock at upstream end wall can be removed after Swale P7 and upslope area becomes fully stabilized (sock could cause ponding along the edge of roadway and as such should be removed as soon as possible).
16. Off site utility extensions. Install remaining section of filter sock associated with the offsite water main extension to the west and the off site sanitary sewer extension to the east. The earth disturbance associated with the off site water and sewer main extensions shall be limited to amount of pipe installation that can be installed and stabilized within the same day (road restoration to be in accordance with township standards). All earth disturbance within 50' of the intermittent stream and within 50' of the wetland pocket to be stabilized with permanent seeding and S75 matting.
17. The stream bank along Hertzler Road east/down stream of the railroad bridge is severely eroded. The stream bank shall be stabilized with geotextile and R-5 riprap. Install sand bag cofferdam in the concrete flume under the railroad bridge and establish clean water bypass pumping with discharge point downstream of proposed stabilization measures. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Place geotextile fabric and R5 riprap along stream bank as shown. Remove bypass pumping/sand bags.
18. Begin building construction. Home builders shall implement Typical Individual On-Lot Erosion Controls to limit sediment from entering streets or abutting developed lots although no additional on lot measures are needed for disturbance areas that drain directly to a Sediment trap and/or basin.
19. The erosion control measures may not be removed until the entire upslope drainage area has a permanent stabilization. This occurs with a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements. All paved areas must be paved or have a compacted stone base in place. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operators shall contact the County Conservation District for an inspection prior to the removal of the erosion control BMP's.
20. After the Conservation District representative has inspected the site and agrees the site is stabilized the BMP's can be removed as follows:
    a. Critical Stage of Construction (Basin Conversions): After all upslope contributing areas are permanently stabilized and after receiving authorization from a CCCD representative Stormwater Basins 1A, 1B, 1C, 2 and 3 shall be converted to permanent stormwater basins. Install 12" compost sock around outlet structure to provide for filtering during final stabilization process. Soil restoration and amendments of the Stormwater Basin bottoms shall be provided at time of conversion. The basin bottom preparation consists of over excavating the basin bottoms to 12" below finished grade, scarification/till the subgrade bottom (10" depth desired), smooth out bottom with light weight track equipment and place 12" of the amended soils mixture across basin bottom followed by stabilization with intended basin seed mixture and mulch. The scarification/tiling of the subsoils is intended to enhance permeability of the subsoils and the amended soils will also promote infiltration and enhance vegetation growth.
    b. Silt barries can be removed.
    c. Remove all inlet protection.
    d. BMPs, trees, debris and any other materials not proposed to permanently remain on-site are to be recycled or disposed of in accordance with Department of Environmental Protection regulations. All building materials and wastes must be removed from the site and recycled or disposed in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. No building material or wastes or unused building materials shall be buried, dumped, or discharged at the site.

CRITICAL STAGES OF PLAN IMPLEMENTATION

This plan identifies the Post Construction Stormwater Management BMPs for the project. In accordance with NPDES permitting requirements, critical stages of implementation of the plan shall have a licensed professional or designee on site. The critical stages of construction associated with this project would be construction of the Bioretention-Detention Basin embankments and outlet structures, soil restoration of basin bottoms and verification of appropriate basin seeding. All other BMPs can be inspected after construction to verify consistency with the intended design.

UTILITY GENERAL NOTES

1. Public water service shall be provided to the project via a water main extension along Hertzler Road from the existing water main located at the intersection of Hertzler Road and Harvest Drive (southern entrance into Winding Hills Development) to the project site. Water main design is a concept only; final design to be provided by United Water after the conditional approval of the Phase I Plan.
2. Public sanitary sewer service shall be provided to the project via standard gravity sewer system with in the development connected to a proposed off site gravity sewer main extension with ultimate connection to the existing public sewer located just east of the site along Hertzler Road. All sewer construction to be in accordance with Township standards. See additional Sanitary Sewer Notes on the cover sheet.
3. Hertzler Road restoration relative to the water and sewer main extensions shall be in accordance with Township requirements.

STANDARD EROSION & SEDIMENT CONTROL PLAN NOTES

1. A copy of the stamped approved drawings signed and dated by the Dauphin County Conservation District must be available at the project site at all times.
2. At least 7 days prior to starting any earth disturbance activities (including clearing and grubbing), the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S Plan preparer, the post construction stormwater management plan preparer, and a representative from the Dauphin County Conservation District to an on-site preconstruction meeting.
3. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
4. All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved in writing from the Dauphin County Conservation District or by DEP prior to implementation.
5. Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping may not commence in any stage or phase of the project until the E&S BMP's specified by the Construction Sequence for that stage or phase has been installed and are functioning as described in this document.
6. 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.
7. Stockpile heights must not exceed 35 feet. Stockpile slopes must be 2H:1V or flatter.
8. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate BMPs to minimize the potential for erosion and sediment pollution and notify the Dauphin County Conservation District and the regional office of DEP.
9. All building materials and wastes must be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code Chapter 260, §§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.
10. All off-site waste and borrow areas must have an E&S Plan approved by the Dauphin County Conservation District or DEP fully implemented prior to being activated.
11. The contractor is responsible for ensuring that any material brought on site is Clean Fill.
12. Form FP-001 must be retained by the property owner for any fill material affected by a spill or release of a regulated substance (if applicable) or any amount of Clean Fill due to analytical testing. 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 millings, recycled asphalt or asphalt that has been reclaimed for re-use.). Any placement of clean fill that has been affected by a spill or release of a regulated substance must use form FP-001 to certify the origin of the fill material and the results of the analytical testing to qualify the material as clean fill. Form FP-001 must be retained by the property receiving the fill. Environmental due diligence must be performed to determine if the fill materials associated with the project qualify as clean fill. Environmental due diligence is defined as: investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits. Analytical testing is not a required part of due diligence unless visual inspection and/or review of the past land use of the property indicates that the fill may have been subjected to a spill or release of a 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 Clean Fill."
13. All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas.
14. Until the site is stabilized, all E&S BMPs must be maintained properly. Maintenance must include inspections of all E&S BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, re-grading, reseeding, re-mulching and re-netting must be performed immediately. If E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.
15. A written report 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.
16. 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.
17. All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings.
18. Areas which are to be topsoiled shall be scarified to a minimum depth of 4 inches prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outslopes shall have a minimum of 2 inches of topsoil.
19. 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.
20. 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.
21. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.
22. Fill shall not be placed on saturated or frozen surfaces.
23. Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.
24. All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated.
25. 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.
26. 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.
27. E&S BMPs must remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by the Dauphin County Conservation District or DEP.
28. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the Dauphin County Conservation District for an inspection prior to removal/conversion of the E&S BMPs.
29. After final site stabilization has been achieved, temporary E&S BMPs must be removed or converted to permanent post construction stormwater management BMPs. Areas disturbed during removal or conversion of the BMPs must be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions should be done only during the germinating season.
30. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the Dauphin County Conservation District to schedule a final inspection.
31. Erosion control blanketing shall be installed on all slopes 3H:1V or steeper within 50 feet of a surface water and on all other disturbed areas specified on the plan maps and/or detail sheets.
32. 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, or criminal penalties being instituted by the Pennsylvania Department of Environmental Protection 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.
33. 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.
34. All channels shall be kept free of obstructions including but not limited to fill, rocks, leaves, woody debris, accumulated sediment, excess vegetation, and construction materia/wastes.
35. Underground utilities cutting through any active channel shall be immediately backfilled and the channel restored to its original cross-section and protective lining. Any base flow within the channel shall be conveyed past the work area in the manner described in this plan. Pumping shall not be allowed unless it is part of an approved work plan.
36. Sediment basins and/or traps shall be kept free of all construction waste, wash water, and other debris having potential to clog the basin/trap outlet structures and/or pollute the surface waters.
37. Any damage that occurs in whole or in part as a result of basin or trap discharge shall be immediately repaired by the permittee in a permanent manner satisfactory to the municipality, Dauphin County Conservation District and the owner of the damaged property.
38. Erosion control blanketing shall be installed on all slopes 3H:1V or steeper within 50 feet of a surface water and on all other disturbed areas specified on the plan maps and/or detail sheets.
39. Fill material for embankments shall be free of roots, or other woody vegetation, organic material, large stones, and other objectionable materials. The embankment shall be compacted in maximum 8" layered lifts at 95% modified proctor per ASTM D1557.

STREAM BANK SEEDING MIXTURE

All disturbed and reconstructed Stream banks to be stabilized with live stake plantings & Riparian buffer mix with biodegradable liner.

Riparian Buffer Mix - ERNMX-178

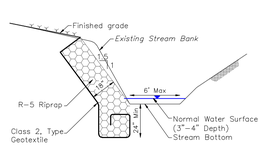
Botanical Name	Common Name
21.20 % *Panicum clandestinum, 'Tioga'*	Deertongue, Tioga
20.00 % *Elymus virginicus, PA Ecotype*	Virginia Wildrye, PA Ecotype
11.80 % *Andropogon gerardii, 'Niagara'*	Big Bluestem, 'Niagara'
10.30 % *Sorghastrum nutans, 'Tomahawk'*	Indiangrass, 'Tomahawk'
5.00 % *Panicum virgatum, 'Shelter'*	Switchgrass, 'Shelter'
4.00 % *Chamaecrista fasciculata, PA Ecotype*	Partridge Pea, PA Ecotype
4.00 % *Verbena hastata, PA Ecotype*	Blue Vervain, PA Ecotype
3.00 % *Juncus effusus*	Soft Rush
3.00 % *Rudbeckia hirta, Coastal Plain NC Ecotype*	Blackeyed Susan, Coastal Plain NC Ecotype
2.00 % *Helianthus helianthoides, PA Ecotype*	Oxeye Sunflower, PA Ecotype
1.00 % *Asclepias incarnata, PA Ecotype*	Swamp Milkweed, PA Ecotype
0.90 % *Aster umbellatus, PA Ecotype*	Flat Topped White Aster, PA Ecotype
0.70 % *Aster lanceifolius*	Calico Aster
0.70 % *Eupatorium perfoliatum, PA Ecotype*	Boneset, PA Ecotype
0.30 % *Helenium autumnale, PA Ecotype*	Common Sneezeweed, PA Ecotype
0.30 % *Monarda fistulosa, Fort Indiantown Gap PA Ecotype*	Wild Bergamot, Fort Indiantown Gap PA Ecotype
0.30 % *Parnassia novaboracensis, PA Ecotype*	New York Ironweed, PA Ecotype
0.40 % *Solidago patula, PA Ecotype*	Roughleaf Goldenrod, PA Ecotype
0.30 % *Lobelia siphilitica, PA Ecotype*	Great Blue Lobelia, PA Ecotype

Seeding Rate: 20 lb per acre with a cover crop at 30 lb per acre (dry sites - early soils, Jan 1-Aug 1; w. grain rye, Aug 1-Jan 1; moist sites - grain rye year round)

STREAM BANK STABILIZATION LIVE PLANTING STAKES

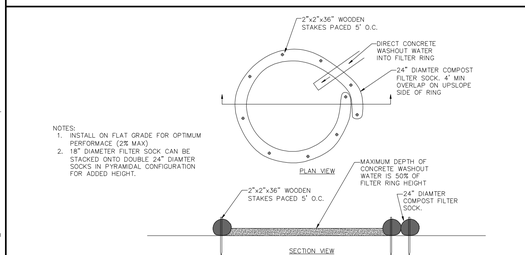
All disturbed and reconstructed Stream banks to be stabilized with live stake plantings & Riparian buffer mix with biodegradable liner. Live planting stakes shall be 1" diameter and of the following species. Installation per manufacturer recommendations:

- Cornus amomum (Silky Dogwood)
- Cornus sericea (C. stolonifera) ((Red Osier Dogwood)



NOTES:
1. All construction must be in accordance with Title 25 Chapter 105 Conditions.
2. Use this detail for Stream Bank Stabilization where riprap armoring is proposed. All other bank disturbance and/or reconstruction shall be in accordance with the Stream Realignment Detail.
3. Provide geotextile material meeting the construction requirements of Publication 408, Section 212 and materials requirements of Section 735.

STREAM BANK STABILIZATION DETAIL



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE (2% MAX)
2. 18" DIAMETER FILTER SOCK CAN BE STACKED ONTO DOUBLE 24" DIAMTER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

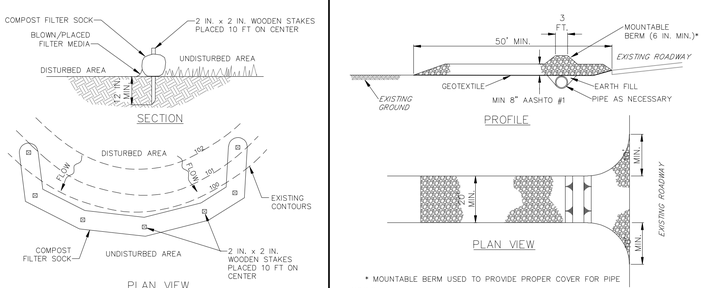
A suitable concrete washout facility must be provided for the cleaning of chutes, mixers, and hoppers of the delivery vehicles unless such a facility will be used at the source of the concrete. Under no circumstances may wash water from these vehicles be allowed to enter any surface waters. Make sure that proper signage is provided to drivers so that they are aware of the presence of washout facilities.

Washout facilities should not be placed within 50 feet of storm drains, open ditches or surface waters. They should be in a convenient location for the trucks, preferably near the place where the concrete is being poured, but far enough from other vehicular traffic to minimize the potential for accidental damage or spills. Wherever possible, they should be located on slopes not exceeding a 2% grade.

Compost Sock Washout
Wherever compost sock washouts are used, a suitable impervious geomembrane should be placed at the location of the washout. Compost socks should be staked in the manner recommended by the manufacturer around perimeter of the geomembrane so as to form a ring with the ends of the sock located at the upslope corner (See Detail). Care should be taken to ensure continuous contact of the sock with the geomembrane at all locations. Where necessary, socks may be stacked and staked so as to form a triangular cross-section.

CONCRETE WASHOUT DETAIL

NOT TO SCALE



NOTES:
SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP-SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK

NOT TO SCALE

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

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

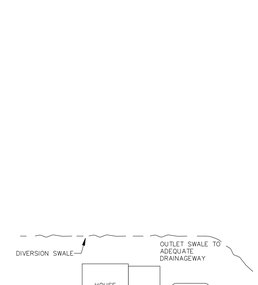
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

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

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

STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE

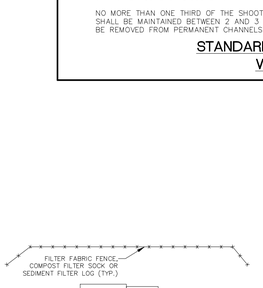
NOT TO SCALE



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

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

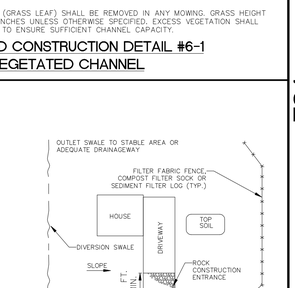
NOT TO SCALE



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

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

NOT TO SCALE



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

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

IN AREAS WHERE SLOPE IS AT AN OBLIQUE ANGLE TO THE ROADWAY, BMPS SHALL BE ADJUSTED ACCORDINGLY.

DIVERSION CHANNEL MAY OUTLET TO ROADSIDE DITCH OR STORM SEWER SYSTEM, BUT NOT ONTO STREET OR ROADWAY.

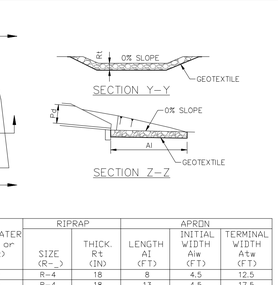
STANDARD CONSTRUCTION DETAIL #10-3
TYPICAL ON-LOT BMPs FOR LOT ALONG ASCENDING OR DESCENDING ROADWAY

NOT TO SCALE

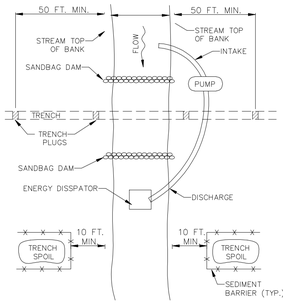
STREAM BANK STABILIZATION

NOTES:
1. All construction must be in accordance with Title 25 Chapter 105 Conditions.
2. Use this detail for the proposed stream realignment up and downstream of proposed Culvert G (Impact #3). The reconstructed stream channel shall consist of native streambed material and the stream bank stabilization shall consist of permanent live stake planting and riparian buffer seed mix with temporary biodegradable liner; the temporary liner shall be a North American Green product or equivalent. C125BN consists of two biodegradable nets (100% coconut fiber matrix) and is intended for use in High Flow Channels. See the Stream Bank Stabilization Detail for areas with proposed riprap armoring; riprap only proposed where needed.

STREAM REALIGNMENT DETAIL



OUTLET NO.	PIPE DIA Pid (IN)	TAILWATER (Min or Max)	RIPRAP SIZE (R-__)	RIPRAP THICK. Rt (IN)	APRON LENGTH Al (FT)	APRON INITIAL WIDTH Aiw (FT)	APRON TERMINAL WIDTH Atw (FT)
EW-A1 (Basin 1A Outfall)	18	Min	R-4	18	8	4.5	12.5
EW-A3 (Into Basin 1A)	18	Min	R-4	18	13	4.5	17.5
EW-B1 (Into Basin 1B)	18	Min	R-4	18	13	4.5	17.5
EW-C1 (Basin 1C Outfall)	18	Min	R-4	18	11	4.5	15.5
EW-C3 (Into Basin 1C)	18	Min	R-4	18	8	4.5	12.5
EW-D1 (Basin 2 Outfall)	24	Min	R-5	18	12	6.0	18.0
EW-D3 (Into Basin 2)	18	Min	R-4	18	8	4.5	12.5
EW-E1 (Basin 3 Outfall)	18	Min	R-4	18	8	4.5	12.5
EW-E3 (Into Basin 3)	18	Min	R-4	18	8	4

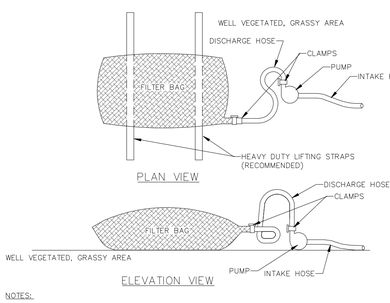


NOTES:

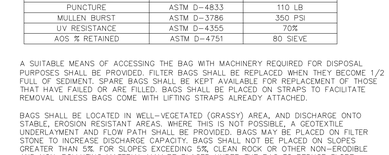
1. GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION.
2. BYPASS PUMP INTAKE SHALL BE MAINTAINED A SUFFICIENT DISTANCE FROM THE BOTTOM TO PREVENT PUMPING OF CHANNEL BOTTOM MATERIALS.
3. WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A PUMPED WATER FILTER BAG OR SEDIMENT TRAP PRIOR TO DISCHARGING INTO ANY SURFACE WATER.
4. HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF STREAMBANK.
5. ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE STREAM CROSSING AREA.
6. ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR STREAMS OR 48 HOURS OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED.

ROAD AND UTILITY WETLAND CROSSING DETAIL WITH PUMP BYPASS

NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

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

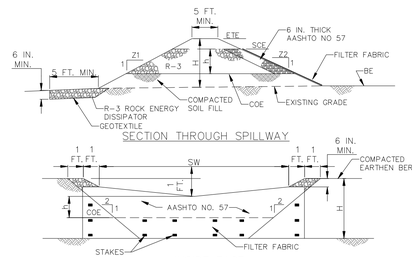
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

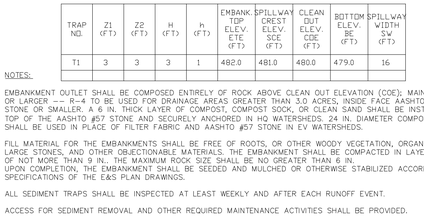
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16 PUMPED WATER FILTER BAG

NOT TO SCALE



SECTION THROUGH SPILLWAY



INSIDE FACE

TRAP NO.	Z1 (FT)	Z2 (FT)	H (FT)	h (FT)	EMBANK. TOP ELEV. ETE (FT)	SPILLWAY CREST ELEV. SCE (FT)	CLEAN OUT ELEV. COE (FT)	BOTTOM ELEV. BE (FT)	SPILLWAY WIDTH SW (FT)
T1	3	3	3	1	482.0	481.0	480.0	479.0	16

NOTES:

EMBANKMENT OUTLET SHALL BE COMPOSED ENTIRELY OF ROCK ABOVE CLEAN OUT ELEVATION (COE); MAIN BODY R-3 OR LARGER --- R-4 TO BE USED FOR DRAINAGE AREAS GREATER THAN 3.0 ACRES, INSIDE FACE AASHTO # 57 STONE OR SMALLER. A 6 IN. THICK LAYER OF COMPOST, COMPOST SOCK, OR CLEAN SAND SHALL BE INSTALLED ON TOP OF THE AASHTO #57 STONE AND SECURELY ANCHORED IN HQ WATERSHEDS. 24 IN. DIAMETER COMPOST SOCK(S) SHALL BE USED IN PLACE OF FILTER FABRIC AND AASHTO #57 STONE IN EV WATERSHEDS.

FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 9 IN., THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 6 IN.. UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWNGS.

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

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

A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE TRAP IN THE MANNER DESCRIBED IN THE E&S PLAN.

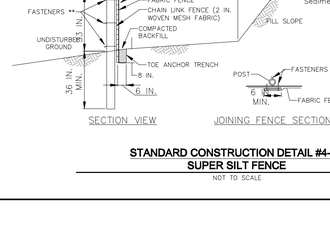
CHECK EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE IMMEDIATELY RESTORED TO THE DESIGN SPECIFICATIONS.

DISPLACED RIPRAP WITHIN THE SPILLWAY OR OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS INSIDE THE TRAP SHALL BE STABILIZED BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. TO ASSIST IN REMOVING SEDIMENT, WHICH MAY BE SATURATED, A DEVICE SUCH AS IS SHOWN IN STANDARD CONSTRUCTION DETAIL #7-18 MAY BE USED TO DEWATER THE SEDIMENT PRIOR TO ITS REMOVAL.

STANDARD CONSTRUCTION DETAIL #8-1 EMBANKMENT SEDIMENT TRAP

NOT TO SCALE



SECTION VIEW JOINING FENCE SECTIONS

* POSTS SPACED AT 10 FT. MAX. USE 2-1/2 IN. DIA HEAVY DUTY GALVANIZED OR ALUMINUM POSTS.

** CHAIN LINK TO POST FASTENERS SPACED AT 14 IN. MAX. USE NO. 9 GA. ALUMINUM WIRE OR NO. 9 GALVANIZED STEEL WIRE. FABRIC TO SHAIN FASTENERS SPACED AT 24 IN. MAX. ON CENTER.

NOTES:

FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.

FABRIC WIDTH SHALL BE 42 IN. MINIMUM.

POSTS SHALL BE INSTALLED USING A POSTHOLE DRILL.

CHAIN LINK SHALL BE GALVANIZED NO. 11.5 GA. STEEL WIRE WITH 2-1/4 IN. OPENING, NO. 11 GA. ALUMINUM COATED STEEL WIRE IN ACCORDANCE WITH ASTM-A-491, OR GALVANIZED NO. 9 GA. STEEL WIRE TOP AND BOTTOM WITH GALVANIZED NO. 11 GA. STEEL INTERMEDIATE WIRES. NO. 7 GAGE TENSION WIRE TO BE INSTALLED HORIZONTALLY THROUGH HOLES AT TOP AND BOTTOM OF CHAIN-LINK FENCE OR ATTACHED WITH HOG RINGS AT 5 FT MAX. CENTERS.

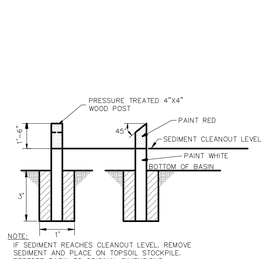
SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

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

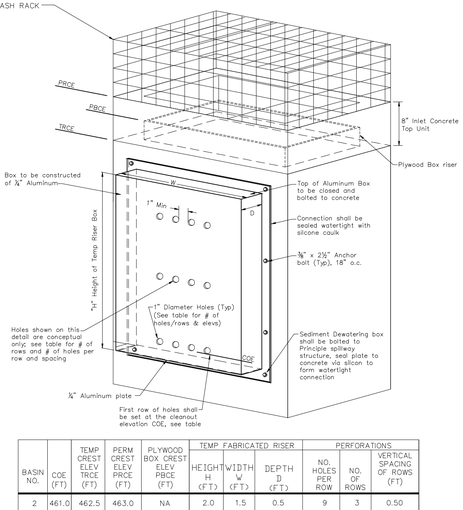
FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

STANDARD CONSTRUCTION DETAIL #4-10 SUPER SILT FENCE

NOT TO SCALE



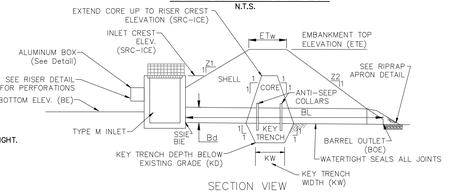
SEDIMENT CLEANOUT STAKE DETAIL



BASIN NO.	COE (FT)	TEMP CREST ELEV TRCE (FT)	PERM CREST ELEV PRCE (FT)	PLYWOOD BOX CREST ELEV PBCE (FT)	TEMP FABRICATED RISER HEIGHT H (FT)	TEMP FABRICATED RISER WIDTH W (FT)	TEMP FABRICATED RISER DEPTH D (FT)	PERFORATIONS NO. HOLES PER ROW	PERFORATIONS NO. OF ROWS	PERFORATIONS VERTICAL SPACING OF ROWS (FT)
2	461.0	462.5	463.0	NA	2.0	1.5	0.5	9	3	0.50
3	453.0	NA	454.0	NA	1.0	1.5	0.5	4	2	0.50

SEDIMENT BASIN TEMPORARY RISER BOX

N.T.S.



SECTION VIEW

BASIN/ TRAP NO.	Z1 (FT)	Z2 (FT)	FABRICATED RISER HEIGHT H (FT)	FABRICATED RISER WIDTH W (FT)	FABRICATED RISER DEPTH D (FT)	ELEV. SRE (FT)	PERF. ELEV. COE (FT)	STORM SEWER INVERT ELEV. SSIE (FT)	INLET CREST ELEV. ICE (FT)	EMBANK. TOP ELEV. ETE (FT)	BOTTOM ELEV. BE (FT)
2	3	3	2.0	1.5	0.5	462.5	461.0	459.2	462.5	465.0	460.0
3	3	3	1.0	1.5	0.5	454.0	453.0	451.4	454.0	456.0	452.0

BASIN/ TRAP NO.	EMBANKMENT TOP ELEV ETE (FT)	EMBANKMENT TOP WIDTH ETw (FT)	EMBANKMENT KEY TRENCH DEPTH KD (FT)	EMBANKMENT KEY TRENCH WIDTH KW (FT)	CLEANOUT ELEV. COE (FT)	BOTTOM ELEV. BE (FT)	BARREL DIA Bd (IN)	BARREL INLET ELEV. BIE (FT)	BARREL MAT'L	BARREL LENGTH BL (FT)	BARREL OUTLET ELEV. BOE (FT)
2	465.0	8	2	4	461.0	460.0	24	459.2	HDPE	30	458.6
3	456.0	8	2	4	453.0	452.0	18	451.4	HDPE	25	451.0

NOTES:
SEDIMENT BASINS, INCLUDING ALL APPURTENANT WORKS, SHALL BE CONSTRUCTED TO THE DETAIL AND DIMENSIONS SHOWN ON THE E&S PLAN DRAWINGS.

AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6 TO 9 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS. UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE EMBANKMENT.

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

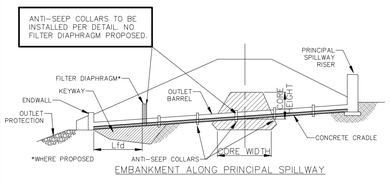
A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH BASIN. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE BASIN IN THE MANNER DESCRIBED IN THE E&S PLAN.

INSPECT ALL SEDIMENT BASINS ON AT LEAST A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. CHECK BASIN EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY. DISPLACED RIPRAP WITHIN THE OUTLET ENERGY DISSIPATER SHALL BE REPLACED IMMEDIATELY. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED INSIDE THE BASIN BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. THE DEVICE SHOWN IN STANDARD CONSTRUCTION DETAIL #7-16 MAY BE USED TO DEWATER SATURATED SEDIMENT PRIOR TO ITS REMOVAL. ROCK FILTERS SHALL BE ADDED AS NECESSARY.

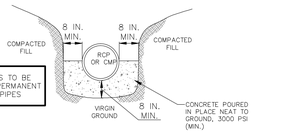
STANDARD CONSTRUCTION DETAIL #7-6 & #8-7 TYPE M INLET SEDIMENT BASIN-TRAP & SEDIMENT BASIN EMBANKMENT AND SPILLWAY DETAILS

NOT TO SCALE

ALL BASIN OUTFALL PIPES SHALL BE CONSTRUCTED WITH A CONCRETE CRADLE. ALL BASINS BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD CONSTRUCTION DETAIL #7-6 INCLUDING ANTI-SEEP COLLARS INSTALLED IN BERM CORE.



EMBANKMENT ALONG PRINCIPAL SPILLWAY



CONCRETE CRADLES TO BE INSTALLED FOR ALL PERMANENT BASIN OUTFALL PIPES

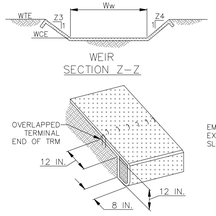
CROSS-SECTION AT OUTLET BARREL

NOTES:

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

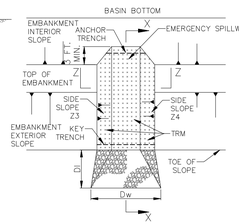
STANDARD CONSTRUCTION DETAIL #7-17 CONCRETE CRADLE FOR BASIN OR TRAP OUTLET BARREL

NOT TO SCALE

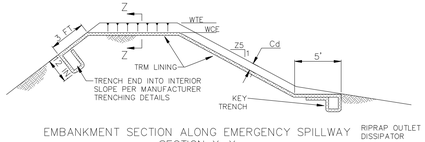


WEIR SECTION Z-Z

KEY TRENCH AT TOE OF SLOPE OF SPILLWAY



PLAN VIEW RIPRAP OUTLET DISSIPATOR



EMBANKMENT SECTION ALONG EMERGENCY SPILLWAY SECTION X-X

RIPRAP OUTLET DISSIPATOR

BASIN NO.	WEIR Z3 (FT)	WEIR Z4 (FT)	WEIR TOP ELEV. WTE (FT)	WEIR CREST ELEV. WCE (FT)	WEIR WIDTH Ww (FT)	LINING TRM TYPE	LINING STAPLE PATTERN	CHANNEL Z5 (FT)	CHANNEL DEPTH Cd (FT)	DISSIPATOR LENGTH DI (FT)	DISSIPATOR WIDTH Dw (FT)	DISSIPATOR RIPRAP SIZE (R-__)	DISSIPATOR RIPRAP THICK. DR+ (IN)
1A	3	3	462.0	460.8	110'	*SC250	Per Man	3	0.5	**NA	**NA	**NA	**NA
1B	3	3	474.5	473.1	135'	*SC250	Per Man	3	0.5	**NA	**NA	**NA	**NA
1C	3	3	487.0	485.5	40'	*SC250	Per Man	3	0.5	**NA	**NA	**NA	**NA
2	3	3	465.0	463.2	100'	*SC250	Per Man	3	0.5	**NA	**NA	**NA	**NA
3	3	3	456.0	454.5	50'	*SC250	Per Man	3	0.5	**NA	**NA	**NA	**NA

*SC250 = permanent SC250 liner as Manufactures by North American Green
**Emergency spillways are not used for routing of 100 year storm (all flow through primary structure)

NOTES:

HEAVY EQUIPMENT SHALL NOT CROSS OVER SPILLWAY WITHOUT PRECAUTIONS TAKEN TO PROTECT TRM LINING.

DISPLACED LINER WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY.

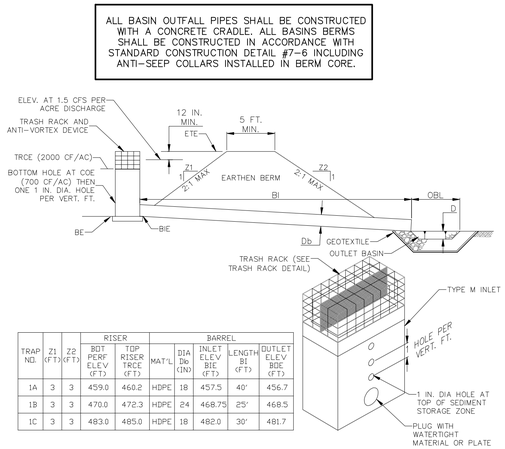
RIPRAP AT TOE OF EMBANKMENT SHALL BE EXTENDED A SUFFICIENT LENGTH IN BOTH DIRECTIONS TO PREVENT SCOUR.

THE USE OF BAFFLES THAT REQUIRE SUPPORT POSTS ARE RESTRICTED FROM USE IN BASINS REQUIRING IMPERVIOUS LINERS.

STANDARD CONSTRUCTION DETAIL #7-13 SEDIMENT BASIN EMERGENCY SPILLWAY WITH TRM LINING

NOT TO SCALE

ALL BASIN OUTFALL PIPES SHALL BE CONSTRUCTED WITH A CONCRETE CRADLE. ALL BASINS BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD CONSTRUCTION DETAIL #7-6 INCLUDING ANTI-SEEP COLLARS INSTALLED IN BERM CORE.



TRAP NO.	Z1 (FT)	Z2 (FT)	RISER BOT PERF ELEV (FT)	RISER TOP RISER TRCE (FT)	BARREL MAT'L	BARREL DIA Do (IN)	BARREL INLET ELEV. BIE. (FT)	BARREL LENGTH BL (FT)	BARREL OUTLET ELEV BOE (FT.)
1A	3	3	459.0	460.2	HDPE	18	457.5	40'	456.7
1B	3	3	470.0	472.3	HDPE	24	468.75	25'	468.5
1C	3	3	483.0	485.0	HDPE	18	482.0	30'	481.7

TRAP NO.	EMBANKMENT TOP ELEV ETE (FT)	EMBANKMENT TOP WIDTH Etw (FT)	CLEAN OUT ELEV COE (FT)	BOTTOM ELEV BE (FT)	OUTLET BASIN RIPRAP SIZE (R-_)	OUTLET BASIN ROCK THICK Rt (IN)	OUTLET BASIN DEPTH D (IN)	OUTLET BASIN WIDTH DBW (FT)	OUTLET BASIN LENGTH DBL (FT)
1A	462.0	5'	459.0	457.5	NA	NA	NA	NA	NA
1B	474.5	5'	470.0	469.0	NA	NA	NA	NA	NA
1C	487.0	5'	483.0	482.0	NA	NA	NA	NA	NA

See Riprap Apron Detail

NOTES:

FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6 TO 9 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS.

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

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

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

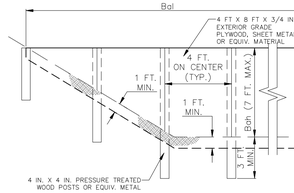
A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE TRAP IN THE MANNER DESCRIBED IN THE E&S PLAN.

CHECK EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE IMMEDIATELY RESTORED TO THE DESIGN SPECIFICATIONS. DISPLACED RIPRAP WITHIN THE OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.

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

STANDARD CONSTRUCTION DETAIL #8-8 CONCRETE RISER WITH TEMPORARY DEWATERING HOLES

NOT TO SCALE

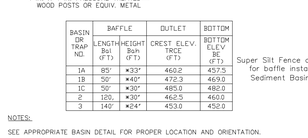


ANTI-SEEP COLLAR DETAIL

N.T.S.

BASIN OUTLET	# COLLARS	W (ft)
1A	1	5
1B	2	4
1C	2	4
2	2	5
3	1	5

GENERAL NOTES
1. INSTALL COLLARS ON BOTH SIDES OF EMBANKMENT CORE..
2. ANTI-SEEP COLLAR AND CONNECTION TO THE PIPE (BARREL) MUST BE WATERTIGHT.
3. COLLARS SHOULD NOT BE LOCATED CLOSER THAN 2 FEET TO A PIPE JOINT.



INSTALLATION INSTRUCTIONS:
APPLY TAR OR MASTIC TO COLLAR AND LAY PIPE ON COLLAR. APPLY MASTIC TO TOP HALF OF COLLAR AND SET IN PLACE LINING UP RED STRIPES AND BOLT TWO HALVES TOGETHER. INSTALL METAL BANDS ON SPLIT HALVES OF COLLAR. TIGHTEN BOLTS AND BANDS. APPLY MASTIC AS NEEDED TO INSURE GOOD WATERTIGHT SEAL. BACKFILL AND TAMP ACCORDINGLY. ABOVE PRODUCT CAN BE PURCHASED FROM SCHEIB PRODUCTS (660-446-2343); EQUIVALENT PRODUCT CAN BE USED.

BASIN DR TRAP NO.	BAFFLE LENGTH Bal (FT)	BAFFLE HEIGHT Bah (FT)	OUTLET CREST ELEV. TRCE (FT)	BOTTOM BOTTOM ELEV BE (FT)
1A	85'	*33'	460.2	457.5
1B	50'	*40'	472.3	469.0
1C	50'	*39'	485.0	482.0
2	120'	*30'	462.5	460.0
3	140'	*24'	453.0	452.0

Super Silt Fence can be used for baffle installation in Sediment Basins/Traps

NOTES:

SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION.

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

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

BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS.

SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL CONSERVATION DISTRICT BEFORE INSTALLATION.

DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION.

BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS.

STANDARD CONSTRUCTION DETAIL #7-14 BAFFLE

NOT TO SCALE

	DATE
1. Added Greenway Protection & Detail	12-3-2015
2.