



TOWNSHIP OF NORTH FAYETTE

Minimum Construction Standards and Details

February 2013

Adopted February 26, 2013

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I. GENERAL REQUIREMENTS

A. OVERALL REQUIREMENTS

1. Submit 110% cost of construction Performance Bond, 10% cost of construction Escrow Deposit and a Certificate of Insurance with the Township of North Fayette and Township Engineer as additional insured.
2. Submit Maintenance Bond for 18 months from the date of the Certificate of Completion for an amount of 15% the cost of construction.
3. At month 16 of the Maintenance Bond period, CCTV all sewer lines and submit videos and data to the Township.
4. Escrow Deposit shall remain in place until the expiration date as set forth in any agreements entered into between the Township of North Fayette and the Developer or unless otherwise agreed to by the Township of North Fayette.

B. CONTACTS

Township of North Fayette
400 North Branch Road
Oakdale, Pennsylvania 15071
412-788-4888
412-693-8132 (Fax)

Mr. Robert T. Grimm, Manager
Email: rgrimm@north-fayette.com

Mr. Laura Ludwig
Director of Community Dev.
Email: lludwig@north-fayette.com

Mr. Mike Saville
Building Code Official/Code Enf. Officer
Email: msaville@north-fayette.com

Mr. Patrick Felton
Public Works Director
Email: pfelton@north-fayette.com

Mr. Kevin A. Brett, P.E., Principal
Lennon, Smith, Souleret Engineering, Inc.
846 Fourth Avenue
Coraopolis, Pennsylvania 15108-1522
412-264-4400 / 412-264-1200 (Fax)
E-mail: kbrett@lsse.com

Vincent A. Tucceri, Esquire
Gaitens, Tucceri & Nicholas, P.C.
519 Court Place
Pittsburgh, Pennsylvania 15219
412-391-6920 / 412-391-1189 (Fax)
E-mail: micholas@gtnlaw.com

This Section specifies permit and easement acquisition, guidelines and requirements.

C. PERMITS AND EASEMENTS OBTAINED BY DEVELOPER / CONTRACTOR

1. Prepare and submit to the proper authority, utility or State agency all information required for the issuance of required permits or easements. Pay all costs thereof including agency inspections and easement costs unless specifically provided otherwise in the Project. Comply with all terms and conditions and permit requirements contained in such permits.
2. Provide a copy of each permit to the Township prior to pursuing any work covered by the permit.
3. When required by the permit and during work progress covered by the permit, the work shall be inspected by the issuing agency.
4. Provide a copy of the completed permit with the issuing agency acceptance or easement owner release.
5. Permits and easements, including those obtained by the Developer and/or Contractor, must be posted at the site of the work on the Project Notification Board. This Board to contain copy of all permits, emergency contact information, Owner of the development and other state and local review employee posters.
6. Developer Obtained Permits:
 - a. Environmental Permits: All permits to be obtained by the Developer. These permits generally include:
 - i. General Permits – Pennsylvania Department of Environmental Protection (PaDEP)
 - ii. Joint Permits or Small Projects Permits – PaDEP
 - iii. Erosion and Sedimentation Control Plan – Allegheny County Conservation District (ACCD) approval, under one acre of disturbance (for all disturbance in excess of 5,000 square feet, an adequacy letter is required)
 - iv. NPDES Permit – PaDEP (over 1 acre)

- v. Part II Permit
 - vi. Sewage Planning Module
7. Utility Easements: The Developer/Contractor is responsible for the acquisition of any and all easements for utility extensions that will service the subject site. Easement must be a minimum of 20' width for permanent with an additional 15' on each side of the permanent easement for construction and maintenance of facilities.

D. SUBMITTALS

1. Procedural requirements for submittals required for performance of the Work, including;
 - a. Contractor's construction schedule for entire project by major item of work (i.e. erosion and sedimentation, stormwater, sanitary, water, gas, electric, roadway and final restoration).
 - b. Submittal schedule.
 - c. Daily construction reports.
 - d. Shop Drawings.
2. Submittal Preparation: Submit six (6) copies. Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
 - a. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
 - b. Include the following information on the label for processing and recording action taken.
 - i. Project name, Contract Number and Name, Owners Name and address.
 - ii. Date.
 - iii. Name and address of Developer's Engineer.
 - iv. Name and address of Contractor.

- v. Name and address of subcontractor.
 - vi. Name and address of supplier.
 - vii. Name of manufacturer.
 - viii. Number and title of appropriate Specification Section.
 - ix. Drawing number and detail references, as appropriate.
3. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Engineer using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

On the transmittal Record relevant information and requests for data. On the form, or separate sheet, record deviations from approved plan and document requirements, including minor variations and limitations. Include Contractor's certification that information complies with approved documents.

4. Contractor shall review and approve each submittal before forwarding the submittal to the Engineer. Contractor shall Stamp, date and initial as "reviewed and approved" each submittal before forwarding to Engineer.
5. Submit a fully developed Construction Schedule. The schedule to indicate the coordinated work of all Contractors. Additionally, provide 48 hour notice to the Township and the Township Engineer of construction activities requiring North Fayette Township observation.

E. INSPECTION AND TESTING – GENERAL REQUIREMENTS

1. Inspections and Testing
 - a. The Developer / Contractor must hire a third party testing / quality control firm to conduct monitoring and testing for earthwork compaction, asphalt, cast-in-place concrete, grout, and other independent monitoring as required or as requested by the Township or Township Engineer. Testing, as defined in this paragraph and inspection will be paid by the Contractor / Developer.

- b. The Developer / Contractor to provide all labor, equipment and apparatus necessary for in-place testing to mainlines, and manholes as described in the Technical Specifications.
 - c. Retesting and reinspection required because of defective work will also be completed by a third party consultant paid by the Developer / Contractor.
2. Submittals
- a. Third party independent consultant must be submitted to Township for approval.
 - b. Developer / Contractor to submit two copies of all test reports to the Project Representative.
3. Developer's Responsibilities
- a. Provide to the independent representative samples of materials to be tested in the required quantities.
 - b. Furnish labor, equipment, and facilities:
 - i. For access to work to be tested.
 - ii. To obtain and handle test samples at the site.
 - iii. To facilitate inspections and tests including traffic control and safety systems.
 - iv. For laboratory's exclusive use for storage and curing test samples until removed to the laboratory.
 - v. To repair any test areas in order to match original conditions.
 - vi. For all testing and inspection in supplier's facilities.
 - c. Items of work not meeting the as approved requirements must be removed and replaced.

F. GUARANTEES

1. Determination of Guarantee Dates
 - a. The guarantee date(s) shall be established prior to Final Acceptance.
2. Documentation
 - a. Guarantee dates and the durations of the guarantee period shall be recorded and submitted to the Township in a form acceptable to the Township Solicitor.
 - b. The guarantee information shall be documented by Specification section in the same order as presented in the operations and maintenance manuals.
 - c. Vendor information including point-of-contact, company name, company address, and company emergency phone number shall be included for applicable equipment and components of the facility.
3. Guarantee Response
 - a. The Developer's Representative shall be the point-of-contact for response to guarantee-related issues during the two year guarantee period.
 - b. For special guarantees extending beyond the two year guarantee period.
 - c. Guarantee items requiring response within the two year guarantee period, will have a completely new two year guarantee period established from the time of repair. Upon completion of the repair, provide written verification of the newly established guarantee period to the Developer/Contractor Representative.

G. RECORD DRAWINGS – AUTOCAD FORMAT

1. Submittals
 - a. One neatly and legibly marked set of full-size record drawings.
 - b. As-Built CAD drawings. Electronic format shall be AutoCAD 2010 or newer.

2. General

- a. The record drawing set shall be kept separate from other construction drawings and shall not be used for other purposes.
- b. Use waterproof red felt-tip pens to make fully dimensional changes on the drawings. Notations are to be neat, legible, clear and concise. Show changed dimensions by striking through the planned dimension with a single line and by placing the new value within a circle.
- c. Show the actual as-built location along with all changes made during construction within AutoCAD Plans.

3. Drawing Requirements

- a. Provide additional drawings or mark on the Drawings to show the following:
 - i. Underground utilities and other items including the location of lines and appurtenances. Show the actual size and types of material used. Show locations by facility coordinates or dimensioned to permanent surface structures. Minimum requirements for accuracy as specified in the following table:

Description	Location	Elevation	Notes
Temporary Facilities and Construction Materials left at end of Project	CL ± 1 ft	CL ±1 ft	Includes shoring, all underground items, and concrete.
Pressurized piping.	CL ± 1 ft	CL ±0.50 ft	Includes water and process lines.
Storm drains, sewer lines inverts and cleanouts.	CL ± 1 ft	CL ±0.01 ft	Recalculate slope if shown on the Drawings.
Sewer interceptors and trunks.	Coordinates, stations, and offsets. CL ± 1 ft.	IE ±0.01 ft.	Recalculate actual slopes.
Laterals and Side Sewers	CL ± 1 ft	CL ±0.50 ft	Include measurements based on fixed objects (i.e. house corners)

Description	Location	Elevation	Notes
Stormwater Cross Connection	CL ± 1 ft	CL ±0.50 ft	Include measurements based on fixed objects (i.e. house corners)

CL = Centerline
 IE = Invert Elevation
 FT = Feet

- ii. The actual arrangement and routing of embedded conduit and piping is relative to its location and proportion to other work. The location does not need to be dimensioned or drawn to scale.
- iii. Other Drawings as may be required by the Township or the Township Engineer.
- iv. Provide dimensions from more than one permanent structure where required for accurate location.

4. CAD Drawings

- a. All construction plans must be submitted in electronic format compatible to AutoCAD 2010.
- b. Record drawings will be reviewed and accepted prior to acceptance of work.
- c. Record Drawings and Schedules. Following Substantial Completion but prior to Final Acceptance of the work, provide D-size (24 inches high by 36 inches long) sepia reproducible prints. Prints shall reflect the final constructed state of the systems. The *.DWG or *.DGN files, if used by the Developer/Contractor, shall be completely brought up to date to show the systems as-installed. The *.DWG or *.DGN files shall be turned over to the Project Representative on CD-R format.

II. SANITARY SEWER REQUIREMENTS

A. PROJECT COMPLETION CHECKLIST FOR SANITARY SEWERS

1. Submit 110% cost of construction Performance Bond, 10% cost of construction Escrow Deposit and a Certificate of Insurance with the Township of North Fayette and Township Engineer as additional insured.
2. Installation of sanitary sewers per the approved plans and per North Fayette Township Regulations.
3. Complete and submit Record Drawings (As-Builts) of sanitary sewers for review and approval by North Fayette Township. Record Drawings must be accepted before any sewage permits will be issued for a development and all sewer rights-of-way must be recorded and conveyed to North Fayette Township.
4. After the sewer line has been installed for 30 days, testing will need completed per North Fayette Township Regulations. Tests shall include:

Manhole Vacuum Test for each manhole
Pressure Air test of the entire sewer line
Mandrel(Deflection) Test of the entire sewer line
5. Submit Maintenance Bond for 18 months from the date of the Certificate of Completion of sanitary sewers for an amount of 15% the cost of construction.
6. At month 16 of the Maintenance Bond period, CCTV all sewer lines and submit videos and data to the Township.
7. Escrow Deposit shall remain in place until the expiration date as set forth in any agreements entered into between the Township of North Fayette and the Developer or unless otherwise agreed to by the Township of North Fayette.

B. SANITARY SEWER MATERIALS REQUIREMENTS

1. Sewer Pipe and Fittings:
 - (a) For pipe joints, use rubber gaskets designed to sustain positive and negative (vacuum) pressure and suitable for conveying domestic sewage.

- (b) Ductile Iron Pipe (DIP):
- 1) Pipe: ANSI A21.50 and ANSI A 21.51. (3 - 54 inches).
 - 2) Wall Thickness Class 52.
 - 3) Fittings: Gray iron or ductile iron ANSI A21.10. Fittings larger than 48 inches AWWA C100 Class B (up to 60 inches).
 - 4) Joints:
 - i. Rubber-Gasket Joints (Buried): ANSI A 21.11
 - a For buried gravity pipe installation, provide push-on or mechanical joints except where other types of joints are indicated on the Contract Drawings or required by the Specifications.
 - b For buried pressure pipe installation, provide fully restrained joints except where other types of joints are indicated on the Contract Drawings or required by the Specifications.
 - 5) Lining and Coating:
 - i. Line ductile iron piping for sanitary sewer service with an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment (ceramic epoxy).
 - ii. Apply ceramic epoxy lining to the ductile iron pipe with 40 mils nominal dry film thickness.
 - iii. Cover the interior surfaces of the pipe and fittings with ceramic epoxy lining from the interior of the spigot end to a point sufficiently forward in the bell socket such that the gasket, in the assembled joint, seals over the end of the lining.
 - iv. Repair the cut end as per the manufacturer's written procedure where pipes are cut in the field.

- v. Pipe Lining: Provide Protecto 401™ as manufactured by Induron® or an approved equal meeting the requirements of this specification.
 - vi. Pipe and Fitting Lining: Manufacturer's ceramic epoxy lining single thickness.
 - vii. Pipe and Fitting Exterior Coating: Manufacturer's standard asphaltic coating, approximately one mil thick in accordance with AWWA C151, applied to the outside of pipe and fittings only.
- (c) Polyvinyl Chloride Pipe (PVC):
- 1) Pipe, Solid Wall, 4 through 6 Inch Diameters: Type PSM SDR-26, ASTM D3034.
 - 2) Pipe, Solid Wall, 8 through 15 Inch Diameters: Type PSM SDR-35, ASTM D3034, or Type PS-46, ASTM F789 (to 18 inch diameter).
 - 3) Pipe, Solid Wall, 18 through 27 Inch Diameters: Type PS-46, SDR-26 ASTM F679.
 - 4) Fittings: Commercially manufactured molded fittings conforming to same applicable ASTM Specification requirements for pipe.
 - 5) Joints: Push-on with elastomeric gasket, ASTM D3212; and ASTM F477 for gasket specifications.
 - i. Pipe Bell: Provide a gasket with a locked in a groove design so as to prevent displacement when pipes are joined.
2. PVC Waterstop: Gasket type waterstop composed of virgin polyvinyl chloride (PVC) such as manufactured by Fernco Joint Sealer Co.; CMA Concrete Manhole Adapter (CMA Waterstop distributed by The General Engineering Company, Frederick, Maryland), or approved equal. (For connection to existing manhole.)
3. Flexible Pipe Coupling: Clamped design with virgin PVC coupling and two type #305 stainless steel bands, such as manufactured by Fernco Joint Sealer Co. For lines 8 inch diameter and smaller use Fernco Proflex

shielded specialty couplings. (Flexible Couplings, or approved equal distributed by The General Engineering Company, Frederick, Maryland).

4. Polywrap: Two ply cross laminated high density polyethylene per AWWA C105, Section 4.1.2, Type III Class C (Black) Grade 33, 5,000 psi tensile strength, minimum elongation 100 percent, nominal 0.004 inch (4 mil) thickness.
5. Detectable Mylar Marking Tape:
 - (a) Install a detectable mylar marking tape over all PVC and HDPE lines. Provide detectable marking tape bearing the words "CAUTION - SEWER LINE BURIED BELOW". Place printing under mylar so as to be readable through the clear mylar. Provide tape green in color and 3" in width. Bury detectable marking tape 1' to 2' below finish grade. Place tape into backfill and allow to settle into place in the backfill.
6. Service Connection Pipe and Fittings:
 - (a) Ductile Iron Pipe (DIP): As specified for Sewer Pipe and Fittings; six inch diameter.
 - (b) Polyvinyl Chloride Pipe (PVC): As specified for Sewer Pipe and Fittings; six inch diameter.
 - (c) Pipe Plugs: Designed for permanent installation and removable. Obtain plugs for various types of pipe used from the respective pipe manufacturer.

C. MAINLINE SANITARY SEWER INSTALLATION REQUIREMENTS

1. All sanitary sewer installations must comply with the Township of North Fayette Sewer System Rules and Regulations, all other Township codes and requirements, the Allegheny County Health Department Plumbing Code, and all other local, county, state, and federal codes and regulations.
2. Verify all existing utilities in the field prior to start of excavation work. Comply with One Call (Act 38) requirements. Contact all utility companies that may have facilities within the work area.
3. Field check and verify benchmark elevations for all work before start of construction. Verify all existing sanitary sewer inverts and confirm sanitary sewer grades prior to initiation of construction. Prepare and

submit cut sheet survey. Set/adjust final grades for proposed sanitary sewer lines and service lines after all existing utilities and other obstructions have been located by test holes. Dig all necessary test holes to locate any existing utilities that may be in conflict with the alignment and grade of the proposed sanitary sewer or sanitary sewer service lines.

4. A pipeline in-line laser level must be used for all pipeline installations.
5. Set the actual location, pipeline stationing, elevation and the termination of all sanitary sewer service lines at the time of construction to best accommodate each structure to be served. For new service line installations and existing reconnections, perform all required preparatory work including digging any required test holes to confirm or establish final connection or reconnection point and confirm those elevations.
6. Maintain and protect traffic during construction per MUTCD. Coordinate all work with local emergency response and transportation agencies. Provide all required signage for temporary traffic control. Maintain all roads, sidewalks, steps and traveled ways clean, free of mud or dust, and in a condition usable by residents in the area during construction. Maintain access to all residential and commercial driveways during construction.
7. Maintain all existing sanitary sewers in service during construction. Contain sanitary sewage to sanitary sewers. Do not discharge to the ground surface or to groundwaters. Provide bypass pumping as required to maintain sanitary sewage to sanitary sewers.
8. Confine all activity to authorized rights-of-way.
9. Implement and maintain an Erosion and Sedimentation Control Plan.
10. Restore all private property disturbed by construction activities within two weeks of construction work. Replace mailboxes and driveway cross drains immediately. Restore yard areas which are disturbed as a result of the work with four inches (4") of topsoil, seed, and mulch. Adjust all existing and new inlets, manholes, valve boxes, curb boxes and all other similar items located within paved areas as required to match final paving grade tilt as required with approved spaces to match. Provide minimum six inch (6") depth asphalt cold patch with eighteen inch (18") 2A stone interim trench cap in all roadways. Perform final trench restoration per the Township detail.

11. Cut and plug all existing sanitary sewer lines to be taken out of service. Plug with suitable waterproof non-shrink grout at least one foot (1') into pipe. Remove manholes to minimum three foot (3') below grade plug inlet and outlet pipes as directed. Backfill to grade with suitable material. Return castings to North Fayette Township. Grout all abandoned sewers solidly in place.
12. Maintain daily as-built record information including wye stationing. Give Township's Representative copies of all delivery slips for all materials delivered to the project.
13. Notify the Township and Township's Engineer 48 hours in advance of starting the project.
14. Pipeline acceptance testing includes low pressure (5 psig for 5 minutes), mandrel, and manhole vacuum testing. Low pressure test service lines simultaneously with main line.
15. Protect public at all times from all open excavation, cover all open excavation with suitable steel plates at the end of each workday.
16. Trench backfill requirements:

Pipe Zone:

PVC pipe full stone bedding [2A crushed limestone (no slag)] and
RCCP stone bedding [2A crushed limestone (no slag)]
Wrap all D.I. pipe with 2-ply cross laminated high density polyethylene

Intermediate Zone:

Improved areas full trench stone vibratory compact in 8" lifts
Unimproved areas select backfill vibratory compact in 8" lifts

Final Zone: As specified.

C. TESTING REQUIREMENTS FOR SANITARY SEWER INSTALLATION

TESTING SANITARY SEWERS (GRAVITY)

Each section of sewer including service laterals constructed as part of this contract, shall be cleaned, tested and inspected. All repairs shown to be necessary by the tests are to be made promptly. Broken or cracked pipe shall be replaced and all deposits removed and the sewer left true to line and grade and entirely clean. Each length of sewer is to show a full circle of light from manhole to manhole.

Pressure Air Test -- All sewers (mains and service lines) shall be air tested for leakage and any section of sewer showing leakage in excess of the amount hereinafter set forth shall be rejected.

The air test shall be conducted by the Contractor under the observation of the North Fayette Township's Representative and shall be performed with AIR-LOC equipment manufactured by Cherne Industrial, Inc., Hopkins, Minnesota or approved equal.

The Contractor may desire to perform an air test for his own purposes prior to backfilling; however, the "acceptance air test" shall be performed after backfilling has been completed.

Each section of sewer being tested shall be temporarily sealed off by means of suitable plugs. All ends of lateral stubs shall be sealed with suitable removable caps securely fastened to withstand internal test pressures.

The procedure and criteria to be used for air testing shall conform to that described by the National Clay Pipe Institute.

All gauge test pressures in the test shall be increased by the amount of groundwater pressure at the crown of the pipe.

Plugs shall be properly secured and care shall be exercised in their removal. All plugs shall be blocked and carefully braced to prevent sudden release of compressed air, slippage, or blowout due to internal pressure.

No personnel shall be permitted in the manholes or at the end of the pipe test section during testing.

The pressurizing equipment shall have a safety gauge which shall limit the loading on the sewer line to 10 psi. The calibrations on all pressure gauges shall be no greater than 0.10 psi.

If the pipe installation fails to meet test requirements, the Contractor shall determine, at his own expense the source or sources of leakage, and he shall repair or replace all defective materials and workmanship.

Immediately following the testing, the entire interior of the pipe shall be inspected by a North Fayette Township Representative, and in the event any joints are found to be leaking, they shall be properly repaired, regardless of whether or not the pipe meets the air/pressure test requirements. Under no circumstances shall

infiltration in any section of pipe between two adjacent manholes exceed 200 gallon/mile/ inch diameter/day.

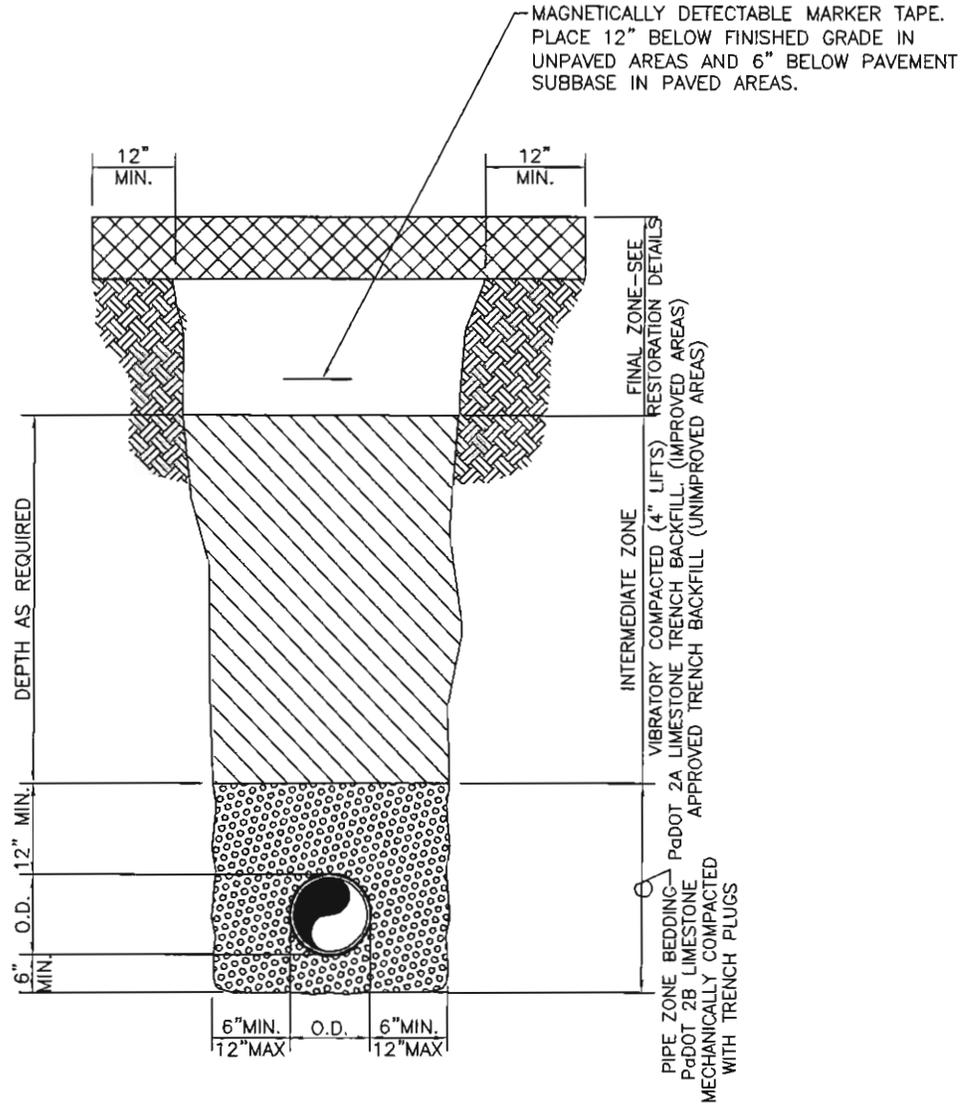
All sewer pipes shall be tested by inducing low pressure air, internally, into the pipe. The air shall be slowly introduced into the pipe and the pressures shall gradually be increased within the test section to 5.0 psi. The test section shall be required to **sustain that 5.0 psi minimum without loss or drop in pressure for a time period of 5 minutes.** In the event pressure loss does occur, appropriate repairs or reconstruction shall be made, the test procedure shall be made, and the test procedure shall be repeated until the test criteria (5.0 psi for 5 minutes) are successfully accomplished.

Where groundwater elevations prevail higher than the top of the sewer pipe being tested, 0.5 psi per foot of hydrostatic head above the top of the sewer pipe shall be added to the test pressure.

Mandrel/Deflection Test -- All PVC pipes shall also be tested for pipe deflection. Said tests shall not be performed until the backfill has been in place for at least thirty (30) days; maximum acceptable deflection shall be 5% of the internal diameter. Said testing may be performed with a deflectometer, calibrated internal TV equipment or a mandrel similar or equal to that manufactured by Cherne Industries, Inc. Deflection testing equipment and procedures shall be submitted for approval by the Engineer.

Vacuum Testing of Manholes -- After erection of the manholes, connection of the sewers, and placement of the backfill to approximately the finished ground elevation, each manhole shall be vacuum-tested for water tightness. Connecting pipes shall be securely plugged and a vacuum testing device similar to that manufactured by P.A. Glazier, Inc., or equal, shall be placed and sealed within the top of the precast manhole section. A vacuum of ten inches (10") of Hg shall be drawn after which the vacuum pump shall be shut off. If the indicated vacuum pressure drops to nine inches (9") in less than one minute, the test apparatus shall be removed and appropriate repairs shall be performed. The test shall be repeated, as necessary, until a time period of a minimum of one minute occurs before the vacuum pressure drops one inch (1").

D. SANITARY SEWER STANDARD DETAILS (SEE FOLLOWING PAGES)



Sanitary Sewer Trench & Pipe Zones

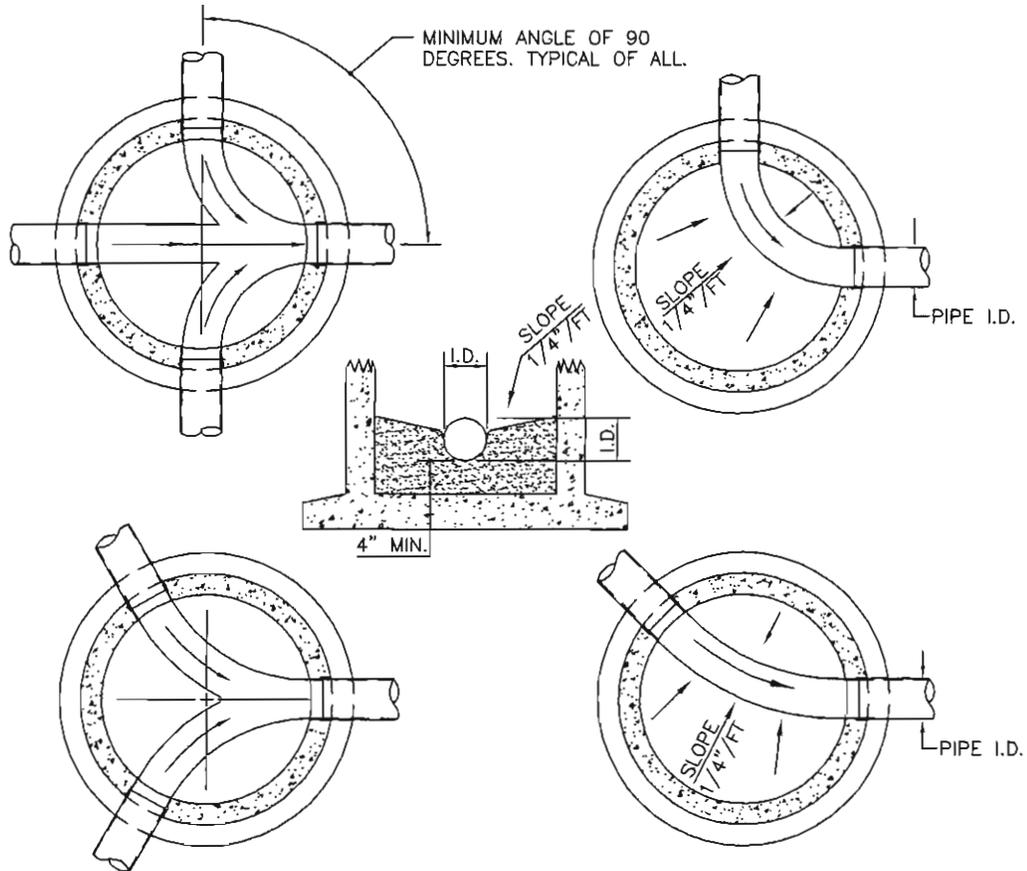
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Sanitary Sewer Trench & Pipe Zones.dwg



North Fayette Township
Allegheny County, Pennsylvania
400 North Branch Road
Oakdale, PA 15071



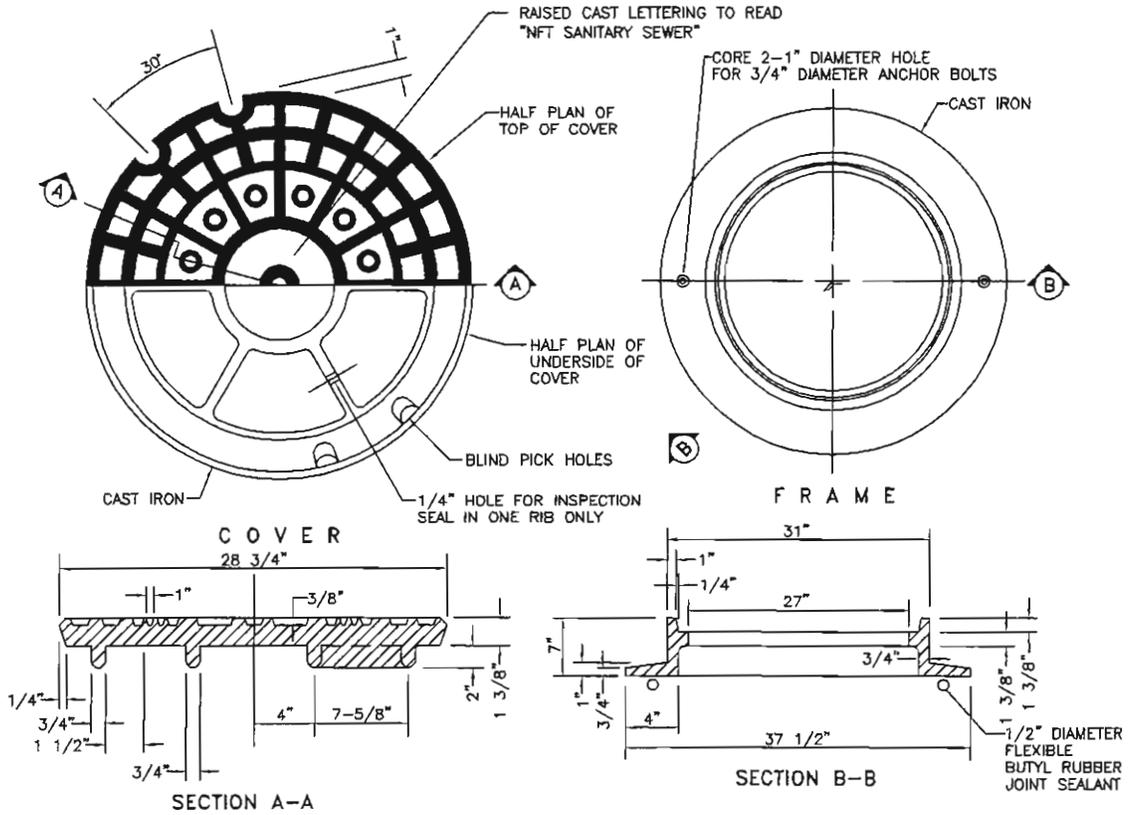


NOTES:

1. CHANNELS TYPICAL, NUMBER AND LOCATION TO MEET FIELD CONDITIONS.
2. CHANNELS TO BE SEMI-CIRCULAR IN SECTION. DEPTH OF CHANNEL TO BE $\frac{3}{4}$ OF PIPE DIAMETER.
3. SLOPE MANHOLE FLOOR TO CHANNEL FOR DRAINAGE
4. CONCRETE TO FORM CHANNELS SHALL BE CLASS AA AND HAVE A MINIMUM DEPTH OF 4 INCHES.
5. PROVIDE SMOOTH FLOAT FINISH.
6. RADIUS SHALL BE UNIFORM.

Manhole Channels





Manhole Frame & Cover

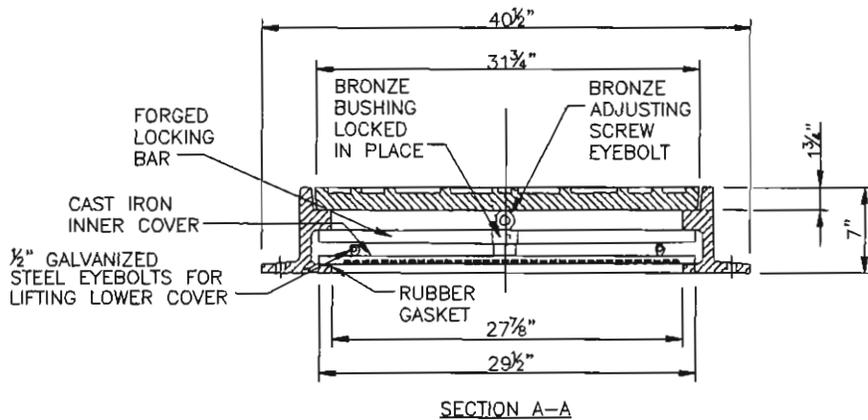
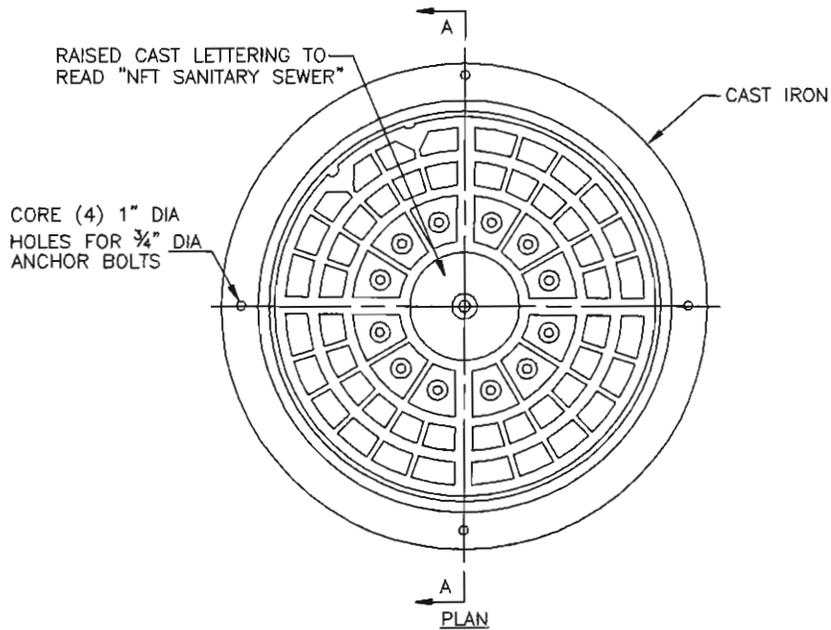
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Manhole Frame & Cover.dwg



North Fayette Township
Allegheny County, Pennsylvania
400 North Branch Road
Oakdale, PA 15071





NOTES:

1. ALL CONTACT SURFACES MACHINED.
2. PROVIDE SECURITY SADDLE OVER EYEBOLT IF SPECIFIED.
3. PROVIDE AS DIRECTED BY TOWNSHIP OR TOWNSHIP ENGINEER.

Watertight Manhole Frame & Cover (With Inner Cover)

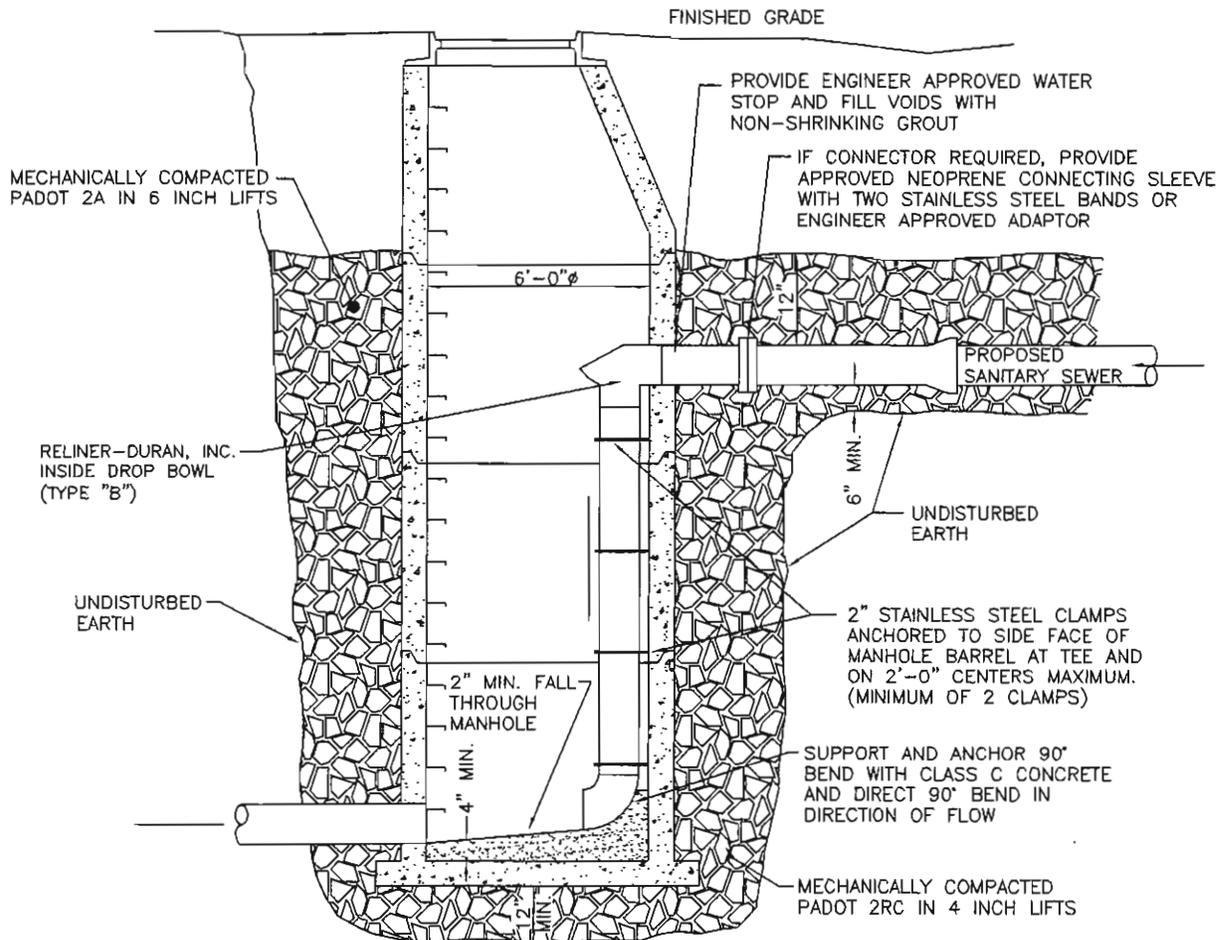
SCALE: N.T.S.

DATE: Sept. 2011 FILE: W-T MH Frame & Cover.dwg



North Fayette Township
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NOTES:

1. DROP MANHOLE CONNECTIONS ARE PERMITTED ONLY WITH APPROVAL FROM THE TOWNSHIP.
2. DROP CONNECTION INTERNAL PIPING SHALL BE P.V.C. PIPE CONFORMING TO ASTM SDR 35.
3. DIAMETER OF THE DROP CONNECTION INLET PIPING SHALL EQUAL THE DIAMETER OF THE INLET PIPE.
4. ALL MOUNTING HARDWARE TO BE STAINLESS STEEL.
5. SEE STANDARD DRAWINGS AND SPECIFICATIONS FOR MANHOLE CONSTRUCTION REQUIREMENTS.

Inside Drop Manhole Connection

SCALE: N.T.S.

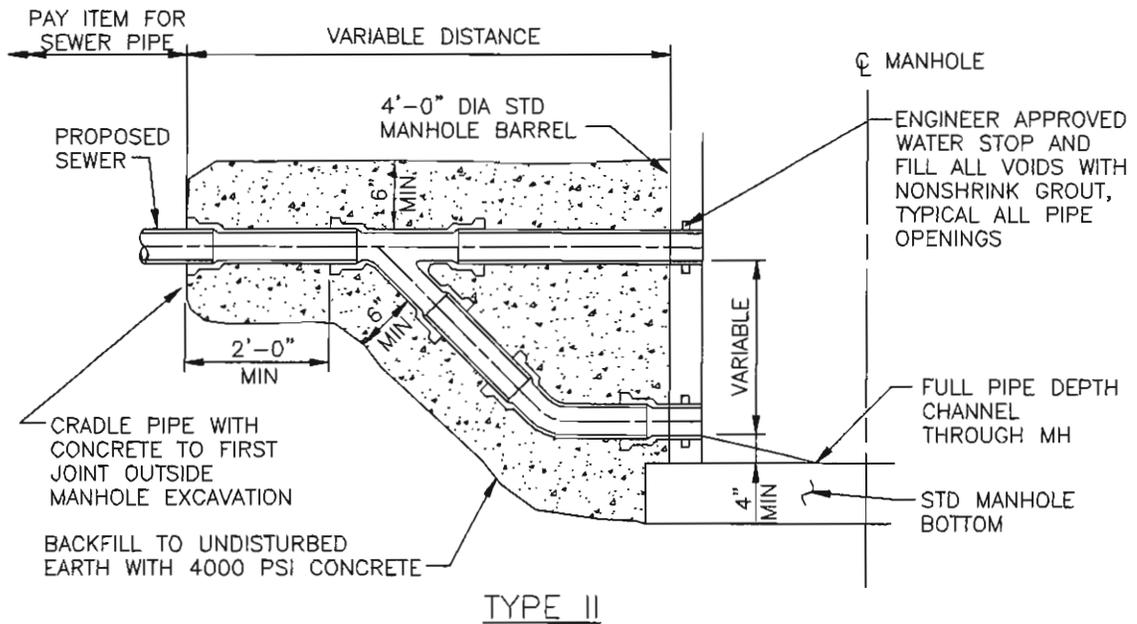
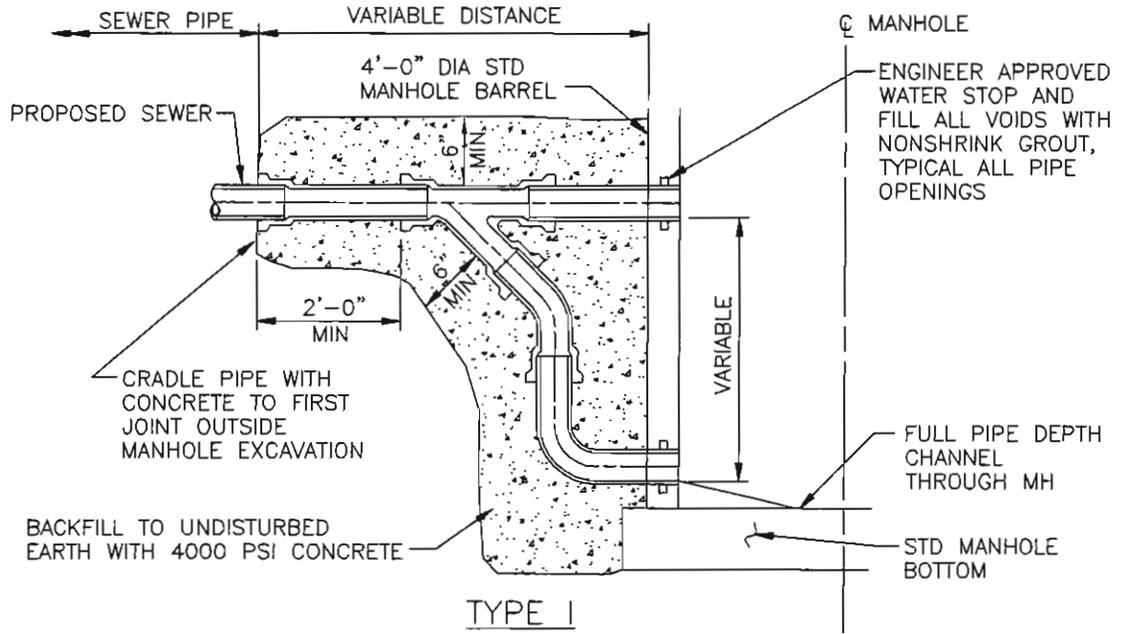
DATE: Sept. 2011 FILE: Inside Drop Manhole Connection.dwg



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NOTES:

1. OUTSIDE DROP CONNECTIONS ARE PERMITTED ONLY WHEN CONNECTING TO EXISTING MANHOLES AND WITH APPROVAL FROM THE TOWNSHIP.
2. SEE STANDARD DRAWINGS AND SPECIFICATIONS FOR MANHOLE CONSTRUCTION REQUIREMENTS.

Outside Drop Manhole Connection

SCALE: N.T.S.

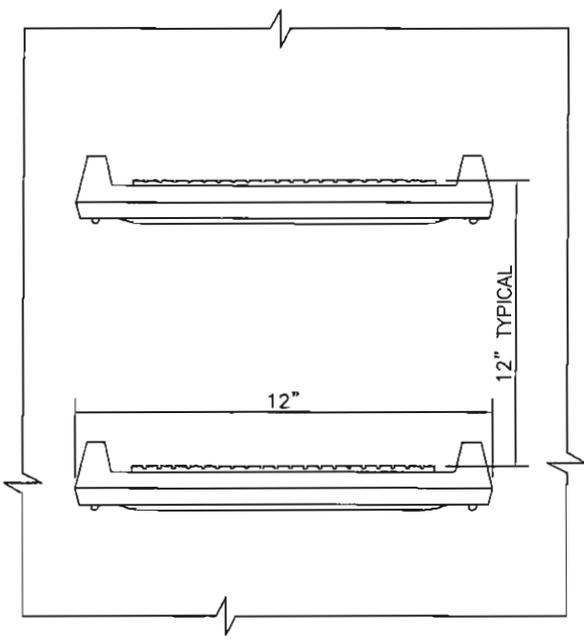
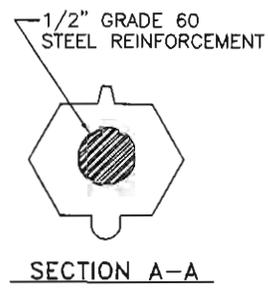
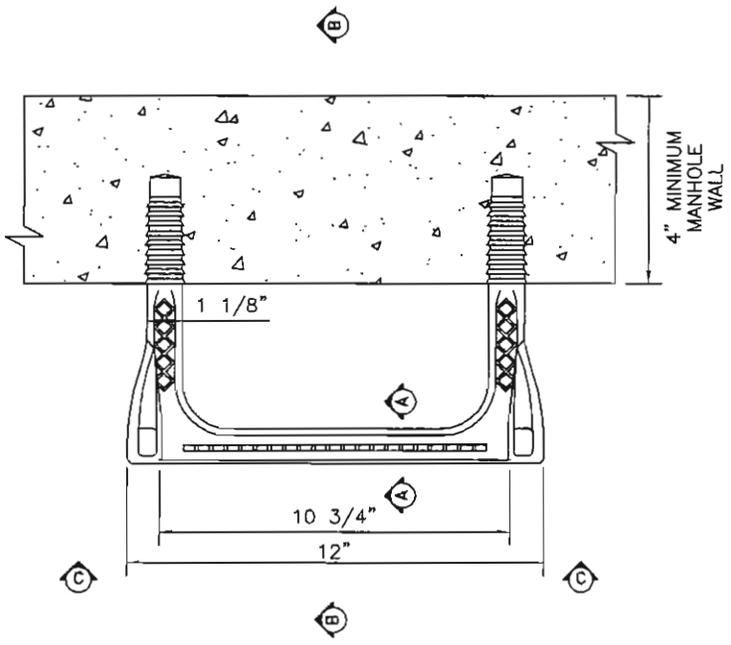
DATE: Sept. 2011 FILE: Outside Drop Manhole Connection.dwg



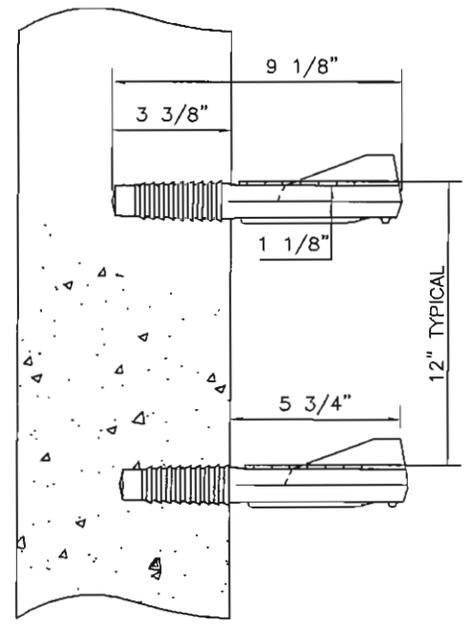
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VIEW C-C



SECTION B-B

NOTE:
 LADDER BARS SHALL MEET ALL
 MINIMUM O.S.H.A. REQUIREMENTS
 AND CONFORM TO ASTM C-478,
 LATEST REVISION

Ladder Bars For Manholes

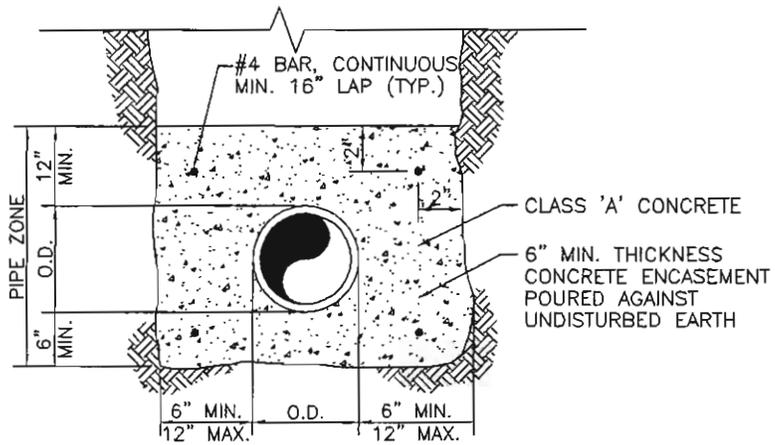
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Ladder Bars For Manholes.dwg



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Concrete Encasement

SCALE: N.T.S.

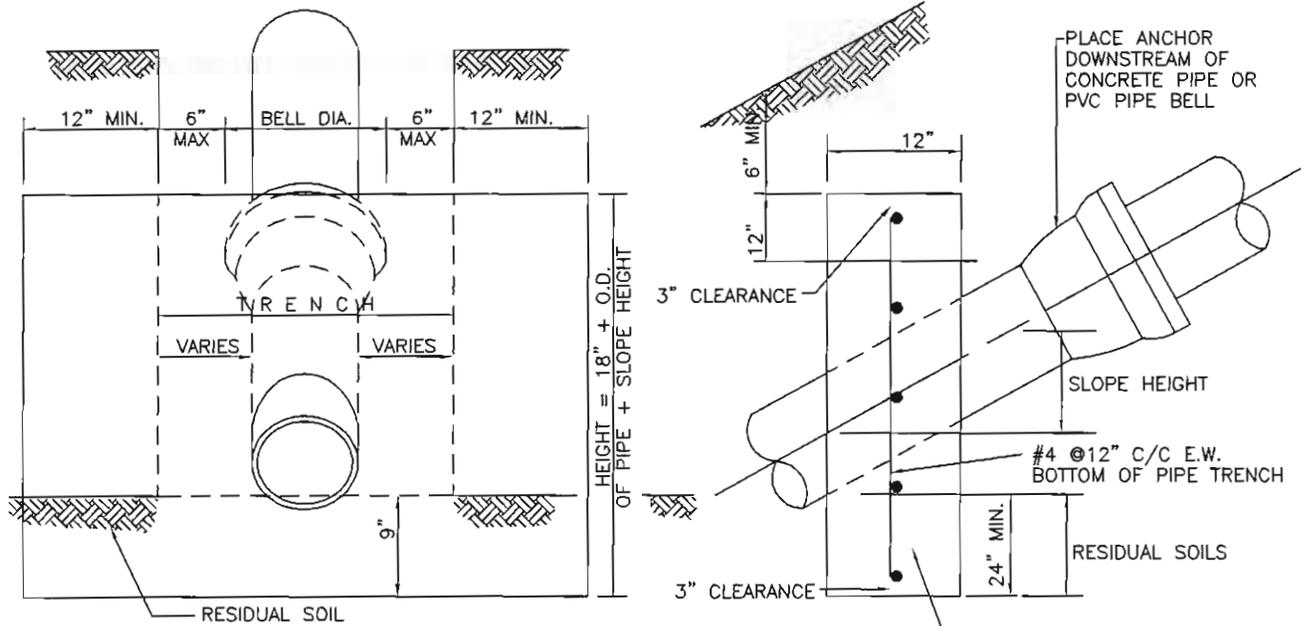
DATE: Sept. 2011 FILE: Concrete Encasement.dwg



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SPACING REQUIRED

% GRADE	DISTANCE CENTER TO CENTER
20% TO 35%	36' C. to C.
35% TO 50%	24' C. to C.
50% +	16' C. to C.

DUCTILE IRON PIPE SHALL
BE USED FOR ALL
SEWERS OVER 40% GRADE.

Concrete Anchor

SCALE: N.T.S.

DATE: Sept. 2011 FILE: Concrete Anchor.dwg



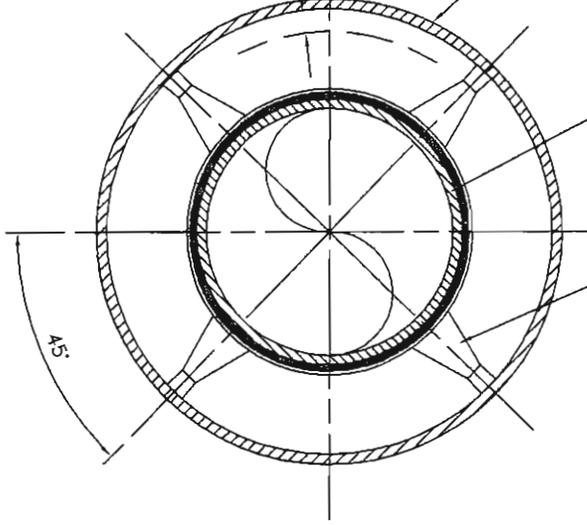
North Fayette Township
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2" (MIN.) CLEARANCE FROM CARRIER PIPE BELL O.D. TO CASING PIPE I.D.

CASING PIPE TO BE WELDED STEEL PIPE MEETING A.S.T.M. SPECIFICATIONS A-53, GRADE B, MIN. YIELDS STRENGTH OF 35,000 PSI. CASING WALL THICKNESS = 0.375".



CARRIER PIPE

POLYMER CASIN SPACER SIMILAR TO THAT MANUFACTURED BY PSI (OR EQUAL), INSTALLED PER MANUFACTURERS RECOMMENDATIONS

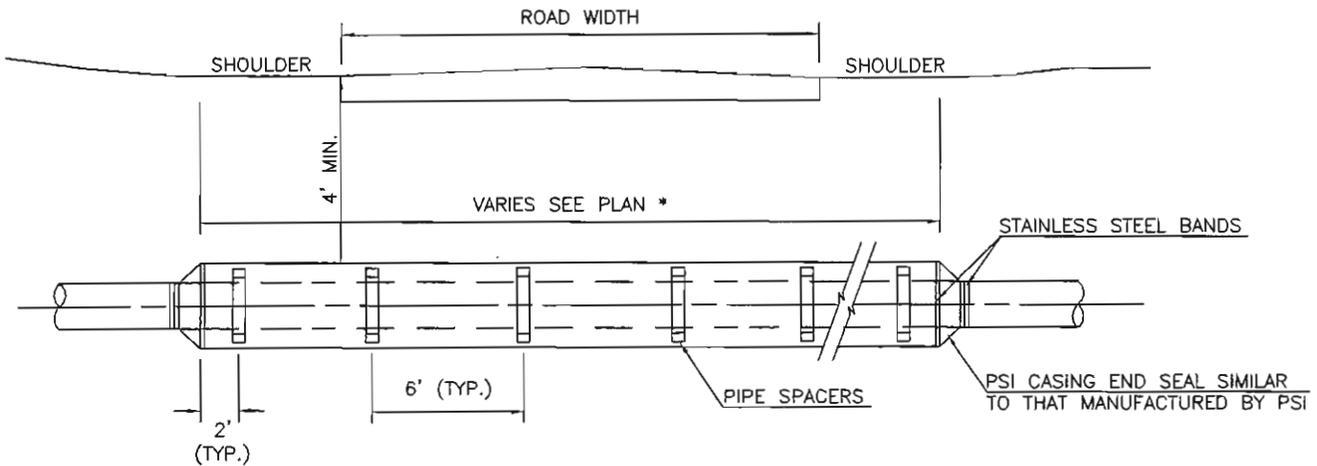
NOTES :

INSTALL PIPE SPACERS MAX. 3' FROM JOINT, MAX. OF 6' BETWEEN SUPPORTS, AND A MAX. OF 2' FROM CASING END.

LOCATE PIPE JOINT 1' MIN. OUTSIDE CASING.

UNDER 12" DIA. CARRIER PIPE, 3 EQUALLY SPACED SPACERS PER SECTION OF PIPE

OVER 12" DIA. CARRIER PIPE, 4 EQUALLY SPACED SPACERS PER SECTION OF PIPE



* EXACT LENGTH OF CASING PIPE TO BE DETERMINED IN THE FIELD.

Road Boring Steel Casing

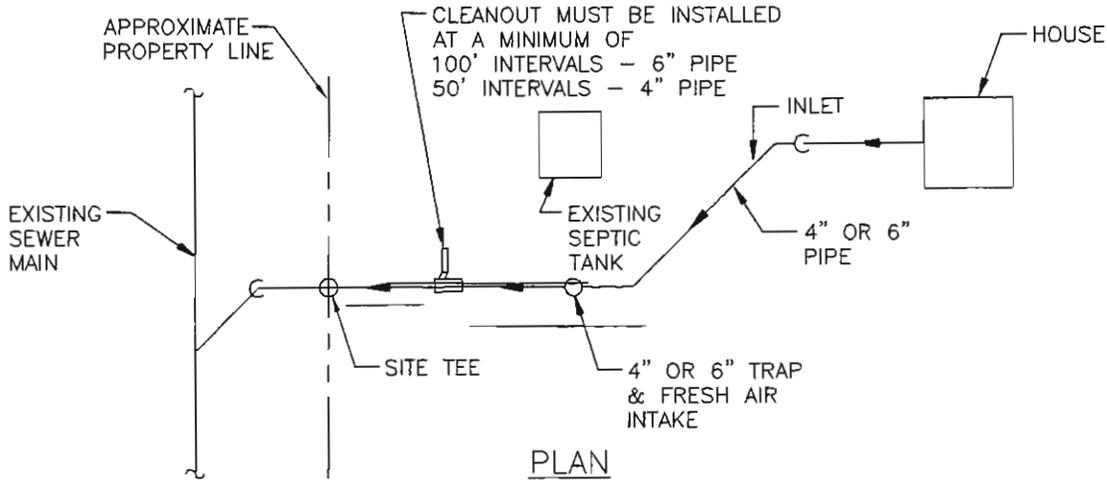
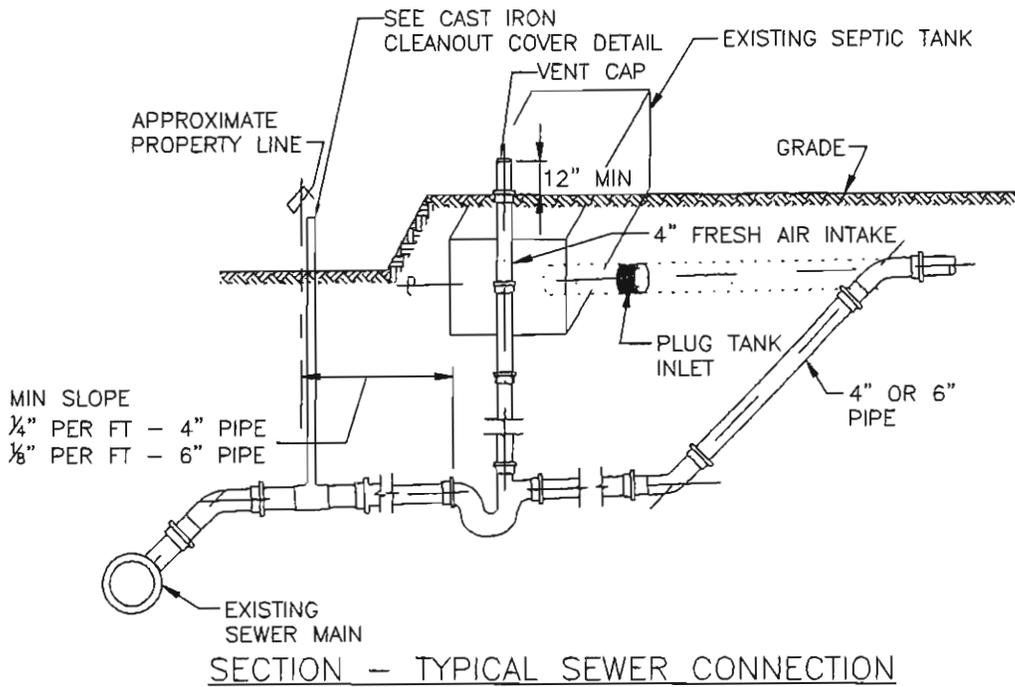
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Road Boring Steel Casing.dwg



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NOTE:

1. THE ENTIRE INSTALLATION MUST BE INSPECTED AND APPROVED BY THE OWNERS REPRESENTATIVE AND ACHD/PLUMBING INSPECTOR PRIOR TO BEING BACKFILLED.
2. CLEANOUTS INSTALLED AT MAX. 100' INTERVALS FOR 6" LATERALS OR AS DIRECTED BY THE ACHD PLUMBING INSPECTOR

Connection To Sanitary Sewer - Existing Installation

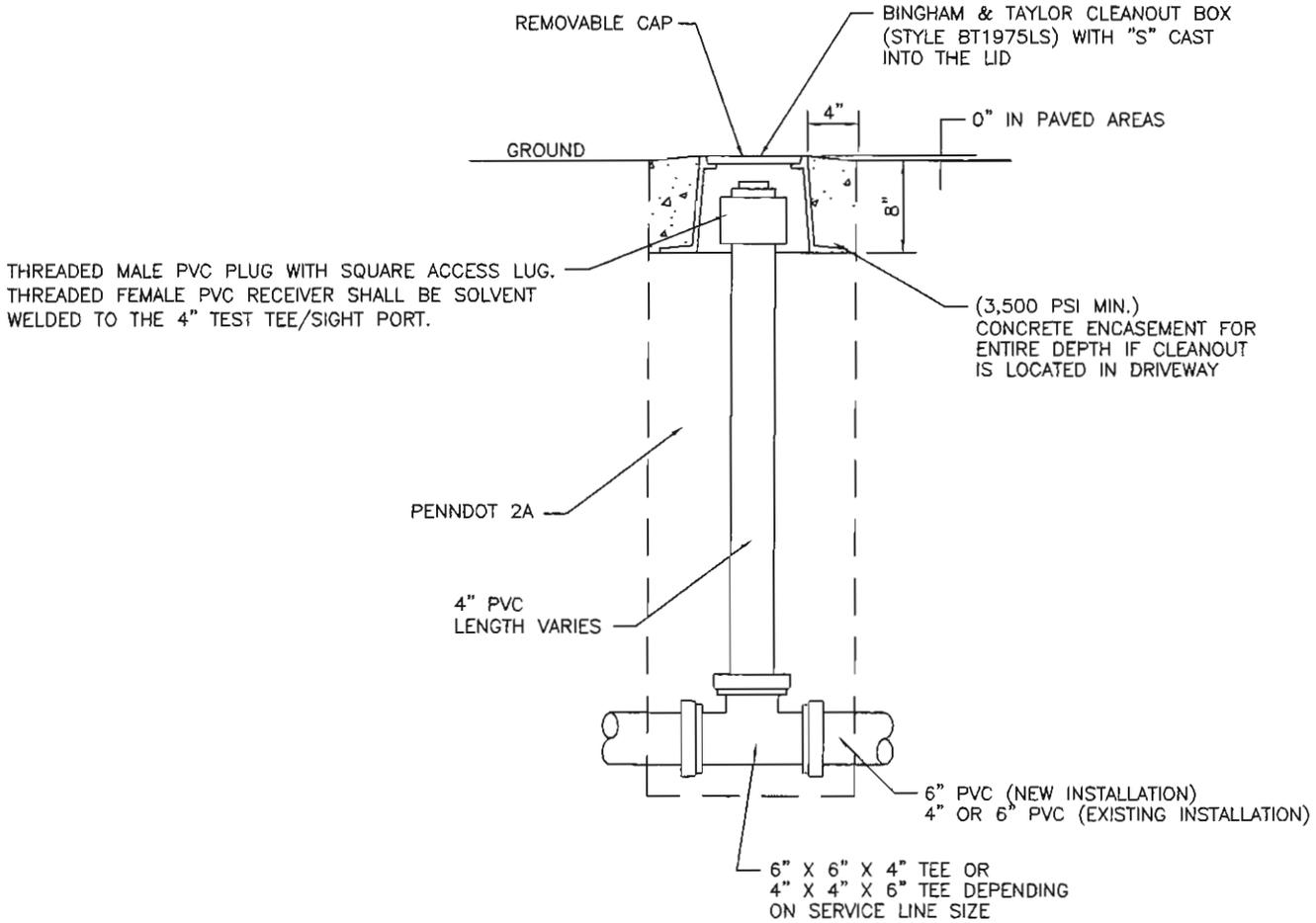
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DATE: Sept. 2011 FILE: Connection - Existing Installation.dwg



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NOTES :

1. CONFORM PVC PIPE TO THE REQUIREMENTS OF ASTM D-3034-SDR 26 AND ASTM D-3212 JOINTS.
2. CONSTRUCT ALL LATERALS AT A MINIMUM SLOPE OF TWO PERCENT(2%).
3. INSTALL ALL LATERALS ACCORDING TO THE TRENCH AND PIPE ZONE DETAIL.
4. THE CONTRACTOR TO COORDINATE PLACEMENT OF WYE CONNECTION, SERVICE LATERAL AND SIGHT TEE WITH THE PROPERTY OWNER AND AUTHORITY REPRESENTATIVE PRIOR TO THE START OF CONSTRUCTION.
5. TRANSITION SLEEVES WILL BE REQUIRED WHEN GOING FROM SCHEDULE 40 PVC PIPE TO SDR 35 PVC PIPE.
6. CLEANOUT SPACING - 100 FEET MAXIMUM FOR 4" AND 6" LATERALS.
7. CLEANOUT WILL BE REQUIRED AT ALL BENDS GREATER THAN 45 DEGREES.

Cast Iron Cleanout & Inspection Port Cover

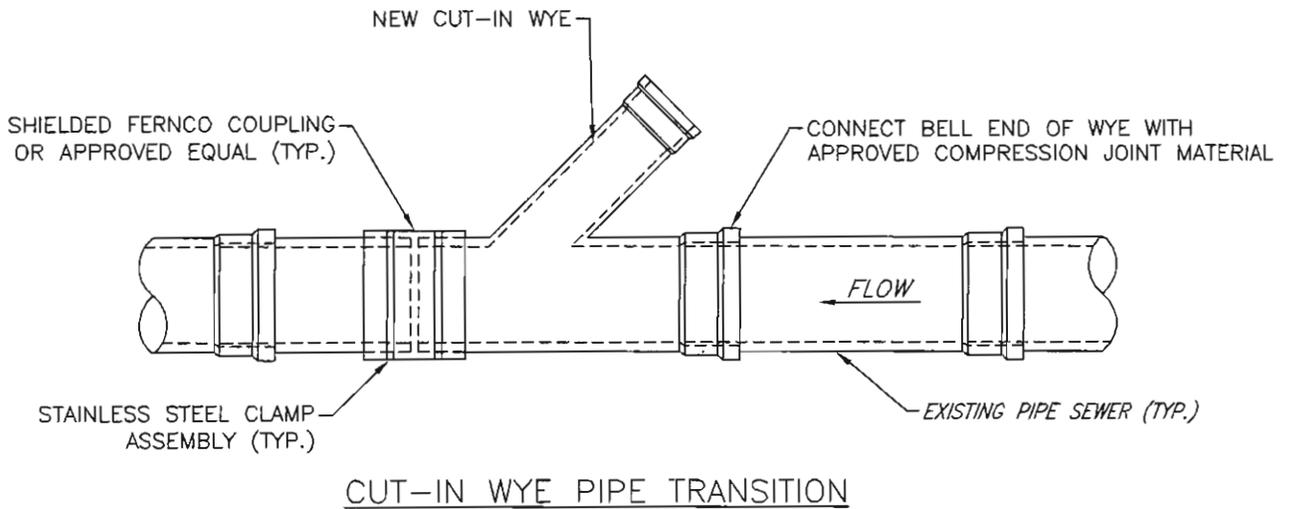
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Cast Iron CO & Inspection Port Cover.dwg



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NOTES:

1. SAW-CUT EXISTING PIPE SEWER, NO BREAK-IN OR HAMMER CONNECTIONS PERMITTED. JOINTS MUST BE INSPECTED BY NORTH FAYETTE TOWNSHIP BEFORE AND AFTER FLEXIBUS COUPLINGS ARE INSTALLED.
2. WYE MATERIAL WILL MATCH SEWER MAIN MATERIAL.
3. PIPE MAIN I.D. OF NEW WYE SECTION WILL MATCH I.D. OF EXISTING PIPE SEWER MAIN.
4. WYE LOCATION WILL BE LOCATED AT 2 O'CLOCK OR 10 O'CLOCK ON BARREL OF SEWER MAIN.

Connection - Proposed Wye

SCALE: N.T.S.

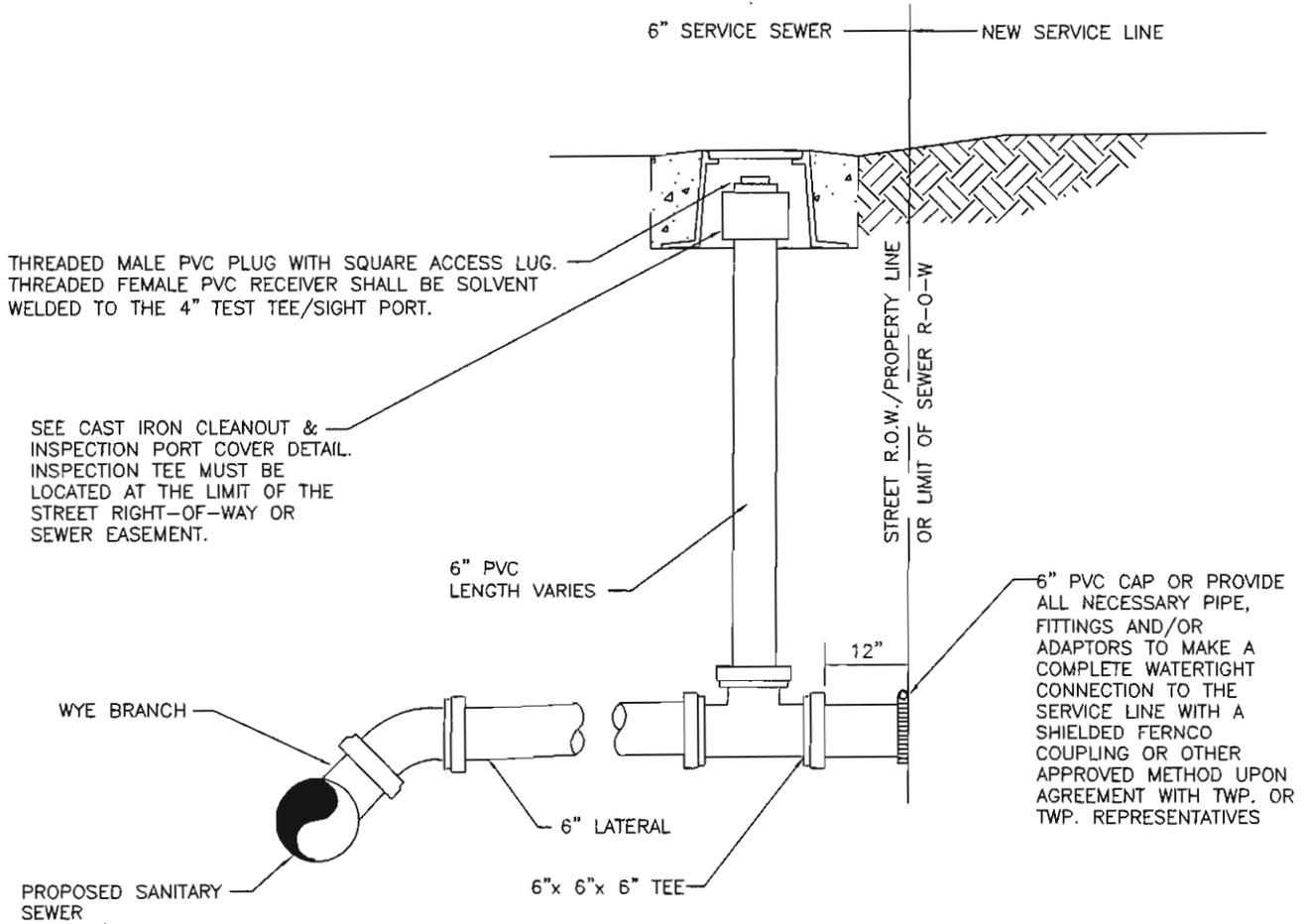
DATE: Sept. 2011 FILE: Connection - Proposed Wye.dwg



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NOTES:

1. CONFORM PVC PIPE TO THE REQUIREMENTS OF ASTM D-3034-SDR 26 AND ASTM D-3212 JOINTS.
2. CONSTRUCT ALL LATERALS AT A MINIMUM SLOPE OF TWO PERCENT(2%).
3. INSTALL ALL LATERALS ACCORDING TO THE TRENCH AND PIPE ZONE DETAIL.
4. THE CONTRACTOR TO COORDINATE PLACEMENT OF WYE CONNECTION, SERVICE LATERAL AND SIGHT TEE WITH THE PROPERTY OWNER AND AUTHORITY REPRESENTATIVE PRIOR TO THE START OF CONSTRUCTION.

Service Lateral Site Tee Detail

SCALE: N.T.S.

DATE: Sept. 2011 FILE: Service Lateral Site Tee Detail.dwg

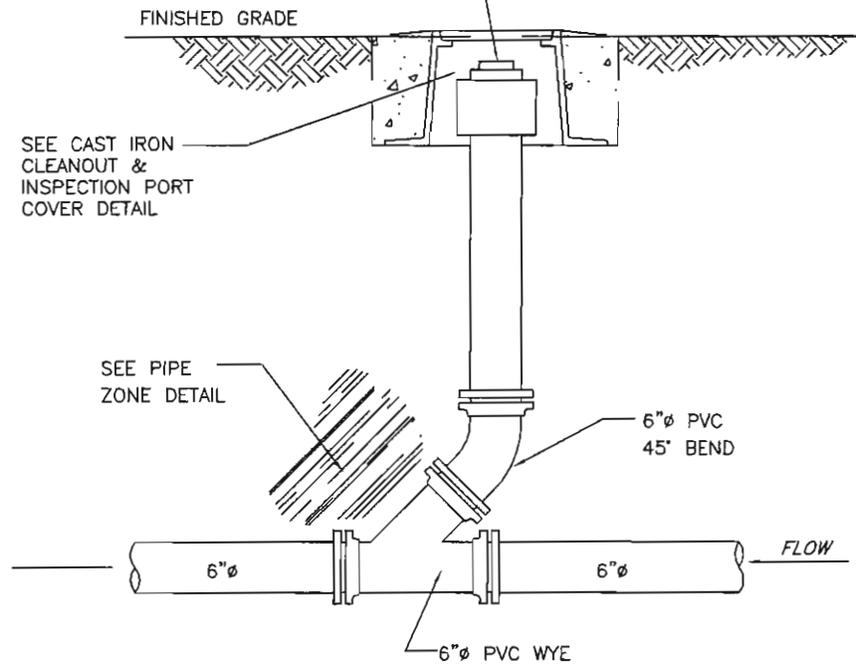


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THREADED MALE PVC PLUG WITH SQUARE ACCESS LUG.
THREADED FEMALE PVC RECEIVER SHALL BE SOLVENT
WELDED TO THE 4" TEST TEE/SIGHT PORT



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Cleanout Assembly

SCALE: N.T.S.

DATE: Sept. 2011 FILE: Cleanout Assembly.dwg



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III. ROADWAY AND STORM SEWER REQUIREMENTS

A. Project Completion Checklist for Roadways and Storm Sewers

1. Submit 110% cost of construction Performance Bond, 10% cost of construction Escrow Deposit and a Certificate of Insurance with the Township of North Fayette as additional insured.
2. Installation of storm sewers and roadways per the approved plans and per North Fayette Township Regulations.
3. Complete and submit Record Drawings (As-Builts) of storm sewers and roadways for review and approval by North Fayette Township. Record Drawings must be accepted prior to Performance Bond being released. All rights-of-way must be recorded and conveyed to North Fayette Township prior to release of Performance Bond.
4. After the storm sewer line has been installed for 30 days, testing will need completed per North Fayette Township Regulations. Tests shall include:
 - i. Mandrel (Deflection) Test of the entire sewer line
5. Submit Maintenance Bond for 18 months from the date of the Township's acceptance of storm sewers and roads for an amount of 15% the cost of construction.
6. At month 16 of the Maintenance Bond period, CCTV all storm sewer lines and submit videos and data to the Township for review.
7. Escrow Deposit shall remain in place until the expiration date as set forth in any agreements entered into between the Township of North Fayette and the Developer or unless otherwise agreed to by the Township of North Fayette, but at a minimum until the 18-month Maintenance Bond expires.

B. ROADWAY CONSTRUCTION REQUIREMENTS

1. Contact all utility companies prior to start of work to schedule and coordinate line relocations, adjustments to utility structures, and all other work to be completed by utility companies, incidental to construction.
2. All valve boxes, manholes, and hand holes not adjusted by utility companies are to be adjusted as directed by the Township Engineer prior to dedication of facilities. Provide all utility companies with detailed schedule, height and number of adjustments incidental to the wearing

- course item. Update schedule and provide to all utility companies bi-weekly schedule, incidental to construction.
3. Provide temporary ramps (cold patch or hot mix asphalt only – no millings) to all resident and business driveways, and around structures (inlet, manholes, valve boxes a minimum of 3 feet in all directions), incidental to construction.
 4. Remove and dispose of existing inlet grate, frame, and box where inlets are to be replaced. Install new structure and connect all existing pipes where noted. Provide all necessary pipe fittings and/or adapters to provide a complete watertight connection. Backfill excavated area with PennDOT 2A stone. This work is incidental to the new structure item.
 5. For piping connections to existing structure including pavement base drain, core drill hole for new outlet. Air hammering is not permitted. Reparge, add brick, relay all loose brick incidental to pipe item. Field verify condition of existing structures prior to construction.
 6. Maintain/replace existing monuments.
 7. Adjust all manholes, valve boxes, curb boxes and inlets to match finished roadway surface grade prior to installing final wearing course.
 8. Connect outlet pavement base drains to each catch basin which the underdrain passes, including providing hole through catch basin wall, all parging, etc.
 9. Field verify location and elevation(s) of existing storm sewer pipes.
 10. Reparge all inlets and/or repair all inverts in all existing inlets on project roadways including replacing all underdrain connections with couplers on inside and outside of box.
 11. When excavating a trench for placement of pipe, conduit, inlets, manholes and other appurtenances associated with pipe or conduit construction and full depth curb, the Developer understands that the work is parallel or in close proximity to building foundations and other utilities including but not limited to overhead lines and supporting poles, gas lines, waterlines, sanitary sewers, buried cable, etc. The Developer must take the necessary precautions to protect and support those utilities or foundations to prevent movement, damage and to maintain service.

12. The Developer shall notify utility companies or building foundation owner(s) of the proximity of the trench excavation to the utilities or foundation and is responsible to ensure that the work will not affect the structural integrity of the utility or building foundation.

C. STORM SEWER INSTALLATION REQUIREMENTS

1. Verify all existing utilities in the field prior to start of excavation work. Comply with One Call (Act 38) requirements. Contact all utility companies that may have facilities within the work area.
2. Field check and verify benchmark elevations for all work before start of construction. Set/adjust final grades for proposed storm sewer lines after all existing utilities and other obstructions have been located by test holes. Dig all necessary test holes to locate any existing utilities that may be in conflict with the alignment and grade of the proposed storm sewer. Meet all existing conditions and grades along the route of the proposed sewer lines.
3. Maintain and protect traffic during construction. Coordinate all work with local emergency response and transportation agencies. Provide all required signage for temporary traffic control. Maintain all roads, sidewalks, steps and traveled ways clean, free of mud or dust, and in a condition usable by residents in the area during construction. Maintain access to all driveways during construction.
4. Maintain all existing storm sewers and sanitary sewers in service during construction. Contain sanitary sewage to sanitary sewers. Do not discharge to the ground surface or to groundwaters.
5. Confine all activity to authorized rights-of-way. When in doubt about right-of-way limits, verify with Owner.
6. Implement and maintain an Erosion and Sedimentation Control Plan as required by Chapter 102.
7. Restore all private property disturbed by construction activities within two weeks of construction work.
8. Maintain daily as-built record information including wye stationing. Give Township's Representative copies of all delivery slips for all materials delivered to the project.

9. Coordinate and schedule all work as required with utility companies, other contractors, and local, municipal or state government agencies. Notify Township and Township Engineer 48 hours in advance of starting the project.
10. Pipeline acceptance testing shall include mandrel and full moon spot light.
11. Protect public at all times from all open excavation, cover all open excavation with suitable steel plates at the end of each workday.
12. All pipe shall be corrugated polyethylene culvert pipe (CPP) smooth lined with watertight locking joints or reinforced concrete pipe (RCP) as approved.

13. Trench backfill requirements:

Pipe Zone:

CPP or RCP pipe full #57 or PennDOT 2A stone bedding (no slag)

Intermediate Zone:

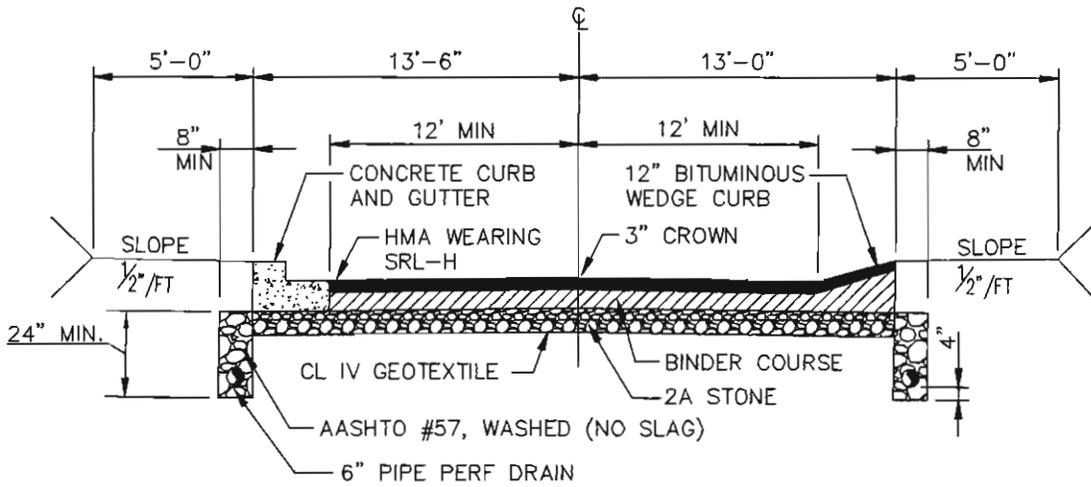
Improved areas full trench stone vibratory compact in 8" lifts (no slag), #57 or PennDOT 2A with trench plugs

Unimproved areas select backfill vibratory compact in 8" lifts.

Final Zone: As specified.

14. All storm sewer precast materials (i.e. manholes, inlets, endwalls, etc.), and inlet or manhole frames, lids, grates, and pipe must come from supplier listed in Bulletin 15.

D. ROADWAY AND STORM SEWER DETAILS (SEE FOLLOWING PAGES)



SECTION IS SYMMETRICAL ABOUT CENTERLINE

PAVEMENT SECTION CONSISTS OF THE FOLLOWING:

- GEOTEXTILE CLOTH – PENNDOT CLASS 4 (6 OUNCE MIN)
- 8" – PENNDOT 2A AGGREGATE LIMESTONE BASE COURSE (NO SLAG)
- 5" HMA BINDER COURSE
- 1" HMA BITUMINOUS WEARING COURSE, SRL-H-INITIAL
- 1½" HMA BITUMINOUS WEARING COURSE, SRL-H-FINAL

NOTES:

1. ALL DEPTHS INDICATED ARE AFTER COMPACTION
2. FOR PROPOSED CONCRETE CURB AND GUTTER, A MINIMUM OF 8" VERTICAL REVEAL SHALL BE MAINTAINED, EXCEPT FOR WHERE CURBS TIE INTO AN EXISTING CURB SECTION
3. BITUMINOUS WEDGE CURBS SHALL BE 12" WIDE x 4" HIGH
4. CONCRETE CURB AND GUTTER SHALL BE POURED MONOLITHICALLY AND SHALL HAVE A CURB HEIGHT OF 6" AND WIDTH OF 6" AND GUTTER WIDTH OF 12"
5. PREPARATION FOR AND INSTALLATION OF THE FINAL 1½" OF WEARING SURFACE, INCLUDING ALL REPAIRS TO PAVEMENT SECTION REQUIRED BY THE TOWNSHIP, SHALL BE COMPLETED IN CONFORMANCE WITH THE DEVELOPER'S AGREEMENT. THIS WORK ALSO INCLUDES BITUMINOUS LEVELING COURSE TO PROVIDE SMOOTH SURFACE FOR FINAL WEARING SURFACE TO BE INSTALLED. ALL MANHOLE LIDS, GRATES, VALVES SHALL BE ADJUSTED TO GRADE PRIOR TO INSTALLATION OF FINAL 1 ½" WEARING COURSE.
6. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN PENNDOT PUBLICATION 408. ALL CONSTRUCTION PROCEDURES SHALL BE IN ACCORDANCE WITH BULLETIN 15 AND THE STANDARDS SET FORTH IN PENNDOT PUBLICATIONS 70, 72M, AND 408.
7. LOCATION AND INSTALLATION OF ALL STREET SIGNS (STREET IDENTIFICATION, STOP, SPEED LIMIT, ETC.) SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD REQUIREMENTS AND AS DIRECTED BY THE TOWNSHIP. DEVELOPER TO PROVIDE A SIGNAGE PLAN FOR REVIEW AND APPROVAL OF TOWNSHIP.
8. SIDEWALK, CROSSWALK, AND CURB RAMP INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN.
9. DEVELOPER'S TRAFFIC ENGINEER TO PROVIDE TRAFFIC COUNTS AND ESALs FOR MIX DESIGN WITH SHOP DRAWING SUBMITTAL.

PAGE 38

Typical Pavement Section

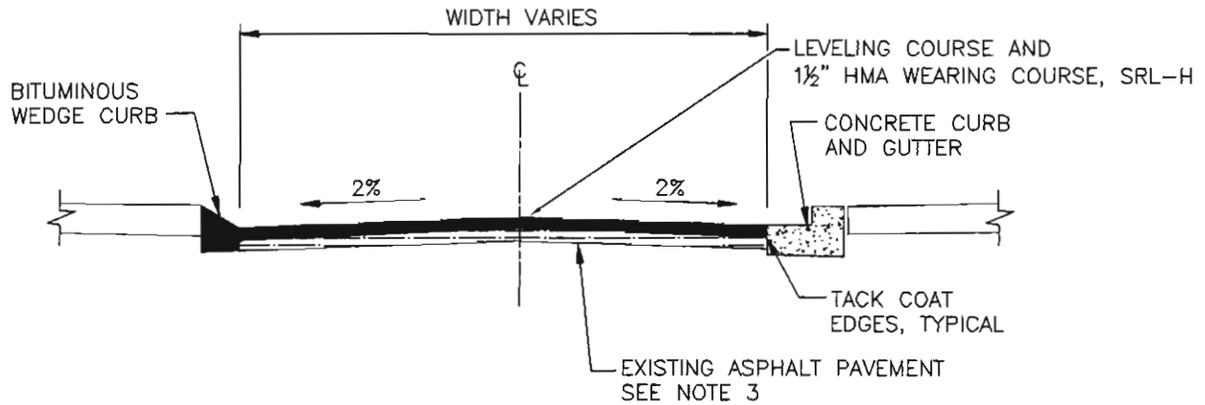
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Typical Pavement Section.dwg



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NOTES:

1. 2" MIN. MILL/PROFILE. VARY THICKNESS AS REQUIRED TO OBTAIN 2% DRAINAGE SLOPE.
2. MILL FACE OF BITUMINOUS WEDGE CURB 1 1/2". DO NOT REMOVE THE ENTIRE CURB.
3. MILL KEYWAYS IN BITUMINOUS PAVEMENT AROUND INLETS, MANHOLES, AND UTILITY VALVES BY HAND IF NECESSARY, TO CONFORM WITH NEWLY MILLED PAVEMENT
4. MINIMUM WIDTH OF KEYWAY TO BE 3'.
5. SEAL ALL COLD JOINTS AND GUTTER LINES.
6. DEVELOPER'S TRAFFIC ENGINEER TO PROVIDE TRAFFIC COUNTS AND ESALs FOR MIX DESIGN WITH SHOP DRAWING SUBMITTAL.
7. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN PENNDOT PUBLICATION 408. ALL CONSTRUCTION PROCEDURES SHALL BE IN ACCORDANCE WITH BULLETIN 15 AND THE STANDARDS SET FORTH IN PENNDOT PUBLICATIONS 70, 72M, AND 408.
8. LOCATION AND INSTALLATION OF ALL STREET SIGNS (STREET IDENTIFICATION, STOP, SPEED LIMIT, ETC.) SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD REQUIREMENTS AND AS DIRECTED BY THE TOWNSHIP.
9. SIDEWALK, CROSSWALK, AND CURB RAMP INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN.

Bituminous Pavement Milling, Profiling, & Resurfacing

SCALE: N.T.S.

DATE: Sept. 2011 FILE: Bituminous Pavement Resurfacing.dwg



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	<u>TYPE OF STREET *</u>		
	<u>ARTERIAL STREETS</u>	<u>COLLECTOR STREETS</u>	<u>LOCAL STREETS</u>
RIGHT OF WAY WIDTHS (RADIUS)	80'	60'	50'
CUL-DE-SAC RIGHT OF WAY RADIUS	NA**	NA**	60'
ANGLE OF STREET INTERSECTION	90°	75°-90°	60°-90°
CARTWAY PAVING WIDTH (CURB TO CURB)	32'	28'	24'
CUL-DE-SAC PAVING RADIUS - TO GUTTER LINE	NA**	40'	40'
CUL-DE-SAC CENTER ISLAND RADIUS	NA**	NA**	26'
CUL-DE-SAC CARTWAY PAVING WIDTH (CURB TO CURB)	NA**	NA**	24'
MINIMUM STREET GRADE	1.5%	1.0%	1.0%
MAXIMUM STREET GRADE	6.0%	10.0%	12.0%
MAXIMUM LEVELING GRADE (FOR 25' BEFORE NEAREST RIGHT OF WAY OF STREET BEING INTERSECTED)	6.0%	6.0%	6.0%
CURB RETURN RADIUS	40'	30'	25'
CLEAR SIGHT TRIANGLE (MAIN TO SIDE STREET)	500'/30'	200'/25'	75'/25'
HORIZONTAL CURVES MINIMUM CENTER LINE RADIUS	500'	200'	100'
VERTICAL CURVES (PLUS 20' FOR EVERY 1% CHANGE IN GRADE OVER 3%)	150'	100'	50'
SIDEWALK WIDTH (WHERE REQUIRED) WITH ADA RAMPS	5'	5'	5'
CURB DEPTH (DEEP SET CONCRETE)	24"	24"	24"
BITUMINOUS WEDGE CURB	6"h x18"w	6"h x18"w	6"h x18"w

* SEE DEFINITIONS OF STREET TYPES

NA** NOT APPLICABLE

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Street Design Standards

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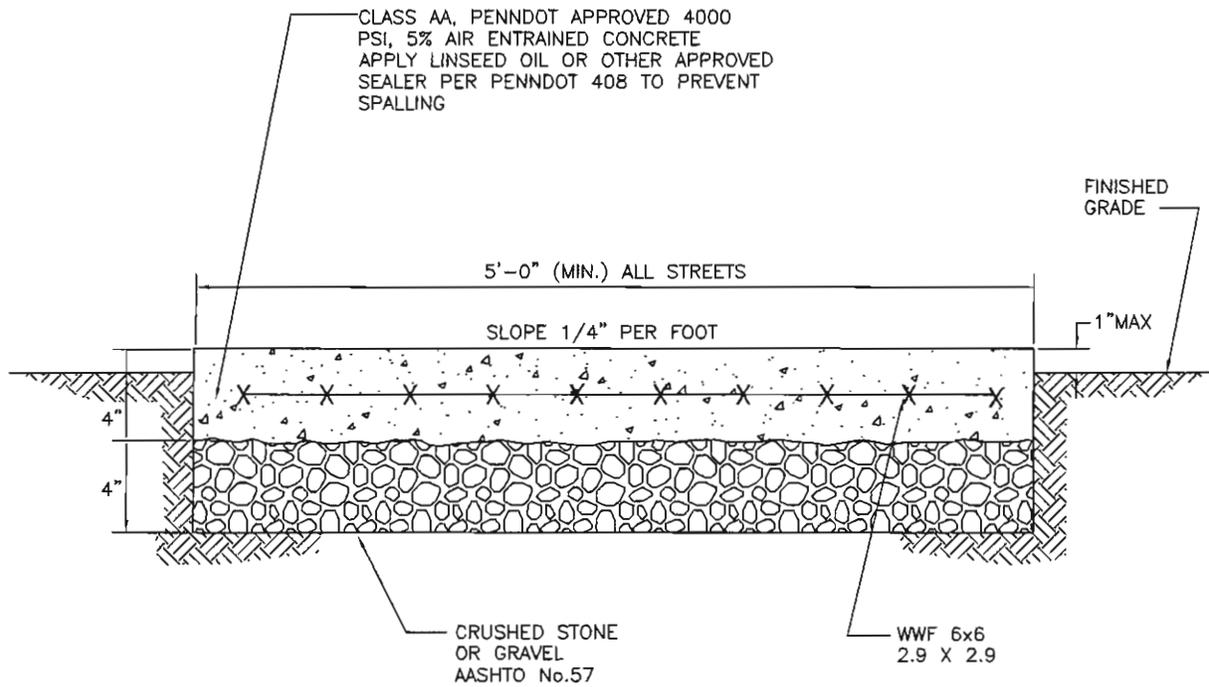
DATE: Sept. 2011 FILE: Street Design Standards.dwg



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NOTES:

1. WALK SHALL BE CROSS SCORED EVERY FIVE FEET (5'). 1/2" PREFORMED EXPANSION JOINTS EVERY 50 FEET. WALK SHALL HAVE TROWELED EDGES WITH A STIFF BROOM FINISH.
2. IF A DRIVEWAY IS TO BE CONSTRUCTED OVER A SIDEWALK, THE CONCRETE SHALL BE PLACED AT 6" DEPTH; SEE DETAIL PAGE 37.
3. PROVIDE TWO (2) No 4 DOWELS AT PROPERTY LINES
4. PREPARATORY WORK ON REINFORCEMENT MUST BE INSPECTED BY TOWNSHIP PRIOR TO POURING OF CONCRETE.
5. PROVIDE ADA CURB RAMPS AT ALL INTERSECTIONS WHERE WALK EXISTS WITHIN PLAN.

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Concrete Sidewalk

SCALE: N.T.S.

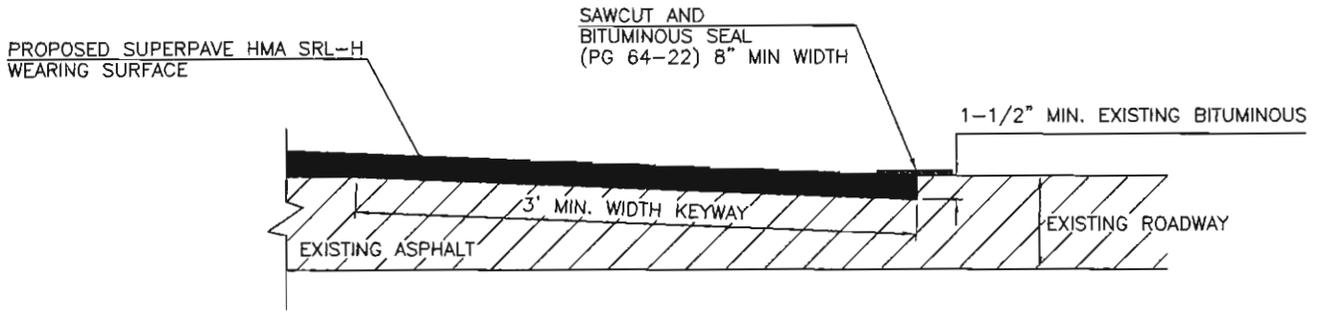
DATE: Sept. 2011 FILE: Concrete Sidewalk.dwg



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 400 North Branch Road
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Asphalt Keyway

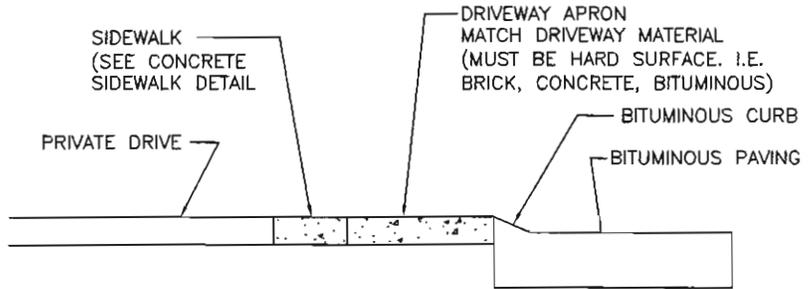
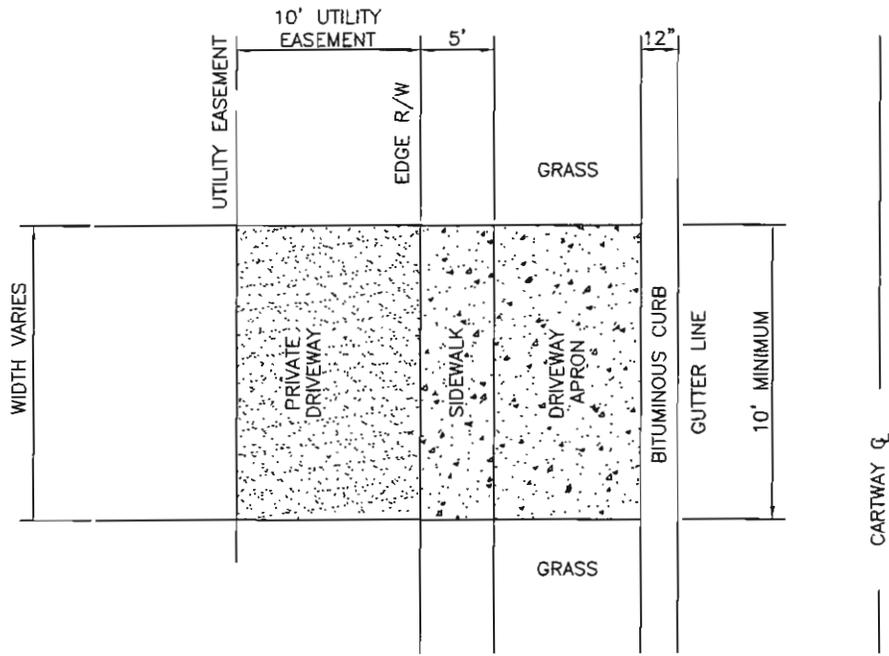
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Asphalt Keyway.dwg



North Fayette Township
Allegheny County, Pennsylvania
400 North Branch Road
Oakdale, PA 15071





NOTES:

1. SIDEWALK MAY BE LOWERED IN VICINITY OF APRON SO THAT A SMOOTH TRANSITION FROM THE SIDEWALK TO THE DRIVEWAY GRADE IS PROVIDED. ALL GRADES MUST COMPLY WITH ADA REQUIREMENTS.. (ONLY WITH TOWNSHIP APPROVAL)
2. THE DRIVEWAY WITHIN THE RIGHT-OF-WAY AND UTILITY EASEMENT SHALL NOT EXCEED 10%.
3. THE SIDEWALK CROSS SLOPE IS NOT TO EXCEED 2%
4. TOWNSHIP CODE ENFORCEMENT OFFICER CAN REQUIRE THAT RESIDENT PROVIDE ADDITIONAL ON LOT STORM WATER MANAGEMENT FOR DRIVEWAYS.
5. LOCATE DRIVEWAY TO PROVIDE MINIMUM SIGHT DISTANCES AS REQUIRED BY PENNDOT FORM M-950S.
6. PRIOR TO CONSTRUCTION, A DRIVEWAY PERMIT MUST BE SECURED IN ACCORDANCE WITH TOWNSHIP REQUIREMENTS.

Single Family Driveway & Sidewalk Apron

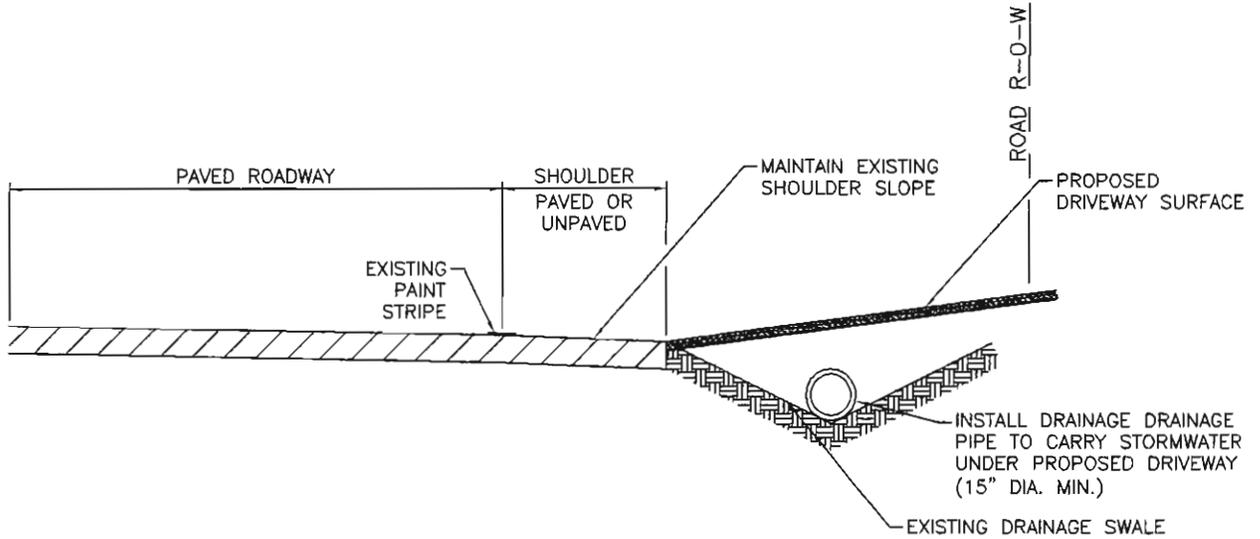
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Concrete Driveway & Sidewalk Apron.dwg

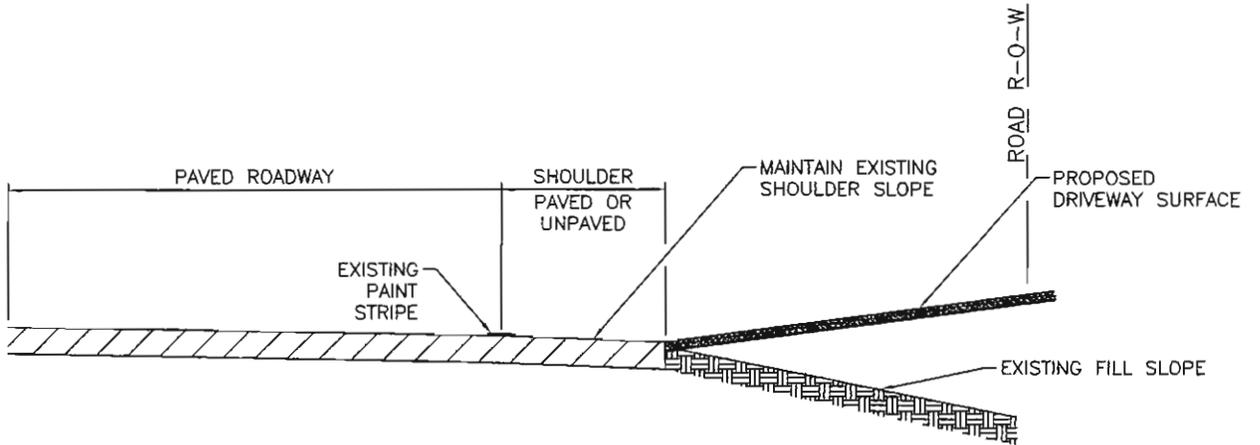


North Fayette Township
 Allegheny County, Pennsylvania
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DRIVEWAY ACROSS EXISTING DRAINAGE SWALE



DRIVEWAY NOT CROSSING EXISTING DRAINAGE SWALE

NOTES:

1. THIS DETAIL IS INTENDED FOR USE WHEN DRIVEWAYS CONNECT TO TOWNSHIP ROADWAYS THAT HAVE SHOULDERS WITHOUT CURBS.
2. THE DRIVEWAY WITHIN THE RIGHT-OF-WAY SHALL NOT EXCEED 10%.
3. THE DRIVEWAY SHALL NOT ALTER GRADES IN THE SHOULDER AREA. IF THE SHOULDER IS UNPAVED, DRIVEWAY PAVEMENT MAY EXTEND TO THE EDGE OF THE ROADWAY BUT SHALL MAINTAIN THE EXISTING SHOULDER SLOPE AWAY FROM THE ROADWAY.
4. ALTERING THE ROADWAY DRAINAGE IS PROHIBITED. THE PERMITTEE SHALL NOT ALTER THE EXISTING DRAINAGE PATTERN OR THE EXISTING FLOW OF DRAINAGE WATER, OR DIRECT ADDITIONAL DRAINAGE OF SURFACE WATER ONTO OR INTO ROADWAY FACILITIES.
5. TOWNSHIP CODE ENFORCEMENT OFFICER CAN REQUIRE THAT RESIDENT PROVIDE ADDITIONAL ON LOT STORM WATER MANAGEMENT FOR DRIVEWAYS.
6. LOCATE DRIVEWAY TO PROVIDE MINIMUM SIGHT DISTANCES AS REQUIRED BY PENNDOT FORM M-950S.
7. PRIOR TO CONSTRUCTION, A DRIVEWAY PERMIT MUST BE SECURED IN ACCORDANCE WITH TOWNSHIP REQUIREMENTS.

Driveway Connection To Rural Roads

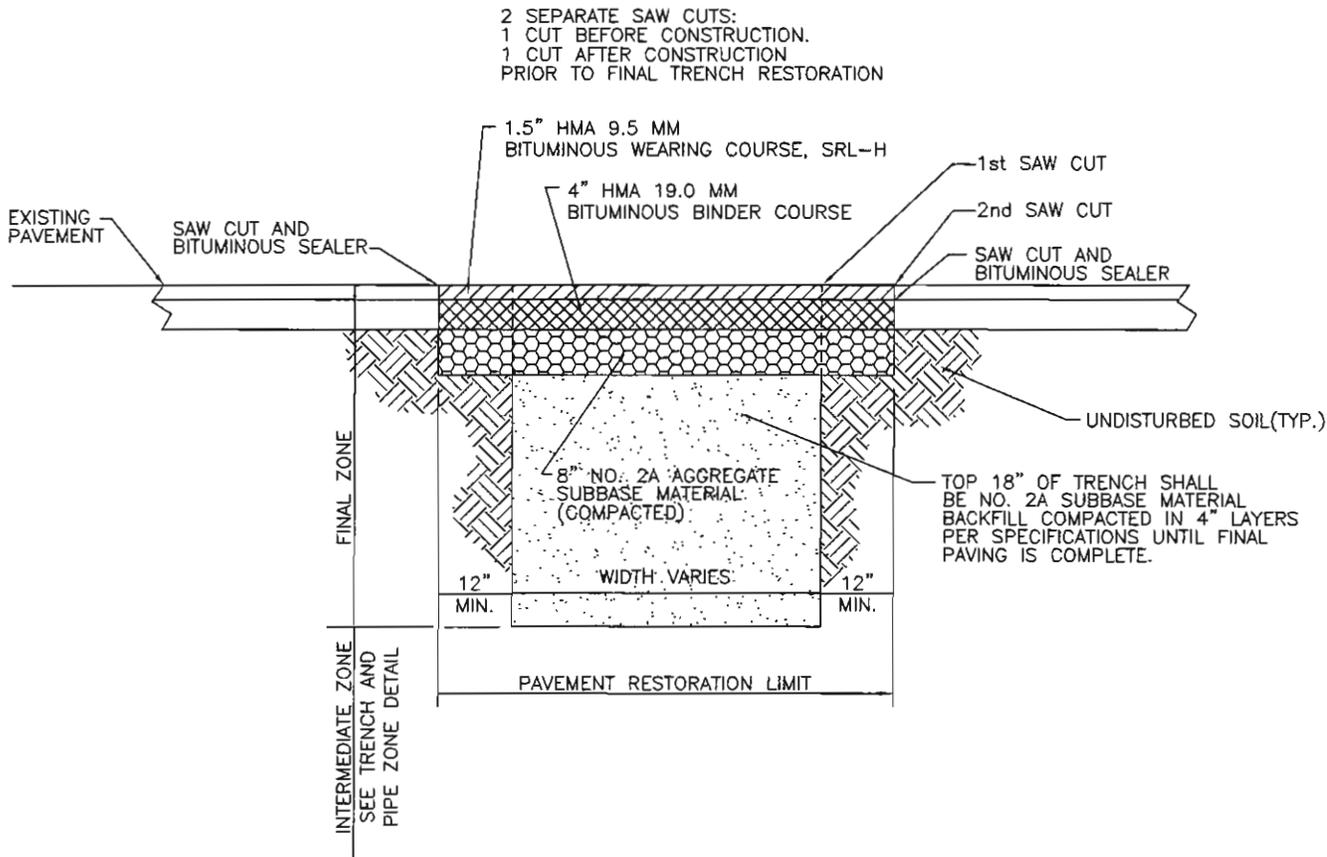
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Driveway For Rural Roads.dwg



North Fayette Township
Allegheny County, Pennsylvania
400 North Branch Road
Oakdale, PA 15071





NOTES:

1. REFER TO CURRENT PENNDOT PUB. 408 SPECIFICATIONS FOR ROADWAY PAVEMENT THICKNESS FOR WORK COMPLETED WITHIN STATE RIGHT OF WAYS.
2. FOR RESTORATION OF TAR & CHIPPED ROADS REFER TO PENNDOT PUB. 408, SECTION 470. REPLACE TAR & CHIP WITH DOUBLE WASHED 1B SLAG WITH APPLICATION RATE OF EMULSIFIED ASPHALT OF 0.35-0.40 OR AS SPECIFIED BY PUBLIC WORKS.

Township Roadway Bituminous Pavement Trench Restoration

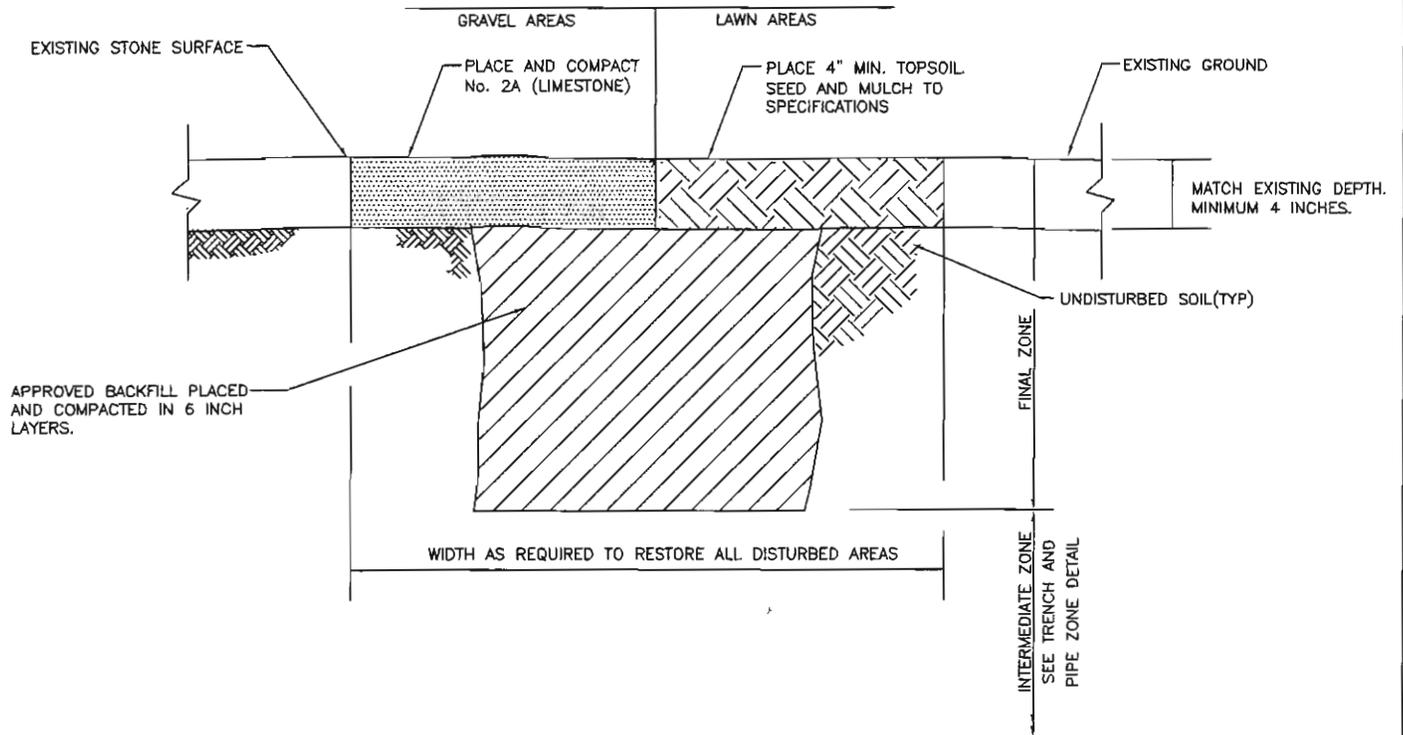
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DATE: Sept. 2011 FILE: Township Roadway Bituminous Pavement Trench Restoration.dwg



North Fayette Township
 Allegheny County, Pennsylvania
 490 North Branch Road
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Unimproved Area Surface Restoration

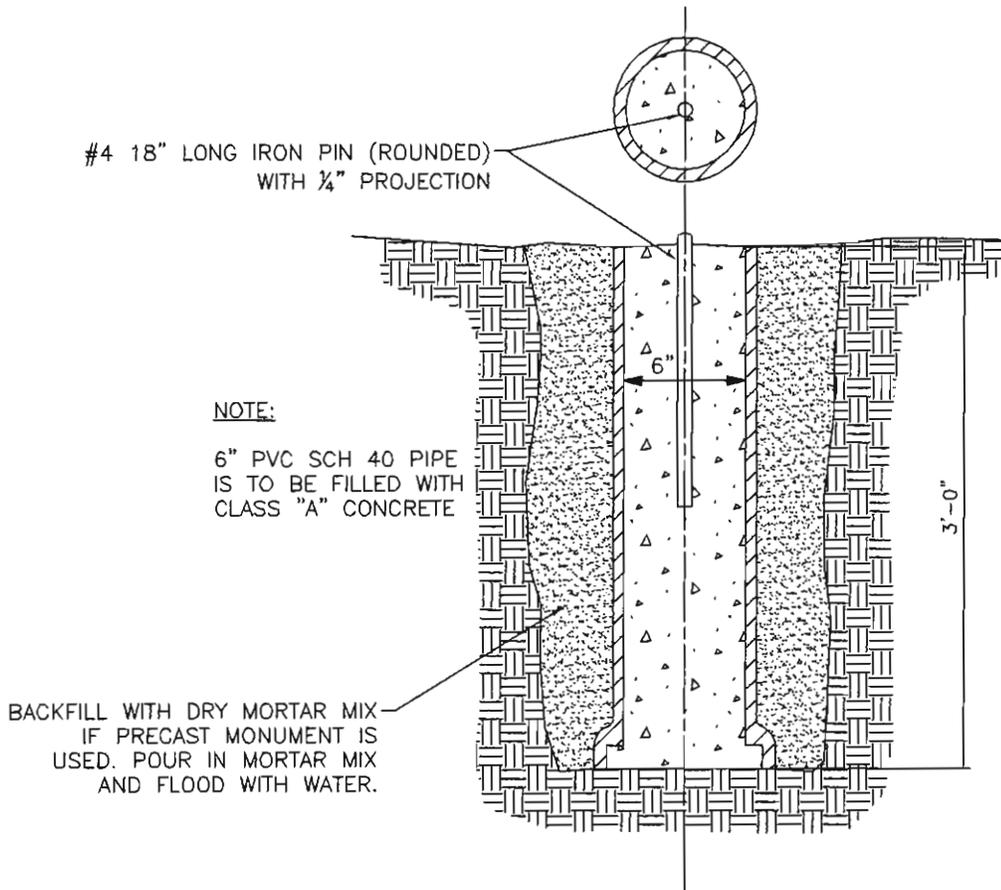
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Unimproved Area Surface Restoration.dwg



North Fayette Township
Allegheny County, Pennsylvania
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MONUMENTS TO BE INSTALLED IN SUBDIVISIONS
AT DESIGNATED LOCATIONS WITHIN THE STREET
RIGHT-OF-WAY 5'-0" OFF THE PROPERTY LINE

Survey Monument Detail

SCALE: N.T.S.

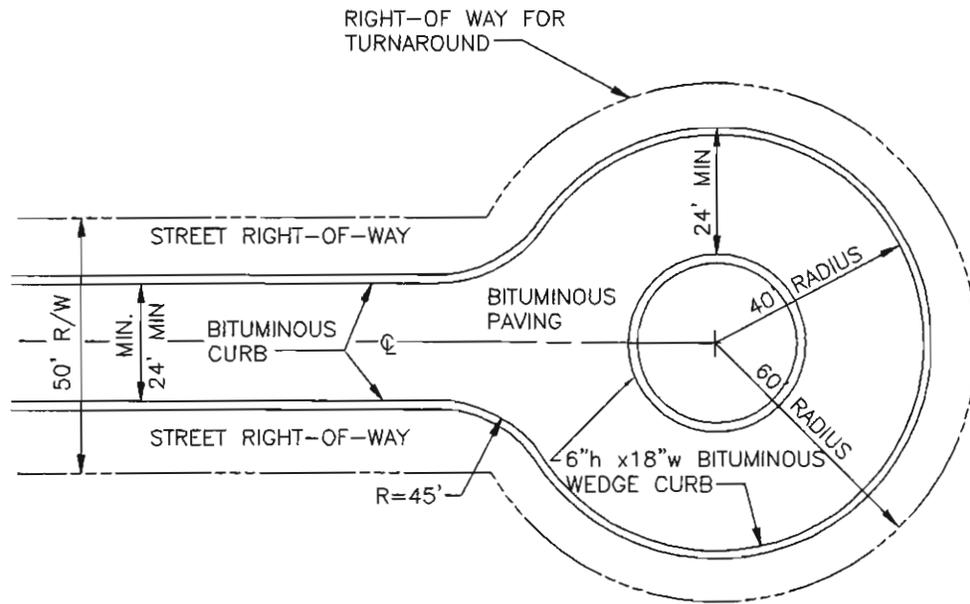
DATE: Sept. 2011 FILE: Survey Monument Detail.dwg



North Fayette Township
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Cul-De-Sac

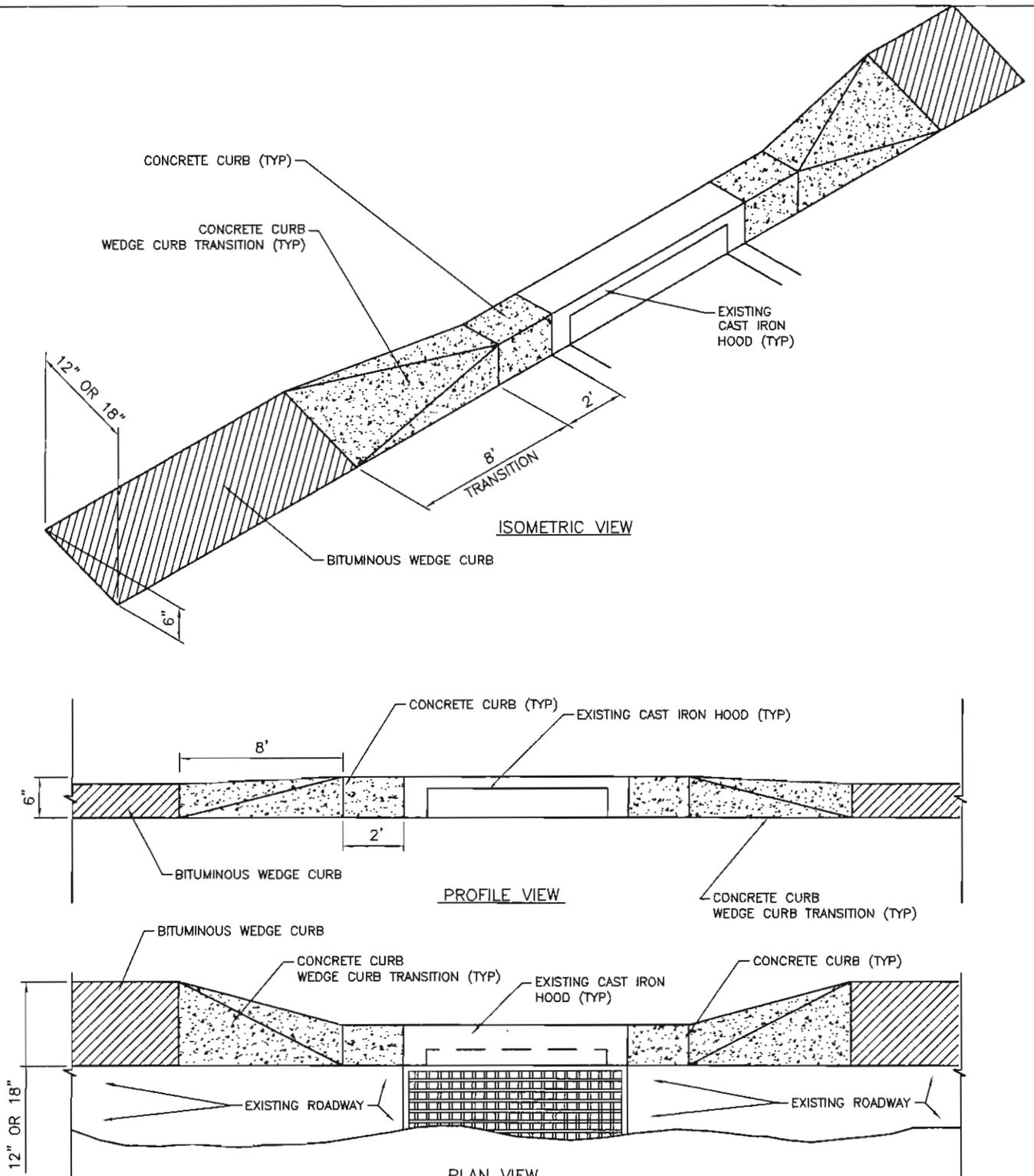
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Cul-De-Sac.dwg



North Fayette Township
Allegheny County, Pennsylvania
400 North Branch Road
Oakdale, PA 15071





NOTES:

1. DETAIL IS FOR PAVING WITH WEDGE CURBS AT EXISTING INLETS ONLY. NEW INLETS IN AREAS WITH WEDGE CURB ARE TO BE TYPE M INLETS.
2. MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH PENNDOT PUBLICATION 408.

Wedge Curb Transition At Existing Type C Inlets

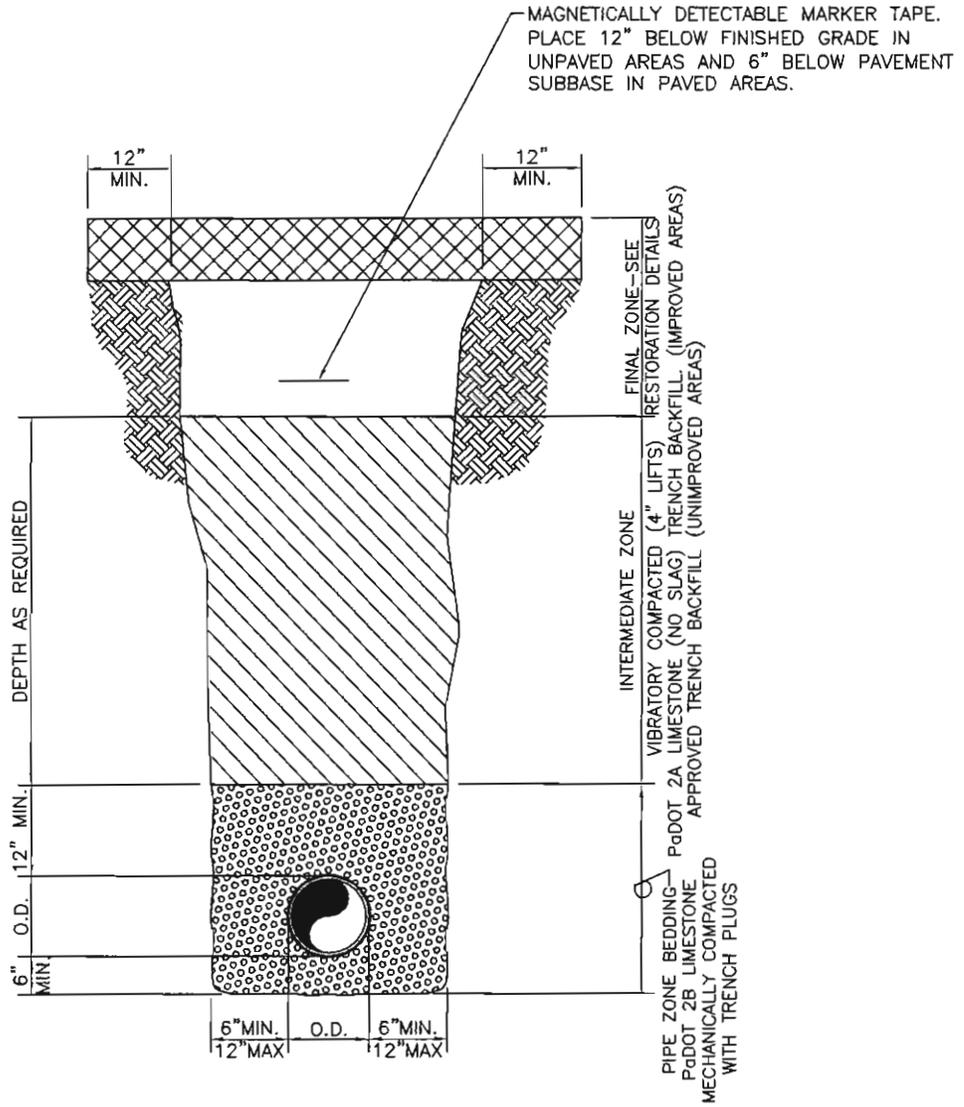
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Wedge Curb Transition At Existing Type C Inlets.dwg



North Fayette Township
 Allegheny County, Pennsylvania
 400 North Branch Road
 Oakdale, PA 15071





Storm Sewer Trench & Pipe Zones

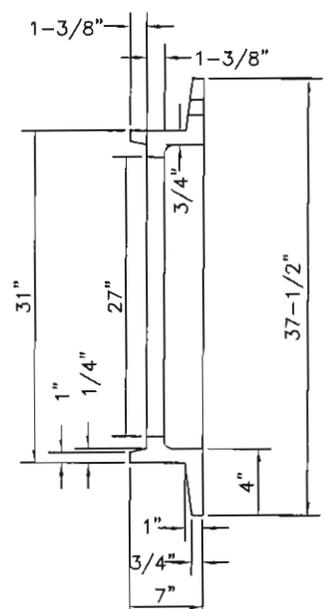
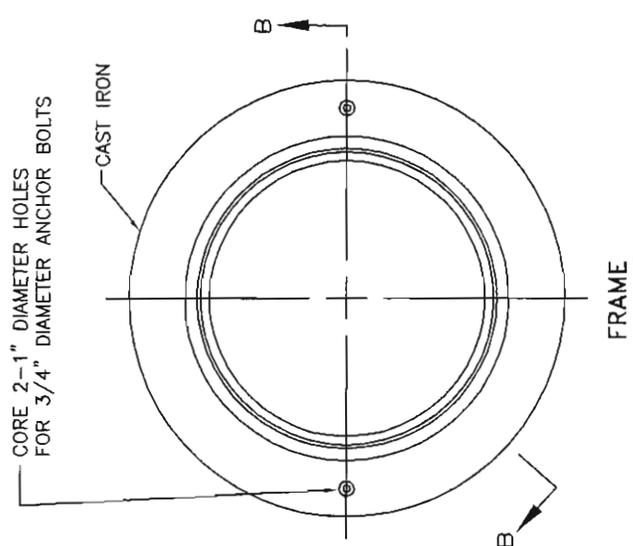
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DATE: Sept. 2011 FILE: Storm Sewer Trench & Pipe Zones.dwg

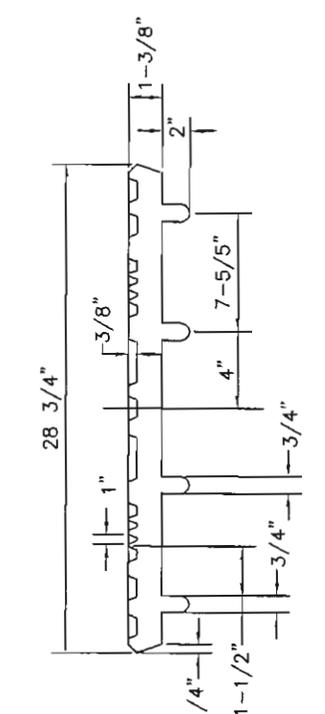
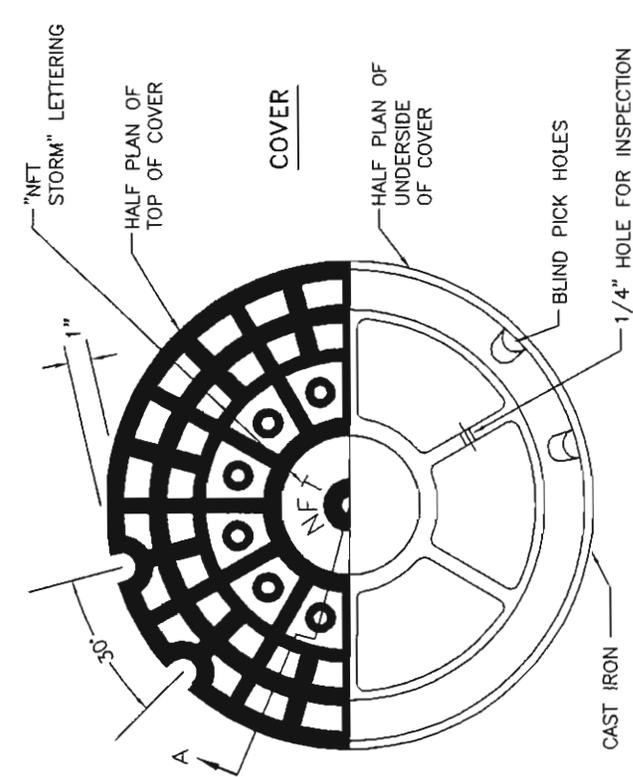


North Fayette Township
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Dakdale, PA 15071





SECTION B-B



SECTION A-A

NOTE: LABEL MANHOLE COVER "NFT STORM"

Storm Manhole Frame & Lid

SCALE: N.T.S.

DATE: Sept. 2011 FILE: Storm Manhole Frame & Lid.dwg

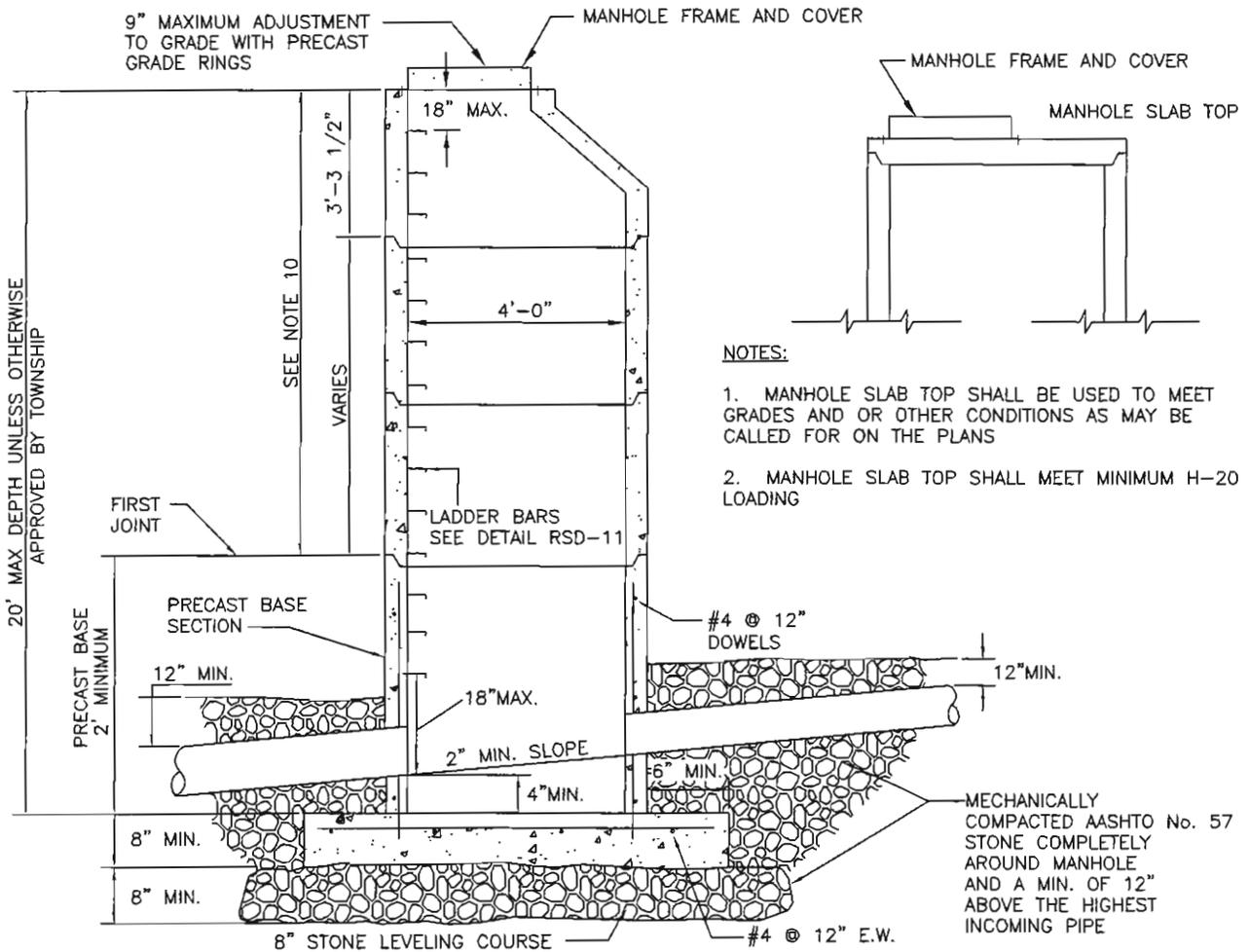


North Fayette Township
 Allegheny County, Pennsylvania
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NOTES:

1. CONSTRUCT MANHOLE IN ACCORDANCE WITH THE REQUIREMENTS OF PENNDOT PUBLICATION 408, SECTION 605, FOR CAST-IN-PLACE UNITS AND SECTION 714 FOR PRECAST CEMENT CONCRETE UNITS.
2. FURNISH AND INSTALL MANHOLES, CONNECTIONS, JOINTS, STEPS, AND OTHER APPURTENANCES AND DETAILS IN ACCORDANCE WITH PENNDOT PUBLICATION 72M STANDARDS FOR ROADWAY CONSTRUCTION, LATEST EDITION – RC-39M, STANDARD MANHOLES.
3. ONLY PRECAST MANHOLES SUPPLIED BY A MANUFACTURER LISTED IN PENNDOT BULLETIN 15 WILL BE PERMITTED.
4. DO NOT EXTEND PIPE BLOCK-OUTS INTO THE BASE WHEN BASE IS NOT MONOLITHIC WITH THE MANHOLE WALLS.
5. LOCATE PIPE OR PIPES, AS REQUIRED, WITH THE MANHOLE BOTTOM SHAPED TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE.
6. BRICK OR CONCRETE BLOCK MANHOLES SHALL NOT BE PERMITTED.
7. STORM SEWER DROP CONNECTIONS FROM INVERT OF OUTFLOW PIPE TO INVERT OF INFLOW PIPES SHALL BE A MAXIMUM OF 2 FT.
8. MAXIMUM ADJUSTMENT TO FINISHED GRADE USING PRECAST GRADE RINGS SHALL NOT EXCEED NINE INCHES (9").
9. MANHOLE INVERT SHALL BE CONCRETE TO THE SPRING LINE OF PIPE WITH SIDES SLOPING 1/2" TO 1'-0" TO INSIDE FACE OF PRECAST BASE SECTION.
10. IF THIS DIMENSION IS 3'-3", USE PRECAST SLAB TOP DESIGNED TO MEET LOAD CONDITIONS



NOTES:

1. MANHOLE SLAB TOP SHALL BE USED TO MEET GRADES AND OR OTHER CONDITIONS AS MAY BE CALLED FOR ON THE PLANS
2. MANHOLE SLAB TOP SHALL MEET MINIMUM H-20 LOADING

THIS DETAIL IS FOR PIPES 30" DIA. OR LESS FOR LARGER PIPES
 PROVIDE A MODIFIED MANHOLE PER PENNDOT ROADWAY CONSTRUCTION STANDARDS

Storm Sewer Manhole

SCALE: N.T.S.

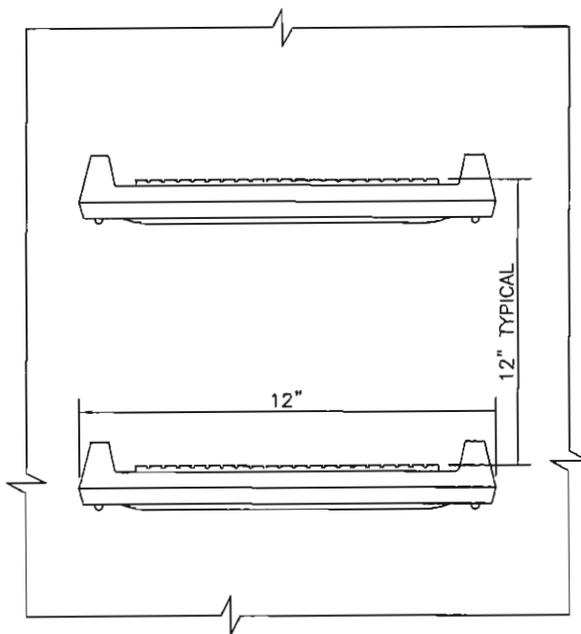
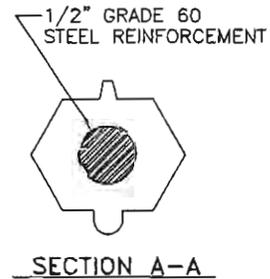
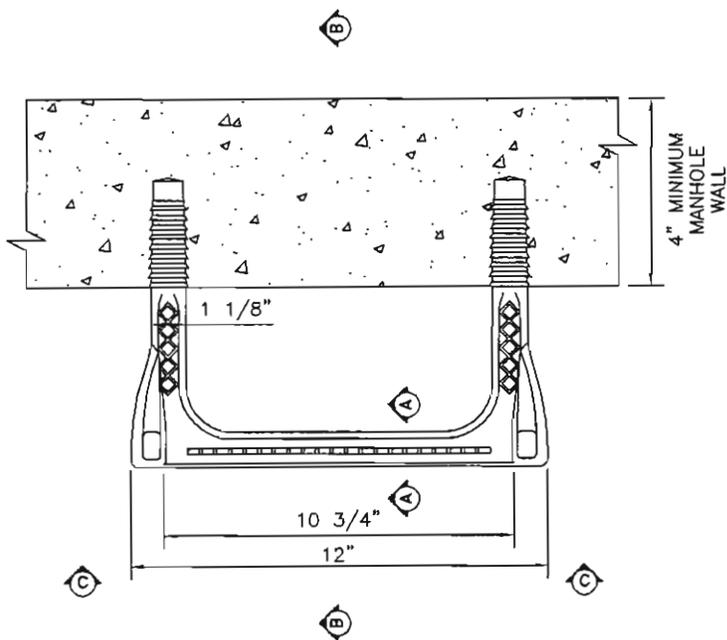
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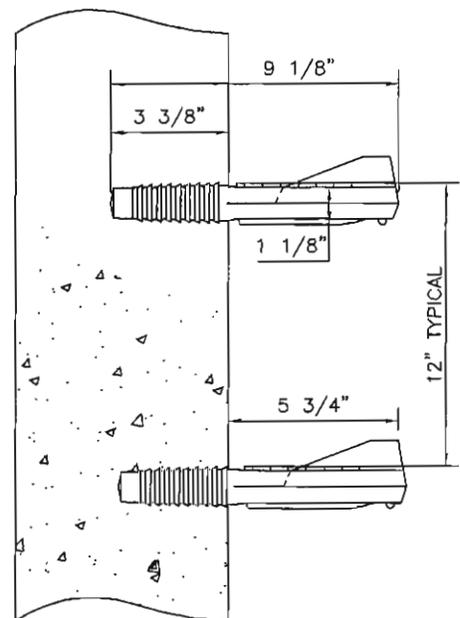
North Fayette Township
 Allegheny County, Pennsylvania
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 Oakdale, PA 15071



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VIEW C-C



SECTION B-B

NOTE:

LADDER BARS SHALL MEET ALL MINIMUM O.S.H.A. REQUIREMENTS AND CONFORM TO ASTM C-478, LATEST REVISION FOR MANHOLES AND INLETS

Ladder Bars For Manholes

SCALE: N.T.S.

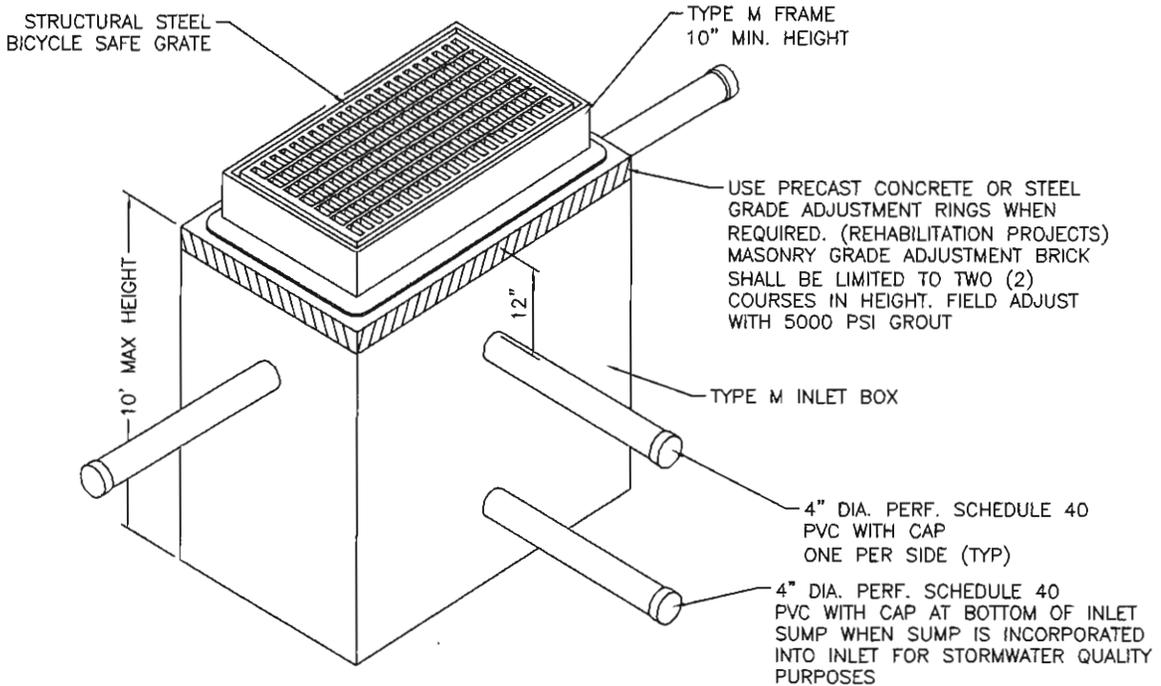
DATE: Sept. 2011 FILE: Ladder Bars For Manholes.dwg



North Fayette Township
Allegheny County, Pennsylvania
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Oakdale, PA 15071



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INLET BOX NOTES:

1. Construct inlet box in accordance with the requirements of PennDOT Publication 408, Section 605, for Cast-in-Place units and Section 714 for Precast Cement Concrete units.
2. Furnish and install inlet boxes, connections, joints, steps, and other appurtenances and details in accordance with PennDOT Publication 72M Standards for Roadway Construction, latest edition – RC-64M, Inlet Box with Type M Frame. Provide Inlet Type of smallest dimension to accommodate connected pipe openings in accordance with this Publication.
3. Only precast inlet boxes supplied by a manufacturer listed in PennDOT Bulletin 15 will be permitted.
4. Inlets that exceed the maximum height, as shown, are not permitted without approval by the Township. A specific design will be required for review and approval.
5. Do not extend pipe block-outs into the base when base is not monolithic with the inlet walls.
6. Locate pipe or pipes, as required, with the inlet bottom shaped to channel the flow toward the outlet pipe.
7. Brick or concrete block inlets shall not be permitted.
8. Storm sewer drop connections from invert of outflow pipe to invert of inflow pipes shall be a maximum of 2 ft.

TYPE M FRAME NOTES:

1. Furnish and install cast iron or structural steel Type M Frames in accordance with the requirements of PennDOT Publication 72M Standards for Roadway Construction, latest edition – RC-45M, Type M Frame, except that the frame must have a minimum 10" height.
2. Only frames supplied by a manufacturer listed in PennDOT Bulletin 15 will be permitted.
3. Concrete frames are permitted outside of paved areas. Provide concrete frames per PennDOT Publication 72M, RC-45M.

INLET GRATE NOTES:

1. Furnish and install structural steel bicycle safe inlet grates in accordance with the requirements of PennDOT Publication 72M Standards for Roadway Construction, latest edition – RC-45M, Structural Steel Grate Bicycle Safe.
2. Vane grates may be used only with permission from the Township. Vane grates (if permitted) must be Type "L" only (bicycle safe). If permission to use vane grates is granted by the Township, furnish and install vane grates in accordance with the requirements of PennDOT Publication 72M Standards for Roadway Construction, latest edition – RC-45M, Cast Iron Vane Grate.
3. Cast iron grates may be used only with permission from the Township. Do not use cast iron grates within the travel lanes. If these grates are permitted by the Township, they must be located at the edge of outside shoulders, swales, wide median swales and infield areas that are outside the travel lanes or curb to curb roadways.
4. Only grates supplied by a manufacturer listed in PennDOT Bulletin 15 will be permitted.

Type M Inlet, Frame, & Grate

SCALE: N.T.S. _____

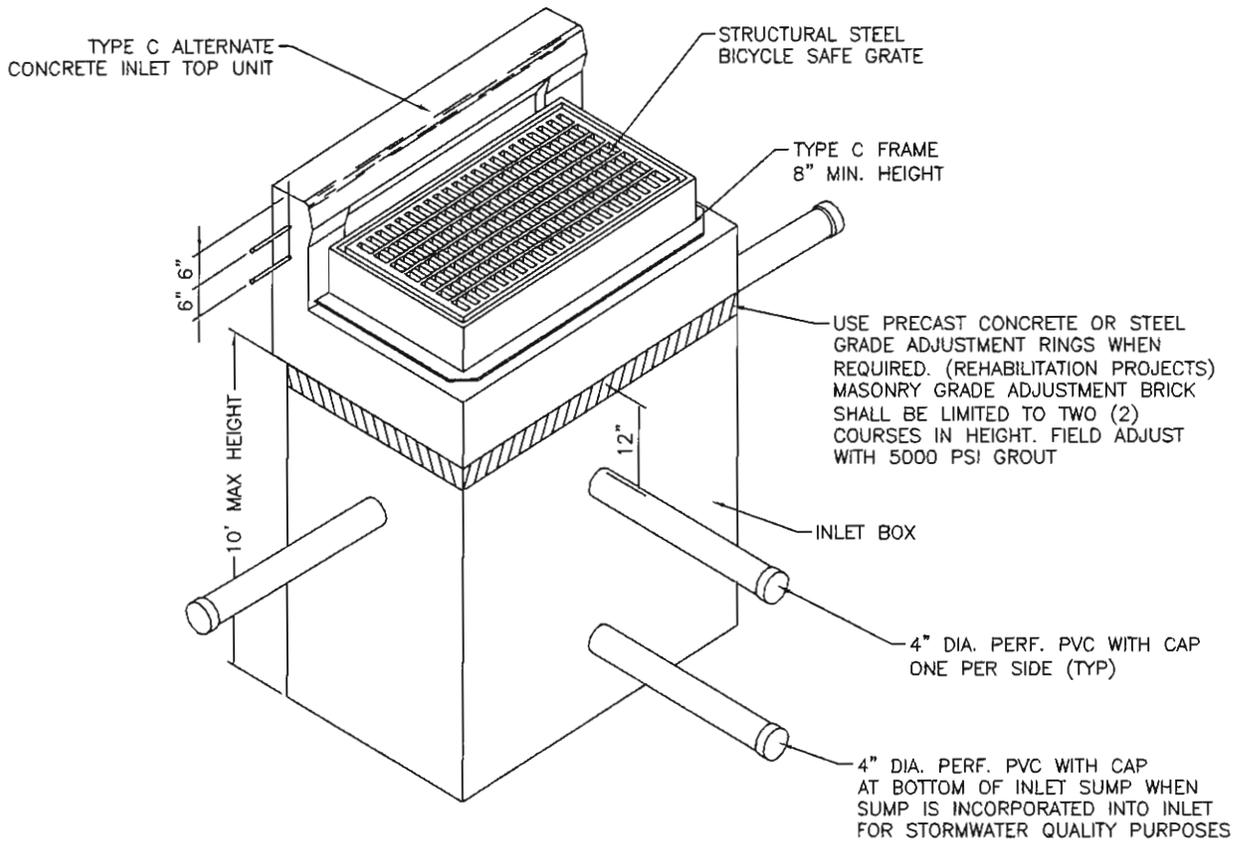
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North Fayette Township
Allegheny County, Pennsylvania
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INLET BOX NOTES:

1. Construct inlet box in accordance with the requirements of PennDOT Publication 408, Section 605, for Cast-in-Place units and Section 714 for Precast Cement Concrete units.
2. Furnish and install inlet boxes, connections, joints, steps, and other appurtenances and details in accordance with PennDOT Publication 72M Standards for Roadway Construction, latest edition – RC-64M, Inlet Box with Concrete Top Unit – Type C Alternate With Type C Frame. Provide Inlet Type of smallest dimension to accommodate connected pipe openings in accordance with this Publication.
3. Only precast inlet boxes supplied by a manufacturer listed in PennDOT Bulletin 15 will be permitted.
4. Inlets that exceed the maximum height, as shown, are not permitted without approval by the Township. A specific design will be required for review and approval.
5. Do not extend pipe block-outs into the base when base is not monolithic with the inlet walls.
6. Locate pipe or pipes, as required, with the inlet bottom shaped to channel the flow toward the outlet pipe.
7. Brick or concrete block inlets shall not be permitted.
8. Storm sewer drop connections from invert of outflow pipe to invert of inflow pipes shall be a maximum of 2 ft.

TYPE M FRAME NOTES:

1. Furnish and install Type C Alternate Concrete Top Unit and cast iron or structural steel Type C Frames in accordance with the requirements of PennDOT Publication 72M Standards for Roadway Construction, latest edition – RC-45M.
2. Only top units and frames supplied by a manufacturer listed in PennDOT Bulletin 15 will be permitted.

INLET GRATE NOTES:

1. Furnish and install structural steel bicycle safe inlet grates in accordance with the requirements of PennDOT Publication 72M Standards for Roadway Construction, latest edition – RC-45M, Structural Steel Grate Bicycle Safe.
2. Vane grates may be used only with permission from the Township. If permission to use vane grates is granted by the Township, furnish and install vane grates in accordance with the requirements of PennDOT Publication 72M Standards for Roadway Construction, latest edition – RC-45M, Cast Iron Vane Grate.
3. Cast iron grates may be used only with permission from the Township. Do not use cast iron grates within the travel lanes. If these grates are permitted by the Township, they must be located at the edge of outside shoulders, swales, wide median swales and infield areas that are outside the travel lanes or curb to curb roadways.
4. Only grates supplied by a manufacturer listed in PennDOT Bulletin 15 will be permitted.

Type C Inlet, Frame, & Grate

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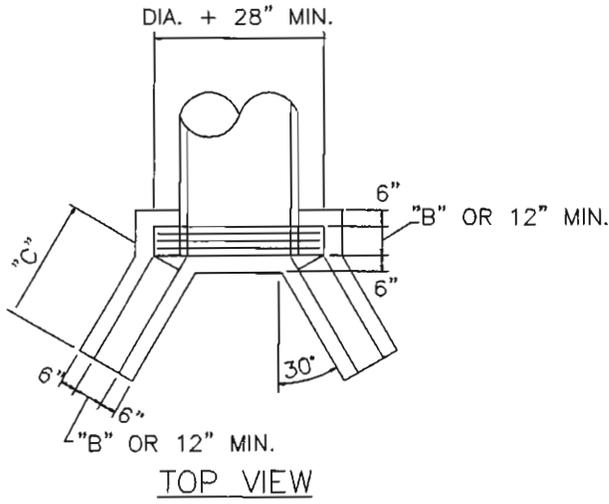
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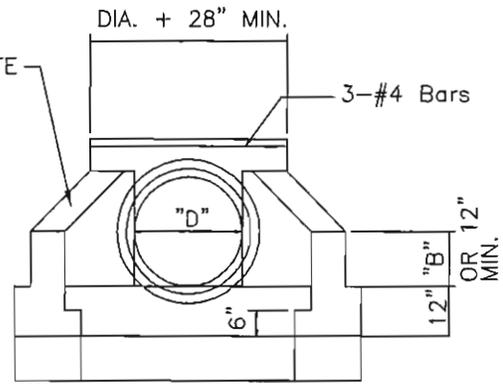
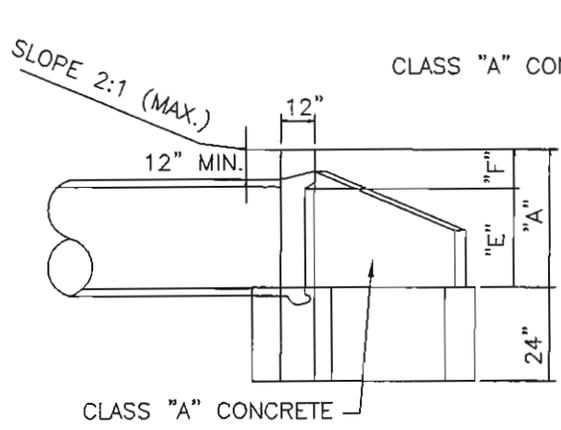
North Fayette Township
Allegheny County, Pennsylvania
400 North Branch Road
Oakdale, PA 15071



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PIPE DIA.	"A"	"B"	"C"	"D"	"E"	"B"
15"	2'-6"	9"	2'-0"	12"	1'-9"	9"
18"	2'-6"	9"	2'-0"	12"	2'-0"	9"
24"	3'-3"	9"	2'-0"	12"	2'-6"	9"
30"	4'-0"	12"	2'-6"	15"	3'-0"	12"
36"	4'-6"	12"	2'-6"	15"	3'-6"	12"
42"	5'-3"	15"	4'-3"	18"	4'-0"	15"
48"	5'-9"	15"	4'-9"	21"	4'-6"	15"
54"	6'-3"	15"	5'-3"	24"	5'-0"	15"
60"	7'-0"	15"	5'-9"	2'-3"	5'-6"	15"
66"	7'-6"	15"	7'-0"	2'-6"	6'-0"	15"
72"	8'-0"	18"	7'-0"	2'-6"	6'-6"	18"
84"	9'-0"	18"	8'-3"	2'-9"	7'-6"	18"



SIDE VIEW

END VIEW

NOTES:

1. Construct endwall in accordance with the requirements of PennDOT Publication 408, Section 605, for Cast-in-Place units and Section 714 for Precast Cement Concrete units.
2. Furnish and install endwalls in accordance with PennDOT Publication 72M Standards for Roadway Construction, latest edition - RC-31M.
3. Only precast endwalls supplied by a manufacturer listed in PennDOT Bulletin 15 will be permitted.

Type DW Endwall

SCALE: N.T.S.

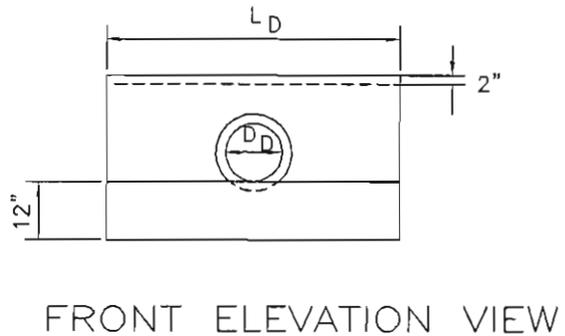
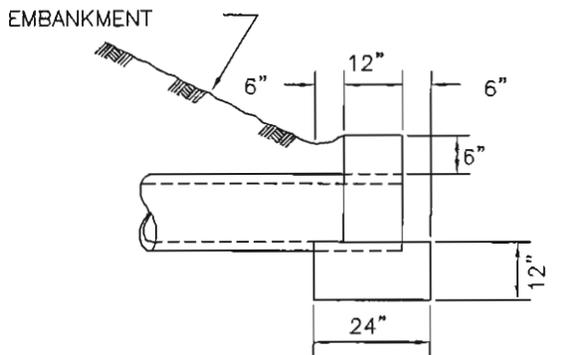
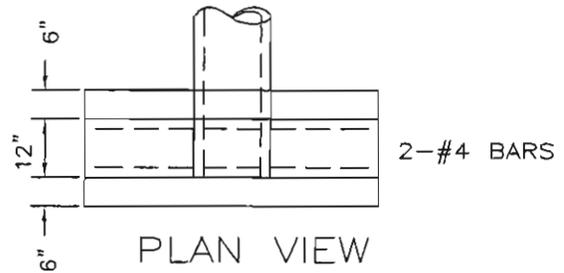
DATE: Sept. 2011 FILE: Type DW Endwall.dwg



North Fayette Township
Allegheny County, Pennsylvania
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DIAMETER PIPE	L _D
18" AND 21"	5'
24" AND 27"	7'
30" AND 36"	9'

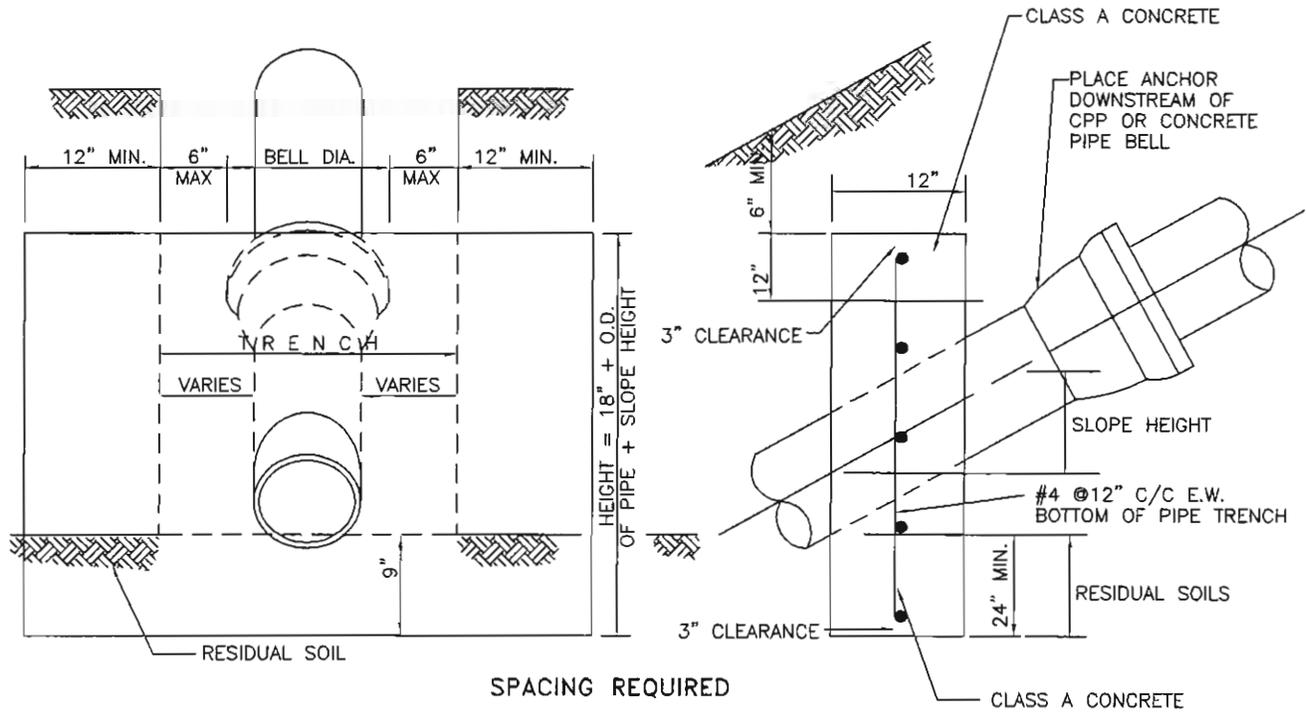


NOTES:

1. Construct endwall in accordance with the requirements of PennDOT Publication 408, Section 605, for Cast-in-Place units and Section 714 for Precast Cement Concrete units.
2. Furnish and install endwalls in accordance with PennDOT Publication 72M Standards for Roadway Construction, latest edition - RC-31M.
3. Only precast endwalls supplied by a manufacturer listed in PennDOT Bulletin 15 will be permitted.

Type D Endwall





SPACING REQUIRED

% GRADE	DISTANCE CENTER TO CENTER
20% TO 35%	36' C. to C.
35% TO 50%	24' C. to C.
50% +	16' C. to C.

DUCTILE IRON PIPE SHALL BE USED FOR ALL SEWERS OVER 40% GRADE.

Storm Concrete Anchor

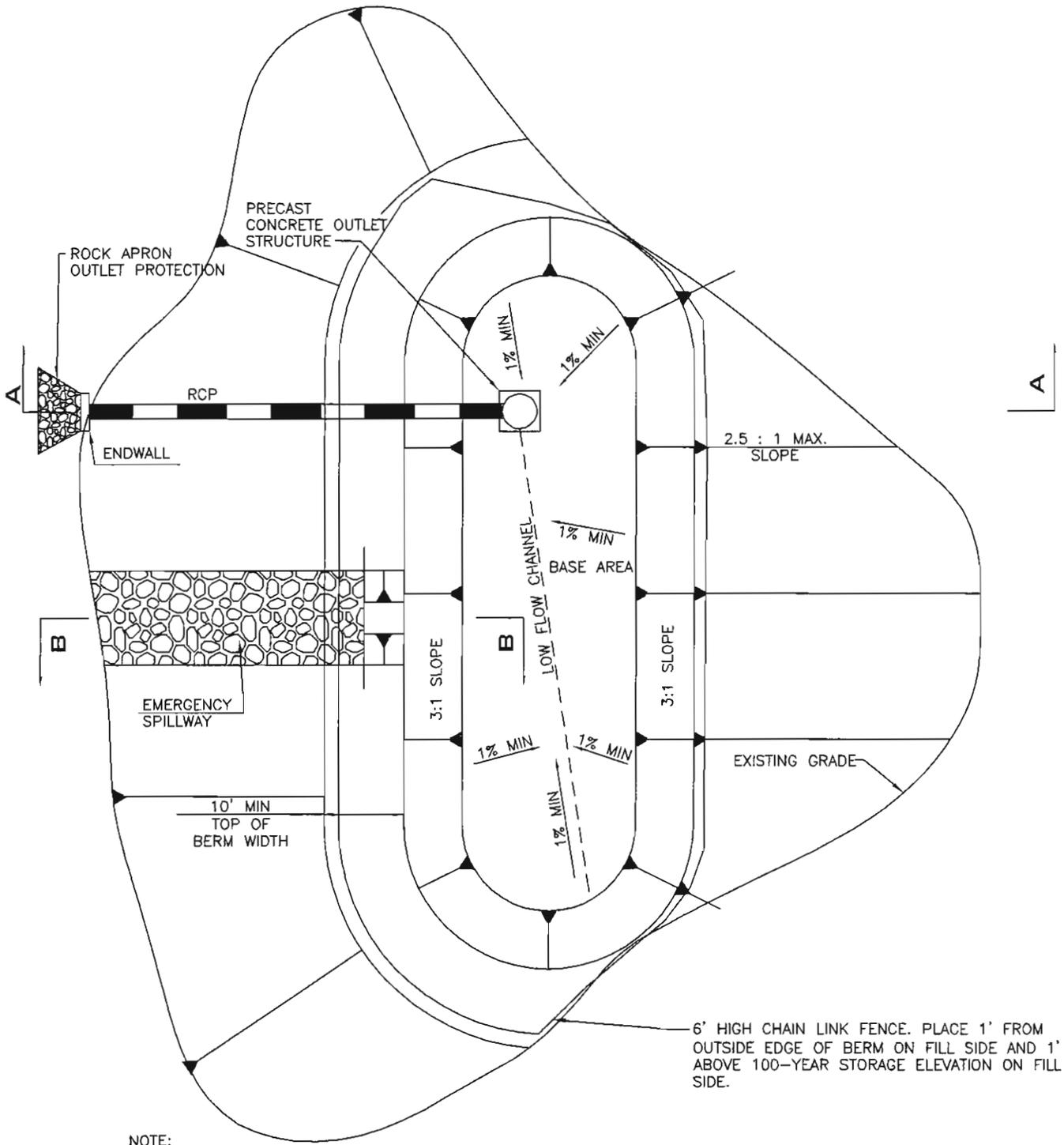
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Storm Concrete Anchor.dwg



North Fayette Township
Allegheny County, Pennsylvania
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NOTE:

1. PROVIDE ACCESS ROAD TO POND EMBANKMENT. ACCESS ROAD SHALL BE MIN. 10' WIDE CONSTRUCTED OF 8" AASHTO No. 1 STONE CHOKED WITH AASHTO No. 57 STONE OVER CLASS 4, TYPE A GEOTEXTILE FABRIC. ACCESS ROAD SLOPE MIN. 1%, MAX 15%.
2. PROVIDE 10' WIDE ACCESS GATE IN POND FENCE.

Permanent Earthen Dam - Plan View

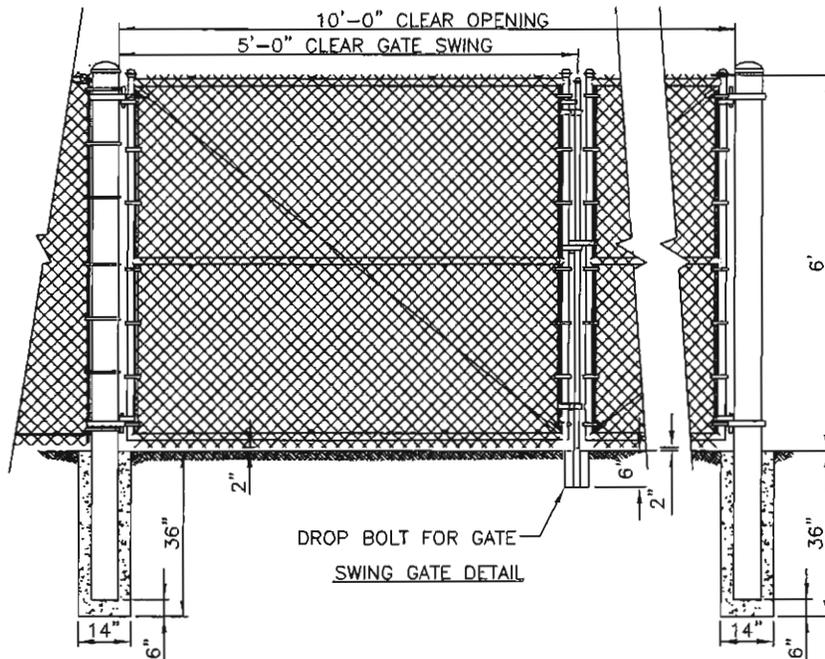
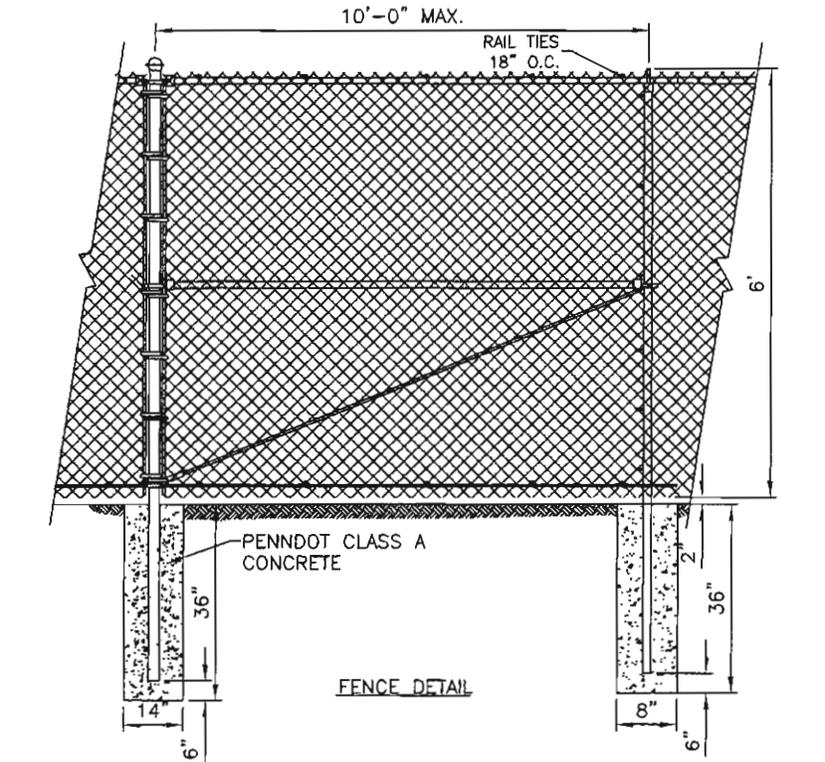
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DATE: Sept. 2011 FILE: Permanent Earth Dam - Sections B-B & C-C.dwg



North Fayette Township
 Allegheny County, Pennsylvania
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6' HIGH CHAIN LINK FENCE
N.T.S.

PAGE 60

6' High Chain Link Fence

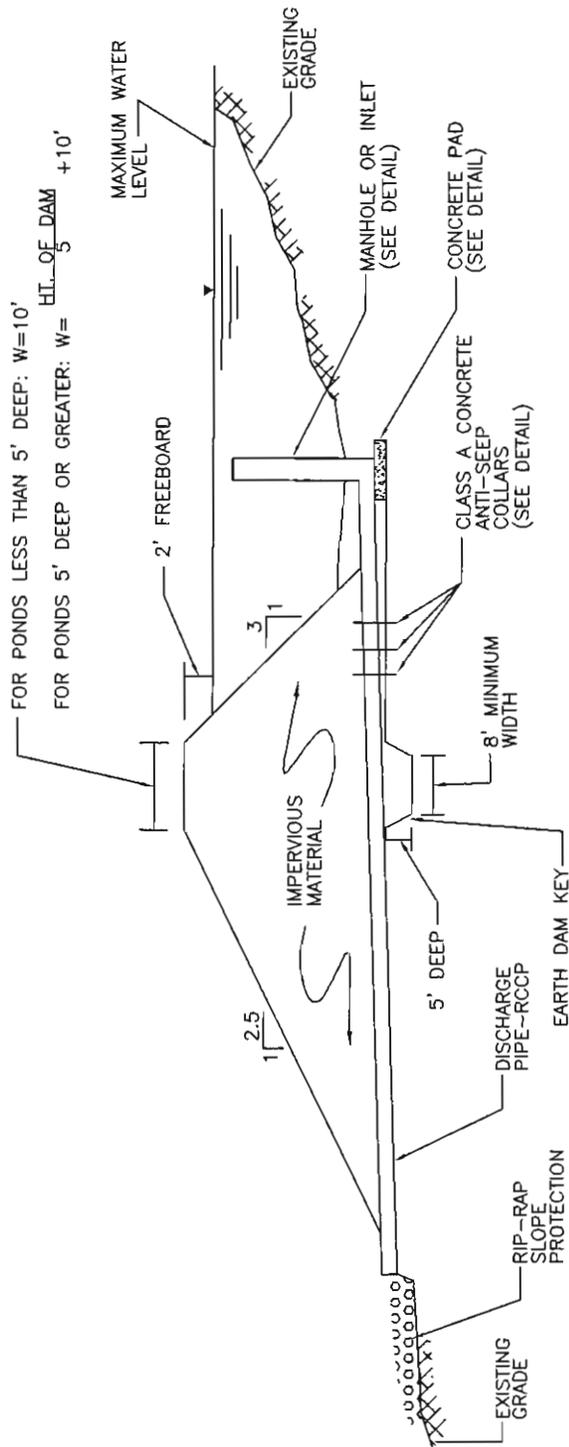
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DATE: Sept. 2011 FILE: Permanent Earth Dam - Sections B-B & C-C.dwg



North Fayette Township
Allegheny County, Pennsylvania
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- NOTES:
1. ROCK APRON OUTLET PROTECTION TO BE SIZED ACCORDING TO EXIT VELOCITY AND SHEAR CALCULATIONS TO BE SUBMITTED TO THE TOWNSHIP (SEE DETAILS).
 2. ALL CALCULATIONS FOR BASIN SIZING, FREEBOARD, OUTLET STRUCTURES, DISCHARGE PIPES, ETC. MUST BE SUBMITTED TO THE TOWNSHIP.
 3. TEMPORARY RISER PIPES MAY BE CMP RISERS.
 4. PROVIDE COMPACTION REPORTS FOR EMBANKMENT CONSTRUCTION TO TOWNSHIP.

Permanent Earth Dam - Section A-A

SCALE: N.T.S.

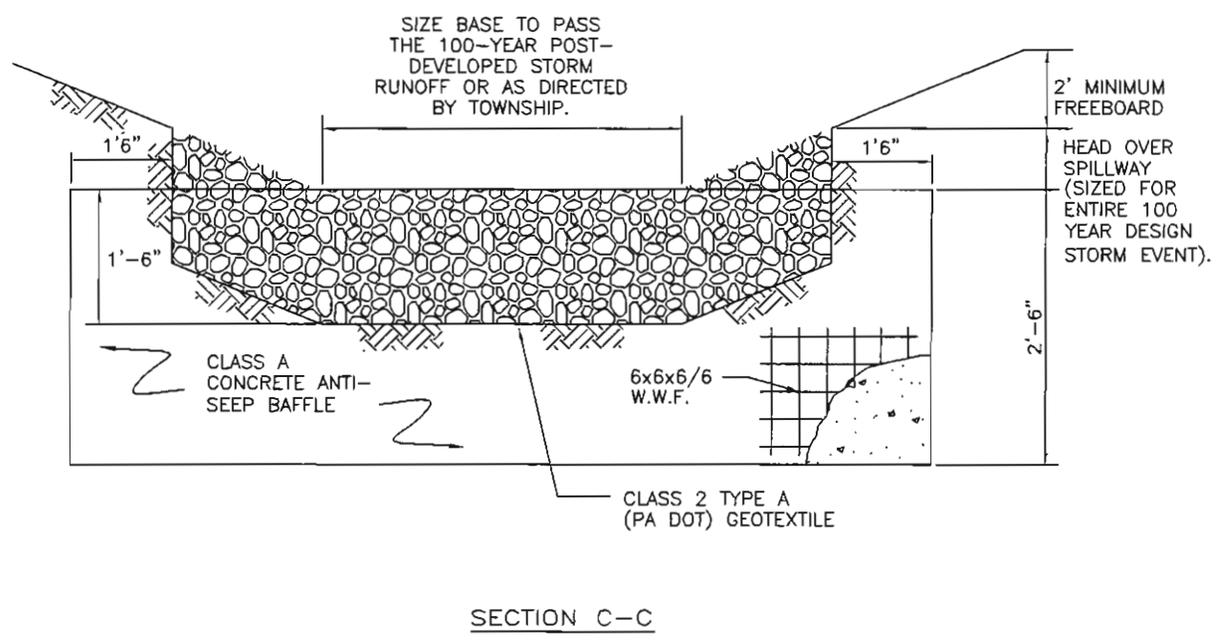
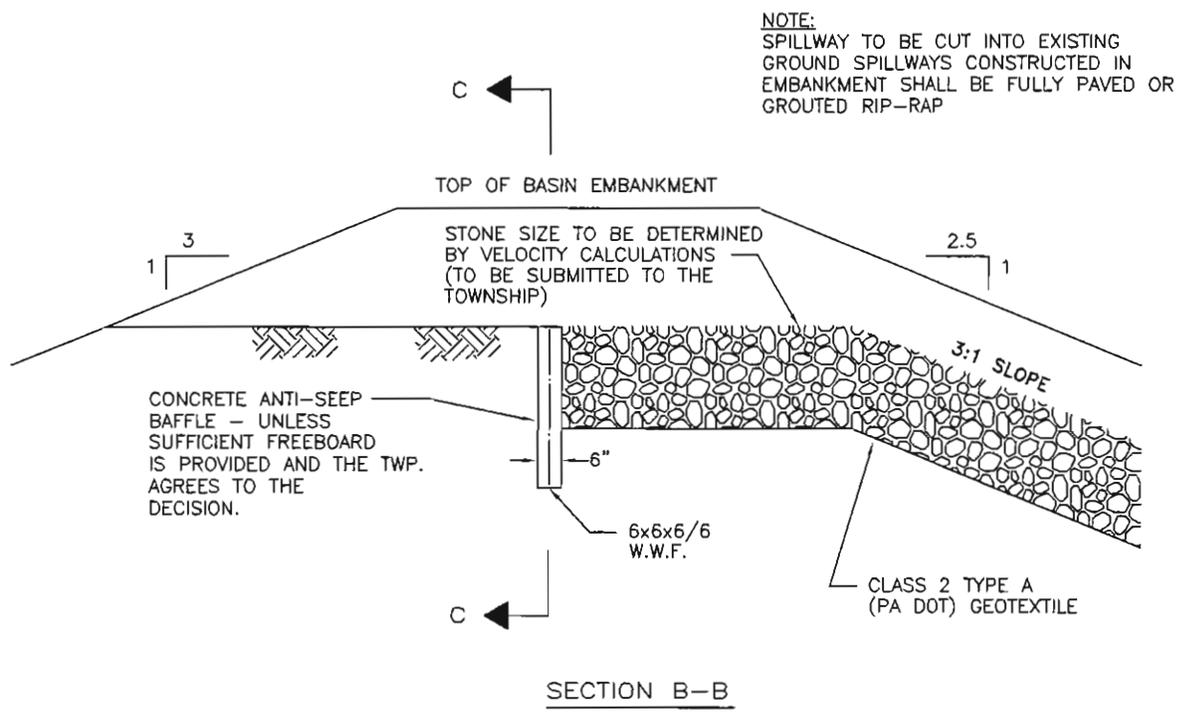
DATE: Sept. 2011 FILE: Permanent Earth Dam - Sections B-B & C-C.dwg



North Fayette Township
 Allegheny County, Pennsylvania
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Permanent Earth Dam - Sections B-B & C-C

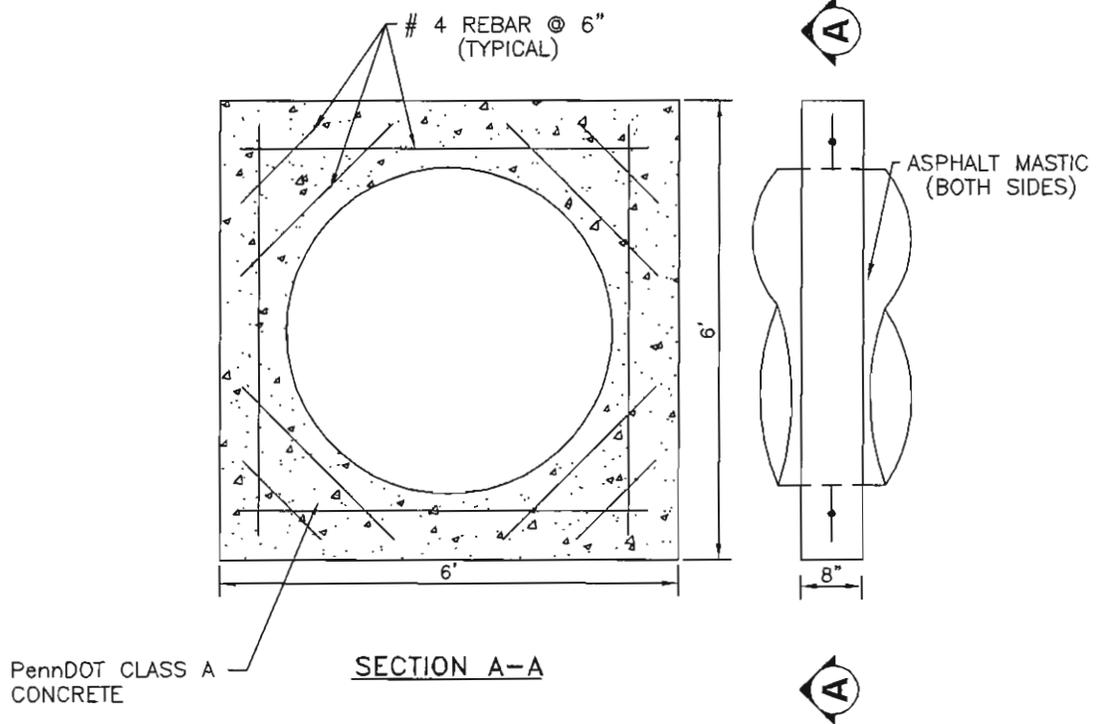
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DATE: Sept. 2011 FILE: Permanent Earth Dam - Sections B-B & C-C.dwg



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Concrete Anti-Seep Collars

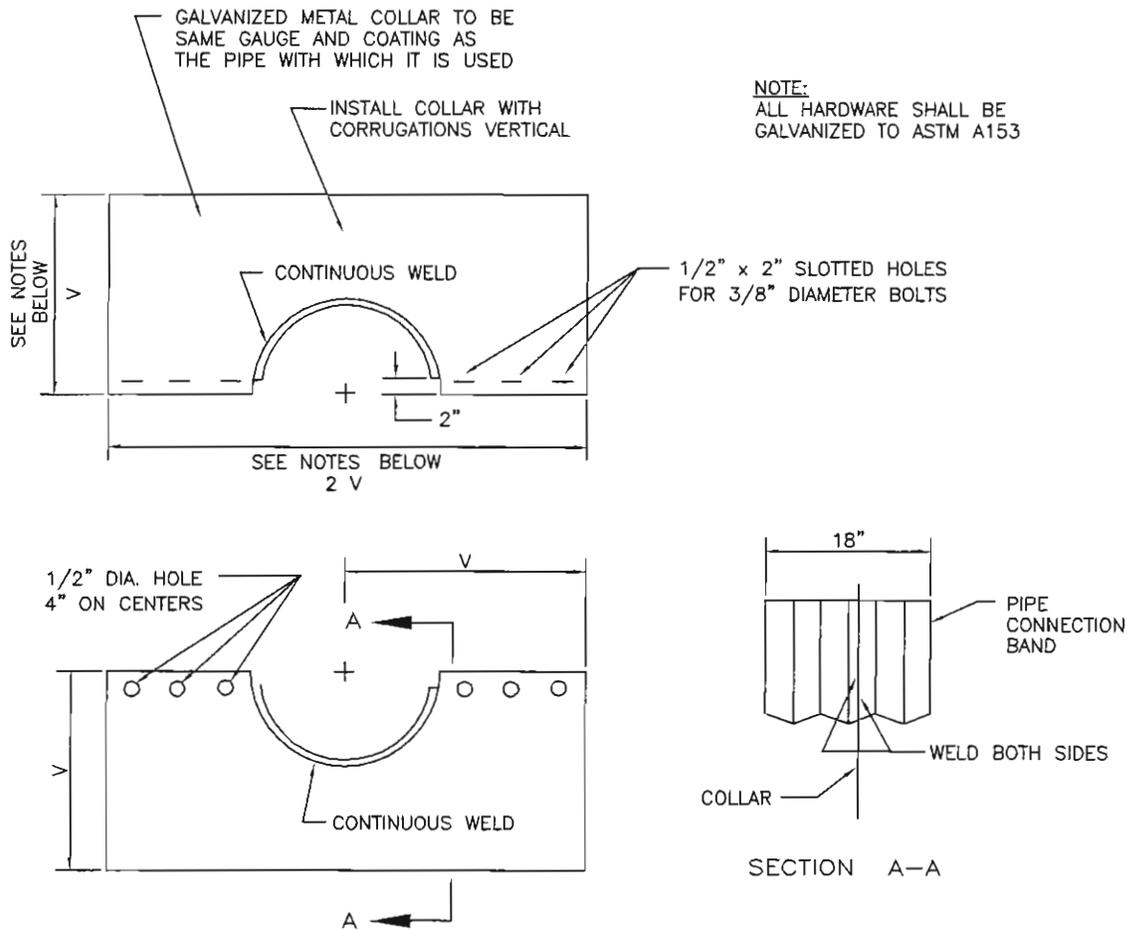
SCALE: N.T.S. _____

DATE: Sept. 2011 FILE: Concrete Anti-Seep Collars.dwg



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NOTE:
ALL HARDWARE SHALL BE GALVANIZED TO ASTM A153

NOTES:

- V = VERTICAL PROJECTION AND MINIMUM HORIZONTAL PROJECTION OF THE ANTI-SEEP COLLAR IN FEET
- L = LENGTH IN FEET OF THE CONDUIT WITHIN THE ZONE OF SATURATION, MEASURED FROM THE DOWNSTREAM SIDE OF THE RISER TO THE TOE DRAIN OR POINT WHERE PHREATIC LINE INTERCEPTS THE CONDUIT, WHICHEVER IS SHORTER
- N = NUMBER OF ANTI-SEEP COLLARS

THE RATIO OF THE LENGTH OF THE LINE OF SEEPAGE (L + 2 N V) TO L IS TO BE NOT LESS THAN 1.15. ANTI-SEEP COLLARS SHALL BE EQUALLY SPACED ALONG THAT PART OF THE BARREL WITHIN THE SATURATED ZONE AT DISTANCES OF NOT MORE THAN 25 FEET.

* TAKEN FROM U.S. DEPT. OF AGRICULTURE SCS TR-60

Corrugated Metal Anti-Seep Collar

SCALE: N.T.S.

DATE: Sept. 2011 FILE: Corrugated Metal Anti-Seep Collar



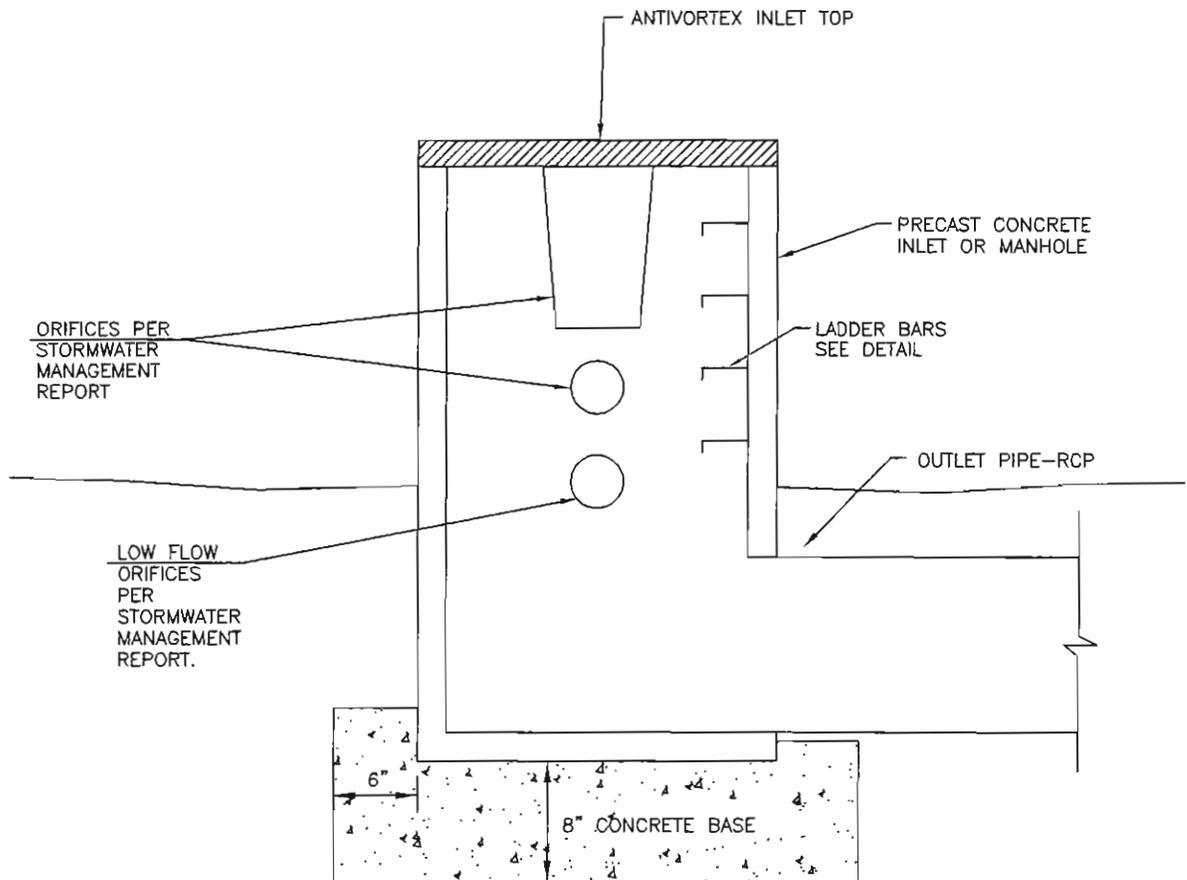
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NOTES:

1. ALL CONCRETE SHALL BE PennDOT CLASS AA CONCRETE, 4000 PSI, 5% AIR ENTRAINED
2. INLET JOINTS TO BE SEALED WITH 1" DIA. FLEXIBLE BUTYL RUBBER JOINT SEALANT, USE 1/2" DIA. FOR FRAME AND GRATE
3. FRAME AND GRATE TO BE ANCHORED WITH 2-3/4" DIA. S.S. ANCHOR BOLTS SET 6-INCHES INTO CONCRETE
4. LIFTING HOLES TO BE POINTED WITH NON-SHRINK GROUT, AND LEFT WATERTIGHT, NEAT AND SMOOTH
5. MAXIMUM ADJUSTMENT TO FINISHED GRADE USING PRECAST GRADE SPACERS SHALL NOT EXCEED NINE INCHES (9")
6. PRECAST SECTIONS SHALL CONFORM TO ASTM C-478 AS REVISED
7. INLET INVERT SHALL BE CONCRETE TO THE SPRING LINE OF PIPE WITH SIDES SLOPING 1/2" TO 1'- 0" TO INSIDE FACE OF PRECAST BASE SECTION
8. IF THE OUTLET PIPE IS 18" OR LESS, USE 4'- 0"; IF GREATER THAN 18", USE 5'- 0"
9. ALL PRECAST CONCRETE RISERS SUPPLIED BY A MANUFACTURER LISTED IN PENNDOT BULLETIN 15 WILL BE PERMITTED.



Concrete Riser For Detention Basins

SCALE: N.T.S.

DATE: Sept. 2011 FILE: Concrete Riser For Detention Basins.dwg

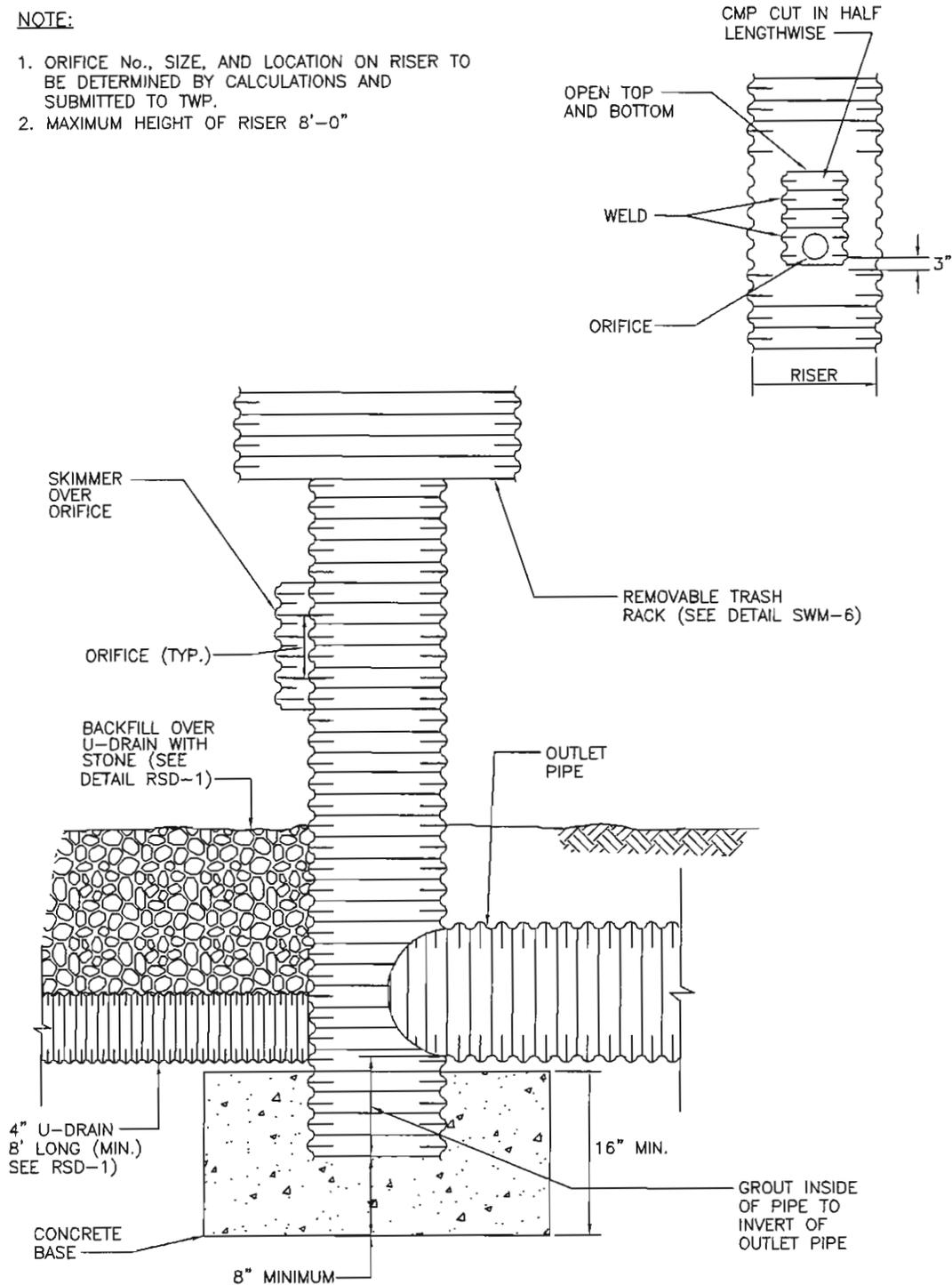


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NOTE:

1. ORIFICE No., SIZE, AND LOCATION ON RISER TO BE DETERMINED BY CALCULATIONS AND SUBMITTED TO TWP.
2. MAXIMUM HEIGHT OF RISER 8'-0"



USE AS TEMPORARY RISER ONLY

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Corrugated Metal Riser For Sediment Basins

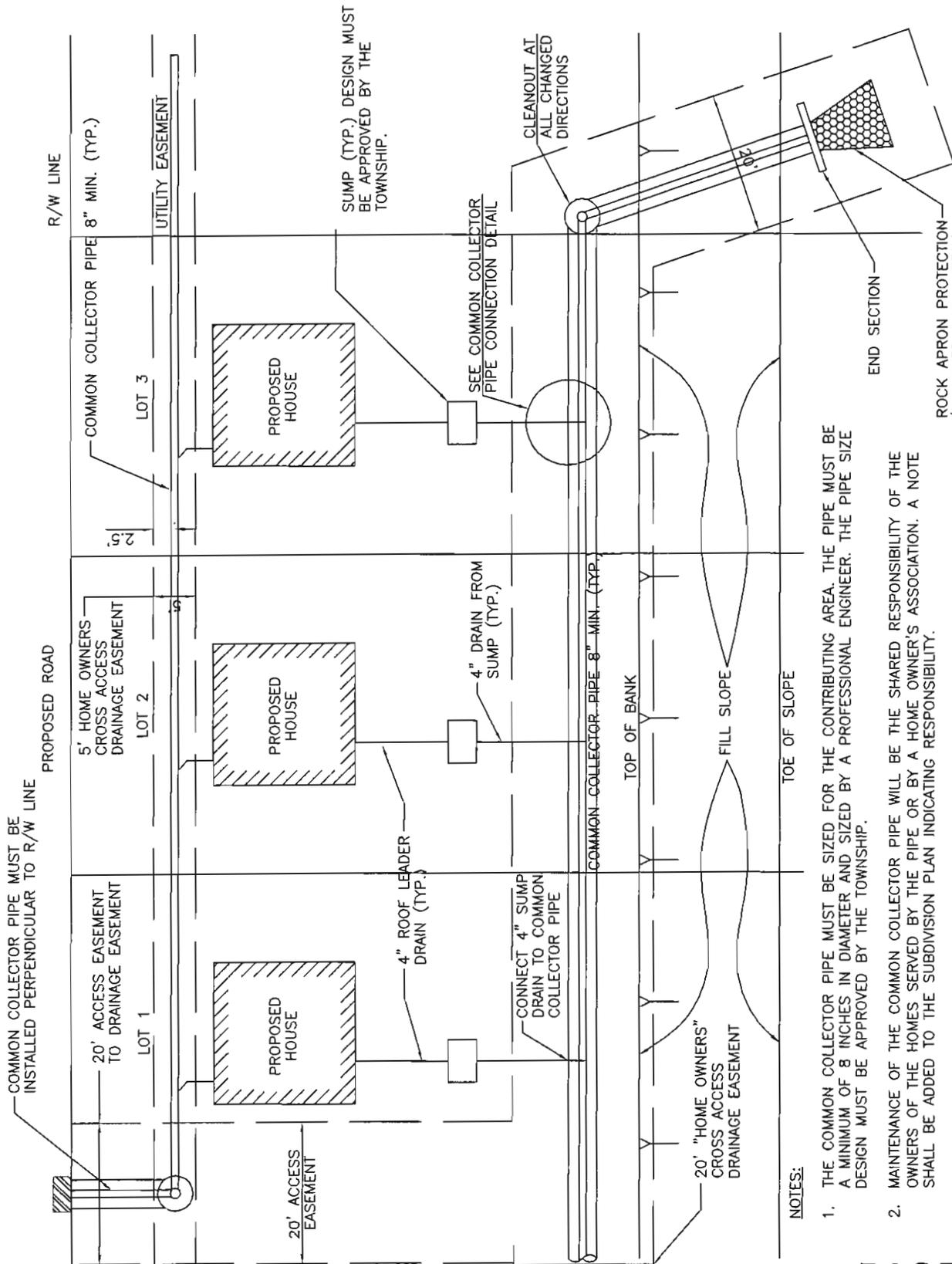
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Corrugated Metal Riser For Sediment Basins.dwg



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ROCK APRON PROTECTION (DESIGNED FOR OUTFALL VELOCITIES OF WATER) DISCHARGE TO A NATURAL DRAINAGE AREA DESIGN MUST BE APPROVED BY THE TOWNSHIP.

NOTES:

1. THE COMMON COLLECTOR PIPE MUST BE SIZED FOR THE CONTRIBUTING AREA. THE PIPE MUST BE A MINIMUM OF 8 INCHES IN DIAMETER AND SIZED BY A PROFESSIONAL ENGINEER. THE PIPE SIZE DESIGN MUST BE APPROVED BY THE TOWNSHIP.
2. MAINTENANCE OF THE COMMON COLLECTOR PIPE WILL BE THE SHARED RESPONSIBILITY OF THE OWNERS OF THE HOMES SERVED BY THE PIPE OR BY A HOME OWNER'S ASSOCIATION. A NOTE SHALL BE ADDED TO THE SUBDIVISION PLAN INDICATING RESPONSIBILITY.
3. SUMPS ONLY REQUIRED IF COLLECTOR PIPE DISCHARGED UNCONTROLLED AND HAS NOT BEEN INCLUDED IN STORM WATER REPORT. DEVELOPERS GEOTECHNICAL ENGINEER MUST PROVIDE RECOMMENDATION ON SUMP LOCATIONS AND INFILTRATION TESTING AT THE TIME OF PLAN APPLICATION FOR APPROVAL.
4. COLLECTOR PIPE FOR STORMWATER MUST BE "BLACK". GREEN OR WHITE PIPE IS NOT PERMITTED

Roof Drain Sump Outlet Common Collector

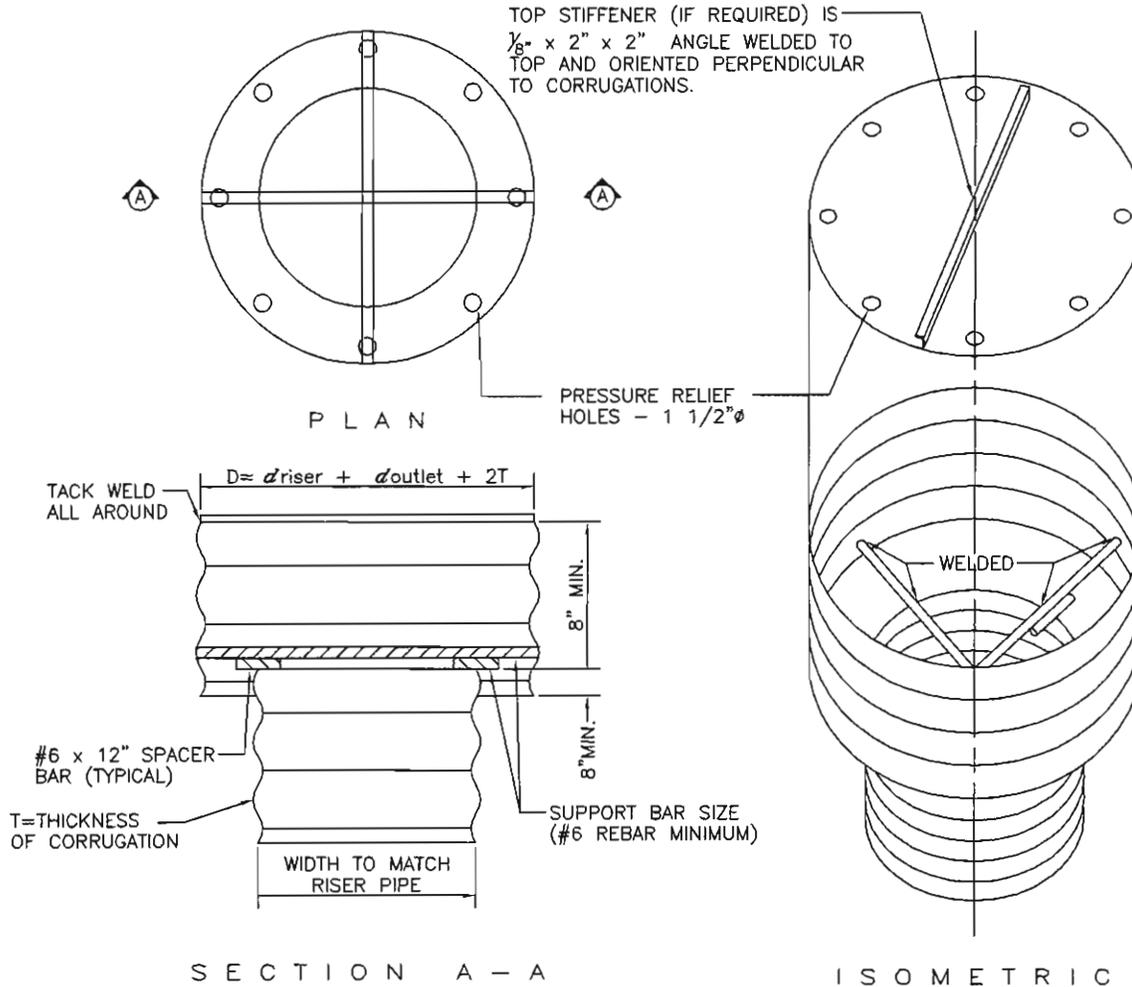
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Common Collector Pipe Connection.dwg



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NOTE:

1. TOP IS 14 GAGE CORRUGATED METAL OR 1/8" STEEL PLATE. PRESSURE RELIEF HOLES MAY BE OMITTED, IF ENDS OF CORRUGATIONS ARE LEFT FULLY OPEN WHEN CORRUGATED TOP IS WELDED TO CYLINDER.
2. CYLINDER IS 16 GAGE CORRUGATED METAL PIPE OR FABRICATED FROM 1/8" STEEL PLATE.
3. THE CYLINDER MUST BE FIRMLY FASTENED TO THE TOP OF THE RISER.
4. SUPPORT BARS ARE WELDED TO THE TOP OF THE RISER OR ATTACHED BY STRAPS BOLTED TO TOP OF RISER.

Trash Rack & Anti-Vortex Device For Temporary Sediment Basins

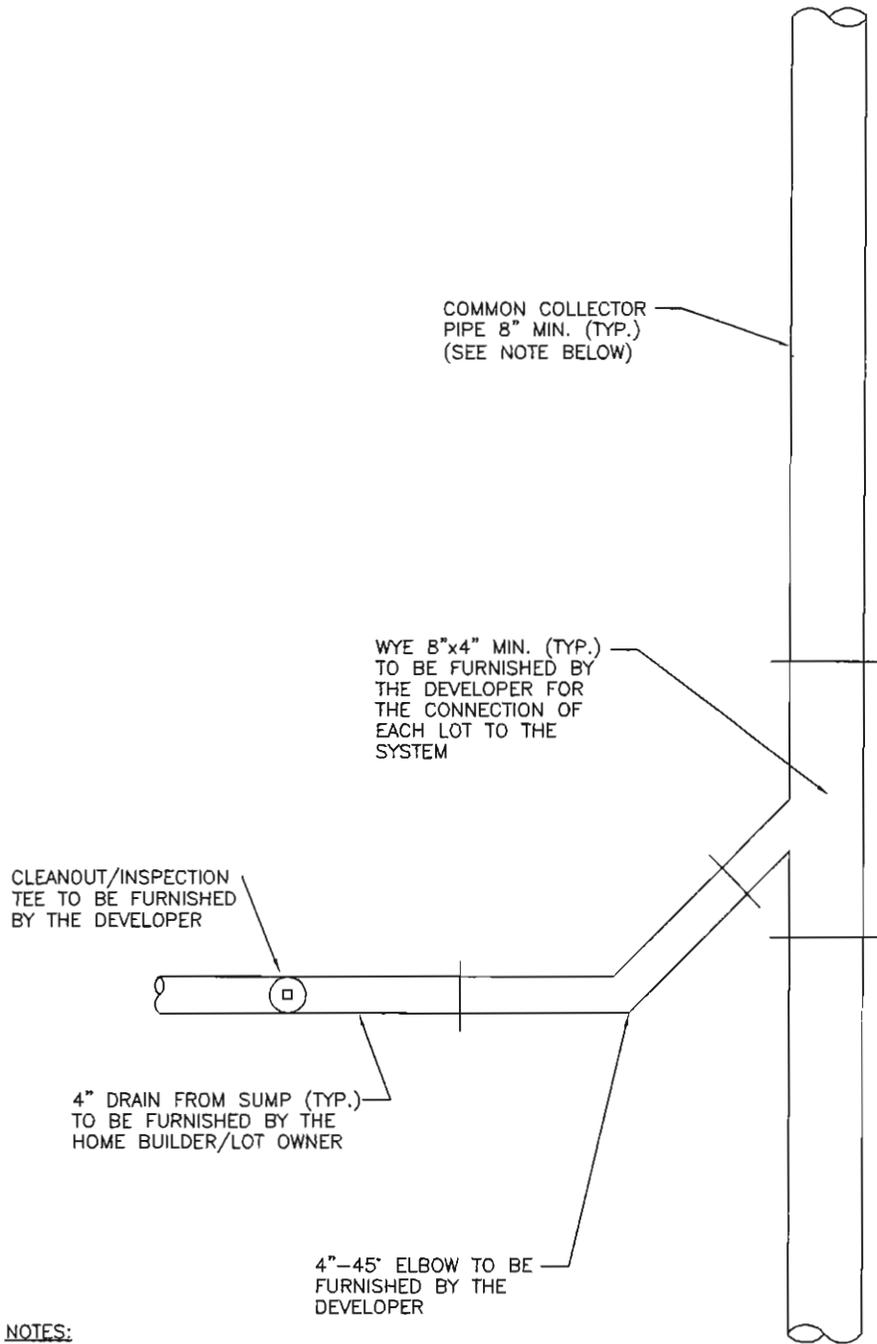
SCALE: N.T.S.

DATE: Sept. 2011 FILE: Trash Rack & Anti-Vortex Device For Temporary



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NOTES:

1. THE COMMON COLLECTOR PIPE MUST BE SIZED FOR THE CONTRIBUTING DRAINAGE AREA. THE PIPE MUST BE A MINIMUM OF 8 INCHES SDR-35 "BLACK" IN DIAMETER AND SIZED BY A PROFESSIONAL ENGINEER. THE PIPE SIZE DESIGN MUST BE APPROVED BY THE TOWNSHIP. PIPE COLOR MUST BE BLACK WITH WARNING TAPE INDICATING STORM PIPE. ALL PIPES UNDER 8" MUST BE SDR-26 WITH COLOR "BLACK" FOR STORM SEWERS
2. MAINTENANCE OF THE COMMON COLLECTOR PIPE WILL BE THE SHARED RESPONSIBILITY OF THE OWNERS OF THE HOMES SERVED BY THE PIPE OR BY A HOME OWNER'S ASSOCIATION. A NOTE SHALL BE ADDED TO THE SUBDIVISION PLAN INDICATING RESPONSIBILITY.

Common Collector Pipe Connection

SCALE: N.T.S.

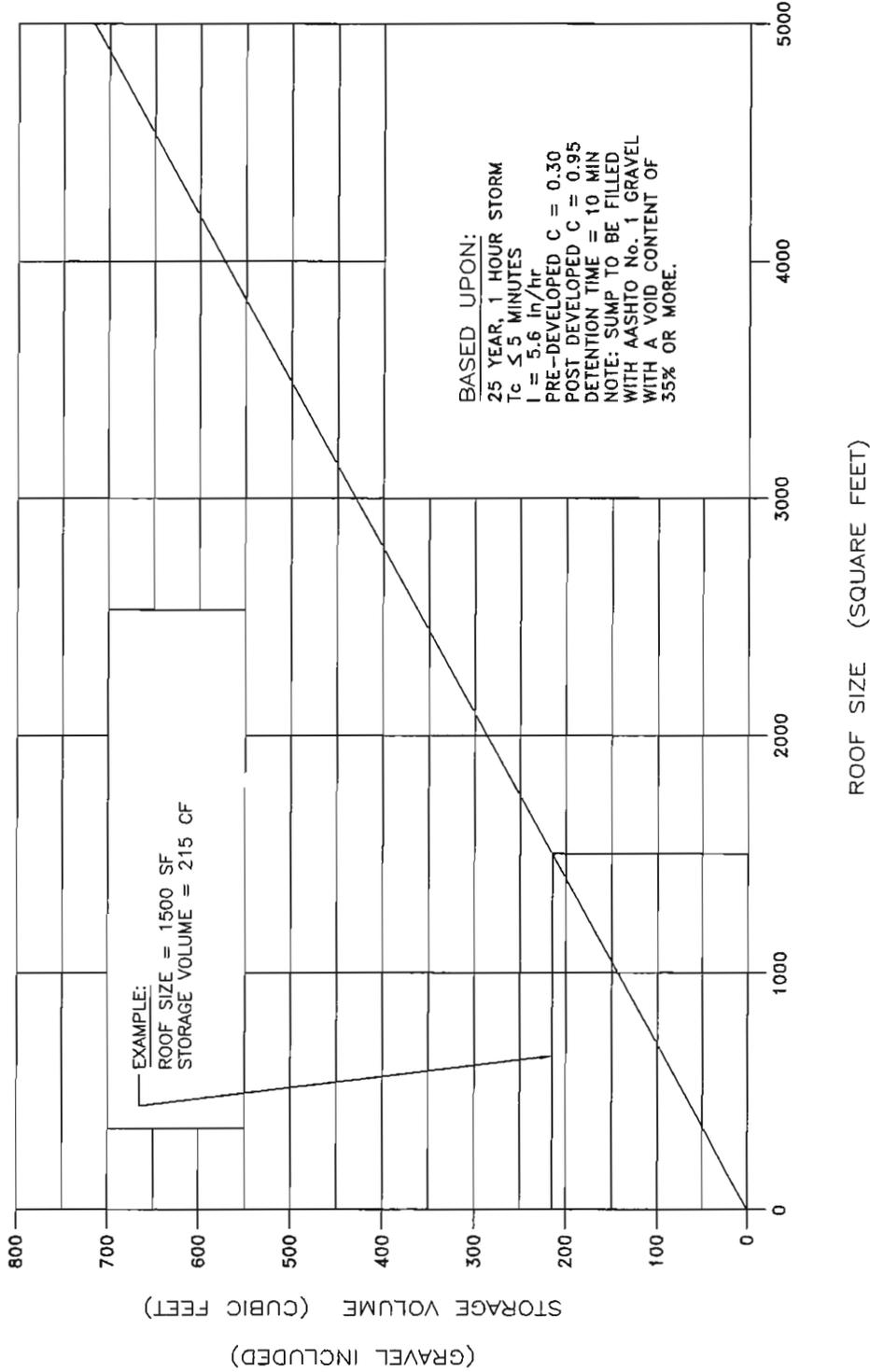
DATE: Sept. 2011 FILE: Common Collector Pipe Connection.dwg



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ROOF DRAIN - SUMP STORAGE CHART
NORTH FAYETTE TOWNSHIP



Roof Drain Sump Storage Chart (25-yr Storm)

SCALE: N.T.S.

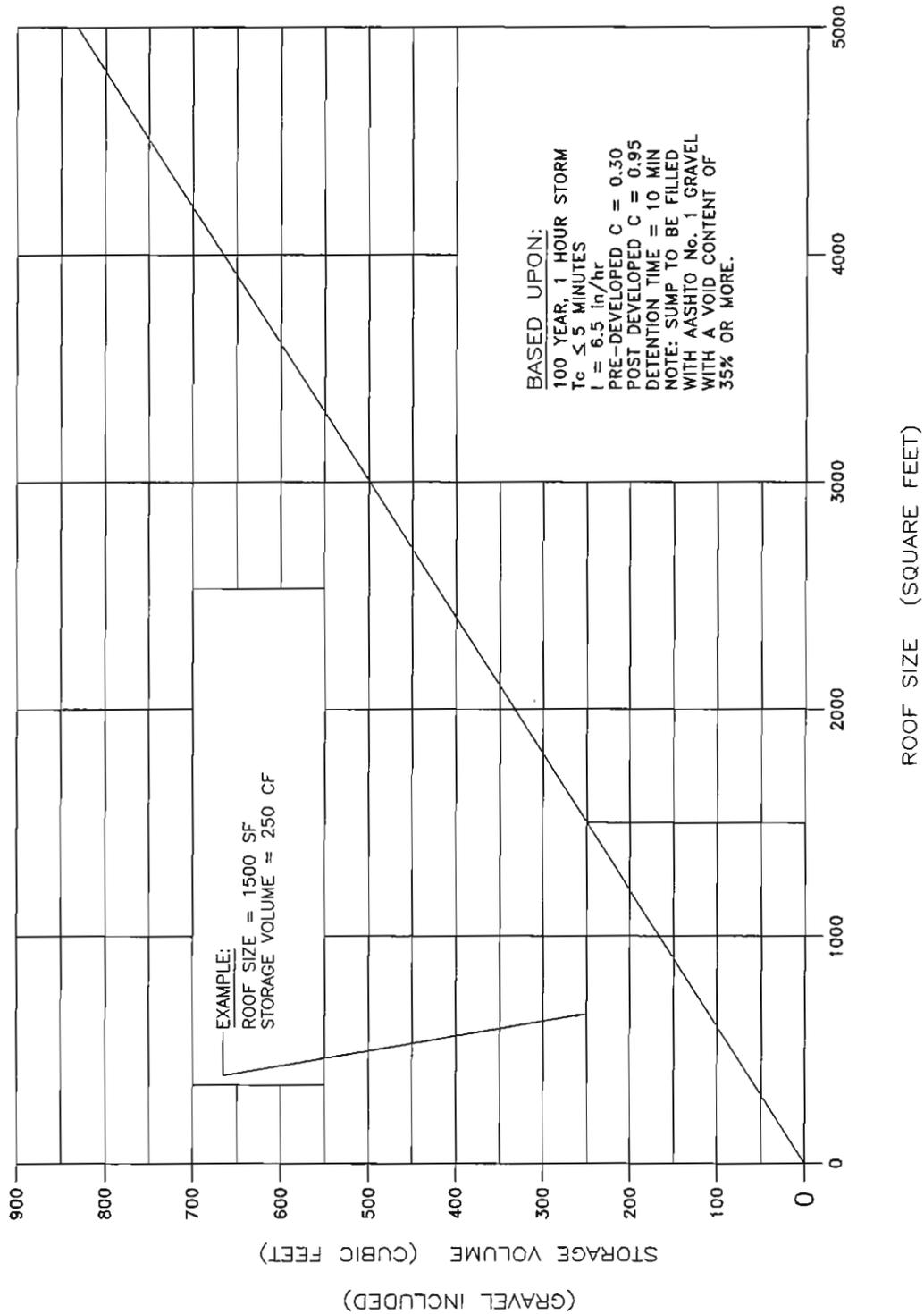
DATE: Sept. 2011 FILE: Roof Drain Sump Storage Chart (100-yr Storm).dwg



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ROOF DRAIN - SUMP STORAGE CHART
NORTH FAYETTE TOWNSHIP



Roof Drain Sump Storage Chart (100-yr Storm)

SCALE: N.T.S.

DATE: Sept. 2011 FILE: Roof Drain Sump Storage Chart (100-yr Storm).dwg



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