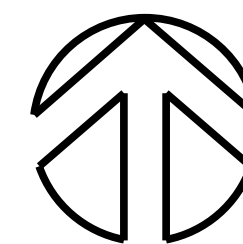


ROEDIGER #3 DITCH COVER SHEET



Plans prepared by:

T. J. Place

TJ Place
Drainage Technician

Plans approved by:

Andrew Baumer
Professional Engineer
Professional Surveyor
Auglaize County Engineer

Auglaize County Engineer
P.O. Box 59 1014 S. Blackhoof Street
Wapakoneta, Ohio 45895
(419) 739-6520

Plans authorized by:

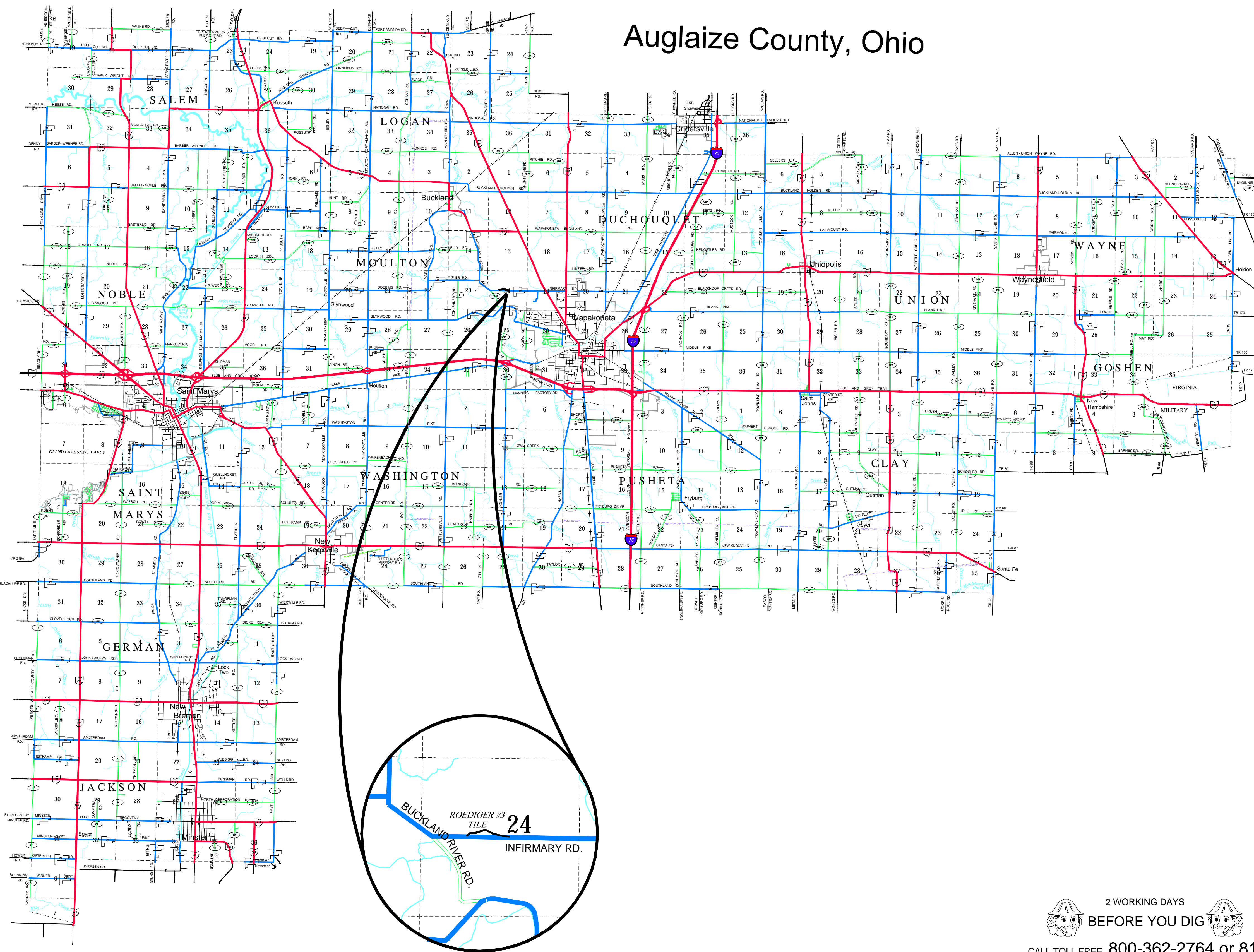
Commissioner

Commissioner

Commissioner

Index of Sheets

- (1) COVER SHEET
- (2) WATERSHED MAP
- (3) PLAN AND PROFILE
- (4) DESIGN INFORMATION
- (5) DETAILS
- (6) SPECIFICATIONS



Auglaize County, Ohio

SITE

Date	5-2024
Designed	<i>T. J. Place</i>
Drawn	<i>T. J. Place</i>
Checked	
Revised	

COVER SHEET Roediger #3 Tile Ditch Moulton Township Section 24

P.O. Box 59
1014 South Blackhoof Street
Wapakoneta, Ohio 45895
419-739-6520

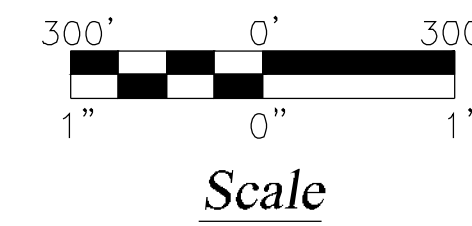
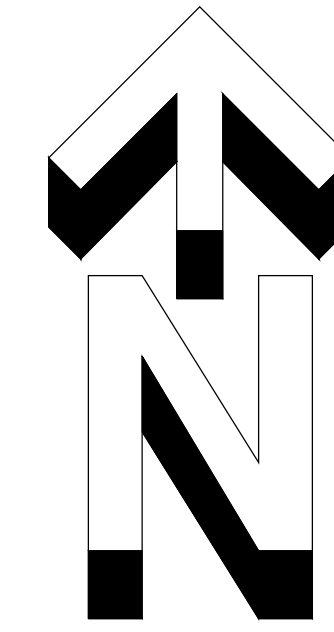
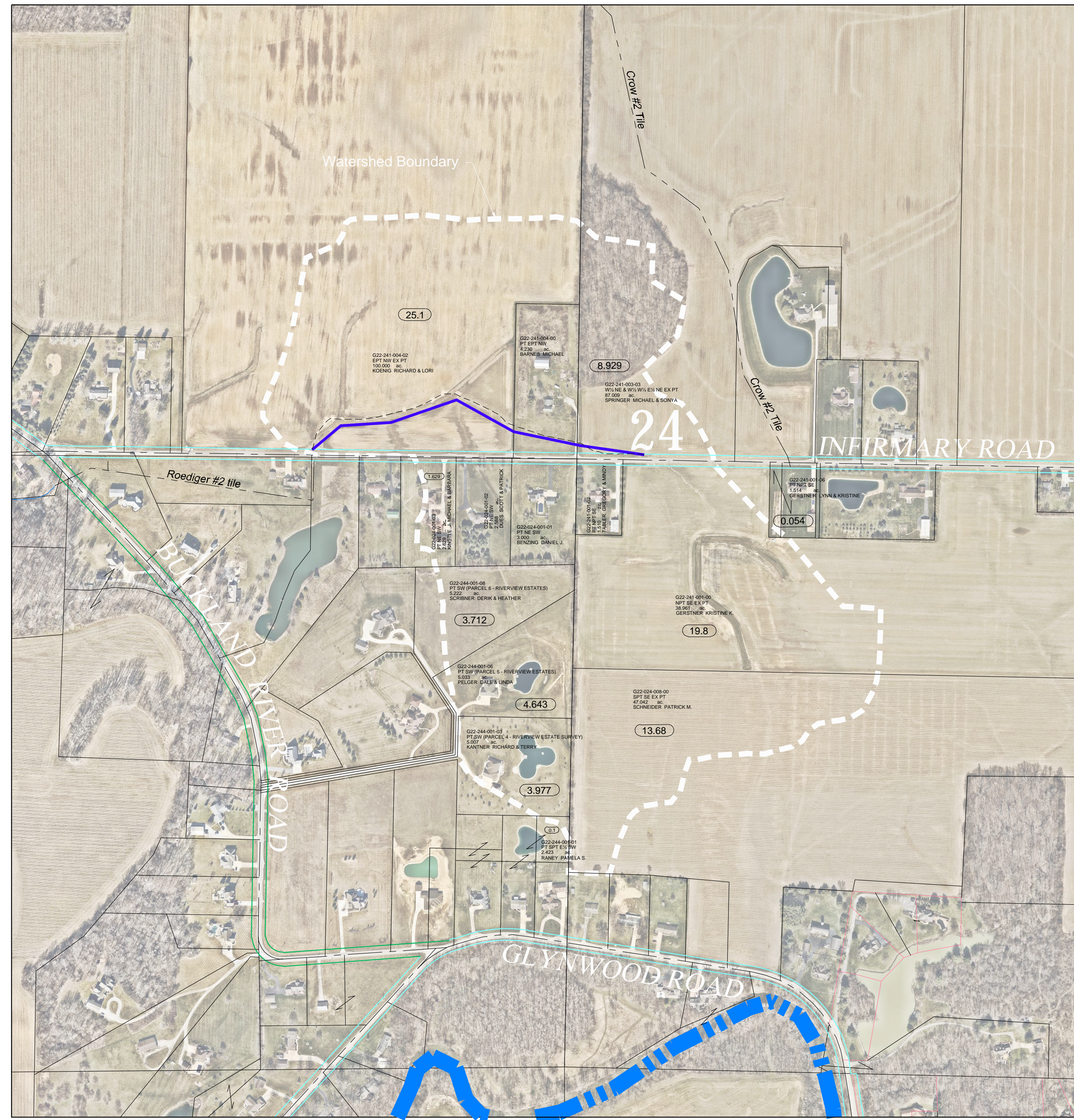
**AUGLAIZE COUNTY
ENGINEER**

2 WORKING DAYS
BEFORE YOU DIG

CALL TOLL FREE 800-362-2764 or 811
OHIO UTILITIES PROTECTION SERVICE

Sheet Number **1**
6

Watershed and Location Map



Legend

- TOWNSHIP R/W
- COUNTY R/W
- STATE R/W
- CENTERLINE ROAD
- PROPERTY LINE
- SECTION LINE
- RIGHT OF WAY LINE
- RAILROAD
- PROPOSED DRAIN
- EXISTING DRAIN
- SUB MAINS
- WATERSHED BOUNDARY
- DRAINAGE EASEMENT
- PIPELINE
- WATERSHED ACRES
- BENCH MARK
- SECTION NUMBER

Note

All OSHA regulations will be observed during construction and will be the responsibility of the contractor to supervise his crew and conform to these regulations.

Note

Auglaize County will not be held liable for any damage that may occur to field tile.

A pre-construction meeting must be held between the contractor and Auglaize County Engineers office. The Engineers office must be informed at least 24 Hrs. prior to any construction to schedule layout and inspection of work.

Date	Designed	Drawn	Checked	Revised
5-2024	T.S. Place	T.S. Place		
5-2024				

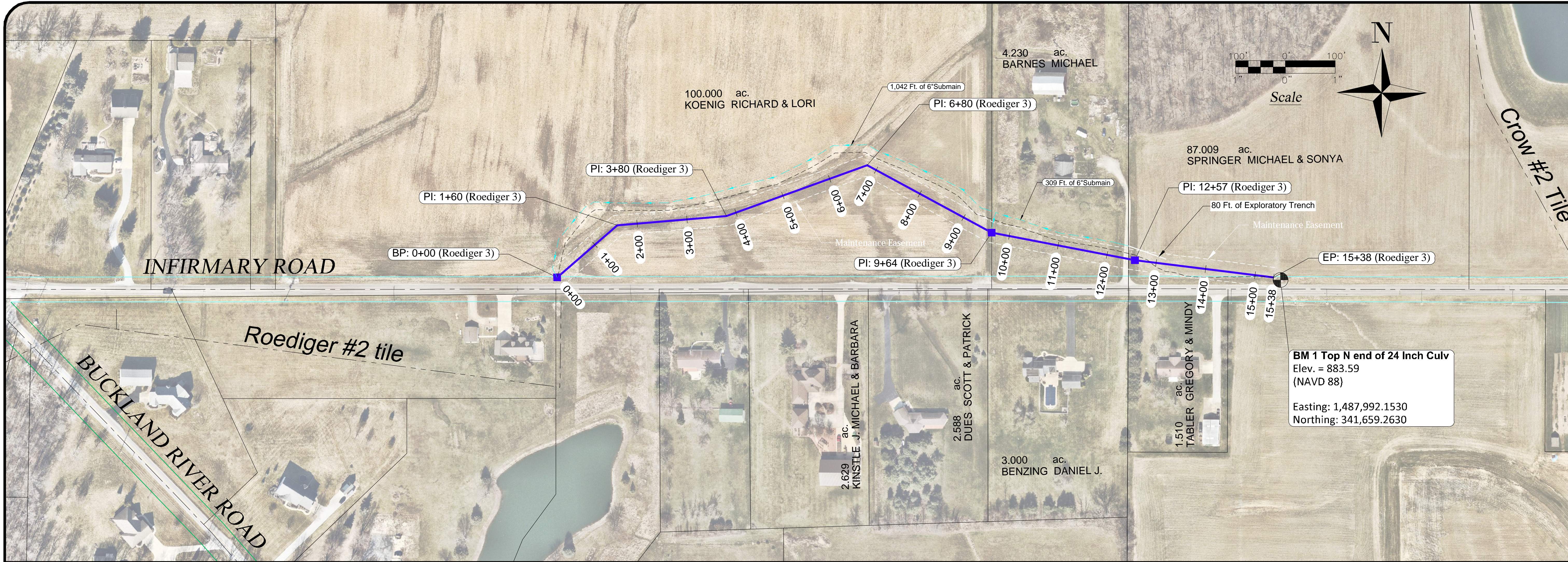
WATERSHED

Roediger #3 Tile Ditch

Moulton Township Section 24

P.O. Box 59
1014 South Blackhoof Street
Wapakoneta, Ohio 45895
419-739-6520

AUGLAIZE COUNTY
ENGINEER



Date	5-2024
Designed	T.S. Place
Drawn	T.S. Place
Checked	
Revised	

PLAN & PROFILE

Roediger #3 Tile Ditch

Moulton Township Section 24

Legend

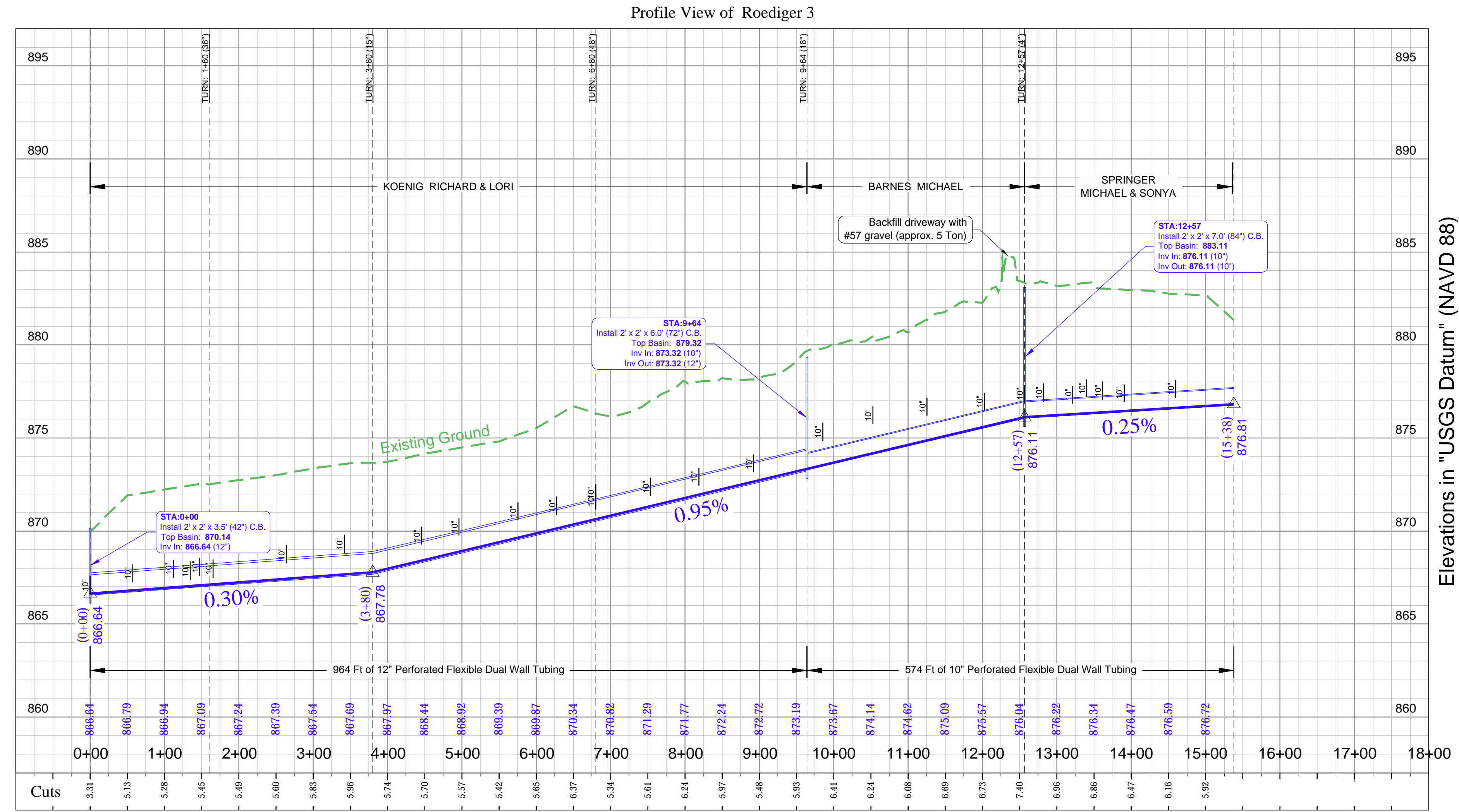
- TOWNSHIP R/W
- COUNTY R/W
- STATE R/W
- CENTERLINE ROAD
- PROPERTY LINE
- SECTION LINE
- PROPOSED DRAIN
- EXISTING DRAIN
- SUB MAINS
- OPEN DITCH
- BENCH MARK

BENCH MARK DESCRIPTION

BM #1
 Painted orange spot on top of the north end of a 24" reinforced concrete culvert pipe under Infirmary Road, located approximately 2,600 feet east of the Infirmary Road and Buckland River Road intersection.

USGS Elevation = 883.59 (NAVD 88)

NOTE:
 Flexible dual wall may be substituted with dual wall pipe but elbow fittings will be required at turns and will be furnished by the contractor at no additional cost to the project.



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 419-739-6520

AUGLAIZE COUNTY
ENGINEER

ROEDIGER #3 DITCH DESIGN INFORMATION

Designed	I. S. Place	Date	5-2024
Drawn	I. S. Place		5-2024
Checked			
Revised			

SUBSURFACE DESIGN CHART

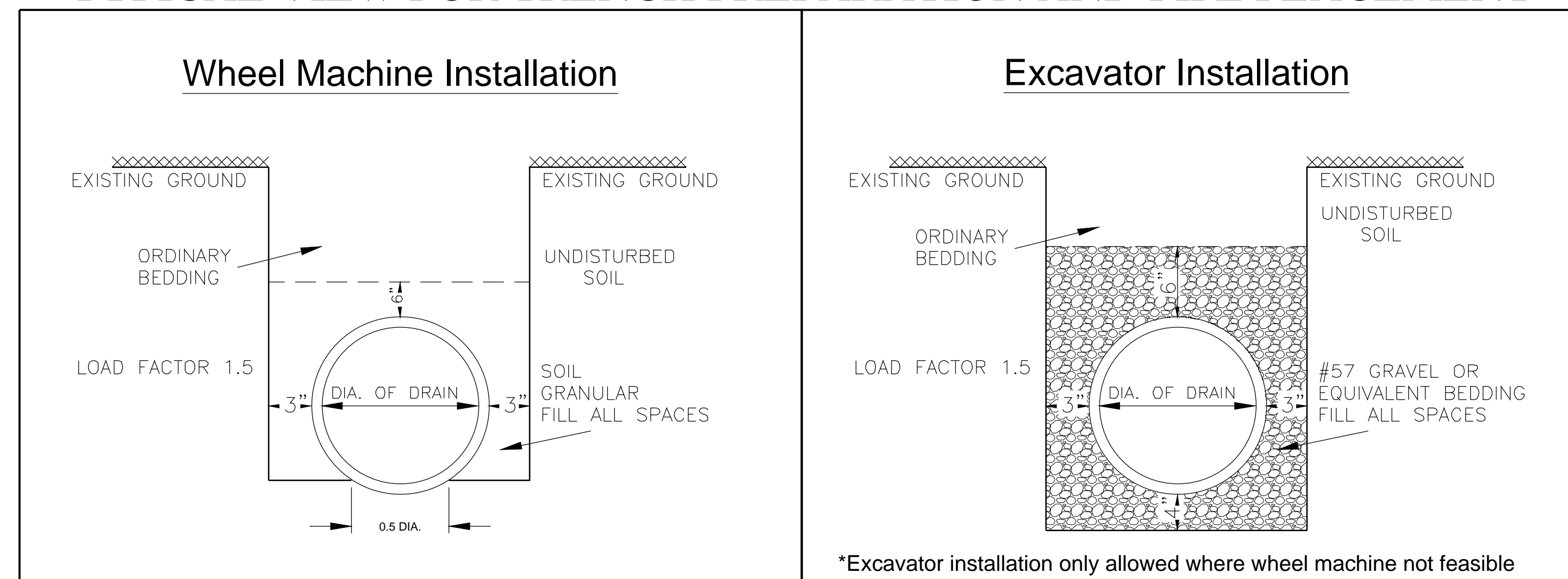
Line ID	Starting Station	Ending Station	Drainage Coeff.	Grade (%)	Acres (need)	Q (cfs) (need)	Q (cfs) (avail)	Acres (avail)	Tile Size (in.)	N value	Velocity (fps)	Material
	0+00	3+80	1/2	0.30	93	1.95	2.54	121	12	0.010	3.23	Plastic Smooth Interior Pipe
	3+80	9+64	1/2	0.95	80	1.68	4.51	215	12	0.010	5.75	Plastic Smooth Interior Pipe
	9+64	12+57	1/2	0.95	30	0.63	2.78	132	10	0.010	5.09	Plastic Smooth Interior Pipe
	12+57	15+38	1/2	0.25	25	0.53	1.42	68	10	0.010	2.61	Plastic Smooth Interior Pipe

DESIGN INFORMATION

Roediger #3 Tile Ditch

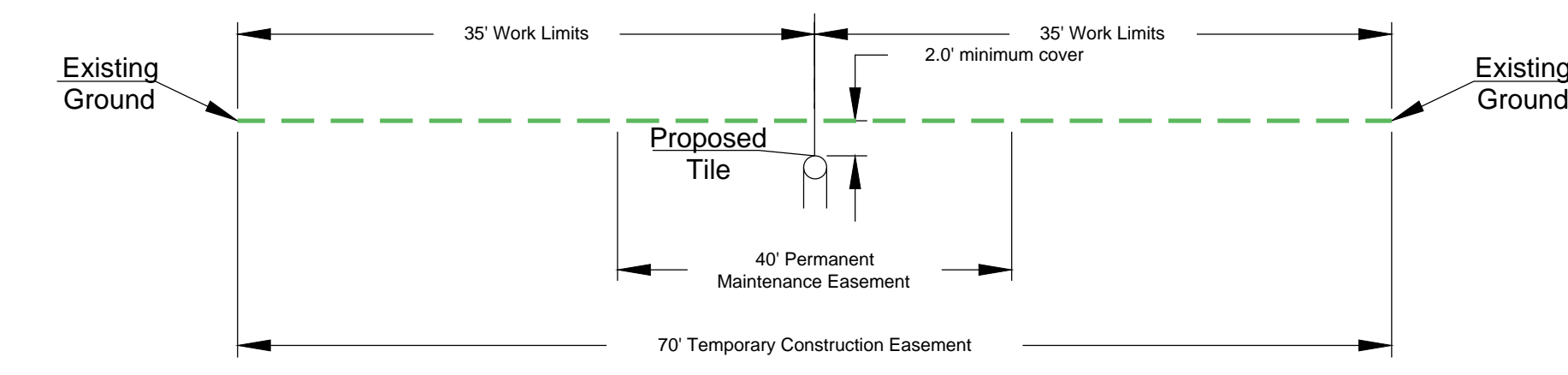
Moulton Township Section 24

TYPICAL VIEW FOR TRENCH PREPARATION AND PIPE PLACEMENT



Refer to ASTM F-449 Standard for subsurface installation of corrugated polyethylene pipe for ag drainage.

TYPICAL CONSTRUCTION AND MAINTENANCE EASEMENTS FOR TILE DITCH



Easement Definition

CONSTRUCTION EASEMENT
There shall be an 70 foot wide easement for construction and installation of the proposed tile Main and 4" & 6" submain tile lines.

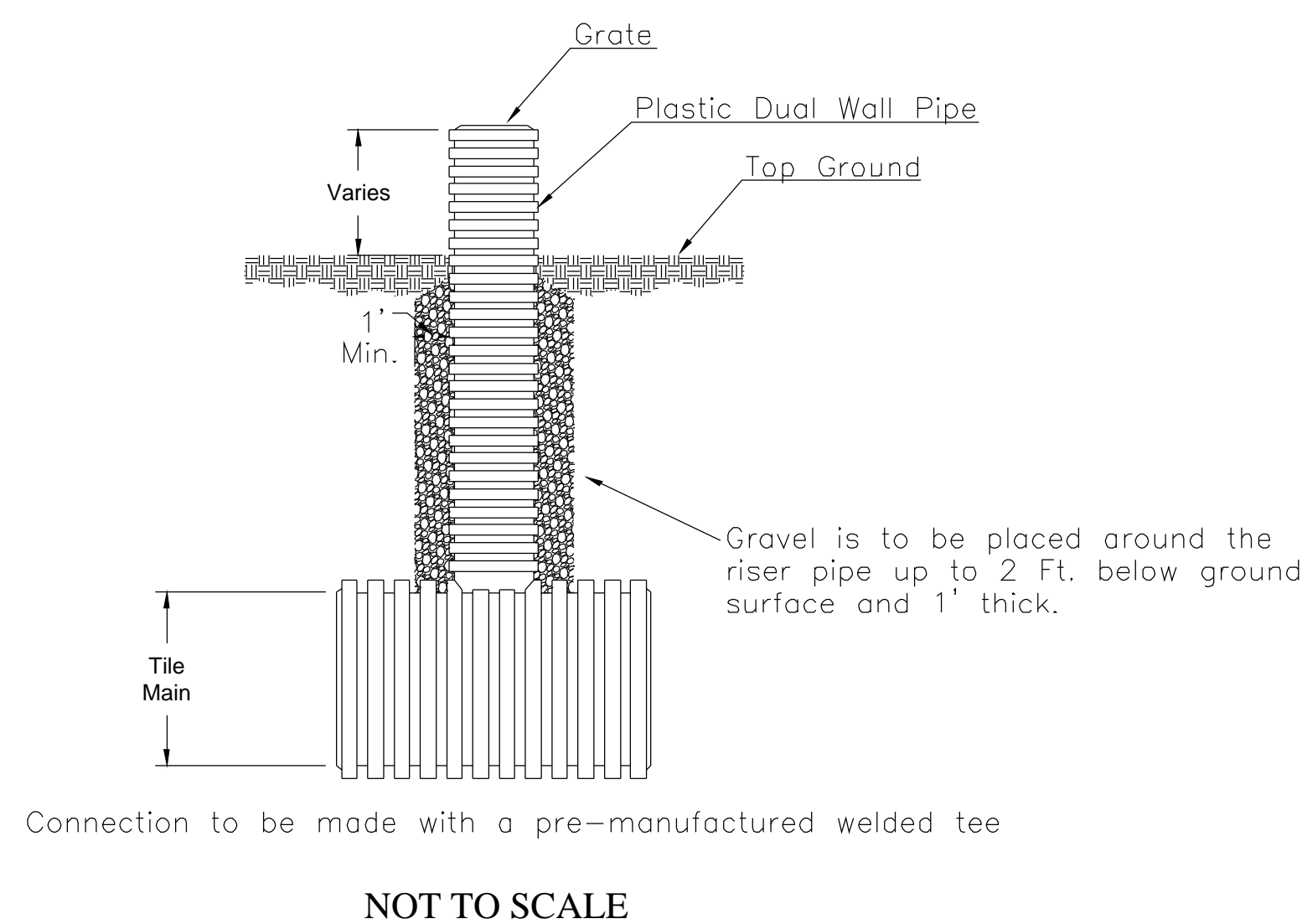
PERMANENT MAINTENANCE EASEMENT
There shall be a 40 foot wide easement for the sole purpose of the permanent maintenance of the installed subsurface drainage tiles. Specifically, being 20 feet parallel and adjacent to each side of the proposed centerline alignment of the new tile main.

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Wapakoneta, Ohio 45395
419-739-6520

AUGLAIZE COUNTY
ENGINEER

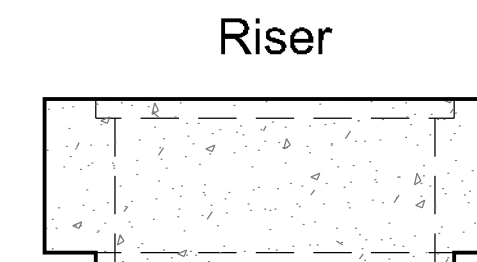
ROEDIGER #3 DITCH TYPICAL SECTIONS

TILE RISER/BREATHER DETAIL

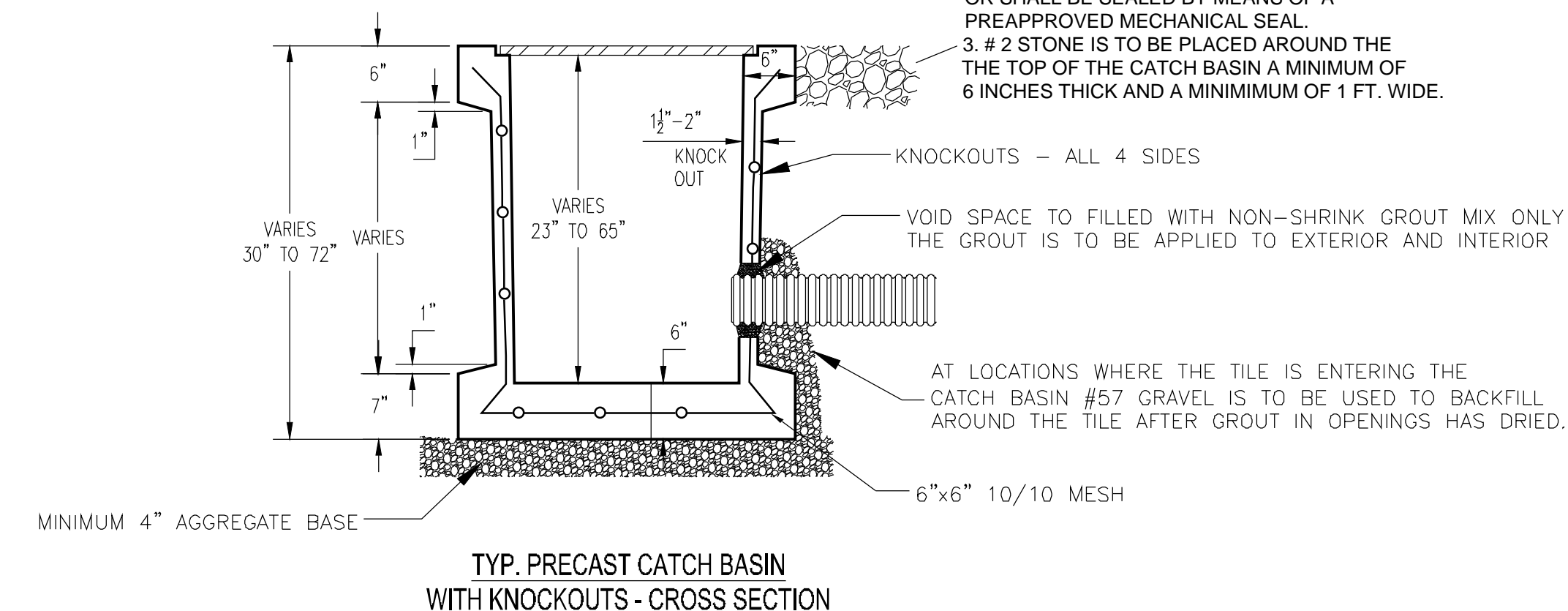


CATCH BASIN AND RISER DETAIL

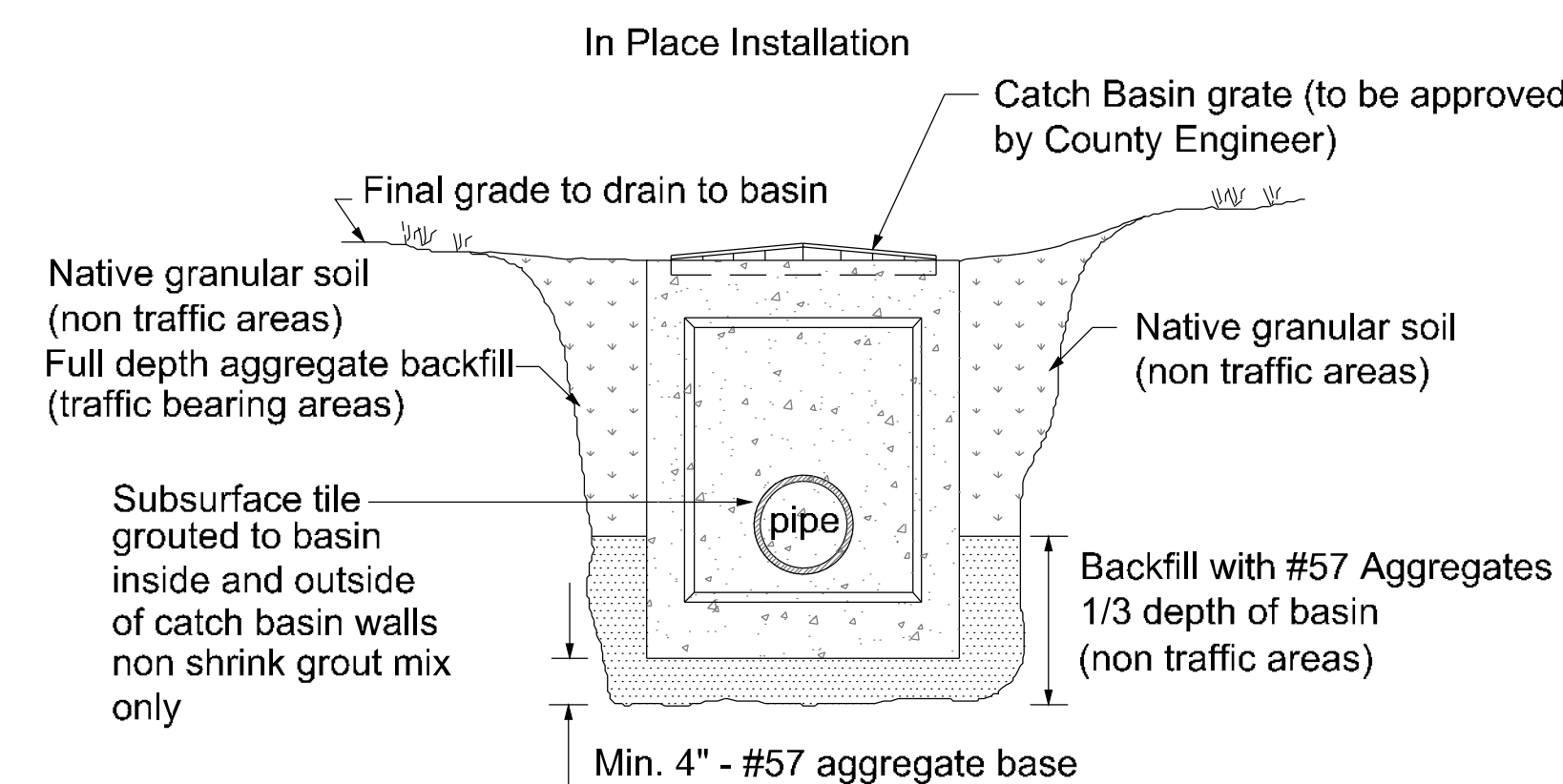
RISERS:
4", 6", 12" OR 18" RISERS MAY BE ADDED TO THE TOP OF THE CATCH BASIN. THE JOINT BETWEEN THE CATCH BASIN AND RISER MUST BE FILLED WITH WATERPROOF PITCH. THE JOINT BETWEEN EACH RISER MUST ALSO BE FILLED WITH WATERPROOF PITCH IF ADDITIONAL RISERS ARE ADDED.



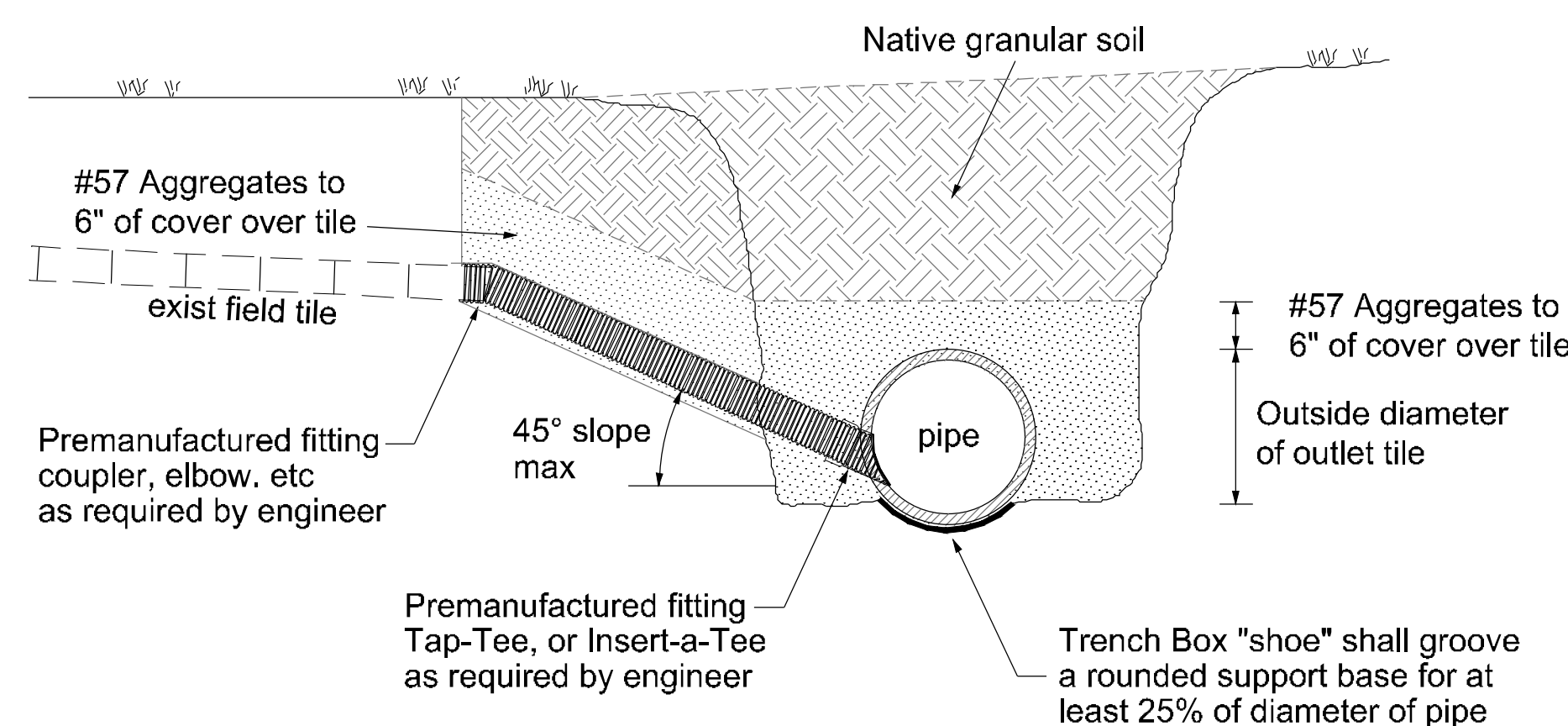
NOTES:
1. CATCH BASIN SHALL BE USED IN MEDIUM TO NO TRAFFIC AREAS.
2. ALL PENETRATIONS SHALL BE GROUTED INSIDE AND OUTSIDE WITH NON-SHRINK GROUT, OR SHALL BE SEALED BY MEANS OF A PREAPPROVED MECHANICAL SEAL.
3. # 2 STONE IS TO BE PLACED AROUND THE TOP OF THE CATCH BASIN A MINIMUM OF 6 INCHES THICK AND A MINIMUM OF 1 FT. WIDE.



INSTALLED CATCH BASIN



LATERAL TILE CONNECTIONS

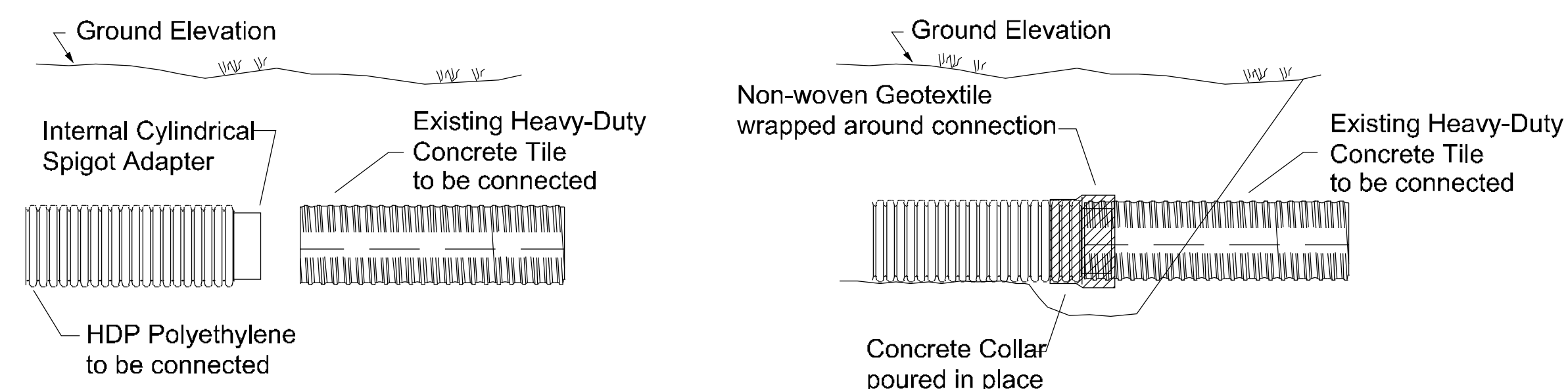


Pipe Specifications

- SUBMAINS:** Submains shall be heavy-duty single wall perforated polyethylene plastic tubing which meet ASTM F667 specifications.
- MAINS:** All tile mains smaller than 12" in diameter shall be dual wall polyethylene plastic pipe which meet AASHTO M252 or ASTM F2648 specifications, no longer than 20' lengths. All tile mains 12" in diameter and larger shall be dual wall polyethylene plastic pipe which meet AASHTO M294, ASTM F2306 or ASTM F2648 specifications. Watertight joints shall meet ASTM F477 specifications. All supplied dual wall polyethylene plastic pipe materials shall meet ASTM D3350.

*Follow ASTM D2321 for all installation

HDP Polyethylene to Concrete or Clay Tile Connection



Date	Designed	Drawn	Checked	Revised
5-2024	T.S. Place	T.S. Place		
5-2024				

DETAILS
Roediger #3 Tile Ditch
 Moulton Township Section 24

P.O. Box 59
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 Wapakoneta, Ohio 45895
 419-739-6520

AUGLAIZE COUNTY
ENGINEER

TILE DITCH SPECIFICATIONS for ROEDIGER #3 DITCH

Materials

(1) The Auglaize County Engineer will approve smooth wall polyethylene pipe manufactured by Advanced Drainage Systems (ADS N-12), Fratco (Smooth Corn), Haviland (Smooth Flow), or Baughman (Dual Wall Pipe). All drainage pipe that is delivered to the site shall be inspected by the Auglaize County Engineer. Any pipe containing imperfections, cracks, holes, poor molding extrusions, or any other types of poor workmanship or quality control issues with the manufacturing process of the supplied pipe, shall be immediately rejected, either as individual sections, or rejected as an entire delivered load (or loads) of pipe. All pipe may be subject to a random, 3rd party, independent testing of the pipe materials for AASHTO specifications.

(2) There will not be permitted any type of outside band or coupling devices required to connect pipe end sections together for any pipe sections that are 8" diameter and greater. All specified pre-manufactured fittings, (Elbows, Wyes, Tees, Reducers and Risers) shall be smooth interior wall polyethylene plastic conforming to the same pipe materials, standards, and specifications for the pipe sections used on the project. Said fittings can have outside bands, but all such fittings must be bedded with 4" of #57 aggregate, and have 12" of #57 aggregate backfill cover.

(3) All polyethylene pipe, fittings, and connections delivered to the job site shall be subject to the inspection and approval of the Engineer before installation. Failure to allow the Engineer to inspect the quality and workmanship of said supplied pipe materials before installation shall result in non-payment for that amount of installed pipe. The Engineer reserves the right to accept or reject any or all polyethylene pipe products delivered to the site at his professional discretion.

(4) It shall be required from any Bidding Contractor who has never been awarded a Contract with the Auglaize County Commissioners, that as a part of their bid, the Contractor shall furnish a list of at least 6 personal references to a project that have been inspected & approved by either an Ohio Registered Engineer, an engineering staff employee of a County Engineer in Ohio, or by staff of an ODOT District Engineering Department. Said projects should be job specific for agricultural drainage tile mains, sub-mains, laterals, connections, and catch basins. The bidding contractor must also furnish as a part of this bid, any or all sub-contractors who may be performing work or supplying equipment for the benefit of the bidding contractor.

POLYETHYLENE DUAL WALL PIPE SPECIFICATIONS (Black)							CORRUGATED SINGLE WALL				
PIPE Size (In.)	PIPE REQUIREMENTS	BELL & SPIGOT REQUIREMENTS	WATERTIGHT JOINT	MATERIAL PROPERTIES	FITTINGS	INSTALLATION	PIPE Size (In.)	PIPE REQUIREMENTS	MATERIAL PROPERTIES	FITTINGS	INSTALLATION
4	AASHTO M252	AASHTO M252	ASTM F477	ASTM D3350	AASHTO M252	ASTM D2321	4	ASTM F667	HEAVY DUTY	ASTM F667	ASTM D2321
6	or	AASHTO M294			AASHTO M294		6				
8	ASTM F2648	or			or		8		ASTM D3350		
10		ASTM F2648			ASTM F2306		10				
12	AASHTO M294						12				
15	ASTM F2306						15				
18	or						18				
24	ASTM F2648						24				
30							30				
36							36				

POLYPROPYLENE DUAL WALL PIPE SPECIFICATIONS (Gray)						
PIPE Size (In.)	PIPE REQUIREMENTS	BELL & SPIGOT REQUIREMENTS	WATERTIGHT JOINT	MATERIAL PROPERTIES	FITTINGS	INSTALLATION
12	AASHTO M330	AASHTO M330	ASTM D3212	ASTM M330	AASHTO M330	ASTM D2321
15	ASTM F2881	ASTM F2881		ASTM F2881	ASTM F2881	
18		or			OR	
24		ASTM F477			ASTM D3212	
30						
36						

Installation

AGRICULTURAL INSTALLATION (Wheel Machine Only)

Agricultural installation shall be installed with a wheel trenching machine equipped with a laser gradient guidance system. It shall be required that the trench bottom or "shoe" of the trenching machine, or of the trench box cage, if so equipped, be conformed and shaped to the specific diameter size of the pipe being installed. It will be required that 100% of the trench be backfilled with granular soil material no larger than 2"-3" in diameter. Chunks, clods or masses of dirt, soil or debris any larger than this will not be permitted to be back filled into the excavated trench. The trench will be back filled at an angle of 45 degrees to the alignment of the trench in order to promote enveloping of the back fill material over and around the installed pipe.

Trenching machine installation is required to have a protected cage attached to the machine. The cage must be long enough for one stick of pipe to be installed with employees working in the cage connecting the pipe. A hydraulic ram is required to push larger diameter pipe together.

A backhoe or excavator can only be used on this project for the following purposes:

- To install pipe at the upper and lower terminus of the project to make end connections;
- To place the first length of pipe leading into or out of a catch basin or receiver;
- To place the first length of pipe leading into or out of a pre-manufactured elbow fitting;
- In any areas which a trench has unstable sub grade or base and requires additional excavation and placement of bedding materials;
- To install pipe through a road or driveway, where the trench will be totally backfilled with stone aggregates;

All pipe which has been installed by a back hoe or excavator in the accepted conditions as listed above, shall be bedded and backfilled over and under the installed pipe as shown on the typical trench detail of the engineering plans, profiles and specifications. All encountered existing tile laterals shall be connected to the new main or submain with insert-a-tee connectors. The connected tile shall be hole-sawed into the new main at an angle of 45 degrees above horizontal in the upper 1/3rd of the pipe being connected to, if possible.

(6) Making lateral connections:
The Tap-Tee and/or insert-a-tee connection shall not protrude more than 1/2-inch into the main tile being connected to. The excavated trench leading to the encountered tile lateral shall be dug at a 45 degree angle from horizontal until the elevation of the tile lateral is met. The entire connection shall be bedded and backfilled to a point 12 inches over the top of all exposed pipe material.

All pipe which has been installed by a backhoe or excavator in the accepted conditions as listed above, shall be bedded and backfilled over and under the installed pipe as shown on the typical trench detail of the engineering plans, profiles, and specifications.

All encountered existing tile laterals shall be connected to the new main or submain with single wall tap tee connectors. The connected tile shall be hole-sawed into the new main at an angle of 45 degrees above horizontal in the upper 1/3rd of the pipe being connected to, if possible. Laterals encountered equal to or greater than 8" in diameter must be connected with a prefabricated tee or wye fitting.

The single wall tap tee connection shall not protrude more than 1/2" into the main tile being connected to. The excavated trench leading to the encountered tile lateral shall be dug at a 45 degree angle from horizontal until the elevation of the existing tile lateral is met. The entire connection shall be bedded and backfilled to a point 12" over the top of all exposed pipe material.

NON-AGRICULTURAL (Backhoe or Excavator) INSTALLATION

In places where it is not possible to install the tile with a wheel machine, a backhoe or excavator can be used. All pipe which has been installed by a backhoe or excavator in the accepted conditions as listed above, shall be bedded and backfilled over and under the installed pipe as shown on the typical trench detail of the engineering plans, profiles, and specifications.

TURNS & ELBOWS

All turns using dual wall pipe greater than 15 degrees require pre-manufactured elbows. Turn angles greater than 45 degree require multiple elbows. Any elbows with an angle greater than 45 degrees is not acceptable.

Liability

As required by the Board of County Commissioners of Auglaize County, all contracts let for bid by them for the purpose of ditch construction shall be supplied with the following insurance information by the awarded contractor:

- The limits of liability insurance shall not be less than \$ 500,000 for bodily injury, property damage, and personal injury
- The Policy shall be on comprehensive for including products, completed operations, and contractual liability.
- Before work is to begin by the contractor a Certificate of Insurance shall be on file with the Board of County Commissioners.

In the event that the contractor or anyone under his employment unlawfully damages any real property, he shall restore said property as to a condition equal to or better than the original. The contractor shall be responsible for all injuries to persons resulting from negligence of himself or any of his employees during the continuances of this contract and shall hold Auglaize County, the Board of Commissioners and the County Engineer harmless from any or all actions which would result from said damages or injuries, or both.

Right-of-Way & Construction Easement

The width of working right-of-way shall be limited to 35 feet from each side of the centerline of the proposed tile. The contractor has the privilege of using the right-of-way area during construction for purposes of ingress-egress, excavation and back filling, placement of pipe, fittings, and catch basins. The contractor shall try to work with each individual property owner to eliminate or minimize disturbance to yard and landscaped areas within the recommendations and approval of the Auglaize County Engineer. The contractor may use additional area outside of the working right-of-way in order to properly repair tile laterals and connections if and only if direct permission is granted by that particular landowner. The contractor also retains a temporary easement of the same width along the existing tile main for the purpose of abandonment, crushing, and destroying under the direction of the engineer.

The width of working right-of-way shall be limited to the areas as shown on the Plan & Profile sheets. The contractor has the privilege of using the right-of-way area during construction for purposes of ingress-egress, excavation and back filling, placement of pipe, fittings, and catch basins. The contractor shall try to work with each individual property owner to eliminate or minimize disturbance to crops either by installing the proposed tile before the planting of crops, or after the harvesting of said crops during the current season. The contractor may use additional area outside of the working right-of-way in order to properly repair tile laterals and connections if and only if direct permission is granted by that particular landowner. The contractor also retains a temporary easement of the same width along the existing tile main for the purpose of abandonment, crushing, and destroying under the direction of the engineer.

Brush Removal & Disposal

All trees, stumps, and grubbing within 75 feet of the confines of the tile ditch alignment shall be removed in their entirety. There shall be no flush cutting allowed except where approved by the engineer. All brush to be removed as a part of this project shall be burned, buried, or disposed of in a satisfactory manner in convenient locations approved by the engineer on the project site. All materials buried on the site shall have a minimum 36" of clean, native soil backfill over the disposal site. All landowners adjacent to the brush removal reserve the right to cut any or all brush for firewood as they feel is fit for such use. The contractor will not be allowed to remove any trees from the site without the written permission of the landowner. If applicable, a burning permit shall be obtained from the local fire department or jurisdiction prior to the igniting of any brush pile. NO TIRES shall be used to ignite any brush pile.

Seeding & Fertilizing

The contractor shall be responsible for a final seeding and fertilizing of the disturbed yard areas. Prior to seed and fertilizer application, a seed bed must be prepared by the contractor for the area to be seeded. The seed bed must be free of pocket rocks, roots, limbs, tile bats and other debris in general before final seeding and fertilizing takes place. A successful seeding will be considered if the seeded area has an average of 50 seedlings for 1 square foot of area. A successful seeding must be established before final seeding payment is made.

January 1st through March 31st is considered TEMPORARY seeding (minimum 2 bushels of rye or wheat per acre at expense of contractor)

April 1st through September 30th is ACCEPTABLE seeding time. Mulch cover required for all yard seeding.

October 1st through December 31st is considered TEMPORARY seeding (minimum 2 bushels of rye or wheat per acre at expense of contractor)

Seed & Fertilizer Rates Yards

SEED REQUIREMENT

(260#/ac for yards)

45% BENCHMARK PERENNIAL RYEGRASS
20% SPF-30 KENTUCKY BLUEGRASS
20% GAELIC KENTUCKY BLUEGRASS
15% ORACLE CREEPING RED FESCUE

FERTILIZER REQUIREMENT

(200#/ac)

18-46-0 (Nitrogen-Phosphorous-Potassium)

Seed & Fertilizer Rates for Waterway, Pasture & Woods

SEED REQUIREMENT

(400#/ac for Pasture, Waterway and Woods)

80% TURF TYPE FESCUE
10% PERENNIAL RYEGRASS
10% KENTUCKY BLUEGRASS

FERTILIZER REQUIREMENT

(200#/ac)

18-46-0 (Nitrogen-Phosphorous-Potassium)

Clean Up

Any rock larger than 5" in any direction, any stick longer than 6" and ALL tile pieces shall be picked up before and after final leveling. The debris shall be buried at least 36" deep or hauled offsite. All other large items such as catch basins removed shall be buried at least 36" deep or hauled offsite. If tiles or utilities are damaged while digging a bury hole, it will be the responsibility of the contractor to repair the tile or utility at their expense.

Partial Payment

The contractor may request payment for any or all materials which have been successfully delivered to the job site for any working sections which have been completed, or for any other types of labor, materials, or costs involved with the construction of the project before it is completed in its entirety. A written request with all necessary bills of materials purchased by the contractor must be supplied to the Engineer. A minimum of 10% retainage shall be applied to all partial payment to guarantee completion. Contractor shall provide proof that all material costs owed to a vendor or supplier of said materials are paid in full within 5 days after receiving said partial payment.

Contractor References

It shall be required from any bidding contractor who has never been awarded a contract with the Auglaize County Engineer, that, as a part of their bid, the contractor shall furnish a list of at least six (6) personal references to a project that have been inspected and approved by either an Ohio Registered Engineer, an engineering staff employee of a County Engineer in Ohio, or by the staff of an ODOT District Engineering Department. Said projects should be job specific for agricultural drainage tile mains, sub-mains, laterals, connections, catch basins and open ditches. The bidding contractor must also furnish as a part of his bid, any or all subcontractors who may be performing work or supplying equipment for the benefit of the bidding contractor.

Permanent Easement

At the completion of the project, there shall be a permanent easement established of 40 feet in width, centered on the subsurface tile line installed. A Plat of Ditch Easements is filed annually by the Auglaize County Engineer to designate all prescribed easements which become into effect as a result of the acting of the Ditch Petition per Section 6131, Ohio Revised Code. Said easement is for the specific use of the Auglaize County Commissioners to inspect and maintain the installed items as a part of the construction of the petitioned ditch.

Inspection and Staking

The County Engineer shall be responsible for all of the required construction staking of the alignment and grade for the proposed tile, submains, or known laterals, catch basins, elbows, fittings, and the locations for the abandonment of the old tile. The County Engineer shall inspect all installed tile, pipe, lateral connections, and abandonment excavations prior to back filling trenches. The County Engineer shall not inspect nor approve any work that is performed on weekends, without prior approval. No Sunday work will be permitted. Any or all work performed without the inspection and/or approval of the engineer shall be considered a NON-PERFORMED item.

Disclaimer

The specifications as listed on this sheet may only represent a portion of the total specifications for the project. Please refer to the Bidding documents for additional specifications required for this project. The Auglaize County Engineer reserves to the right to require all work to be performed in accordance to the STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, Construction and Material Specifications, as per the latest revision dated January 1, 2013.

Date	Designed	Drawn	Checked	Revised
5-2024	T.S. Place	T.S. Place		
5-2024				

TILE SPECIFICATIONS
Roediger #3 Tile Ditch
 Moulton Township Section 24



Sheet Number **6** / **6**