

ADDENDUM NO. 1

To the Specifications and Contract Documents for the

ELKHART COUNTY HIGHWAY COUNTY ROAD 20 ACCESS ROAD

July 2, 2026

To: All holders for the contract documents for the above project.

The items in this addendum are to become a part of the original contract documents as if included therein. The remainder of the original contract document is to remain in its entirety. This Addendum modifies the Specifications as follows:

Part 1 – General Clarifications

Part 2 – Specifications

Part 3 – Construction Drawings/Details

Part 4 – Appendices

PART 1 – General Clarifications

No General Clarifications as part of this addendum

PART 2 – Specifications

1. REMOVE: SP8 – Right-of-Way Clearing. Contractor shall utilize INDOT Specification Section 201.
2. REVISE: SP9 – Maintenance of Traffic shall be renamed TP7 - Maintenance of Traffic
3. REVISE: SP15 – Compacted Aggregate shall be renamed TP8 – Compacted Aggregate. REVISE Specification Pay items to match Bid Tab.
4. REPLACE: TP2 – Site Grading replaced with TP2 - Earthwork
5. ADD: TP6 – HMA Pavements
6. Pay Item 3: REVISE Specification Section to be TP7.
7. Pay Item 5: REVISE to be CLEARING RIGHT-OF-WAY
8. Pay Item 6: REVISE to be EARTHWORK
9. Pay Items 11, 12: REVISE Specification Section to be TP8.
10. Pay Items 13, 14, 15: REVISE to add aggregate size to HMA items. REVISE Specification Section to be TP6.
11. Pay Item 16: ADD 2,760 SYS to TACK COAT for a new total of 5,520 SYS
12. Pay Item 37: REVISE to be LINE, MULTI-COMPONENT, SOLID, WHITE, 4 IN
13. Pay Item 38: REVISE to be STOP BAR, THERMOPLASTIC

PART 3 – Construction Drawings/Details

1. Sheet C101: REVISE Keynote A to include aggregate size to HMA items.
2. Sheet C102: REVISE Keynote A to include aggregate size to HMA items.
3. Sheet C201: REVISE Keynote A to include aggregate size to HMA items.
4. Sheet C202: REVISE Keynote A to include aggregate size to HMA items.
5. Sheet C102A: REVISE Keynote A to include aggregate size to HMA items.

PART 4 – Appendices

1. SWPPP Documents Added as an Appendix to Specifications

JONES PETRIE RAFINSKI



Michael D. Voll, PE
Project Engineer

A signed copy of this addendum shall be submitted with the bid.

Acknowledged by: _____ Signature of Bidder	_____ Date
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PART 2: SPECIFICATIONS

SP 8 –RIGHT-OF-WAY CLEARING

1. GENERAL

Clearing right-of-way shall include the removal and/or trimming of all trees and brush within the permanent right-of-way or construction limits, whichever is greater, or unless specifically identified on the contract plans to remain. Stumps shall be entirely removed and filled with sand.

Incidental to the work shall be the removal of any miscellaneous obstructions within the right-of-way.

The work shall include the removal of portions of existing pavement as indicated by plan details and/or within the construction limits or to the permanent r/w line, whichever is greater.

It is the Contractor's responsibility to adequately inspect the site and clarify the intent of the project prior to submitting a bid.

2. PAYMENT

Items included in this item shall be paid for as Lump Sum under the pay item(s) noted below:

Pay Item

Clearing Right of Way

Pay Unit

Lump Sum

TP7 ~~SP-9~~ – MAINTENANCE OF TRAFFIC

1. GENERAL

All signs and traffic control devices shall be in accordance with the Indiana Department of Transportation Standard Specifications and the Indiana MUTCD.

When necessary, or as directed by the Engineer, the Contractor shall provide standard reflective barrels with approved weighting systems, flagmen, caution tape, temporary pavement markings, etc. Reflective barrels shall be placed to warn motorists of hazards. Maximum spacing of barrels shall be 30 ft.

The Contractor shall be responsible for safe driving of haul trucks, heavy equipment, etc. related to the project work, including subcontractors.

Temporary pavement markings shall be required before two-way traffic is allowed on a newly paved road, if more than one lane is present in the same direction, turn lanes or if previous pavement markings existed.

“Road Construction Ahead” signage shall be installed prior to any other work, and shall be removed only upon final acceptance of the project or initial acceptance of the segment for paving packages. These signs shall be checked on a daily basis and promptly reset as needed.

2. RESPONSIBILITY

The Contractor shall be totally responsible for the maintenance of traffic. Maintaining of traffic shall be the non-delegable duty of the Contractor to fulfill each and every responsibility and to accept full liability. All applicable provisions of 107.12 shall apply to work being done under traffic.

The Contractor shall give a 24 hr./day emergency phone number to the owner and to local law enforcement authorities, for the prompt response to project-related concerns during non-work hours.

3. RESIDENTIAL AND COMMERCIAL ACCESS

Access to residential and business driveways within the project limits shall be maintained at all times. Temporary closure of driveway access may be allowed upon approval of the Engineer and adequate notification of the property owner. All driveways shall be accessible at the end of each work day. Stone, gravel or other temporary materials needed to make driveways and roadways accessible will not be paid for directly but will be included in the Maintenance of Traffic pay item.

4. LANE CLOSURES AND RESTRICTIONS

The timing of any lane restrictions shall be subject to approval by the Engineer. Lane restrictions shall be during daylight hours only unless otherwise approved by the Engineer.

The Contractor shall keep lane restrictions to an absolute minimum, as reasonable in order to complete the work. When lane restrictions are necessary, the Contractor shall perform continuous work operations so as to lift the lane restrictions as soon as possible. Lane restrictions shall not remain in place while the Contractor is not actively working.

The Contractor shall coordinate the specific timing of the activation of any new signalization system, reopening, etc. When practical, the Contractor shall provide access through the site for emergency vehicle traffic. The practicality, as previously stated, shall be decided by the Engineer.

5. CONDITION OF TRAFFIC CONTROL DEVICES AND DAILY LOGS

A. Construction signs and barricades shall be as per current INDOT standard specifications and drawings, as well as the current Indiana MUTCD, and shall be in new condition for good functioning (i.e. visible, readable, reflective, etc.). Every temporary traffic control device not supported on posts driven into the ground shall be anchored with a minimum of four 30-pound sand bags. Sand bags shall be in new condition and tightly sealed. Torn or leaking sand bags shall be immediately replaced. The Contractor will be responsible for maintenance of traffic including all construction signs necessary or as directed by the Engineer for the duration of construction.

B. **The Contractor shall furnish a sign person on a twenty-four (24) hour per day, seven (7) day per week basis with a vehicle** to patrol all areas of the Contract where signs and barricades are in place to affect a lane closure or a diversion of traffic from its normal flow. He (or She), shall make at least one (1) trip every day through the limits of the construction site and keep all traffic controls in proper position and operation. The patrol person shall be capable of making repairs to equipment, including light repairs, battery replacement, arrow board adjustment, barrier wall reflector replacement and arrowboard replacement. **All corrections must be completed within 24 hours.**

The Contractor shall submit to the Engineer a daily log of the sign patrol persons' activities. The daily log shall be submitted in a timely fashion with no more than three (3) days lapsing between the date of the report and the date which the Engineer receives the report. The report shall include date, patrol hours, name of patrol person, contact number, and hourly activities or events.

C. In the event the Contractor fails to submit daily log to the Engineer as mentioned above, there may be deducted from the amount payable to the Contractor by the Owner under this Contract, a penalty of two-hundred and fifty (\$250.00) dollars for each day during which a daily log was not submitted in violation of provisions of this Contract.

In the event the condition or placement of the traffic control devices are found to be in violation of the provisions of this contract, there may be deducted from the amount payable to the Contractor by the Owner under this Contract, a penalty of two-hundred and fifty (\$250.00) dollars for each day the condition and/or placement of the traffic control devices are in violation of the provisions in this contract.

6. PAYMENT

Payment will be made at the unit price as indicated below:

Pay Item

Maintenance of Traffic

Pay Unit

LS

TP8 ~~SP-15~~ – COMPACTED AGGREGATE

1. GENERAL

- (a) All compacted aggregate shall be paid under this item regardless whether used as base course for the mainline, as base course for the shoulders, as base course for approaches or as temporary surface.
- (b) All compacted aggregate shall be Compacted Aggregate, No. 53, in accordance with Section 300 – Aggregate Bases.
- (c) Aggregate to maintain temporary access to driveways may be salvaged from existing onsite gravel roads, drives and shoulders.
- (d) It shall be the Contractor's responsibility to verify that subgrade elevations are in agreement with the plan/profile.

2. CONSTRUCTION

The compacted aggregate shall be constructed in accordance with INDOT Section 300 – Aggregate Bases.

Existing Subgrade (or Previously Constructed Subbase) – Prior to constructing the compacted aggregate, the subgrade shall be cleaned of all foreign substances and shall contain no frozen material. The Subgrade shall receive 6" subgrade treatment in accordance with the Standard Specifications and as directed by the Engineer. The first 6" below the pavement structure subgrade shall be compacted to at least 100% of dry density, as per AASHTO T 99. Compaction shall not be less than 100% of Standard Proctor as per ASTM D 698. It shall be inspected by the Engineer or his representative for adequate compaction and surface tolerances. Ruts or soft, yielding spots having inadequate compaction shall be corrected to the satisfaction of the designated representative.

The compacted aggregate material shall be placed in layers of uniform thickness with an approved spreader.

Layer thickness generally shall not exceed 5 inches after compaction. When vibrating or other approved types of special compacting equipment are to be used, approval may be given for increasing the permissible thickness of layers, provided the ability of such equipment to achieve acceptable compaction to the full layer depth is demonstrated. When the course is constructed in more than one layer, the previously constructed layers shall be cleaned of loose and foreign matter. The water content of the material shall be maintained during placement at the optimum percentage (1 – ½%) as determined by ASTM D 1557.

Compaction – While at optimum moisture (1 – ½%) the compacted aggregate shall be compacted with equipment capable of obtaining the desired density to the full depth. The rolling shall continue until the base is compacted to not less than 100% of the maximum dry density as determined in accordance with AASHTOT99.

Finishing – The surface of the compacted aggregate shall be finished by blading or with

automated equipment especially designed for this purpose and rolled with a steel-wheeled roller. In no case will thin layers of fine materials be added to the top layer of the base course in order to meet the grade.

Surface Finish Tolerances – The surface of the completed crushed stone base shall not show any deviation in excess of ½ inch when tested with a 12 foot straight edge. The completed thickness of the base shall be within ½ inch plus or minus of the thickness indicated, and the average thickness shall not be less than the design thickness.

Maintenance – The base shall be maintained in a condition that will meet all specification requirements until the work is accepted.

3. PAYMENT

Payment will be made at the unit price as indicated below:

<u>Pay Item</u>	<u>Pay Unit</u>
Compacted Aggregate, No 53, Crushed Limestone	Ton
COMPACTED AGGREGATE SHOULDER SIZE NO. 53, CRUSHED LIMESTONE	Ton



TP2 – SITE GRADING

PART 1 GENERAL

- A. This work shall consist of all earthwork necessary to complete the project as planned.

PART 2 CONSTRUCTION REQUIREMENTS

- A. Site grading shall include all aspects of earthwork, including but not limited to, stripping of topsoil, separate stockpiling of topsoil to be re-used to support seeding, excavating, grading, compaction, hauling, temporary stockpiling of non-topsoil material, moisture control of soil for compaction requirements, compaction testing and reporting, and removal of excess soil material upon completion of the work.

PART 3 MEASUREMENT AND PAYMENT

- A. The work will not be measured and shall be paid by the Lump Sum for the completion of all related work as accepted by the Engineer.

TP2 – EARTHWORK

1. GENERAL

- (a) This work shall consist of all earthwork required for the completion of the project as detailed on the plans and in the specifications. This item includes excavation, embankment construction, hauling, disposal and/or compaction of all material not being removed under some other item which is encountered within the limits of the work and also from intersecting entrance approaches beyond the Right-of-Way limits necessary for the construction of the roadway in accordance with the Specifications and in reasonably close conformance with the lines, grades, thickness and typical cross section shown on the plans or as directed.
- (b) Excavation for culverts, ditches, sewers, tunnels, and other approach structures will not be paid for directly, but the cost thereof shall be included in the cost of other pay items. Removal and disposal of piles of broken concrete and similar debris located on the Right-of-Way shall be included in the cost of earthwork. Where surplus material is suitable for use in the roadway or bridge approach embankment, it may be used as allowed by the Engineer.
- (c) Borrow shall consist of approved material required for construction of embankments. No direct payment will be made for borrow required for embankment construction in accordance with lines, grades and typical cross sections specified.
- (d) The work shall include salvaging topsoil and replacement of topsoil for top dressing areas to receive sod or mulch seeding.

2. MATERIALS

None.

3. CONSTRUCTION

(a) CONCRETE PAVEMENT REMOVAL

Removal of pavement shall consist of the removal and satisfactory disposal of portland cement concrete pavement; portland cement concrete resurface with its base; or the total of any combination of base, binder, and surface course of any pavement on a portland cement concrete base, including the base. Each complete pavement removed will be considered as a separate item and paid for as such when removed. Pavement removal shall include only the removal and disposal of existing public road, driveway or street and alley pavement as required for the planned construction. Curb removal shall include curb that is separate from the pavement or removed separately. Integral curb that is removed with the adjacent pavement shall be paid for as pavement removal. Prior to performing the work of pavement removal at locations indicated on the plans or where directed, concrete pavement to be removed shall be cut with a power driven concrete saw along designated lines. Sawing shall be such that any portion of the pavement to remain in place will not be damaged. Any portion that is damaged or removed outside the designated lines shall be replaced with no

additional payment. Sawing of pavement to be removed will not be paid for directly, but shall be included in the cost of pavement removal.

If no Pay Item has been established in the Proposal for Concrete Pavement Removal, and such work is necessary to perform the above, such work shall not be paid for directly, but shall be included in the costs of other pay items.

3. CONSTRUCTION

Excavation and embankment methods and testing shall conform to the INDOT standard specifications.

4. PAYMENT

Earthwork, including all items noted above and its required testing will be measured as a lump sum item.

<u>Pay Item</u>	<u>Pay Unit</u>
Earthwork	LSUM

TP6 – HMA PAVEMENTS

1. GENERAL

Mainline and shoulder pavements shall conform to INDOT Standard Specifications section 402. PG Binder grades used in each mixture type shall conform to section 402.04. Pavements shall be supplied by a certified HMA plant in accordance with ITM 583.

2. QUALITY CONTROL

The HMA shall be transported and placed according to the Quality Control Plan QCP submitted by the contractor according to ITM 803. Quality Control Plan shall be submitted to the Engineer 15 days prior to the placement of HMA.

During the pavement operation, the owner, the contractor, or the supplier of the HMA reserves the right to stop paving when a problem is identified. This includes test results from the Transtech PQI 380 indicating insufficient density readings as performed by Engineer.

3. ACCEPTANCE OF MIXTURES

Design mix formula shall be submitted to the engineer for approval one week prior to use. Mixes shall be accepted by a Type D certification in accordance with section 916. Type D certification to include air voids and binder content.

The Engineer will select random locations for mix verification sampling. A mix verification sample will be at the auger of the paving device or, if determined by the engineer, a truck sample in accordance with AASHTO R 97. Samples will be tested by owner's representative to verify Air voids, binder content, and mix gradation.

4. CONSTRUCTION REQUIREMENTS

Equipment for the HMA operations shall be in accordance with section 409 and shall be listed in the QCP. The contractor is responsible for the paving layout and roller pattern to achieve the specified density requirements.

5. DENSITY

For mainline paving, the density shall be determined using cores from two random locations selected by the engineer for a quantity not to exceed 600 ton of surface or 1000 ton of base or intermediate placed. Cores shall be drilled at each location where mix is placed every day work is performed. The cores shall be taken in accordance with ITM 580. The contractor is to drill the cores and immediately submit them to the Engineer for testing. Acceptance is based on maximum specific gravity and shall be within 92-96% Maximum Specific Gravity. Acceptance is based on three successive core tests calculated as an average. Average will be of current, previous and proceeding cores if available. Any density less than 90% will be considered deficient, and additional cores may be necessary to determine areas for removal.

Cores shall produce a uniform sample 6.00 ± 0.25 in. Cores shall be cleaned, dried, and refilled with either HMA of similar or smaller size. Core hole shall be filled the same day as it is cut.

ELKHART COUNTY, INDIANA

BOARD OF COUNTY COMMISSIONERS

County Road 20 Access road project

ITEMIZED PROPOSAL

NO.	SPEC. SECTION	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENSION
1	105	CONSTRUCTION ENGINEERING	1	LS		
2	TP1	SPECIAL RIGHT-OF-WAY CONDITIONS	1	LS		
3	104 TP7	MAINTENANCE OF TRAFFIC	1	LS		
4	110	MOBILIZATION AND DEMOBILIZATION	1	LS		
5	201	CLEARING & GRUBBING RIGHT-OF-WAY	1	LS		
6	TP2	SITE GRADING EARTHWORK	1	LS		
7	205	SILT FENCE	2,450	LFT		
8	205	COIR ROLL	1,240	LFT		
9	211	STRUCTURE BACKFILL TYPE 2, NO. 5 CRUSHED LIMESTONE	30	CYS		
10	301	AGGREGATE, SIZE NO. 2, CRUSHED LIMESTONE	1,695	CYS		
11	301 TP8	COMPACTED AGGREGATE SIZE NO. 53, CRUSHED LIMESTONE	1,600	TON		
12	303 TP8	COMPACTED AGGREGATE SHOULDER SIZE NO. 53, CRUSHED LIMESTONE	440	TON		
13	402 TP6	HMA BASE, TYPE B, 25.0mm	600	TON		
14	402 TP6	HMA INTERMEDIATE, TYPE B, 19.0mm	400	TON		
15	402 TP6	HMA SURFACE, TYPE B, 9.5mm	290	TON		
16	406	TACK COAT	5,520 2,760	SYS		
17	616	REVTMENT RIPRAP	52	SYS		
18	616	GEOTEXTILES FOR RIPRAP	52	SYS		
19	616	GEOFABRIC SEPARATION LAYER	6,160	SYS		
20	621	MOBILIZATION FOR SEEDING	2	EACH		

ELKHART COUNTY, INDIANA BOARD OF COUNTY COMMISSIONERS County Road 20 Access road project ITEMIZED PROPOSAL						
NO.	SPEC. SECTION	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENSION
21	622	MULCHED SEEDING, TYPE 'R'	6,985	SYS		
22	715	CIRCULAR PIPE TYPE 1, 15 IN DIA. RCP	160	LFT		
23	715	CIRCULAR PIPE, TYPE 1 12 IN DIA. RCP	48	LFT		
24	715	METAL END SECTION FOR 12 IN PIPE	2	EACH		
25	715	METAL END SECTION FOR 15 IN PIPE	4	EACH		
26	718	6 IN HDPE FLEXIBLE UNDERDRAIN PIPE	1,822	LFT		
27	718	6 IN HDPE TEE FOR UNDERDRAIN	6	EACH		
28	718	6 IN SOLID WALL HDPE UNDERDRAIN OUTLET PIPE	48	LFT		
29	718	AGGREGATE FOR UNDERDRAIN, NO. 8, CRUSHED LIMESTONE	58	CYS		
30	718	GEOTEXTILE FOR UNDERDRAINS	1,012	SYS		
31	801	TEMPORARY CONSTRUCTION SIGN A	2	EACH		
32	801	TEMPORARY BARRICADE, TYPE III-B	96	LFT		
33	801	TEMPORARY ROAD CLOSURE SIGN ASSEMBLY	2	EACH		
34	802	SHEET SIGN, REFLECTIVE, 0.1 IN THICK	67.5	SFT		
35	802	SIGNPOST, SQUARE STEEL, TYPE 1	108	LFT		
36	802	4 FT PLASTIC FLEXIBLE DELINEATOR POST, GROUND MOUNTED	16	EACH		
37	808	MULTI-COMPONENT LINE, PAINT, SOLID WHITE, 4 IN	2,142	LFT		
38	808	STOP BAR, PAINT THERMOPLASTIC	68	LFT		
39	TP3	POTHOLE INSPECTION, UNDISTRIBUTED	10	EACH		
TOTAL BID:						

APPENDIX A: SWPPP

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR:

“COUNTY ROAD 20 ACCESS ROAD”

A PART OF

GOSHEN, INDIANA

SECTION 30, TOWNSHIP 37 NORTH, RANGE 6 EAST

JEFFERSON TOWNSHIP, ELKHART COUNTY

CREATED BY



APRIL 27, 2026

REQUESTED BY AND PREPARED FOR:

ELKHART COUNTY HIGHWAY DEPARTMENT

610 STEURY AVE

GOSHEN, IN 46528

PHONE: (574) 533-0538

Section A – Construction Plan – General Plan Components		
A1 – Index of the location of required plan elements in the construction plan		
Form 1 Item Number	Description	Location
A2	A vicinity map depicting the project site location in relationship to recognizable local landmarks, towns and major roads	Page 4
A3	Narrative of the nature and purpose of the project	Page 4
A4	Latitude and Longitude to the nearest (15) seconds	Page 4
A5	Legal Description of the Project Site	Page 4
A6	11x17-inch plat showing building lot numbers/boundaries and road layout/names	Page 4
A7	Boundaries of the 100 Year floodplains, floodway fringes, and floodways	Page 4
A8	Land use of all adjacent properties	Page 4
A9	Identification of a U.S. EPA approved or established TMDL	Page 4
A10	Name(s) of the receiving water(s)	Page 5
A11	Identification of discharges to a water on the current 303(d) list of impaired water and pollutant(s) for which it is impaired	Page 5
A12	Soils map of the predominate soil types	Page 5
A13	Identification and location of all known wetlands, lakes, and water courses on or adjacent to the project site (construction plan, existing site layout)	Page 5
A14	Identification of any other state or federal water quality permits or authorizations that are required for construction activities	Page 5
A15	Identification and delineation of existing cover, including natural buffers	Page 6
A16	Existing site topography at an interval appropriate to indicate drainage patterns	Page 6
A17	Locations(s) where run-off enters the project site	Page 6
A18	Location(s) where run-off discharges from the project site prior to land disturbance	Page 6
A19	Location of all existing structures on the project site	Page 6
A20	Existing permanent retention or detention facilities, including manmade wetlands, designed for the purpose of stormwater management	Page 6
A21	Locations where stormwater may be directly discharged into ground water, such as abandoned wells, sinkholes, or karst features	Page 6
A22	Size of the project area expressed in acres	Page 6
A23	Total expected land disturbance expressed in acres	Page 6
A24	Proposed Final Topography	Page 7
A25	Locations and approximate boundaries of all disturbed areas	Page 7
A26	Locations, size, and dimensions of all stormwater drainage system such as culverts, stormwater sewer, and conveyance channels	Page 7
A27	Locations of specific points where stormwater and non-stormwater discharges will leave the project site	Page 7

A28	Locations of all proposed site improvements, including roads, utilities, lot delineation and identification, proposed structures, and common areas	Page 7
A29	Location of all on-site and off-site soil stockpiles and borrow areas	Page 7
A30	Construction support activities that are expected to be part of the project	Page 7
A31	Location of any in-stream activities that are planned for the project including, but not limited to, stream crossings and pump arounds	Page 7
Section B – Stormwater Pollution Prevention – Construction Component		
B1	Description of the potential pollutant generating sources and pollutants, including all potential non-stormwater discharges	Page 7
B2	Stable construction entrance locations and specifications	Page 8
B3	Specifications for temporary and permanent stabilization	Page 9
B4	Sediment control measures for concentrated flow areas	Page 12
B5	Sediment control measures for sheet flow areas	Page 12
B6	Run-off control measures	Page 12
B7	Stormwater outlet protection location and specifications	Page 12
B8	Grade stabilization structure locations and specifications	Page 13
B9	Dewatering applications and management methods	Page 13
B10	Measures utilized for work within waterbodies	Page 13
B11	Maintenance guidelines for each proposed stormwater quality measure	Page 13
B12	Planned construction sequence that describes the implementation of stormwater quality measures in relation to land disturbance	Page 14
B13	Provisions for erosion control and sediment control on individual residential building lots regulated under the proposed project	Page 15
B14	Material handling and spill prevention and spill response plan meeting the requirements of 327 IAC 2-6.1	Page 15
B15	Material handling and storage procedures associated with construction activity	Page 16
Section C – Stormwater Pollution Prevention – Post-construction Component		
C1	Description of pollutants and their sources associated with the proposed land use	Page 16
C2	Description of proposed post-construction stormwater measures	Page 17
C3	Plan details for each stormwater measure	Page 17
C4	Sequence describing stormwater measure implementation	Page 17
C5	Maintenance guidelines for proposed post-construction stormwater measures	Page 18
C6	Entity that will be responsible for operation and maintenance of the post-construction stormwater measures	Page 18

ADDRESSING OF PLAN ELEMENTS

A2 – A vicinity map depicting the project site location in relationship to recognizable local landmarks, towns and major roads:

Title Page Sheet G101 has a vicinity map showing the location of the project site.

A3 – Narrative of the nature and purpose of the project:

The purpose of this project is to construct an access road on County Road 20. This would allow a property owned by the County south of the project limits, which was a land-locked parcel, access for use with the connection to County Road 20.

These improvements will require a stormwater system that will include a proposed ditch with subsurface drainage located underneath the ditch. All stormwater collected will be retained onsite and eventually infiltrate into the soil. The approximate area of disturbance for the proposed improvement is 2.45 acres.

A4 – Latitude and Longitude to the nearest fifteen (15) seconds:

Lat 41°38'15" N, Long 85°53'00" W

A5 – Legal Description of the Project Site:

A part of Section 30, Township 37 North, Range 6 East, Jefferson Township, Elkhart County, Indiana, and more particularly depicted and described on Topographic Survey Sheet C100.

A6 – 11x17-inch plat showing building lot numbers/boundaries and road layout/names:

The plat is included on Topographic Survey Sheet C100.

A7 – Boundaries of the 100 Year floodplains, floodway fringes, and floodways:

The attached FEMA Floodplain Maps (Map B) indicate that the subject property is not located within an established flood zone.

A8 – Land use of all adjacent properties:

The adjacent land consists of some residential area, and otherwise farmland and wooded land.

A9 – Identification of a U.S. EPA approved or established TMDL:

The Goshen Dam Pond-Elkhart River watershed is mostly located in northeastern Indiana and acts as the discharge location for the eventual discharge in the project area. The waterbody within this watershed includes impairments such as Escherichia Coli (E. Coli), and PCBs in Fish Tissue. Probable pollution sources in this watershed include natural sources, non-point sources, wet weather discharges, and unknown sources.

Waterbody Name: Elkhart River

303(d) List: Yes

County: Elkhart County

Length: 3.72 miles

Basin: Great Lakes

Hydrologic Unit Code: 040500011904
Impairments: E. Coli, PCBs in fish tissue

A10 – Name(s) of the receiving water(s):

The project area will consist of one watershed. The stormwater within the project site will drain the proposed ditch detention storage on both the North and South side of the proposed access road with a subsurface drain located under the ditch. All stormwater will eventually infiltrate into the soil and discharge into the Elkhart River.

A11 – Identification of discharges to a water on the current 303(d) list of impaired water and pollutant(s) for which it is impaired:

The project will eventually discharge via subsurface drainage to the Elkhart River. Impairments include E. Coli and PCBs in fish tissue.

A12 – Soils map of the predominate soil types:

The attached Soils map (Map C) shows the locations of the soil types on the subject site.

BuuA – Brookston loam, 0 to 1 percent slopes

Brookston loam is poorly drained and has a water table depth of about 0 inches. They are typically found in till planes and the surface layer is typically loam. The permeability is moderately high (0.20 to 0.60 in/hr) in the most restrictive layer. The available water capacity is high at about 9.8 inches.

CvdA – Crosier loam, 0 to 1 percent slopes

Crosier loam is somewhat poorly drained and has a water table depth of about 6 to 18 inches. They are typically found in till planes and the surface layer is typically loam. The permeability is moderately low to moderately high (0.06 to 0.20 in/hr) in the most limiting layer. The available water capacity is moderate at about 6.1 inches.

Additionally, JPR conducted a geotechnical investigation of the site that includes more precise findings of the soil information. The investigation which included 4 soil borings at locations that can be found on Topographic Survey Sheet C100, showed clay & silt soils of moderately slow to slow permeability at the depth of the proposed subsurface drains below the ditch bottom grades. It should also be noted that the depths of the water level observations are below the dry clay and silt soils which indicates impermeable clay and silt soils at lower depths.

A13 – Identification and location of all known wetlands, lakes, and water courses on or adjacent to the project site (construction plan, existing site layout):

There are no known wetlands, lakes, or water courses on or adjacent to the project site. A wetland delineation study has been conducted and no wetland is located within the right of way. Wetlands near the project area are depicted on Map A.

A14 – Identification of any other state or federal water quality permits or authorizations that are required for construction activities:

No additional permits are required.

A15 – Identification and delineation of existing cover, including natural buffers:

The existing vegetative cover consists of grass areas with some bushes, shrubs, trees, etc., as well as tilled farmland.

A16 – Existing site topography at an interval appropriate to indicate drainage patterns:

Please refer to Topographic Survey Sheet C100 for the existing topography.

A17 - Location(s) where run-off enters the project site:

The existing contours on plan sheet Topographic Survey Sheet C100 show the areas in which runoff would enter the project site.

A18 – Location(s) where run-off discharges from the project site prior to land disturbance:

Please refer to the Topographic Survey Sheet C100 for the existing site conditions. Existing drainage for the site is located along the south side of County Road 20 with storage ditches connected by culvert pipes. The proposed project will impact the existing drainage pattern, capturing the majority of the stormwater runoff via proposed ditch with subsurface drainage located along the north and south side of the proposed access road. Said subsurface drainage is shown on Plan and Profile Sheets C201 and C202, and detailed Typical Roadway Sections Sheet C101.

A19 – Location of all existing structures on the project site:

Please refer to the Topographic Survey Sheet C100 for the existing site conditions. This site does include an existing basin to the southwest of the northern portion of the proposed access road, outside of the roadway Right-of-Way.

A20 – Existing permanent retention or detention facilities, including manmade wetlands, designed for the purpose of stormwater management:

Please refer to the Topographic Survey Sheet C100 for the existing site conditions. The existing site includes a storage ditch located along the south side of CR 20 connected by culvert pipes.

A21 – Locations where stormwater may be directly discharged into ground water, such as abandoned wells, sinkholes, or karst features:

All groundwater will be discharged through a subsurface drain located under proposed ditch along the north and south side of the proposed access road. The contractor needs to be advised in the project specifications to take all necessary precautions to avoid the spillage of liquid materials involved with construction. There are no known abandoned wells or sinkholes of which the contractor needs to be aware.

A22 – Size of the project area expressed in acres:

The project site is 2.45 Acres in size.

A23 – Total expected land disturbance expressed in acres:

2.45 acres are proposed to be disturbed. The area of disturbance is shown on Erosion Control Plan Sheet C301.

A24 – Proposed Final Topography:

Please refer to Plan and Profile Sheets C201 through C202 for proposed site topography.

A25 – Locations and approximate boundaries of all disturbed areas:

The overall area of disturbance for the project site is shown on Erosion Control Plan Sheet C301.

A26 – Locations, size, and dimensions of all stormwater drainage system such as culverts, stormwater sewer, and conveyance channels:

The Erosion Control Plan Sheet C301 shows the proposed final site grading and proposed storm structures and storm piping.

A27 – Locations of specific points where stormwater and non-stormwater discharges will leave the project site:

Most of the stormwater on the project site will be discharged to the proposed ditch located at approximately station 14+50 to 17+50 as depicted on Overall Site Plan Sheet C102.

A28 – Locations of all proposed site improvements, including roads, utilities, lot delineation and identification, proposed structures, and common areas:

The Plan & Profile Sheets C201 through C202 and Erosion Control Plan Sheet C301 show all the site improvements currently proposed for the site. The Topographic Survey Sheet C100 shows all existing utilities and lots for the site.

A29 – Location of all on-site and off-site soil stockpiles and borrow areas:

The excavated material will be placed in a soil stockpile. The Contractor shall determine this location, which should be a location in which the stockpile will not interfere with operations and will require the fewest number of relocations. If the proposed location is outside of the removal limits as currently defined, the Contractor shall provide the County with an update to this plan, and all erosion control requirements described herein shall apply to this off-site area. Silt fence shall be installed a minimum of 10 feet from the toe of the slope for perimeter protection.

A30 – Construction support activities that are expected to be part of the project:

The contractor shall determine any supported activities required for this project.

A31 – Location of any in-stream activities that are planned for the project including, but not limited to, stream crossings and pump arounds:

There are no construction activities as part of this project development that will involve any work within water bodies (creeks and streams) and/or designated wetlands.

B1 – Description of the potential pollutant generating sources and pollutants, including all potential non-stormwater discharges:

Potential pollutants during construction may be but are not limited to fuel, lubricant, concrete wash, sediment, sanitary waste from portable toilets, sanitary chemicals, asphalt drippings, sealants, and trash. In the event of an accidental spillage or leakage on-site, all acceptable

measures will be taken to clean the contaminated area. Portable on-site restrooms shall be secured to the ground and should be placed in a buffered area where spillage would have the least effect and shall not be placed where spills may impact any proposed retention basins or adjacent properties. The contractor shall maintain vehicles in good working order to minimize the potential for leaking.

Materials should be stored in a manner that prevents or minimizes the chance that a spill will reach soil, groundwater, or surface water. If a spill does occur, then the spill must be contained immediately utilizing appropriate response techniques including diking and absorbents. Clean-up of the spill should occur as soon as possible once the spill is stabilized and contained. Spills shall be cleaned up using acceptable methods such as the removal of contaminated soil. In all cases, cleanup standards must adhere to local, state, and federal requirements. Failure to clean up any spill is a violation of the GWPO and the Indiana State Spill Rule (327 IAC 2-6.1), which is enforced by the Indiana Department of Environmental Management (IDEM). Certain spills must be reported to the local response agency, Local Emergency Planning Committee, and/or IDEM. Initial calls should be made to the 911 system if the spill exceeds reportable quantities or is a threat to public safety. The 911 system will typically notify the Fire Department. The IDEM (1-888-233-7745) can typically assist with information on clean-up operations or clean-up contractors.

Spill prevention starts with pre-planning. A spill prevention and control plan should be developed and utilized prior to any emergency. This plan should be shared with all employees and reviewed annually.

B2 – Stable construction entrance locations and specifications:

A temporary gravel construction entrance per the Indiana Storm Water Quality Manual will be installed, if necessary, to limit the tracking of sediment onto existing roadways.

If a temporary construction entrance is necessary to prevent sediment tracking, then it shall be installed as shown on the Erosion Control Plan Sheet C301. The entrance will be constructed of 2- to 3-inch diameter washed INDOT No. 2 coarse aggregate. Dimensions of the entrance shall be as follows, at a minimum: 12 feet wide by 5 feet long by 6 inches thick. The Contractor may choose to top-dress the first 50 feet of the construction entrance adjacent to the public roadway with 2-3 inches of INDOT No. 53 compacted aggregate.

The temporary construction entrance shall be built according to the following guidelines, in accordance with the Indiana Storm Water Quality Manual:

1. Remove all vegetation and other objectionable material from the foundation area.
2. Grade foundation and crown for positive drainage. If the slope of the construction entrance is toward a public road and exceeds 2%, construct an 8-inch-high diversion ridge with a ratio of 3-to-1 side slopes across the foundation area about 15 feet from the entrance to divert runoff away from the road.
3. If wet conditions are anticipated, place geotextile fabric on the graded foundation to improve stability.
4. Place aggregate (INDOT No. 2) to the dimensions and grade shown on the construction plans, leaving the surface smooth and sloped for drainage.

5. Top-dress the first 50 feet adjacent to the public roadway with 2 to 3-inches of washed aggregate (INDOT No. 53). (OPTIONAL)
6. Divert all storm water runoff and drainage from the ingress/egress pad to a sediment trap or basin, where possible.

B3 – Specifications for temporary and permanent stabilization:

Temporary stabilization shall be as follows:

If an area is scheduled or likely to be left inactive for 15 days or more this area needs to be immediately stabilized with temporary seeding and anchored mulch, (straw or wood). Temporary seeding shall be incidental to the contract and shall include the following species and rates:

Species	Rate/Acre	Optimum Planting
Wheat or Rye	150#	9/15 to 10/30
Spring Oats	100#	3/1 to 4/15
Annual Rye Grass	40#	3/1 to 5/1, 8/1 to 9/15
German Millet	40#	5/1 to 6/1
Sudangrass	35#	5/1 to 7/30
Corn (broadcast)	300#	5/11 to 8/10

Aggregate and anchored mulch may be used as a temporary stabilization method. Mulch aids seed germination by helping the soil retain moisture and by helping regulate soil temperature. Additionally, anchored mulch helps reduce the erosion potential of an area until vegetation becomes established.

The following methods of anchoring mulch may be used:

1. Mulch anchoring tool: A tractor-drawn implement designed to punch mulch into the soil surface. This method provides good erosion control with straw. It is limited to use on slopes no steeper than 3:1, where equipment can operate safely. Machinery shall be operated on the contour.
2. Fiber Mulch: Apply fiber mulch by means of a hydro seeder at a rate of 500-750 lbs./acre over top of straw mulch or hay.
3. Mulch nettings: Lightweight plastic, cotton, or paper nets may be stapled over the mulch according to manufacturer's recommendations.

Mulch could be used to temporarily stabilize retention basin slopes that are disturbed, until permanent seeding can be installed. In accordance with the Indiana Storm Water Quality Manual, mulch consisting of straw or hay material shall be applied at a rate of 2 tons per acre, while mulch with wood fiber or cellulose shall be applied at a rate of 1 ton per acre. Regardless of the material used, mulch shall have a uniform density of at least 75% over the soil surface.

Permanent Stabilization:

Anchored mulch may be used as a stabilization method. Mulch aids seed germination by helping the soil retain moisture and by helping regulate soil temperature. Additionally, anchored mulch

moderates moisture and temperature in the soil as the vegetation establishes itself and reduces the potential for erosion by approximately 90%.

The following methods of anchoring mulch may be used:

1. Mulch anchoring tool: A tractor-drawn implement designed to punch mulch into the soil surface. This method provides good erosion control with straw. It is limited to use on slopes no steeper than 3:1, where equipment can operate safely. Machinery shall be operated on the contour.
2. Fiber Mulch: Apply fiber mulch by means of a hydro-seeder at a rate of 500-750 lbs./acre over top of straw mulch or hay.
3. Mulch nettings: Lightweight plastic, cotton, or paper nets may be stapled over the mulch according to the manufacturer's recommendations.
4. Mulch will be used to cover the permeable surfaces within the established limits of disturbance. Please refer to Item "B3 - Specifications for temporary and permanent stabilization" for mulch application rates and coverage requirements.

Permanent stabilization shall be by seeding as detailed on Plan and Profile Sheets C201 through C202. Permanent seeding should be applied from March 1st through May 10 or from August 10 through September 30th. Any permanent seeding between June 1st and August 10th must be irrigated to allow for proper seed germination. Seeding shall be done promptly and progressively as work is completed in order to allow for the earliest possible establishment of stabilized grass, and in accordance with latest INDOT Specifications.

During the winter months, the site shall be permanently seeded with frost seeding. Frost seeding consists of the following:

Permanent Dormant or Frost Seeding Recommendations:

Open Low-Maintenance Areas (remaining idle more than six months)

Species	Rate/Acre	Optimum Soil PH
Perennial Ryegrass	75#	5.6 to 7.0
-white Clover	3#	
Kentucky bluegrass	30#	5.6 to 7.5
-smooth brome	15#	
-switchgrass	5#	
-timothy	6#	
-perennial ryegrass	15#	
-white clover	3#	
Perennial ryegrass	45#	5.6 to 7.0
-tall fescue	45#	
Tall fescue	75#	5.5 to 7.5
-white clover	3#	

Steep Banks and Cuts, Low-Maintenance Areas (not mowed)

Species	Rate/Acre	Optimum Soil PH
Smooth brome grass	50#	5.5 to 7.5
-red clover	30#	
Tall fescue	75#	5.5 to 7.5
- white clover	3#	
Tall fescue	75#	5.5 to 7.5
-red clover	30#	
Orchardgrass	45#	5.6 to 7.0
-red clover	30#	
-white clover	3#	
Crownvetch	18#	5.6 to 7.0
-tall fescue	45#	

Lawns and High – Maintenance Areas

Species	Rate/Acre	Optimum Soil PH
Bluegrass	210#	5.5 to 7.0
Perennial ryegrass (turf type)	90#	5.6 to 7.0
- bluegrass	135#	
Tall fescue (turf type)	250#	5.6 to 7.5
-bluegrass	45#	

Channels and Areas of Concentrated Flow

Species	Rate/Acre	Optimum Soil PH
Perennial Ryegrass	225#	5.6 to 7.0
-white Clover	3#	
Kentucky bluegrass	30#	5.5 to 7.5
-smooth brome grass	15#	
-switchgrass	5#	
-timothy	6#	
-perennial ryegrass	15#	
-white clover	3#	
Tall fescue	225#	5.5 to 7.5
-white clover	3#	
Tall fescue	225#	5.5 to 7.5
-perennial ryegrass	30#	
-Kentucky bluegrass	30#	

Frost seeding is broadcast over the prepared seedbed and incorporated into the soil by natural freeze-thaw action. The contractor shall refer to the Indiana stormwater quality manual for additional information on permanent dormant and/or frost seeding recommendations.

B4 – Sediment control measures for concentrated flow areas:

The proposed project will neither create nor influence areas of concentrated flow.

B5 – Sediment control measures for sheet flow areas:

Erosion Control Plan Sheet C301 shows the proposed methods for erosion control. Installation details and specifications are provided on Erosion Control Plan Sheet C301.

Silt fence shall be installed to prevent sediment from leaving the site and shall be constructed per the Silt Fence Detail on the Erosion Control Plan Sheet C301. Silt fence shall remain and be maintained throughout the duration of the construction activities.

The Contractor shall install silt fence using the following guidelines, in accordance with the Indiana Stormwater Quality Manual:

1. Lay out the location of the fence so that it is parallel to the contour of the slope and at least 10 feet beyond the toe of the slope to provide a sediment storage area. Turn the ends of the fence up the slope such that the point of contact between the ground and the bottom of the fence end terminates at a higher elevation than the top of the fence at its lowest point.
2. Excavate an 8-inch deep by 4-inch-wide trench along the entire length of the fence line. Installation by plowing is also acceptable.
3. Install the silt fence with the filter fabric located on the up-slope side of the excavated trench and the support poles on the down-slope side of the trench.
4. Drive the support poles 18-inches into the ground, tightly stretching the fabric between the posts as each is driven into the soil. A minimum of 12-inches of filter fabric should extend into the trench. (If it is necessary to join the ends of two fences, use the wrap joint method shown in Exhibit 3 in the Silt Fence section of Chapter 7 in the Indiana Storm Water Quality Manual.)
5. Lay the lower 4-inches of filter fabric on the bottom of the trench and extend it toward the up-slope of the trench.
6. Backfill the trench with approved soil material and compact it in place.

In areas where erosion is occurring with silt fence installed, the contractor shall either install a stone berm to slow the stormwater down and prevent erosion or install temporary slope drains from the building downspouts to the existing swales to help with preventing erosion.

B6 – Run-off control measures:

The site will be graded to direct stormwater runoff to the proposed ditch with subsurface drain located north and south of the project site at approximately station 14+50 to station 17+50. Erosion Control Plan Sheet C301 shows the proposed locations of the silt fence.

B7 – Stormwater outlet protection location and specifications:

The existing storm sewer outlets shall be protected as shown on Erosion Control Plan Sheet C301.

B8 – Grade stabilization structure locations and specifications:

No rock chutes, toe walls, and/or drop structures are proposed for this project. The construction site will be stabilized with mulch and seeding, and erosion control blankets, as shown on the Erosion Control Plan Sheet C301.

B9 – Dewatering applications and management methods:

No dewatering activities are planned for this project. If site conditions require dewatering activities, then the contractor shall submit a plan to Elkhart County and approval prior to commencement of any dewatering activities.

B10 – Measures utilized for work within waterbodies:

The proposed development does not require any in-stream construction activities.

B11 – Maintenance guidelines for each proposed stormwater quality measure:

For each of the following pollution prevention measures, inspections are required weekly and within one (1) business day of a ½-inch rain event. The Contractor shall use the PermiTrack website for keeping track of all erosion control inspection reports as required in accordance with IDEM's Rule 5. The permit track website is: <https://mypermitrack.com/>

Topsoil Salvage and Utilization:

Inspect new topsoil areas frequently until vegetation is established; repair eroded or damaged areas and revegetate.

Temporary Seeding:

An area is to be temporarily seeded if it is not going to be disturbed for 15 days or more after the initial ground disturbance. Inspect periodically after planting to see that vegetative stands are adequately established, reseed if necessary; check for erosion damage after storm events and repair, reseed and mulch if necessary; top-dress fall-seeded wheat or rye seedings with 50 lbs./acre of nitrogen in February or March if nitrogen deficiency is apparent.

Permanent Seeding:

Inspect periodically, especially after storm events, until the stand is successfully established; plan to add fertilizer the following growing season according to soil test recommendations; repair damaged, bare, or sparse areas by filling any gullies, re-fertilizing, over-or re-seeding, and mulching; if plant cover is sparse or patchy, review the plant materials chosen, soil fertility, moisture condition, and mulching, then repair the affected area either by over-seeding or by re-seeding and mulching after re-preparing the seedbed; if vegetation fails to grow, consider soil testing to determine acidity or nutrient deficiency problems, if additional fertilization is needed to get a satisfactory stand, do so according to soil test recommendations. Permanent Stabilization will have occurred upon 70 percent of the uniform and dense vegetative coverage with no large bare spots or signs of erosion.

Storm Sewer Outlets:

Inspect periodically, especially after storm events, to be sure soil is being effectively held back. Be sure that rip rap and/or a glacial stone has remained in place and has effectively stabilized the bank. Check geotextile fabric for rips or tears, and repair immediately. Repair damages to the bank by filling in soil, re-seeding, or mulching and placing rip rap per the Indiana Storm Water Quality Manual.

Temporary Gravel Access Pads:

Inspect the temporary entrance weekly and after each storm event of ½-inch or more. Reshape the pad as needed for drainage and runoff control. Top dress with clean aggregate as needed. Immediately remove mud and sediment tracked or washed onto public roads. Flushing should only be used if the water can be conveyed into a sediment trap or basin.

Silt Fence:

Inspect the silt fence weekly and after each storm event of ½-inch or more; if fence fabric tears, starts to decompose, or in any way becomes ineffective, replace the affected portion immediately; remove deposited sediment when it reaches half the height of the fence at its lowest point or is causing the fabric to bulge; take care to avoid undermining the fence during clean out; after the contributing drainage area has been stabilized, remove the fence and sediment deposits, bring the disturbed area to grade, and stabilize.

If a section of silt fence becomes torn, broken, or otherwise degraded, remove the full section of silt fence between posts. Ensure that the posts are still firmly driven into the ground, as shown in the detail on Erosion Control Plan Sheet C301. Re-excavate the trench, in accordance with the Indiana Storm Water Quality Manual and reinstall an approved section of silt fence. Be sure that the silt fence is securely fastened to both posts and backfill the trench.

Concrete Washout:

Inspect daily and after each storm event for leaks, spills, tracking of soil by equipment, and the integrity of the overall structure. Remove and dispose of concrete wastes when hardened and when the system reaches 50% capacity and inspect for damage to the system. Dispose of concrete in a legal manner. Place a non-collapsing, non-water holding cover over the washout prior to a predicted rainfall event. Remove and replace plastic liner after every cleaning. If liquids do not evaporate, and the system is near capacity, then the contractor shall vacuum or remove liquids and dispose of them in a legal manner.

B12 – Planned construction sequence that describes the implementation of stormwater quality measures in relation to land disturbance:

The job-wide sequence of general work operations relating to earth disturbing activities shall be such as to prevent the potential for erosion and sedimentation. The sequence shall be generally as follows, while also considering maintenance of traffic:

- A. A pre-construction meeting, including the Elkhart County, is requested to be held prior to any land disturbance.
- B. Notify Elkhart County 48 hours prior to the beginning of land-disturbing activities.

- C. Post the Notice of Intent and the location of the SWPPP in a publicly visible location.
- D. Installation of gravel construction entrance (if necessary).
- E. Installation of erosion and sediment control measures, e.g., silt fence, etc. A concrete washout pit shall be installed prior to the commencement of concrete work.
- F. Excavation of any retention basins, if any. Riprap outlet protection shall be installed immediately after the excavation/construction of the basins.
- G. Silt Fence shall be installed as shown and detailed on the Erosion Control Plan Sheet C301.
- H. Temporary stabilization of any disturbed area that is scheduled to be left inactive for 15 days or more (throughout the entire construction period).
- I. Construction of concrete area and storm sewer installation.
- J. Inlet protection shall be installed upon the installation of storm sewer structures.
- K. Final site grading.
- L. Building Construction.
- M. Permanent seeding on all disturbed areas to maintain stabilization.
- N. Removal of all temporary erosion and sediment control measures once all disturbed areas are stabilized. Inspections shall still be required weekly and within one business day of rain events of ½-inch or more.
- O. All erosion and sediment control devices are to be checked, maintained, and replaced when needed throughout the entire construction process.

A final site inspection will take place to ensure that all requirements of the SWPPP, construction plans and supporting documents have been fulfilled. Then a Notice of Termination (NOT) must be submitted to and approved by the Elkhart County Soil and Water Conservation District. The NOT form can be found at the following website: https://www.in.gov/idem/forms/idem-agency-forms/#owq_stormwater

B13 – Provisions for erosion control and sediment control on individual residential building lots regulated under the proposed project:

No residential building lots are to be created or impacted as part of the development of this project.

B14 – Material handling and spill prevention and spill response plan meeting the requirements of 327 IAC 2-6.1:

Materials should be handled in a manner that prevents or minimizes the chance that a spill will reach soils, groundwater, or surface water.

If a spill does occur, then the spill must be contained immediately utilizing appropriate response techniques including diking and absorbents. Clean-up of the spill should occur as soon as possible once the spill is stabilized and contained. Spills shall be cleaned up using acceptable methods such as absorbents on impervious surfaces or removal of contaminated soils. In all cases, cleanup standards must adhere to local, state, and federal requirements. Failure to clean up any spill is a violation of the GWPO and the Indiana State Spill Rule (327 IAC 2-6.1), which is

enforced by the Indiana Department of Environmental Management (IDEM). Certain spills must be reported to the local response agency, Local Emergency Planning Committee, and/or IDEM. Initial calls should be made to the 911 system if the spill exceeds reportable quantities or is a threat to public safety. The 911 system will typically notify the Fire Department and the local health department. IDEM (1-888-233-7745) can typically assist with information on clean-up operations or clean-up contractors.

Spill prevention starts with pre-planning. A spill prevention and control plan is recommended to be developed and utilized prior to any emergency. This plan should be shared with all employees and reviewed annually.

B15 – Material handling and storage procedures associated with construction activity:

Materials should be stored in a manner that prevents or minimizes the chance that a spill will reach soils, groundwater, or surface water. Materials stored inside shall be placed in a manner to prevent a spill from migrating outside the confines of the building or into any drain leaving the building and discharging to soils, groundwater, or surface water.

Waste and unused building materials shall be disposed of in accordance with all applicable statutes and regulations. Refuse collection areas shall be provided with a lid to prevent debris from leaving the construction site.

Wash water for mortar/masonry products, concrete, etc. must be directed into leak-proof container(s) or leak-proof containment area(s) and divert stormwater runoff away from this area.

C1 – Description of pollutants and their sources associated with the proposed land use:

Potential pollutants associated with the land may be, but are not limited to, oil, grease, antifreeze, brake fluid, brake dust, rubber fragments, gasoline, diesel fuel, and other hydrocarbons, metals from vehicular and other sources, grit (sediment) from wearing of the road surface and falling or washing off of vehicles, trash (including bacteria and other biological agents contained in the trash) from littering and other types of improper disposal or storage which could be deposited in the ditch detention area.

Materials should be stored in a manner that prevents or minimizes the chance that a spill will reach soils, groundwater, or surface water. If a spill does occur, then the spill must be contained immediately utilizing appropriate response techniques including diking and absorbents. Clean-up of the spill should occur as soon as possible once the spill is stabilized and contained. Spills shall be cleaned up using acceptable methods such as the removal of contaminated soils. In all cases, cleanup standards must adhere to local, state, and federal requirements. Failure to clean up any spill is a violation of the GWPO and the Indiana State Spill Rule (327 IAC 2-6.1), which is enforced by the Indiana Department of Environmental Management (IDEM). Certain spills must be reported to the local response agency, Local Emergency Planning Committee, and/or IDEM. Initial calls should be made to the 911 system if the spill exceeds reportable quantities or is a threat to public safety. The 911 system will typically notify the Fire Department. The IDEM (1-888-233-7745) can typically assist with information on cleanup operations or clean-up contractors.

Spill prevention starts with pre-planning. A spill prevention and control plan should be developed and utilized prior to any emergency. This plan should be shared with all employees and reviewed annually.

C2 – Description of proposed post-construction stormwater measures:

The site was designed to minimize pollutants by utilizing both sheet drainage and a proposed ditch where runoff will slowly infiltrate through the soil.

The infiltration system is designed to collect stormwater within the project site. Mulching and seeding are designed to minimize post-construction pollutants from the remaining sheet flow and potential erosion and sedimentation. The project site and the surrounding areas shall be seeded as detailed on Plan and Profile Sheets C201 through C202.

Erosion Control Plan Sheet C301 provides details of the stormwater runoff as required by Elkhart County for storage of a 100-year storm event.

The volume of stormwater run-off which must be captured and treated prior to discharge from the developed site after construction is complete is calculated by the following Water Quality Volume (WQv) formula:

$$WQv = Rv \times A \times P$$

Rv = Run-off Coefficient, $Rv = 0.05 + 0.9i$

A = "Drainage Area" in Acres

P = "Precipitation Depth" or the depth of the design storm that is used to treat most storm events. The standard for Indiana is 1 inch of rainfall over 24 hours. This corresponds to the 90th percentile of events and therefore provides treatment for most events.

Rv = "Run-off Volumetric Coefficient" is the fraction of total rainfall that will appear at the outlet as run-off.

i = "Percentage of Impervious area" is the fraction of the drainage area that is impervious.

Where:

A = 2.45 Acres

P = 1 Inch

$Rv = 0.05 + 0.9(0.381) = 0.393$

i = 38.1% Impervious, including buildings

$WQv = Rv \times A \times P$

$WQv = (0.393) \times (2.45 \text{ Acres}) \times (1 \text{ Inch}) = 0.96 \text{ Acre-Inch} / 12 = 0.080 \text{ Acre Feet}$

C3 – Plan details for each stormwater measure:

The Erosion Control Plan Sheet C301 provides details of the post-construction stormwater measures along with dimensions, specifications, and construction details.

C4 – Sequence describing stormwater measure implementation:

Post-construction stormwater quality measures include routine maintenance of grass seeding and landscaping. Grass seeding shall be inspected after rain events of ½ inch or more until 75 percent

coverage has been obtained. Immediately after rough grading of the site has been completed, temporary grass seeding shall be applied for stabilization, if the area is to be left undisturbed for 15 days. After which grass should be inspected monthly to ensure no dead spots or dead areas. These operations include trash removal and general maintenance. Erosion control blankets shall be installed as directed by the manufacturer and the Indiana Storm Water Quality Manual. Any trash collected on the site should be removed and properly disposed of, and erosion issues shall be regraded and seeded per this document. Landscaping features shall be inspected regularly for erosion issues.

C5 – Maintenance guidelines for proposed post-construction stormwater measures:

A separate post-construction stormwater management plan and maintenance agreement are in place for this project site.

The owner(s) will be responsible for regular, periodic inspection and maintenance of the post-construction water quality measures. Inspections should be conducted on an approximately monthly basis. Special inspections should be made immediately after significant storm events of ½" or greater precipitation. The periodic maintenance should include the removal of any accumulated trash. See maintenance descriptions in section B3 above for guidelines and implement as needed. Additional maintenance guidelines are provided in the post-construction stormwater management plan.

C6 – Entity that will be responsible for operation and maintenance of the post-construction stormwater measures:

The party responsible for the future long-term maintenance of the post-construction measures is:

Elkhart County Highway Department

610 STEURY AVE

GOSHEN, IN 46528

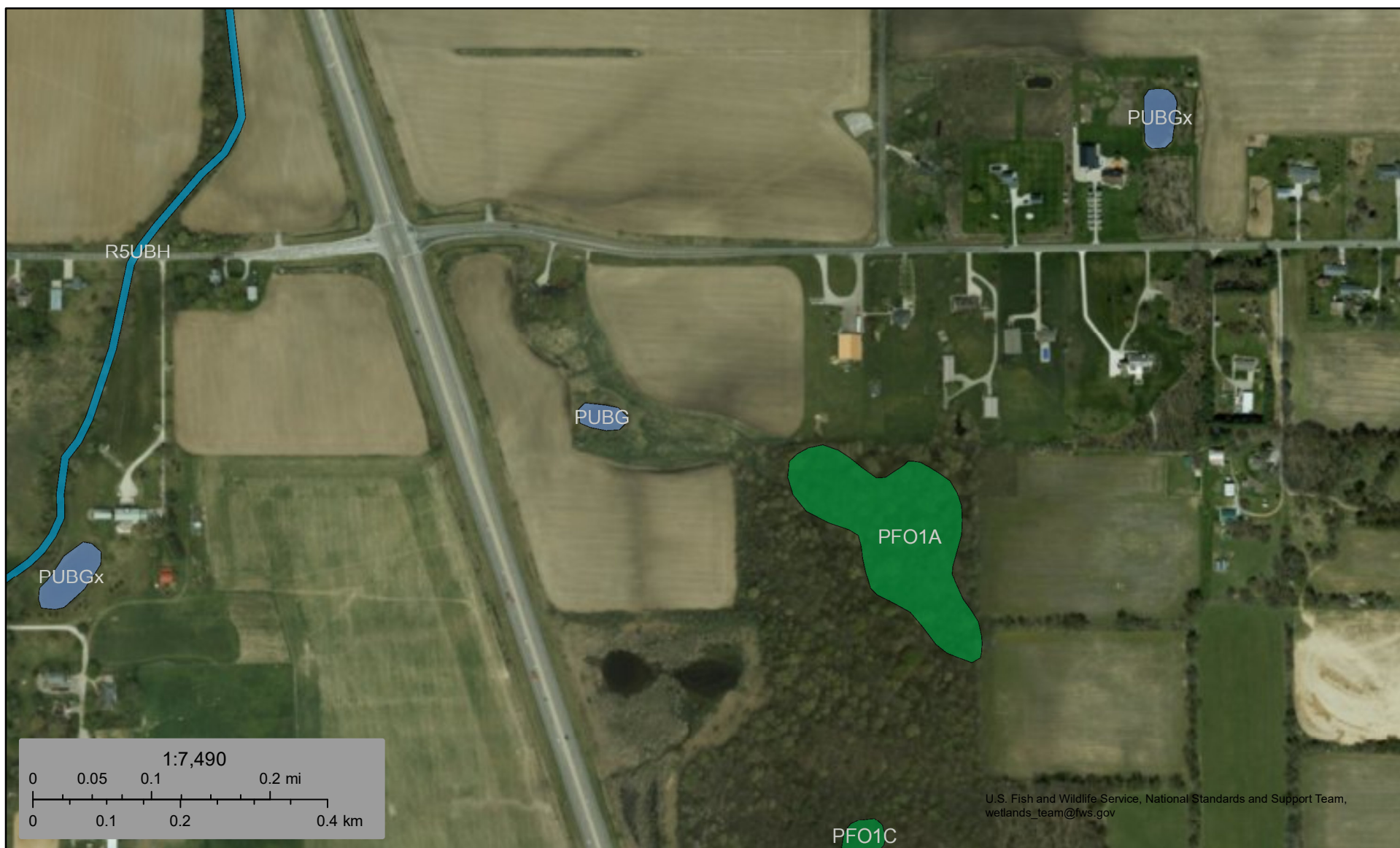
A separate maintenance agreement exists for this project site which will be recorded in the office of the Elkhart County Recorder.



U.S. Fish and Wildlife Service

National Wetlands Inventory

Map A



April 28, 2026

Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
			Freshwater Pond		Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Indiana State Plane East Zone (FIPS zone 1301). The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from the 2005 Indiana Orthophotography (IndianaMap Framework Data www.indianamap.org). This information was photogrammetrically compiled at a scale of 1:2400 from aerial photography dated spring 2005.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/rfp>.

MAP B



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently derelict. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

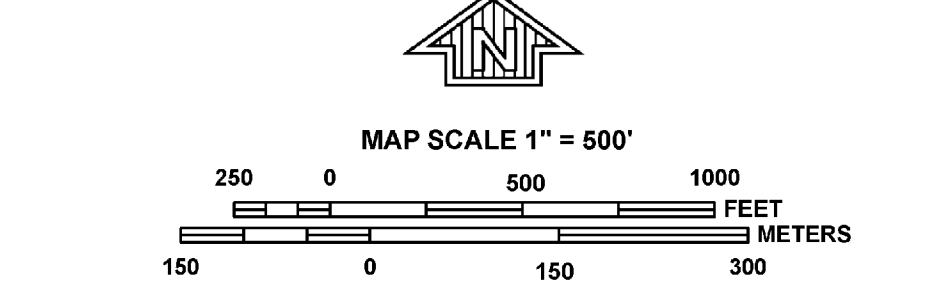
OTHERWISE PROTECTED AREAS (OPAs)

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% Annual Chance Floodplain Boundary
 - 0.2% Annual Chance Floodplain Boundary
 - Floodway boundary
 - Zone D boundary
 - CBRS and OPA boundary
 - Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
 - Base Flood Elevation line and value; elevation in feet*
 - Base Flood Elevation value where uniform within zone; elevation in feet*

- *Referenced to the North American Vertical Datum of 1988
- Cross section line
 - Transect line
 - Culvert
 - Bridge
 - Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
 - 5000-foot ticks: Indiana State Plane East Zone (FIPS Zone 1301), Transverse Mercator projection
 - 1000-meter Universal Transverse Mercator grid values, zone 16
 - Bench mark (see explanation in Notes to Users section of this FIRM panel)
 - River Mile
 - MAP REPOSITORIES
 - Refer to Map Repositories list on Map Index
 - EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 - August 2, 2011
 - EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0144D

FIRM

FLOOD INSURANCE RATE MAP

ELKHART COUNTY, INDIANA AND INCORPORATED AREAS

PANEL 144 OF 395

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ELKHART COUNTY	180056	0144	D
GOSHEN, CITY OF	180058	0144	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER

18039C0144D

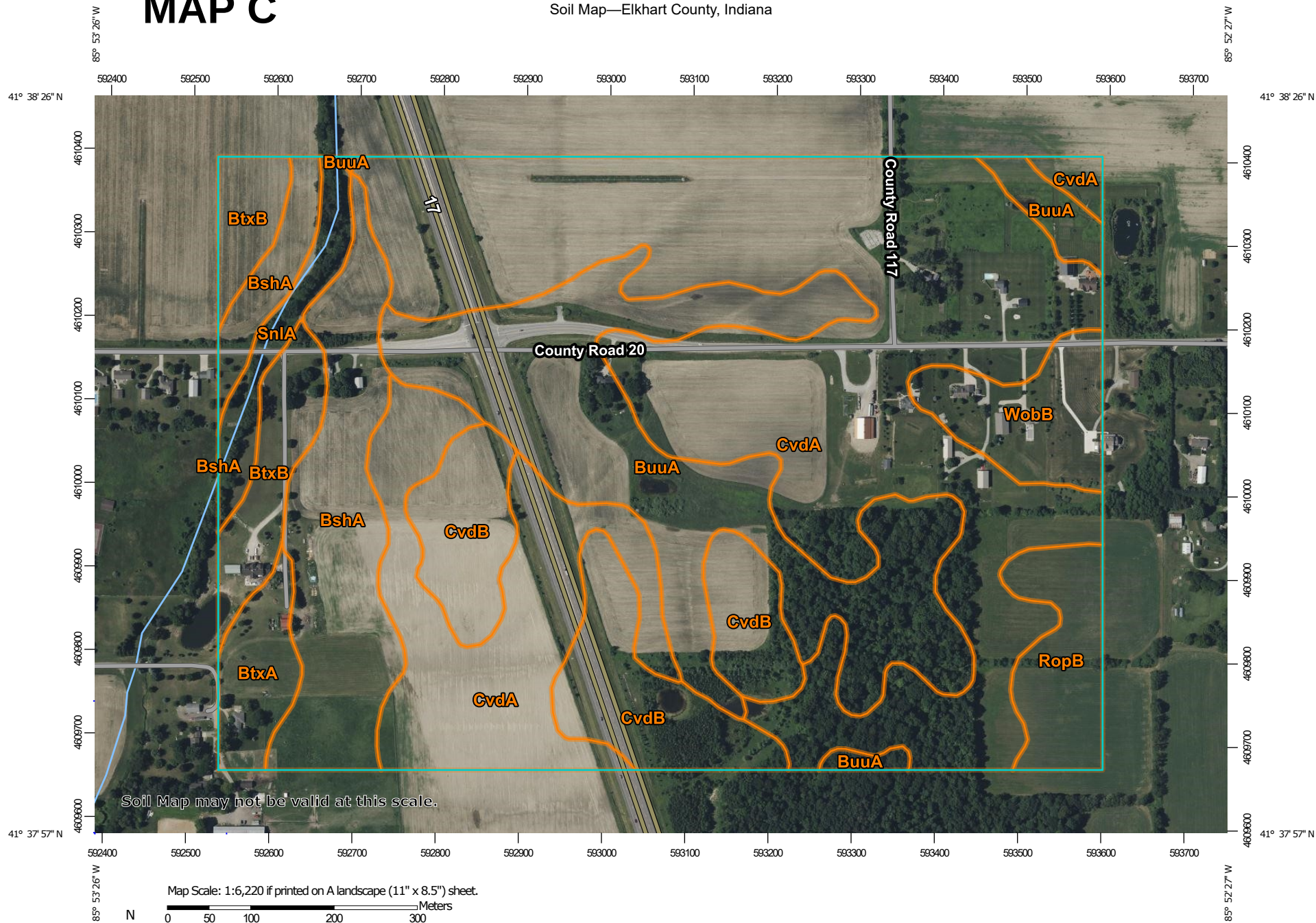
EFFECTIVE DATE

AUGUST 2, 2011

Federal Emergency Management Agency

MAP C

Soil Map—Elkhart County, Indiana



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/26/2023
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Elkhart County, Indiana

Survey Area Data: Version 25, Sep 3, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

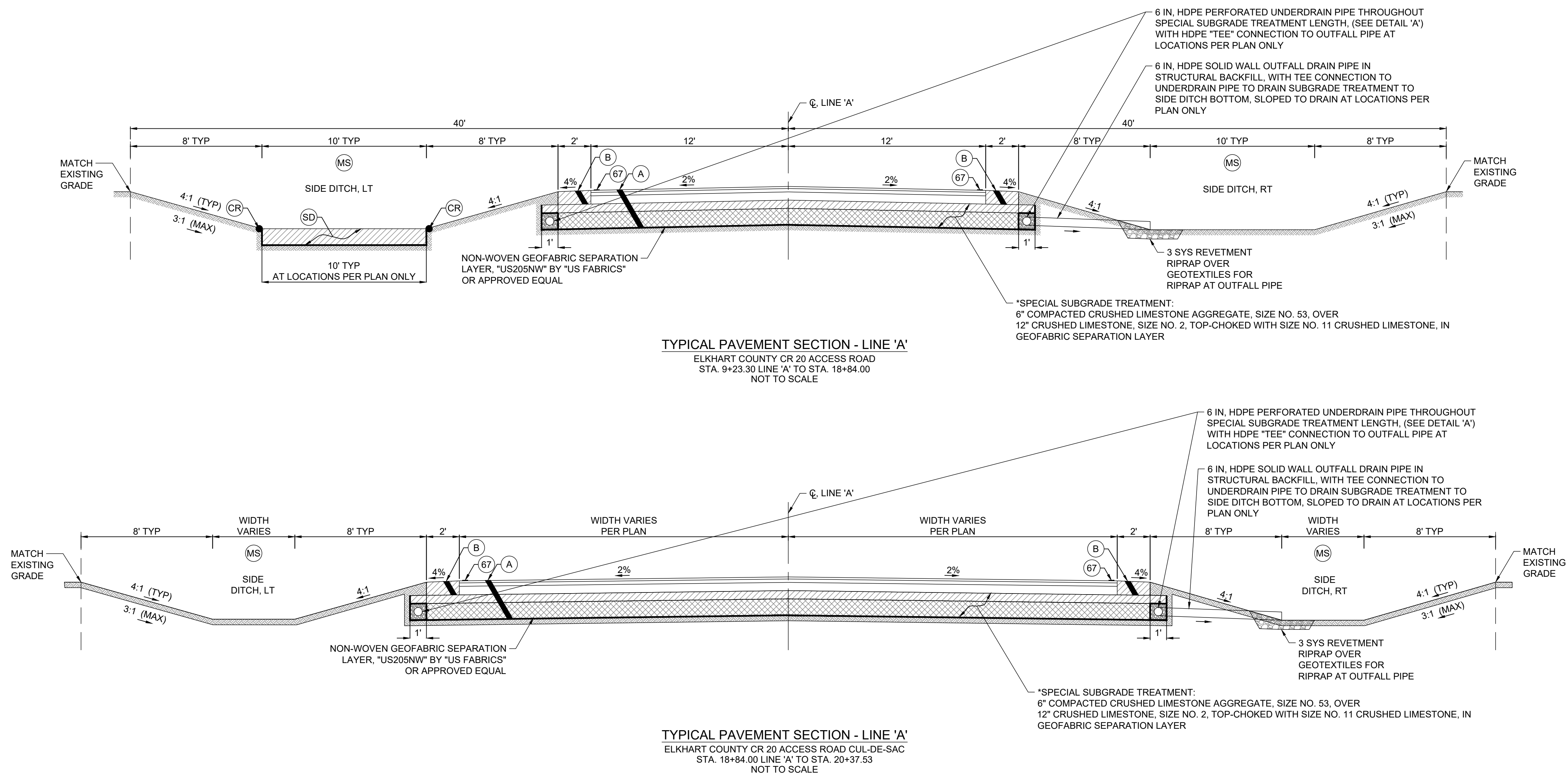
Date(s) aerial images were photographed: Jun 16, 2022—Jun 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

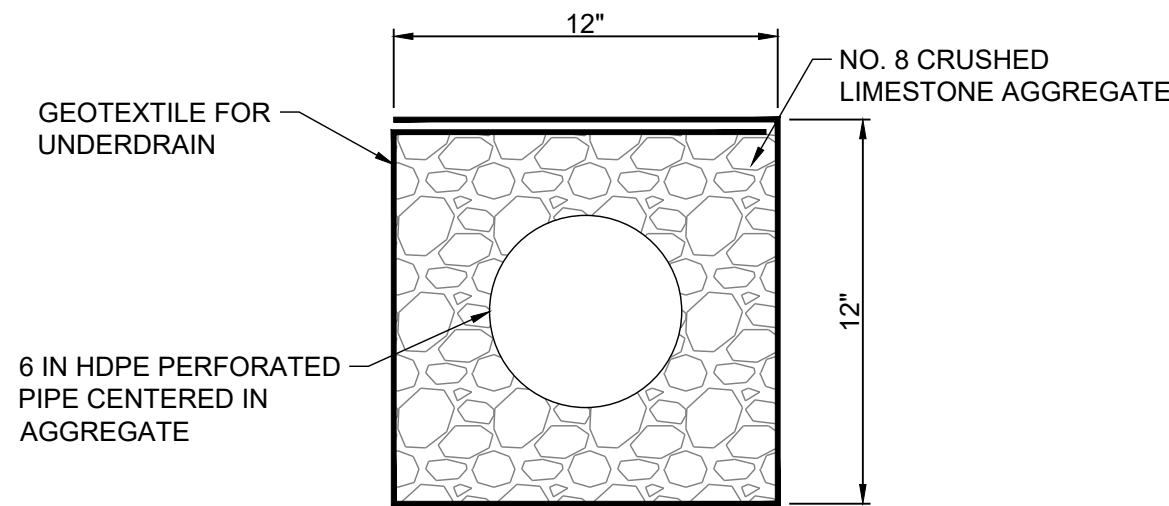
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BshA	Brady sandy loam, 0 to 1 percent slopes	19.0	9.8%
BtxA	Bristol loamy sand, 0 to 2 percent slopes	4.4	2.3%
BtxB	Bristol loamy sand, 2 to 5 percent slopes	8.1	4.2%
BuuA	Brookston loam, 0 to 1 percent slopes	35.0	18.1%
CvdA	Crosier loam, 0 to 1 percent slopes	91.3	47.1%
CvdB	Crosier loam, 1 to 4 percent slopes	18.6	9.6%
RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes	6.4	3.3%
SnIA	Southwest silt loam, 0 to 1 percent slopes	4.2	2.2%
WobB	Williamstown-Crosier complex, 1 to 5 percent slopes	6.8	3.5%
Totals for Area of Interest		193.7	100.0%

PART 3: CONSTRUCTION DRAWINGS/DETAILS



- # NOTES:
1. THE CONTRACTOR SHALL STOCKPILE EXISTING TOPSOIL SEPARATELY FROM OTHER SITE GRADING SOILS FOR EXISTING TOPSOIL TO BE PLACED AT PROPOSED MULCHED SEEDING AREAS AT TYPICAL 4" DEPTH.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL FOR ESTABLISHING NEW GRASS GROWTH, INCLUDING ANY NECESSARY CLEAN-UP, RE-GRADING, AND RE-SEEDING.
 3. THE CONTRACTOR MAY SUBMIT ALTERNATE CRUSHED CONCRETE OR CRUSHED SLAG AGGREGATE, SIZE NO. 53 AND/OR NO. 2 SAMPLE TO THE ENGINEER FOR REVIEW PRIOR TO THE SUBGRADE TREATMENT WORK. CRUSHED CONCRETE AGGREGATE, IF APPROVED, SHALL BE USED UNIFORMLY THROUGHOUT THE SUBGRADE TREATMENT. CRUSHED LIMESTONE, SIZE NO. 53 SHALL BE USED TO CONSTRUCT SHOULDER (B).
 4. THE CONTRACTOR SHALL AVOID SEDIMENTATION AND EXCESSIVE TOPSOIL THICKNESS PLACEMENT WITHIN ROADWAY SIDE DITCHES. AS NECESSARY, THE CONTRACTOR SHALL REMOVE SEDIMENTATION AND EXCESS TOPSOIL THICKNESS FROM ROADWAY SIDE DITCHES IN ORDER TO PROVIDE OPTIMUM AVAILABLE SOIL PERCOLATION.
 5. TOP-CHOKING LAYER OF SIZE NO. 11 CRUSHED LIMESTONE OVER SIZE NO. 2 CRUSHED AGGREGATE SHALL BE INCLUDED IN THE COST OF THE ESTABLISHED PAY ITEM FOR SIZE NO. 2 CRUSHED AGGREGATE AS BID.



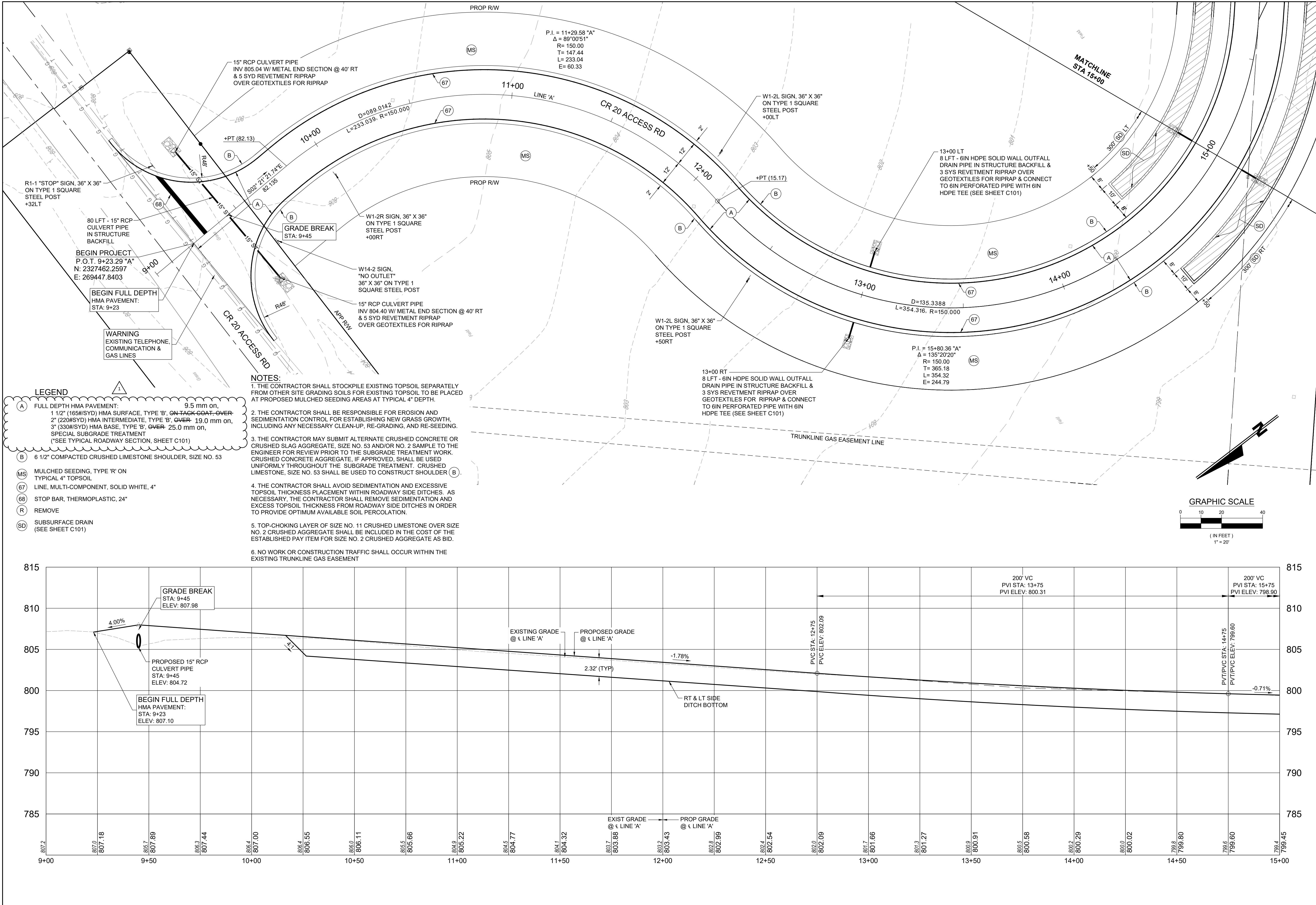
DETAIL 'A'

6 IN HDPE PERFORATED UNDERDRAIN PIPE

NOT TO SCALE

[illegible]

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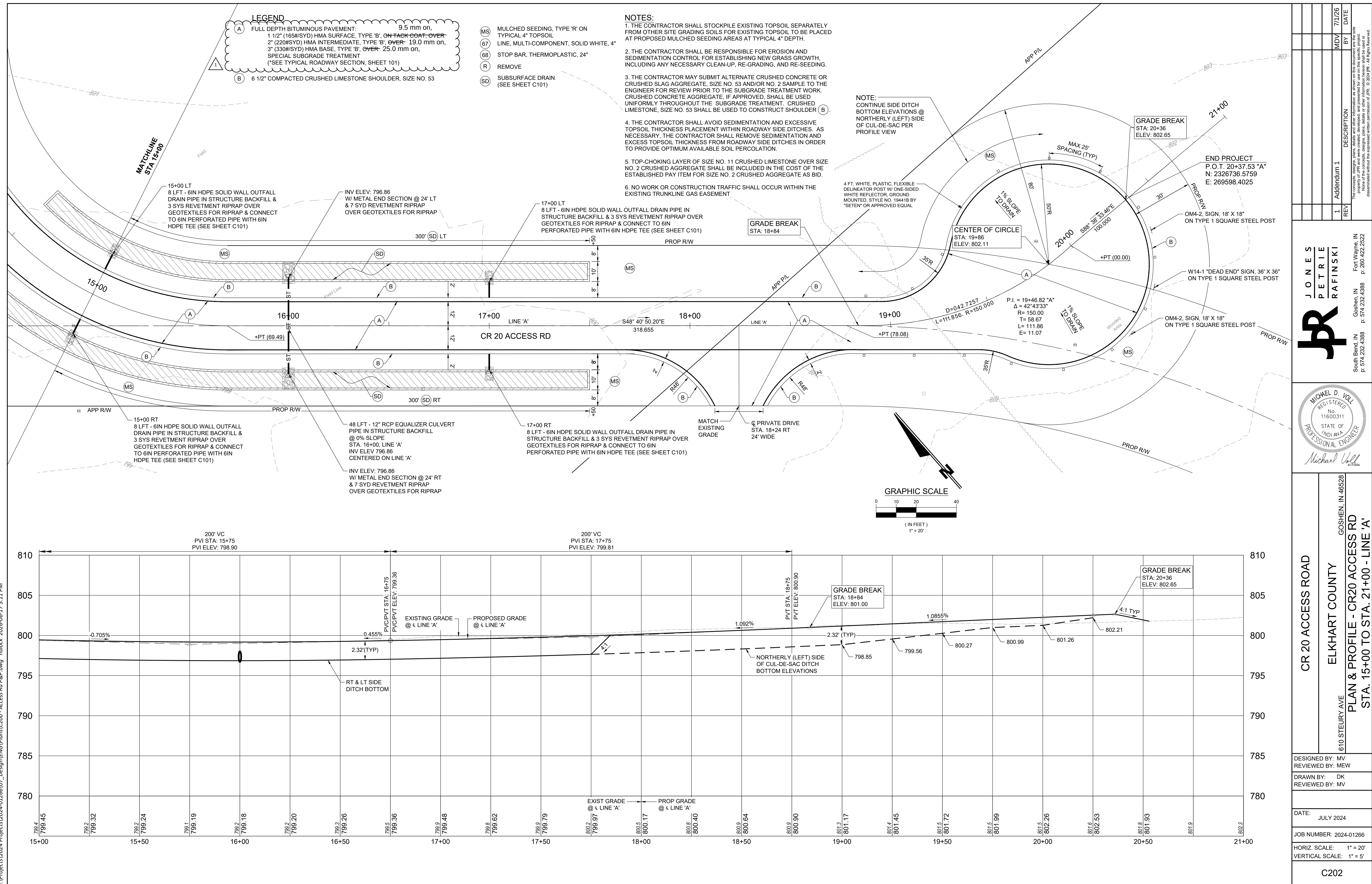
DESIGNED BY: MV	REVIEWED BY: MEW
DRAWN BY: DK	REVIEWED BY: MV
DATE: JULY 2024	
JOB NUMBER: 2024-01266	
HORIZ. SCALE: 1" = 20'	
VERTICAL SCALE: 1" = 5'	
C201	

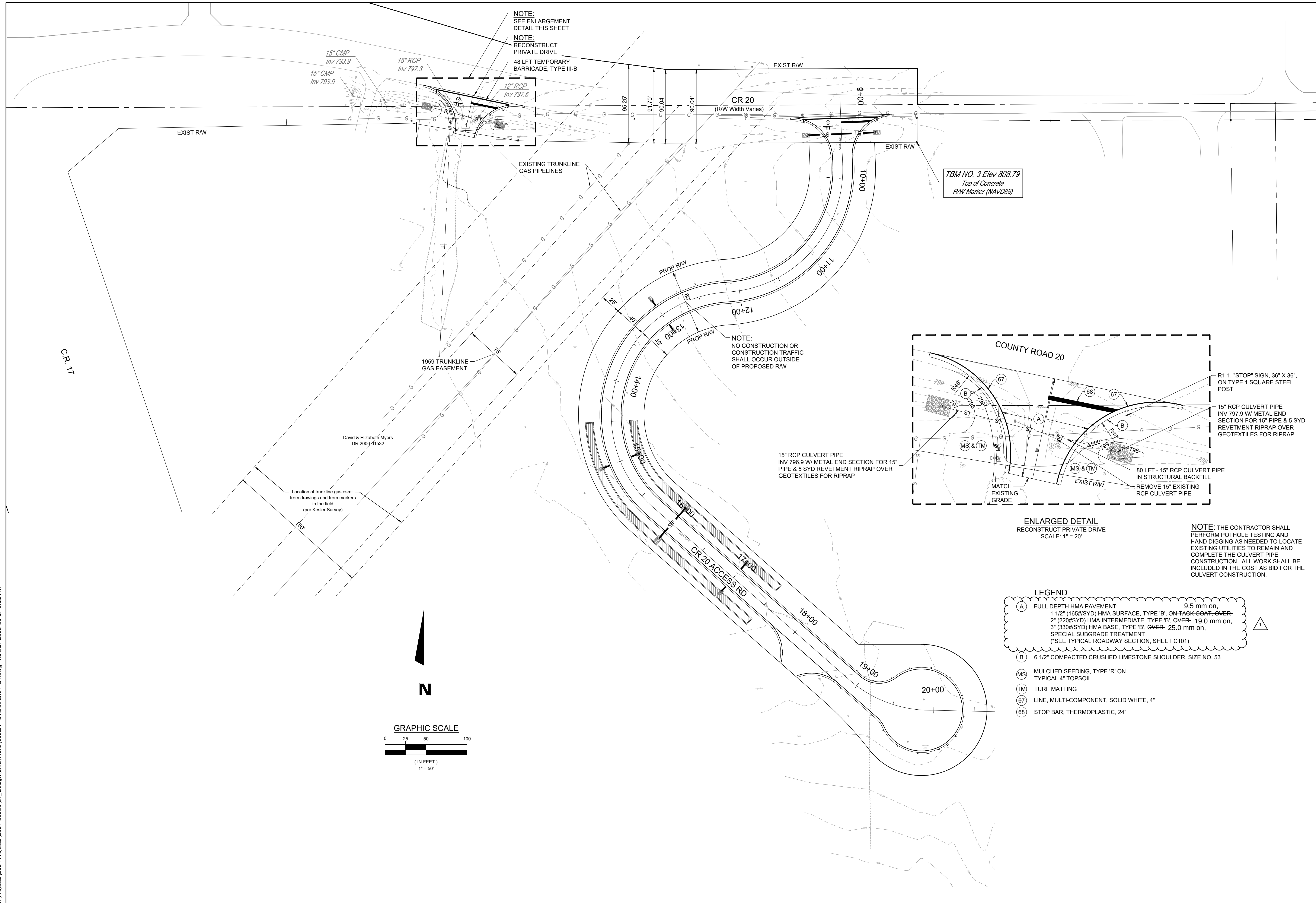
1	ADDENDUM 1	DESCRIPTION	BY	DATE
1	ADDENDUM 1	DESCRIPTION	BY	DATE

JONES PETRIE RAFINSKI
Fort Wayne, IN
Goshen, IN
South Bend, IN
p. 574.232.4388
p. 574.232.4388
p. 260.422.2522

MICHAEL D. VOLL
REGISTERED
No. 11600311
STATE OF INDIANA
PROFESSIONAL ENGINEER
Michael Voll
6/17/2008

CR 20 ACCESS ROAD
ELKHART COUNTY
610 STEURY AVE
PLAN & PROFILE - CR20 ACCESS RD
STA. 9+00 TO STA. 15+00 - LINE 'A'





CR 20 ACCESS ROAD		GOSHEN, IN 46528	 J O N E S P E T R I E R A F I N S K I	 MICHAEL D. VOLL REGISTERED No. 11600311 STATE OF INDIANA PROFESSIONAL ENGINEER <i>Michael Voll</i> 4/17/2024	South Bend, IN Goshen, IN Fort Wayne, IN p-574.232.4388 p-260.422.4388 p-260.422.2522	The concepts, designs, plans, details and other information as shown on this document are the sole property of JPR and were created, developed, and presented for use on the specific project. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of JPR. © 2024 JPR. All Rights Reserved.		
ELKHART COUNTY								
610 STEURY AVE								
OVERALL SITE PLAN & MAINTENANCE OF TRAFFIC DETAILS			REV	1	Addendum 1	DESCRIPTION	BY	DATE
DESIGNED BY: MV REVIEWED BY: MEW			MDV 7/1/26					
DRAWN BY: DK REVIEWED BY: MV								
DATE: JULY 2024								
JOB NUMBER: 2024-01266								
HORIZ. SCALE: AS SHOWN VERTICAL SCALE: NONE								
C102A								