

Engineer's Report

Oliver Lake Drainage District

Laterals No. 2 & 3

Open Ditch Repairs

Monona County, Iowa
2026

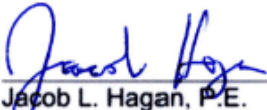
 A circular professional engineer seal for Jacob L. Hagan, Iowa License No. 25738. The seal features the text "PROFESSIONAL ENGINEER" around the top, "JACOB L. HAGAN" and "25738" in the center, and "IOWA" at the bottom flanked by two stars.	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. 6/29/26 _____ Jacob L. Hagan, P.E. License No. 25738 My license renewal date is December 31, 2026. Pages or sheets covered by this seal: All
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Introduction

Overview

Many Iowa landowners benefit from drainage infrastructure without day-to-day consideration of its operation. These systems, managed through legally established drainage districts, construct, repair, and maintain improvements such as tile lines and open ditches, allowing farmland to remain productive by controlling excess surface and subsurface water.

Oliver Lake Drainage District in Monona County, like many early 20th-century districts, was established to improve drainage in a wetter, less-developed landscape. The Monona County Board of Supervisors serves as trustees, overseeing maintenance and ensuring that improvements benefit all landowners within the district. Under Iowa Code Chapter 468, landowners have the right to petition for repairs or improvements. On March 17, 2025, a landowner submitted such a petition requesting an evaluation of the existing open ditch system (Appendix A).

Once a valid petition is received, the Board hires a licensed engineer to conduct a preliminary survey and study and prepare a report outlining possible repairs or improvements and associated costs. ISG was appointed to investigate the petition in March of 2025. ISG completed and provided survey data. In March of 2026, AgriVia was appointed to replace ISG. This report presents the findings and recommendations resulting from that study and survey. The process is deliberate and transparent, with all landowners entitled to receive notice, review findings, attend hearings, and raise questions before any project proceeds.

Location

Lateral No. 2 of Oliver Lake Drainage District is located in Sections 10, 11 and 12 of Franklin Township. Lateral No. 3 of Oliver Lake Drainage District is located in Sections 13 and 14 of Franklin Township and Section 18 of Belvidere Township. The district is located southeast of Onawa. A map of the area of study is included in Appendix B.

Existing Infrastructure and Conditions

Field Survey

The initial field survey of the Oliver Lake Drainage District Lateral Nos. 2 and 3 was completed in July of 2025. As part of this effort, ISG collected survey points and photographs of all major components and areas of interest throughout the existing facilities. Using high-accuracy GPS equipment, they measured the flowline elevations of the ditch at regular intervals. These elevation measurements help us compare existing conditions with the original engineering plans and serve as reliable reference points moving forward.

We took a drone video of the open ditches in March of 2026; documented the condition of major features including culverts, private crossings, and surface drains. Photos taken during the field visit are included in Appendix C. The drone videos can be found by searching AgriVia on YouTube, or via the following links:

- Lateral No. 2- <https://www.youtube.com/watch?v=JkpK54auMWY>
- Lateral No. 3- <https://www.youtube.com/watch?v=pf9cmhX0OHw>

Existing Facilities

Lateral No. 2 Open Ditch

Lateral No. 2 consists of approximately 8,700 linear feet of open ditch running parallel to the north side of 240th Street. The design grade of the ditch is 0.08 percent. Field investigations found the channel to be silted approximately 1 to 2 feet throughout much of its length, reducing its hydraulic capacity. Four driveway culverts were surveyed along the ditch, with two found to be above the proposed repair flowline. Two roadway culverts

were also surveyed and found to be at the proposed repair grade. The lower reach of the ditch had recently been burned and contained minimal established vegetation, with scattered weed growth present throughout the channel. The upper reach receives runoff from seven surface drain outlets. Six culverts beneath 240th Street discharge runoff from the south roadside ditch into the lateral.

Lateral No. 3 Open Ditch

Lateral No. 3 consists of approximately 9,400 linear feet of open ditch running parallel to the north side of 250th Street. The design grade of the ditch is 0.057 percent. Field investigations found the channel to be silted approximately 1 to 2 feet throughout much of its length, reducing its hydraulic capacity. Six driveway culverts were surveyed along the ditch, with two found to be above the proposed repair flowline. One roadway culvert at the upper end of the ditch was also surveyed and found to be above the proposed repair grade. The ditch receives runoff from four existing surface drain outlets, and we have included eight additional locations that should include surface drains. Eight culverts beneath 250th Street discharge runoff from the south roadside ditch into the lateral.

Downstream Outlet

Both Laterals outlet into the Oliver Lake Main Open Ditch. An Engineer's Report and proposal to repair the Oliver Lake Main Open Ditch was submitted in July of 2025 by ISG. We intend to bid all three ditches for cleanout at the same time.

Proposed Project

Project Design

As the engineer responsible for overseeing the repairs to the ditch system, we have followed established design and construction standards developed by the American Society of Agricultural and Biological Engineers (ASABE), the Natural Resources Conservation Service (NRCS), and Iowa State University Extension and Outreach.

Under the authority of Iowa Code Chapter 468, the district holds both the legal right and the obligation to maintain drainage facilities to their original design capacity. Existing ditch plans were reviewed to verify the original flowline elevation and channel cross-sections. This project will restore those design dimensions and grades to ensure the system performs as originally intended.

Proposed Repairs

Based on the findings of the field investigation, we recommend Lateral No. 2 and Lateral No. 3 be restored to their original design cross section and flowline by removing accumulated sediment. Existing roadway and driveway culverts that are at the proposed repair grade should be cleaned to remove sediment and debris, while the driveway culverts found to be above the proposed repair flowline should be removed and relaid at the proper elevation to provide positive drainage. The existing surface drain outlets should be replaced and additional surface drains added where necessary to improve long-term serviceability. Upon completion of the excavation, all disturbed areas should be seeded with an appropriate permanent vegetation mix to establish a stable cover, minimize erosion, and promote long-term channel stability.

Preliminary Plans

The proposed preliminary plans are enclosed with this report. These plans serve as a guide for the contractor and outline the expectations and standards for construction. Included in the plans are the existing right-of-way, proposed work limits and specific work expected to take place on each landowner's property. The plans also contain profile and cross section views showing the proposed depth of the existing and repair ditch flowline. These plans are preliminary and may be refined prior to final bidding.

Construction Considerations

Ditch Construction Methods

- **Excavation**

The ditch will be repaired using established methods commonly employed throughout Iowa. Construction will begin at the downstream end and proceed upstream, allowing standing water in upstream sections to drain and helping to flush sediment and debris through the newly cleaned downstream channel. Tracked excavators will be utilized, operating from the farm side of the ditch where conditions allow.

- **Clearing and Grubbing**

All trees located within the right-of-way of the open ditch will be removed as a maintenance measure. Tree growth within the right-of-way shades out grass, increases erosion potential, drops debris into the channel, obstructs maintenance access, and provides material for beaver dam construction. Trees and stumps will be removed to ground level. All woody debris will be burned, and the resulting ashes and remnants will be buried within the ditch right-of-way. Landowners wishing to retain wood from trees marked for removal are encouraged to remove the tree prior to the start of construction.

- **Seeding and Fertilizing of Banks**

All ditch banks disturbed during construction will be re-seeded by the contractor to minimize erosion and promote the establishment of desirable vegetation. According to NRCS guidance, the most cost-effective method for stabilizing exposed banks without additional seedbed preparation is to broadcast seed and fertilizer daily as work progresses. We call out that banks are to be scraped with some kind of approved harrow to create ridges and a summer cover crop mixture to be seeded with fertilizer. After completion of the project, the banks will be seeded with a permanent seed mixture via hydroseeding.

However, vegetation establishment is highly weather-dependent and often inconsistent. Some areas may experience weed growth or poor vegetative cover that will require additional maintenance or time to fully stabilize.

- **Spoil Leveling, Tillage and Debris Pick-up**

Spoil generated from ditch excavation will be placed along the top of the ditch bank. After allowing the material to dry, the contractor will spread it into a uniform layer approximately thirty feet wide, providing a smooth, equipment-accessible transition back to the adjacent field. The spoil area will then be tilled, and all debris and rocks larger than softball size will be collected and removed. Final restoration of this area will be completed by the landowner according to their preference.

- **Surface Drains**

Surface drainpipes were identified during the field survey and are shown on the plans. The project cost estimate includes replacement of any pipes requiring repair. Additional pipes are expected to be discovered during construction, as some may currently be buried, broken, or obscured by vegetation. Any damaged or deteriorated pipes will be replaced with new corrugated metal pipes (CMP) and marked with a flag at the top of the bank. All pipes will be installed so that their discharge ends are positioned above the ditch bottom, ensuring unrestricted flow under normal conditions.

- **Pollution and Erosion Control**

The contractor will be responsible for minimizing pollution and erosion during construction, under the engineer's direction.

Excavation, removing vegetation, and placing spoil material along the banks temporarily increases erosion potential. To minimize the risk, a sediment baffle will be installed at the beginning of the cleanout to allow sediment to settle before flowing downstream. The contractor will also perform daily seeding of exposed ditch banks and apply a temporary seed mix to the top of the banks upon completion. Some erosion is still expected; therefore, the ditch bottom will be over-excavated by six inches to ensure that minor sediment deposition does not reduce the designed capacity of the open ditch.

- **Removal of Fence**

Fences crossed during repair works along the ditch will not be replaced. The fence will be removed and buried within the work limits.

- **Driveway Restoration**

Once the project is complete, any driveways that were damaged will be restored to its original condition. Photos will be taken before and after to document the work.

- **Mobilization**

Mobilization includes transporting equipment and materials to the site, setting up access, and preparing staging areas. After work is complete, all equipment will be removed and the site cleaned up.

Proposed Road Crossings

Road culverts will be cleaned out to ensure they are not impeding the function of the ditches. The ditches are crossed by a combined thirteen crossings, including ten owned by private landowners, and three owned the Monona County Secondary Roads. A table of all crossings is provided below.

Road Crossings					
Facility	Control Entity	Road	Station	Size	Work
Lateral No. 2	Private	Driveway	32+10	48" CMP	Relay
Lateral No. 2	Private	Driveway	33+50	48" CMP	Relay
Lateral No. 2	Monona County	Locust Ave	35+20	42" CMP	Cleanout
Lateral No. 2	Private	Driveway	60+80	30" CMP	Cleanout
Lateral No. 2	Private	Driveway	62+20	30" CMP	Cleanout
Lateral No. 2	Monona County	Larch Ave	87+00	24" CMP	Cleanout
Lateral No. 3	Private	Driveway	23+50	42" CMP	Cleanout
Lateral No. 3	Private	Driveway	39+30	36" CMP	Cleanout
Lateral No. 3	Private	Driveway	41+10	36" CMP	Relay
Lateral No. 3	Private	Driveway	67+20	36" CMP	Relay
Lateral No. 3	Private	Driveway	90+30	36" CMP	Relay
Lateral No. 3	Private	Driveway	92+40	30" CMP	Cleanout
Lateral No. 3	Monona County	Locust Ave	93+50	30" CMP	Cleanout

Utility Conflicts and Coordination

A Design One Call was completed on May 27, 2025, identifying communications and electrical utilities within the project area. All are located within existing public road rights-of-way.

Under Iowa Code §468.186, utilities within a drainage district's right-of-way must accommodate drainage work. The district's drainage system predates the utilities, so any necessary utility relocation must be done at the utility's expense.

Before construction begins, the contractor will complete a Construction One Call to ensure all utilities are properly located and marked, helping prevent conflicts and maintain a safe worksite.

Construction Timeline

If approved, we anticipate the work to bid summer of 2026 with a completion date of March 2027. While contractors must finish all work by this deadline, they are free to choose their own construction schedule. The timeline is intentionally flexible to attract more qualified contractors and encourage competitive bidding, which can lower project costs.

Estimated Costs and Analysis

Cost Estimate

The total estimated cost for the proposed project is \$190,000. The estimated total cost for Lateral No. 2 is \$86,000, and the estimated total cost for Lateral No. 3 is \$104,000. The breakdown of related expenses is as follows:

Activity	Cost	Percent of Total Cost
Lateral No. 2 Open Ditch Repairs	\$60,000	31.6%
Lateral No. 3 Open Ditch Repairs	\$77,000	40.5%
Engineering, Legal, and Administrative	\$35,000	18.4%
Construction Damages	\$2,000	1.1%
Interest	\$16,000	8.4%

This is a preliminary engineer's estimate, prepared for planning purposes. Costs are based on recent bid tab data from comparable projects and include allowances for contingency and administrative expenses. Final construction costs will depend on market conditions at the time of bidding and may vary from this estimate.

A detailed itemization of costs is provided in Appendix D.

Assessment Schedule Review

Any costs to the district are shared by landowners based on the benefit their property receives. To ensure fairness, an assessment schedule is maintained so all expenses are allocated proportionally to the level of benefit each parcel gains from the drainage system. The current schedule is on file at the Monona County Auditor's Office. The current assessment schedules are broken up by major facility. We find no need to reclassify at this time as the current schedule is sufficient for maintenance purposes.

Installment Payment Options

Under Iowa drainage law, landowners who are assessed for substantial repairs and improvements may be eligible to pay their assessment over time. The Board of Trustees may authorize an installment payment plan with interest, allowing landowners to repay the assessment annually over a period of up to 20 years.

To take advantage of this option, a formal waiver request must be submitted. There is no penalty for early repayment, and landowners who wish to avoid interest may pay the full amount up front or consider private financing alternatives.

Taxes

While the district is not authorized to provide tax advice, landowners are encouraged to consult with their accountant or tax advisor to determine whether drainage assessments or related improvements may be deductible or eligible for depreciation under current tax laws.

Maintenance and Long-Term Management

Warranty Period

It is common for pipes to be missed or for other issues to arise during or shortly after construction. To address this, the drainage district will maintain a one-year warranty with the contractor to cover construction-related errors or unforeseen problems. If a landowner observes an issue during this period, they should contact the Drainage Clerk so the district can investigate and coordinate any necessary repairs.

Work Orders

After the one-year warranty period expires, any repairs must be initiated through a formal work order. A landowner may submit a work order to the Drainage Clerk to request repairs to the district system. Common issues include tile blowouts, collapsed outlets, bank erosion, or obstructions such as beaver dams.

Once a work order is reviewed and approved, a contractor will be assigned to complete the repair. The drainage district will pay the contractor's invoice, and the cost will be shared among landowners based on the existing assessment schedule. This process ensures that maintenance is managed in a timely, fair, and consistent manner.

Landowner Considerations

Public Hearing on Report

A public hearing will be scheduled to review this engineer's report and the proposed repairs. Per Iowa Code § 468.14, all landowners in the district will be notified by mail, and notice will also be published in a local newspaper. At the hearing, we will present our findings, proposed plans, and cost estimates, and will be available to answer questions and address concerns. Topics such as construction impacts, and crop damages may also be discussed.

The Board of Trustees will conduct the hearing and may continue it to a later date if more discussion or information is needed. No decision can be made until the hearing is held and all landowner input is considered. This report may be amended as needed in response to feedback received during the hearing, ensuring transparency and meaningful participation.

Objections

Landowners with concerns about the proposed project are encouraged to submit written objections before or during the hearing. Written submissions become part of the official record and help guide any revisions to the report.

Landowner Construction Considerations

If the project is approved, construction will proceed through the standard public bidding process. A bid letting will be held to obtain competitive proposals, and the lowest responsible bid will be submitted to the Board of Trustees for consideration and approval. Prior to construction, all affected landowners will be notified of the expected schedule and scope of work. Construction limits will be staked in the field and shown on the plans. Landowner cooperation, including preserving survey stakes and providing necessary access, will be critical to ensuring efficient completion of the project.

Throughout construction, we will coordinate directly with the contractor and function as the primary point of contact for all landowners. To ensure clear and consistent communication, landowners will be asked to direct any questions or concerns to us rather than contacting the contractor directly.

Right-of-Way and Work Limits

Drainage districts have the legal authority to enter private lands to construct, maintain, or improve drainage systems, including both open ditches and subsurface tile.

Open ditches require a formal right-of-way to allow for construction, future maintenance, and spoil placement. The existing right-of-way for each parcel is shown in Appendix E and is illustrated on the plans. Landowners retain the beneficial use of the right-of-way which includes the right to row crop, or enroll the land in a conservation program, however, these activities may not impede the drainage district's ability to perform maintenance. This includes constructing permanent structures, or planting trees for example.

Temporary construction limits beyond the existing right-of-way are shown on the plans covering approximately twenty-one acres across sixteen parcels. These work limits are shown on the engineering plans and intended as a boundary for the contractor. The actual area affected will be surveyed and documented during or after construction.

Construction Damages

In accordance with Iowa Code § 468.103, landowners are entitled to compensation for damages resulting from construction activities outside the drainage district right-of-way, including crop loss, soil disturbance, and impacts to land use. The intention is the work will be completed after crops are out to limit crop damages.

The following are recommendations regarding crop damage compensation:

- **Yield and Price Calculation**

For crops damaged during the growing season we recommend using 110% of the five-year average county yield for the affected crop, multiplied by the average price received over the past 12 months. Both the yield data and average price are to be sourced from the Iowa State University Extension and Outreach and USDA-NASS databases.

- **Field Repair Work Compensation**

In addition to crop losses during the growing season, we recommend payment for the following field work at rates consistent with the most recent Iowa State University Custom Rate Survey (per acre):

- One pass of rock pickup
- Two passes of tillage: one deep tillage and one shallow tillage

- **Other Damages**

Landowners may submit claims for any additional damages not accounted for in this recommendation prior to the completion hearing.

Crop damages and other construction-related compensation will be paid by the drainage district and funded through the assessment schedule. As a result, all landowners within the district including those who incur damages will share in the cost of these payments through their proportionate assessments. The Board of Trustees retains the authority to amend, approve, or deny any such claims. Final decisions regarding crop damages will be made at the completion hearing.

Completion Hearing

Upon completion of construction, a Completion Hearing will be held in accordance with Iowa Code § 468.101. This hearing gives landowners the opportunity to review the finished work, raise concerns about field conditions or project compliance, and submit any remaining claims for damages not previously addressed.

At the hearing, the Board of Trustees will consider all landowner input, evaluate whether the work has been completed in substantial compliance with the approved plans and specifications, and determine final compensation for any valid damage claims. The Board also has the authority to amend, approve, or deny claims based on the evidence presented.

All landowners within the district will be notified of the hearing in advance, as required by law, and are encouraged to attend, to ensure their concerns are heard and properly documented before the project is closed out.

Conclusion and Recommendations

Conclusion

We have found the Oliver Lake Drainage District Lateral 2 and Lateral 3 Open Ditches are in need of repairs. To address this, we have developed a plan to repair these facilities at an estimated total cost of \$188,000. This plan is designed to meet the petition to restore the design functionality of the ditch system.

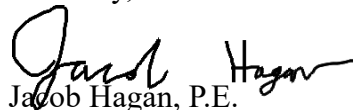
Recommendations

We recommend that the Board accept the filing of this report and schedule a public hearing to formally present the findings and proposed improvements to all affected landowners. The hearing will provide an opportunity for landowners to raise objections, ask questions, and express concerns.

Upon approval by the Board, we recommend the work be let through a public bid process along with the proposed Oliver Lake Main Open Ditch cleanout and completed after crops are out this fall.

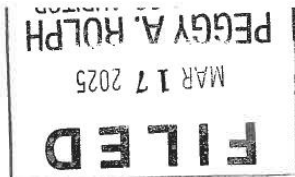
If the Board of Trustees or landowners have any questions or concerns, please contact AgriVia at the phone numbers or emails listed.

Sincerely,


Jacob Hagan, P.E.
712-250-4318
jacob.agrivia@gmail.com


Tyler Buman, E.I.T.
712-579-5296
tyler.agrivia@gmail.com

Appendix A – Petition Filed



PETITION

COPY

TO THE BOARD OF SUPERVISORS OF MONONA COUNTY, IOWA.

The undersigned, owners of following described lands in Monona County, Iowa, to-wit:

Bald Miller Estate & Bensen Ranch

by Brent Miller tenate

Subject to assessments in the Oliver Lake Lat 2 Drainage District petition and request that: (describe District, issue and location)

Franklin Township / ditch cleanout - lat
p/t sect 11 & 14

Signature of Petitioner: Brent Miller 712 420-2920

(Name, Address, Contact information of Petitioner)

Dated this 17 day of March, 20 25 in Monona County, Iowa.

Please list any other concerns, comments, or landowners' names and contact information:

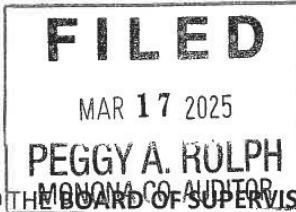
1. Filed: 3-17-25
Amy Brubaker-Siehl
(Drainage Clerk)

2. Referred to Engineer for Investigation
And report
Date: _____

(Chairman, Board of Supervisors)

3. Engineer's Report Filed: _____
(Drainage Clerk)

4. Board action taken on _____
_____, 20 ____.



PETITION

COPY

TO THE BOARD OF SUPERVISORS OF MONONA COUNTY, IOWA.

The undersigned, owners of following described lands in Monona County, Iowa, to-wit:

~~Beulah~~ Beulah Miller Estate + Benson Ranch
by Brent Miller tenet

Subject to assessments in the Oliver Lake Lat 3 Drainage District petition and request
that: (describe District, issue and location)
Franklin Township / ditch lat. cleanout
b/t sect 13 + 24

Signature of Petitioner: Brent Miller 712 420-2920

(Name, Address, Contact information of Petitioner)

Dated this 17 day of March, 20 25 in Monona County, Iowa.

Please list any other concerns, comments, or landowners' names and contact information:

1. Filed: 3-17-25
Amy Bruchardt-Seh
(Drainage Clerk)

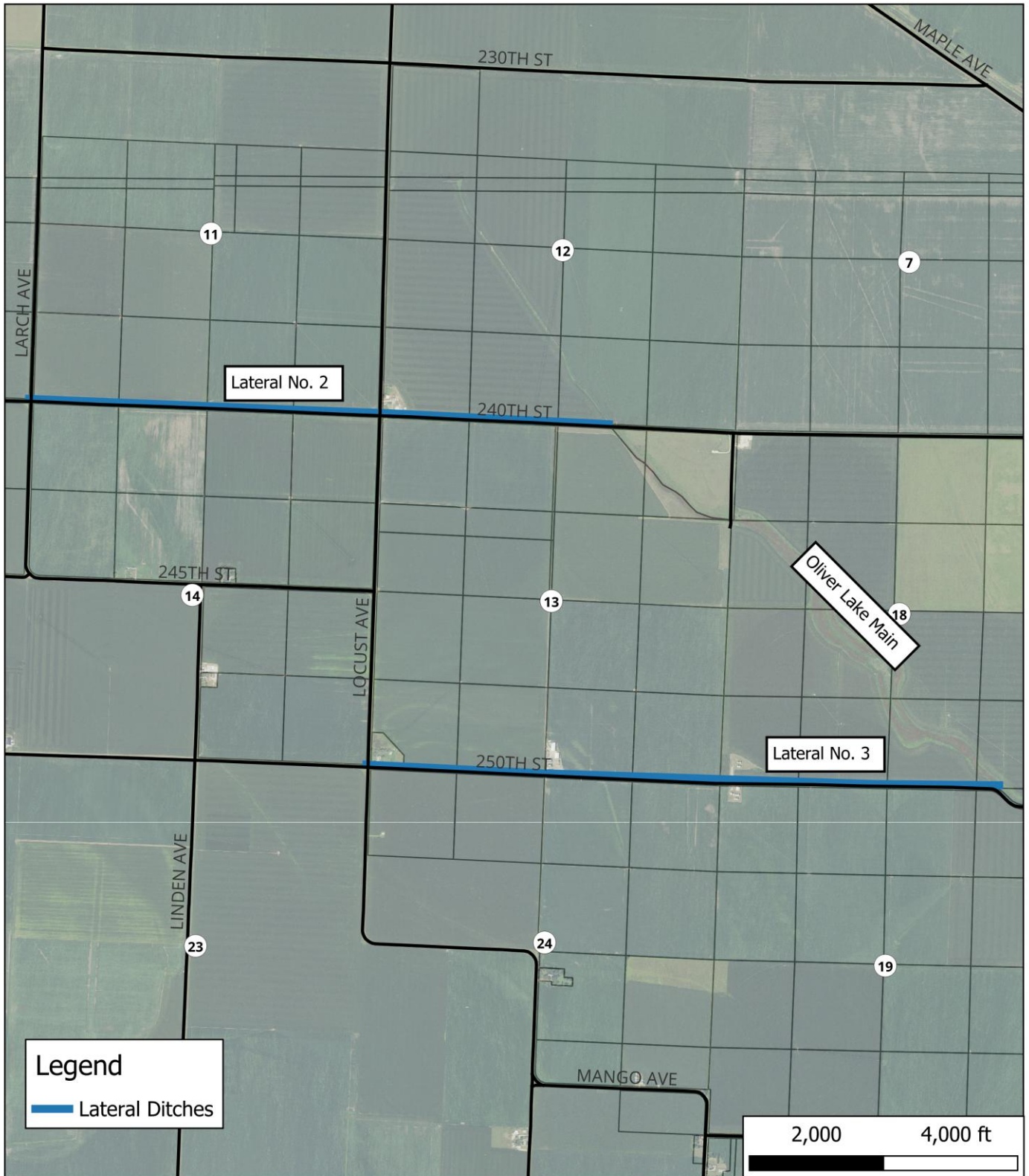
2. Referred to Engineer for Investigation
And report
Date: _____

(Chairman, Board of Supervisors)

3. Engineer's Report Filed: _____

(Drainage Clerk)

4. Board action taken on _____
_____, 20 ____.



Appendix C - Survey Photos



Lateral No. 2.



Lateral No. 3.

Appendix D - Itemized Cost Estimate

Estimated Costs

Open Ditch Repairs

Oliver Lake Drainage District Lat 2, and Lat 3

Monona County, IA



Lateral No. 2 Open Ditch Construction Cost					
Item No.	Bid Item	Est. Units	Unit	Est. Unit Price	Est. Amount
101	EXCAVATION	3,800	CY	\$3.10	\$ 11,780
102	SPOIL LEVELING (ONE SIDE)	87	STA	\$123.00	\$ 10,701
103	DAILY SEED BANKS	87	STA	\$71.00	\$ 6,177
104	HYDROSEEDING	87	STA	\$139.00	\$ 12,093
105	SPOIL TILLAGE AND ROCK PICK UP	87	STA	\$33.00	\$ 2,871
106	REMOVE & RELAY 48" CMP	2	EA	\$500.00	\$ 1,000
107	SURFACE DRAIN, 18"	120	LF	\$45.00	\$ 5,400
108	SURFACE DRAIN, 24"	20	LF	\$58.00	\$ 1,160
109	FLAP GATE, 24"	1	EA	\$1,750.00	\$ 1,750
110	SEDIMENT BAFFLE	1	LS	\$1,430.00	\$ 1,430
111	MOBILIZATION	1	LS	\$3,000.00	\$ 3,000
5% Construction Contingency					\$ 3,000
Subtotal Construction Cost					\$ 60,000.00

Additional Non-Construction Project Costs	
Expense	Est. Amount
AgriVia Survey, Permitting, Engineer's Report, and Preliminary Plans	\$ 7,500
Specifications and Construction Engineering	\$ 7,500
Legal and Administrative	\$ 2,500
Construction Damages	\$ 1,000
Interest	\$ 7,500
Total Repairs Cost to Oliver Lake Drainage District Lateral No. 2	\$ 86,000.00

Estimated Costs**Open Ditch Repairs****Oliver Lake Drainage District Lat 2, and Lat 3****Monona County, IA**

Lateral No. 3 Open Ditch Construction Cost					
Item No.	Bid Item	Est. Units	Unit	Est. Unit Price	Est. Amount
201	EXCAVATION	4,000	CY	\$3.10	\$ 12,400
202	SPOIL LEVELING (ONE SIDE)	94	STA	\$123.00	\$ 11,562
203	DAILY SEED BANKS	94	STA	\$71.00	\$ 6,674
204	HYDROSEEDING	94	STA	\$139.00	\$ 13,066
205	SPOIL TILLAGE AND ROCK PICK UP	94	STA	\$33.00	\$ 3,102
206	FENCE REMOVAL	38	STA	\$200.00	\$ 7,600
207	REMOVE & RELAY 36" CMP	2	EA	\$500.00	\$ 1,000
208	SURFACE DRAIN, 18"	220	LF	\$45.00	\$ 9,900
209	SURFACE DRAIN, 24"	20	LF	\$58.00	\$ 1,160
210	SEDIMENT BAFFLE	1	LS	\$1,430.00	\$ 1,430
211	CLEARING & GRUBBING	1	LS	\$1,000.00	\$ 1,000
212	MOBILIZATION	1	LS	\$4,000.00	\$ 4,000
5% Construction Contingency					\$ 4,000
Subtotal Construction Cost					\$ 77,000.00

Additional Non-Construction Project Costs	
Expense	Est. Amount
AgriVia Survey, Permitting, Engineer's Report, and Preliminary Plans	\$ 7,500
Specifications and Construction Engineering	\$ 7,500
Legal and Administrative	\$ 2,500
Construction Damages	\$ 1,000
Interest	\$ 8,500
Total Repairs Cost to Oliver Lake Drainage District Lateral No. 3	\$ 104,000.00

Appendix E - Existing Right-of-Way

Lateral No. 2 Open Ditch Right-of-Way				
Deedholder	S-T-R	Legal	Width (ft)	Acres
KROUGH INVESTMENTS, INC	12-83-45	SW SE	10	0.17
KROUGH INVESTMENTS, INC	12-83-45	SE SW	10	0.3
KROUGH INVESTMENTS, INC	12-83-45	SW SW	10	0.3
KROUGH INVESTMENTS, INC	11-83-45	SE SE	10	0.3
KROUGH INVESTMENTS, INC	11-83-45	SW SE	10	0.3
WILLEY, BAYNARD FAMILY FARM, LLC	11-83-45	SE SW	10	0.3
WILLEY, BAYNARD FAMILY FARM, LLC	11-83-45	SW SW	10	0.3
Total Acres				1.97

Lateral No. 3 Open Ditch Right-of-Way				
Deedholder	S-T-R	Legal	Width (ft)	Acres
MAHLOCH,HUGO W TRUST 7/20/93; TRUSTEES- MAHLOCH,HUGO W,JR;PFLAGER,NANCY L;POPE,DIANNE K;NEVINS,KATHLEEN A	18-83-44	SW SE	10	0.3
MAHLOCH,HUGO W TRUST 7/20/93; TRUSTEES- MAHLOCH,HUGO W,JR;PFLAGER,NANCY L;POPE,DIANNE K;NEVINS,KATHLEEN A	18-83-44	SE SW	10	0.3
MAHLOCH,HUGO W TRUST 7/20/93; TRUSTEES- MAHLOCH,HUGO W,JR;PFLAGER,NANCY L;POPE,DIANNE K;NEVINS,KATHLEEN A	18-83-44	SW SW	10	0.3
CAMSON, LLC	13-83-45	SE SE	10	0.3
CAMSON, LLC	13-83-45	SW SE	10	0.3
CAMSON, LLC	13-83-45	SE SW	10	0.3
CAMSON, LLC	13-83-45	SW SW	10	0.19
TERRY, JASON E	13-83-45	PT SW SW	10	0.11
Total Acres				2.1

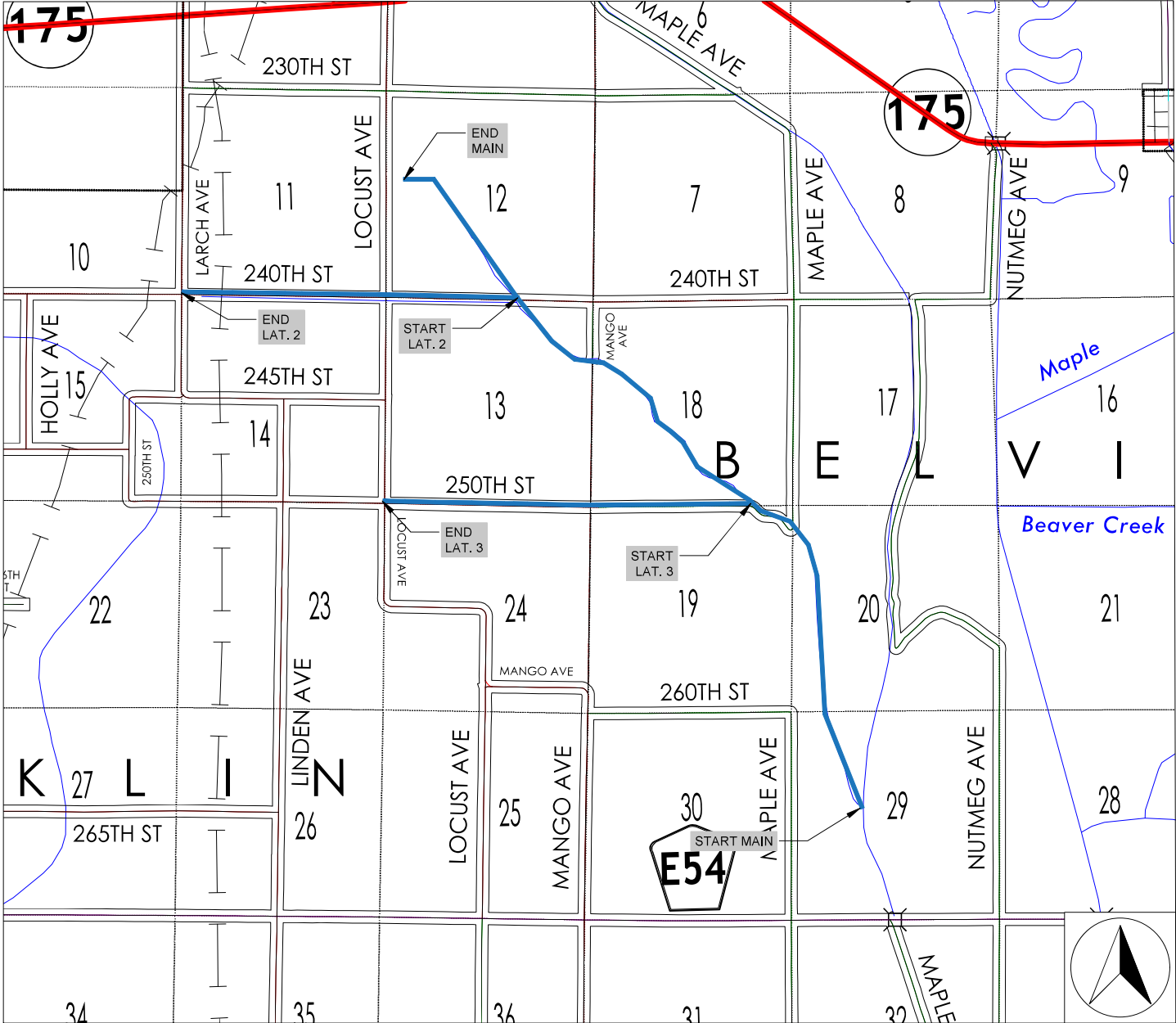
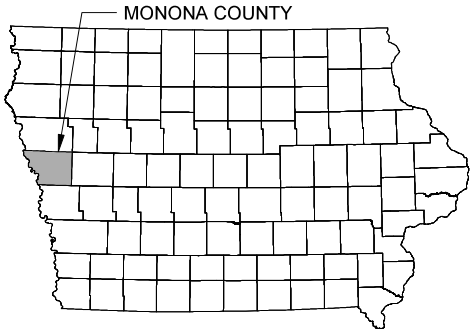
PROPOSED PLANS FOR
OLIVER LAKE DRAINAGE DISTRICT
OPEN DITCH REPAIRS
MONONA COUNTY, IA
2026



The contractor shall field verify exact locations prior to commencing construction as required by state law. Notify Iowa One Call, 811 or 1-800-292-8989.

Specifications
Unless otherwise noted, the governing standards for this project shall be the 2026 edition of the Iowa Statewide Urban Design and Specifications (SUDAS) for Public Improvements, supplemented where referenced by the Iowa Department of Transportation's Standard Specifications for Highway and Bridge Construction, Series 2023, along with all active general supplemental specifications, materials, instructional memoranda, and relevant special provisions.

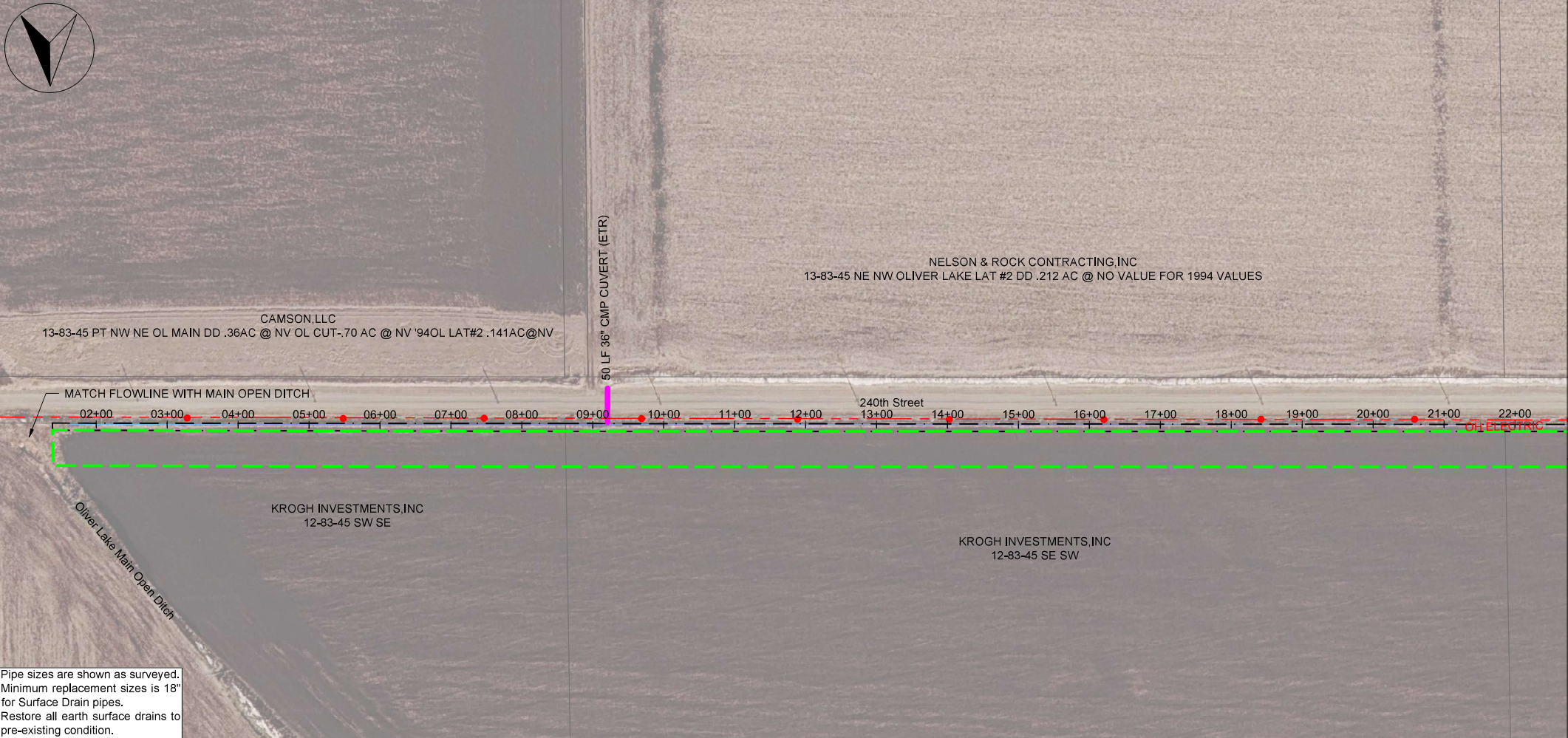
Where conflicts arise, the stricter requirement shall take precedence. Complete compliance with all applicable federal, state, and local laws, ordinances, and regulations is mandatory throughout the project's execution.



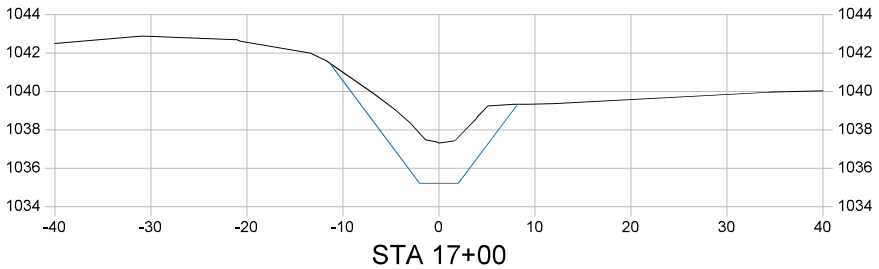
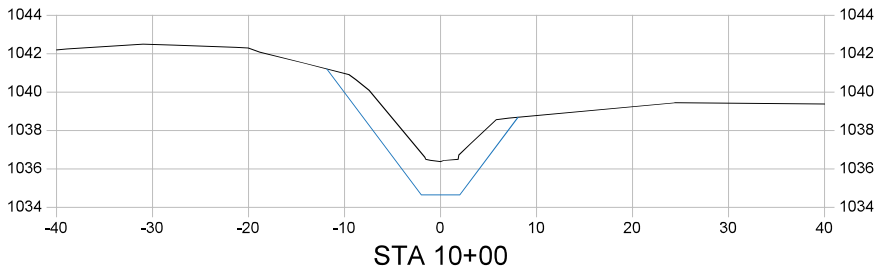
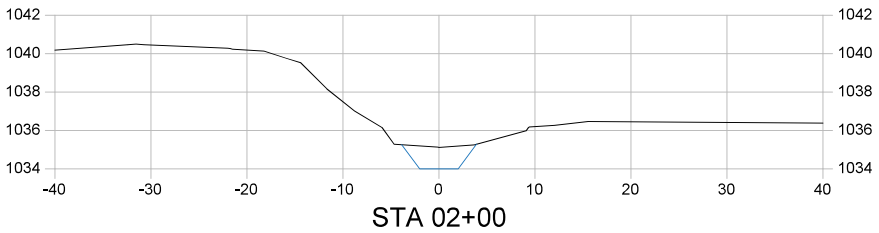
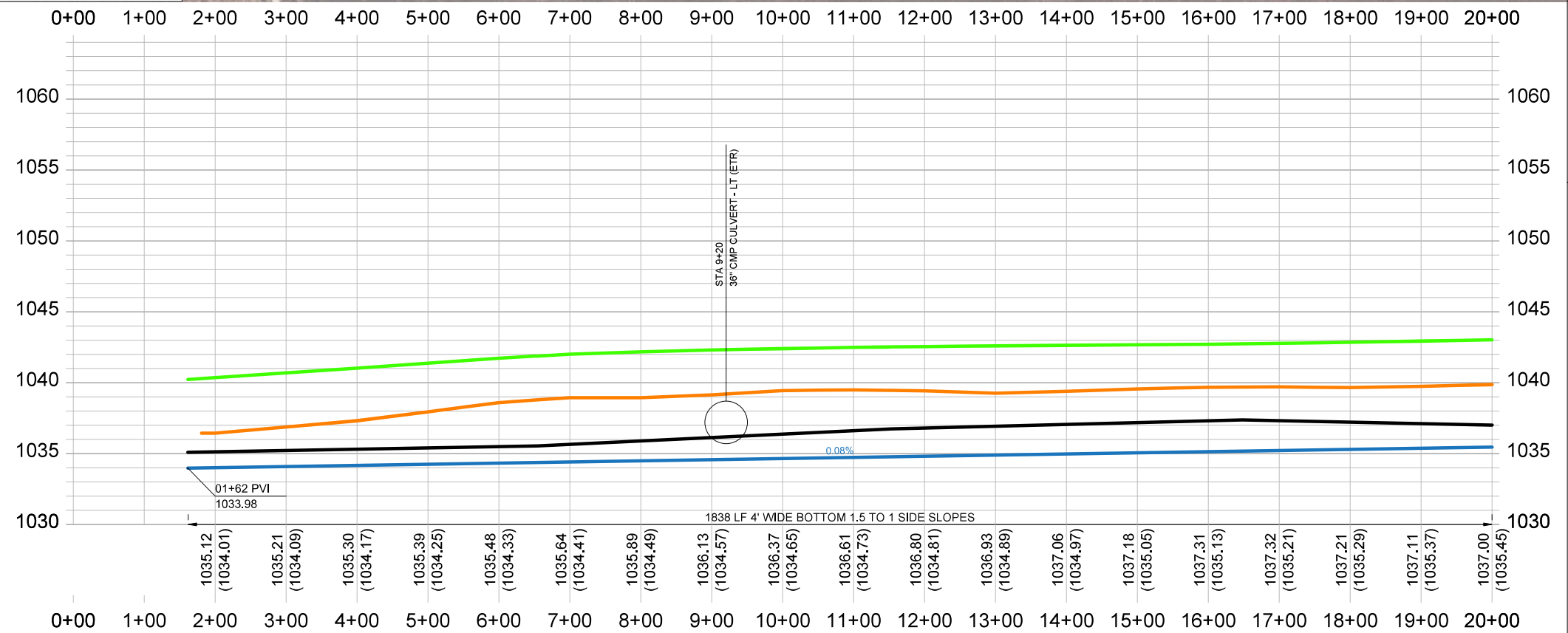
Sheet List	
Number	Title
A.01	Title Sheet
A.02-A.03	District Plat
B.01-B.02	Details
C.01-C.03	Construction Details and Quantities
D.01-D.09	Plan & Profile - Oliver Lake Main
D.10-D.14	Plan & Profile - Oliver Lake Lat. 2
D.15-D.19	Plan & Profile - Oliver Lake Lat.3
X.01-X.21	Oliver Lake Main Sections

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Jacob L. Hagan, P.E. (date)
License No. 25738
My license renewal date is December 31, 2026.
Pages or sheets covered by this seal:
All



Pipe sizes are shown as surveyed.
Minimum replacement sizes is 18" for Surface Drain pipes.
Restore all earth surface drains to pre-existing condition.



Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
Checker
JLH
JLH

PLAN LEGEND
Parcel Lines
Work Area on Private Land (50' Wide)
Ditch ROW on Private Land (10')
Surface Drains
Tile Outlets
Utilities (in red)
Power Poles

PROFILE LEGEND
Design Ditch Grade
Surveyed Ditch Bottom
Left Top of Bank
Right Top of Bank

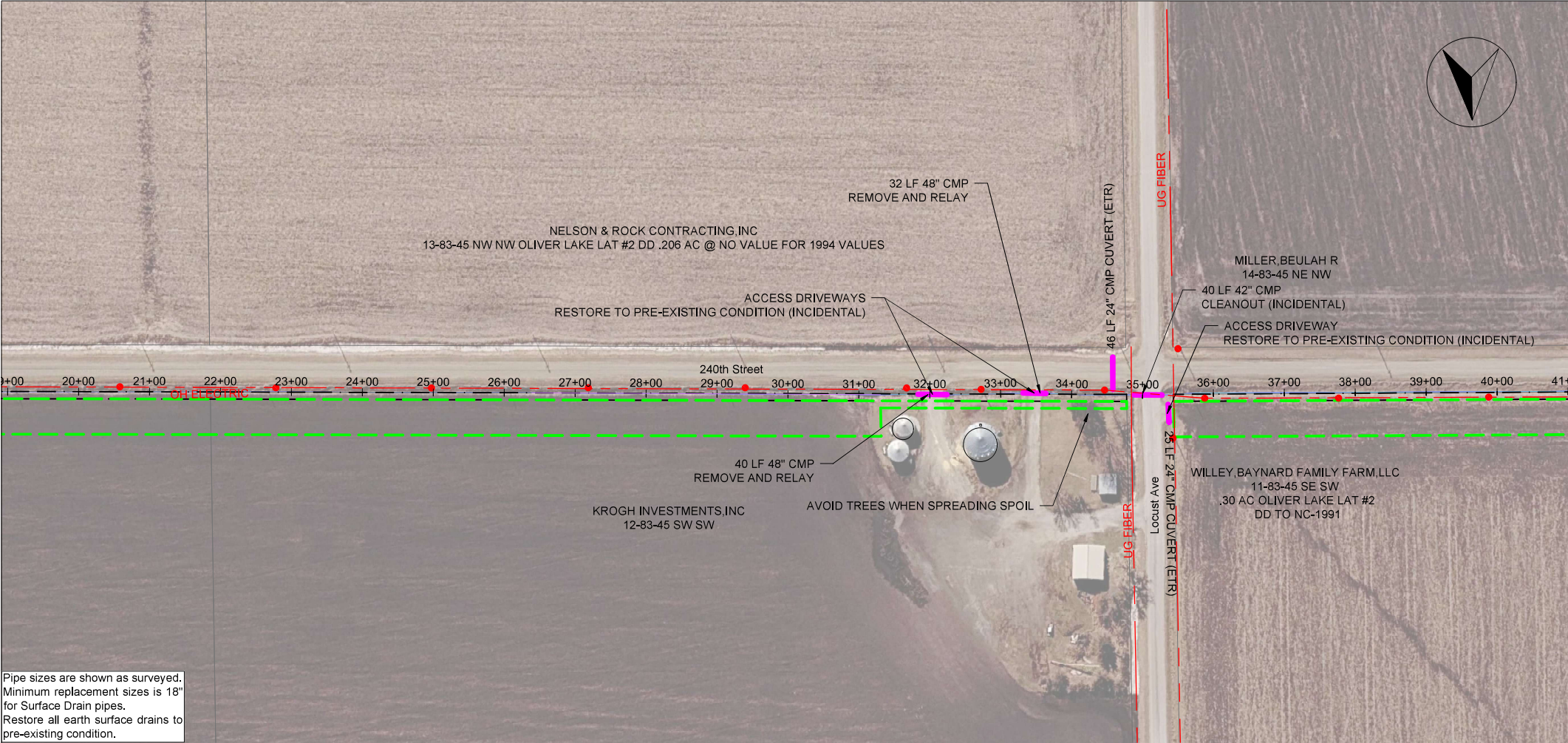
No.	Revision/Issue	Date

Sheet Name
Plan & Profile - Lat. 2
STA 0+00 → 20+00

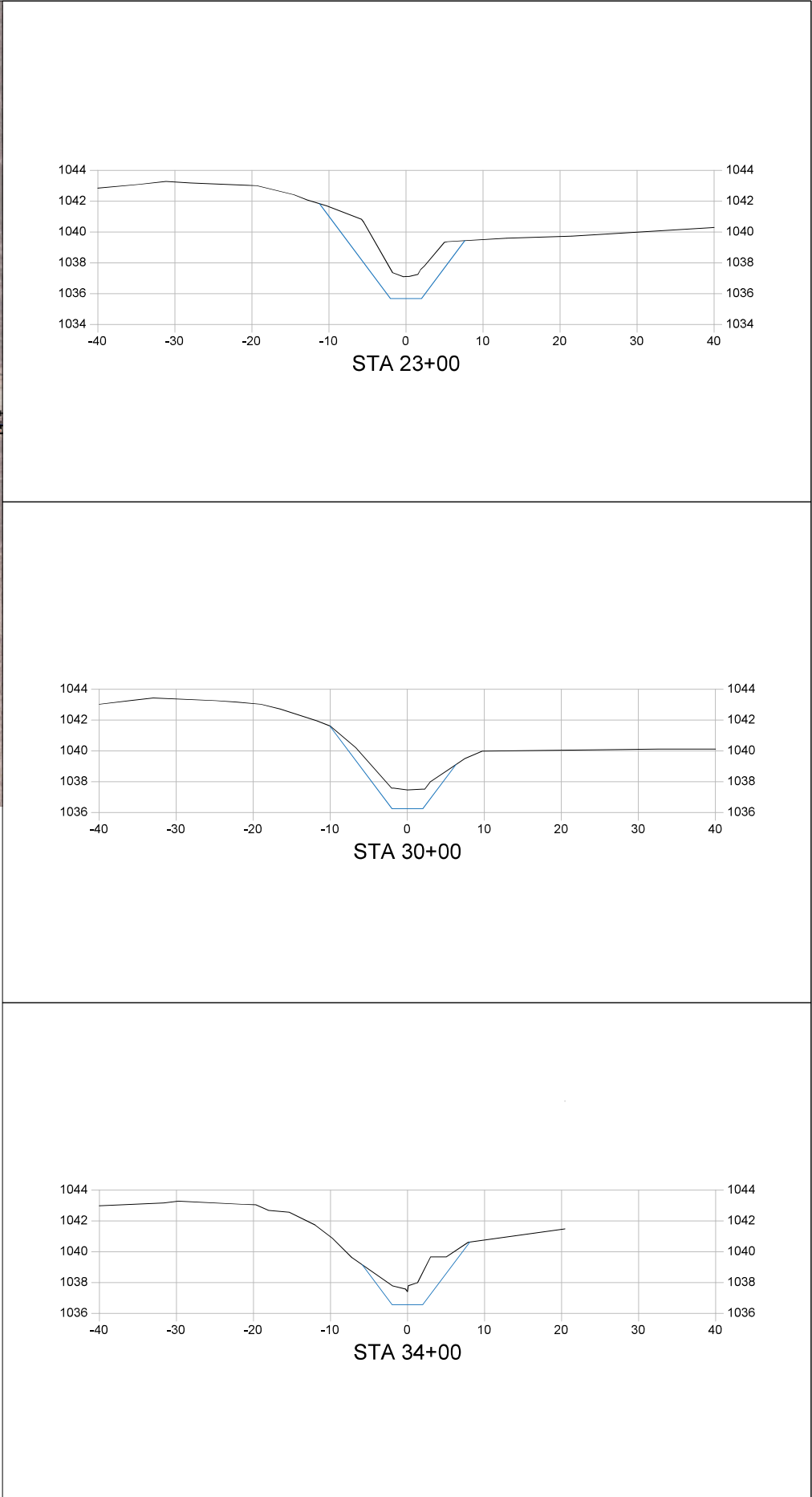
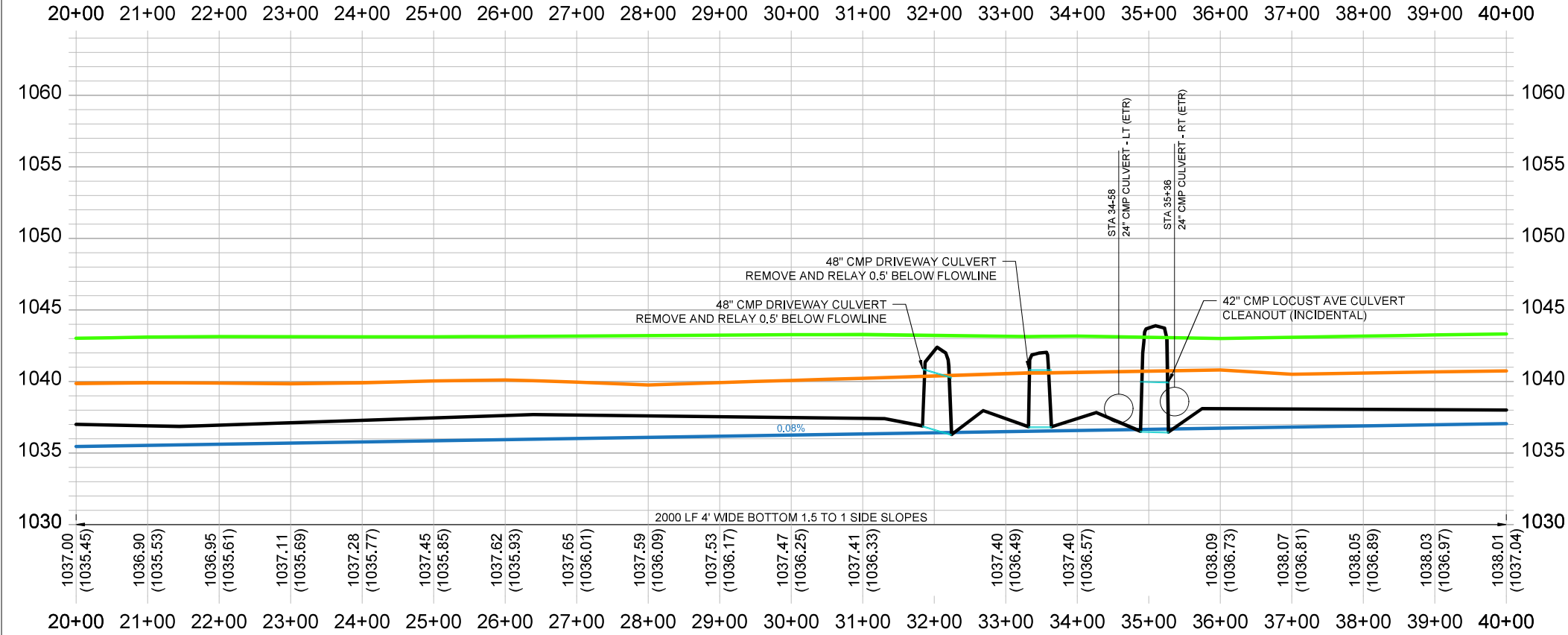
Project Name, Client, and Address
Open Ditch Repairs
Oliver Lake Drainage District Lateral No. 2
Monona County, IA
240th St & Locust Ave

Project
2613-67
Date
2026-06-10
Plan Scale
1"=200'

Sheet
D.10



Pipe sizes are shown as surveyed.
Minimum replacement sizes is 18\"/>



Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
Checker
JLH
JLH

PLAN LEGEND

- Parcel Lines
- Work Area on Private Land (50' Wide)
- Ditch ROW on Private Land (10')
- Surface Drains
- Tile Outlets
- Utilities (in red)
- Power Poles

PROFILE LEGEND

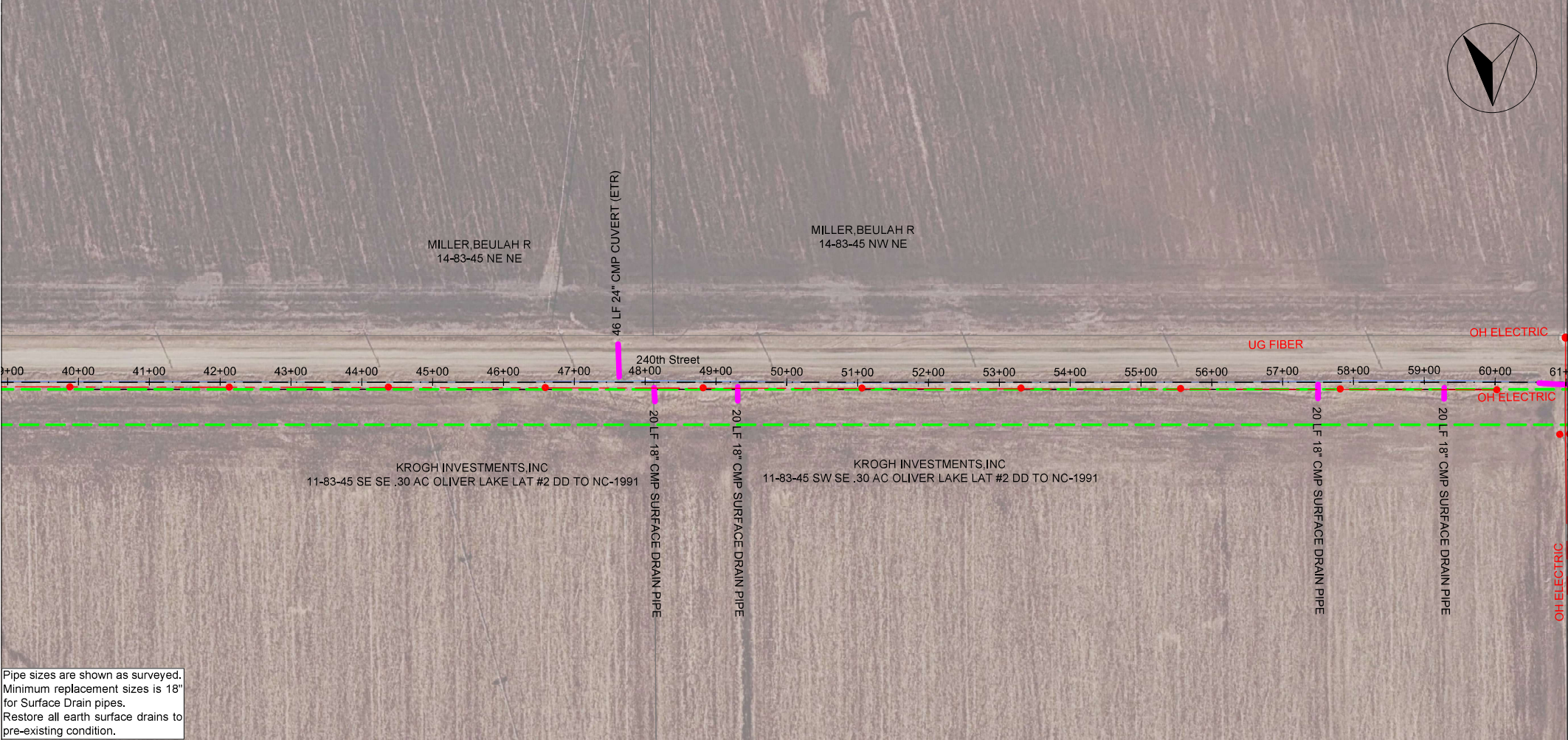
- Design Ditch Grade
- Surveyed Ditch Bottom
- Left Top of Bank
- Right Top of Bank

No.	Revision/Issue	Date

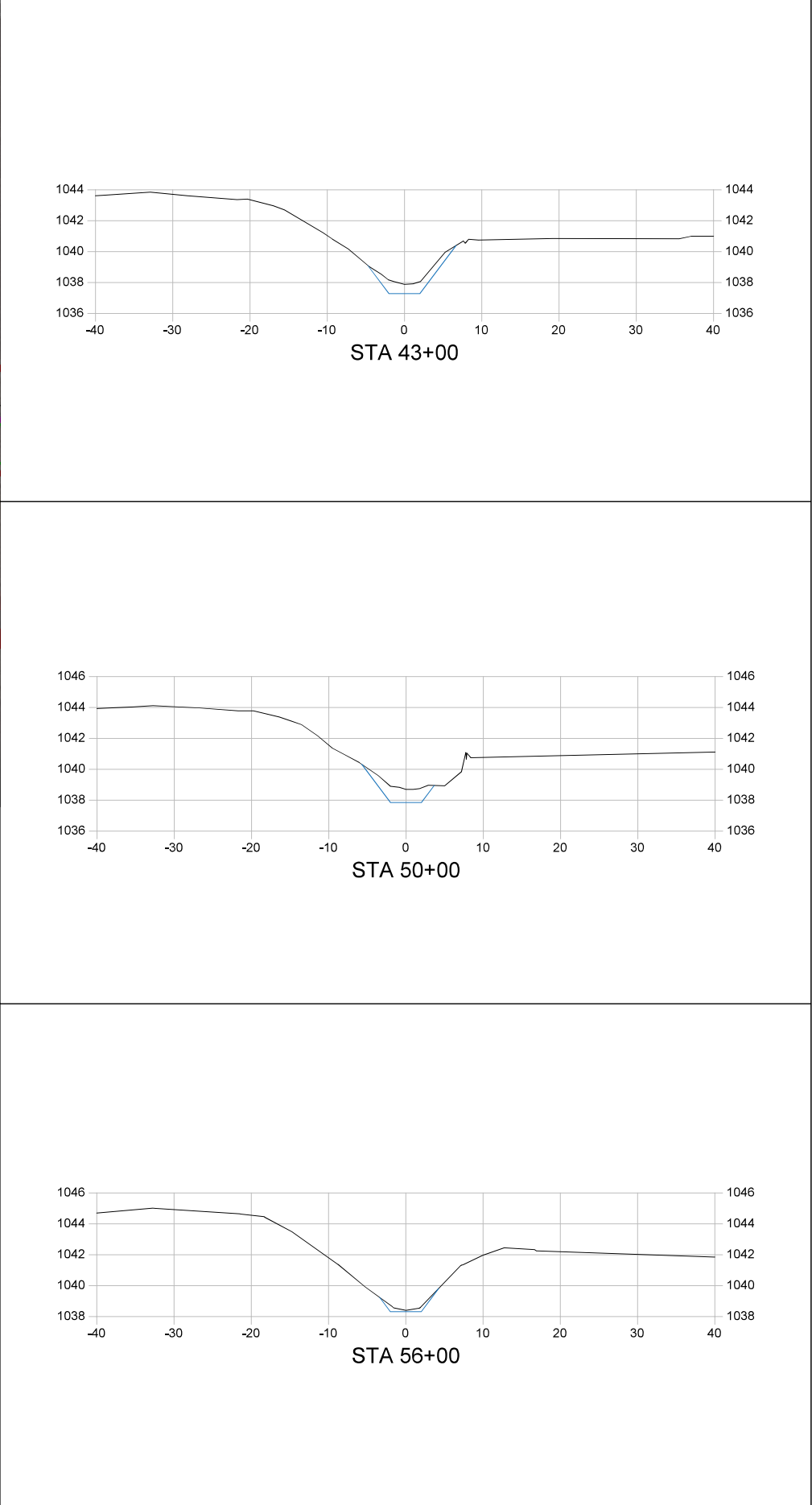
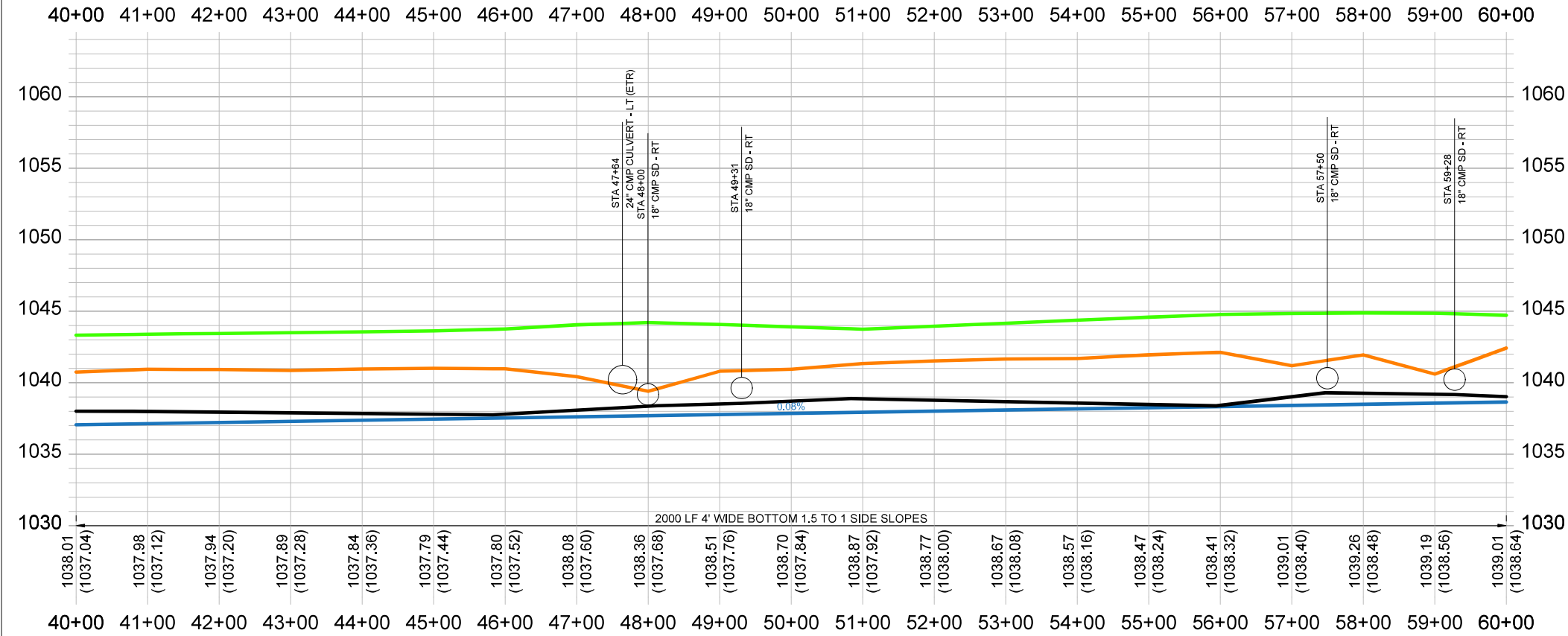
Sheet Name
Plan & Profile - Lat. 2
STA 20+00 → 40+00

Project Name, Client, and Address
Open Ditch Repairs
Oliver Lake Drainage District Lateral No. 2
Monona County, IA
240th St & Locust Ave

Project
2613-67
Date
2026-06-10
Plan Scale
1"=200'
Sheet
D.11



Pipe sizes are shown as surveyed.
Minimum replacement sizes is 18"
for Surface Drain pipes.
Restore all earth surface drains to
pre-existing condition.



Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
JLH
Checker
JLH

PLAN LEGEND

- Parcel Lines
- Work Area on Private Land (50' Wide)
- Ditch ROW on Private Land (10')
- Surface Drains
- Tile Outlets
- Utilities (in red)
- Power Poles

PROFILE LEGEND

- Design Ditch Grade
- Surveyed Ditch Bottom
- Left Top of Bank
- Right Top of Bank

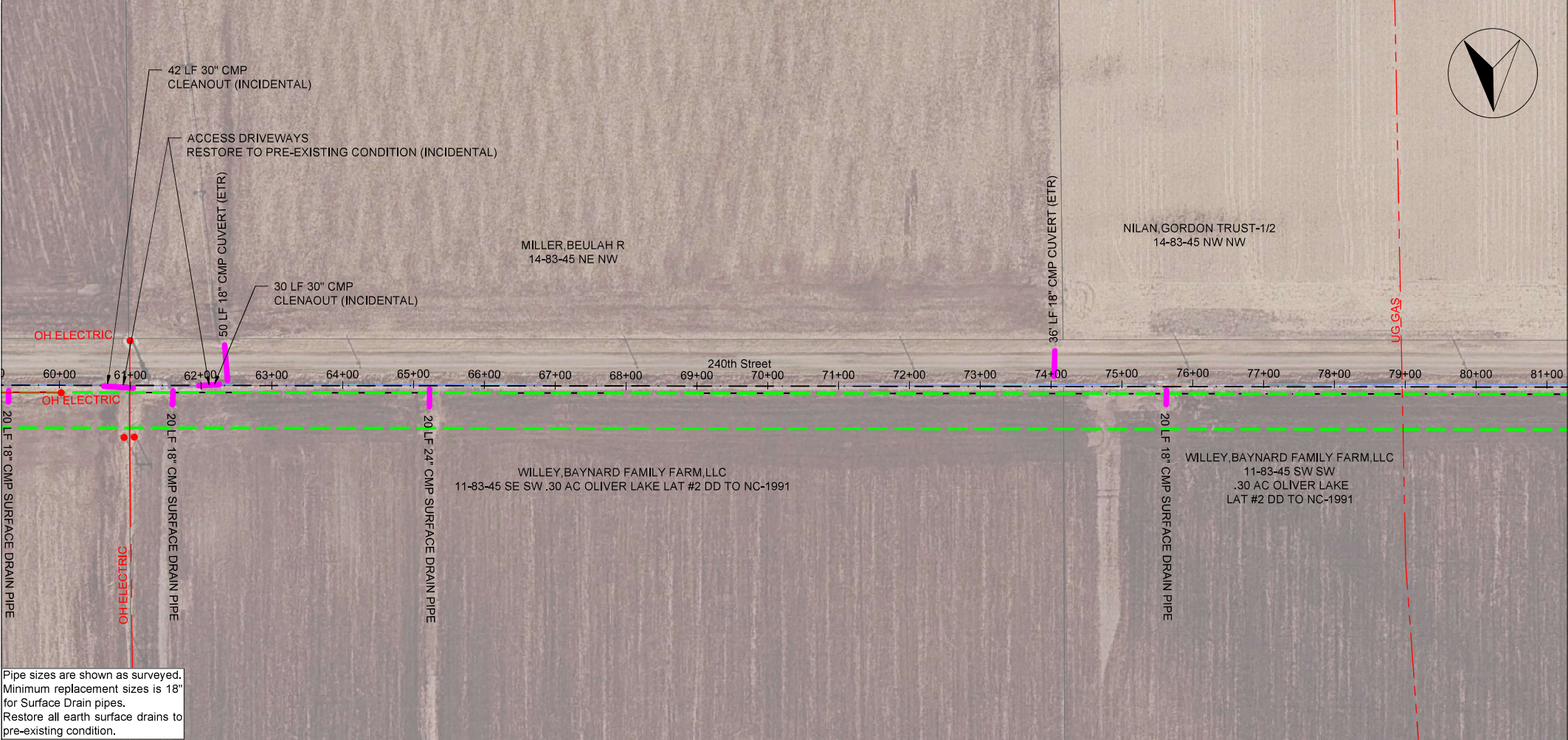
No.	Revision/Issue	Date

Sheet Name
Plan & Profile - Lat. 2
STA 40+00 → 60+00

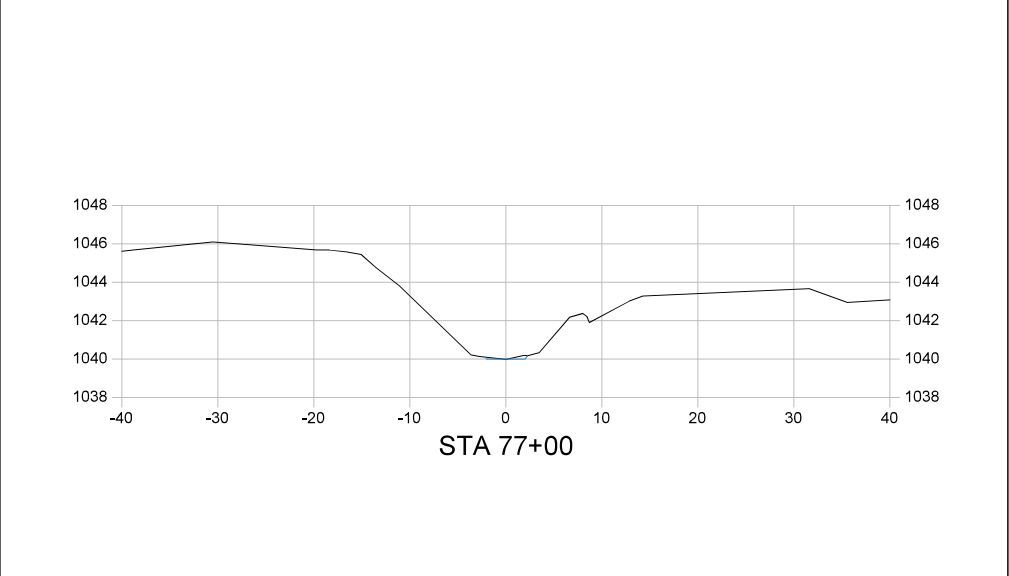
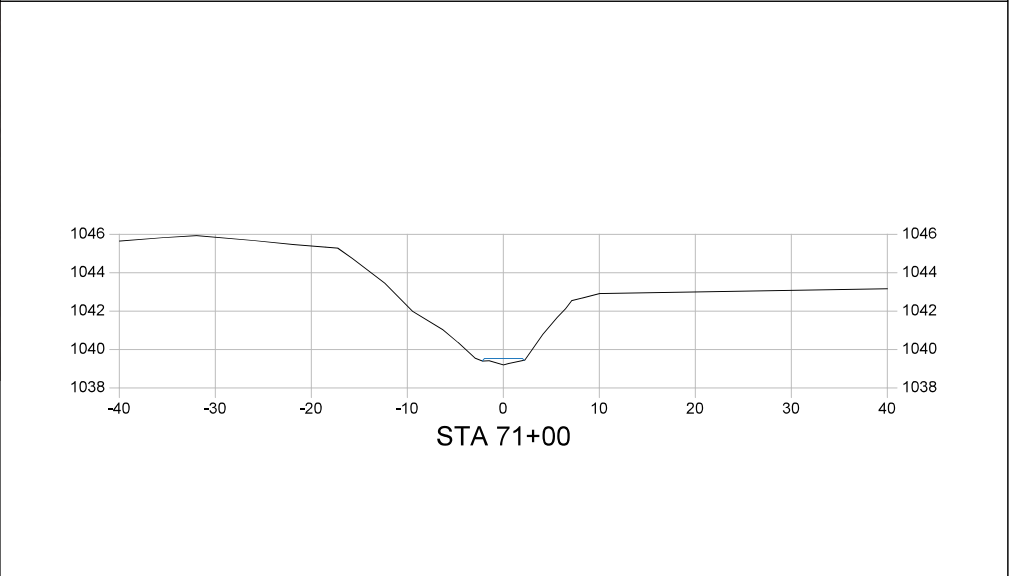
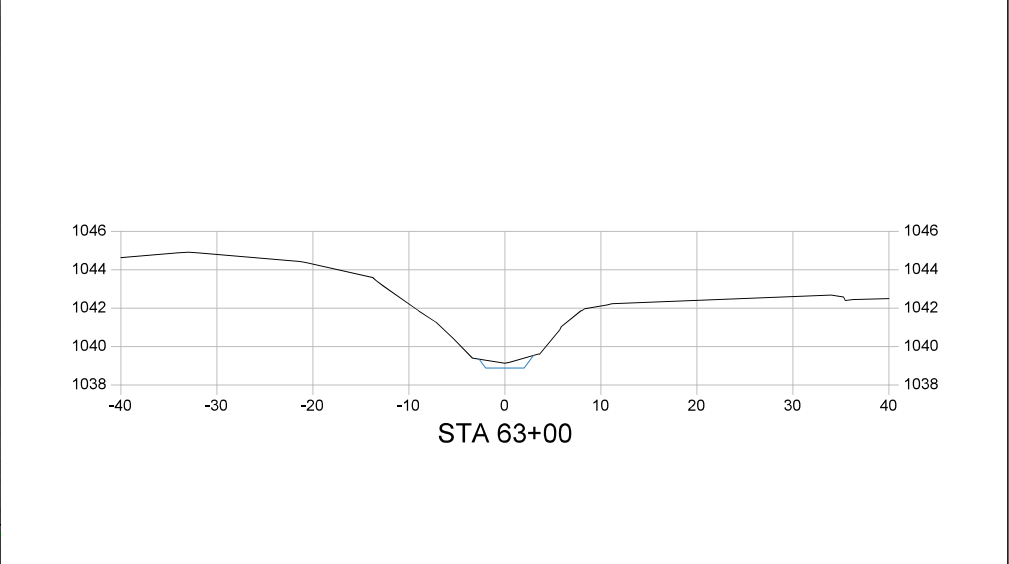
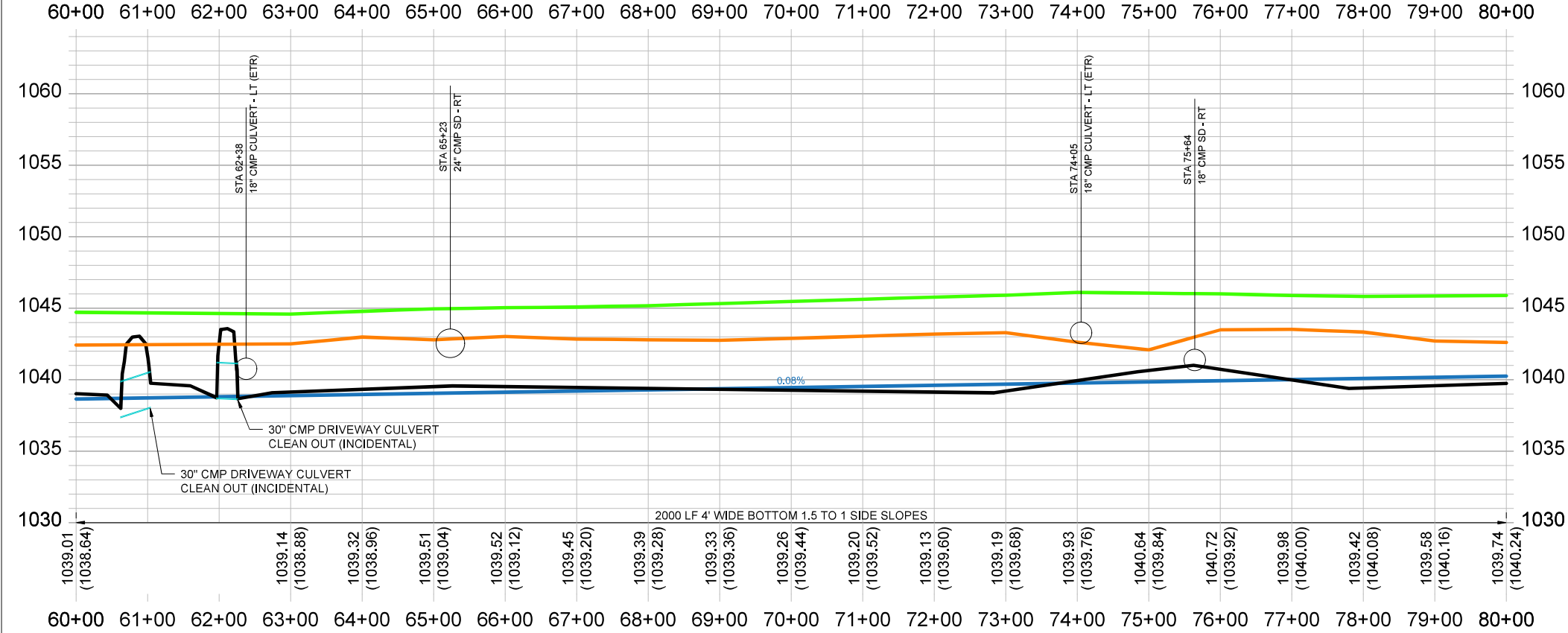
Project Name, Client, and Address
Open Ditch Repairs
Oliver Lake Drainage District Lateral No. 2
Monona County, IA
240th St & Locust Ave

Project
2613-67
Date
2026-06-10
Plan Scale
1"=200'

Sheet
D.12



Pipe sizes are shown as surveyed.
Minimum replacement sizes is 18"
for Surface Drain pipes.
Restore all earth surface drains to
pre-existing condition.



Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
Checker
JLH
JLH
JLH

PLAN LEGEND
Parcel Lines
Work Area on Private Land (50' Wide)
Ditch ROW on Private Land (10')
Surface Drains
Tile Outlets
Utilities (in red)
Power Poles

PROFILE LEGEND
Design Ditch Grade
Surveyed Ditch Bottom
Left Top of Bank
Right Top of Bank

No.	Revision/Issue	Date

Sheet Name
Plan & Profile - Lat. 2
STA 60+00 → 80+00

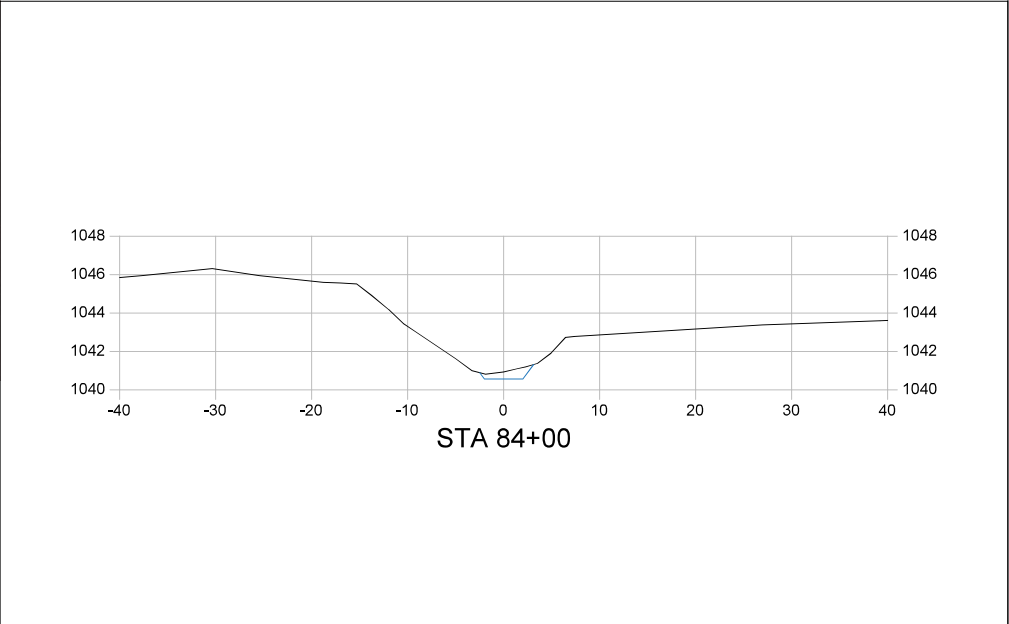
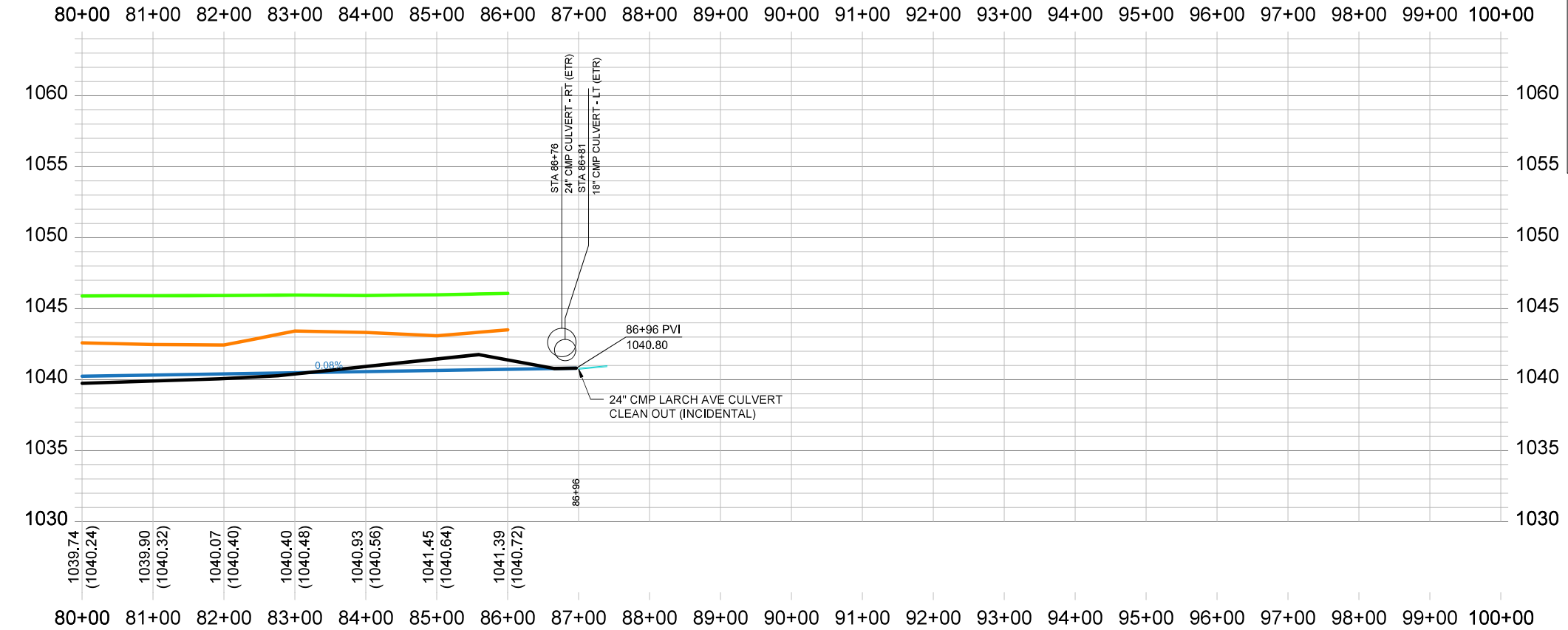
Project Name, Client, and Address
Open Ditch Repairs
Oliver Lake Drainage District Lateral No. 2
Monona County, IA
240th St & Locust Ave

Project
2613-67
Date
2026-06-10
Plan Scale
1"=200'

Sheet
D.13



Pipe sizes are shown as surveyed.
Minimum replacement sizes is 18\"/>



Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
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JLH
JLH

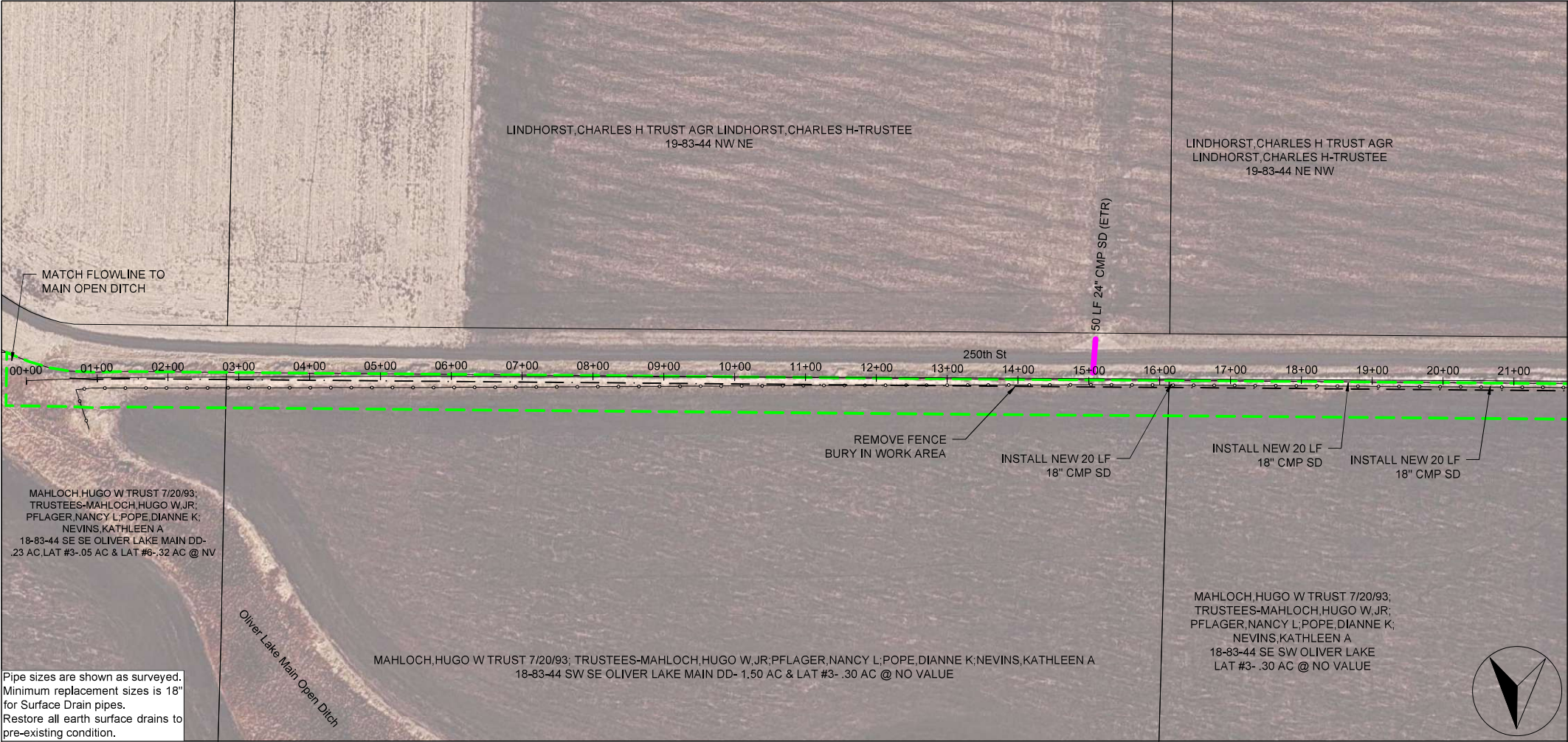
PLAN LEGEND
Parcel Lines
Work Area on Private Land (50' Wide)
Ditch ROW on Private Land (10')
Surface Drains
Tile Outlets
Utilities (in red)
Power Poles

PROFILE LEGEND
Design Ditch Grade
Surveyed Ditch Bottom
Left Top of Bank
Right Top of Bank

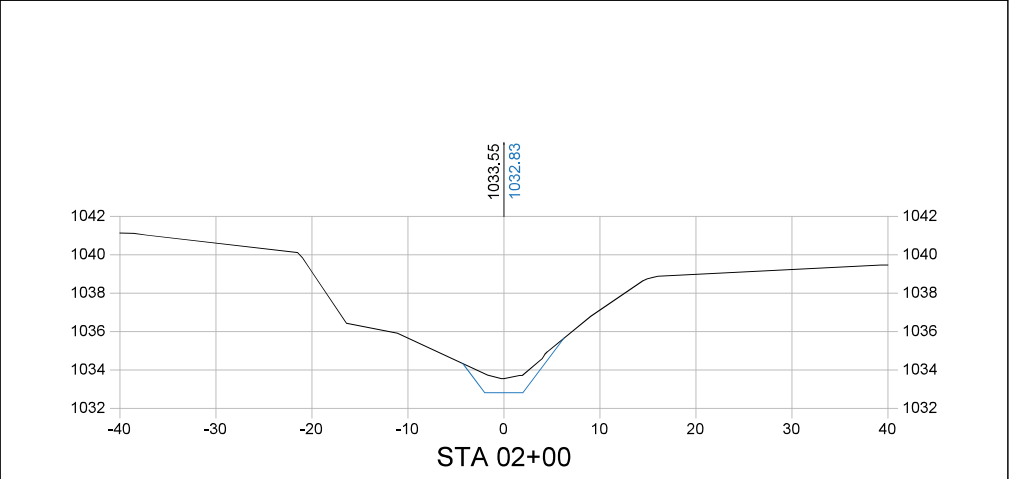
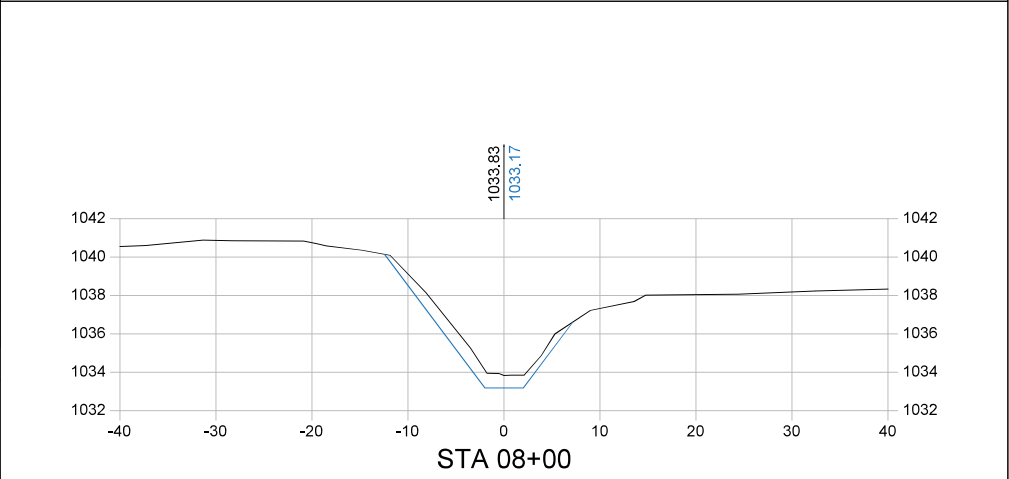
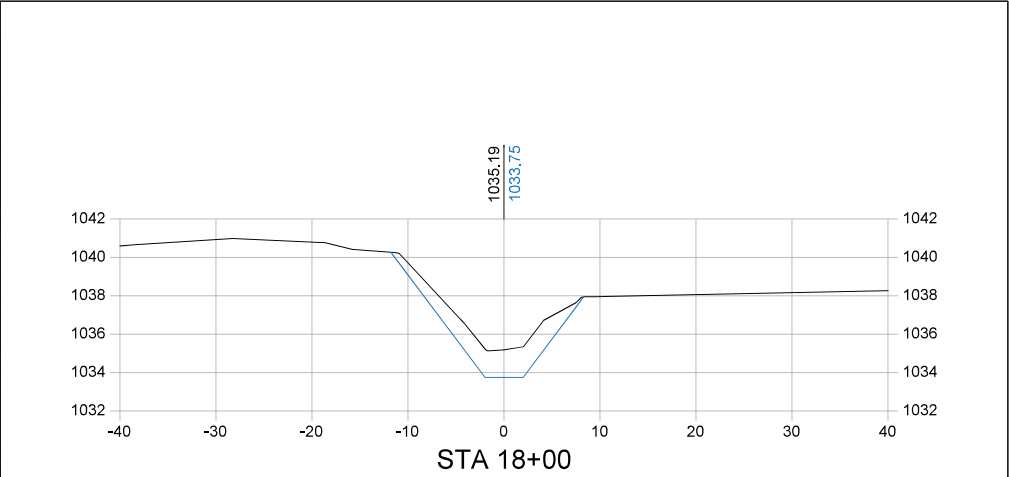
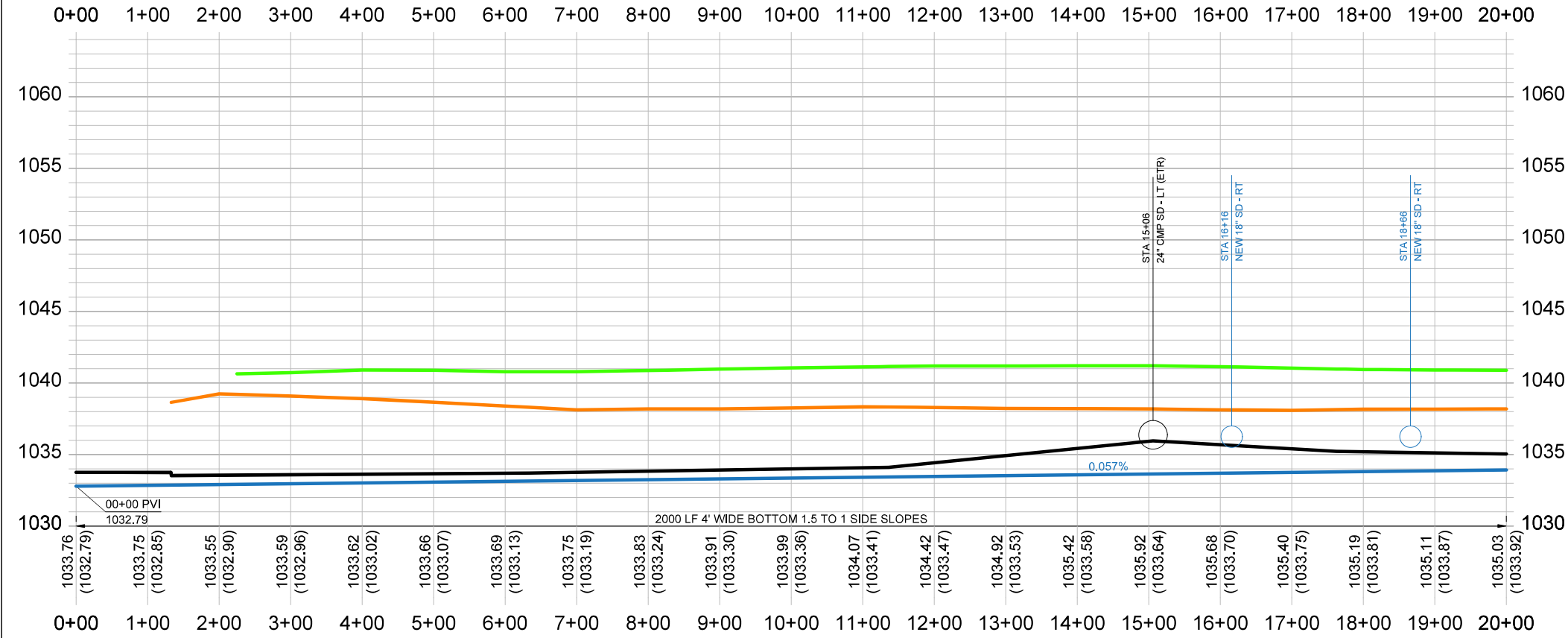
No.	Revision/Issue	Date

Sheet Name
**Plan & Profile - Lat. 2
STA 80+00 → 86+96**

Project 2613-67	D.14
Date 2026-06-10	
Plan Scale 1"=200'	



Pipe sizes are shown as surveyed.
Minimum replacement sizes is 18" for Surface Drain pipes.
Restore all earth surface drains to pre-existing condition.



Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
Checker
JLH

PLAN LEGEND
Parcel Lines
Work Area on Private Land (50' Wide)
Ditch ROW on Private Land (10')
Surface Drains
Tile Outlets
Utilities (in red)
Power Poles

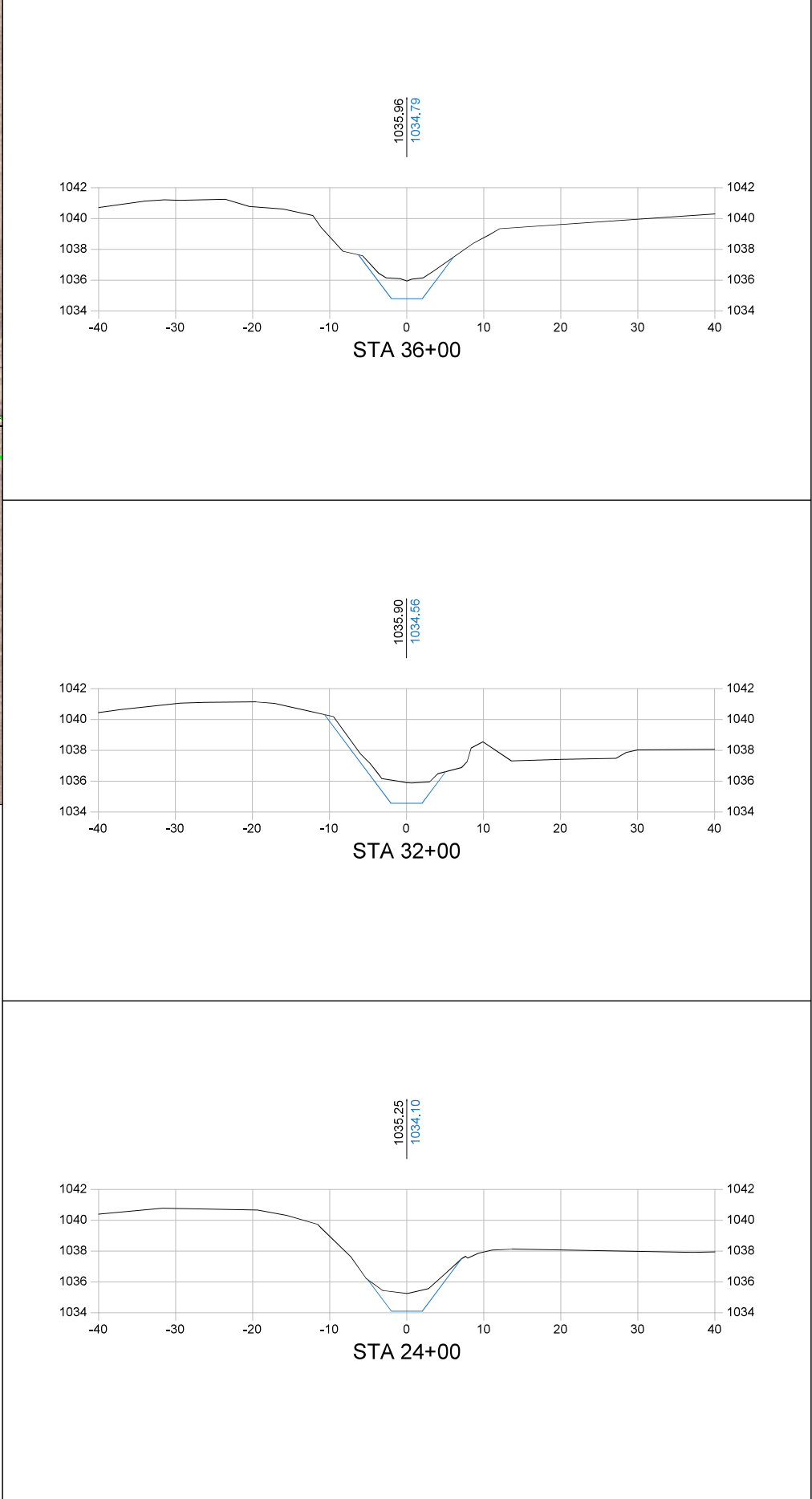
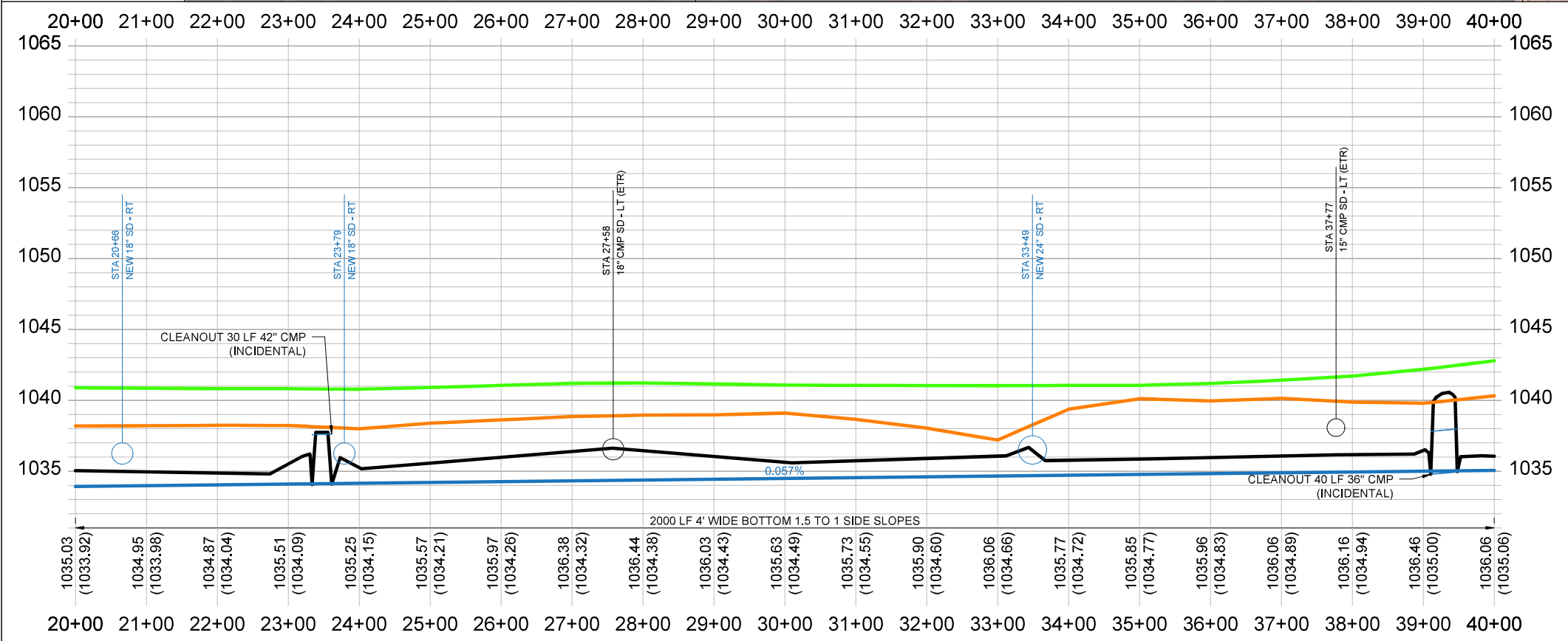
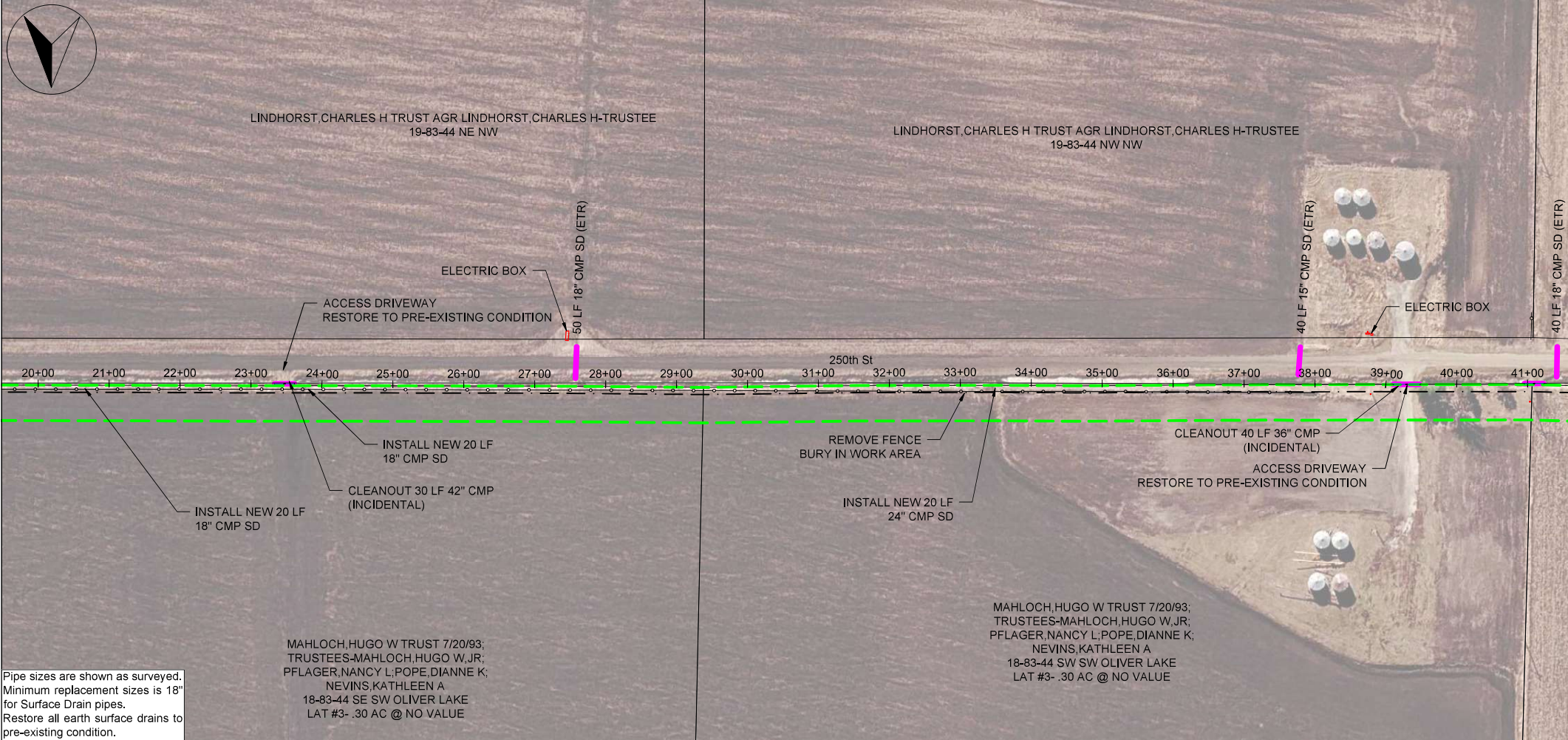
PROFILE LEGEND
Design Ditch Grade
Surveyed Ditch Bottom
Left Top of Bank
Right Top of Bank

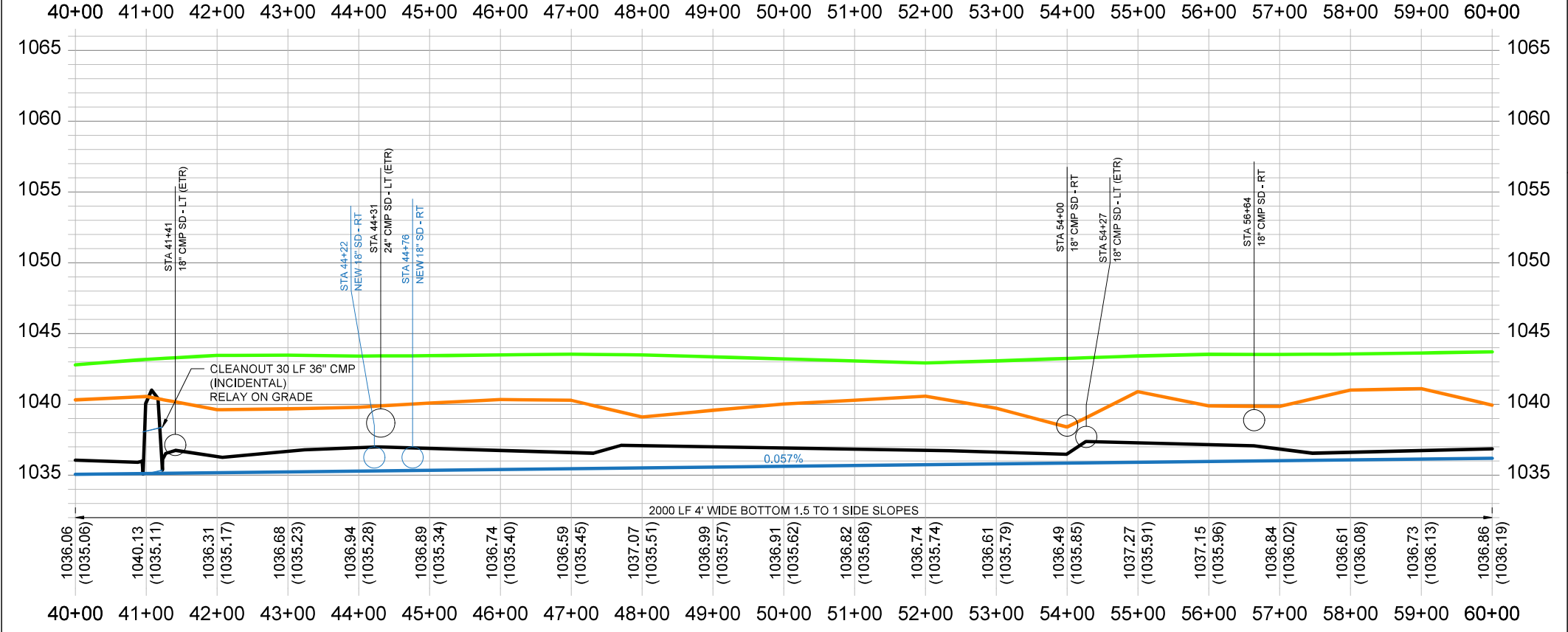
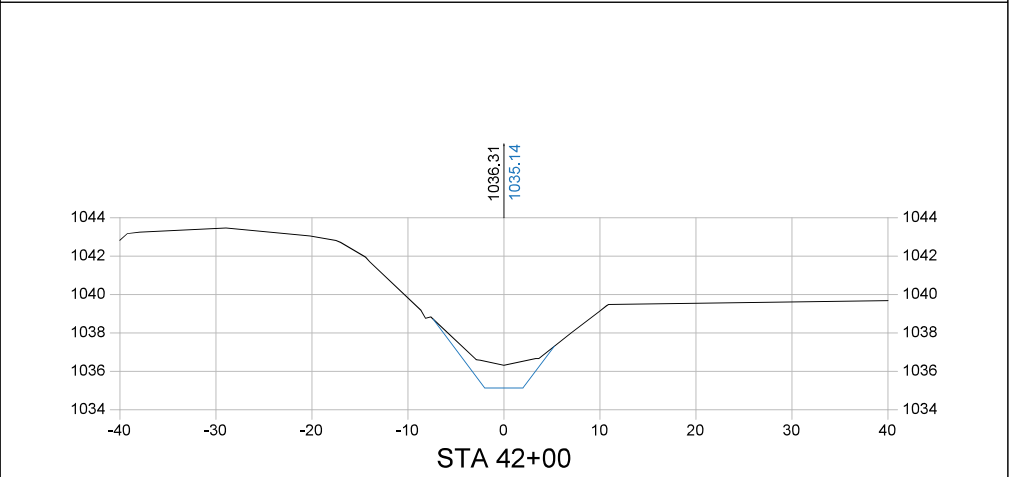
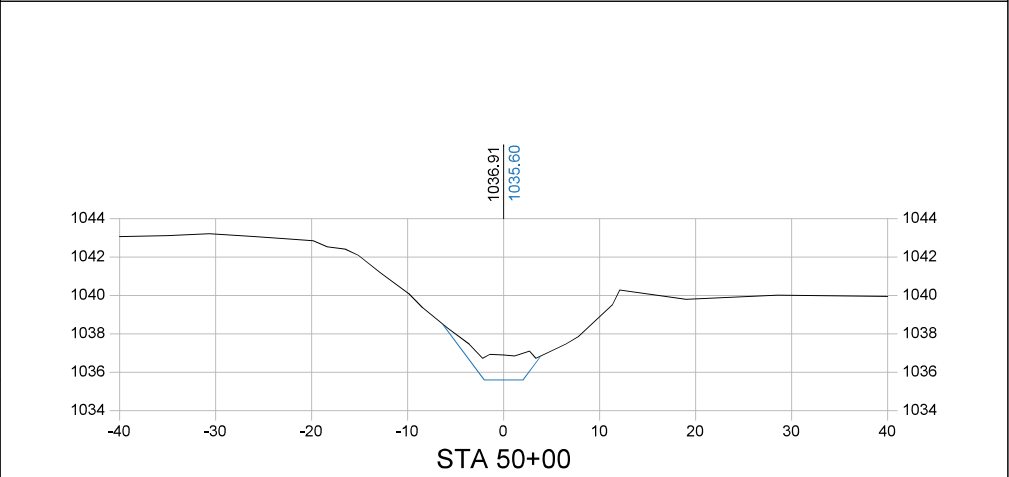
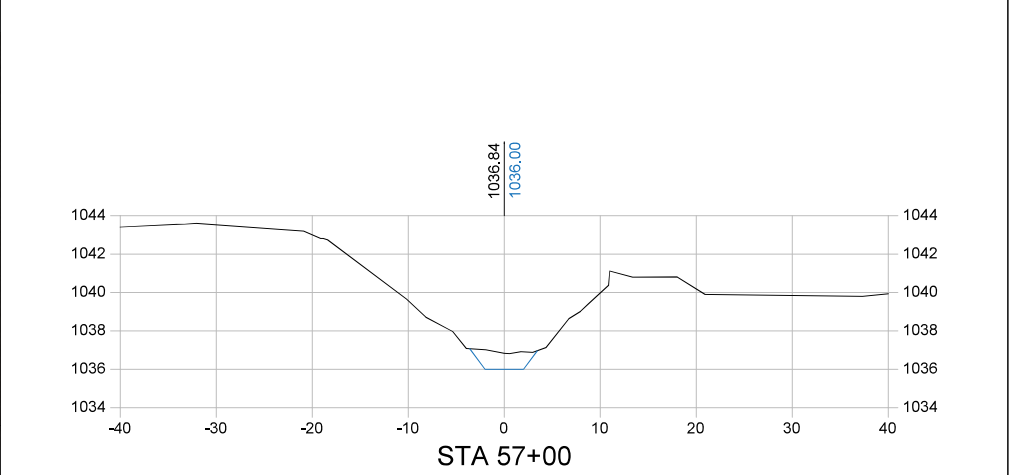
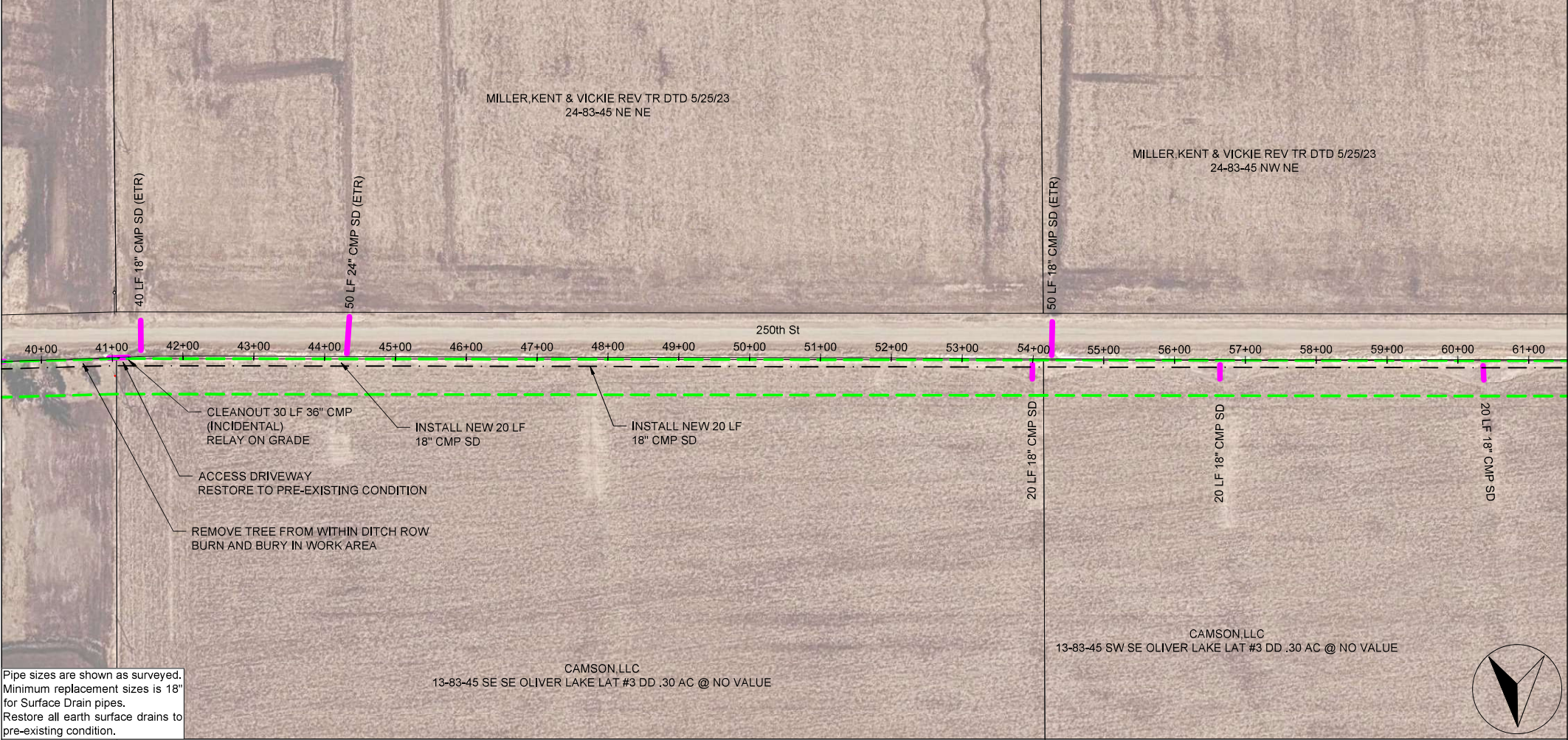
No.	Revision/Issue	Date

Sheet Name
**Plan & Profile - Lat. 3
STA 0+00 → 20+00**

Project Name, Client, and Address
**Open Ditch Repair
Oliver Lake Lat. 3
Monona County, IA
250th St & Locust Ave, Onawa, IA 51040**

Project
2614-67
Date
2026-06-26
Plan Scale
1' = 200'
Sheet
D.15





C:\Users\burnall\OneDrive\Documents\Team Folder\LOGO\AgriVia_email.jpg

Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
Checker
TJB
JLH

PLAN LEGEND
Parcel Lines
Work Area on Private Land (50' Wide)
Ditch ROW on Private Land (10')
Surface Drains
Tile Outlets
Utilities (in red)
Power Poles

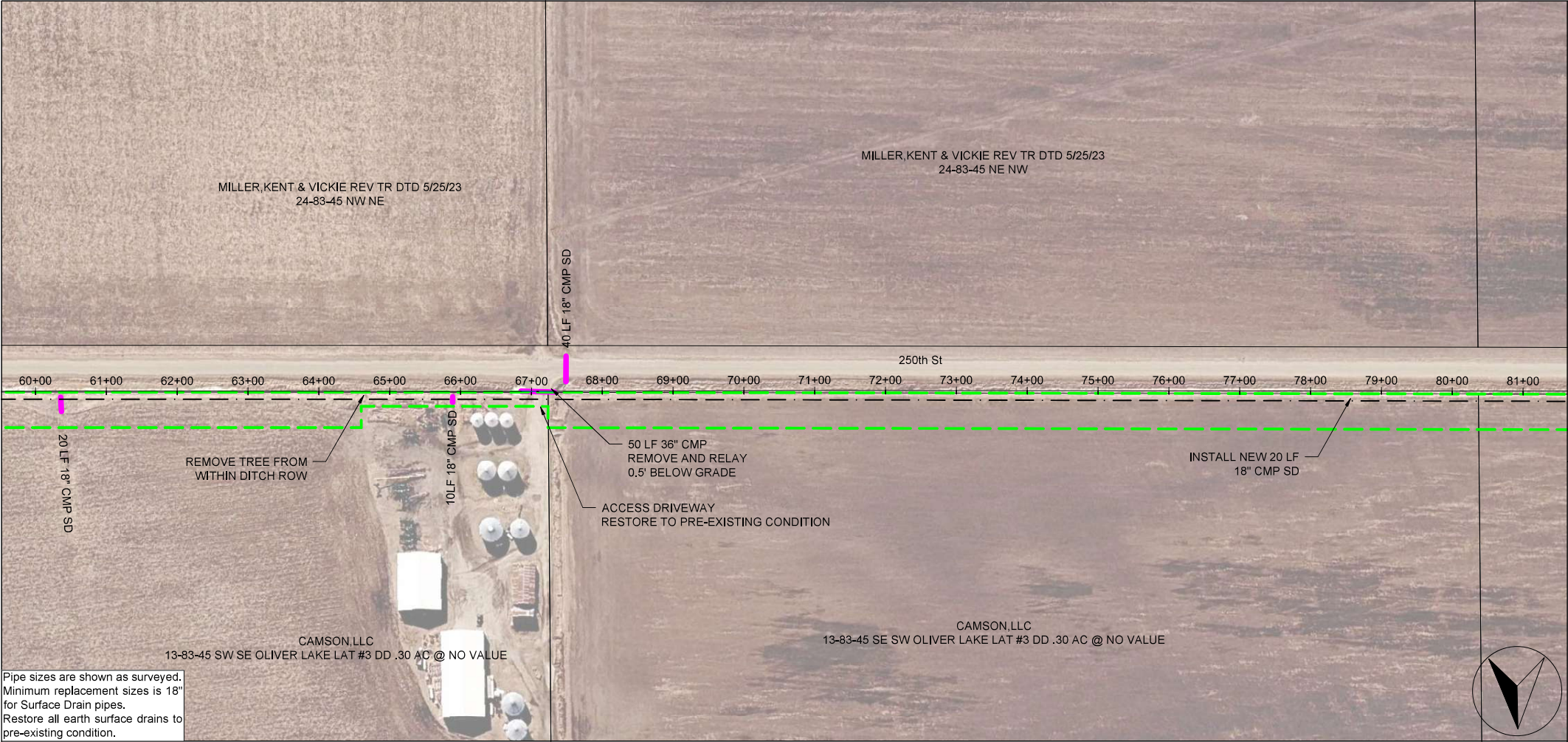
PROFILE LEGEND
Design Ditch Grade
Surveyed Ditch Bottom
Left Top of Bank
Right Top of Bank

No.	Revision/Issue	Date

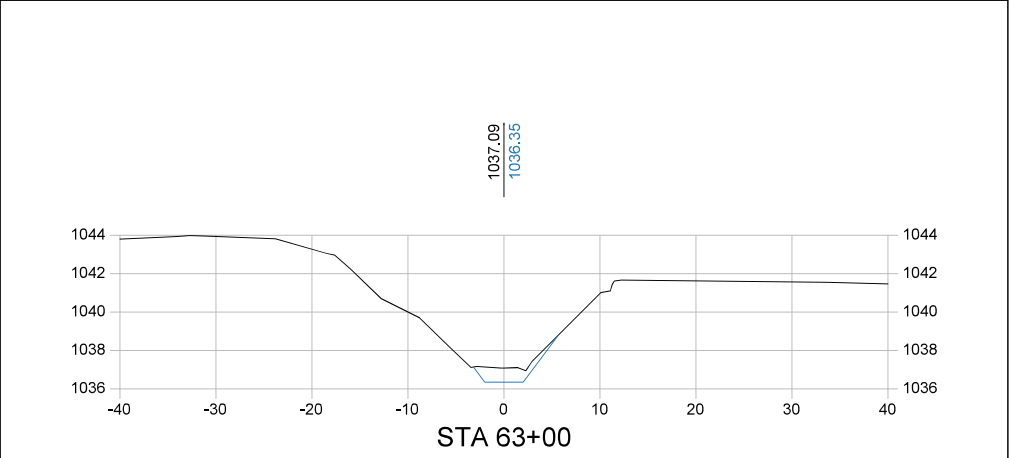
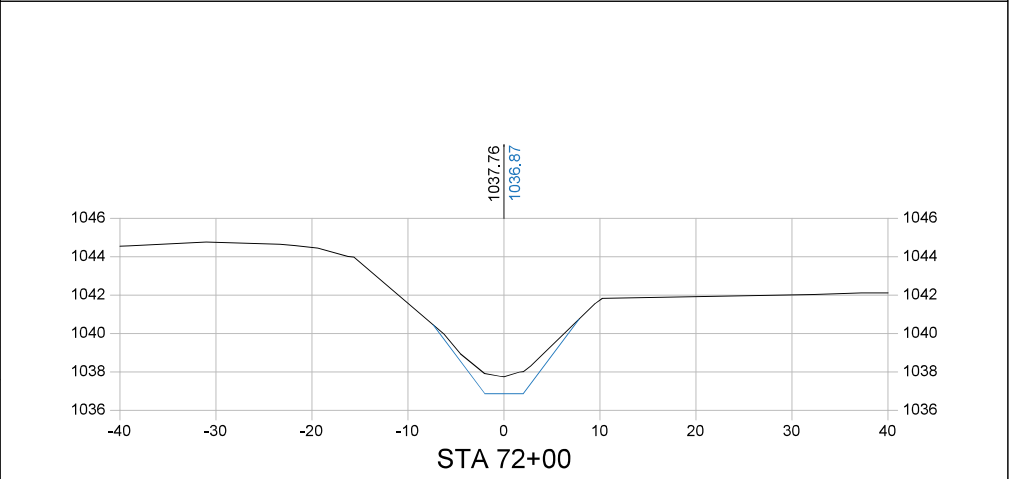
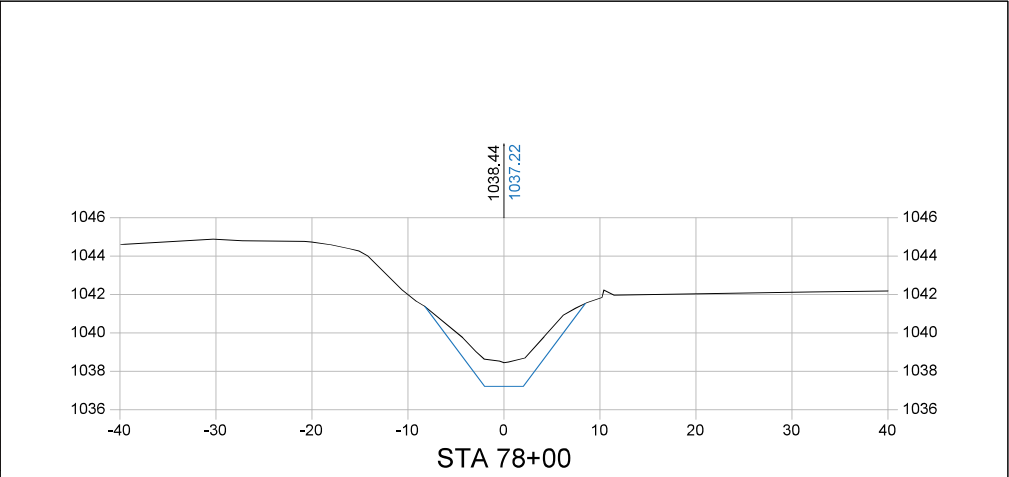
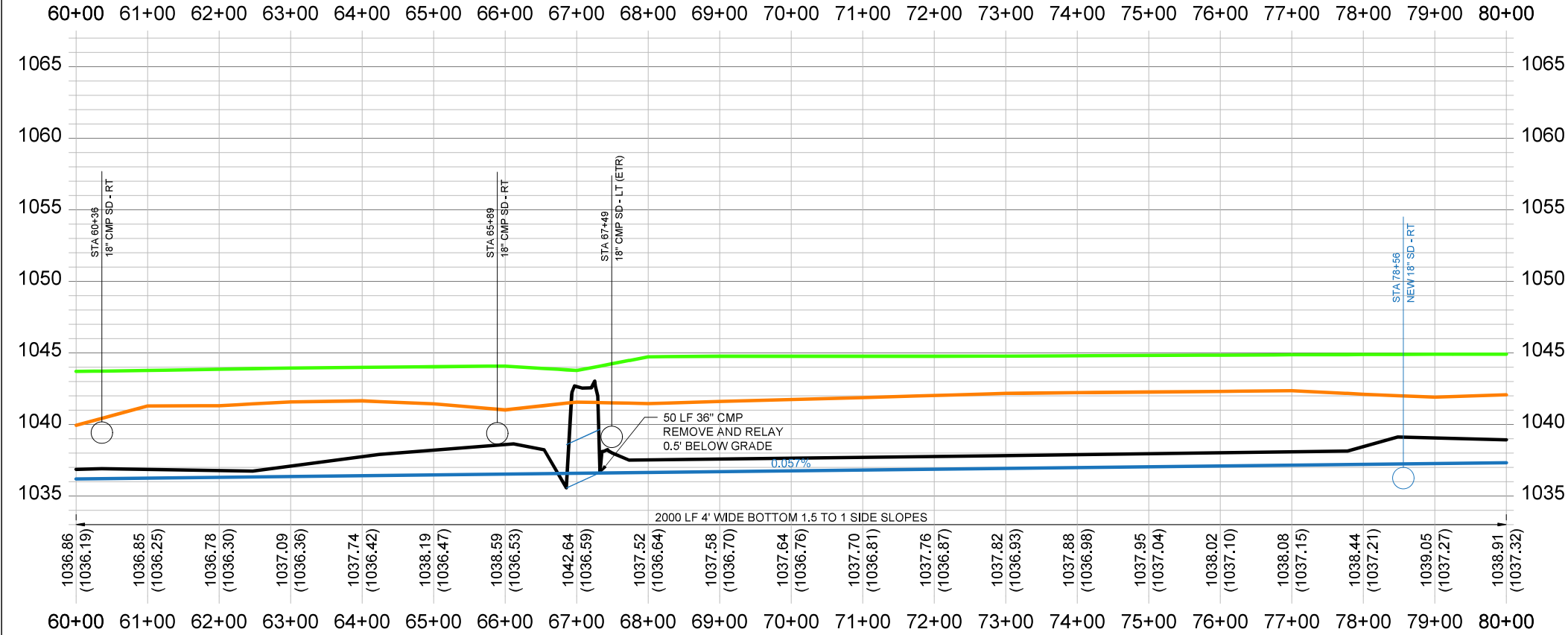
Sheet Name
**Plan & Profile - Lat. 3
STA 40+00 → 60+00**

Project Name, Client, and Address
**Open Ditch Repair
Oliver Lake Lat. 3
Monona County, IA
250th St & Locust Ave, Onawa, IA 51040**

Project	Sheet
2614-67	D.17
Date 2026-06-26	
Plan Scale 1' = 200'	



Pipe sizes are shown as surveyed.
Minimum replacement sizes is 18\"/>



Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
Checker
TJB
JLH

PLAN LEGEND
Parcel Lines
Work Area on Private Land (50' Wide)
Ditch ROW on Private Land (10')
Surface Drains
Tile Outlets
Utilities (in red)
Power Poles

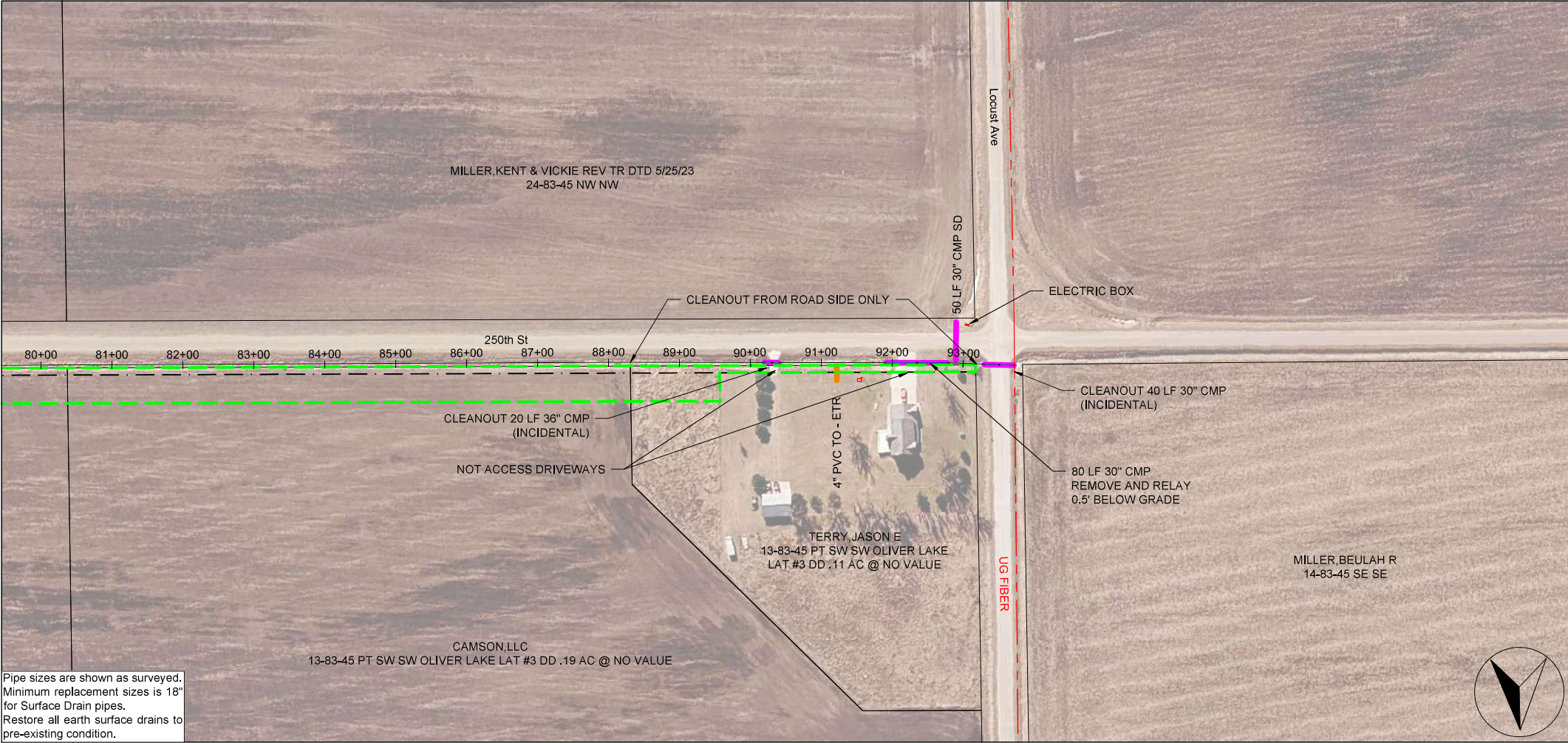
PROFILE LEGEND
Design Ditch Grade
Surveyed Ditch Bottom
Left Top of Bank
Right Top of Bank

No.	Revision/Issue	Date

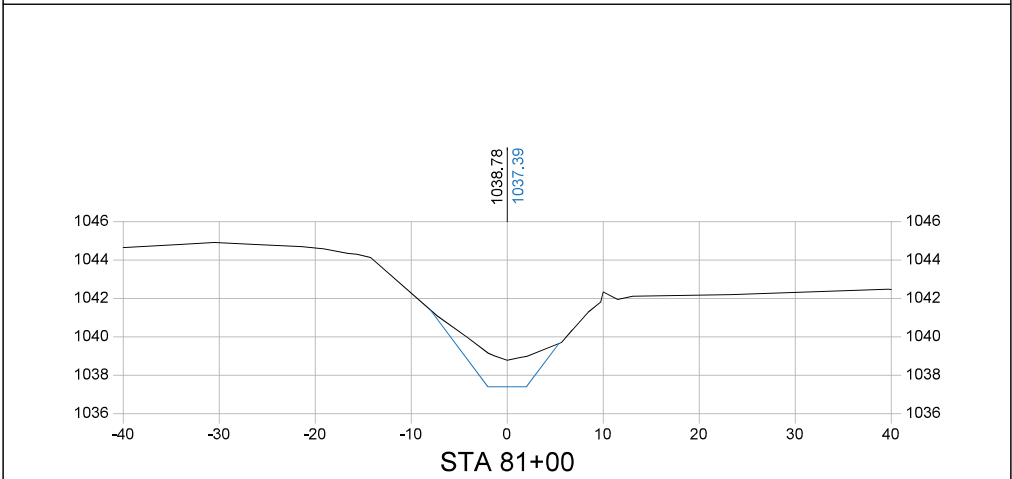
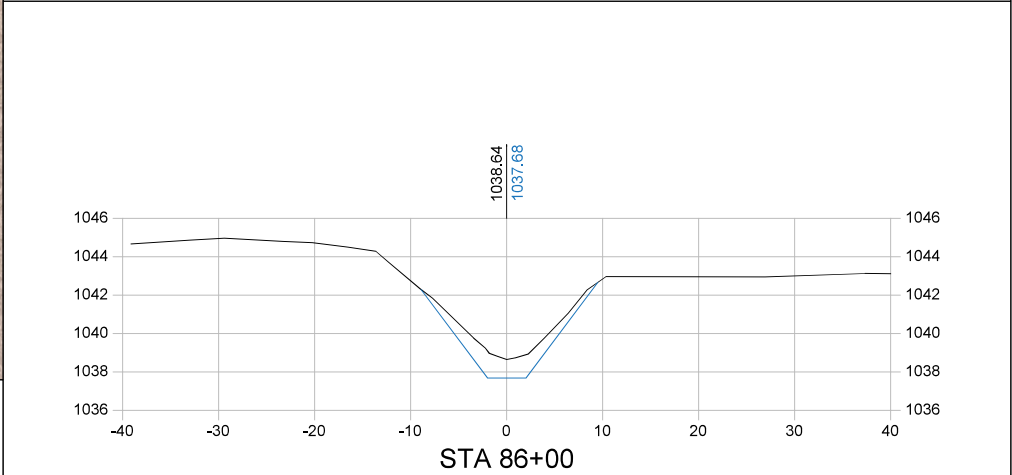
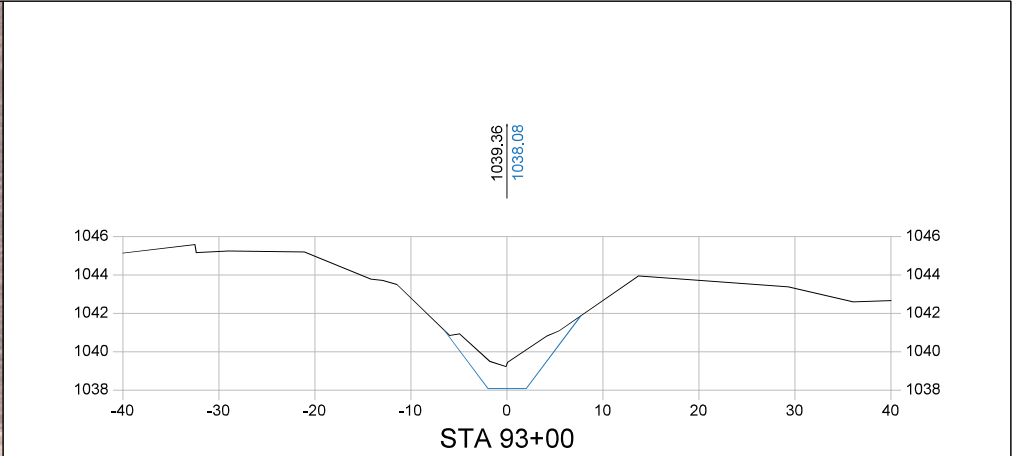
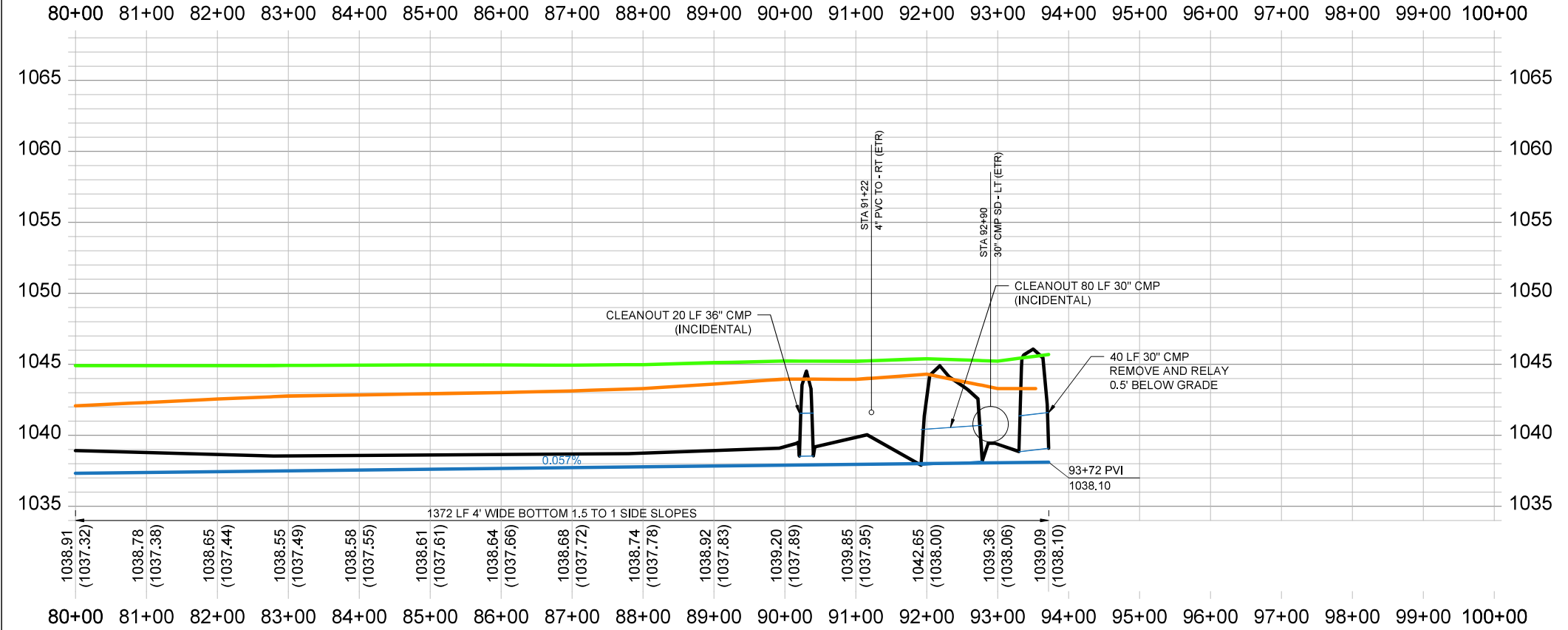
Sheet Name
Plan & Profile - Lat. 3
STA 60+00 → 80+00

Project Name, Client, and Address
Open Ditch Repair
Oliver Lake Lat. 3
Monona County, IA
250th St & Locust Ave, Onawa, IA 51040

Project
2614-67
Date
2026-06-26
Plan Scale
1' = 200'
Sheet
D.18



Pipe sizes are shown as surveyed.
Minimum replacement sizes is 18" for Surface Drain pipes.
Restore all earth surface drains to pre-existing condition.



Company Information
AgriVia PLLC
PO Box 44
1124 Willis Ave
Perry, IA 50220

Designer
Drafter
Checker
TJB
JLH

PLAN LEGEND
Parcel Lines
Work Area on Private Land (50' Wide)
Ditch ROW on Private Land (10')
Surface Drains
Tile Outlets
Utilities (in red)
Power Poles

PROFILE LEGEND
Design Ditch Grade
Surveyed Ditch Bottom
Left Top of Bank
Right Top of Bank

No.	Revision/Issue	Date

Sheet Name
Plan & Profile - Lat. 3
STA 80+00 → 93+72

Project Name, Client, and Address
Open Ditch Repair
Oliver Lake Lat. 3
Monona County, IA
250th St & Locust Ave, Onawa, IA 51040

Project
2614-67
Date
2026-06-26
Plan Scale
1' = 200'
Sheet
D.19