

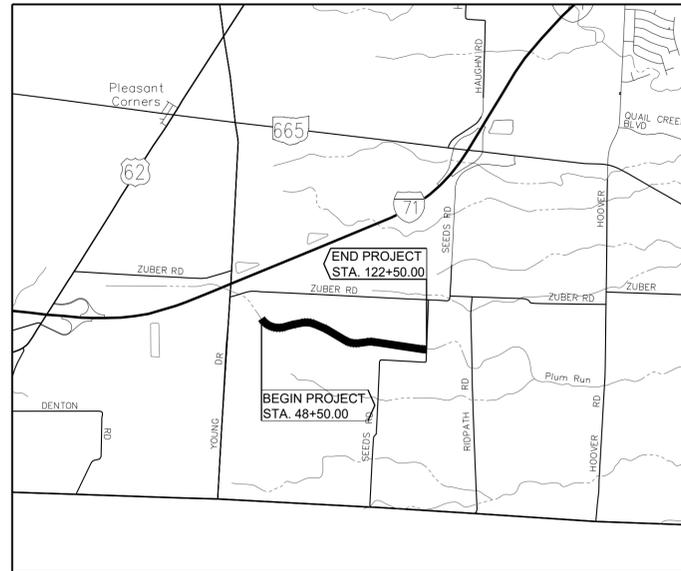
FRANKLIN COUNTY, OHIO

OFFICE OF THE COUNTY ENGINEER

ZUBER ROAD (T-267) — PLUM RUN DRAINAGE IMPROVEMENTS

SECTION 2

JACKSON TOWNSHIP



LOCATION MAP

LATITUDE: N 39° 49' 43" LONGITUDE: W 83° 07' 59"
NO SCALE



- PORTION TO BE IMPROVED
- COUNTY ROAD
- INTERSTATE ROUTE
- TOWNSHIP ROAD

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2-3
TYPICAL SECTIONS	4
GENERAL NOTES	5-6A
GENERAL SUMMARY	7
PROJECT SITE PLAN	8-9
PLAN & PROFILE	10-16
CROSS SECTIONS	17-35
BOX CULVERT DETAILS	36-39

PROJECT DESCRIPTION

This project consists of 7,400 linear feet of drainage ditch improvements and profile grade restoration to address impairment by sediment deposition and allow major flood routing to function properly.

EARTH DISTURBED AREA

Project earth disturbed area: 6.82 Acres
Estimated contractor earth disturbed area: 0.25 Acres
Notice of intent earth disturbed area: 7.07 Acres

2023 SPECIFICATIONS

The 2023 Standard Specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement unless noted otherwise.

Signatures below signify only concurrence with the general purpose and general location of the project. All technical details remain the responsibility of the engineer preparing the plans.

I approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth in the plans and estimates.

FRANKLIN COUNTY

JAKR Approved Date 5/24/2022 Franklin County Engineer

JAKR Approved Date 05/02/2022 Franklin County Chief Deputy Engineer

We, the commissioners of Franklin County in formal session, hereby approve these plans.

Approved Date 5/17/2022 Franklin County Commissioner

Approved Date 5/17/2022 Franklin County Commissioner

Approved _____ Date _____ Franklin County Commissioner

Ohio Utilities Protection Service



PLAN PREPARED BY:
CESO
2800 Corporate Exchange Drive, Suite 400
Columbus, Ohio 43231
614.794.7080
www.cesoinc.com



08/21/2025
Todd Hanahan, PE
Registered Engineer

No. 81708

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
ODOT					
DM-1.1	7-17-2020			830 4-16-2021	FCEO 100 SECTION
DM-4.2	7-20-2012			832 07-19-2024	47-17-2023
DM-4.4	1-15-2016				
MT-97.10	04-19-2019				
				PERMITS	
				LRH-2021-805-SCR	

REVISIONS			
REV.	DESCRIPTION	INITIAL	DATE

FEDERAL PROJECT NO.
NON-FEDERAL

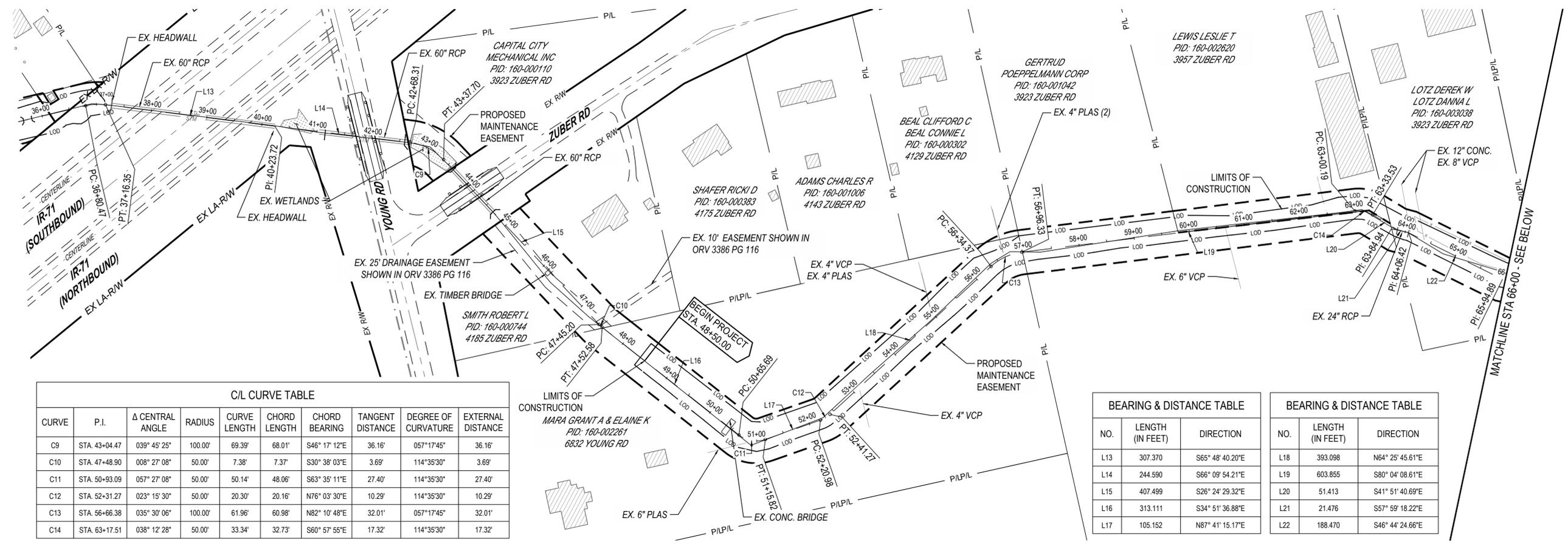
P.I.D.
N/A

CONSTRUCTION PROJECT NO.
N/A

RAILROAD INVOLVEMENT
NONE

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

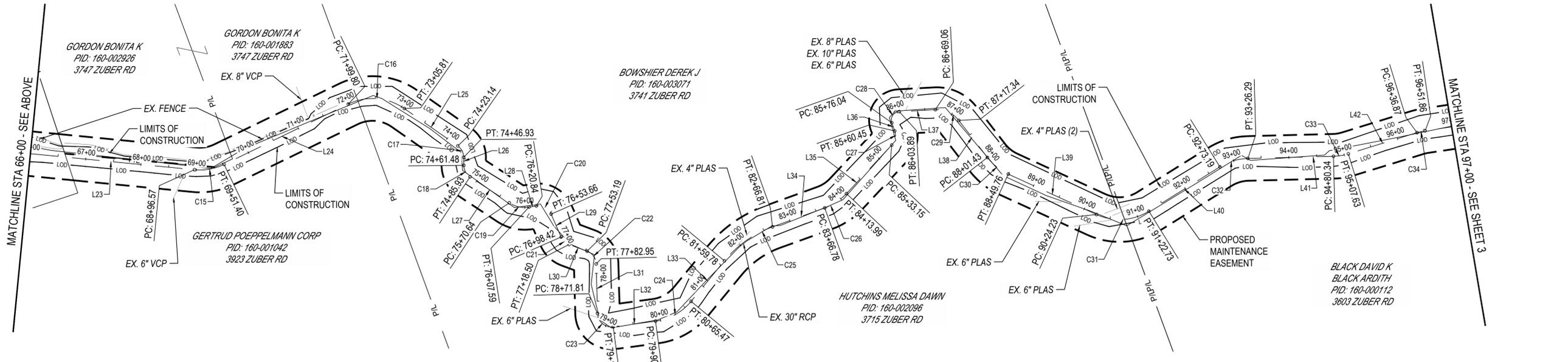
SCHEMATIC PLAN



CURVE	P.I.	Δ CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING	TANGENT DISTANCE	DEGREE OF CURVATURE	EXTERNAL DISTANCE
C9	STA. 43+04.47	039° 45' 25"	100.00'	69.39'	68.01'	S46° 17' 12"E	36.16'	057° 17' 45"	36.16'
C10	STA. 47+48.90	008° 27' 08"	50.00'	7.38'	7.37'	S30° 38' 03"E	3.69'	114° 35' 30"	3.69'
C11	STA. 50+93.09	057° 27' 08"	50.00'	50.14'	48.06'	S63° 35' 11"E	27.40'	114° 35' 30"	27.40'
C12	STA. 52+31.27	023° 15' 30"	50.00'	20.30'	20.16'	N76° 03' 30"E	10.29'	114° 35' 30"	10.29'
C13	STA. 56+66.38	035° 30' 06"	100.00'	61.96'	60.98'	N82° 10' 48"E	32.01'	057° 17' 45"	32.01'
C14	STA. 63+17.51	038° 12' 28"	50.00'	33.34'	32.73'	S60° 57' 55"E	17.32'	114° 35' 30"	17.32'

NO.	LENGTH (IN FEET)	DIRECTION
L13	307.370	S65° 48' 40.20"E
L14	244.590	S66° 09' 54.21"E
L15	407.499	S26° 24' 29.32"E
L16	313.111	S34° 51' 36.88"E
L17	105.152	N87° 41' 15.17"E

NO.	LENGTH (IN FEET)	DIRECTION
L18	393.098	N64° 25' 45.61"E
L19	603.855	S80° 04' 08.61"E
L20	51.413	S41° 51' 40.69"E
L21	21.476	S57° 59' 18.22"E
L22	188.470	S46° 44' 24.66"E



NO.	LENGTH (IN FEET)	DIRECTION
L23	301.679	S61° 02' 16.84"E
L24	248.397	N87° 32' 46.20"E
L25	117.326	S31° 42' 37.61"E
L26	14.549	S22° 49' 15.89"W
L27	84.719	S33° 11' 46.96"E
L28	13.250	S75° 32' 04.94"E
L29	44.759	S00° 18' 40.33"E
L30	34.683	S46° 19' 43.37"E
L31	88.864	S21° 52' 56.19"W
L32	76.891	S74° 13' 23.05"E

NO.	LENGTH (IN FEET)	DIRECTION
L33	94.309	N62° 53' 58.24"E
L34	99.968	S86° 26' 21.98"E
L35	119.154	N66° 30' 31.50"E
L36	15.592	N03° 56' 07.06"E
L37	65.174	S69° 41' 03.73"E
L38	84.090	S14° 21' 34.31"E
L39	174.466	S42° 02' 59.30"E
L40	160.464	N81° 30' 50.11"E
L41	154.050	S68° 03' 54.15"E
L42	129.245	S83° 42' 01.52"E

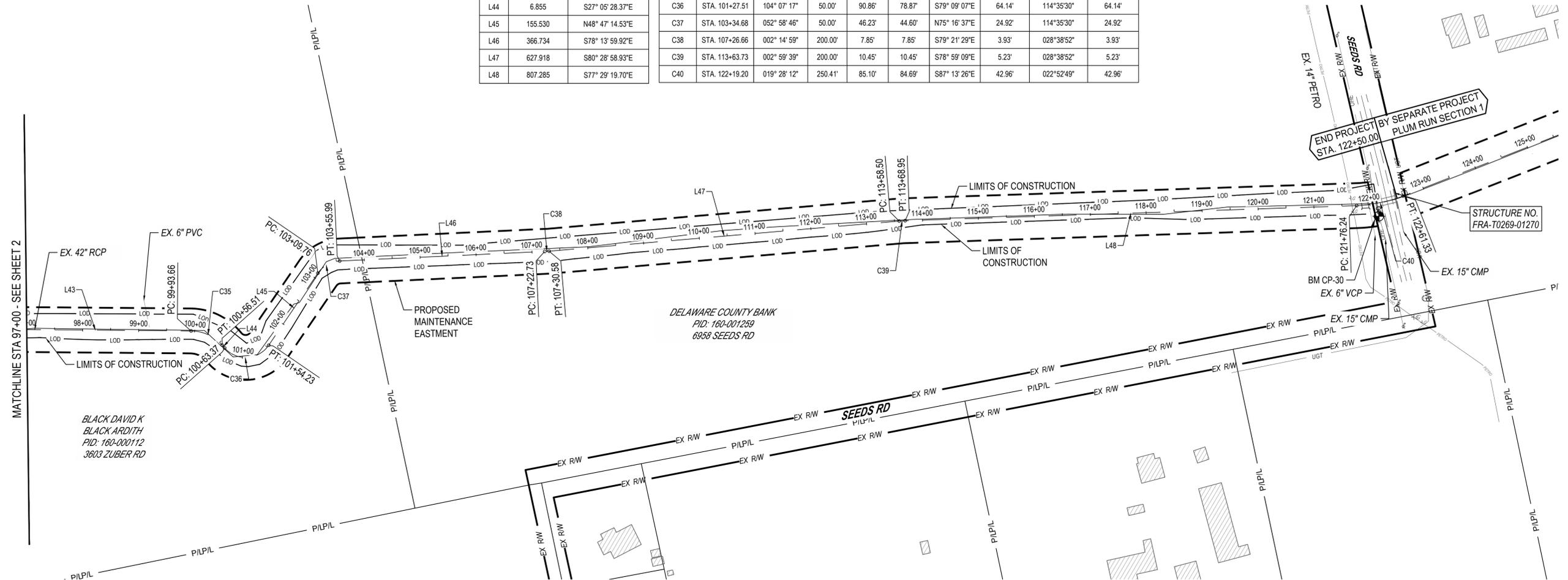
CURVE	P.I.	Δ CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING	TANGENT DISTANCE	DEGREE OF CURVATURE	EXTERNAL DISTANCE
C15	STA. 69+24.69	031° 24' 57"	100.00'	54.83'	54.15'	S76° 44' 45"E	28.12'	057° 17' 45"	28.12'
C16	STA. 72+58.40	060° 44' 36"	100.00'	106.02'	101.12'	S62° 04' 56"E	58.60'	057° 17' 45"	58.60'
C17	STA. 74+36.02	054° 31' 53"	25.00'	23.79'	22.91'	S04° 26' 41"E	12.88'	229° 10' 59"	12.88'
C18	STA. 74+74.78	056° 01' 03"	25.00'	24.44'	23.48'	S05° 11' 16"E	13.30'	229° 10' 59"	13.30'
C19	STA. 75+90.01	042° 20' 18"	50.00'	36.95'	36.11'	S54° 21' 56"E	19.36'	114° 35' 30"	19.36'
C20	STA. 76+40.10	075° 13' 25"	25.00'	32.82'	30.52'	S37° 55' 23"E	19.26'	229° 10' 59"	19.26'
C21	STA. 77+09.04	046° 01' 03"	25.00'	20.08'	19.54'	S23° 19' 12"E	10.62'	229° 10' 59"	10.62'
C22	STA. 77+70.11	068° 12' 40"	25.00'	29.76'	28.04'	S12° 13' 24"E	16.93'	229° 10' 59"	16.93'
C23	STA. 78+99.63	096° 06' 19"	25.00'	41.93'	37.19'	S26° 10' 13"E	27.82'	229° 10' 59"	27.82'
C24	STA. 80+29.90	042° 52' 39"	100.00'	74.84'	73.10'	N84° 20' 18"E	39.27'	057° 17' 45"	39.27'

CURVE	P.I.	Δ CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING	TANGENT DISTANCE	DEGREE OF CURVATURE	EXTERNAL DISTANCE
C25	STA. 82+14.61	030° 39' 40"	200.00'	107.03'	105.75'	N78° 13' 48"E	54.83'	028° 38' 52"	54.83'
C26	STA. 83+90.83	027° 03' 07"	100.00'	47.21'	46.78'	N80° 02' 05"E	24.06'	057° 17' 45"	24.06'
C27	STA. 85+48.34	062° 34' 24"	25.00'	27.30'	25.97'	N35° 13' 19"E	15.19'	229° 10' 59"	15.19'
C28	STA. 85+96.08	106° 22' 49"	15.00'	27.85'	24.02'	N57° 07' 32"E	20.04'	381° 58' 19"	20.04'
C29	STA. 86+95.27	055° 19' 29"	50.00'	48.28'	46.43'	S42° 01' 19"E	26.21'	114° 35' 30"	26.21'
C30	STA. 88+26.08	027° 41' 25"	100.00'	48.33'	47.86'	S28° 12' 17"E	24.65'	057° 17' 45"	24.65'
C31	STA. 90+77.89	056° 26' 11"	100.00'	98.50'	94.57'	S70° 16' 05"E	53.66'	057° 17' 45"	53.66'
C32	STA. 93+00.38	030° 25' 16"	100.00'	53.09'	52.47'	S83° 16' 32"E	27.19'	057° 17' 45"	27.19'
C33	STA. 94+94.07	015° 38' 07"	100.00'	27.29'	27.20'	S75° 52' 58"E	13.73'	057° 17' 45"	13.73'
C34	STA. 96+44.38	008° 35' 20"	100.00'	14.99'	14.98'	S79° 24' 21"E	7.51'	057° 17' 45"	7.51'

C:\CADD\DCS\CES\FCE0 ZUBER ROAD PLUM RUN IMPROVEMENTS\PROJECT FILES_CES\03-CIVIL\PLAN\LOT SHEETS\SECTION 2_2_SECTION 2_SCHEMA.DWG - 11/10/2025 9:04:07 AM

BEARING & DISTANCE TABLE		
NO.	LENGTH (IN FEET)	DIRECTION
L43	341.795	S75° 06' 41.05"E
L44	6.855	S27° 05' 28.37"E
L45	155.530	N48° 47' 14.53"E
L46	366.734	S78° 13' 59.92"E
L47	627.918	S80° 28' 58.93"E
L48	807.285	S77° 29' 19.70"E

C/L CURVE TABLE										
CURVE	P.I.	Δ CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING	TANGENT DISTANCE	DEGREE OF CURVATURE	EXTERNAL DISTANCE	
C35	STA. 100+27.06	048° 01' 13"	75.00'	62.86'	61.03'	S51° 06' 05"E	33.41'	076° 23' 40"	33.41'	
C36	STA. 101+27.51	104° 07' 17"	50.00'	90.86'	78.87'	S79° 09' 07"E	64.14'	114° 35' 30"	64.14'	
C37	STA. 103+34.68	052° 58' 46"	50.00'	46.23'	44.60'	N75° 16' 37"E	24.92'	114° 35' 30"	24.92'	
C38	STA. 107+26.66	002° 14' 59"	200.00'	7.85'	7.85'	S79° 21' 29"E	3.93'	028° 38' 52"	3.93'	
C39	STA. 113+63.73	002° 59' 39"	200.00'	10.45'	10.45'	S78° 59' 09"E	5.23'	028° 38' 52"	5.23'	
C40	STA. 122+19.20	019° 28' 12"	250.41'	85.10'	84.69'	S87° 13' 26"E	42.96'	022° 52' 49"	42.96'	



BENCHMARKS	
BM CP-28	ALUMINUM PLUG IN THE SOUTHEAST CORNER OF THE EAST WINGWALL OF RIDPATH ROAD BRIDGE JAC 270-0.88 OVER PLUM RUN. 0.50 MILES SOUTH OF ZUBER ROAD, 18 FEET EAST OF THE CENTERLINE. ELEVATION = 835.054' (NAVD 88)
BM CP-30	ALUMINUM PLUG IN THE SOUTHWEST HEADWALL OF SEEDS ROAD CULVERT JAC 269-1.27, 0.35 MILES SOUTH OF ZUBER ROAD, 19.5 FEET WEST OF THE CENTERLINE. ELEVATION = 844.240' (NAVD 88)
BM CP-39	ALUMINUM PLUG IN THE NORTHWEST WINGWALL OF RIDPATH ROAD BRIDGE JAC 270-0.88. OVER PLUM RUN 0.50 MILES SOUTH OF ZUBER ROAD, 18 FEET WEST OF THE CENTERLINE OF RIDPATH ROAD. ELEVATION = 834.901' (NAVD 88)

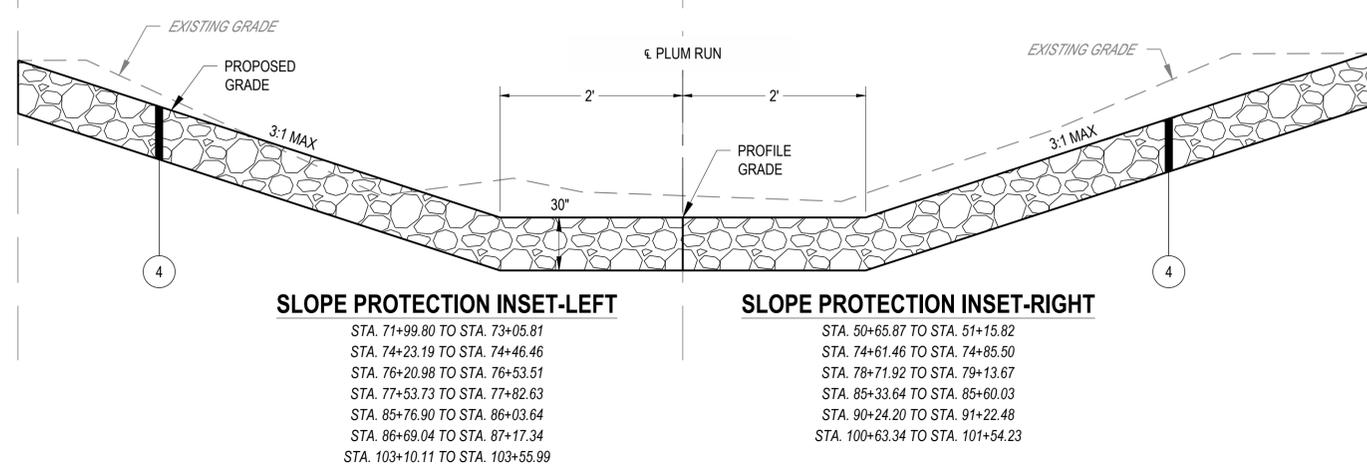
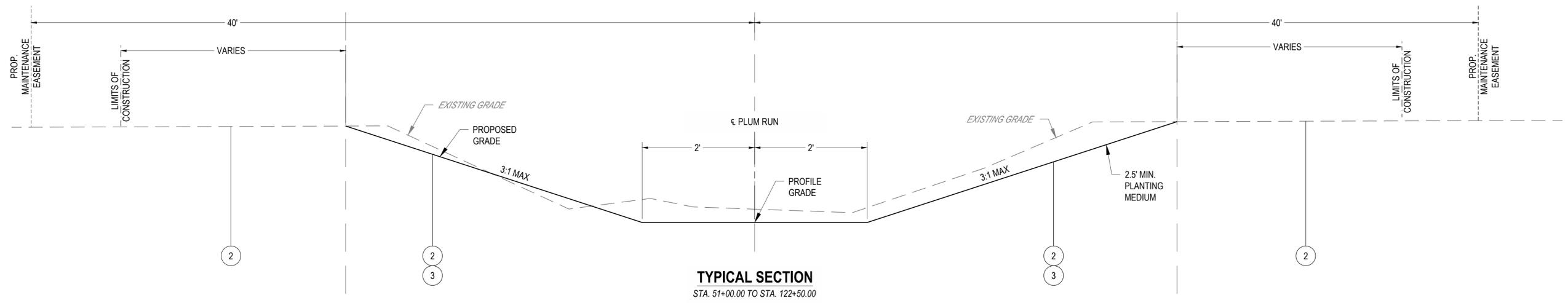
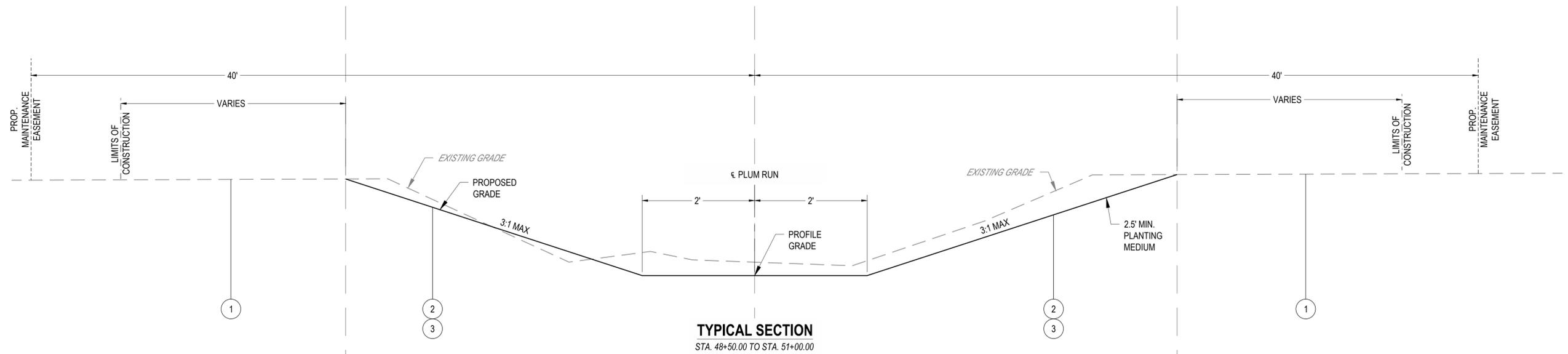
BASIS OF BEARINGS

Basis of bearings is based upon Ohio State Plane, South Zone, NAD 83 (NSRS 2007).
Vertical Datum based upon NAVD 88.



SCHEMATIC PLAN

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO



- LEGEND**
- 1 ITEM 659 - SEEDING AND MULCHING, CLASS 1
 - 2 ITEM 659 - SEEDING AND MULCHING, CLASS 3B
 - 3 ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE A
 - 4 ITEM 601 - ROCK CHANNEL PROTECTION WITH FILTER FABRIC, TYPE B

TYPICAL SECTIONS

EXPOSE NOTE

Where plans provide for a proposed conduit, storm sewer, waterline, or other construction to cross over or under an existing sewer or underground utility, the Contractor shall locate the existing pipes or utilities both as to line and grade before starting to lay the proposed conduit, storm sewer, waterline, or other construction. If it is determined that the existing conduit or existing appurtenance to be connected differs from the plan elevation or results in a change in the planned work, the engineer shall be notified before starting construction of any portion of the proposed work which will be affected by the variance in the existing elevations. Payment for all the operations described above shall be included in the contract price for the pertinent items.

ITEM SPECIAL, HYDRO-EXCAVATING UTILITY EXPOSURE

The Contractor shall expose utilities as directed by the Engineer utilizing Hydro-Excavating methods. The unit price bid for this pay item shall include all costs for labor, equipment, backfill of the exposure holes utilizing Flowable Controlled Density Fill as per Columbus 2012 CMS 613.04 Type I or Type III, and any incidentals necessary to complete the work.

This is a special pay item to be used as directed by the Engineer and not to be used for usual utility exposures associated with OUPS tickets and general construction of the project. Costs to expose utilities associated with OUPS tickets and general construction of the project shall be included in the unit bid prices for the items of work affected. The Contractor is reminded to keep his/her OUPS ticket updated according to industry practices.

The following contingency quantity has been carried to the General Summary for the above work.

ITEM SPECIAL HYDRO-EXCAVATING UTILITY EXPOSURE 5 EA

EXISTING/UNIDENTIFIED STORM SEWERS

If any existing storm sewers or field tiles are encountered during construction, leave exposed and contact the Franklin County Drainage Engineer's Office at (614) 525-7318 or (614) 525-2787 to have the existing tile's size, composition, horizontal location, and flowline surveyed.

DRAINAGE CONNECTIONS

All conduits paid for under this item shall be considered and bid as an "As Per Plan" item. See note below.

All drains, which are encountered during construction, shall be provided with unobstructed outlets. Existing drains which are located below the roadway ditch elevation, and which cross the roadway, shall be replaced within construction limits using Item 611 Conduit, Type B, one commercial size larger than the existing conduit.

Existing collectors and isolated farm drains, which are encountered above the elevation of roadway ditches, shall be outletted into the roadway ditch by Item 611 Type C Conduit. The optimum outlet elevation shall be 12" above the flow line elevation of the ditch.

The location, type, size and grade of replacements shall be determined by the Engineer and payment shall be made on final measurements.

Tie-ins to existing conduits shall use a rubber boot connection and hardware as approved by the Engineer. All conduits shall be Schedule 40 Polyvinyl Chloride Plastic Pipe (PVC). Blind tap connections and cutting into curb or drainage structures shall be included in the linear foot price bid for each item.

Erosion control pads and animal guards shall be provided at the outlet end of all drains as per Standard Construction Drawing DM-1.1M, except when they outlet into a drainage structure. Payment for the erosion control pads and animal guards shall be included for payment in the pertinent conduit items.

The following estimated quantities have been included in the General Summary for the work noted above

Table with 4 columns: ITEM, CONDUIT TYPE, SCHEDULE, and LENGTH. Rows include items 611 for 4", 6", 8" conduits in PVC and Schedule 40 PVC.

Necessary bends, branches and rubber boot connectors shall be included in the price bid for each item. The Contractor shall not order any of the above materials unless approved by the Engineer.

MATERIALS

- A. All precast concrete pipe and products are subject to inspection during casting at the plant by the County Engineer's agent - City of Columbus, Inspection Division. All precast concrete pipe and products delivered to the job shall have a stamp by the City of Columbus, Inspection Division with their approval marking. All products manufactured off-site must still meet specifications when delivered and installed at the project. All materials and miscellaneous items incorporated into the precast concrete items shall be from stockpiles for which an ODOT approved lab report can be produced. Items in this category not pre-approved will require testing which will delay permitted use of the material and for which the Contractor is not entitled to a time extension. The proposed manufacturer shall be submitted to the Engineer for approval in writing so an inspection can be made of the proposed plant operations to determine if the applicable specifications referenced in the contract will be met. All manufacturing plant operations must continue to meet applicable specifications at all times.
B. Other Materials shall be in accordance to the ODOT-CMS. All materials shall be from stockpiles for which an ODOT (TE 24s, etc.) or City of Columbus Laboratory Report (for City CMS items) can be furnished to the Engineer.

CONCRETE DELIVERY FOR ALL CONCRETE WORK

The use of dump trucks or any other non-agitating vehicles to deliver concrete to the project site is prohibited. Only concrete mixer trucks with agitating bodies specifically designed to haul concrete and approved for use by the Engineer shall be permitted to deliver concrete to the project site. Before delivery, a concrete washout area shall be constructed per Item 832.

SOIL STABILIZATION

In any disturbed area that does not receive ditch erosion control matting a soil conditioner, rock hound equipment, or soil pulverizer shall be used prior to seed and mulching.

ITEM 832, STORM WATER POLLUTION PREVENTION PLAN and ITEM 832, EROSION CONTROL

This contract is subject to National Pollutant Discharge Elimination System (NPDES) and specifically the Ohio EPA Authorization for Storm Water Discharge Associated with Construction Activity under NPDES. Additionally, federal, state, and local regulations pertaining to storm water pollution prevention shall also apply.

An officer of the Contractor's company will be required to co-sign the Ohio EPA permit and Notice of Intent (NOI) as per NPDES requirements (if required). The Contractor shall have a supervisory employee onsite who is competent in proper, current erosion control practices during all earth disturbing activities. It is the Contractor's responsibility to notify their subcontractors of the Ohio EPA requirements, have them sign affidavits that they understand those requirements, and furnish copies to the Franklin County Engineer's Office (FCEO) before their associated work begins.

Once the apparent low bidder has been determined in writing in the form of a letter from the Franklin County Engineer, the Contractor shall submit a Storm Water Pollution Prevention Plan (SWP3) within 15 working days for approval by FCEO. The SWP3 shall be prepared, stamped, and signed by a Professional Engineer experienced and competent in the design and implementation of standard erosion and sediment controls and storm water management practices addressing all phases of construction. The officer of the Contractor's company, who signs the NOI, as mentioned above, shall also sign the SWP3. Submit five half size sets and one electronic PDF set of plans for review to FCEO. FCEO will review/approve or review/return comments within 10 working days. If comments are returned to the Contractor, they shall be incorporated and resubmitted for approval within 5 working days. FCEO will back check the SWP3 within 5 working days and ask for additional changes or approve the SWP3.

The SWP3 shall incorporate at a minimum the following:

- "Part III, Section G SWP3 Requirements of the Ohio EPA, Authorization for Storm Water Discharge Associated with Construction Activity under National Pollutant Discharge Elimination System (NPDES)."
- Current edition of ODNr's Rainwater & Land Development Manual.
- Detailed description and drawings of all Best Management Practices (BMP's) including plan views, section views, legend, and installation practices the Contractor plans to use.
- Procedure for self-reporting verbally and in writing to FCEO and OEPA when the contractor learns of actual or potential violations.
- Methods the contractor will use to train or inform all of the contractor's employees, subcontractors, and other persons affected by the SWP3 of the requirements of the plan including methods and techniques to be used to ensure implementation of the plan. As stated above, it is the Contractor's responsibility to notify their subcontractors of the Ohio EPA requirements, have them sign affidavits that they understand those requirements, and furnish copies to the Franklin County Engineer's Office (FCEO) before their associated work begins.
- Emergency contact information, the general permit number, a copy of the NOI (if required), and a copy of the approval letter from OEPA (if required).
- Listing of subcontractors and co-permittees.
- Schedule which describes the sequence of major earth moving construction operations; the implementation of erosion, sediment, and storm water management practices; and the removal of During Construction BMP's upon project completion.
- Locations of concrete truck washouts; construction entrances; material storage areas; solid, construction, and hazardous waste storage areas; vehicle maintenance and fueling areas; onsite overburden, borrow, and stockpile areas; stream, creek, or channel crossings; sediment and storm water management basins including their sediment settling volume and contributing drainage area; open burning locations; etc.
- Estimate of BMP's including type and quantities.
- Detailed dewatering plans.

Upon approval, submit five half size sets and one electronic PDF set of the SWP3 to FCEO. No commencement of construction will be allowed until the SWP3 has been approved. The co-permittee/Contractor shall inform FCEO in writing of all amended activities to the SWP3 whenever there is a change in design, construction, operation, or maintenance that has a significant effect on the potential for the discharge of pollutants to Ohio waters or if the SWP3 proves to be ineffective in achieving the general objectives of controlling pollutants in storm water. It is the responsibility of the co-permittee/Contractor to evaluate all sediment and erosion control activities to ensure that no turbid discharge is released to the waters of the State of Ohio. The co-permittee/Contractor shall update the SWP3's at his/her cost as construction progresses to reflect changing conditions and work areas.

The co-permittee/Contractor shall be fully responsible for all compliance activities for all areas outside of the designed FCEO construction site. These areas include locations where soils are stockpiled, excavated for the purpose of fill, or disposed of as fill outside of the work limits in the construction plans. The co-permittee/Contractor shall file an NOI with Ohio EPA regarding these off-project areas and furnish copies to FCEO.

FCEO will closely monitor the implementation of the SWP3 with emphasis on construction and continued maintenance of BMP's. FCEO will provide the co-permittee/Contractor notice of any deficiencies found during required inspections as required by the general permit. The Contractor shall install a rain gauge close to the Field Office, as directed by the engineer. FCEO stipulates the co-permittee/Contractor to make repairs within 24 hours of notification of deficiencies. If the Contractor fails to remedy unsatisfactory sediment control and dewatering practices within 24 hours after receipt of such notice, FCEO may invoke the provision of ODOT CMS Section 105.15, correct the problem areas, and deduct the entire cost of the correction from monies due or to become due the Contractor on the contract. Failure of the Contractor to take corrective measures may result in enforcement actions and penalties as provided by NPDES, federal, state, and local laws. Any fines for non-compliance will be passed onto the Contractor.

The Contractor shall submit to FCEO a description of the BMP's that will be employed prior to work beginning, and FCEO reserves the right to deny implementation of any BMP that is determined to be non-effective prior to or during construction activities.

(cont.)

The stipulations of ODOT SS 832 shall apply. The SWP3 for this project will not be Non-Performed and is required before construction can begin. If an SWP3 is required for off-project EDA, then it shall be furnished by the Contractor prior to off-project EDA at no cost to FCEO. Payment for all work associated with EROSION AND SEDIMENT CONTROL for on-project EDA shall follow ODOT SS 832 and will be paid for by FCEO based on field measurements. Work associated with erosion and sediment control for off-project EDA will not be paid for by FCEO.

The Contractor is hereby advised that stricter pollution control standards and enforcement have been imposed by the Ohio EPA since March 10, 2003 and with a revision in April 2018. Also, many private citizen environmental groups, who have been known to file civil legal actions, are present in the area and observe all construction operations. The pay items (silt fences, check dams, sediment basins, etc.) set-up in the contract shall be used to control silt pollution as shown in the plans, directed by the Engineer, and/or ordered by the Ohio EPA.

When a Contractor needs to dam any waterway for dewatering purposes, any dikes placed in the stream must be of clean non-erodible materials. Dams constructed of soil in the stream are not acceptable, even if the stream work area is cordoned off or by-passed. Dams in the stream shall be of durable bags filled with coarse granular sand or clean stone (such as #57 or #2) or other methods acceptable to the EPA that prevent pollution. The labor and material used to install bags of sand or stone for stream dewatering purposes shall be included in the bid price for COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.

The Contractor will be required to build sediment basins or use equal methods to detain and clean water to acceptable EPA standards before releasing the water back into the stream. Sediment basin(s) shall be detailed in the SWP3 and are a listed item within the Erosion Control pay item.

Stone used for check dams for dewatering purposes in the stream shall be the ROCK CHANNEL PROTECTION (RCP) contingency set-up in the Erosion Controls pay item, the #2 Stone contingency set-up in the Erosion Controls pay item, or a combination of the RCP and #2 Stone contingency. Payment using the RCP and/or the #2 Stone contingency shall be at the measured quantity at the unit bid price for these items.

It is preferred to use permanent erosion control items as shown in the plans to control construction pollution when possible.

All items are to be maintained as per ODOT SS 832. Requirements to maintain sediment and erosion control items will be STRICTLY ENFORCED.

PERMIT

Contractor shall obtain permits from Jackson Township or Franklin County Engineer's Office for any work or construction entrance within their respective right of way.

ENVIRONMENTAL COMMITMENT NOTES

1. All work will be conducted in accordance with the drawings submitted with the pre-construction notification materials.
2. Enclosed is a copy of Nationwide Permit 27, which will be kept at the site during construction. A copy of the nationwide permit verification, special conditions, and the submitted construction plans must be kept at the site during construction. The permittee will supply a copy of these documents to their project engineer responsible for construction activities.
3. Upon completion of the activities authorized by this nationwide permit verification, the enclosed certification must be signed and returned to this office along with as-built drawings showing the location and configuration, as well as all pertinent dimensions and elevations of the activities authorized under these nationwide permit verifications.
4. Construction activities will be performed during low flow conditions to the maximum extent practicable. Additionally, appropriate site-specific best management practices for sediment and erosion control will be fully implemented during construction activities at the site.
5. No area for which grading has been completed will be unseeded or unmulched for longer than 14 days. All disturbed areas will be seeded and/or revegetated with native species and approved seed mixes (where practicable) after completion of construction activities for stabilization and to help preclude the establishment of non-native invasive species.
6. Should new information regarding the scope and/or impacts of the project become available that was not submitted to this office during our review of the proposal, the permittee will submit written information concerning proposed modification(s) to this office for review and evaluation, as soon as practicable.
7. In the event any previously unknown historic or archaeological sites or human remains are uncovered while accomplishing the activity authorized by this nationwide permit authorization, the permittee must cease all work in waters of the United States immediately and contact local, state and county law enforcement offices (only contact law enforcement on findings of human remains), the Corps at 304-399-5210 and Ohio State Historic Preservation Office at 614-298-2000. The Corps will initiate the Federal, state and tribal coordination required to comply with the National Historic Preservation Act and applicable state and local laws and regulations. Federally recognized tribes are afforded a government-to-government status as sovereign nations and consultation is required under Executive Order 13175 and 36 CFR Part 800.

CALCULATED TDH CHECKED NES

GENERAL NOTES

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS SECTION 2 FRANKLIN COUNTY, OHIO

6/39

MAINTENANCE OF TRAFFIC NOTES

ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN

A minimum of two 10' lanes (one lane of traffic in each direction) shall be maintained on all roads during non-working hours and peak periods (7am-9am and 4pm-6pm). Two-way one lane traffic is permitted during working non-peak hours (9am-4pm) in accordance with ODOT Standard Construction Drawing MT-97.10 or MT-97.11, except that law enforcement officers (L.E.O.s) with patrol cars shall be substituted for each flagger. If this requirement cannot be met, traffic shall be detoured using ODOT Standard Construction Drawing MT-101.60 and OMUTCD Chapter 6H (Figure 6H020).

The Contractor may submit an alternate MOT plan at the preconstruction meeting showing how they plan to maintain traffic in accordance with the OMUTCD and these traffic maintenance notes. These plans will need to be reviewed and approved by the Franklin County Engineer's Office. The Contractor will be advised as to the review results in writing within thirty (30) days.

The Contractor shall notify the County Engineer's Mobility Department at 614-525-6036 two weeks prior to beginning work, and weekly thereafter, to discuss any changes to the maintenance of traffic plan and/or completion date. Before work is started on this project the Contractor shall submit a written schedule of operation and a traffic maintenance control plan for approval. No work will be started that will restrict any lane usage unless it is the intent of the Contractor to work full time with a full force in order to complete the work without unnecessary delays.

The following is the suggested sequence of construction for this project:

All construction shall be performed in one phase. One lane of Ridpath Road shall be closed in one direction during construction.

The closing of Ridpath Road shall be accompanied by flaggers and follow all requirements set forth by ODOT Standard Construction Drawing MT-97.10.

No detours will be needed as part of the project.

The following devices must meet NCHRP 350 or MASH-08 before the devices are installed on the project: drums, cones, vertical panels and the panel support, portable sign supports, temporary impact attenuators, temporary concrete barrier, and barricades.

All construction signing shall be installed and covered before construction begins. After construction sign installation, the Contractor shall notify the Franklin County Engineer's Office Mobility Department at 614-525-6036 three (3) working days before work begins and request an inspection of all signing.

Faces of construction signs and reflective sheeting on barricades shall be Type H (VIP). All orange construction signs shall be fluorescent orange. All sheeting will be tested for reflectivity per ODOT 730.192. Vertical panels and drum bands shall be reflectorized with Type G (high intensity) sheeting complying with the requirements of 730.19. All signs and barricades, vertical panels, and drums will be like new and in good condition in conformance with "Quality Guidelines for Temporary Traffic Control Devices and Features" published by ATSSA.

Maintenance of all Contractor-supplied signs, barricades, vertical panels and drums is the Contractor's responsibility. If the Contractor fails to correct deficiencies within four (4) hours of notification, Franklin County shall correct or hire someone to correct the deficiencies. The Contractor shall be then be back charged per ODOT Specification 614. In the case that back charging the Contractor is not applicable, the County will rescind and withhold all permits issued to the Contractor to work within County right-of-way until the issue is settled. These provisions shall not in any way relieve the Contractor of any of their legal responsibilities or liabilities for the safety of the public.

Cones are approved for daytime use only. Drums shall be used at night and have yellow Type C steady burn lights. Cones and drums shall be placed as follows: 25' c/c on tangents, 15' c/c on tapers, and 8' c/c in radii.

All signs nine square feet (36" x 36") and over shall have yellow Type A low intensity flashing warning lights and two flags.

All work and traffic control devices shall be in accordance with ODOT CMS 614 and other applicable portions of the specifications, as well as the latest version of the OMUTCD. Payment for all labor, equipment and materials shall be included in the lump sum contract price for Item 614, Maintaining Traffic, as Per Plan, unless separately itemized in the plan.

ITEM SPEC., DEWATERING

The Contractor shall perform dewatering operations as necessary to perform the work. The Contractor shall provide a dewatering plan for engineer's approval, install and maintain dewatering operations, collect and remove accumulated sediment from the work area, and remove dewatering works upon completion of the construction activities that require dewatering. Dewatering activities shall be performed in strict accordance with local noise ordinances. The contractor shall furnish, install, and maintain throughout the course of the work mufflers, noise-control enclosures, or other noise control methods, measures, and features on and around all dewatering pumps such that steady noise emanating from this equipment does not disturb adjacent property operations.

The cost of all labor, equipment, and materials associated with this work shall be included in the price bid for Item Spec - Dewatering

CALCULATED
TDH
CHECKED
NES

GENERAL NOTES

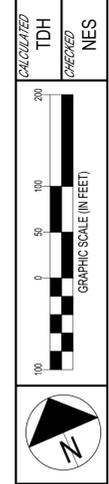
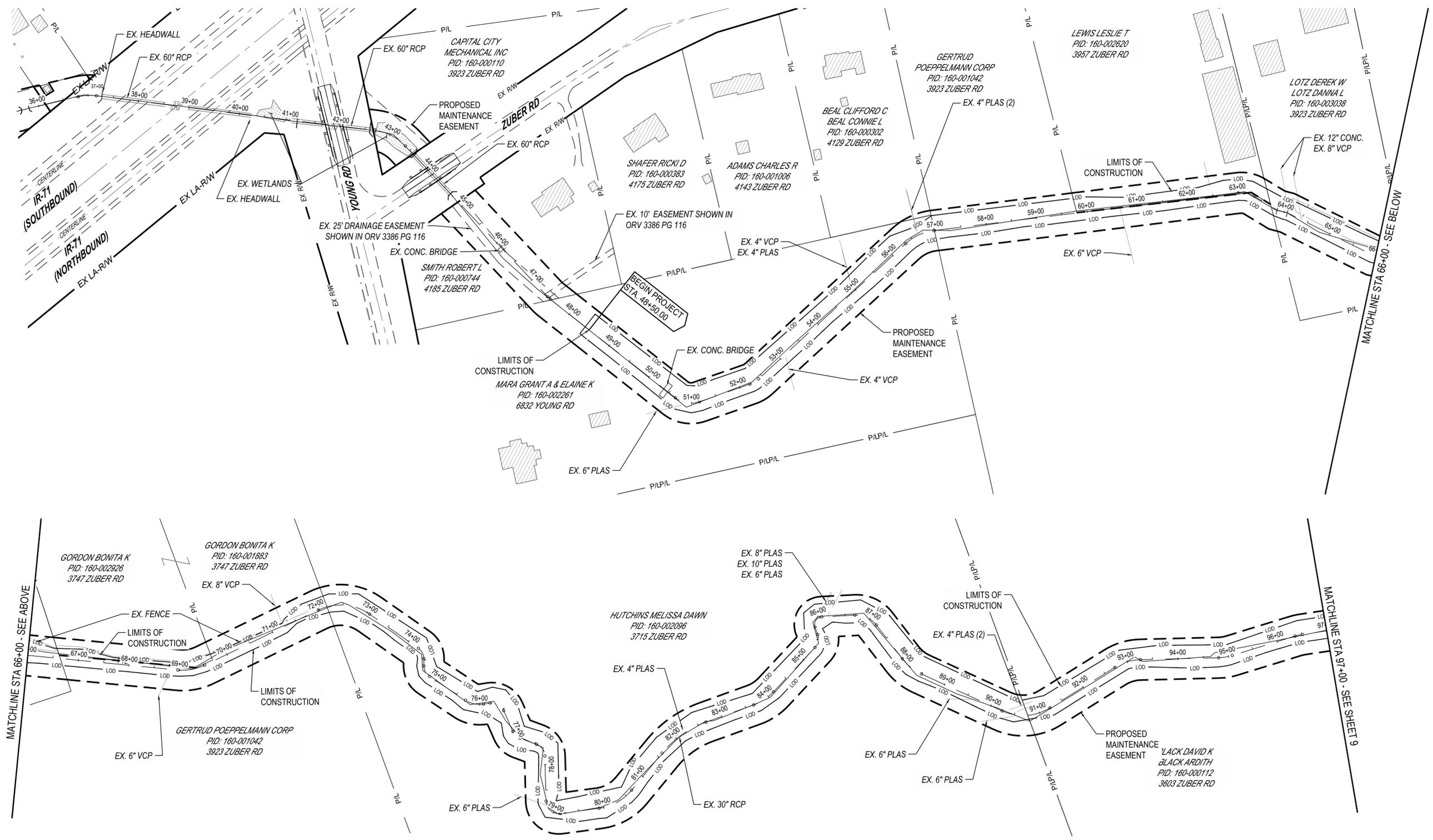
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

6A
39

ITEM	SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			5	6	6A	11	12	13	14	15	16	17-35	36-38						
EARTHWORK																			
201					LUMP									201	11000	1	LUMP	CLEARING AND GRUBBING	
202												1		202	11000	1	EA	STRUCTURE REMOVED	
202							21							202	35100	21	LF	PIPE REMOVED, 24" AND UNDER	
202								17	17					202	35200	34	LF	PIPE REMOVED, OVER 24"	
203													7306	203	10000	7306	CY	EXCAVATION	
203													1005	203	20000	1005	CY	EMBANKMENT	
SPEC					LUMP									SPEC	SPEC	1	LUMP	DEWATERING	
EROSION CONTROL																			
503					LUMP									503	11100	1	LUMP	COFFERDAM AND EXCAVATION BRACING, AS PER PLAN	
503													57	601	11000	57	SY	RIPRAP, TYPE D	
659			515											659	00500	515	SY	SEEDING AND MULCHING, CLASS 1 (LAWN MIXTURE)	
659			18710											659	00530	18710	SY	SEEDING AND MULCHING, CLASS 3B (AGRICULTURAL AREAS)	
659			2.7											659	20000	2.7	TON	COMMERCIAL FERTILIZER	
659			0.5											659	31000	0.5	ACRE	LIME	
659			53											659	35000	53	M. GAL	WATER	
670			15252											670	00710	15252	SY	DITCH EROSION PROTECTION MAT, TYPE A	
832					LUMP									832	15000	1	LUMP	STORMWATER POLLUTION PREVENTION PLAN	
832					75000									832	30000	75000	EA	EROSION CONTROL	
DRAINAGE																			
601						46	74	132	72	90			148	601	11000	562	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
611						24								611	94727	24	FT	7'x4' PRECAST CONCRETE BOX CULVERT, TYPE A, AS PER PLAN	
611							24	24						611	94801	48	FT	8'x4' PRECAST CONCRETE BOX CULVERT, TYPE A, AS PER PLAN	
611				50										611	11000	50	LF	4" CONDUIT, TYPE B, SCHEDULE 40 PVC	
611				50										611	11000	50	LF	4" CONDUIT, TYPE C, SCHEDULE 40 PVC	
611				50										611	11000	50	LF	6" CONDUIT, TYPE B, SCHEDULE 40 PVC	
611				50										611	11000	50	LF	6" CONDUIT, TYPE C, SCHEDULE 40 PVC	
611				50										611	11000	50	LF	8" CONDUIT, TYPE B, SCHEDULE 40 PVC	
611				50										611	11000	50	LF	8" CONDUIT, TYPE C, SCHEDULE 40 PVC	
PAVEMENT																			
304							11							304	11000	11	CY	AGGREGATE BASE	
MISCELLANEOUS																			
108														108	10000	1	LUMP	CPM PROGRESS SCHEDULE	
614														614	11000	1	LUMP	MAINTAINING TRAFFIC	
623														623	10000	1	LUMP	CONSTRUCTION LAYOUT STAKES & SURVEYING	
624														624	15000	1	LUMP	MOBILIZATION	
SPEC				5										SPEC	SPEC	5	EA	HYDRO-EXCAVATING UTILITY EXPOSURE	

GENERAL SUMMARY

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO



PROJECT SITE PLAN

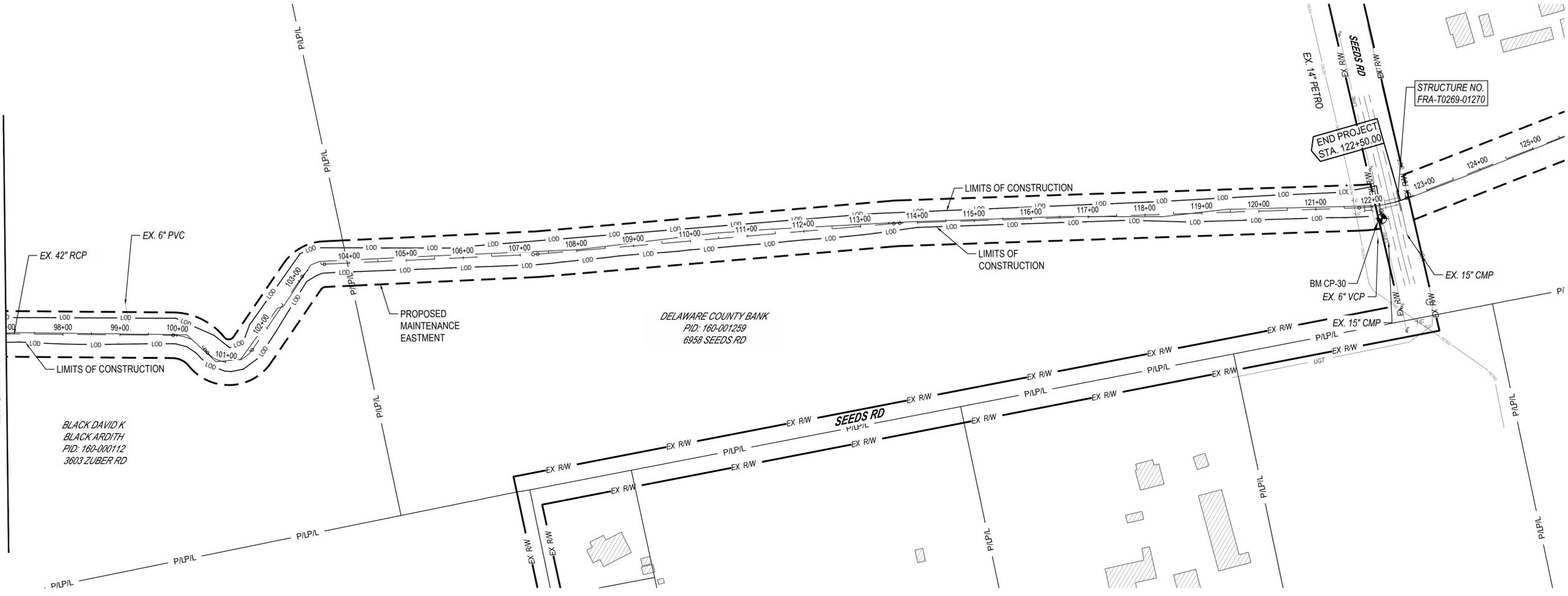
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

USGS MAP: COMMERCIAL POINT QUADRANGLE
COMMERCIAL POINT, OHIO
LONGITUDE: W 83° 07' 59"
LATITUDE: N 39° 49' 43"
*LONGITUDE AND LATITUDE TO APPROXIMATE CENTER OF PROJECT

PROJECT DESCRIPTION: THIS PROJECT CONSISTS OF 7,400 LINEAR FEET OF DRAINAGE DITCH IMPROVEMENTS AND PROFILE GRADE RESTORATION TO ADDRESS IMPAIRMENT BY SEDIMENT DEPOSITION AND ALLOW MAJOR FLOOD ROUTING TO FUNCTION PROPERLY.

PROJECT DATA			
TOTAL AREA (CONSTRUCTION LIMITS)	6.82 ACRES	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.5
PROJECT EARTH DISTURBED AREA:	6.82 ACRES	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE:	0.5
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES	POST CONSTRUCTION BMP: THE PROPOSED PLUM RUN RESTORATION ACTIVITIES DO NOT INCLUDE THE INSTALLATION OF IMPERVIOUS SURFACE; THEREFORE, THIS PROJECT DOES NOT NEED TO COMPLY WITH PART III.G.2.g OF THE OHIO EPA GENERAL PERMIT OHC000002	
NOTICE OF INTENT EARTH DISTURBED AREA:	7.07 ACRES	IMMEDIATE RECEIVING WATERS:	PLUM RUN
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	0.0 ACRES	SUBSEQUENT RECEIVING WATERS:	SCIOTO RIVER
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE:	0.0 ACRES		

MATCHLINE STA 97+00 - SEE SHEET 8



BLACK DAVID K
BLACK ARDITH
PID: 160-000112
3603 ZUBER RD

DELAWARE COUNTY BANK
PID: 160-001259
6958 SEEDS RD

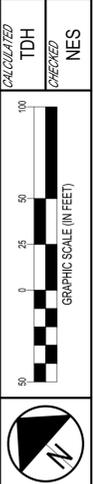
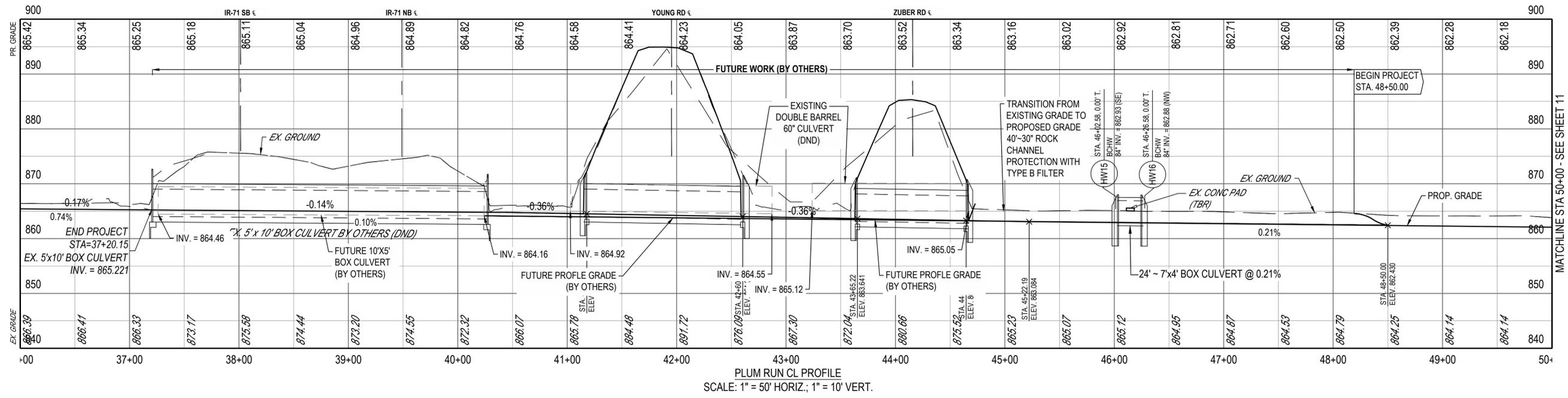
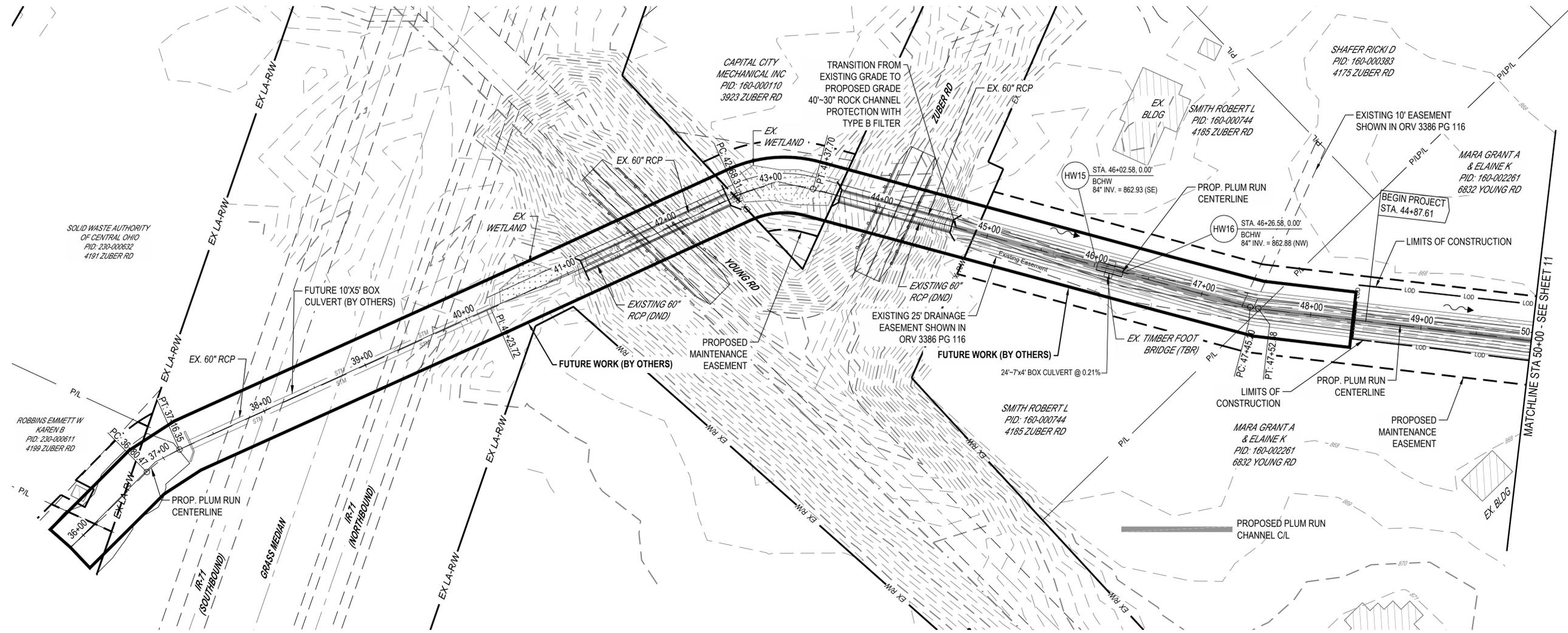
STRUCTURE NO.
FRA-T0269-01270

END PROJECT
STA. 122+50.00

CALCULATED TDH CHECKED NES

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

PROJECT SITE PLAN

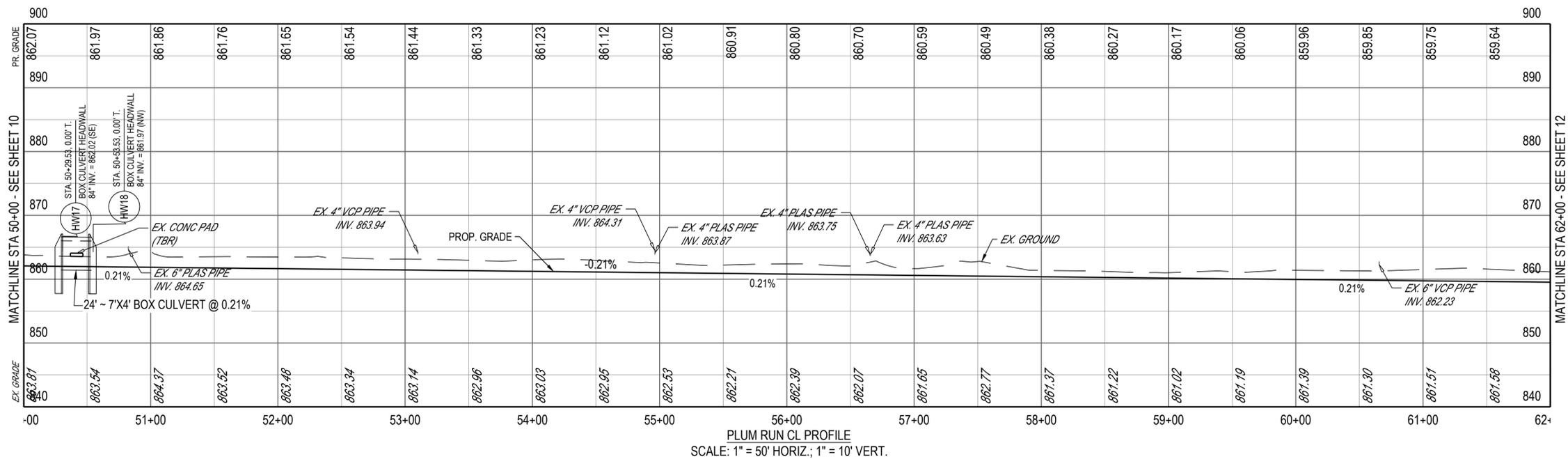
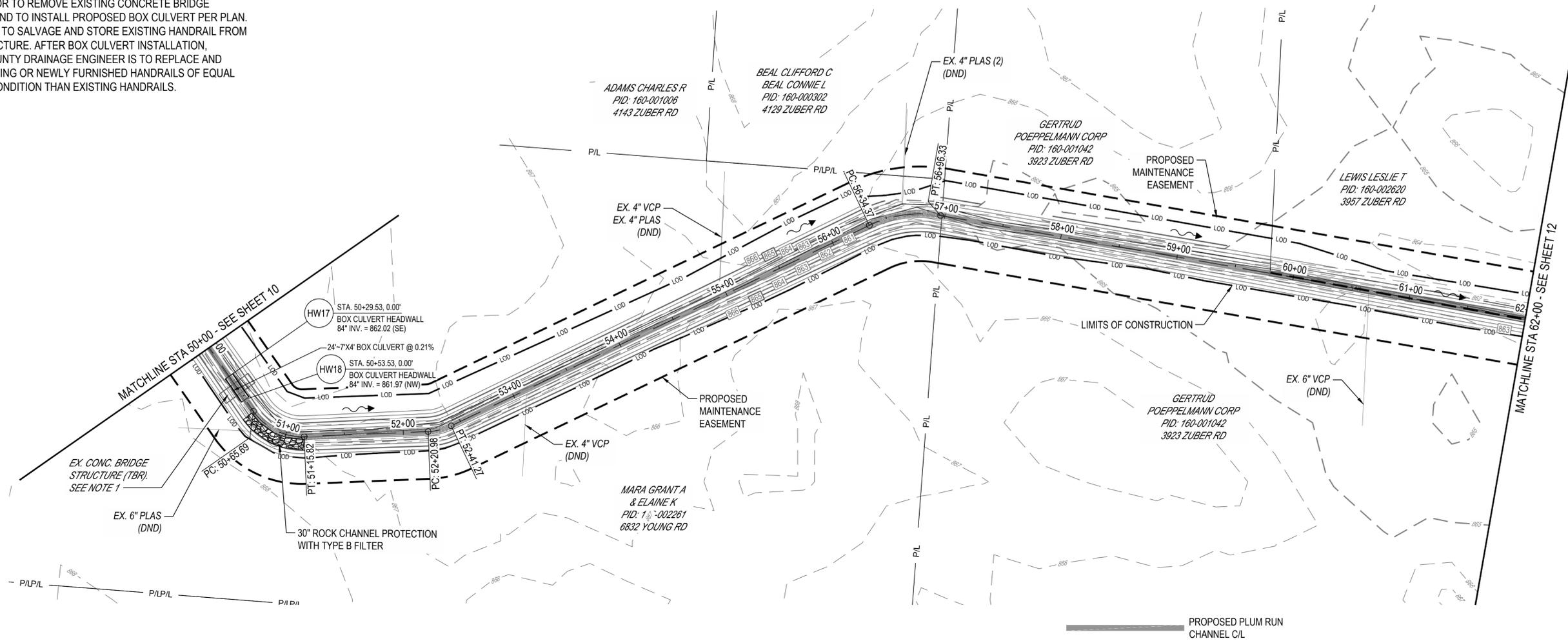


STA. 44+50 TO STA. 50+00
PLAN & PROFILE

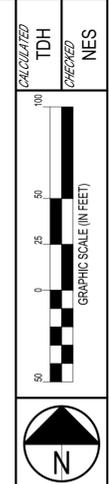
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

10
39

NOTES:
 1. CONTRACTOR TO REMOVE EXISTING CONCRETE BRIDGE STRUCTURE AND TO INSTALL PROPOSED BOX CULVERT PER PLAN. CONTRACTOR TO SALVAGE AND STORE EXISTING HANDRAIL FROM BRIDGE STRUCTURE. AFTER BOX CULVERT INSTALLATION, FRANKLIN COUNTY DRAINAGE ENGINEER IS TO REPLACE AND INSTALL EXISTING OR NEWLY FURNISHED HANDRAILS OF EQUAL OR BETTER CONDITION THAN EXISTING HANDRAILS.

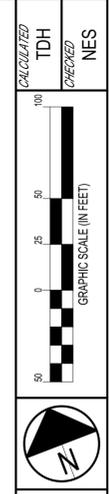
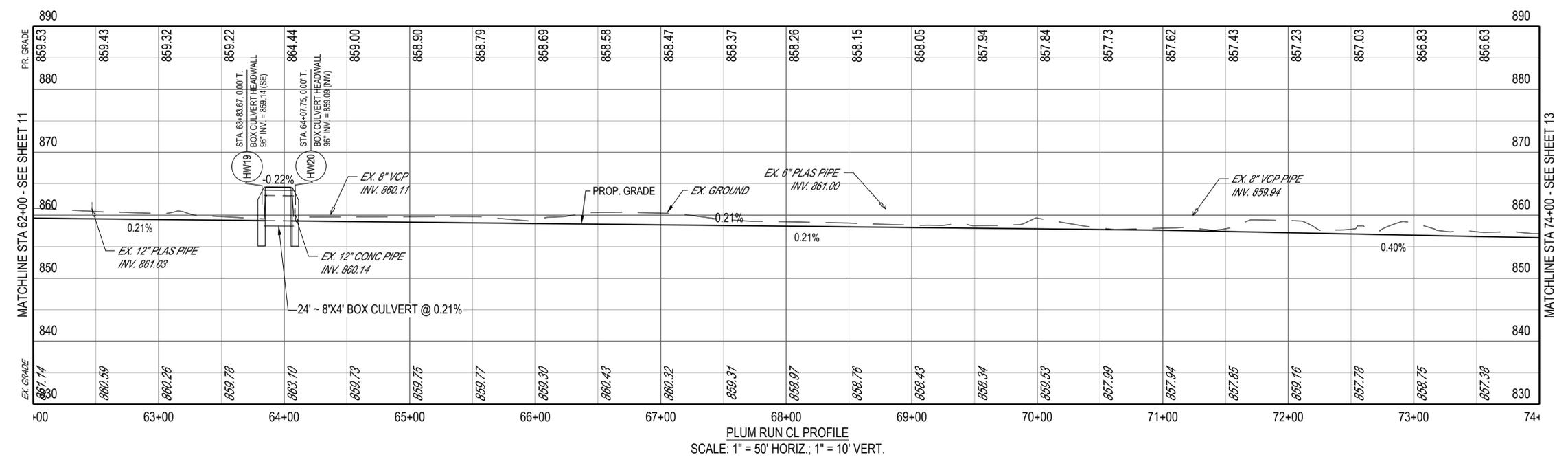
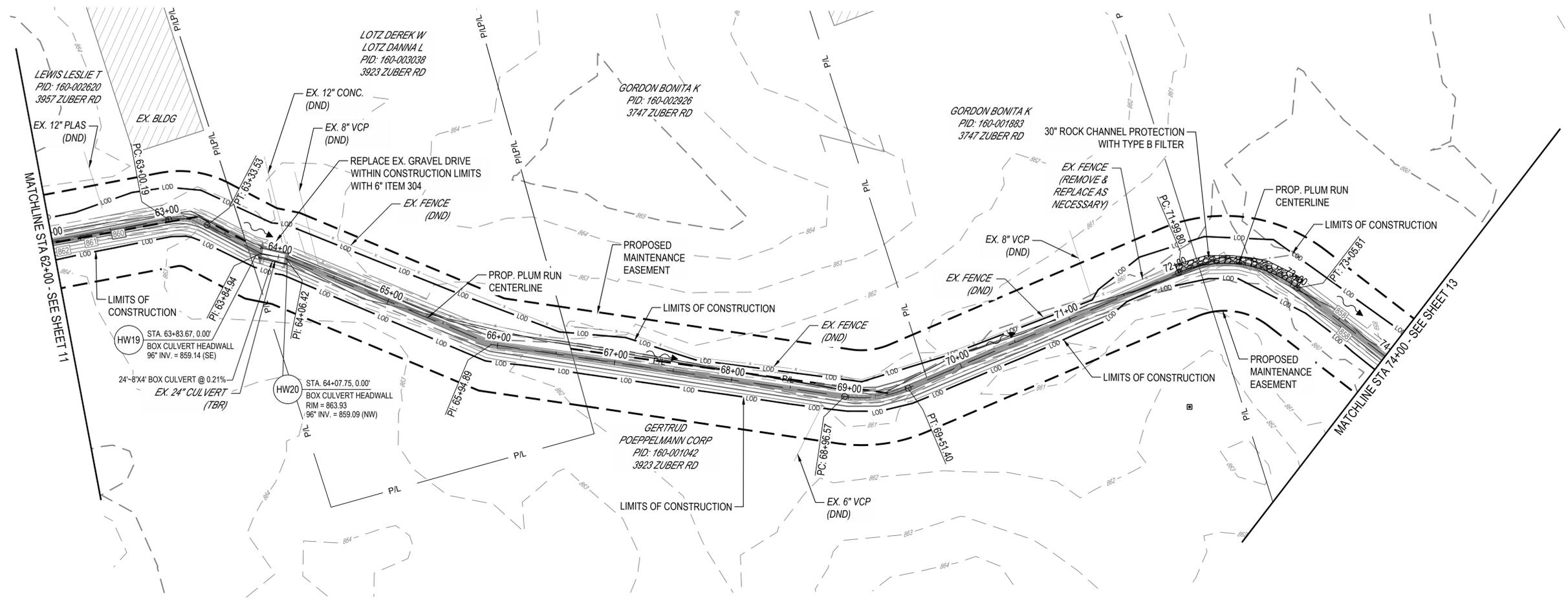


PLUMB RUN C/L PROFILE
 SCALE: 1" = 50' HORIZ.; 1" = 10' VERT.



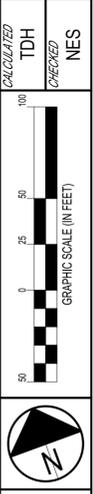
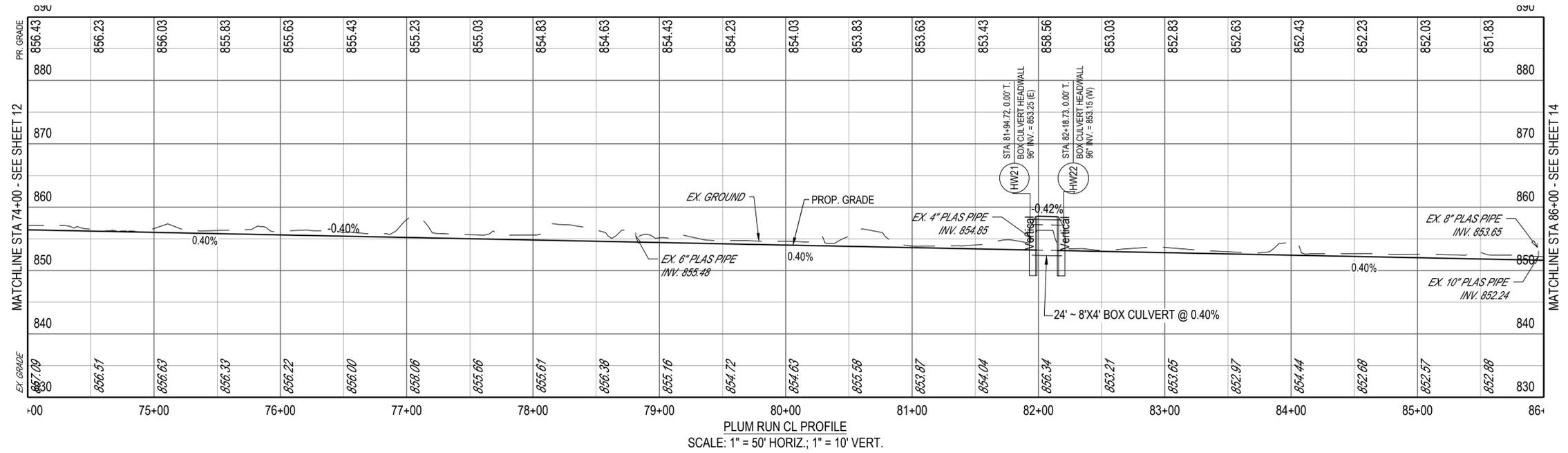
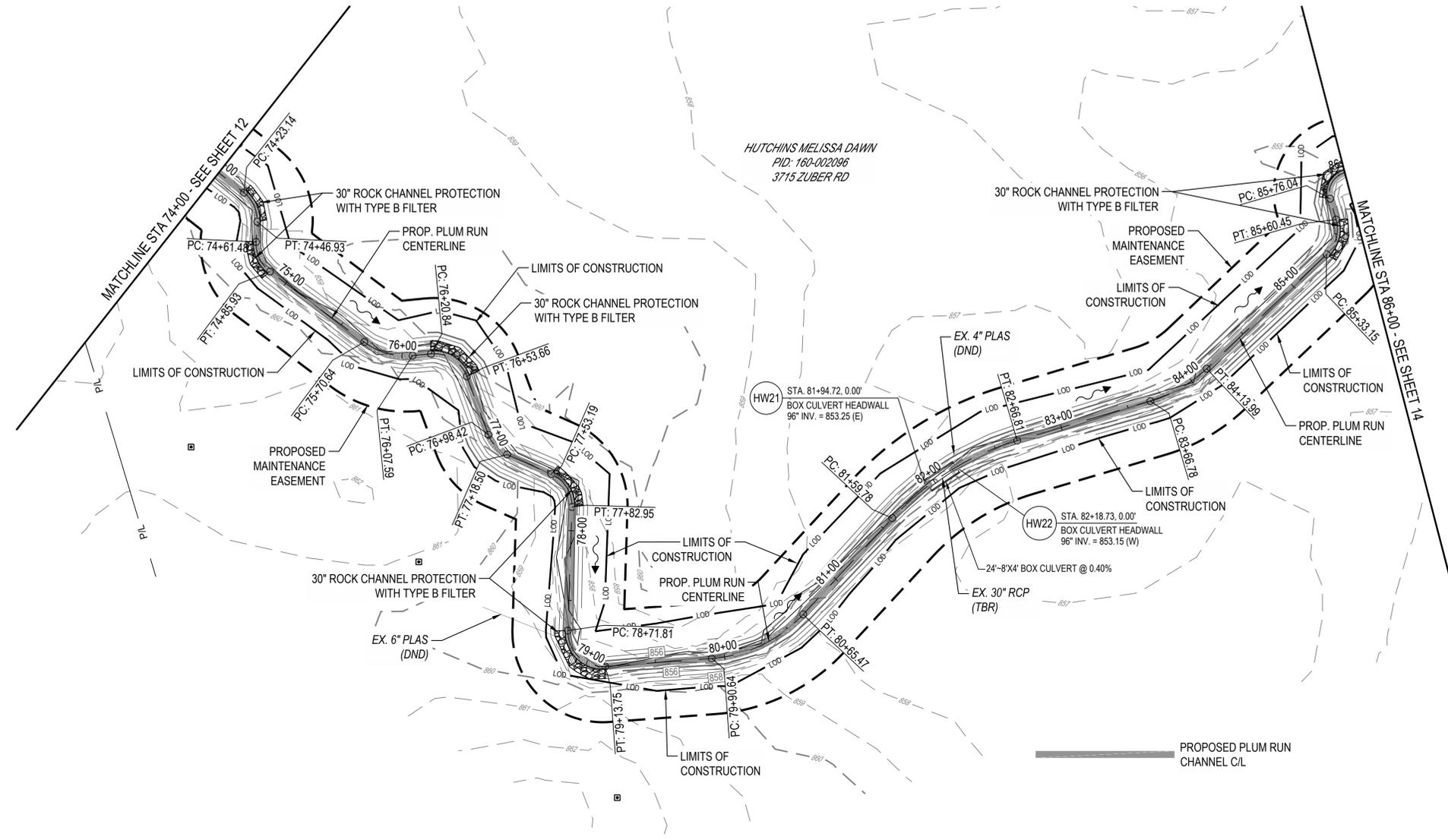
STA. 50+00 TO STA. 62+00
 PLAN & PROFILE

ZUBER ROAD - PLUMB RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO



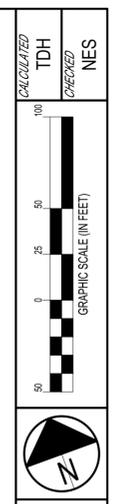
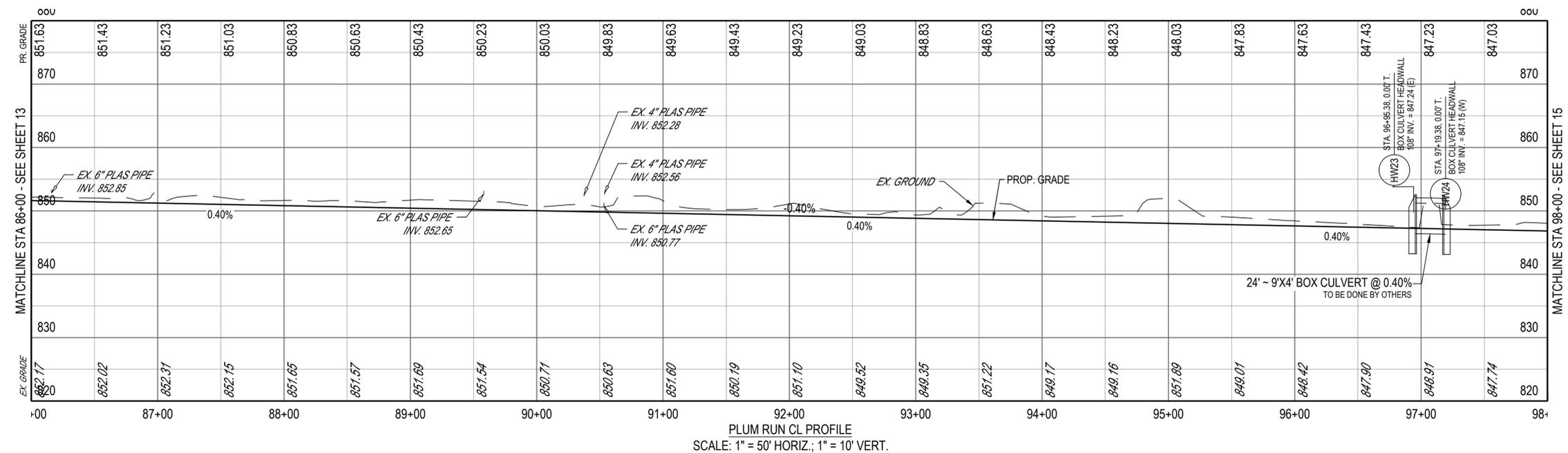
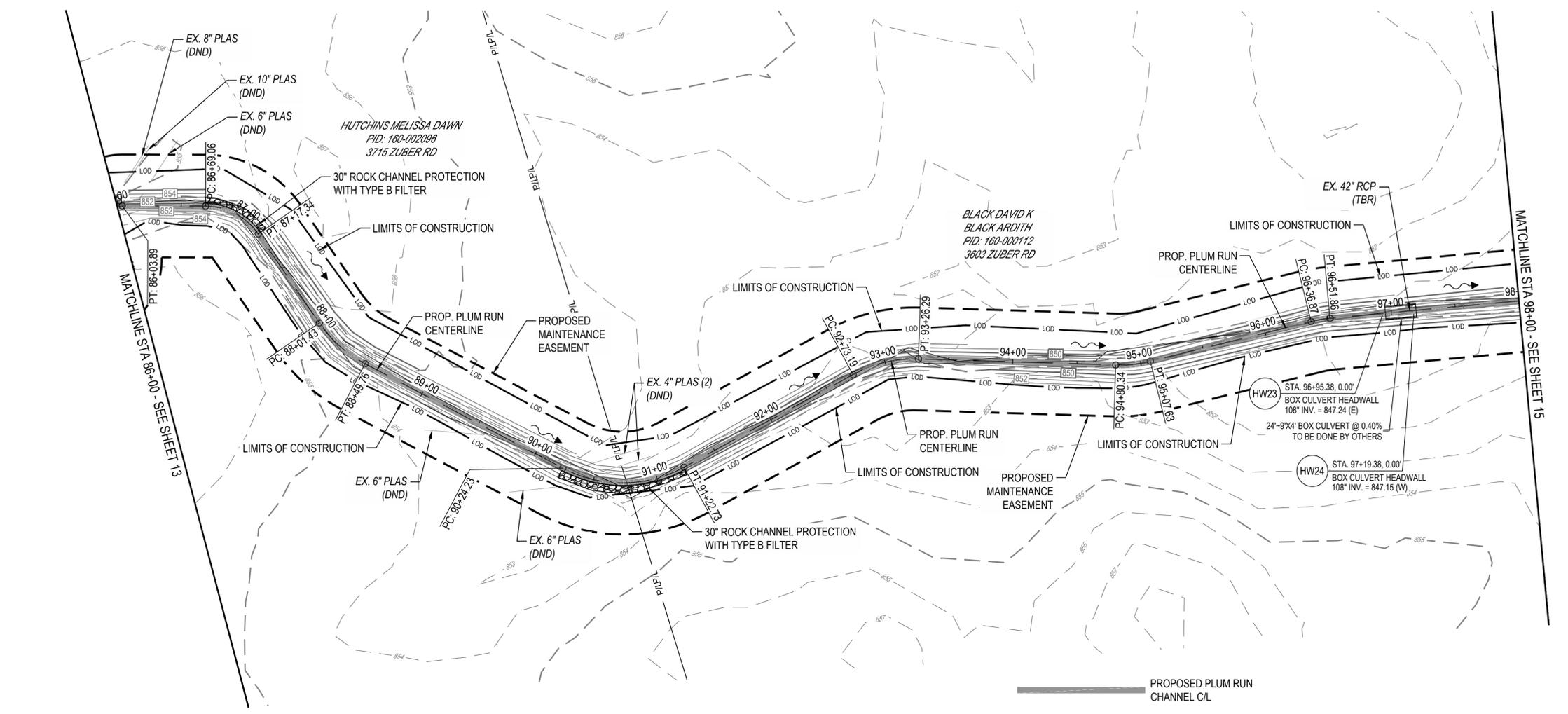
STA. 62+00 TO STA. 74+00
PLAN & PROFILE

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO



STA. 74+00 TO STA. 86+00
PLAN & PROFILE

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

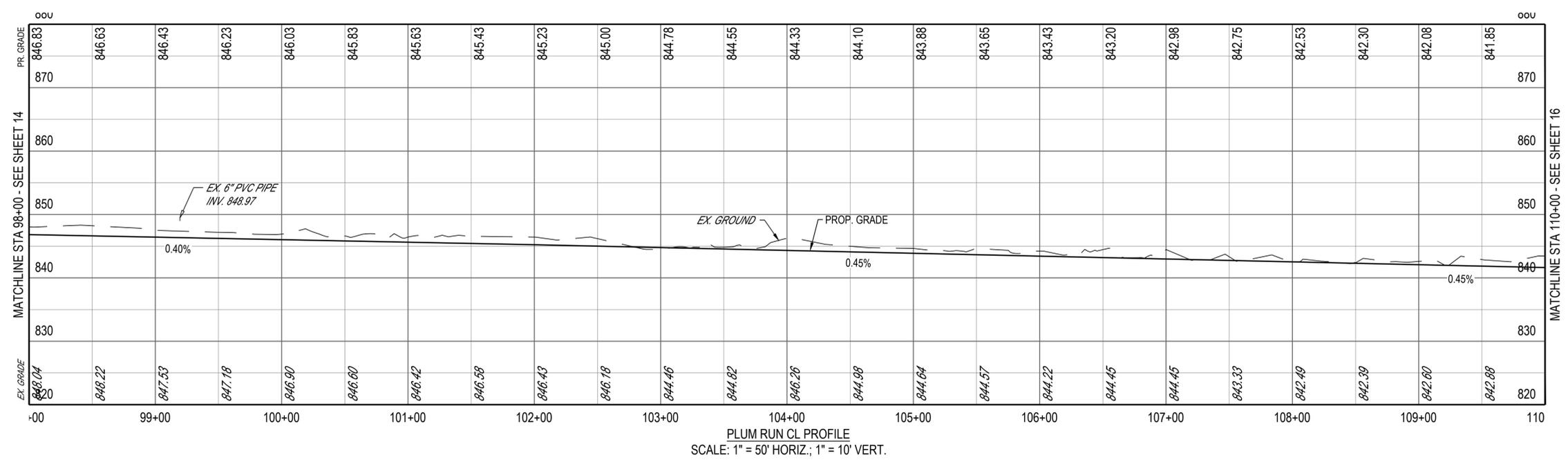
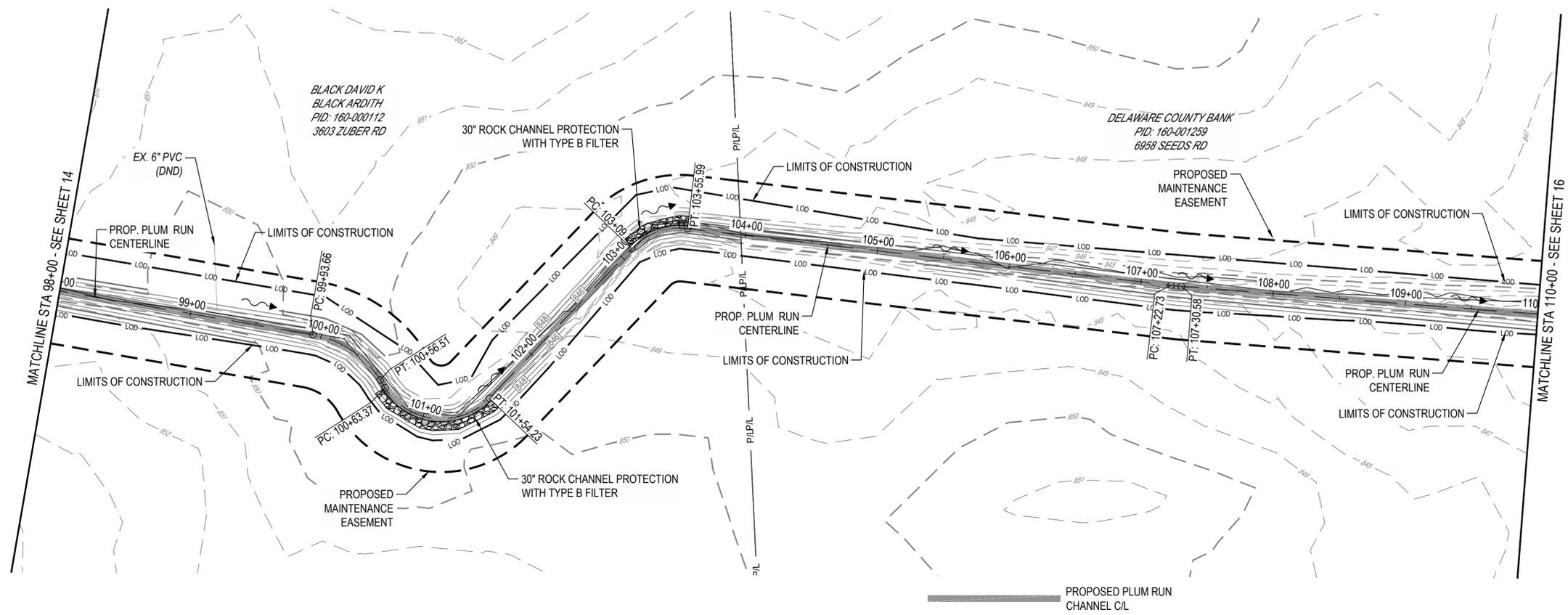


CALCULATED
 TDH
 CHECKED
 NES

STA. 86+00 TO STA. 98+00
 PLAN & PROFILE

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

C:\DC\ACCORDS\CES\FCEO ZUBER ROAD PLUM RUN IMPROVEMENTS\PROJECT FILES_CES\003-CIVIL\PLAN\LOT SHEETS\SECTION 27_SECT2_PLPRO.DWG - 11/10/2025 9:08:50 AM



**STA. 96+00.00 TO STA. 108+00.00
PLAN & PROFILE**

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

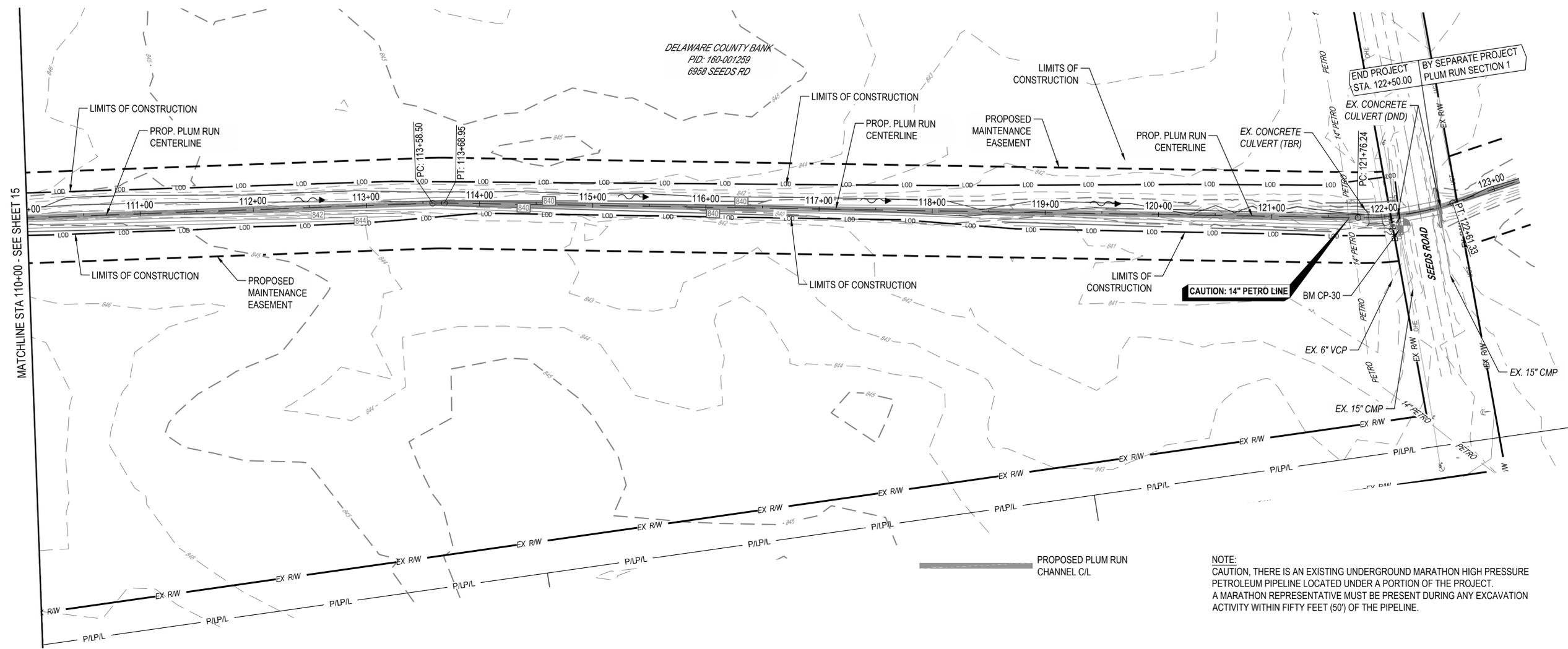
15
39

C:\DC\ACCD\DCS\CES0\FCE0\ZUBER ROAD PLUM RUN IMPROVEMENTS\PROJECT FILES_CES003\CIVIL\PLAN\PILOT SHEETS\SECTION 27_SECT2_PLPRO.DWG - 11/10/2025 9:07:10 AM

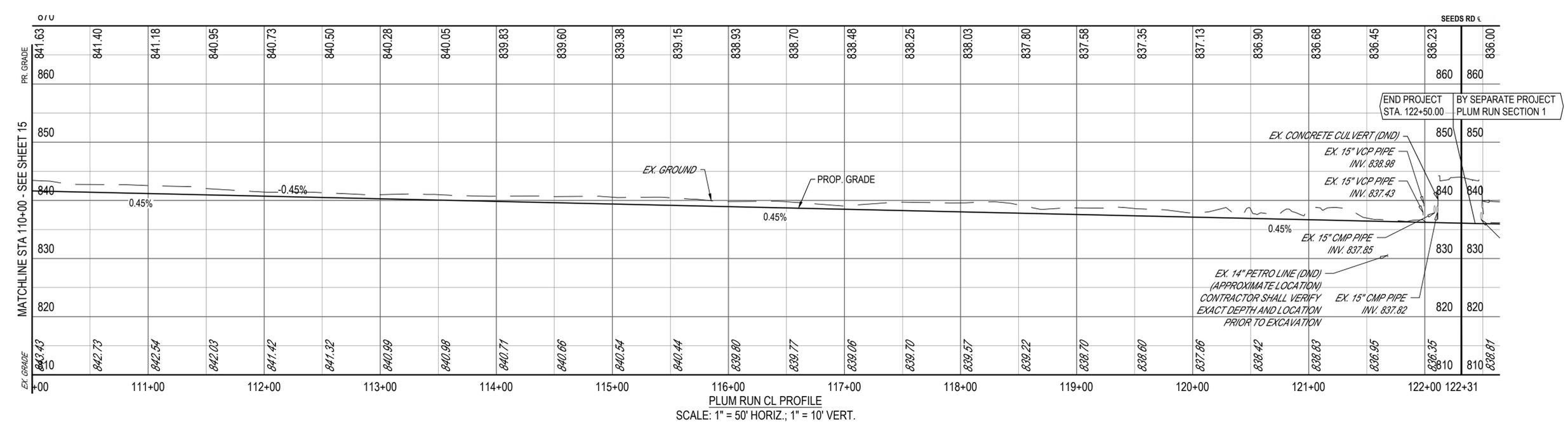
CALCULATED
T.D.H.
CHECKED
N.E.S.

GRAPHIC SCALE (IN FEET)

N



NOTE:
CAUTION, THERE IS AN EXISTING UNDERGROUND MARATHON HIGH PRESSURE PETROLEUM PIPELINE LOCATED UNDER A PORTION OF THE PROJECT. A MARATHON REPRESENTATIVE MUST BE PRESENT DURING ANY EXCAVATION ACTIVITY WITHIN FIFTY FEET (50') OF THE PIPELINE.



PLUM RUN CL PROFILE
SCALE: 1" = 50' HORIZ.; 1" = 10' VERT.

CALCULATED TDH CHECKED NES

GRAPHIC SCALE (IN FEET)

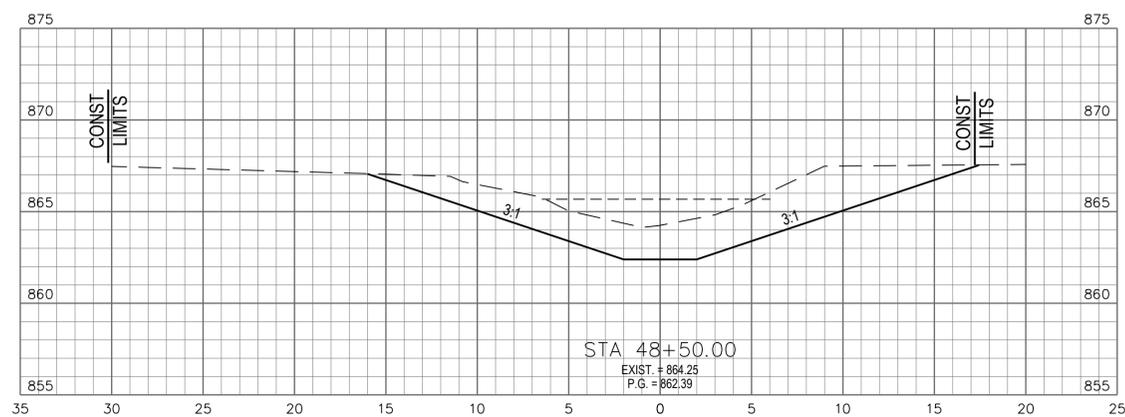
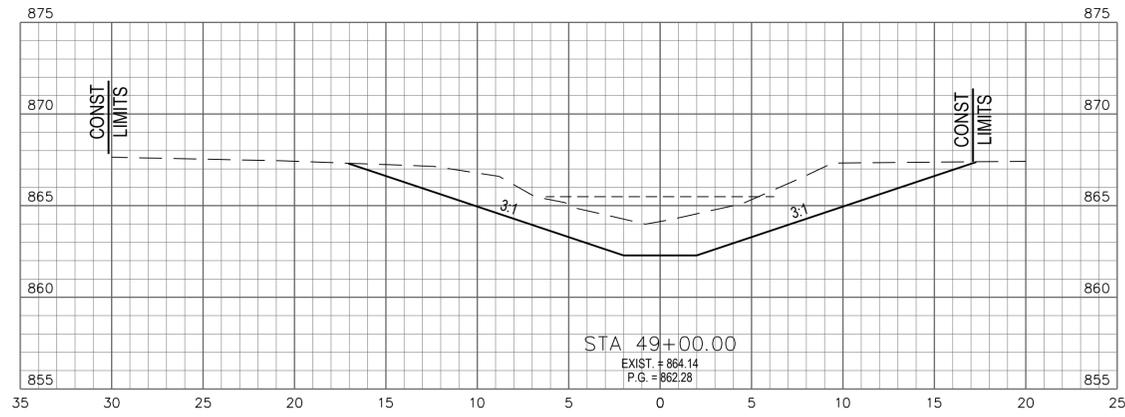
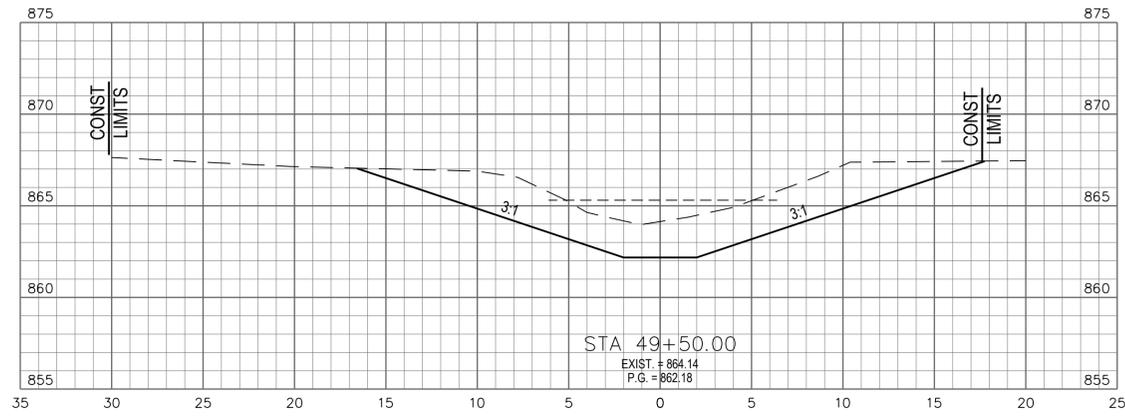
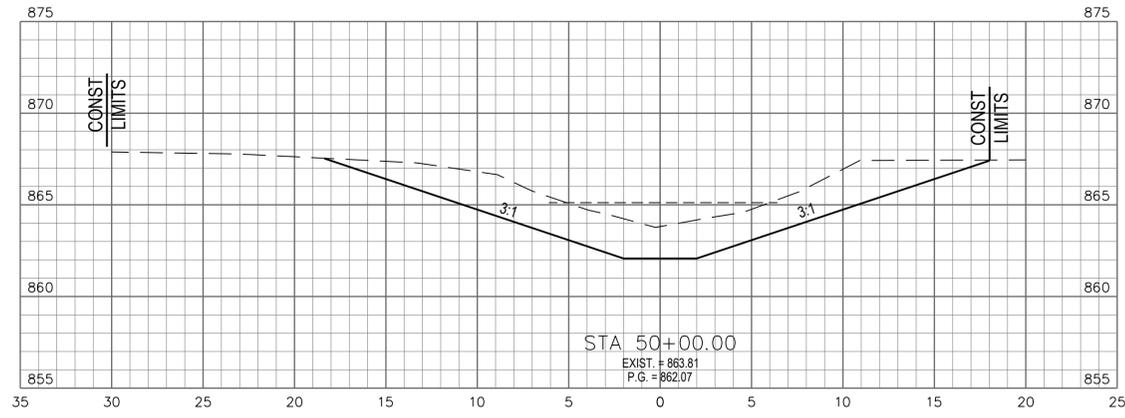
N

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS SECTION 2 FRANKLIN COUNTY, OHIO

STA. 110+00 TO STA. 122+50 PLAN & PROFILE

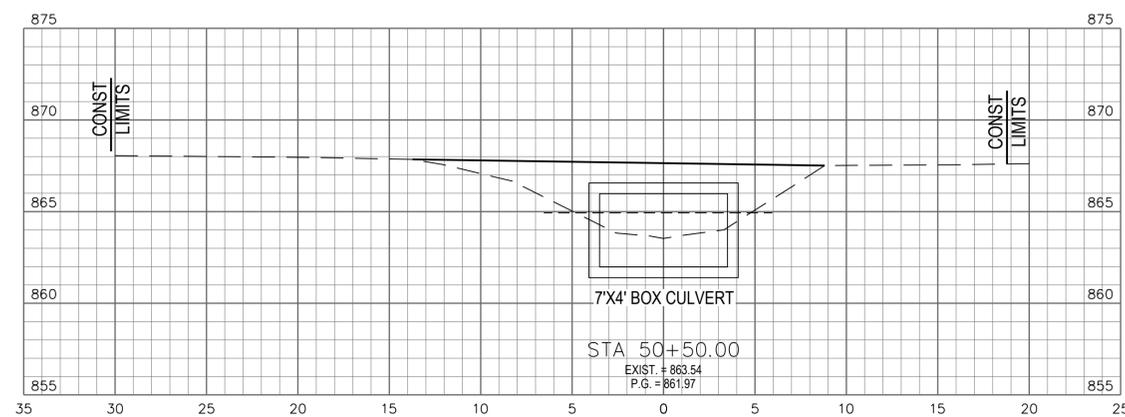
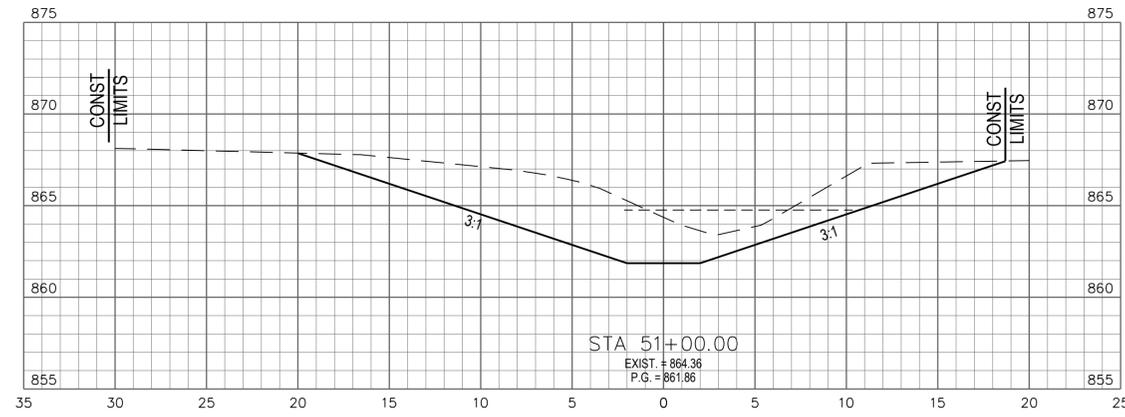
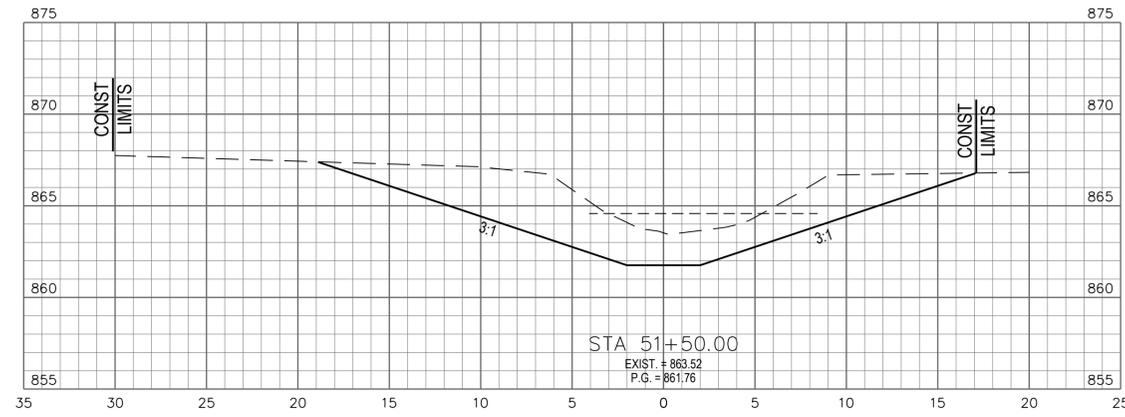
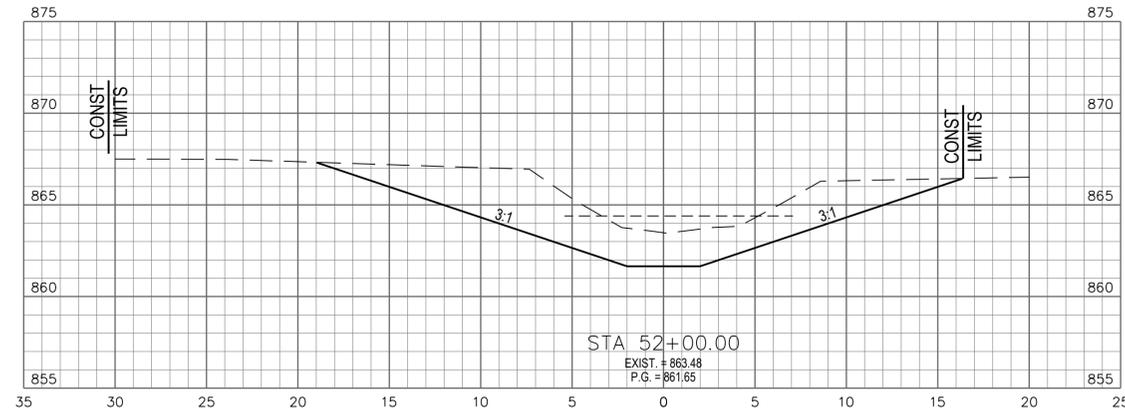
16
39

C:\DC\ACDD\DCS\CE0\F00 ZUBER ROAD PLUM RUN IMPROVEMENTS\PROJECT FILES_CES003-CIVIL\PLAN\PILOT SHEETS\SECTION 27_SECT2_PLPRO.DWG - 11/10/2025 9:07:26 AM



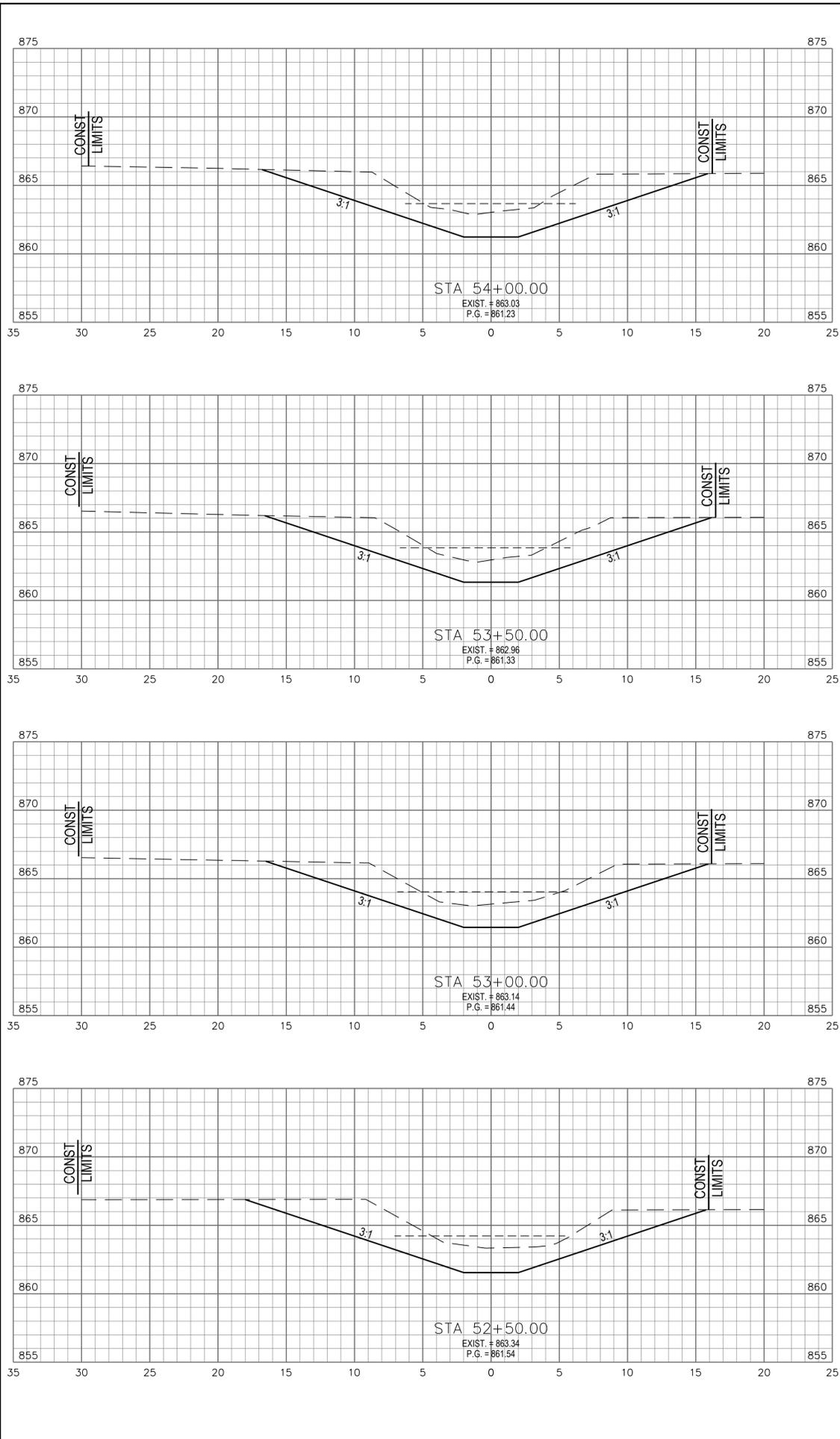
**BEGIN PROJECT
STA. 48+50.00**

END AREA	VOLUME
CUT (SF)/FILL (SF)	CUT (CY)/FILL (CY)
59	0
108	0
58	0
106	0
56	0
102	0
54	0
101	0
COLUMN TOTAL	417 0

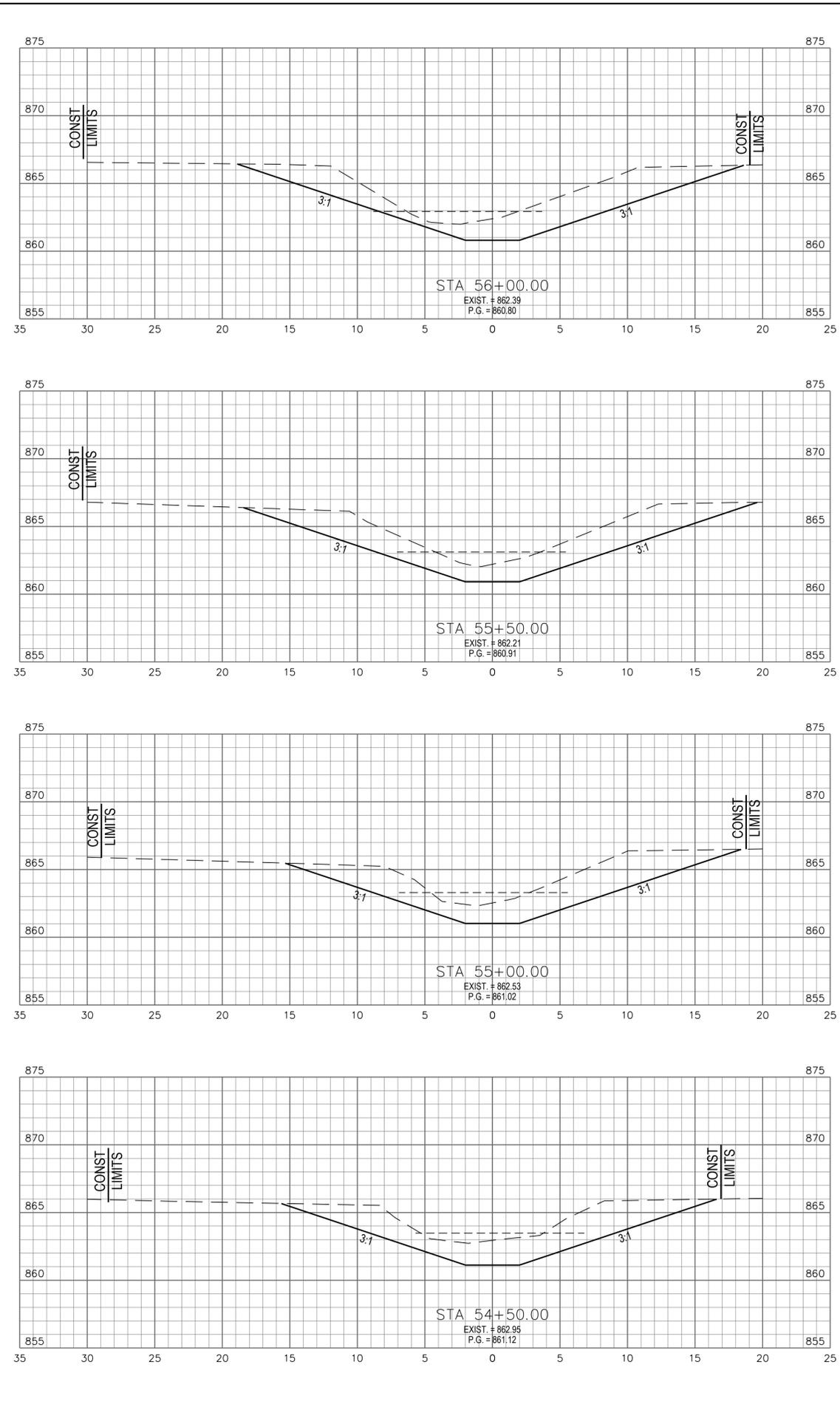


END AREA	VOLUME
CUT (SF)/FILL (SF)	CUT (CY)/FILL (CY)
64	0
121	0
67	0
129	0
72	0
86	26
20	28
73	26
COLUMN TOTAL	409 52
SHEET TOTAL	826 52

CALCULATED TDH CHECKED NES
 ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS SECTION 2
 FRANKLIN COUNTY, OHIO
 STA. 48+50 TO STA. 52+00 CROSS SECTIONS
 17
 39



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
53	0	
97	0	
52	0	
93	0	
48	0	
95	0	
55	0	
110	0	
COLUMN TOTAL	395	0

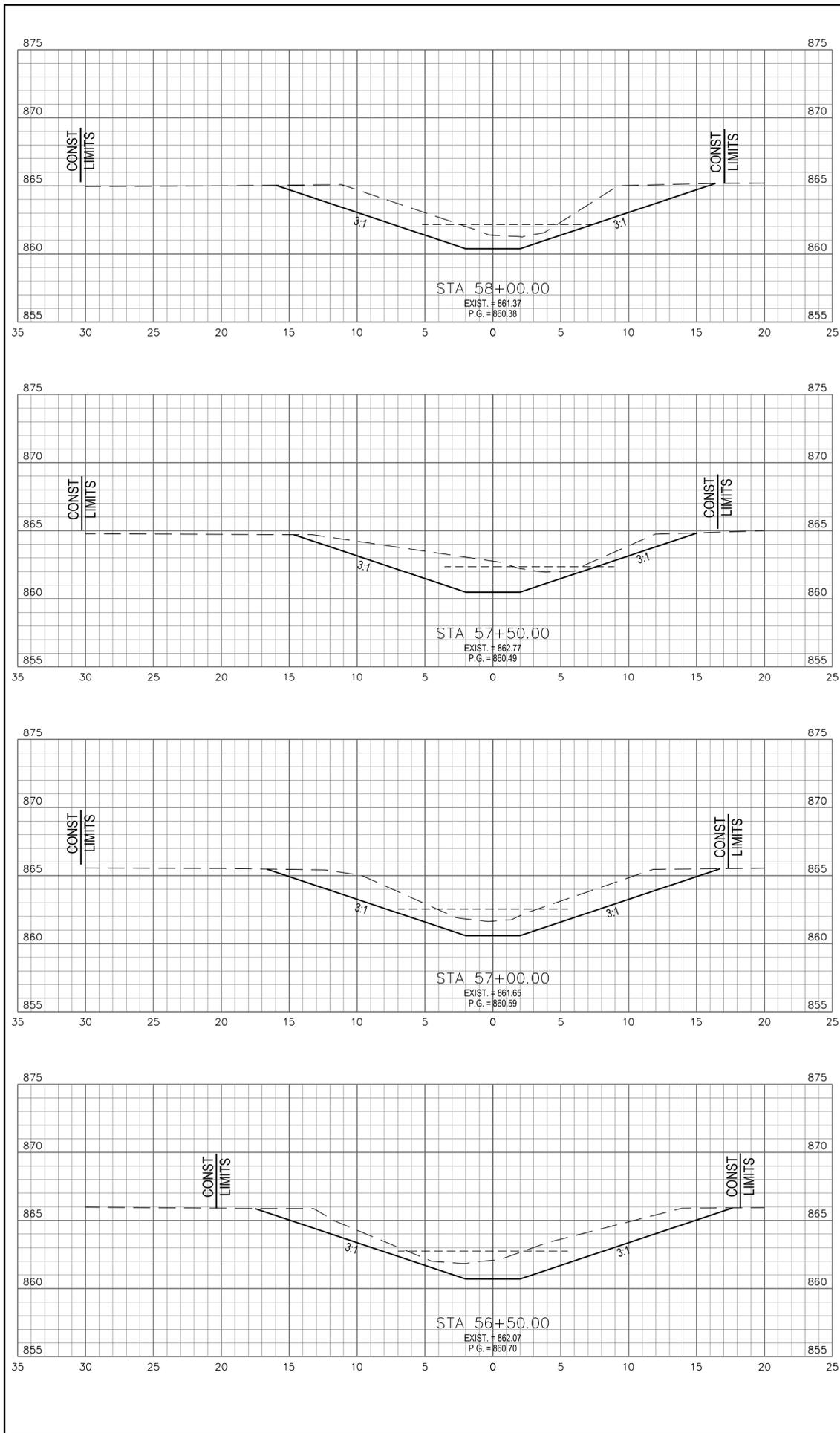


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
55	0	
105	0	
58	0	
104	0	
54	0	
96	0	
50	0	
95	0	
COLUMN TOTAL	400	0
SHEET TOTAL	795	0

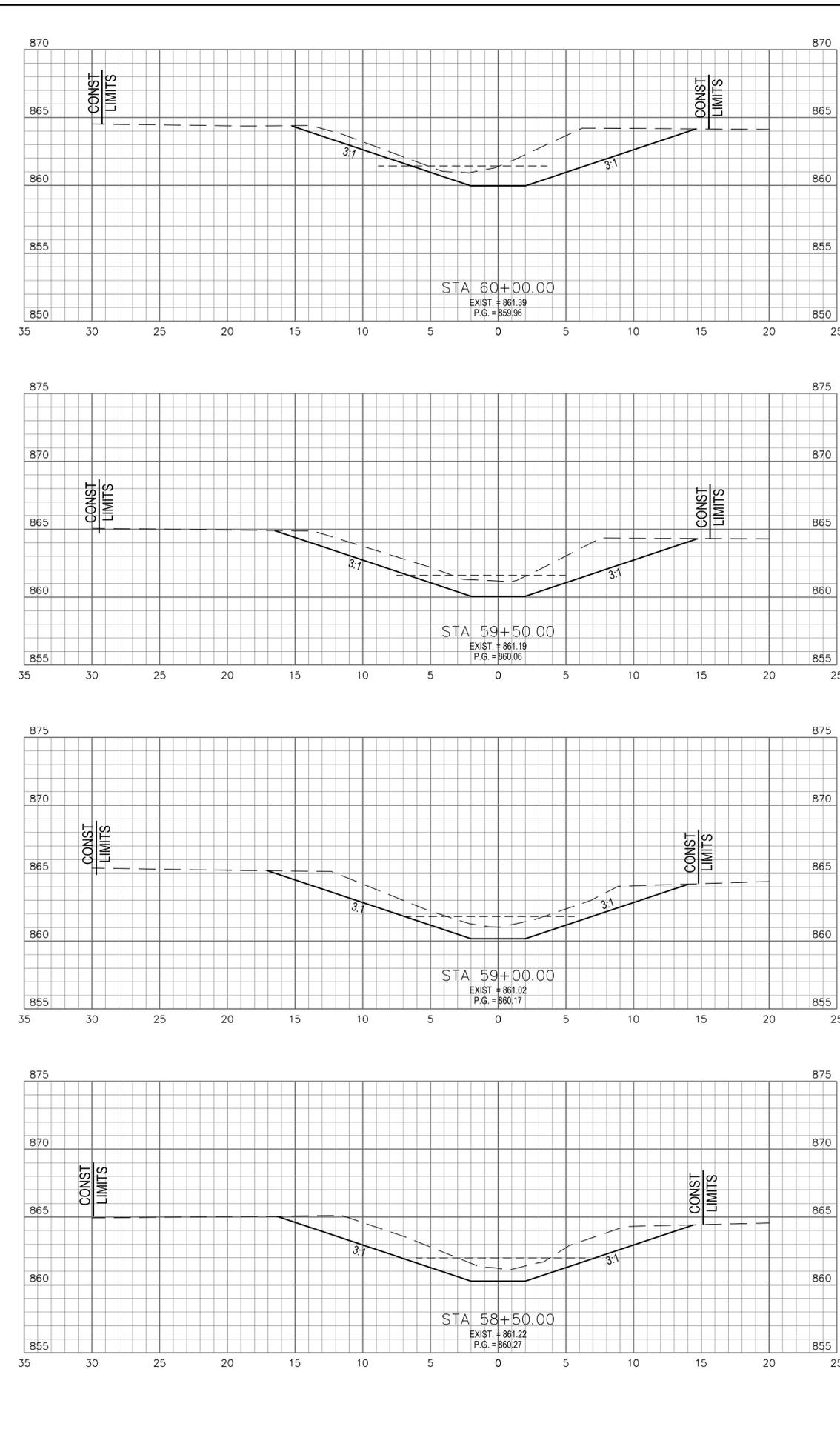
STA. 52+50 TO STA. 56+00
CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

CALCULATED
TDH
CHECKED
NES

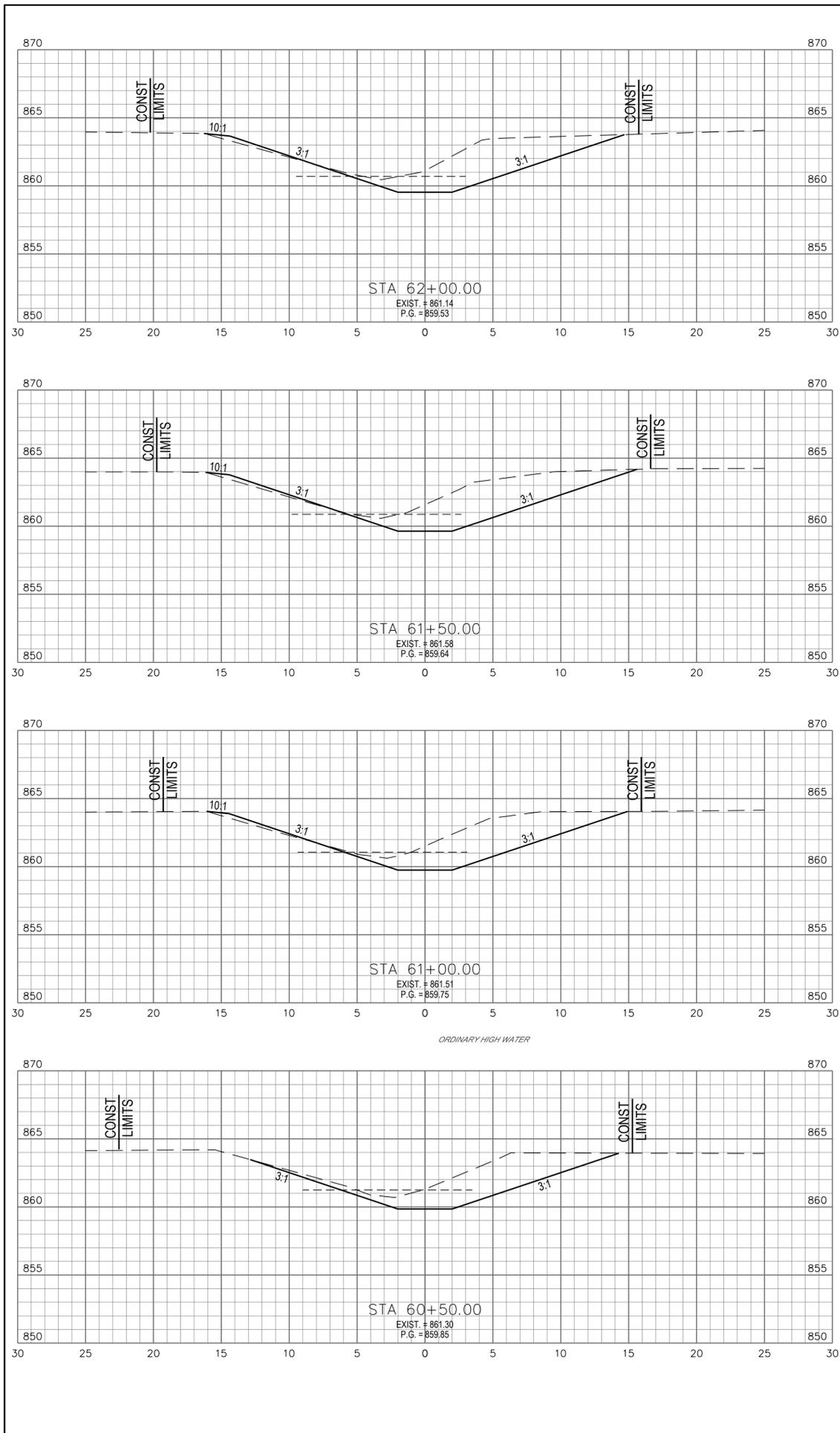


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
40	0	0
69	0	0
35	0	0
71	0	0
42	0	0
76	0	0
40	0	0
88	0	0
COLUMN TOTAL	304	0

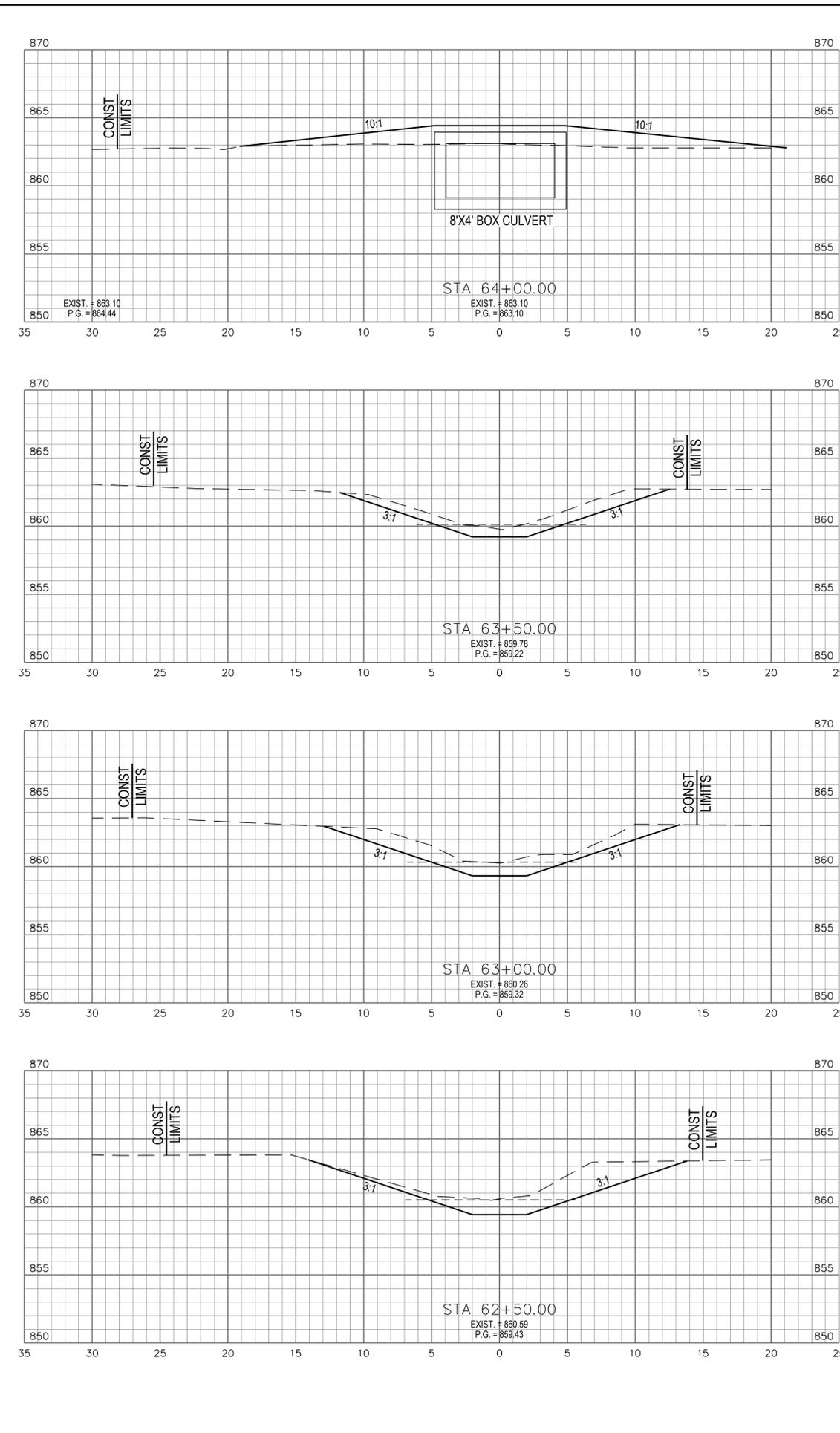


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
36	0	0
69	0	0
38	0	0
66	0	0
33	0	0
65	0	0
37	0	0
71	0	0
COLUMN TOTAL	271	0
SHEET TOTAL	575	0

CALCULATED	TDH	NEE
STA. 56+50 TO STA. 60+00 CROSS SECTIONS		
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS SECTION 2 FRANKLIN COUNTY, OHIO		
19 39		



END AREA	VOLUME	
	CUT (SF)	FILL (SF)
32	1	
62	3	
35	2	
63	3	
33	1	
59	1	
31	0	
62	0	
COLUMN TOTAL	246	7

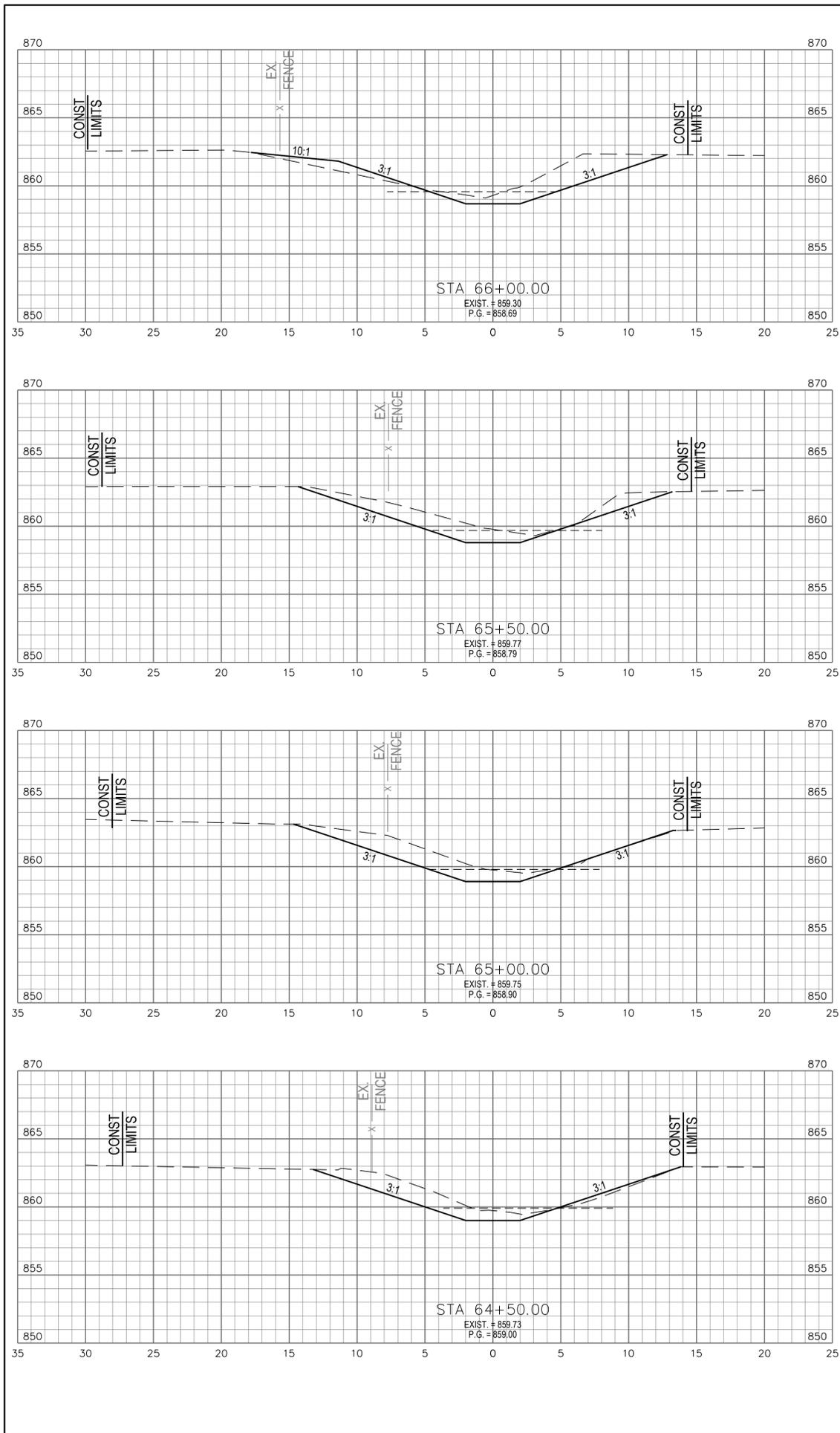


END AREA	VOLUME	
	CUT (SF)	FILL (SF)
46	27	
58	25	
17	0	
37	0	
23	0	
45	0	
31	0	
62	0	
COLUMN TOTAL	202	25
SHEET TOTAL	448	32

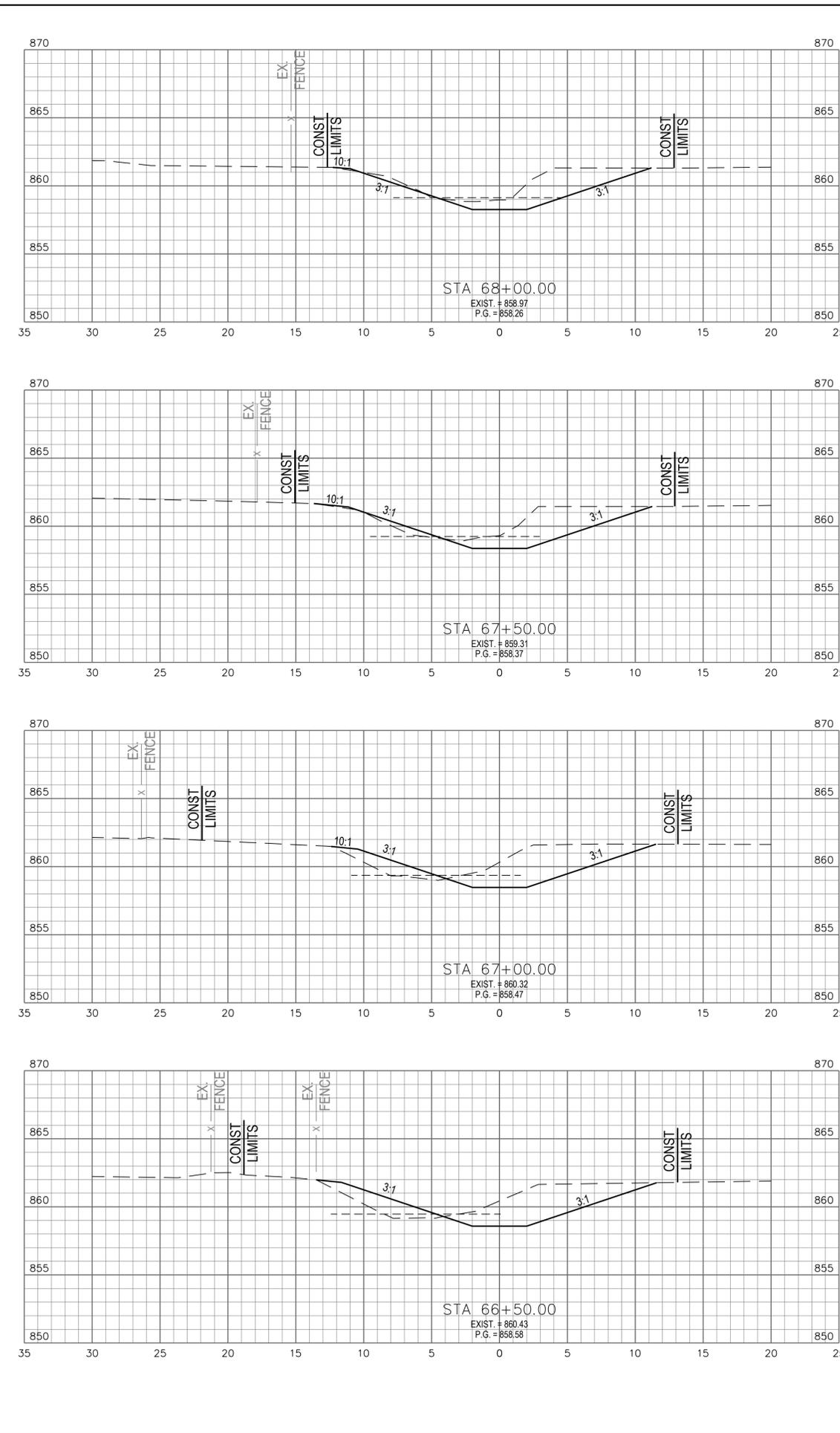
STA. 60+50 TO STA. 64+00
CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED
 TDH
 CHECKED
 NES



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
18	4	
35	4	
20	0	
35	0	
18	0	
31	1	
15	1	
56	26	
COLUMN TOTAL	157	31



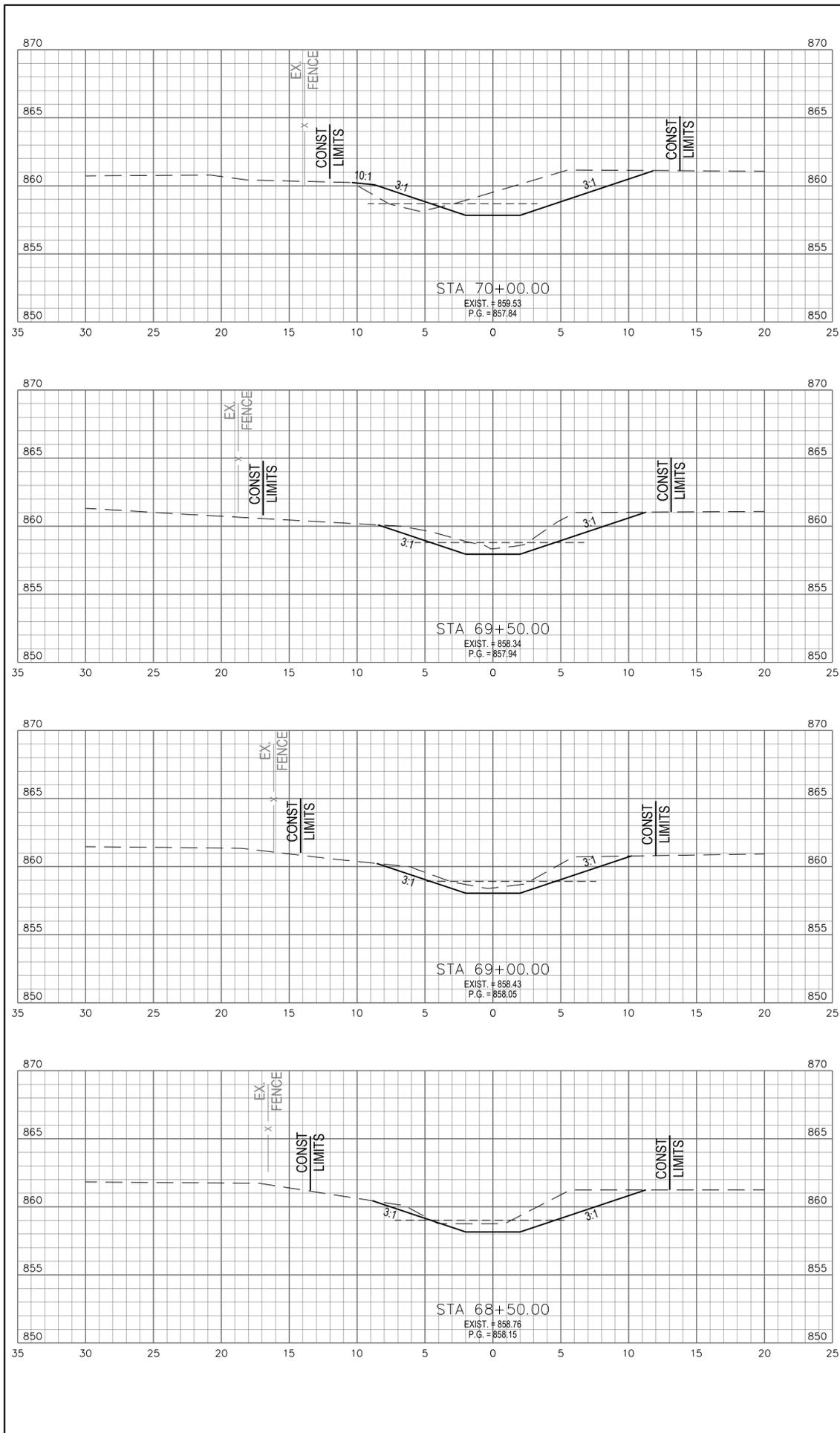
END AREA	VOLUME	
	CUT (SF)	FILL (CY)
18	0	
34	2	
19	2	
39	7	
23	6	
43	13	
23	8	
38	11	
COLUMN TOTAL	154	33
SHEET TOTAL	311	64

STA. 64+50 TO STA. 68+00
CROSS SECTIONS

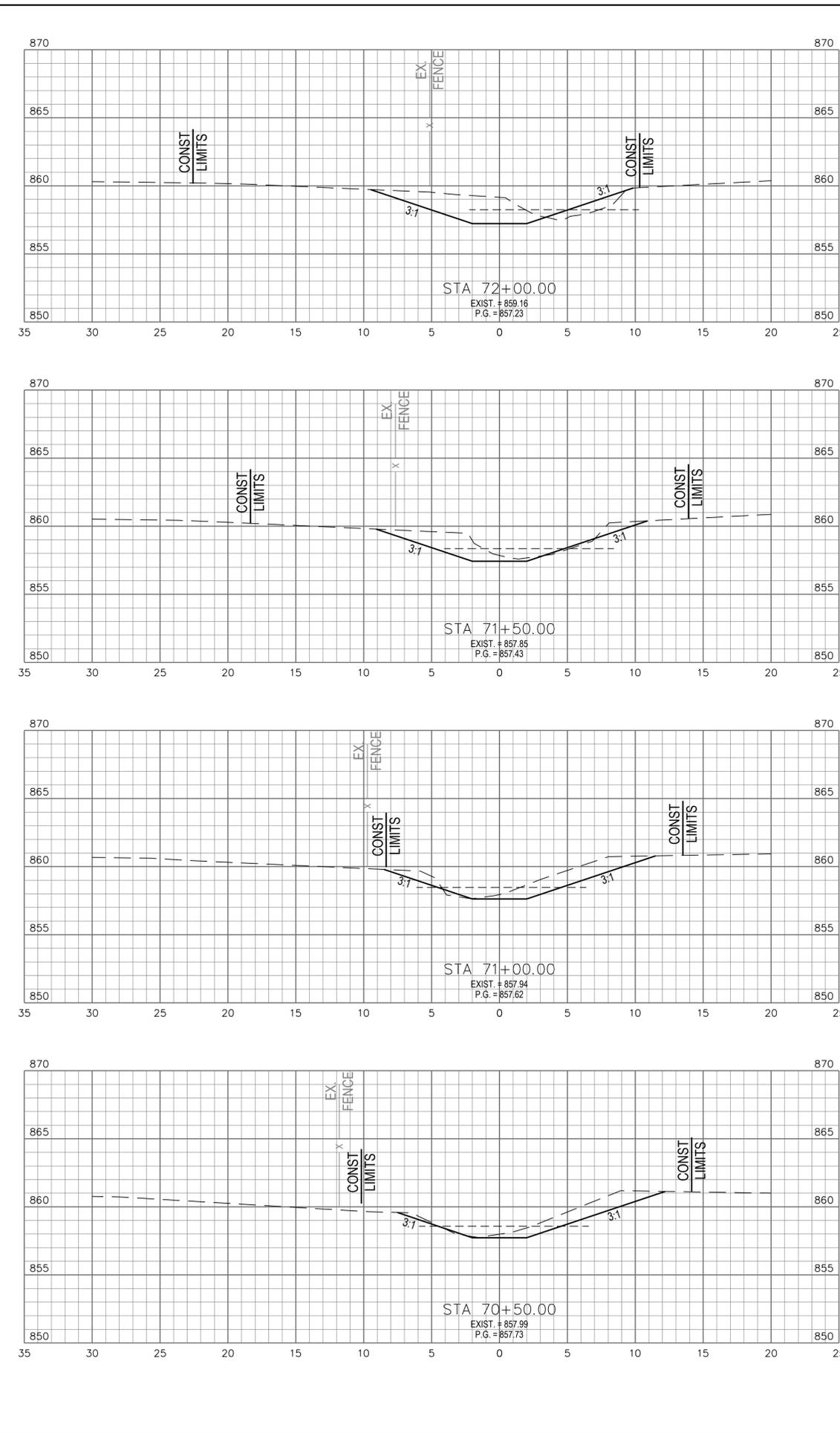
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED	TDH
CHECKED	NES

21
 39



END AREA	VOLUME	
	CUT (SF)	FILL (SF)
22	4	
35	4	
16	0	
25	0	
11	0	
24	0	
15	0	
31	0	
COLUMN TOTAL	115	4



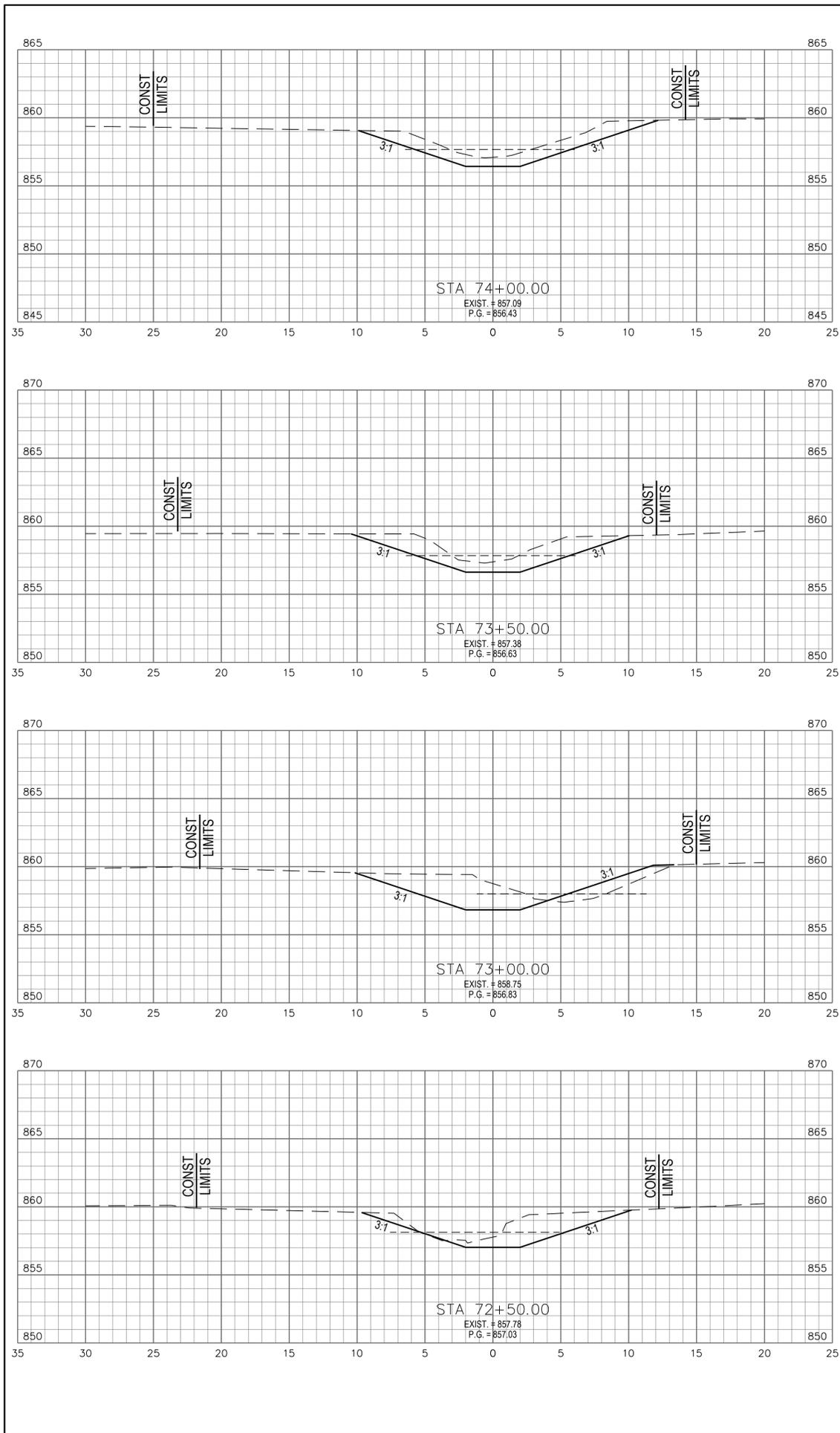
END AREA	VOLUME	
	CUT (SF)	FILL (SF)
16	3	
25	3	
11	0	
21	0	
12	0	
20	0	
10	0	
30	4	
COLUMN TOTAL	96	7
SHEET TOTAL	211	11

STA. 68+50 TO STA. 72+00
CROSS SECTIONS

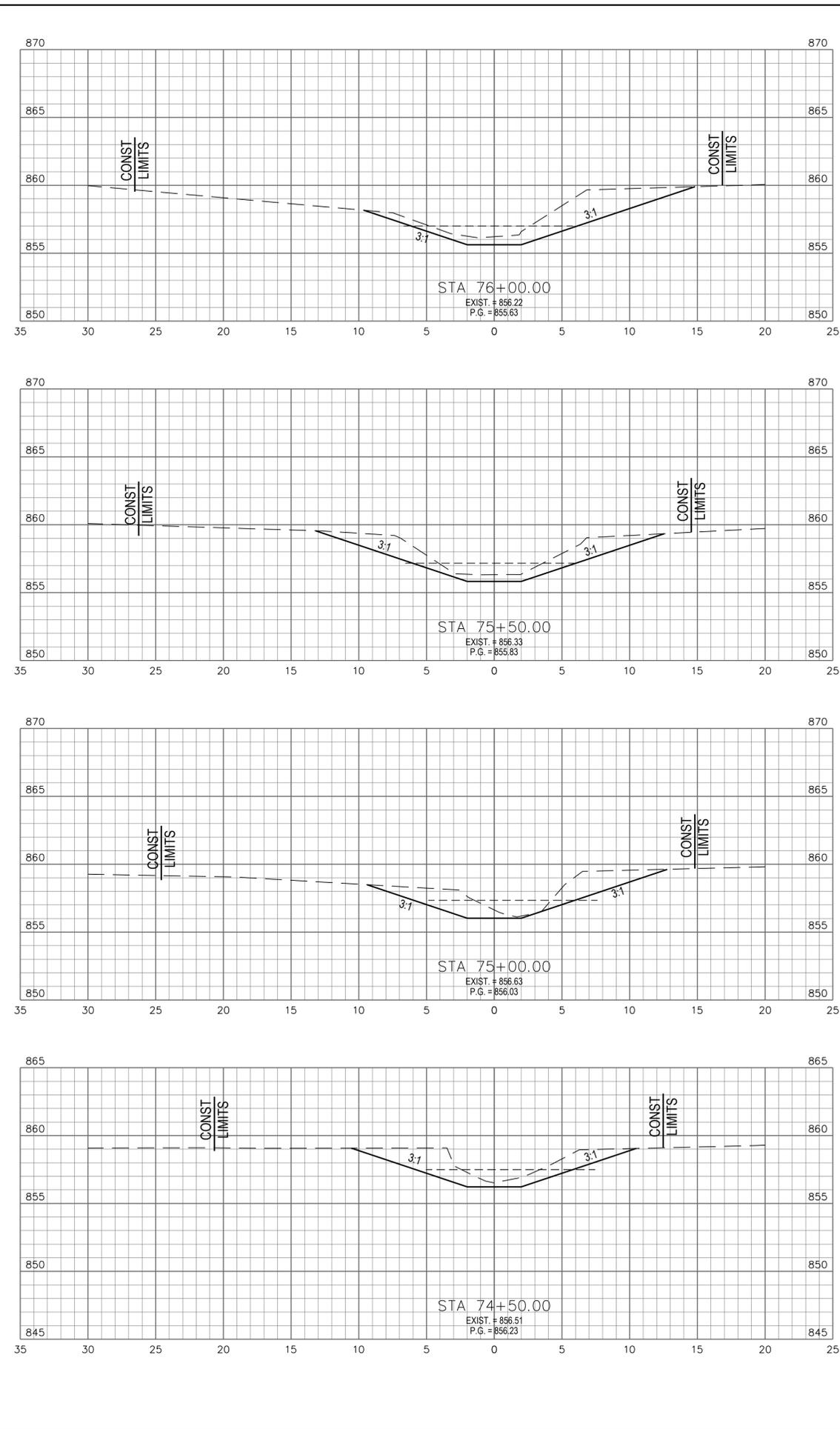
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED
 TDH
 CHECKED
 NES

C:\CADD\DCS\CES\FCE\ZUBER ROAD PLUM RUN IMPROVEMENTS\PROJECT FILES_CES\03-CIVIL\PLAN\PLOT SHEETS\SECTION 28_SECTION 2_CROSS-1.DWG - 8/21/2025 11:28:59 AM



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
17	0	
34	0	
20	0	
37	6	
20	6	
33	6	
16	0	
30	3	
COLUMN TOTAL	134	15

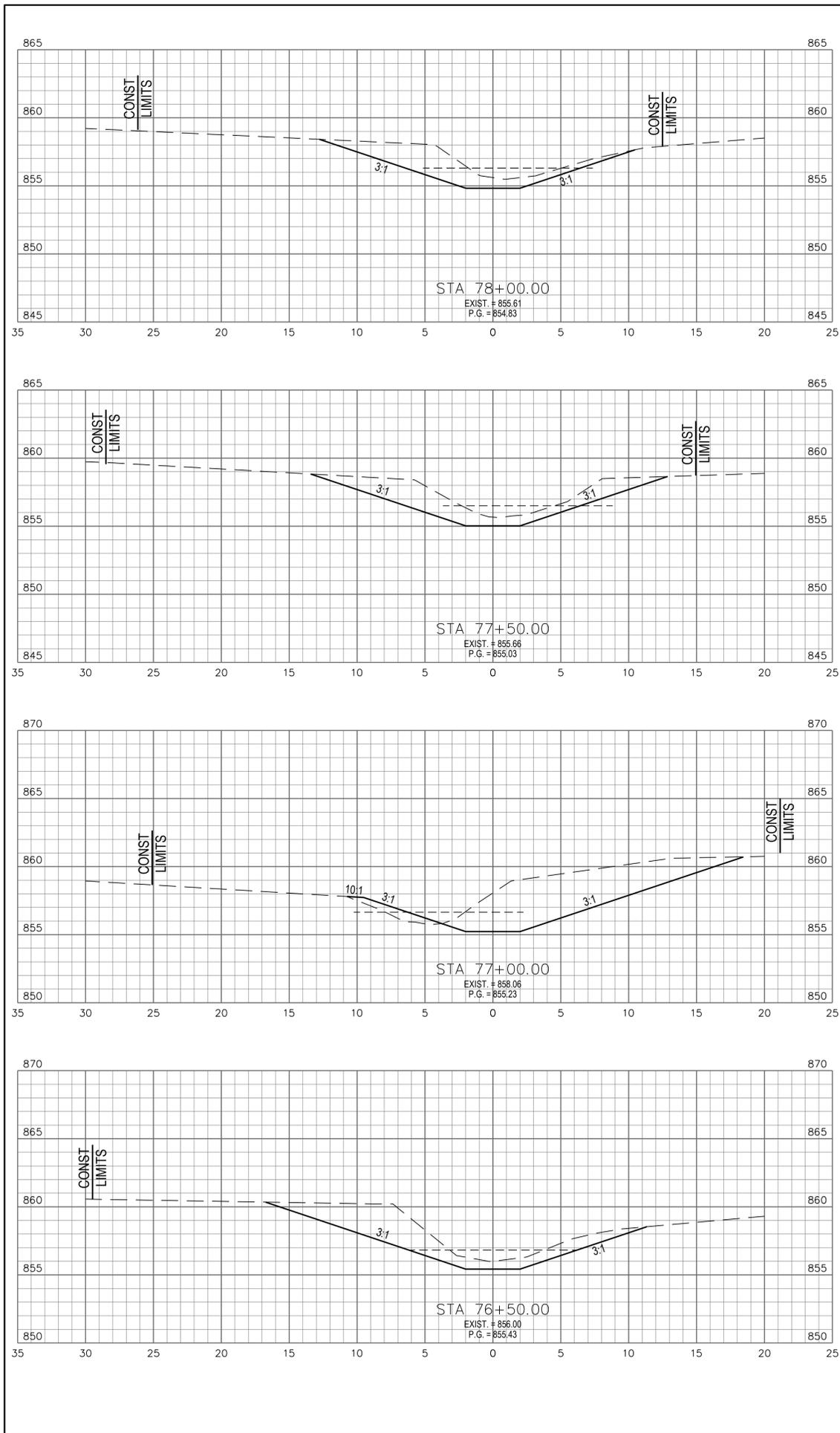


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
24	0	
42	0	
21	0	
38	0	
20	0	
36	0	
19	0	
33	0	
COLUMN TOTAL	149	0
SHEET TOTAL	283	15

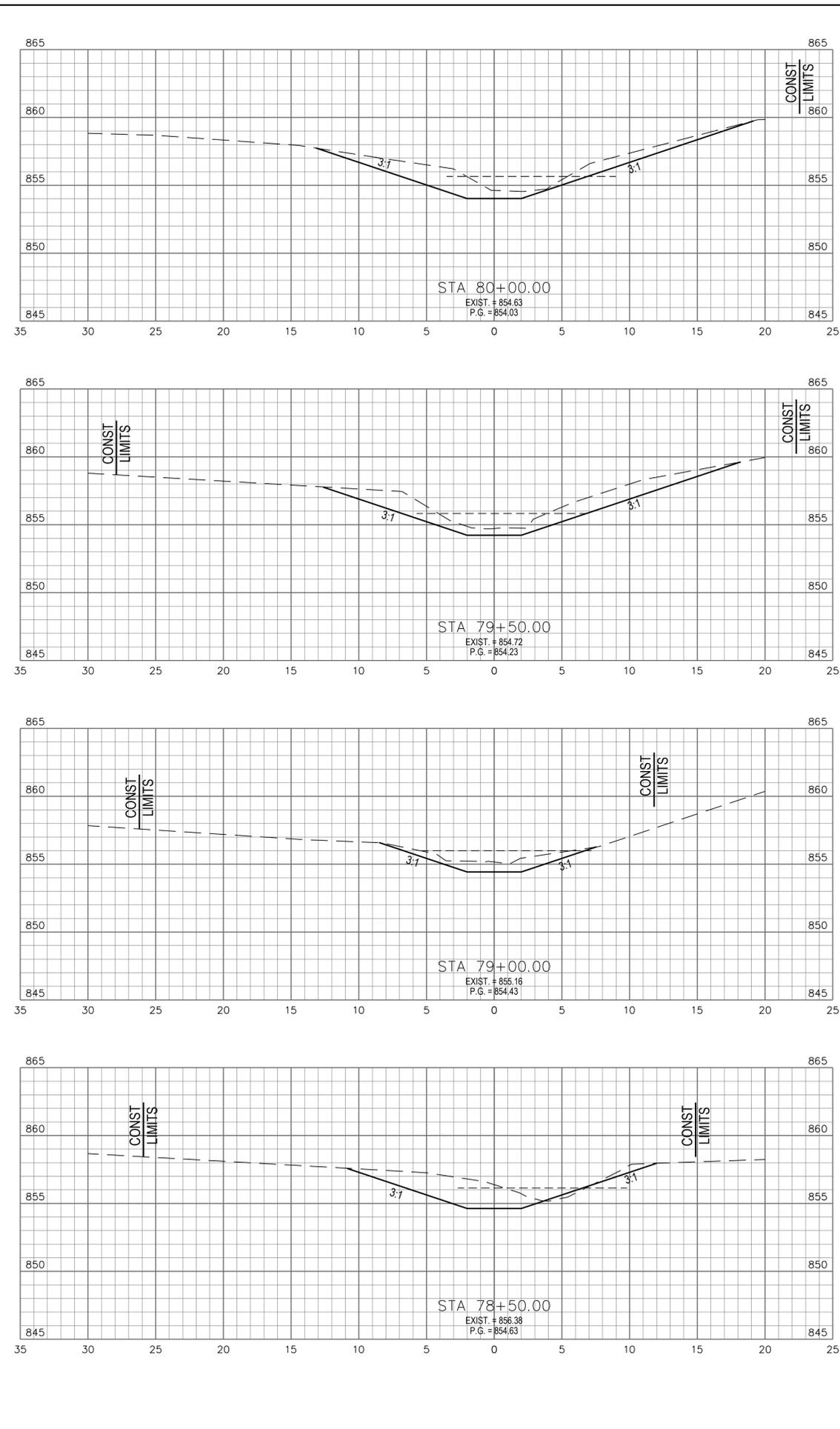
STA. 72+50 TO STA. 76+00
 CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED
 TDH
 CHECKED
 NES



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
22	0	0
44	0	0
26	0	0
68	3	3
47	3	3
73	3	3
32	0	0
52	0	0
COLUMN TOTAL	237	6

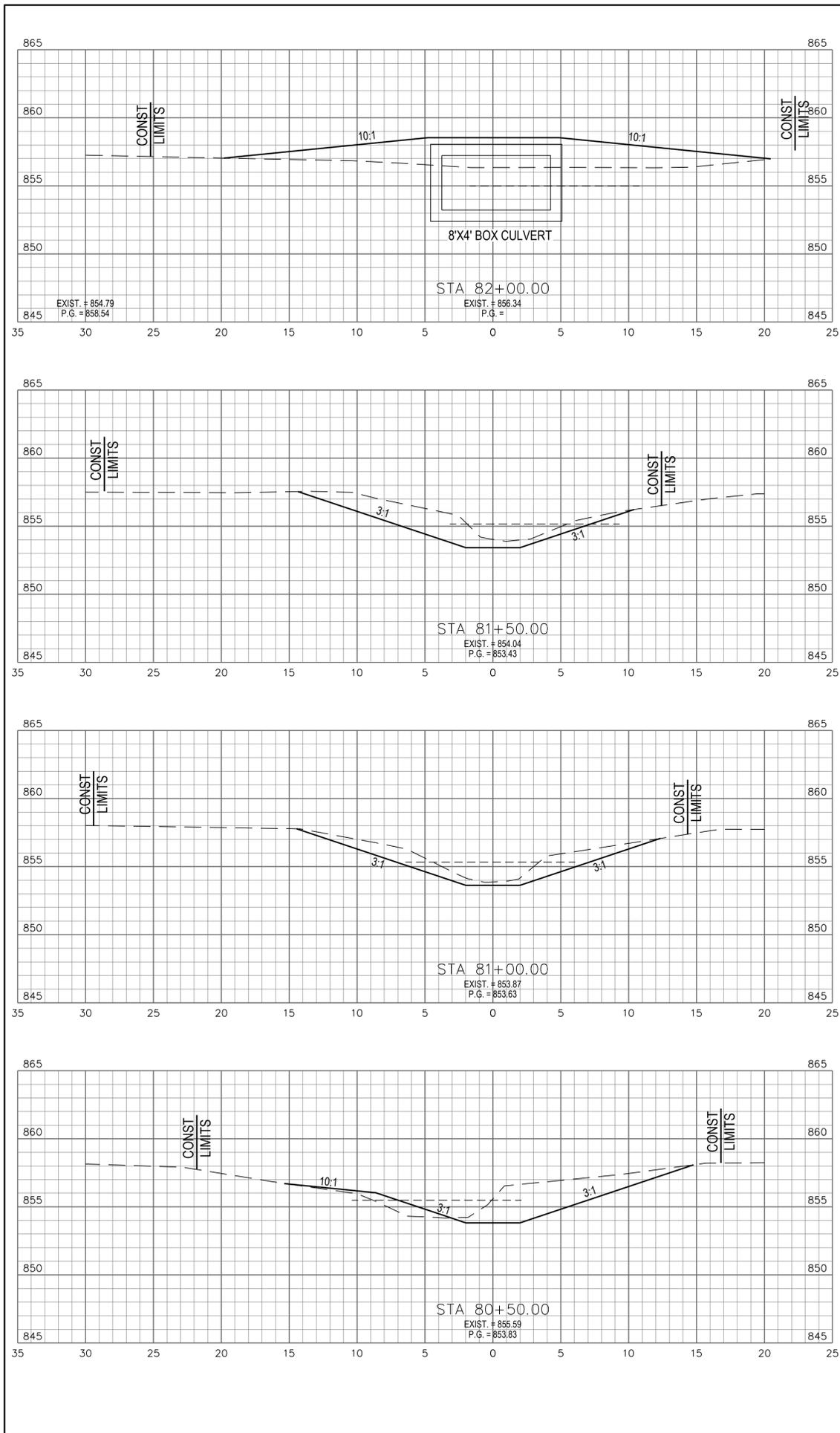


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
22	0	0
44	0	0
25	0	0
31	0	0
8	0	0
25	1	1
19	1	1
38	1	1
COLUMN TOTAL	138	2
SHEET TOTAL	375	8

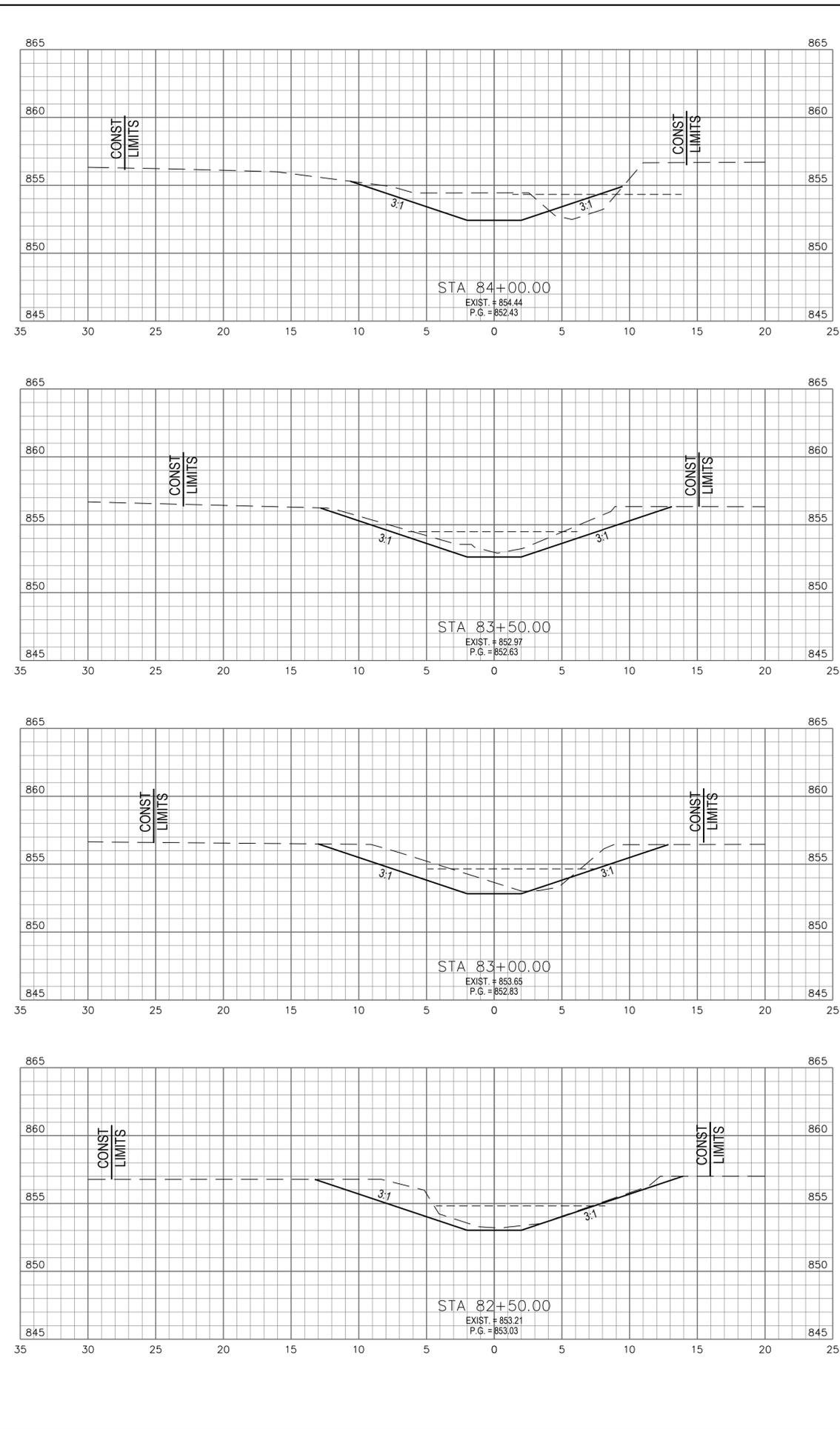
STA. 76+50 TO STA. 80+00
 CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED
 TDH
 CHECKED
 NES



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
25	46	
45	43	
24	0	
40	0	
19	0	
41	5	
25	5	
44	5	
COLUMN TOTAL	170	53

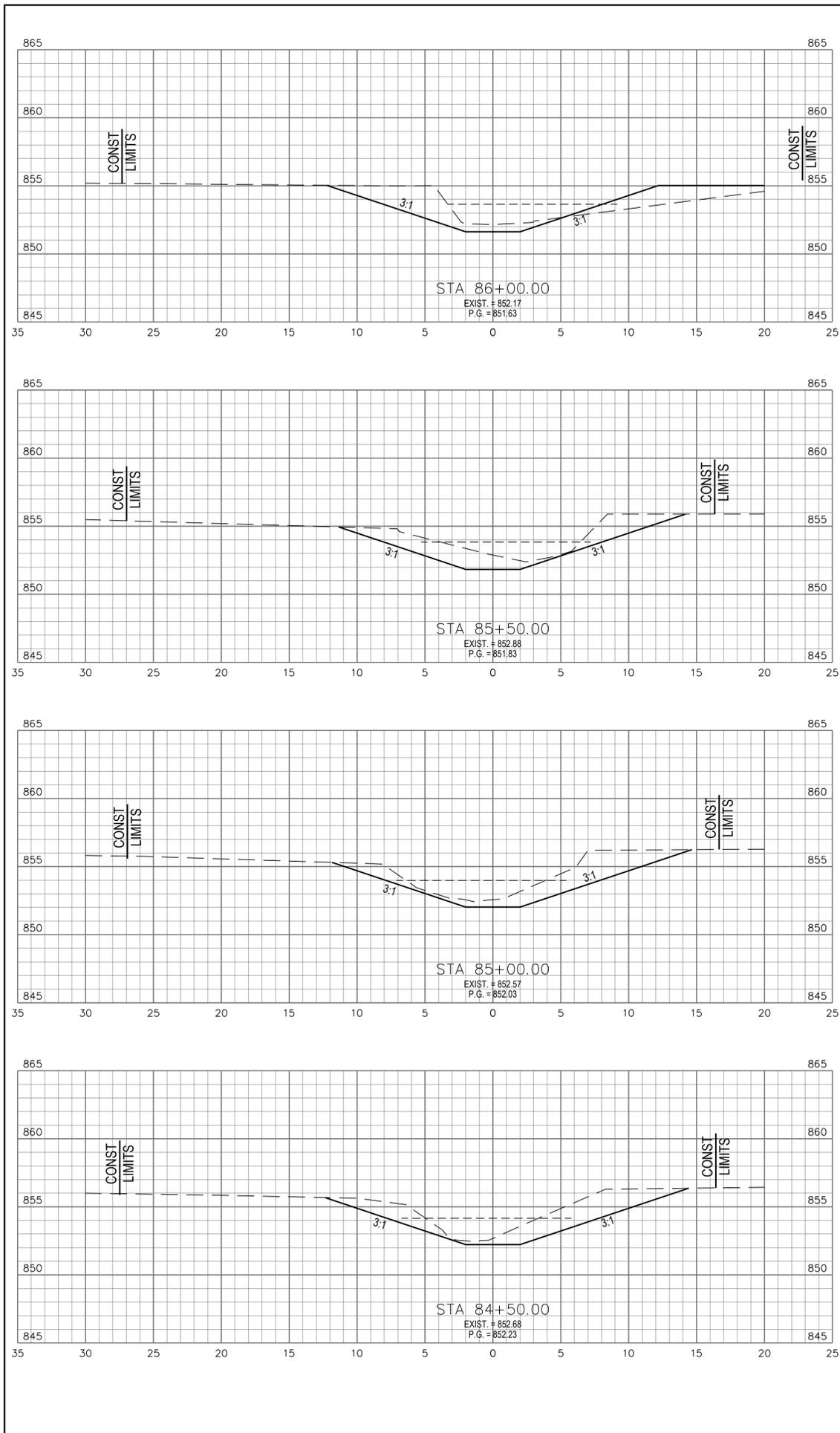


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
18	5	
31	5	
16	0	
34	1	
21	1	
33	1	
15	0	
37	43	
COLUMN TOTAL	135	50
SHEET TOTAL	305	103

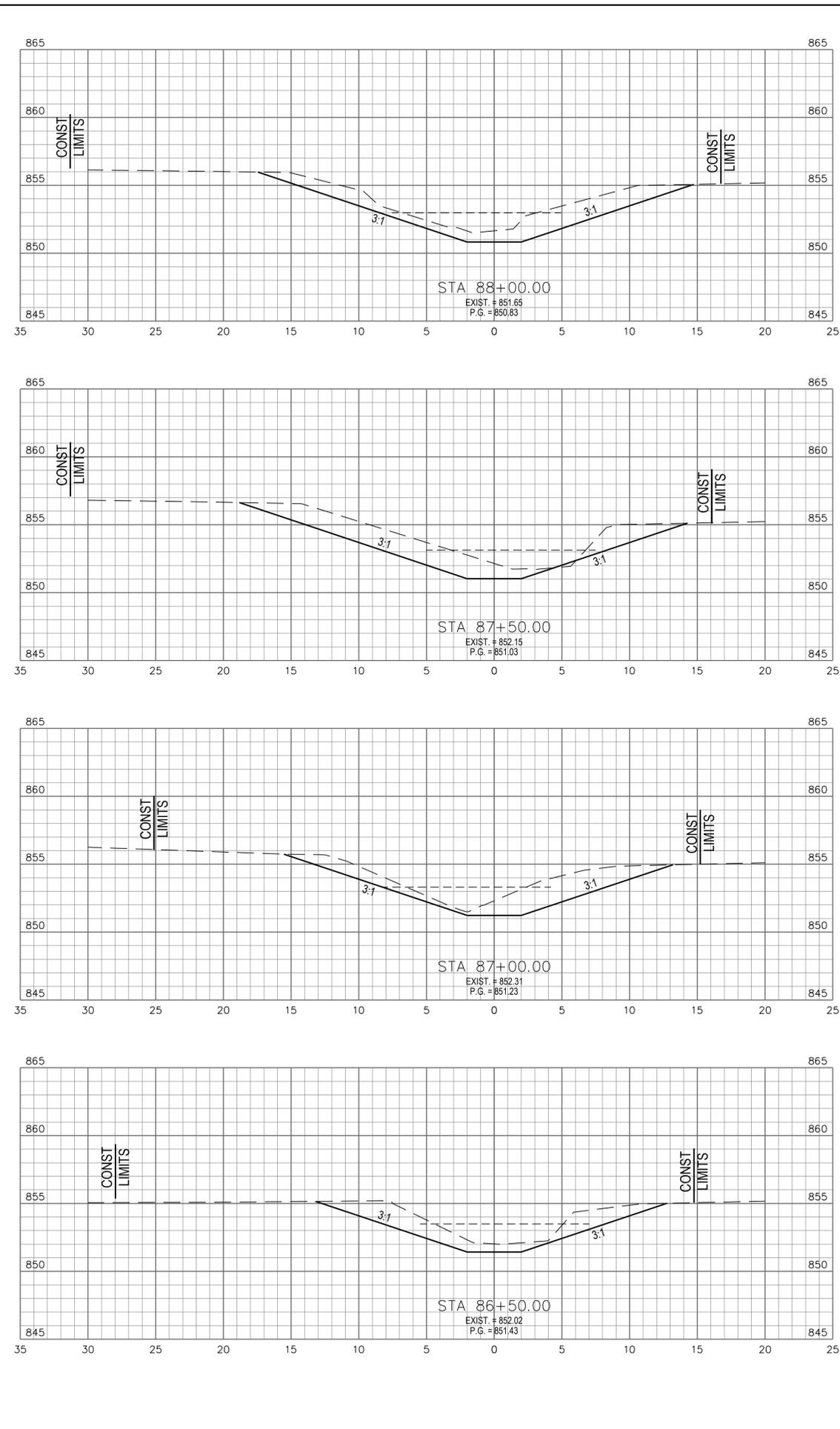
STA. 80+50 TO STA. 84+00
 CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED
 TDH
 CHECKED
 NES



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
17	12	
37	11	
23	0	
44	0	
24	0	
47	0	
27	0	
42	5	
COLUMN TOTAL	170	16

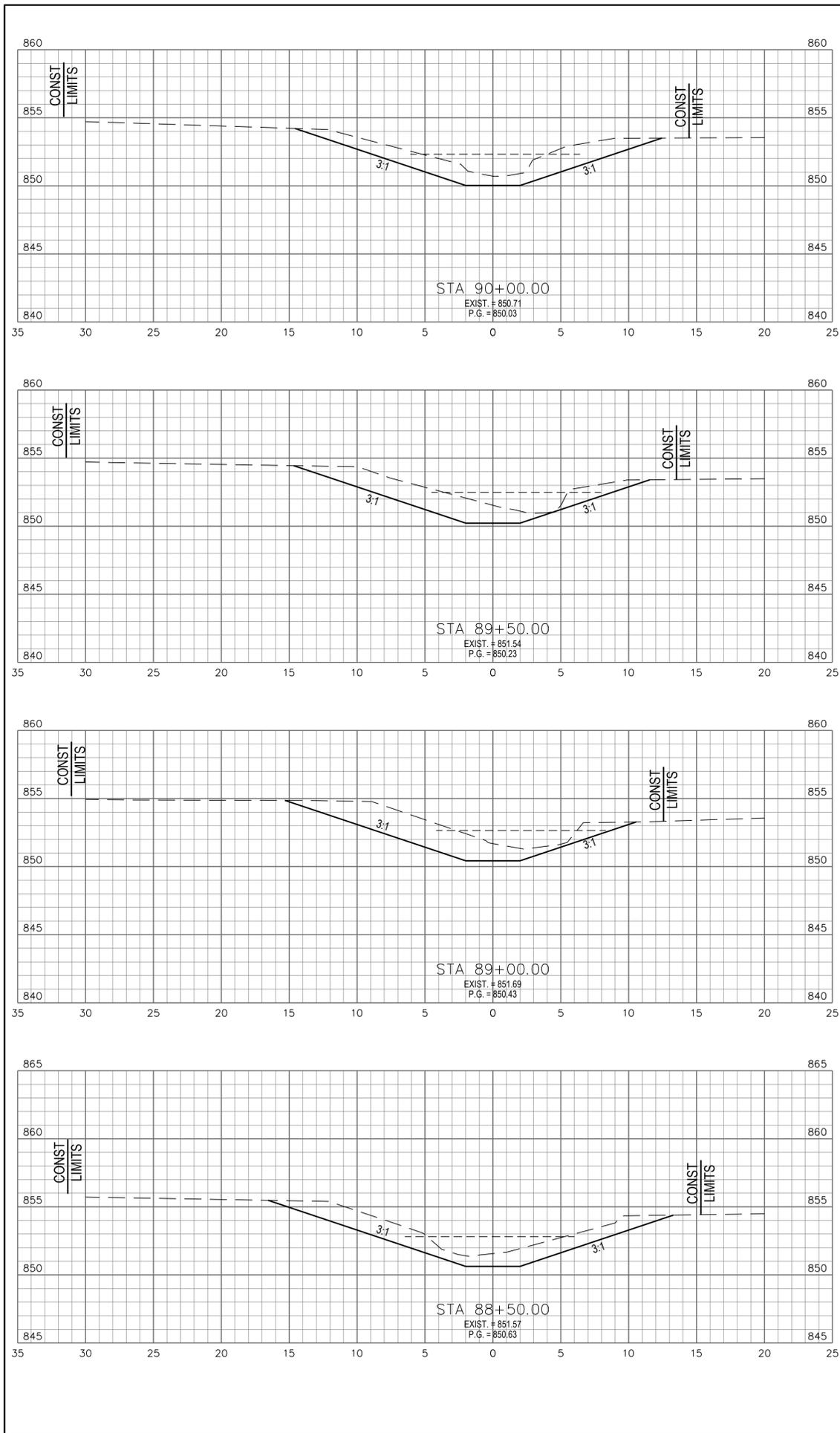


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
31	0	
62	0	
36	0	
59	0	
28	0	
48	0	
24	0	
38	11	
COLUMN TOTAL	207	11
SHEET TOTAL	377	27

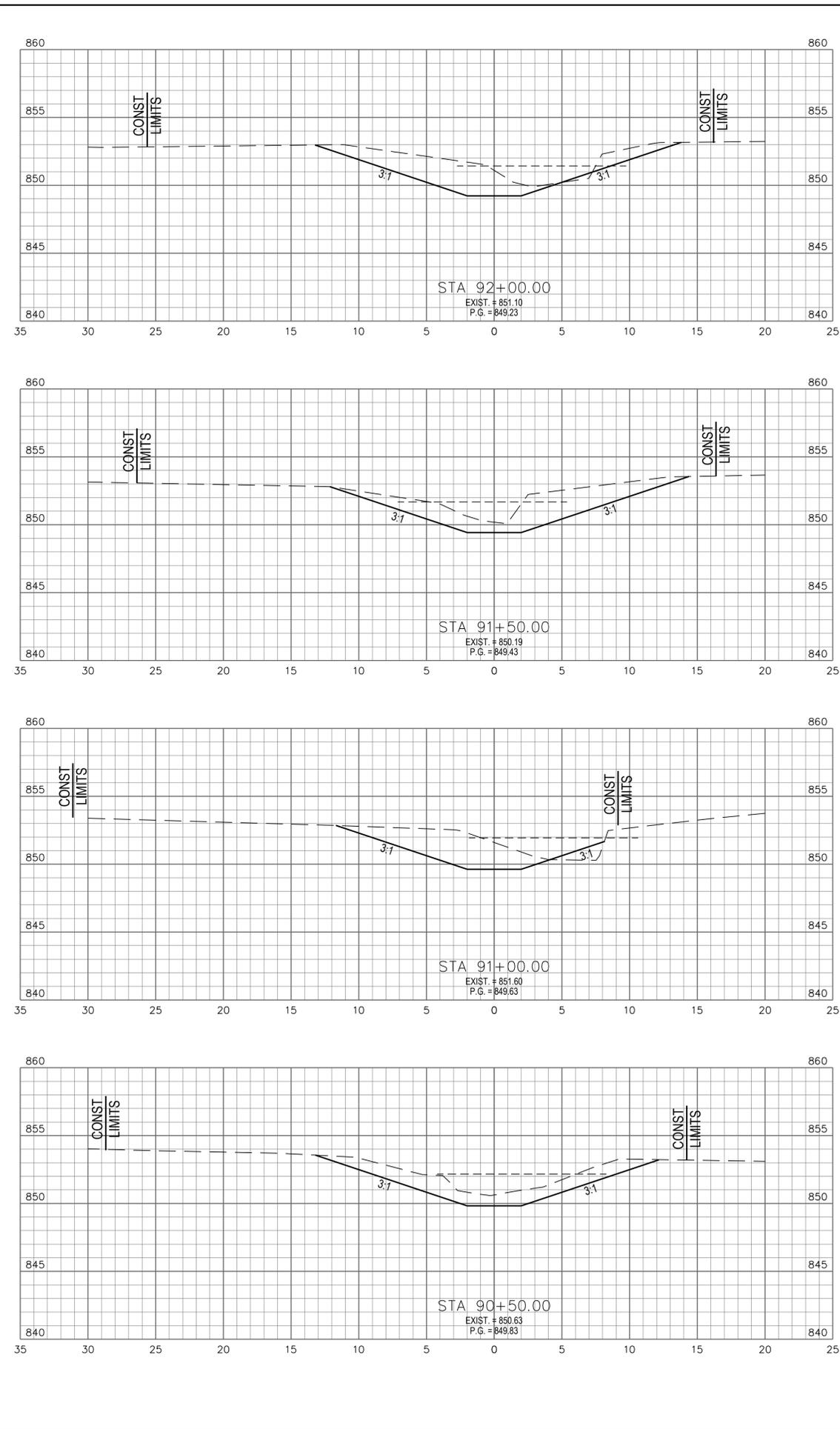
STA. 84+50 TO STA. 88+00
 CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED
 TDH
 CHECKED
 NES



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
27	0	0
50	0	0
27	0	0
54	0	0
31	0	0
56	0	0
30	0	0
56	0	0
COLUMN TOTAL	216	0



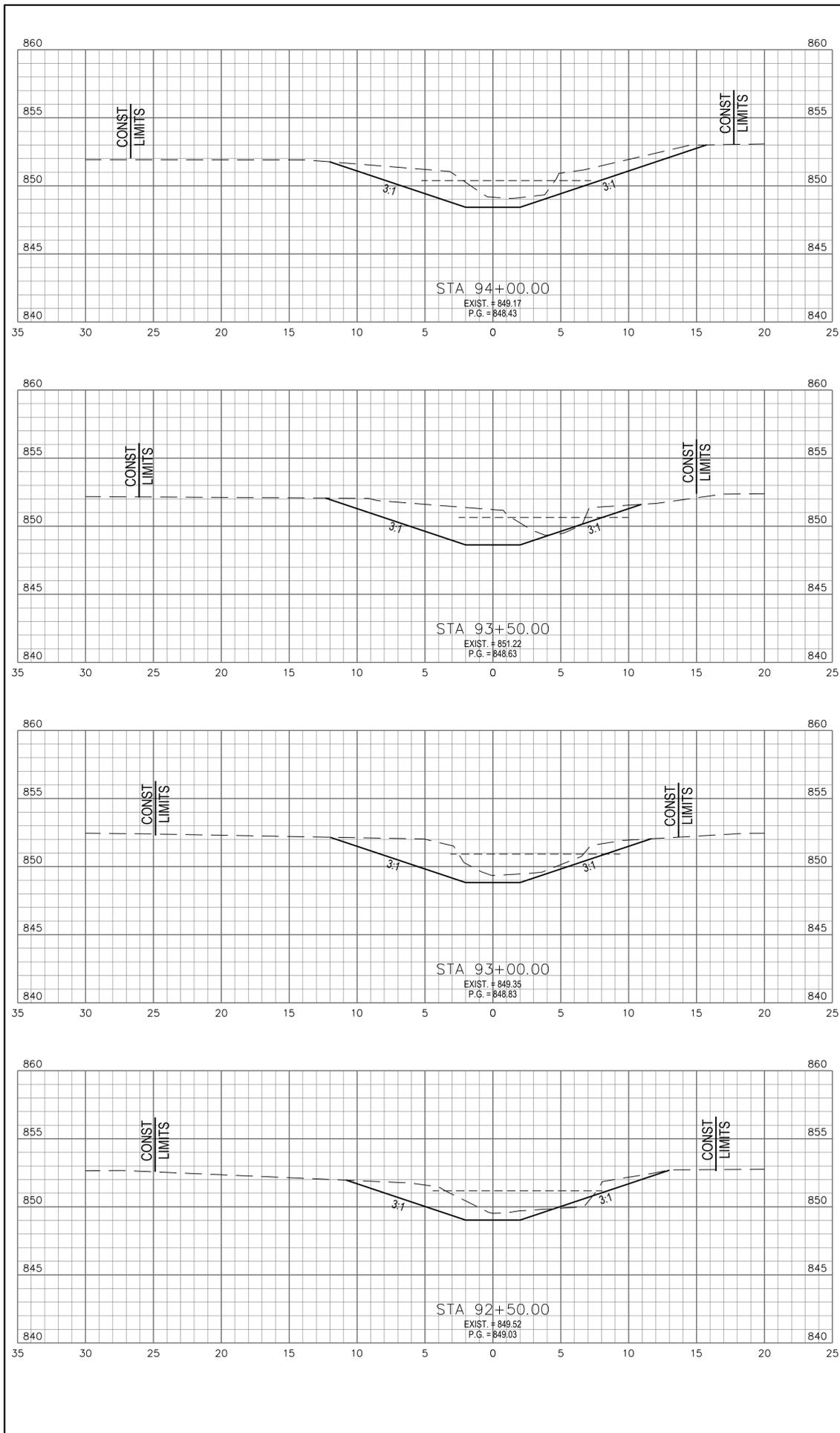
END AREA	VOLUME	
	CUT (SF)	FILL (CY)
28	0	0
54	0	0
30	0	0
49	2	2
23	2	2
43	2	2
23	0	0
46	0	0
COLUMN TOTAL	192	4
SHEET TOTAL	408	4

STA. 88+50 TO STA. 92+00
CROSS SECTIONS

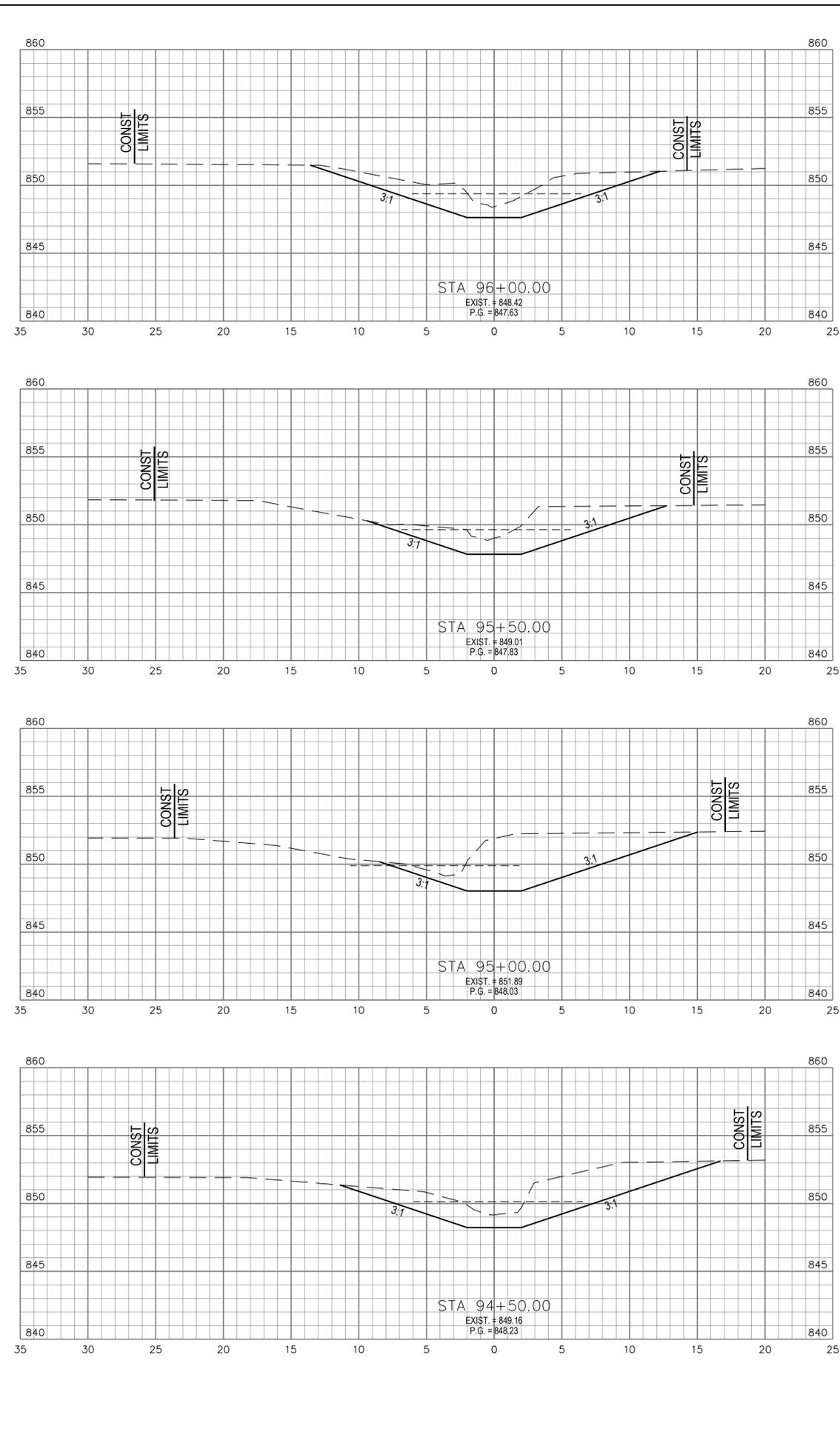
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

CALCULATED
TDR
CHECKED
NES

27
39



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
27	0	0
51	0	0
28	0	0
46	0	0
22	0	0
35	1	0
16	1	0
41	1	0
COLUMN TOTAL	173	2



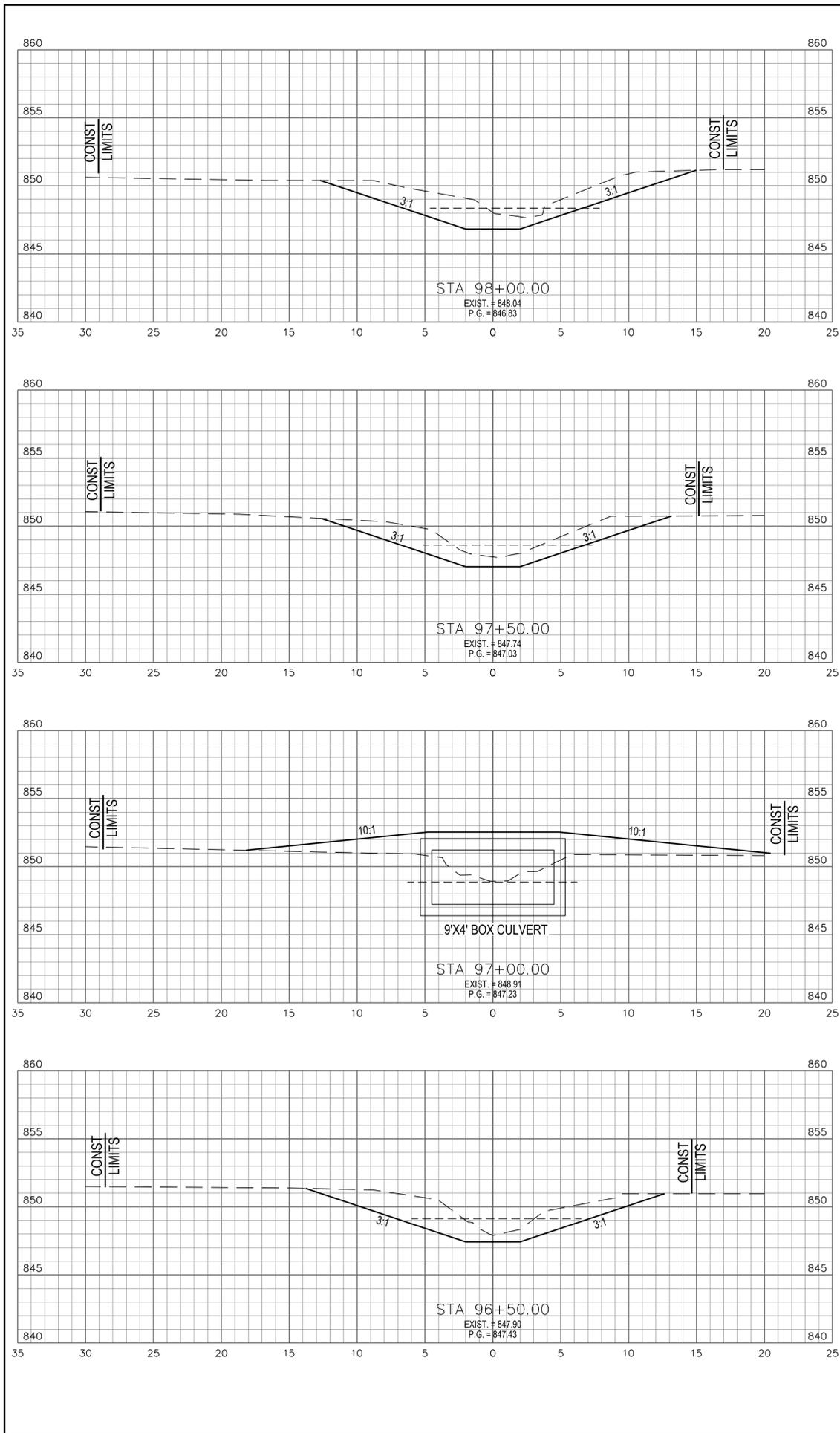
END AREA	VOLUME	
	CUT (SF)	FILL (CY)
30	0	0
56	0	0
30	0	0
70	0	0
46	0	0
81	0	0
42	0	0
64	0	0
COLUMN TOTAL	271	0
SHEET TOTAL	444	2

STA. 92+50 TO STA. 96+00
 CROSS SECTIONS

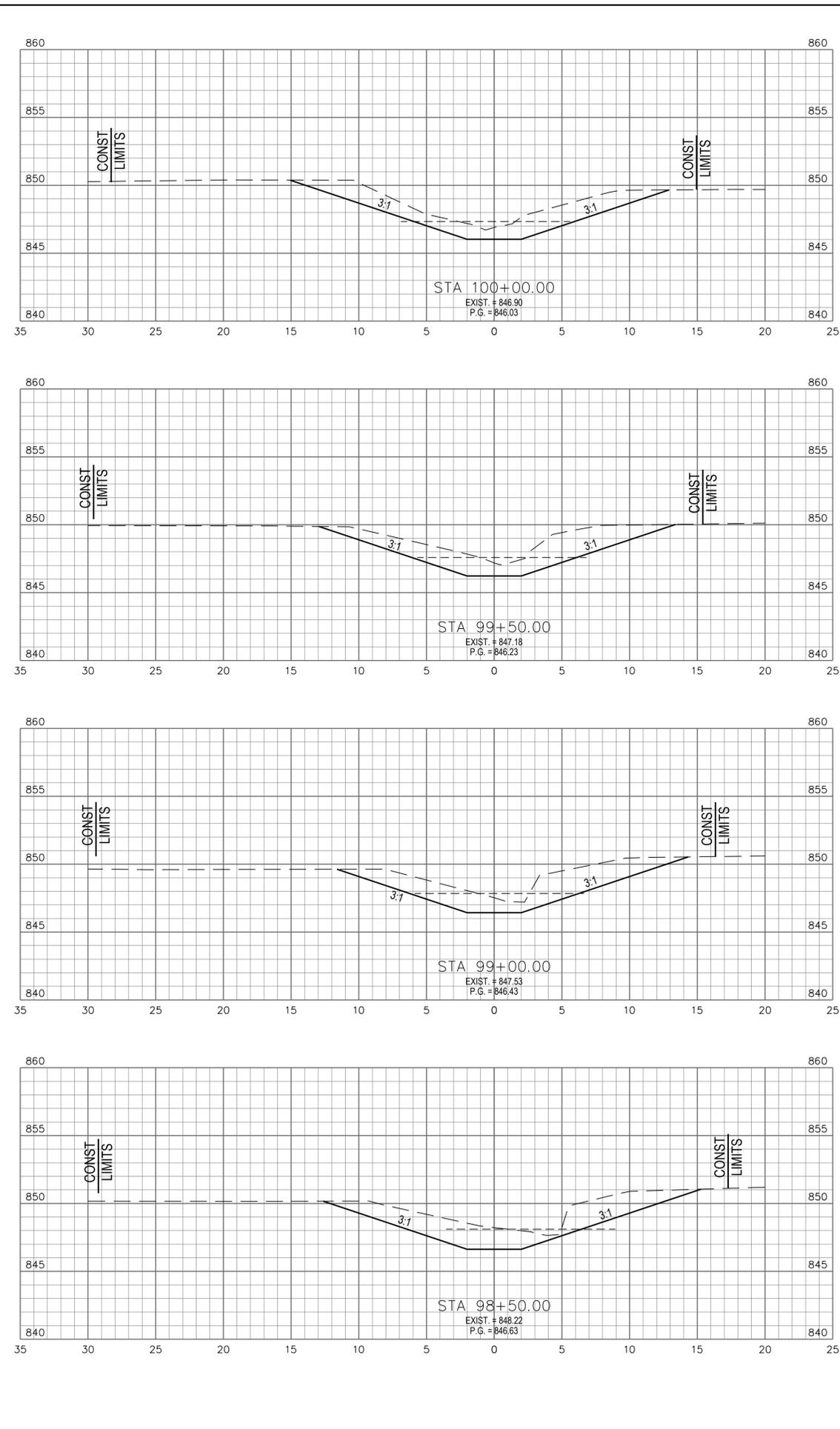
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED
 TDH
 CHECKED
 NES

C:\CADD\DCS\CES\FCE\ZUBER ROAD PLUM RUN IMPROVEMENTS\PROJECT FILES_CES\03-CIVIL\PLAN\PILOT SHEETS\SECTION 28_SECTION 2_CROSS-2.DWG - 8/21/2025 11:30:51 AM

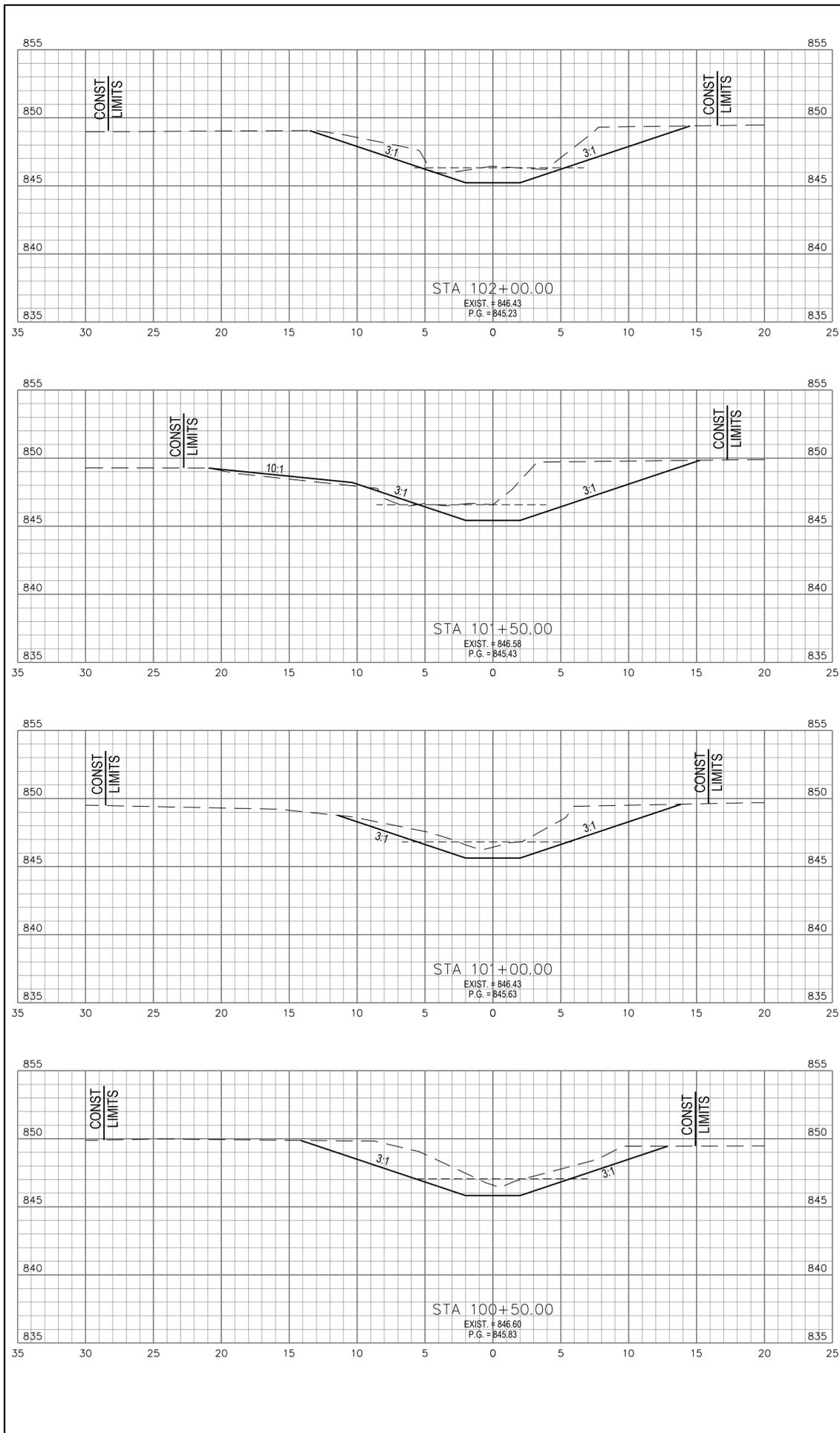


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
33	0	0
56	0	0
27	0	0
48	27	0
25	29	0
53	27	0
32	0	0
57	0	0
COLUMN TOTAL	214	54

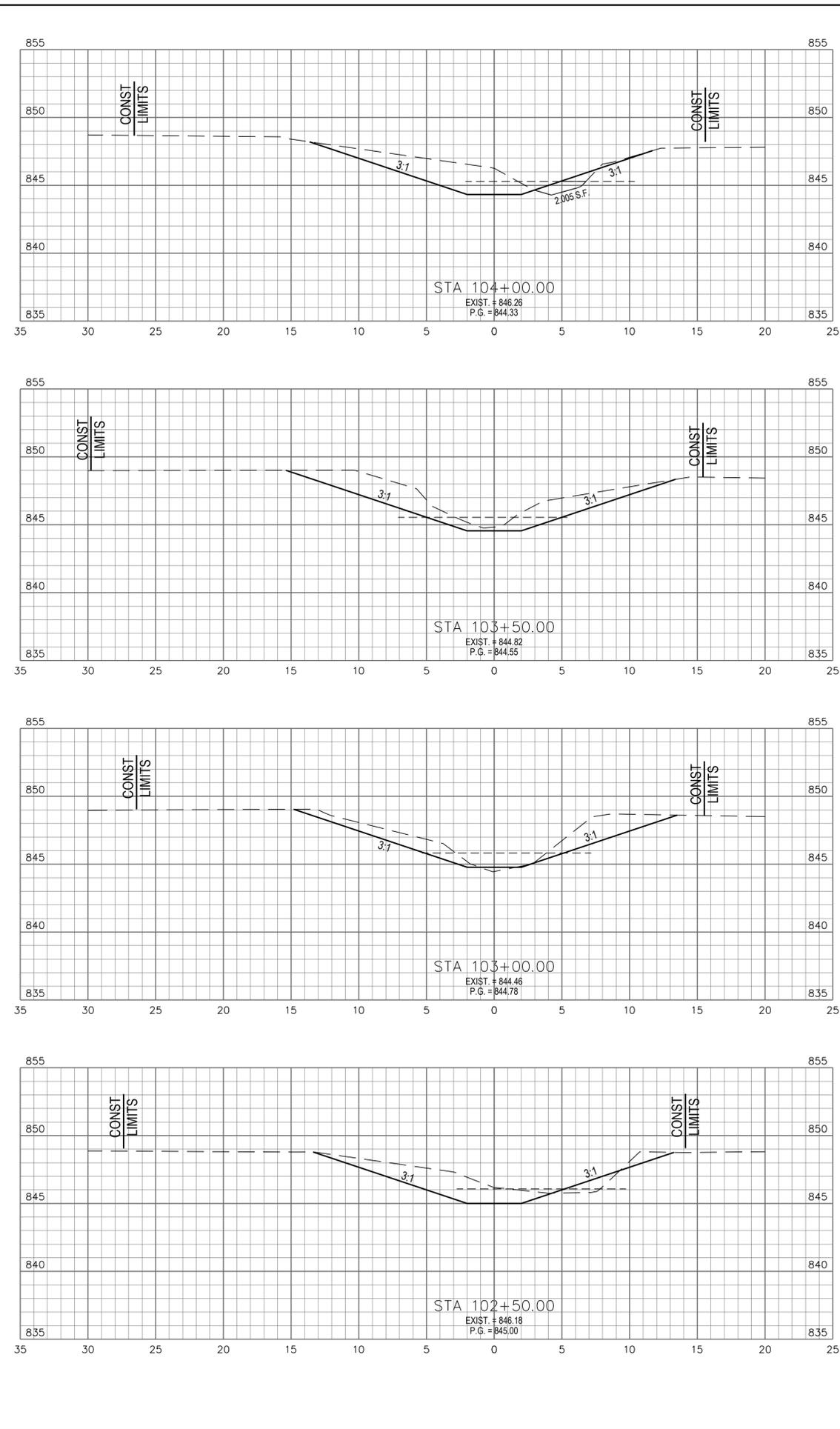


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
30	0	0
57	0	0
32	0	0
59	0	0
32	0	0
61	0	0
34	0	0
62	0	0
COLUMN TOTAL	239	0
SHEET TOTAL	453	1

CALCULATED TDH CHECKED NES
 STA. 96+50 TO STA. 100+00 CROSS SECTIONS
 ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS SECTION 2 FRANKLIN COUNTY, OHIO
 29 / 39



	END AREA		VOLUME	
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)
25	0			
56	3			
36	3			
57	3			
26	0			
53	0			
31	0			
56	0			
COLUMN TOTAL	222	6		

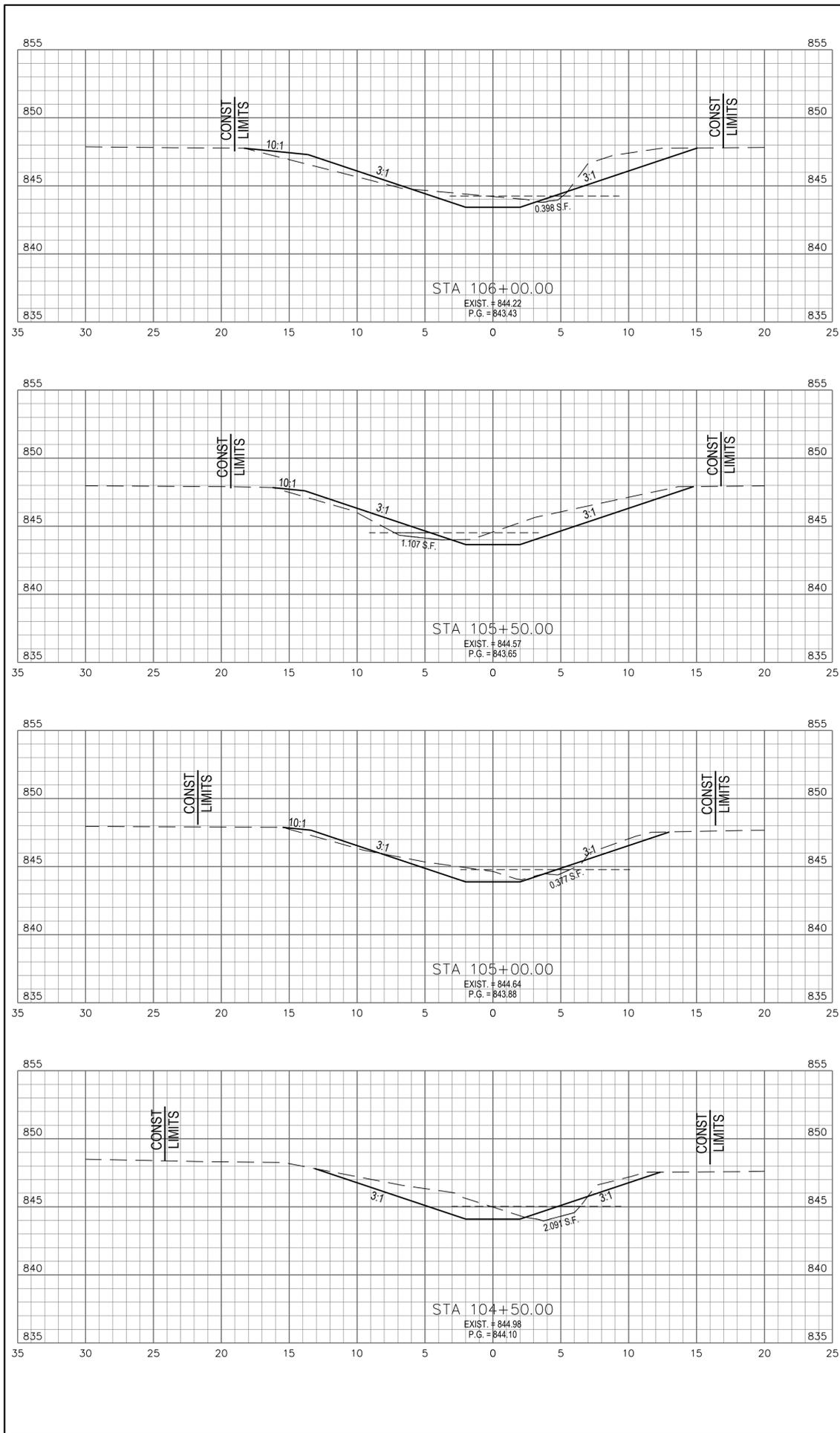


	END AREA		VOLUME	
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)
21	3			
46	3			
29	0			
45	0			
20	0			
37	3			
20	3			
42	3			
COLUMN TOTAL	170	9		
SHEET TOTAL	392	15		

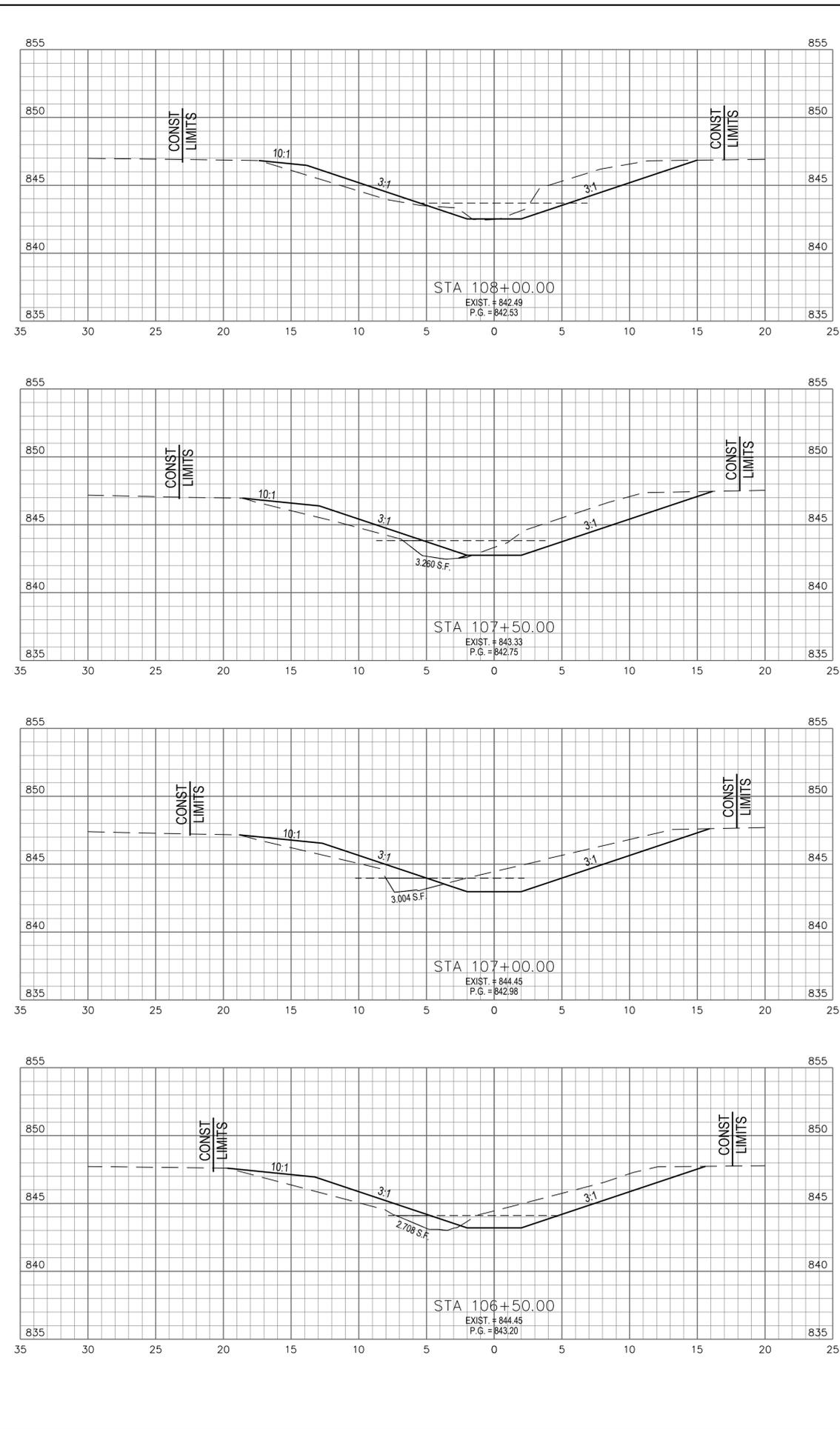
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

STA. 100+50 TO STA. 104+00
 CROSS SECTIONS

CALCULATED
 TDH
 CHECKED
 NES



END AREA	VOLUME	
	CUT (SF)	FILL (SF)
15	5	
29	10	
16	6	
22	7	
8	2	
21	5	
15	3	
33	6	
COLUMN TOTAL	105	28



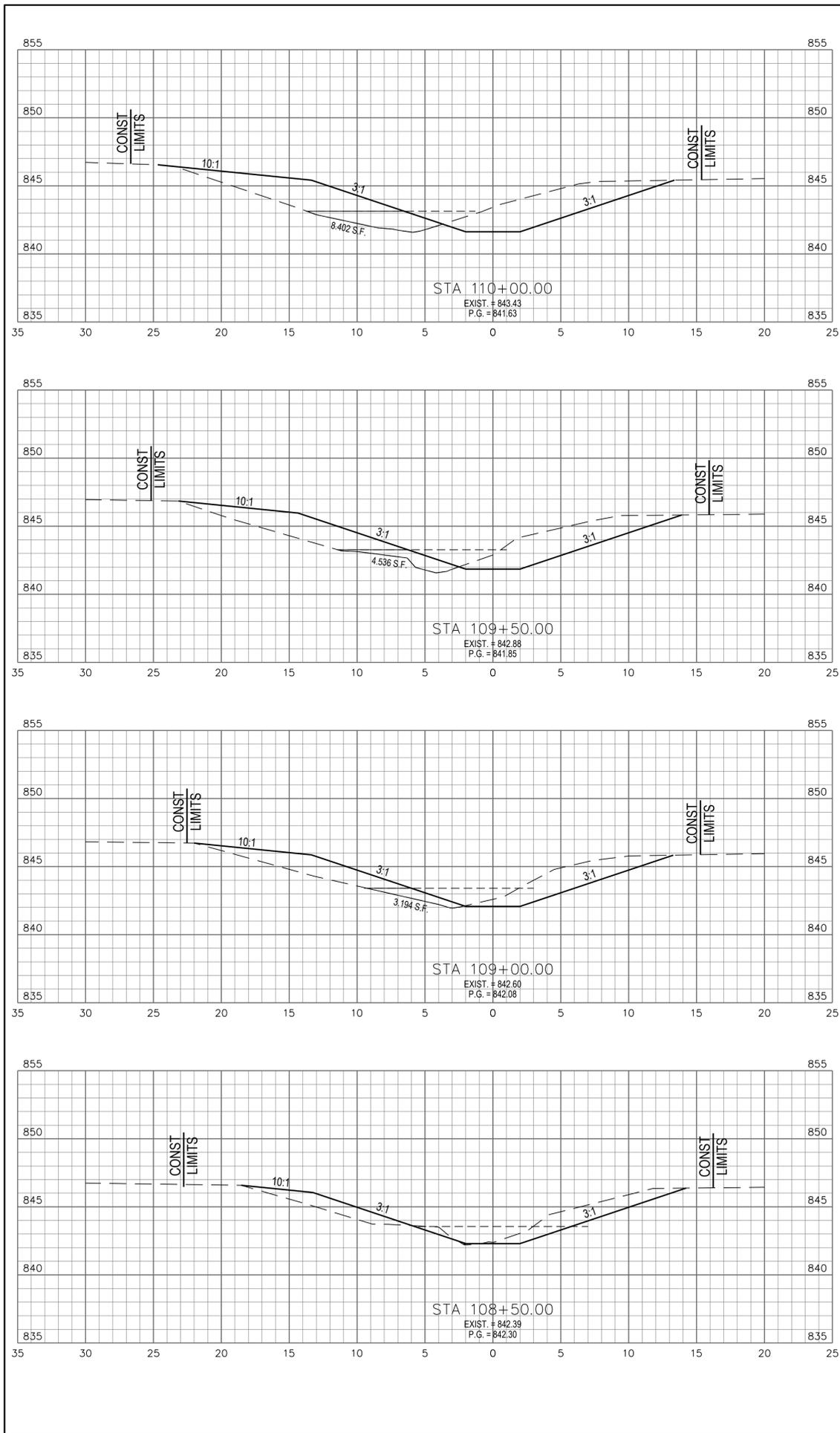
END AREA	VOLUME	
	CUT (SF)	FILL (SF)
18	6	
37	15	
22	10	
43	19	
24	10	
43	20	
22	12	
34	16	
COLUMN TOTAL	157	70
SHEET TOTAL	262	98

**STA. 104+50 TO STA. 108+00
CROSS SECTIONS**

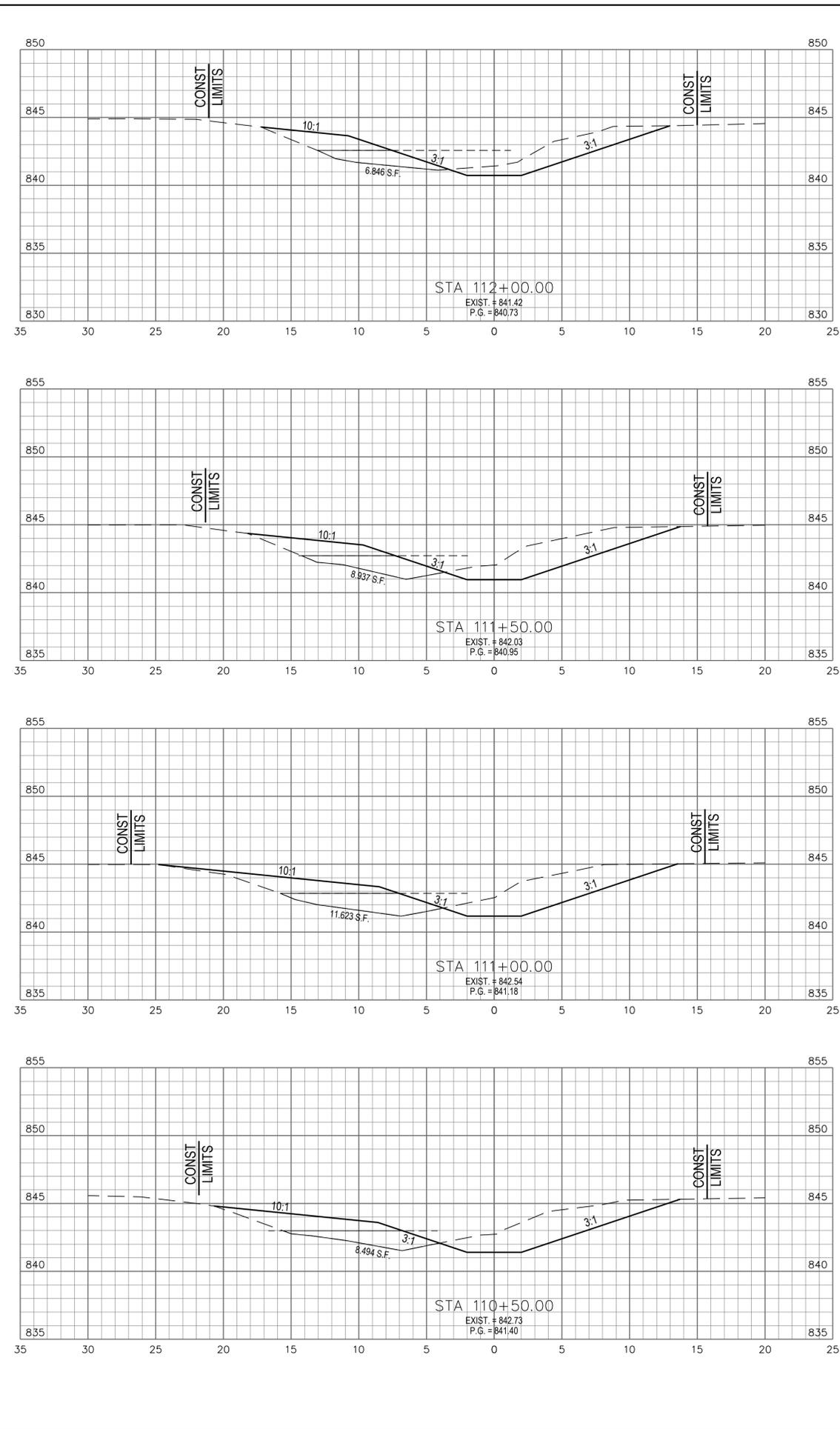
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

CALCULATED	TDR	NES
CHECKED		

31
39



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
25	28	
44	47	
23	23	
37	37	
17	17	
28	23	
13	8	
29	13	
COLUMN TOTAL	138	120

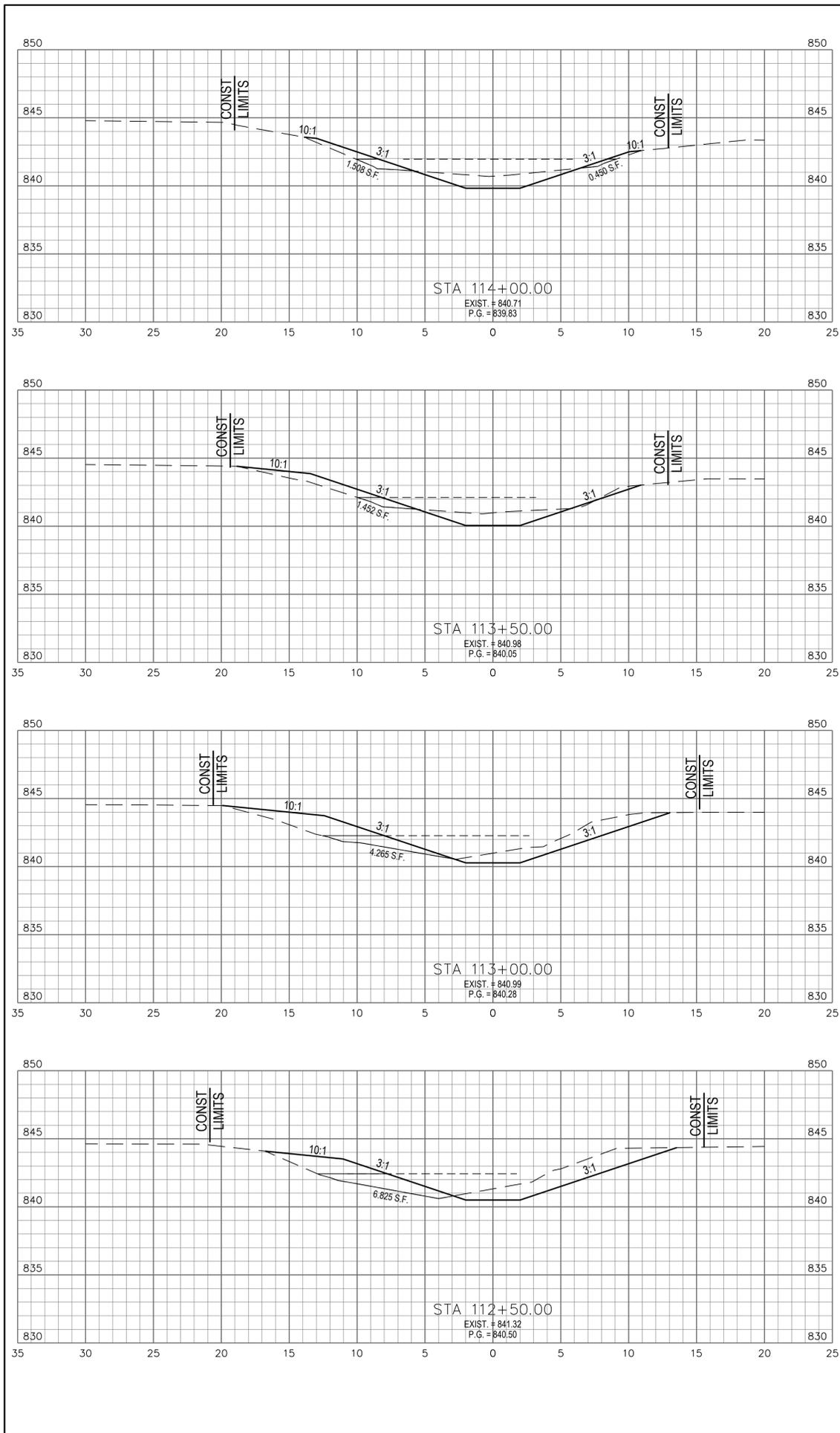


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
16	14	
36	29	
23	17	
44	36	
25	22	
45	38	
24	19	
45	44	
COLUMN TOTAL	170	147
SHEET TOTAL	308	267

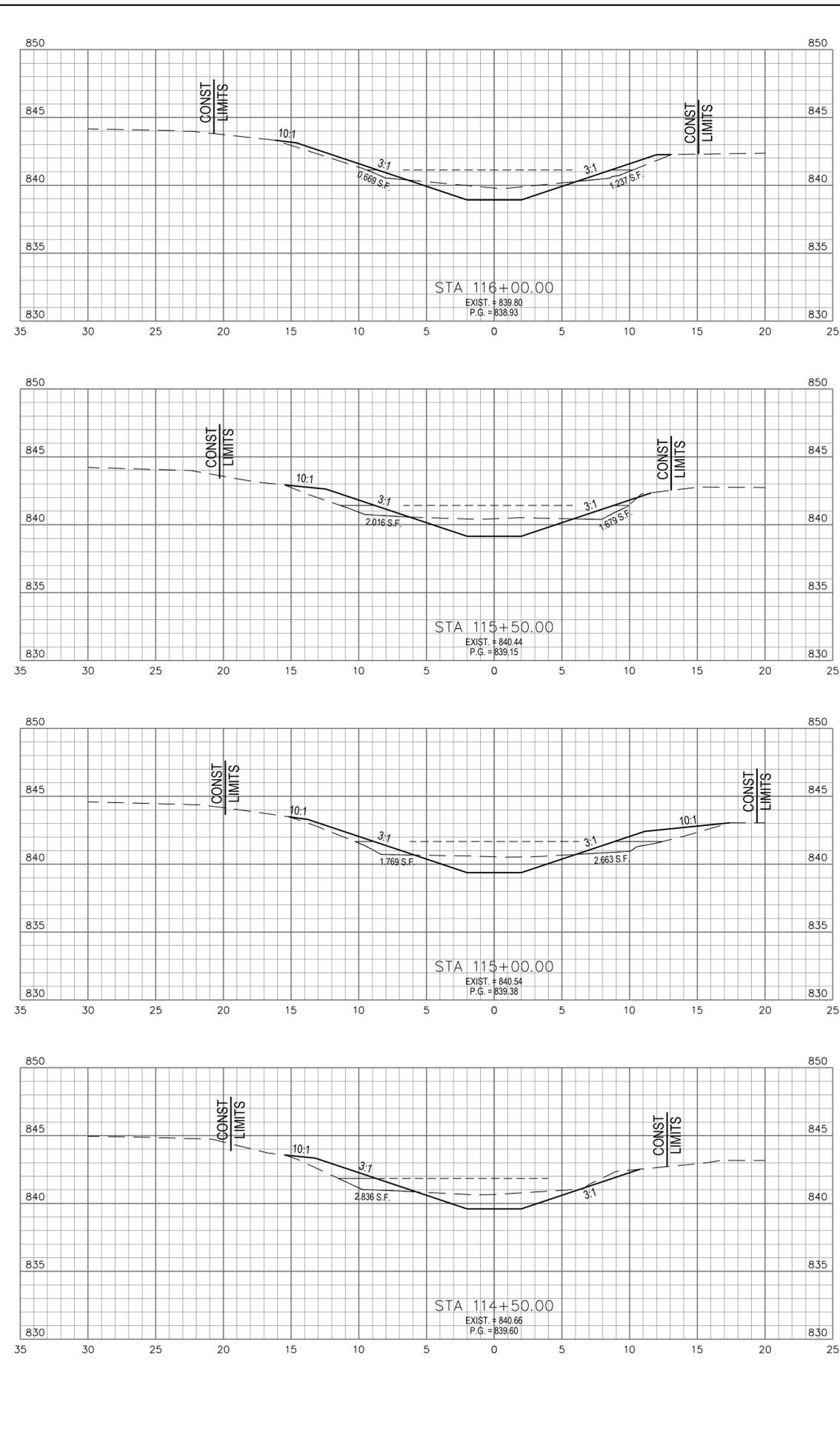
STA. 108+50 TO STA. 112+00
 CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

CALCULATED
 TDH
 CHECKED
 NES



END AREA	VOLUME	
	CUT (SF)	FILL (SF)
8	4	
15	9	
8	6	
19	18	
12	13	
26	24	
16	13	
30	25	
COLUMN TOTAL	90	76



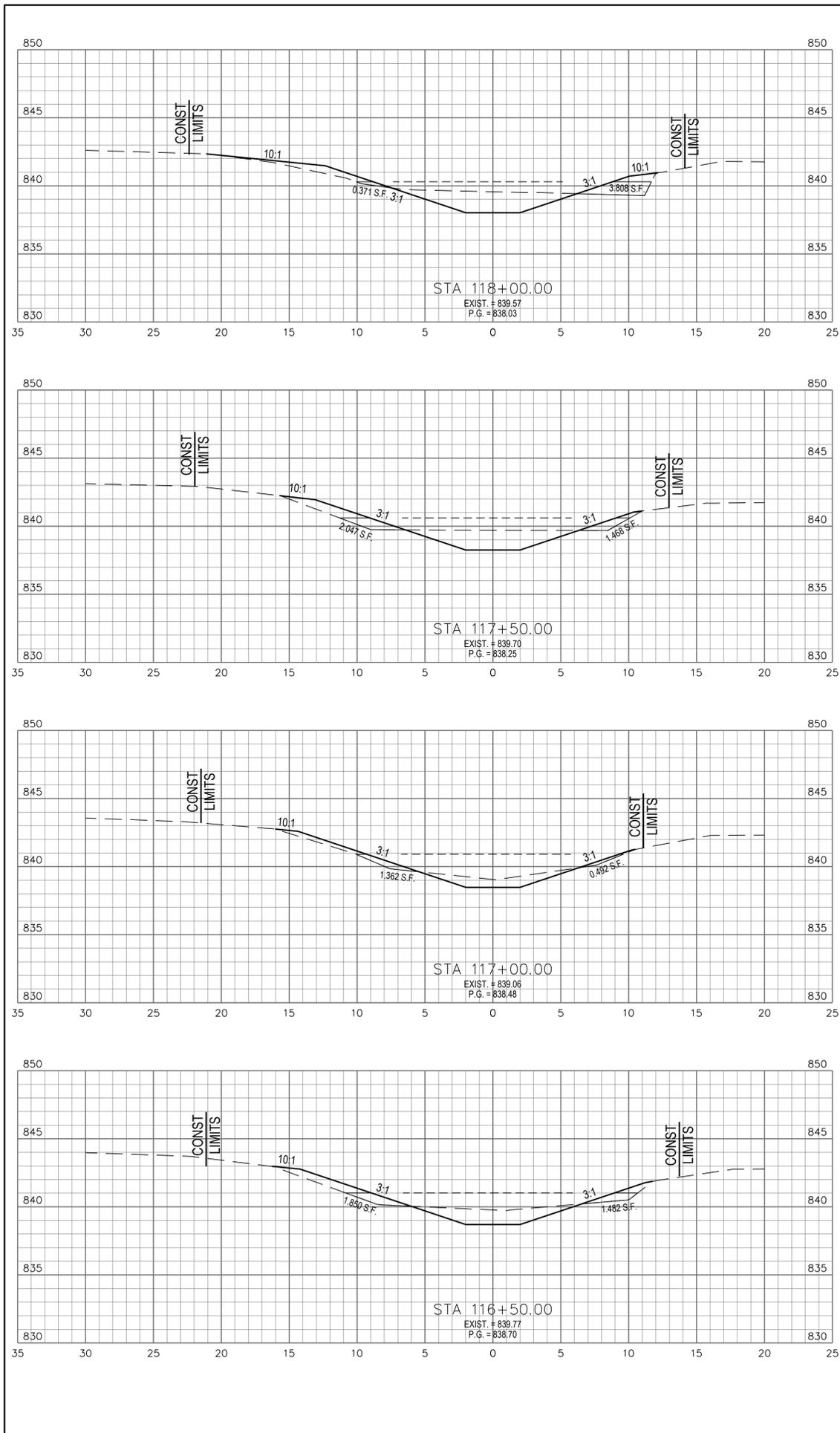
END AREA	VOLUME	
	CUT (SF)	FILL (SF)
8	5	
18	11	
11	7	
19	16	
9	10	
18	15	
10	6	
17	9	
COLUMN TOTAL	72	51
SHEET TOTAL	162	127

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

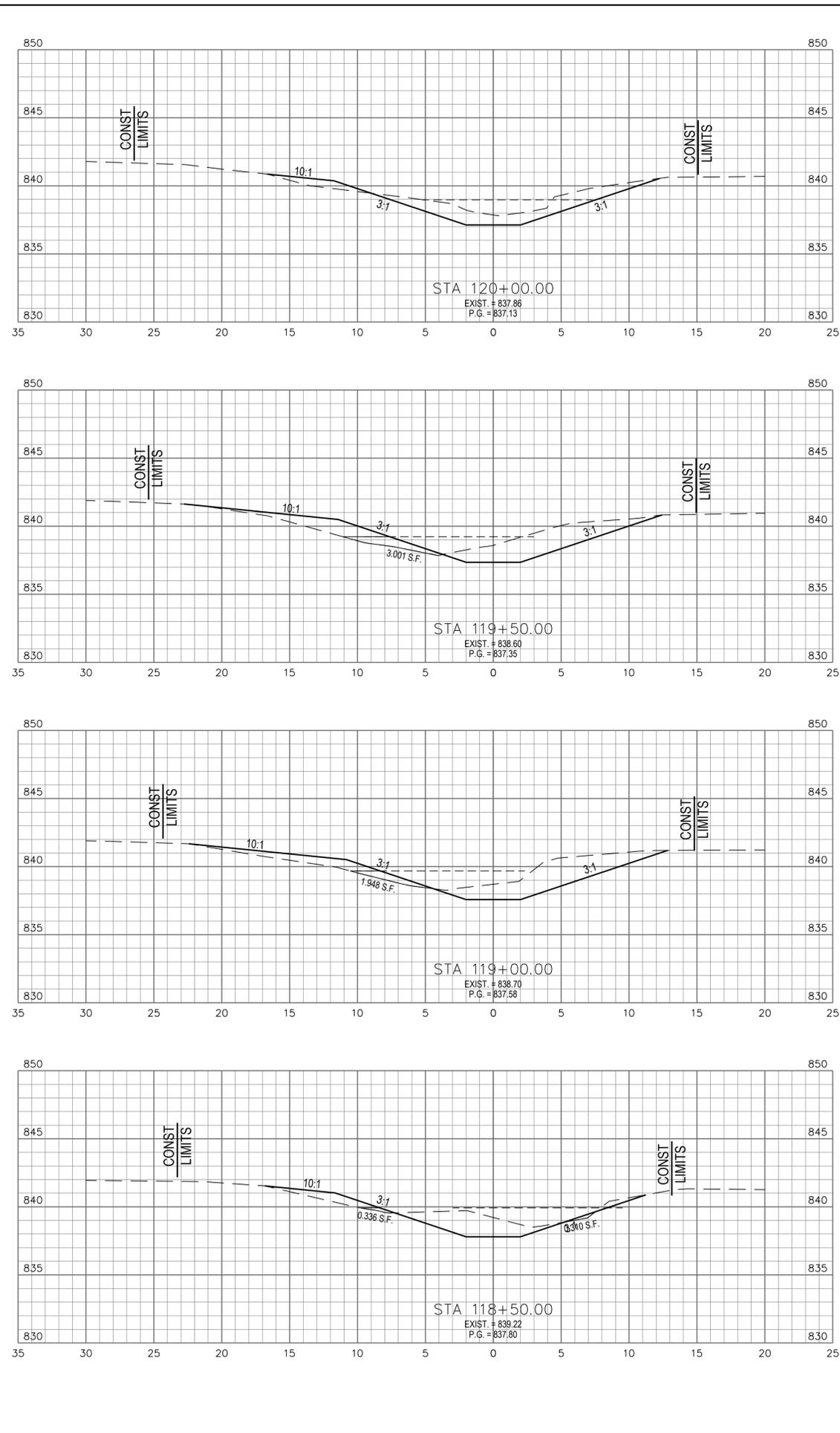
STA. 112+50 TO STA. 116+00
 CROSS SECTIONS

CALCULATED
 TDH
 CHECKED
 NES

33
 39



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
13	8	
23	14	
12	7	
17	10	
6	4	
14	10	
9	7	
16	11	
COLUMN TOTAL	70	45

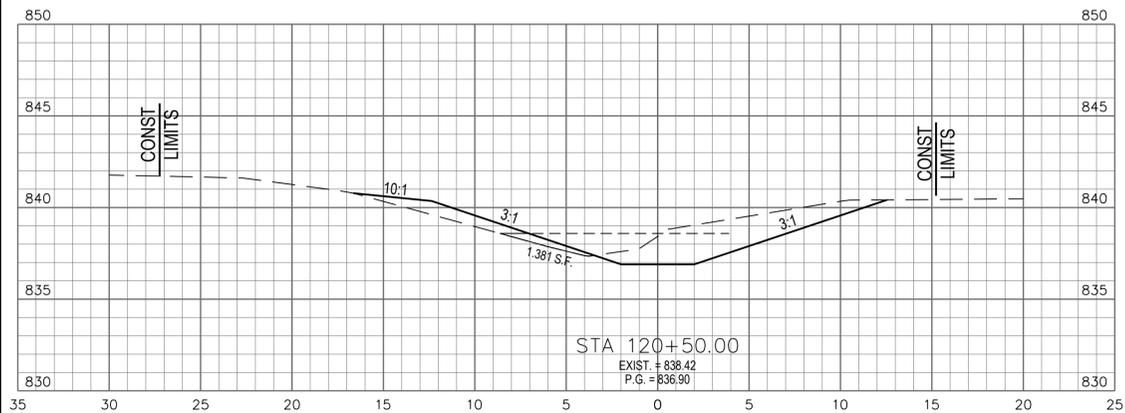
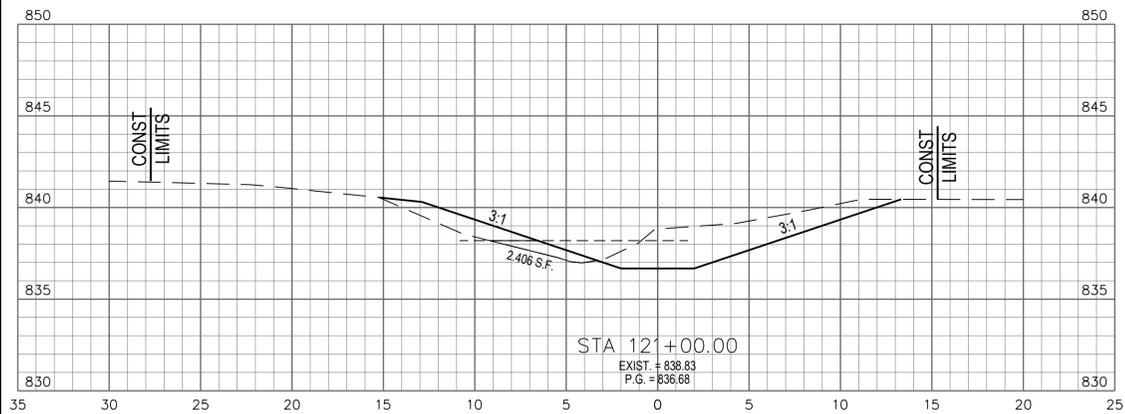
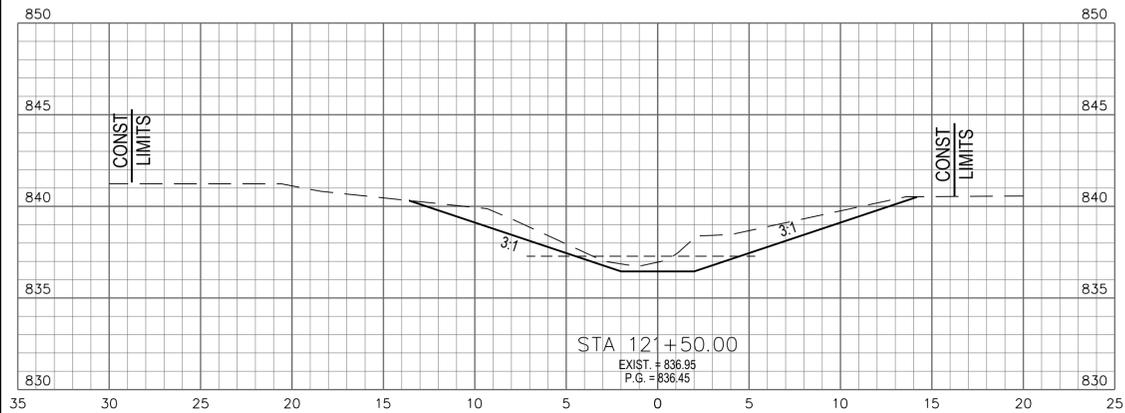
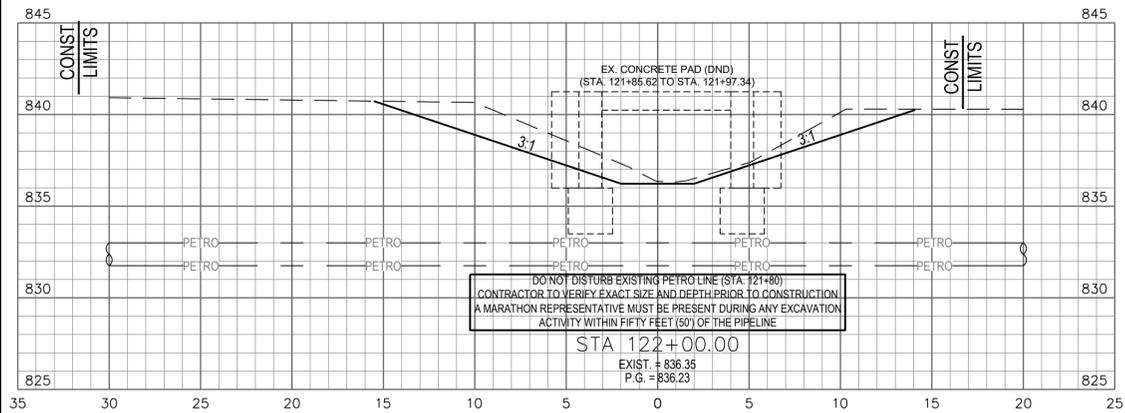


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
16	3	
31	12	
18	10	
35	16	
20	7	
31	10	
13	4	
24	11	
COLUMN TOTAL	121	49
SHEET TOTAL	191	94

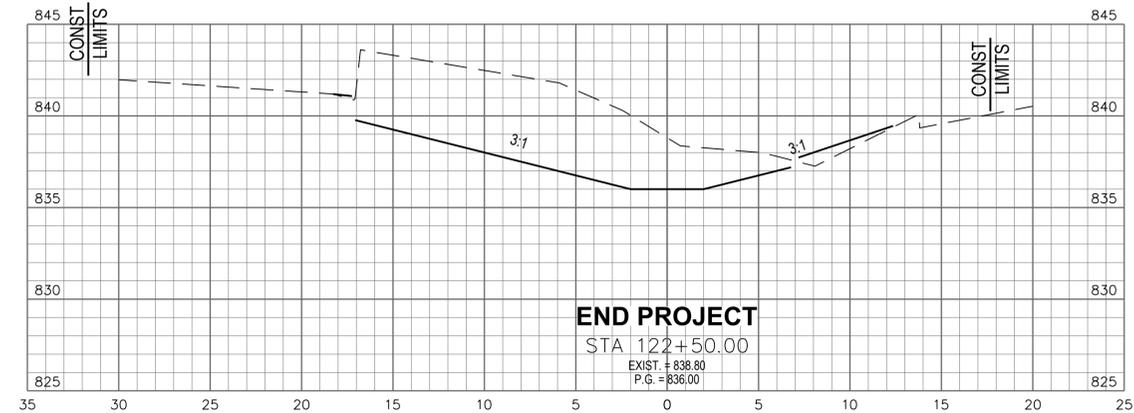
STA. 116+50 TO STA. 120+00
CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO

CALCULATED	TDH	NES
34	39	



END AREA	VOLUME	
	CUT (SF)	FILL (CY)
21	0	0
38	0	0
20	0	0
39	7	0
22	8	0
38	13	0
19	6	0
32	8	0
COLUMN TOTAL	147	28

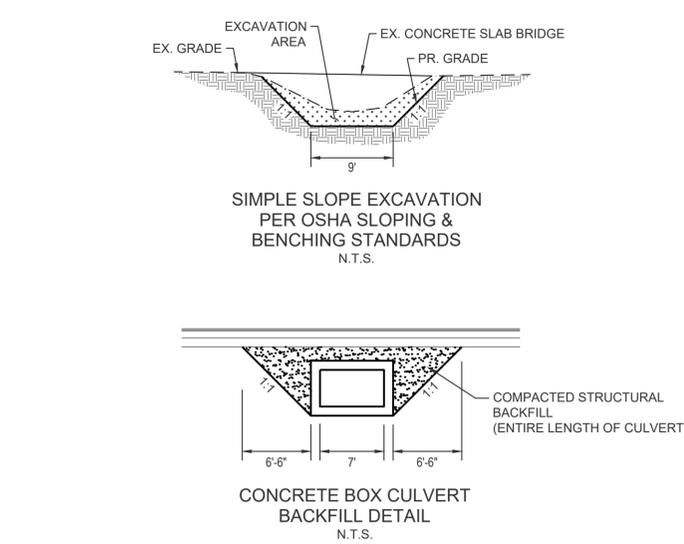
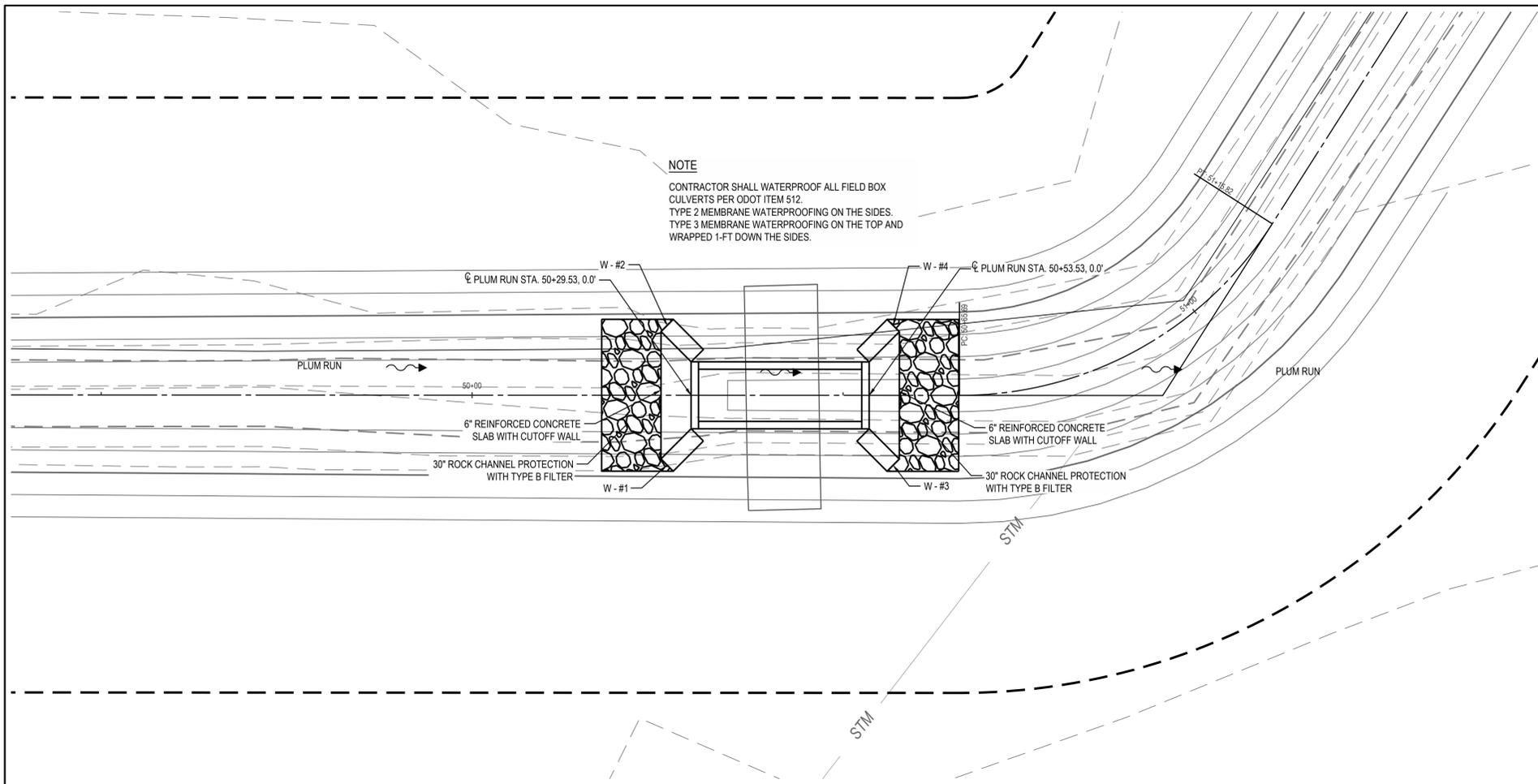


END AREA	VOLUME	
	CUT (SF)	FILL (CY)
74	2	0
COLUMN TOTAL	88	2
SHEET TOTAL	235	30

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO

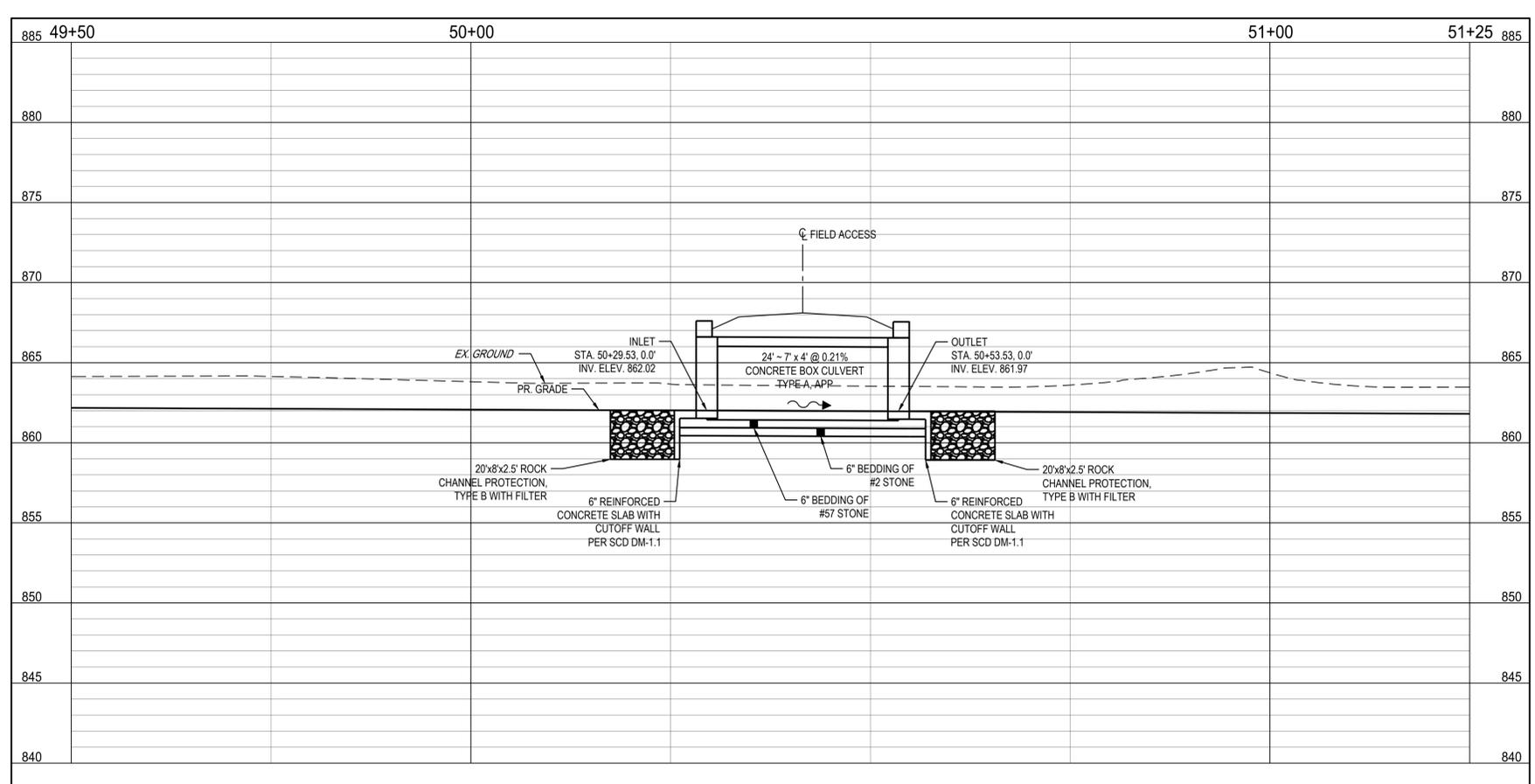
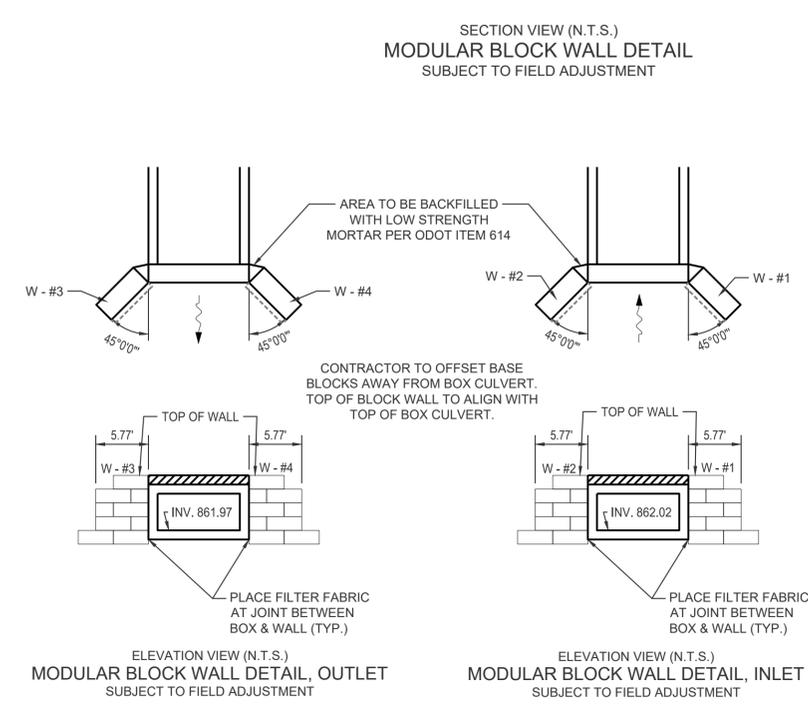
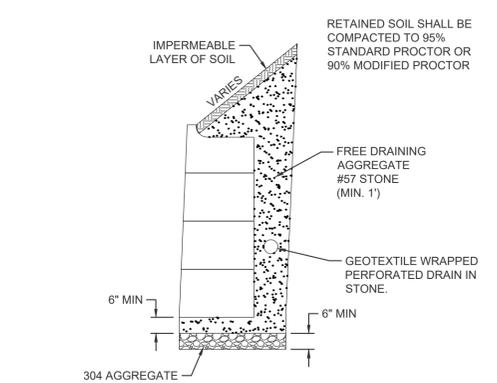
STA. 120+50 TO STA. 122+50
 CROSS SECTIONS

CALCULATED
 TDH
 CHECKED
 NES

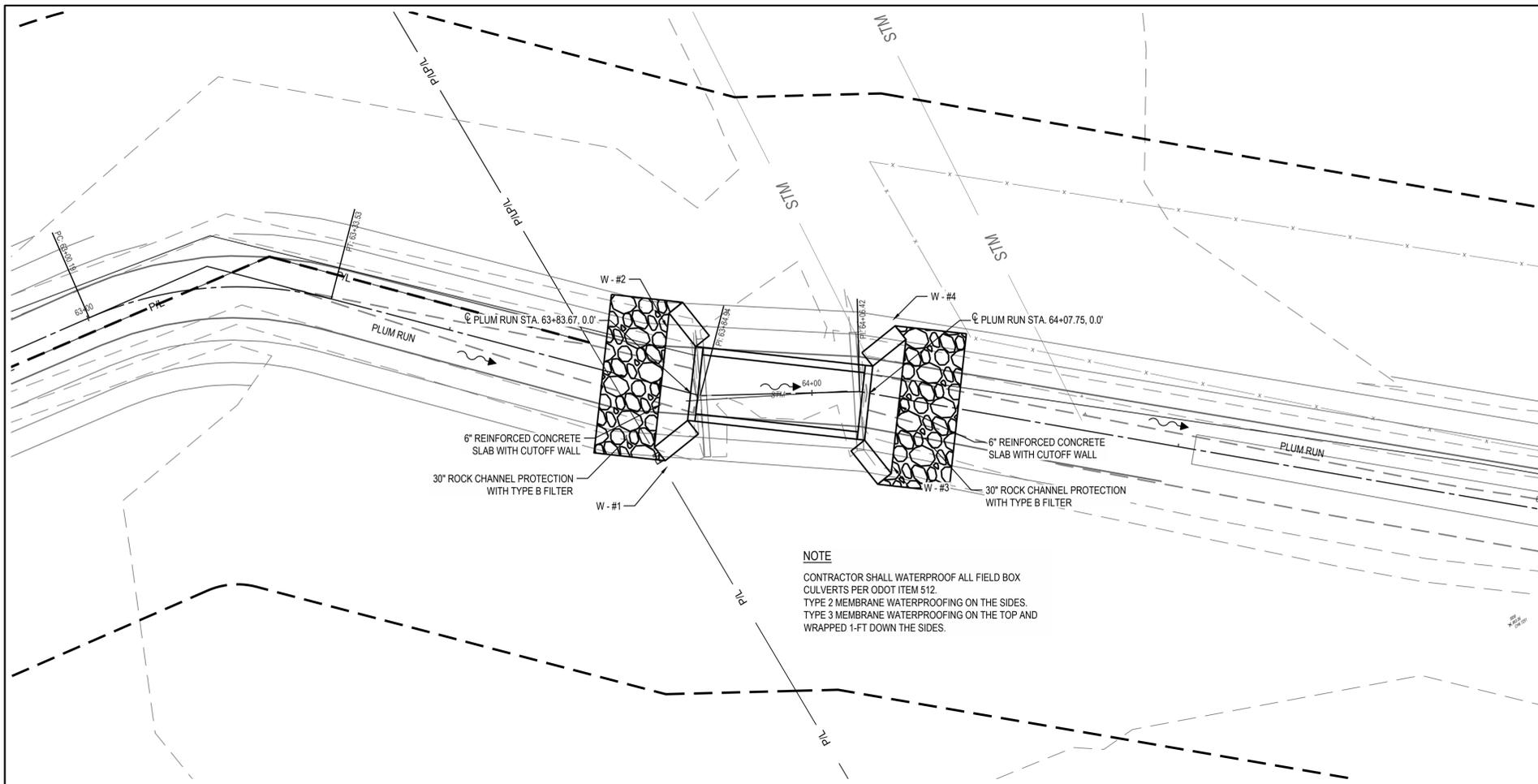


HYDRAULIC DESIGN DATA:

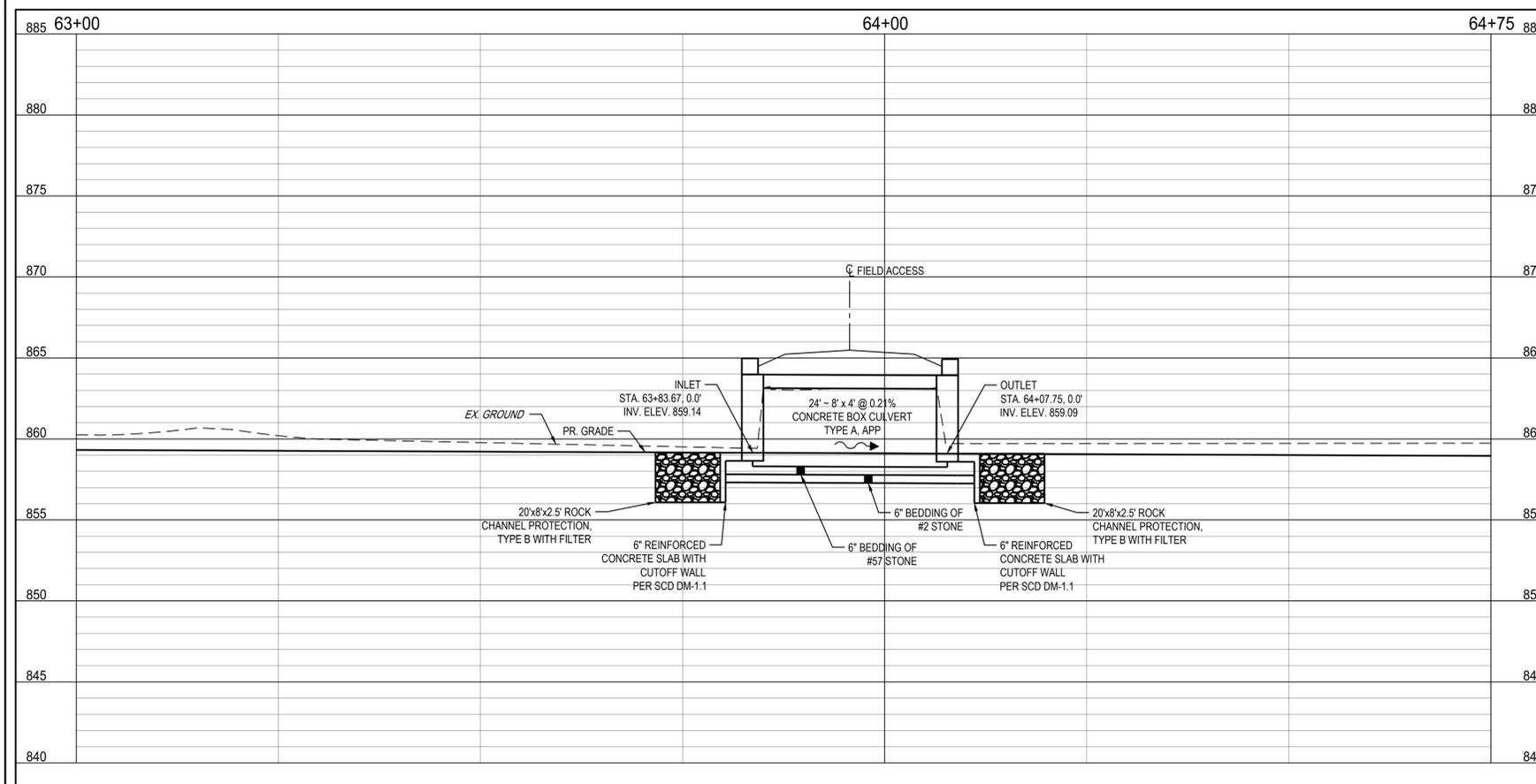
DRAINAGE AREA = 105 ACRES
Q ₂₅ = 56 CFS
Q ₁₀₀ = 172 CFS
HW ₂₅ = 864.82
HW ₁₀₀ = 866.62
V ₂₅ = 3.1 FPS
V ₁₀₀ = 7.4 FPS



CALCULATED TDH CHECKED NES
 GRAPHIC SCALE (IN FEET)
 BOX CULVERT DETAILS
 STA. 50+29.53 TO STA. 50+53.53
 ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS SECTION 2
 FRANKLIN COUNTY, OHIO
 36
 39

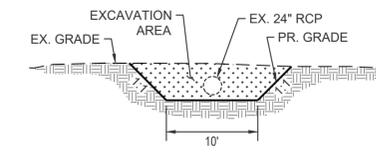


NOTE
 CONTRACTOR SHALL WATERPROOF ALL FIELD BOX
 CULVERTS PER ODOT ITEM 512.
 TYPE 2 MEMBRANE WATERPROOFING ON THE SIDES.
 TYPE 3 MEMBRANE WATERPROOFING ON THE TOP AND
 WRAPPED 1-FT DOWN THE SIDES.

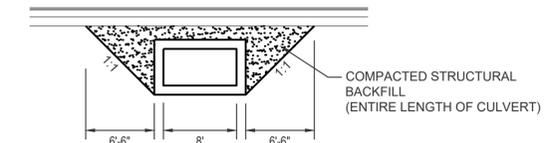


HYDRAULIC DESIGN DATA:

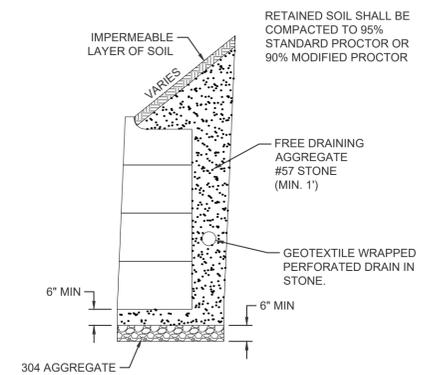
DRAINAGE AREA = 131 ACRES	
Q ₂₅	= 66 CFS
Q ₁₀₀	= 186 CFS
HW ₂₅	= 862.04
HW ₁₀₀	= 863.64
V ₂₅	= 3.2 FPS
V ₁₀₀	= 7.2 FPS



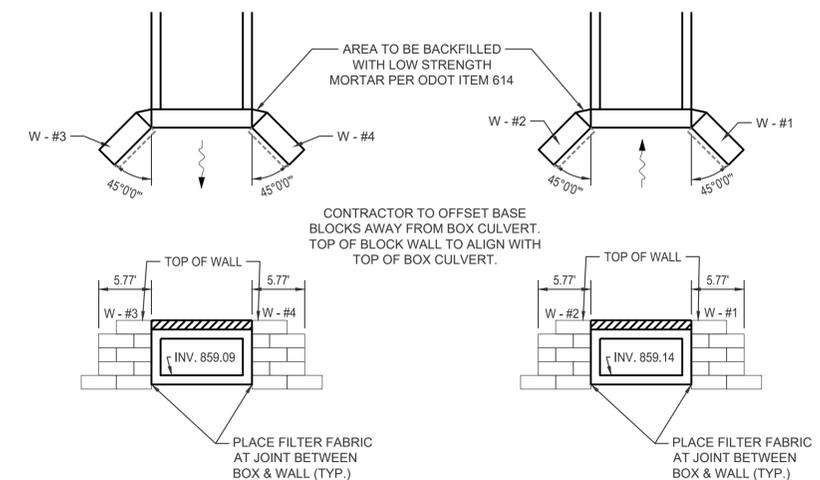
SIMPLE SLOPE EXCAVATION
 PER OSHA SLOPING &
 BENCHING STANDARDS
 N.T.S.



CONCRETE BOX CULVERT
BACKFILL DETAIL
 N.T.S.

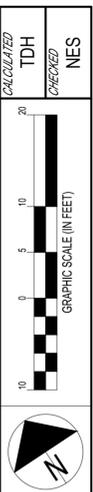


SECTION VIEW (N.T.S.)
MODULAR BLOCK WALL DETAIL
 SUBJECT TO FIELD ADJUSTMENT



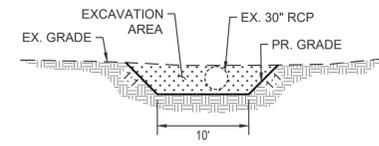
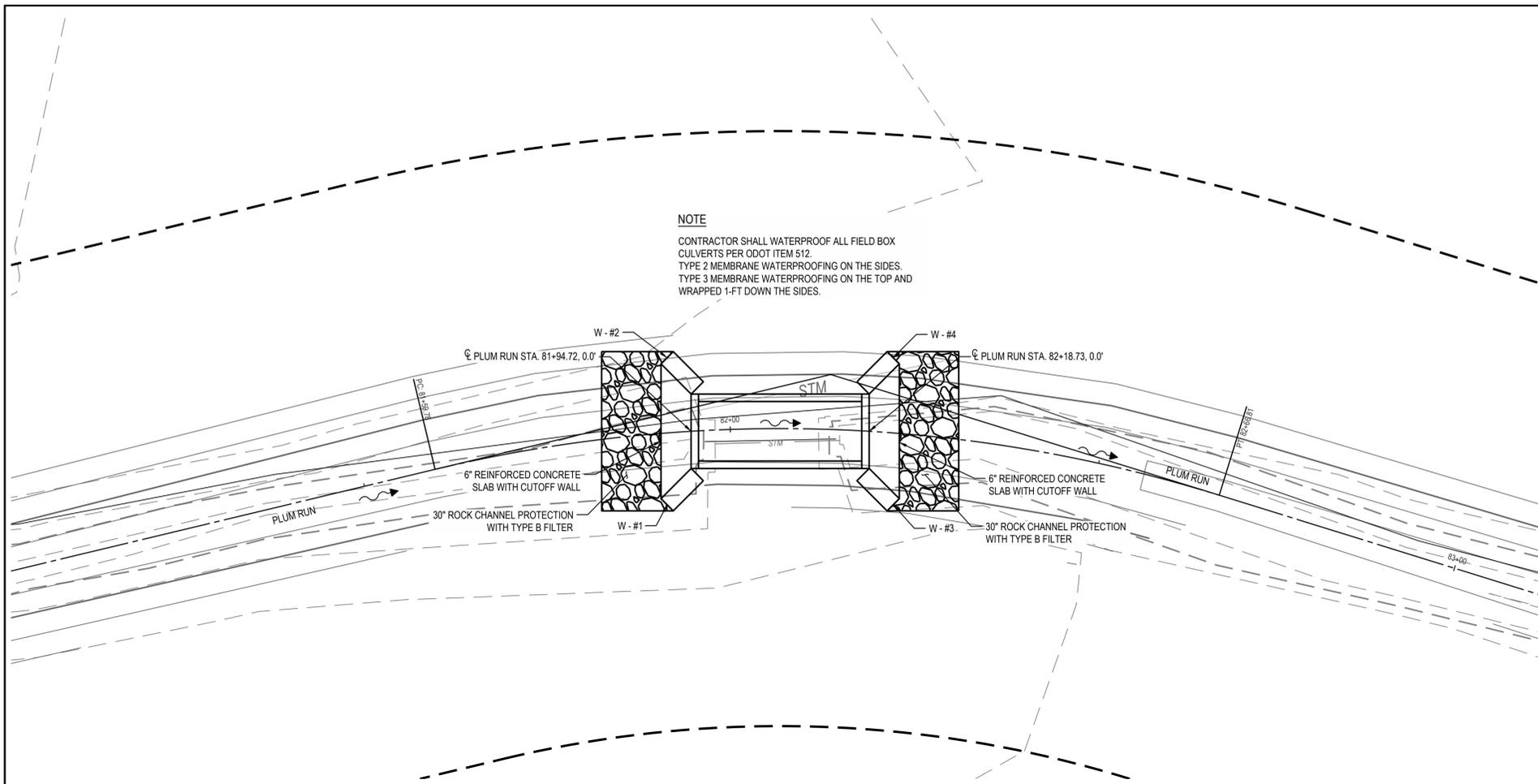
ELEVATION VIEW (N.T.S.)
MODULAR BLOCK WALL DETAIL, OUTLET
 SUBJECT TO FIELD ADJUSTMENT

ELEVATION VIEW (N.T.S.)
MODULAR BLOCK WALL DETAIL, INLET
 SUBJECT TO FIELD ADJUSTMENT

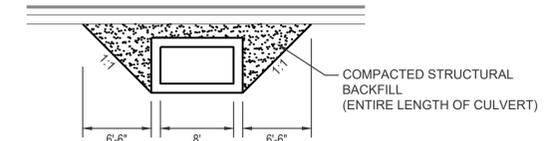


BOX CULVERT DETAILS
STA. 63+83.67 TO STA. 64+07.75

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 2
 FRANKLIN COUNTY, OHIO



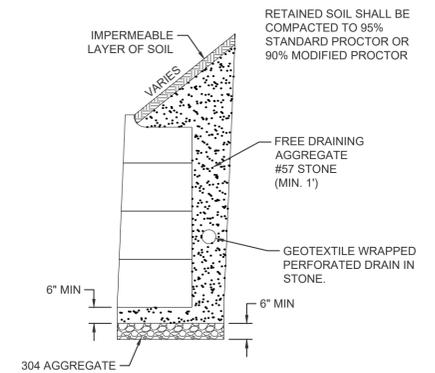
SIMPLE SLOPE EXCAVATION PER OSHA SLOPING & BENCHING STANDARDS
 N.T.S.



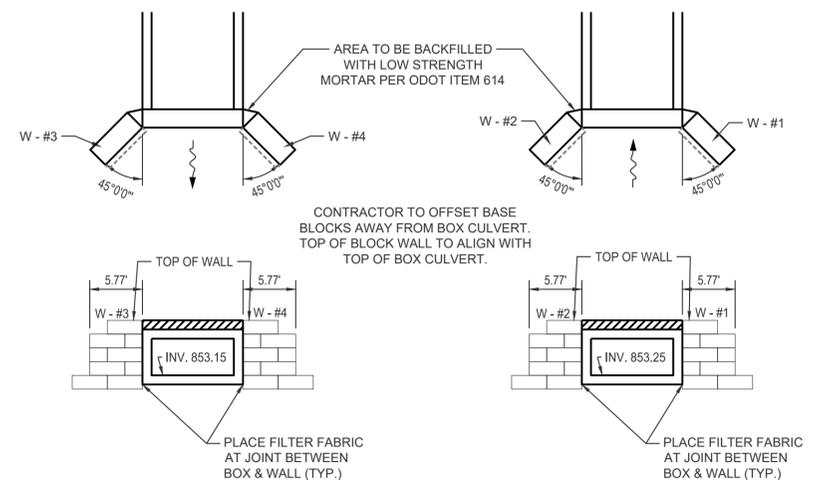
CONCRETE BOX CULVERT BACKFILL DETAIL
 N.T.S.

HYDRAULIC DESIGN DATA:

DRAINAGE AREA	= 160 ACRES
Q ₂₅	= 74 CFS
Q ₁₀₀	= 199 CFS
HW ₂₅	= 856.25
HW ₁₀₀	= 857.85
V ₂₅	= 3.5 FPS
V ₁₀₀	= 7.5 FPS

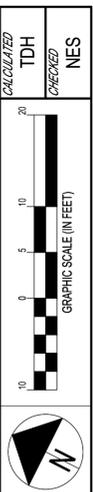
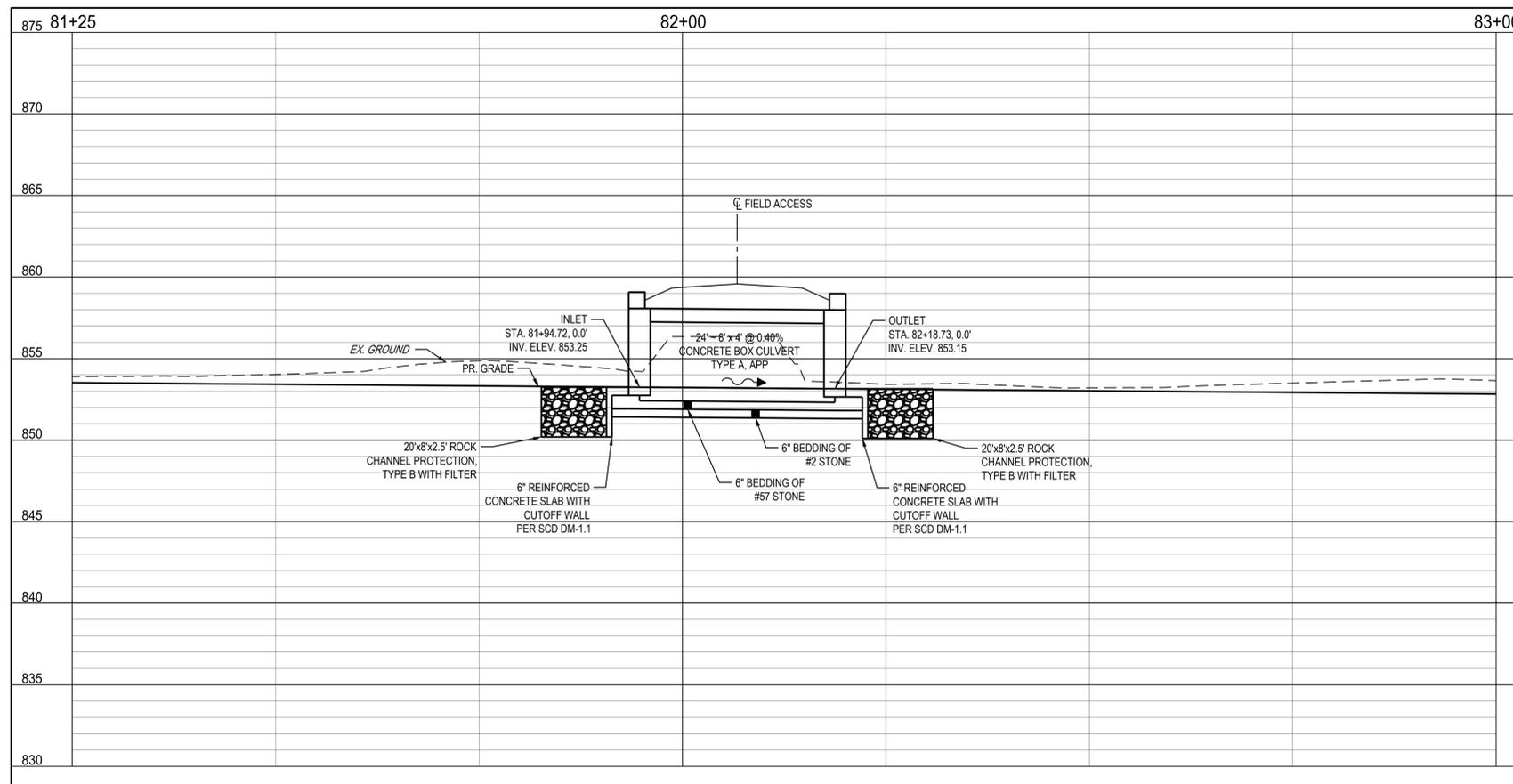


**SECTION VIEW (N.T.S.)
 MODULAR BLOCK WALL DETAIL
 SUBJECT TO FIELD ADJUSTMENT**



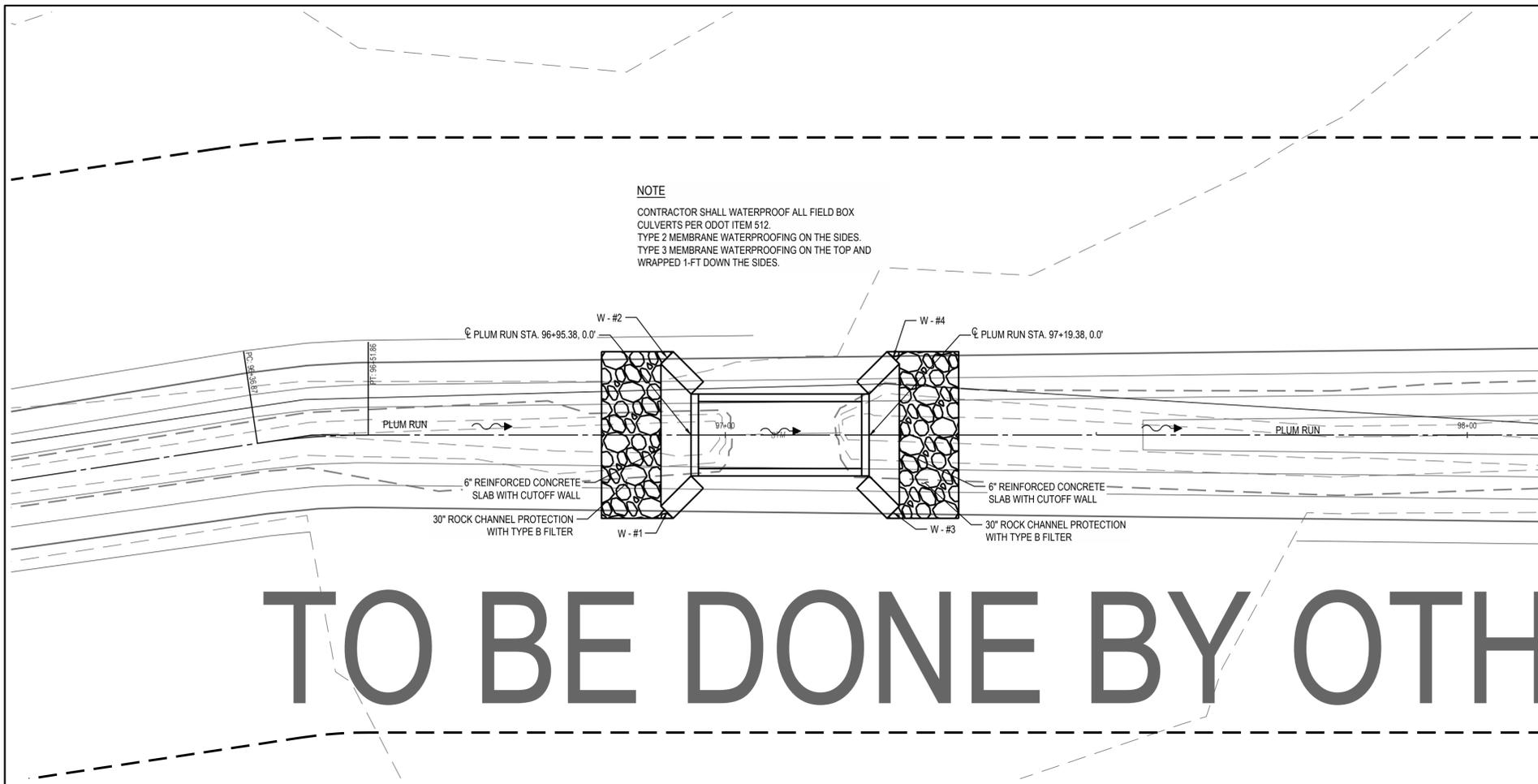
**ELEVATION VIEW (N.T.S.)
 MODULAR BLOCK WALL DETAIL, OUTLET
 SUBJECT TO FIELD ADJUSTMENT**

**ELEVATION VIEW (N.T.S.)
 MODULAR BLOCK WALL DETAIL, INLET
 SUBJECT TO FIELD ADJUSTMENT**



BOX CULVERT DETAILS
STA. 81+94.72 TO STA. 82+18.73

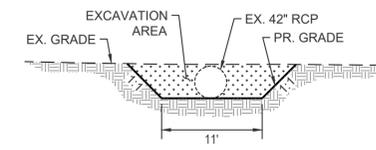
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 2
FRANKLIN COUNTY, OHIO



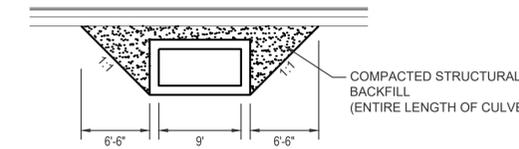
TO BE DONE BY OTHERS

NOTE:

BOX CULVERT TO BE DONE BY OTHERS



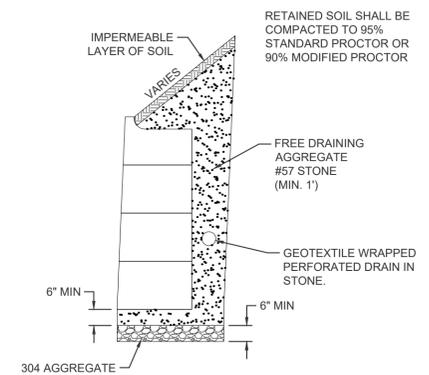
SIMPLE SLOPE EXCAVATION PER OSHA SLOPING & BENCHING STANDARDS N.T.S.



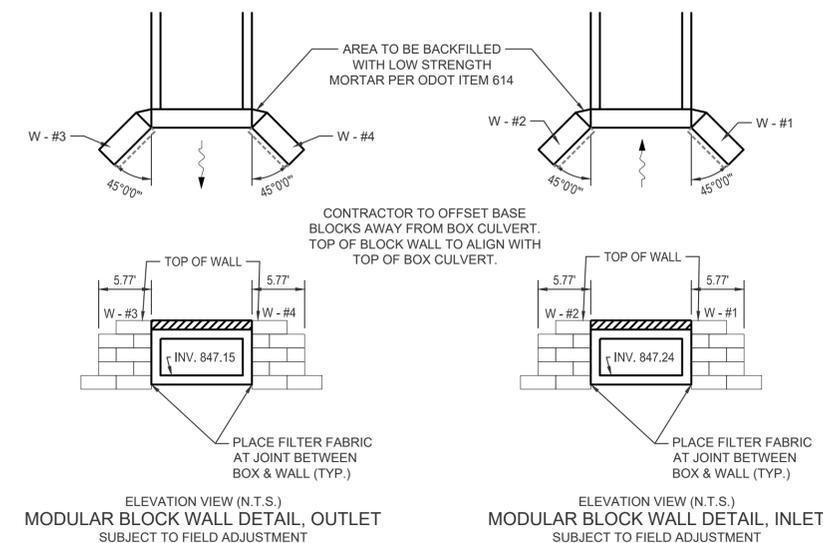
CONCRETE BOX CULVERT BACKFILL DETAIL N.T.S.

HYDRAULIC DESIGN DATA:

DRAINAGE AREA	= 228 ACRES
Q ₂₅	= 97 CFS
Q ₁₀₀	= 234 CFS
HW ₂₅	= 850.34
HW ₁₀₀	= 852.04
V ₂₅	= 4.0 FPS
V ₁₀₀	= 7.8 FPS

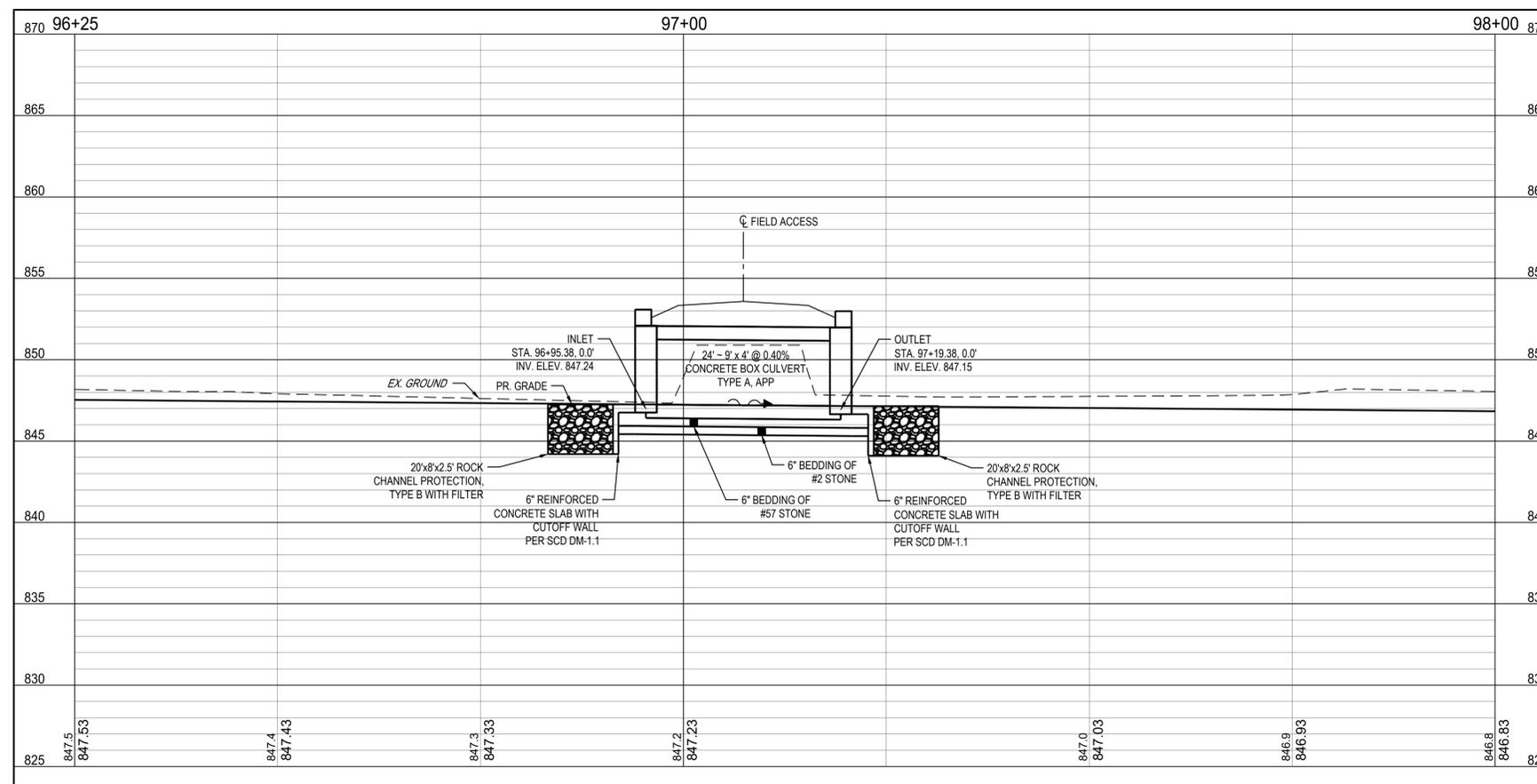


SECTION VIEW (N.T.S.)
 MODULAR BLOCK WALL DETAIL
 SUBJECT TO FIELD ADJUSTMENT



ELEVATION VIEW (N.T.S.)
 MODULAR BLOCK WALL DETAIL, OUTLET
 SUBJECT TO FIELD ADJUSTMENT

ELEVATION VIEW (N.T.S.)
 MODULAR BLOCK WALL DETAIL, INLET
 SUBJECT TO FIELD ADJUSTMENT



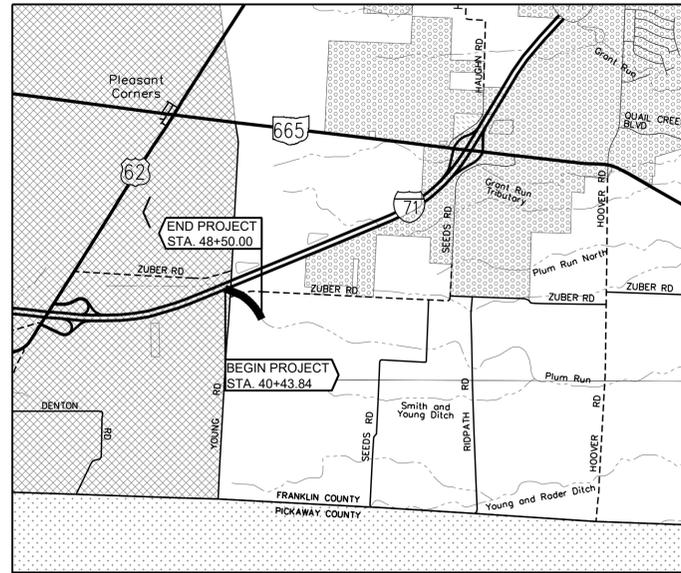
FRANKLIN COUNTY, OHIO

OFFICE OF THE COUNTY ENGINEER

ZUBER ROAD (T-267) — PLUM RUN DRAINAGE IMPROVEMENTS

SECTION 3

PLEASANT TOWNSHIP JACKSON TOWNSHIP



LOCATION MAP

LATITUDE: N 39° 49' 43" LONGITUDE: W 83° 07' 59"
NO SCALE



PORTION TO BE IMPROVED	
COUNTY ROAD	
TOWNSHIP ROAD	
CITY STREET	
INTERSTATE ROUTE	
US ROUTE	
STATE ROUTE	
WATER	
GROVE CITY	
PLEASANT TOWNSHIP	
SCIOTO TOWNSHIP	
JACKSON TOWNSHIP	

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3
GENERAL NOTES	4-5
MAINTENANCE OF TRAFFIC NOTES	6
DETOUR PLAN - YOUNG ROAD	7
DETOUR PLAN - ZUBER ROAD	8
GENERAL SUMMARY	9-10
PLAN & PROFILE	11-12
CROSS SECTIONS	13-15
BOX CULVERT DETAILS (JAC-T271-1.34)	16-20
BOX CULVERT DETAILS (JAC-C267-1.07)	21-25
BOX CULVERT DETAILS (7'X4' PRECAST)	26
EROSION CONTROL PLAN	27



PLAN PREPARED BY:
CESO
WWW.CESOINC.COM
2800 Corporate Exchange Drive, Suite 400
Columbus, Ohio 43231
614.794.7080
www.cesoinc.com



Todd Hanahan 08/29/2025
Todd Hanahan, PE
Registered Engineer No. 81708

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
ODOT			
DM-1.1	7-17-2020	800	7-19-2024
DM-4.2	7-20-2012	832	7-19-2024
DM-4.4	1-15-2016		
MGS-2.4	1-15-2016		
F-3.2	7-18-2014		
PERMITS			

PROJECT DESCRIPTION
This project consists of 806 linear feet of drainage ditch improvements, culvert replacements, and profile grade restoration to address impairment by sediment deposition and allow major flood routing to function properly.

EARTH DISTURBED AREA
Project Earth Disturbed Area: 0.90 acres
Estimated Contractor Earth Disturbed Area: 0.25 acres

2023 SPECIFICATIONS
The 2023 Construction and Material Specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement unless noted otherwise.

Signatures below signify only concurrence with the general purpose and general location of the project. All technical details remain the responsibility of the engineer preparing the plans.

I approve these plans and declare that the making of this improvement will require the closing of traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth in the plans and estimates.

FRANKLIN COUNTY

JRF Adam W. Fowler 9/2/2025
FRANKLIN COUNTY ENGINEER DATE

W. Fritz Crosier 9/2/2025
FRANKLIN COUNTY CHIEF DEPUTY ENGINEER DATE

We, the Commissioners of Franklin County in formal session, hereby approve these plans.

Paula Bailey 9/29/2025
FRANKLIN COUNTY COMMISSIONER DATE

Carol O'Keefe 9/30/2025
FRANKLIN COUNTY COMMISSIONER DATE

Kevin B... 9/30/2025
FRANKLIN COUNTY COMMISSIONER DATE

REVISIONS			
REV.	DESCRIPTION	INITIAL	DATE

FEDERAL PROJECT NO. **FRA-71-4-276**

P.I.D. **115485**

CONSTRUCTION PROJECT NO. **N/A**

RAILROAD INVOLVEMENT **NONE**

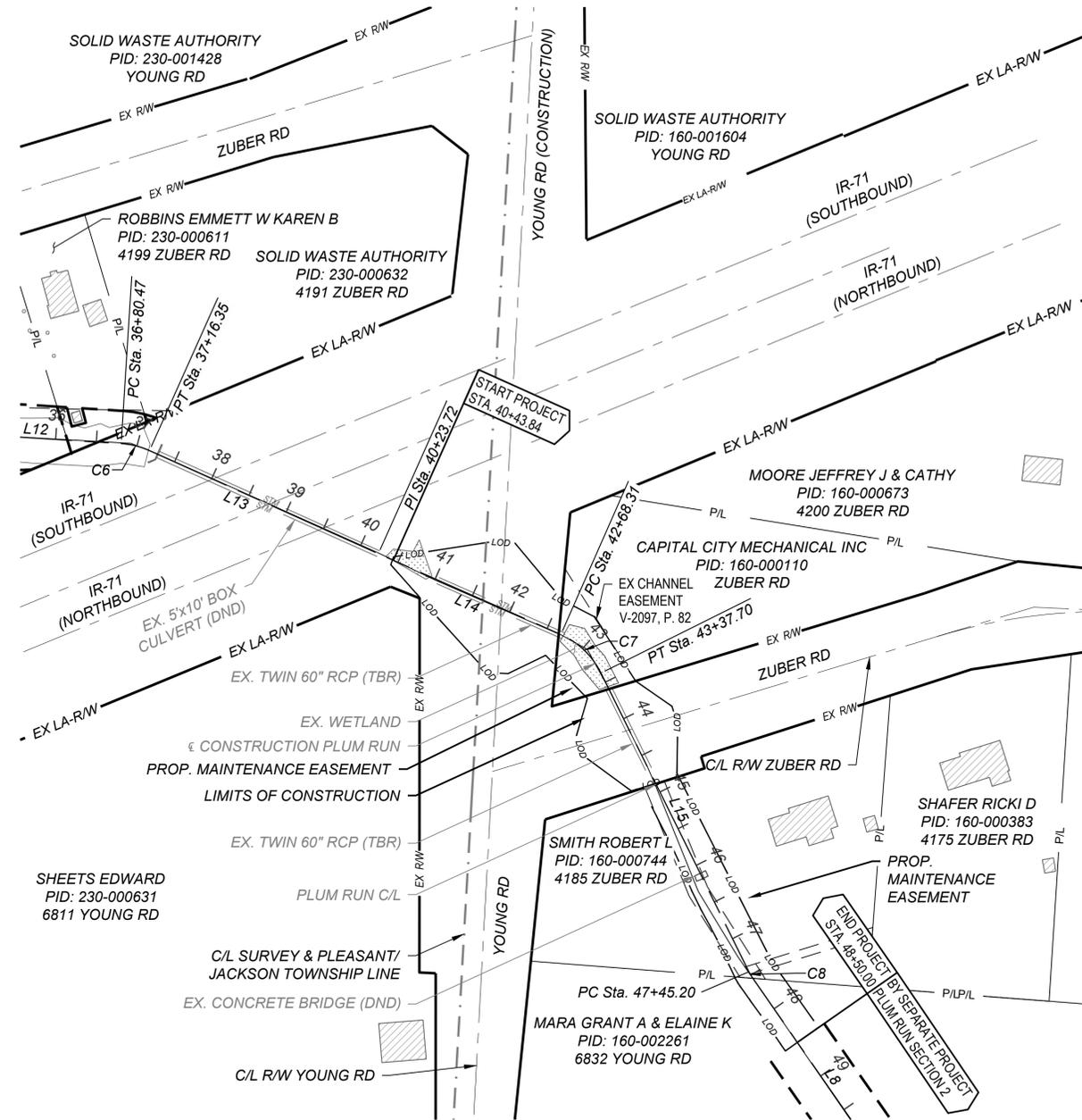
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS SECTION 3

1
27

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

HORIZONTAL DATUM: NAD83 (2011)
 COORDINATES LISTED ARE PROJECT GROUND
 COORDINATES BASED ON OHIO STATE PLANE
 COORDINATE SYSTEM, SOUTH ZONE, NORTH
 AMERICAN DATUM 1983 (2011) WITH A
 COMBINED SCALE FACTOR FROM GRID TO
 GROUND OF 0.999965630417 AT FRANKLIN
 COUNTY GEODETIC SURVEY MONUMENT 6073.

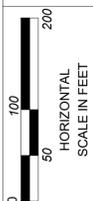
BENCHMARKS	
BM CP-28	ALUMINUM PLUG IN THE SOUTHEAST CORNER OF THE EAST WINGWALL OF RIDPATH ROAD BRIDGE JAC 270-0.88 OVER PLUM RUN, 0.50 MILES SOUTH OF ZUBER ROAD, 18 FEET EAST OF THE CENTERLINE. ELEVATION = 835.054' (NAVD 88)
BM CP-30	ALUMINUM PLUG IN THE SOUTHWEST HEADWALL OF SEEDS ROAD CULVERT JAC 269-1.27, 0.35 MILES SOUTH OF ZUBER ROAD, 19.5 FEET WEST OF THE CENTERLINE. ELEVATION = 844.240' (NAVD 88)
BM CP-39	ALUMINUM PLUG IN THE NORTHWEST WINGWALL OF RIDPATH ROAD BRIDGE JAC 270-0.88, OVER PLUM RUN 0.50 MILES SOUTH OF ZUBER ROAD, 18 FEET WEST OF THE CENTERLINE OF RIDPATH ROAD. ELEVATION = 834.901' (NAVD 88)



Line Data		
Line #	Length	Direction
L13	307.37'	S 65°48'40" E
L14	244.59'	S 66°09'54" E
L15	407.50'	S 26°24'29" E

Curve Data							
Curve #	P.I.	Angle of Intersection	Degree of Curve	Radius	Tangent Length	Length of Curve	External Distance
C7	Sta. 43+04.47	039°45'25"	057°17'40"	100.00'	36.16'	69.39'	6.34'
C8	Sta. 47+48.90	008°27'08"	114°35'30"	50.00'	3.69'	7.38'	0.14'

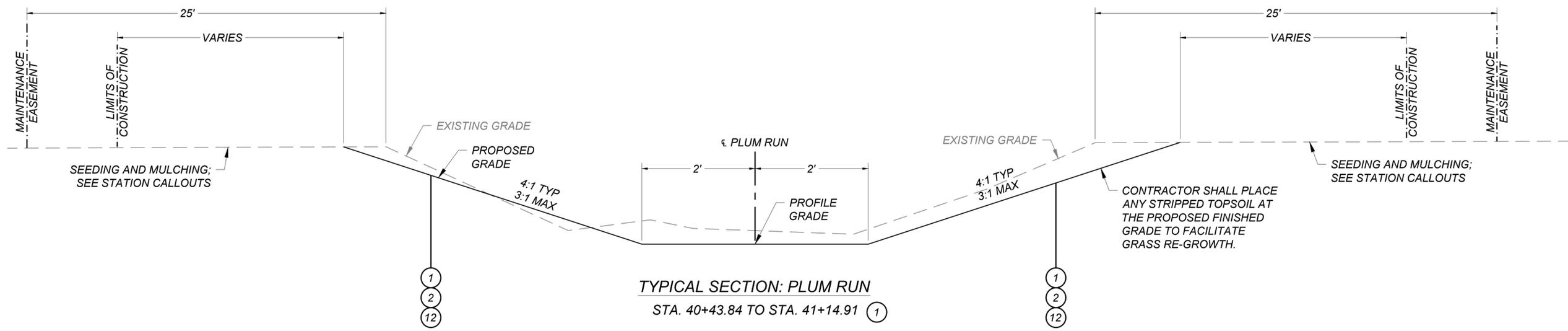
COPYRIGHT: THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.



DRAWN: JGS
 CHECKED: JRM

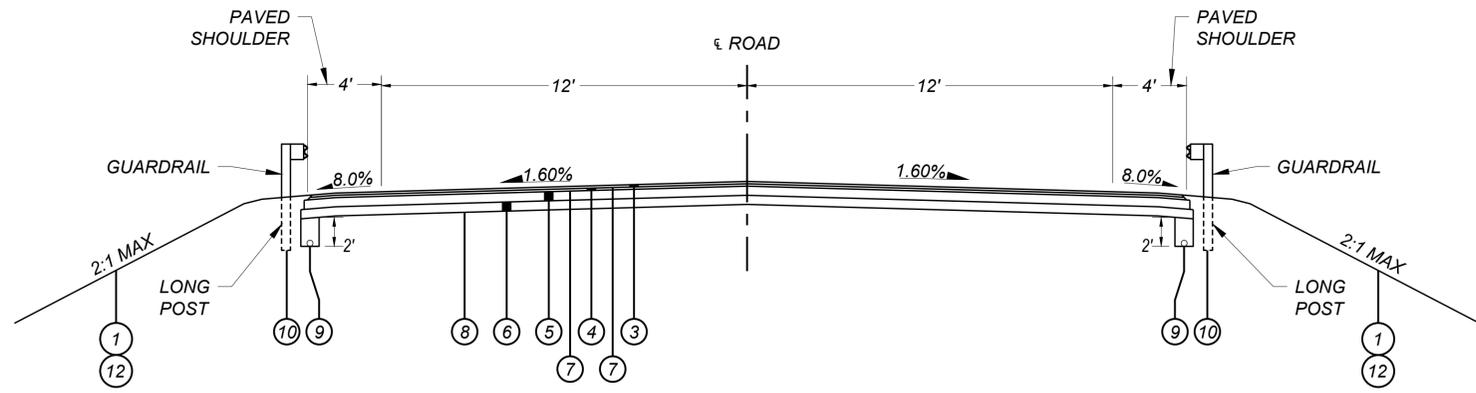
SCHEMATIC PLAN

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 3
 FRANKLIN COUNTY, OHIO



TYPICAL SECTION: PLUM RUN

- STA. 40+43.84 TO STA. 41+14.91 (1)
- STA. 42+58.91 TO STA. 43+62.9 (1)
- STA. 44+66.91 TO STA. 45+22.19 (1)
- STA. 45+22.19 TO STA. 48+50.00 (11)



TYPICAL SECTION

- YOUNG ROAD: STA. 21+37.64 TO STA. 22+64.67
- ZUBER ROAD: STA. 11+30.19 TO STA. 12+14.13

LEGEND

- (1) ITEM 659 - SEEDING AND MULCHING, CLASS 3B
- (2) ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE A
- (3) ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- (4) ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22
- (5) ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22, (449)
- (6) ITEM 304 - 6" AGGREGATE BASE
- (7) ITEM 407 - NON-TRACKING TACK COAT (0.08 GAL/SQ YD)
- (8) ITEM 204 - SUBGRADE COMPACTION
- (9) ITEM 605 - 4" BASE PIPE UNDERDRAIN
- (10) ITEM 606 - GUARDRAIL, TYPE MGS (LONG POST)
- (11) ITEM 659 - SEEDING AND MULCHING, (CLASS 1)
- (12) ITEM 653 - 4" TOPSOIL FURNISHED AND PLACED

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

SPECIFICATIONS

The 2023 Construction and Material Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the proposal, shall govern this improvement, except where noted otherwise.

FRANKLIN COUNTY ENGINEER'S MONUMENTATION

The contractor shall contact the Franklin County Engineer's Office, Survey Department at (614-525-2489) two working days before disturbing any Franklin County Geodetic Monuments (vertical and/or horizontal) for reference and replacement.

UTILITY COORDINATION

The identity and location of existing underground utilities located in and around the construction area have been shown and labeled on the plan by using information provided by the respective utility owners. The consulting engineer will not assume responsibility for the accuracy of the location or depth of the existing underground utilities as shown on the plan.

Support and protection of all utilities and appurtenances shall be the responsibility of the contractor. Costs for the repaid and restoration of the exiting utilities damaged by the contractor shall be the responsibility of the contractor. The contractor is responsible for locating all service lateral and lines. Costs associated with the above work and responsibilities shall be included in the price bid for various items.

At least two working days prior to commencing excavation, the contractor shall notify the Ohio Utility Protection Service (OHIO811) by calling 811, (800)362-2764, or submit the request online through I-Dig. The contractor shall also call the owners of each underground utility facilities within the limits of construction.

The owner of the underground facility shall, within 48 hours (excluding Saturdays, Sundays and legal holidays), mark the location of the underground utility facilities in the construction area in such a manner as to indicate their course and the approximate depth (if available) at which they were installed. The marking or locating shall be coordinated to stay approximately two days ahead of the planned construction.

Listed below are utility companies that have facilities located within the work limits of this project and subscribe to OUPS. The list is included for informational purposes only. The contractor is responsible for contacting all utility owners in the project area prior to start of construction whether listed on this page or not.

Table with 3 columns: GAS, MARATHON PETROLEUM, and COMMUNICATIONS. Lists contact information for Columbia Gas, Marathon Pipe Line LLC, Charter Communications, etc.

Table with 3 columns: ELECTRIC, SOUTH CENTRAL POWER, and COMMUNICATIONS. Lists contact information for American Electric Power, South Central Power, AT&T, etc.

FRANKLIN COUNTY ENGINEER
970 Dublin Road
Columbus, OH 43215
E: sbuskirk@franklincountyengineer.org
P: 615-525-3063
Contact: Steve Buskirk

WORK LIMITS

The work limits shown on these plans are for physical construction only. Provide the installation and operation of all work zone traffic control and work zone traffic control devices required by these plans whether inside or outside these work limits.

HOURS OF OPERATION

Contractor's work hours shall be limited to 7:00 A.M. to 9:00 P.M. Monday through Saturday, unless permission is granted by the Engineer in writing. The Contractor shall be required to adhere to all local noise ordinances.

PRECONSTRUCTION MEETING AND EEO-PREVAILING WAGE SESSION

The contractor shall meet for a preconstruction meeting scheduled by the County as per Franklin County General Provision 108.02. An EEO-prevailing wage session will be held in conjunction with the general preconstruction meeting discussion of contract documents, affected third party concerns, schedule, proposed subcontractors-suppliers submittals, etc.

PREVAILING WAGES

Prevailing Wage paperwork required of the Prime Contractor and Sub-Contractors shall be current and up-to-date for work performed. Pay Estimates will be considered incomplete and unpayable until the associated Prevailing Wage paperwork is submitted to the Franklin County Engineer's Prevailing Wage Coordinator contact Ronnie Nimps 614-525-5123 for Federal or State wage rate provisions relating to prevailing wages shall reference:

State: http://www.com.ohio.gov/dico/

Federal: http://www.wdol.gov/dba.aspx

NON-COLLUSION AFFIDAVIT

In accordance with Title 23 United States Code, Section 112 and Ohio Revised Code, Chapter 1331 et. seq. and Sections 2921.11 and 2921.13, the bidder hereby states, under penalty of perjury and under other such penalties as the law provides, that he or his agents or employees have not entered either directly or indirectly into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal. Execution of this proposal on the signature portion thereof shall constitute also signature of this Non-Collusion Affidavit as permitted by title 28 United States Code, Section 1746.

SAFETY REQUIREMENTS AND RESPONSIBILITIES

The contractor is responsible for ensuring that all work under this contract meets or exceeds the Occupational Safety & Health Administration (OSHA) standards in addition to complying with the recognized best practice within the construction industry.

1.0 Contractor Responsibility

The Contractor alone shall be responsible for the safety, efficiency, and adequacy of the work location, equipment, materials, and methods, and for any damage that may result from their improper construction, maintenance, or operations. The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the work, proper safeguards for the protection of workers and the public shall post danger warnings against any hazards created by the construction operations. The Contractor shall be responsible for the compliance of all Subcontractors according to these requirements.

2.0 Certification Requirements

The manufacturer of safety systems (shoring, protective systems, fall protection) or a professional engineer (PE) must certify that the design of major or critical facilities, equipment, support structures, or systems, embankments, shoring systems, and formwork (false work) is structurally suitable for the intended use. This certification must be in writing and submitted to the FCEO Project Manager before construction or use of such facilities, equipment, or support systems.

3.0 Competent Person

The Contractor is responsible for identifying the need for Qualified and/or Competent Persons for specific tasks as defined in 29 CFR 1926.

4.0 Subcontractor Compliance

The Contractor is responsible for screening all Subcontractors with respect to these safety requirements and responsibilities. In addition, the Contractor is responsible for monitoring and enforcing compliance of all Occupational Safety and Health Administration (OSHA) requirements to its Subcontractors. The Contractor shall be responsible for ensuring conformance of all subcontractors to the Contractor's comprehensive safety program.

5.0 Safety Supervisor

The Contractor shall designate, in writing, a Safety Supervisor responsible for administering the comprehensive safety program on-site. The Safety Supervisor shall have supervisory authority over the Contractor, Subcontractors, and suppliers. The Safety Supervisor shall have the responsibility for site safety and workers' health and shall have the authority to correct deficiencies and stop work, if necessary, until deficiencies are corrected. The Safety Supervisor shall immediately notify the FCEO Project Manager if/when an OSHA Inspector arrives on site.

6.0 CPR and First Aid

The Contractor shall have on site at all times when work is being performed at least one individual certified in CPR and First Aid.

7.0 Refusal to Comply with Occupational Safety and Health Requirements

The contractor must remove employees who refuse or repeatedly fail to comply with safe work practices and standards, or supervisors who fail to enforce compliance with the associated work assignments.

8.0 Contractor and Subcontractor Reporting

The Contractor and Subcontractors shall comply with all legal and FCEO specific reporting requirements relating to Environmental Health and Safety (EHS) set forth in the Contract Documents. The Contractor will immediately report orally, and in writing within two (2) days, any EHS related loss, damage, or accident arising from the work to the FCEO Project Manager. The Contractor and its Subcontractors will immediately report to the FCEO Project Manager all non-incidentals spills, and all other significant impacts to the environmental (soil, water, air) in performance of the work. The Contractor will also immediately notify the FCEO Project Manager of any "failure to comply" with state and federal environmental laws, rules, and regulations.

9.0 Safety and Health Reporting

The Contractor's Designated Safety Supervisor shall report all injury accidents and incidents to the FCEO Project Manager as they occur. If a death, hospitalization, amputation, loss of an eye, or injury involving a serious medical condition occurs, the incident shall be reported to the FCEO Project Manager within 30 minutes by the General Contractor's Safety Supervisor. Results of accident investigations and corrective actions shall be provided to FCEO Project Manager as soon as practical following the investigation.

10.0 Incident Investigation

In the event of an incident, the Contractor will conduct an incident investigation. The investigation will include a written report summarizing the results of the investigation, corrective actions taken to prevent a reoccurrence, and any lessons learned. The FCEO, may at its discretion, participate in and facilitate the incident investigation. Time and expense incurred by the Contractor performing an incident investigation will be at the Contractor's expense.

11.0 Progress Meeting - Safety

The FCEO Project Manager, the General Contractor's principle onsite representative, and designated members of respective staff responsible for safety will review site safety concerns at the Progress Meetings. The safety segment of the meeting will review the Contractor's safety effort, resolve health and safety problems relating to current operations, and provide a forum for planning safe future activities. The Contractor must be prepared to discuss in detail the procedures to control the hazards likely to happen during major phases of the work, and the organizational assignments involved in administering the comprehensive safety program.

12.0 Work Stoppage

If the FCEO Project Manager perceives the Contractor has created or is exposed to an imminent danger or a non-compliance situation, the FCEO Project Manager will suspend work until safe conditions are re-established. Such work stoppages will be at the expense of the Contractor and will not add cost or time to the completion date of the Contract.

13.0 Contractor's Expense.

The Contractor, at its own cost and expense, shall undertake all necessary and appropriate efforts to prevent accidents at its work sites, including the placing and maintenance of proper guards, fences, barricades, security personnel and suitable and sufficient lighting. Safety deficiencies discovered after the award will be remedied at no cost to the FCEO and may, at the FCEO's discretion, be deducted from the contract amount.

14.0 Generated Waste

The Contractor shall manage all waste in performance of the Work in compliance with state and federal law. Further, the Contractor shall attempt to minimize the generation of all waste and hazardous substances. All disposal and clean-up cost of spills of hazardous substances and non-hazardous debris/waste generated by the Contractor in the performance of the work will be at the expense of the Contractor.

ITEM 201, CLEARING AND GRUBBING

All trees, fence posts, rocks, brush, stumps and fence within the construction limits of this project shall be removed unless marked "Do Not Disturb". Unless itemized separately, all of these items shall be removed under the lump sum price bid for item 201, Clearing and Grubbing. Items within the construction limits that are marked "Do Not Disturb" or "DND" shall not be removed or damaged. The County reserves the right to order the removal of trees or stumps outside of the limits of the right-of-way and/or easement lines but within the work limits. Payment for the removal of these trees or stumps shall be included in the lump sum price bid for item 201, Clearing and Grubbing.

ITEM 653, TOPSOIL, FURNISHED AND PLACED

The following quantity is provided to promote stability and growth of disturbed areas:

Item 653, Topsoil, Furnished and Placed 400 CY

Topsoil shall be applied at a thickness of 4" to the area equal to that of Item 659, Seeding and mulching, as shown below.

ITEM 659, SEEDING AND MULCHING

The following quantities are provided to promote growth and care of permanently seeded areas:

Table with 2 columns: Item description and Quantity. Includes Item 659, Seeding and Mulching, Class 3B (3,240 SY), Item 659, Seeding and Mulching, Class 1 (360 SY), Item 659, Commercial Fertilizer (0.3 TON), Item 659, Lime (0.5 ACRES), Item 659, Water (6 M. GAL), Item 670, Ditch Erosion Protection Mat, Type A (1340 SY).

Seeding and mulching shall be applied to all areas of exposed soil between the right-of-way lines and within the construction limits for areas outside the right-of-way lines, and within the construction limits for areas outside the right-of-way lines covered by work agreement or slope easement. Quantity calculations for seeding and mulching are based on these limits.

EXISTING FEATURES LEGEND

Legend table listing symbols for Right Of Way Line, Limited - Access Right Of Way Line, Parcel Line, Edge Of Pavement, Guardrail, Pavement Markings, Storm Sewer, Sanitary Sewer, Water Line, Gas Line, Ovhd Electric Line, Ugnd Electric Line, Ugnd Telecomm Line, Ovhd Telecomm Line, Major Contour, Minor Contour, Hydrant, Water Valve, Power/Telephone Pole, Guy Wire Anchor, Electric Box, Light Pole, Gas Valve, Gas Meter, Storm Catch Basin, Storm Inlet Basin, Storm Manhole, Sanitary Manhole, Sanitary Clean Out, Traffic/ Signal Pole, Traffic Manhole, Sign.

PROPOSED FEATURES LEGEND

Legend table listing symbols for Major Contour (830), Minor Contour (832), Easement Line, Limits of Disturbance (LOD), Guardrail, Flow Arrow, Storm Structure I.D. (XX).

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

CALCULATED
JGS
CHECKED
JRM

GENERAL NOTES

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 3
FRANKLIN COUNTY, OHIO

ITEM 611, 10'X5' CONDUIT, TYPE A, 706.05, AS PER PLAN

This item shall consist of furnishing and installing the precast concrete box culvert system. Installation shall be at the locations specified with the plans and in accordance with the CMS and the manufacturer's specifications.

The proposed work consists of excavation, shaping and compacting exposed material, placing and compacting aggregate bedding, laying the box culvert, placing backfill, placing conduit, and final grading to provide a complete box culvert crossing per the details provided within the plan.

The following estimated quantities have been carried to the general summary for the above noted work.

Item 611 - 10'x5' Conduit, Type A, 706.05, As Per Plan 248 LF

BASIS OF BEARINGS

Basis of bearings is based upon Ohio State Plan, South Zone, NAD83 (2011), as established by GPS observations, for a portion of the centerline of right of way of Young Road, being the Pleasant Township and Jackson Township line, being VMS 6148 and 1365, having a relative bearing of North 3°14'42" East between Franklin County Geodetic Survey Monument 6073 and Franklin County Geodetic Survey Monument 6071.

+	BENCHMARKS
BM CP-28	ALUMINUM PLUG IN THE SOUTHEAST CORNER OF THE EAST WINGWALL OF RIDPATH ROAD BRIDGE JAC 270-0.88 OVER PLUM RUN. 0.50 MILES SOUTH OF ZUBER ROAD, 18 FEET EAST OF THE CENTERLINE. ELEVATION = 835.054' (NAVD 88)
BM CP-30	ALUMINUM PLUG IN THE SOUTHWEST HEADWALL OF SEEDS ROAD CULVERT JAC 269-1.27, 0.35 MILES SOUTH OF ZUBER ROAD, 19.5 FEET WEST OF THE CENTERLINE. ELEVATION = 844.240' (NAVD 88)
BM CP-39	ALUMINUM PLUG IN THE NORTHWEST WINGWALL OF RIDPATH ROAD BRIDGE JAC 270-0.88, OVER PLUM RUN 0.50 MILES SOUTH OF ZUBER ROAD, 18 FEET WEST OF THE CENTERLINE OF RIDPATH ROAD. ELEVATION = 834.901' (NAVD 88)
BM FCGS 6071	FRANKLIN COUNTY GEODETIC SURVEY MONUMENT NEAR THE INTERSECTION OF ZUBER ROAD AND YOUNG ROAD, NORTH OF I-71, ALONG THE PLEASANT/JACKSON TOWNSHIP LINE. ELEVATION = 889.953' (NAVD 88)
BM FCGS 6073	FRANKLIN COUNTY GEODETIC SURVEY MONUMENT NEAR THE INTERSECTION OF ZUBER ROAD AND YOUNG ROAD, SOUTH OF I-71, ALONG THE PLEASANT/JACKSON TOWNSHIP LINE. ELEVATION = 887.142' (NAVD 88)

EXPOSE NOTE

Where plans provide for a proposed conduit, storm sewer, waterline, or other construction to cross over or under an existing sewer or underground utility, the contractor shall locate the existing pipes or utilities both as to line and grade before starting to lay the proposed conduit, storm sewer, waterline, or other construction. If it is determined that the existing conduit or existing appurtenance to be connected differs from the plan elevation or results in a change in the planned work, the engineer shall be notified before starting construction of any portion of the proposed work which will be affected by the variance in the existing elevations. Payment for all the operations described above shall be included in the contract price for the pertinent items.

ITEM 203, ROADWAY, MISC.: HYDRO-EXCAVATING UTILITY EXPOSURE

The Contractor shall expose utilities as directed by the Engineer utilizing Hydro-Excavating methods. The unit price bid for this pay item shall include all costs for labor, equipment, backfill of the exposure holes utilizing Flowable Controlled Density Fill as per Columbus 2012 CMS 613.04 Type I or Type III, and any incidentals necessary to complete the work.

This is a special pay item to be used as directed by the Engineer and not to be used for usual utility exposures associated with OUPS tickets and general construction of the project. Costs to expose utilities associated with OUPS tickets and general construction of the project shall be included in the unit bid prices for the items of work affected. The Contractor is reminded to keep his/her OUPS ticket updated according to industry practices.

A contingency quantity of: ITEM 203, ROADWAY, MISC.: HYDRO-EXCAVATING UTILITY EXPOSURE 5 each has been carried to the General Summary for the above work.

EXISTING/UNIDENTIFIED STORM SEWERS

If any existing storm sewers or field tiles are encountered during construction, leave exposed and contact the Franklin County Drainage Engineer's Office at (614) 525-5138 or (614) 525-2787 to have the existing tile's size, composition, horizontal location, and flowline surveyed.

DRAINAGE CONNECTIONS

All conduits paid for under this item shall be considered and bid as an "As Per Plan" item. See note below.

All drains, which are encountered during construction, shall be provided with unobstructed outlets. Existing drains which are located below the roadway ditch elevation, and which cross the roadway, shall be replaced within construction limits using Item 611 Conduit, Type B, one commercial size larger than the existing conduit.

Existing collectors and isolated farm drains, which are encountered above the elevation of roadway ditches, shall be outletted into the roadway ditch by Item 611 Type C Conduit. The optimum outlet elevation shall be 12" above the flow line elevation of the ditch.

The location, type, size and grade of replacements shall be determined by the Engineer and payment shall be made on final measurements.

Tie-ins to existing conduits shall use a rubber boot connection and hardware as approved by the Engineer. All conduits shall be Schedule 40 Polyvinyl Chloride Plastic Pipe (PVC). Blind tap connections and cutting into curb or drainage structures shall be included in the linear foot price bid for each item.

Erosion control pads and animal guards shall be provided at the outlet end of all drains as per Standard Construction Drawing DM-1.1M, except when they outlet into a drainage structure. Payment for the erosion control pads and animal guards shall be included for payment in the pertinent conduit items.

The following estimated quantities have been included in the General Summary for the work noted above

ITEM 611	4" CONDUIT, TYPE B, SCHEDULE 40 PVC, AS PER PLAN	50 LIN FT
ITEM 611	6" CONDUIT, TYPE B, SCHEDULE 40 PVC, AS PER PLAN	50 LIN FT
ITEM 611	8" CONDUIT, TYPE B, SCHEDULE 40 PVC, AS PER PLAN	50 LIN FT
ITEM 611	4" CONDUIT, TYPE C, SCHEDULE 40 PVC, AS PER PLAN	50 LIN FT
ITEM 611	6" CONDUIT, TYPE C, SCHEDULE 40 PVC, AS PER PLAN	50 LIN FT
ITEM 611	8" CONDUIT, TYPE C, SCHEDULE 40 PVC, AS PER PLAN	50 LIN FT

Necessary bends, branches and rubber boot connectors shall be included in the price bid for each item. The Contractor shall not order any of the above materials unless approved by the Engineer.

MATERIALS

A. All precast concrete pipe and products are subject to inspection during casting at the plant by the County Engineer's agent - City of Columbus, Inspection Division. All precast concrete pipe and products delivered to the job shall have a stamp by the City of Columbus, Inspection Division with their approval marking. All products manufactured off-site must still meet specifications when delivered and installed at the project. All materials and miscellaneous items incorporated into the precast concrete items shall be from stockpiles for which an ODOT approved lab report can be produced. Items in this category not pre-approved will require testing which will delay permitted use of the material and for which the Contractor is not entitled to a time extension. The proposed manufacturer shall be submitted to the Engineer for approval in writing so an inspection can be made of the proposed plant operations to determine if the applicable specifications referenced in the contract will be met. All manufacturing plant operations must continue to meet applicable specifications at all times.

B. Other Materials shall be in accordance to the ODOT-CMS. All materials shall be from stockpiles for which an ODOT (TE 24s, etc.) or City of Columbus Laboratory Report (for City CMS items) can be furnished to the Engineer.

PRECAST CONCRETE

At the option of the contractor, precast footings and wingwalls may be used provided they are sized to meet the soil parameters and meet or exceed the material strengths specified herein. The contractor shall submit designs and shop drawings to the County for approval. If the contractor elects to use precast wingwalls or headwalls, no additional payment will be issued outside of the pertinent concrete bid items.

CONCRETE DELIVERY FOR ALL CONCRETE WORK

The use of dump trucks or any other non-agitating vehicles to deliver concrete to the project site is prohibited. Only concrete mixer trucks with agitating bodies specifically designed to haul concrete and approved for use by the Engineer shall be permitted to deliver concrete to the project site. Before delivery, a concrete washout area shall be constructed per Item 832.

PERMIT

Contractor shall obtain a permit from Jackson Township for any work or construction entrance within the right of way. A permit shall also be obtained from ODOT for all work within the right of way.

ITEM 832, EROSION CONTROL

The disturbed earth area of 26,572 Sq. Ft. as calculated within the construction limits is less than one (1) acre. Therefore this project falls under the provision of the Ohio Department of Transportation (ODOT) Supplemental Specification 832, specifically 832.04 - Scenario E and does not require general permit authorization for storm water discharges associated with construction activity under the National Pollution Discharge Elimination System. A formal Storm Water Pollution Prevention Plan (SWPPP) is not required and a Notice of Intent (NOI) will not be filed with the Ohio Environmental Protection Agency (OEPA). It is the intent of the Franklin County Engineer in conjunction with the Contractor to act responsibly in protecting our natural resources. Therefore, inlet protection, silt fence, and a concrete wash out shall be utilized as directed by the engineer and paid for under Item 832 Erosion Control.

SOIL STABILIZATION

In any disturbed area that does not receive ditch erosion control matting, a soil conditioner, rock hound equipment, or soil pulverizer shall be used prior to seed and mulching.

ENVIRONMENTAL COMMITMENT NOTES

- All work will be conducted in accordance with the drawings submitted with the pre-construction notification materials.
- Enclosed is a copy of Nationwide Permit 27, which will be kept at the site during construction. A copy of the nationwide permit verification, special conditions, and the submitted construction plans must be kept at the site during construction. The permittee will supply a copy of these documents to their project engineer responsible for construction activities.
- Upon completion of the activities authorized by this nationwide permit verification, the enclosed certification must be signed and returned to this office along with as-built drawings showing the location and configuration, as well as all pertinent dimensions and elevations of the activities authorized under these nationwide permit verifications.
- Construction activities will be performed during low flow conditions to the maximum extent practicable. Additionally, appropriate site-specific best management practices for sediment and erosion control will be fully implemented during construction activities at the site.
- No area for which grading has been completed will be unseeded or unmulched for longer than 14 days. All disturbed areas will be seeded and/or revegetated with native species and approved seed mixes (where practicable) after completion of construction activities for stabilization and to help preclude the establishment of non-native invasive species.
- Should new information regarding the scope and/or impacts of the project become available that was not submitted to this office during our review of the proposal, the permittee will submit written information concerning proposed modification(s) to this office for review and evaluation, as soon as practicable.

- In the event any previously unknown historic or archaeological sites or human remains are uncovered while accomplishing the activity authorized by this nationwide permit authorization, the permittee must cease all work in waters of the United States immediately and contact local, state and county law enforcement offices (only contact law enforcement on findings of human remains), the Corps at 304-399-5210 and Ohio State Historic Preservation Office at 614-298-2000. The Corps will initiate the Federal, state and tribal coordination required to comply with the National Historic Preservation Act and applicable state and local laws and regulations. Federally recognized tribes are afforded a government-to-government status as sovereign nations and consultation is required under Executive Order 13175 and 36 CFR Part 800.

EXCAVATION NOTE

Contractor to bench all slopes that are greater than 8:1 as per ODOT CMS 203.05. Plan quantities shown are based on end area calculations between existing and proposed ground lines as per 203.09 and paid for as such. Benching shall be included in the price bid for Item 203, embankment and shall not constitute additional compensation.

UNTREATED SEPTIC CONNECTIONS

This plan makes no provision for connecting, nor shall the Engineer or contractor connect, any untreated septic drainage into the highway drainage system. Any pipe possibly carrying untreated septic flow shall be left exposed. Call Franklin County Health Dept. at (614) 525-3909 and the Franklin County Drainage Engineer's Office at (614) 515-5138 or (614) 525-2787 for direction on whether or not to tie the pipe into the highway drainage system or plug the pipe at R/W line w/Class C concrete. Payment for plugging shall be included in contract price for the pertinent 202 or 203 item.

ITEM 638, 6" Water Main DI Pipe ANSI Class 52, Push-on Joints and Fittings, As Per Plan

The following contingency quantity is provided in the General Summary to be used as directed by the engineer where conflicts with the existing water main are encountered during construction:

Item 638 - 6" Water Main DI Pipe ANSI Class 52, Push-on Joints and Fittings, As Per Plan 100 LF

ITEM SPECIAL, CONTINGENCY

This item is a fixed amount for all bidders and is included in the Engineer's Estimate listed on the Bid Blank. It will be utilized for unforeseen conditions and extras encountered during the course of construction. Use of any portion of this item must be approved in writing by the Franklin County Engineer, Chief Deputy of Operations, and Construction Engineer in Change Order format.

ITEM 202, REMOVAL MISC.: FOOT BRIDGE REMOVED, AS PER PLAN

This item shall consist of removal of timber foot bridge near station 46+00.00, in a manner to prevent damage, and offering of structure to owner. Should owner decline structure, the Contractor shall dispose in accordance with Item 202.

All material, equipment, and labor to complete the above noted work shall be paid for under Item 202, Foot Bridge to Remove, As Per Plan.

ITEM 619, FIELD OFFICE, TYPE B, AS PER PLAN

The field office shall meet the requirements of ODOT CMS 619, placed and set up, including utility service hooks, prior to the start of Construction. No Contractor operations will be permitted in the field office provided to the County, nor shall any Contractor equipment be stored in the field office provided to the County. The Contractor shall provide the field office with outdoor sealed containers of the capacity necessary to place field office and project trash. The containers are to be emptied by the contractor be legal means on a weekly basis.

All work listed in this section shall be performed by the Contractor and paid under the unit price bid for ITEM 619, FIELD OFFICE, TYPE B, AS PER PLAN. All equipment provided by the Contractor for use by the County under the wording of this section shall remain the property of the Contractor.

The following estimated quantity has been carried to the general summary for the above noted work:

Item 619, Field Office, As Per Plan 6 MONTH

ITEM 611, 7'x4' CONDUIT, TYPE A, 706.05, AS PER PLAN

This item shall consist of furnishing and installing the precast concrete box culvert system. Installation shall be at the locations specified with the plans and in accordance with the CMS and the manufacturer's specifications.

The proposed work consists of excavation, shaping and compacting exposed material, placing and compacting aggregate bedding, laying the box culvert, placing modular block retaining walls, waterproofing, placing granular backfill, placing conduit, and final grading to provide a complete box culvert crossing per the details provided within the plan.

The following estimated quantities have been carried to the general summary for the above noted work.

Item 611 - 7'x4' Conduit, Type A, 706.05, As Per Plan 24 LF

ITEM 607, FENCE REBUILT, AS PER PLAN

This item shall consist of rebuilding the fence previously removed and stored under item 202, Fence Removed for Reuse. As part of the fence rebuild, contractor shall install a gate, Type CLT, 4' per ODOT SCD F-3.2 in the fence line. The location of the gate shall be at the discretion and approval of the Engineer. Any removed fence not used in the rebuild shall be provided to the Franklin County Engineer.

The following estimated quantities have been carried to the general summary for the above noted work.

Item 607 - Fence Rebuilt, As Per Plan 60 LF
Item 607 - Gate, Type CLT, 4' 1 EA

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESCO, INC.

CALCULATED
JGS
CHECKED
JRM

GENERAL NOTES

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 3
FRANKLIN COUNTY, OHIO

5
27

MAINTENANCE OF TRAFFIC NOTES

ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN

THE CONTRACTOR MAY SUBMIT AN ALTERNATE MOT PLAN AT THE PRECONSTRUCTION MEETING SHOWING HOW THEY PLAN TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THE ODOT AND THESE TRAFFIC MAINTENANCE NOTES. THESE PLANS WILL NEED TO BE REVIEWED AND APPROVED BY THE FRANKLIN COUNTY ENGINEER'S OFFICE. THE CONTRACTOR WILL BE ADVISED AS TO THE REVIEW RESULTS IN WRITING WITHIN THIRTY (30) DAYS.

THE CONTRACTOR SHALL NOTIFY THE COUNTY ENGINEER'S MOBILITY DEPARTMENT AT 614-525-6036 TWO WEEKS PRIOR TO BEGINNING WORK, AND WEEKLY THEREAFTER, TO DISCUSS ANY CHANGES TO THE MAINTENANCE OF TRAFFIC PLAN AND/OR COMPLETION DATE. BEFORE WORK IS STARTED ON THIS PROJECT THE CONTRACTOR SHALL SUBMIT A WRITTEN SCHEDULE OF OPERATION AND A TRAFFIC MAINTENANCE CONTROL PLAN FOR APPROVAL. NO WORK WILL BE STARTED THAT WILL RESTRICT ANY LANE USAGE UNLESS IT IS THE INTENT OF THE CONTRACTOR TO WORK FULL TIME WITH A FULL FORCE IN ORDER TO COMPLETE THE WORK WITHOUT UNNECESSARY DELAYS.

THE FOLLOWING IS THE SUGGESTED SEQUENCE OF CONSTRUCTION FOR THIS PROJECT:

WHILE THE YOUNG ROAD CULVERT REPLACEMENT IS BEING PERFORMED, ALL LANES OF YOUNG ROAD SHALL BE CLOSED IN BOTH DIRECTIONS OF CONSTRUCTION. THE FOLLOWING DETOUR ROUTES SHALL BE USED DURING CONSTRUCTION AND ARE DETAILED ON SHEET 7:

SOUTHBOUND YOUNG ROAD TRAFFIC SHALL BE DETOURED EASTBOUND ON ROUTE 665 TO SOUTHBOUND ON SEEDS ROAD TO WESTBOUND ON ZUBER ROAD AND REJOIN YOUNG ROAD GOING SOUTHBOUND.

NORTHBOUND YOUNG ROAD TRAFFIC SHALL BE DETOURED EASTBOUND ON ZUBER ROAD TO NORTHBOUND ON SEEDS ROAD TO WESTBOUND ON ROUTE 665 AND REJOIN YOUNG ROAD AT THE INTERSECTION WITH ROUTE 665.

WHILE THE ZUBER ROAD CULVERT REPLACEMENT IS BEING PERFORMED, ALL LANES OF ZUBER ROAD SHALL BE CLOSED IN BOTH DIRECTIONS OF CONSTRUCTION. THE FOLLOWING DETOUR ROUTES SHALL BE USED DURING CONSTRUCTION AND ARE DETAILED ON SHEET 8:

EASTBOUND ZUBER ROAD TRAFFIC SHALL BE DETOURED NORTHBOUND ON YOUNG ROAD TO EASTBOUND ON ROUTE 665 TO SOUTHBOUND ON SEEDS ROAD AND REJOIN ZUBER ROAD.

WESTBOUND ZUBER ROAD TRAFFIC SHALL BE DETOURED NORTHBOUND ON SEEDS ROAD TO WESTBOUND ON ROUTE 665 TO SOUTHBOUND ON YOUNG ROAD AND REJOIN ZUBER ROAD.

THE FOLLOWING DEVICES MUST MEET NCHRP 350 OR MASH-08 BEFORE THE DEVICES ARE INSTALLED ON THE PROJECT: DRUMS, CONES, VERTICAL PANELS AND THE PANEL SUPPORT, PORTABLE SIGN SUPPORTS, TEMPORARY IMPACT ATTENUATORS, TEMPORARY CONCRETE BARRIER, AND BARRICADES.

ALL CONSTRUCTION SIGNING SHALL BE INSTALLED AND COVERED BEFORE CONSTRUCTION BEGINS. AFTER CONSTRUCTION SIGN INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE FRANKLIN COUNTY ENGINEER'S OFFICE MOBILITY DEPARTMENT AT 614-525-6036 THREE (3) WORKING DAYS BEFORE WORK BEGINS AND REQUEST AN INSPECTION OF ALL SIGNING.

FACES OF CONSTRUCTION SIGNS AND REFLECTIVE SHEETING ON BARRICADES SHALL BE TYPE H (VIP). ALL ORANGE CONSTRUCTION SIGNS SHALL BE FLUORESCENT ORANGE. ALL SHEETING WILL BE TESTED FOR REFLECTIVITY PER ODOT 730.192. VERTICAL PANELS AND DRUM BANDS SHALL BE REFLECTORIZED WITH TYPE G (HIGH INTENSITY) SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19. ALL SIGNS AND BARRICADES, VERTICAL PANELS, AND DRUMS WILL BE LIKE NEW AND IN GOOD CONDITION IN CONFORMANCE WITH "QUALITY GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES AND FEATURES" PUBLISHED BY ATSSA.

MAINTENANCE OF ALL CONTRACTOR-SUPPLIED SIGNS, BARRICADES, VERTICAL PANELS AND DRUMS IS THE CONTRACTOR'S RESPONSIBILITY. IF THE CONTRACTOR FAILS TO CORRECT DEFICIENCIES WITHIN FOUR (4) HOURS OF NOTIFICATION, FRANKLIN COUNTY SHALL CORRECT OR HIRE SOMEONE TO CORRECT THE DEFICIENCIES. THE CONTRACTOR SHALL THEN BE BACK CHARGED PER ODOT SPECIFICATION 614. IN THE CASE THAT BACK CHARGING THE CONTRACTOR IS NOT APPLICABLE, THE COUNTY WILL RESCIND AND WITHHOLD ALL PERMITS ISSUED TO THE CONTRACTOR TO WORK WITHIN COUNTY RIGHT-OF-WAY UNTIL THE ISSUE IS SETTLED. THESE PROVISIONS SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF ANY OF THEIR LEGAL RESPONSIBILITIES OR LIABILITIES FOR THE SAFETY OF THE PUBLIC.

ALL BARRICADES AT CLOSURES SHALL HAVE YELLOW TYPE A LOW INTENSITY FLASHING WARNING LIGHTS AND TWO FLAGS. REFLECTIVE MATERIAL IS REQUIRED ON BOTH SIDES OF ALL BARRICADES.

CONES ARE APPROVED FOR DAYTIME USE ONLY. DRUMS SHALL BE USED AT NIGHT AND HAVE YELLOW TYPE C STEADY BURN LIGHTS. CONES AND DRUMS SHALL BE PLACED AS FOLLOWS: 25' C/C ON TANGENTS, 15' C/C ON TAPERS, AND 8' C/C IN RADII.

ALL SIGNS NINE SQUARE FEET (36" X 36") AND OVER SHALL HAVE YELLOW TYPE A LOW INTENSITY FLASHING WARNING LIGHTS AND TWO FLAGS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ODOT CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE LATEST VERSION OF THE ODOT. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 614, THE ODOT, AND ODOT SCD MT-97.10 AND MT-97.11, A UNIFORMED LAW ENFORCEMENT OFFICER (L.E.O.) AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS, SHALL BE PROVIDED FOR THE FOLLOWING TASKS:

- 1. FOR CONTROLLING THE DETOUR OF TRAFFIC DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED ON THE DAY THE INTERSECTION IS CLOSED, AND FOR A MINIMUM OF TWO DAYS THEREAFTER, OR AS DIRECTED BY THE ENGINEER, ONE L.E.O. WITH PATROL CAR SHALL BE POSTED AT EACH DETOUR POINT FROM 7:00 AM TO 6:00 PM TO ENSURE THAT ONLY WORK ZONE AREA RESIDENTS USE THE CLOSED ROADWAY.

THE L.E.O.S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE ENGINEER SHALL HAVE CONTROL OF THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. L.E.O.S SHALL CONTACT THE ENGINEER'S FIRST RESPONDER LIAISON AT 614-525-3054 AT LEAST 48 HOURS BEFORE STARTING ANY WORK UNDER THIS ITEM.

ALL WORK DESCRIBED ABOVE SHALL BE PAID FOR UNDER THE FOLLOWING BID ITEM:
ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN 80 HOURS

PAYMENT FOR L.E.O.S USED FOR FLAGGING OPERATIONS, OTHER THAN AS OUTLINED ABOVE, SHALL NOT BE MADE UNDER THIS ITEM, BUT SHALL BE INCLUDED IN THE COST OF THE BID ITEM FOR WHICH THE FLAGGING IS BEING CONDUCTED.

EXISTING TRAFFIC SIGN MAINTENANCE

SPECIAL CARE SHALL BE TAKEN TO MAINTAIN EXISTING STREET NAME SIGNS AND STOP SIGNS. IF NECESSARY, THE CONTRACTOR SHALL RELOCATE THESE SIGNS OUT OF THE WAY OF CONSTRUCTION, BUT IN CONFORMANCE WITH ODOT. ANY DAMAGED SIGN SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

PERMANENT TRAFFIC CONTROL

ALL EXISTING AND PROPOSED PERMANENT TRAFFIC CONTROLS NOT IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROLS SHALL BE MAINTAINED THROUGHOUT THE PROJECT BY THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT THE FRANKLIN COUNTY ENGINEER'S MOBILITY DEPARTMENT AT 614-525-6036 PRIOR TO DISTURBING OR RELOCATING ANY EXISTING SIGNING. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED, AND IMPROPERLY PLACED TRAFFIC CONTROL DEVICES.

LOCAL ACCESS

INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL RESIDENTIAL AND COMMERCIAL PROPERTIES. DRIVEWAY CLOSURES MAY BE NECESSARY TO ENABLE WORK ON, OR IN FRONT OF, A DRIVE. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING OWNERS, RESIDENTS, OR BUSINESS OPERATORS, IN WRITING, AT LEAST 48 HOURS, BUT NOT MORE THAN 72 HOURS, PRIOR TO CLOSURE. THE ENGINEER SHALL BE GIVEN A LIST OF THE PERSONS THAT WERE GIVEN NOTICES WITH THE DATE OF NOTICE INCLUDED. CLOSURE IS PERMITTED ONLY DURING WORK HOURS AND ACCESS MUST BE RETURNED AT THE END OF EACH WORKING DAY. PROPERTIES WITH MULTIPLE DRIVES MAY HAVE ONE DRIVE CLOSED AT A TIME, WHILE WORK IS PERFORMED IN THE AREA OF THE CLOSED DRIVE.

INDIVIDUAL DRIVE CLOSURES SHALL BE KEPT TO THE MINIMUM TIME NEEDED FOR CONSTRUCTION ACTIVITIES. EVERY EFFORT MUST BE MADE TO ACCOMMODATE BOTH RESIDENTIAL AND COMMERCIAL PROPERTY OWNER'S NEED FOR ACCESS.

PEDESTRIAN ACCESS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND SAFE MOVEMENT OF PEDESTRIANS THROUGH, AROUND, AND AWAY FROM THE CONSTRUCTION SITE. THE SAFETY OF PEDESTRIAN TRAFFIC SHALL BE CONSIDERED AT ALL TIMES IN THE PROVISION OF TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS AND NOTES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LIGHTS, SIGNS, BARRICADES, AND OTHER WARNINGS TO PHYSICALLY SEPARATE THE PEDESTRIAN FROM HAZARDS INCIDENTAL TO THE CONSTRUCTION OPERATIONS SUCH AS OPEN EXCAVATIONS, ETC. TRAFFIC CONTROL FOR PEDESTRIAN MOVEMENTS SHALL BE IN ACCORDANCE WITH ODOT FIGURE 6H-28 AND 6H-29 (TA-28 AND TA-29). PEDESTRIAN MOT SHALL, AT ALL TIMES, BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

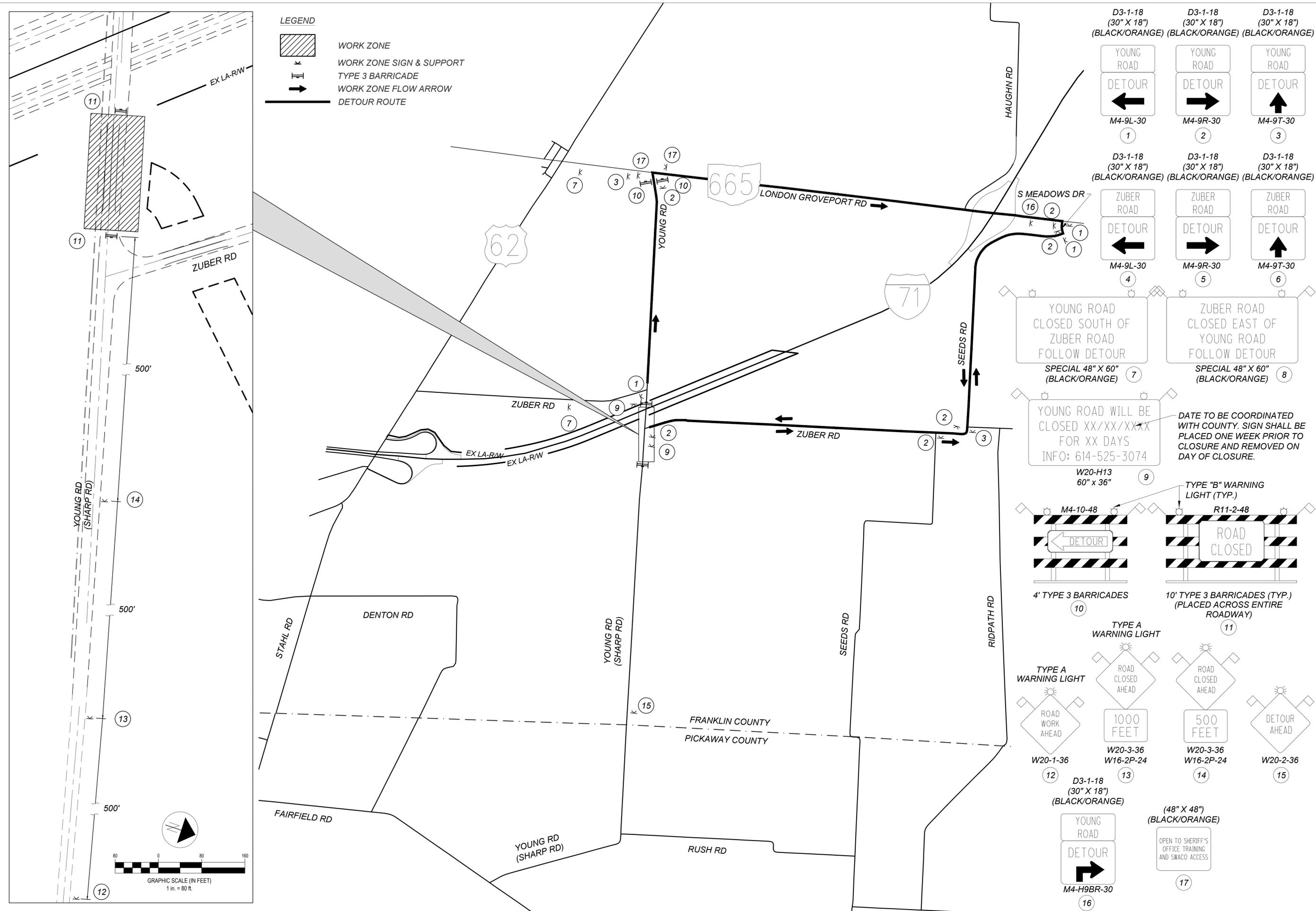
COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

DRAWN
JGS
CHECKED
JRM

MAINTENANCE OF TRAFFIC NOTES

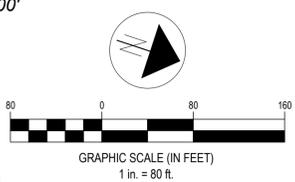
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 3
FRANKLIN COUNTY, OHIO

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.



LEGEND

- WORK ZONE
- WORK ZONE SIGN & SUPPORT
- TYPE 3 BARRICADE
- WORK ZONE FLOW ARROW
- DETOUR ROUTE



D3-1-18 (30" X 18") (BLACK/ORANGE) D3-1-18 (30" X 18") (BLACK/ORANGE) D3-1-18 (30" X 18") (BLACK/ORANGE)

YOUNG ROAD
DETOUR

M4-9L-30 (1) M4-9R-30 (2) M4-9T-30 (3)

D3-1-18 (30" X 18") (BLACK/ORANGE) D3-1-18 (30" X 18") (BLACK/ORANGE) D3-1-18 (30" X 18") (BLACK/ORANGE)

ZUBER ROAD
DETOUR

M4-9L-30 (4) M4-9R-30 (5) M4-9T-30 (6)

YOUNG ROAD
CLOSED SOUTH OF
ZUBER ROAD
FOLLOW DETOUR

SPECIAL 48" X 60" (BLACK/ORANGE) (7)

ZUBER ROAD
CLOSED EAST OF
YOUNG ROAD
FOLLOW DETOUR

SPECIAL 48" X 60" (BLACK/ORANGE) (8)

YOUNG ROAD WILL BE
CLOSED XX/XX/XXXX
FOR XX DAYS
INFO: 614-525-3074

DATE TO BE COORDINATED
WITH COUNTY. SIGN SHALL BE
PLACED ONE WEEK PRIOR TO
CLOSURE AND REMOVED ON
DAY OF CLOSURE.

W20-H13
60" x 36" (9)

M4-10-48

4' TYPE 3 BARRICADES (10)

R11-2-48

10' TYPE 3 BARRICADES (TYP.)
(PLACED ACROSS ENTIRE
ROADWAY) (11)

TYPE A
WARNING LIGHT

W20-1-36 (12)

TYPE A
WARNING LIGHT

ROAD CLOSED
AHEAD

1000
FEET

W20-3-36
W16-2P-24 (13)

TYPE A
WARNING LIGHT

ROAD CLOSED
AHEAD

500
FEET

W20-3-36
W16-2P-24 (14)

TYPE A
WARNING LIGHT

DETOUR
AHEAD

W20-2-36 (15)

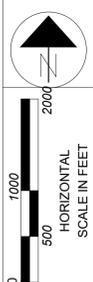
D3-1-18 (30" X 18") (BLACK/ORANGE)

YOUNG ROAD
DETOUR

M4-H9BR-30 (16)

(48" X 48") (BLACK/ORANGE)

OPEN TO SHERIFF'S
OFFICE TRAINING
AND SWACO ACCESS (17)



DRAWN JGS
CHECKED JRM

DETOUR PLAN - YOUNG ROAD

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 3
FRANKLIN COUNTY, OHIO

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

SHEET NUM.						PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
4-6	11-12	13-15	16-25	26	27		EXT	TOTAL				SHEET
												NO.
ROADWAY												
LUMP							201	11000	LUMP		CLEARING AND GRUBBING	4
	850						202	23000	850	SY	PAVEMENT REMOVED	
	100						202	34900	100	FT	PIPE REMOVED	
			115				202	35200	115	FT	PIPE REMOVED, OVER 24" DIAMETER	
			557				202	35401	557	FT	PIPE REMOVED FOR STORAGE, OVER 24" DIAMETER, AS PER PLAN	
	450						202	38000	450	FT	GUARDRAIL REMOVED	
	60						202	75200	60	FT	FENCE REMOVED FOR REUSE	
	1						202	98100	1	EA	REMOVAL MISC.: FOOT BRIDGE REMOVED, AS PER PLAN	5
		868					203	10000	868	CY	EXCAVATION	
5							203	98600	5	EA	ROADWAY, MISC.: HYDRO-EXCAVATING UTILITY EXPOSURE	5
	900						204	10000	900	SY	SUBGRADE COMPACTION	
	450						606	15100	450	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
	60						607	23100	60	FT	FENCE REBUILT	
	1						607	61200	1	EA	GATE, TYPE CLT, 4'	
400							653	10000	400	CY	TOPSOIL FURNISHED AND PLACED	4
EROSION CONTROL												
				19			601	11000	19	SY	RIPRAP, TYPE D	
			74				601	32100	74	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
			45				601	34300	45	CY	ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER	
	360						659	00500	360	SY	SEEDING AND MULCHING, CLASS 1	4
	3,240						659	00530	3,240	SY	SEEDING AND MULCHING, CLASS 3B	4
	0.3						659	20000	0.3	TON	COMMERCIAL FERTILIZER	4
	0.5						659	31000	0.5	ACRE	LIME	4
	6						659	35000	6	M.GAL	WATER	4
	1,340						670	00710	1,340	SY	DITCH EROSION PROTECTION MAT, TYPE A	4
					1,200		671	14000	1,200	SY	EROSION CONTROL MAT	
					10,000		832	30000	10,000	EA	EROSION CONTROL	
DRAINAGE												
	450						605	06000	450	FT	4" BASE PIPE UNDERDRAINS	
50							611	00101	50	FT	4" CONDUIT, TYPE B, SCHEDULE 40 PVC, AS PER PLAN	5
50							611	00201	50	FT	4" CONDUIT, TYPE C, SCHEDULE 40 PVC, AS PER PLAN	5
50							611	00901	50	FT	6" CONDUIT, TYPE B, SCHEDULE 40 PVC, AS PER PLAN	5
50							611	01101	50	FT	6" CONDUIT, TYPE C, SCHEDULE 40 PVC, AS PER PLAN	5
50							611	01801	50	FT	8" CONDUIT, TYPE B, SCHEDULE 40 PVC, AS PER PLAN	5
50							611	02001	50	FT	8" CONDUIT, TYPE C, SCHEDULE 40 PVC, AS PER PLAN	5
				24			611	94727	24	FT	7"x4' CONDUIT, TYPE A, 706.05, AS PER PLAN	5
			248				611	95001	248	FT	10' X 5' CONDUIT, TYPE A, 706.05, AS PER PLAN	5
			799				613	41200	799	CY	LOW STRENGTH MORTAR BACKFILL	
PAVEMENT												
	150						301	56000	150	CY	6" ASPHALT CONCRETE BASE, PG64-22, (449)	
	150						304	20000	150	CY	AGGREGATE BASE	
	150						407	20000	150	GAL	NON-TRACKING TACK COAT (0.08 GAL/SQ YD)	
	40						441	50000	40	CY	1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE I, (449) PG64-22	
	45						441	50300	45	CY	1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) PG64-22	
WATER WORK												
	100						638	00600	100	FT	6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS & FITTINGS, AS PER PLAN	5
	1						638	10500	1	3	FIRE HYDRANT REMOVED AND RESET	
TRAFFIC CONTROL												
	1						630	85100	1	EA	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
	0.1						644	00104	0.1	MI	EDGE LINE, 6"	
	0.05						644	00300	0.05	MI	CENTER LINE	

GENERAL SUMMARY

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 3
FRANKLIN COUNTY, OHIO

CALCULATED
JGS
CHECKED
JRM

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

SHEET NUM.										PARTICIPATION		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
										4-6	16-25	EXT	TOTAL				
																STRUCTURES	
											LUMP	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING	
											LUMP	503	21100	LUMP		UNCLASSIFIED EXCAVATION	
											7,296	509	10000	7,296	LB	EPOXY COATED STEEL REINFORCEMENT	
											10	511	46000	10	CY	CLASS CQ1 CONCRETE, WINGWALL NOT INCLUDING FOOTING	
											44	511	46510	44	CY	CLASS CQ1 CONCRETE, FOOTING	
											2	511	46610	2	CY	CLASS QC1 CONCRETE, HEADWALL	
											42	512	10000	42	SY	SEALING OF CONCRETE SURFACES	
											282	512	33000	282	SY	TYPE 2 WATERPROOFING	
											24	516	13600	24	SF	1" PREFORMED EXPANSION JOINT FILLER	
											LUMP	518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC	
																MAINTENANCE OF TRAFFIC	
											80	614	11111	80	HR	LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN	6
																INCIDENTALS	
											LUMP	614	11001	LUMP		MAINTAINING TRAFFIC, AS PER PLAN	6
											6	619	16011	6	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN	5
											LUMP	623	10000	LUMP		CONSTRUCTION LAYOUT STAKES & SURVEYING	
											LUMP	624	15000	LUMP		MOBILIZATION	
												SPECIAL		LUMP		CONTINGENCY	5

CALCULATED	JGS	CHECKED	JRM
GENERAL SUMMARY			
ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS SECTION 3 FRANKLIN COUNTY, OHIO			
9			
27			

LEGEND

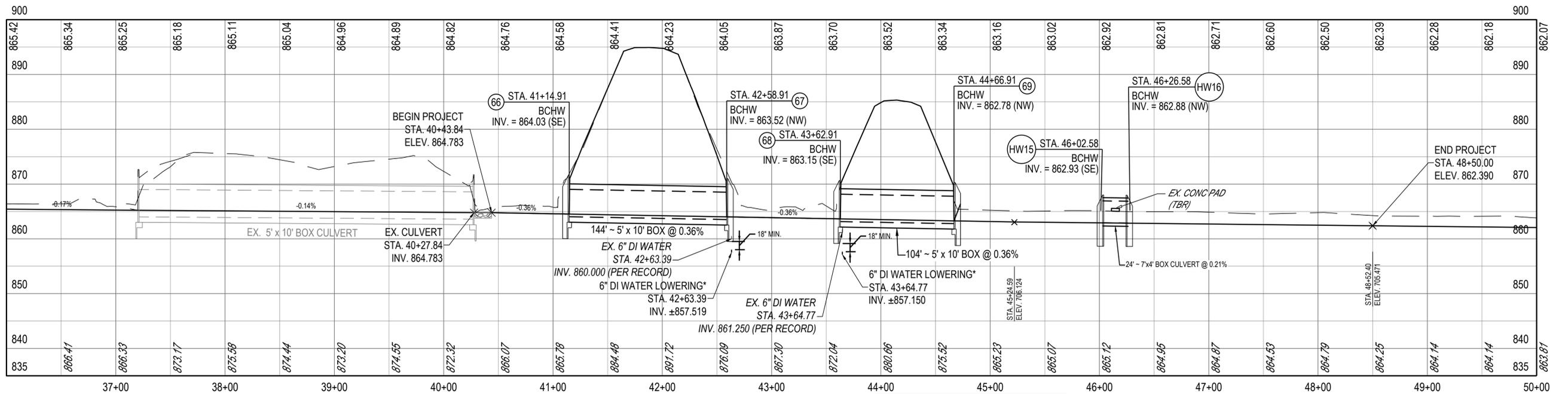
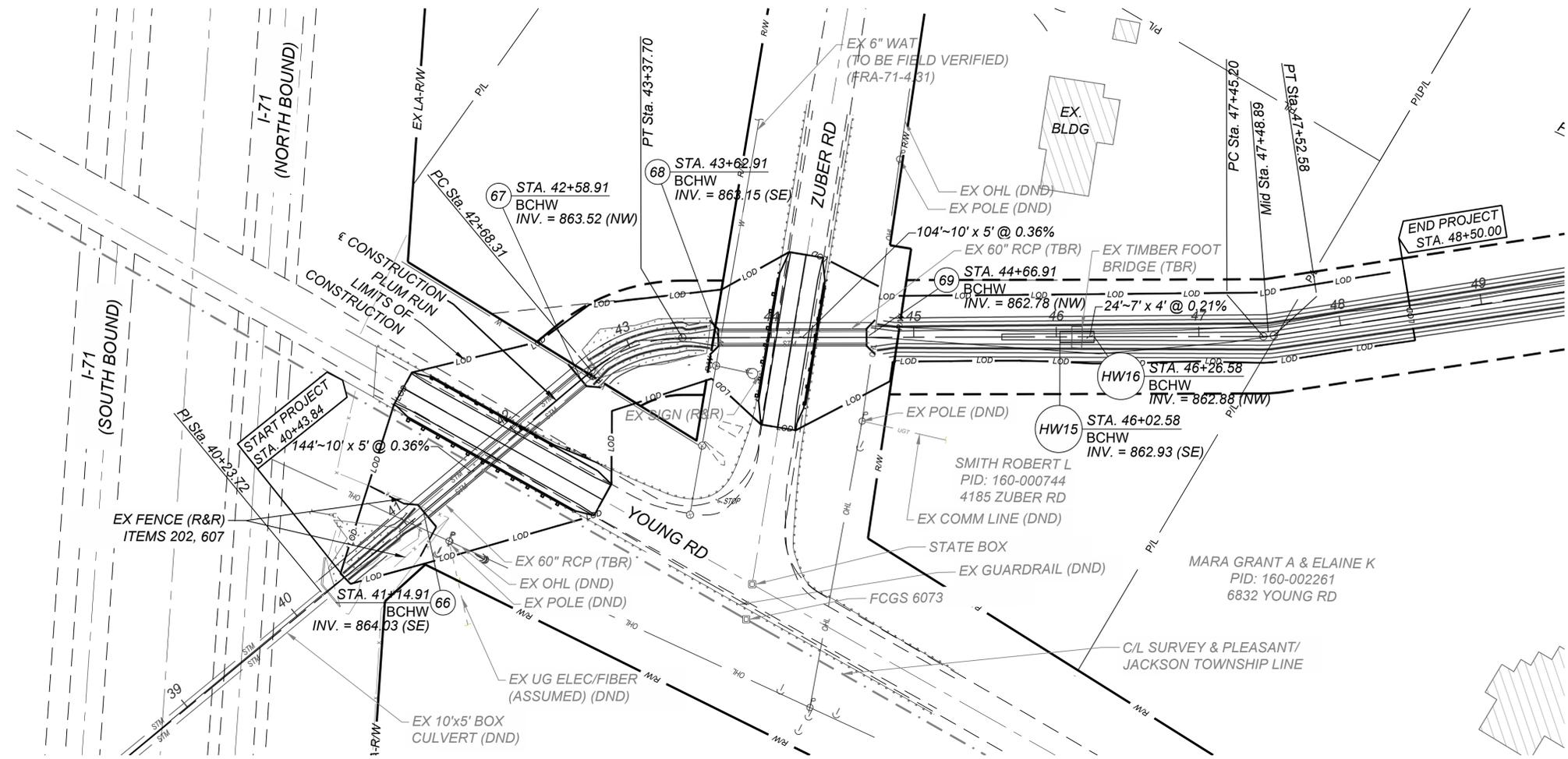
-  EXISTING WETLAND
-  EXISTING BUILDING/STRUCTURE

NOTES

1. CONTRACTOR SHALL COORDINATE WITH OVERHEAD UTILITY PROVIDER FOR HEADWALL INSTALLATION. A CAST-IN-PLACE ALTERNATE SHALL BE UTILIZED IF REQUIRED CLEARANCES WITH OVERHEAD LINES CANNOT BE ACHIEVED.

CROSS REFERENCES

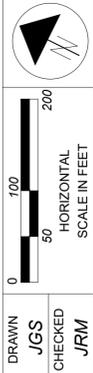
- REFER TO SHEET 12 FOR ROAD PROFILE
- REFER TO SHEETS 16 - 20 FOR YOUNG RD STRUCTURE DETAILS
- REFER TO SHEETS 21 - 25 FOR ZUBER RD STRUCTURE DETAILS
- REFER TO SHEET 26 FOR 7' x 4' BOX CULVERT STRUCTURE DETAILS



PLUM RUN CL PROFILE
 SCALE: 1" = 50' HORIZ.; 1" = 10' VERT.

* 6" DI WATER LOWERINGS SHALL MEET 18" VERTICAL CLEARANCE BASED ON FINAL HEADWALL FOOTING ELEVATIONS.

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

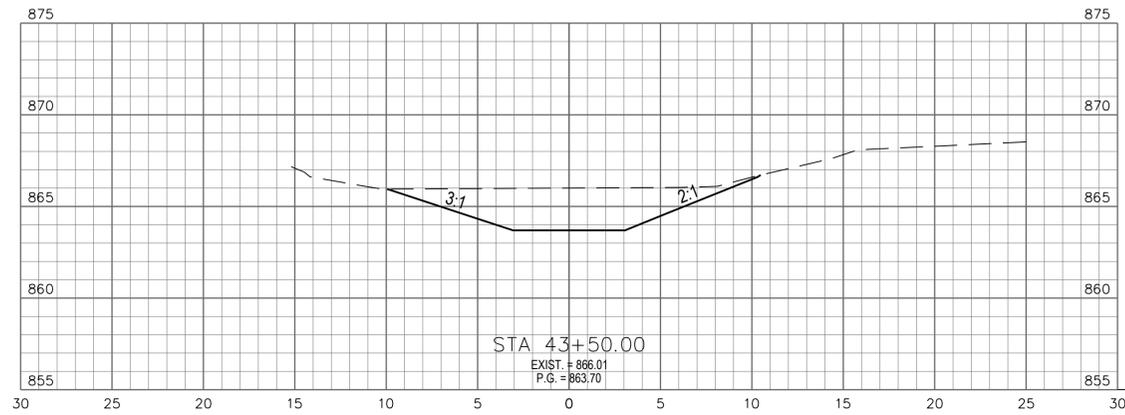
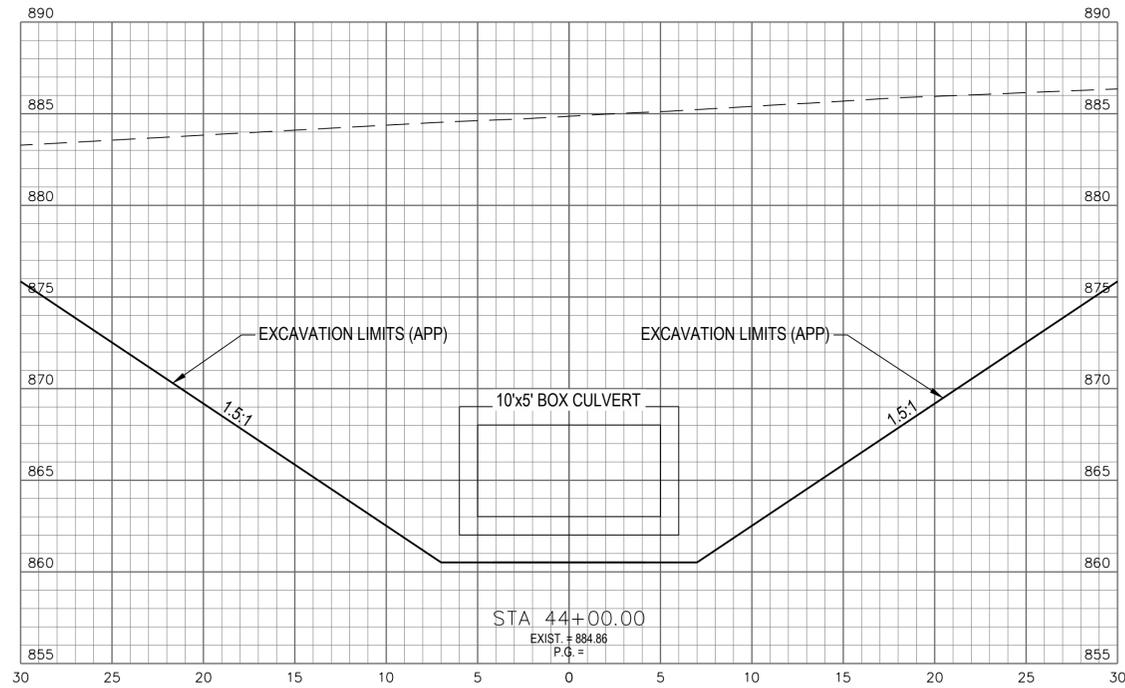
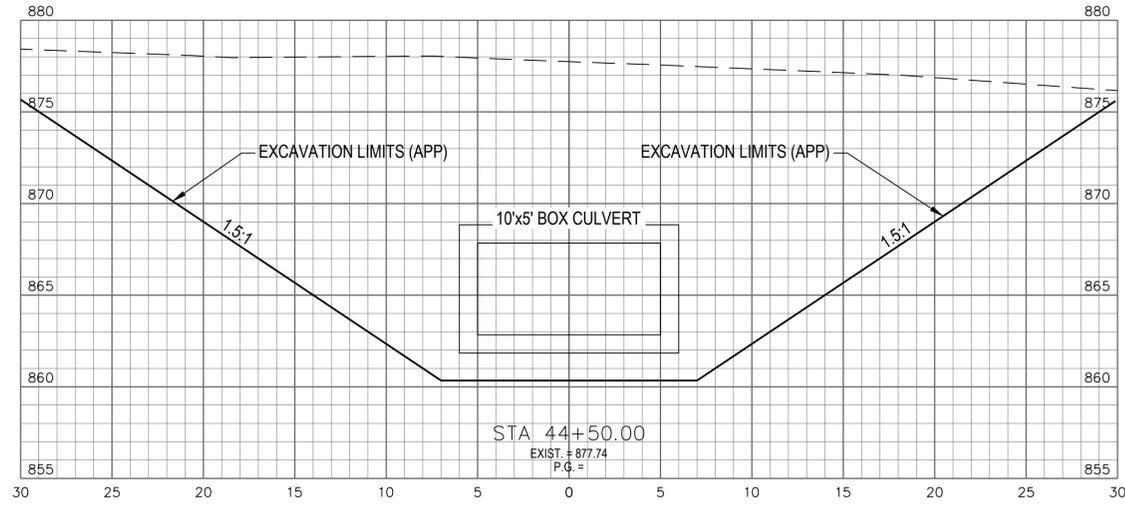


DRAWN: JGS
 CHECKED: JRM

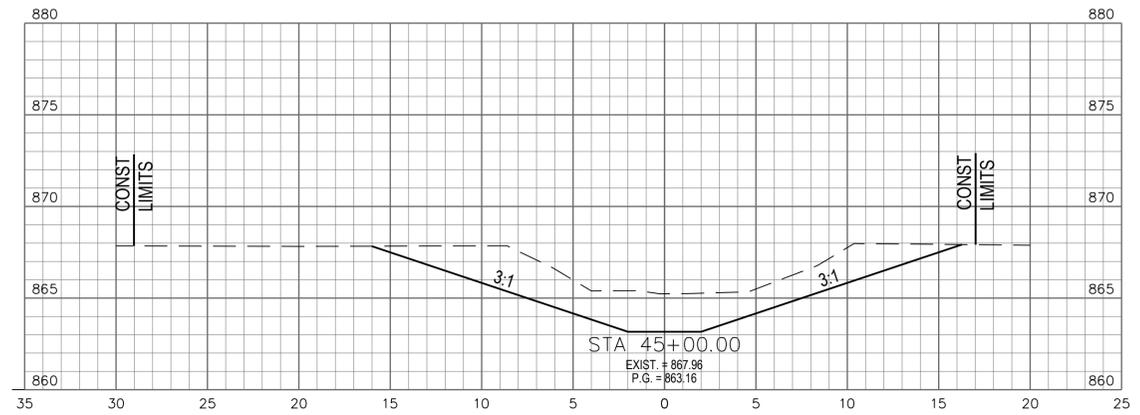
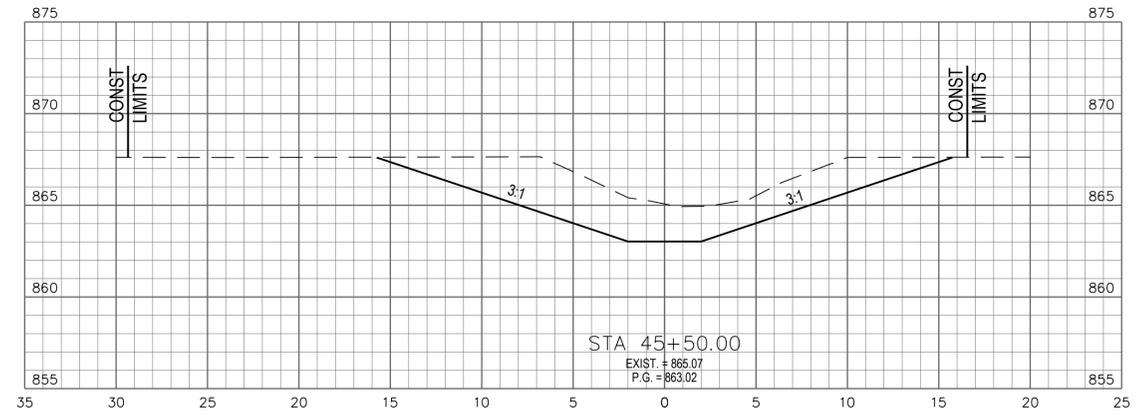
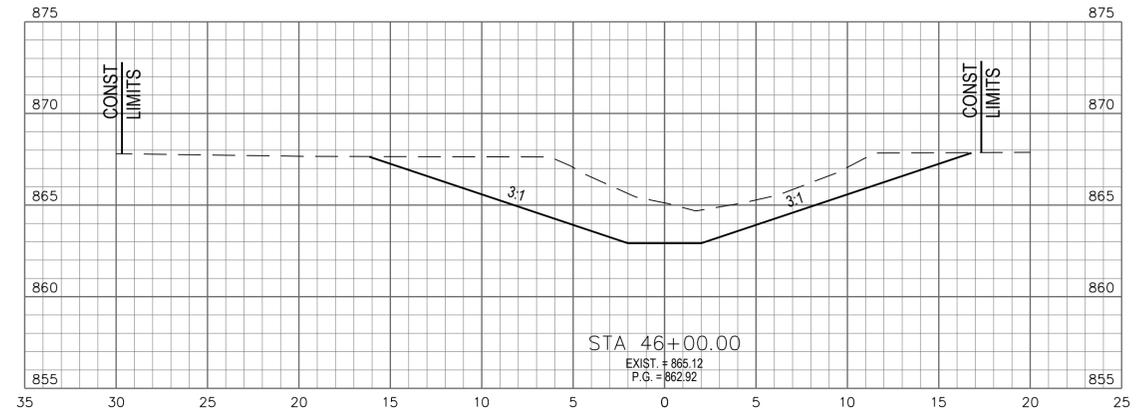
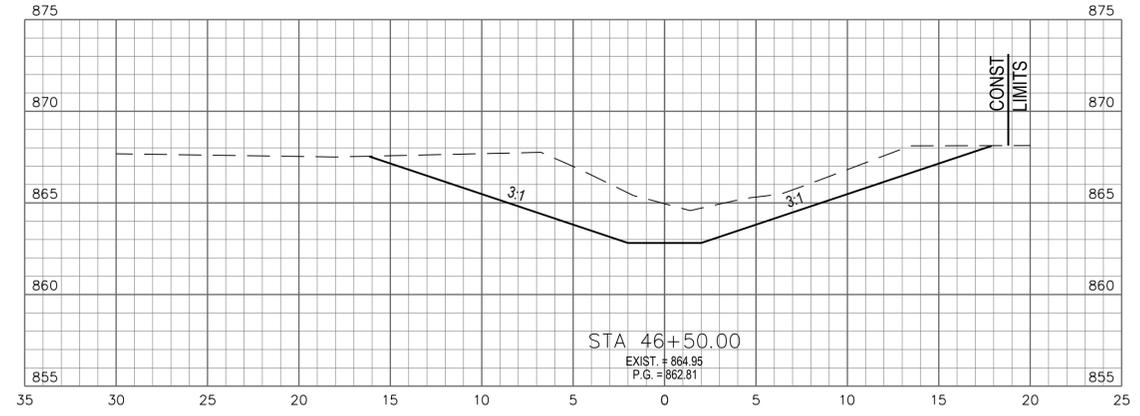
PLAN & PROFILE - PLUM RUN

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 3
 FRANKLIN COUNTY, OHIO

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESCO, INC.



END AREA		VOLUME	
CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)
		7	0
29	0	46	0
COLUMN TOTAL		53	0



END AREA		VOLUME	
CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)
59	0	106	0
56	0	103	0
55	0	98	0
51	0	31	0
COLUMN TOTAL		338	0
SHEET TOTAL		391	0

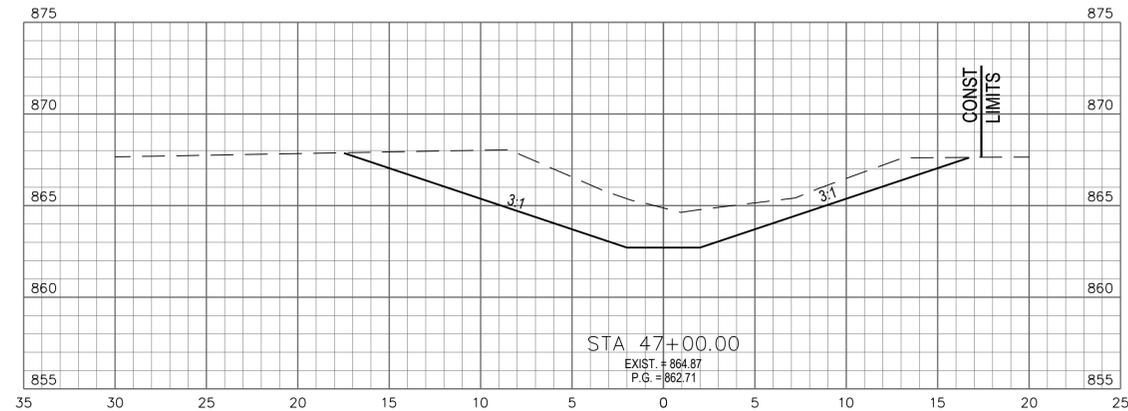
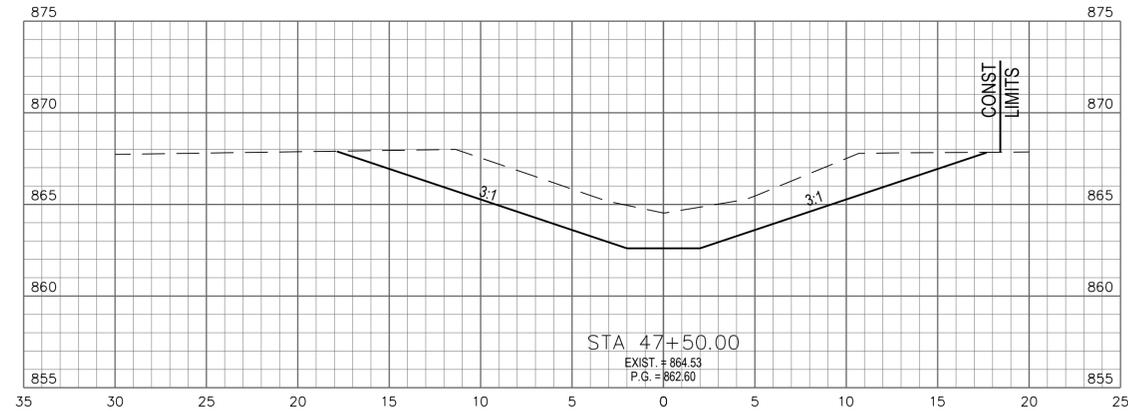
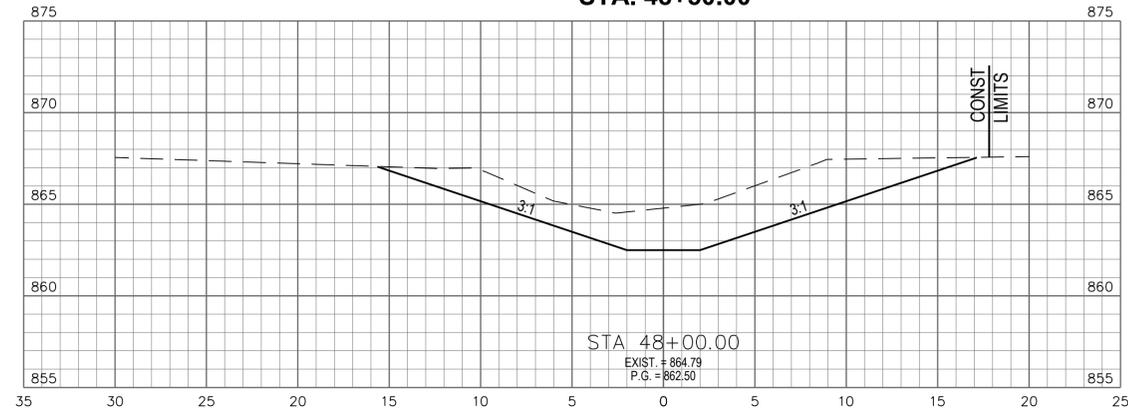
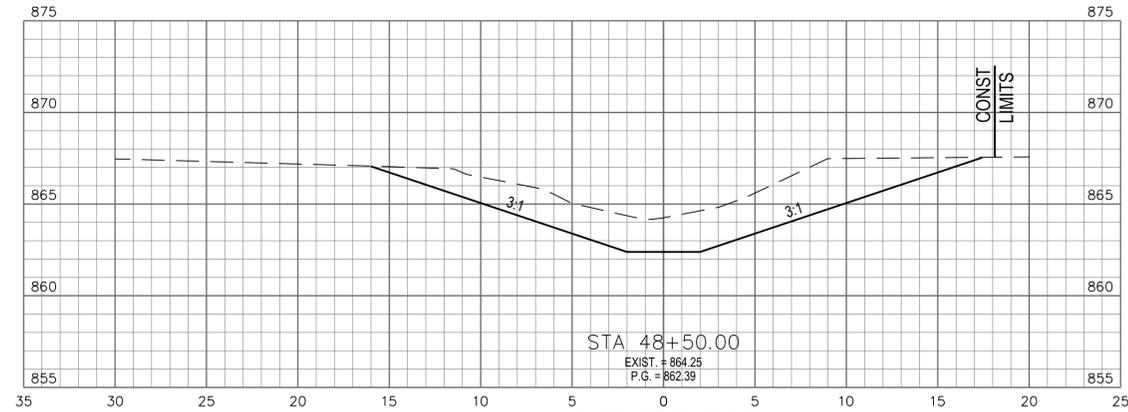
CALCULATED: JGS
 CHECKED: JRM

CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
 SECTION 3
 FRANKLIN COUNTY, OHIO

14
 27

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CECO, INC.



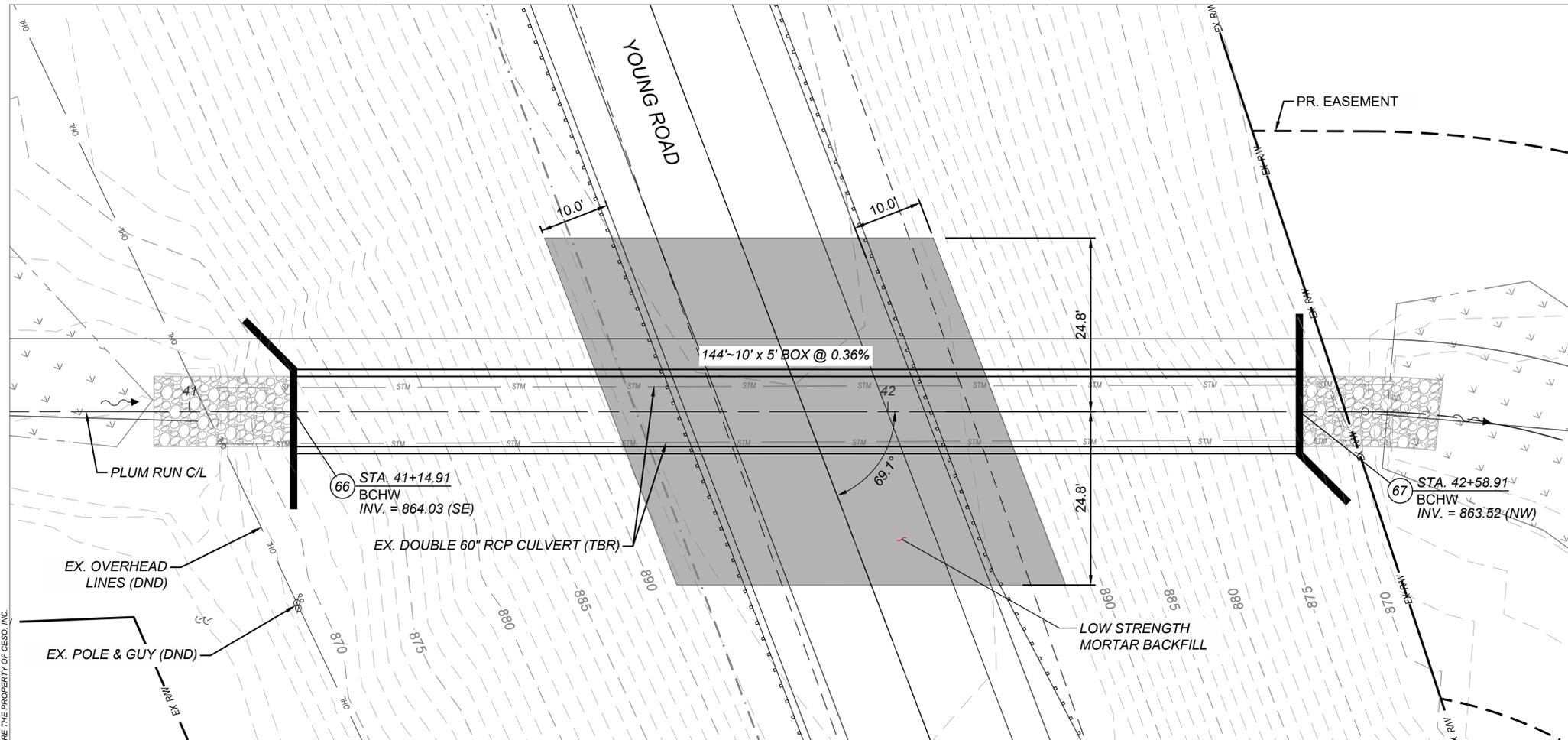
	END AREA		VOLUME	
	CUT (SF)	FILL (SF)	CUT (CY)	FILL (CY)
	55	0		
			102	0
	55	0		
			109	0
	63	0		
			113	0
	59	0		
			109	0
COLUMN TOTAL	433	0		

SHEET TOTAL	433	0
PROJECT TOTAL	868	0

CALCULATED
JGS
CHECKED
JRM

CROSS SECTIONS

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 3
FRANKLIN COUNTY, OHIO



HYDRAULIC DATA

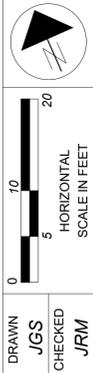
DRAINAGE AREA = 158 AC.
 $Q_{25} = 105 \text{ CFS}$ $V_{25} = 3.83 \text{ FPS}$ $HW_{25} = 866.28'$
 $Q_{100} = 140 \text{ CFS}$ $V_{100} = 4.82 \text{ FPS}$ $HW_{100} = 866.46'$

EXISTING STRUCTURE

TYPE: RCP
 SIZE: DOUBLE 60"
 ROADWAY: YOUNG RD
 STRUCTURAL FILE NUMBER: 2532468
 DATE BUILT: N/A
 DISPOSITION: TO BE REPLACED

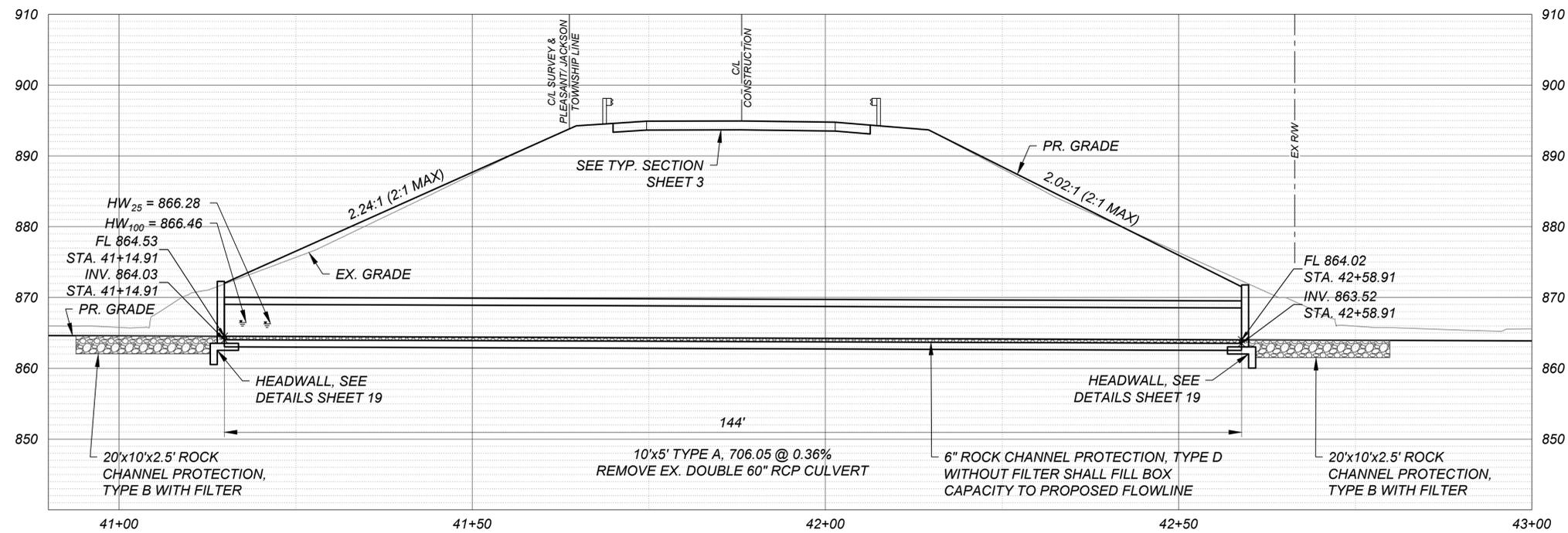
PROPOSED STRUCTURE

TYPE: PRECAST REINFORCED CONCRETE
 BOX CULVERT 10' SPAN X 5' RISE
 (DEPRESSED 6") X 144' LONG WITH
 REINFORCED CONCRETE HEADWALLS AND
 WINGWALLS ON SPREAD FOOTINGS
 ROADWAY: 22'
 LOADING: HL93
 SKEW: 20.9°
 STRUCTURAL FILE NUMBER: 2536552
 COORDINATES: LATITUDE 39°49'37"N
 LONGITUDE 83°07'08"W



DRAWN: JGS
 CHECKED: JRM

BOX CULVERT DETAILS



COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

ZUBER ROAD
JAC-T271-1.34

1
5
16
27

GENERAL NOTES

Design specifications: This standard drawing conforms to "LRFD Bridge Design Specification" adopted by the American Association of State Highway and Transportation Officials and the ODOT Bridge Design Manual.

Design data: The following design data is assumed per ODOT standards:

- Internal angle of friction of backfill soil, $\phi_{bf} = 30^\circ$
- Total unit weight of backfill soil = 120 pcf
- Internal angle of friction (drained), foundation soil, $\phi_f = 30^\circ$
- Undrained shear strength (cohesive), foundation soil, $s_{uf} = 1500$ psf
- Unit weight of concrete = 150 pcf
- Slope of backfill = 2:1 (type A & B headwalls)
- Height of live load surcharge = 2 ft (type C headwalls)

Concrete - QC1 - Compressive strength 4000 psi (footing, wingwall and foreslope wall)

Reinforcing Steel - ASTM A615, A616, or A617 grade 60 minimum yield strength 60,000 psi (all reinforcing shall be epoxy coated)

Based on the assumed design data, the wingwalls achieve factored bearing resistances that are greater than their respective bearing pressures. If a backfill material with a higher internal angle of friction or a lighter total unit weight is used; or if a foundation soil with a higher drained internal angle of friction or a higher undrained shear strength is encountered; then the stability of the wingwalls is satisfactory.

Removal and Preservation of 60" RCP Culvert: Franklin County Engineer's Office (FCEO) will keep existing pipe due to its good condition. The contractor shall take care to preserve the existing double 60" RCP culvert and set the sections aside. The contractor will coordinate pickup with FCEO and help load the 60" RCP sections on to the FCEO trailers. FCEO will transport the RCP to their yard. If an RCP section is not-reusable, as determined by the FCEO, the contractor shall dispose of it. Removal and Preservation of 60" RCP Culvert shall be paid under Item 202 Pipe Removed for Storage, Over 24" Diameter, As Per Plan. Disposal of 60" RCP Culvert shall be paid under Item 202 Pipe Removed, over 24" Diameter.

The following quantities have been carried to the general summary for use as directed by the engineer for the work noted above:

Item 202 Pipe Removed for Storage, Over 24" Diameter, As Per Plan	337 LF
Item 202 Pipe Removed, over 24" Diameter	70 LF

Formliners: Plasticized polyvinyl chloride formliners shall be used in forms for the vertical faces as shown on the plans. If the structure height is less than 4'-0" tall, use 4" border in lieu of 8".

Plasticized polyvinyl chloride formliners shall be as manufactured by the following companies or an approved equal formliner:

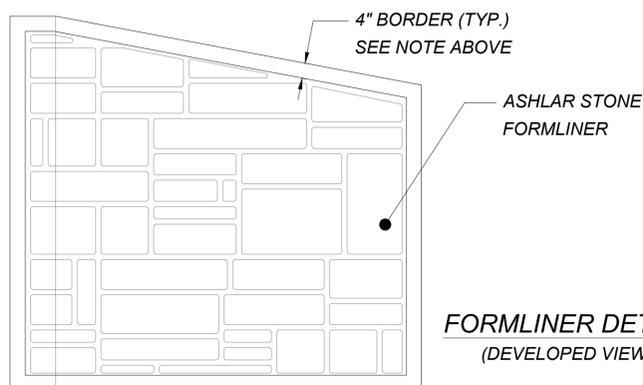
Greenstreak Architectural Formliner
style no. 330 (ashlar stone)
Greenstreak, inc.
3400 Tree Court Industrial Boulevard
St. Louis, MO 63122
(800) 325-9504 www.greenstreak.com

Thermoformed Formliner
p/c 230429 (old ashlar stone)
Dayton Superior Corporation
7777 Washington Village Drive, Suite 130
Dayton, OH 45459
(888) 977-9600 www.daytonsuperior.com

Fitzgerald Vacuum-Formed Formliner
no. 16986 (georgetown ashlar)
Fitzgerald Formliners
1500 East Chestnut Avenue
Santa Ana, CA 92701
(800) 547-7760 www.formliners.com

Concrete for decorative facade form liner shall contain No. 8 coarse aggregate meeting ODOT-CMS Section 703.02. The concrete shall be superplasticized. The slump for the concrete shall be 7 inches plus or minus 1 inch. The entrained air content shall be 6 percent plus or minus 2 percent.

Include with Item 511 - Class QC1 Concrete, Retaining Wall or Wingwall, not Including Footing.

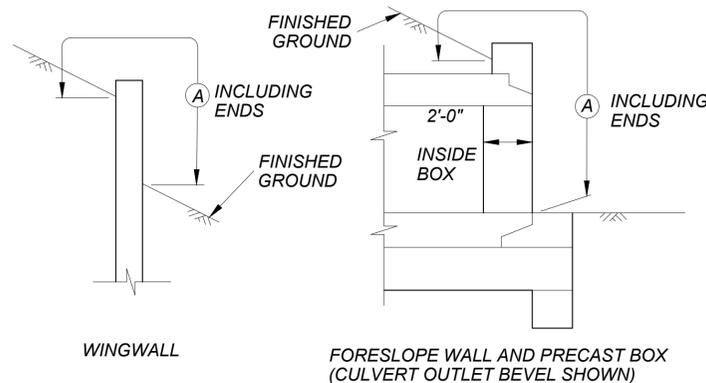


Porous backfill with geotextile fabric 1'-6" thick shall be placed behind the wingwalls only and shall extend to 12" below the embankment surface. Geotextile fabric shall be placed between the porous backfill and replaced excavation adjacent to the structure. It shall turn under the bottom of the porous backfill and return 6" above the top elevation of the weephole.

Weepholes shall be placed 6" to 12" above the normal water elevation or ground line and shall have a maximum spacing of 10'-0". A minimum of one weephole shall be provided per wingwall.

Preformed Expansion Joint Filler: Preformed Expansion Joint Filler (PEJF) conforming to CMS 705.03, 1 inch thick, shall be placed above the footing between the sides of the box culvert and the ends of the wingwalls. Payment for materials and installation shall be included with Item 516 - 1" Preformed Expansion Joint Filler.

Sealing of foreslope wall and wingwalls: all exposed foreslope wall and wingwall concrete shall be sealed with epoxy-urethane sealer. The limits shall be as shown in the diagrams below. Payment for the epoxy-urethane sealer shall be per Item 512 - Sealing of Concrete Surfaces.

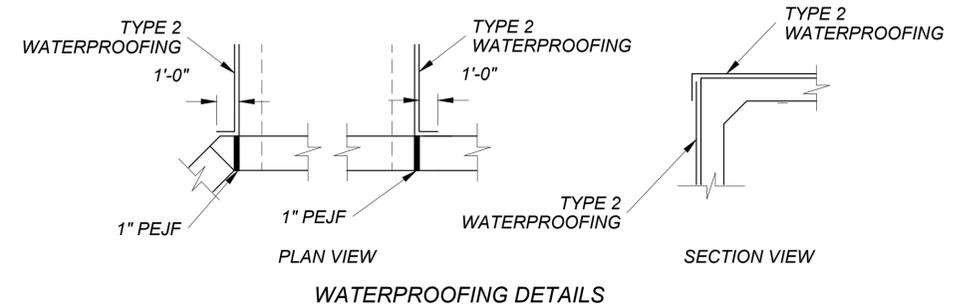


LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

Waterproofing: Type 2 waterproofing, per CMS 512.09 and 711.25, shall extend vertically down the entire sides of the precast culvert sections for all portions of the culvert which shall be in contact with the backfill. Payment for the membrane waterproofing shall be at the contract price bid per square yard for Item 512 - Type 2 Waterproofing.

If pavement is not placed directly on top of the culvert, Type 2 Waterproofing, per CMS 512.09 and 711.25 shall be applied to the entire top surface of the precast culvert sections and shall extend one foot vertically down the sides for all portions of the culvert which shall be in contact with the backfill. Payment for the membrane waterproofing shall be at the contract price bid per square yard for Item 512 - Type 2 Waterproofing.



Basis of payment: All labor, equipment and incidentals required to construct the footing, cutoff wall, wingwalls and foreslope wall shall be included with Item 511 - Class QC1 Concrete (ret-wall/wingwall- including footing). Payment for reinforcing steel shall be included with Item 509 - Epoxy Coated Reinforcing Steel.

ESTIMATED QUANTITIES FOR STRUCTURES 66 & 67					
ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	
202	35401	337	LIN. FT.	PIPE REMOVED FOR STORAGE, OVER 24" DIAMETER, AS PER PLAN	
202	35200	70	LIN. FT.	PIPE REMOVED, OVER 24" DIAMETER	
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING	
503	21100	LUMP		UNCLASSIFIED EXCAVATION	
509	10000	3,574	LB.	EPOXY COATED REINFORCING STEEL	
511	46000	5	CU. YD.	CLASS QC1 CONCRETE, WINGWALL, NOT INCLUDING FOOTING	
511	46510	22	CU. YD.	CLASS QC1 CONCRETE, FOOTING	
511	46610	1	CU. YD.	CLASS QC1 CONCRETE, HEADWALLS	
512	33000	164	SQ. YD.	TYPE 2 WATERPROOFING	
516	13600	12	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC	
601	32100	37	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
601	34300	27	CY	ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER	
611	95001	144	LIN. FT.	10' x 5' CONDUIT, TYPE A, 706.05, AS PER PLAN	
613	41200	412	CU. YD.	LOW STRENGTH MORTAR BACKFILL*	
512	10000	21	SQ. YD.	SEALING OF CONCRETE SURFACES	

* The storm sewer bedding and backfill shall be Item 613, LOW STRENGTH MORTAR (LSM). The intent will be to prevent potentially contaminated water from migrating along the pipe bedding and backfill. The LSM will extend from the bottom of the pipe trench to a level of one foot above the pipe. The LSM bedding and backfill will extend a minimum of ten (10) feet beyond the zone of suspected contamination in both directions.

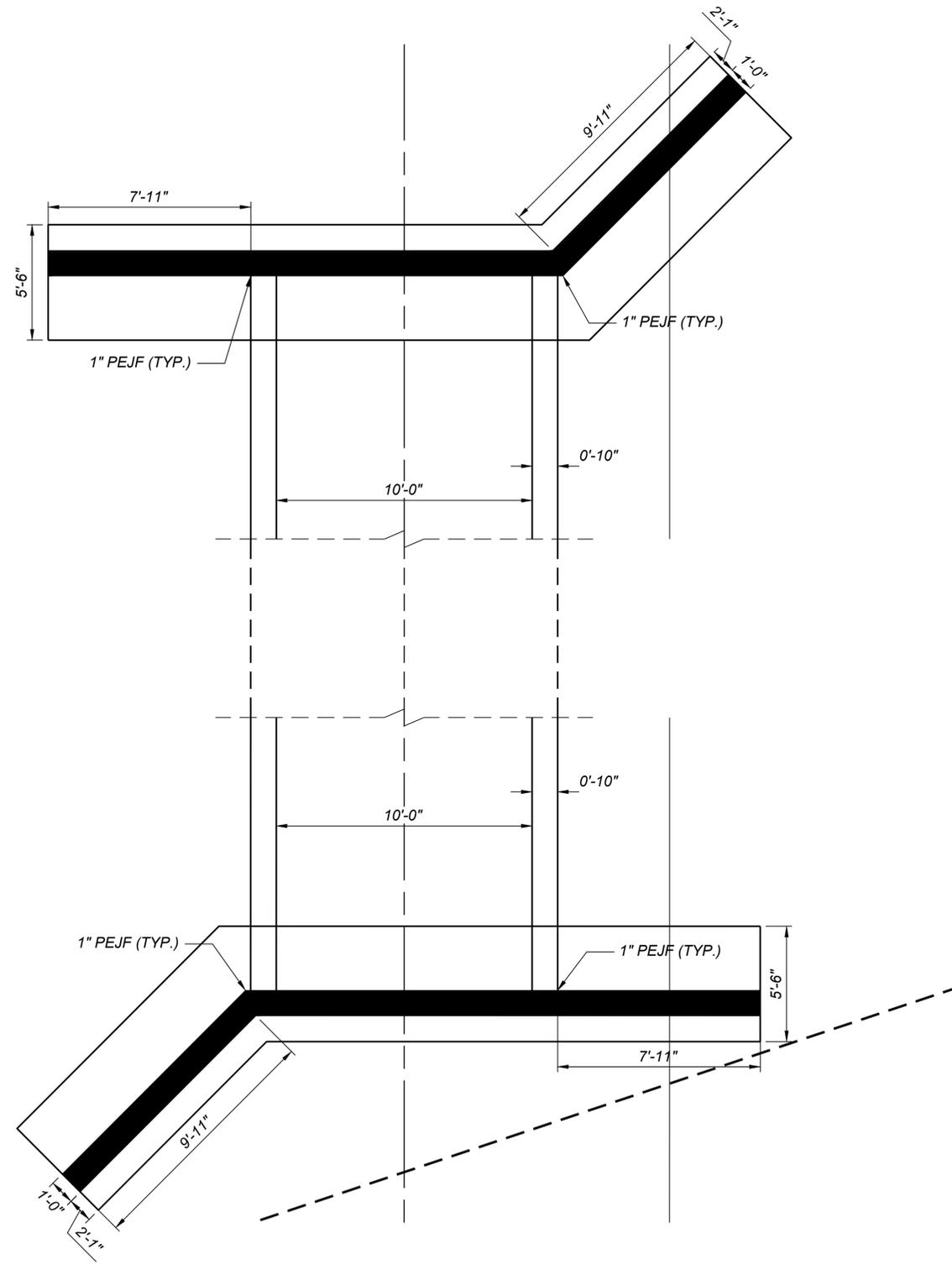
COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

BOX CULVERT DETAILS

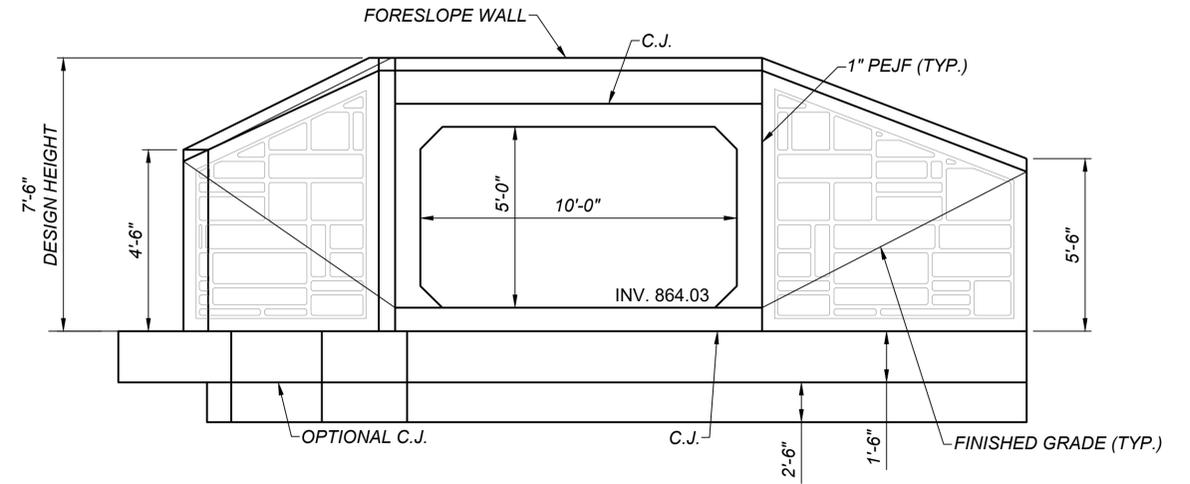
ZUBER ROAD
JAC-T271-1.34

2
5
17
27

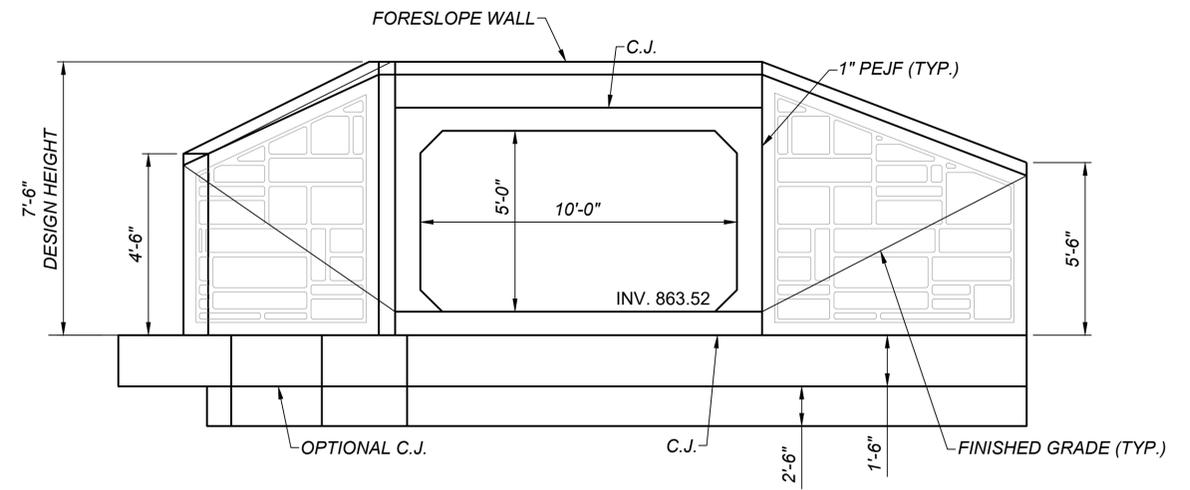
COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.



YOUNG ROAD CULVERT & WINGWALL LAYOUT



INLET ELEVATION



OUTLET ELEVATION

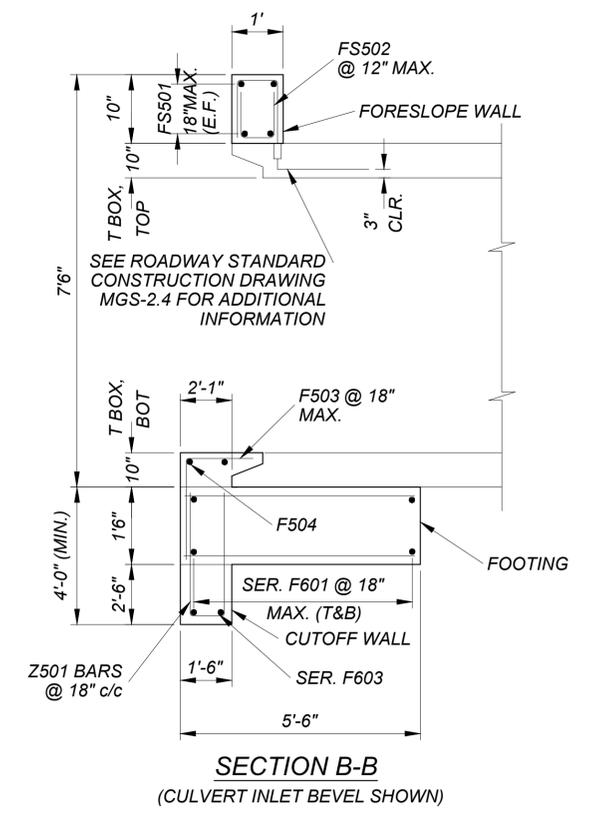
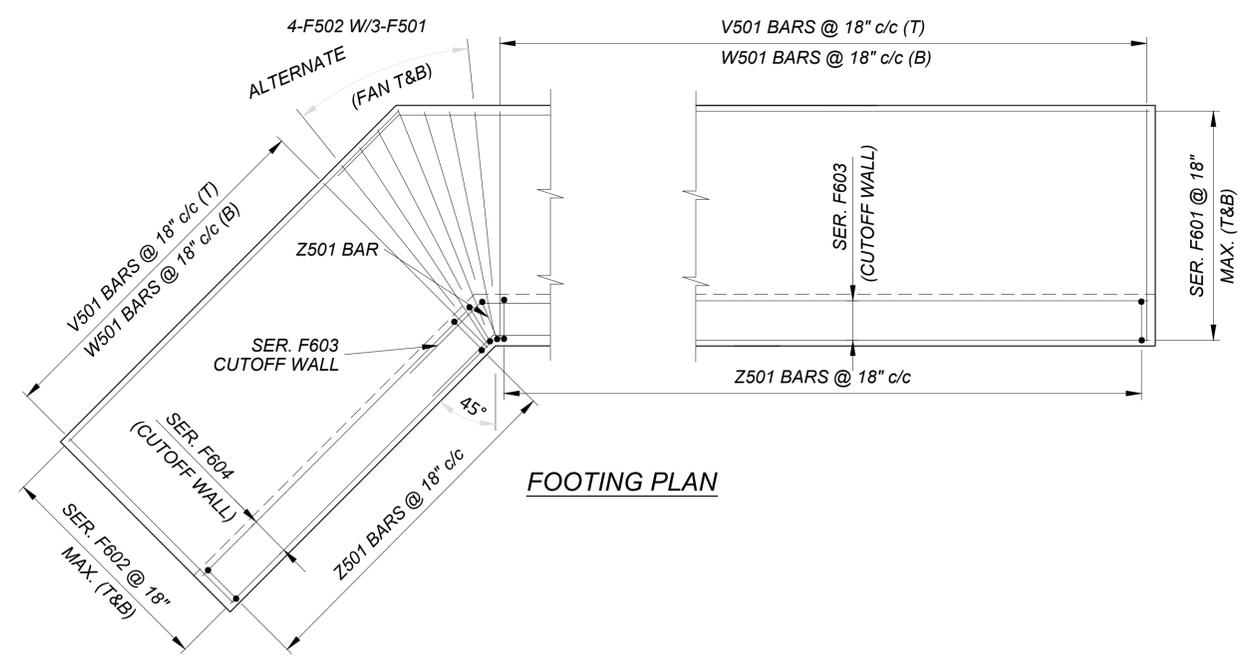
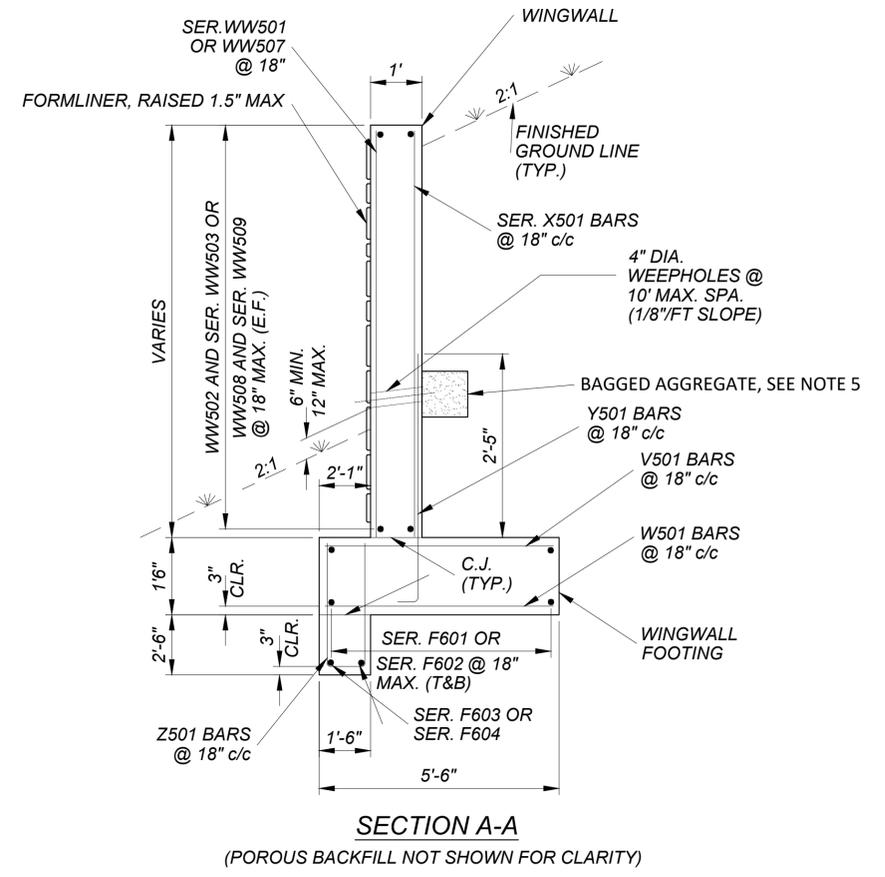
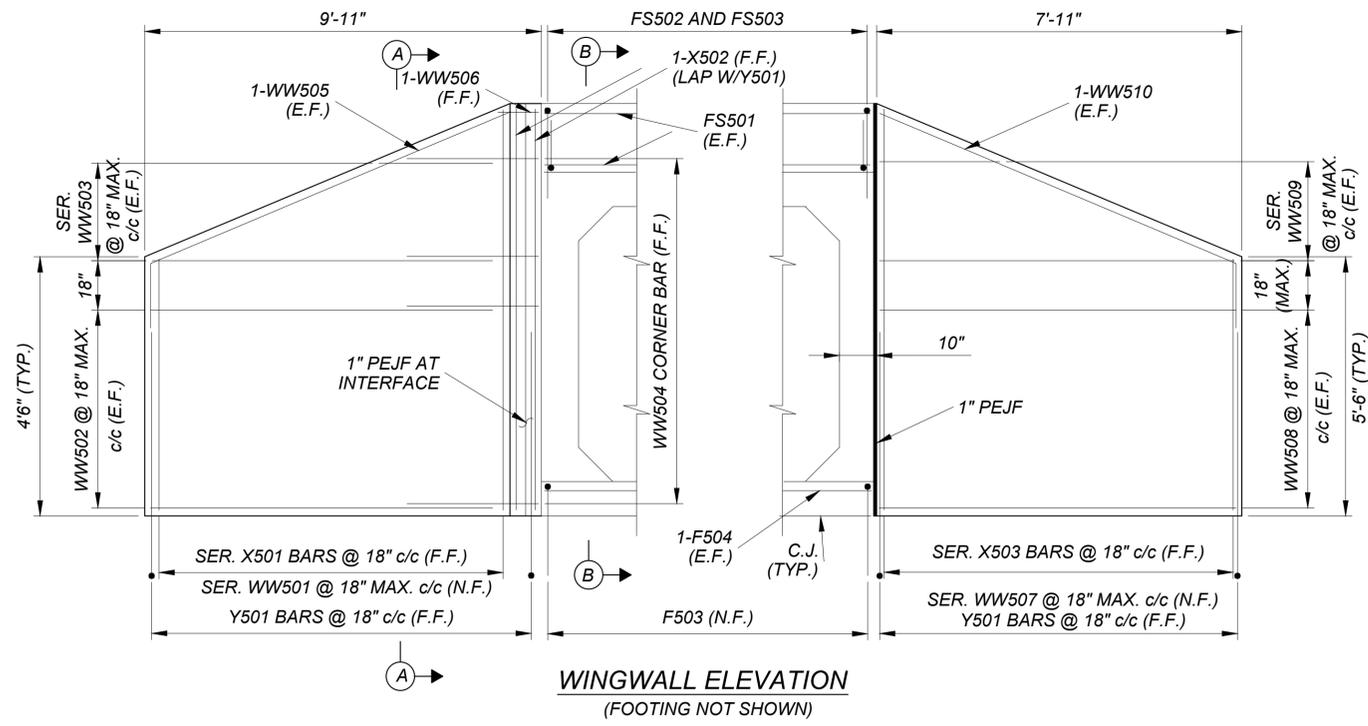
DRAWN
JGS
CHECKED
JRM

BOX CULVERT DETAILS

ZUBER ROAD
JAC-T271-1.34

3
5

18
27



- NOTES**
- FOR CULVERT LOCATION PLAN, SEE SHEETS 10-11.
 - FOR PRECAST BOX CULVERT DETAILS, SEE SHEETS 19-23.
 - THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, WW501 IS A NO.5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
 - THE LAP SPLICE LENGTHS USED IN THESE DETAILS ARE AS FOLLOWS: 2'-5" FOR #5 BARS; 2'-11" FOR #6 BARS.
 - POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2 FEET THICK SHALL EXTEND TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGALLS. PLACE TWO CUBIC FEET OF BAGGED NO. 3 AGGREGATE AT EACH WEEPHOLE. INCLUDE BAGGED AGGREGATE WITH POROUS BACKFILL FOR PAYMENT.

LEGEND:

C.J.	CONSTRUCTION JOINT	N.F.	NEAR FACE
CLR.	CLEAR	SER.	SERIES
DIA.	DIAMETER	STR.	STRAIGHT
E.F.	EACH FACE	(T)	TOP
F.F.	FAR FACE	(B)	BOTTOM
MAX.	MAXIMUM	T&B	TOP AND BOTTOM
MIN.	MINIMUM	TYP.	TYPICAL
PEJF	PREFORMED EXPANSION JOINT FILLER	INC.	INCREMENT

$\theta = \angle$ CULVERT SKEW FROM LINE NORMAL TO ROADWAY (ROUNDED TO NEAREST 15° INCREMENT FROM 0° TO 45°)

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

DRAWN JGS
CHECKED JRM

BOX CULVERT DETAILS

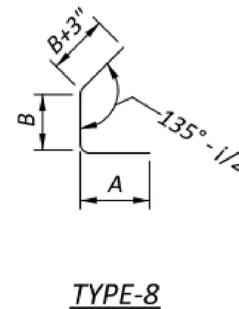
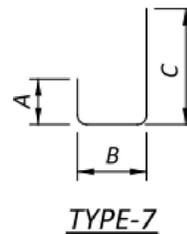
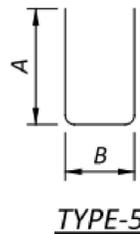
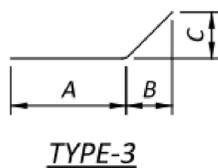
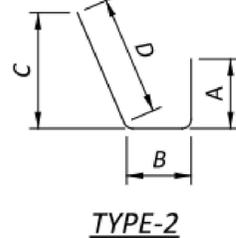
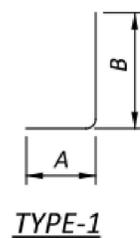
ZUBER ROAD
JAC-T271-1.34

4
5
19
27

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

TYPE B HEADWALL REINFORCING SCHEDULE									
BAR MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	BAR TYPE DIMENSIONS				INC.
					A	B	C	D	
WINGWALLS									
X501	1	4'- 4"							
	SERIES	TO	55	STR.					0'- 4 1/2"
	of 9	7'- 4"							
X502	2	7'- 4"	16	STR.					
X503	1	5'- 4"							
	SERIES	TO	53	STR.					0'- 3 1/2"
	of 8	7'- 4"							
Y501	19	4'- 4"	86	1	0'- 10"	3'- 8"			
	1	4'- 4"							
	SERIES	TO	49	STR.					0'- 5 1/4"
	of 8	7'- 4"							
WW502	6	9'- 7"	60	STR.					
	2	4'- 10"							
WW503	SERIES	TO	31	STR.					4'- 9 "
	of 2	9'- 7"							
WW504	5	3'- 8"	20	2	0'- 7"	0'- 3 1/4"	2'- 5 "	2'- 11 1/4"	
WW505	2	12'- 5"	26	3	2'- 5"	2'- 10"	9'- 7"		
WW506	1	1'- 3"	2	8	0'- 7"	0'- 3 1/4"			
	1	5'- 4"							
	SERIES	TO	47	STR.					0'- 4 "
	of 7	7'- 4"							
WW508	8	7'- 7"	64	STR.					
	2	3'- 10"							
WW509	SERIES	TO	24	STR.					3'- 9 "
	of 2	7'- 7"							
WW510	2	10'- 3"	22	3	2'- 5"	1'- 10"	7'- 7"		
FOOTING & CUTOFF WALL									
V501	21	5'- 2"	114	STR.					
W501	21	5'- 2"	114	STR.					
Z501	23	8'- 2"	196	5	3'- 7"	1'- 2"			
F501	6	4'- 8"	30	STR.					
F502	8	3'- 8"	31	STR.					
F503	9	4'- 0"	38	1	2'- 1"	2'- 0"			
F504	2	11'- 4"	24	STR.					
	2	21'- 5"							
F601	SERIES	TO	342	3	18'- 5 1/4"	1'- 8 1/4"	2'- 4 3/4"		0'- 8 "
	of 5	24'- 1"			21'- 1 1/2"				
	2	8'- 8"							
F602	SERIES	TO	151	STR.					0'- 8 1/4"
	of 5	11'- 5"							
	1	21'- 5"			18'- 5 1/4"				
F603	SERIES	TO	66	3	1'- 8 1/4"	2'- 4 3/4"			0'- 7 "
	2	22'- 0"			19'- 1/2"				
F604	SERIES	TO	28	STR.					0'- 8 1/8"
	2	9'- 4"							
FORESLOPE WALL									
FS501	4	11'- 4"	48	STR.					
FS502	13	1'- 5"	20	5	0'- 6"	0'- 8"			
FS503	13	2'- 2"	30	7	0'- 6"	0'- 8"	1'- 3"		
		TOTAL	1,787						

STRUCTURE 66 (STA. 41+14.91)



TYPE B HEADWALL REINFORCING SCHEDULE									
BAR MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	BAR TYPE DIMENSIONS				INC.
					A	B	C	D	
WINGWALLS									
X501	1	4'- 4"							
	SERIES	TO	55	STR.					0'- 4 1/2"
	of 9	7'- 4"							
X502	2	7'- 4"	16	STR.					
X503	1	5'- 4"							
	SERIES	TO	53	STR.					0'- 3 1/2"
	of 8	7'- 4"							
Y501	19	4'- 4"	86	1	0'- 10"	3'- 8"			
	1	4'- 4"							
	SERIES	TO	49	STR.					0'- 5 1/4"
	of 8	7'- 4"							
WW502	6	9'- 7"	60	STR.					
	2	4'- 10"							
WW503	SERIES	TO	31	STR.					4'- 9 "
	of 2	9'- 7"							
WW504	5	3'- 8"	20	2	0'- 7"	0'- 3 1/4"	2'- 5 "	2'- 11 1/4"	
WW505	2	12'- 5"	26	3	2'- 5"	2'- 10"	9'- 7"		
WW506	1	1'- 3"	2	8	0'- 7"	0'- 3 1/4"			
	1	5'- 4"							
	SERIES	TO	47	STR.					0'- 4 "
	of 7	7'- 4"							
WW508	8	7'- 7"	64	STR.					
	2	3'- 10"							
WW509	SERIES	TO	24	STR.					3'- 9 "
	of 2	7'- 7"							
WW510	2	10'- 3"	22	3	2'- 5"	1'- 10"	7'- 7"		
FOOTING & CUTOFF WALL									
V501	21	5'- 2"	114	STR.					
W501	21	5'- 2"	114	STR.					
Z501	23	8'- 2"	196	5	3'- 7"	1'- 2"			
F501	6	4'- 8"	30	STR.					
F502	8	3'- 8"	31	STR.					
F503	9	4'- 0"	38	1	2'- 1"	2'- 0"			
F504	2	11'- 4"	24	STR.					
	2	21'- 5"							
F601	SERIES	TO	342	3	18'- 5 1/4"	1'- 8 1/4"	2'- 4 3/4"		0'- 8 "
	of 5	24'- 1"			21'- 1 1/2"				
	2	8'- 8"							
F602	SERIES	TO	151	STR.					0'- 8 1/4"
	of 5	11'- 5"							
	1	21'- 5"			18'- 5 1/4"				
F603	SERIES	TO	66	3	1'- 8 1/4"	2'- 4 3/4"			0'- 7 "
	2	22'- 0"			19'- 1/2"				
F604	SERIES	TO	28	STR.					0'- 8 1/8"
	2	9'- 4"							
FORESLOPE WALL									
FS501	4	11'- 4"	48	STR.					
FS502	13	1'- 5"	20	5	0'- 6"	0'- 8"			
FS503	13	2'- 2"	30	7	0'- 6"	0'- 8"	1'- 3"		
		TOTAL	1,787						

STRUCTURE 67 (STA. 42+58.91)

DRAWN
JGS
CHECKED
JRM

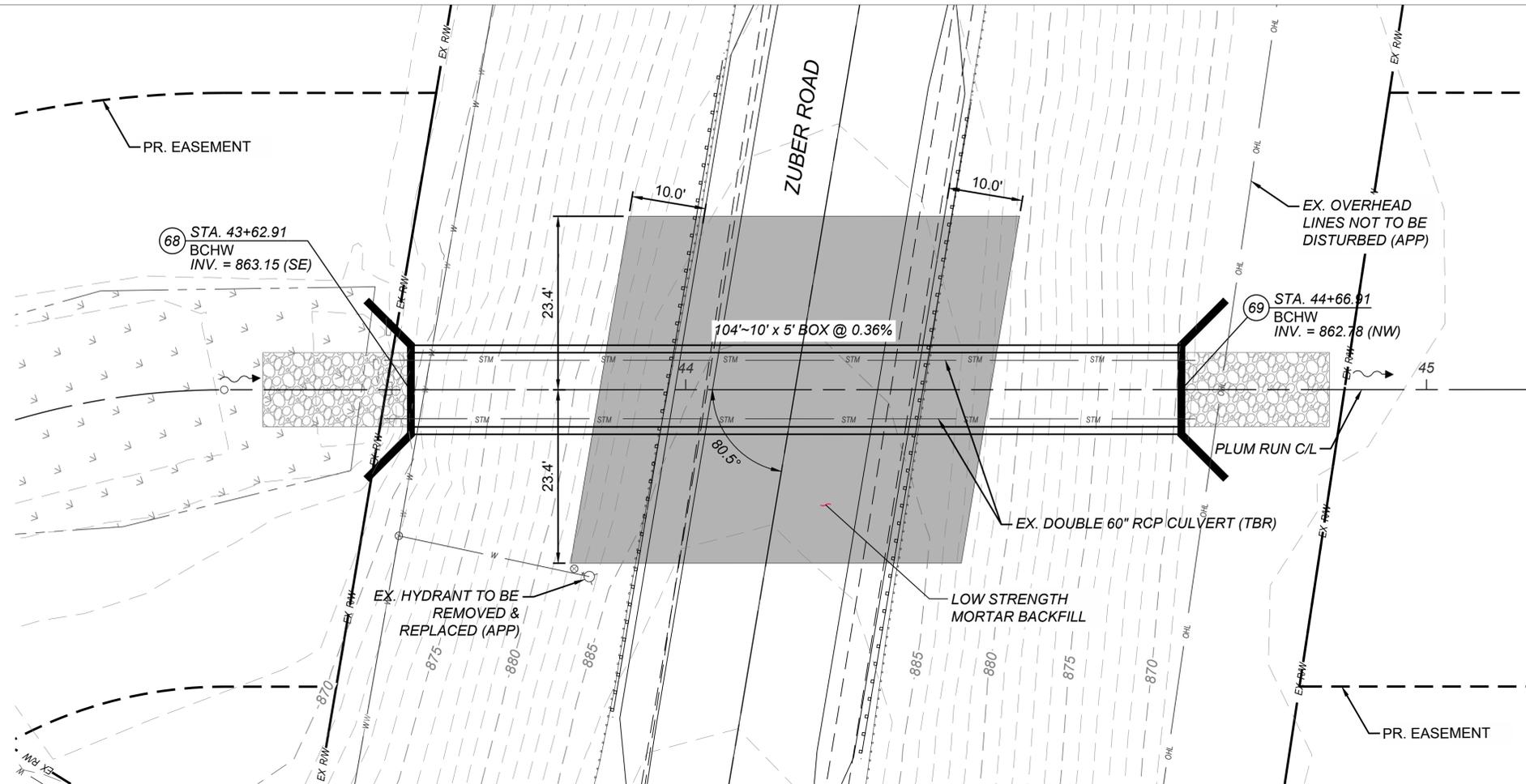
BOX CULVERT DETAILS

ZUBER ROAD
JAC-T271-1.34

5
5

20
27

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.



HYDRAULIC DATA

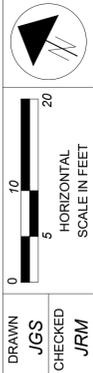
DRAINAGE AREA = 158 AC.
 $Q_{25} = 105 \text{ CFS}$ $V_{25} = 3.83 \text{ FPS}$ $HW_{25} = 865.40'$
 $Q_{100} = 140 \text{ CFS}$ $V_{100} = 4.82 \text{ FPS}$ $HW_{100} = 865.58'$

EXISTING STRUCTURE

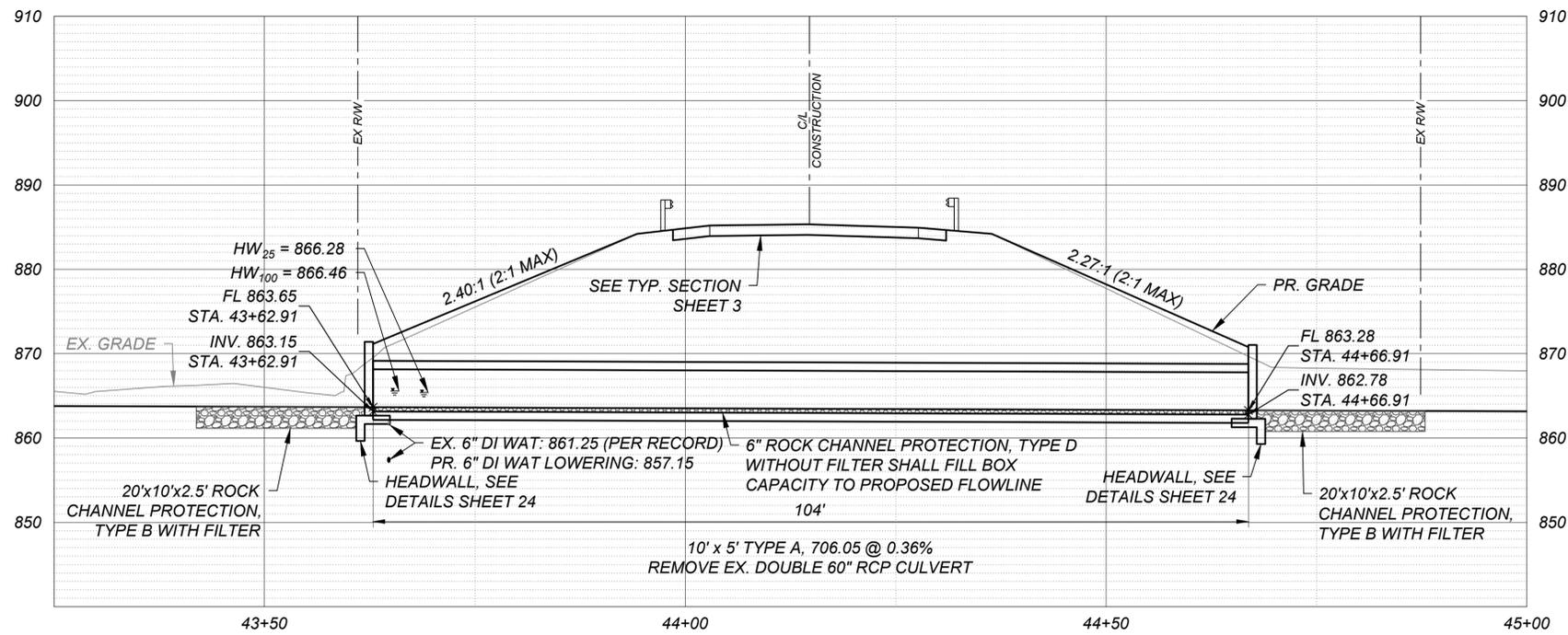
TYPE: RCP
SIZE: DOUBLE 60"
ROADWAY: ZUBER RD
STRUCTURAL FILE NUMBER: 2532514
DATE BUILT: N/A
DISPOSITION: TO BE REPLACED

PROPOSED STRUCTURE

TYPE: PRECAST REINFORCED CONCRETE BOX CULVERT 10' SPAN X 5' RISE (DEPRESSED 6") X 104' LONG WITH REINFORCED CONCRETE HEADWALLS AND WINGWALLS ON SPREAD FOOTINGS
ROADWAY: 22'
LOADING: HL93
SKEW: 9.5°
STRUCTURAL FILE NUMBER: 2536463
COORDINATES: LATITUDE 39°49'36"N LONGITUDE 83°07'06"W



BOX CULVERT DETAILS



ZUBER ROAD
JAC-T267-1.07

1
5
21
27

GENERAL NOTES

Design specifications: This standard drawing conforms to "LRFD Bridge Design Specification" adopted by the American Association of State Highway and Transportation Officials and the ODOT Bridge Design Manual.

Design data: The following design data is assumed per ODOT standards:

Internal angle of friction of backfill soil, $\phi_{bf} = 30^\circ$
 Total unit weight of backfill soil = 120 pcf
 Internal angle of friction (drained), foundation soil, $\phi_f = 30^\circ$
 Undrained shear strength (cohesive), foundation soil, $s_{uf} = 1500$ psf
 Unit weight of concrete = 150 pcf
 Slope of backfill = 2:1 (type a & b headwalls)
 Height of live load surcharge = 2 ft (type c headwalls)

Concrete - compressive strength 4000 psi
 (footing, wingwall and foreslope wall)

Reinforcing Steel - ASTM A615, A616, or A617 grade 60 minimum yield strength 60,000 psi
 (all reinforcing shall be epoxy coated)

Based on the assumed design data, the wingwalls achieve factored bearing resistances that are greater than their respective bearing pressures. If a backfill material with a higher internal angle of friction or a lighter total unit weight is used; or if a foundation soil with a higher drained internal angle of friction or a higher undrained shear strength is encountered; then the stability of the wingwalls is satisfactory.

Removal and Preservation of 60" RCP Culvert: Franklin County Engineer's Office (FCEO) will keep existing pipe due to its good condition. The contractor shall take care to preserve the existing double 60" RCP culvert and set the sections aside. The contractor will coordinate pickup with FCEO and help load the 60" RCP sections on to the FCEO trailers. FCEO will transport the RCP to their yard. If an RCP section is not-reusable, as determined by the FCEO, the contractor shall dispose of it. Removal and Preservation of 60" RCP Culvert shall be paid under Item 202 Pipe Removed for Storage, Over 24" Diameter, As Per Plan. Disposal of 60" RCP Culvert shall be paid under Item 202 Pipe Removed, over 24" Diameter.

The following quantities have been carried to the general summary for use as directed by the engineer for the work noted above:

Item 202 Pipe Removed for Storage, Over 24" Diameter, As Per Plan 220 LF
 Item 202 Pipe Removed, over 24" Diameter 45 LF

Formliners: Plasticized polyvinyl chloride formliners shall be used in forms for the vertical faces as shown on the plans. If the structure height is less than 4'-0" tall, use 4" border in lieu of 8".

Plasticized polyvinyl chloride formliners shall be as manufactured by the following companies or an approved equal formliner:

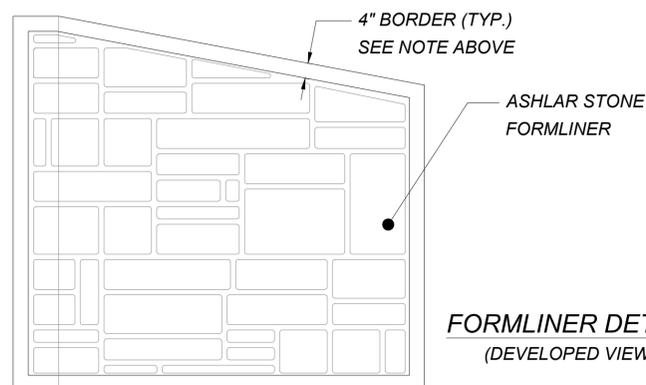
Greenstreak Architectural Formliner
 style no. 330 (ashlar stone)
 Greenstreak, Inc.
 3400 Tree Court Industrial Boulevard
 St. Louis, MO 63122
 (800) 325-9504 www.greenstreak.com

Thermoformed Formliner
 p/c 230429 (old ashlar stone)
 Dayton Superior Corporation
 7777 Washington Village Drive, Suite 130
 Dayton, OH 45459
 (888) 977-9600 www.daytonsuperior.com

Fitzgerald Vacuum-Formed Formliner
 no. 16986 (georgetown ashlar)
 Fitzgerald Formliners
 1500 East Chestnut Avenue
 Santa Ana, CA 92701
 (800) 547-7760 www.formliners.com

Concrete for decorative facade form liner shall contain No. 8 coarse aggregate meeting ODOT-CMS Section 703.02. The concrete shall be superplasticized. The slump for the concrete shall be 7 inches plus or minus 1 inch. The entrained air content shall be 6 percent plus or minus 2 percent.

Include with Item 511 - Class QC1 Concrete, Retaining Wall or Wingwall, not Including Footing.

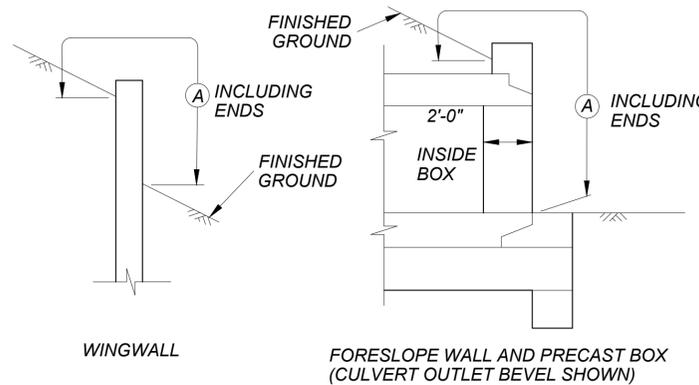


Porous backfill with geotextile fabric 1'-6" thick shall be placed behind the wingwalls only and shall extend to 12" below the embankment surface. Geotextile fabric shall be placed between the porous backfill and replaced excavation adjacent to the structure. It shall turn under the bottom of the porous backfill and return 6" above the top elevation of the weephole.

Weepholes shall be placed 6" to 12" above the normal water elevation or ground line and shall have a maximum spacing of 10'-0". A minimum of one weephole shall be provided per wingwall.

Preformed expansion joint filler: Preformed Expansion Joint Filler (PEJF) conforming to CMS 705.03, 1 inch thick, shall be placed above the footing between the sides of the box culvert and the ends of the wingwalls. Payment for materials and installation shall be included with Item 516 - 1" Preformed Expansion Joint Filler.

Sealing of foreslope wall and wingwalls: all exposed foreslope wall and wingwall concrete shall be sealed with epoxy-urethane sealer. The limits shall be as shown in the diagrams below. Payment for the epoxy-urethane sealer shall be per Item 512 - Sealing of Concrete Surfaces.

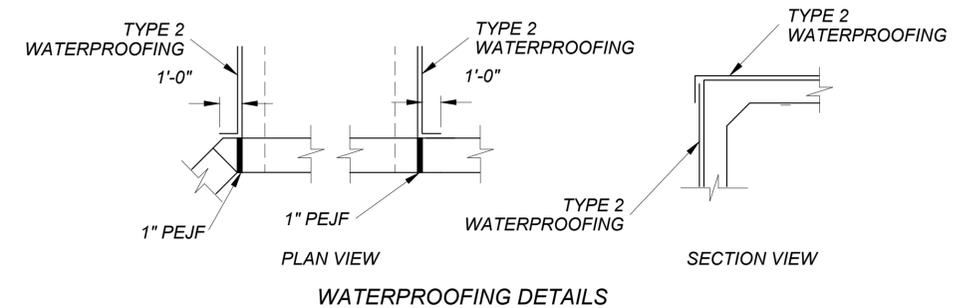


LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

Waterproofing: Type 2 Waterproofing, per CMS 512.09 and 711.25, shall extend vertically down the entire sides of the precast culvert sections for all portions of the culvert which shall be in contact with the backfill. Payment for the membrane waterproofing shall be at the contract price bid per square yard for Item 512 - Type 2 Waterproofing.

If pavement is not placed directly on top of the Culvert, Type 2 Waterproofing, per CMS 512.09 and 711.25 shall be applied to the entire top surface of the precast culvert sections and shall extend one foot vertically down the sides for all portions of the culvert which shall be in contact with the backfill. Payment for the membrane waterproofing shall be at the contract price bid per square yard for Item 512 - Type 2 Waterproofing.



Basis of payment: All labor, equipment and incidentals required to construct the footing, cutoff wall, wingwalls and foreslope wall shall be included with Item 511 - Class QC1 Concrete (ret-wall/wingwall- including footing). Payment for reinforcing steel shall be included with Item 509 - Epoxy Coated Reinforcing Steel.

ESTIMATED QUANTITIES FOR STRUCTURES 68 & 69				
ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
202	35401	220	LIN. FT.	PIPE REMOVED FOR STORAGE, OVER 24" DIAMETER, AS PER PLAN
202	35200	45	LIN. FT.	PIPE REMOVED, OVER 24" DIAMETER
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING
503	21100	LUMP		UNCLASSIFIED EXCAVATION
509	10000	3,722	LB.	EPOXY COATED REINFORCING STEEL
511	46000	5	CU. YD.	CLASS QC1 CONCRETE, WINGWALL, NOT INCLUDING FOOTING
511	46510	22	CU. YD.	CLASS QC1 CONCRETE, FOOTING
511	46610	1	CU. YD.	CLASS QC1 CONCRETE, HEADWALLS
512	33000	118	SQ. YD.	TYPE 2 WATERPROOFING
516	13600	12	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC
601	32100	37	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
601	34300	19	CY	ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER
611	95001	104	LIN. FT.	10' x 5' CONDUIT, TYPE A, 706.05, AS PER PLAN
613	41200	387	CU. YD.	LOW STRENGTH MORTAR BACKFILL*
512	10000	21	SQ. YD.	SEALING OF CONCRETE SURFACES

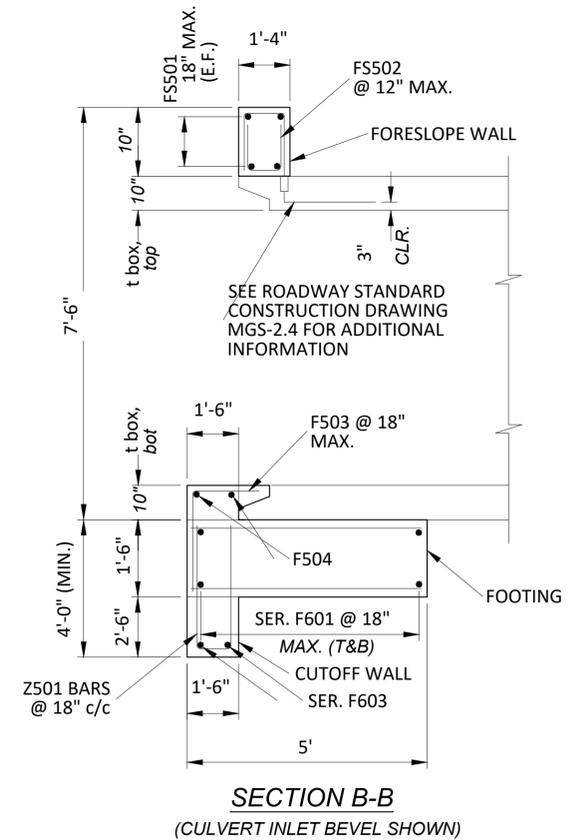
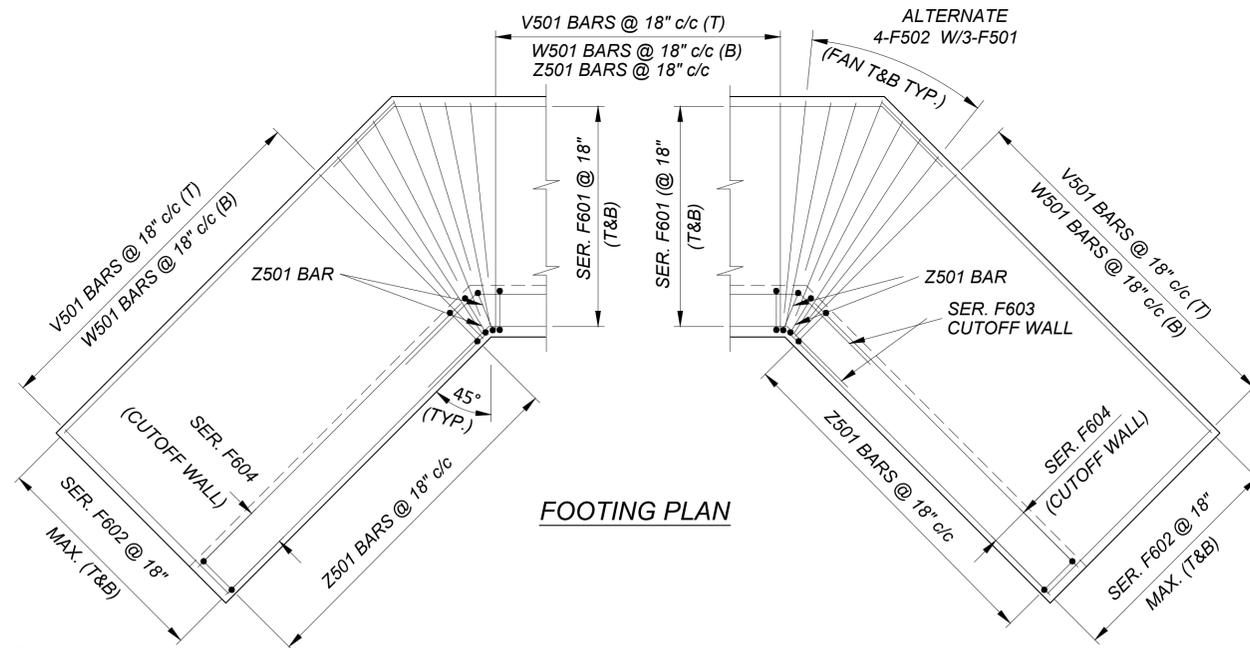
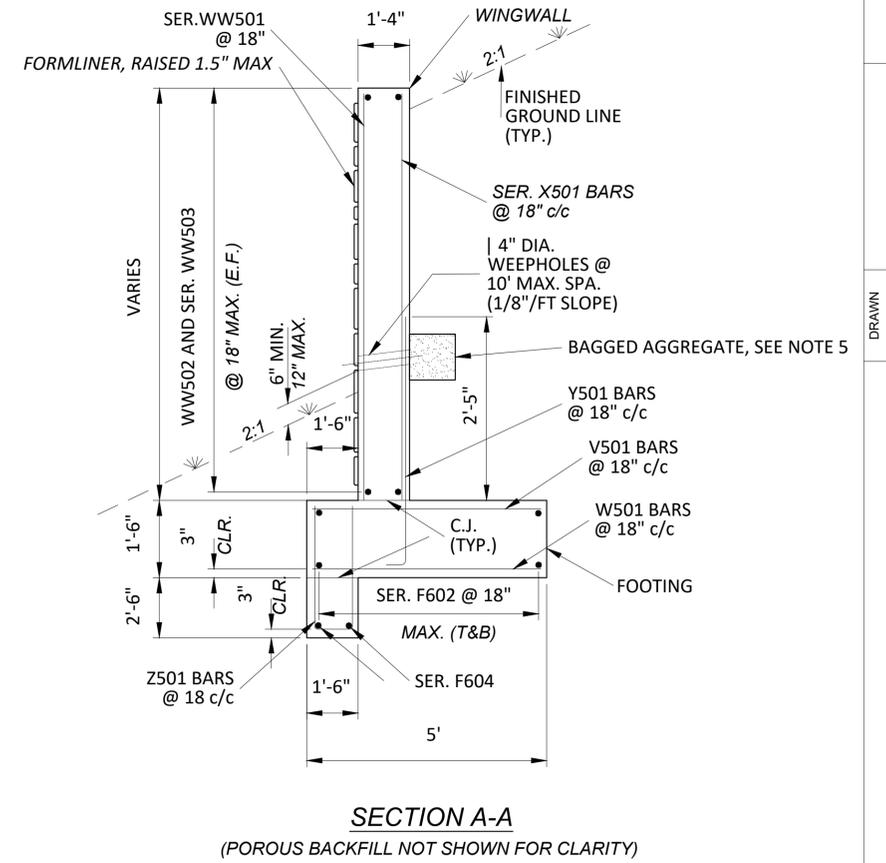
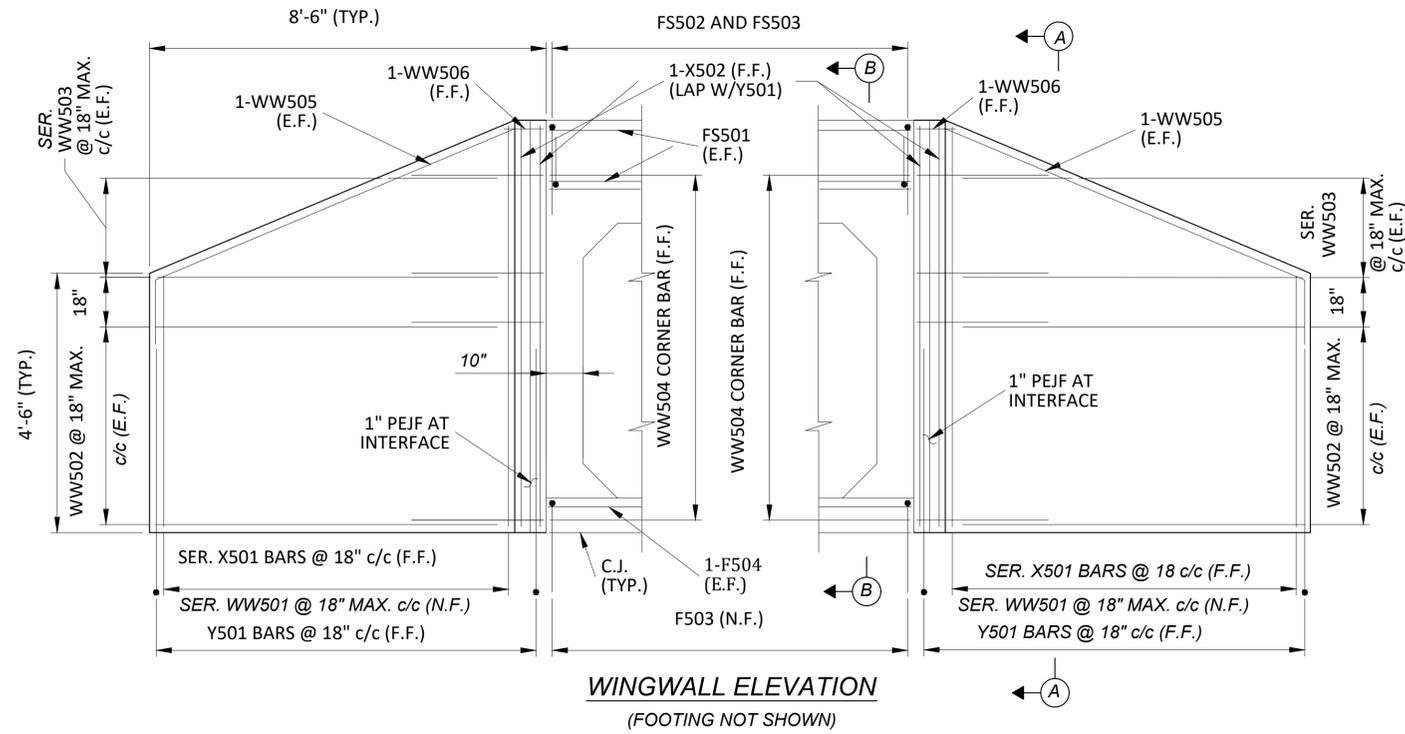
* The storm sewer bedding and backfill shall be Item 613, LOW STRENGTH MORTAR (LSM). The intent will be to prevent potentially contaminated water from migrating along the pipe bedding and backfill. The LSM will extend from the bottom of the pipe trench to a level of one foot above the pipe. The LSM bedding and backfill will extend a minimum of ten (10) feet beyond the zone of suspected contamination in both directions.

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

BOX CULVERT DETAILS

ZUBER ROAD
 JAC-T267-1.07

2
 5
 22
 27



NOTES

1. FOR CULVERT LOCATION PLAN, SEE SHEETS 10-11.
2. FOR PRECAST BOX CULVERT DETAILS, SEE SHEETS 19-23.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, WW501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
4. THE LAP SPLICE LENGTHS USED IN THESE DETAILS ARE AS FOLLOWS: 2'-5" FOR #5 BARS; 2'-11" FOR #6 BARS.
5. POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2 FEET THICK SHALL EXTEND TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGALLS. PLACE TWO CUBIC FEET OF BAGGED NO. 3 AGGREGATE AT EACH WEEPHOLE. INCLUDE BAGGED AGGREGATE WITH POROUS BACKFILL FOR PAYMENT.

LEGEND:

C.J.	CONSTRUCTION JOINT	N.F.	NEAR FACE
CLR.	CLEAR	SER.	SERIES
DIA.	DIAMETER	STR.	STRAIGHT
E.F.	EACH FACE	(T)	TOP
F.F.	FAR FACE	(B)	BOTTOM
MAX.	MAXIMUM	T&B	TOP AND BOTTOM
MIN.	MINIMUM	TYP.	TYPICAL
PEJF	PREFORMED EXPANSION JOINT FILLER	INC.	INCREMENT

$\theta = \angle$ CULVERT SKEW FROM LINE NORMAL TO ROADWAY (ROUNDED TO NEAREST 15° INCREMENT FROM 0° TO 45°)

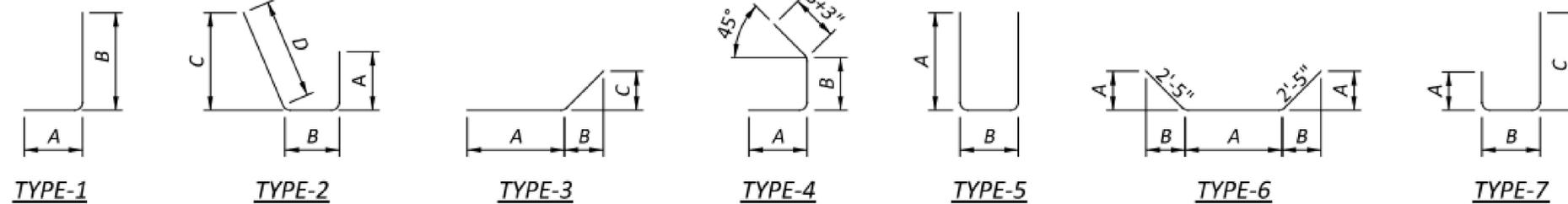
COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.

TYPE A HEADWALL REINFORCING SCHEDULE									
BAR MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	BAR TYPE DIMENSIONS				INC.
					A	B	C	D	
WINGWALLS									
X501	2	4'- 4"							
SERIES	TO		86	STR.					0'- 6 "
	of 7	7'- 4"							
X502	4	7'- 4"	31	STR.					
Y501	18	4'- 4"	81	1	0'- 10"	3'- 8"			
WW501	2	4'- 4"							
SERIES	TO		86	STR.					0'- 6 "
	of 7	7'- 4"							
WW502	12	8'- 2"	103	STR.					
	4	4'- 1"							
WW503	SERIES	TO	52	STR.					4'- 1 "
	of 2	8'- 2"							
WW504	10	4'- 1"	43	2	0'- 11"	0'- 3 3/4"	2'- 1 1/2"	2'- 11 3/4"	
WW505	4	11'- 1"	47	3	2'- 5"	2'- 10"	8'- 2"		
WW506	2	1'- 8"	4	4	0'- 11"	0'- 3 3/4"			
FOOTING & CUTOFF WALL									
V501	22	4'- 8"	108	STR.					
W501	22	4'- 8"	108	STR.					
Z501	26	8'- 2"	222	5	3'- 7"	1'- 2"			
F501	12	4'- 3"	54	STR.					
F502	16	3'- 4"	56	STR.					
F503	9	3'- 5"	33	1	1'- 6"	2'- 0"			
F504	2	11'- 4"	24	STR.					
	2	16'- 7"					10'- 8 3/4"		
F601	SERIES	TO	279	6	2'- 1"	2'- 1"	TO		0'- 11 5/8"
	of 5	20'- 6"					14'- 7 1/4"		
	4	7'- 9"							
F602	SERIES	TO	262	STR.					0'- 5 3/4"
	of 5	9'- 8"							
	1	16'- 7"					10'- 8 3/4"		
F603	SERIES	TO	52	6	2'- 1"	2'- 1"	TO		0'- 11 7/8"
	2	17'- 7"					11'- 8 1/2"		
	1	7'- 9"							
F604	SERIES	TO	24	STR.					0'- 5 "
	2	8'- 2"							
FORESLOPE WALL									
FS501	4	11'- 4"	48	STR.					
FS502	13	1'- 9"	24	5	0'- 6"	1'- 0"			
FS503	13	2'- 6"	34	7	0'- 6"	1'- 0"	1'- 3"		
		TOTAL	1,861						

STRUCTURE 68 (STA. 43+62.91)

TYPE A HEADWALL REINFORCING SCHEDULE									
BAR MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	BAR TYPE DIMENSIONS				INC.
					A	B	C	D	
WINGWALLS									
X501	2	4'- 4"							
SERIES	TO		86	STR.					0'- 6 "
	of 7	7'- 4"							
X502	4	7'- 4"	31	STR.					
Y501	18	4'- 4"	81	1	0'- 10"	3'- 8"			
WW501	2	4'- 4"							
SERIES	TO		86	STR.					0'- 6 "
	of 7	7'- 4"							
WW502	12	8'- 2"	103	STR.					
	4	4'- 1"							
WW503	SERIES	TO	52	STR.					4'- 1 "
	of 2	8'- 2"							
WW504	10	4'- 1"	43	2	0'- 11"	0'- 3 3/4"	2'- 1 1/2"	2'- 11 3/4"	
WW505	4	11'- 1"	47	3	2'- 5"	2'- 10"	8'- 2"		
WW506	2	1'- 8"	4	4	0'- 11"	0'- 3 3/4"			
FOOTING & CUTOFF WALL									
V501	22	4'- 8"	108	STR.					
W501	22	4'- 8"	108	STR.					
Z501	26	8'- 2"	222	5	3'- 7"	1'- 2"			
F501	12	4'- 3"	54	STR.					
F502	16	3'- 4"	56	STR.					
F503	9	3'- 5"	33	1	1'- 6"	2'- 0"			
F504	2	11'- 4"	24	STR.					
	2	16'- 7"					10'- 8 3/4"		
F601	SERIES	TO	279	6	2'- 1"	2'- 1"	TO		0'- 11 5/8"
	of 5	20'- 6"					14'- 7 1/4"		
	4	7'- 9"							
F602	SERIES	TO	262	STR.					0'- 5 3/4"
	of 5	9'- 8"							
	1	16'- 7"					10'- 8 3/4"		
F603	SERIES	TO	52	6	2'- 1"	2'- 1"	TO		0'- 11 7/8"
	2	17'- 7"					11'- 8 1/2"		
	1	7'- 9"							
F604	SERIES	TO	24	STR.					0'- 5 "
	2	8'- 2"							
FORESLOPE WALL									
FS501	4	11'- 4"	48	STR.					
FS502	13	1'- 9"	24	5	0'- 6"	1'- 0"			
FS503	13	2'- 6"	34	7	0'- 6"	1'- 0"	1'- 3"		
		TOTAL	1,861						

STRUCTURE 69 (STA. 44+66.91)

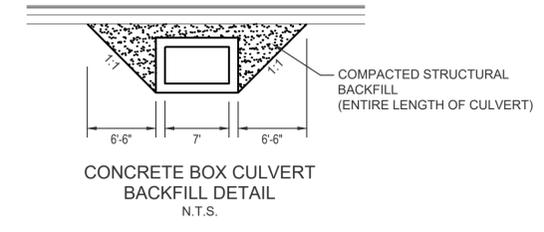
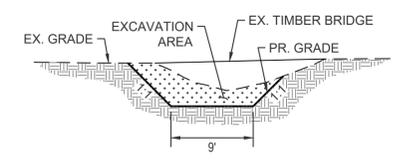
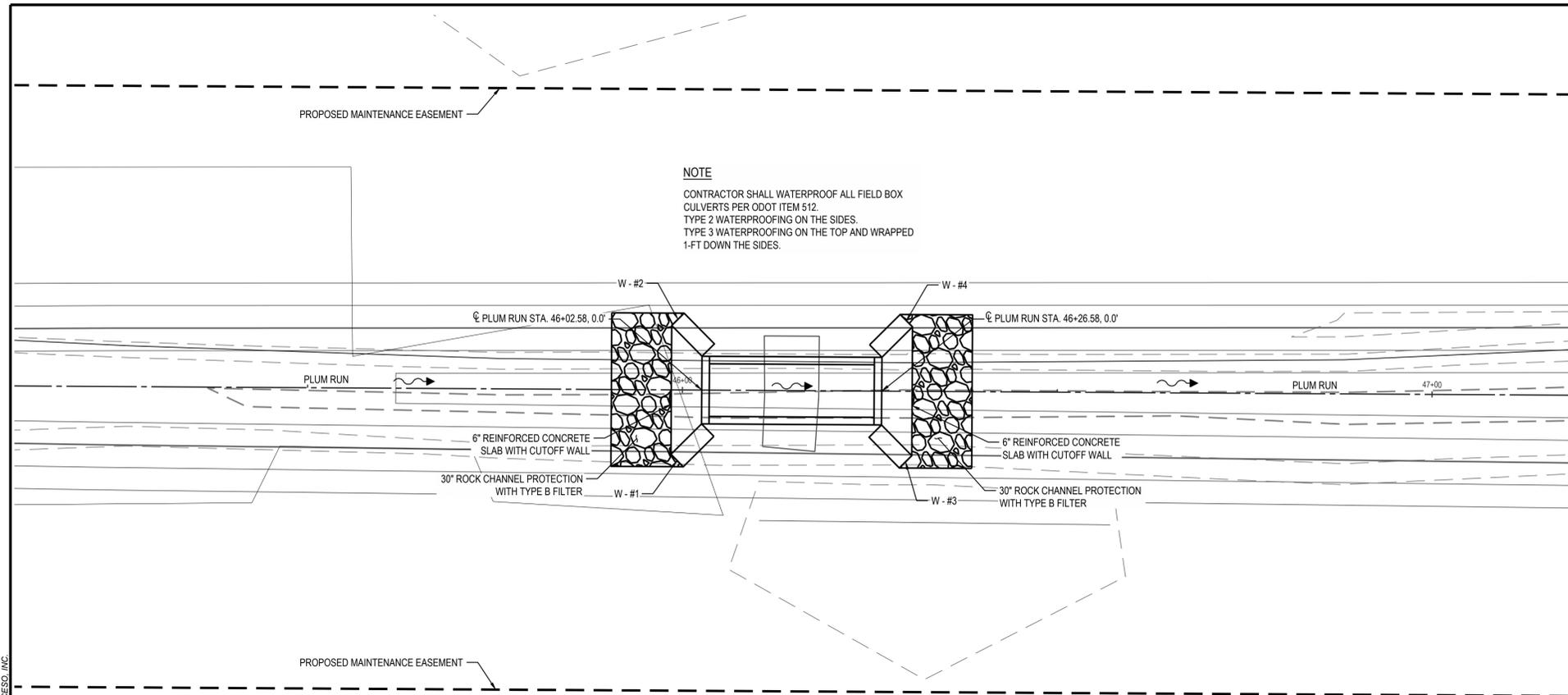


DRAWN
JGS
CHECKED
JRM

BOX CULVERT DETAILS

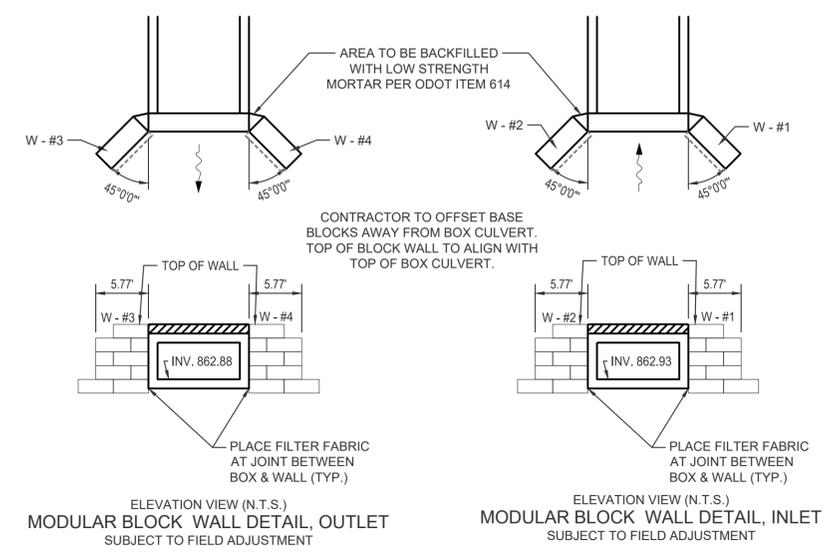
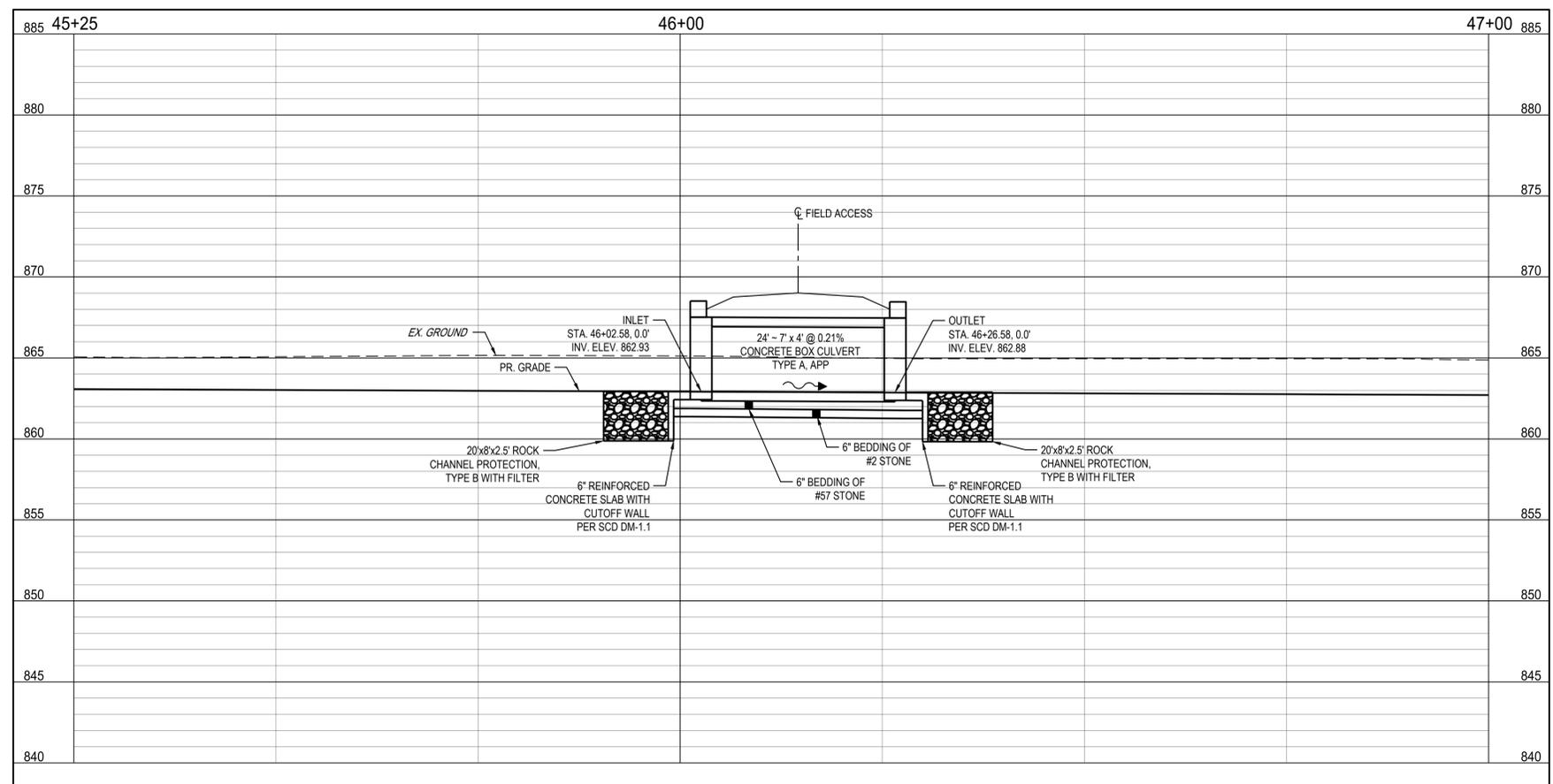
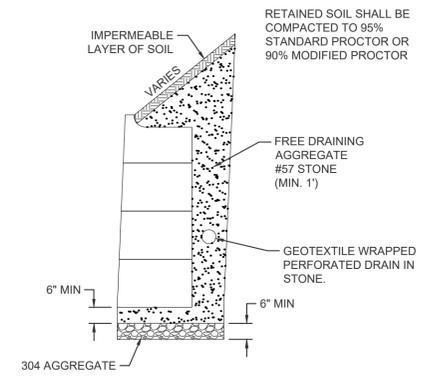
ZUBER ROAD
JAC-T267-1.07

5
5
25
27

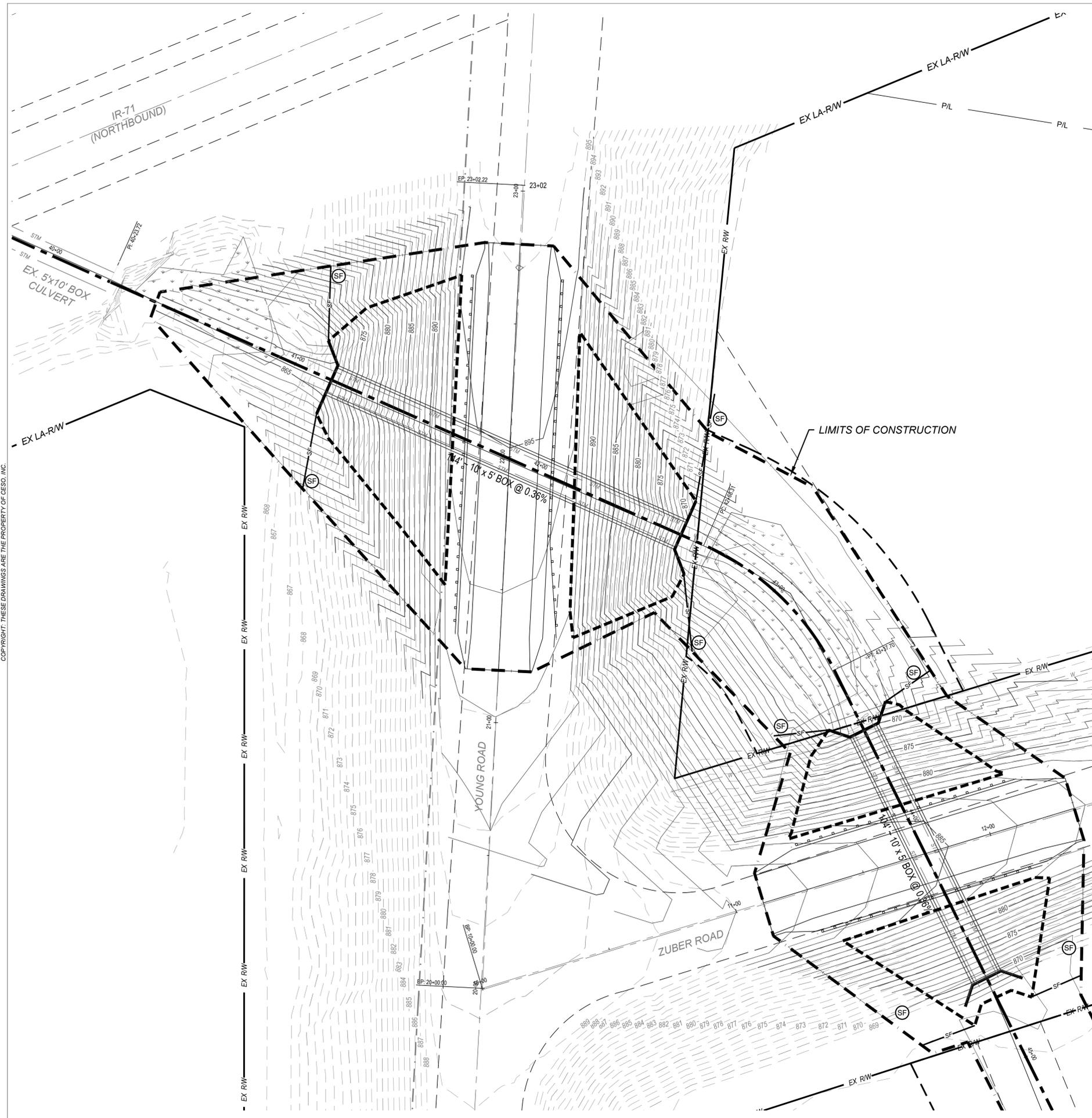


HYDRAULIC DESIGN DATA:

DRAINAGE AREA	= 97 ACRES
Q ₂₅	= 55 CFS
Q ₁₀₀	= 167 CFS
HW ₂₅	= 865.73
HW ₁₀₀	= 867.43
V ₂₅	= 3.0 FPS
V ₁₀₀	= 7.2 FPS



COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.



EROSION & SEDIMENT CONTROL GENERAL NOTES

- CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMPs) AS REQUIRED BY THE EROSION AND SEDIMENT CONTROL PLAN (ESC). ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AND GRADE CHANGES TO THE SITE AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- CONTRACTOR SHALL MINIMIZE CLEARING AND DISTURBANCE TO THE ENVIRONMENT TO THE MAXIMUM EXTENT POSSIBLE OR AS REQUIRED BY THE GENERAL PERMIT.
- SEDIMENT STRUCTURES AND PERIMETER SEDIMENT BARRIERS SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING WITHIN SEVEN (7) DAYS FROM THE START OF CLEARING AND GRUBBING, AND SHALL CONTINUE TO FUNCTION UNTIL THE DEVELOPMENT AREA IS STABILIZED.
- PERMANENT SOIL STABILIZATION OF DISTURBED AREAS BY MEANS OF VEGETATION, LANDSCAPE TYPE MULCHING, MATTING, SOD, RIP RAP, AND OTHER APPROVED LANDSCAPING TECHNIQUES TO BE APPLIED AS FOLLOWS:
 - WITHIN SEVEN (7) DAYS OF ANY AREA THAT WILL BE DORMANT FOR ONE (1) YEAR OR MORE.
 - WITHIN TWO (2) DAYS OF ANY AREA WITHIN 50 FEET OF A STREAM AT FINAL GRADE.
 - WITHIN SEVEN (7) DAYS FOR ANY OTHER AREA AT FINAL GRADE.
- TEMPORARY SOIL STABILIZATION OF DISTURBED AREAS BY MEANS OF TEMPORARY VEGETATION, MULCHING, GEOTEXTILES, SOD, PRESERVATION OF EXISTING VEGETATION, AND OTHER APPROVED TECHNIQUES TO BE APPLIED AS FOLLOWS:
 - WITHIN TWO (2) DAYS OF ANY AREA WITHIN 50 FEET OF A STREAM NOT AT FINAL GRADE.
 - WITHIN SEVEN (7) DAYS OF ANY AREA THAT WILL BE DORMANT FOR MORE THAN TWENTY ONE (21) DAYS, BUT LESS THAN ONE (1) YEAR.
 - PRIOR TO THE ONSET OF WINTER WEATHER FOR AREAS THAT WILL BE IDLE OVER WINTER.
- TEMPORARY SEEDING, MULCHING, AND FERTILIZER SPECIFICATIONS:

SEEDING: ANNUAL RYEGRASS AT 2.02 POUNDS PER 1,000 S.F.

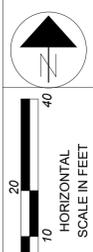
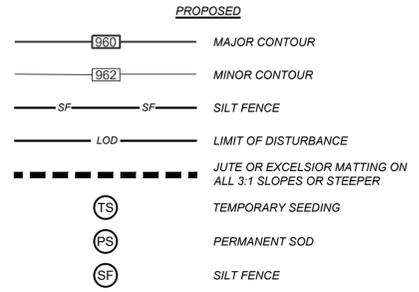
MULCHING: STRAW MATERIAL SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT A RATE OF TWO (2) TONS PER ACRE, OR 80-100 POUNDS PER 1,000 S.F. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE FREE OF PROHIBITIVE NOXIOUS WEEDS. MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICAL MEANS. FROM NOVEMBER 01 THRU MARCH 15 INCREASE THE RATE OF STRAW MULCH TO THREE (3) TONS/ACRE.

FERTILIZER: APPLY FERTILIZER AT HALF THE RATE OF PERMANENT APPLICATION AND AS PER SPECIFICATIONS. IF PROJECT CONDITIONS PREVENT FERTILIZING THE SOIL, THEN THIS ITEM MAY BE WAIVED.
- SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION. ALL SLOPES 3:1 OR GREATER SHALL BE SEEDING, MULCHING, AND CURLEY BLANKETS BY AMERICAN EXCELSIOR COMPANY, NORTH AMERICAN GREEN, INC. OR AN APPROVED EQUAL AS SPECIFIED IN THE PLANS SHALL BE INSTALLED ON THE SLOPES.
- NO SOLID (OTHER THAN SEDIMENT) OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED IN STORM WATER RUNOFF. ALL NON-SEDIMENT POLLUTANTS MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL GUIDELINES. WASH OUT OF CEMENT TRUCKS SHOULD OCCUR IN DESIGNATED PIT OR DIKED AREAS. WHERE WASHINGS CAN BE REMOVED AND PROPERLY DISPOSED OFF-SITE WHEN THEY HARDEN. STORAGE TANKS SHOULD ALSO BE LOCATED IN PIT OR DIKED AREAS. IN ADDITION, SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS TO CLEAN AND CONTAIN FUEL AND CHEMICAL SPILLS MUST BE KEPT ON SITE.
- IF THE ACTION OF VEHICLES TRAVELING OVER THE STABILIZED CONSTRUCTION EXIT DOES NOT SUFFICIENTLY REMOVE MOST OF THE DIRT AND MUD, THEN THE TIRES MUST BE WASHED BEFORE VEHICLES ENTER A PUBLIC ROAD. PROVISIONS MUST BE MADE TO INTERCEPT THE WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
- RUBBISH TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DISPOSED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE SITE THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- DUST CONTROL USING APPROVED MATERIALS MUST BE PERFORMED AT ALL TIMES. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION IS PROHIBITED.
- ON-SITE AND OFF-SITE STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION BY THE USE OF BEST MANAGEMENT PRACTICES. THESE AREAS MUST BE SHOWN IN THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS. AT A MINIMUM SILT FENCE TO BE PLACED AT PERIMETER OF STOCKPILE AREA TO PREVENT SOIL FROM LEAVING THE STOCKPILE AREA.
- ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED ONTO THE ROADWAYS OR INTO THE STORM SEWERS MUST BE REMOVED IMMEDIATELY.
- ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH DAY; THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR ASPHALT FOR ROAD CONSTRUCTION.
- THE LAST LAYER OF SOIL, INCLUDING TOP SOIL SHOULD BE COMPACTED TO 80% - 85% OF THE MAXIMUM STANDARD PROCTOR DENSITY. IN AREAS OF THE PARKING LOT THAT WILL RECEIVE VEGETATION, THIS IS PARTICULARLY IMPORTANT IN CUT SLOPE AND EMBANKMENT AREAS. IN PAVEMENT AND ISLAND AREAS, IT IS RECOMMENDED THAT THE SOIL BE COMPACTED TO 98% AND 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY RESPECTIVELY. THE LAST COMPACTED LAYER MAY BE SCARIFIED TO IMPROVE THE SOIL GROWTH CHARACTERISTICS.
- ALL DEWATERING ACTIVITIES SUCH AS PUMPING DOWN OF FLOODED FOUNDATION AND UTILITY TRENCHES MUST PASS THROUGH THE RETROFITTED DETENTION BASIN OR A SEDIMENT CONTROL PRACTICE PRIOR TO WATER LEAVING THE SITE.
- SILT FENCE AND OTHER PERIMETER EROSION CONTROL MEASURES SHOWN ON LIMITS OF DISTURBANCE FOR CLARITY PURPOSES ONLY. CONTRACTOR TO ENSURE PERIMETER EROSION CONTROL MEASURES ARE PLACED AT THE LIMITS OF DISTURBANCE. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ENGINEER PRIOR TO PLACEMENT OF ANY EROSION CONTROL MEASURES.

ESC MAINTENANCE NOTES

- ALL CONTROL MEASURES STATED IN THE ESC SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL TEMPORARY OR PERMANENT STABILIZATION OF THE SITE IS ACHIEVED. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED BY A QUALIFIED PERSON IN ACCORDANCE TO THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED ACCORDING TO THE FOLLOWING:
- INLET PROTECTION DEVICES AND CONTROLS SHALL BE REPAIRED OR REPLACED WHEN THEY SHOW SIGNS OF UNDERMINING AND OR DETERIORATION. INLET PROTECTION DEVICES SHOULD BE ROUTINELY CLEANED AND MAINTAINED.
- ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STANDING OF GRASS IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEDED AS NEEDED.
- MINIMIZE OFF-SITE SEDIMENT TRACKING OF VEHICLES BY THE USE OF STONE MATERIAL IN ALL CONSTRUCTION ENTRANCES, ALONG WITH REGULARLY SCHEDULED SWEEPING/GOOD HOUSEKEEPING. STABILIZED CONSTRUCTION ENTRANCES TO BE PROPERLY MAINTAINED BY GENERAL CONTRACTOR AND IN GOOD WORKING ORDER AT ALL TIMES. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE STONE AS CONDITIONS DEMAND.
- THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE) BY GENERAL CONTRACTOR. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
- CONTRACTORS AND SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING ALL SEDIMENT FROM THE SITE, AND STORM SEWER SYSTEMS. SEDIMENT DEPOSITION DURING SITE STABILIZATION MUST ALSO BE REMOVED.
- STONE CONSTRUCTION EXIT TO BE MAINTAINED BY GENERAL CONTRACTOR UNTIL SITE HAS BEEN PAVED OR IS NO LONGER REQUIRED.
- ALL CATCH BASIN GRATES ARE TO BE PROTECTED WITH INLET BAGS AFTER THEY ARE INSTALLED. THEY SHOULD BE ROUTINELY CLEANED AND MAINTAINED.
- CONTAINERS SHALL BE AVAILABLE FOR DISPOSAL OF DEBRIS, TRASH, HAZARDOUS WASTES, ALL CONTAINERS MUST BE COVERED AND LEAK-PROOF. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THE PERTINENT MATERIAL.
- BRICKS, HARDENING CONCRETE AND SOIL WASTE SHALL BE FREE FROM CONTAMINATION WHICH MAY LEACH CONSTITUENTS TO WATERS OF THE STATE.
- CLEAN CONSTRUCTION WASTES THAT WILL BE DISPOSED INTO THE PROPERTY SHALL BE SUBJECT TO ANY LOCAL PROHIBITIONS FROM THIS TYPE OF DISPOSAL.
- ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WASTE SHALL BE DISPOSED OF IN A STATE APPROVED C&DD LANDFILL. CONSTRUCTION DEBRIS MAY BE DISPOSED OF ON-SITE, BUT DEMOLITION DEBRIS MUST BE DISPOSED IN A STATE APPROVED LANDFILL. ALSO, MATERIALS WHICH CONTAIN ASBESTOS MUST COMPLY WITH ALL LOCAL AND STATE REGULATIONS.
- AREA SHALL BE DESIGNATED BY CONTRACTOR AND SHOWN ON SWPPP MAP FOR MIXING OR STORAGE OF COMPOUNDS SUCH AS FERTILIZERS, LIME ASPHALT, OR CONCRETE. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREA.
- EQUIPMENT FUELING & MAINTENANCE SHALL BE IN DESIGNATED AREAS ONLY.
- A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN MUST BE DEVELOPED FOR SITES WITH ONE ABOVE-GROUND STORAGE TANK OF 660 GALLONS OR MORE, TOTAL ABOVE-GROUND STORAGE OF 1,330 GALLONS OR BELOW-GROUND STORAGE OF 4,200 GALLONS OF FUEL.
- ALL DESIGNATED CONCRETE WASHOUT AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS OR OTHER STORMWATER DRAINAGE AREAS.
- ALL CONTAMINATED SOIL MUST BE TREATED AND/OR DISPOSED IN AN EPA APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES.
- THE CONTRACTOR SHALL CONTACT THE STATE EPA, THE LOCAL FIRE DEPARTMENT AND THE LOCAL EMERGENCY PLANNING COMMITTEE IN THE EVENT OF A PETROLEUM SPILL (>25 GALLONS) OR THE PRESENCE OF SHEEN.
- OPEN BURNING IS NOT PERMITTED ON THE SITE.
- CONTRACTOR TO ENSURE STREETS SHALL BE CLEARED OF DEBRIS FROM SITE AND SWEEP CLEAN ON AN AS NEEDED BASIS.

ESC LEGEND



DRAWN: JGS
CHECKED: JRM

EROSION CONTROL PLAN

ZUBER ROAD - PLUM RUN DRAINAGE IMPROVEMENTS
SECTION 3
FRANKLIN COUNTY, OHIO

COPYRIGHT, THESE DRAWINGS ARE THE PROPERTY OF CESO, INC.