SPECIAL PROVISIONS

WATERWAY PERMITS CONDITIONS

C-R-S:LAK-20-19.59/24.99

PID: 108665/109270

Date: 04/10/2023

1. Waterway Permits Time Restrictions:

Regional General Permit (RGP) Section A (Linear Transportation) is authorized for LAK-20-19.59, PID 108667. A copy of the RGP and authorization letter (ID LRH-2022-00985-ERI-Lake Erie) shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit is effective starting: **April 10, 2023**. The permit expires: **October 24, 2024.**

A Nationwide Permit #7 (Outfall Structures and Associated Intake Structures) (NWP #7) is authorized for LAK-20-24.99, PID 109270. A copy of the NWP and authorization letter (ID LRH-2022-0097-ERI-Lake Erie) shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit is effective starting: **April 10, 2022**. The permit expires: **March 14, 2026.**

For authorized work in aquatic resources (including streams, wetlands, jurisdictional ditches, captured streams, lakes, ponds), the Department will consider the Contractor's submission of a reauthorization to the waterway permit expiration date based on project constraints. If more than one permit is authorized for the project, then all permits become invalid once the first permit expires. In order for the request to be considered, the Contractor must submit a justification to the Engineer at least 90 days prior to the waterway permit expiration date. The Engineer will submit the request for a time extension to the Ohio Department of Transportation, Office of Environmental Services, Waterway Permits Unit (ODOT-OES-WPU) for consideration and coordination with the U.S. Army Corps of Engineers (USACE), Ohio Environmental Protection Agency (OEPA), U.S. Coast Guard (USCG), U.S. Fish and Wildlife Service (USFWS), and Ohio Department of Natural Resources (ODNR) as appropriate.

2. Deviations From Permitted Construction Activities:

No deviation from the requirements for work in aquatic resources depicted in the plans, Special Provisions, and/or Working Drawings may be made unless a modification has been submitted to ODOT-OES-WPU and approved by the appropriate agencies (i.e., USACE, OEPA, USCG, ODNR, and USFWS).

NOTE: Plan sheets submitted with the Pre-Construction Notifications were approved by the USACE in accordance with RGP and NWP and are included in these Special Provisions.

For emergency situations resulting in unanticipated impacts to aquatic resources, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT-OES-WPU (614-466-2159) must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-OES-WPU (614-466-2159) for consideration and coordination with the appropriate agencies. Notification must be made at least 90 days prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions:

Work in the following aquatic resources is further restricted as follows:

Stream Name /Description	Location	Work restriction dates (No in-stream work permitted)
Stream 1	STA 149+40	None
Stream 2	STA 199+60	None
Stream 3	STA 254+00	None
Red Mill Creek	STA 313+50	None
Arcola Creek	STA 92+30	None

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of "fill" include, but are not limited to: bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary access fills.

Fills placed within a stream identified in the above table (outside of the work restriction dates) can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

4. Materials:

Materials utilized in or adjacent to aquatic resources for temporary or permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Asphalt products are specifically excluded for use as fill. Chromated Copper Arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in aquatic resources.

5. Cultural Resources:

Per CMS 107.10, if archeological sites, historical sites, or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-Cultural Resource Section at 614-466-2159. In the event of human remains are identified by OES-Cultural Resources Section, the Engineer shall also contact the Lake County Sheriff's Office at (440) 350-5517.

6. Aquatic Resource Demarcation:

The attached tables 4, 5, 6 and 7, include detailed fill quantities authorized within the aquatic resources. Aquatic resources not authorized for impact by these Special Provisions shall be demarcated in the field as per SS 832 prior to site disturbance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:

- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows
- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1 - 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours. All costs associated with furnishing and maintaining the above referenced spill containment kit is incidental to work.

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09). Notify the Engineer, in writing, a minimum of 30 days in advance of blasting, for submission to ODOT-OES-WPU (614-466-2159) for coordination with ODNR.

9. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer. Please forward a copy to ODOT-OES-WPU (614-466-2159).

10. Temporary Access Fills:

Special Provisions Notes:

Definitions:

Hydraulic Opening
The cross-sectional area allowing an unimpeded discharge equal to twice the highest monthly flow without producing a rise in the backwater above the Ordinary High Water Mark (OHWM).

Standard Temporary Discharge
Discharge equal to twice the *highest monthly flow* without producing a rise in the backwater above the OHWM. The U.S. Geologic Service publication “Techniques for estimating Selected Streamflow Characteristics of Rural Unregulated Streams in Ohio” provides equations that estimate monthly flow for Ohio Waterways These flows are also available in a web application

by USGS StreamStats, (https://water.usgs.gov/osw/streamstats/ohio.html). The highest monthly flow is the highest monthly mean discharge occurring in a 12-month period from January to December.

Average Monthly Flow
The average monthly flow represents the estimated "normal" flow.

Temporary Access Fills (TAFs)
Include, but are not limited to, dewatering fills, causeways, cofferdams, access pads, temporary bridges, etc. below the OHWM.

Requirements
21 calendar days prior to the initiation of any in-stream work, provide the Engineer with Working Drawings that include:

- Plan view drawing (50 scale or less) showing the location of all TAFs proposed for use on the project
- Scaled cross section and profile drawing showing the OHWM and the proposed hydraulic opening.
- Identify the minimum diameter size, placement location and thickness of non-erodible Dumped Rock Fill material on the plan and profile.
- Calculations analyzing the hydraulic impacts of the TAF on the waterway. Include in the calculations an analysis of the hydraulic opening sized adequately to pass the Standard Temporary Discharge without producing a rise in backwater above the OHWM. Include, in the analysis, calculated channel velocities adjacent to the TAF, culvert exit velocities, calculated headwater and tailwater elevations, and any additional appropriate calculations to assess potential impacts to the waterway during normal and anticipated high flow (twice the highest monthly flow) events.
- A description of all temporary material to be placed below the OHWM elevation.
- A description of the installation and staging of all temporary fill over the life of the contract.
- Identify the protection methods and/or structural Best Management Practices for minimizing impacts to the waterway.
- Volume of temporary fill below the OHWM elevation.
- A description of the diversion ditches, equipment, conduits or means for maintaining normal flows in the waterway.
- A description of the removal of all temporary fill and restoration of the channel and all areas impacted by the TAFs.
- A schedule outlining the timing of the placement and removal of all temporary fill.
- Have competent individuals prepare and check the Working Drawings and hydraulic calculations. Provide a cover sheet containing the preparer(s) and checker(s): First Name, Last Name and Initials. The preparer(s) and checker(s) shall not be the same individual. Have an Ohio Registered Engineer review, approve, sign, seal and date the Working Drawings and hydraulic calculations according to ORC 4733 and OAC 4733-35. Include the following statement on the Working Drawings:

  "These Working Drawings were prepared in compliance with the terms of these Special Provisions and all contract documents."

Do not begin in-stream work until the Engineer has accepted the Working Drawings and hydraulic calculations.

The design and construction of the Contractor's TAF must minimize impacts to water bodies, stream banks, stream beds, and riparian zones to the maximum extent practicable.

Fording of waterways and other aquatic resources is prohibited.

Construct TAFs in such a manner that will maintain flows, minimize upstream flooding, and avoid overtopping the TAF on a regular basis. ***TAFs shall be designed and constructed so that the hydraulic opening provides capacity for a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the (OHWM).***

If the Contractor proposes a TAF which does not meet all the requirements of these Special Provisions, the Contractor must submit a request in writing for a modified TAF to the Engineer. The request must include all Working Drawings and hydraulic calculations required by these Special Provisions. The Department makes no guarantee to grant the request. The Contractor's proposed TAF request will be coordinated by OES with the USACE and the OEPA, as appropriate. The time frame allowed for the coordination of the contractor's proposed TAF will be a minimum of 60 days.

Installation of any temporary fill without appropriate authorization is strictly prohibited. All direct coordination with the USACE and/or OEPA will be performed through OES.

TAFs Construction and Payment

Begin planning and installing causeways and access fills as early in construction as possible to avoid conflicts with these Special Provisions or other environmental commitments that have been included in the construction plans.

TAFs in Streams and Rivers may include, but are not limited to, causeways, cofferdams, access pads, sheet piling, temporary bridges, etc. The Contractor must make every attempt to minimize disturbance to waterbodies, stream banks, stream beds and riparian zones during the construction, maintenance, and removal of the TAF. Construct the TAFs as narrow as practical. Install in-stream conduits parallel to the stream banks. Make the TAFs in shallow areas rather than deep pools where possible. Minimize clearing, grubbing, and excavation of stream banks, and approach sections. Construct the TAFs as to not cause erosion or allow sediment deposits in the waterway.

Prior to the initiation of any in-stream work, establish a monument upstream of the proposed TAF to visually monitor the water elevation in the waterway where the fill is permitted. Maintain the monument throughout the project. Provide a visual mark on the monument that identifies the elevation 1 foot above the OHWM. Ensure that the monument can be read from the bank of the waterway. Have this elevation set and certified by an Ohio Registered Surveyor. All costs associated with furnishing and maintaining the above referenced monument is incidental to the work.

Should the surface water elevation exceed the elevation 1 foot above OHWM, the Department will compensate the Contractor for repair of any resulting damage to the TAF up to the elevation of 1 foot above the OHWM, except as noted. The Department will recognize this event as an excusable, non-compensable delay in accordance with Section 108.06 B. of the Construction & Materials Specifications.

Follow the requirements in Item 502 for Structures for Maintaining Traffic and in Item 503 for Cofferdams and Excavation Bracing and any modifications to these items as shown in the plans. The Department will not pay for repair and maintenance of TAFs associated with Items 502 and 503 as a result of surface water elevation exceeding 1 foot above the OHWM. Compensation for damages associated with waterway flows will be provided as described in Items 502 and 503.

Construct the TAFs, not including Items 502 and 503, to a water elevation at least 1 foot (0.3 m) above the OHWM. If more than one-third the width of the stream is filled, then use culvert pipes to allow the movement of aquatic life. Ensure that any ponding of water behind the TAF will not damage property, flood roadways, or threaten human health and safety.

The following minimum requirements apply to TAFs where culverts are used.

A. Furnish culverts on the existing stream bottom.
B. Avoid a drop in water elevation at the downstream end of the culvert that would result in an adverse impact to the waterway.
C. Furnish a sufficient number of culverts in addition to stream openings to provide a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the OHWM.
D. Furnish culverts with a minimum diameter of 18 inches (0.5 m).

All TAFs must be constructed of suitable materials. Causeways and access fills must be encapsulated with clean, non-erodible, nontoxic Dumped Rock Fill, Type A, B, C, or D, meeting the requirements of C&MS 703.19.B. Utilize appropriately sized Dumped Rock Fill determined by the Contractor's engineer for encapsulating the sides of the TAF. Encapsulate all sides of the TAF with the non-erodible material. For causeways, contractors may use clean aggregate meeting C&MS 703.01 Size Number 1 and 2 for creating a working surface above the OHWM. Extend the non-erodible encapsulating material to at least the elevation of the top of the working surface. Extend clean aggregate up the slope from the original stream bank for 50 feet (10 m) to remove erodible material and prevent tracking from equipment onto the TAF.

When the work requiring TAF is complete, all portions of the TAF (including all rock and culverts) will be removed in its entirety. Do not dispose of TAF material in other aquatic resources or where erosion into another aquatic resource is possible. The stream bottom affected by the TAFs will be restored to its pre-construction elevations. The TAFs will not be paid as a separate item but will be included by the Contractor as part of the total project cost.

Unless specific TAF compensation is included in the plans, all environmental protection and control associated with the authorized activities, are incidental to the work within the boundaries of the aquatic resources.

11. Excavation Activities:

Excavated material will be placed at an upland site and disposed of in such a manner that sediment and runoff to streams and other aquatic resources is controlled and minimized. Additionally, no more than incidental fallback into jurisdictional waters of the U.S. is permitted during the excavation process. If any changes to the proposed work are deemed necessary, Notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU (614-466-2159).

12. Demolition Debris:

The intentional discharge of demolition debris from any structure (including but not limited to bridges, culverts, abutments, wing walls, piers) is not authorized for this project. If any demolition debris inadvertently falls into aquatic resources, it must be removed immediately. The Engineer will immediately in writing of any inadvertent fill discharged into aquatic resources. Also contact ODOT-OES-WPU at 614-466-2159 if any unintentional discharge occurs.

13. Construction Completion Certification:

Upon completion of the work, notify the Engineer. The USACE Construction Completion Certifications must be completed and signed by the Engineer then provided via US mail or email to:

Waterway Permits Program Manager
ODOT - Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223
Adrienne.Earley@dot.ohio.gov

A copy of the certifications has been attached to these Special Provisions.

Version: 2020

TABLE 4. STREAM DISCHARGE AND FILL QUANTITIES

Stream	Station	Description of Impacts	Length (LF)	Width (LF)	Depth (LF)	Existing Culvert	Culvert Overlap	Permanent Fill Below OHWM									Total Permanent Fill			Total Temporary Fill			Total Impact Length
								Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP			Proposed Earthen, Granular, or Embankment Fill									
						Length (LF)	Length (LF)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)
Stream 1	149+40	Culvert Extension	21	2.8	0.9	66	2	17	0.001	2	12	0.001	1	-	-	-	27	0.002	3	15	0.001	1.5	27
Stream 2	199+60	Culvert Extension	132	2.1	0.7	86	15	53	0.003	3	15	0.001	1	-	-	-	53	0.004	4	15	0.001	1	53
Stream 3	254+00	Culvert Replacement	255	9	1	103	-	-	-	-	15	0.003	5	225	0.046	75	240	0.049	80	15	0.003	5	240
Red Mill Creek	313+50	Culvert Maintenance	264	17	1.1	227	-	-	-	-	-	-	-	-	-	-	-	-	-	40	0.016	28	40
							SUM:	70	0.004	5	42	0.005	7	225	0.046	75	320	0.055	87	85	0.021	35.5	360

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

TABLE 5. WETLAND DISCHARGE AND FILL QUANTITIES

Wetland	Station	Description of Impacts	Acreage (AC)	Depth (LF)	Permanent Fill Within Wetland Boundary						Total Permanent Fill		Total Impact Acreage
					Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)		Proposed RCP		Proposed Earthen, Granular, or Embankment Fill				
					Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)
Wetland A	116+00 - 116+50	Grading	0.023	1	-	-	-	-	0.006	10	0.006	10	0.006
Wetland B	115+00 - 118+90	Stormwater Conduit Installation	0.055	1	0.004	6	-	-	0.040	50	0.044	56	0.044
Wetland C	149+50 - 149+80	Culvert Extension	0.007	1	-	-	-	-	0.007	11	0.007	11	0.007
Wetland D	188+25 Blackmore Rd: 11+25 -14+00	Grading	0.086	1	-	-	-	-	0.004	6	0.004	6	0.004
Wetland E	198+80 - 199+75	Culvert Extension	0.052	1	-	-	0.002	4	0.044	70	0.046	74	0.046
Wetland F	226+15	Stormwater Conduit Installation	0.038	1	0.0004	1	0.001	2	0.033	53	0.034	56	0.034
Wetland G	253+90 - 255+50	Culvert Replacement; BMP Post Construction System	0.121	1	-	-	-	-	0.113	183	0.113	183	0.113
Wetland H	253+50 - 253+75	Grading	0.007	1	-	-	-	-	0.006	10	0.006	10	0.006
Wetland I	313+00 - 313+80	Grading	0.015	1	-	-	-	-	0.015	24	0.015	24	0.015
				SUM:	0.0044	7	0.003	6	0.268	417	0.275	430	0.275

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

NWP 7
LAK-20-24.99 PID 109270
November 2022

TABLE 6. STREAM DISCHARGE AND FILL QUANTITIES

Stream	Station	Description of Impacts	Length (LF)	Width (LF)	Depth (LF)	Permanent Fill Below OHWM			Total Permanent Fill			Total Impact Length
						Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)						
						Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)
Arcola Creek	**Hubbard Road STA 92+30**	**Stormwater Outfall Construction**	**115**	**14.8**	**3**	**10**	**0.003**	**15**	**10**	**0.003**	**15**	**10**
					SUM:	**10**	0.003	15	10	0.003	15	10

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

TABLE 7. WETLAND DISCHARGE AND FILL QUANTITIES

Wetland	Station	Description of Impacts	Acreage (AC)	Depth (LF)	Permanent Fill Within Wetland Boundary						Total Permanent Fill		Total Impact Acreage
					Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)		Proposed RCP		Proposed Earthen, Granular, or Embankment Fill				
					Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)
Wetland A	US 20 STA 476+00	Stormwater Conduit and RCP	0.27	1	0.003	5	0.001	2	0.003	5	0.007	12	0.007
Wetland B	US 20 STA 524+50	Stormwater Conduit	0.13	1	0.001	5	-	-	0.101	163	0.102	168	0.102
				SUM:	0.004	10	0.001	2	0.104	168	0.109	180	0.109

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

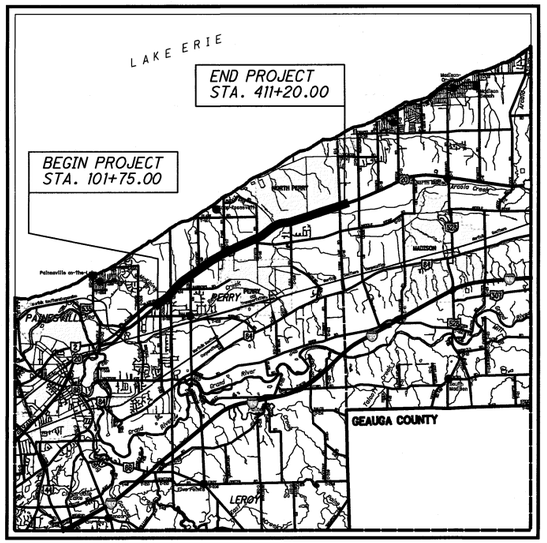
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LAK-US-20-19.59
PART 1

PAINESVILLE TWP., PERRY TWP.,
NORTH PERRY VILLAGE, MADISON TWP.

LAKE COUNTY, OHIO

FOR PART 2, SEE LAK-20-24.99



LOCATION MAP

LATITUDE: 41°45'58.7" LONGITUDE: 81°10'51.7"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION: LAK-US-20-19.59

CURRENT ADT (2022)	25,000
DESIGN YEAR ADT (2042)	31,850
DESIGN HOURLY VOLUME (2042)	3,185
DIRECTIONAL DISTRIBUTION	62%
TRUCKS (24 HOUR B&C)	10%
DESIGN SPEED	45 MPH
LEGAL SPEED	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION: URBAN PRINCIPAL ARTERIAL	
NHS PROJECT	YES

DESIGN EXCEPTIONS
NONE REQUIRED

ADA DESIGN WAIVERS
NONE REQUIRED

UNDERGROUND UTILITIES

OHIO811.org Before You Dig

PLAN PREPARED BY:

your trusted advisor
consultants
engineers
architects
planners

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ENGINEERS SEAL:

STATE OF OHIO WILLIAM D. BAKER, JR. 69412 REGISTERED PROFESSIONAL ENGINEER

SIGNED: William D. Baker Jr.
DATE: 7/15/2022

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-2.1	1-21-22	CB-1	7-16-21	DM-3.1	1-18-13	MT-101.75	1-17-20	TC-42.20	10-18-13	800	SEE PROPOSAL	PN 121
BP-2.2	1-15-21	CB-2-2ABC	7-15-22	DM-4.3	1-15-16	MT-101.90	7-17-20	TC-51.11	1-15-16	809	7-15-22	
BP-3.1	1-21-22	CB-2-34	7-16-21	DM-4.4	1-15-16	MT-102.10	1-17-20	TC-52.10	10-18-13	815	4-16-21	
BP-4.1	7-19-13	CB-3	7-16-21			MT-102.20	4-19-19	TC-52.20	1-15-21	821	4-20-12	
BP-5.1	7-15-22	CB-3A	7-16-21	HW-2.1	7-20-18	MT-103.10	1-21-22	TC-65.10	1-17-14	832	7-15-22	
BP-7.1	1-21-22	CB-6	1-21-22	HW-2.2	7-20-18	MT-105.10	1-17-20	TC-65.11	7-15-22	870	4-16-21	
								TC-71.10	7-15-22	878	1-21-22	
MGS-1.1	7-16-21	I-2	7-16-21	HL-30.11	1-15-21	TC-12.31	1-21-22	TC-72.20	7-20-18	895	4-18-14	
MGS-2.1	1-19-18	I-2A	7-16-21	HL-30.22	1-15-21	TC-15.116	1-15-21	TC-74.10	1-21-22	906	10-15-10	
MGS-3.1	1-19-18			MT-95.31	7-19-19	TC-16.22	7-16-21	TC-81.22	7-15-22	909	7-15-22	
MGS-4.2	7-19-13	MH-1	7-15-22	MT-95.32	4-19-19	TC-21.11	7-16-21	TC-83.10	1-17-20	921	4-20-12	
		MH-3	7-16-21	MT-95.41	1-17-20	TC-21.21	7-15-22	TC-83.20	7-15-22	938	1-19-18	
RM-1.1	1-15-21			MT-97.12	1-17-20	TC-22.10	4-17-20	TC-84.20	10-18-13	995	7-17-15	
RM-3.1	7-20-18	DM-1.1	7-17-20	MT-99.20	4-19-19	TC-22.20	1-17-14	TC-85.10	4-17-20			
RM-4.2	4-17-20	DM-1.2	7-16-21	MT-101.60	1-17-20	TC-41.20	10-18-13	TC-85.20	7-20-18			
				MT-101.70	1-17-20	TC-41.30	10-18-13					

PROJECT DESCRIPTION

MAJOR REHABILITATION OF 5.4 MILES OF NORTH RIDGE ROAD (US-20) FROM SR. 2 TO TOWNLINE ROAD IN PERRY TOWNSHIP. WORK WILL INCLUDE ROADWAY WIDENING, RESURFACING AND SIDEWALK, DRAINAGE AND TRAFFIC SIGNAL IMPROVEMENTS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	55.1 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	56.1 ACRES

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY 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 ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E191(584)

PID NO. 108665

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

LAK-US-20-19.59 PART 1

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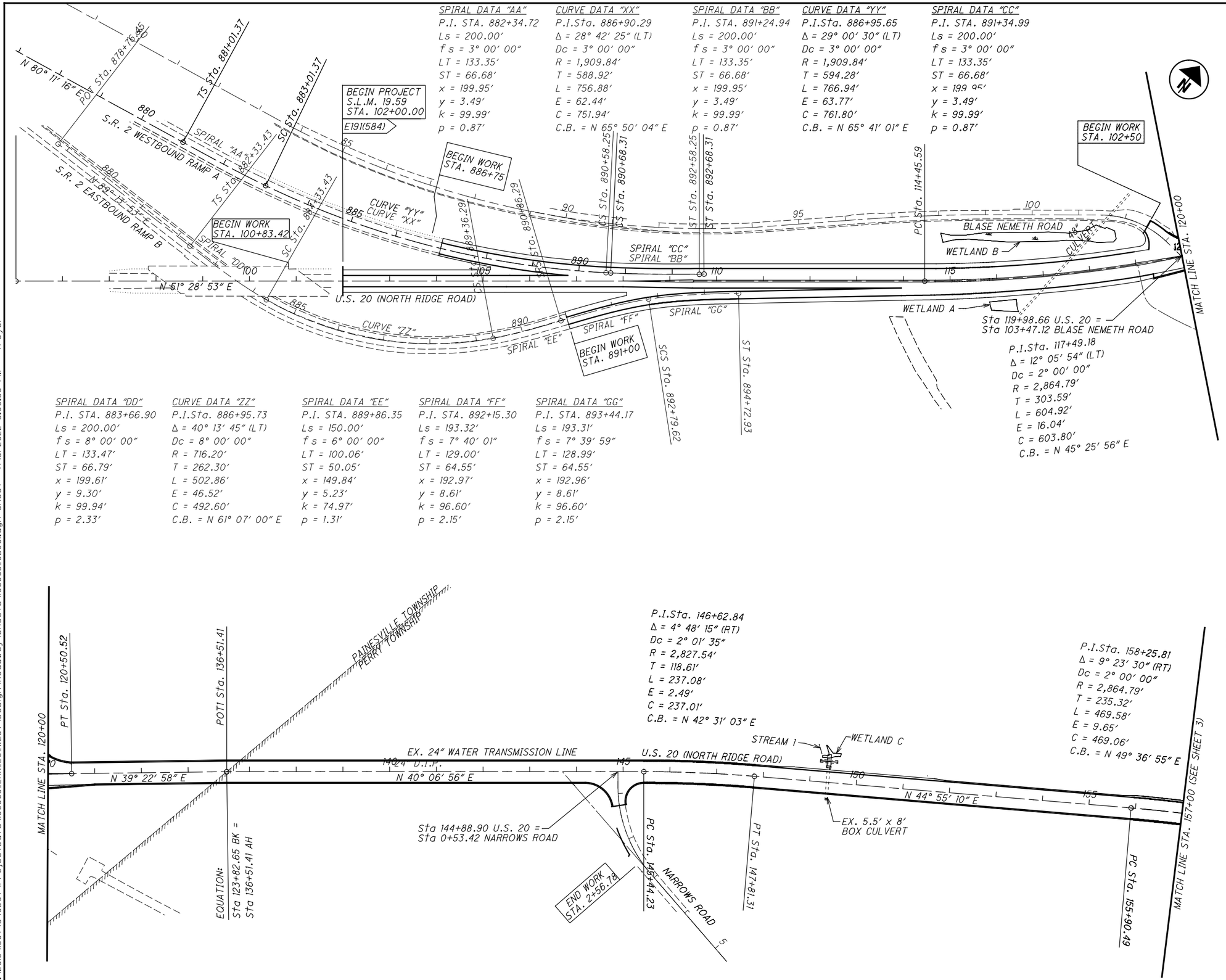

SPIRAL DATA "AA"
P.I. STA. 882+34.72
Ls = 200.00'
f s = 3° 00' 00"
LT = 133.35'
ST = 66.68'
x = 199.95'
y = 3.49'
k = 99.99'
p = 0.87'

CURVE DATA "XX"
P.I.Sta. 886+90.29
Δ = 28° 42' 25" (LT)
Dc = 3° 00' 00"
R = 1,909.84'
T = 588.92'
L = 756.88'
E = 62.44'
C = 751.94'
C.B. = N 65° 50' 04" E

SPIRAL DATA "BB"
P.I. STA. 891+24.94
Ls = 200.00'
f s = 3° 00' 00"
LT = 133.35'
ST = 66.68'
x = 199.95'
y = 3.49'
k = 99.99'
p = 0.87'

CURVE DATA "YY"
P.I.Sta. 886+95.65
Δ = 29° 00' 30" (LT)
Dc = 3° 00' 00"
R = 1,909.84'
T = 594.28'
L = 766.94'
E = 63.77'
C = 761.80'
C.B. = N 65° 41' 01" E

SPIRAL DATA "CC"
P.I. STA. 891+34.99
Ls = 200.00'
f s = 3° 00' 00"
LT = 133.35'
ST = 66.68'
x = 199.95'
y = 3.49'
k = 99.99'
p = 0.87'

P.I.Sta. 117+49.18
Δ = 12° 05' 54" (LT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 303.59'
L = 604.92'
E = 16.04'
C = 603.80'
C.B. = N 45° 25' 56" E

SPIRAL DATA "DD"
P.I. STA. 883+66.90
Ls = 200.00'
f s = 8° 00' 00"
LT = 133.47'
ST = 66.79'
x = 199.61'
y = 9.30'
k = 99.94'
p = 2.33'

CURVE DATA "ZZ"
P.I.Sta. 886+95.73
Δ = 40° 13' 45" (LT)
Dc = 8° 00' 00"
R = 716.20'
T = 262.30'
L = 502.86'
E = 46.52'
C = 492.60'
C.B. = N 61° 07' 00" E

SPIRAL DATA "EE"
P.I. STA. 889+86.35
Ls = 150.00'
f s = 6° 00' 00"
LT = 100.06'
ST = 50.05'
x = 149.84'
y = 5.23'
k = 74.97'
p = 1.31'

SPIRAL DATA "FF"
P.I. STA. 892+15.30
Ls = 193.32'
f s = 7° 40' 01"
LT = 129.00'
ST = 64.55'
x = 192.97'
y = 8.61'
k = 96.60'
p = 2.15'

SPIRAL DATA "GG"
P.I. STA. 893+44.17
Ls = 193.31'
f s = 7° 39' 59"
LT = 128.99'
ST = 64.55'
x = 192.96'
y = 8.61'
k = 96.60'
p = 2.15'

P.I.Sta. 146+62.84
Δ = 4° 48' 15" (RT)
Dc = 2° 01' 35"
R = 2,827.54'
T = 118.61'
L = 237.08'
E = 2.49'
C = 237.01'
C.B. = N 42° 31' 03" E

P.I.Sta. 158+25.81
Δ = 9° 23' 30" (RT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 235.32'
L = 469.58'
E = 9.65'
C = 469.06'
C.B. = N 49° 36' 55" E

CALCULATED TLS
CHECKED JMP

SCHEMATIC PLAN
STA. 95+00 TO STA. 157+00

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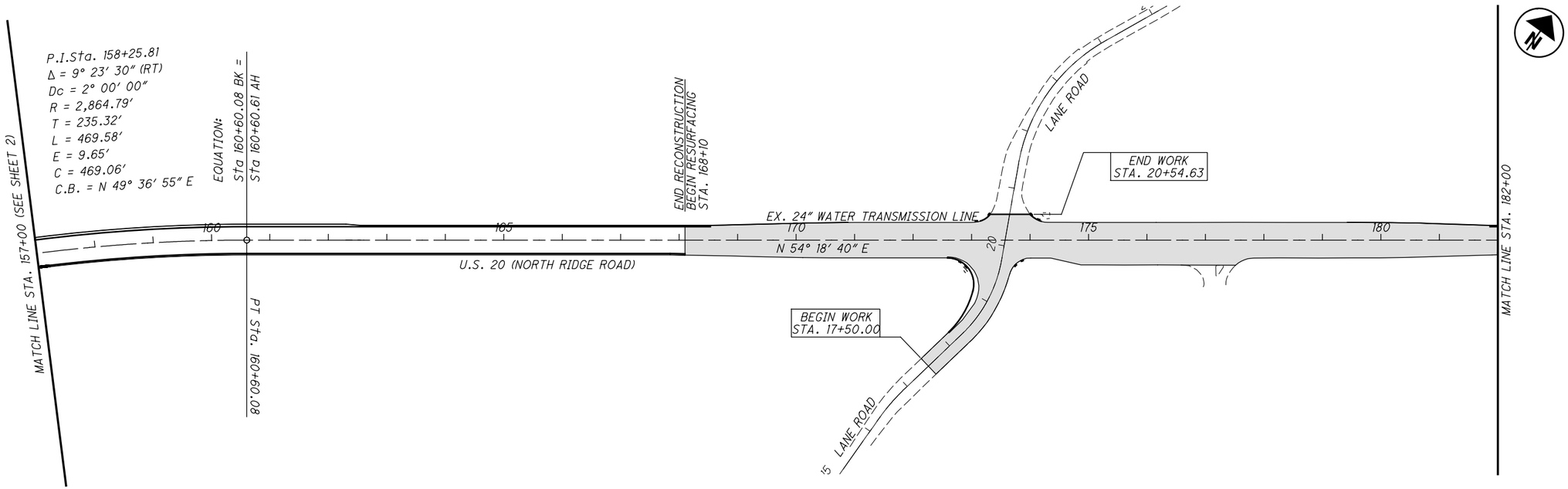

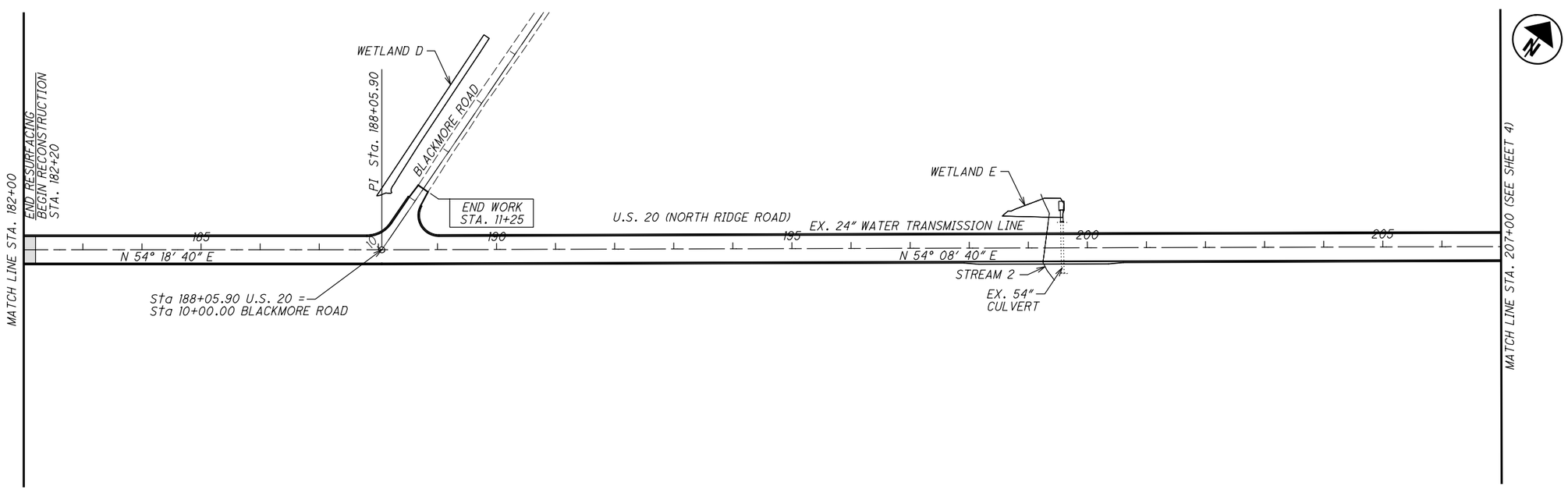

= RESURFACING

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED TLS
CHECKED JMP

SCHEMATIC PLAN
STA. 157+00 TO STA. 207+00

LAK-US-20-19.59
PART 1

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1253

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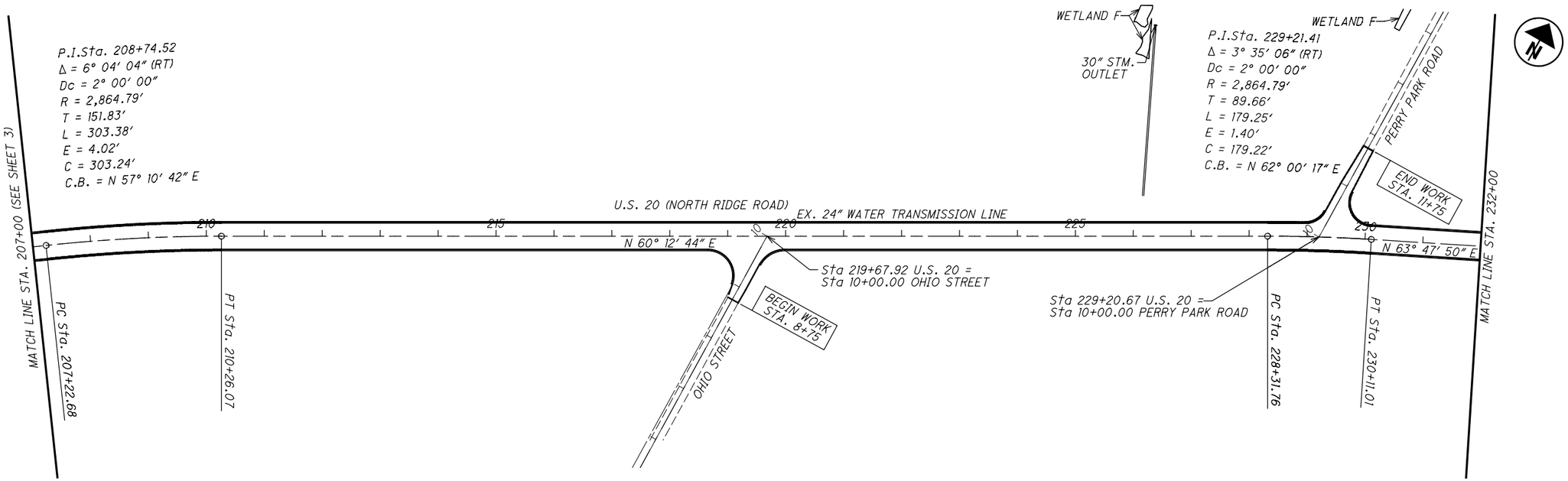

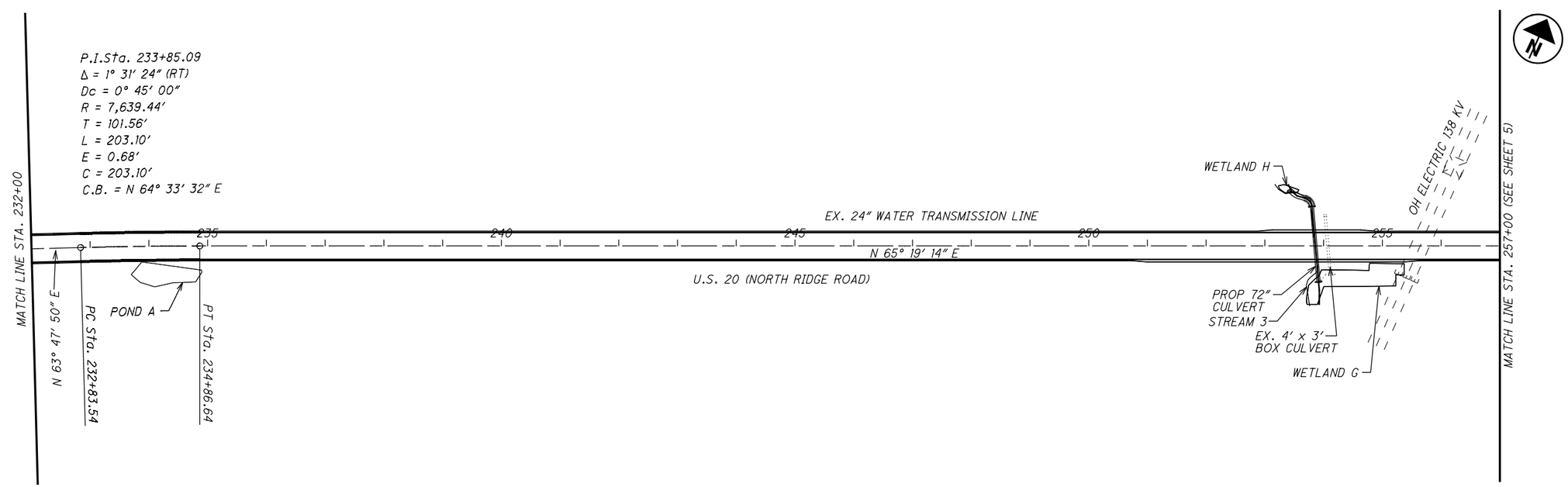

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED TLS
CHECKED JMP

SCHEMATIC PLAN
STA. 207+00 TO STA. 257+00

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PART 1

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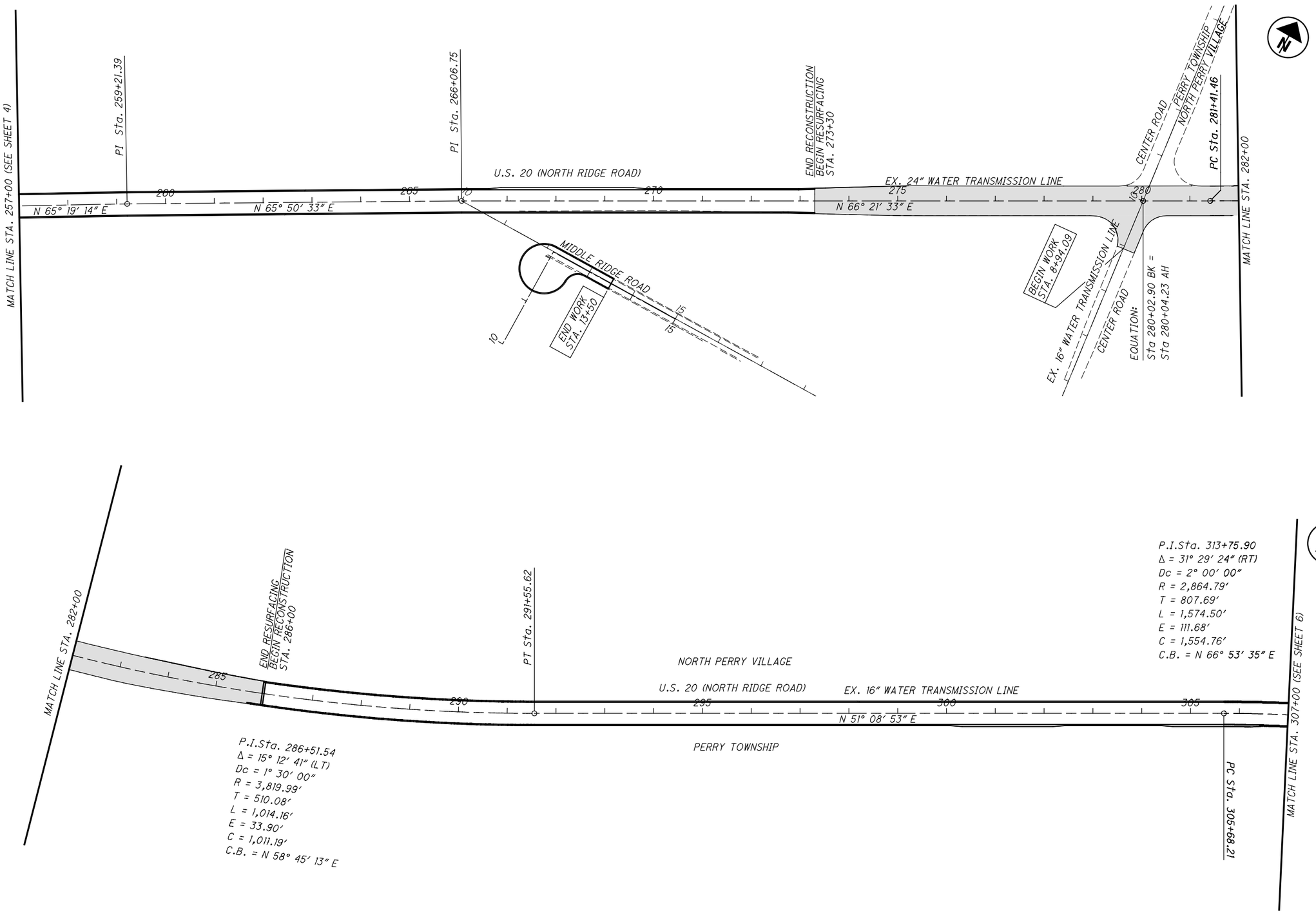

HORIZONTAL SCALE IN FEET 0 50 100 200

CALCULATED TLS
CHECKED JMP

SCHEMATIC PLAN
STA. 257+00 TO STA. 307+00

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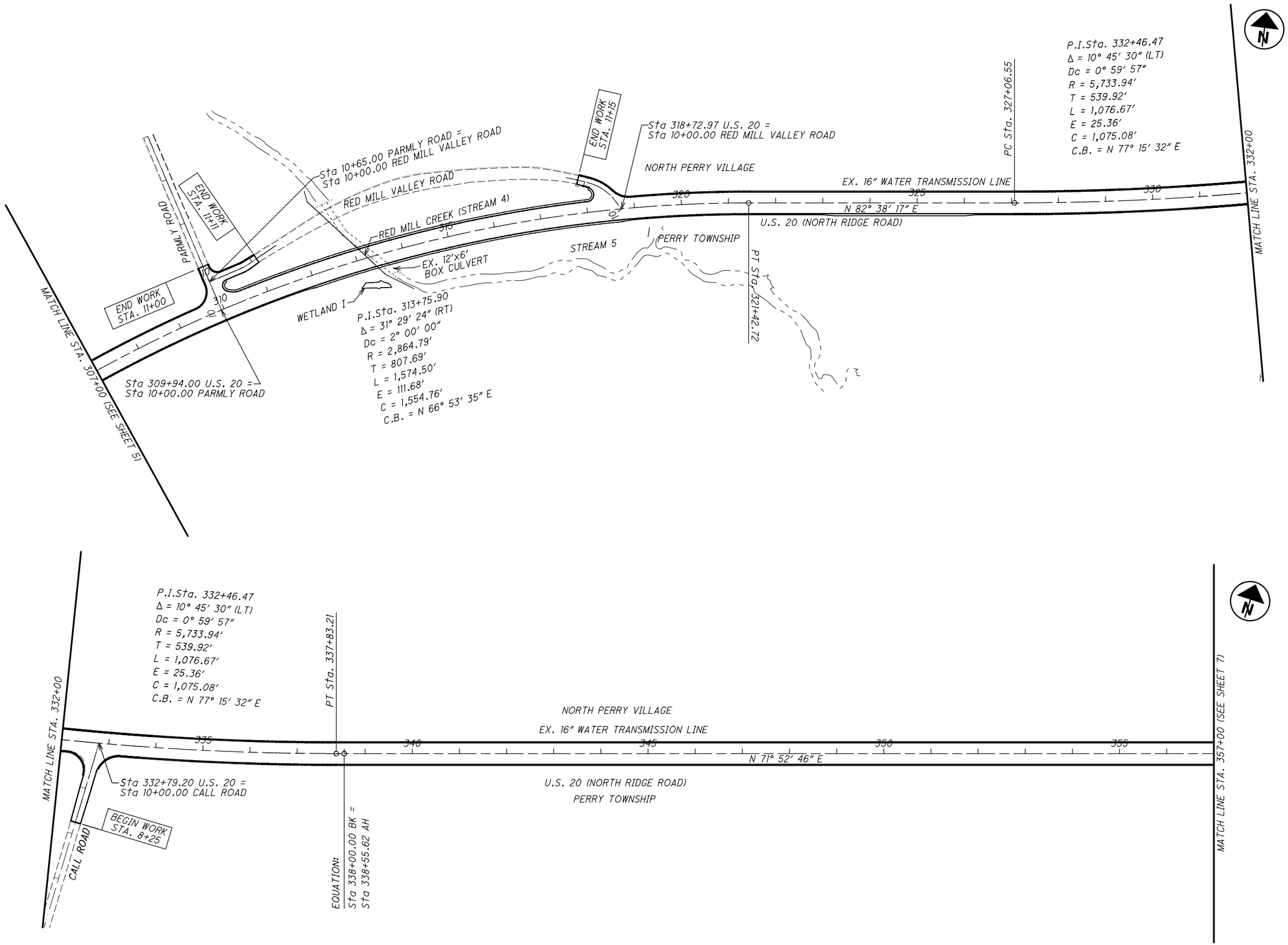

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED TLS
CHECKED JMP

SCHEMATIC PLAN
STA. 307+00 TO STA. 357+00

LAK-US-20-19.59
PART 1

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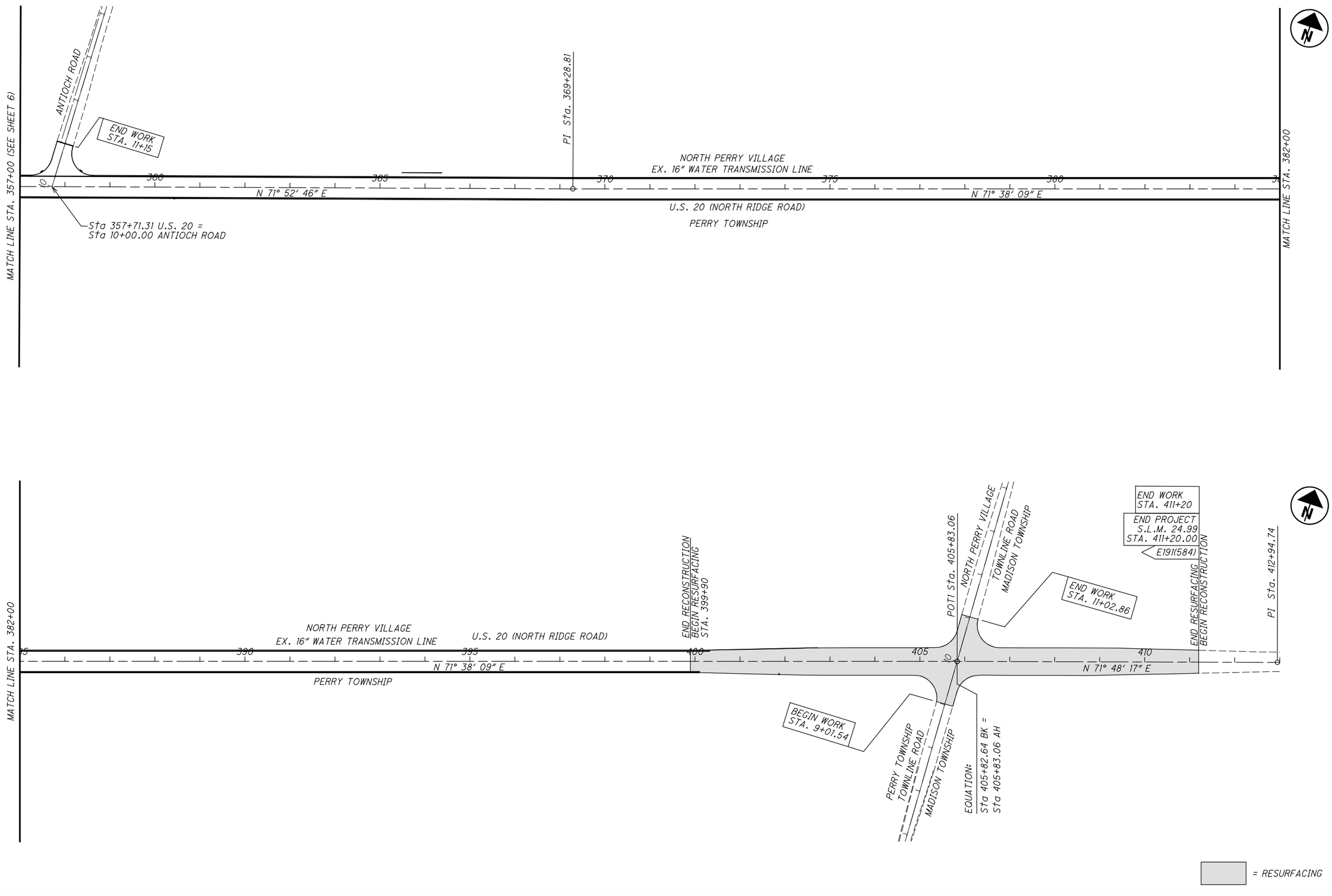

0 50 100 200
HORIZONTAL
SCALE IN FEET

CALCULATED TLS
CHECKED JMP

SCHEMATIC PLAN
STA. 357+00 TO STA. 407+00

LAK-US-20-19.59
PART 1

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GENERAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THETYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

GAS
DOMINION ENERGY OHIO
320 SPRINGSIDE DR. SUITE 320
AKRON, OHIO 44333
330-664-2409

NORTHEAST OHIO NATURAL GAS CORP.
8470 STATION STREET
MENTOR, OHIO 44060
TIM REILLY: 440-701-5100

ELECTRIC
THE ILLUMINATING COMPANY
6896 MILLER RD.
BRECKSVILLE, OHIO 44141
JOHN M ZASSICK: 440-596-8706

WATER & SANITARY
LAKE COUNTY DEPARTMENT OF UTILITIES
105 MAIN STREET
PAINESVILLE, OHIO 44077
SARAH CEROVSKI: 440-350-2652

STORM
OHIO DEPARTMENT OF TRANSPORTATION
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 94125
216-581-2100

COMMUNICATIONS
AT&T
13630 LORAIN AVE. 2ND FLOOR
CLEVELAND, OHIO 99111
JAMES JANIS: 216-476-6142

CHARTER COMMUNICATIONS (SPECTRUM)
7820 DIVISION DRIVE
MENTOR, OHIO 44060
MATT HANNAH: 216-575-8016
EXT. 2165551105

WINDSTREAM
245 N. MAIN STREET
HUDSON, OHIO 44236
JEFF GULYAS: 216-385-1669

ZAYO
4199 KINROSS LAKES PARKWAY, SUITE 10
RICHFIELD, OH 44286
DAVE GALUSKA: 234-281-0025

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EXISTING PLANS

EXISTING PLANS ENTITLED LAK-2-16.49, LAK-20-18.72 AND CLEVELAND BUFFALO ROAD MAY BE INSPECTED IN THE ODOT DISTRICT 12 OFFICE IN GARFIELD HEIGHTS, OHIO.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9 PM AND 7 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 60 HOUR.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEETS 1038-1050 OF THE PLANS FOR TABLES CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: 2012B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (COORS2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR: 1.000000885
ORIGIN OF COORDINATESYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

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.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"		77	77
30"		9	9
48"		1	1
60"			

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NOS. 1009 - 1021.

DURATION OF WORK IN TEMPORARY RIGHT OF WAY

WORK IN THE TEMPORRARY RIGHT OF WAY SHALL BE LIMITED TO A MAXIMUM DURATION OF 45 CALLENDAR DAYS AT THE FOLLOWING PARCELS:

PARCEL 1 - 2495 NORTH RIDGE
PARCEL 23 - 2709 NORTH RIDGE
PARCEL 63 - 3292 NORTH RIDGE
PARCEL 98 - 3850 NORTH RIDGE
PARCEL 161 - 4683 ANTIOCH
PARCEL 177 - 4843 NORTH RIDGE

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.

2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE.

UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO 204.05.

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

3. COMPACT THE SUBGRADE ACCORDING TO 204.03.

4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE AND APPROXIMATE STATION LIMITS ARE AS FOLLOWS:

STA 120+75 TO STA 123+10, 12" DEPTH
STA 149+50 TO STA 150+00, 24" DEPTH
STA 154+00 TO STA 164+50, 24" DEPTH
STA 166+00 TO STA 168+10, 12" DEPTH
STA 256+25 TO STA 264+75, 18" DEPTH
STA 380+00 TO STA 384+00, 36" DEPTH

THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.

6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.

7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204 EXCAVATION OF SUBGRADE.

THE FOLLOWING QUANTITIES FOR THE REMEDIATION OF UNSTABLE SUBGRADE HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 204 - EXCAVATION OF SUBGRADE	10,050	CY
ITEM 204 - GRANULAR MATERIAL, TYPE B	10,050	CY
ITEM 204 - GEOTEXTILE FABRIC	18,100	SY
ITEM 204 - GEOGRID	18,100	SY

ITEM SPECIAL - PRECONSTRUCTION VIDEO DOCUMENTATION

THIS WORK SHALL CONSIST OF FURNISHING THE DEPARTMENT A COMPLETE DIGITAL COLOR AUDIO-VIDEO RECORD OF THE SURFACE FEATURES WITHIN AND IMMEDIATELY ADJACENT (WITHIN 50 FEET) TO THE PROPOSED PROJECT AREA AS SHOWN IN THE CONTRACT DRAWINGS. THIS RECORD SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL AUDIO-VIDEO USB THUMB DRIVES, VIDEO LOGS, AND INDEXES. THE PURPOSE OF THIS COVERAGE SHALL BE TO ACCURATELY DOCUMENT THE PRECONSTRUCTION CONDITION OF THESE SURFACE FEATURES.

THE AUDIO-VIDEO DOCUMENTATION SHALL BE PERFORMED BY A RESPONSIBLE COMMERCIAL FIRM KNOWN TO BE SKILLED AND REGULARLY ENGAGED IN THE BUSINESS OF PRECONSTRUCTION DIGITAL COLOR AUDIO-VIDEO DOCUMENTATION. THE FIRM SHALL FURNISH SUCH INFORMATION AS THE DEPARTMENT DEEMS NECESSARY TO DETERMINE THE ABILITY OF THAT FIRM TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.

AUDIO-VIDEO DOCUMENTATION SHALL NOT BE MADE MORE THAN 60 DAYS PRIOR TO CONSTRUCTION IN EACH PHASE OF WORK.

THE AUDIO-VIDEO SYSTEM AND THE PROCEDURES EMPLOYED IN ITS USE SHALL BE SUCH AS TO PRODUCE A FINISHED PRODUCT THAT WILL MEET PROFESSIONAL STANDARDS. THE VIDEO PORTION OF THE RECORDING SHALL BE BRIGHT, SHARP, CLEAR PICTURES WITH ACCURATE COLORS AND SHALL BE FREE FROM DISTORTION OR ANY OTHER FORM OF PICTURE IMPERFECTION. ALL VIDEO RECORDINGS SHALL BY ELECTRONIC MEANS DISPLAY ON THE SCREEN THE TIME OF DAY, THE MONTH, DAY AND YEAR OF THE RECORDING. THE TIME AND DATE INFORMATION MUST BE CONTINUOUSLY AND SIMULTANEOUSLY GENERATED WITH THE ACTUAL RECORDING. THE AUDIO PORTION OF THE RECORDING SHALL BE PERFORMED BY THE CAMERA OPERATOR DURING THE RECORDING PROCESS AND SHALL BE OF HIGH CLARITY AND FREE FROM DISTORTION.

THE RECORDINGS SHALL CONTAIN COVERAGE OF ALL VISIBLE FEATURES WITHIN THE CONSTRUCTION ZONE BEING AFFECTED BY THE WORK. THESE FEATURES SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL ROADWAYS, PAVEMENT, RETENTION PONDS, RAILROAD TRACKS, CURBS, DRIVEWAYS, SIDEWALKS, CULVERTS, HEAD-WALLS, RETAINING WALLS, LANDSCAPING, TREES, FENCES, DRAINAGE DITCHES, CREEKS, STREAMS, VISIBLE UTILITIES, STRUCTURES, AND BUILDINGS. OF PARTICULAR CONCERN SHALL BE THE CONDITION OF EXISTING VEGETATION, TERRAIN, AND STRUCTURES AND THE EXISTENCE OR NON-EXISTENCE OF ANY FAULTS, FRACTURES OR DEFECTS. PANNING, ZOOM-IN AND ZOOM OUT RATES SHALL BE SUFFICIENTLY CONTROLLED.

WRITTEN DOCUMENTATION MUST COINCIDE WITH THE INFORMATION ON THE AUDIO-VIDEO SO AS TO MAKE EASY RETRIEVAL OF LOCATIONS SOUGHT FOR AT A LATER DATE.

TWO COPIES OF THE DIGITAL COLOR AUDIO-VIDEO RECORDING SHALL BE DELIVERED TO THE DEPARTMENT ON USB THUMB DRIVES.

THE DEPARTMENT WILL MAKE PARTIAL PAYMENTS ACCORDING TO 109.09, PRORATED BY THE LENGTH OF THE WORK PHASE. VIDEO DOCUMENTATION WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM SPECIAL - PRECONSTRUCTION VIDEO DOCUMENTATION, LUMP SUM

CALCULATED TLS
CHECKED JMP

GENERAL NOTES

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PART 1

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ROADWAY

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

WHERE MGS GUARDRAIL CONNECTS TO EXISTING TYPE 5 GUARDRAIL, A LENGTH OF 25' OF GUARDRAIL REBUILT HAS BEEN PROVIDED TO MAKE THE HEIGHT TRANSITION BETWEEN THE DISSIMMILAR GUARDRAIL TYPES.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209, LINEAR GRADING, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, AS PER PLAN SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:
1. SET GUARDRAIL POSTS
2. PLACE ITEM 441

METHOD B:
1. PLACE ITEM 441
2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, (449), UNDER GUARDRAIL, AS PER PLAN.

ITEM 202 REMOVAL MISC.: LIGHT POLE

REMOVE THE LUMINAIRE, SUPPORT, FOUNDATION AND ANY ASSOCIATED WIRING AS INDICATED FOR REMOVAL. REMOVE FOUNDATIONS TO A MINIMUM OF 1 FOOT BELOW THE PROPOSED GROUND SURFACE OR REMOVE ENTIRE FOUNDATION IF NECESSARY FOR THE COMPLETION OF OTHER WORK IN THE CONTRACT. BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

LIGHT POLES REMOVED WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: LIGHT POLE, EACH

EXISTING WEATHER STATION (STA 310+75, LT) REMOVAL COORDINATION AND FOUNDATION REMOVAL

CONTACT HEATHER KRANNITZ (HEATHER.KRANNITZ@DOT.OHIO.GOV, TEL. 614-397-1882) 2 MONTHS PRIOR TO THE PAVEMENT WIDENING/EARTHWORK AT THIS LOCATION TO ENSURE THAT THE STATION CAN BE REMOVED.

AFTER THE WEATHER STATION HAS BEEN REMOVED BY OTHERS, REMOVE THE FOUNDATION TO A MINIMUM OF 1 FOOT BELOW THE PROPOSED GROUND SURFACE OR REMOVE ENTIRE FOUNDATION IF NECESSARY FOR THE COMPLETION OF OTHER WORK IN THE CONTRACT. BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR REMOVAL OF THE FOUNDATION REMOVED AND ALL OF THE ABOVE WORK:

ITEM 202 REMOVAL MISC.: WEATHER STATION FOUNDATION, LUMP SUM

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 INCHES I.D., AND CONFORM TO AASHTO M 181.

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, (SINGLE) (DOUBLE).

ITEM 202 REMOVAL MISC.: BUSINESS SIGN

REMOVE THE SIGN, SUPPORT, FOUNDATION AND ANY ASSOCIATED WIRING AS INDICATED FOR REMOVAL WITHIN THE LIMITS OF THE RIGHT OF WAY OR TEMPORARY RIGHT-OF WAY. CUT AND CAP THE EXISTING WIRING AT THE RIGHT OF WAY LINE. REMOVE FOUNDATIONS TO A MINIMUM OF 1 FOOT BELOW THE PROPOSED GROUND SURFACE OR REMOVE ENTIRE FOUNDATION IF NECESSARY FOR THE COMPLETION OF OTHER WORK IN THE CONTRACT. BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

DELIVER THE EXISTING SIGN TO THE PROPERTY OWNER OR DISPOSE OF IF THE OWNER DOES NOT WANT TO SALVAGE THE REMOVED MATERIALS. THE CONTRACTOR SHALL COORDINATE WITH THE PROPERTY OWNER REGARDING THIS PROPOSED WORK FOR THE DISCONNECTION OF THE CIRCUIT AND TO DETERMINE THE PROPERTY OWNERS INTENT TO SALVAGE THE EXISTING BUSINESS SIGN.

THE ABOVE NOTED WORK SHALL BE COMPLETED AT THE DIRECTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE NOTED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: BUSINESS SIGN, EACH

ITEM 202 REMOVAL MISC.: BOULDER

REMOVE THE BOULDERS AS INDICATED FOR REMOVAL IN THEIR ENTIRETY. BACKFILL ANY CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

BOULDERS REMOVED AND ALL OF THE ABOVE WORK WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: BOULDER, EACH

ITEM 202 REMOVAL MISC.: CONCRETE BLOCK

REMOVE THE CONCRETE BLOCKS (MEASURING APPROXIMATELY 2.5' X 2.5' X 6') AS INDICATED FOR REMOVAL IN THEIR ENTIRETY. BACKFILL ANY CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

CONCRETE BLOCKS REMOVED AND ALL OF THE ABOVE WORK WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: CONCRETE BLOCK, EACH

ITEM 202 REMOVAL MISC.: BOLLARD
ITEM 202 REMOVAL MISC.: POST

REMOVE THE BOLLARD OR POST AND FOUNDATION AS INDICATED FOR REMOVAL. REMOVE FOUNDATIONS TO A MINIMUM OF 1 FOOT BELOW THE PROPOSED GROUND SURFACE OR REMOVE ENTIRE FOUNDATION IF NECESSARY FOR THE COMPLETION OF OTHER WORK IN THE CONTRACT. BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

BOLLARDS AND POSTS REMOVED AND ALL OF THE ABOVE WORK WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: BOLLARD, EACH
ITEM 202 REMOVAL MISC.: POST, EACH

ITEM 202 REMOVAL MISC.: LANDSCAPE LIGHTS

REMOVE THE LIGHTS AND ANY ASSOCIATED WIRING AS INDICATED FOR REMOVAL.

LANDSCAPE LIGHTS REMOVED AND ALL OF THE ABOVE WORK WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: LANDSCAPE LIGHT, EACH

ITEM 202 REMOVAL MISC.: STONE WALL
ITEM 202 REMOVAL MISC.: CONCRETE WALL

REMOVE THE WALL AND FOUNDATION TO A MINIMUM OF 1 FOOT BELOW THE PROPOSED GROUND SURFACE OR REMOVE ENTIRE FOUNDATION IF NECESSARY FOR THE COMPLETION OF OTHER WORK IN THE CONTRACT. BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

WALLS REMOVED AND ALL OF THE ABOVE WORK WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: STONE WALL, FOOT
ITEM 202 REMOVAL MISC.: CONCRETE WALL, FOOT

ITEM 202 REMOVAL MISC.: BUILDING FOUNDATION

REMOVE THE FOUNDATION AS INDICATED FOR REMOVAL TO A MINIMUM OF 1 FOOT BELOW THE PROPOSED GROUND SURFACE OR REMOVE ENTIRE FOUNDATION IF NECESSARY FOR THE COMPLETION OF OTHER WORK IN THE CONTRACT. BREAK UP BASEMENT FLOORS TO REMAIN IN PLACE AND SEAL REMAINING DRAINS WITH MASONRY. BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

FOUNDATIONS REMOVED AND ALL OF THE ABOVE WORK WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: BUILDING FOUNDATION, EACH

ITEM SPECIAL - PARKING BLOCK REMOVED

REMOVE THE PARKING BLOCKS AND STAKES AS INDICATED FOR REMOVAL.

PARKING BLOCKS REMOVED AND ALL OF THE ABOVE WORK WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM SPECIAL - PARKING BLOCK REMOVED, EACH

EROSION CONTROL

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2	EACH
659, TOPSOIL	13,524	CU. YD.
659, SEEDING AND MULCHING, CLASS 1	121,832	SQ. YD.
659, REPAIR SEEDING AND MULCHING	6,092	SQ. YD.
659, INTER-SEEDING	6,092	SQ. YD.
659, COMMERCIAL FERTILIZER	16.99	TON
659, LIME	25.17	ACRES
659, WATER	691	M. GAL.

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 COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON LIMITS IDENTIFIED AS NECESSARY IN THE CROSS-SECTIONS. ANY ADDITIONAL AREAS OUTSIDE OF THE AREAS IDENTIFIED IN THE CROSS-SECTIONS THAT ARE DISTURBED BY THE CONTRACTOR TO FACILITATE CONSTRUCTION MUST BE RESTORED IN ACCORDANCE WITH C&MS 107.10 AND CONSIDERED INCIDENTAL TO THE WORK. NO ADDITIONAL COMPENSATION WILL BE MADE FOR THESE AREAS.

ENVIRONMENTAL

NOTIFICATION OF COMMENCEMENT

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING A MINIMUM OF TWO WEEKS PRIOR TO COMMENCEMENT OF WORK:

PAINESVILLE TOWNSHIP	440-352-1443
PAINESVILLE TOWNSHIP FIRE	440-358-6996
RIVERSIDE LOCAL SCHOOLS	440-352-0668
PERRY TOWNSHIP	440-259-5140
PERRY JOINT FIRE DISTRICT	440-259-3251
PERRY LOCAL SCHOOLS	440-259-9200
NORTH PERRY VILLAGE	440-259-4994
NORTH PERRY VILLAGE POLICE	440-259-4994
MADISON TOWNSHIP	440-428-5128
MADISON FIRE DISTRICT	440-428-1522
MADISON TOWNSHIP POLICE	440-428-2116
MADISON LOCAL SCHOOLS	440-428-2166
LAKE COUNTY SHERIFF (PAINESVILLE TWP., PERRY TWP.)	440-350-5601

ENDANGERED BAT HABITAT REMOVAL

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

MUSSEL SALVAGE AND RELOCATION

THE DEPARTMENT WILL ENSURE A STATE PERMITTED MALACOLOGIST WILL COMPLETE A MUSSEL SALVAGE AND RELOCATION IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE OHIO MUSSEL SURVEY PROTOCOL PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES BELOW THE ORDINARY HIGH WATER MARK FOR RED MILL CREEK. THE DISTRICT ENVIRONMENTAL COORDINATOR WILL COORDINATE THE RESULTS OF THE MUSSEL SURVEY, SALVAGE WORK, OR BOTH WITH ODNR. THE DEPARTMENT WILL ENSURE THE MUSSEL SURVEY AND RELOCATION OCCURS, AND APPROVAL HAS BEEN RECEIVED FROM ODNR, PRIOR TO THE CONTRACTOR PERFORMING WORK BELOW THE ORDINARY HIGH WATER MARK OF RED MILL CREEK.

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT ONE MONTH PRIOR TO ANY PLANNED WORK BELOW THE ORDINARY HIGH WATER OF RED MILL CREEK.

ITEM SPECIAL - PETROLEUM CONTAMINATED SOILS

STUDIES INDICATE THAT PETROLEUM CONTAMINATED SOILS WILL BE ENCOUNTERED DURING EXCAVATIONS FOR CONSTRUCTION ACTIVITIES AT:

STA 119+25 to STA 139+75
2495 NORTH RIDGE ROAD
2481 NORTH RIDGE ROAD
2450 NORTH RIDGE ROAD
2500 NORTH RIDGE ROAD
2510 NORTH RIDGE ROAD
2501 NORTH RIDGE ROAD
STA 236+25 to STA 240+00
3497 NORTH RIDGE ROAD
STA 340+50 to STA 343+50
4569 NORTH RIDGE ROAD
4571 NORTH RIDGE ROAD
STA 393+50 to STA 397+00
5068 NORTH RIDGE ROAD

THE CONTRACTOR SHALL MANAGE THE EXCAVATED MATERIAL AS FOLLOWS. THE ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK. ALL EXCAVATIONS AT THE AFOREMENTIONED LOCATION SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS.

THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED MATERIAL INTO TRUCKS FOR TRANSPORT AND DISPOSAL. AS AN ALTERNATE, THE ENGINEER MAY PERMIT THE CONTRACTOR TO TEMPORARILY STOCKPILE THE EXCAVATED MATERIAL ON AN IMPERMEABLE MEMBRANE, IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE EXCAVATED MATERIAL FROM COMING IN CONTACT WITH THE UNDERLYING SOIL. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUN-OFF.

THE EXCAVATED MATERIAL SHALL BE PROPERLY TRANSPORTED AND DISPOSED OF AS A SOLID WASTE IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY TESTING, PERMITS, AND APPROVALS TO TRANSPORT AND DISPOSE OF THE MATERIAL. IF EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS REQUIRE DEWATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DEWATER, CONTAINERIZE AND DISPOSE OF BY METHODS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS AND/OR AUTHORIZATIONS NEEDED TO STORE, TEST, TRANSPORT AND DISPOSE OF THE WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF REGULATED WATER WITH A METHOD APPROVED BY THE ENGINEER. WORK INVOLVED WITH THIS ITEM SPECIAL INCLUDES COMPLYING WITH THE HANDLING, STORAGE, AND DISPOSAL OF REGULATED AND NON-REGULATED WATER.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON AND/OR GALLON. THE BASIS FOR CONVERSION FROM TONS TO CUBIC YARDS IS 1.5 TON/CUBIC YARD. ALL EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

690E65016 ITEM SPECIAL - WORK INVOLVING PETROLEUM CONTAMINATED SOIL	8200	TON
690E65024 ITEM SPECIAL - WORK INVOLVING REGULATED WATER	4100	GALLON
690E65022 ITEM SPECIAL - WORK INVOLVING NON-REGULATED WATER	4100	GALLON

DRAINAGE

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE. LINE THE AGGREGATE DRAIN TRENCH WITH GEOTEXTILE FABRIC. PLACE THE GEOTEXTILE FABRIC TO COMPLETELY SURROUND THE GRANULAR MATERIAL. OVERLAP THE GEOTEXTILE FABRIC AT THE TOP OF THE TRENCH. MATCH THE OVERLAP TO THE TRENCH WIDTH. AT OTHER SEAMS, OVERLAP GEOTEXTILE FABRIC A MINIMUM OF 12 INCHES.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK AD DIRECTED BY THE DEPARTMENT:

ITEM 605 AGGREGATE DRAINS 250 FT

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR 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.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.21.

A MASONRY COLLAR, AS PER STANDARD DRAWING DM-1.1, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 OR 522.

ITEM 611 CATCH BASIN RECONSTRUCTED TO GRADE
ITEM 611 MANHOLE RECONSTRUCTED TO GRADE

THE FOLLOWING QUANTITY IS PROVIDED TO RECONSTRUCT EXISTING CATCH BASINS AND MANHOLES TO GRADE IN RESURFACING AREAS OF THE PROJECT, AS DIRECTED BY THE DEPARTMENT.

ITEM 611 CATCH BASIN RECONSTRUCTED TO GRADE, 5 EACH
ITEM 611 MANHOLE RECONSTRUCTED TO GRADE, 5 EACH

ITEM 611 CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN
ITEM 611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN

ALL CASTINGS SHALL BE ADJUSTED TO THE FINISHED ROADWAY ELEVATION BY THE CONTRACTOR. THE TIME BETWEEN ADJUSTING THE THE CASTINGS AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM. NO ADJUSTING RINGS SHALL BE PERMITTED.

THE FOLLOWING QUANTITY IS PROVIDED TO ADJUST EXISTING CATCH BASINS AND MANHOLES TO GRADE IN RESURFACING AREAS OF THE PROJECT, AS DIRECTED BY THE DEPARTMENT.

ITEM 611 CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN, 45 EACH
ITEM 611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN, 17 EACH

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN *(FOR PROPOSED CULVERT AT STA. 253+86)*

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE TO SUPPORT THE SIDES OF THE EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

THIS WORK SHALL CONSIST OF TEMPORARY SHEET PILING TO BE INSTALLED TO CONSTRUCT THE NEW CULVERT AT STA. 253+86 TO APPROXIMATE LIMITS SHOWN ON SHEET 83 OF 1253. THE WORK SHALL BE IN ACCORDANCE WITH ITEM 503, EXCEPT THAT STEEL SHEET PILING SATISFYING THE MAXIMUM SECTION DEPTH, THE MINIMUM SECTION AND MATERIAL PROPERTIES LISTED BELOW SHALL BE USED. CULVERT DETAIL SHEET 862 OF 1253 FOR THE CULVERT SECTION

MAXIMUM SECTION DEPTH:	NO MAXIMUM
MINIMUM SECTION MODULUS:	60.7 CU. IN./FT.
STRUCTURAL STEEL:	A572
MINIMUM YIELD STRENGTH:	50,000 PSI

THE DEPTH OF EXCAVATION AT THE PROPOSED CULVERT SHALL BE 19' MAXIMUM WITH A 2'-0" LIVE LOAD SURCHARGE AND WILL REQUIRE THE USE OF TEMPORARY SHORING. IF IT IS NOT REMOVED, ALL SHEETING SHALL BE CUT TO 1 FT. BELOW PROPOSED APPROACH ROADWAY SUBBASE (ITEM 304) ELEVATION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SAFE TEMPORARY CUT SLOPES AND ANY DEWATERING AS NOTED IN ITEM 503.

TEMPORARY SHEETING TABLE					
SHEETING	APPROX. STA.		ELEVATIONS		LENGTH
	BEGIN	END	TOP	BOTTOM	
BACK	253+44.5	254+03.5±	678.0	626.0	52'
*OVER EX. BOX	254+03.5±	254+11.5±	678.0	664.0	14'
AHEAD	254+11.5±	254+28.0±	678.0	626.0	52'

*-WELD WALERS ON EXPOSED SIDE OF THIS 8' LONG PART OF WALL

DO NOT DRIVE SHEET PILING THROUGH AN EXISTING BOX CULVERT AT STA. 254+07.5. CONSEQUENTLY, AN 8'-0"± LENGTH OF WALL ABOVE THE EXISTING BOX SHALL BE STIFFENED WITH WALERS WELDED TO THE EXPOSED FACE OF THE SHEET PILING. INSTALL FOUR (4) W6X25 X 12'-0" LONG WALERS AS THE EXCAVATION DEEPENS ABOVE THE EXISITNG BOX CULVERT. FLAME CUT A HOLE THROUGH THE SHEET PILING TO PASS A PROPOSED 66" STORM CONDUIT.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE IS INCLUDED UNDER THE CONTRACT "LUMP SUM" PRICE BID FOR ITEM 503 COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.

CALCULATED TLS CHECKED JMP

GENERAL NOTES

LAK-US-20-19.59 PART 1

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EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 605 - AGGREGATE DRAINS 200 FT.
ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC 500 FT.
ITEM 611 - 6" CONDUIT, TYPE F 50 FT.

DRAINAGE DISCHARGE CONTINUANCE

FURNISH A DRAINAGE DISCHARGE CONTINUANCE FOR ANY DRAINAGE DISCHARGE DISTURBED BY THE WORK AND NOT SHOWN IN THE PLANS. THE LOCATION, TYPE (CONDUIT OR SWALE), SIZE AND GRADE OF THE DRAINAGE DISCHARGE CONTINUANCE WILL BE AGREED TO BY THE ENGINEER

FURNISH AN INSPECTION WELL AT THE RIGHT OF WAY LINE IN ACCORDANCE WITH SCD DM-3.1 FOR EACH DRAINAGE DISCHARGE THAT OUTLETS THROUGH A CURB OPENING, OR INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST IS INCLUDED IN ITEM 611,INSPECTION WELL.

FURNISH A DRILLED HOLE OR A CURB SECTION WITH A HOLE WHEN OUTLETTING A CONDUIT THROUGH A CURB OPENING. THE COST OF DRILLING, OR FURNISHING THE CURB SECTION WITH HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE _ FOR DRAINAGE DISCHARGE CONTINUANCE.

FURNISH A DRILLED CORE HOLE WHEN OUTLETTING INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST OF THE DRILLED CORE HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE _ FOR DRAINAGE DISCHARGE CONTINUANCE.

DOCUMENTATION: THE CONTRACTOR SHALL FURNISH WRITTEN DOCUMENTATION TO THE ENGINEER AND TO THE DISTRICT R/W PERMIT OFFICE. THE DOCUMENTATION INCLUDES THE CONSTRUCTION PROJECT NUMBER, PID, COUNTY, ROUTE, SECTION, LATITUDE AND LONGITUDE OF THE DRAINAGE DISCHARGE AT THE R/W, THE NAME OF PROPERTY OWNER WITH ADDRESS, THE DATE THE DRAINAGE DISCHARGE WAS LOCATED, THE DATE THE DRAINAGE DISCHARGE CONTINUANCE WAS FURNISHED, A DETAILED DESCRIPTION OF THE WORK AND PICTURES OF THE DRAINAGE DISCHARGE CONTINUANCE (IN PDF OR JPEG FORMAT). THE DOCUMENTATION IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE _ FOR DRAINAGE DISCHARGE CONTINUANCE.

CONDUIT MATERIAL TYPES THE FOLLOWING CONDUIT MATERIAL TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, AND 707.52 SDR35.

PAY ITEMS:
EACH OF THE PAY ITEMS LISTED BELOW FOR CONDUIT MISCELLANEOUS TYPES B AND C FOR DRAINAGE DISCHARGE CONTINUANCE INCLUDE CONDUIT SIZES 2 INCH TO 10 INCH. THERE IS NO COST DIFFERENTIATION FOR SIZE IN THESE PAY ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE DRAINAGE DISCHARGE CONTINUANCE:

ITEM 611, INSPECTION WELL 10 EACH
ITEM 611, CONDUIT, MISC TYPE B FOR DRAINAGE DISCHARGE CONTINUANCE 500 FEET
ITEM 611, CONDUIT, MISC TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE 500 FEET

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 10,000 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

ITEM 611 CATCH BASIN RECONSTRUCTED TO GRADE

THE FOLLOWING QUANTITY IS PROVIDED TO RECONSTRUCT EXISTING CATCH BASINS TO GRADE IN RESURFACING AREAS OF THE PROJECT, AS DIRECTED BY THE DEPARTMENT.

ITEM 611 CATCH BASIN RECONSTRUCTED TO GRADE, 5 EACH

ITEM 611 INLET, SIDE DITCH

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO ADDRESS LOW AREAS INADVERTENTLY CREATED WITHIN THE PROJECT LIMITS, AS DIRECTED BY THE DEPARTMENT.

ITEM 611 INLET, SIDE DITCH 5 EACH
ITEM 611 12" CONDUIT, TYPE C 500 FEET

ITEM 611 12" CONDUIT, AS PER PLAN, 748.01 OR 748.06

THE FOLLOWING CONDUIT TYPES SHALL BE PROVIDED FOR THIS ITEM OF WORK.

748.01 - PROVIDE ANSI CLASS 52 WITH PUSH-ON JOINTS CONFORMING TO 638.07.
748.06 - PROVIDE STANDARD THICKNESS GALVANIZED STEEL CASING WITH FULL-CIRCUMFERENCE WELDED JOINTS CONFORMING TO 513.21.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, PIPE CLEANOUT, 24" AND UNDER 4400 FT.
SPECIAL, PIPE CLEANOUT, 27" TO 48" 275 FT.

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE MOT PLANS. PAYMENT FOR THE TEMPORARY DRAINAGE
ITEMS ARE ITEMIZED AND CARRIED TO THE GENERAL SUMMARY.

WATER QUALITY

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

MANUFACTURED WATER QUALITY STRUCTURE

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS HAVE BEEN SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM. PAYMENT FOR THESE DEVICES SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4.

PAVEMENT

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, (449) 100 CU. YDS.
ITEM 304 - AGGREGATE BASE 100 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 AND 304 THICKNESS OF 6 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

PAVEMENT RESTORATION FOR DRAINAGE STRUCTURE INSTALLATIONS

THE FOLLOWING QUANTITY IS PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 611, DRAINAGE STRUCTURES.

ITEM 301, ASPHALT CONCRETE BASE, PG64-22, (449) 10 CU. YDS.
ITEM 304 - AGGREGATE BASE 10 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 AND 304 THICKNESS OF 6 INCHES AND A WIDTH OF TWO FEET AROUND THE PERIMETER OF THE DRAINAGE STRUCTURE.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

ITEM 202 - PAVEMENT REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVAL OF ALL INTEGRAL CURB AND ALL TYPES OF EXISTING PAVEMENT, INCLUDING ASPHALT, CONCRETE AND BRICK.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441)

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR PARTIAL DEPTH PAVEMENT REPAIR:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441) 1400 SY.

REMOVAL DEPTH SHALL BE 3 INCHES OR AS DIRECTED BY THE ENGINEER.

ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446), AS PER PLAN, PG76-22M

THE COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO A BLEND OF AIR COOLED BLAST FURNACE SLAG (ACBFS) OR TRAP ROCK FROM ONTARIO AND LIMESTONE. THE CONTRACTOR SHALL USE A MINIMUM 60% OF ACBFS OR TRAP ROCK FROM ONTARIO WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE. AT LEAST 50% OF THE FINE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO ACBFS OR TRAP ROCK FROM ONTARIO.

TABLE 442.02-2 APPLIES EXCEPT NO. 4 SIEVE REQUIREMENTS ARE 52 TO 60 TOTAL PERCENT PASSING. FOR THE NO. 4 SIEVE, DO NOT EXCEED 63 IN PRODUCTION.

WHEN ACBFS IS USED FOR A FRACTION OF THE COARSE AGGREGATE, PROVIDE A TOTAL ASPHALT BINDER CONTENT GREATER THAN OR EQUAL TO 6.2%. IF ACBFS MAKES UP 100% OF THE COARSE AGGREGATE, APPLY THE BINDER CONTENT REQUIREMENTS OF CMS 442.

ITEM 442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (446), AS PER PLAN

ON THIS PROJECT SUPPLY A 19 mm INTERMEDIATE COURSE MEETING THE REQUIREMENTS OF 442 EXCEPT AS MODIFIED BELOW.

MODIFY TABLE 442.02-2 AS FOLLOWS:

SIEVE SIZE		9.5 mm mix	12.5 mm mix	19 mm mix
		TOTAL PERCENT PASSING		
1 1/2 inch	(38 mm)	-	-	100
3/4 inch	(19 mm)	-	100	95 to 100
1/2 inch	(12.5 mm)	100	95 to 100	90 to 100
3/8 inch	(9.5 mm)	90 to 100	96 max	96 max
No. 4	(4.75 mm)	70 max	52 to 65	60 max
No. 8	(2.36 mm)	34 to 52	34 to 45	34 to 45
No. 200	(75 µm)	2 to 8	2 to 8	2 to 8

MODIFY TABLE 442.02-3 AS FOLLOWS:
APPLY 14.0 FOR A VMA (PERCENT MINIMUM) FOR A 19 mm MIX.
APPLY 5.3 PERCENT FOR THE MINIMUM TOTAL ASPHALT BINDER CONTENT FOR A 19 mm MIX.

MODIFY THE 442 INTERMEDIATE COURSE REQUIREMENTS OF TABLES 401.04-1 AND 401.04-2 AS FOLLOWS:
APPLY 3.5 PERCENT FOR THE TOTAL VIRGIN ASPHALT BINDER CONTENT, MINIMUM.

USE A PG64-22 IF USING 25 PERCENT OR LESS RAP. USE PG64-28 IF USING GREATER THAN 25 PERCENT RAP.

ITEM 301 - ASPHALT CONCRETE BASE, (449), AS PER PLAN, PG64-22

FOR THE PLACEMENT OF 301 ASPHALT BASE, USE ANTI-SEGREGATION EQUIPMENT CONFORMING TO THE REQUIREMENTS OF 401.03.C EXCLUDING THE USE OF REMIXING PAVERS. ALL COSTS ASSOCIATED WITH THIS PROVISION SHALL BE INCIDENTAL TO ITEM 301 - ASPHALT CONCRETE BASE, (449), AS PER PLAN, PG64-22.

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WATER WORK

WATER WORK GENERAL

1. ALL WATER WORK SHALL BE PREFORMED IN ACCORDANCE WITH ITEM 638, THE LAKE COUNTY DEPARTMENT OF UTILITIES (LCDU) RULES AND REGULATIONS, LATEST EDITION AND PLAN DETAILS. WHERE A CONFLICT BETWEEN THE SPECIFICATIONS ARISES, THE LAKE COUNTY DEPARTMENT OF UTILITIES RULES AND REGULATIONS, LATEST EDITION WILL PREVAIL. THE LAKE COUNTY DEPARTMENT OF UTILITIES RULES AND REGULATIONS CAN BE FOUND AT THE FOLLOWING WEB ADRESS: www.lakecountyohio.gov/utilities/rules-and-regulations/

2. ONLY WATER/SEWER CONTRACTORS LICENSED BY THE LAKE COUNTY BOARD OF COMMISSIONERS MAY INSTALL WATER MAINS.

3. THE CONTRACTOR SHALL NOTIFY THE LCDU AT LEAST 48 HOURS IN ADVANCE OF ANY WORK IN THEIR SYSTEMS.

4. THE LCDU SHALL PERFORM INSPECTION SERVICES. THE COST OF INSPECTION SHALL BE INCLUDED AS PART OF THIS CONSTRUCTION PROJECT AT THE CURRENT BASE RATE AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS (SEE LAKE COUNTY UTILITIES DEPARTMENT RULES AND REGULATIONS SECTION 7 FEE SCHEDULE). COSTS FOR LAKE COUNTY INSPECTION FEES AND ALL OTHER WATERWORK RELATED FEES SHALL BE INCLUDED IN THE UNIT BID PRICES FOR THE VARIOUS WATERWORK ITEMS. NO SEPARATE PAYMENT WILL BE MADE FOR LCDU FEES.

5. WATERLINE WORK SHALL NOT BEGIN UNTIL THE AREAS OF CONSTRUCTION ARE ROUGH GRADED.

6. ALL HYDRANTS SHALL BE POSITIONED SO THAT THE STEAMER NOZZLES POINT TOWARD THE ROADWAY PAVEMENT.

7. ALL BOLTS SHALL BE STAINLESS STEEL TYPE 304 OR 316. WITH ANTI-GALLING AGENT.

8. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO ODOT FOR PRELIMINARY CHECKING. ODOT SHALL FORWARD CHECKED SHOP DRAWINGS TO THE LCDU FOR FINAL CHECKING AND APPROVAL.

9. THE LCDU SHALL PROVIDE WATER FOR THE NEW WATER MAIN WITHOUT COST FOR THE INITIAL OPERATION. ALL WATER FOR FLUSHING OPERATIONS SHALL BE PAID FOR BY THE CONTRACTOR AT CURRENT RATES AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS PER 100 CUBIC FEET OF WATER USED. (SEE SECTION 7 FEE SCHEDULE)

10. ALL WATER MAIN PIPE SHALL BE DUCTILE IRON PIPE, ANSI A21.51, THICKNESS CLASS 53, UNLESS OTHERWISE SHOWN ON THE PLANS, WITH MECHANICAL JOINTS, CEMENT LINED ANSI A 21.4. FITTINGS TO BE FULL BODY-ONLY.

11. RESTRAINED MECHANICAL JOINTS SHALL BE OF THE PIPE MANUFACUURER'S STANDARD DESIGN OR SHALL BE AS LISTED IN THE LCDU APPROVED MATERIALS LIST.

12. LCDU WILL MAKE THE NECESSARY NEW SERVICE CONNECTION TAPS ON EXISTING LCDU MAINS FOR THE CONTRACTOR AT CURRENT RATES AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS PER 8" AND GREATER TAPS WITHIN RIGHT OF WAY. (SEE SECTION 7 FEE SCHEDULE) SERVICE CONNECTIONS TO EXISTING BUILDINGS SHALL BE MADE BY THE CONTRACTOR.

13. LCDU WILL SHUT DOWN LIMITED PORTIONS OF WATER MAINS (BETWEEN 2 ADJACENT VALVES, GENERALLY SPACED AT 1200 FT TO 1500 FT) FOR PERIODS NOT TO EXCEED 8 HOURS WITHIN A 24 HOUR PERIOD. ALL WORK WITHIN ONE SHUT DOWN AREA SHALL BE COMPLETED WITHIN THAT SHUT DOWN PERIOD. COORDINATE WITH LCDU A MINIMUM OF 48 HOURS IN ADVANCE OF SUCH PLANNED WORK. LOCAL BUSINESSES AND RESIDENTS WITHIN THE SHUT DOWN LIMITS SHALL BE NOTIFIED 48 HOURS IN ADVANCE.

14. NOTHING IN THESE NOTES SHALL BE CONSTRUED TO SUPERCEDE THE FEDERAL BUY AMERICAN REQUIREMENTS AS SET FORTH IN PN 133.

ITEM SPECIAL 1" COPPER WATER SERVICE LINE, LCDU STANDARD

FURNISH AND INSTALL COPPER SERVICE BRANCHES, TUBING AND FITTINGS, AS NECESSARY, OR AS SHOWN IN THE CONTRACT DOCUMENTS INCLUDING THE REMOVAL OF THE EXISTING SERVICE BRANCHES OR SERVICE BOXES, AS REQUIRED ACCORDING TO THE FOLLOWING SITUATIONS.

TAPPING SADDLES, CORPORATION STOPS, SERVICE STOPS, AND SERVICE BOXES, IF REQUIRED, ARE SEPARATE FROM THIS ITEM:

WHERE A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, OR RELOCATION BETWEEN THE WATER MAIN AT THE CORPORATION STOP AND THE SERVICE STOP, REPLACE IT WITH NEW MATERIALS WITHIN THESE LIMITS UNLESS THE CONNECTIONS CAN BE MADE OUTSIDE THE LIMITS OF THE PROPOSED PAVEMENT, PAVED SHOULDER, OR CURB.

WHERE A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, EXTENDING, OR SHORTENING ON THE PROPERTY SIDE OF THE SERVICE STOP, REPLACE IT WITH NEW MATERIALS FROM THE EXISTING SERVICE STOP TO THE PROPOSED SERVICE STOP.

IF THE EXISTING SERVICE BRANCH ENCOUNTERED IS FOUND TO BE LEAD OR GALVANIZED PIPE, REPLACE IT FROM THE CORPORATION STOP TO THE SERVICE STOP WITH NEW MATERIAL.

THE DEPARTMENT WILL MEASURE COPPER SERVICE BRANCH BY THE NUMBER OF FEET OF EACH CONSTRUCTED.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE RELOCATION OF SERVICE BRANCHES WHICH MAY BE IN CONFLICE WITH OTHER WORK IN THE CONTRACT:

ITEM SPECIAL, 1" COPPER WATER SERVICE LINE, LCDU STANDARD
3,500 FT

ITEM 638 METER AND CHAMBER REMOVED AND RESET, AS PER PLAN

REMOVE EXISTING CHAMBERS. SET THE CHAMBER ON BRICK BLOCKS. DISCONNECT EXISTING METERS, AND REPLACE THEM WITH SUITABLE CONNECTIONS IF NECESSARY. RECONNECT THE METERS AT NEW LOCATIONS.

THE DEPARTMENT WILL MEASURE METER AND CHAMBER REMOVED AND RESET BY THE NUMBER OF EACH.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 638, METER AND CHAMBER REMOVED AND RESET, AS PER PLAN, 10 EACH

ITEM SPECIAL VALVE BOX ADJUSTED TO GRADE, LCDU STANDARD
ITEM SPECIAL SERVICE BOX ADJUSTED TO GRADE, LCDU STANDARD

RAISE OR LOWER EXISTING VALVE BOXES AND SERVICE BOXES TO GRADE. THE CONTRACTOR MAY REUSE EXISTING VALVE BOXES AND SERVICE BOXEs IF THEY ARE IN GOOD CONDITION, AS DETERMINED BY THE ENGINEER.

EXCAVATE AROUND THE VALVE BOX OR SERVICE BOX TO PERMIT THE RAISING OR LOWERING OF THE VALVE BOX OR SERVICE BOX. THE CONTRACTOR MAY ADJUST ANY SCREW-TYPE BOXES WITHOUT THE USE OF EXTENSIONS PROVIDED THAT AMPLE THREAD REMAINS ON THE BOX TO PROVIDE ADEQUATE RIGIDITY TO THE BOX. PROVIDE EXTENSION SECTIONS FOR BOXES THAT ARE NOT OF THE SCREW-TYPE AND BOXES NOT HAVING AMPLE THREAD FOR RIGIDITY TO ADJUST THE TOP TO GRADE. THE ENGINEER WILL ALLOW INSERTS OR ADAPTERS. ADEQUATELY SECURE NEW SECTIONS OF BOX STEM TO THE EXISTING STEMS. BACKFILL THE HOLE AFTER THE BOX HAS BEEN ADJUSTED TO GRADE.

THE DEPARTMENT WILL MEASURE VALVE BOXES AND SERVICE BOXES ADJUSTED TO GRADE SEPARATELY BY THE NUMBER OF EACH, INCLUDING ANY EXTENSION SECTIONS OF VALVE BOXES OR SERVICE BOXES REQUIRED.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL, VALVE BOX ADJUSTED TO GRADE, LCDU STANDARD
10 EACH
ITEM SPECIAL, SERVICE BOX ADJUSTED TO GRADE, LCDU STANDARD 20 EACH

ITEM SPECIAL FIRE HYDRANT REMOVED FOR STORAGE, LCDU STANDARD

WHERE EXISTING HYDRANTS ARE INDICATED FOR REMOVAL, PROVIDE ADEQUATE SUPPORT FOR THE HYDRANT BEFORE DISCONNECTING IT. STORE HYDRANTS AN SINGLE LOCATION ON SITE FOR PICK-UP BY LCDU PERSONELL. NEW HYDRANT INSTALLATION SHALL IMMEDIATELY FOLLOW HYDRANT REMOVAL.

THE DEPARTMENT WILL MEASURE FIRE HYDRANTS REMOVED FOR STORAGE BY THE NUMBER OF EACH, INCLUDING ANY EXTENSION SECTIONS OF VALVE OR SERVICE BOXES REQUIRED.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICES AS FOLLOWS:

ITEM SPECIAL FIRE HYDRAND REMOVED FOR STORAGE, LCDU STANDARD, EACH

ITEM SPECIAL 6" FIRE HYDRANT, LCDU STANDARD

THIS ITEM INCLUDES EXCAVATION AND FURNISHING AND INSTALLING A NEW FIRE HYDRANT COMPLETE WITH PROPER JOINTING, BLOCKING, AND BACKFILLING AS OUTLINED BELOW, AS SHOWN IN THE PLAN DETAILS, AND ALL OTHER INCIDENTAL WORK NECESSARY TO COMPLETE THIS ITEM OF WORK. THE WORK WILL INCLUDE ALL HYDRANT BRANCHES, GATE VALVES, AND VALVE BOXES REQUIRED TO PERFORM THE WORK.

EXCAVATE ACCORDING TO 638.04. EXCAVATE A DRAINAGE PIT 2 FEET IN DIAMETER AND 3 FEET DEEP BELOW THE HYDRANT AND FILL IT WITH GRANULAR MATERIAL. PROVIDE A 3 FOOT MINIMUM RADIUS UNOBSTRUCTED AREA AROUND ALL HYDRANTS. SET THE SIDEWALK FLANGE 2 INCHES ABOVE FINISHED GRADE. SET HYDRANTS ON SOLID CONCRETE BLOCKS ACCORDING TO 638.06.K. PROVIDE THRUST BLOCKING ACCORDING TO 638.06.L. COVER ANY HYDRANT NOT IN SERVICE WITH A BURLAP OR STURDY OPAQUE PLASTIC BAG.

CONSTRUCT HYDRANT BRANCHES USING A SECTION OF DUCTILE IRON PIPE FROM THE MAIN TO THE HYDRANT, AND INCLUDE A GATE VALVE AND VALVE BOX SET VERTICALLY AND PLACED IN THE LINE AS INDICATED. LOCATE THE VALVE ADJACENT TO THE ANCHORING TEE ON THE MAIN. PROVIDE GATE VALVE AND VALVE BOXES FOR HYDRANT BRANCHES CONFORMING TO 638.13.

AFTER HYDRANTS HAVE BEEN SET, OPEN BRANCH AND HYDRANT VALVES UNTIL WATER FLOW EXPELS ALL AIR AND DIRT.

THE DEPARTMENT WILL MEASURE 6" FIRE HYDRANT ASSEMBLIES COMPLETE BY THE NUMBER OF EACH.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICES AS FOLLOWS:

ITEM SPECIAL 6" FIRE HYDRANT, LCDU STANDARD, EACH

SANITARY

SANITARY GENERAL

1. ALL SANITARY SEWER WORK SHALL BE PREFORMED IN ACCORDANCE WITH ITEM 611, THE LAKE COUNTY DEPARTMENT OF UTILITIES (LCDU) RULES AND REGULATIONS, LATEST EDITION AND PLAN DETAILS. WHERE A CONFLICT BETWEEN THE SPECIFICATIONS ARISES, THE LAKE COUNTY DEPARTMENT OF UTILITIES RULES AND REGULATIONS, LATEST EDITION WILL PREVAIL. THE LAKE COUNTY DEPARTMENT OF UTILITIES RULES AND REGULATIONS CAN BE FOUND AT THE FOLLOWING WEB ADRESS: www.lakecountyohio.gov/utilities/rules-and-regulations/

2. ONLY WATER/SEWER CONTRACTORS LICENSED BY THE LAKE COUNTY BOARD OF COMMISSIONERS MAY INSTALL SANITARY SEWERS.

3. THE CONTRACTOR SHALL NOTIFY THE LCDU AT LEAST 48 HOURS IN ADVANCE OF ANY WORK IN THEIR SYSTEMS.

4. THE LCDU SHALL PERFORM INSPECTION SERVICES. THE COST OF INSPECTION SHALL BE INCLUDED AS PART OF THIS CONSTRUCTION PROJECT AT THE CURRENT BASE RATE AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS (SEE LAKE COUNTY UTILITIES DEPARTMENT RULES AND REGULATIONS SECTION 7 FEE SCHEDULE) COST FOR LAKE COUNTY INSPECTION FEE. AND OTHER FEES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR OTHER WATERLINE ITEMS.

5. ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED

ITEM 611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN

CAREFULLY REMOVE THE EXISTING COVER AND INSTALL PRECAST CONCRETE GRADE RING TO THE NEW GRADE.

ALL MANHOLES ADJUSTED TO GRADE SHALL HAVE EXTERNAL MANHOLE CHIMNEY SEALS AS LISTED IN THE LCDU SANITARY APPROVED MATERIALS LIST OF HE LAKE COUNTY UTILITIES DEPARTMENT RULES AND REGULATIONS, LATEST EDITION

ALL BRICK WORK ABOVE THE MANHOLE CONE SECTION SHALL BE REPLACED AND A CHIMNEY SEAL SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

THE DEPARTMENT WILL MEASURE MANHOLES RECONSTRUCTED OR ADJUSTED TO GRADE, BY THE NUMBER OF EACH TYPE OF STRUCTURE COMPLETE AND ACCEPTED.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM 611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN, EACH

TRAFFIC CONTROL

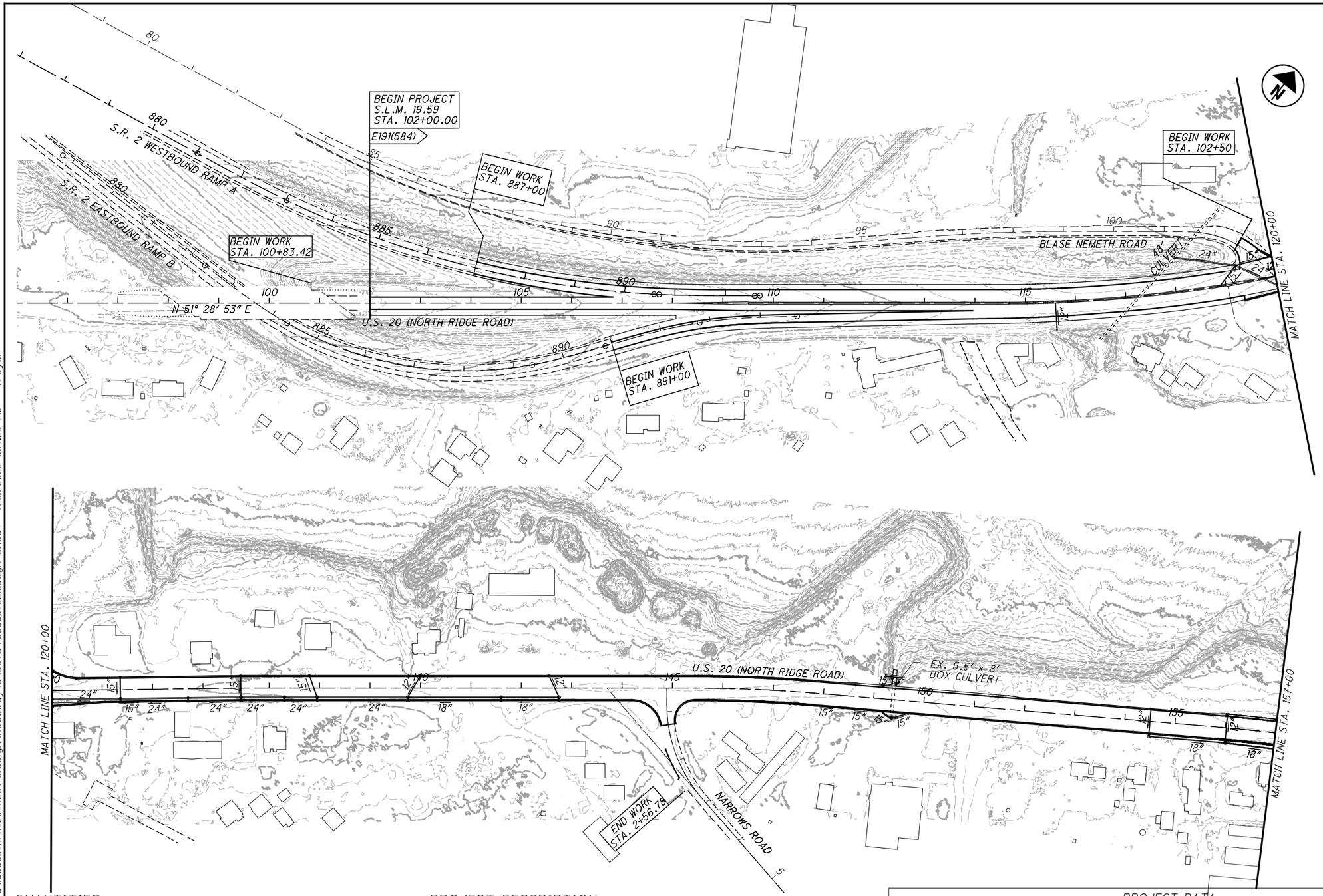
REMOVAL OF GROUND MOUNTED SIGN AND REERECTION, AS PER PLAN

THE EXISTING SIGN AND SIGN POSTS SHALL BE CAREFULLY REMOVED AND STORED PRIOR TO THE CONSTRUCTION OF THE TEMPORARY PAVEMENT. THE SIGN AND SIGN POSTS SHALL BE RESTORED TO ITS ORIGINAL LOCATION AFTER THE TEMPORARY PAVEMENT HAS BEEN REMOVED. ANY DAMAGE TO THE SIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK:

ITEM 621, RAISED PAVEMENT MARKER REMOVED 1225 EACH



QUANTITIES

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

832 STORM WATER POLLUTION PREVENTION PLAN	LS
832 STORM WATER POLLUTION PREVENTION INSPECTIONS	LS
832 STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	LS
832 EROSION CONTROL	690,000 EACH

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	55.1 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	56.1 ACRES

PROJECT DESCRIPTION

MAJOR REHABILITATION OF 5.4 MILES OF NORTH RIDGE ROAD (US-20) FROM SR. 2 TO TOWNLINE ROAD IN PERRY TOWNSHIP. WORK WILL INCLUDE ROADWAY WIDENING, RESURFACING AND SIDEWALK, DRAINAGE AND TRAFFIC SIGNAL IMPROVEMENTS.

LEGEND

- M.H. NO. 3
- C.B. 3
- C.B. 3A

USGS QUADRANT: MADISON, OHIO

LATITUDE: 41°46'26.85" N
LONGITUDE: 81°8'59.71" W

PROJECT DATA

TOTAL AREA (RIGHT-OF-WAY)	47.26 Ac.	RUNOFF COEFFICENT FOR PRE-CONSTRUCTION SITE	0.90
PROJECT EARTH DISTURBED AREA	55.10 Ac.		
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	1.00 Ac.	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.90
NOTICE OF INTENT EARTH DISTURBED AREA	56.10 Ac.	A MANUFACTURED WATER QUALITY SYSTEM AND AN EXISTING UNDERGROUND DETENTION/INFILTRATION SYSTEM ARE PROVIDED TO MEET NPDES POST CONSTRUCTION REQUIREMENTS.	
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	47.26 Ac.	IMMEDIATE RECEIVING WATERS: ARCOLA CREEK & UNNAMED STREAMS	
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE	47.38 Ac.	SUBSEQUENT RECEIVING WATER: LAKE ERIE	

HORIZONTAL SCALE IN FEET 0 50 100 200

CALCULATED SHT
CHECKED JMP

PROJECT SITE PLAN
STA. 95+00 TO STA. 157+00

LAK-US-20-19.59
PART 1

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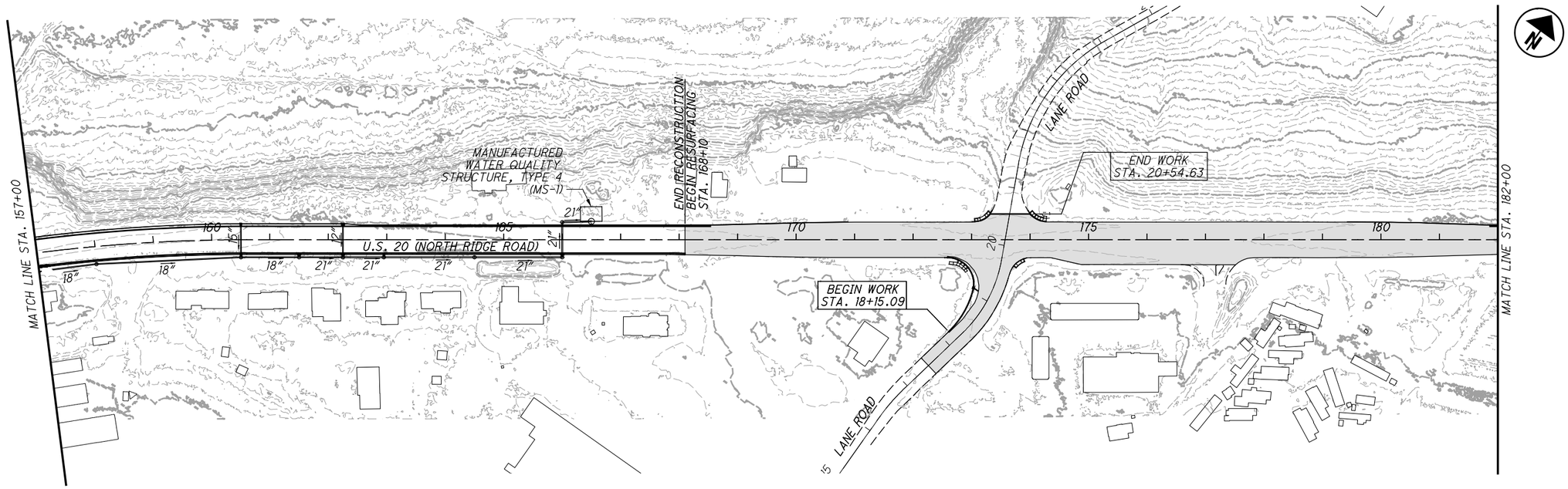

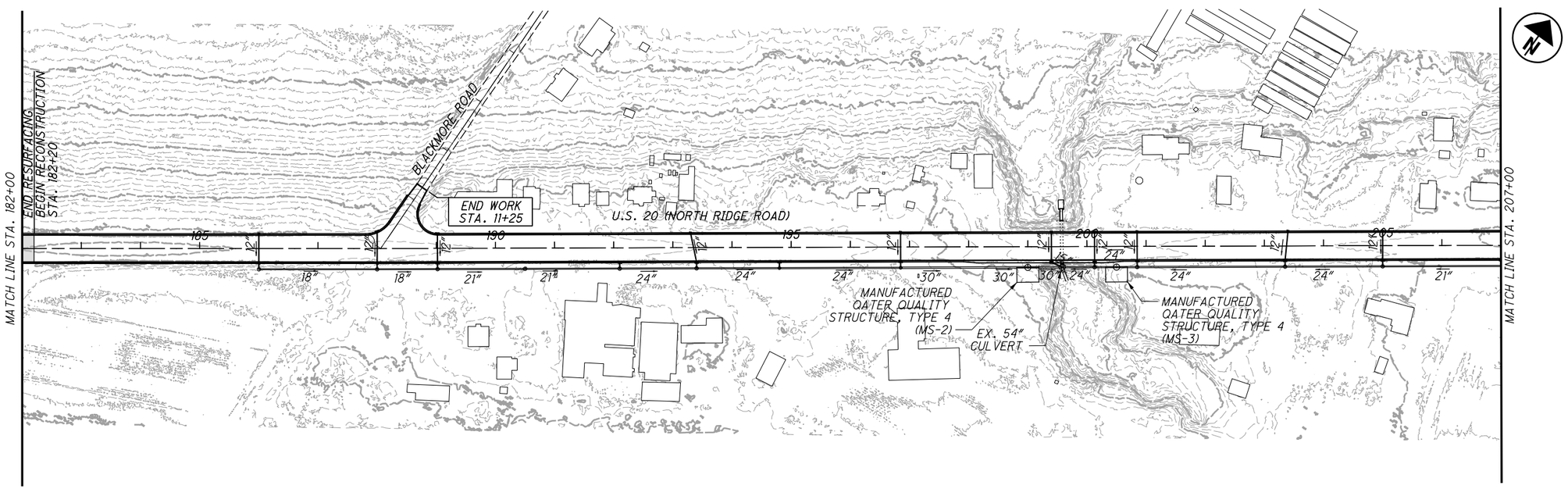

= RESURFACING

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED SHT
CHECKED JMP

PROJECT SITE PLAN
STA. 157+00 TO STA. 207+00

LAK-US-20-19.59
PART 1

420
1253

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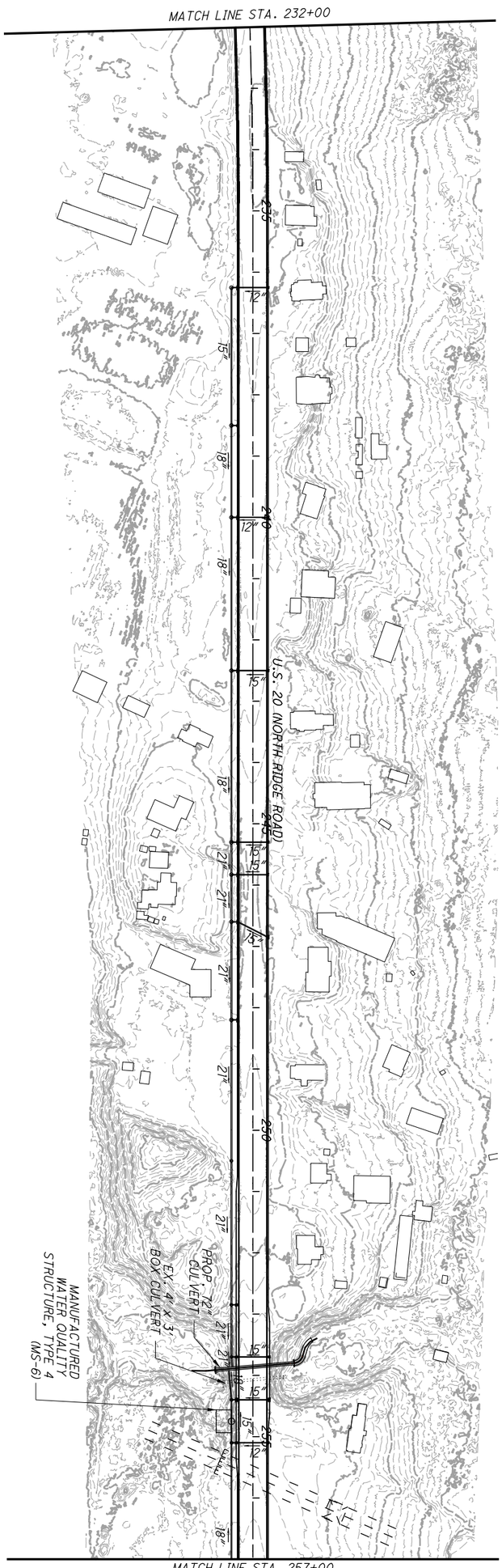
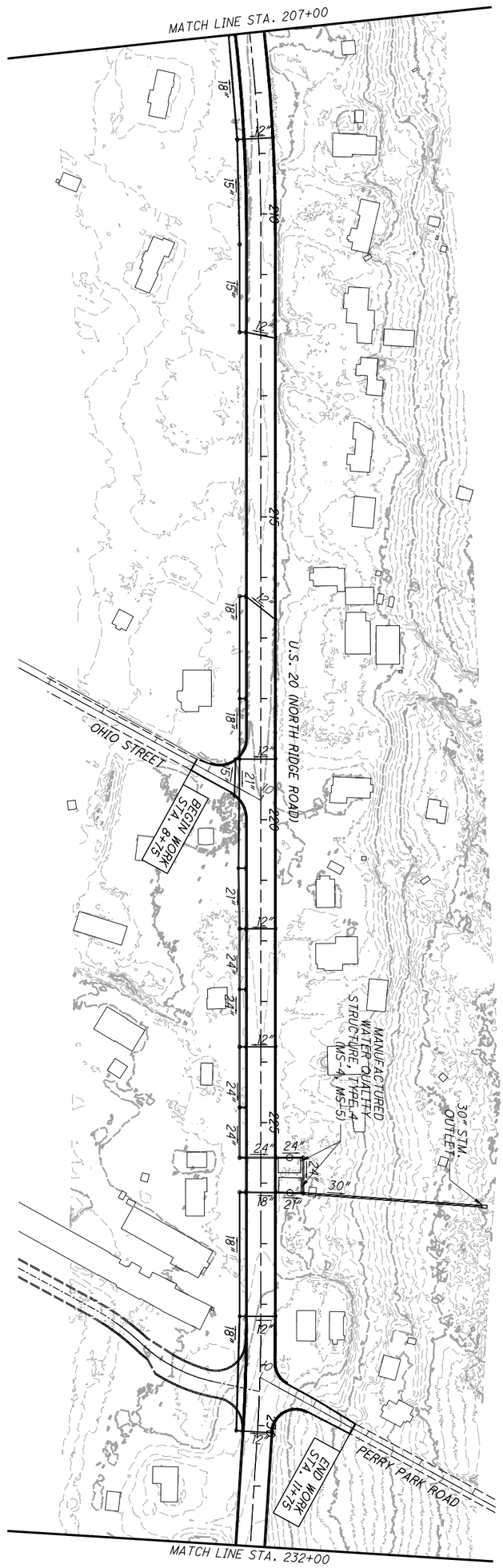
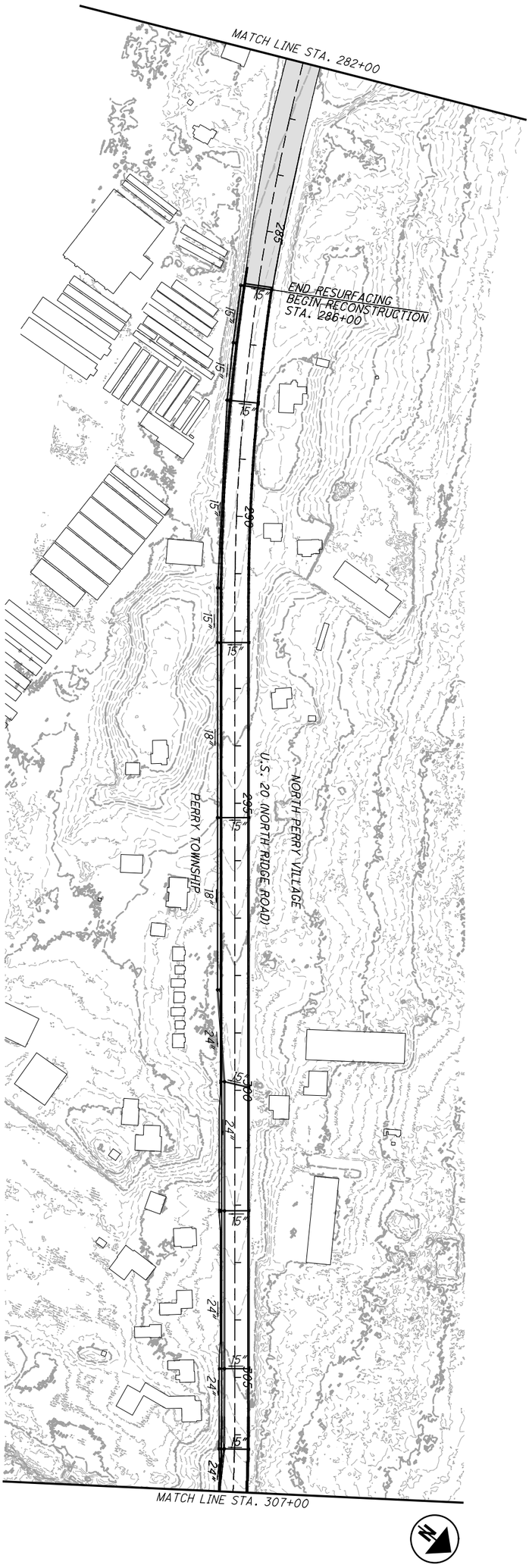
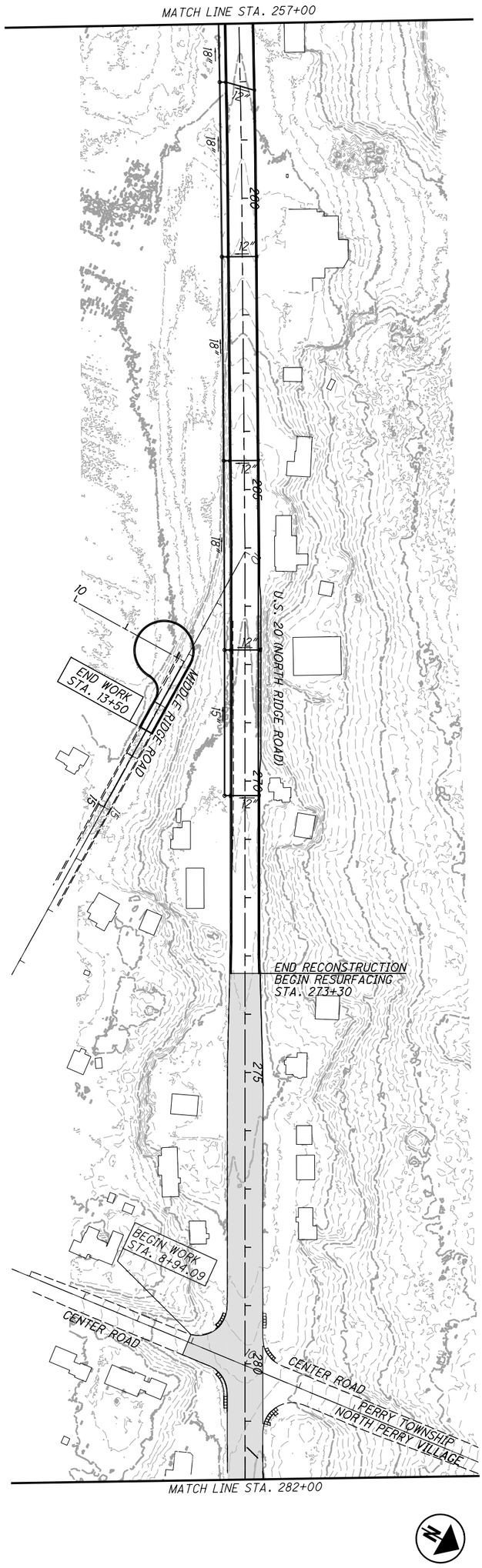




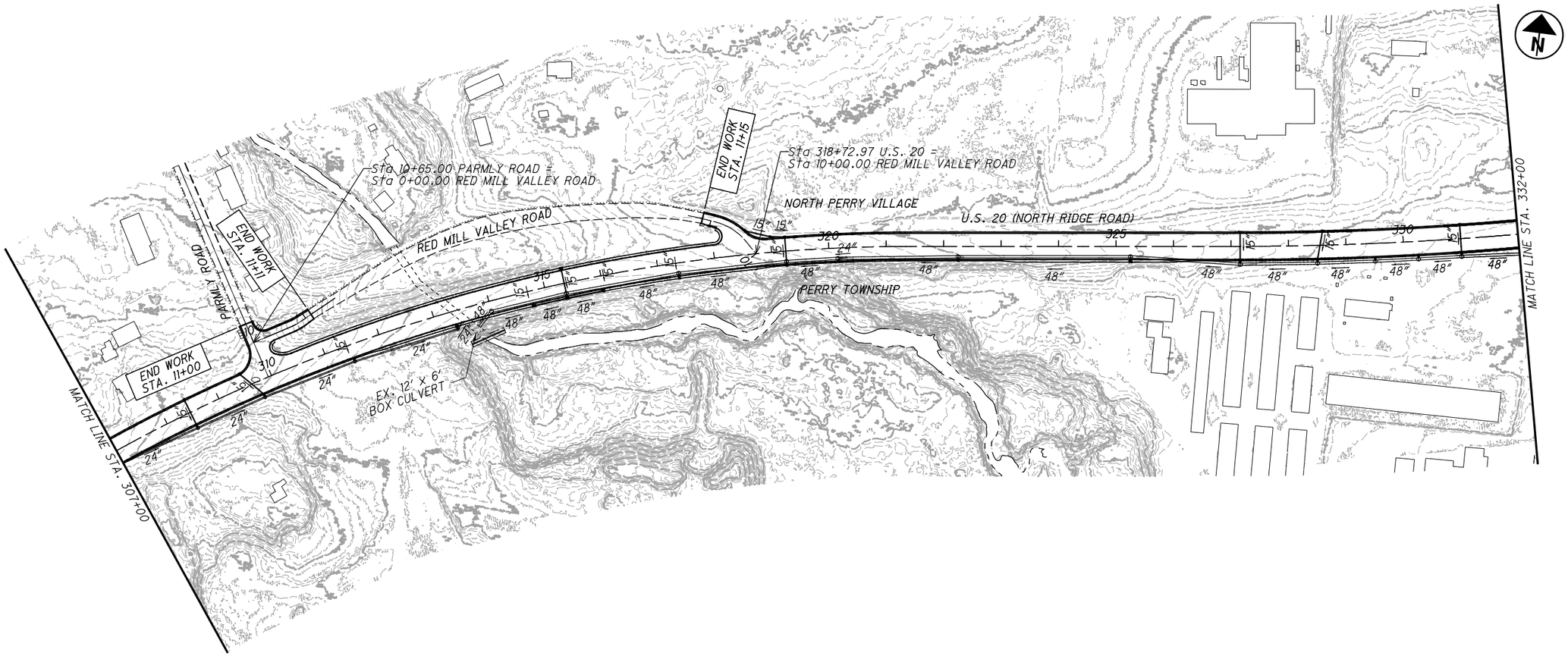
421 / 253	LAK-US-20-19.59 PART 1	PROJECT SITE PLAN STA. 207+00 TO STA. 257+00	CALCULATED SHT CHECKED JMP 0 50 100 200 HORIZONTAL SCALE IN FEET

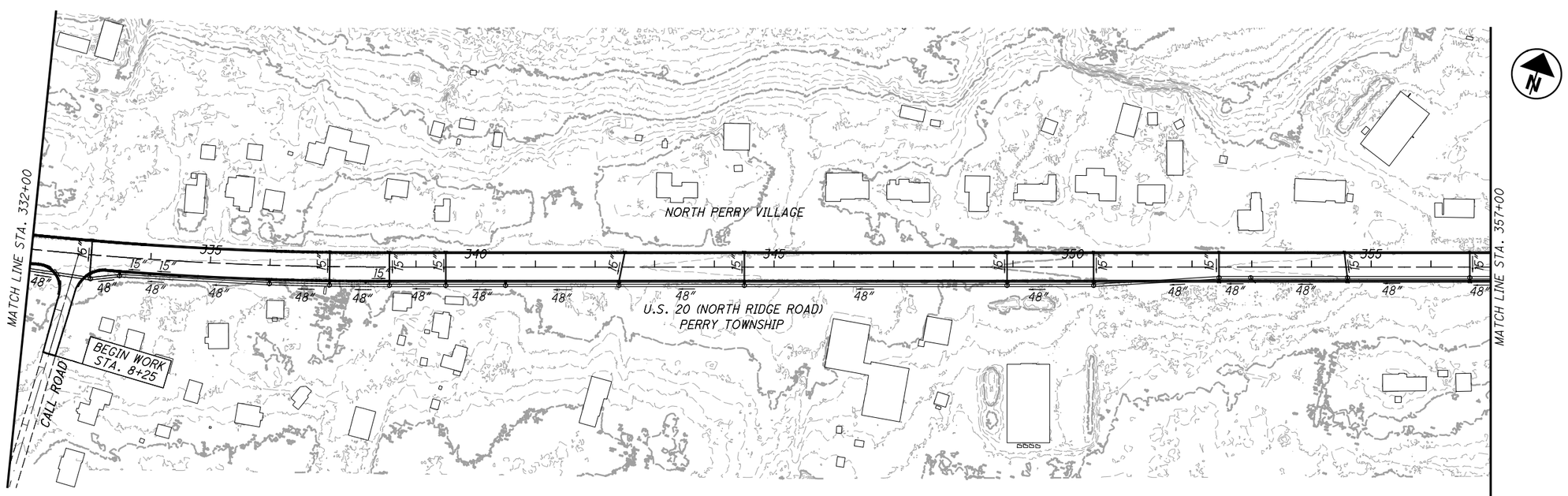




= RESURFACING

422 / 253	LAK-US-20-19.59 PART 1	PROJECT SITE PLAN STA. 257+00 TO STA. 307+00	CALCULATED SHT CHECKED JMP 0 50 100 200 HORIZONTAL SCALE IN FEET





0 50 100 200
HORIZONTAL
SCALE IN FEET

CALCULATED SHT
CHECKED JMP

PROJECT SITE PLAN
STA. 307+00 TO STA. 357+00

LAK-US-20-19.59
PART 1

423
1253

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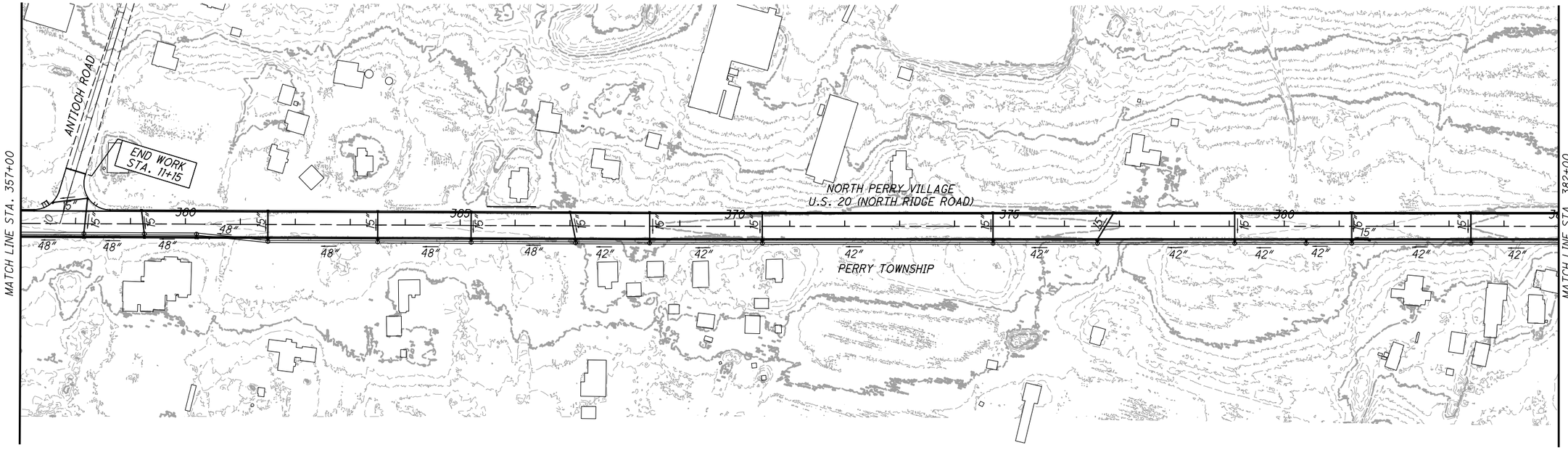

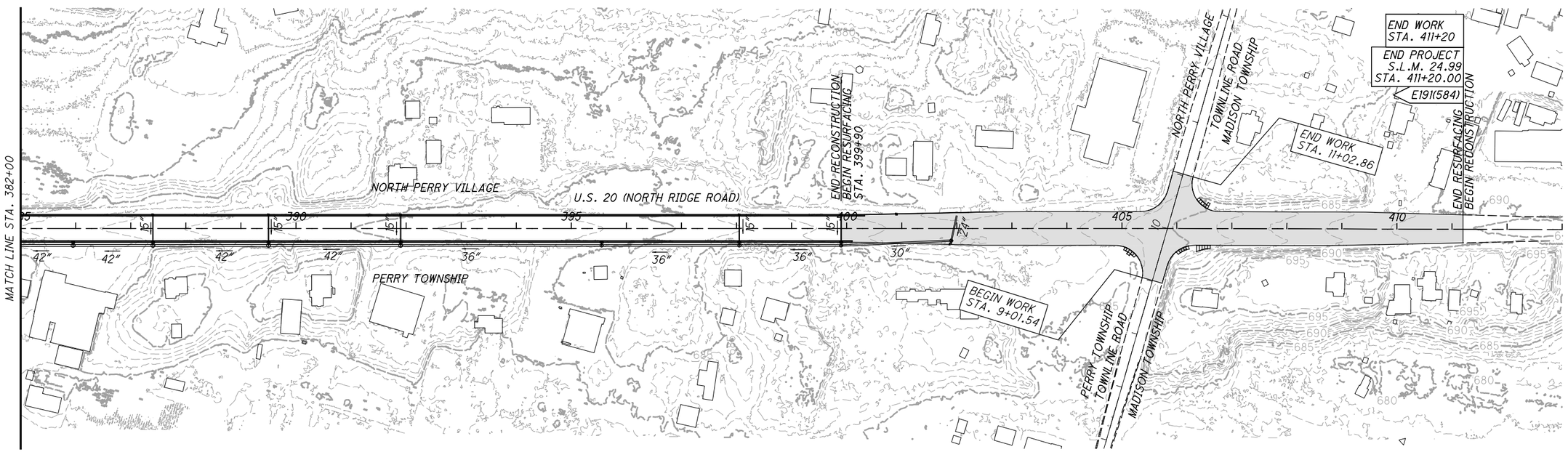

BMP TYPE	LATITUDE / LONGITUDE		EDA TREATMENT CREDIT (ACRES)
MANUFACTURED SYSTEM TYPE 4 (MS-1)	41.765299	-81.183113	2.08
MANUFACTURED SYSTEM TYPE 4 (MS-2)	41.770250	-81.173200	2.28
MANUFACTURED SYSTEM TYPE 4 (MS-3)	41.770486	-81.172750	2.01
MANUFACTURED SYSTEM TYPE 4 (MS-4)	41.774209	-81.165027	1.65
MANUFACTURED SYSTEM TYPE 4 (MS-5)	41.774287	-81.164842	0.98
MANUFACTURED SYSTEM TYPE 4 (MS-6)	41.777348	-81.155179	2.67
EDA TREATMENT CREDIT FOR PROJECT			11.67
EDA TREATMENT REQUIRED			11.12

= RESURFACING

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED SHT
CHECKED JMP

PROJECT SITE PLAN
STA. 357+00 TO STA. 407+00

LAK-US-20-19.59
PART 1

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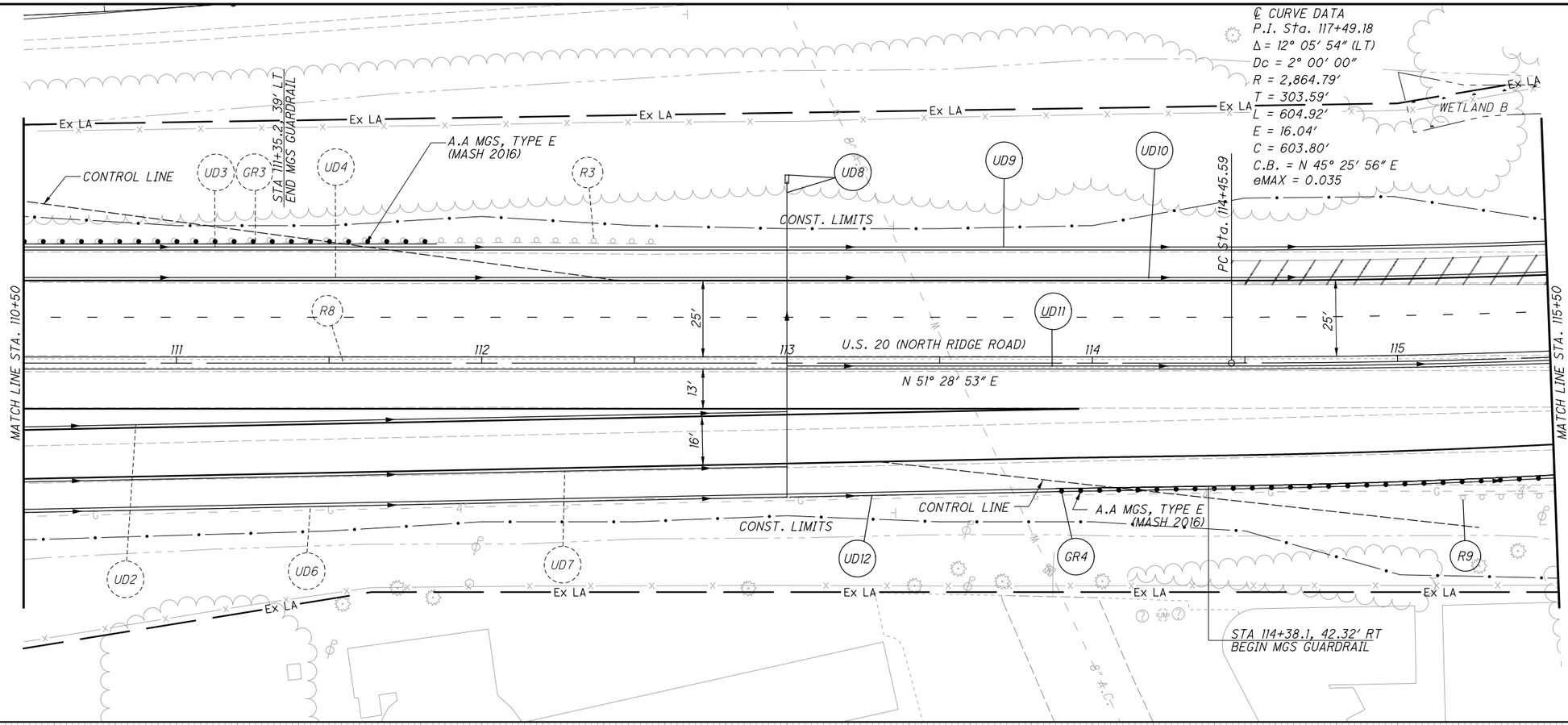

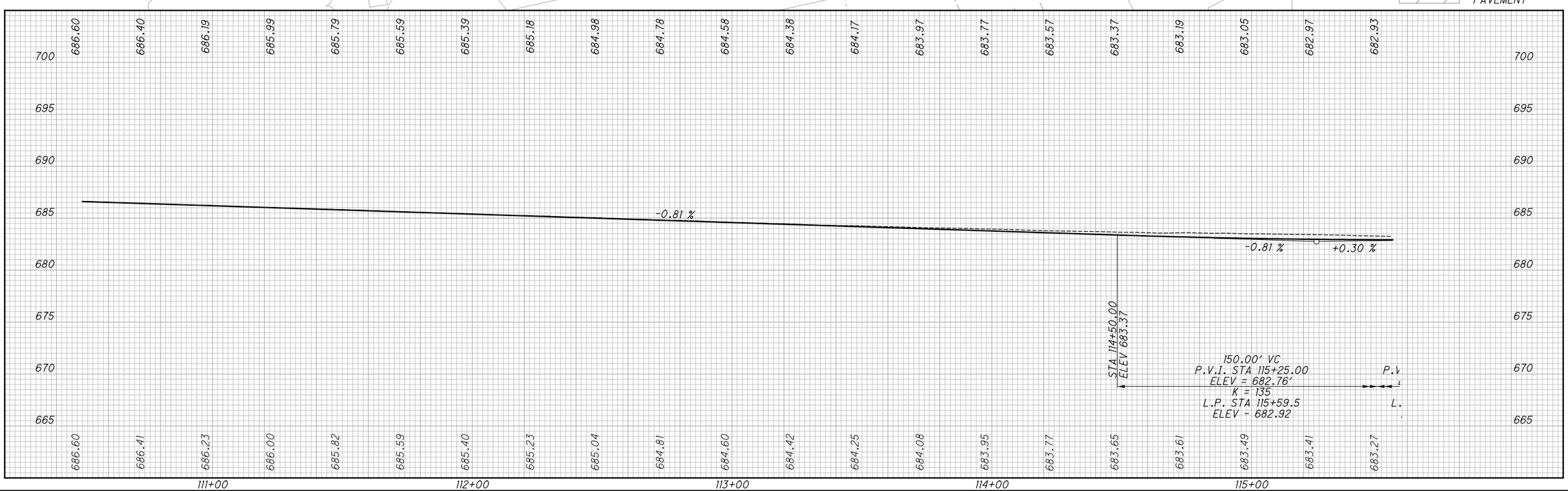

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - U.S. 20
STA. 110+50 TO STA. 115+50

LAK-US-20-19.59
PART 1

428
1253

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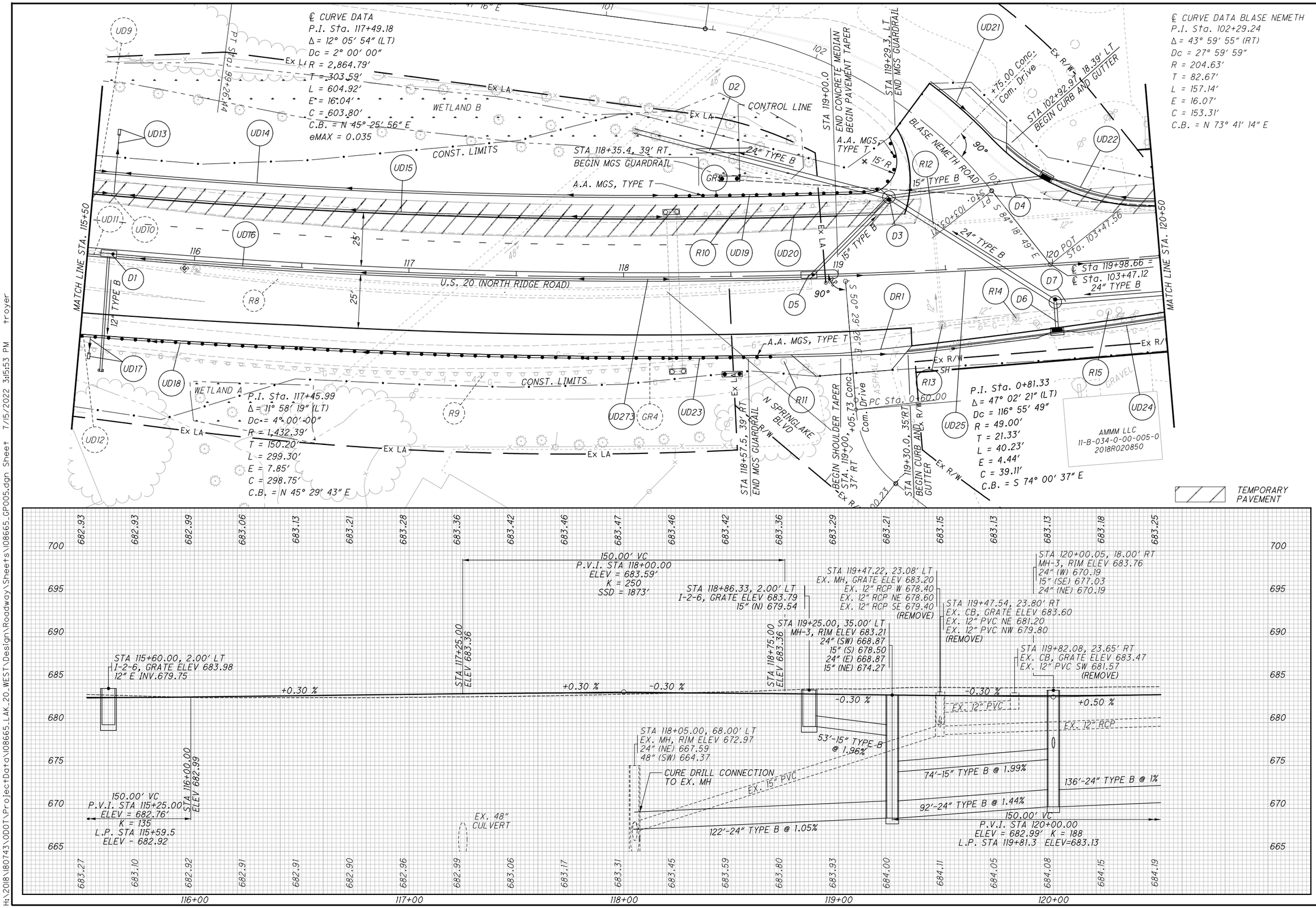

HORIZONTAL SCALE IN FEET

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - U.S. 20
STA. 115+50 TO STA. 120+50

LAK-US-20-19.59
PART 1

429
1253

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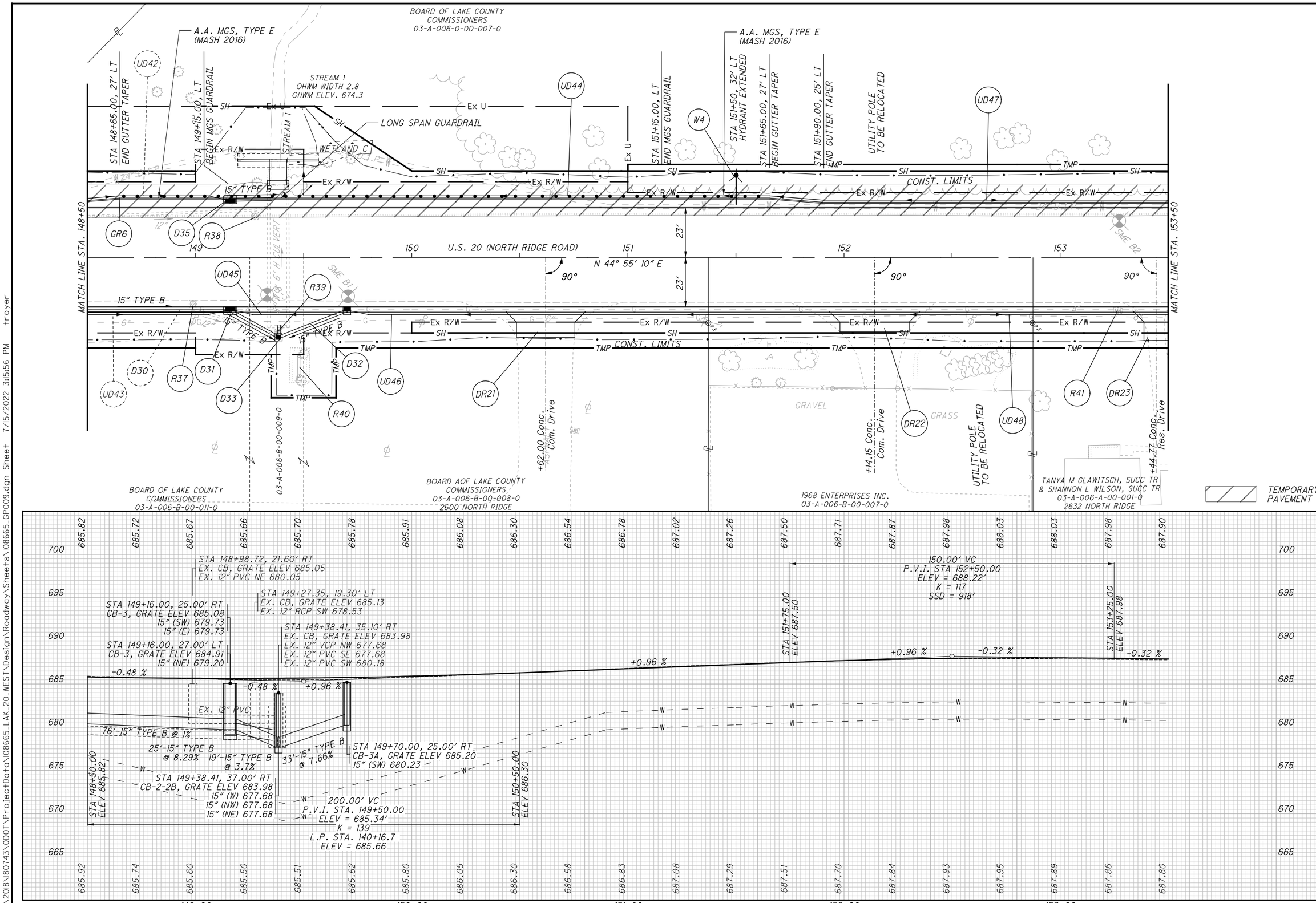

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - U.S. 20
STA. 148+50 TO STA. 153+50

LAK-US-20-19.59
PART 1

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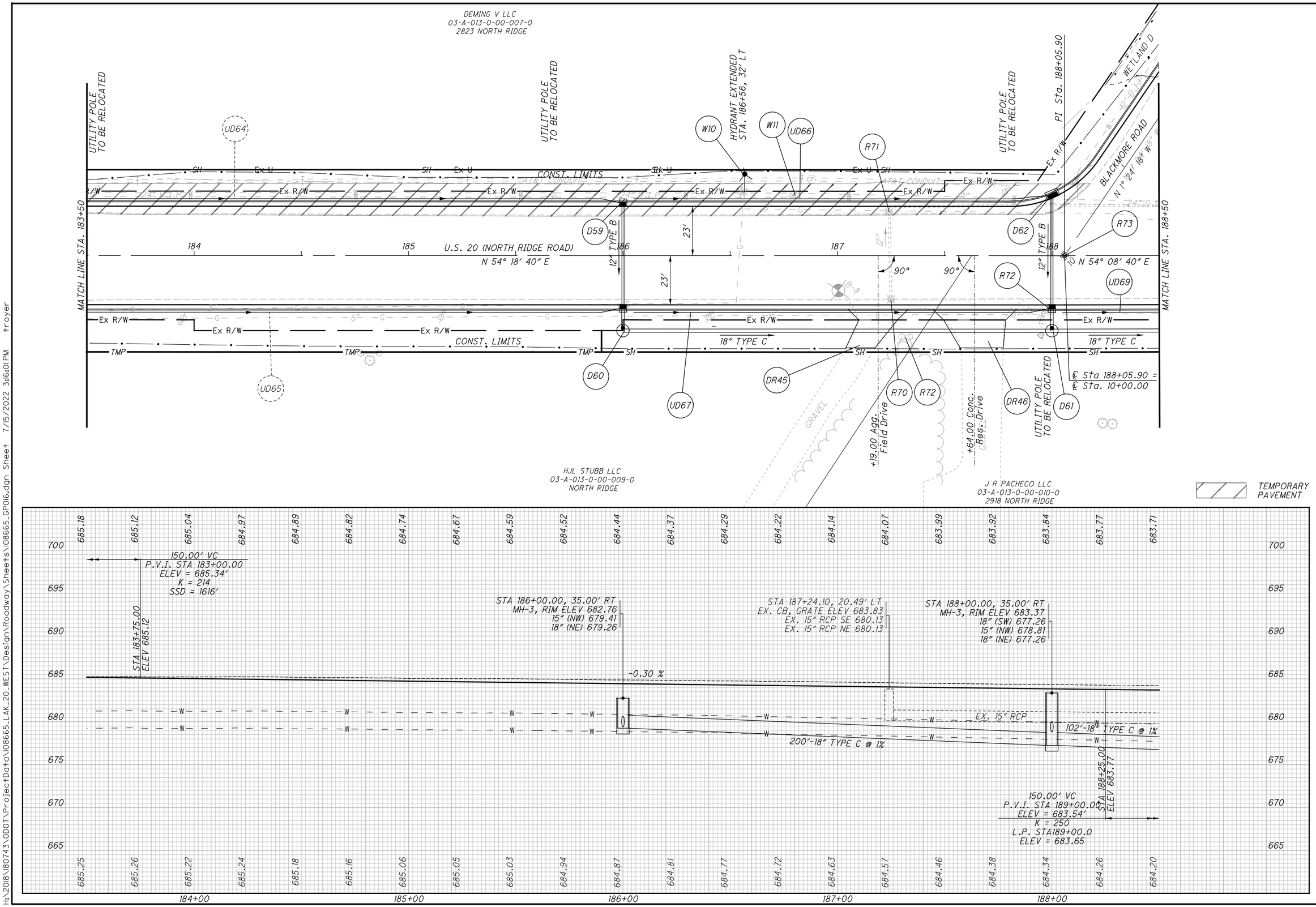
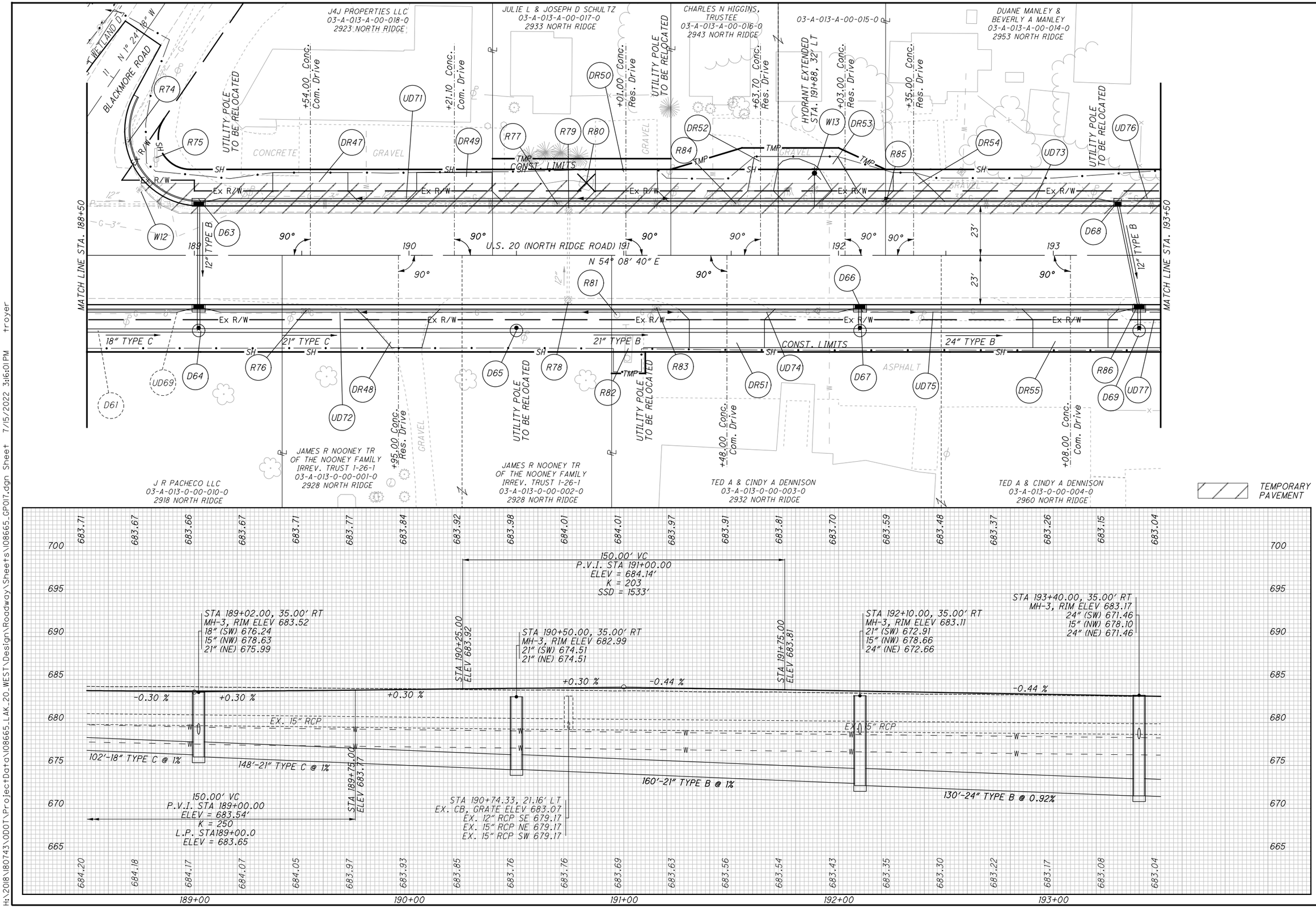

DEMING V LLC
03-A-013-0-00-007-0
2823 NORTH RIDGE
UTILITY POLE TO BE RELOCATED
UD64
UTILITY POLE TO BE RELOCATED
HYDRANT EXTENDED STA. 186+56, 32' LT
W10
W11
UD66
R71
UTILITY POLE TO BE RELOCATED
PI Sta. 188+05.90
WETLAND D
BLACKMORE ROAD
N 1° 24' 18" W
MATCH LINE STA. 183+50
MATCH LINE STA. 188+50
CONST. LIMITS
Ex R/W
Ex U
SH
AT&T CONDUIT
D59
D62
R73
12" TYPE B
23'
184
185
186
187
188
U.S. 20 (NORTH RIDGE ROAD)
N 54° 18' 40" E
N 54° 08' 40" E
90°
R72
UD69
18" TYPE C
TMP
D60
UD67
DR45
R70
R72
DR46
D61
UD65
GRAVEL
+19.00 Agg. Field Drive
+64.00 Conc. Res. Drive
UTILITY POLE TO BE RELOCATED
℄ Sta 188+05.90 = ℄ Sta. 10+00.00
HJL STUBB LLC
03-A-013-0-00-009-0
NORTH RIDGE
J R PACHECO LLC
03-A-013-0-00-010-0
2918 NORTH RIDGE
TEMPORARY PAVEMENT
150.00' VC
P.V.I. STA 183+00.00
ELEV = 685.34'
K = 214
SSD = 1616'
STA 183+75.00
ELEV 685.12
STA 186+00.00, 35.00' RT
MH-3, RIM ELEV 682.76
15" (NW) 679.41
18" (NE) 679.26
STA 187+24.10, 20.49' LT
EX. CB, GRATE ELEV 683.83
EX. 15" RCP SE 680.13
EX. 15" RCP NE 680.13
STA 188+00.00, 35.00' RT
MH-3, RIM ELEV 683.37
18" (SW) 677.26
15" (NW) 678.81
18" (NE) 677.26
-0.30 %
EX. 15" RCP
102'-18" TYPE C @ 1%
200'-18" TYPE C @ 1%
STA 188+25.00
ELEV 683.77
150.00' VC
P.V.I. STA 189+00.00
ELEV = 683.54'
K = 250
L.P. STA189+00.0
ELEV = 683.65
700
695
690
685
680
675
670
665
184+00
185+00
186+00
187+00
188+00
HORIZONTAL SCALE IN FEET
0
10
20
40
CALCULATED TLS
CHECKED JMP
PLAN AND PROFILE U.S. 20
STA. 183+50 TO STA. 188+50
LAK-US-20-19.59
PART 1
440
1253
H:\2018\180743\ODOT\Project Data\108665_LAK_20_WEST\Design\Roadway\Sheets\108665_GP016.dgn Sheet 7/15/2022 3:16:01 PM troyer



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE U.S. 20
STA. 188+50 TO STA. 193+50

LAK-US-20-19.59
PART 1

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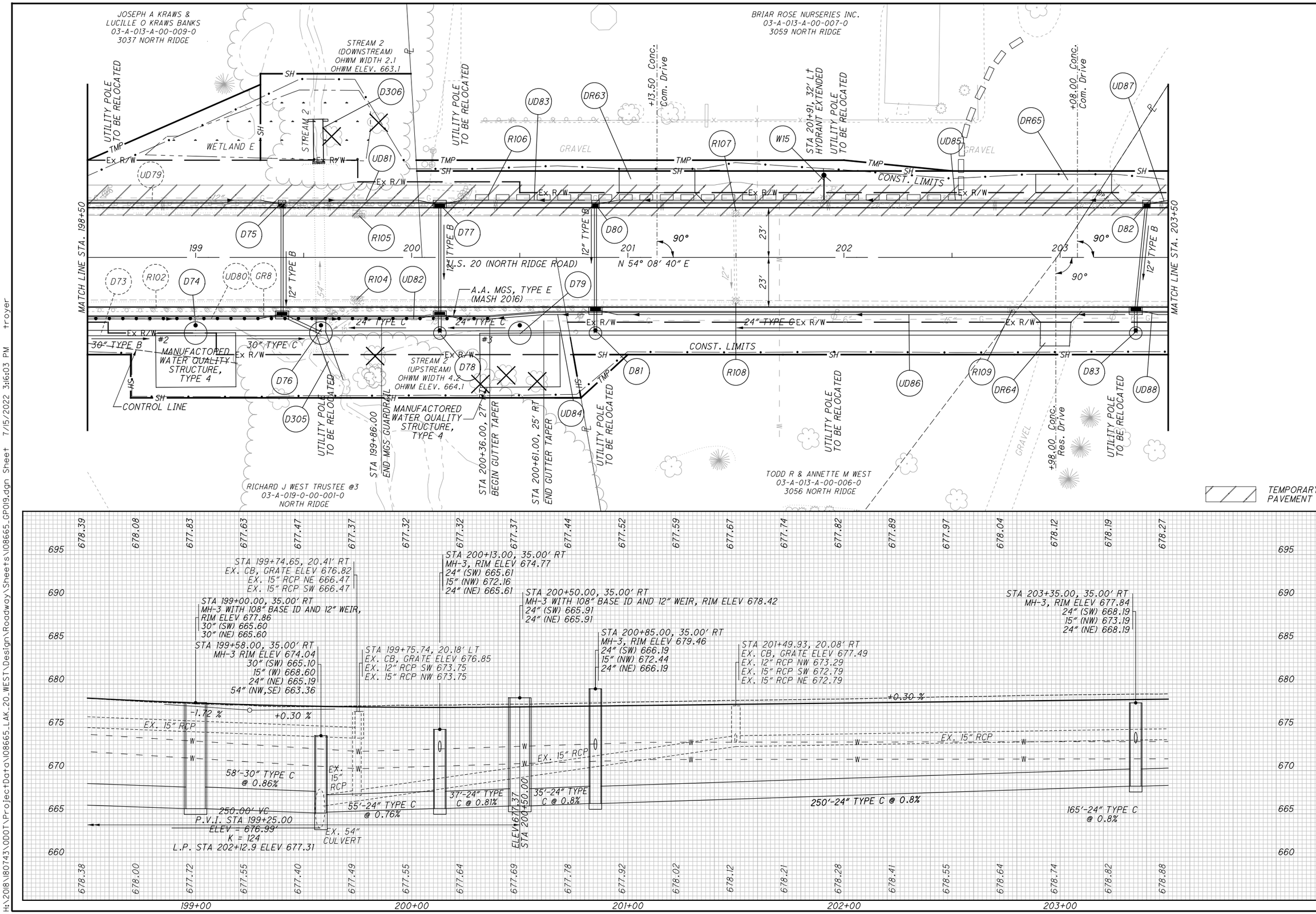

PLAN AND PROFILE U.S. 20
STA. 198+50 TO STA. 203+50

LAK-US-20-19.59
PART 1

443
1253

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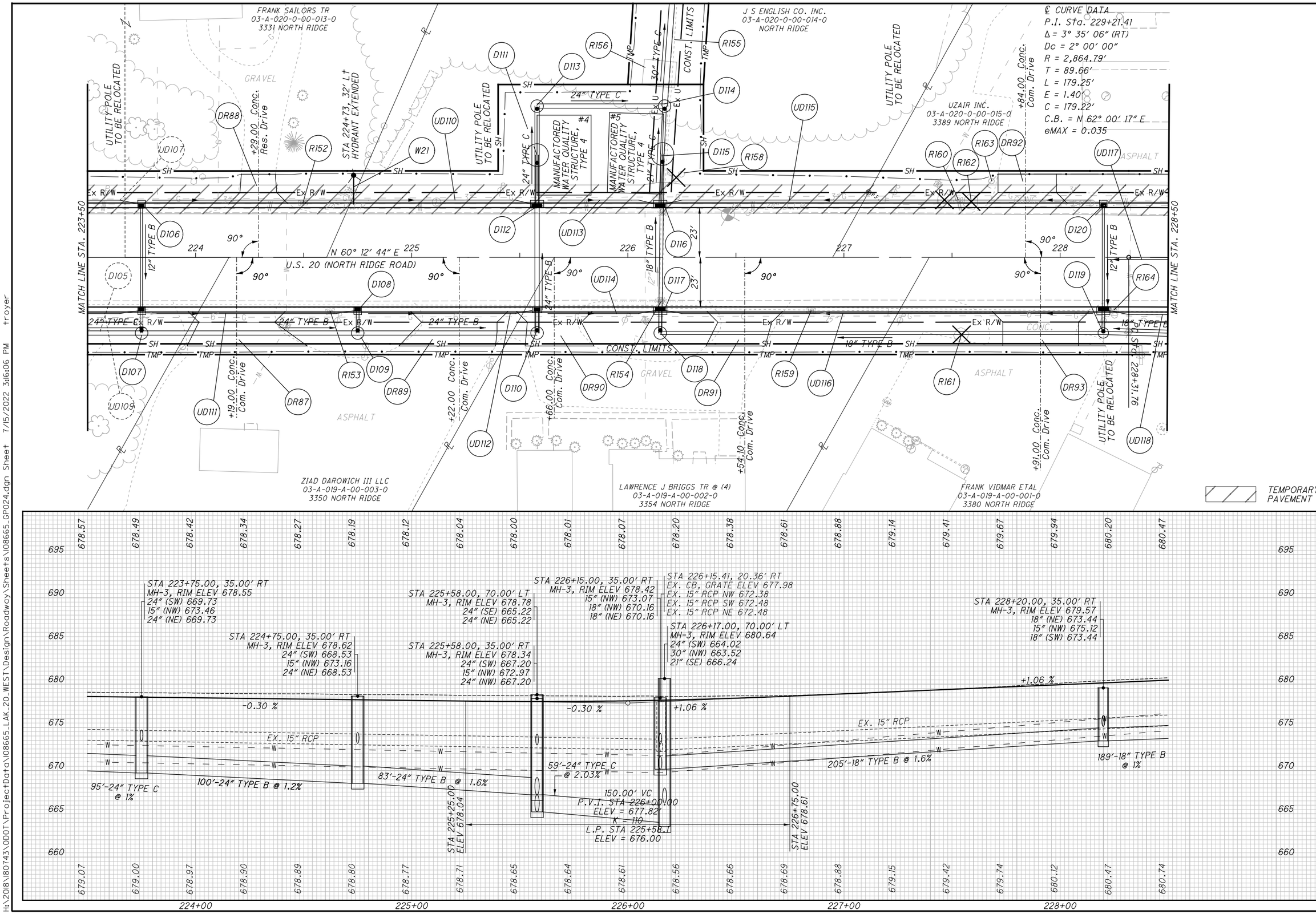

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE U.S. 20
STA. 223+50 TO STA. 228+50

LAK-US-20-19.59
PART 1

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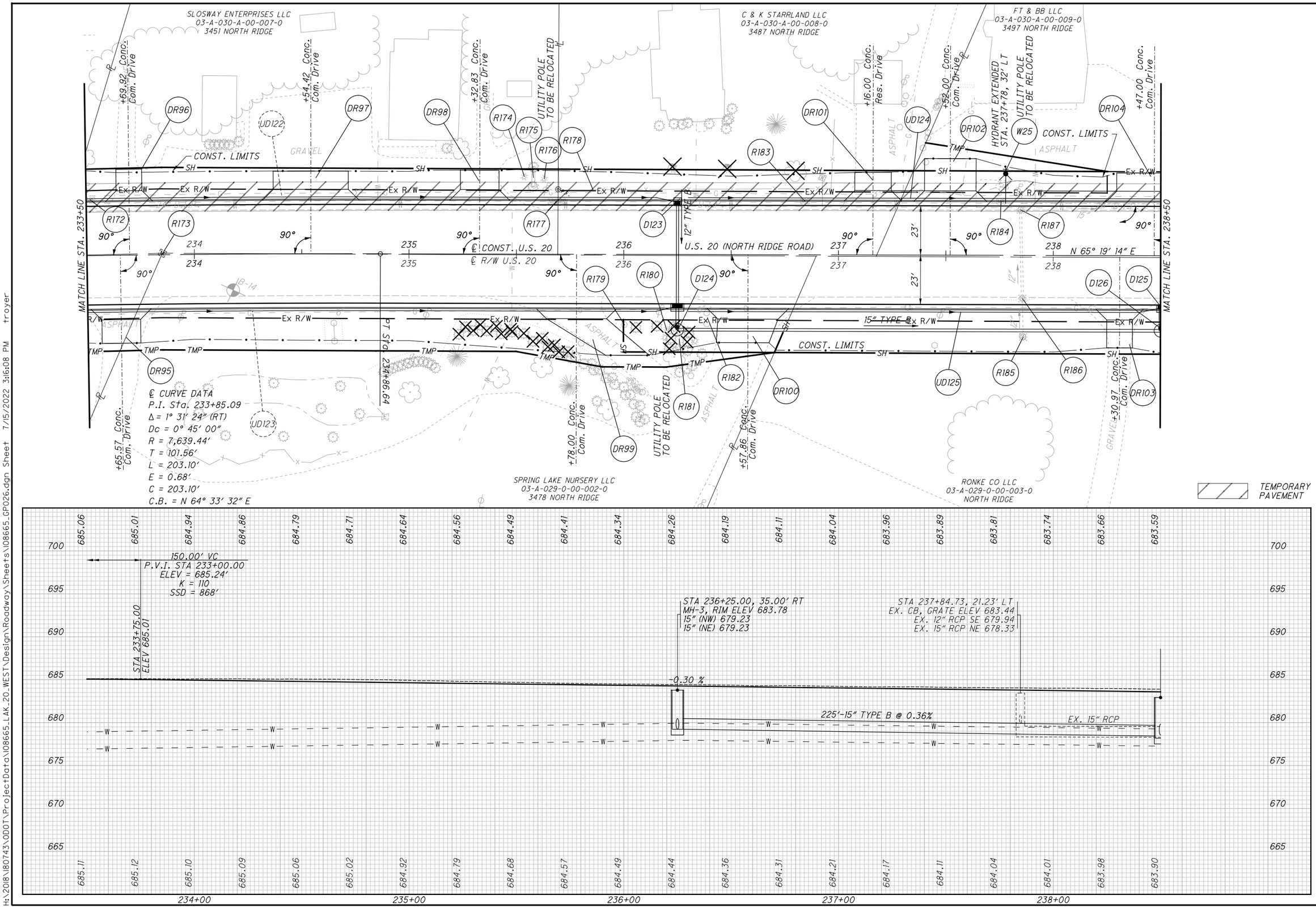

HORIZONTAL SCALE IN FEET

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE U.S. 20
STA. 233+50 TO STA. 238+50

LAK-US-20-19.59
PART 1

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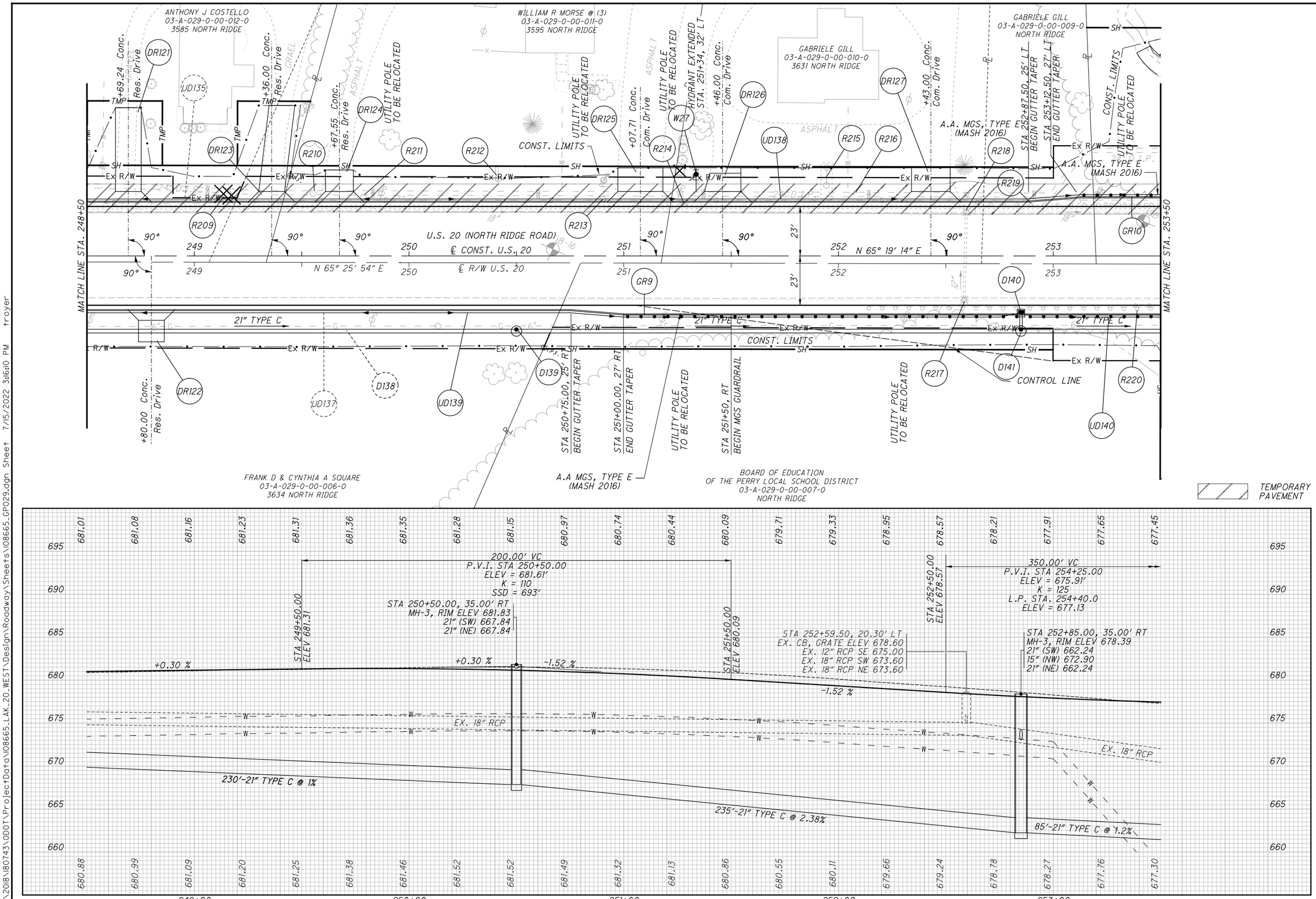

HORIZONTAL SCALE IN FEET

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE U.S. 20
STA. 248+50 TO STA. 253+50

LAK-US-20-19.59
PART 1

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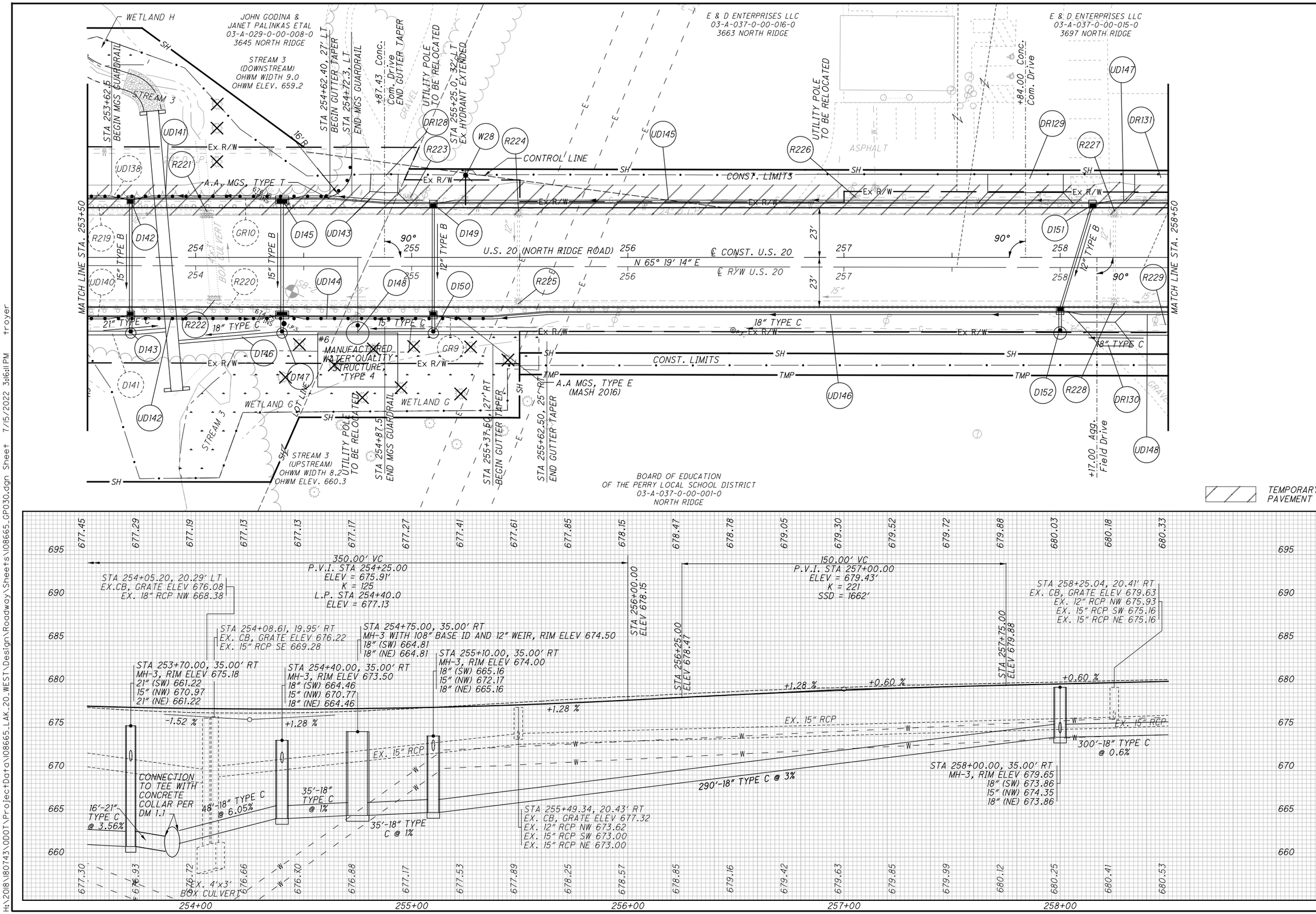

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE U.S. 20
STA. 253+50 TO STA. 258+50

LAK-US-20-19.59
PART 1

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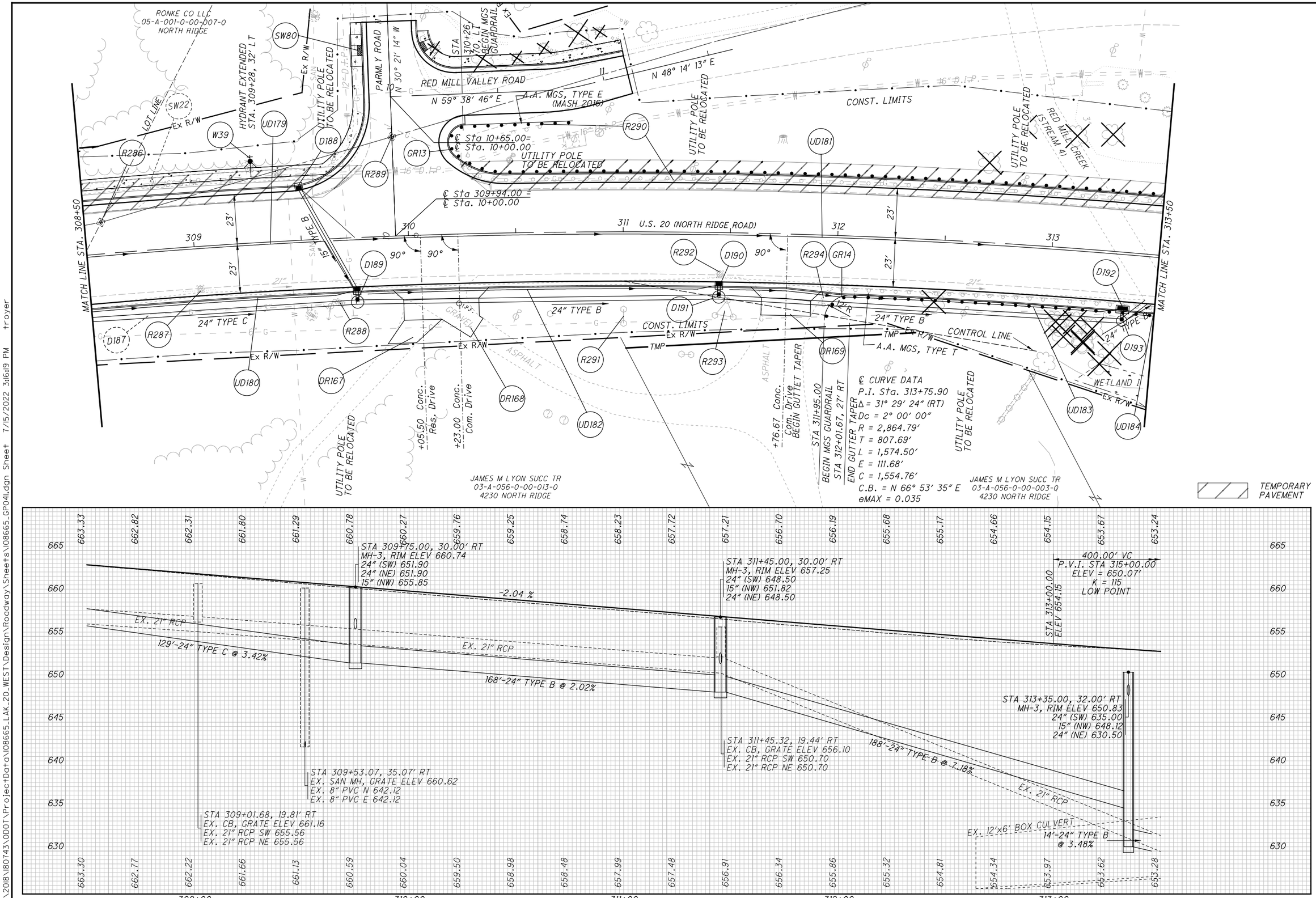

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - U.S. 20
STA. 308+50 TO STA. 313+50

LAK-US-20-19.59
PART 1

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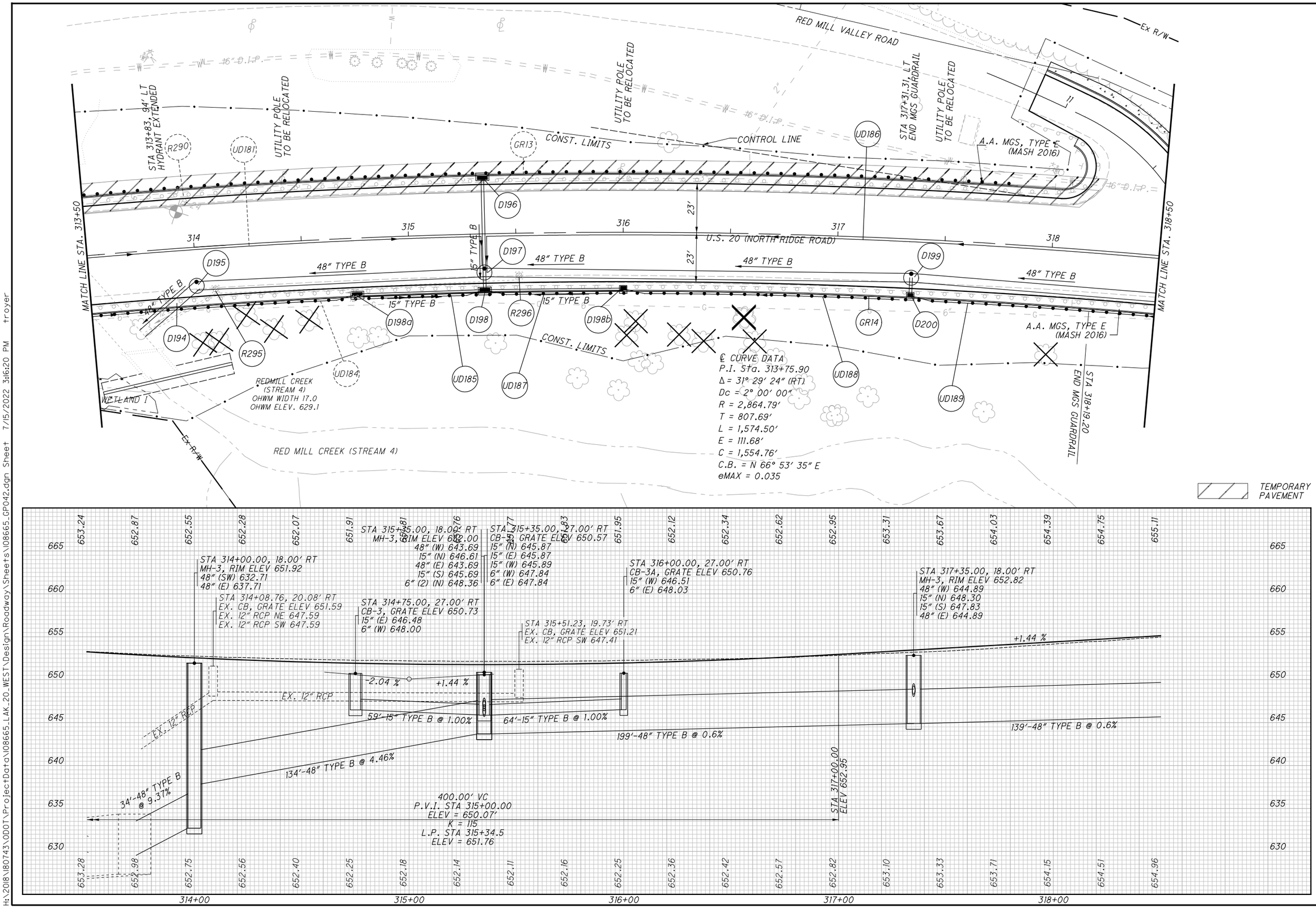

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE U.S. 20
STA. 313+50 TO STA. 318+50

LAK-US-20-19.59
PART 1

466
1253

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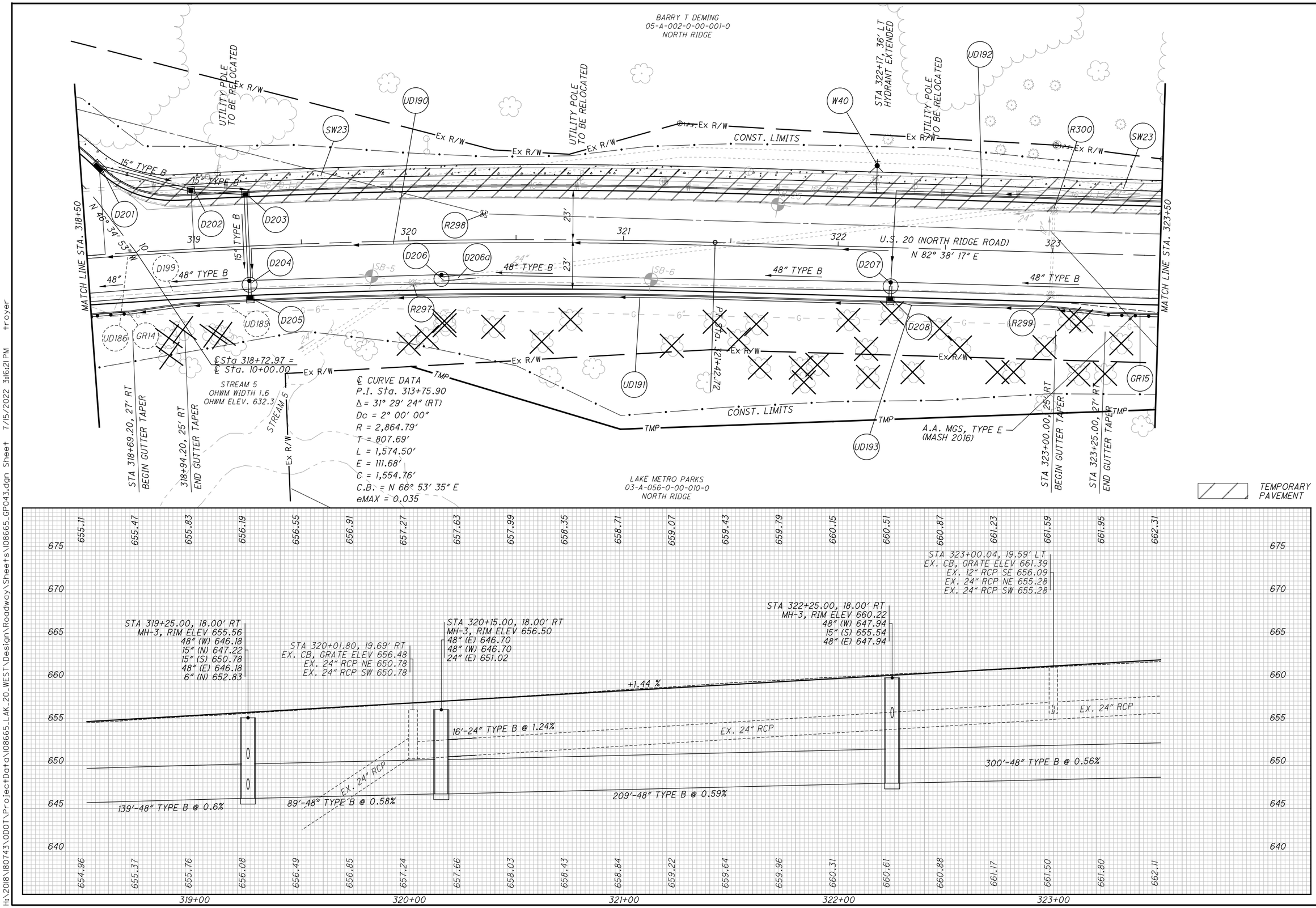

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - U.S. 20
STA. 318+50 TO STA. 323+50

LAK-US-20-19.59
PART 1

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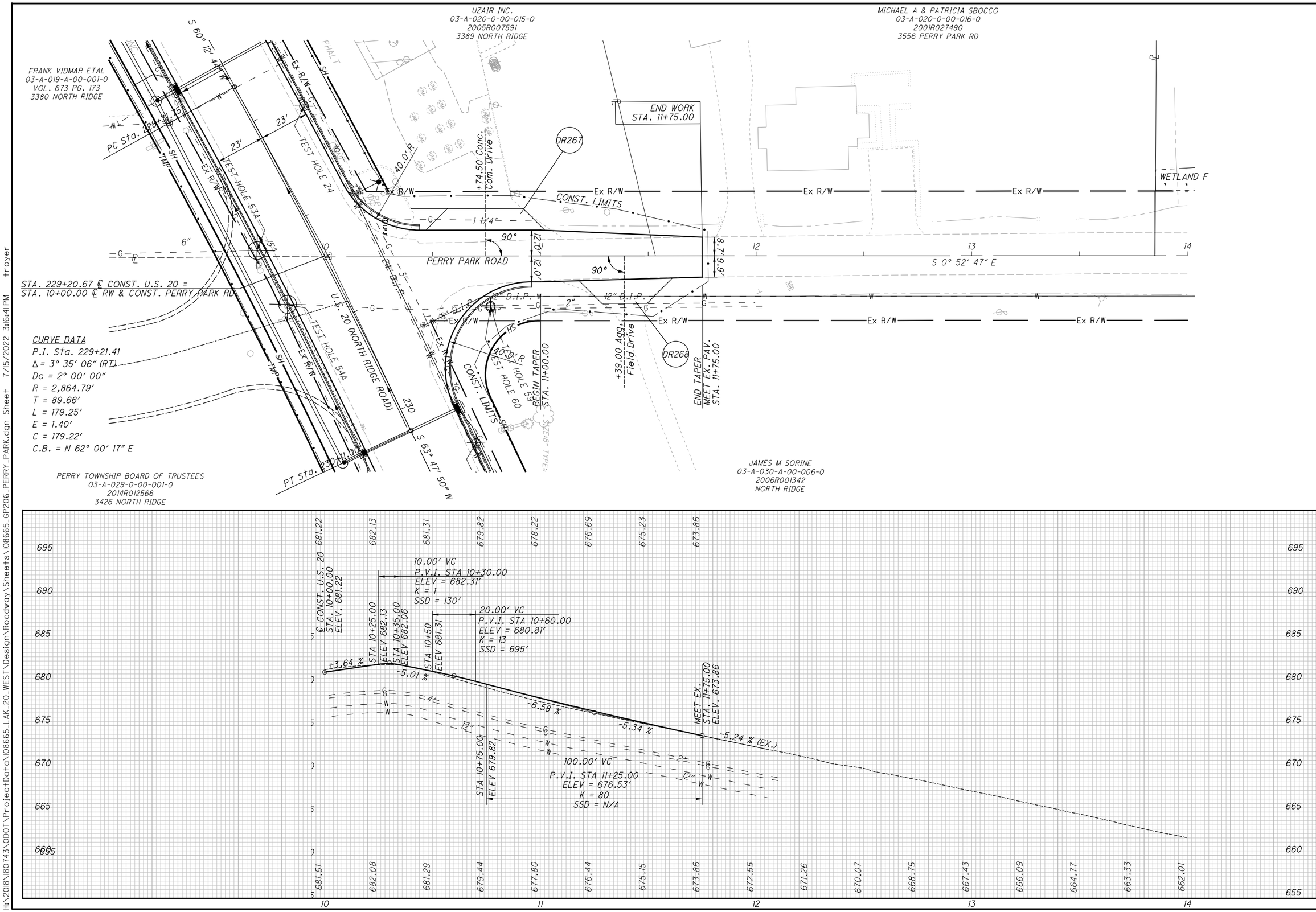
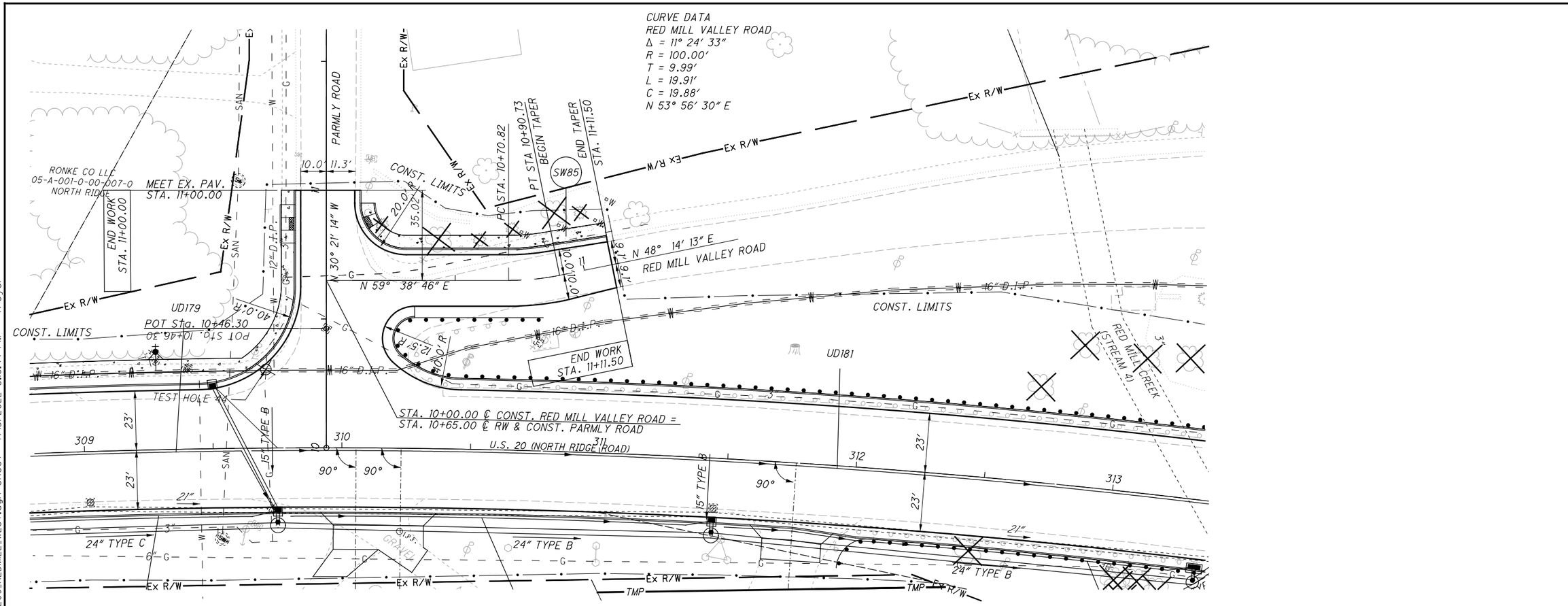
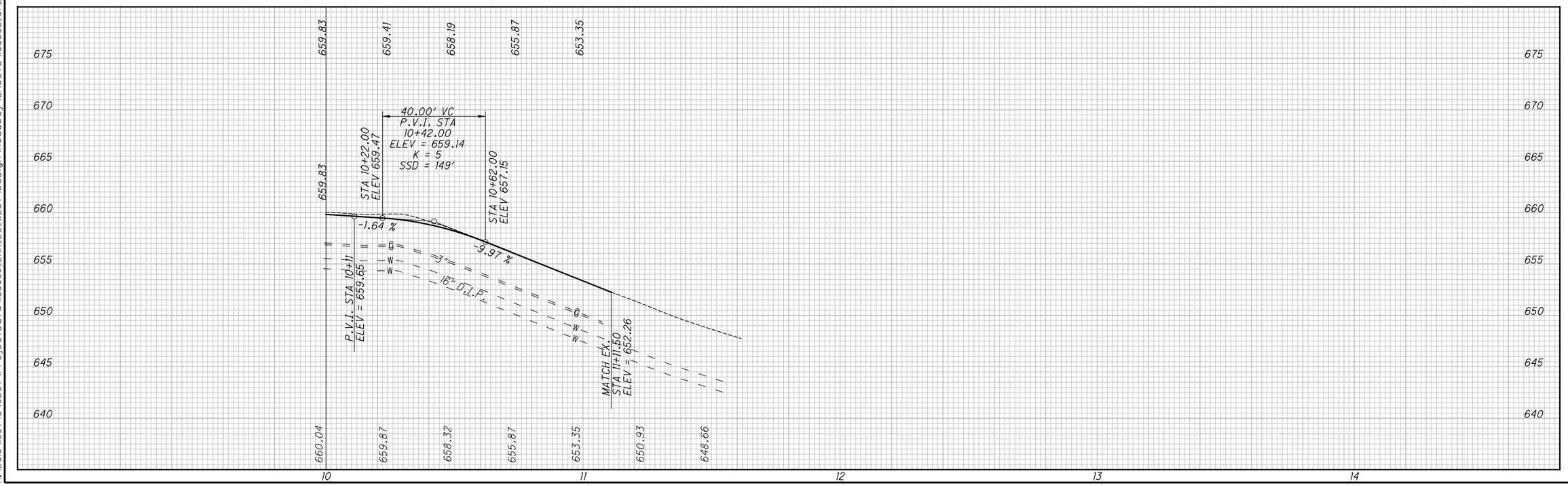

UZAIR INC.
03-A-020-0-00-015-0
2005R007591
3389 NORTH RIDGE
MICHAEL A & PATRICIA SBOCCO
03-A-020-0-00-016-0
2001R027490
3556 PERRY PARK RD
FRANK VIDMAR ETAL
03-A-019-A-00-001-0
VOL. 673 PG. 173
3380 NORTH RIDGE
END WORK
STA. 11+75.00
DR267
DR268
+74.50 Conc. Com. Drive
CONST. LIMITS
WETLAND F
PERRY PARK ROAD
S 0° 52' 47" E
STA. 229+20.67 ℄ CONST. U.S. 20 =
STA. 10+00.00 ℄ RW & CONST. PERRY PARK RD
CURVE DATA
P.I. Sta. 229+21.41
Δ = 3° 35' 06" (RT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 89.66'
L = 179.25'
E = 1.40'
C = 179.22'
C.B. = N 62° 00' 17" E
PC Sta. 228+31.75
PT Sta. 230+11.00
S 60° 12' 44" W
S 63° 47' 50" W
TEST HOLE 53A
TEST HOLE 24
TEST HOLE 54A
TEST HOLE 59
TEST HOLE 60
U.S. 20 (NORTH RIDGE ROAD)
40.0' R
BEGIN TAPER
STA. 11+00.00
+39.00 Agg. Field Drive
END TAPER
MEET EX. PAV.
STA. 11+75.00
12" D.I.P.
PERRY TOWNSHIP BOARD OF TRUSTEES
03-A-029-0-00-001-0
2014R012566
3426 NORTH RIDGE
JAMES M SORINE
03-A-030-A-00-006-0
2006R001342
NORTH RIDGE
℄ CONST. U.S. 20
STA. 10+00.00
ELEV. 681.22
10.00' VC
P.V.I. STA 10+30.00
ELEV = 682.31'
K = 1
SSD = 130'
20.00' VC
P.V.I. STA 10+60.00
ELEV = 680.81'
K = 13
SSD = 695'
100.00' VC
P.V.I. STA 11+25.00
ELEV = 676.53'
K = 80
SSD = N/A
+3.64 %
-5.01 %
-6.58 %
-5.34 %
-5.24 % (EX.)
MEET EX.
STA. 11+75.00
ELEV. 673.86
STA 10+75.00
ELEV 679.82
681.22
682.13
681.31
679.82
678.22
676.69
675.23
673.86
681.51
682.08
681.29
679.44
677.80
676.44
675.15
673.86
672.55
671.26
670.07
668.75
667.43
666.09
664.77
663.33
662.01
HORIZONTAL SCALE IN FEET
CALCULATED TLS
CHECKED JMP
PLAN AND PROFILE - PERRY PARK RD.
STA. 10+00.00 TO STA. 14+00.00
LAK-US-20-19.59
PART 1
491
1253
H:\2018\180743\ODOT\Project Data\108665_LAK_20_WEST\Design\Roadway\Sheets\108665_GP206_PERRY_PARK.dgn Sheet 7/15/2022 3:16:41 PM troyer





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - RED MILL VALLEY RD. (W)
STA. 10+00.00 TO STA. 12+00.00

LAK-US-20-19.59
PART 1

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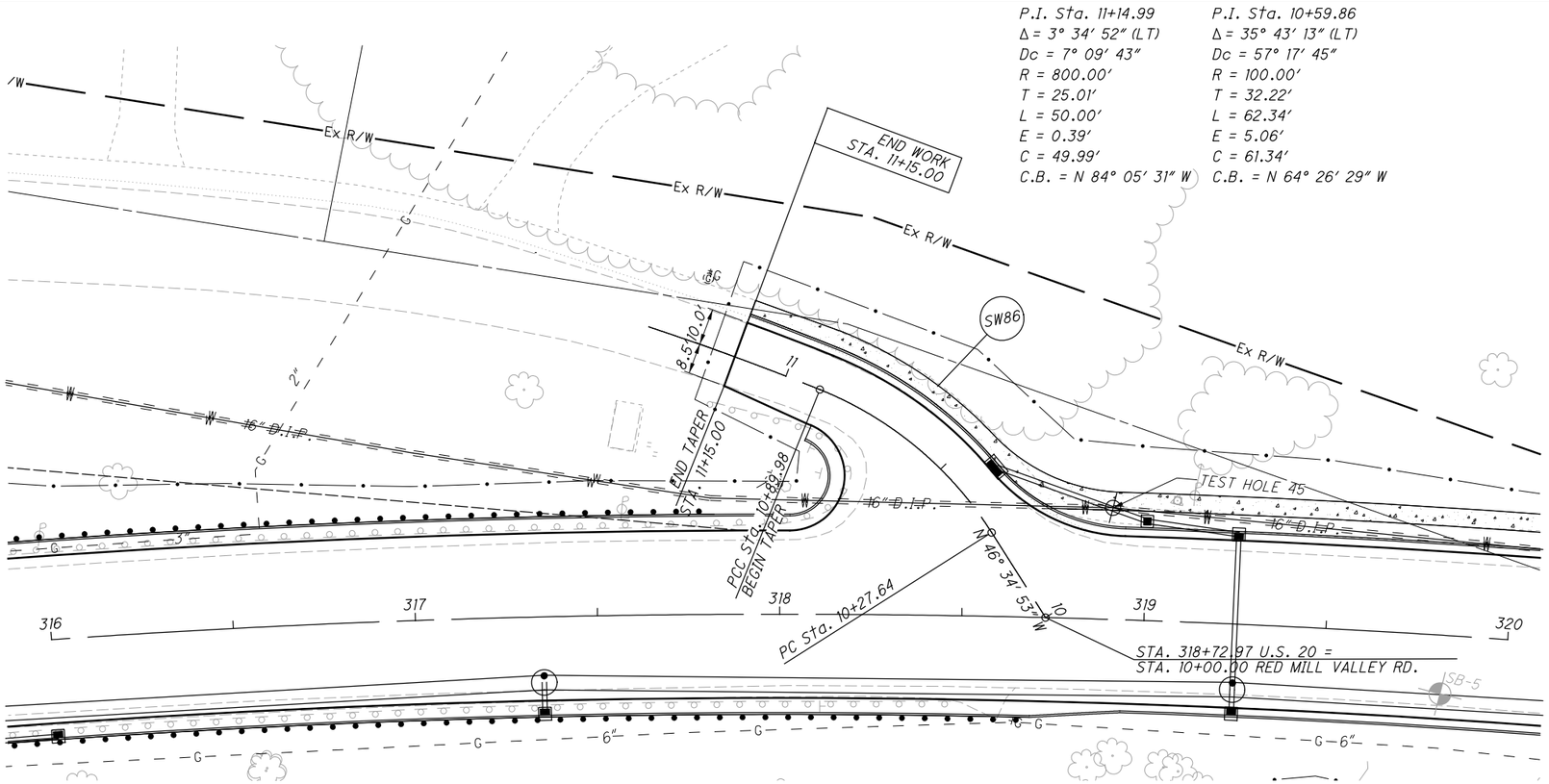

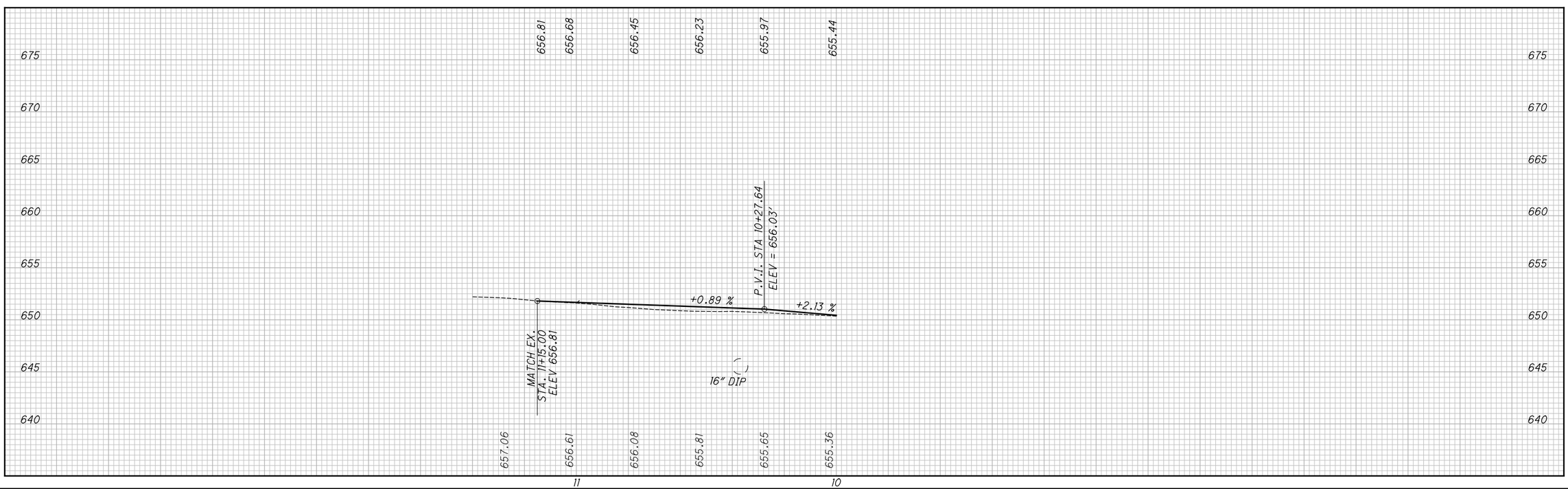

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - RED MILL VALLEY RD. (E)
STA. 10+00.00 TO STA. 11+15.00

LAK-US-20-19.59
PART 1

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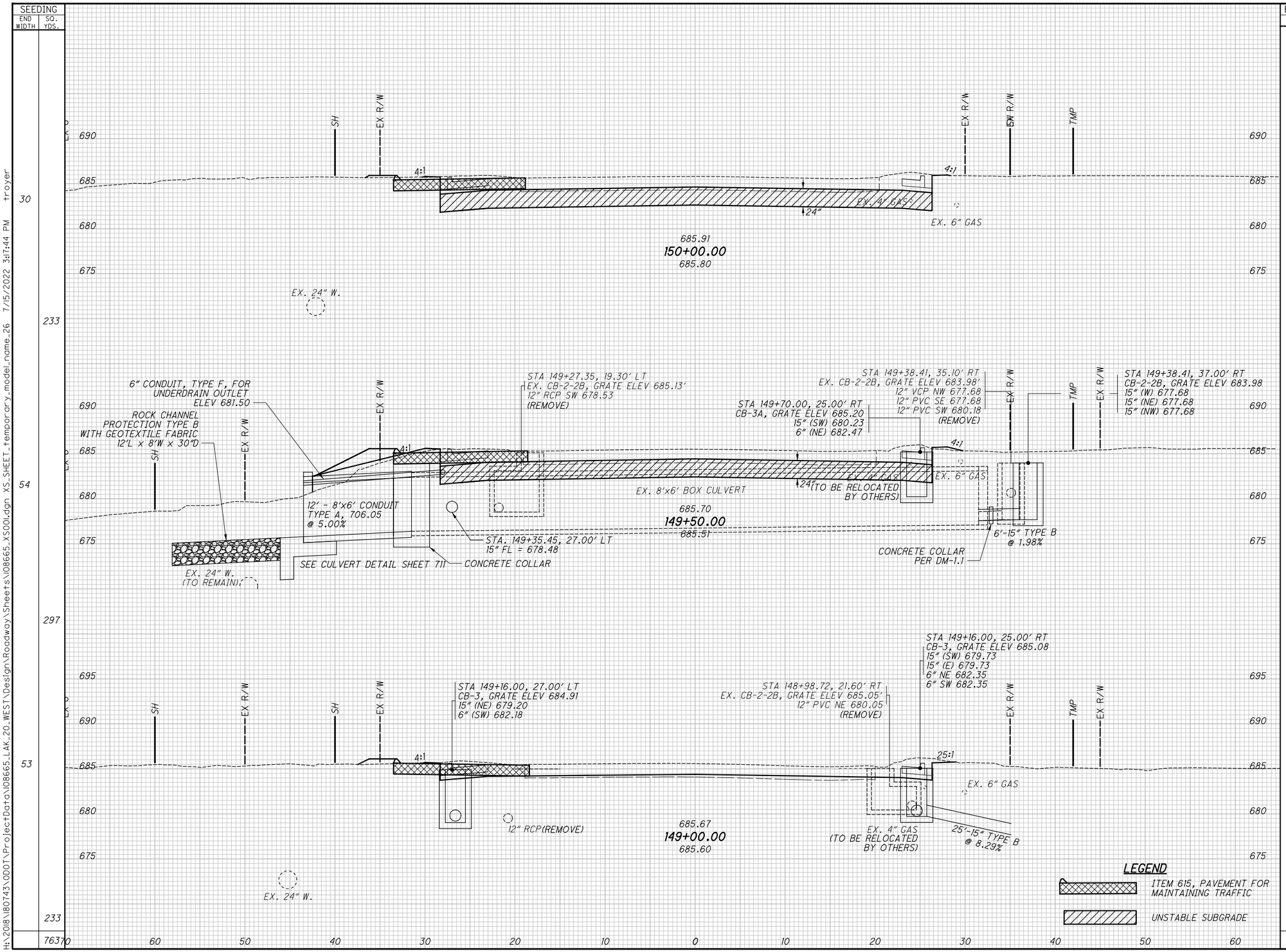

CALCULATED TLS
CHECKED JMP

CROSS SECTIONS U.S. 20
STA. 149+00.00 TO STA. 150+00.00

LAK-US-20-19.59
PART 1

526
1253

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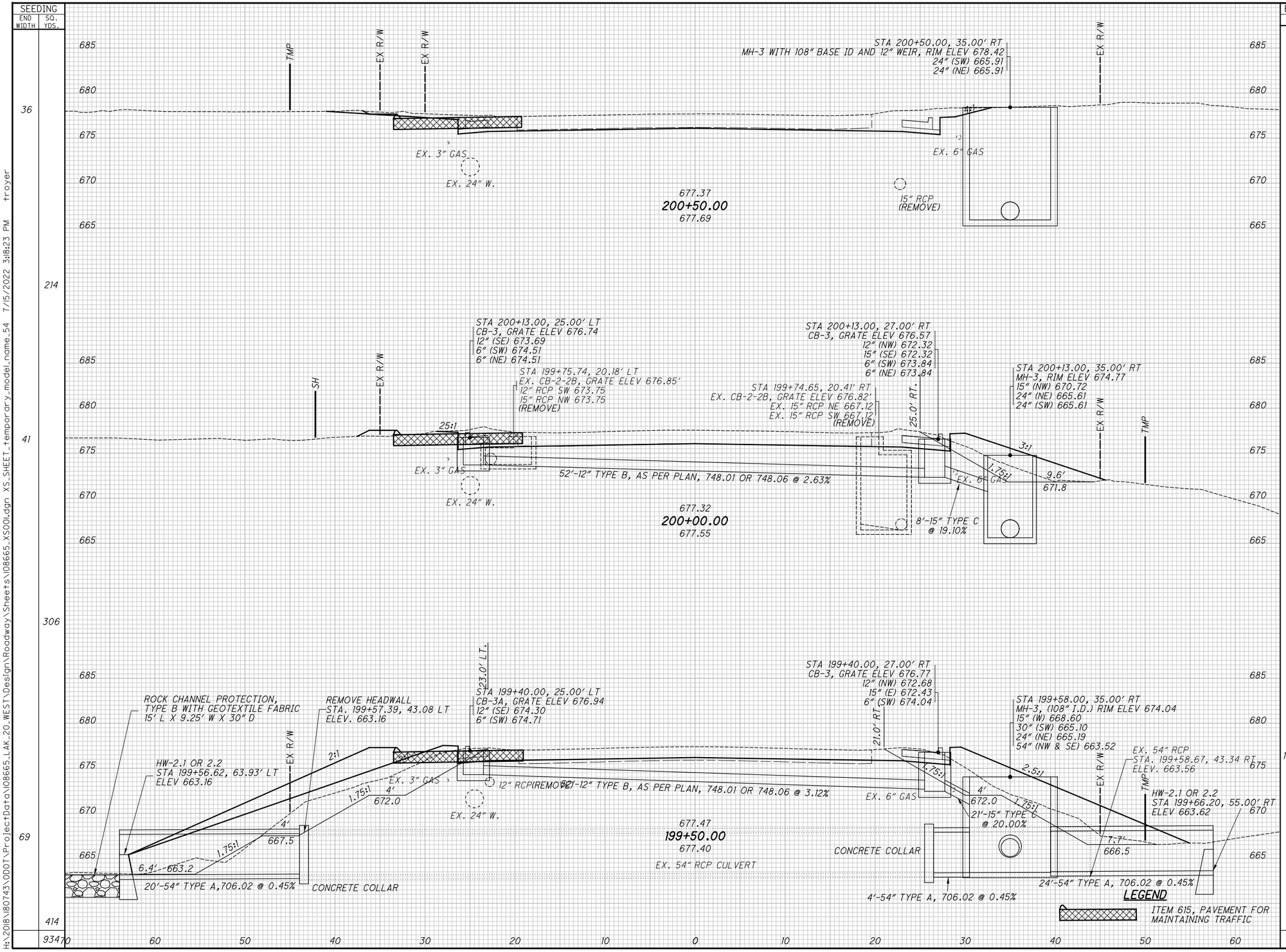

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0*	0*		
44	0		
		15*	15*
		68	25
16*	16*		
29	27		
		112*	112*
		46	153
105*	105*		
21	138		
		126*	126*
		42	208
		409	639

CALCULATED TLS
CHECKED JMP

CROSS SECTIONS U.S. 20
STA. 199+50.00 TO STA. 200+50.00

LAK-US-20-19.59
PART 1

556
1253

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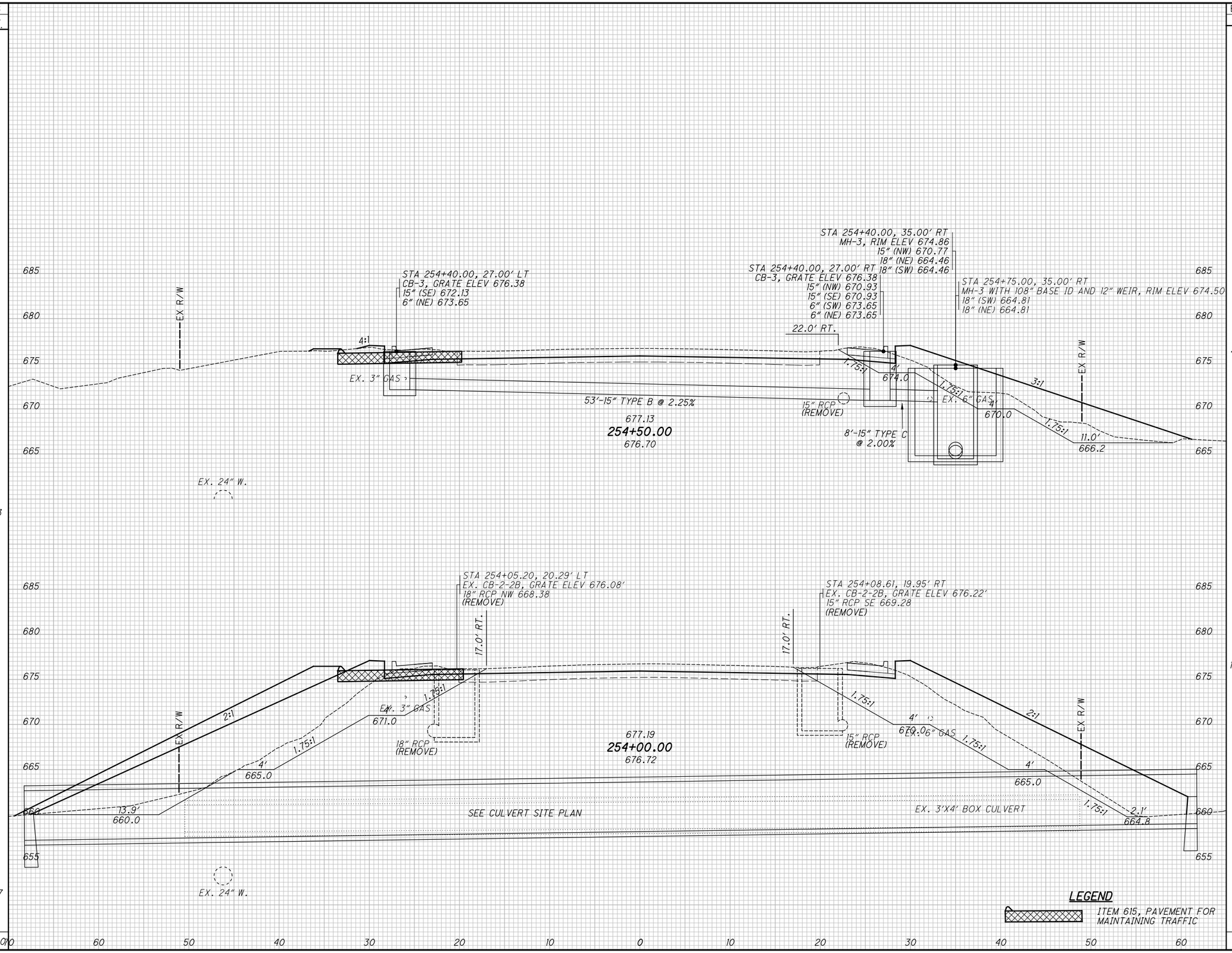
SEEDING END WIDTH	SEEDING SQ. YDS.
65	483
109	517
1000	



LEGEND

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
48* 20	48* 70		
197* 17	197* 259		
		227* 34	227* 305
		294* 38	294* 300
		593	1126

CALCULATED TLS
CHECKED JMP

CROSS SECTIONS U.S. 20
STA. 254+00.00 TO STA. 254+50.00

LAK-US-20-19.59
PART 1

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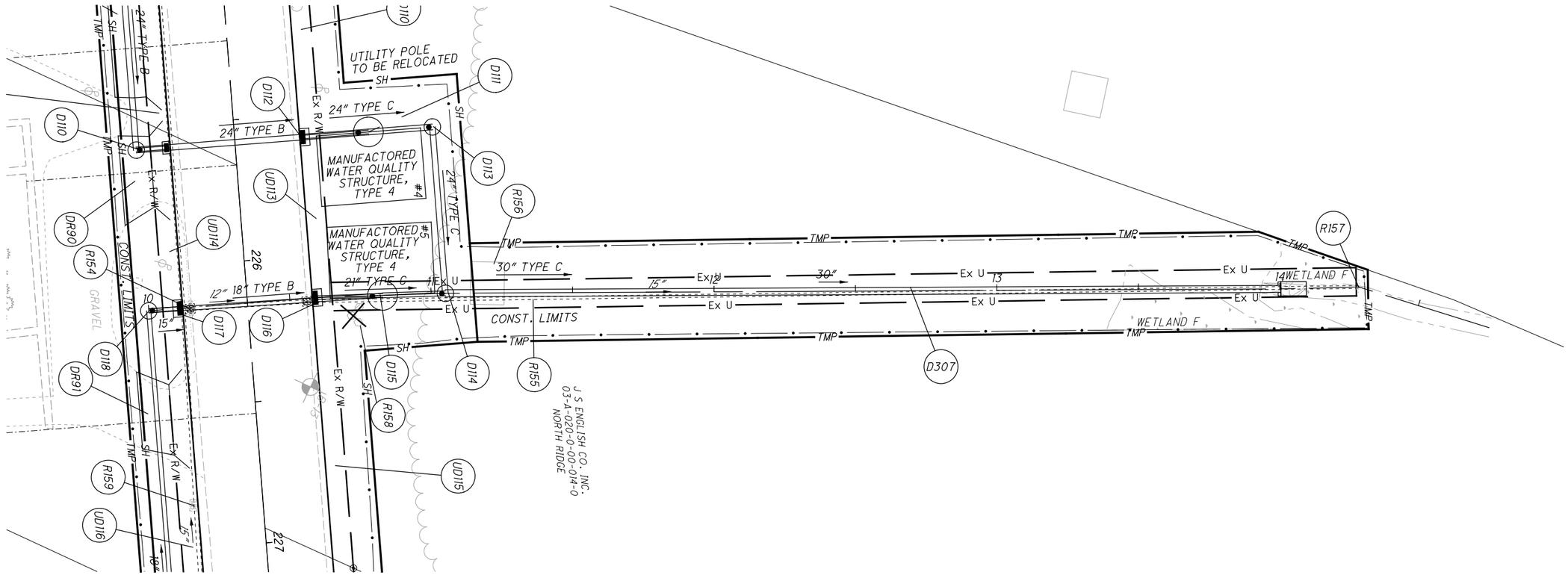

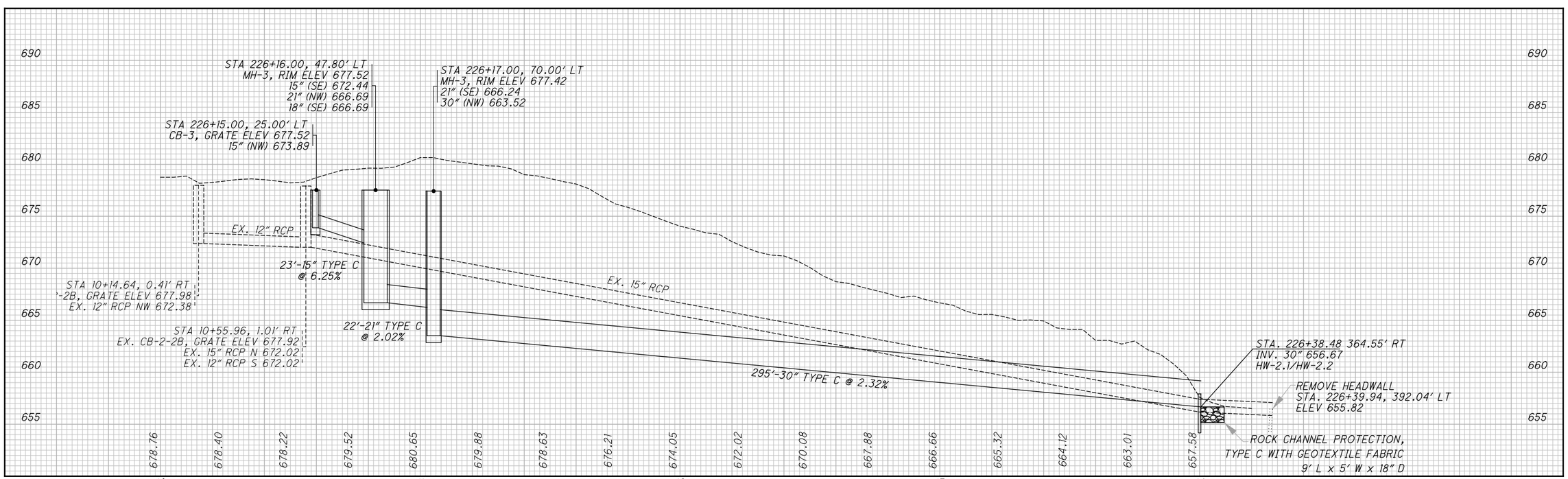

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - STORM SEWER
STA. 226+15

LAK-US-20-19.59
PART 1

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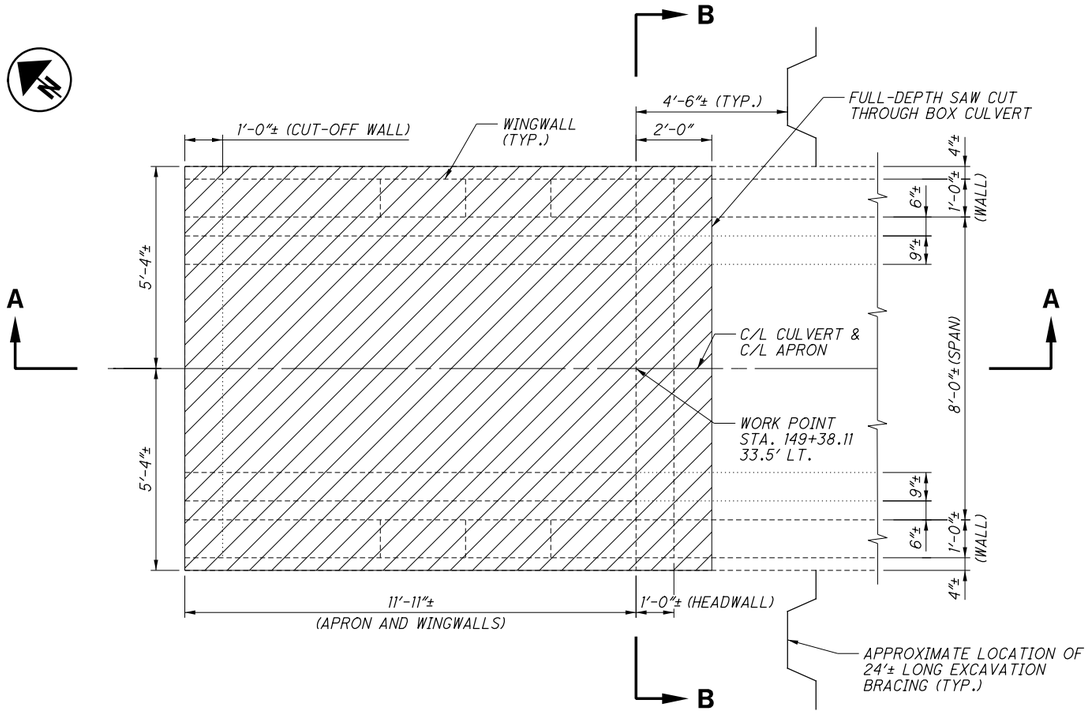
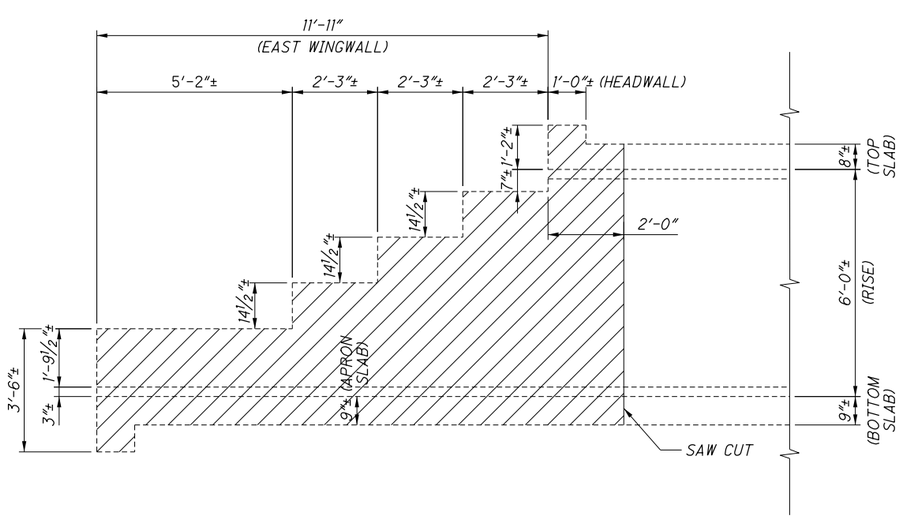
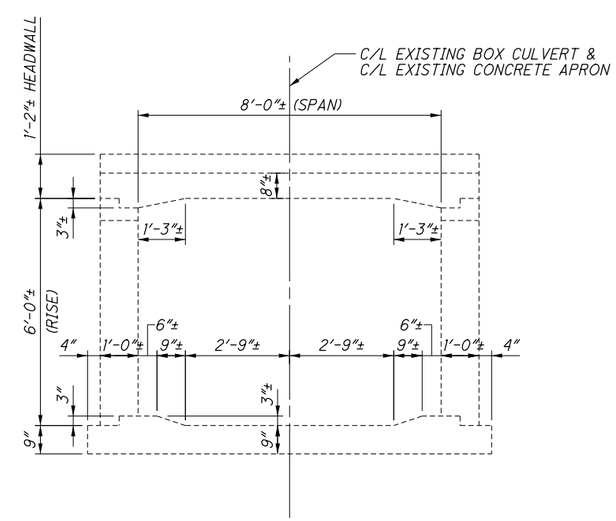


CULVERT PARTIAL REMOVAL PLAN



SECTION A-A



SECTION B-B

(SHOWING FIELD-MEASURED DIMENSIONS (±) AND OTHER DIMENSIONS PER ODOT SCD LBC-33 (ARCHIVED))

NOTES:

1) FOR PROPOSED PIPE COLLAR DETAILS SEE SHEET 3 OF 6.

LEGEND:

- INDICATES EXISTING CONCRETE REMOVAL PAYMENT IS UNDER ITEM 202 - PORTIONS OF SRUCTURE REMOVED, AS PER PLAN

CALCULATED JPR
CHECKED MLF

CULVERT REMOVAL DETAILS - STA. 149+38

LAK-20-19.59

SUBSET 2 TOTAL 6
SHEET 857 TOTAL 1253

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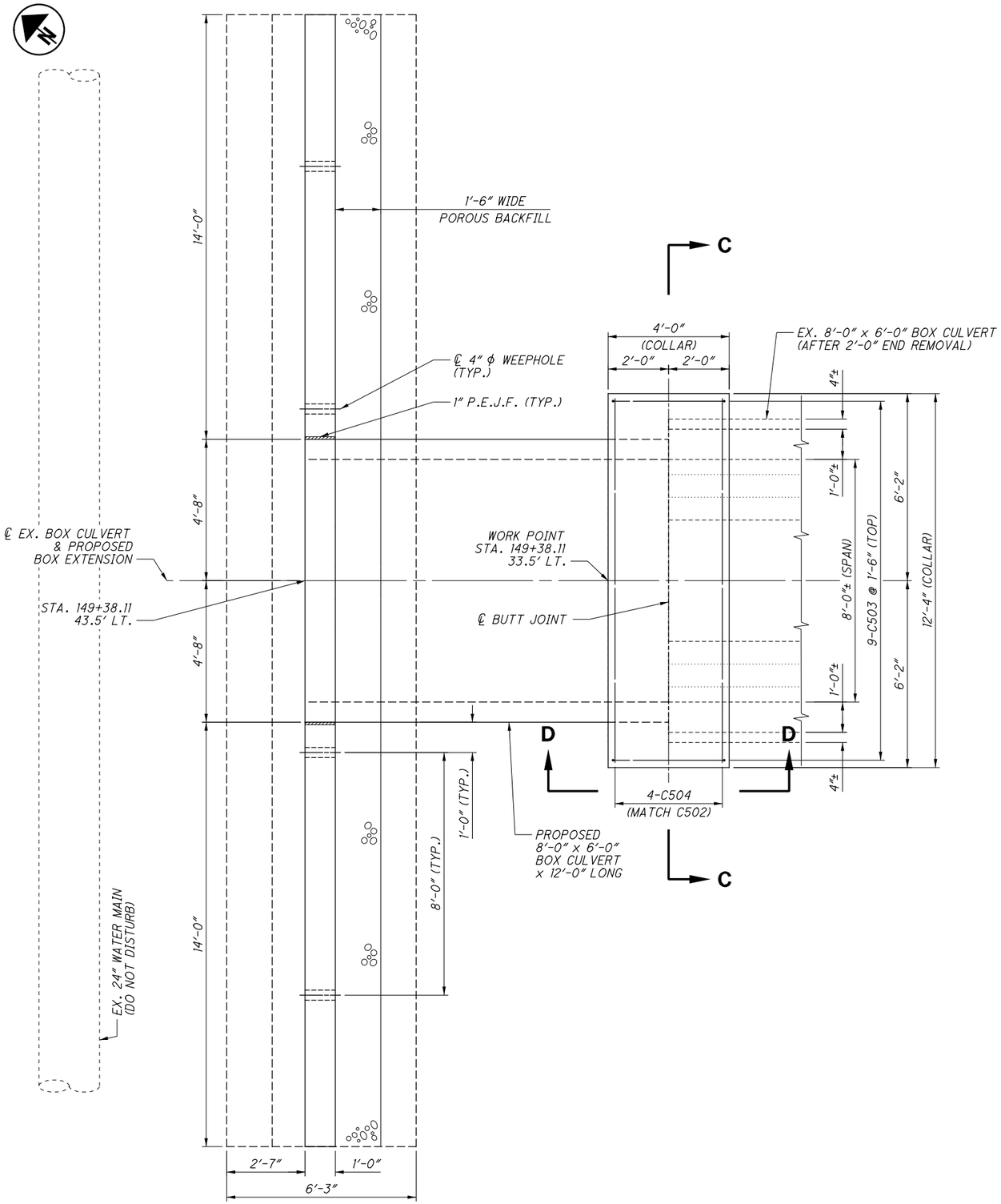
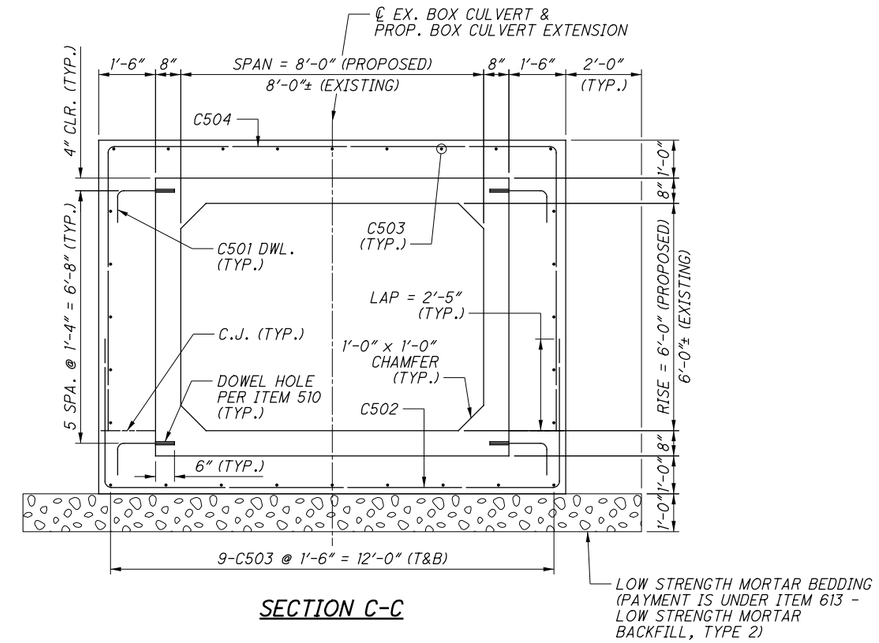
NOTES:

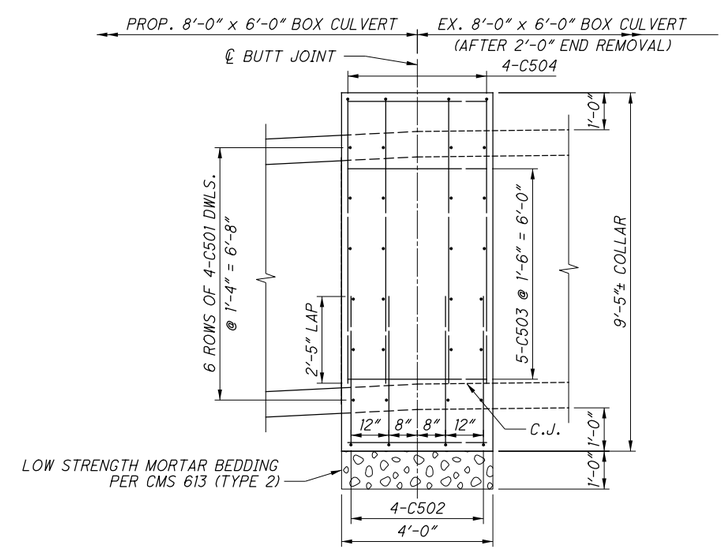
1) FOR CULVERT SECTION, SEE SHEET 526 OF 1253.
2) FOR CULVERT PARTIAL REMOVAL DETAILS, SEE SHEET 2 OF 6.
3) FOR PROPOSED HEADWALL DETAILS, SEE SHEETS 4 & 5 OF 6.



CULVERT EXTENSION & CONCRETE COLLAR PLAN



SECTION C-C



SECTION D-D

CALCULATED JPR
CHECKED MLF

CULVERT DETAILS - STA. 149+38

LAK-20-19.59

SUBSET	TOTAL
3	6
SHEET	TOTAL
858	1253

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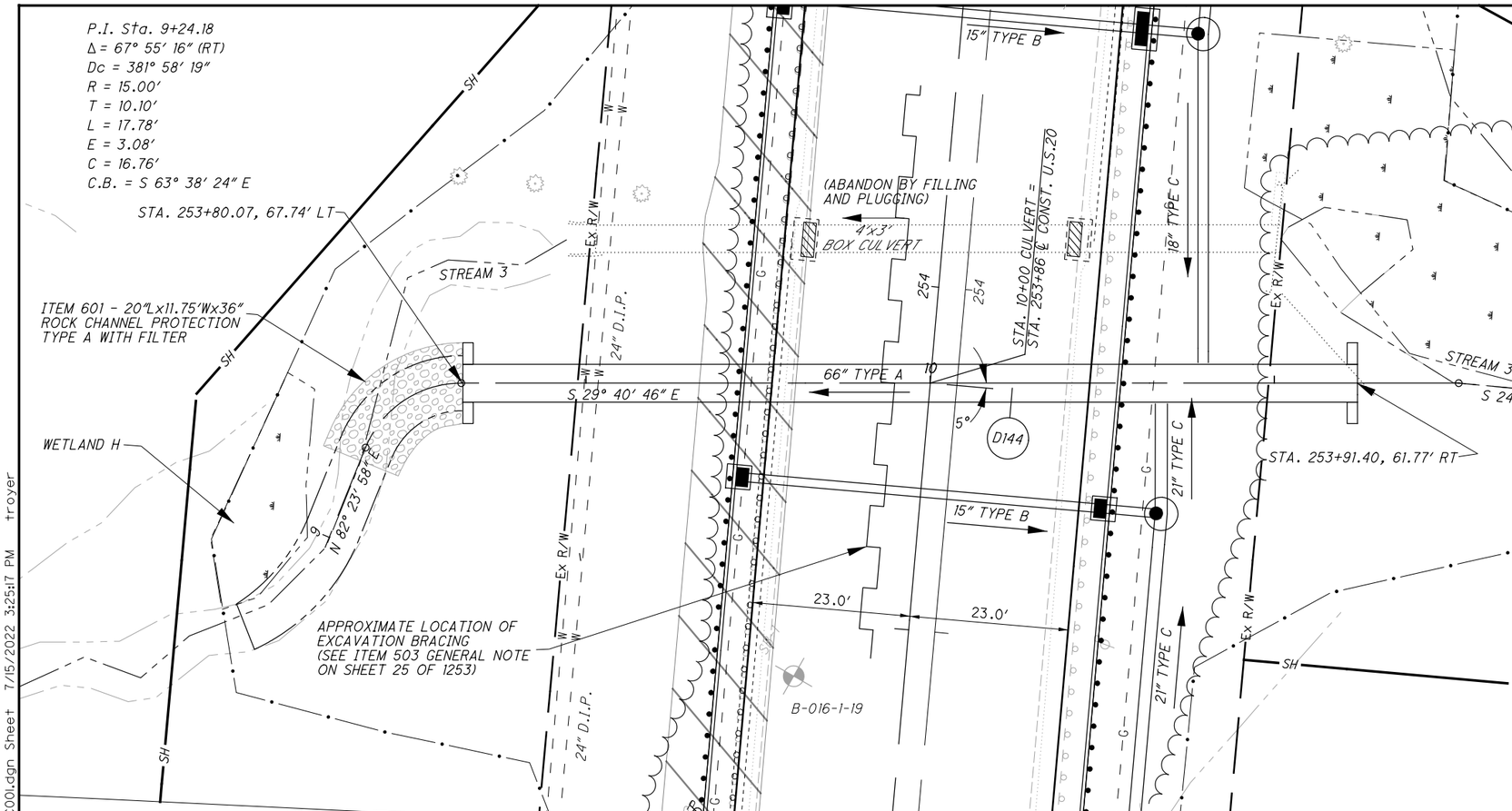
P.I. Sta. 9+24.18
Δ = 67° 55′ 16″ (RT)
Dc = 381° 58′ 19″
R = 15.00′
T = 10.10′
L = 17.78′
E = 3.08′
C = 16.76′
C.B. = S 63° 38′ 24″ E



EXISTING STRUCTURE
TYPE: 4′ x 3′ CAST IN PLACE BOX CULVERT SKEW: 5° ALIGNMENT: TANGENT DATE BUILT: 1938 CONDITION: GOOD CFN: 1863822

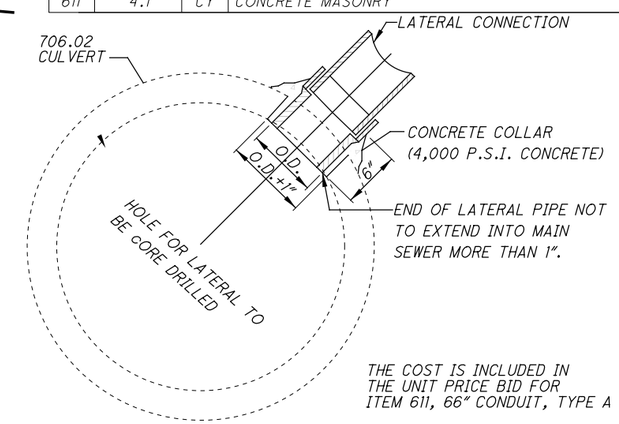
PROPOSED STRUCTURE
TYPE: 66″ DIA. TYPE A CONDUIT SKEW: 5° ALIGNMENT: TANGENT CFN: XXXXXXXX

LEGEND
✱ - INDICATES TEST BORING LOCATIONS

HYDRAULIC DATA
DRAINAGE AREA = 563 ACRES
Q (25) = 270 CFS V(25) = 13.4 FPS HW (25) = 666.8 FT
Q (100) = 393 CFS V(100) = 16.6 FPS HW (100) = 671.3 FT
ORDINARY HIGH WATER MARK: 662.5 FT
DESIGN SERVICE LIFE: 75 YRS
pH: 7.6
ABRASION LEVEL: 2

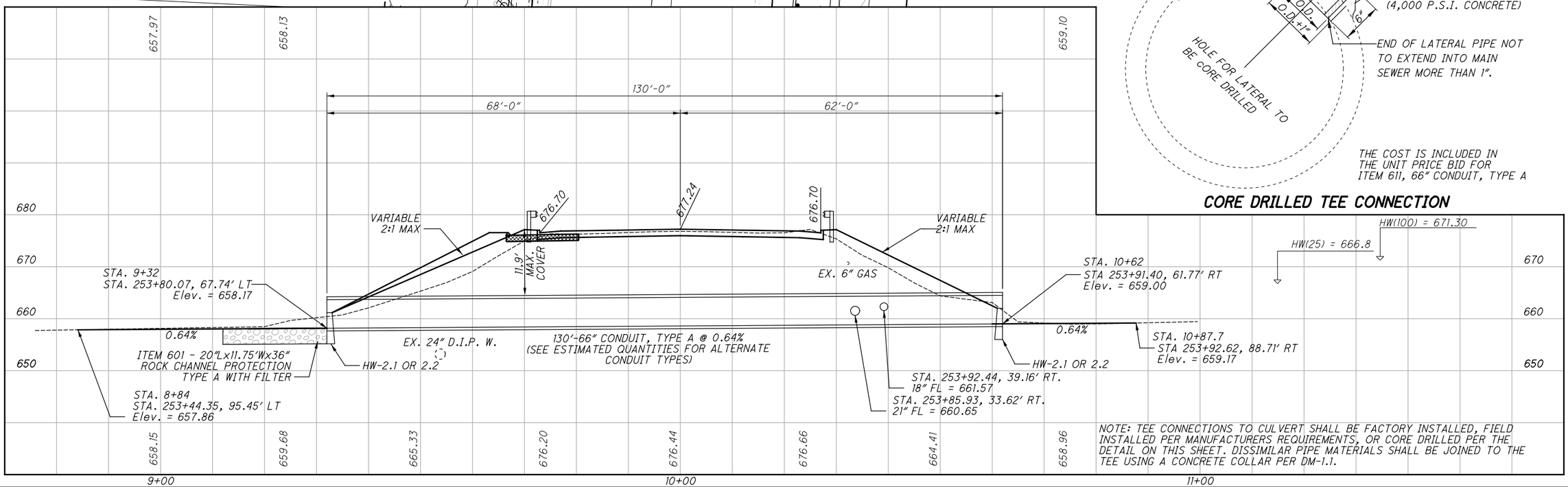
ESTIMATED QUANTITIES (CARRIED TO GENERAL SUMMARY)

ITEM	QUANTITY	UNIT	DESCRIPTION
202	100	FT	FILL AND PLUG EXISITNG CONDUIT, 4′ X 3′ BOX
503	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
601	130	FT	66″ CONDUIT, TYPE A, 706.02, 707.35, 707.75, SS938 WITH WELDED BELL OR 72″ 707.01 (0.249) ALUMINIZED, 707.02 (0.109) ALUMINIZED, 707.04 (1″) (0.109)
602	26	CY	ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC
611	4.1	CY	CONCRETE MASONRY



THE COST IS INCLUDED IN THE UNIT PRICE BID FOR ITEM 611, 66″ CONDUIT, TYPE A

CORE DRILLED TEE CONNECTION



NOTE: TEE CONNECTIONS TO CULVERT SHALL BE FACTORY INSTALLED, FIELD INSTALLED PER MANUFACTURERS REQUIREMENTS, OR CORE DRILLED PER THE DETAIL ON THIS SHEET. DISSIMILAR PIPE MATERIALS SHALL BE JOINED TO THE TEE USING A CONCRETE COLLAR PER DM-1.1.

HORIZONTAL SCALE IN FEET 0 5 10 20

CALCULATED TLS
CHECKED JMP

CULVERT DETAIL
STA. 253+86

LAK-US-20-19.59
PART 1

862
1253

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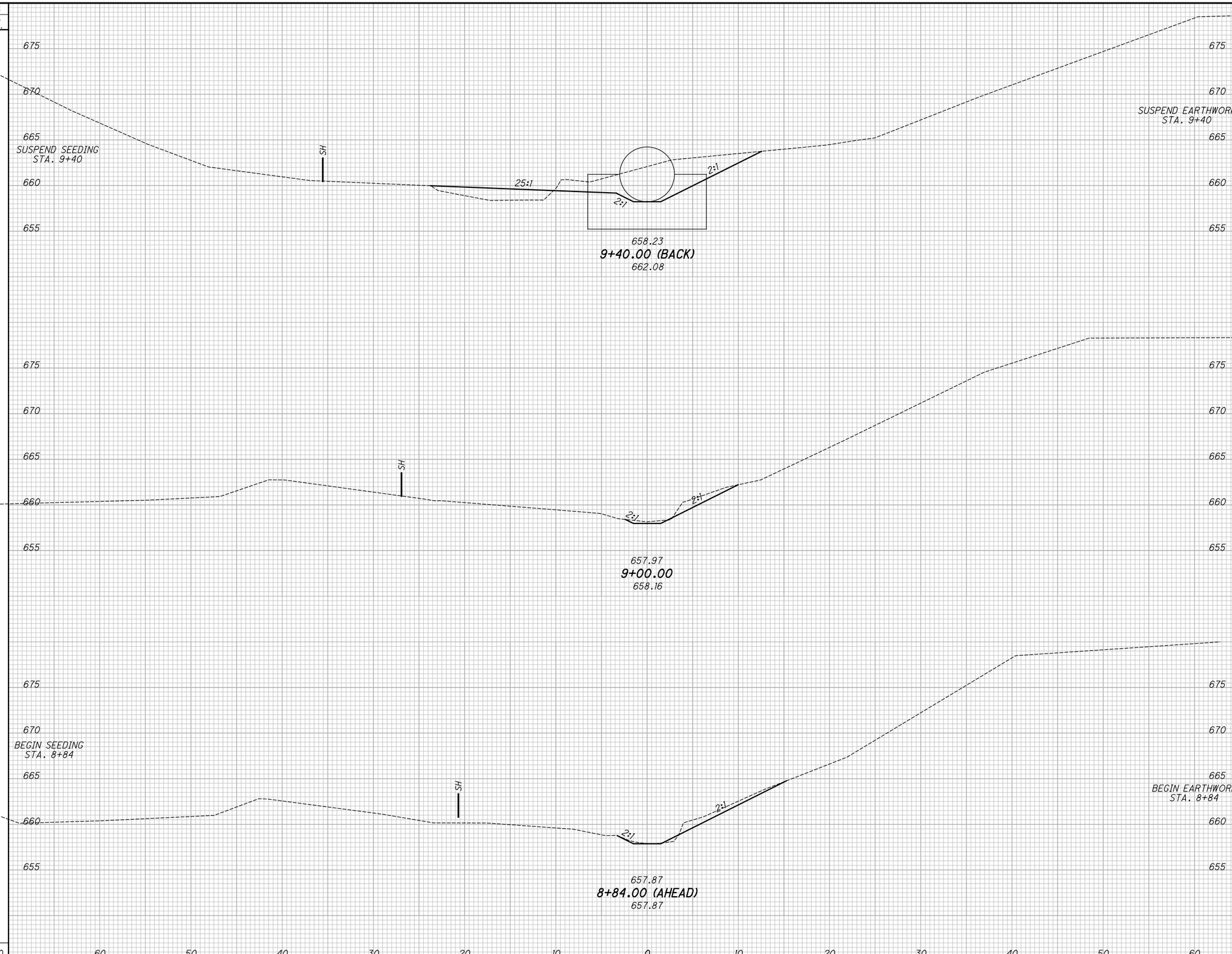
SEEDING	
END WIDTH	SQ. YDS.
290	



END AREA VOLUME			
CUT	FILL	CUT	FILL
		47	15

CALCULATED JMP
CHECKED WDB

CHANNEL SECTIONS - CULVERT 253+86
STA. 8+84.00 TO STA. 9+40.00

LAK-US-20-19.59
PART 1

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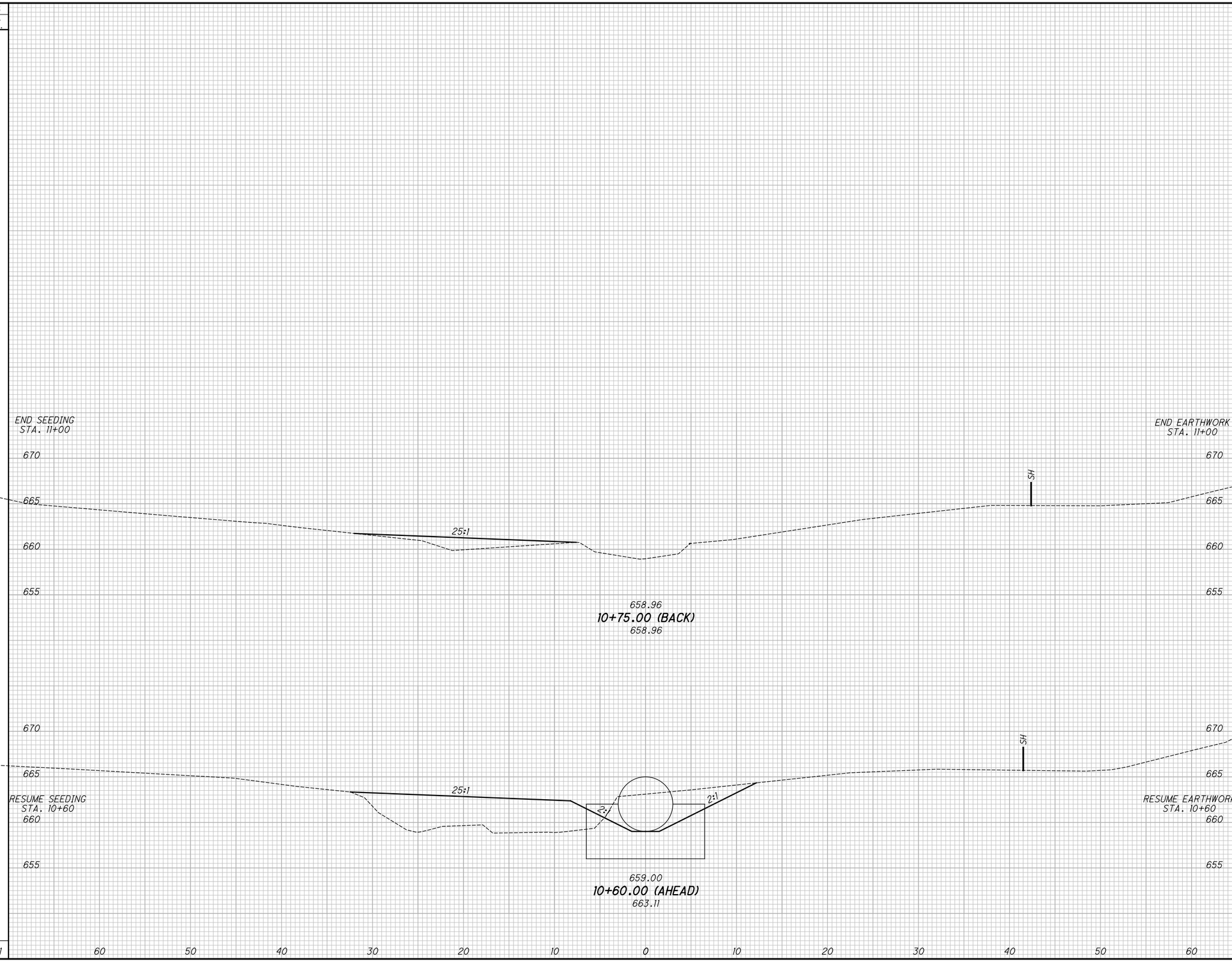
SEEDING	
END WIDTH	SQ. YDS.
371	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		14	40

CALCULATED JMP
CHECKED WDB

CHANNEL SECTIONS - CULVERT 253+86
STA. 10+60.00 TO STA. 10+75.00

LAK-US-20-19.59
PART 1

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GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STANDARD DRAWING CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL, fbf = 30°
TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF
INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL, ff = 30°
UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL, Suf = 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.

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOW RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER (IF USED) SHALL BE APPROVED BY THE ENGINEER. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05

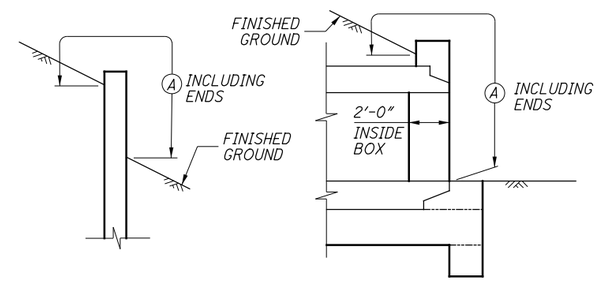
CUT LINE JOINT PREPARATION:
SAW CUT THE CONSTRUCTION JOINT BETWEEN THE EXISTING CONCRETE AND NEW CONCRETE FULL-DEPTH. ABRASIVELY CLEAN THE CUT JOINT SURFACE TO REMOVE LOOSE AND DISINTEGRATED CONCRETE. INSTALL DOWEL BARS WHERE SHOWN ON THE PLANS. THOROUGHLY CLEAN THE CONSTRUCTION JOINT SURFACE AND ALL SLICED REINFORCEMENT ENDS OF ALL DIRT, DUST, RUST, OR OTHER FOREIGN MATERIAL BY THE USE OF AIR UNDER PRESSURE. THOROUGHLY DRENCH THE CUT CONSTRUCTION JOINT WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING THE PROPOSED WINGWALL EXTENSION CONCRETE.

POROUS BACKFILL WITH FILTER 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.



WINGWALL

FORESLOPE WALL AND PRECAST BOX (CULVERT OUTLET BEVEL SHOWN)

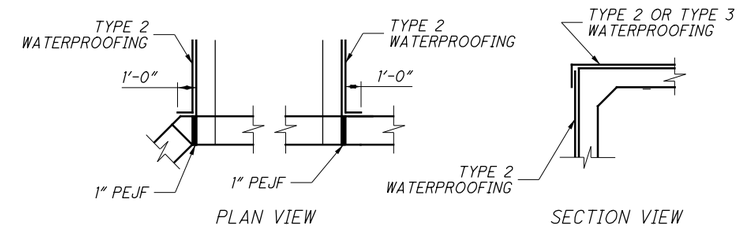
LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

WATERPROOFING: TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE SIDES OF THE NEW CAST-IN-PLACE CONCRETE WALLS 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 NEW CAST-IN-PLACE CONCRETE ROOF SLAB 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.

IF PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT, TYPE 3 WATERPROOFING, PER CMS 512.10 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE ROOF SLAB 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 3 WATERPROOFING.



PLAN VIEW

SECTION VIEW

WATERPROOFING DETAILS

BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH APPLICABLE 511 ITEMS IN THE ESTIMATED QUANTITIES TABLE. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

ESTIMATED QUANTITIES - SFN 4302370

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING
503	21300	LUMP		UNCLASSIFIED EXCAVATION (WINGWALL FOOTING)
509	10000	11,721	LB	EPOXY COATED REINFORCING STEEL
510	10000	182	EACH	DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT
511	46000	61	SY	CLASS QC1 CONCRETE, RETAINING WALL/WINGWALL NOT INCLUDING FOOTING
511	46510	49	CY	CLASS QC1 CONCRETE, FOOTING
511	46610	0.5	CY	CLASS QC1 CONCRETE, HEADWALL
511	47010	17	CY	CLASS QC1 CONCRETE, CULVERT *
512	10100	46	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33000	50	SY	TYPE 2 WATERPROOFING
516	13600	38	SF	1" PREFORMED EXPANSION JOINT FILLER
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC

* - TO BE USED FOR EXTENDING AN EXISTING BOX CULVERT

NOTE: TOTALS CARRIED TO GENERAL SUMMARY SHEET

DESIGNED JPR | DRAWN MLF | REVIEWED TAB | DATE 7/1/2022
CHECKED MLF | REVISED XXX | STRUCTURE FILE NUMBER 4302370

CULVERT BRIDGE NOTES & ESTIMATED QUANTITIES - STA. 313+72
BRIDGE NO. LAK-20-2323
OVER RED MILL CREEK

LAK-US-20-19.59
PART 1
PID No. 108665

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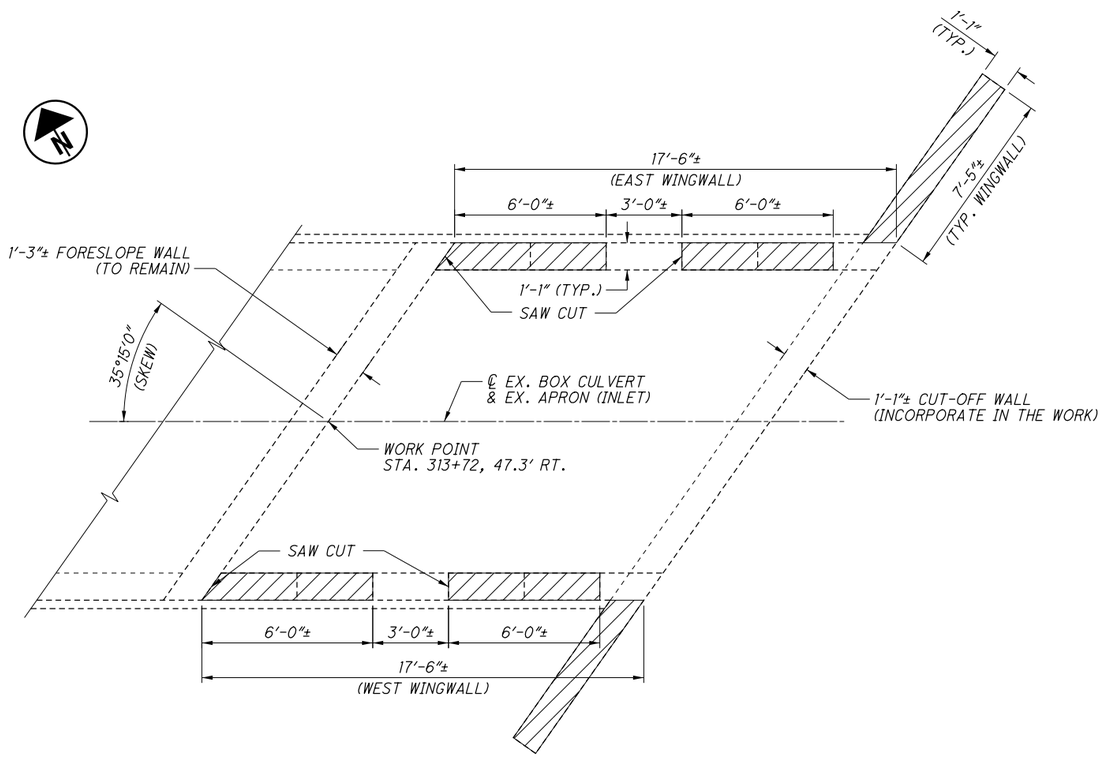
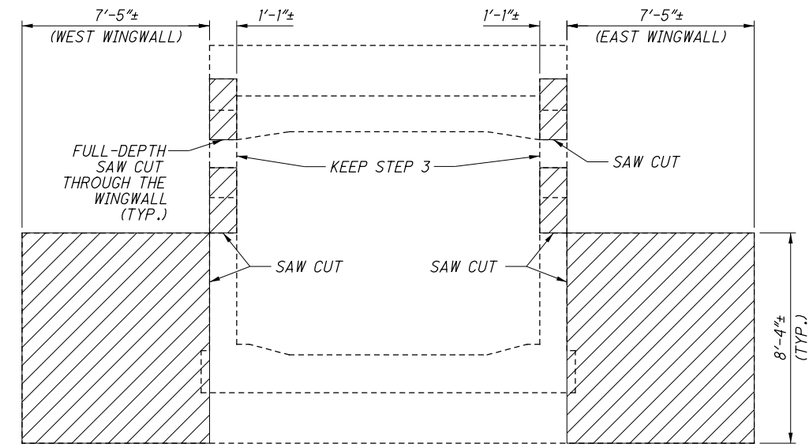
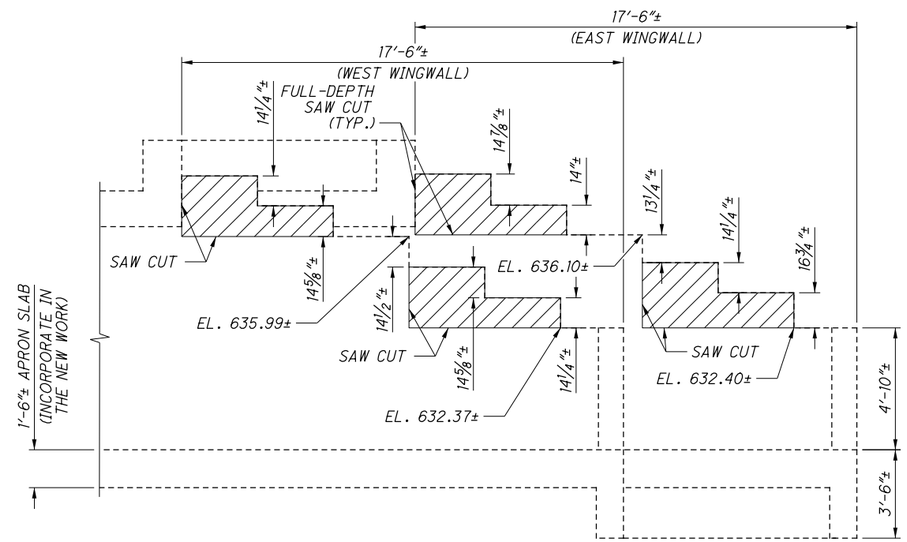


CULVERT BRIDGE PARTIAL REMOVAL PLAN



EXISTING INLET WINGWALLS PARTIAL REMOVAL ELEVATION (FRONT)



EXISTING INLET WINGWALLS PARTIAL REMOVAL ELEVATION (SIDE)

NOTES:

1) FOR RETROFIT DETAILS, SEE SHEETS 3 THRU 6 OF 7.

LEGEND:

INDICATES EXISTING CONCRETE REMOVAL. PAYMENT IS UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGNED JPR	DRAWN MLF	REVIEWED TAB	DATE 7/1/2022
CHECKED MLF	REVISED XXX	STRUCTURE FILE NUMBER 4302370	

CULVERT BRIDGE REMOVAL DETAILS - STA. 313+72

BRIDGE NO. LAK-20-2323
OVER RED MILL CREEK

LAK-US-20-19.59
PART 1
PID No. 108665

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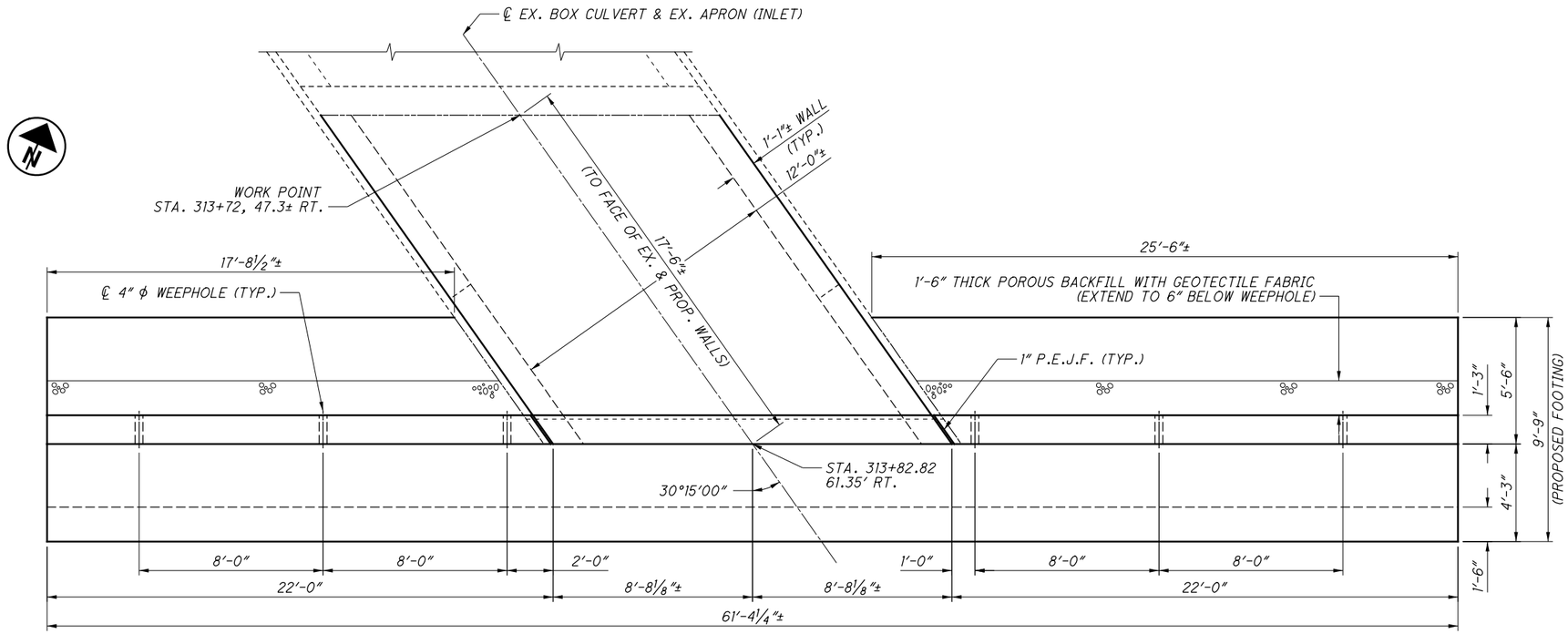
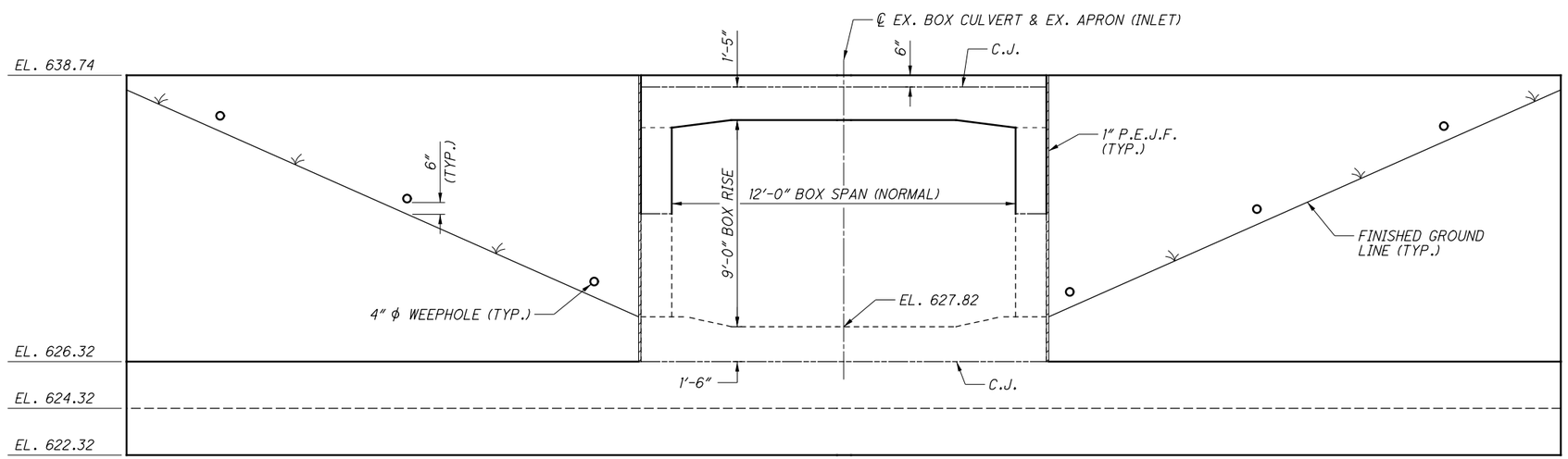


CULVERT BRIDGE & WINGWALL LAYOUT



CULVERT BRIDGE & WINGWALL ELEVATION

DESIGNED JPR	DRAWN MLF
CHECKED MLF	REVISED XXX
REVIEWED TAB	DATE 7/1/2022
STRUCTURE FILE NUMBER 4302370	

CULVERT BRIDGE & WINGWALL LAYOUT & ELEVATION - STA. 313+72

BRIDGE NO. LAK-20-2323
OVER RED MILL CREEK

LAK-US-20-19.59
PART 1
PID No. 108665

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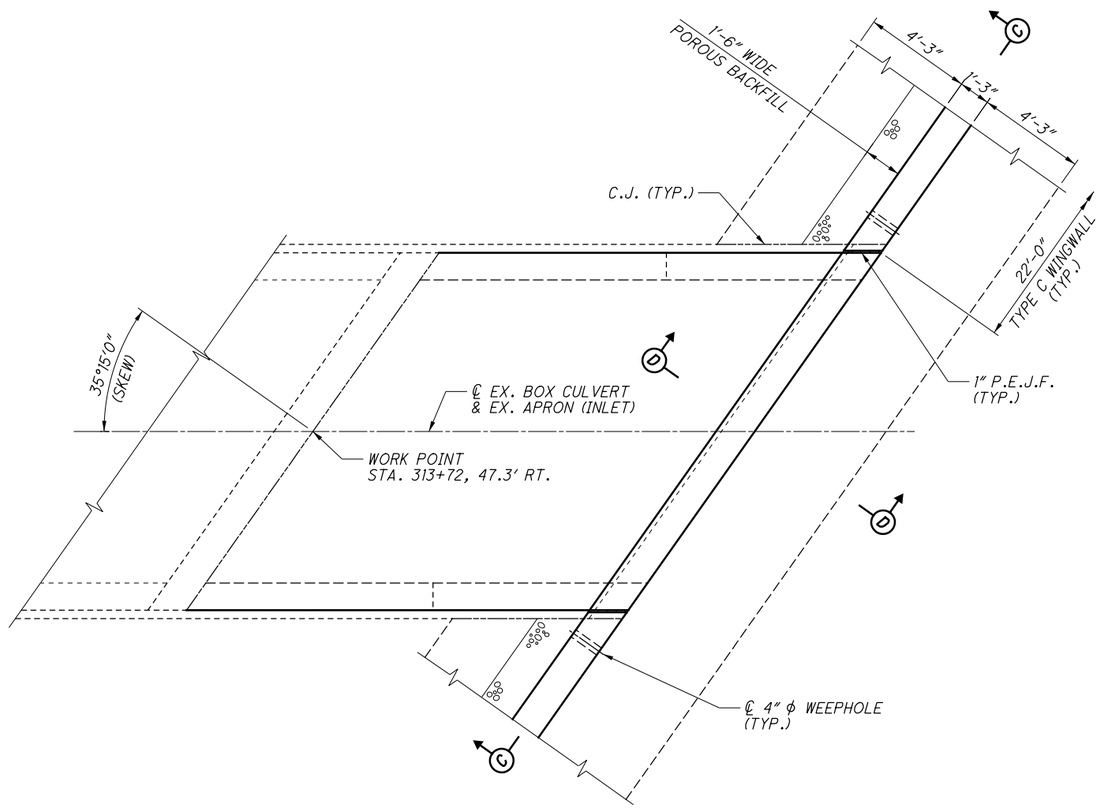
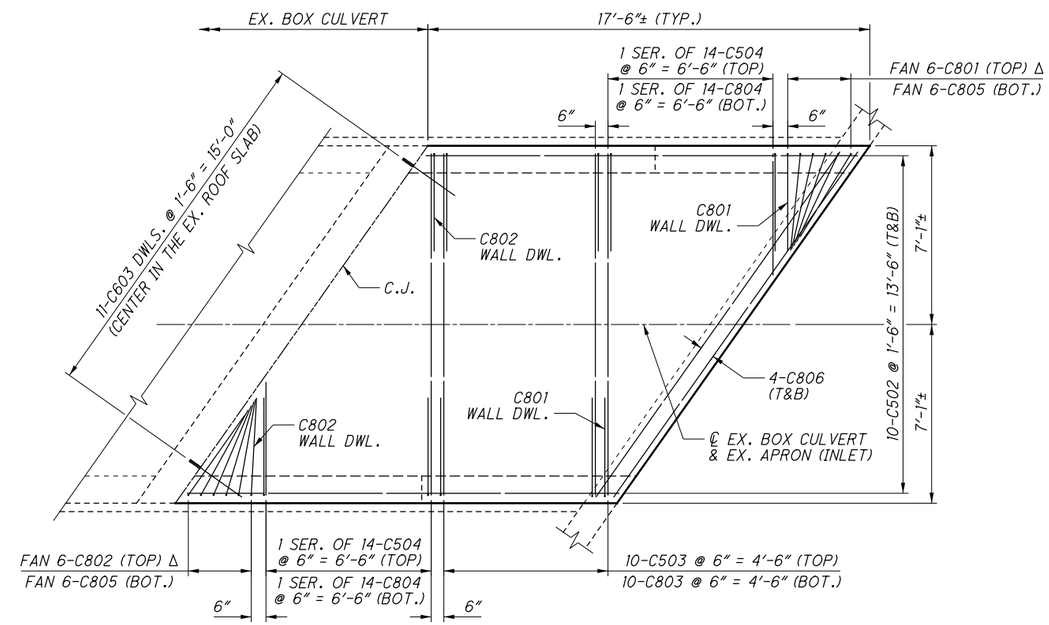


CULVERT BRIDGE EXTENSION PLAN



Δ - ROTATE THE HORIZONTAL LEG OF WALL DOWELS

ROOF SLAB REINFORCING PLAN

NOTES:

1) FOR SECTIONS C-C & D-D, SEE SHEET 5 OF 7.
2) FOR EXISTING WINGWALL RETROFIT DETAILS, SEE SHEET 5 OF 7.
3) FOR PROPOSED HEADWALL DETAILS, SEE SHEETS 3 & 6 OF 7.

DESIGNED JPR	DRAWN MLF	REVIEWED TAB	DATE 7/1/2022
CHECKED MLF	REVISED XXX	STRUCTURE FILE NUMBER 4302370	

CULVERT BRIDGE RETROFIT DETAILS 1 - STA. 313+72

BRIDGE NO. LAK-20-2323
OVER RED MILL CREEK

LAK-US-20-19.59
PART 1
PID No. 108665

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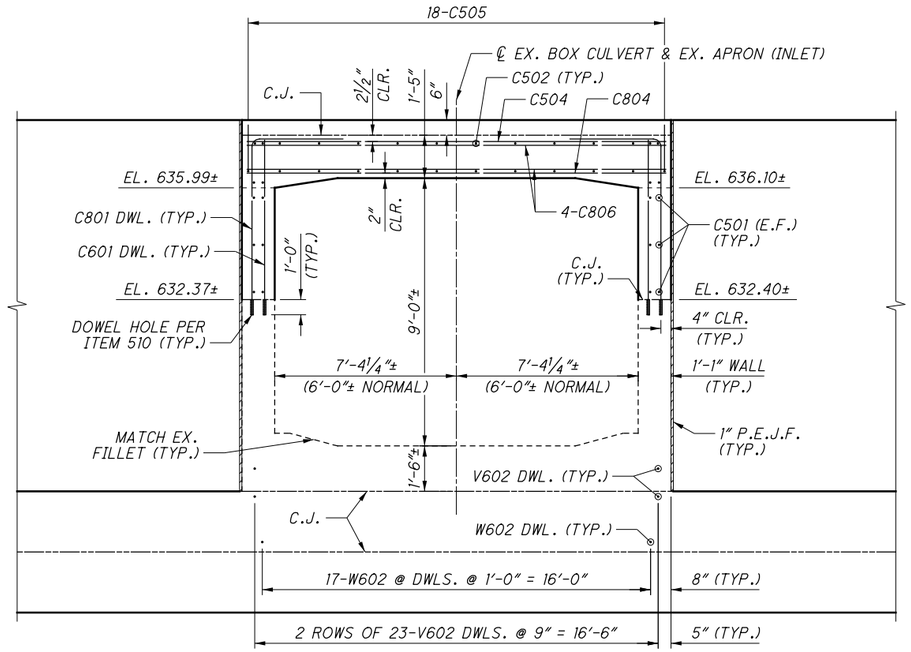
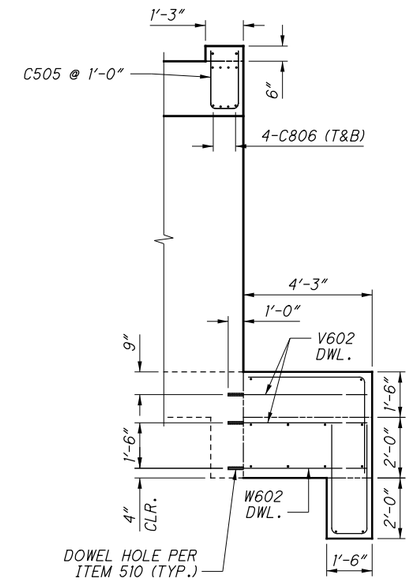
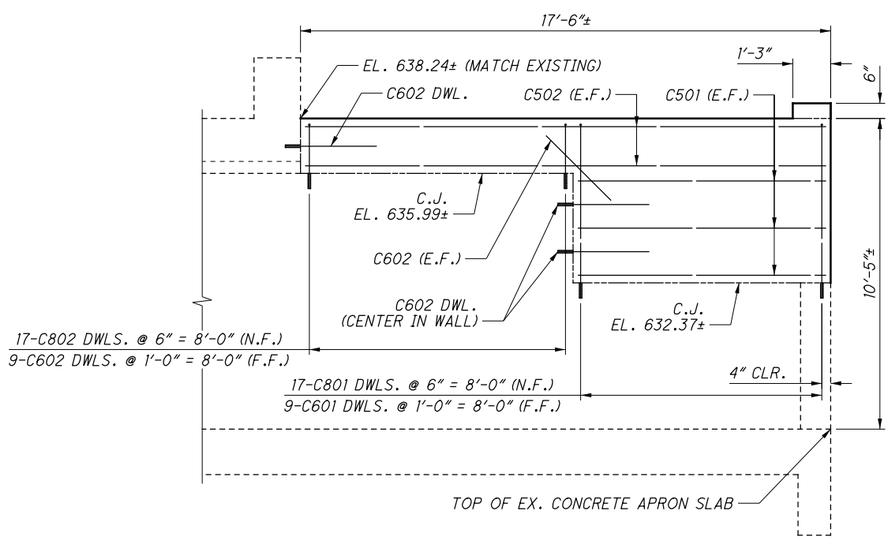


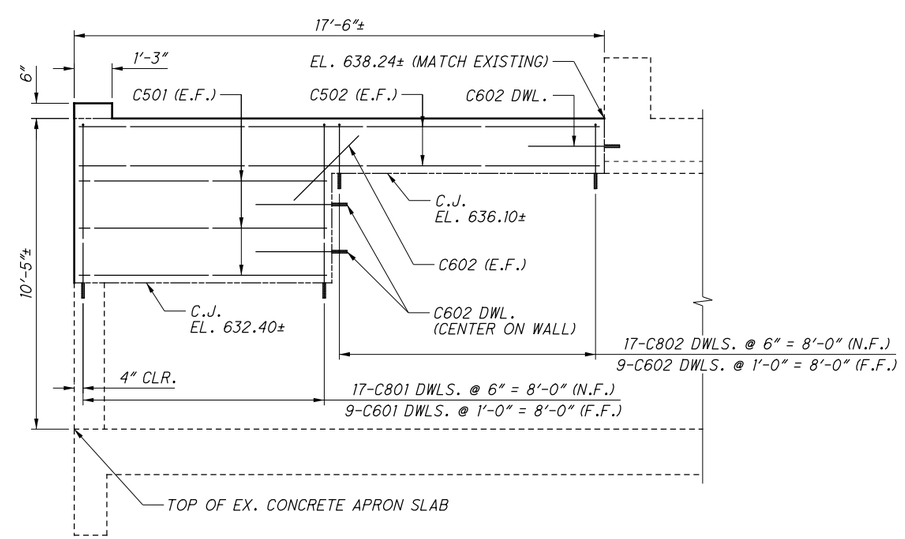
SECTION C-C



SECTION D-D



EXISTING WEST WINGWALL RETROFIT ELEVATION



EXISTING EAST WINGWALL RETROFIT ELEVATION

NOTES:

1) FOR LOCATION OF SECTIONS C-C & D-D, SEE SHEET 4 OF 7.
2) FOR PROPOSED HEADWALL DETAILS, SEE SHEETS 3 & 6 OF 7.

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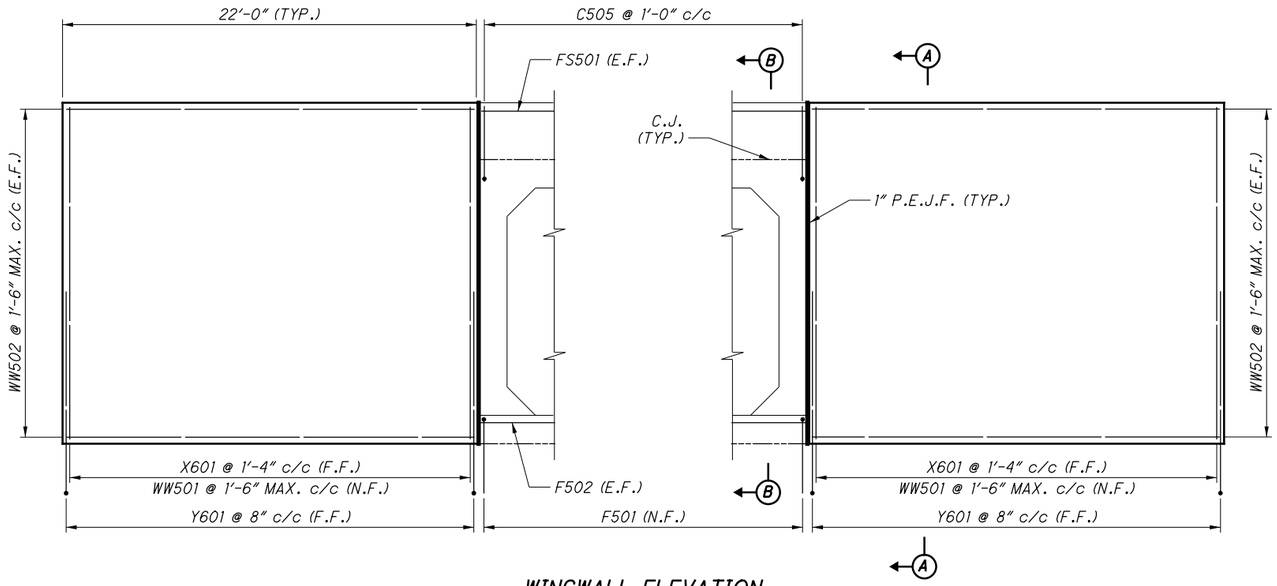
trust trusted advisor consultants — engineers architects planners

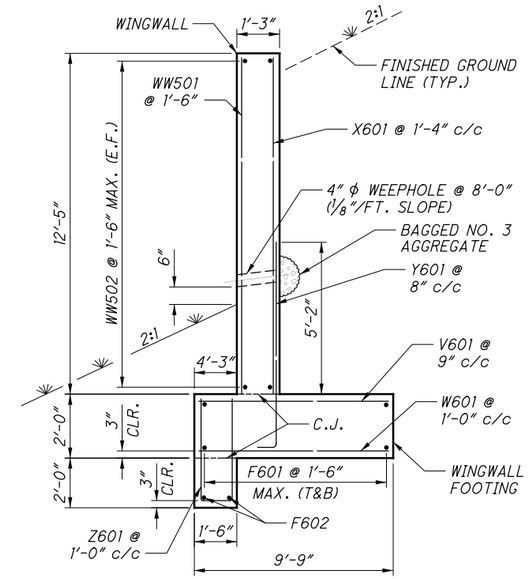
DESIGNED	DRAWN	REVIEWED	DATE
JPR	MLF	TAB	7/1/2022
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLF	XXX	4302370	

CULVERT BRIDGE RETROFIT DETAILS 2 - STA. 313+72
BRIDGE NO. LAK-20-2323
OVER RED MILL CREEK

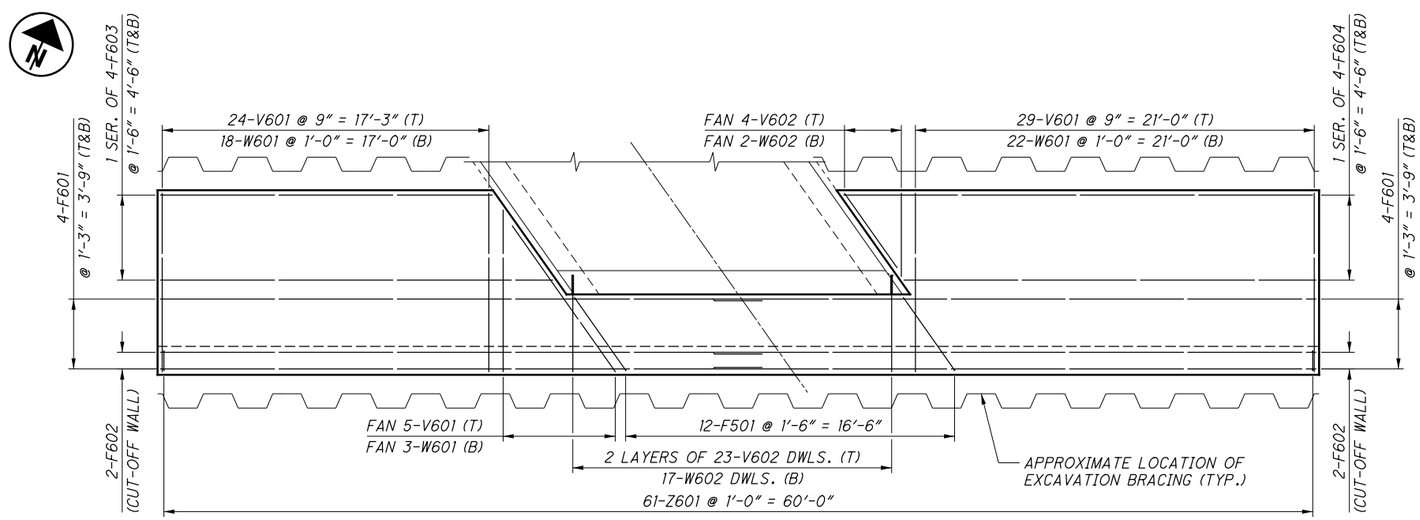
LAK-US-20-19.59
PART 1
PID No. 108665



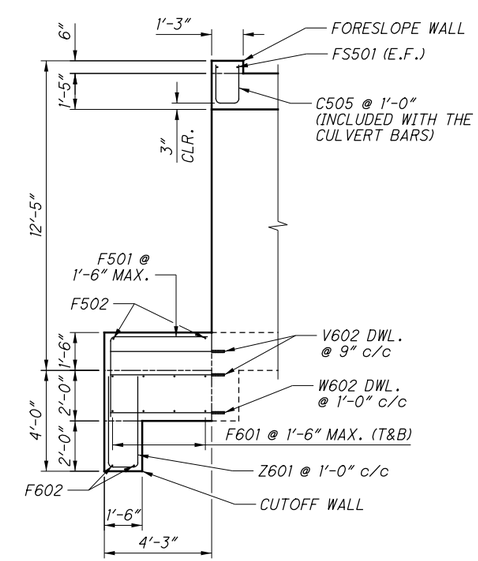
WINGWALL ELEVATION
(FOOTING NOT SHOWN)



SECTION A-A
(POROUS BACKFILL NOT SHOWN FOR CLARITY)



FOOTING PLAN
(THE PROPOSED BOX CULVERT RETROFIT ROOF SLAB IS NOT SHOWN FOR CLARITY)



SECTION B-B

NOTES:

1) FOR CULVERT LOCATION PLAN, SEE SHEETS 465 & 466 OF 1253.

2) FOR CAST-IN-PLACE BOX CULVERT RETROFIT DETAILS, SEE SHEETS 3 THRU 6 OF 7.

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 NO. 5 BARS AND 2'-11" FOR NO. 6 BARS.

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

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Fourth Coast Advisor Consultants — engineers architects planners

REVIEWED TAB DATE 7/1/2022
STRUCTURE FILE NUMBER 4302370
DRAWN MLF REVISED XXX
DESIGNED JPR CHECKED MLF

CULVERT BRIDGE WINGWALL REINFORCING DETAILS - STA. 313+72
BRIDGE NO. LAK-20-2323
OVER RED MILL CREEK

LAK-US-20-19.59
PART 1
PID No. 108665

STATE OF OHIO

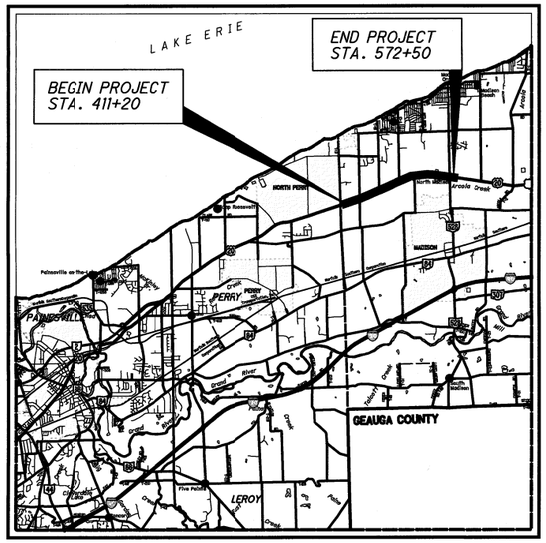
DEPARTMENT OF TRANSPORTATION

LAK-US-20-24.99
PART 2

MADISON TWP.

LAKE COUNTY, OHIO

FOR PART 1, SEE LAK-20-19.59



LOCATION MAP

LATITUDE: 41°45'58.7" LONGITUDE: 81°10'51.7"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION: LAK-US-20-24.99

CURRENT ADT (2022)	17,500
DESIGN YEAR ADT (2042)	22,300
DESIGN HOURLY VOLUME (2042)	2,230
DIRECTIONAL DISTRIBUTION	58%
TRUCKS (24 HOUR B&C)	7%
DESIGN SPEED	45 MPH
LEGAL SPEED	25,35,45 MPH
DESIGN FUNCTIONAL CLASSIFICATION: URBAN PRINCIPAL ARTERIAL	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

NONE REQUIRED

UNDERGROUND UTILITIES

OHIO811.org Before You Dig

PLAN PREPARED BY:

your trusted advisor
consultants
engineers
architects
planners

INDEX OF SHEETS:

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TRAFFIC SIGNALS	577-599
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SOIL PROFILES	SEE PART 1

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
		SEE PART 1			SEE PART 1	SEE PART 1

ENGINEERS SEAL:

STATE OF OHIO WILLIAM D. BAKER, JR. 69412 REGISTERED PROFESSIONAL ENGINEER

SIGNED: William D. Baker Jr.
DATE: 7/15/22

PROJECT DESCRIPTION

MAJOR REHABILITATION OF 3.06 MILES OF NORTH RIDGE ROAD (U.S. 20) FROM TOWNLINE ROAD TO HUBBARD ROAD IN MADISON TOWNSHIP. WORK WILL INCLUDE ROADWAY WIDENING, RESURFACING, SIDEWALK, DRAINAGE, AND TRAFFIC SIGNAL IMPROVEMENTS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	28.4 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	29.4 ACRES

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY 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 ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E191(584)

PID NO. 109270

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

LAK-US-20-24.99 PART 2

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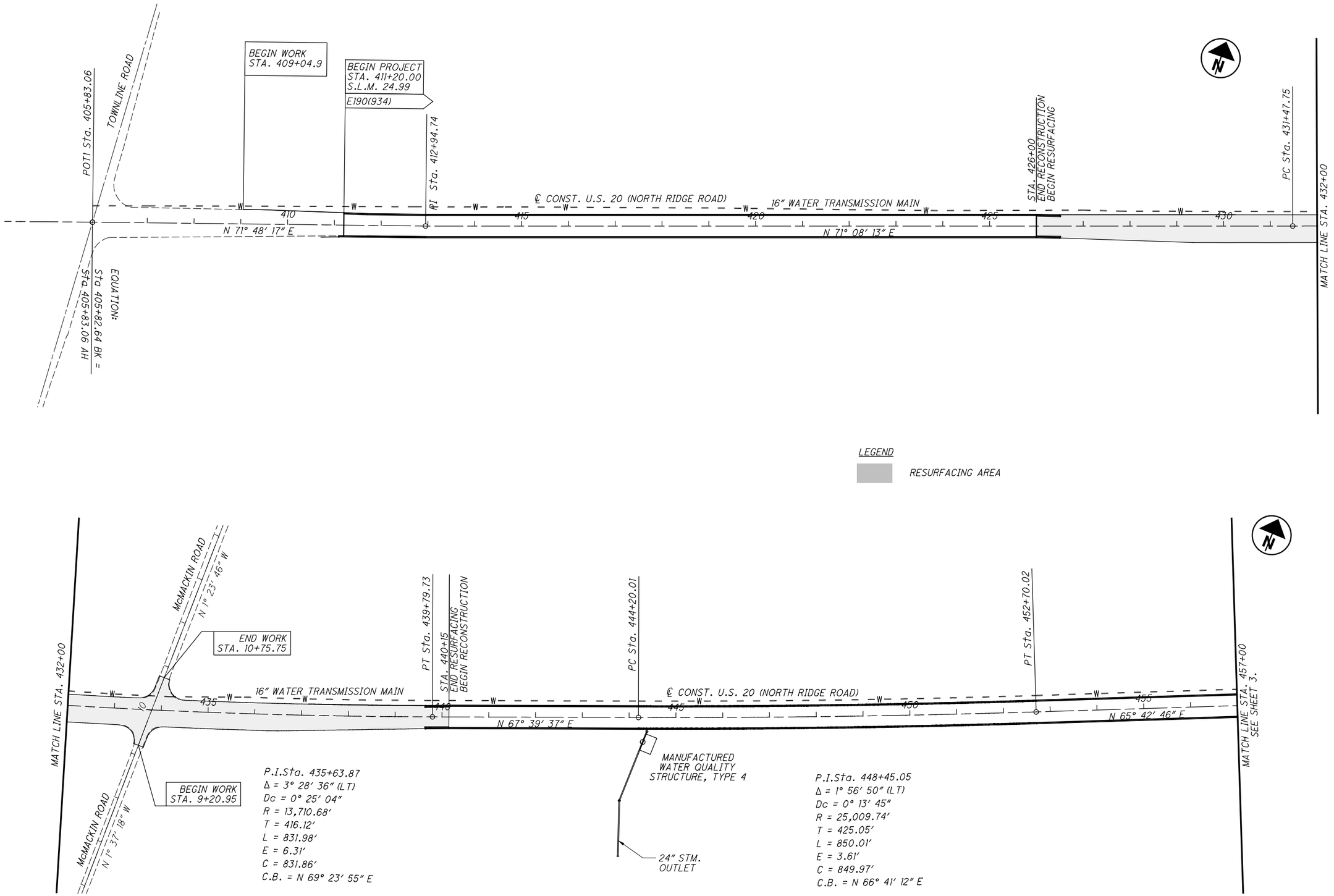

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED JMP
CHECKED WDB

SCHEMATIC PLAN
STA. 407+00 TO STA. 457+00

LAK-US-20-24.99
PART 2

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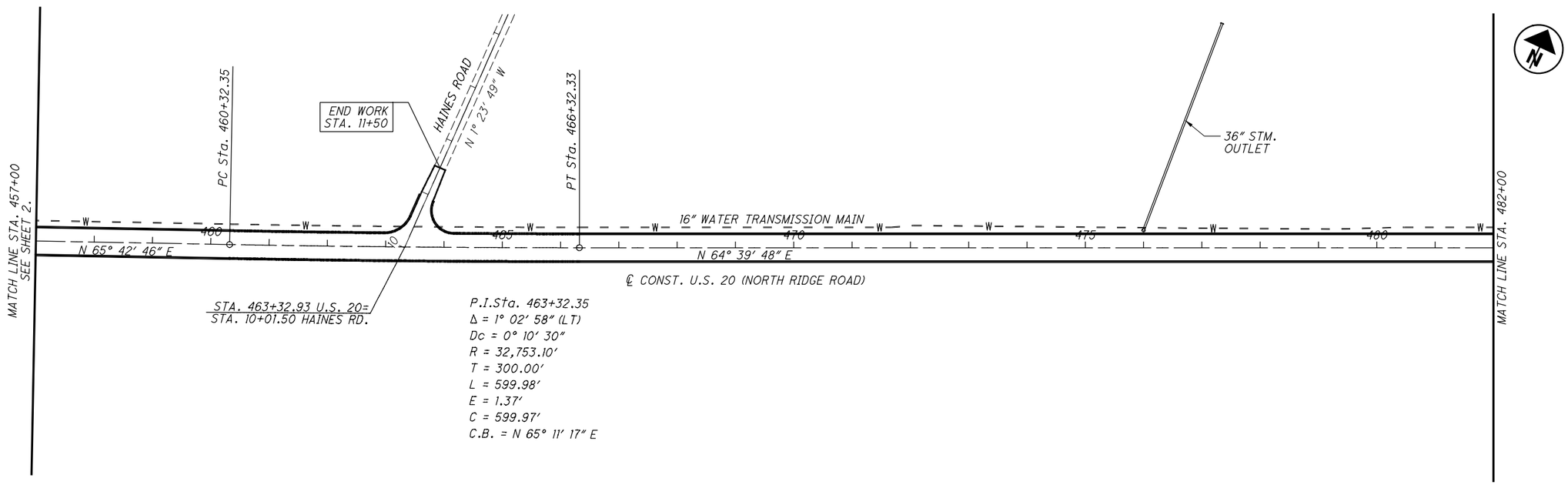
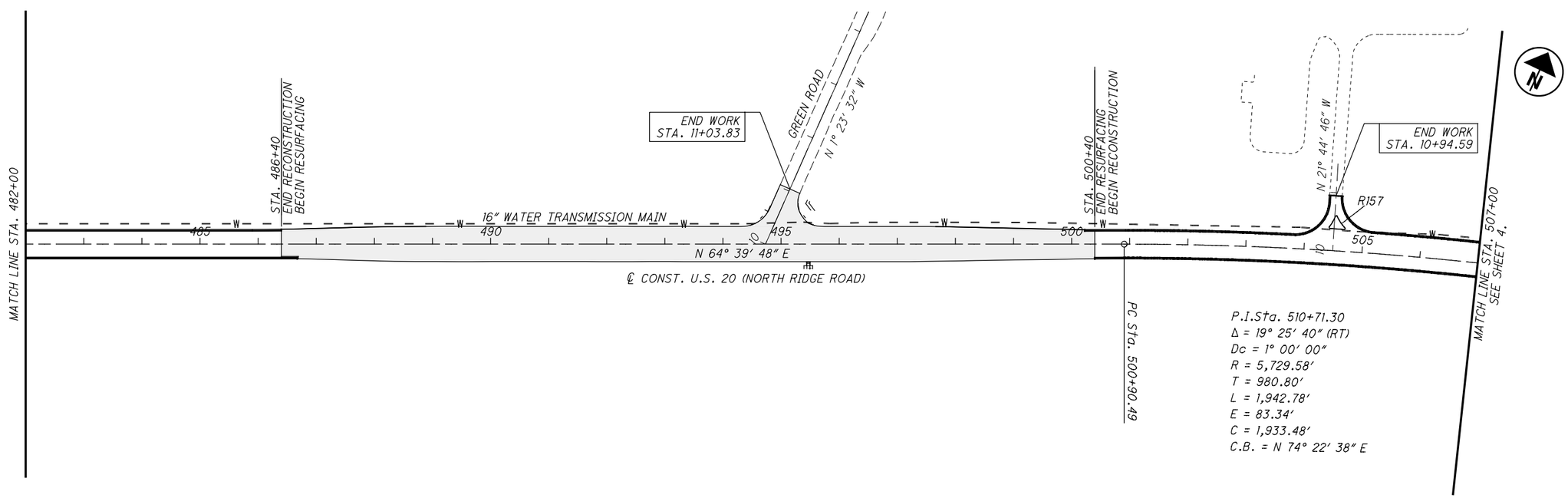


LEGEND

RESURFACING AREA



HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED JMP
CHECKED WDB

SCHEMATIC PLAN
STA. 457+00 TO STA. 507+00

LAK-US-20-24.99
PART 2

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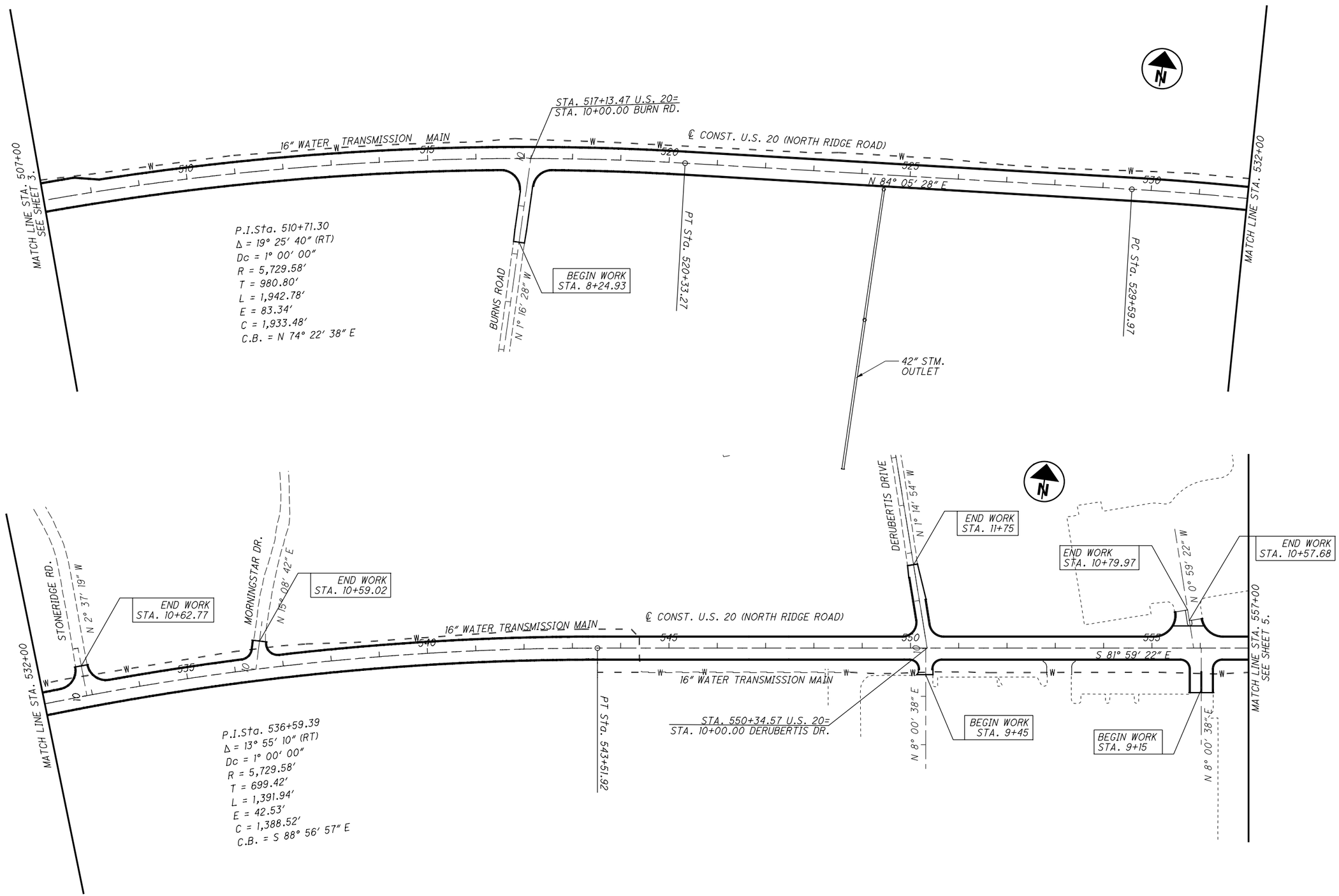

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED JMP
CHECKED WDB

SCHEMATIC PLAN
STA. 507+00 TO STA. 557+00

LAK-US-20-24.99
PART 2

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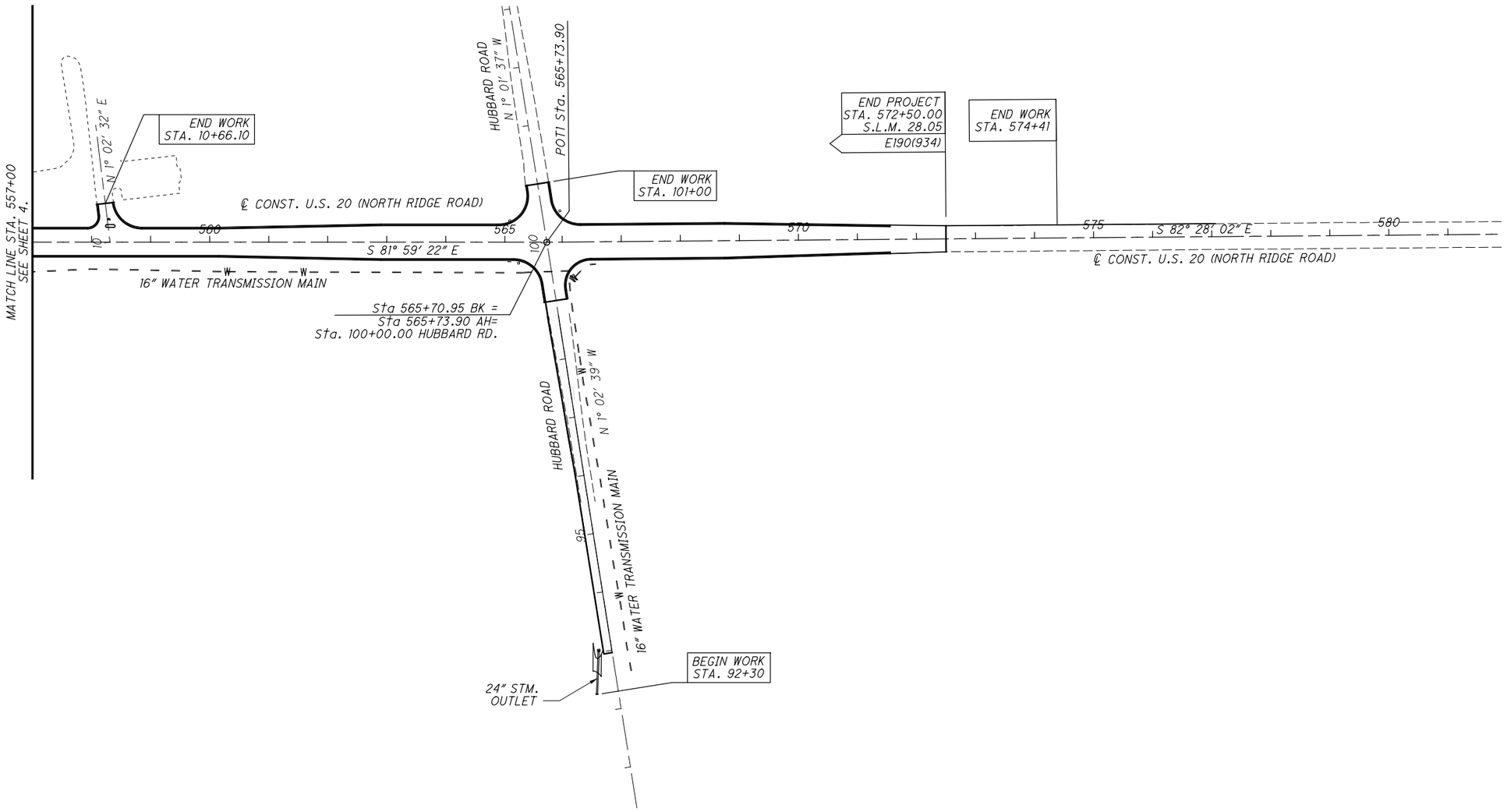

0 50 100 200
HORIZONTAL
SCALE IN FEET

CALCULATED JMP
CHECKED WDB

SCHEMATIC PLAN
STA. 557+00 TO STA. 582+00

LAK-US-20-24.99
PART 2

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GENERAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

GAS
DOMINION ENERGY OHIO
320 SPRINGSIDE DR. SUITE 320
AKRON, OHIO 44333
330-664-2409

NORTHEAST OHIO NATURAL GAS CORP.
8470 STATION STREET
MENTOR, OHIO 44060
TIM REILLY: 440-701-5100

ELECTRIC
THE ILLUMINATING COMPANY
7755 AUBURN ROAD
CONCORD, OHIO 44077
FRED RANDOLPH: 440-358-4991

WATER & SANITARY
LAKE COUNTY DEPARTMENT OF UTILITIES
105 MAIN STREET
PAINESVILLE, OHIO 44077
SARAH CEROVSKI: 440-350-2652

STORM
OHIO DEPARTMENT OF TRANSPORTATION
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 94125
216-581-2100

COMMUNICATIONS
AT&T
13630 LORAIN AVE. 2ND FLOOR
CLEVELAND, OHIO 99111
SCOTT KLEBE: 216-476-6142

CHARTER COMMUNICATIONS (SPECTRUM)
7820 DIVISION DRIVE
MENTOR, OHIO 44060
EMIL SYMISTER: 216-575-8016
EXT. 2165551105

WINDSTREAM
245 N. MAIN STREET
HUDSON, OHIO 44236
JEFF GULYAS: 216-385-1669

ZAYO
4199 KINROSS LAKES PARKWAY, SUITE 10
RICHFIELD, OH 44286
DAVE GALUSKA: 234-281-0025

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EXISTING PLANS

EXISTING PLANS ENTITLED LAK-20-18.72, LAK-20-22.75, LAK-20-25.52 AND LAK-20-27.92 MAY BE INSPECTED IN THE ODOT DISTRICT 12 OFFICE IN GARFIELD HEIGHTS, OHIO.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9 PM AND 7 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEETS 601-607 OF THE PLANS FOR TABLES CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: 2012B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83_(COORS2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR: 1.000000885
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

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.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"		6	6
30"		4	4
48"		3	3
60"		1	1

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. 578-584.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 30 HOUR

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PRIVATE USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT, AT MAXIMUM OPERATING HEIGHT, SHALL EXCEED A HEIGHT OF ZERO (0) FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, COORDINATION WITH THE AIRPORT OWNER AND THE ODOT OFFICE OF AVIATION WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. FOR PRIVATE USE AIRPORTS OR HELIPORTS, COORDINATE WITH THE AIRPORT OWNER AND THE ODOT OFFICE OF AVIATION. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL COORDINATION IS MET AND DOCUMENTATION HAS BEEN FURNISHED TO THE PROJECT ENGINEER. IF COORDINATION IS NOT OBTAINED, THEN THE PROJECT ENGINEER WILL HAVE THE AUTHORITY TO PROVIDE RESTRICTIONS AS REQUIRED.

LAKE HEALTH MADISON CAMPUS HELIPAD
LAKE HEALTH
6270 NORTH RIDGE ROAD
MADISON, OH 44057
(440) 428-0280

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.

2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE.

UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO 204.05.

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

3. COMPACT THE SUBGRADE ACCORDING TO 204.03.

4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE AND APPROXIMATE STATION LIMITS ARE AS FOLLOWS:

STA 465+00 TO STA 469+25 = 425 FT.

THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.

6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.

7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204 EXCAVATION OF SUBGRADE.

THE FOLLOWING QUANTITIES FOR THE REMEDIATION OF UNSTABLE SUBGRADE HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 204 - EXCAVATION OF SUBGRADE	1,600	CY
ITEM 204 - GRANULAR MATERIAL, TYPE B	1,600	CY
ITEM 204 - GEOTEXTILE FABRIC	3,200	SY
ITEM 204 - GEOGRID	3,200	SY

ITEM SPECIAL - PRECONSTRUCTION VIDEO DOCUMENTATION

THIS WORK SHALL CONSIST OF FURNISHING THE DEPARTMENT A COMPLETE DIGITAL COLOR AUDIO-VIDEO RECORD OF THE SURFACE FEATURES WITHIN AND IMMEDIATELY ADJACENT (WITHIN 50 FEET) TO THE PROPOSED PROJECT AREA AS SHOWN IN THE CONTRACT DRAWINGS. THIS RECORD SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL AUDIO-VIDEO USB THUMB DRIVES, VIDEO LOGS, AND INDEXES. THE PURPOSE OF THIS COVERAGE SHALL BE TO ACCURATELY DOCUMENT THE PRECONSTRUCTION CONDITION OF THESE SURFACE FEATURES.

THE AUDIO-VIDEO DOCUMENTATION SHALL BE PERFORMED BY A RESPONSIBLE COMMERCIAL FIRM KNOWN TO BE SKILLED AND REGULARLY ENGAGED IN THE BUSINESS OF PRECONSTRUCTION DIGITAL COLOR AUDIO-VIDEO DOCUMENTATION. THE FIRM SHALL FURNISH SUCH INFORMATION AS THE DEPARTMENT DEEMS NECESSARY TO DETERMINE THE ABILITY OF THAT FIRM TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.

AUDIO-VIDEO DOCUMENTATION SHALL NOT BE MADE MORE THAN 60 DAYS PRIOR TO CONSTRUCTION IN EACH PHASE OF WORK.

THE AUDIO-VIDEO SYSTEM AND THE PROCEDURES EMPLOYED IN ITS USE SHALL BE SUCH AS TO PRODUCE A FINISHED PRODUCT THAT WILL MEET PROFESSIONAL STANDARDS. THE VIDEO PORTION OF THE RECORDING SHALL BE BRIGHT, SHARP, CLEAR PICTURES WITH ACCURATE COLORS AND SHALL BE FREE FROM DISTORTION OR ANY OTHER FORM OF PICTURE IMPERFECTION. ALL VIDEO RECORDINGS SHALL BY ELECTRONIC MEANS DISPLAY ON THE SCREEN THE TIME OF DAY, THE MONTH, DAY AND YEAR OF THE RECORDING. THE TIME AND DATE INFORMATION MUST BE CONTINUOUSLY AND SIMULTANEOUSLY GENERATED WITH THE ACTUAL RECORDING. THE AUDIO PORTION OF THE RECORDING SHALL BE PERFORMED BY THE CAMERA OPERATOR DURING THE RECORDING PROCESS AND SHALL BE OF HIGH CLARITY AND FREE FROM DISTORTION.

THE RECORDINGS SHALL CONTAIN COVERAGE OF ALL VISIBLE FEATURES WITHIN THE CONSTRUCTION ZONE BEING AFFECTED BY THE WORK. THESE FEATURES SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL ROADWAYS, PAVEMENT, RETENTION PONDS, RAILROAD TRACKS, CURBS, DRIVEWAYS, SIDEWALKS, CULVERTS, HEAD-WALLS, RETAINING WALLS, LANDSCAPING, TREES, FENCES, DRAINAGE DITCHES, CREEKS, STREAMS, VISIBLE UTILITIES, STRUCTURES, AND BUILDINGS. OF PARTICULAR CONCERN SHALL BE THE CONDITION OF EXISTING VEGETATION, TERRAIN, AND STRUCTURES AND THE EXISTENCE OR NON-EXISTENCE OF ANY FAULTS, FRACTURES OR DEFECTS. PANNING, ZOOM-IN AND ZOOM OUT RATES SHALL BE SUFFICIENTLY CONTROLLED.

WRITTEN DOCUMENTATION MUST COINCIDE WITH THE INFORMATION ON THE AUDIO-VIDEO SO AS TO MAKE EASY RETRIEVAL OF LOCATIONS SOUGHT FOR AT A LATER DATE.

TWO COPIES OF THE DIGITAL COLOR AUDIO-VIDEO RECORDING SHALL BE DELIVERED TO THE DEPARTMENT ON USB THUMB DRIVES.

THE DEPARTMENT WILL MAKE PARTIAL PAYMENTS ACCORDING TO 109.09, PRORATED BY THE LENGTH OF THE WORK PHASE. VIDEO DOCUMENTATION WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM SPECIAL - PRECONSTRUCTION VIDEO DOCUMENTATION, LUMP SUM

CALCULATED JMP
CHECKED WDB

GENERAL NOTES

LAK-US-20-24.99
PART 2

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ROADWAY

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209, LINEAR GRADING, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, AS PER PLAN SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:
1. SET GUARDRAIL POSTS
2. PLACE ITEM 441

METHOD B:
1. PLACE ITEM 441
2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, (449), UNDER GUARDRAIL, AS PER PLAN.

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 INCHES I.D., AND CONFORM TO AASHTO M 181.

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, (SINGLE) (DOUBLE).

ITEM 202 REMOVAL MISC.: BUSINESS SIGN

REMOVE THE SIGN, SUPPORT, FOUNDATION AND ANY ASSOCIATED WIRING AS INDICATED FOR REMOVAL WITHIN THE LIMITS OF THE RIGHT OF WAY OR TEMPORARY RIGHT-OF WAY. CUT AND CAP THE EXISTING WIRING AT THE RIGHT OF WAY LINE. REMOVE FOUNDATIONS TO A MINIMUM OF 1 FOOT BELOW THE PROPOSED GROUND SURFACE OR REMOVE ENTIRE FOUNDATION IF NECESSARY FOR THE COMPLETION OF OTHER WORK IN THE CONTRACT. BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

DELIVER THE EXISTING SIGN TO THE PROPERTY OWNER OR DISPOSE OF IF THE OWNER DOES NOT WANT TO SALVAGE THE REMOVED MATERIALS. THE CONTRACTOR SHALL COORDINATE WITH THE PROPERTY OWNER REGARDING THIS PROPOSED WORK FOR THE DISCONNECTION OF THE CIRCUIT AND TO DETERMINE THE PROPERTY OWNERS INTENT TO SALVAGE THE EXISTING BUSINESS SIGN.

THE ABOVE NOTED WORK SHALL BE COMPLETED AT THE DIRECTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE NOTED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: BUSINESS SIGN, EACH

ITEM 202 REMOVAL MISC.: BOULDER

REMOVE THE BOULDERS AS INDICATED FOR REMOVAL IN THEIR ENTIRETY. BACKFILL ANY CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

BOULDERS REMOVED AND ALL OF THE ABOVE WORK WILL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: BOULDER, EACH

ITEM 202 REMOVAL MISC.: LIGHT POLE

REMOVE THE LUMINAIRE, SUPPORT, FOUNDATION AND ANY ASSOCIATED WIRING AS INDICATED FOR REMOVAL WITHIN THE LIMITS OF THE RIGHT OF WAY OR TEMPORARY RIGHT OF WAY. CUT AND CAP THE EXISTING WIRING AT THE RIGHT OF WAY LINE. REMOVE FOUNDATIONS TO A MINIMUM OF 1 FOOT BELOW THE PROPOSED GROUND SURFACE OR REMOVE ENTIRE FOUNDATION IF NECESSARY FOR THE COMPLETION OF OTHER WORK IN THE CONTRACT. BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM ACCORDING TO 202.02, EXCEPT WHEN THE CAVITY LIES WITHIN THE LIMITS OF SUBSEQUENT EXCAVATION OR OTHER WORK.

DELIVER THE EXISTING LUMINAIRE AND SUPPORT TO THE PROPERTY OWNER OR DISPOSE OF IF THE OWNER DOES NOT WANT TO SALVAGE REMOVED MATERIALS. THE CONTRACTOR SHALL COORDINATE WITH THE PROPERTY OWNER REGARDING THIS PROPOSED WORK FOR THE DISCONNECTION OF THE CIRCUIT AND TO DETERMINE THE PROPERTY OWNERS INTENT TO SALVAGE THE EXISTING LUMINAIRE AND SUPPORT.

THE ABOVE NOTED WORK SHALL BE COMPLETED AT THE DIRECTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE NOTED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: LIGHT POLE, EACH

ITEM 202 REMOVAL MISC.: SHED

REMOVE AND DISPOSE OF THE SHED IN ITS ENTIRETY AS INDICATED.

THE ABOVE NOTED WORK SHALL BE COMPLETED AT THE DIRECTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE NOTED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE FOR:

ITEM 202 REMOVAL MISC.: SHED, EACH

EROSION CONTROL

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2	EACH
659, TOPSOIL	6717	CU. YD.
659, SEEDING AND MULCHING, CLASS 1	60506	SQ. YD.
659, REPAIR SEEDING AND MULCHING	3026	SQ. YD.
659, INTER-SEEDING	3026	SQ. YD.
659, COMMERCIAL FERTILIZER	8.44	TON
659, LIME	12.50	ACRES
659, WATER	344	M. GAL.

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 COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON LIMITS IDENTIFIED AS NECESSARY IN THE CROSS-SECTIONS. ANY ADDITIONAL AREAS OUTSIDE OF THE AREAS IDENTIFIED IN THE CROSS-SECTIONS THAT ARE DISTURBED BY THE CONTRACTOR TO FACILITATE CONSTRUCTION MUST BE RESTORED IN ACCORDANCE WITH C&MS 107.10 AND CONSIDERED INCIDENTAL TO THE WORK. NO ADDITIONAL COMPENSATION WILL BE MADE FOR THESE AREAS.

ENVIRONMENTAL

NOTIFICATION OF COMMENCEMENT

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING A MINIMUM OF TWO WEEKS PRIOR TO COMMENCEMENT OF WORK:

PAINESVILLE TOWNSHIP	440-352-1443
PAINESVILLE TOWNSHIP FIRE	440-358-6996
RIVERSIDE LOCAL SCHOOLS	440-352-0668
PERRY TOWNSHIP	440-259-5140
PERRY JOINT FIRE DISTRICT	440-259-3251
PERRY LOCAL SCHOOLS	440-259-9200
NORTH PERRY VILLAGE	440-259-4994
NORTH PERRY VILLAGE POLICE	440-259-4994
MADISON TOWNSHIP	440-428-5128
MADISON FIRE DISTRICT	440-428-1522
MADISON TOWNSHIP POLICE	440-428-2116
MADISON LOCAL SCHOOLS	440-428-2166
LAKE COUNTY SHERIFF (PAINESVILLE TWP., PERRY TWP.)	440-350-5601

ENDANGERED BAT HABITAT REMOVAL

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ITEM SPECIAL - PETROLEUM CONTAMINATED SOILS

STUDIES INDICATE THAT PETROLEUM CONTAMINATED SOILS WILL BE ENCOUNTERED DURING EXCAVATIONS FOR CONSTRUCTION ACTIVITIES AT:

STA 431+00 TO STA 434+50
5477 NORTH RIDGE ROAD
STA 462+90 TO STA 470+00
5745 NORTH RIDGE ROAD
STA 565+00 TO STA 568+50
STA 97+00 TO STA 100+00 (HUBBARD)
6686 NORTH RIDGE ROAD

THE CONTRACTOR SHALL MANAGE THE EXCAVATED MATERIAL AS FOLLOWS. THE ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK. ALL EXCAVATIONS AT THE AFOREMENTIONED LOCATION SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS.

THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED MATERIAL INTO TRUCKS FOR TRANSPORT AND DISPOSAL. AS AN ALTERNATE, THE ENGINEER MAY PERMIT THE CONTRACTOR TO TEMPORARILY STOCKPILE THE EXCAVATED MATERIAL ON AN IMPERMEABLE MEMBRANE, IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE EXCAVATED MATERIAL FROM COMING IN CONTACT WITH THE UNDERLYING SOIL. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUN-OFF.

THE EXCAVATED MATERIAL SHALL BE PROPERLY TRANSPORTED AND DISPOSED OF AS A SOLID WASTE IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY TESTING, PERMITS, AND APPROVALS TO TRANSPORT AND DISPOSE OF THE MATERIAL. IF EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS REQUIRE DEWATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DEWATER, CONTAINERIZE AND DISPOSE OF BY METHODS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS AND/OR AUTHORIZATIONS NEEDED TO STORE, TEST, TRANSPORT AND DISPOSE OF THE WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF REGULATED WATER WITH A METHOD APPROVED BY THE ENGINEER. WORK INVOLVED WITH THIS ITEM SPECIAL INCLUDES COMPLYING WITH THE HANDLING, STORAGE, AND DISPOSAL OF REGULATED AND NON-REGULATED WATER.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON AND/OR GALLON. THE BASIS FOR CONVERSION FROM TONS TO CUBIC YARDS IS 1.5 TON/CUBIC YARD. ALL EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

690E65016 ITEM SPECIAL - WORK INVOLVING PETROLEUM CONTAMINATED SOIL 3800 TON
690E65024 ITEM SPECIAL - WORK INVOLVING REGULATED WATER 1900 GALLON
690E65022 ITEM SPECIAL - WORK INVOLVING NON-REGULATED WATER 1900 GALLON

DRAINAGE

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR 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.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.21.

A MASONRY COLLAR, AS PER STANDARD DRAWING DM-1.1, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 OR 522.

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE. LINE THE AGGREGATE DRAIN TRENCH WITH GEOTEXTILE FABRIC. PLACE THE GEOTEXTILE FABRIC TO COMPLETELY SURROUND THE GRANULAR MATERIAL. OVERLAP THE GEOTEXTILE FABRIC AT THE TOP OF THE TRENCH. MATCH THE OVERLAP TO THE TRENCH WIDTH. AT OTHER SEAMS, OVERLAP GEOTEXTILE FABRIC A MINIMUM OF 12 INCHES.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK AS DIRECTED BY THE DEPARTMENT:

ITEM 605 AGGREGATE DRAINS 250 FT

ITEM 611 CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN

ALL CASTINGS SHALL BE ADJUSTED TO THE FINISHED ROADWAY ELEVATION BY THE CONTRACTOR. THE TIME BETWEEN ADJUSTING THE THE CASTINGS AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM. NO ADJUSTING RINGS SHALL BE PERMITTED.

THE FOLLOWING QUANTITY IS PROVIDED TO ADJUST EXISTING CATCH BASINS TO GRADE IN RESURFACING AREAS OF THE PROJECT, AS DIRECTED BY THE DEPARTMENT.

ITEM 611 CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN, 27 EACH

EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 605 - AGGREGATE DRAINS 200 FT.
ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC 500 FT.
ITEM 611 - 6" CONDUIT, TYPE F 50 FT.

DRAINAGE DISCHARGE CONTINUANCE

FURNISH A DRAINAGE DISCHARGE CONTINUANCE FOR ANY DRAINAGE DISCHARGE DISTURBED BY THE WORK AND NOT SHOWN IN THE PLANS. THE LOCATION, TYPE (CONDUIT OR SWALE), SIZE AND GRADE OF THE DRAINAGE DISCHARGE CONTINUANCE WILL BE AGREED TO BY THE ENGINEER

FURNISH AN INSPECTION WELL AT THE RIGHT OF WAY LINE IN ACCORDANCE WITH SCD DM-3.1 FOR EACH DRAINAGE DISCHARGE THAT OUTLETS THROUGH A CURB OPENING, OR INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST IS INCLUDED IN ITEM 611,INSPECTION WELL.

FURNISH A DRILLED HOLE OR A CURB SECTION WITH A HOLE WHEN OUTLETTING A CONDUIT THROUGH A CURB OPENING. THE COST OF DRILLING, OR FURNISHING THE CURB SECTION WITH HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE _ FOR DRAINAGE DISCHARGE CONTINUANCE.

FURNISH A DRILLED CORE HOLE WHEN OUTLETTING INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST OF THE DRILLED CORE HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE _ FOR DRAINAGE DISCHARGE CONTINUANCE.

DOCUMENTATION: THE CONTRACTOR SHALL FURNISH WRITTEN DOCUMENTATION TO THE ENGINEER AND TO THE DISTRICT R/W PERMIT OFFICE. THE DOCUMENTATION INCLUDES THE CONSTRUCTION PROJECT NUMBER, PID, COUNTY, ROUTE, SECTION, LATITUDE AND LONGITUDE OF THE DRAINAGE DISCHARGE AT THE R/W, THE NAME OF PROPERTY OWNER WITH ADDRESS, THE DATE THE DRAINAGE DISCHARGE WAS LOCATED, THE DATE THE DRAINAGE DISCHARGE CONTINUANCE WAS FURNISHED, A DETAILED DESCRIPTION OF THE WORK AND PICTURES OF THE DRAINAGE DISCHARGE CONTINUANCE (IN PDF OR JPEG FORMAT). THE DOCUMENTATION IS INCLUDED IN ITEM 611, CONDUIT, MISC TYPE _ FOR DRAINAGE DISCHARGE CONTINUANCE.

CONDUIT MATERIAL TYPES THE FOLLOWING CONDUIT MATERIAL TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, AND 707.52 SDR35.

PAY ITEMS:
EACH OF THE PAY ITEMS LISTED BELOW FOR CONDUIT MISCELLANEOUS TYPES B, C, E AND F FOR DRAINAGE DISCHARGE CONTINUANCE INCLUDE CONDUIT SIZES 2 INCH TO 10 INCH. THERE IS NO COST DIFFERENTIATION FOR SIZE IN THESE PAY ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE DRAINAGE DISCHARGE CONTINUANCE:

ITEM 611, INSPECTION WELL 10 EACH
ITEM 611, CONDUIT, MISC TYPE B FOR DRAINAGE DISCHARGE CONTINUANCE 500 FEET
ITEM 611, CONDUIT, MISC TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE 500 FEET

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 10000 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

ITEM 611 CATCH BASIN, NO. 6, AS PER PLAN

THE CATCH BASIN SHALL BE AS PER ITEM 611, EXCEPT THAT THE GRATE SHALL BE WELDED TO THE FRAME WHEN CALLED FOR IN THE PLANS. THE CATCH BASIN SHALL BE TEMPORARILY USED DURING PHASES 1 AND 3 AND REMOVED IN PHASES 2 AND 4. THE CATCH BASINS CAN BE USED ELSEWHERE IN THE PROJECT IF APPLICABLE. ANY CATCH BASINS LEFT OVER AFTER COMPLETION OF THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

ITEM 611 CATCH BASIN RECONSTRUCTED TO GRADE

THE FOLLOWING QUANTITY IS PROVIDED TO RECONSTRUCT EXISTING CATCH BASINS TO GRADE IN RESURFACING AREAS OF THE PROJECT, AS DIRECTED BY THE DEPARTMENT.

ITEM 611 CATCH BASIN RECONSTRUCTED TO GRADE, 5 EACH

ITEM 611 INLET, SIDE DITCH

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO ADDRESS LOW AREAS INADVERTENTLY CREATED WITHIN THE PROJECT LIMITS, AS DIRECTED BY THE DEPARTMENT.

ITEM 611 INLET, SIDE DITCH 5 EACH
ITEM 611 12" CONDUIT, TYPE C 500 FEET

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, PIPE CLEANOUT, 24" AND UNDER 1300 FEET
SPECIAL, PIPE CLEANOUT, 27" TO 48" 750 FEET

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE MOT PLANS. PAYMENT FOR THE TEMPORARY DRAINAGE ITEMS ARE ITEMIZED AND CARRIED TO THE GENERAL SUMMARY.

WATER QUALITY

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

MANUFACTURED WATER QUALITY STRUCTURE

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS HAVE BEEN SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM. PAYMENT FOR THESE DEVICES SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4.

PAVEMENT

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, (449) 100 CU. YDS.
ITEM 304 - AGGREGATE BASE 100 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 6 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

PAVEMENT RESTORATION FOR DRAINAGE STRUCTURE INSTALLATIONS

THE FOLLOWING QUANTITY IS PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 611, DRAINAGE STRUCTURES.

ITEM 301, ASPHALT CONCRETE BASE, PG64-22, (449) 10 CU. YDS.
ITEM 304 - AGGREGATE BASE 10 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 AND 304 THICKNESS OF 6 INCHES AND A WIDTH OF TWO FEET AROUND THE PERIMETER OF THE DRAINAGE STRUCTURE.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

ITEM 202 - PAVEMENT REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVAL OF ALL INTEGRAL CURB AND ALL TYPES OF EXISTING PAVEMENT, INCLUDING ASPHALT, CONCRETE AND BRICK.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441)

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR PARTIAL DEPTH PAVEMENT REPAIR:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441) 900 SY.

REMOVAL DEPTH SHALL BE 3 INCHES OR AS DIRECTED BY THE ENGINEER.

ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN, PG 70-22M

THE COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL CONSIST OF A BLEND OF 60% MIN. AIR COOLED BLAST FURNACE SLAG (ACBFS) OR TRAP ROCK FROM ONTARIO WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE.

ITEM 301 - ASPHALT CONCRETE BASE, (449), AS PER PLAN, PG64-22

FOR THE PLACEMENT OF 301 ASPHALT BASE, USE ANTI-SEGREGATION EQUIPMENT CONFORMING TO THE REQUIREMENTS OF 401.03.C EXCLUDING THE USE OF REMIXING PAVERS. ALL COSTS ASSOCIATED WITH THIS PROVISION SHALL BE INCIDENTAL TO ITEM 301 - ASPHALT CONCRETE BASE, (449), AS PER PLAN, PG64-22.

WATER WORK

WATER WORK GENERAL

1. ALL WATER WORK SHALL BE PREFORMED IN ACCORDANCE WITH ITEM 638, THE LAKE COUNTY DEPARTMENT OF UTILITIES (LCDU) RULES AND REGULATIONS, LATEST EDITION AND PLAN DETAILS. WHERE A CONFLICT BETWEEN THE SPECIFICATIONS ARISES, THE LAKE COUNTY DEPARTMENT OF UTILITIES RULES AND REGULATIONS, LATEST EDITION WILL PREVAIL. THE LAKE COUNTY DEPARTMENT OF UTILITIES RULES AND REGULATIONS CAN BE FOUND AT THE FOLLOWING WEB ADRESS: www.lakecountyohio.gov/utilities/rules-and-regulations/

2. ONLY WATER/SEWER CONTRACTORS LICENSED BY THE LAKE COUNTY BOARD OF COMMISSIONERS MAY INSTALL WATER MAINS.

3. THE CONTRACTOR SHALL NOTIFY THE LCDU AT LEAST 48 HOURS IN ADVANCE OF ANY WORK IN THEIR SYSTEMS.

4. THE LCDU SHALL PERFORM INSPECTION SERVICES. THE COST OF INSPECTION SHALL BE INCLUDED AS PART OF THIS CONSTRUCTION PROJECT AT THE CURRENT BASE RATE AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS (SEE LAKE COUNTY UTILITIES DEPARTMENT RULES AND REGULATIONS SECTION 7 FEE SCHEDULE). COSTS FOR LAKE COUNTY INSPECTION FEES AND ALL OTHER WATERWORK RELATED FEES SHALL BE INCLUDED IN THE UNIT BID PRICES FOR THE VARIOUS WATERWORK ITEMS. NO SEPARATE PAYMENT WILL BE MADE FOR LCDU FEES.

5. WATERLINE WORK SHALL NOT BEGIN UNTIL THE AREAS OF CONSTRUCTION ARE ROUGH GRADED.

6. ALL HYDRANTS SHALL BE POSITIONED SO THAT THE STEAMER NOZZLES POINT TOWARD THE ROADWAY PAVEMENT.

7. ALL BOLTS SHALL BE STAINLESS STEEL TYPE 304 OR 316. WITH ANTI-GALLING AGENT.

8. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO ODOT FOR PRELIMINARY CHECKING. ODOT SHALL FORWARD CHECKED SHOP DRAWINGS TO THE LCDU FOR FINAL CHECKING AND APPROVAL.

9. THE LCDU SHALL PROVIDE WATER FOR THE NEW WATER MAIN WITHOUT COST FOR THE INITIAL OPERATION. ALL WATER FOR FLUSHING OPERATIONS SHALL BE PAID FOR BY THE CONTRACTOR AT CURRENT RATES AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS PER 100 CUBIC FEET OF WATER USED. (SEE SECTION 7 FEE SCHEDULE)

10. ALL WATER MAIN PIPE SHALL BE DUCTILE IRON PIPE, ANSI A21.51, THICKNESS CLASS 53, UNLESS OTHERWISE SHOWN ON THE PLANS, WITH MECHANICAL JOINTS, CEMENT LINED ANSI A 21.4. FITTINGS TO BE FULL BODY-ONLY.

11. RESTRAINED MECHANICAL JOINTS SHALL BE OF THE PIPE MANUFACUURER'S STANDARD DESIGN OR SHALL BE AS LISTED IN THE LCDU APPROVED MATERIALS LIST.

12. LCDU WILL MAKE THE NECESSARY NEW SERVICE CONNECTION TAPS ON EXISTING LCDU MAINS FOR THE CONTRACTOR AT CURRENT RATES AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS PER 8" AND GREATER TAPS WITHIN RIGHT OF WAY. (SEE SECTION 7 FEE SCHEDULE) SERVICE CONNECTIONS TO EXISTING BUILDINGS SHALL BE MADE BY THE CONTRACTOR.

13. LCDU WILL SHUT DOWN LIMITED PORTIONS OF WATER MAINS (BETWEEN 2 ADJACENT VALVES, GENERALLY SPACED AT 1200 FT TO 1500 FT) FOR PERIODS NOT TO EXCEED 8 HOURS WITHIN A 24 HOUR PERIOD. ALL WORK WITHIN ONE SHUT DOWN AREA SHALL BE COMPLETED WITHIN THAT SHUT DOWN PERIOD. COORDINATE WITH LCDU A MINIMUM OF 48 HOURS IN ADVANCE OF SUCH PLANNED WORK. LOCAL BUSINESSES AND RESIDENTS WITHIN THE SHUT DOWN LIMITS SHALL BE NOTIFIED 48 HOURS IN ADVANCE.

14. NOTHING IN THESE NOTES SHALL BE CONSTRUED TO SUPERCEDE THE FEDERAL BUY AMERICAN REQUIREMENTS AS SET FORTH IN PN 133.

ITEM SPECIAL 1" COPPER WATER SERVICE LINE, LCDU STANDARD

FURNISH AND INSTALL COPPER SERVICE BRANCHES, TUBING AND FITTINGS, AS NECESSARY, OR AS SHOWN IN THE CONTRACT DOCUMENTS INCLUDING THE REMOVAL OF THE EXISTING SERVICE BRANCHES OR SERVICE BOXES, AS REQUIRED ACCORDING TO THE FOLLOWING SITUATIONS.

TAPPING SADDLES, CORPORATION STOPS, SERVICE STOPS, AND SERVICE BOXES, IF REQUIRED, ARE SEPARATE FROM THIS ITEM:

WHERE A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, OR RELOCATION BETWEEN THE WATER MAIN AT THE CORPORATION STOP AND THE SERVICE STOP, REPLACE IT WITH NEW MATERIALS WITHIN THESE LIMITS UNLESS THE CONNECTIONS CAN BE MADE OUTSIDE THE LIMITS OF THE PROPOSED PAVEMENT, PAVED SHOULDER, OR CURB.

WHERE A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, EXTENDING, OR SHORTENING ON THE PROPERTY SIDE OF THE SERVICE STOP, REPLACE IT WITH NEW MATERIALS FROM THE EXISTING SERVICE STOP TO THE PROPOSED SERVICE STOP.

IF THE EXISTING SERVICE BRANCH ENCOUNTERED IS FOUND TO BE LEAD OR GALVANIZED PIPE, REPLACE IT FROM THE CORPORATION STOP TO THE SERVICE STOP WITH NEW MATERIAL.

THE DEPARTMENT WILL MEASURE COPPER SERVICE BRANCH BY THE NUMBER OF FEET OF EACH CONSTRUCTED.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE RELOCATION OF SERVICE BRANCHES WHICH MAY BE IN CONFLICE WITH OTHER WORK IN THE CONTRACT:

ITEM SPECIAL, 1" COPPER WATER SERVICE LINE, LCDU STANDARD
2400 FT

ITEM 638 METER AND CHAMBER REMOVED AND RESET, AS PER PLAN

REMOVE EXISTING CHAMBERS. SET THE CHAMBER ON BRICK BLOCKS. DISCONNECT EXISTING METERS, AND REPLACE THEM WITH SUITABLE CONNECTIONS IF NECESSARY. RECONNECT THE METERS AT NEW LOCATIONS.

THE DEPARTMENT WILL MEASURE METER AND CHAMBER REMOVED AND RESET BY THE NUMBER OF EACH.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 638, METER AND CHAMBER REMOVED AND RESET, AS PER PLAN, 10 EACH

ITEM SPECIAL VALVE BOX ADJUSTED TO GRADE, LCDU STANDARD
ITEM SPECIAL SERVICE BOX ADJUSTED TO GRADE, LCDU STANDARD

RAISE OR LOWER EXISTING VALVE BOXES AND SERVICE BOXES TO GRADE. THE CONTRACTOR MAY REUSE EXISTING VALVE BOXES AND SERVICE BOXEs IF THEY ARE IN GOOD CONDITION, AS DETERMINED BY THE ENGINEER.

EXCAVATE AROUND THE VALVE BOX OR SERVICE BOX TO PERMIT THE RAISING OR LOWERING OF THE VALVE BOX OR SERVICE BOX. THE CONTRACTOR MAY ADJUST ANY SCREW-TYPE BOXES WITHOUT THE USE OF EXTENSIONS PROVIDED THAT AMPLE THREAD REMAINS ON THE BOX TO PROVIDE ADEQUATE RIGIDITY TO THE BOX. PROVIDE EXTENSION SECTIONS FOR BOXES THAT ARE NOT OF THE SCREW-TYPE AND BOXES NOT HAVING AMPLE THREAD FOR RIGIDITY TO ADJUST THE TOP TO GRADE. THE ENGINEER WILL ALLOW INSERTS OR ADAPTERS. ADEQUATELY SECURE NEW SECTIONS OF BOX STEM TO THE EXISTING STEMS. BACKFILL THE HOLE AFTER THE BOX HAS BEEN ADJUSTED TO GRADE.

THE DEPARTMENT WILL MEASURE VALVE BOXES AND SERVICE BOXES ADJUSTED TO GRADE SEPARATELY BY THE NUMBER OF EACH, INCLUDING ANY EXTENSION SECTIONS OF VALVE BOXES OR SERVICE BOXES REQUIRED.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL, VALVE BOX ADJUSTED TO GRADE, LCDU STANDARD, 10 EACH
ITEM SPECIAL, SERVICE BOX ADJUSTED TO GRADE, LCDU STANDARD 20 EACH

ITEM SPECIAL FIRE HYDRANT REMOVED FOR STORAGE, LCDU STANDARD

WHERE EXISTING HYDRANTS ARE INDICATED FOR REMOVAL, PROVIDE ADEQUATE SUPPORT FOR THE HYDRANT BEFORE DISCONNECTING IT. STORE HYDRANTS AN SINGLE LOCATION ON SITE FOR PICK-UP BY LCDU PERSONELL. NEW HYDRANT INSTALLATION SHALL IMMEDIATELY FOLLOW HYDRANT REMOVAL.

THE DEPARTMENT WILL MEASURE FIRE HYDRANTS REMOVED FOR STORAGE BY THE NUMBER OF EACH, INCLUDING ANY EXTENSION SECTIONS OF VALVE OR SERVICE BOXES REQUIRED.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICES AS FOLLOWS:

ITEM SPECIAL FIRE HYDRAND REMOVED FOR STORAGE, LCDU STANDARD, EACH

ITEM SPECIAL 6" FIRE HYDRANT, LCDU STANDARD

THIS ITEM INCLUDES EXCAVATION AND FURNISHING AND INSTALLING A NEW FIRE HYDRANT COMPLETE WITH PROPER JOINTING, BLOCKING, AND BACKFILLING AS OUTLINED BELOW, AS SHOWN IN THE PLAN DETAILS, AND ALL OTHER INCIDENTAL WORK NECESSARY TO COMPLETE THIS ITEM OF WORK. THE WORK WILL INCLUDE ALL HYDRANT BRANCHES, GATE VALVES, AND VALVE BOXES REQUIRED TO PERFORM THE WORK.

EXCAVATE ACCORDING TO 638.04. EXCAVATE A DRAINAGE PIT 2 FEET IN DIAMETER AND 3 FEET DEEP BELOW THE HYDRANT AND FILL IT WITH GRANULAR MATERIAL. PROVIDE A 3 FOOT MINIMUM RADIUS UNOBSTRUCTED AREA AROUND ALL HYDRANTS. SET THE SIDEWALK FLANGE 2 INCHES ABOVE FINISHED GRADE. SET HYDRANTS ON SOLID CONCRETE BLOCKS ACCORDING TO 638.06.K. PROVIDE THRUST BLOCKING ACCORDING TO 638.06.L. COVER ANY HYDRANT NOT IN SERVICE WITH A BURLAP OR STURDY OPAQUE PLASTIC BAG.

CONSTRUCT HYDRANT BRANCHES USING A SECTION OF DUCTILE IRON PIPE FROM THE MAIN TO THE HYDRANT, AND INCLUDE A GATE VALVE AND VALVE BOX SET VERTICALLY AND PLACED IN THE LINE AS INDICATED. LOCATE THE VALVE ADJACENT TO THE ANCHORING TEE ON THE MAIN. PROVIDE GATE VALVE AND VALVE BOXES FOR HYDRANT BRANCHES CONFORMING TO 638.13.

AFTER HYDRANTS HAVE BEEN SET, OPEN BRANCH AND HYDRANT VALVES UNTIL WATER FLOW EXPELS ALL AIR AND DIRT.

THE DEPARTMENT WILL MEASURE 6" FIRE HYDRANT ASSEMBLIES COMPLETE BY THE NUMBER OF EACH.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICES AS FOLLOWS:

ITEM SPECIAL 6" FIRE HYDRANT, LCDU STANDARD, EACH

ITEM SPECIAL 12" WATER MAIN DIP CLASS 53 MECHANICAL JOINTS AND FITTINGS, LCDU STANDARD

THIS ITEM SHALL INCLUDE INSTALLATION OF WATERLINES IN ACCORDANCE WITH ITEM 638 AND THE LCDU RULES AND REGULATIONS.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICES AS FOLLOWS: ITEM SPECIAL 12" WATER MAIN DIP CLASS 53 MECHANICAL JOINTS AND FITTINGS, LCDU STANDARD, FEET

SANITARY

SANITARY GENERAL

1. ALL SANITARY SEWER WORK SHALL BE PREFORMED IN ACCORDANCE WITH ITEM 611, THE LAKE COUNTY DEPARTMENT OF UTILITIES (LCDU) RULES AND REGULATIONS, LATEST EDITION AND PLAN DETAILS. WHERE A CONFLICT BETWEEN THE SPECIFICATIONS ARISES, THE LAKE COUNTY DEPARTMENT OF UTILITIES RULES AND REGULATIONS, LATEST EDITION WILL PREVAIL. THE LAKE COUNTY DEPARTMENT OF UTILITIES RULES AND REGULATIONS CAN BE FOUND AT THE FOLLOWING WEB ADRESS: www.lakecountyohio.gov/utilities/rules-and-regulations/

2. ONLY WATER/SEWER CONTRACTORS LICENSED BY THE LAKE COUNTY BOARD OF COMMISSIONERS MAY INSTALL SANITARY SEWERS.

3. THE CONTRACTOR SHALL NOTIFY THE LCDU AT LEAST 48 HOURS IN ADVANCE OF ANY WORK IN THEIR SYSTEMS.

4. THE LCDU SHALL PERFORM INSPECTION SERVICES. THE COST OF INSPECTION SHALL BE INCLUDED AS PART OF THIS CONSTRUCTION PROJECT AT THE CURRENT BASE RATE AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS (SEE LAKE COUNTY UTILITIES DEPARTMENT RULES AND REGULATIONS SECTION 7 FEE SCHEDULE) COST FOR LAKE COUNTY INSPECTION FEE. AND OTHER FEES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR OTHER WATERLINE ITEMS.

5. ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED

ITEM 611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN

CAREFULLY REMOVE THE EXISTING COVER AND INSTALL PRECAST CONCRETE GRADE RING TO THE NEW GRADE.

ALL MANHOLES ADJUSTED TO GRADE SHALL HAVE EXTERNAL MANHOLE CHIMNEY SEALS AS LISTED IN THE LCDU SANITARY APPROVED MATERIALS LIST OF HE LAKE COUNTY UTILITIES DEPARTMENT RULES AND REGULATIONS, LATEST EDITION

ALL BRICK WORK ABOVE THE MANHOLE CONE SECTION SHALL BE REPLACED AND A CHIMNEY SEAL SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

THE DEPARTMENT WILL MEASURE MANHOLES RECONSTRUCTED OR ADJUSTED TO GRADE, BY THE NUMBER OF EACH TYPE OF STRUCTURE COMPLETE AND ACCEPTED.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM 611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN, EACH

ITEM 611 6" CONDUIT, TYPE B, 748.01, AS PER PLAN

THIS ITEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 638 WATER MAINS. MATERIALS SHALL BE DUCTILE IRON PIPE, ANSI CLASS 52, MECHANICAL JOINTS AND FITTINGS.

THE PIPE AND FITTINGS SHALL HAVE MECHANICAL RESTRAINED JOINTS. ALL PIPES SHALL BE COATED WITH A BITUMINOUS MATERIAL ON THE OUTSIDE AND SHALL BE CEMENT MORTAR LINED DURING FABRICATION IN ACCORDANCE WITH AWWA C104. FITTINGS SHALL BE OF DUCTILE IRON, SHALL CONFORM TO AWWA C153, AND SHALL BE FACTORY COATED AND LINED AND HAVE JOINTS AS SPECIFIED FOR THE PIPE. MECHANICAL JOINTS SHALL BE IN ACCORDANCE WITH AWWA C111, INCORPORATING RUBBER GASKETS. ALL MATERIALS USED SHALL BE ON THE APPROVED MATERIALS LIST OF THE LCDU RULES AND REGULATIONS.

THE DEPARTMENT WILL MEASURE CONDUIT, TYPE B, 748.01, AS PER PLAN BY THE NUMBER OF FEET CONSTRUCTED.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM 611 6" CONDUIT, TYPE B, 748.01, AS PER PLAN, FEET

TRAFFIC CONTROL

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK:

ITEM 621 - RAISED PAVEMENT MARKER REMOVED 700 EACH

CALCULATED JMP
CHECKED WDB

GENERAL NOTES

LAK-US-20-24.99
PART 2

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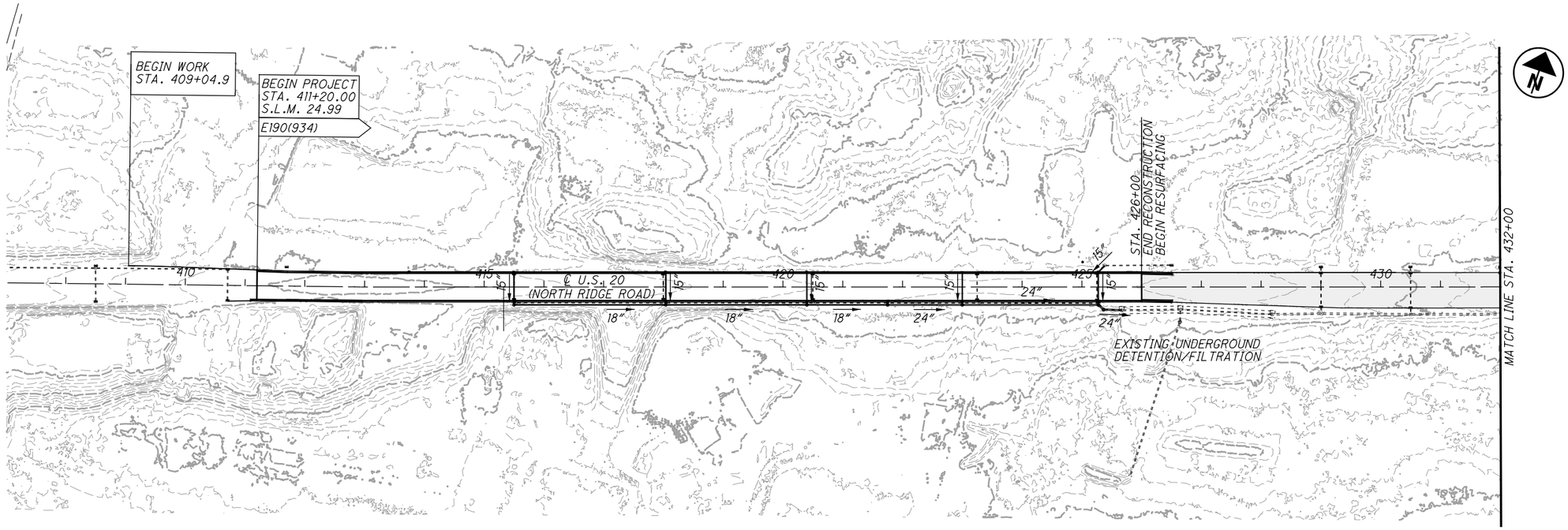

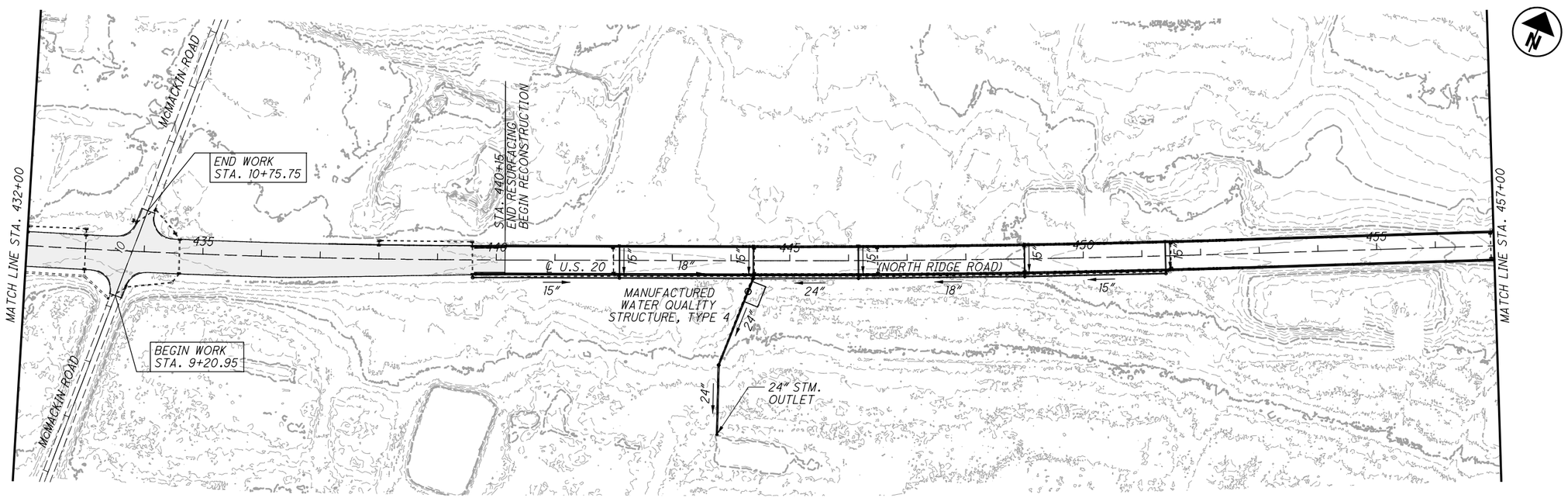

CALCULATED PSL
CHECKED JMP

0 50 100 200
HORIZONTAL SCALE IN FEET

PROJECT SITE PLAN
STA. 407+00 TO STA. 457+00

LAK-US-20-24.99
PART 2

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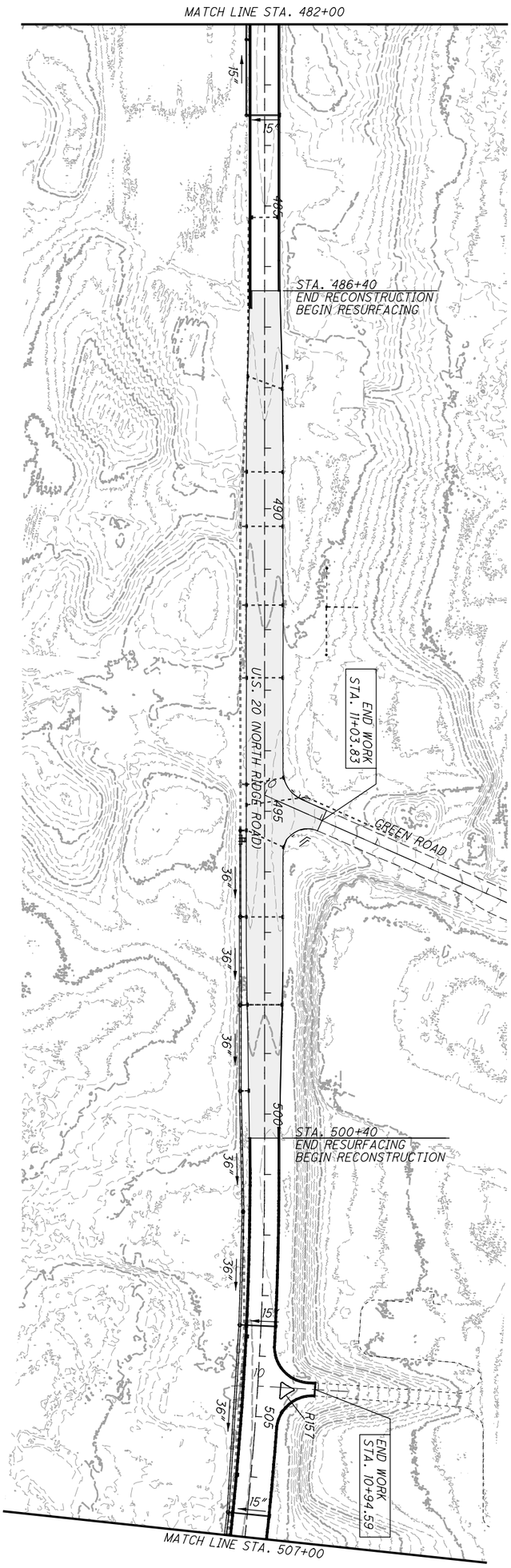
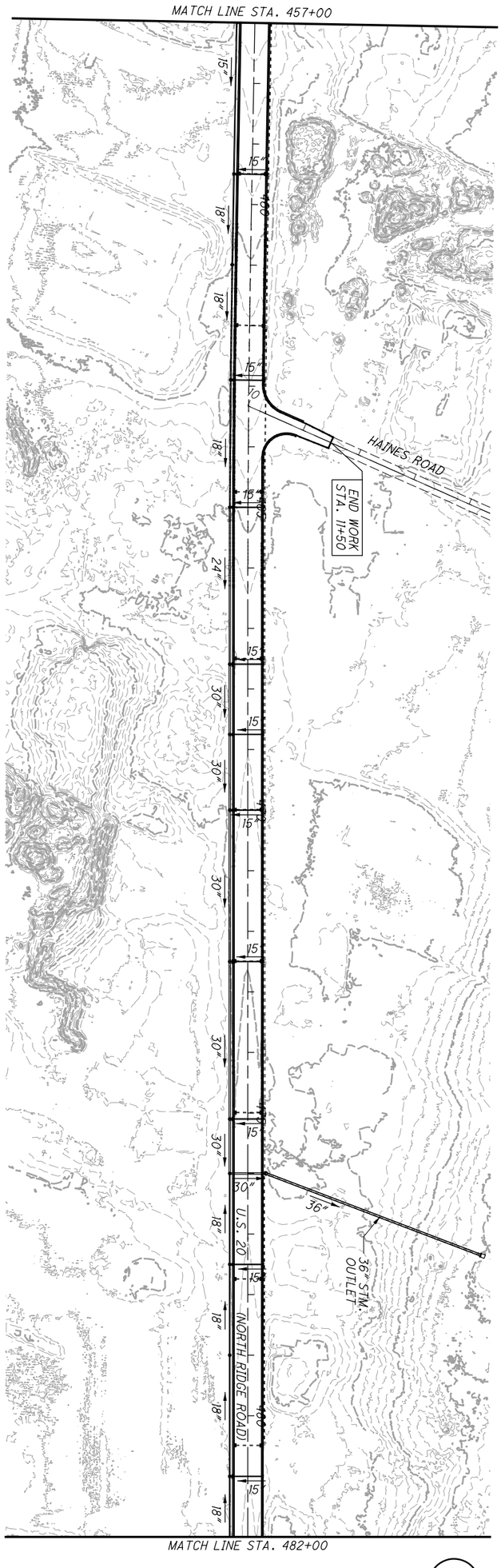
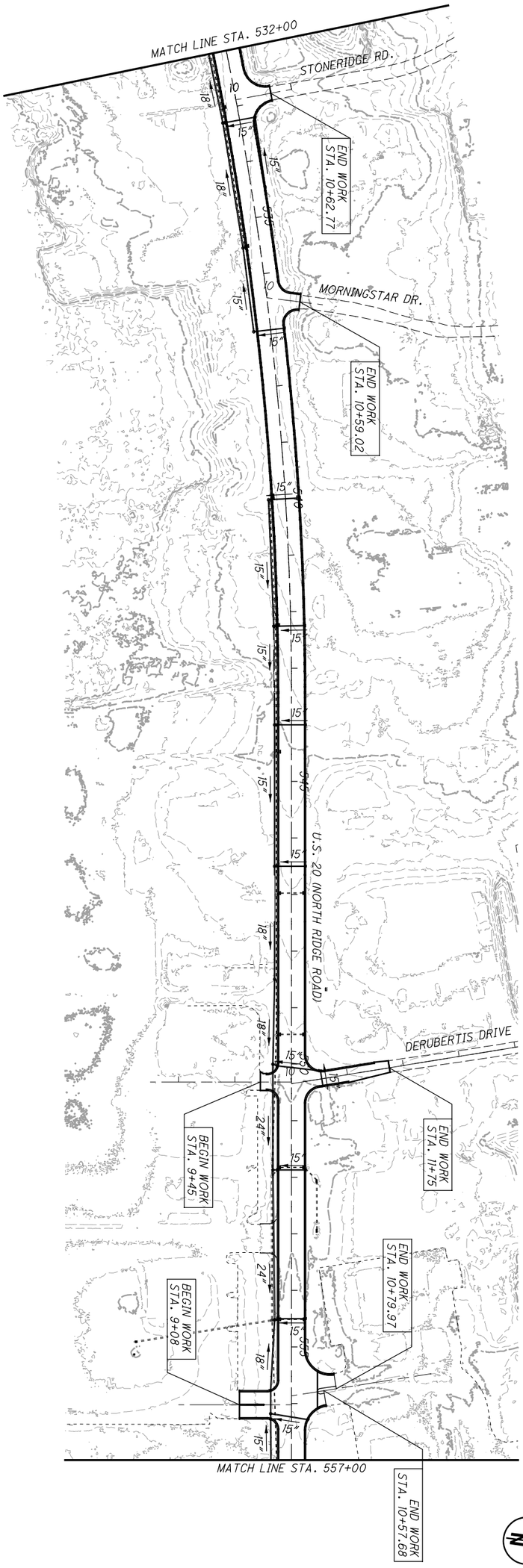
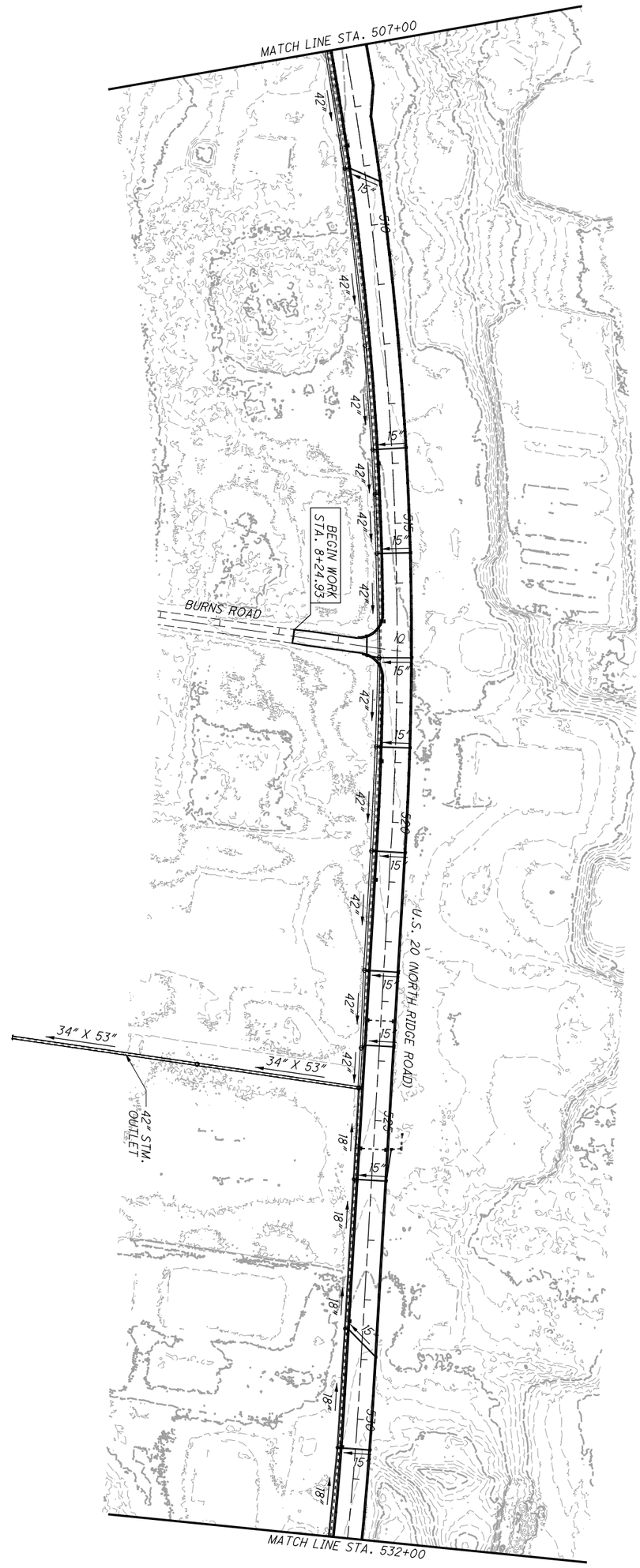


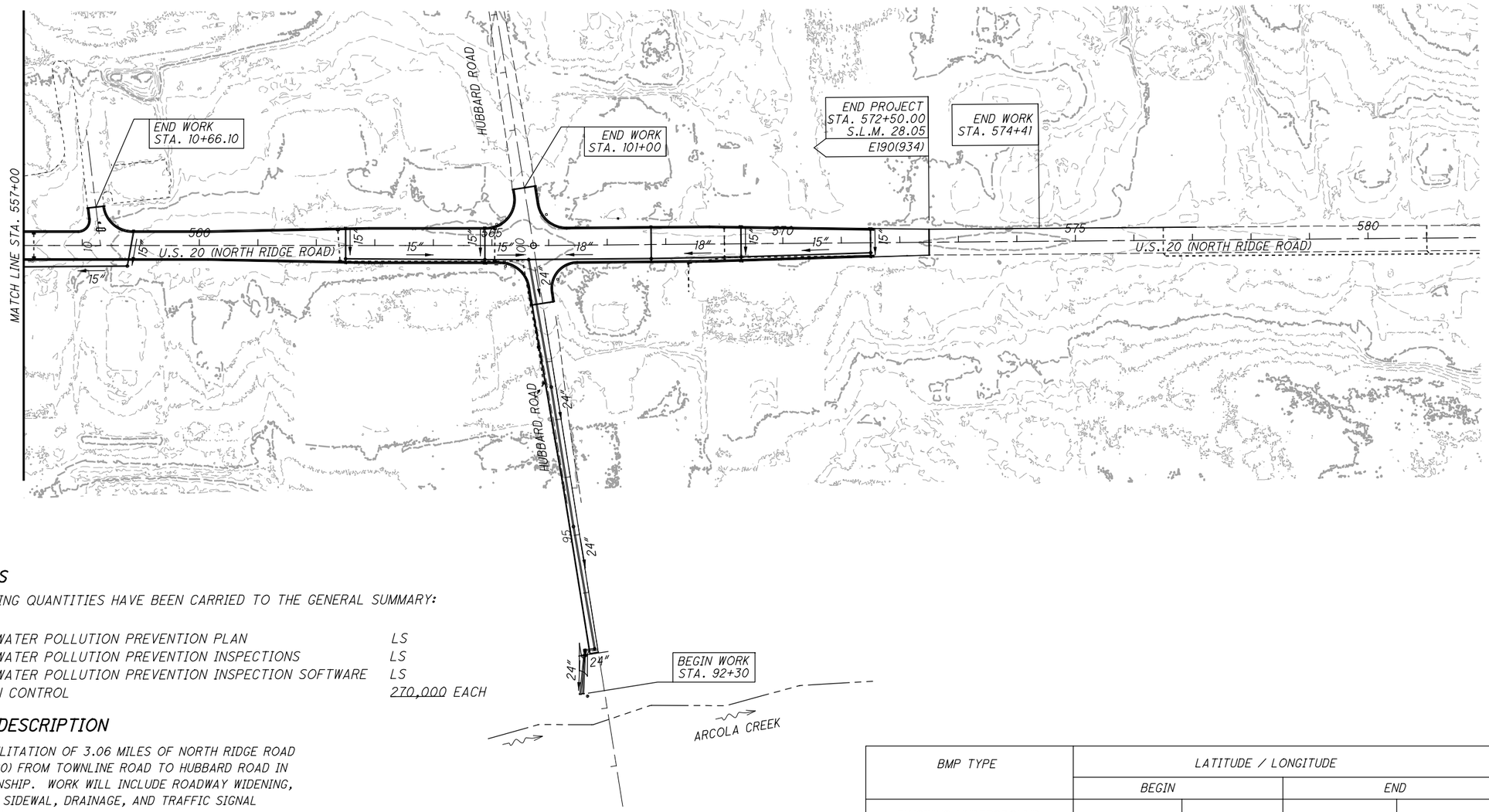


238 / 697	LAK-US-20-24.99 PART 2	PROJECT SITE PLAN STA. 457+00 TO STA. 507+00	CALCULATED PSL CHECKED JMP 0 100 50 200 HORIZONTAL SCALE IN FEET





239 / 697	LAK-US-20-24.99 PART 2	PROJECT SITE PLAN STA. 507+00 TO STA. 557+00	CALCULATED PSL CHECKED JMP 0 50 100 200 HORIZONTAL SCALE IN FEET



QUANTITIES

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

832 STORM WATER POLLUTION PREVENTION PLAN	LS
832 STORM WATER POLLUTION PREVENTION INSPECTIONS	LS
832 STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	LS
832 EROSION CONTROL	270,000 EACH

PROJECT DESCRIPTION

MAJOR REHABILITATION OF 3.06 MILES OF NORTH RIDGE ROAD (U.S. ROUTE 20) FROM TOWNLINE ROAD TO HUBBARD ROAD IN MADISON TOWNSHIP. WORK WILL INCLUDE ROADWAY WIDENING, RESURFACING, SIDEWAL, DRAINAGE, AND TRAFFIC SIGNAL IMPROVEMENTS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	28.34 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	29.40 ACRES

PROJECT DATA			
TOTAL AREA (RIGHT-OF-WAY)	26.8 Ac	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.90
PROJECT EARTH DISTURBED AREA	28.4 Ac	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.90
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	1.0 Ac	A MANUFACTURED WATER QUALITY SYSTEM AND AN EXISTING UNDERGROUND DETENTION/INFILTRATION SYSTEM ARE PROVIDED TO MEET NPDES POST CONSTRUCTION REQUIREMENTS.	
NOTICE OF INTENT EARTH DISTURBED AREA	29.40 Ac		
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	26.8 Ac	IMMEDIATE RECEIVING WATERS : ARCOLA CREEK & UNNAMED STREAMS	
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE	28.6 Ac	SUBSEQUENT RECEIVING WATER: LAKE ERIE	

LEGEND

- ° M.H. NO. 3
- ▫ C.B. 3
- ▪ C.B. 3A

USGS QUADRANT: MADISON, OHIO

LATITUDE: 41°45'58.7" N
LONGITUDE: 81°10'51.7" W

BMP TYPE	LATITUDE / LONGITUDE				EDA TREATMENT CREDIT
	BEGIN		END		(ACRES)
EXISTING UNDERGROUND DETENTION / INFILTRATION	41.793550	-81.097191	41.793745	-81.096304	3.85
MANUFACTURED SYSTEM 4	41.795229	-81.090731			3.08
EDA TREATMENT CREDIT FOR PROJECT					6.93
EDA TREATMENT REQUIRED					5.68

N

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED PSL
CHECKED JMP

PROJECT SITE PLAN
STA. 557+00 TO STA. 582+00

LAK-US-20-24.99
PART 2

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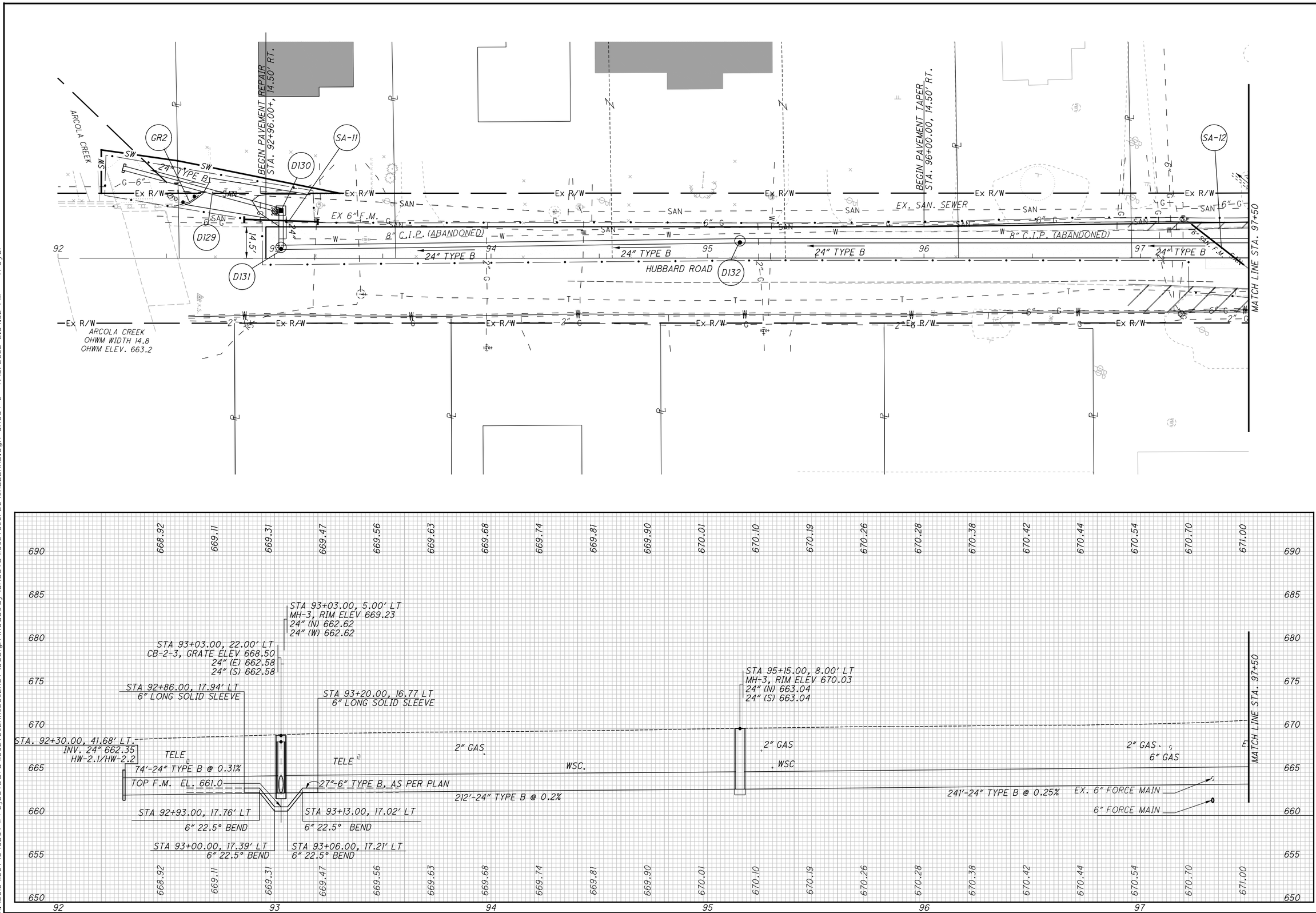

CALCULATED JMP
CHECKED WDB

PLAN AND PROFILE - HUBBARD RD, 92+00 TO STA. 97+50

LAK-US-20-24.99
PART 2

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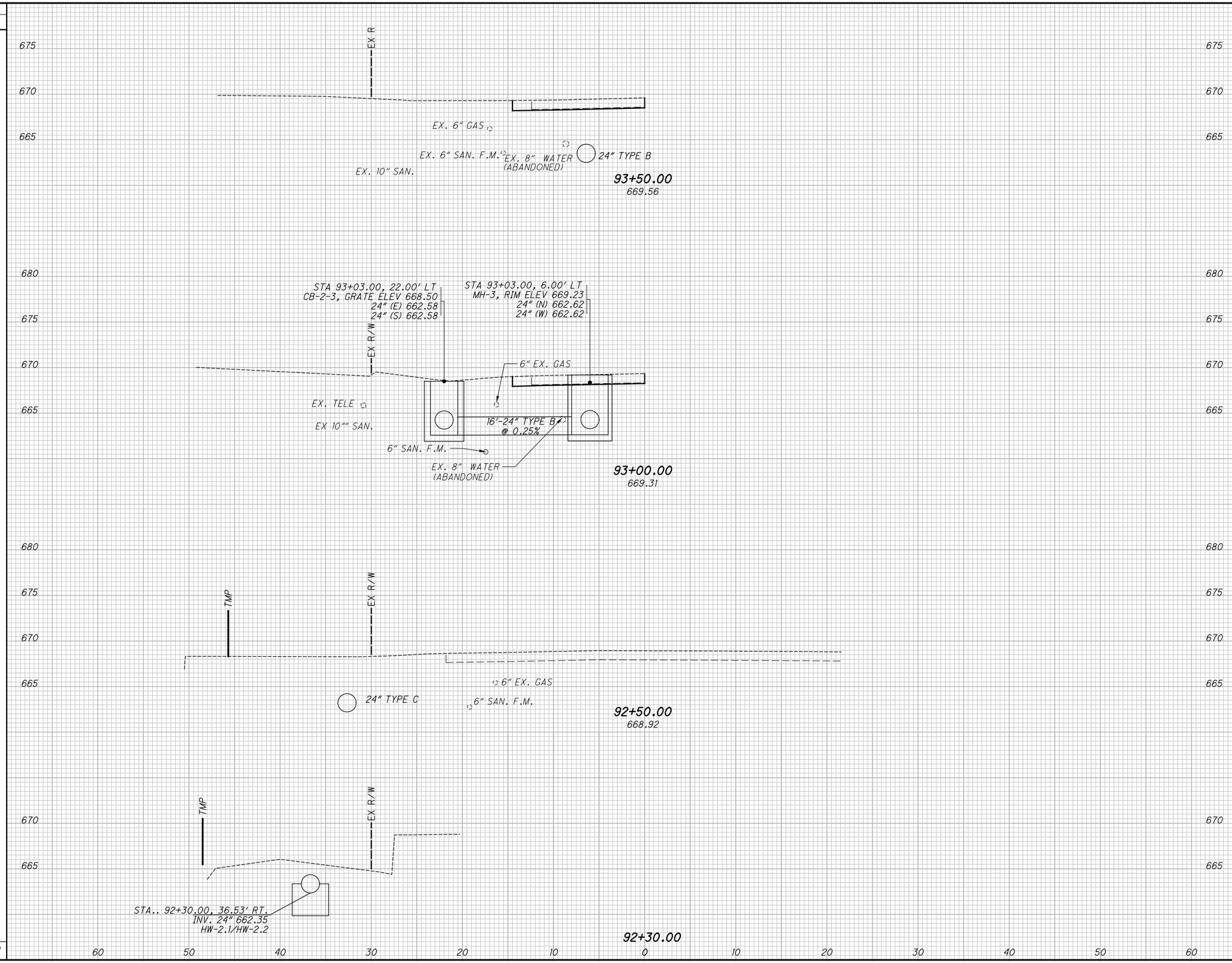
SEEDING	
END WIDTH	SQ. YDS.
16	
	94
18	
	117
24	
	50
21	
	261



END AREA		VOLUME	
CUT	FILL	CUT	FILL
2	0		
		4	0
2	0		
		4	0

CALCULATED TLS
CHECKED JMP

CROSS SECTIONS HUBBARD ROAD
STA. 92+30.00 TO STA. 93+50.00

LAK-US-20-24.99
PART 2

405
697

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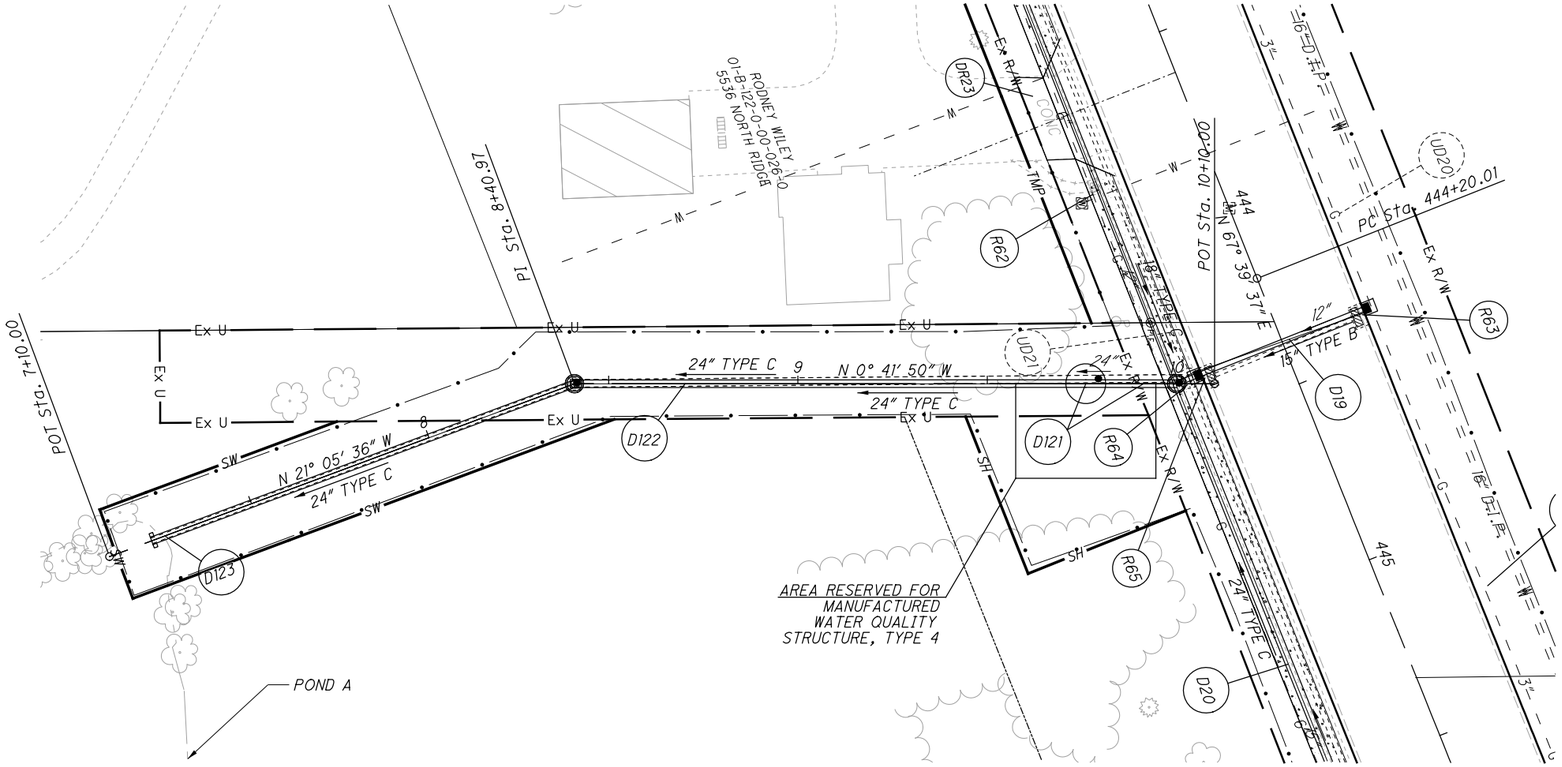

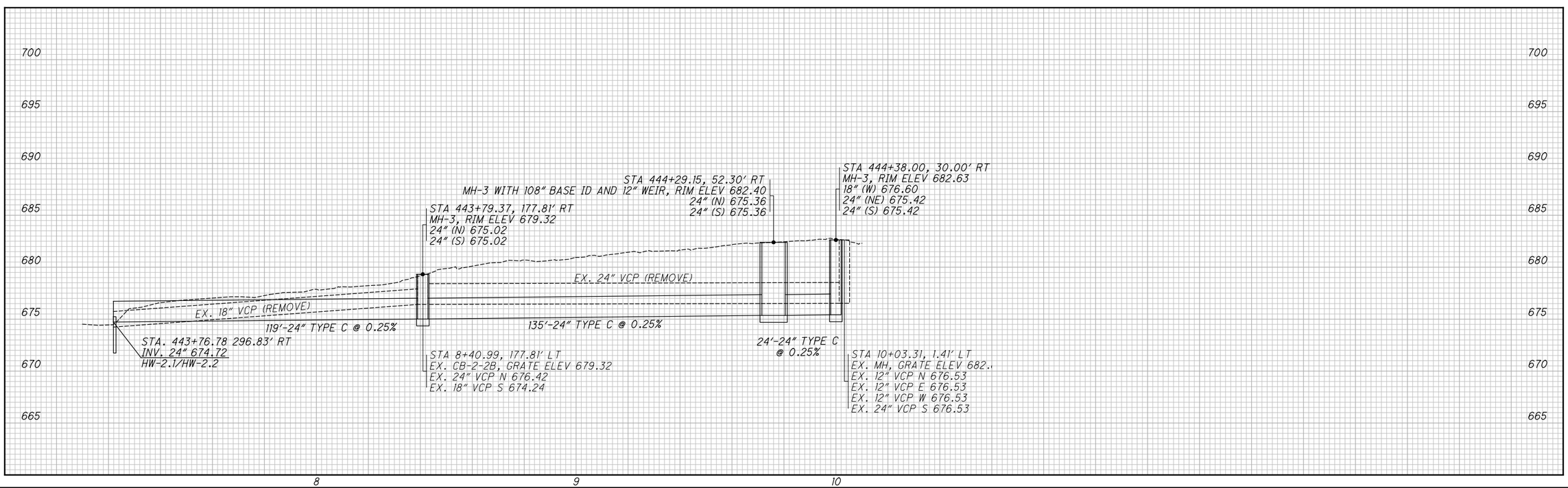

CALCULATED TLS
CHECKED JMP

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - STORM SEWER
STA. 444+38

LAK-US-20-24.99
PART 2

470
697

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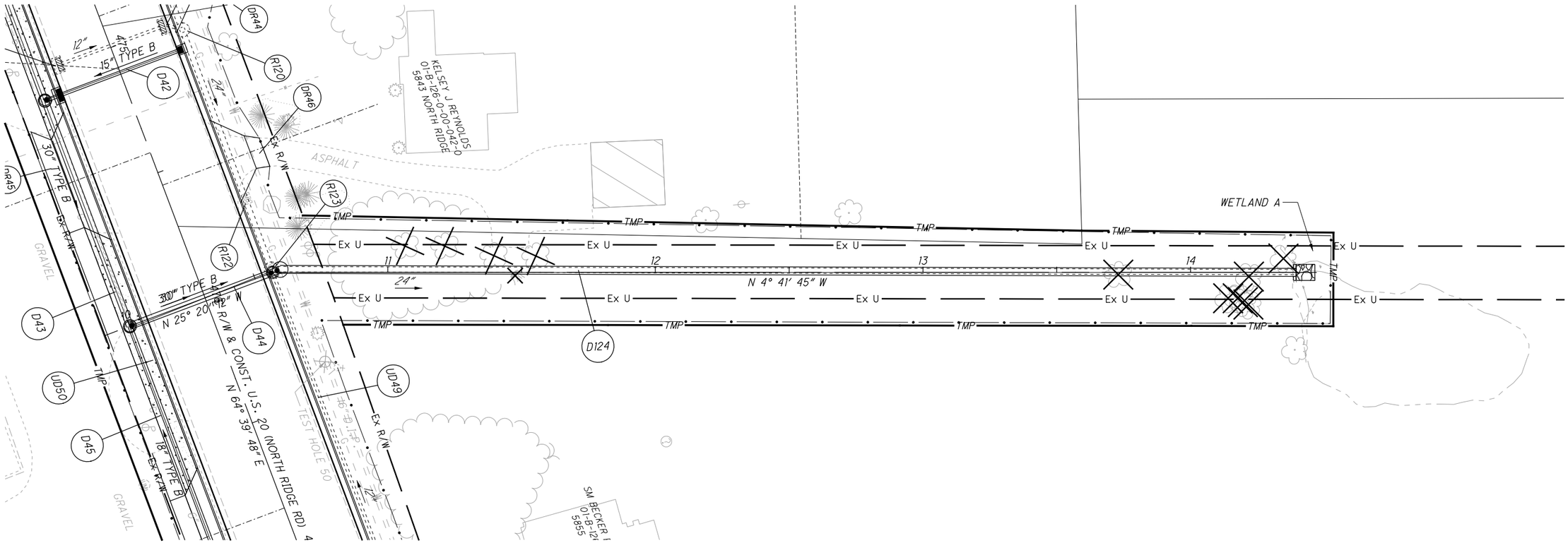

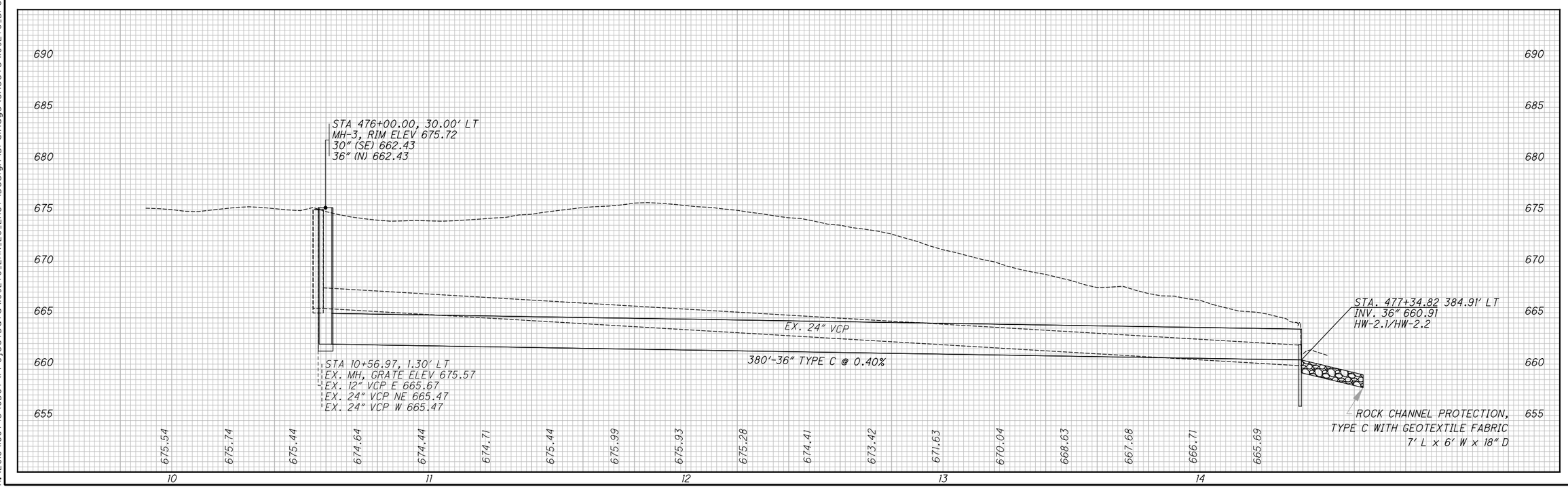

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - STORM SEWER
STA. 476+00

LAK-US-20-24.99
PART 2

471
697

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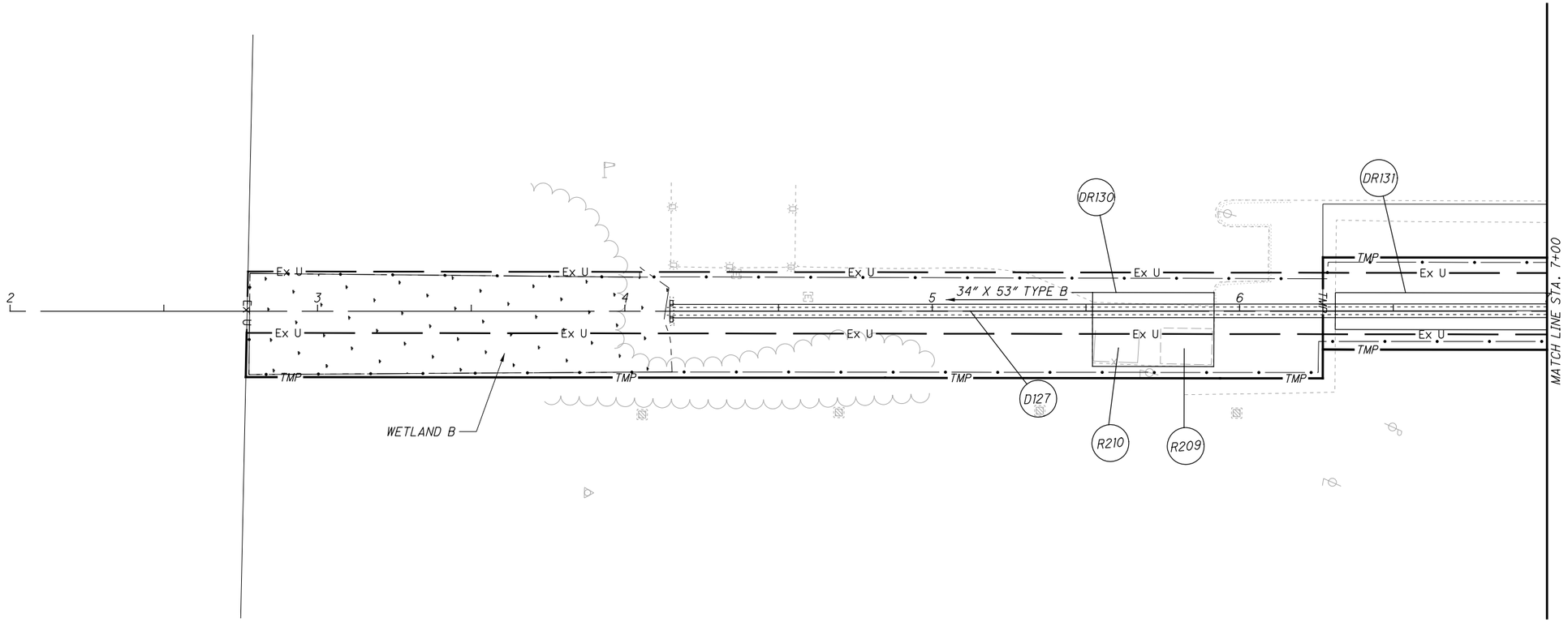

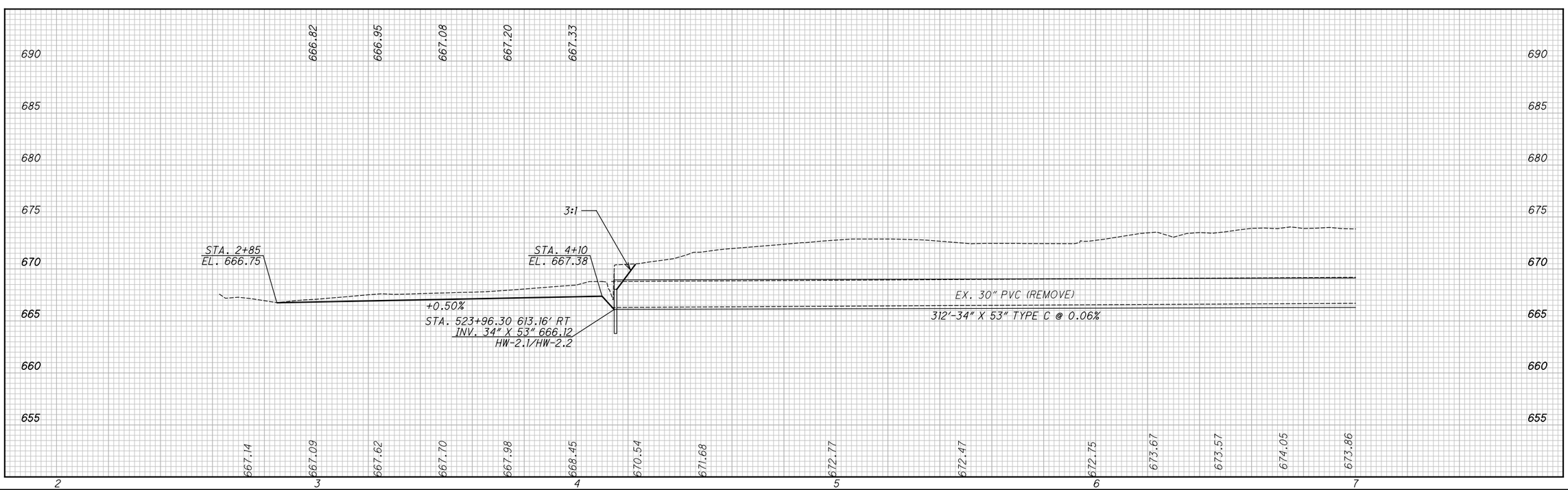

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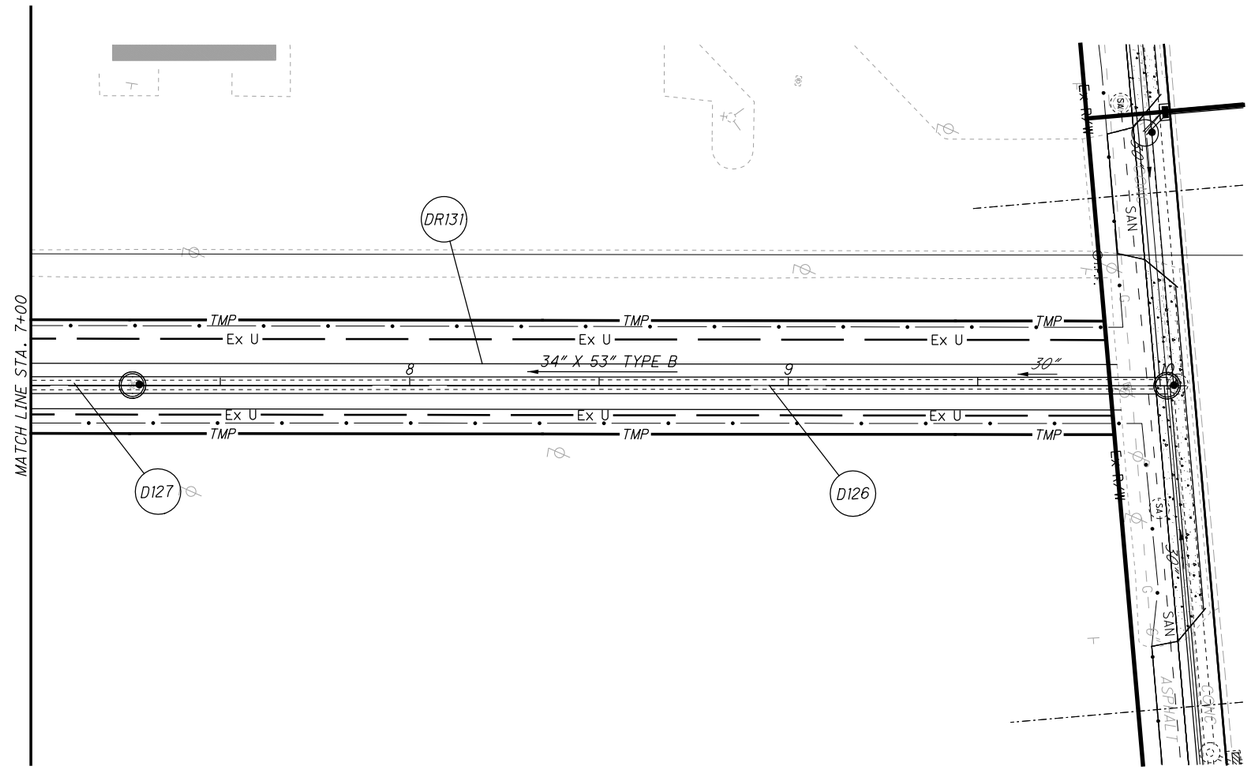
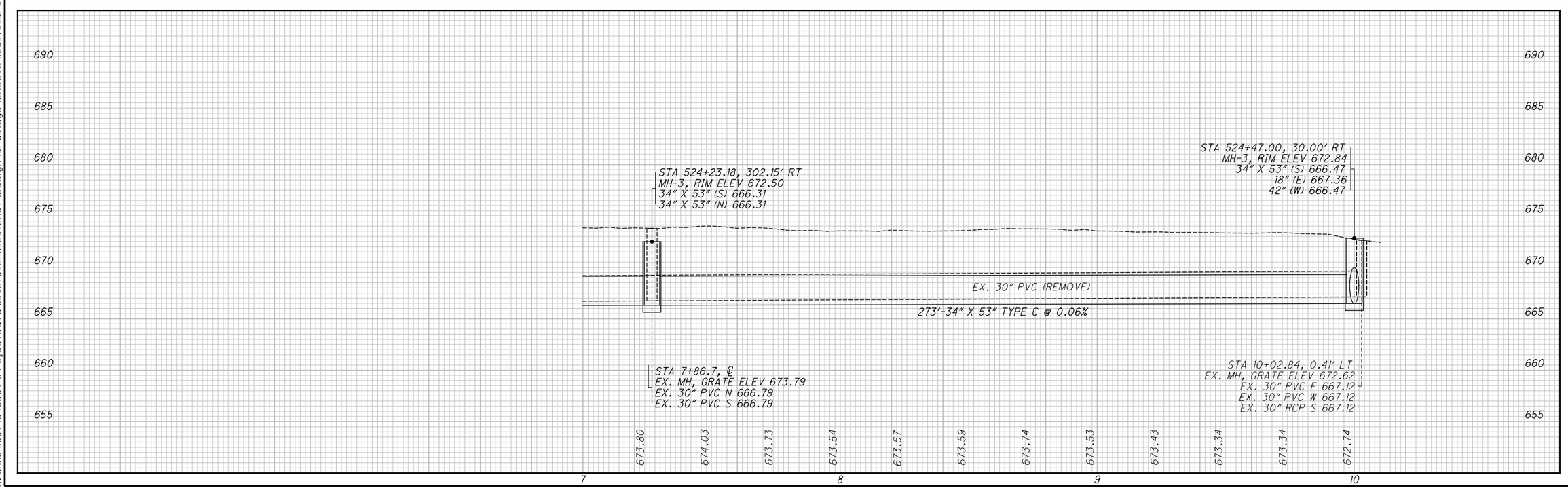
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - STORM SEWER
OUTLET STA. 524+50

LAK-US-20-24.99
PART 2





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLS
CHECKED JMP

PLAN AND PROFILE - STORM SEWER OUTLET STA. 524+50

LAK-US-20-24.99
PART 2

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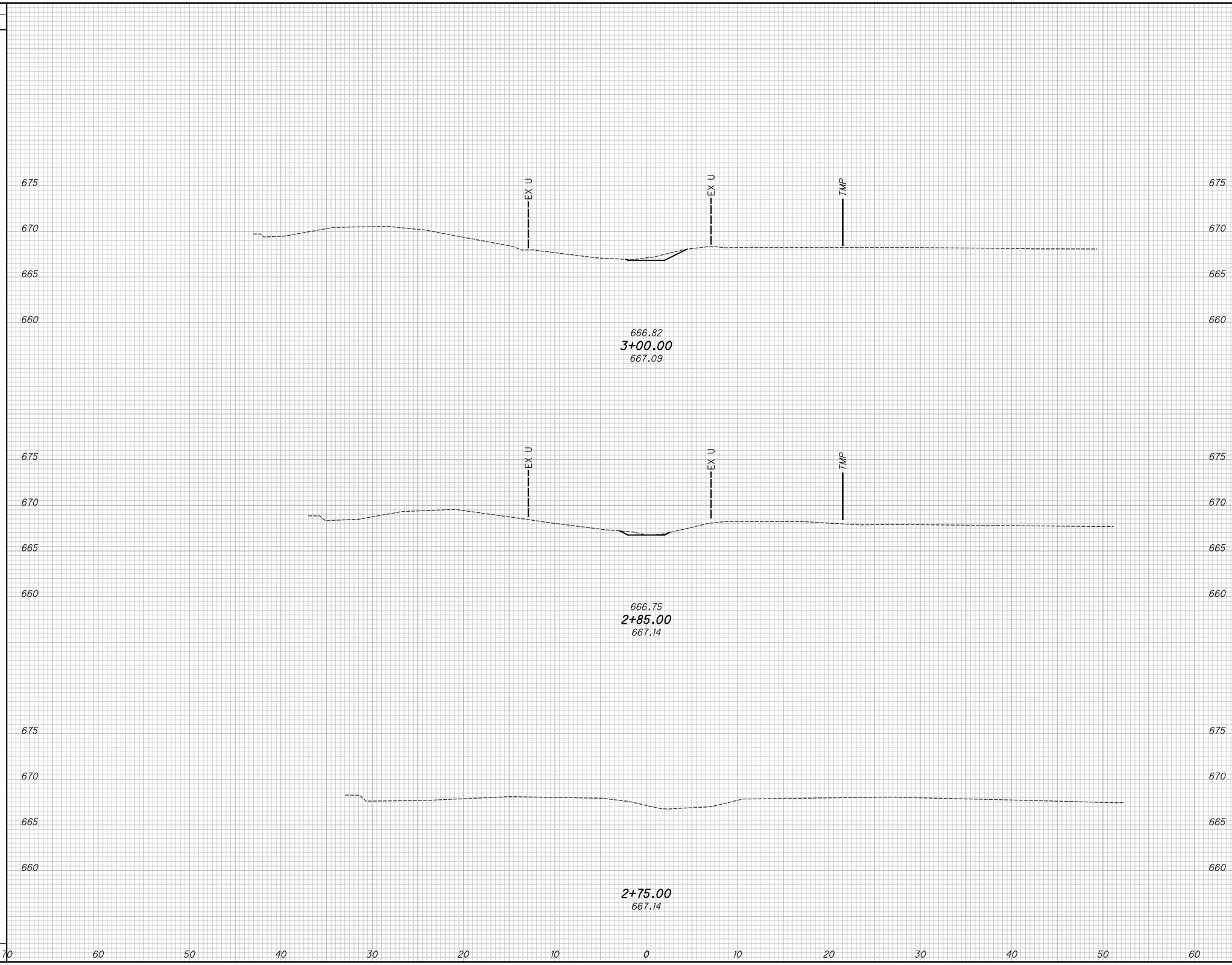
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED JMP
CHECKED WDB

CROSS SECTIONS - STORM OUTLET 524+50
STA. 2+75.00 TO STA. 3+00.00

LAK-US-20-24.99
PART 2

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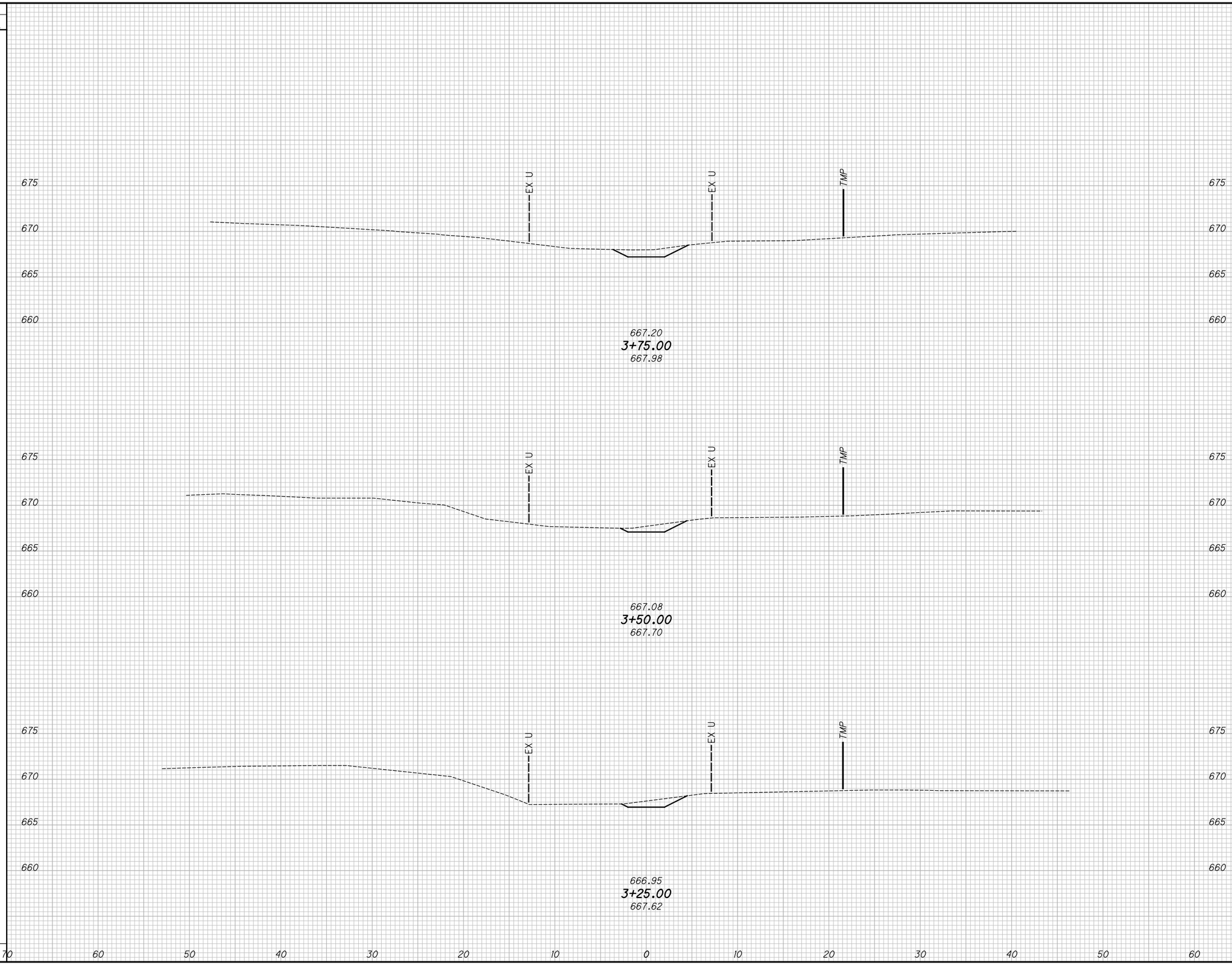
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL



CALCULATED JMP
CHECKED WDB

CROSS SECTIONS - STORM OUTLET 524+50
STA. 3+25.00 TO STA. 3+75.00

LAK-US-20-24.99
PART 2

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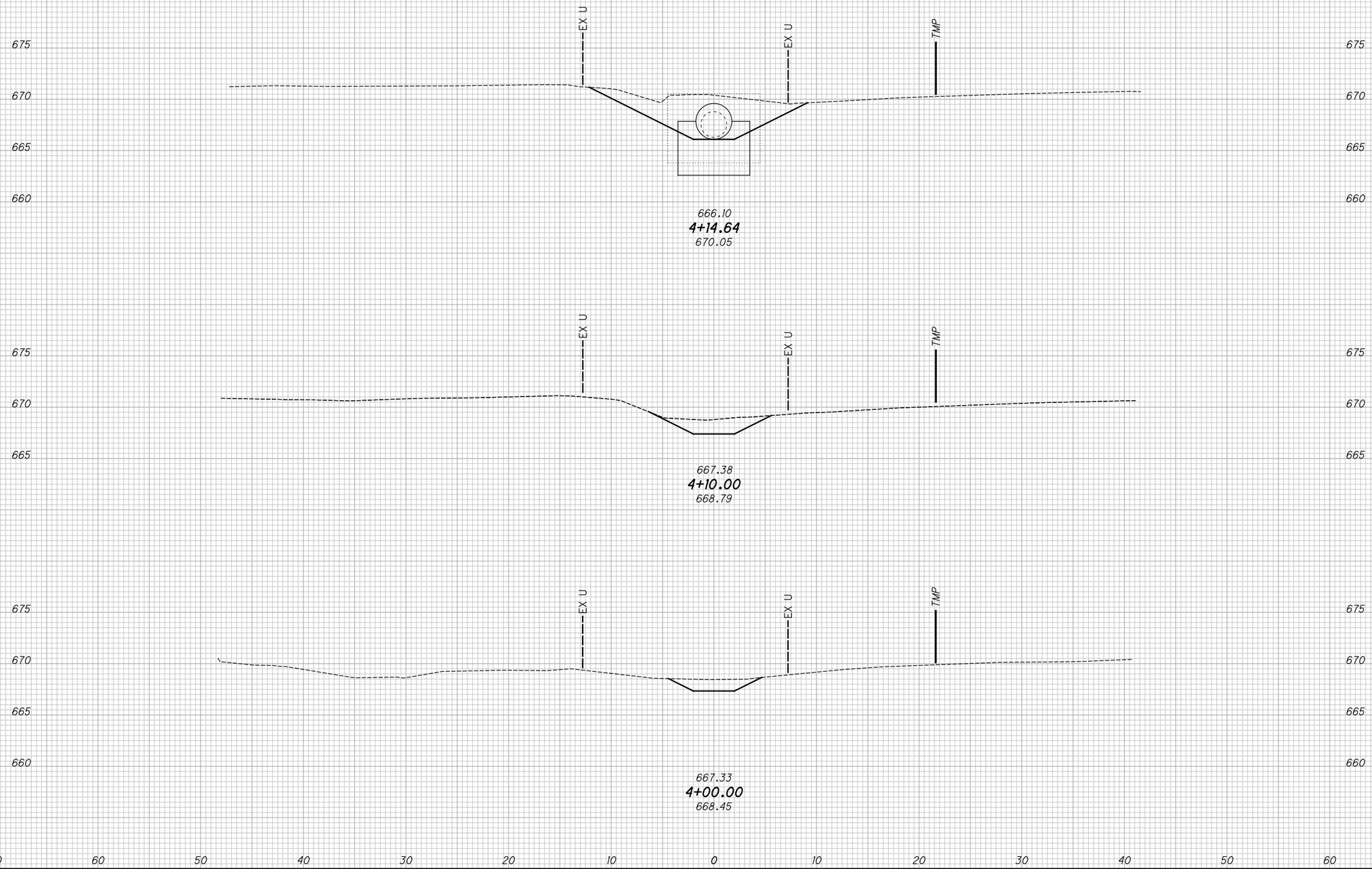
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED JMP
CHECKED WDB



CROSS SECTIONS - STORM OUTLET 524+50
STA. 4+00.00 TO STA. 4+14.64

LAK-US-20-24.99
PART 2

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US Army Corps of Engineers
Huntington District

Permit Number: 2022-00985

Name of Permittee: Ohio Department of Transportation

Date of Issuance: April 5, 2023

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers - Huntington District
Building 10/ Section 10
PO Box 3990
Columbus, OH 43218-3990

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date

US Army Corps of Engineers
Huntington District

Permit Number: 2022-00987-ERI

Name of Permittee: Ohio Department of Transportation

Date of Issuance: April 5, 2023

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers - Huntington District
Building 10/ Section 10
PO Box 3990
Columbus, OH 43218-3990

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date